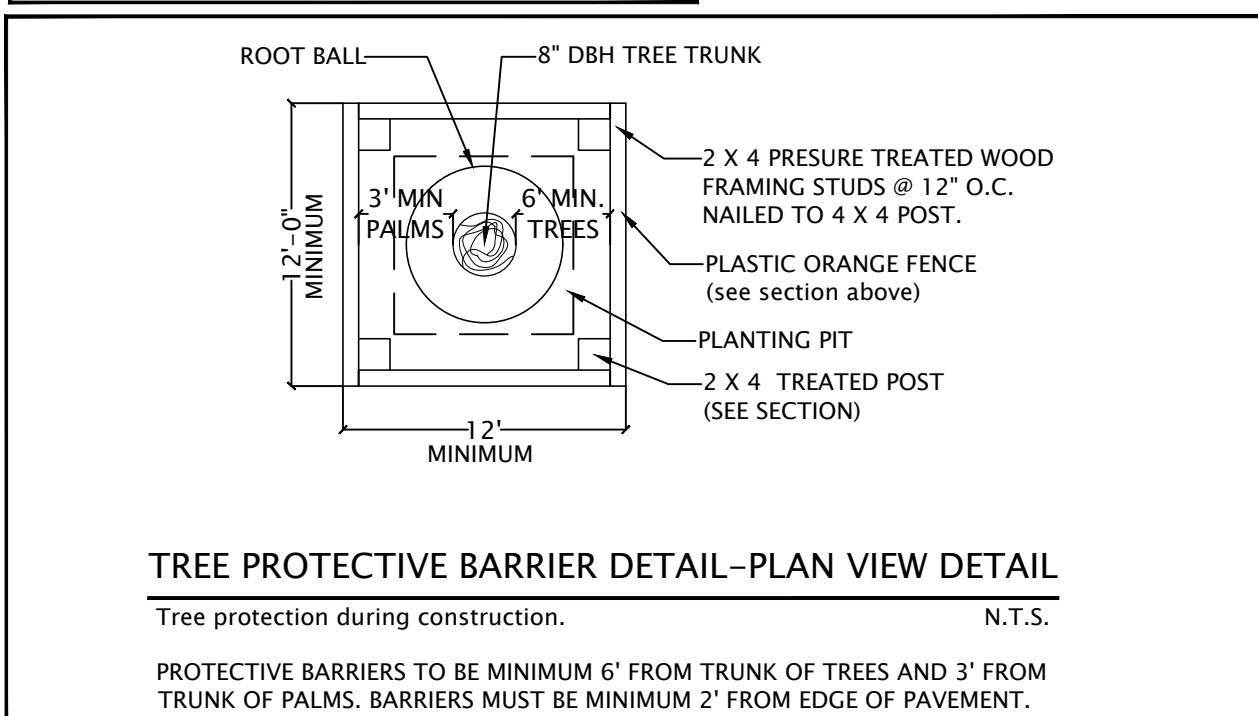
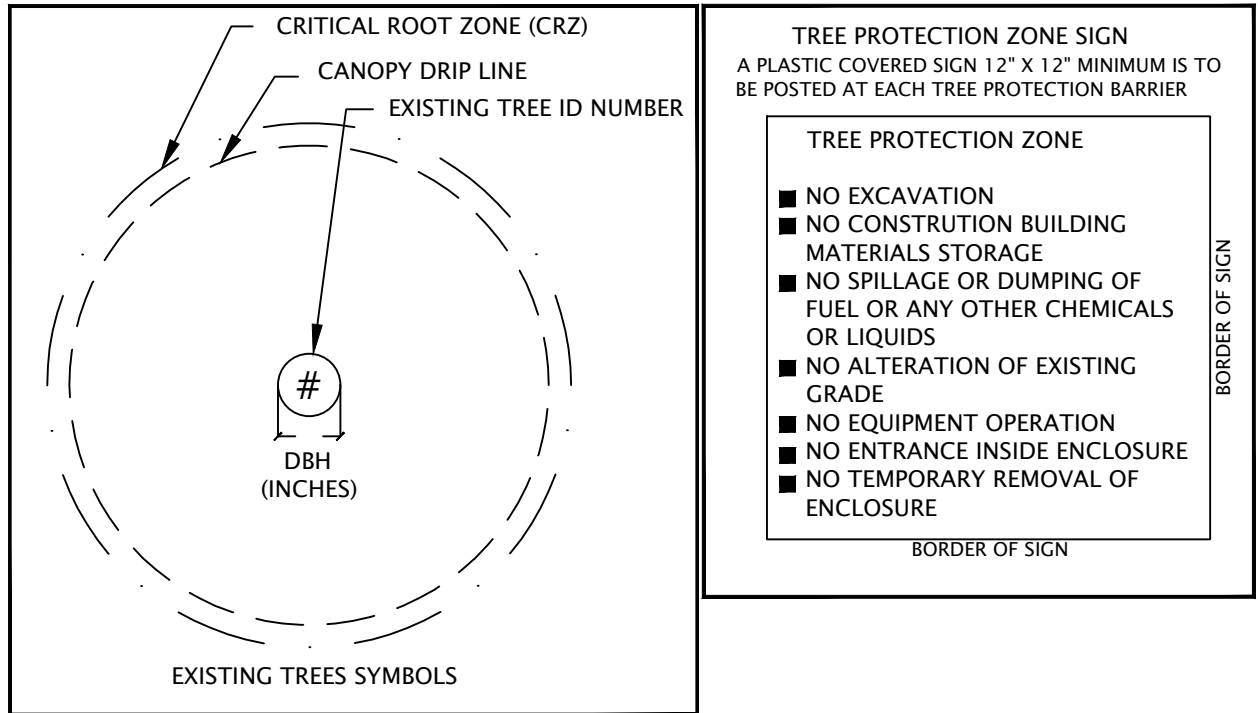
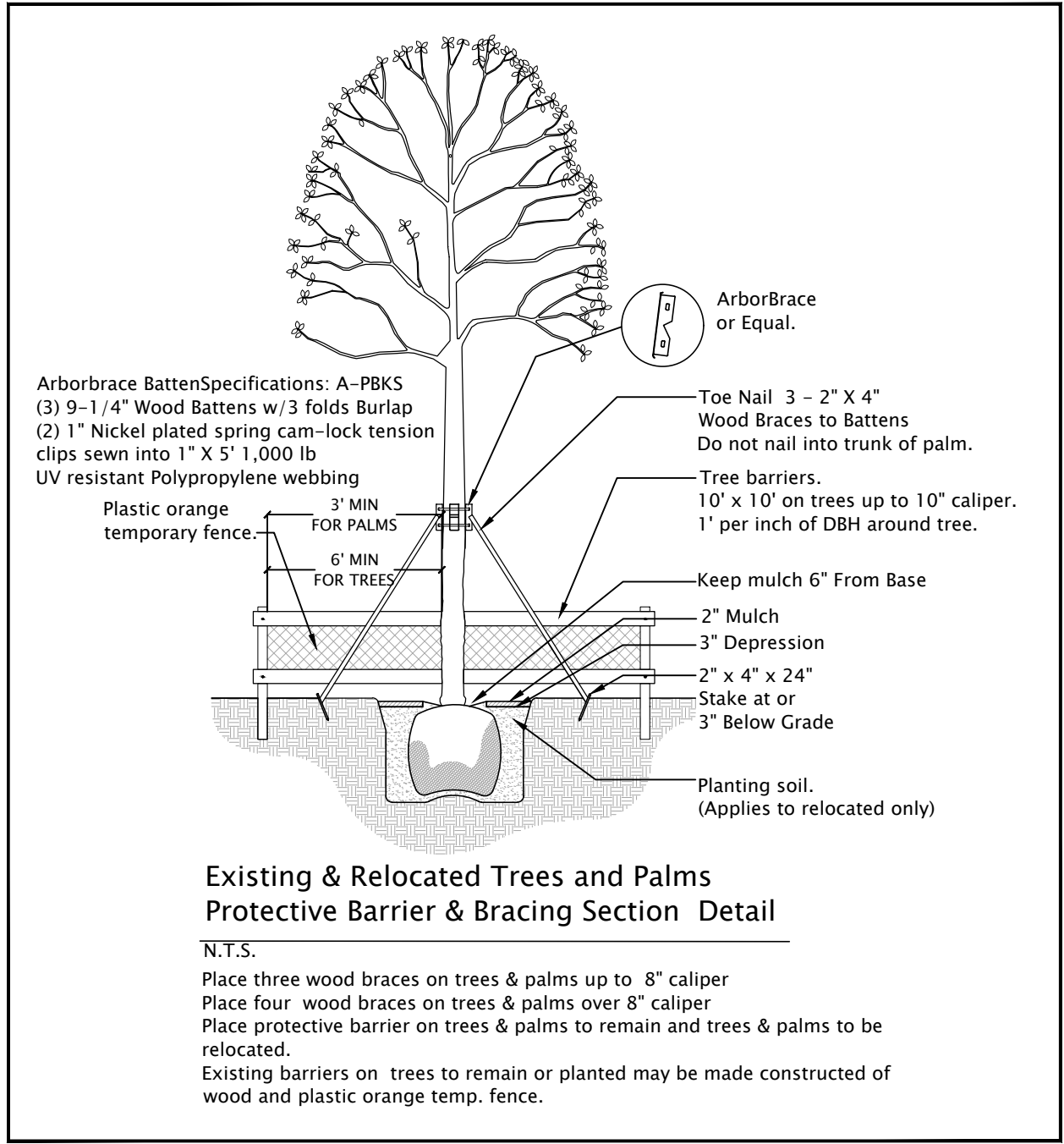
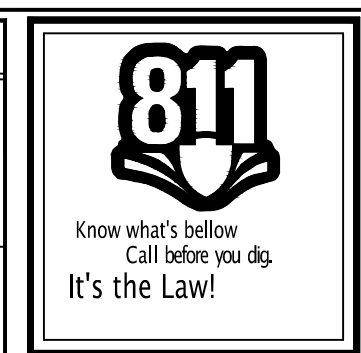


EXISTING TREE DISPOSITION CHART										
No.	BOTANICAL NAME	COMMON NAME	Diameter DBH (in)	HEIGHT OA	CANOPY (Ft)	HEALTH	DISPOSITION	CANOPY REMOVED (Sq.Ft.)	Mitigation	COMMENTS
1	Quercus virginiana	Live oak	18	35	20	Fair	REMAIN			Located within or close to structure
2	Quercus virginiana	Live oak	16	25	25	Fair	REMAIN			Located within or close to structure
3	Quercus virginiana	Live oak	18	35	25	Fair	REMAIN			Located within or close to structure
4	Quercus virginiana	Live oak	18	35	25	Fair	REMAIN			Located within or close to structure
5	Quercus virginiana	Live oak	20.4	30	20	Fair	REMAIN			Located within or close to structure
6	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within septic system
7	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within septic system
8	Quercus virginiana	Live oak	12	30	25	Fair	REMAIN			Located within or close to structure
9	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within or close to structure
10	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within or close to structure
11	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within or close to structure
12	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within or close to structure
13	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within or close to structure
14	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within or close to structure
15	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within or close to structure
16	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within or close to structure
17	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within or close to structure
18	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within or close to structure
19	Mangifera indica	Mango tree	12	30	20	Fair	REMOVE	314	Mitigation as per Village	Located within or close to structure
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TOTAL CANOPY REMOVED										



ABBREVIATIONS & SYMBOLS	
NLO. = NEW LOCATION	
REL. = RELOCATE WITH IN SITE	
TBR. = TO BE REMOVED	
TRE. = TO REMAIN IN CURRENT LOCATION	
⊙ EXISTING TREE SYMBOL	
⊞ NEW LOCATION OF EXISTING TREE SYMBOL WITHIN SITE	
□ PROTECTIVE BARRIER	
NOTE: 4 BURSERIA SIMARUBA/ GUMBO LIMBO TREES HAVE BEEN ADDED IN PLANTING PLAN AS REPLACEMENTS FOR EXISTING TREES #76, 77, 80 & 81	

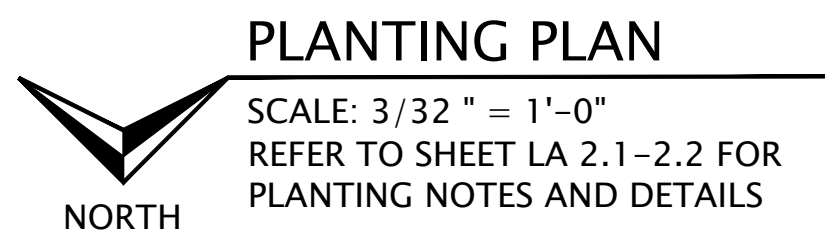


GENERAL TREE WORK REQUIREMENTS, NOTES & SPECIFICATIONS

- THE TREE DISPOSITION/MITIGATION PLAN HAS BEEN DESIGNED ACCORDING TO THE TREE PROTECTION AND/OR MITIGATION ORDINANCES/CODES OF THE MUNICIPALITY OR COUNTY WHERE SITE IS LOCATED. UPON PERMIT APPROVAL BY MUNICIPALITY OR COUNTY, LANDSCAPE CONTRACTOR, ARBORIST OR TREE WORK ENTITY SHALL ADHERE TO THE PERMITTED PLANS AND SPECIFICATIONS. NO TREE/PALM SHALL BE REMOVED, ROOT PRUNED OR RELOCATED UNTIL TREE REMOVAL/RELOCATION PERMIT HAS BEEN ISSUED.
- TREE DISPOSITION PLAN HAS BEEN DESIGNED BASED ON THE INFORMATION CONTAINED IN THE TREE SURVEY PROVIDED BY OWNER AND PREPARED BY A LICENSED PROFESSIONAL LAND SURVEYOR. SHOULD THERE BE ANY DISCREPANCIES BETWEEN TREE SURVEY AND TREE DISPOSITION PLAN, LANDSCAPE CONTRACTOR SHALL SEEK CLARIFICATION FROM LANDSCAPE ARCHITECT.
- TREE WORK, WILL BE DEFINED FOR ALL ASPECTS OF THESE NOTES, SPECIFICATIONS, PLANS, SECTIONS, DETAILS AND ANY OTHER LANDSCAPE DOCUMENT RELATED TO THIS PROJECT, AS ANY AND ALL TREE CANOPY TRIMMING AND/OR THINNING OUT, PRUNING OF BRANCHES, ROOT PRUNING, RELOCATION, BRACING, STRAPPING, PLACING OF PROTECTIVE BARRIERS AND ANY OTHER TYPE OF WORK REQUIRED FOR THE PROPER PROCESS OF TRIMMING, PRUNING AND RELOCATING TREES WITHIN THE PROPERTY.
- LANDSCAPE CONTRACTOR FOR ALL PURPOSES OF THIS PROJECT AND REGARDING TREE WORKS IS DEFINED AS ANY LANDSCAPE CONTRACTOR, ARBORIST OR ANY TREE WORK ENTITY PERFORMING THE TREE WORKS WHO MEETS THE LICENSING, INSURANCE AND SUPERVISORY REQUIREMENTS.
- IT WILL BE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO PROCURE AND OBTAIN ANY REQUIRED PERMIT FOR THE TREE WORK, UNLESS THE PERMIT IS ISSUED TO OWNER OR GENERAL CONTRACTOR.
- LANDSCAPE CONTRACTOR TO DO ANY TREE WORK, ROOT PRUNING OR RELOCATION WITHIN THE PROPERTY SHALL HAVE IN A SUPERVISORY CAPACITY A ISA CERTIFIED ARBORIST IN STAFF OR CONTRACTED FOR THE SPECIFIC WORKS OF THE SITE DESCRIBED IN THE PLANS. BE LICENSED AND INSURED AS REQUIRED BY MUNICIPALITY, COUNTY OR STATE AND COORDINATE THE DOCUMENTATION REQUIRED BY GENERAL CONTRACTOR.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL MATERIALS AND INSURED EQUIPMENT NECESSARY TO PERFORM THE TREE WORKS.
- LANDSCAPE CONTRACTOR TO DO ANY TREE WORK, ROOT PRUNING OR RELOCATION WITHIN THE PROPERTY SHALL CONTACT SUNSHINE 811. FLORIDA'S LAW REQUIRES ANYONE PLANNING TO DIG TO CONTACT SUNSHINE 811 AT LEAST TWO FULL BUSINESS DAYS BEFORE BREAKING GROUND.
- LANDSCAPE CONTRACTOR SHALL VISIT AND INSPECT THE SITE CONDITIONS AND THE TREES TO BE RELOCATED AND INFORM LANDSCAPE ARCHITECT OF ANY ANOMALIES OBSERVED.
- LANDSCAPE CONTRACTOR SHALL INSTALL ROOT BARRIERS AS INDICATED IN PLANS SECTIONS AND DETAILS AROUND EACH EXISTING TREE TO REMAIN AND THOSE TREES TO BE RELOCATED ONCE THEY ARE RELOCATED TO THEIR NEW LOCATION. PROTECTIVE TREE BARRIERS SHALL ALSO BE INSTALLED ON ANY EXISTING TREE WITHIN THE RIGHT OF WAY WITH SIDE FACING THE STREET PAVEMENT MINIMUM TWO FEET FROM EDGE OF PAVEMENT.

ROOT PRUNING/RELOCATION NOTES & SPECIFICATIONS

- ALL ROOT PRUNING, RELOCATION , TREE PRUNING AND TRIMMING IS TO BE PERFORMED FOLLOWING ANSI-A300 TRANSPLANTING AND TREE PRUNING AND TRIMMING STANDARDS- PART 1 AND PART 6 OR MOST RECENT EDITION.
- ROOT PRUNING IS THE PROCESS OF CUTTING ROOTS PRIOR TO MECHANICAL EXCAVATION NEAR A TREE , MAY BE NECESSARY TO MINIMIZE DAMAGE TO THE TREE'S ROOT SYSTEM DURING CONSTRUCTION OR IN PREPARATION FOR LARGE TREE TRANSPLANTING. NUMBER OF ROOTS PRUNED SHOULD BE MINIMIZED TO REDUCE TREE STRESS. THE FURTHER FROM THE TRUNK THAT ROOT CUTTING OCCURS, THE BETTER. GENERALLY, ROOT CUTS MADE OUTSIDE A TREE'S DRILLPIE VERY SELDOM CAUSE PERMANENT TREE DAMAGE.
- IN DETERMINING THE SIZE OF THE ROOT BALL REFER TO THE ROOT BALL TABLE BELOW. MINIMUM DEPTH OF A ROOT BALL SHOULD BE NOT LESS THAN 24"-30". THE LARGER THE ROOT BALL, THE MORE FEEDER ROOTS THERE WILL BE AND THE BETTER CHANCE THE TREE OR SHRUB WILL TRANSPLANT SUCCESSFULLY.
- NO MACHINERY OR EXCAVATING/DIGGING EQUIPMENT SHALL BE ALLOWED TO PERFORM THE ROOT PRUNING TO PREVENT PULLING ON THE ROOTS. DIGGING OF ROOT ZONE TO PREPARE THE TRENCH WHILE PERFORMING ROOT PRUNING SHALL BE CARRIED OUT BY HAND AND CUTTING OF ROOTS BE DONE WITH CLEAN CUTTING HAND TOOLS OR SAWS. NO SEALANTS OF ANY KIND, TREE-COTE OR SIMILAR IS TO BE USED ON THE CUT ROOTS.
- TREES AND PALM RELOCATIONS WITHIN SITE ARE TO BE SCHEDULED FOR RELOCATION WITHIN A 24-HOUR PERIOD. NO TREES OR PALMS ARE TO BE LEFT UNPLANTED FOR LONGER THAN 24 HOURS WITHOUT APPROVAL OF LANDSCAPE ARCHITECT. STORAGE OF TREES OR PALMS TO BE RELOCATED AT A LATER DATE ARE TO BE SECURED AND BRACED IN A STRAIGHT POSITION. NO PALMS OR TREES ARE TO BE STORED LAYING ON ITS SIDE.
- RECENTLY CUT ROOTS ARE MORE SENSITIVE TO TRANSPLANTING. COVER THE FRESHLY CUT SIDES OF THE ROOT BALL WITH PLASTIC SHEETING TO PREVENT DESICCATION OF THE NEW ROOTS. TRIMMING REDUCES THE ABUNDANCE OF AM (ARBUSCULAR MYCORRHIZA) FUNGI IN OLDER ROOTS. UPON COMPLETION OF THE TRENCH AND PRUNING OF ROOTS, BACKFILL THE TRENCH WITH HIGH QUALITY TOPSOIL. ADD MYCORRHIZAE TO SOIL TO BE USED AS BACKFILL WHEN TRANSPLANTING TREES AS PER MANUFACTURER'S INSTRUCTIONS.
- UPON COMPLETION OF ROOT PRUNING AND BACKFILLING, PROVIDE A 6" HIGH BERM AROUND THE OUTSIDE EDGE OF FILLED TRENCH TO ACT AS A WATER HOLDING BASIN AND BRACE THE TREE ACCORDING TO SIZE AS SHOWN IN PLANTING DETAILS TO PREVENT MOVEMENT AND PROVIDE SUPPORT.
- WATER SHOULD BE PROVIDED TO ANY TREE PROPOSED TO BE ROOT PRUNED FOR A PERIOD OF FIVE DAYS OR MORE PRIOR TO THE ACTUAL ROOT PRUNING OF THE TREES TO BE ROOT PRUNED TO PROVIDE AN ADEQUATE AMOUNT OF WATER TO TREE TISSUES. WATERING OF ROOT PRUNED TREE(S) IS ESSENTIAL, ASSURING THAT THE TRENCH AREA IS WELL WATERED EITHER BY AN AUTOMATIC IRRIGATION SYSTEM OR BY HAND ON A DAILY BASIS FOR THE FIRST WEEK AND EVERY OTHER DAY UNTIL THE TRANSPLANTING IS CARRIED OUT.
- BEFORE DIGGING THE ROOT BALL FOR TRANSPLANTING ON TREES WITH A DBH OF 12" OR LESS A MINIMUM WAITING PERIOD OF 10-12 WEEKS SHOULD PREVAIL. ON TREES OVER 12" DBH DEPENDING ON SIZE OF TREE AND ROOT BALL, VERIFY AFTER 16 WEEKS THAT A GOOD NET OF FIBROUS ROOTS HAS DEVELOPED. IF FEW ROOTS HAVE DEVELOPED, POSTPONE THE MOVE FOR ANOTHER FOUR WEEKS OR MORE AS REQUIRED.
- PALMS TO BE ROOT PRUNED AS A GENERAL RULE REQUIRE A MINIMUM 24" DEEP ROOT BALL. TYPICALLY, THOSE SPECIES TRANSPLANT WITH MINIMUM ROOT PRUNING TIME OF 4-6 WEEKS SUCH AS SABAL PALMETTO, ROYSTONIA REGIA, PHOENIX CANARIENSIS WILL SUFFICE WITH A MINIMUM ROOT BALL OF 18"-24" FROM THE TRUNK TO THE EDGE OF ROOT BALL. OTHER SPECIES SUCH AS BISMARKIA, COEPPERNICIA, SATAKENTIA, SOME SPECIES OF THRIANEXES AND OTHERS MAY REQUIRE A LARGER ROOT BALL AND A LONGER PERIOD OF ROOT PRUNING TIME. IT IS ADVISABLE PRIOR TO ANY ROOT PRUNING WORK TO CONSULT WITH A ISA CERTIFIED ARBORIST.
- PRIOR TO ROOT PRUNING OF A TREE TO BE TRANSPLANTED, IT IS ADVISABLE THAT A CONSULTATION BE MADE WITH A ISA CERTIFIED ARBORIST REGARDING THE SPECIFIC SPECIE REQUIREMENTS TO BE ROOT PRUNED AND TRANSPLANTED. ROOT PRUNING AND TRANSPLANTING OF TREES SHOULD BE PERFORMED UNDER THE SUPERVISION OF AN ISA CERTIFIED ARBORIST.
- EXISTING TREES TO REMAIN IN THEIR PRESENT LOCATION AND THOSE TO BE RELOCATED WITHIN THE SITE SHALL BE TRIMMED PROPERLY AS PER ANSI-A300 STANDARDS BY AMERICAN NATIONAL STANDARDS INSTITUTE BY REMOVING DAMAGED, DEAD OR STRUCTURALLY WEAK LIMBS. LARGE SHADE TREES SHALL HAVE THEIR LOWER BRANCHES REMOVED TO PROVIDE A CLEAR TRUNK OF 8" MAXIMUM FOLIAGE TO BE REMOVED FROM ANY TREE TO BE 25%.
- LANDSCAPE CONTRACTOR PRIOR TO RELOCATION SHALL MARK WITH A WOOD STAKE OR SIMILAR THE PROPOSED NEW LOCATION OF THE TREE(S) AND ADVISE LANDSCAPE ARCHITECT WITH 48 HOURS NOTICE FOR A SITE VISIT TO APPROVE PROPOSED LOCATION AS PER PLANS.
- IF ANY DISCREPANCIES IS FOUND IN THE PLANS, LANDSCAPE CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT IMMEDIATELY FOR CLARIFICATION.
- ANY TREE TRIMMING SHALL BE PERFORMED BY OR UNDER THE SUPERVISION OF AN ISA CERTIFIED ARBORIST.
- NO TREE REMOVAL OR ROOT PRUNING FOR RELOCATION PURPOSES, OR RELOCATION OF TREE(S) SHALL BE PERFORMED WITHOUT A TREE RELOCATION AND REMOVAL PERMIT FROM THE MUNICIPALITY OR COUNTY AS REQUIRED.
- ALL EXISTING TO REMAIN, ROOT PRUNED TREES FOR RELOCATION OR RELOCATED TREES WITHIN THE SITE SHALL HAVE A PROTECTIVE BARRIER AS SPECIFIED IN THE TREE PROTECTION BARRIER DETAIL IN THE TREE DISPOSITION PLAN.
- LANDSCAPE CONTRACTOR OR TREE MOVING ENTITY SHALL HAVE EXTREME CARE WHILE PERFORMING ANY TREE WORK , ROOT PRUNING AND/OR RELOCATION OF TREES IN PREVENTING ANY DAMAGE TO THE TREES WITH ANY TOOLS. EQUIPMENT OR MISHANDLING OF THE TREE(S).
- LANDSCAPE CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED PLANTS, SOD OR MATERIAL AND EQUIPMENT DAMAGED DURING TREE WORKS AT THEIR OWN EXPENSE. IN THE EVENT A TREE, OR SHRUB IS DAMAGED, IT SHALL BE REPLACED WITH THE SAME SPECIE, SIZE AND QUALITY AS WAS DAMAGED WITH NO EXPENSE TO OWNER.
- LANDSCAPE CONTRACTOR SHALL DISPOSE AND REMOVE FROM SITE ANY AND ALL DEBRIS RESULTING FROM EXCAVATION PER TREE WORKS, PLANTING DEBRIS, CONTAINERS, EXCESS LANDSCAPE MATERIALS AND TREE WORKS DEBRIS.
- WHEN RELOCATING PALMS, THEIR FRONDS



date _____	<u>revisions</u>				
issued _____	<u>1</u>	12/04/2024 - SITE PLAN			
drawn _____	<u>2</u>	05/30/2025 - SITE PLAN			
checked _____	<u> </u>				
project no. _____	<u> </u>				
					2341

sheet no.

LA-2.0

UB 24-2 Specifications
24" DeepRoot® Tree Root Barrier

Specified tree root barrier is a mechanical barrier and root deflector used to prevent tree roots from damaging hardscapes and landscapes. Assembled in 24" (609 mm) long modules to create varying lengths for linear applications, or perimeter surround applications in varying sizes.

A. Materials

1. The contractor shall furnish and install tree root barrier as specified. The tree root barrier shall be either product #UB 24-2 as manufactured by DeepRoot® Green Infrastructure, LLC, 530 Washington Street, San Francisco, CA, www.deeproot.com (800.458.7668).

2. Root barrier shall be recyclable, black, injection molded panels with 0.80" (2.03 mm) wall thickness in modules 24" (609 mm) long and 24" (609 mm) deep.

3. Root barrier shall be manufactured with 75% reprocessed polypropylene with added ultraviolet inhibitors.

4. Root barrier shall be comprised of 24" (60.96 cm) panels. Each panel shall have no less than four (4) Molded Integral Vertical Root Directing Ribs of a minimum 0.075" (1.90 mm) thickness, protruding 1/2" (12.7 mm) at 90° from interior of the barrier panel, spaced 6" (152.4 mm) apart. (See Details A & D)

5. Root barrier shall have a Double Top Edge consisting of two parallel, integral, horizontal ribs at the top of the panel at 0.060" (1.52 mm) thickness, 3/8" (9.53 mm) wide and 1/4" (6.35 mm) apart with the lower rib attached to the vertical Root Directing Ribs (See Detail A).

6. Root barrier shall have a minimum of twelve (12) Anti-Lift Ground Lock Tabs consisting of integral horizontal ridges of minimum 0.075" (1.90 mm) thickness in the shape of a segment of an oblong, the 2" (50.8 mm) chord of the segment joining the panel wall and the segment, protruding 3/8" (9.53 mm) from the panel. The twelve ground locks on each panel shall be about equally spaced between each of the vertical root directing ribs (four (4) between each set of ribs, see Details B & D).

7. Root barrier shall have an integrated Zipper Joining System for assembly by sliding one panel into another (See Detail C).

U.S. Patents: 5,305,549; and 5,528,857. Other Patents Pending.

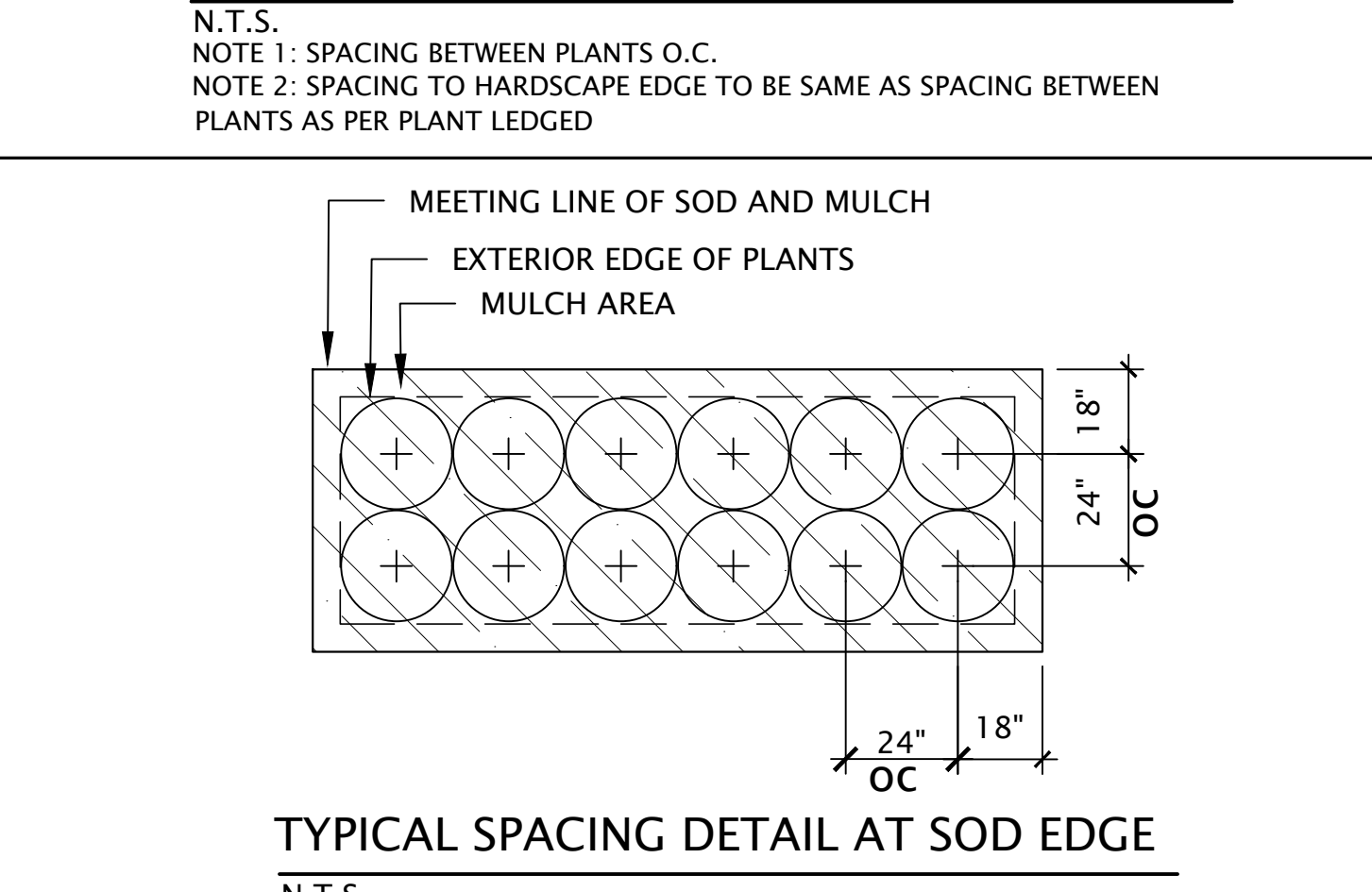
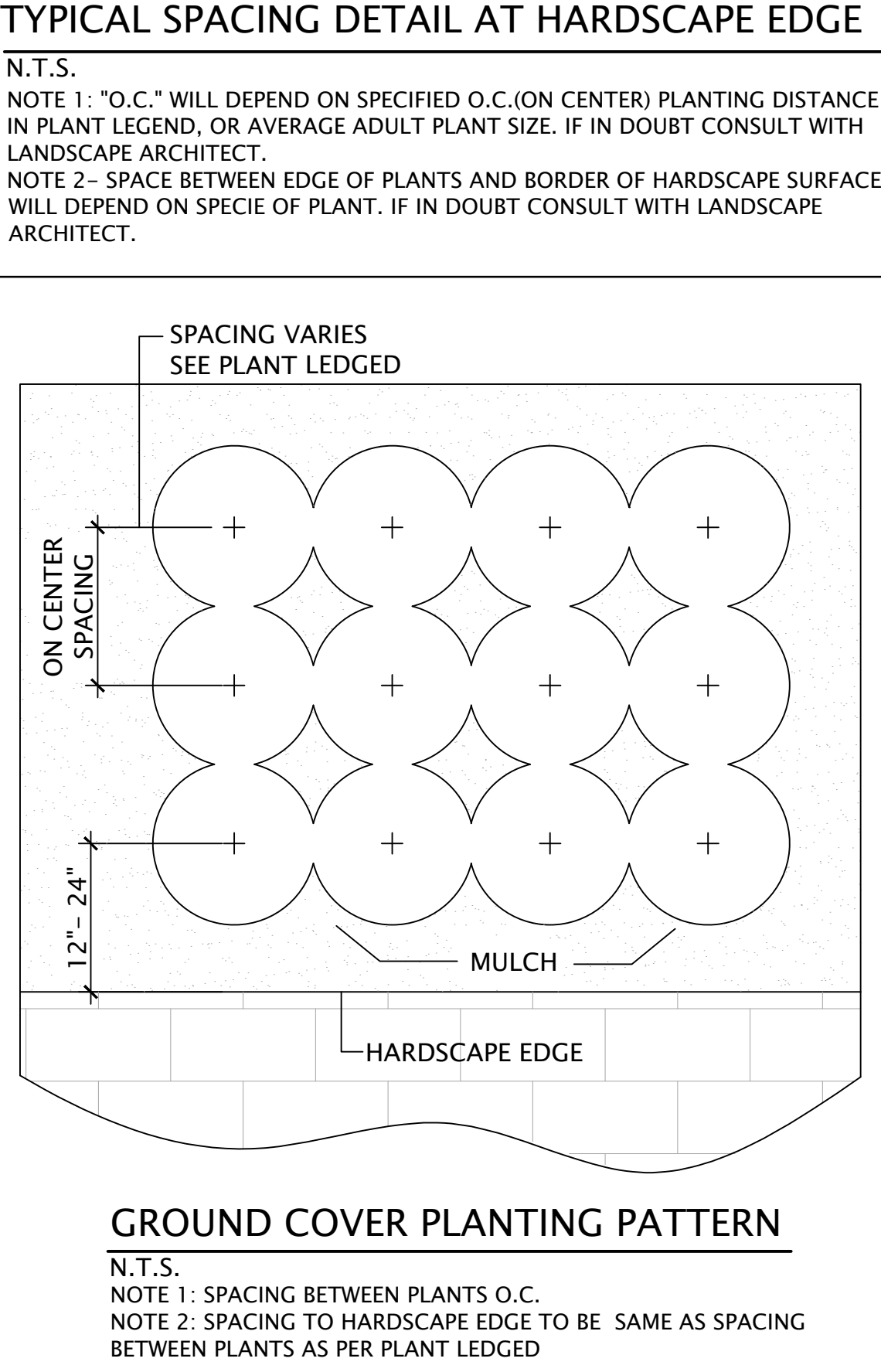
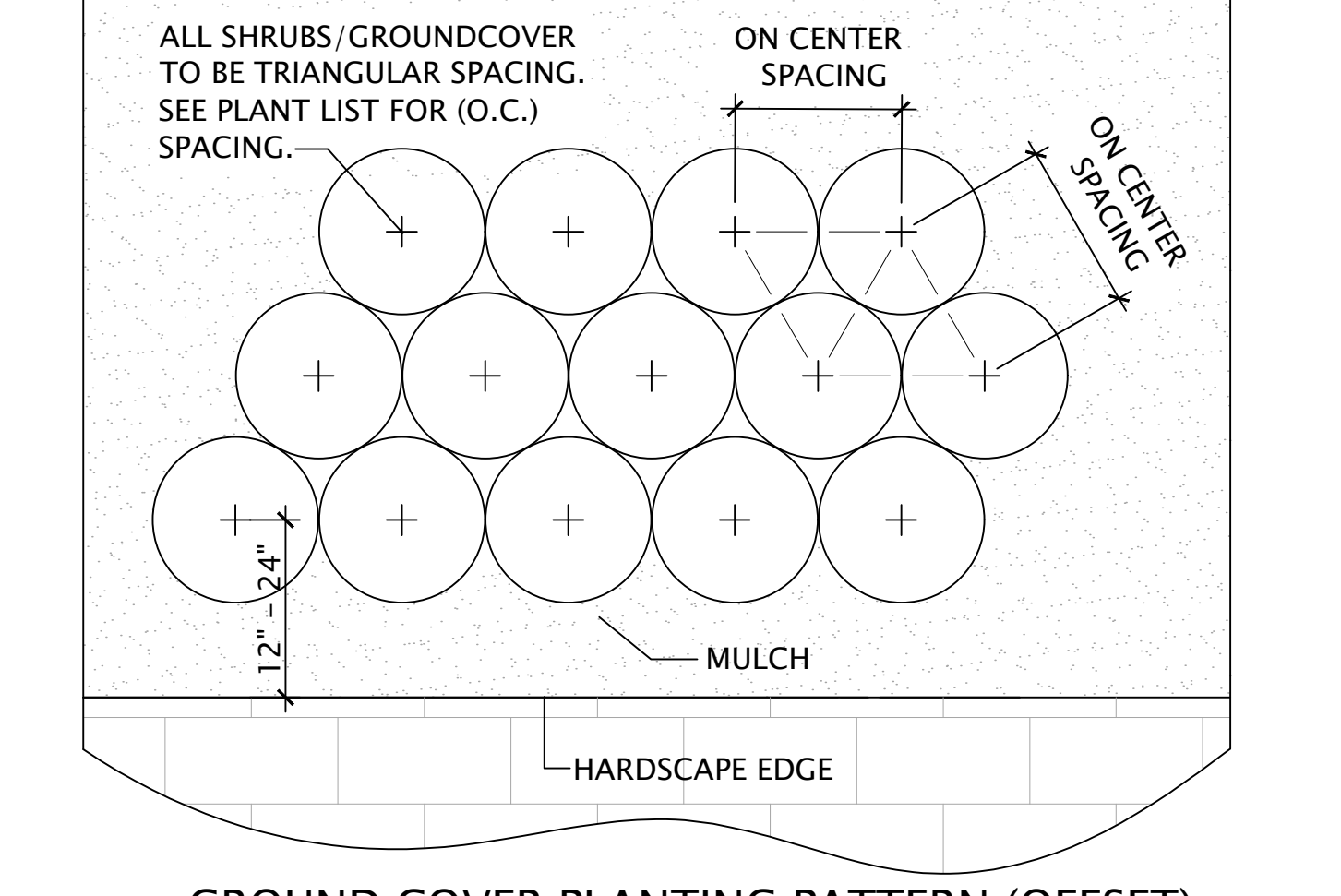
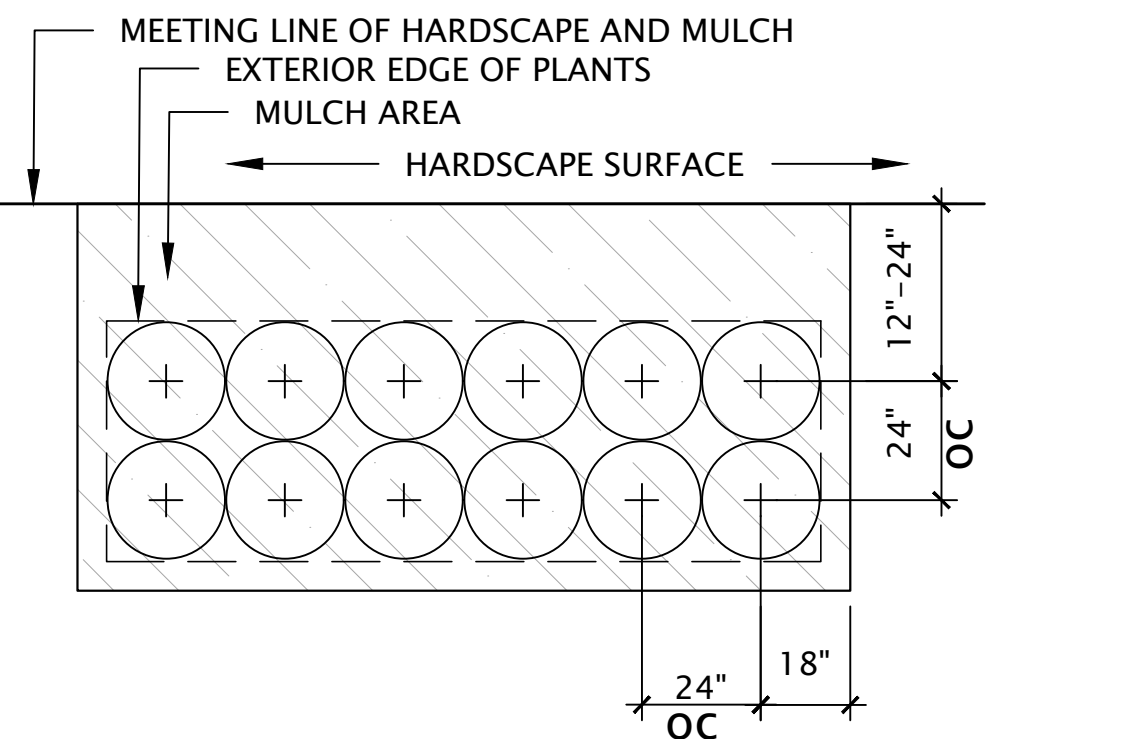
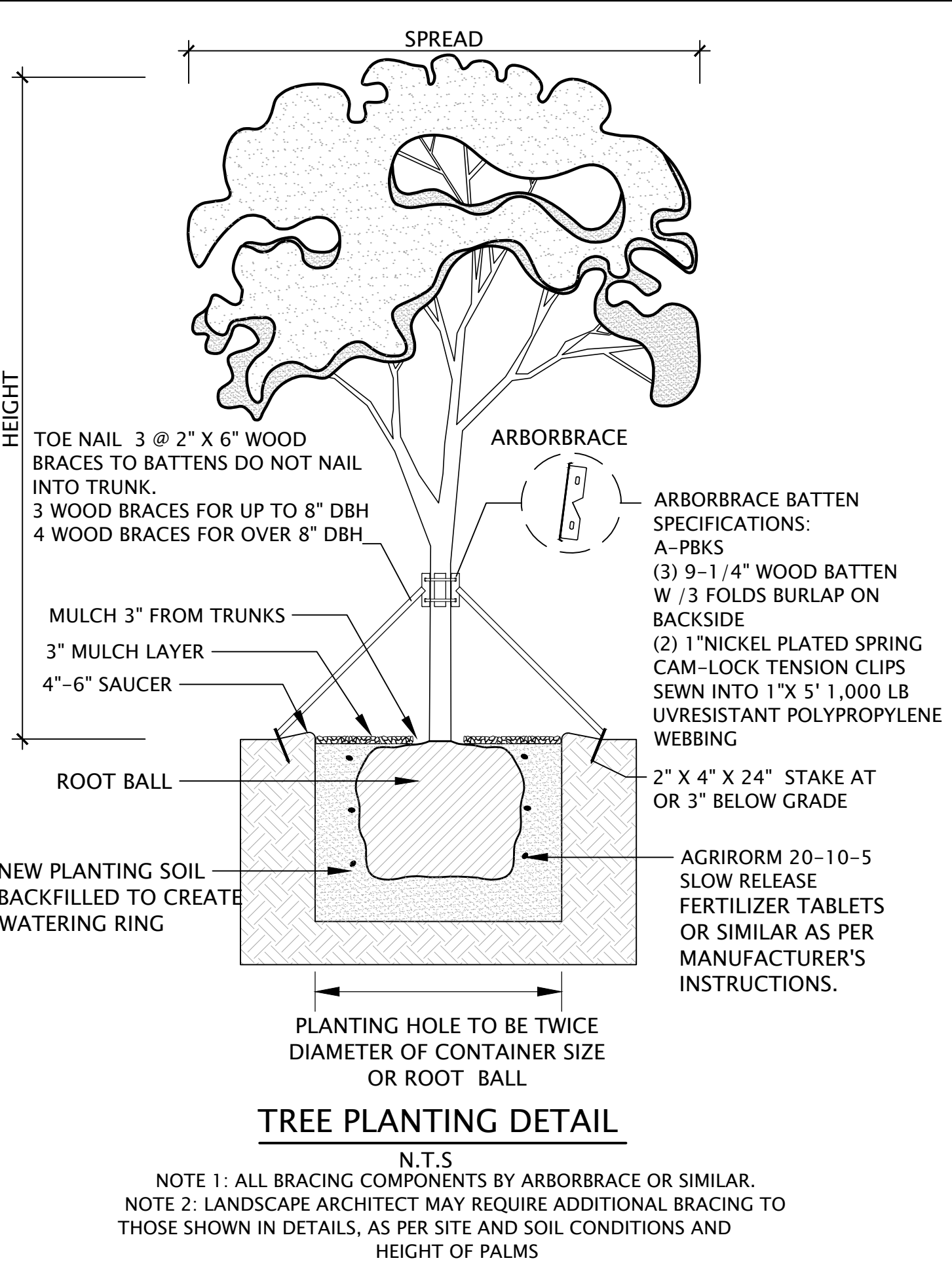
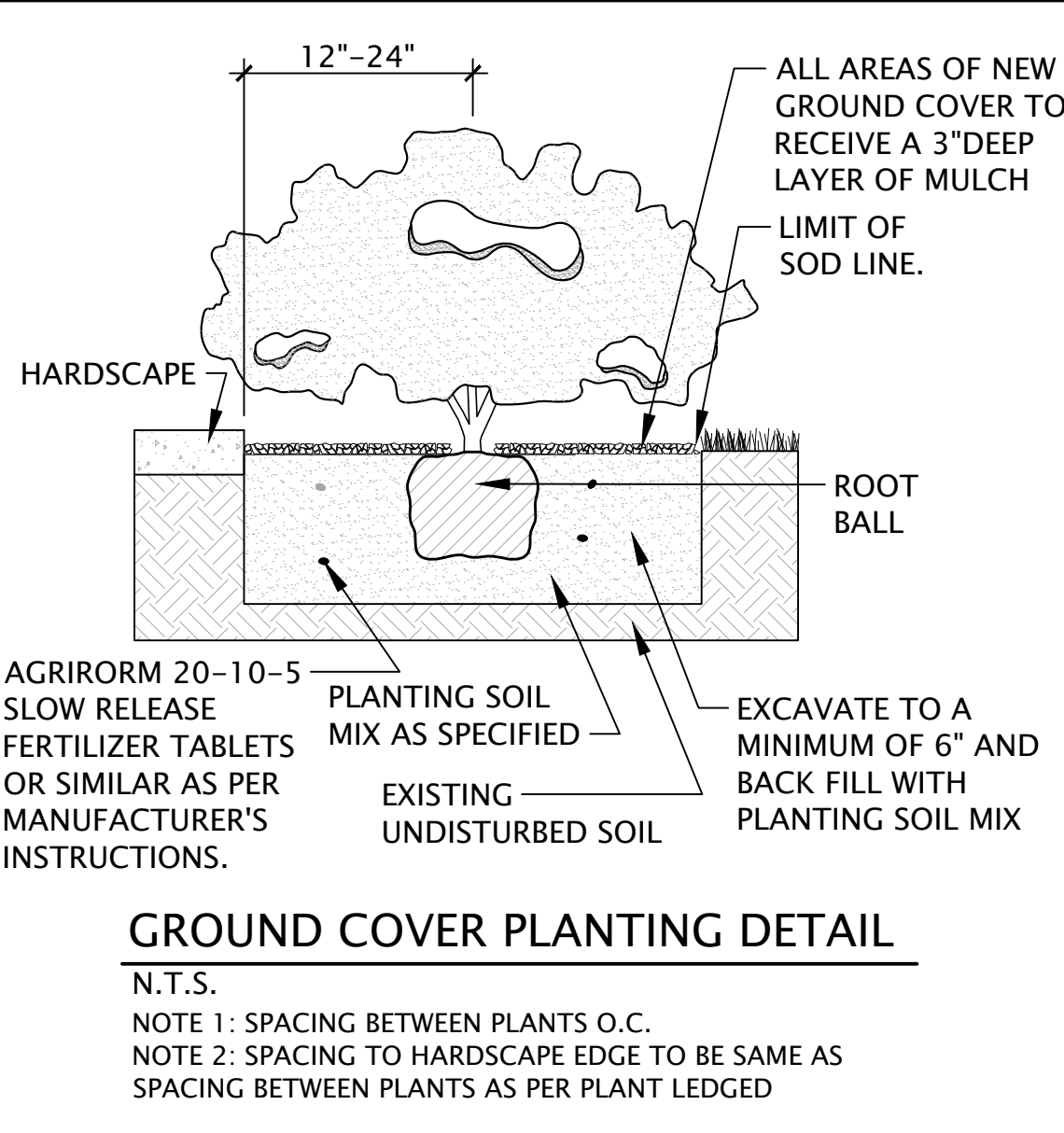
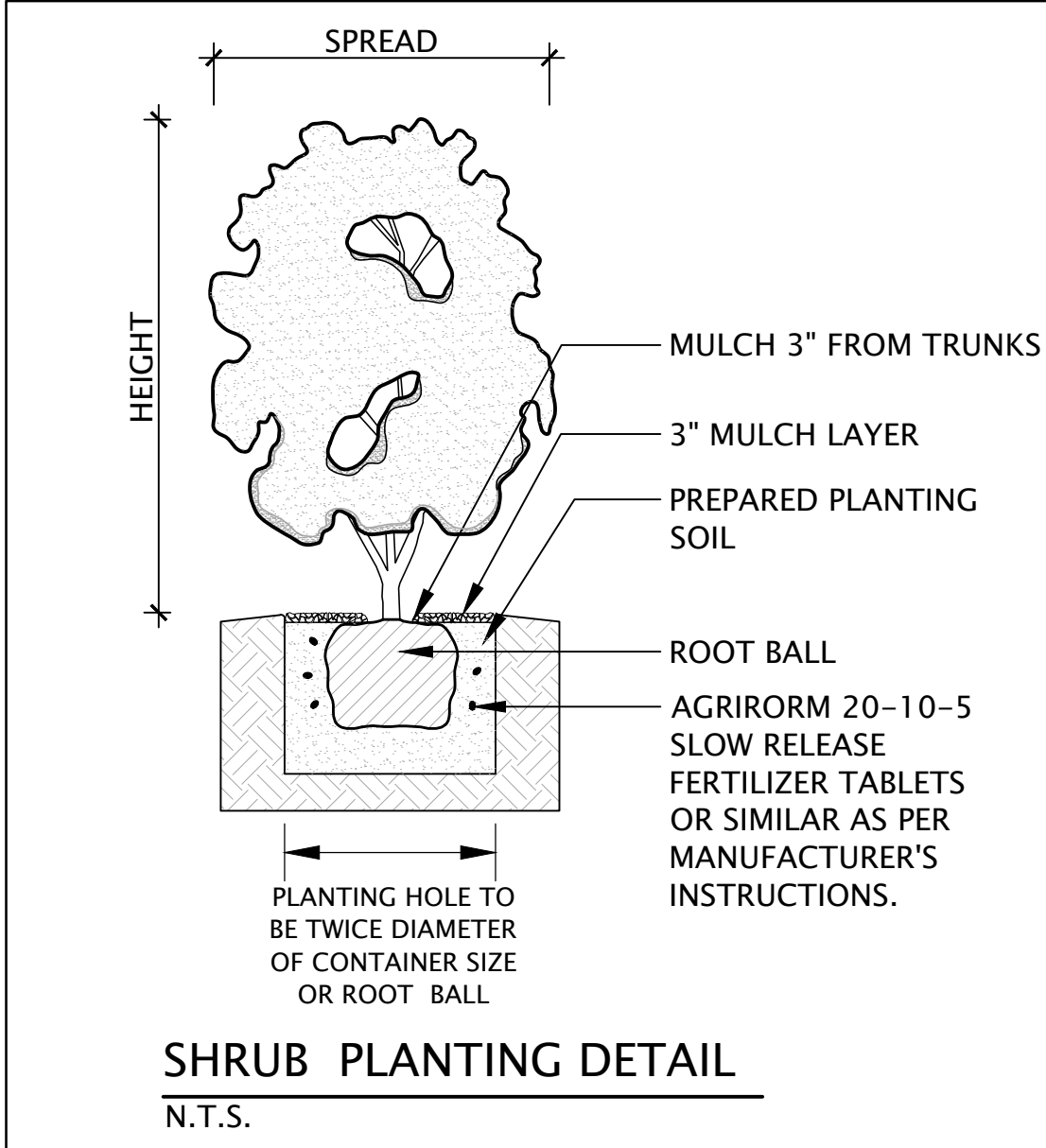
Properties	Typical Value	ASTM Test Method
Tensile strength @ yield - Wall	2,354 PSI	D638
Tensile strength @ yield - Hinge	2,846 PSI	D638
Yield Elongation - Wall	7.44%	D638
Yield Elongation - Hinge	7.01%	D638
Flexural Modulus	119,625 PSI	D790B
Notched Izod Impact - Wall	3.84 (ft-lbs)	D256A
Rockwell Hardness r. scale - Wall	84.4	D785A

DETAIL A
DOUBLE TOP EDGE AND VERTICAL ROOT DIRECTING RIB

DETAIL B
ANTI-LIFT GROUND LOCK TAB

DETAIL C
ZIPPER JOINING SYSTEM

DETAIL D
TREE ROOT BARRIER PANEL



MAINTENANCE GUIDES FOR TREES AND SHRUBS:

A. ESTABLISHMENT:
THE ROOT FLARE SHOULD BE SLIGHTLY 1"-2" ABOVE THE SOIL LINE (GRADE). WATERING THOROUGHLY AFTER PLANTING HELPS ESTABLISH THE ROOTS. MULCHING AROUND THE BASE HELPS RETAIN MOISTURE AND SUPPRESS WEEDS. KEEP MULCH 6" AWAY FROM TRUNK AND AT GRADE LEVEL.

B. IRRIGATION:
IRRIGATION DURING THE ESTABLISHMENT PERIOD. FOLLOWING THE INITIAL FEW MONTHS OF FREQUENT IRRIGATION, PROVIDE WEEKLY IRRIGATION UNTIL PLANTS ARE FULLY ESTABLISHED. AT EACH IRRIGATION, APPLY ABOUT 2 TO 3 GALLONS OF WATER PER INCH OF TRUNK DIAMETER (E.G. 4-6 GALLONS FOR A 2-INCH TREE) OVER THE ROOT BALL.

C. IRRIGATION SCHEDULING FOR RECENTLY PLANTED TREES:
BASED ON UNIVERSITY OF FLORIDA, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES DATA BY DR. EDWARD F. GILMAN. IDEAL IRRIGATION SCHEDULE FOR QUICKLY ESTABLISHING TREES IN WELL-DRAINED SITES: DAILY FOR 2 MONTHS, THEN 3 TIMES A WEEK FOR 3 MONTHS, THEN WEEKLY UNTIL ESTABLISHED. BASED ON THIS AND OTHER SPECIFIC FLORIDA STANDARDS DATA, WE SPECIFY THE FOLLOWING IRRIGATION SCHEDULE:
C.1. 2 INCH CALIPER TREES:
DAILY FOR 2 WEEKS; EVERY OTHER DAY FOR 3 MONTHS; THREE TIMES WEEKLY FOR SIX MONTHS; TWICE WEEKLY ONCE FULLY ESTABLISHED AND LANDSCAPE INSTALLATION HAS BEEN COMPLETED.
C.2. 2-4 INCH CALIPER TREES: DAILY FOR 1 MONTH; EVERY OTHER DAY FOR 3 MONTHS; TWICE WEEKLY FOR SIX MONTHS. TWICE WEEKLY ONCE FULLY ESTABLISHED AND LANDSCAPE INSTALLATION HAS BEEN COMPLETED.
C.3. 4 OR MORE INCH CALIPER TREES: DAILY FOR 6 WEEKS; EVERY OTHER DAY FOR 6 MONTHS; TWICE WEEKLY FOR NINE MONTHS. TWICE WEEKLY ONCE FULLY ESTABLISHED AND LANDSCAPE INSTALLATION HAS BEEN COMPLETED.

D. TREES FERTILIZATION
A COMPLETE FERTILIZER WITH A SALT INDEX OF LESS THAN 50. SHALL BE APPLIED ON TOP OF THE ROOT BALL AND BACKFILL SOIL AT PLANTING. FERTILIZER SHALL BE APPLIED ACCORDING TO MANUFACTURER'S DIRECTIONS. IT SHALL HAVE: A RATIO OF APPROXIMATELY 3:1:2 OR 3:1:3 (I.E. 15-5-10 OR 15-5-15) OF NITROGEN, PHOSPHORUS PENTOXIDE (P2O5), AND POTASSIUM OXIDE (K2O). FERTILIZERS THAT ARE "SLOW-RELEASE," "CONTROLLED RELEASE," SULFUR COATED, OR WITH NITROGEN AS IBDU OR UREAFORMALDEHYDE HAVE EXTENDED RELEASE PERIODS COMPARED TO FERTILIZERS THAT ARE READILY WATER SOLUBLE. THIRTY TO FIFTY PERCENT OF THE NITROGEN SHOULD BE WATER INSOLUBLE OR SLOW-RELEASE. FERTILIZER SHALL BE APPLIED TO ESTABLISHING TREES EVERY THREE MONTHS UNTIL LANDSCAPE INSTALLATION OF THE PROJECT HAS BEEN COMPLETED OR ONE YEAR FROM PLANTING. ESTABLISHED TREES WHICH HAVE BEEN PLANTED ONE YEAR OR MORE AND GROWING IN LANDSCAPED AREAS WHERE TURF AND SHRUBS ARE FERTILIZED DO NOT NEED ADDITIONAL FERTILIZER. THEIR ROOT SYSTEMS WILL EXTEND THROUGHOUT THE LANDSCAPE PAST THE EDGE OF THE TREE CANOPY AND RECEIVE NUTRIENTS WHEN THESE AREAS ARE FERTILIZED. SUPPLEMENTAL APPLICATIONS MAY BE NEEDED FOR SOME TREES BECAUSE OF NUTRIENT DEFICIENCIES. AFTER LANDSCAPE INSTALLATIONS HAVE BEEN COMPLETED, STEPS TO RESOLVE THESE DEFICIENCIES WITH APPROPRIATE TREATMENT, SHALL BE PERFORMED WHEN OBSERVED BY MAINTENANCE PERSONNEL.

E. SHRUBS FERTILIZATION
A COMPLETE FERTILIZER SLOW RELEASE FERTILIZER AS DESCRIBED ABOVE FOR TREES, SUCH AS 15-5-10 TO SHRUBS AND GROUND COVER BEDS AT A RATE OF 3-5 POUNDS N/1000 SQUARE FEET/YEAR OR AS PER MANUFACTURER'S RECOMMENDATIONS.

F. PALMS FERTILIZATION
PALMS SHOULD BE FERTILIZED WITH AN 8-2-12-4 MG PLUS MICRONUTRIENT, WITH 100% OF N,K AND MG IN CONTROLLED RELEASE FORM, SUCH AS ATLANTIC PALM SPECIAL, FOLLOWING MANUFACTURER'S INSTRUCTIONS DO NOT USE TURF FERTILIZER WITH HIGH N AND WATER SOLUBLE K WITHIN 50 FEET OF ANY PALM.

G. TURF FERTILIZATION
FERTILIZATION GUIDELINES FOR ESTABLISHED TURFGRASS LAWNS IN SOUTH FLORIDA, APPLIED IN TWO APPLICATIONS GENERALLY IN FEBRUARY AND OCTOBER, AS FOLLOW:

NITROGEN RECOMMENDATIONS (LBS. N/1000 SQ. FT/ YEAR)	
G.1. SPECIES	2-4
BAHIA GRASS	2-4
BERMUDAGRASS	5-7
CENTPEDEGRASS	2-3
ST. AUGUSTINEGRASS	4-6
ZOYSIAGRASS	4-6

H. ADDITIONAL FERTILIZATION GUIDES
FERTILIZATION GUIDES IS A COMPLEX ISSUE WITHIN THE LANDSCAPE. IN ADDITION TO THE BASIC GUIDELINES SHOWN AIN THIS SHEET, LANDSCAPE CONTRACTOR AND/OR LANDSCAPE MAINTENANCE CONTRACTOR, AS WELL AS LICENSED PEST CONTROL AND FERTILIZING COMPANIES SHALL, PRIOR TO ANY FERTILIZATION APPLICATION, READ THE FLORIDA NURSERY AND GROWERS ASSOCIATION AND UNIVERSITY OF FLORIDA, FLORIDA COOPERATIVE EXTENSION SERVICE, FERTILIZATION RECOMMENDATIONS AND GUIDELINES ON FERTILIZATION, AND ADHERE TO THE MIAMI DADE COUNTY FERTILIZATION ORDINANCE.

I. GENERAL TREE ESTABLISHMENT GUIDES
BASED ON UNIVERSITY OF FLORIDA, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES BY DR. EDWARD F. GILMAN. IDEAL IRRIGATION SCHEDULE FOR QUICKLY ESTABLISHING TREES IN WELL-DRAINED SITES: DAILY FOR 2 MONTHS, THEN 3 TIMES A WEEK FOR 3 MONTHS, THEN WEEKLY UNTIL ESTABLISHED. RESEARCH INDICATES THAT ESTABLISHMENT TIME FOR CONTAINER-GROWN TREES CAN BE 1 TO 2 MONTHS PER INCH OF TRUNK DIAMETER.
AVERAGE LENGTH OF TREE ESTABLISHMENT PERIOD IN SOUTH FLORIDA AS PER UNIVERSITY OF FLORIDA (IFAS):
UNDER 2" DIAMETER TRUNK: 2-4 MONTHS
2" TO 4" DIAMETER TRUNK: 5-9 MONTHS
OVER 4" DIAMETER TRUNK: 10+ MONTHS
THESE GUIDELINES HAVE BEEN RESERACHED IN DOCUMENTS PROVIDED BY , INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES, EDIS WHICH WERE BASED ON THE FOLLOWING RESEARCH: BEESON AND GILMAN 1992; GILMAN ET AL. 1994; GILMAN AND BEESON 1996; GILMAN ET AL. 1996; GILMAN 2001; GILMAN ET AL. 2002; GILMAN ET AL. 2010; HARRIS AND GILMAN 1993; WATSON AND HIMELICK 1982. AS WELL AS TO MIAMI-DADE COUNTY'S PUBLICATION GUIDE TO TREE PLANTING AND MAINTENANCE.

J. ALL PRUNING SHALL BE PERFORMED IN ACCORDANCE WITH ANSI A300 PART 1 - PRUNING. UNDER SUPERVISION OF A CERTIFIED ISA ARBORIST.

K. FOR POST-PROJECT PLANTING IT IS CRUCIAL TO HAVE A MAINTENANCE PROGRAM FOR TREES AND SHRUBS, IT SHOULD INCLUDE PERIODIC, EVERY SIX MONTHS MINIMUM CERTIFIED ARBORIST INSPECTION AND RECOMMENDATIONS THAT INCLUDE PRUNING AND TRIMMING, FERTILIZATION, PEST AND DISEASE CONTROL, WATERING AND MULCHING.

GENERAL NOTES

1. WORK PERFORMED SHALL COMPLY WITH THE FOLLOWING:
1. THESE GENERAL NOTES, CONSTRUCTION DOCUMENTS, PLANS AND SPECIFICATIONS, ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES, ORDINANCES AND REGULATIONS, ALL CODES LISTED IN SPECIFICATIONS AND DRAWINGS SHALL BE INCLUSIVE OF ALL CODES, REGULATIONS AND REQUIREMENTS ADOPTED BY THE STATE OF FLORIDA, THE COUNTY OF MIAMI-DADE AND THE MUNICIPALITY WHERE PROJECT TAKES PLACE, INCLUDING ANY AMENDMENTS.
2. IT IS UNDERSTOOD THAT FOR ALL PURPOSES OF THE WORDS "LANDSCAPE DOCUMENTS" MEAN AND INCLUDE ALL PLANS, DRAWINGS, SKETCHES, NOTES, SPECIFICATIONS AND ANY OTHER OTHER DOCUMENTATION RELATIVE TO THIS PROJECT. THE ORIGINATION OF ALL INFORMATION IN THE LANDSCAPE DOCUMENTS IS FROM ORLANDO COMAS, ASLA, LANDSCAPE ARCHITECT AND/OR COMAS DESIGN GROUP, INC. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION. AND/OR CORRECT/VERIFY LOCATIONS OF PERTINENT SITE IMPROVEMENTS INSTALLED UNDER OTHER CONTRACTS. LANDSCAPE CONTRACTOR SHALL FURNISH ALL MATERIALS, TOOLS, EQUIPMENT, LABOR, INSURANCES, WORKMEN COMPENSATION AND LICENSES AS WELL AS ALL PLANTS AND LANDSCAPE MATERIAL NECESSARY FOR THE PROPER INSTALLATION OF ALL TREES, SHRUBS, GROUND COVERS, GRASS, AND ANY OTHER BOTANICAL (PLANT) OR NON-BOTANICAL MATERIAL SHOWN IN THE LANDSCAPE ARCHITECTURAL DRAWINGS. THIS MATERIALS SHALL INCLUDE ALL MATERIALS SPECIFIED WHICH ARE NOT INCLUDED IN THE PLANT LEGEND(S) OR CHARTS.
3. LANDSCAPE CONTRACTOR IS REQUIRED TO PROCURE AND OBTAIN ANY NECESSARY PERMITS APPLICABLE FOR THE SUCCESSFUL COMPLETION OF THIS PROJECT, IF APPLICABLE AS WELL AS REGISTRATION IN MUNICIPALITIES OR COUNTIES REQUIRING SUCH REGISTRATION. ALL PLANTS AND GRASS
- (sod) SHALL BE WARRANTED FOR SIX (6) MONTHS, PALMS SHALL BE WARRANTED FOR A PERIOD OF ONE (9) MONTHS, FROM THE DATE OFFINAL ACCEPTANCE OF COMPLETED WORK BY THE LANDSCAPE ARCHITECT AND BUILDING OFFICIALS).
4. DURING WARRANTY PERIOD IT SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO REPLACE ANY DEAD MATERIAL. FOR ONE OF THE SAME SPECIFICATION AS ORIGINALLY SPECIFIED, WITHIN 15 DAYS OF NOTICE BY OWNER.
5. LANDSCAPE CONTRACTOR SHALL SUBMIT SEPARATE ESTIMATE FOR 12 MONTHS OF MAINTENANCE SERVICE. A SCHEDULE OF RE-MULCHING, FERTILIZING AND SPRAYING PROGRAM SHALL BE PART OF THIS MAINTENANCE ESTIMATE.
6. SHOULD LANDSCAPE CONTRACTOR FIND ANY DISCREPANCIES, UNAVAILABILITY OF MATERIAL OR ANY QUESTION REGARDING THE ADHERENCE TO THIS PLAN, NO DECISION SHALL BE TAKEN WITHOUT SPECIFIC CONSULTATION WITH THE LANDSCAPE ARCHITECT, INCLUDING SUBSTITUTIONS WHEN REQUIRED.
7. CONTRACTOR SHALL PRIOR TO PLANTING, PROVIDE PHOTOS OF ALL PLANT MATERIAL, MARKED WITH A "P" OR "X" IN A PLANT LEGEND'S COLUMN REQUESTING IMAGES. COLUMN IS LABELED NOTE I.7, OR DESCRIBED AS A SPECIMEN PLANT MATERIAL FOR LANDSCAPE ARCHITECT APPROVAL. REGARDLESS OF PHOTO APPROVAL AND SPECIFICATION IN PLAN OR LEGEND, LANDSCAPE ARCHITECT HAS THE RIGHT TO REFUSE ANY PLANT MATERIAL NOT CONSIDERED FLORIDA FANCY.
8. ALL VINES REQUIRE A CLIMBING STRUCTURE FOR THEM TO GROW INTO WHICH SHALL BE SUPPLIED BY LANDSCAPE CONTRACTOR AND INCLUDED AS PART OF THE WORK WHENEVER A VINE IS SPECIFIED IN THIS PLAN, EVEN IF CLIMBING STRUCTURE IS NOT SPECIFIED. CONSULT DETAILS OF STRUCTURE WITH LANDSCAPE ARCHITECT.
9. LANDSCAPE CONTRACTOR SHALL COORDINATE THIS PLAN WITH, NOTES, DETAILS AND SPECIFICATIONS AND REQUEST ALL SHEETS WHICH MAKE UP THE LANDSCAPE ARCHITECTURE DOCUMENTS, SUCH AS GRADING PLANS, HARDSCAPE PLANS, DETAILS, PLANTING PLANS, IRRIGATION PLANS AND LIGHTING PLANS). ALL LANDSCAPE SHEETS ARE PART OF THE CONSTRUCTION DOCUMENTS FOR THIS PROJECT. IT SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO REQUEST, READ AND UNDERSTAND ALL THE INFORMATION CONTAINED IN THESE SHEETS INCLUDING DETAILS, LEGEND AND NOTES OF THE LANDSCAPE ARCHITECTURE PLAN SET.
10. FOR ALL TREES THE CALIPER MEASUREMENT OF THE TRUNK SHALL MEAN THE DIAMETER AT BREAST HEIGHT OR DBH. TREE TRUNKS SHALL BE MEASURED AT THE HEIGHT OF AN ADULT'S BREAST, OR AT 4.5 FEET ABOVE GRADE, AT THAT HEIGHT, MEASURE THE TREE'S CIRCUMFERENCE AND DIVIDE BY PI (3.14) THE RESULT WILL BE THE TREE'S DIAMETER OR DBH.
11. CRITICAL ROOT ZONE (CRZ) ALSO CALLED THE ROOT PROTECTION ZONE (RPZ), IS DETERMINED FOR EACH INCH OF TREE TRUNK DIAMETER AT BREAST HEIGHT (DBH), ALLOW ONE FOOT FOR CRITICAL ROOT ZONE FOR EVERY INCH OF TRUNK DBH.
- II. DELIVERY STORAGE AND HANDLING
1. PLANTS SHALL BE PROPERLY PROTECTED DURING DELIVERY TO PREVENT DAMAGE TO ROOT BALLS OR LEAVES DESICCATION. UNACCEPTABLE PLANT MATERIAL SHALL BE REMOVED IMMEDIATELY FROM SITE. ALL PLANTS ARE TO BE PROPERLY MAINTAINED AND PROTECTED WHILE STORED AT SITE.
2. DURING DELIVERY, PRIOR TO AND DURING PLANTING OF LAWN AREAS, SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF ROOTS TO SUN. ALL SOD SHALL BE STACKED DURING INSTALLATION SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.
- III. JOB CONDITIONS
1. LANDSCAPE CONTRACTOR SHALL EXAMINE THE SITE FOR CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. REPORT IN WRITING TO THE LANDSCAPE ARCHITECT ANY AND ALL CONDITIONS CONTRARY TO THOSE SHOWN IN THE DRAWINGS. DO NOT START OR PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. LANDSCAPE CONTRACTOR SHALL VERIFY THE PLANT QUANTITIES NECESSARY TO COMPLETE THE WORK AS PER DRAWING AREAS, PLANT LIST PROVIDED AND QUANTITIES SHOWN IN THE PLANTING PLAN SHOULD SERVE ONLY AS A GUIDE AND NOT AS THE REQUIREMENT QUANTITIES, TOTAL QUANTITY COUNT SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY.
2. LANDSCAPE CONTRACTOR SHALL EXERCISE CARE IN ALL WORK TO PREVENT DAMAGE OF ANY EXISTING SPRINKLER PIPING AND WIRES AS WELL AS ANY OTHER IRRIGATION EQUIPMENT. CARE SHALL ALSO BE EXERCISED NOT TO DAMAGE ANY OVERHEAD WIRES OR CABLES. LANDSCAPE CONTRACTOR SHALL AT ALL TIMES PROTECT ALL MATERIALS AND WORK AGAINST INJURY TO PUBLIC AS A RESULT OF HIS NEGLIGENCE DURING THE COURSE OF HIS WORK.
- IV. SITE DEMOLITION NOTES
1. REMOVE DESIGNATED ITEMS SHOWN ON THE PLAN TO THE FULL DEPTH OF THEIR CONSTRUCTION UNLESS OTHERWISE NOTED.
2. VERIFY THE LOCATION AND DIMENSION OF ITEMS TO BE REMOVED PRIOR TO COMMENCEMENT OF THE WORK.
3. ALL CONCRETE AND ASPHALT REMOVAL SHALL BE SAW CUT. EDGES OF MATERIAL TO REMAIN SHALL BE SHORED UP AND PROTECTED DURING CONSTRUCTION TO PRESERVE EDGE INTACT. REPAIRS TO DAMAGED EDGES TO BE DONE WITH CARE AND AT NO COST TO THE OWNER. ITEMS ENCOUNTERED BELOW GRADE AND NOT SHOWN ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND GENERAL CONTRACTOR.
4. SALVAGE EXISTING MATERIALS AS INDICATED ON THE PLANS. REMOVE SALVAGED MATERIALS AS INDICATED WITH CARE AND STORE ON SITE. CLEAN ALL DEBRIS AND CONSTRUCTION MATERIAL FROM SALVAGED ITEMS; REUSE AS DIRECTED BY LANDSCAPE ARCHITECT.
5. REMOVE DEMOLISHED MATERIALS FROM SITE. DISPOSAL BY BURNING AND/OR BURYING IS PROHIBITED.
6. CONTACT THE LOCAL UNDERGROUND SERVICE UPDATE FOR UTILITY LOCATION AND IDENTIFICATION PRIOR TO DEMOLITION.
7. THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THE PLANS MAY VARY IN RELATION TO ACTUAL EXISTING CONDITIONS; ADDITIONAL UTILITIES NOT SHOWN ON THE DRAWINGS MAY EXIST. VERIFY IN THE FIELD THE DATA SHOWN, AND CALL ANY DISCREPANCIES TO THE ATTENTION OF THE GENERAL CONTRACTOR AND/OR THE PROJECT SUPERINTENDENT BEFORE STARTING WORK.
- V. LAYOUT NOTES
1. COORDINATE ANY ON-SITE DIMENSIONS AND CONDITIONS REQUIRED WITH GENERAL CONTRACTOR. IN PLANS, NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALE, LARGER SCALE OVER SMALLER SCALE, ADDENDA AND CLARIFICATIONS OVER PREVIOUS DOCUMENTS.
2. CONTRACTOR TO LAY OUT HARDSCAPE ELEMENTS AND VERIFY LAYOUT WITH LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION, IF HARDSCAPE ELEMENTS ARE DIMENSIONED ON A LANDSCAPE LAYOUT PLAN. ANY DISCREPANCIES OR CONFLICTS WITH EXISTING CONDITIONS OR OTHER DRAWINGS SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT IMMEDIATELY FOR PROPER CLARIFICATION OR ADJUSTMENT.
3. FOR DIMENSIONS OF EXISTING BUILDINGS, PROPOSED BUILDING IMPROVEMENTS, AND RELATED WORK, REFER TO THE ARCHITECTURAL DRAWINGS.
4. WHERE DIMENSIONS ARE CALLED AS "EQUAL," SPACE REFERENCED ITEMS EQUALLY, MEASURED TO THEIR CENTER LINES.
5. MEASUREMENTS ARE TO FACE OF BUILDING, WALL OR FIXED SITE IMPROVEMENT. DIMENSIONS TO CENTER LINES IS AS INDICATED.
6. INSTALL INTERSECTING ELEMENTS AT 90 DEGREE ANGLES TO EACH OTHER UNLESS OTHERWISE NOTED.
7. PROVIDE EXPANSION JOINTS WHERE CONCRETE FLATWORK MEETS VERTICAL STRUCTURES SUCH AS WALLS, CURBS, STEPS AND BUILDING ELEMENTS.
8. EXPANSION JOINTS IN CONCRETE WALKWAYS SHALL BE LOCATED TWENTY FEET 20'-0" O.C., MAXIMUM OR AS INDICATED.
- VI. LANDSCAPE MATERIALS
1. WATER SHALL BE POTABLE.
2. STAKING MATERIAL : SEE PLANTING DETAIL IN DRAWINGS FOR METHOD AND MATERIALS.
3. FERTILIZING TABLETS : ALL CONTAINER GROWN AND FIELD GROWN PLANT MATERIAL SHALL RECEIVE AGRIFORM PLANTING TABLETS (OR EQUAL) 20-10-5 FORMULA. TABLETS SHALL BE PLACED MIDWAY TO PLANT BALL AT THE RATES SPECIFIED BY THE MANUFACTURER. LANDSCAPE CONTRACTOR MAY SUBMIT ALTERNATE FOR LANDSCAPE ARCHITECT'S APPROVAL. LANDSCAPE CONTRACTOR MAY SUBMIT A DIFFERENT FERTILIZING METHOD TO LANDSCAPE ARCHITECT IN WRITING.
4. PLANTS AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIES AND SPECIFICATIONS ON THE DRAWINGS, AS FOLLOWS:
- a. PLANTS SHALL HAVE THE HABIT OF GROWTH WHICH IS NORMAL FOR THE SPECIES, THEY SHALL BE HEALTHY, VIGOROUS AND FREE FROM INSECT PESTS, PLANT DISEASES AND INJURIES.
- b. ALL PLANTS SHALL BE "GRADE NO. 1," AS SPECIFIED BY THE STATE OF FLORIDA DEPARTMENT OF AGRICULTURE, DIVISION OF PLANT INDUSTRY LATEST EDITION. TREES GRADED FLORIDA FANCY SHOULD HAVE ONE DOMINANT TRUNK THROUGH THE CROWN TO THE TREE. THE EXCEPTION WOULD BE FOR SMALL-Maturing TREES (STANDARD OR MULTI-TRUNKED) SUCH AS CRAPE-MYRTLE, JAPANESE LIGSTRUTE AND OTHERS. BRANCH DIAMETER SHOULD NOT BE LARGER THAN 2/3 THE DIAMETER OF THE TRUNK MEASURED DIRECTLY ABOVE THE BRANCH UNION. THERE SHOULD BE NO FLUSH CUTS ANYWHERE ON THE TREE, AND NO OPEN WOUNDS ON THE TRUNK OR MAJOR BRANCHES. THE CROWN SHOULD BE FULL OF FOLIAGE AND SHOW LITTLE, IF ANY, EVIDENCE OF CHLOROSIS, NECROSIS, DISEASE OR INSECT INFESTATION. THE ROOT BALL SHOULD BE APPROPRIATELY SIZED AND BE FREE OF SEVERE DEFECTS. GRADES AND STANDARDS DO NOT APPLY TO SPECIALTY TREES LIKE BRAIDED STEMS, POODLES ESPALIER, TOPIARY AND BONSAI.
- c. ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AS TO MEETING THE SPECIFICATIONS OF THE DRAWINGS. A PRIVATE PROFESSIONAL MAY BE HIRED OR THE LOCAL FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES MAY BE CALLED BY OWNER TO GRADE THE INSTALLED PLANT MATERIAL IF ANY DISPUTE ARISES BETWEEN LANDSCAPE CONTRACTOR AND LANDSCAPE ARCHITECT.
- d. UNLESS SPECIFIED ALL PLANTS SHALL BE NURSERY GROWN.
- e. SUBSTITUTIONS SHALL BE ONLY WITH LANDSCAPE ARCHITECTS WRITTEN AUTHORIZATION.
- f. NO PLANT SHALL REMAIN UNPLANTED FOR A PERIOD LONGER THAN FIVE DAYS.
- g. ALL FIELD GROWN MATERIAL SHALL BE BALLED AND BURLAPED AND PROPERLY PROTECTED FROM SUN AND DRYING WINDS.
- h. TREES AND PALMS DELIVERED WITH DAMAGE TO THEIR TRUNKS, OR DAMAGED AS A RESULT OF HANDLING THEM AT THE JOBSITE WILL NOT BE ACCEPTED, NOR ANY TREES OR PALMS WITH FIRE DAMAGE.
- VI. MULCH
- a. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING THE AMOUNT OF REQUIRED MULCH FOR THE ENTIRE PROJECT AND INCLUDE THIS AMOUNT IN THE TOTAL CONTRACT QUOTE TO OWNER OR GENERAL CONTRACTOR.
- b. UNLESS SPECIFIED IN THE PLANS, MULCH SHALL BE AN ACCEPTABLE TYPE TO OWNER AND LANDSCAPE ARCHITECT. LANDSCAPE CONTRACTOR SHALL OBTAIN LANDSCAPE ARCHITECT'S APPROVAL AS TO THE TYPE AND QUALITY BEING PROPOSED. MULCH SHALL BE CLEAN AND FREE OF WEEDS, MOSS, STICKS OR ANY OTHER KIND OF DEBRIS. CYPRESS MULCH OR TINTED MULCH IS NOT ACCEPTABLE. NO EXCESSIVE MULCHING AND HEAVING WOUNDS WILL BE ALLOWED THAT CAN PULL FEEDER ROOTS TO THE SURFACE, WHICH STRESS THE PLANT DURING PERIODS OF DRY CONDITIONS. TOO MUCH MULCH CAN CAUSE SUFFOCATION OF THE PLANT AS IT HINDERS OXYGEN FROM GETTING TO THE PLANTS. SPREAD MULCH EVENLY TO THE STANDARD RECOMMENDED DEPTH OF 2-3".

- c. ALLOW SPACE FOR MULCH WHEN DOING FINISH GRADING SO THAT TOP OF MULCH IS 2 INCHES MINIMUM BELOW ANY ADJACENT HARDSCAPE SURFACE SUCH AS DECKS, COURTS, DRIVEWAYS, WALKWAYS, ETC. ...
- d. ROCK AND STONE SHALL NOT BE USED AS A MULCH SUBSTITUTE. THEY RADIATE HEAT WITHIN THE PLANT BED GENERATING STRESS AND DO NOT OFFER ANY HORTICULTURAL VALUE FOR PLANTS. ORGANIC MULCH'S HOLDS MOISTURE AND MINIMIZES TEMPERATURE FLUCTUATIONS BETTER.
- e. PLACING EXCESSIVE MULCH AROUND THE TRUNK OR STEMS SHALL NOT BE ACCEPTABLE. ADEQUATE SPACE HAS TO BE AVAILABLE SO THAT THE PLANT CAN BREATHE. A COMMON PRACTICE IS TO PILE THE MULCH UP AROUND THE BASE OF A TREE ALSO KNOWN AS "MULCH VOLCANO" BECAUSE THE TREE TRUNK STICKS OUT OF A MOUND OF MULCH. THIS PRACTICE TRAPS MOISTURE AGAINST THE TREE BARK AND ENCOURAGES BACTERIAL AND FUNGAL DISEASE. DEEP APPLICATIONS OF MULCH AROUND TREE TRUNKS ENCOURAGES ROTTING OF THE CAMBIUM OR BARK OF THE TREE. MULCH MUST BE TAPERED AWAY FROM THE TRUNK OF TREES BEFORE APPLYING THE RECOMMENDED DEPTH OF 2-3".
- VI. LANDSCAPE PLANTING NOTES
1. SOURCE OF LANDSCAPE DOCUMENTS IS ORLANDO COMAS, ASLA, LANDSCAPE ARCHITECT AND/OR COMAS DESIGN GROUP, INC. REFER TO LANDSCAPE ARCHITECT OR CIVIL ENGINEER'S GRADING AND DRAINAGE PLANS FOR RUNOFF DRAINAGE SWALES INFORMATION. IF ACTUAL SITE CONDITIONS VARY FROM WHAT IS SHOWN ON THE PLANS OR IF THERE ARE DISCREPANCIES BETWEEN THE PLANS, CONTACT THE LANDSCAPE ARCHITECT FOR DIRECTION AS TO HOW TO PROCEED.
2. IF ANY PART OF THIS PLAN CANNOT BE FOLLOWED DUE TO SITE CONDITIONS, CONTACT LANDSCAPE ARCHITECT PRIOR TO COMMENCING OR CONTINUING WORK.
3. EXACT LOCATIONS OF PLANT MATERIALS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD PRIOR TO INSTALLATION. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST PLANTS TO EXACT LOCATION IN FIELD.
4. LANDSCAPE CONTRACTOR SHALL VERIFY PLANT COUNTS AND SQUARE FOOTAGES. QUANTITIES PROVIDED IN THE PLANS PLANT LEGEND OR CHARTS ARE ONLY FOR PURPOSES OF PROVIDING OWNER WITH PRELIMINARY INFORMATION ONLY. IF QUANTITIES ON PLANT LEGEND OR CHARTS DIFFER FROM GRAPHICS REQUIRED COUNTS IN PLANS OR IN PHYSICAL SITE CONDITIONS, THEN GRAPHICS REQUIRED COUNTS IN PLANS OR IN PHYSICAL SITE CONDITIONS SHALL PREVAIL OVER COUNTS IN PLANT LEGEND OR CHARTS.
5. CONTACT THE LOCAL UNDERGROUND UTILITY SERVICES FOR UTILITY LOCATION AND IDENTIFICATION PRIOR TO COMMENCING ANY WORK.
6. ALL SHRUBS TO BE PLANTED NOT LESS THAN OF 24" AND GROUND COVERS A MINIMUM OF 12"-18" DEPENDING ON SPECIE FROM THE EDGE OF ANY HARDSCAPE (WALKS, BUILDING WALLS, POND'S EDGE, ETC...) SHRUBS SUCH AS IXORA, RAPHOLEPSIS AND ALL OTHER SPECIES WHICH GROW LARGER THAN 48" SPREAD, SHALL BE PLANTED AT 1/2 THE ESTIMATED ADULT'S SPREAD DIAMETER FROM THE EDGES OF ANY HARDSCAPE.
7. ALL TREES AND PALMS OVER 8" IN HEIGHT SHALL BE BRACED TO PREVENT LATERAL MOVEMENT FOR A PERIOD OF SIX MONTHS FROM THE DATE OF PLANTING. EITHER WOOD BRACES, NYLON STRAPS OR AS SHOWN IN THE PLANTING DETAILS, DEPENDING ON SPECIE AND IN CONSULTATION WITH LANDSCAPE ARCHITECT SHALL BE USED. NO NAILS, SCREWS, METAL STRAPS OR WIRES ARE TO BE USED DIRECTLY AGAINST THE TREES OR PALMS TRUNKS.
8. PERFORM EXCAVATION UTILITIES WITH CARE AND IF NECESSARY, BY HAND. THE LANDSCAPE CONTRACTOR BEARS FULL RESPONSIBILITY FOR THIS WORK AND DISRUPTION OR DAMAGE TO UTILITIES SHALL BE REPAIRED IMMEDIATELY AT NO EXPENSE TO THE OWNER.
9. TREES SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO EXISTING GRADE OR CONTAINER LEVEL, OR 2"-3" ABOVE GRADE. SEE DETAILS.
10. TREES TO BE PLANTED A MINIMUM OF 5 FEET FROM PAVEMENT OR ANY HARDSCAPE EDGE, PRIVACY WALLS OR FENCE WALLS.
11. PRUNE OR TRIM EXISTING OR NEWLY PLANTED TREES ONLY AS DIRECTED BY LANDSCAPE ARCHITECT.
12. LEVEL VERTICALLY AND EQUALLY SPACED IN ALL DIRECTIONS TREES, PALMS AND LARGE SHRUBS AS REQUIRED.
13. FINISH GRADES OF PLANTER AREAS SHALL BE 3-4 INCHES BELOW ADJACENT PAVING UNLESS OTHERWISE NOTED, TO ALLOW FOR 2"-3" ADDITIONAL MULCH BED TO BE BELOW HARDSCAPE SURFACE.
14. PROVIDE SPECIFIED EDGING IF SPECIFIED IN PLANS.
15. CUT AND REMOVE BURLAP FROM TOP 1/3 OF BALL IF TREES OR PALMS ARE BALLED AND BURLAPED.
16. LANDSCAPE ARCHITECT IS TO REVIEW PLANT MATERIALS AT SOURCE OR BY PHOTOGRAPHS ACCORDING TO INSTRUCTIONS IN PLANS PRIOR TO DIGGING OR SHIPPING OF PLANT MATERIALS.
17. WATER TO ALL PLANTS SHALL BE POTABLE.
18. ALL PLANT MATERIAL, TREES, PALMS, SHRUBS AND GROUND COVERS ARE TO BE PLANTED LEVEL WITH FINISH GRADE. NO PLANT MATERIAL ROOTS ARE TO BE EXPOSED ABOVE FINISH GRADE.
19. NO ROCKS OR PEBBLES LARGER THAN 1/4" IN DIAMETER ARE TO BE VISIBLE PRIOR TO INSTALLATION OF MULCH. LANDSCAPE CONTRACTOR SHALL VERIFY THAT NO ROCKS OR PEBBLES OVER 1/4" IN DIAMETER ARE SEEN ONCE WATER IS APPLIED TO MULCH AT THE COMPLETION OF PLANTING.
20. ALL SOD AREAS AS SHOWN IN THE PLANS, INCLUDING RIGHT OF WAY AREAS, SHALL HAVE A TOPSOIL BED OF 4" MINIMUM AS PREPARATION FOR THE SOD PANELS
21. SOD SHALL BE INSTALLED WITH STAGGERED JOINTS CLOSELY BUTTED AND WITH AN EVEN SURFACE ACCORDING TO REQUIRED FINISH GRADE. IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO WATER ALL SODDED AREAS EVERY DAY ONCE IT HAS BEEN INSTALLED, UNTIL THE SOD IS ESTABLISHED AND/OR THE IRRIGATION SYSTEM IS OPERATIONAL.
22. MAINTENANCE ON ALL PLANT MATERIAL & SOD FOR THIS WORK BEGINS AT THE TIME OF INSTALLATION AND CONTINUES FOR 60 DAYS AFTER THE COMPLETION OF THE WORK. MAINTENANCE SHALL INCLUDE WATERING, REMOVAL OF DEAD OR INJURED BRANCHES, FRONDS AND LEAVES, RESETTING OF PLANTS TO PROPER GRADE OR UPRIGHT POSITION, TOP DRESSING AND ANY OTHER OPERATIONS NECESSARY TO MAINTAIN THE PLANT MATERIAL IN HEALTHY GROWING CONDITIONS.
23. TREES TO BE PLANTED A MINIMUM OF 5 FEET FROM PAVEMENT OR ANY HARDSCAPE EDGE, PRIVACY WALLS OR FENCE WALLS.
24. ALL WORK BY THE LANDSCAPE CONTRACTOR SHALL BE PERFORMED IN A PROFESSIONAL AND SOUND MANNER IN ACCORDANCE WITH ESTABLISHED STANDARDS OF LANDSCAPE INSTALLATION PRACTICES AND WORKMANSHIP.
25. ALL AREAS NOT PLANTED WITH SHRUBS OR GROUND COVERS OR SPECIFIED TO BE ANOTHER LANDSCAPE MATERIAL SUCH AS MULCH, BARK, STONES, ETC., IS TO BE COVERED WITH SOD, INCLUSIVE OF AREAS IN THE RIGHT OF WAY BETWEEN EDGE OF CITY OR COMMUNITY PAVEMENT OR CURB AND PROPERTY LINE AND/OR SIDEWALKS.
26. ANY RAILROAD TIE, OILITE STONE OR OTHER TYPE OF SPECIFIED RETAINING WALLS IN LANDSCAPE DOCUMENTS ARE TO BE INCLUDED AND INSTALLED BY LANDSCAPE CONTRACTOR ACCORDING TO SPACE ALLOWED AND SLOPE REQUIREMENTS WITH PRIOR ON SITE CONSULTATION WITH LANDSCAPE ARCHITECT. THEY ARE TO BE PLACED TAKING INTO CONSIDERATION EXISTING SITE CONDITIONS AND PLANT ROOT BALLS REQUIREMENTS. LANDSCAPE CONTRACTOR SHALL SPRAY MARK THE LOCATION OF PROPOSED WALLS AND OBTAIN LANDSCAPE ARCHITECT APPROVAL OF PROPOSED LOCATIONS PRIOR TO DIGGING TRENCHES FOR RETAINING WALLS.
27. LANDSCAPE CONTRACTOR SHALL COORDINATE ALL OF HIS PLANTING IN RAISED PLANTERS OR ANY PLANTING AREAS REQUIRING WATER PROOFING OR ANY OTHER SPECIAL APPLICATIONS, AS WELL AS ANY AND ALL HARDSCAPE AND PAVING SPECIFICATIONS AND CONSTRUCTION DETAILS WITH THE GENERAL CONTRACTOR. THESE SPECIFICATIONS AND DETAILS ARE NOT PART OF THE LANDSCAPE ARCHITECT'S SCOPE OF WORK.
28. BY ACCEPTING THIS PLAN, AND SUBMITTING IT TO THE MUNICIPAL AUTHORITIES OR ANY OTHER BUILDING AND ZONING AUTHORITY, OWNER RELEASES AND HOLDS LANDSCAPE ARCHITECT HARMLESS FROM ANY LEGAL RESPONSIBILITY AS A CONSEQUENCE OF ANY LEGAL ACTIONS ARISING FROM THE SELECTION, INSTALLATION, MAINTENANCE, NATURAL PLANT MATERIAL GROWTH HABIT, SUCH AS FALLING FRONDS, SEEDS, BRANCHES, ETC. OF THE LANDSCAPE AND PLANTING MATERIALS SPECIFIED IN THIS PLAN.
29. IF LANDSCAPE CONTRACTOR FINDS AVAILABILITY DIFFICULTIES WITH ANY SPECIFIC PLANT MATERIAL, HE SHALL PROPOSE ONE (OR SEVERAL) AS ALTERNATE TO LANDSCAPE ARCHITECT, AND OBTAIN FINAL DECISION FROM LANDSCAPE ARCHITECT AS TO SPECIE TO BE USED.
30. IN ABSENCE OF LANDSCAPE CONTRACTOR OR A DESIGNATED SUPERVISOR OF THE LANDSCAPE CONTRACTOR AT THE WORK SITE, LANDSCAPE ARCHITECT HAS THE OWNER'S GIVEN RIGHT TO PROVIDE INSTRUCTIONS TO LANDSCAPE CONTRACTOR'S EMPLOYEES OR SUBCONTRACTOR'S EMPLOYEES REGARDING THE INSTALLATION OF THE WORKS SPECIFIED IN THIS PLAN IF IN HIS OPINION WORK IS NOT BEING PERFORMED AS SPECIFIED.
31. ALL SPECIFIED VINES REQUIRE A STRUCTURE FOR THEM TO GROW INTO. THESE STRUCTURES (TRELLISES) SHALL BE SUPPLIED BY LANDSCAPE CONTRACTOR AND INCLUDED AS PART OF THE WORK. LANDSCAPE CONTRACTOR SHALL PROVIDE DETAILS OF STRUCTURE FOR LANDSCAPE ARCHITECT APPROVAL. STRUCTURES SHALL BE JAKOB'S TRELLIS SYSTEMS (INFO@JAKOB-USA.COM) OR SIMILAR.
32. LANDSCAPE CONTRACTOR SHALL REVIEW THE LANDSCAPE DOCUMENTS INCLUDING GRADING PLAN, IRRIGATION PLAN AND LIGHTING PLAN WHICH ARE PART OF THE LANDSCAPE CONSTRUCTION DOCUMENTS FOR THIS PROJECT. IT SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL LANDSCAPE DOCUMENTS WITH GENERAL CONTRACTOR AND ANY OTHER SUB CONTRACTOR TO FULLY UNDERSTAND ANY WORK OVERLAP AMONG THE DIFFERENT CONTRACTING DISCIPLINES. 34. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR A MINIMUM PERIOD OF ONE YEAR FROM DATE OF INSTALLATION.
33. IT SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO REMOVE ALL WEEDS, ANY UNDESIRABLE VEGETATION AND ROCKS THAT HAS BEEN BROUGHT TO THE SITE WITH PLANT MATERIAL AND PLANTING SOIL. AT NO COST TO THE OWNER.
34. ALL AREAS CONSIDERED RIGHT-OF-WAY AREAS, LABELED AS SUCH OR NOT IN THE LANDSCAPE PLANS, ARE TO BE FULLY SODDED AND BE PROVIDED WITH FULL COVER. IRRIGATION AS PART OF THE LANDSCAPE CONTRACTOR'S AGREEMENT WITH OWNER AND/OR GENERAL CONTRACTOR. SOD IN RIGHT-OF-WAY AREAS IS REQUIRED REGARDLESS OF IT BEING LABELED AS SOD AREAS OR NOT IN THE LANDSCAPE PLANS.
35. MOST PALMS ARE SELF CLEANING THEREFORE NO PALMS ARE TO BE PLANTED IN PROXIMITY OR CLOSE TO A HARDSCAPE OR PEDESTRIANS AND PLAY AREAS LOCATION WHERE FALLING FRONDS MAY CAUSE PERSONAL OR PROPERTY DAMAGE. LANDSCAPE CONTRACTOR MUST BE OBSERVANT OF THIS CONDITION.
36. AS A BASIC GENERAL RULE PLANTS TO BE PLANTED IN THE SHADE SHALL BE IN A SHADE HOUSE OR SHADED AREA IN THE NURSERY. PLANTS TO BE PLANTED IN THE SUN SHALL BE IN THE SUN OR A SUNNY AREA AT THE NURSERY. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO SELECT PLANTS ACCORDING TO THEIR LOCATION AT NURSERY AND WHERE IN THE JOBSITE THEY ARE INDICATED TO BE PLANTED AND BE AWARE OF THE PLANT MATERIAL LIGHT PREFERENCE. IF IN DOUBT LANDSCAPE CONTRACTOR SHALL CONSULT WITH LANDSCAPE ARCHITECT.
- VIII. SOIL PREPARATION

1. SOIL PREPARATION OF A LANDSCAPE DESIGN IS A CRITICAL FACTOR IN CREATING A HEALTHY AND LONG-LASTING LANDSCAPE. REMOVE EXISTING TOPSOIL IF ANY AND STOCKPILE ON SITE. TOPSOIL TO BE INCORPORATED BACK INTO THE SOIL AT A LATER DATE. NEW PLANTING SOIL MIX SHALL BE APPROXIMATELY 45% SAND, 40% SILT, 10% CLAY AND 5% ORGANIC MATERIAL WITH A PH LEVEL NEAR SEVEN.
2. PRIOR TO THE INSTALLATION OF THE LANDSCAPE AND IRRIGATION SYSTEM, CONTRACTOR TO PREPARE SOIL TO ENSURE A PROPER ENVIRONMENT FOR PLANT ROOT DEVELOPMENT.
3. IF ANY AMENDMENTS ARE SPECIFIED IN PLANS, THEY SHOULD BE MIXED THOROUGHLY WITH EXISTING SOIL TO ENSURE PROPER SOIL CONDITIONS PRIOR TO PLANTING.
4. DURING THE REMAINDER OF THE LANDSCAPE INSTALLATION, VARIOUS AREAS OF THE SITE MAY BE RE-COMPACTED DUE TO THE USE OF EQUIPMENT AND VEHICLES. PRIOR TO THE INSTALLATION OF PLANT MATERIAL AND/OR SOD IN THESE AREAS, THE COMPACTION OF THESE SHALLOW AREAS SHALL BE REDUCED OR TURNED OVER USING AN AIRSPADE OR SIMILAR METHOD TO ALLOW SOIL TO HAVE GREATER WATER AND NUTRIENT ABSORPTION.
- IX. TREE PRESERVATION PLANTING NOTES
1. ALL EXISTING TREES TO BE PRESERVED AS INDICATED ON THE TREE DISPOSITION & MITIGATION PLAN. THE FENCE SHALL BE FIRMLY ANCHORED INTO THE GROUND AND SHALL REMAIN UPRIGHT AND INTACT UNTIL ALL CONSTRUCTION ACTIVITY IS COMPLETE. CONSTRUCTION ACTIVITIES, STORAGE AND/OR GARBAGE SHALL NOT OCCUR WITHIN THESE PROTECTED AREAS. THE GENERAL CONTRACTOR ASSURE THAT NO SUBCONTRACTOR INFRINGES INTO THESE AREAS WITH ARABAGE OR CONSTRUCTION MATERIALS. THE LOCATION OF THE PROTECTIVE BARRIER SHALL BE AS SHOWN IN THE LANDSCAPE PLANS AND SHALL BE IN PLACE BEFORE ANY CONSTRUCTION WORK STARTS.
2. WHEN EXCAVATION NEAR A TREE TO BE PROTECTED MUST BE CARRIED OUT, DAMAGE CAN BE LIMITED BY ROOT PRUNING. ROOT PRUNING SHALL BE COMPLETED BEFORE GRADING IS STARTED AND SHALL OCCUR BENEATH THE PROTECTIVE FENCING AS SHOWN ON THE PLAN.
- X. ROOT PRUNING SHALL BE PERFORMED, WHEN REQUIRED BY HAND AND USING A MECHANICAL SAW CUT OF ANY ROOTS 2" OR MORE IN DIAMETER. LIMITS OF TRENCING SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO ANY TRENCING IN THE FIELD. DO NOT TRENCH FOR IRRIGATION OR ELECTRICAL WITHIN DRIP LINES OF EXISTING TREES. COORDINATE ALL TRENCING REQUIRED FOR UTILITY WORK WITH THE LANDSCAPE PLANS.

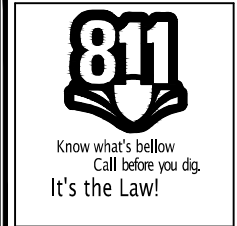
- XI. CLEANUP
1. PLANT CONTAINERS, WIRES, HOSES, BAGS AND ANY OTHER LANDSCAPE MATERIAL SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS. EXCESS SOIL, STONES AND DEBRIS SHALL BE REMOVED FROM THE SITE OR DISPOSED OF AS DIRECTED BY OWNER OR GENERAL CONTRACTOR.
- XII. ACCEPTANCE OF WORK
1. WORK SHALL BE ACCEPTED UPON FINAL INSPECTION AND APPROVAL BY LANDSCAPE ARCHITECT. ACCEPTANCE SHALL BE UPON ADHERENCE TO THE SPECIFICATIONS ON THE DRAWINGS. INSPECTION SHALL BE WITHIN FIVE DAYS AFTER COMPLETION AND CLEANUP OF WORK, AT WHICH TIME THE LANDSCAPE ARCHITECT, UPON ACCEPTANCE OF WORK, SHALL ISSUE A CERTIFICATE OF COMPLETION AS REQUIRED BY MIAMI-DADE LANDSCAPE ORDINANCE. THERE SHALL BE NO PARTIAL ACCEPTANCE OF WORK.
2. LANDSCAPE CONTRACTOR SHALL HAVE TEN (10) DAYS TO REPLACE OR CORRECT ANY MATERIAL OR WORK NOT ACCEPTED BY THE LANDSCAPE ARCHITECT.
- XIII. HOLD HARMLESS
1. BY ACCEPTING THIS PLAN, SUBMITTING IT TO THE MUNICIPAL AUTHORITIES OR ANY OTHER BUILDING AND ZONING AUTHORITY AND OBTAINING A PERMIT, OWNER RELEASES AND HOLDS LANDSCAPE ARCHITECT HARMLESS FROM ANY LEGAL RESPONSIBILITY AS A CONSEQUENCE OF ANY LEGAL ACTIONS ARISING FROM THE SELECTION, INSTALLATION, MAINTENANCE, NATURAL PLANT MATERIAL GROWTH HABIT, SUCH AS FALLING FRONDS, SEEDS, BRANCHES, ETC. OF THE LANDSCAPE AND PLANTING MATERIALS SPECIFIED IN THIS PLAN.

XIII. TOTALITY OF DESIGN SPECIFICATIONS, FURNITURE AND ACCESSORIES

1. THE WRITTEN SPECIFICATIONS IN THIS PLAN, TOGETHER WITH ANY AND ALL OTHER WRITTEN SPECIFICATIONS IN THE LANDSCAPE ARCHITECTURAL PLANS, ANY AND ALL GRAPHIC DRAWINGS AND PLANS, TABLES, LEGENDS, NOTES, GENERAL NOTES, AND ANY AND ALL GRAPHIC OR WRITTEN DATA INTENDED TO CONVEY THE DESIGN INTENT FOR PLANT SELECTIONS, SHAPES AND FORMS, PAVING, FINISH MATERIAL, SELECTIONS, AND ANY SUPPLEMENTAL REVISIONS, DEFINITIONS OR REPLIES TO RFIS SHALL BE CONSIDERED THE TOTALITY OF THE PROJECT'S SPECIFICATIONS AND SHALL BE PART OF THE LANDSCAPE CONTRACTOR'S CONTRACT.
2. ALL FURNITURE AND ACCESSORIES SPECIFIED IN THE LANDSCAPE ARCHITECTURAL PLANS (DISPOSITION, PLANTING, IRRIGATION AND LIGHTING) ARE SPECIFIED AS A RECOMMENDATION. ARCHITECT SHALL COORDINATE THE SPECIFICATION WITH GENERAL CONTRACTOR AND CONSULT WITH OWNER REGARDING PRICES AND BUDGETS. ALL FURNITURE AND ACCESSORIES MAY BE SUBSTITUTED FOR OTHER BRANDS WITH SIMILAR DESIGN.

ABBREVIATION TABLE

APPROX	EXIST	EXISTING
AVG	FFE	FIN. FLOOR ELEV.
B+H	BALLED AND BURLAPED	O.C.
CAL	CALIPER	MAX
CL	CENTER LINE	MIN
CONC	CONCRETE	NTS
DIA	DIAMETER	PL
		NOT TO SCALE
		PROPERTY LINE



EXCAVATION NOTE

CALL SUNSHINE STATE ONE CALL CENTER OF FLORIDA AT 1-800-432-4770 (TOLL FREE) 48 HOURS BEFORE DIGGING. PERFORM EXCAVATION IN THE VICINITY OF UNDERGROUND UTILITIES WITH CARE AND BY HAND. IF NECESSARY, THE LANDSCAPE CONTRACTOR BEARS FULL RESPONSIBILITY FOR THIS WORK AND DISRUPTION OF DAMAGE TO UTILITIES SHALL BE REPAIRED IMMEDIATELY AND AT NO EXPENSE TO THE OWNER

PLANT LEGEND

	Code	Botanical name	Common name	DBH	Height	Canopy	Nat.	Quantity	Specific.	Note I.1.7
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LANDSCAPE REQUIREMENT TREES

	PDM	Phoenix dactylifera	Medjool	10"	18'	8'	Y	4		
	CDI	Coccoloba diversifolia	Pigeonplum	2.5"	12'	5'-6'	Y	8	4' c.t. minimum / 2" DBH	
	QVI	Quercus virginiana	Live Oak	2.5"	15'	8'	Y	3		
	BSI	Bursera Simaruba	Gumbo Limbo	2.5"	12'	12'	Y	4		

LARGE SHRUBS

	GSA	Guaiaacum Sanctum	Lignum Vitae	2.5"	12'	5'-6'	N	4	4' c.t.	
	PRA	Pimenta racemosa	Bay rum tree	2.5"	10'	6'	N	21	2.5" DBH / Full to bottom	
	MFR	Myrcianthes fragrans	Simpson stopper	2.5"	10'	6'	N	4		

SHRUBS

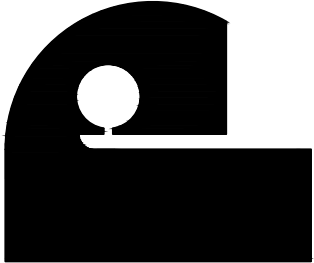
	AIM	Alcantarea Imperialis	Giant Bromeliad	24"	24"	N	20			P
	APU	Alpinia Purpurata	Red Ginger	36"	24"	N	19			
	ASK	Androlepis Skinneri	Bromeliad	-	-	N	9			
	AAT	Agave attenuata	Fox Tail Agave	24"	24"	N	12	20" o.c.		
	AZE	Alpinia Zerumbet	Shell Ginger	2'-3'	4'	N	14			
	CIC	Chrysobalanus Ixaco	Cocoplum	24"	24"	Y	46			
	HNO	Hamelia nodosa	Dwarf Firebush	24"	24"	N	13			
	MDE	Monstera deliciosa	Monstera	4'-5'	4'	N	54	36" o.c.		
	ANA	Asplenium Nidus Avis	Birdsnest Fern	30"	30"	N	3			P
	REX	Rhapis Excelsa	Lady Palm	4'-5'	4'	N	3	Multitrunk		P
	PMP	Podocarpus Macrophyllus Pringles	Dwarf Podocarpus	24"	24"	N	57	20" o.c.		
	PMA	Podocarpus macroph.	Podocarpus	24"	24"	N	333	24" o.c.		

GROUND COVERS

	BOA	Begonia Odorata 'Alba'	White Begonia	24"	24"	N	6	24" o.c.		
	CEB	Carissa macrocarpa	Emerald Blanket	12"	12"	N	80			
	MPA	Murraya Paniculata 'Lakeview'	Orange Jasmine	24"	18"	N	20			
	PBM	Philodendron Burle Marx	Philodendron Burle Marx	24"	18"	N	91			
	SFO	Serissa foetida	Serissa	18"	18"	N	60			
	TAS	Trachelospermum Jasm. Minima	Dwarf Confederate Jasm.	12"	12"	N	1121	12" o.c.		

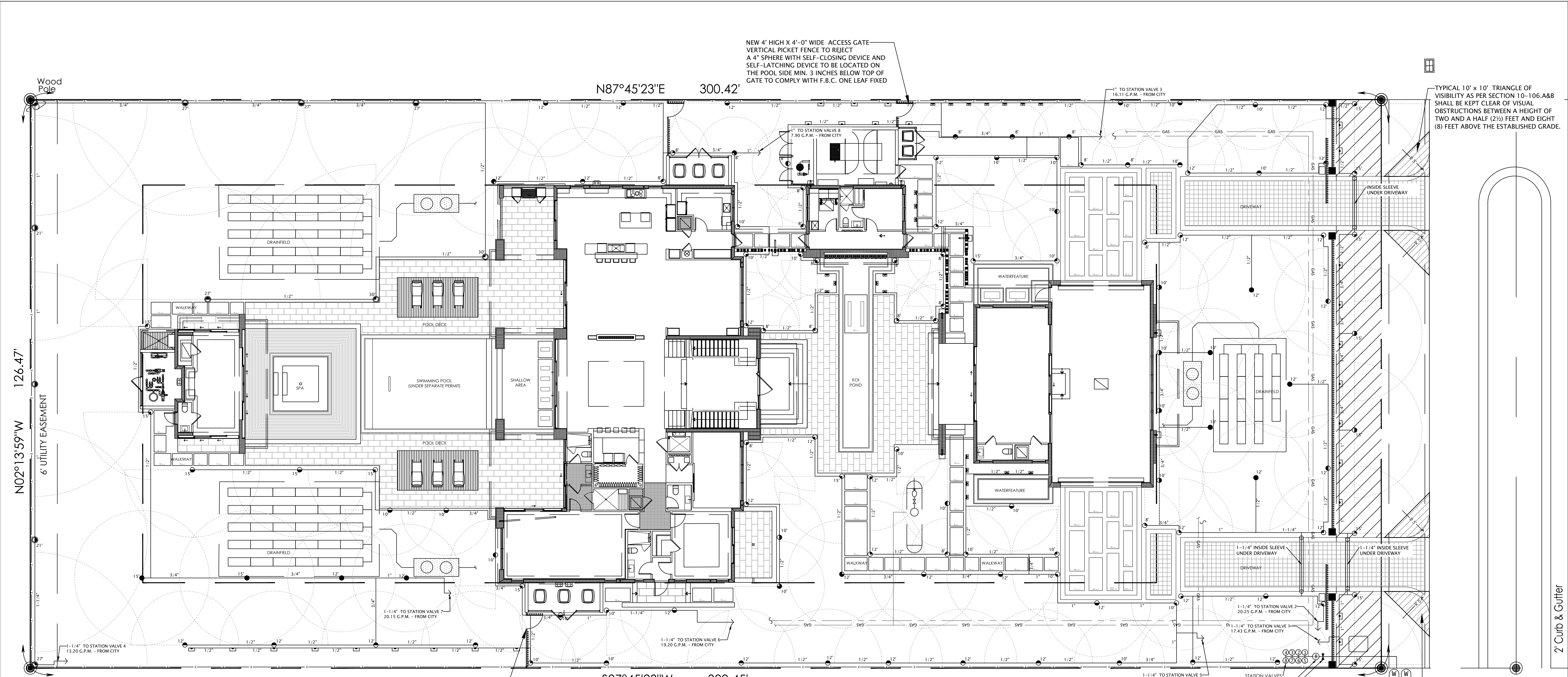
GRASSES

SOD	Stenotaphrum secundatum 'palmetto'	Palmetto sod	as shown	
GRAVEL				
BRR	BLACK RIVER ROCK		as shown	



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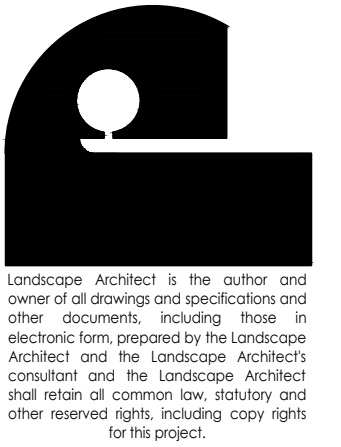
SPRINKLER HEADS LEGEND										
SYMBOL	BRAND	MODEL BODY	RISER	NOZZLE	SPRAY ARC OR SPECIAL PATTERN	DESC.	DESIGN PRESSURE	FLOW G.P.M.	PRECIPIT. RATE	
	TORO	570ZXF	6"-12"	MPR Plus	5' X 18'	4-SST	40. PSI	.53	1.13	
	TORO	570ZXF	6"-12"	MPR Plus	4' X 19'	4S-SST	40. PSI	.63	1.60	
	TORO	570ZXF	6"-12"	MPR Plus	2' X 7"	2-SST	40. PSI	.10	1.38	
	TORO	570ZXF	6"-12"	MPR Plus	9' X 20"	9-SST	40. PSI	1.38	1.48	
	TORO	MINI 8	4"	0.75	21' ADJUSTABLE	-	40. PSI	0.9	.38	
	TORO	MINI 8	4"	0.75	21' ADJUSTABLE	-	40. PSI	0.9	.38	
	TORO	MINI 8	4"	0.75	21' ADJUSTABLE	-	40. PSI	0.9	.38	
	TORO	MINI 8	4"	1.00	27' ADJUSTABLE	-	40. PSI	1.1	.30	
	TORO	MINI 8	4"	1.00	27' ADJUSTABLE	-	40. PSI	1.1	.30	
	TORO	MINI 8	4"	1.00	27' ADJUSTABLE	-	40. PSI	1.1	.30	
	TORO	MINI 8	4"	1.50	30' ADJUSTABLE	-	40. PSI	1.5	.32	
	TORO	MINI 8	4"	1.50	30' ADJUSTABLE	-	40. PSI	1.5	.32	
	TORO	MINI 8	4"	1.50	30' ADJUSTABLE	-	40. PSI	1.5	.32	
	TORO	MINI 8	4"	1.50	30' ADJUSTABLE	-	40. PSI	1.5	.32	
	TORO	570ZXF	6"-12"	MPR Plus	5'1-15'	90°	5Q-15Q	40. PSI	0.12-0.14	1.54-1.57
	TORO	570ZXF	6"-12"	MPR Plus	5'1-15'	180°	5Q-15Q	40. PSI	0.23-0.22	1.70-1.77
	TORO	570ZXF	6"-12"	MPR Plus	5'1-15'	270°	5TQ-15TQ	40. PSI	0.34-3.00	1.78-1.86
	TORO	570ZXF	6"-12"	MPR Plus	5'1-15'	360°	5F-15F	40. PSI	0.45-4.20	1.66-1.84
	TORO	FB-25-PC	6"-12"	MPR Plus	BUBBLER	-	40. PSI	.25		

EQUIPMENT NOTES:
1. EQUIPMENT MOUNTING:
IRRIGATION EQUIPMENT ARE TO BE LOCATED NEXT TO WATER SUPPLY AS SHOWN IN PLAN. THE EQUIPMENT, SHOWN IN PLAN AND TYPICAL ELECTRICAL SCHEMATIC DIAGRAM SHALL BE MOUNTED ON THE BUILDING WALL OR ON A UNISTRUT FRAME SET INTO A 16" X 10" DEEP CONCRETE FOOTING X 6" LONGER THAN BOTH ENDS OF THE UNISTRUT STRUCTURE'S LENGTH.
2. WORK PERFORMANCE:
ALL ELECTRICAL WORK TO BE PERFORMED BY A LICENSED AND INSURED ELECTRICAL CONTRACTOR, IN STRICT COMPLIANCE WITH ALL SECTIONS OF ARTICLE 680 OF THE NATIONAL ELECTRICAL CODE, LATEST EDITION.
3. EQUIPMENT BUFFER:
PLACE EQUIPMENT IN A LOCATION WHICH CAN BE BUFFERED WITH PLANT MATERIAL.
4. IF USING TORO MINI 8 SERIES ROTOR, SPECS ARE PROVIDED AS FULL RADIUS, IF ADJUSTING, FLOW SHALL ALSO BE CONSIDERED ADJUSTED, SIMILAR IF USING OTHER BRANDS.

STATIONS	GPM	SOURCE
1	17.63	CITY
2	20.25	CITY
3	16.11	CITY
4	13.20	CITY
5	21.09	CITY
6	19.20	CITY
7	20.15	CITY
8	7.90	CITY

IRRIGATION PLAN
SCALE: 3/32" = 1'-0"
REFER TO SHEET LA 3.1 FOR IRRIGATION NOTES AND DETAILS

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NEW RESIDENCE FOR:
MR & MRS
DE LA CONCEPCION
8945 SW 63RD COURT
PINECREST, FL 33156

date	revisions
issued	12/04/2024 - SITE PLAN
drawn	05/30/2025 - SITE PLAN
checked	
project no.	2341

sheet no.
LA-3.0

IRRIGATION SPECIFICATIONS

1. GENERAL

1.1. THE PROJECT LIMITS FOR THE IRRIGATION SYSTEM IS THE AREA SHOWN IN THE SHEETS, OR ALL THE SHEETS PROVIDED IN THE IRRIGATION PLANS.

1.2. UNLESS SPECIFIED OTHERWISE THESE SPECIFICATIONS INTEND TO INCLUDE EVERYTHING REQUIRED AND NECESSARY FOR THE COMPLETE AND PROPER INSTALLATION OF THE IRRIGATION SYSTEM, WHETHER EACH ITEM IS INCLUDED GRAPHICALLY OR IN TEXT FORM HEREIN OR NOT.

1.3. ALL WORK TO BE INSTALLED ACCORDING TO AND MEET ALL LOCAL AND COUNTY CODES AND ORDINANCES AND FOLLOW APPROVED IRRIGATION PLANS

1.4. IRRIGATION CONTRACTOR SHALL VERIFY IF THE METER OR SUB-METER OR BOTH SPECIFIED IN THE PLAN ARE IN FACT THE SAME AS EXISTING IN THE PROPERTY AND THEIR SIZE IS THE SAME, AS WELL AS THE PRESSURE AT THE WATER METER. VERIFICATION SHALL ALSO BE CARRIED OUT BY IRRIGATION CONTRACTOR IF USING AN EXISTING WELL.

1.5. ELECTRICAL DEVICES SHALL CARRY UNDERWRITER'S LABORATORY LABELS.

1.6. REFERENCES:

1.6.1. ASTM D2241 - POLYVINYL CHLORIDE PLASTIC PIPE.

1.6.2. ASTM D2564 - SOLVENT CEMENT FOR POLYVINYL CHLORIDE PLASTIC PIPE AND FITTINGS.

1.7. ALL MATERIALS, QUANTITIES, SIZES, SPRINKLER LOCATIONS AND TYPES, VALVES LOCATIONS AND TYPES, AND ANY OTHER IRRIGATION SYSTEM COMPONENT AND/OR INFORMATION CONTAINED IN THIS PLAN SHALL BE VERIFIED BY THE IRRIGATION CONTRACTOR PRIOR TO BIDDING AND ENTERING INTO CONTRACT WITH THE OWNER OR GENERAL CONTRACTOR. THIS PLAN IS DIAGRAMMATICAL AND THEREFORE SITE CONDITION, SCALE OF THE PLAN AND CHANGES DURING CONSTRUCTION, MAY AFFECT THE LOCATION OF THE IRRIGATION SYSTEM COMPONENTS.

1.8. THE IRRIGATION CONTRACTOR SHALL MODIFY AND/OR ADJUST THE SYSTEM AS REQUIRED SO AS TO COMPLY WITH FULL COVERAGE AND DESIGN INTENT. BY COVERAGE IT IS MEANT THE AREA OF LANDSCAPE WATERED BY A SPRINKLER OR GROUPING OF SPRINKLERS.

1.9. PERFORMANCE SPECIFICATIONS VARY BETWEEN DIFFERENT MANUFACTURERS AND WITHIN SAME MANUFACTURER FROM YEAR TO YEAR, THEREFORE IRRIGATION CONTRACTOR SHALL VERIFY PRIOR TO BIDDING AND ENTERING INTO CONTRACT WITH OWNER OR GENERAL CONTRACTOR, THAT ALL EQUIPMENT, SIZES, AND DIMENTIONS INCLUDING SPRINKLER HEADS, PUMP IF REQUIRED, MAINLINES, VALVES AND LATERAL PIPING WILL PROVIDE THE FULL COVERAGE REQUIRED. SHOULD THE CONTRACTOR FIND A DISCREPANCY, ERROR OR OMISSION HE SHALL CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY TO MAKE THE NECESSARY REVISION TO THE PLAN.

1.10. IRRIGATION CONTRACTOR BY ENTERING INTO CONTRACT WITH OWNER AND/OR GENERAL CONTRACTOR ACCEPTS THAT THE LANDSCAPE ARCHITECT HAS THE RIGHT AS OWNER'S AUTHORIZED REPRESENTATIVE TO AT ANY STAGE OF THE WORKS, INSPECT, ACCEPT OR REJECT ANY AND ALL WORK AND MATERIALS WHICH, IN HIS OPINION, DO NOT MEET THE REQUIREMENTS OF THE DESIGN INTENT.

1.11. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR KEEPING THE WORK PREMISES CLEAN OF DEBRIS, AND FOR REMOVING ALL DEBRIS CAUSED BY HIS WORK FROM THE SITE EVERYDAY AND AT THE END WHEN WORK IS COMPLETED.

1.12. PIPING IN ISLANDS OR NARROW BEDS SHALL RUN TO ONE SIDE OF THE ISLAND OR BED TO ALLOW FOR PLANTING. THIS INCLUDES MAINLINES AND ELECTRICAL WIRES. PIPING AND WIRING SHOULD BE INSTALLED AFTER ALL THE LARGE PLANT MATERIAL HAS BEEN INSTALLED.

1.13. ALL SPRINKLER HEADS SHALL MEET THE PERFORMANCE CALLED FOR IN THIS PLAN, AND SHALL ALL BE FROM ONE SINGLE MANUFACTURER. ALTHOUGH ALL SHRUB HEADS ARE SPECIFIED WITH A RADIUS, CONTRACTOR SHALL ACCORDING TO SITE CONDITIONS AND SPACE REQUIREMENTS, USE THE REQUIRED HEAD AND IN SOME CASES A DIFFERENT PATTERN. ROTORS ARE SHOWN GRAPHICALLY AS ONE PATTERN, USE ADJUSTABLE PART-CIRCLE AS REQUIRED. SPACING SHALL ALSO BE ADJUSTED SO AS NOT TO OVERTHROW WATER INTO IMPERVIOUS AREAS.

1.14. ALL VALVES SHALL BE INSTALLED INSIDE A PLASTIC VALVE BOX OF A SIZE PROPER TO THE VALVE(S) SIZE. VALVE BOXES SHALL BE INSTALLED OVER 3" OF GRAVEL FOR DRAINAGE AND THE TOP LEVEL WITH FINISHED GRADE.

1.15. ALL WIRE TO/FROM CONTROLLER TO THE ELECTRIC VALVES SHALL BE #14, DIRECT BURIAL UNDERGROUND FEED TYPE AND ALL CONNECTIONS SHALL BE WATERPROOF DIRECT BURIAL CONNECTORS AND SPLICES, ALL WIRE SHALL BE PLACED BELOW THE PVC MAINLINES OR LATERAL LINES PIPES FOR PROTECTION OF THE WIRE, AND SHALL BE PLACED LOOSELY TO ALLOW FOR CONTRACTION.

1.16. THURST BLOCKS SHALL BE PLACED AT ALL CHANGES IN DIRECTION OF THE MAIN LINE.

1.17. TRENCHING BACKFILL SHALL BE FREE OF ROCKS, STONES, OR ANY OTHER DEBRIS WHICH MAY DAMAGE THE PIPES AND WIRES.

1.18. ALL SPRAY NOZZLES (TYPE TORO 570MPR OR SIMILAR) ARE TO BE INSTALLED IN TOP OF POP-UP SPRAY BODIES (TYPE TORO 570Z PRO OR SIMILAR) SPRAYS TO BE 6" LONG IN SOD AREAS AND 12" IN AREAS OF SHRUBS AND GROUND COVERS. PART OF THE SPRAY BODIES MAY NEED TO BE ABOVE GRADE IN ORDER FOR THE 12" POP UP SPRAY TO GO ABOVE THE SHRUBS OR GROUND COVERS. IRRIGATION CONTRACTOR SHALL, BEFORE INSTALLING, DISCUSS THE DIFFERENT PLANT SPECIES AND THEIR PROPOSED HEIGHT TO DETERMINE THE INSTALLATION HEIGHT OF EACH SPRINKLER.

1.19. SOME MUNICIPALITIES AND COUNTIES DO NOT ALLOW TO INSTALL IRRIGATION ZONES (STATIONS) WITHIN THE RIGHT OF WAY AREA, THEREFORE NO IRRIGATION WITHIN THE RIGHT OF WAY MAY NOT BE SHOWN IN THE IRRIGATION PLAN. IF OWNER HAS PERMIT TO INSTALL IRRIGATION WITHIN RIGHT OF WAY, OWNER AND IRRIGATION CONTRACTOR SHALL COORDINATE EXTRA ZONE(S) WITH RIGHT OF WAY.

2. MANUFACTURING QUALIFICATIONS

2.1. IRRIGATION CONTRACTOR SHALL PROVIDE ALL IRRIGATION SYSTEM AS ONE UNIT AND ALL COMPONENTS BY APPROVED MANUFACTURERS SPECIFIED FOR ALL OF THE WORK. THIS INCLUDES, IRRIGATION HEADS OF ALL TYPES, VALVES, PIPING CIRCUITS, CONTROLLERS, BACK FLOW PREVENTERS EITHER ATMOSPHERIC OR RZP AS SHOWN IN THE PLAN AND DETAILS, CONTROLLERS, PUMPS IF REQUIRED, RELAYS, RAIN SENSORS AND ANY OTHER REQUIRED ACCESSORIES.

2.2. IRRIGATION CONTRACTOR SHALL BE LICENSED AND INSURED AS REQUIRED IN MEETING ALL OF GENERAL CONTRACTOR AND/OR OWNER'S REQUIREMENTS. ALL IRRIGATION CONTRACTOR EMPLOYEE INVOLVED IN THE INSTALLATION OF THE SYSTEM SHALL BE TRAINED EMPLOYEES OF THE IRRIGATION CONTRACTOR.

2.3. CONTRACTOR SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK DETAILED AND INTENDED IN THIS PLAN.

3. SUBMITTALS

3.1. IRRIGATION CONTRACTOR SHALL PROVIDE OWNER WITH TWO COPIES OF THE MANUFACTURER'S SPECIFICATION AND/OR MANUAL FOR THE IRRIGATION CONTROLLER AND AN AS BUILT PLAN SHOWING THE LOCATION OF THE IRRIGATION MAINLINES AND VALVES. THE DRAWING SHALL BE ON A 24" X 36" PAPER PLAN SHOWING THE PERIMETER OF THE PROPERTY AND THE PERIMETER WALLS OF THE STRUCTURE AND ALL HARDSCAPE INCLUSIVE OF POOL, DECKS, PLANTERS AND WALKWAYS.

3.2. IRRIGATION CONTRACTOR SHALL PROVIDE OWNER WITH INSTRUCTIONS REGARDING SCHEDULING OF IRRIGATION CONTROLLER AND MAINTENANCE OF THE SYSTEM.

3.3. IRRIGATION CONTRACTOR SHALL PROVIDE OWNER WITH WRITTEN SCHEDULE SHOWING LENGTH OF TIME EACH STATION (VALVE) IS TO BE OPEN TO SERVE AS A GUIDE, INCLUDING IF DIFFERENT LENGTH OF TIME, IF ANY, ACCORDING TO SEASONS IF NECESSARY.

4. IRRIGATION CONTRACTOR'S RESPONSIBILITIES

4.1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR BIDDING AND ENTERING INTO CONTRACT WITH THE OWNER OR GENERAL CONTRACTOR.

4.2. IT SHALL BE THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO PROTECT CURBS, WALLS, UTILITIES, SIDEWALKS, DRIVEWAYS, ANY CONCRETE WORK(S) AND ANY OTHER EXISTING FEATURES FROM DAMAGE. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIRS OR THE COST OF REPAIRS OF ANY DAMAGE CAUSED BY HIM, HIS EMPLOYEES AS WELL AS ANY EQUIPMENT BEING USED BY IRRIGATION CONTRACTOR TO THE OWNER OF ANYTHING DAMAGED WITHIN THE PROPERTY.

4.3. IRRIGATION CONTRACTOR SHALL REQUEST FROM OWNER AND/OR GENERAL CONTRACTOR THE LICENSE AND ALL INSURANCE REQUIREMENTS THAT IRRIGATION CONTRACTOR MUST MEET.

4.4. IRRIGATION CONTRACTOR SHALL REQUEST ALL NECESSARY INSPECTIONS FROM MUNICIPALITY AND/OR COUNTY AND OBTAIN A FINAL INSPECTION OF SYSTEM APPROVAL.

4.5. IN ALL AREAS WHERE IRRIGATION CONTRACTOR HAS WORKED, THOSE AREAS SHALL BE BROUGHT BACK TO ITS ORIGINAL GRADE AS EXISTED BEFORE INSTALLATION WORKS BEGAN.

5. MATERIALS

5.1. BACKFLOW PREVENTER. ARE REQUIRED BY LOCAL CODES AND ORDINANCES. BACKFLOW PREVENTER IF REQUIRED SHALL BE PLACED 18" MIN. ABOVE THE HIGHEST SPRINKLER HEAD. IF HEADS ABOVE 18" ABOVE GRADE ARE INCLUDED IN THE SYSTEM DESIGN AN RPZ VACUUM BRAKER SHALL BE INSTALLED INSTEAD OF THE STANDARD AVE USED WHEN ALL HEADS ARE AT GROUND LEVEL.

5.2. AUTOMATIC CONTROLLER AS SPECIFIED IN THE PLAN OR EQUAL. THE CONTROLLER SHALL INCLUDE PROGRAMMABLE MASTER VALVE AND PUMP START BY STATION AND RAIN SENSOR CONNECTION. IF USING WELL WATER, IT SHALL INCLUDE A PUMP START. THE CONTROLLER SHALL INCLUDE A 5 YEAR MANUFACTURER'S WARRANTY.

5.3. CONTROL VALVES

5.3.1. AUTOMATIC VALVES: THE AUTOMATIC CONTROL VALVES SHALL BE TORO (OR SIMILAR) PLASTIC VALVES OPERATED BY DC-LATCHING SOLENOIDS, NORMALLY CLOSED, WITH MANUAL FLOW ADJUSTMENT.

5.3.2. VALVE ENCLOSURE BOXES ARE TO BE FILLED WITH A MINIMUM OF 3" OF WASHED GRAVEL BELOW PIPE LEVEL TO ENSURE ADEQUATE DRAINAGE

5.4. PIPE. MAIN LINE PIPING SHALL BE SCHEDULE 40 (PVC) SOLVENT-WELD PIPE. PIPE SHALL CARRY THE N.S.F. SEAL OF APPROVAL AND MEET THE FOLLOWING SPECIFICATIONS: ASTM D-2241, SDR 21 OR LATEST REVISIONS. LATERALS SHALL BE CLASS 160 PVC, SDR 26, SOLVENT-WELD PIPE EXCEPT 1" PIPE, WHICH MAY BE CLASS 200 PVC, SDR 21.

5.5. SLEEVES SHALL BE TWICE THE NOMINAL SIZE OF THE PIPE TO BE CARRIED WITHIN, UNLESS NOTED DIFFERENTLY. SLEEVES FOR CONTROL WIRE ONLY SHALL BE 2" DIAMETER, PLACED ALONGSIDE (OR ABOVE) EACH SLEEVE FOR THE MAINLINE.

5.5.1. UNDER WALKS, PAVING AND WHERE INDICATED ON DRAWINGS, INSTALL SCHEDULE 40 PVC (ASTM D-1785) FOR SLEEVES 4" DIAMETER AND SMALLER. SLEEVES 6" AND LARGER SHALL BE CLASS 200 PVC. TAPE ENDS OF SLEEVES AND MARK SLEEVE LOCATIONS WITH ABOVE GRADE STAKES WITH APPROPRIATE ANNOTATION, I.E., "IRRIGATION SLEEVES". STAKES SHALL BE PROTECTED.

5.6. PVC PIPE FITTINGS SHALL BE SOLVENT WELD SCHEDULE 40 STANDARD WEIGHT. ATTACHMENT SHALL BE MADE WITH BOTH A PRIMER AND SOLVENT CEMENT, AS APPROVED BY THE MANUFACTURER.

5.7. SPRINKLER HEADS

5.7.1. THE SPRAY HEADS SHALL BE TORO'S 570Z-PRO SERIES OR SIMILAR, WITH MATCHED PRECIPITATION RATE (MPR) NOZZLES AND TORO'S PRESSURE-COMPENSATING INSERT DISC. THE HEAD SHALL FEATURE A 6" POP-UP (EXCEPT GROUNDOVER AND FLOWER-BED AREAS WHERE 12" HIGH-POPS SHALL BE USED, WITH BOTTOM INLETS), AND SHALL HAVE THE X-FLOW SHUTOUT DEVICE INSTALLED IN THE RISER TO PREVENT EXCESSIVE WATER LOSS IN CASE A NOZZLE IS REMOVED INTENTIONALLY, OR BY ACCIDENT.

5.7.2. THE SPRAY HEAD NOZZLES SHALL BE TORO PSN NOZZLES OR SIMILAR WITH NO MORE THAN 1" PER HOUR PRECIPITATION RATE. THEY SHALL COME IN STANDARD ARC SETTINGS AND NOT BE ADJUSTABLE OTHER THAN RADIUS REDUCTION.

5.7.3. THE FLOOD-BUBBLER NOZZLES SHALL BE TORO #FB-25-PC (PRESSURE-COMPENSATING) ON 2" 570Z BODIES OR SIMILAR.

5.7.4. SPRINKLER RISERS. SPRINKLER HEADS ARE TO BE CONNECTED TO THE LATERALS BY "BLUE STRIPE SWINGPIPE" OR FLEXIBLE CUT-OFF RISERS.

5.7.5. DRIP IRRIGATION. CONTINUOUSLY SELF-FLUSHING, PRESSURE-COMPENSATING DRIPLINE BY TORO OR SIMILAR. THE DRIPLINE SHALL CONSIST OF NOMINAL SIZED ONE-HALF INCH LOW DENSITY, LINEAR POLYETHYLENE TUBING HOUSING INTERNAL PRESSURE COMPENSATING, CONTINUOUSLY SELF-FLUSHING, INTEGRAL DRIP EMITTERS. THE TUBING SHALL BE BLACK IN COLOR, WITH RED STRIPES. THE EMITTERS SHALL PROVIDE "ROOT GUARD" PROTECTION USING THE PRE-EMERGENT TREFLAN, WHICH IS NON-TOXIC AND GUARD AGAINST ROOT INTRUSION BY DIVERTING ROOT GROWTH AWAY FROM THE EMITTER OUTLET. THE EMITTERS SHOULD HAVE THE ABILITY TO INDEPENDENTLY REGULATE DISCHARGE RATES, WITH AN OUTPUT PRESSURE OF BETWEEN 15-40 PSI, AT A CONSTANT FLOW. THE EMITTER DISCHARGE RATE SHALL BE 1.02 GALLONS PER HOUR, UTILIZING A COMBINATION TURBULENT FLOW/REDUCED PRESSURE CELL MECHANISM AND A DIAPHRAGM TO MAINTAIN UNIFORM DISCHARGE RATES. THE EMITTERS SHALL CONTINUOUSLY CLEAN THEMSELVES WHILE IN OPERATION. THE DRIPLINE SHALL HAVE THE EMITTERS SPACED 18" APART. FOR EACH DRIP-ZONE, USE THE DRIP-ZONE VALVE KIT: TORO #DZK-700-LF OR SIMILAR.

5.8. PRESSURE PUMP. IF NECESSARY, A CENTRIFUGAL BOOSTER PUMP SHALL BE PROVIDED TO INCREASE THE WATER PRESSURE FROM THE EXISTING LEVELS. UNIT SHALL BE MOUNTED ON 4" THICK CONCRETE PAD AND ENCLOSED BY A HOTBOX "PG" SERIES COVER OR SIMILAR, IF OUTSIDE. INSTALL IRRITROL'S PUMP-START RELAY: MODEL #SR-1 OR SIMILAR BETWEEN CONTROLLER AND BOOSTER PUMP.

5.9. WIRELESS RAIN SENSOR. THE SENSOR SHALL BE TORO'S WIRELESS RAIN-SENSOR OR SIMILAR. THE WIRELESS SENSOR SHALL BE MOUNTED WITHIN 20 FEET OF THE CONTROLLER IN A MANNER THAT THERE IS NO OVERHEAD OBSTRUCTION OVER SENSOR. A WIRED SENSOR WILL BE ACCEPTED.

6. EXECUTION

6.1. WATER SUPPLY LOCATION IS TO BE DETERMINED BY GENERAL CONTRACTOR. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF THE WATER SUPPLY LINE AND THE EQUIPMENT. THE IRRIGATION INSTALLER IS TO ADJUST THIS SYSTEM PER THE AVAILABLE FLOW AND PRESSURE AT THE EXISTING WATER SOURCE (WELL/METER, ETC...) AND ADJUST ZONE CAPACITIES ACCORDINGLY.

6.2. THE IRRIGATION PLAN IS DIAGRAMMATIC TO THE EXTENT THAT ALL SITE INFORMATION AND COMPONENTS ARE NOT NECESSARILY SHOWN AS THEY WILL EXIST ON SITE.

6.3. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING FULL COVERAGE IRRIGATED AREAS AS TO SPACING AND PRECIPITATION RATES BEING MATCHED AND SHALL MAKE ANY NECESSARY ADJUSTMENTS TO THE INFORMATION CONTAINED IN THE IRRIGATION PLAN. (REFER ALSO TO ALL SPECIFICATIONS INCLUDED IN ITEM 1. GENERAL, OF THESE SPECIFICATIONS).

REGARDING IRRIGATION CONTRACTOR HAVING BEEN INSTRUCTED TO REVIEW ALL INFORMATION IN PLAN, SECTIONS AND SPECIFICATION PRIOR TO BIDDING AND ENTERING INTO CONTRACT WITH OWNER AND/OR GENERAL CONTRACTOR.

6.4. TRENCHING SHALL BE MADE WIDE ENOUGH TO ALLOW FOR 6 INCHES MINIMUM BETWEEN PARALLEL LINES.

6.5. A MINIMUM OF 12 INCHES COVER SHALL BE HELD OVER LATERALS AND CONTROL WIRES. MAIN LINES SHALL HAVE AN 18 INCHES COVER (MINIMUM 16 INCHES) BELOW FINISHED GRADE.

6.6. ALL SLEEVING REQUIRED, SHOWN IN THE PLAN OR NOT, SHALL BE INSTALLED BY THE IRRIGATION CONTRACTOR IN COORDINATION WITH GENERAL CONTRACTOR. VERIFY LOCATION OF SLEEVES SHOWN IN PLAN WITH GENERAL CONTRACTOR SINCE SITE CHANGES MAY HAVE OCCUR.

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6.10. TYPICALLY, AS A GUIDELINE, PIPE SIZING SHALL CONFORM TO THE FOLLOWING GUIDELINES:

a) 00-06 GPM = 1/2 INCH E) 27-35 GPM = 1-1/2 INCH

b) 07-10 GPM = 3/4 INCH F) 36-55 GPM = 2" INCH

c) 11-16 GPM = 1 INCH G) 56-80 GPM = 2.5" INCH

d) 17-26 GPM = 1-1/4 INCH

6.11. PIPE MAY BE ASSEMBLED AND WELDED ON THE SURFACE. PLASTIC PIPE AND FITTINGS SHALL BE SOLVENT WELDED USING SOLVENTS AND METHODS AS RECOMMENDED BY MANUFACTURER OF THE PIPE, EXCEPT WHERE SCREWED CONNECTIONS ARE REQUIRED. PIPE AND FITTINGS SHALL BE THOROUGHLY CLEANED OF DIRT, DUST AND MOISTURE BEFORE APPLYING SOLVENT.

6.12. MAKE ALL CONNECTIONS BETWEEN PLASTIC PIPE AND METAL VALVES OR STEEL PIPE WITH THREADED FITTINGS USING PLASTIC MALE ADAPTERS.

6.13. USE ONLY TEFLON TAPE FOR SEALING HEADS AND RISER ASSEMBLIES WHEN REQUIRED.

6.14. THOROUGHLY FLUSH OUT WATER LINES AND BEFORE INSTALLING HEADS AND VALVES. TEST IN ACCORDANCE WITH INDUSTRY STANDARDS AND PIPE RATINGS. UPON COMPLETION OF THE TESTING, THE IRRIGATION CONTRACTOR SHALL COMPLETE ASSEMBLY AND ADJUST SPRINKLER HEADS FOR PROPER DISTRIBUTION.

6.15. INSTALL PUMP SPECIFICATIONS IF A WELL/PUMP IS BEING USED.

AFTER COMPLETION OF GRADING, LANDSCAPING AND SODDING, IRRIGATION CONTRACTOR SHALL PERFORM ANY FINAL ADJUSTMENTS TO THE SYSTEM WHICH MIGHT BE DEEMED NECESSARY.

7. GUARANTEE

7.1. THE IRRIGATION CONTRACTOR SHALL PROVIDE A WARRANTY TO THE EFFECT THAT ALL MATERIALS AND WORK BY HIM/HIS INSTALLING THE IRRIGATION SYSTEM IS WARRANTED FOR ONE YEAR. HE SHALL BE FREE FROM DEFECTS AND FAULTY WORKMANSHIP AND THAT ANY DEFECTIVE MATERIAL OR WORK SHALL BE PROMPTLY REPAIRED OR REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.

7.2. IRRIGATION CONTRACTOR SHALL REPAIR ANY SETTILING OF BACKFILLED TRENCHES WHICH MAY OCCUR DURING WARRANTY PERIOD.

7.3. IRRIGATION CONTRACTOR SHALL RESTORE ANY AND ALL DAMAGED PLANTING, PAVING, OR ANY OTHER IMPROVEMENT WHICH HAS BEEN DAMAGED BY HIS WORK, INCLUDING EQUIPMENT, VEHICLES OR EMPLOYEES, DURING THE WARRANTY PERIOD.

8. DEFINITIONS

8.1. RISER. A RISER IS A LENGTH OF PIPE WHICH HAS MALE NOMINAL PIPE THREADS ON EACH END. USUALLY AFFIXED TO A LATERAL OR SUBMAIN TO SUPPORT A SPRINKLER OR ANTI-SIPHON VALVE.

8.2. SPRAY HEAD. A SPRAY HEAD IS A TYPE OF FIXED SPRAY SPRINKLER THAT POPS UP FROM UNDERGROUND AND WATERS A SET PATTERN, USUALLY FROM 5 TO 15 FEET IN RANGE.

8.3. SPRINKLER. A SPRINKLER IS A HYDRAULICALLY OPERATED MECHANICAL DEVICE WHICH DISCHARGES WATER THROUGH A NOZZLE.

8.4. SWING JOINT. A SWING JOINT IS A THREADED CONNECTION OF PIPE AND FITTINGS BETWEEN THE PIPE AND SPRINKLER WHICH ALLOWS MOVEMENT TO BE TAKEN UP IN THE THREADS RATHER THAN AS A SHEER FORCE ON THE PIPE. ALSO USED TO RAISE OR LOWER SPRINKLERS TO A FINAL GRADE WITHOUT PLUMBING CHANGES.

8.5. ZONE. A ZONE OR STATION IS A SECTION OF AN IRRIGATION SYSTEM SERVED BY A SINGLE CONTROL VALVE. ZONES ARE COMPRISED OF SIMILAR SPRINKLER TYPES. NO SPRINKLER HEADS OF DIFFERENT PRECIPITATION HEADS SHALL BE USED IN ANY ONE SINGLE ZONE (STATION).

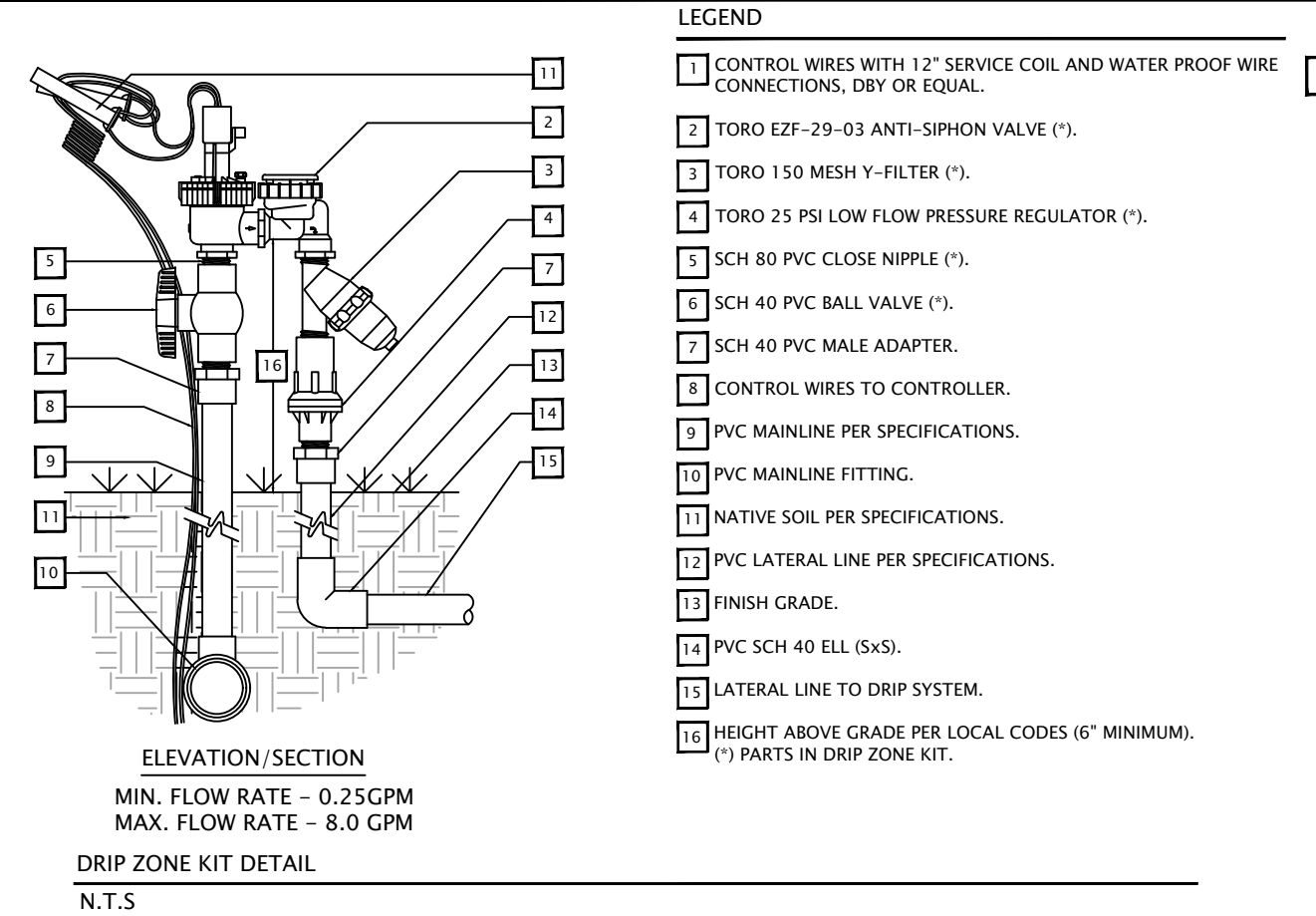
9. SUMMARY

9.1. CONTRACTOR SHALL CONSULT WITH GENERAL CONTRACTOR AND ANY OTHER ENTITY REGARDING THE LOCATION OF ANY AND ALL EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES AS WELL AS PROPOSED WORK REQUIRING EXCAVATION IN AREAS WHERE IRRIGATION SYSTEM WILL TAKE PLACE. IRRIGATION CONTRACTOR SHALL NOTIFY GENERAL CONTRACTOR AND OWNER (BOTH IF A CONFLICT IS DETECTED WHICH WILL AFFECT INSTALLATION OF IRRIGATION SYSTEM AND/OR EQUIPMENT).

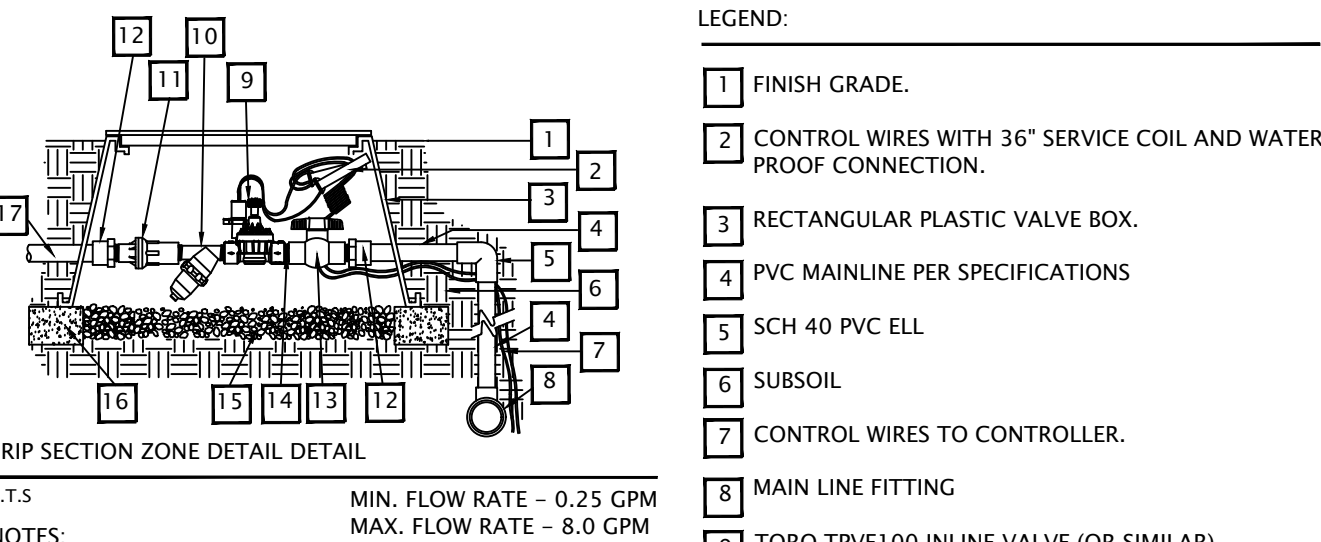
9.2. IRRIGATION CONTRACTOR SHALL CALL 811, 48 HOURS PRIOR TO DIGGING TO AVOID DAMAGING VITAL UTILITIES IN AREAS OF THE RIGHT OF WAY.

9.3. STARTING WORK BY IRRIGATION CONTRACTOR CONSTITUTES ACCEPTANCE OF CONTRACTUAL AND SITE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. AFTER STARTING WORK AND THEREFORE ACCEPTANCE OF SUCH CONDITIONS, THE IRRIGATION CONTRACTOR SHALL AT HIS EXPENSE, BE RESPONSIBLE FOR CORRECTING ALL UN-SATISFACTORY AND DEFECTIVE WORK RESULTING FROM SUCH UNSATISFACTORY CONDITIONS.

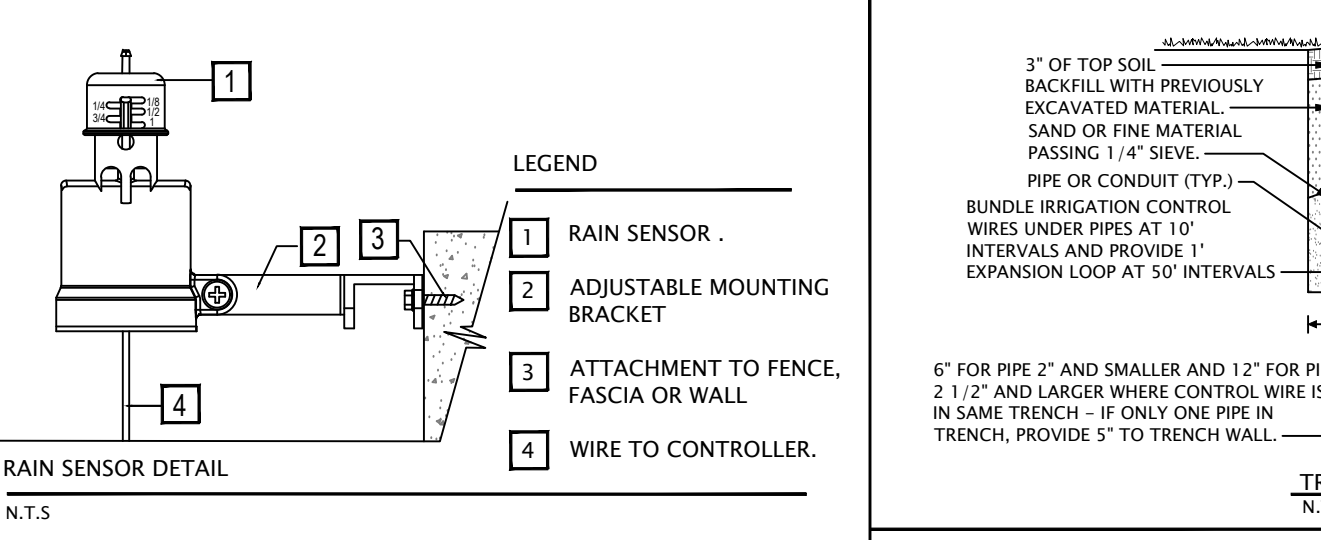
9.4. IRRIGATION SYSTEM LAYOUT MAY NOT BE SHOWN WITHIN THE RIGHT-OF-WAY OF THE PROPERTY DUE TO SOME MUNICIPALITIES NOT ALLOWING IT TO BE SHOWN. HOWEVER, IRRIGATION CONTRACTOR SHALL AT TIME OF ENTERING INTO INSTALLATION CONTRACT WITH OWNER AND/OR GENERAL CONTRACTOR, INCLUDE THE IRRIGATION ZONE(S) NECESSARY TO PROVIDE FULL COVERAGE IRRIGATION TO THE AREAS WITHIN THE RIGHT-OF-WAY.



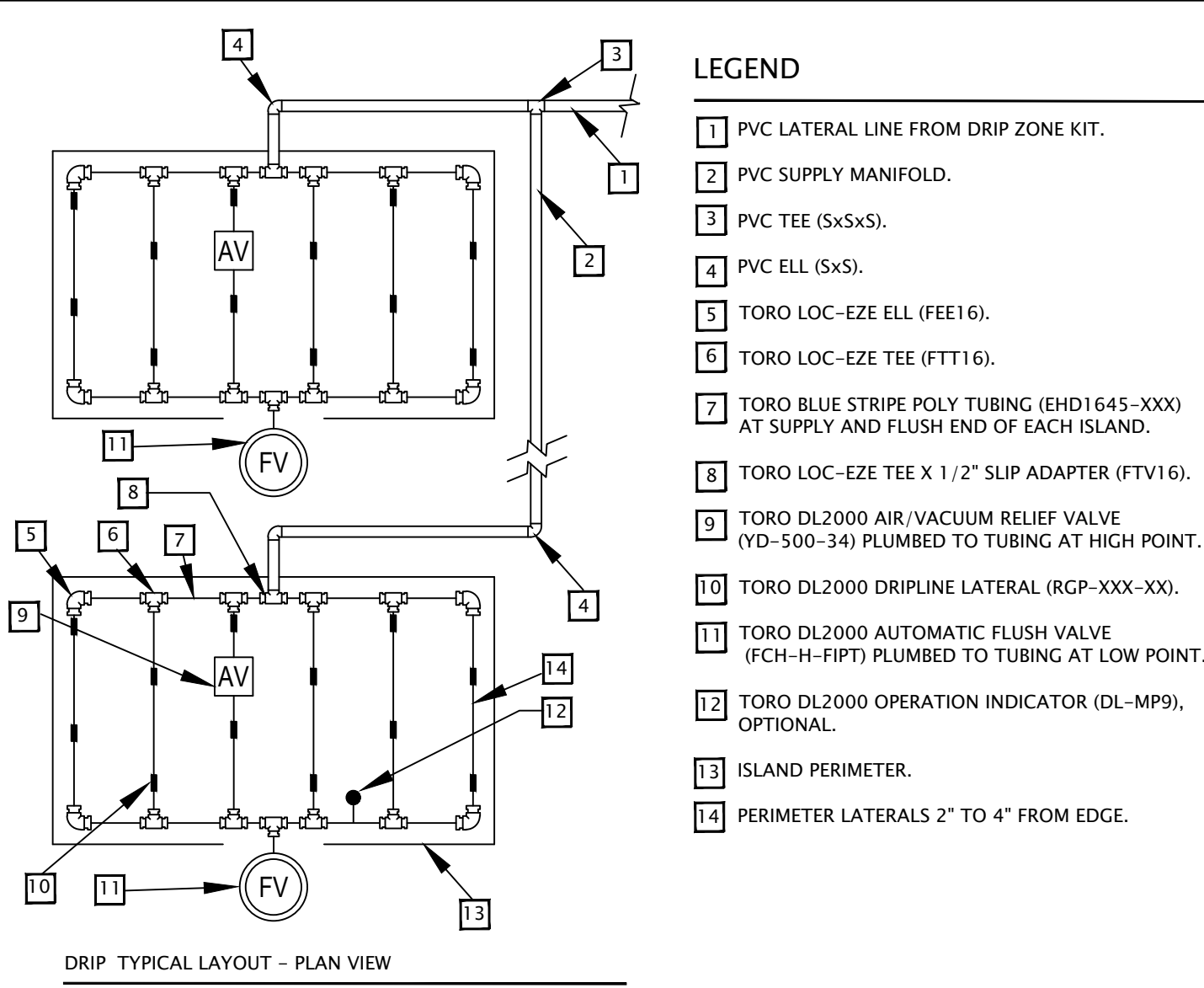
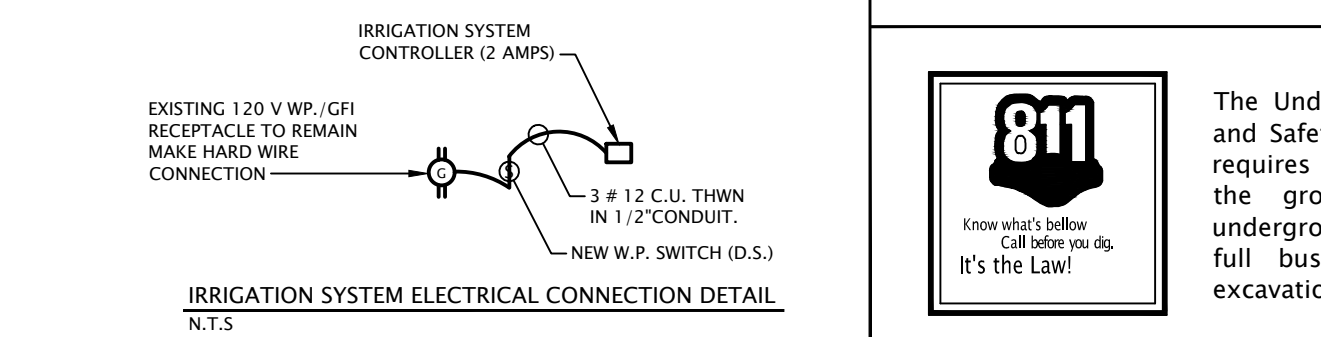
- NOTES:
1. LOCATE STAPLES ALONG TUBING AT 4" - 6" ON CENTER AND AT ALL FITTINGS (TEES, ELLS, ETC...).
 2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 3. DO NOT SCALE DRAWING.
 4. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
 5. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
 6. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER: 065-190E - TORO COMPANY - IRRIGATION DIVISION - TORO DRIP ZONE KIT, DZK-2711-075-LF OR ANOTHER REQUIRED KIT MODEL AND SPECIFICATIONS.



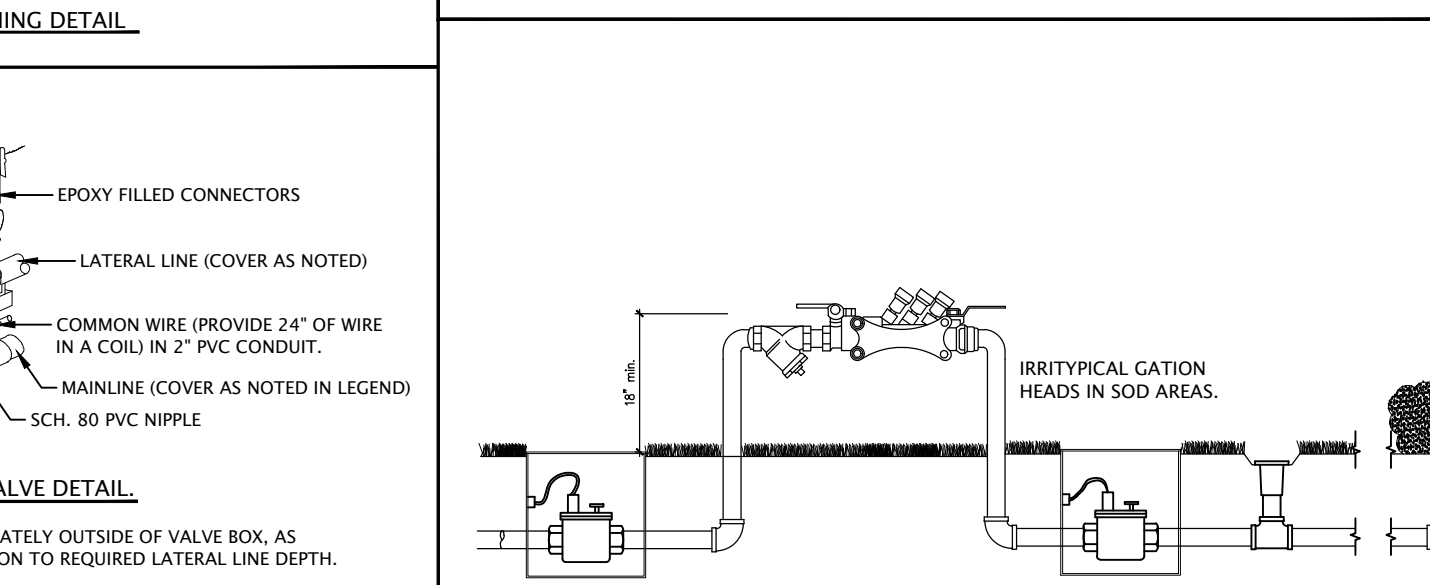
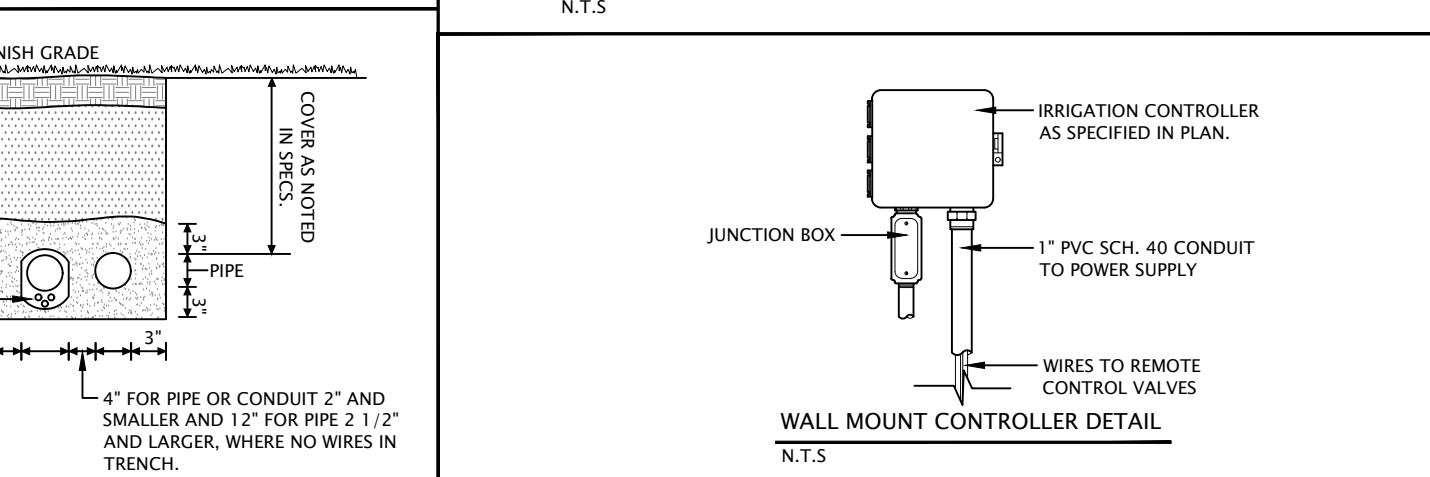
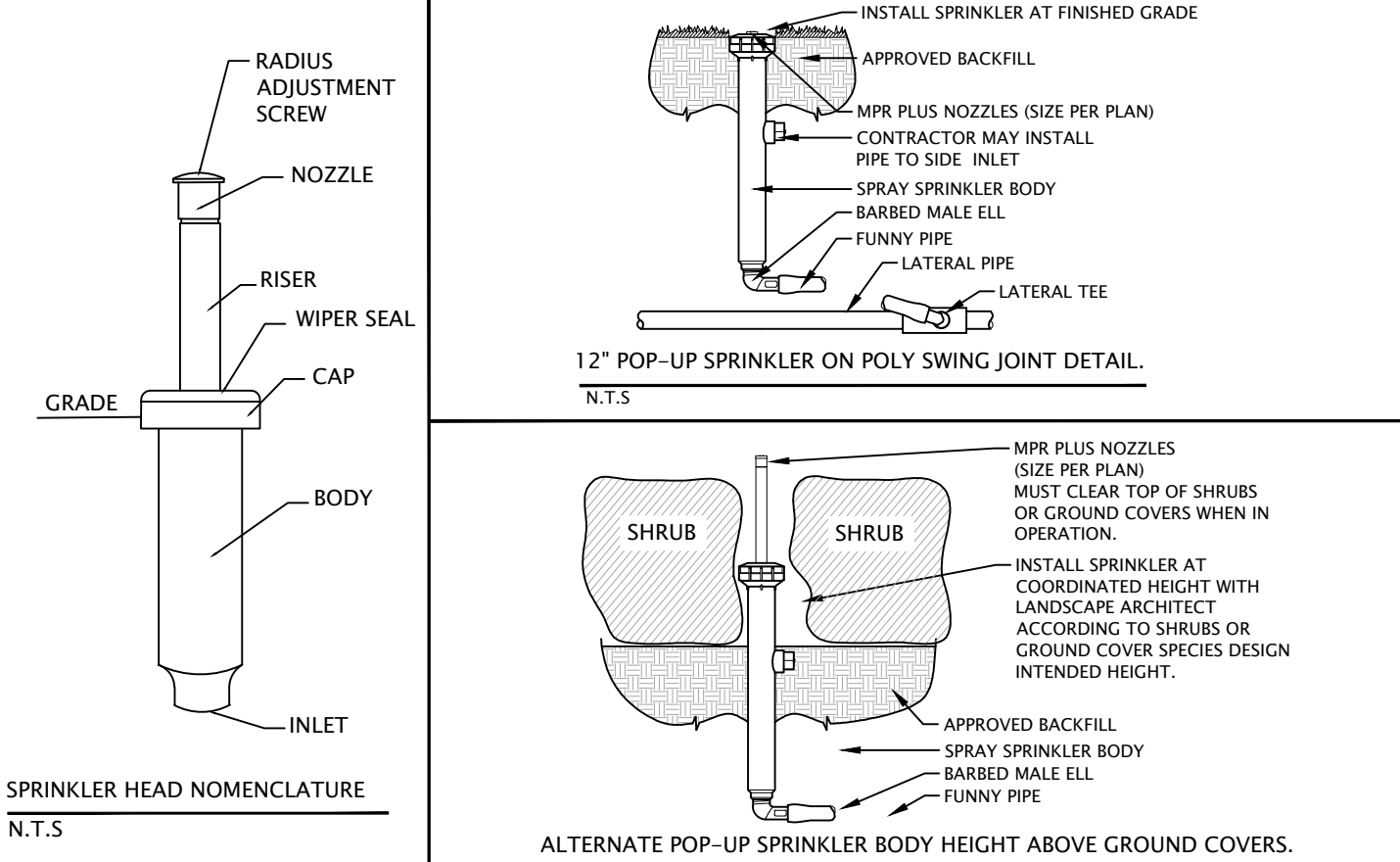
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- NOTES:
1. DETAIL MAY VARY ACCORDING TO SENSOR MANUFACTURER (VERIFY WHICH ALLOWS MOVEMENT TO BE TAKEN UP IN THE THREADS RATHER THAN AS A SHEER FORCE ON THE PIPE. ALSO USED TO RAISE OR LOWER SPRINKLERS TO A FINAL GRADE WITHOUT PLUMBING CHANGES).
 2. REFER TO PLAN FOR SENSOR LOCATION.
 3. MOUNT SENSOR VERTICALLY. DO NOT PLACE UNDER EVE, TREE CANOPY OR ANY OVERHEAD OBSTRUCTIONS. LOCATE WITHIN 300 FEET OF SENSOR RECEIVER AND CONTROLLER.
 4. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 5. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, CONTRACTORS, AND OTHER CONSULTANTS AND DESIGN PROFESSIONALS FOR GENERAL REFERENCE PURPOSES ONLY.
 6. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
 7. CLEAN THE SENSOR PERIODICALLY TO MAINTAIN ACCURATELY OPERATION.



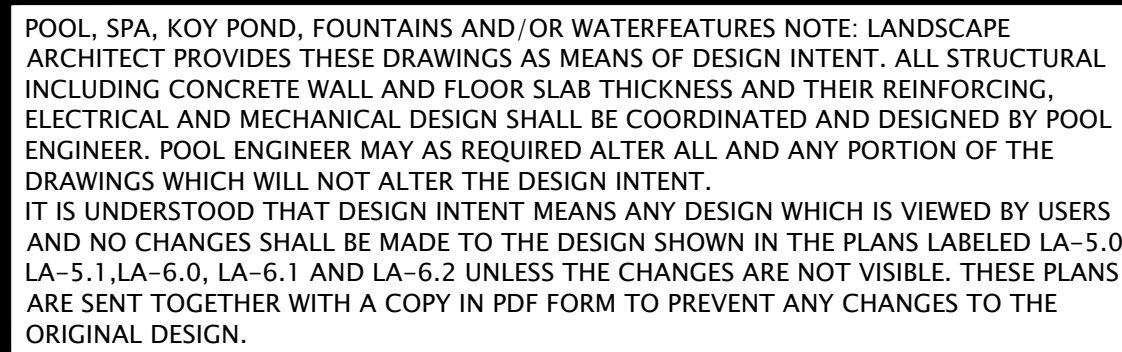
- DRIP TYPICAL LAYOUT - PLAN VIEW. N.T.S.
- NOTES:
1. THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE SHALL NOT EXCEED THE MAXIMUM RUN LENGTH. SEE TORO SUBSURFACE IRRIGATION DESIGN GUIDE (FORM #ALT111).
 2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 3. DO NOT SCALE DRAWING.
 4. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
 5. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
 6. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER: 065-188M - TORO COMPANY - IRRIGATION DIVISION - DL2000® ISLAND LAYOUT A



RPZ BACKFLOW PREVENTER - FEBCO MODEL 860 (OR SIMILAR). N.T.S.

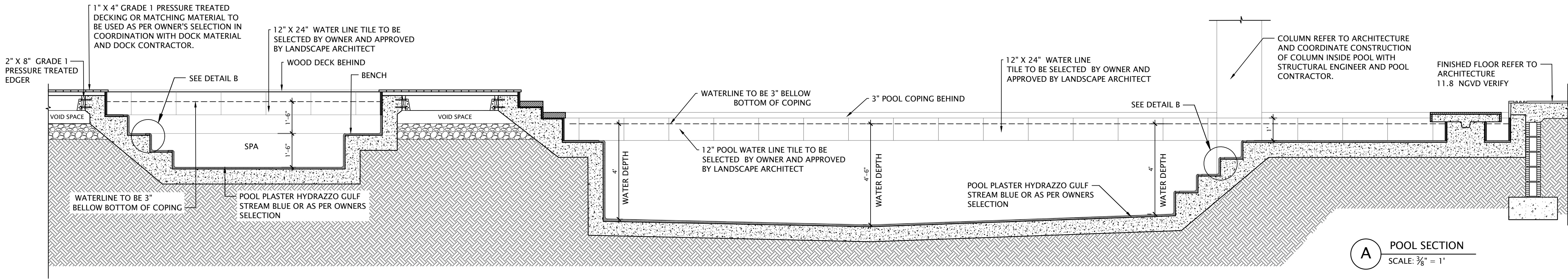
REDUCED PRESSURE PRINCIPLE BACKFLOW ASSEMBLY (RPZ) FOR OUTSIDE NSTALLATION. IF SPECIFIED IN THE IRRIGATION PLANS. THE RPZ BACKFLOW SHALL BE USED INSTEAD OF A PRESSURE VACUUM BREAKER ASSEMBLY (PVB).



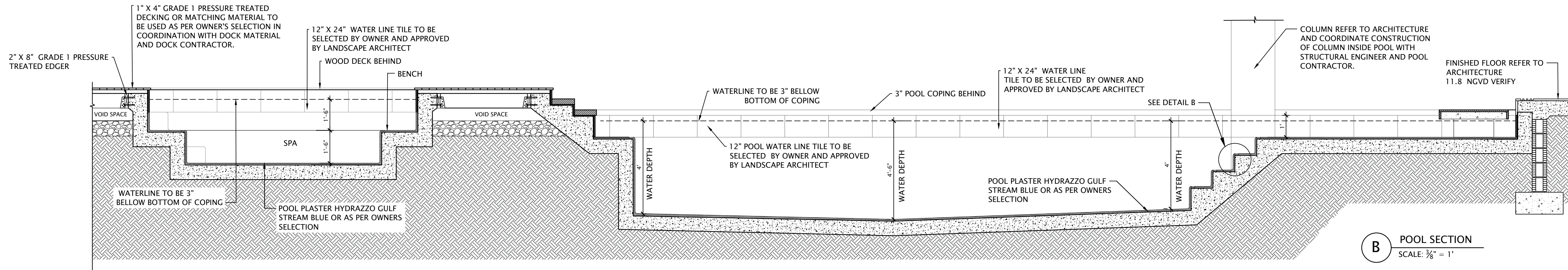


NOTE: BY ACCEPTING THIS PLAN, FOR PURPOSES OF THE CONSTRUCTION OF THE INTENDED PROJECT WHETHER SUBMITTING IT TO THE MUNICIPAL AUTHORITIES OR ANY OTHER BUILDING AND ZONING AUTHORITY AS WELL AS OTHER CONSULTANTS, OR FOR USE DURING CONSTRUCTION, OWNER AND GENERAL CONTRACTOR RELEASES AND HOLDS HARMLESS ARCHITECT FROM ANY LEGAL RESPONSIBILITY AS A CONSEQUENCE OF ANY LEGAL ACTIONS ARISING FROM ANY SPECIFICATION OF THE POOL, POOL DECK, GRADING ELEVATIONS AND DIFFERENCES BETWEEN POOL DECK ELEVATION AND FINISH GRADE ELEVATION(S) SPECIFIED IN THIS PLAN, LAYOUTS, SECTIONS AND/OR DETAILS.

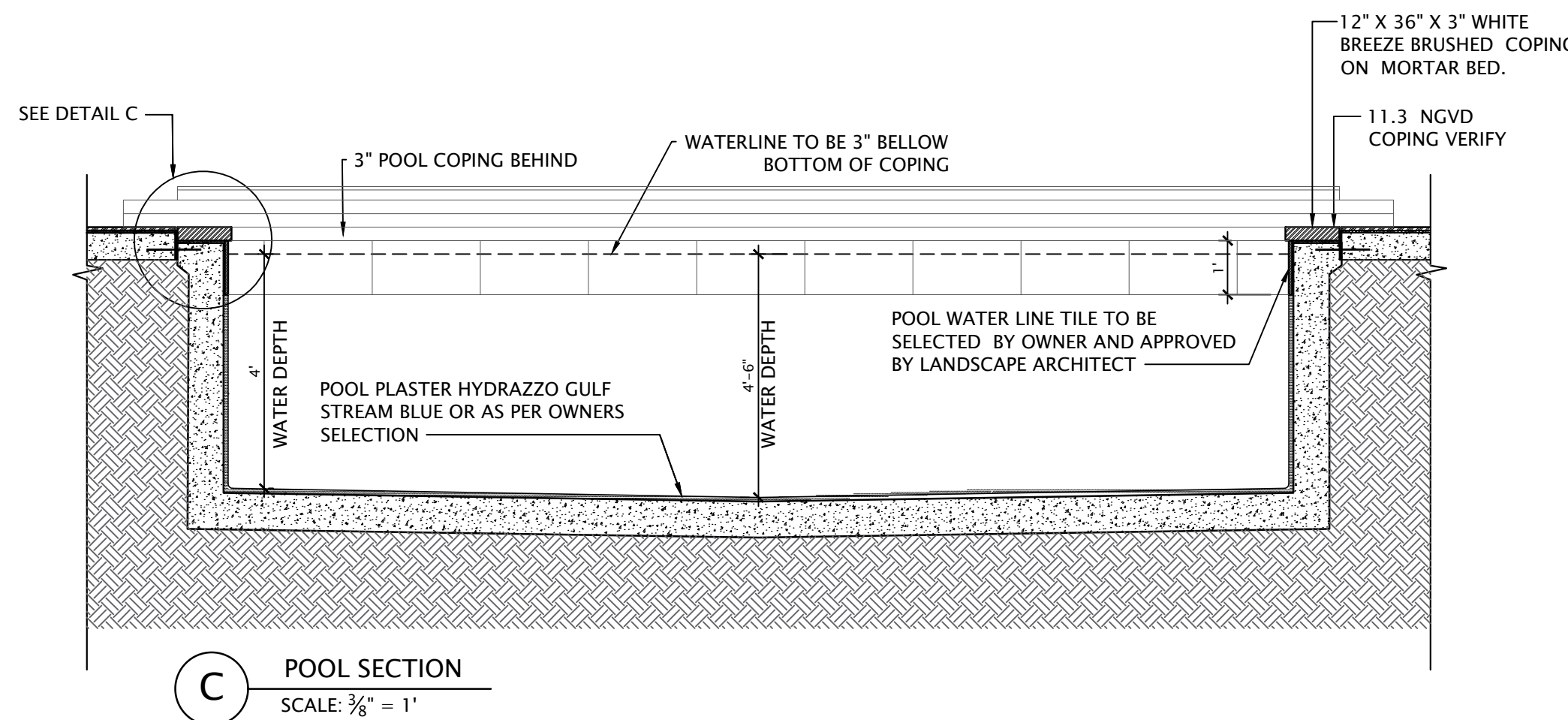




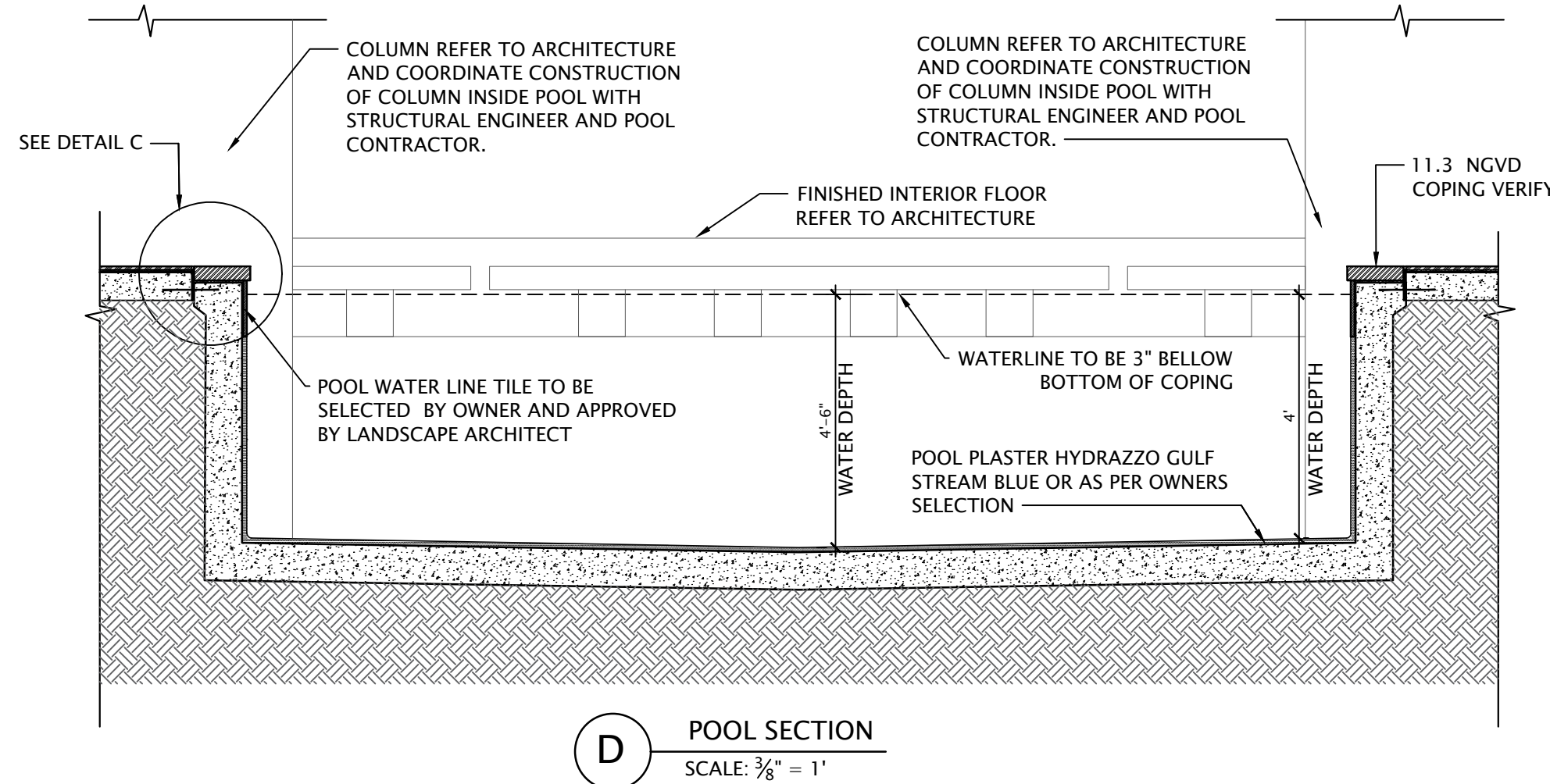
A POOL SECTION
SCALE: $\frac{3}{8}" = 1'$



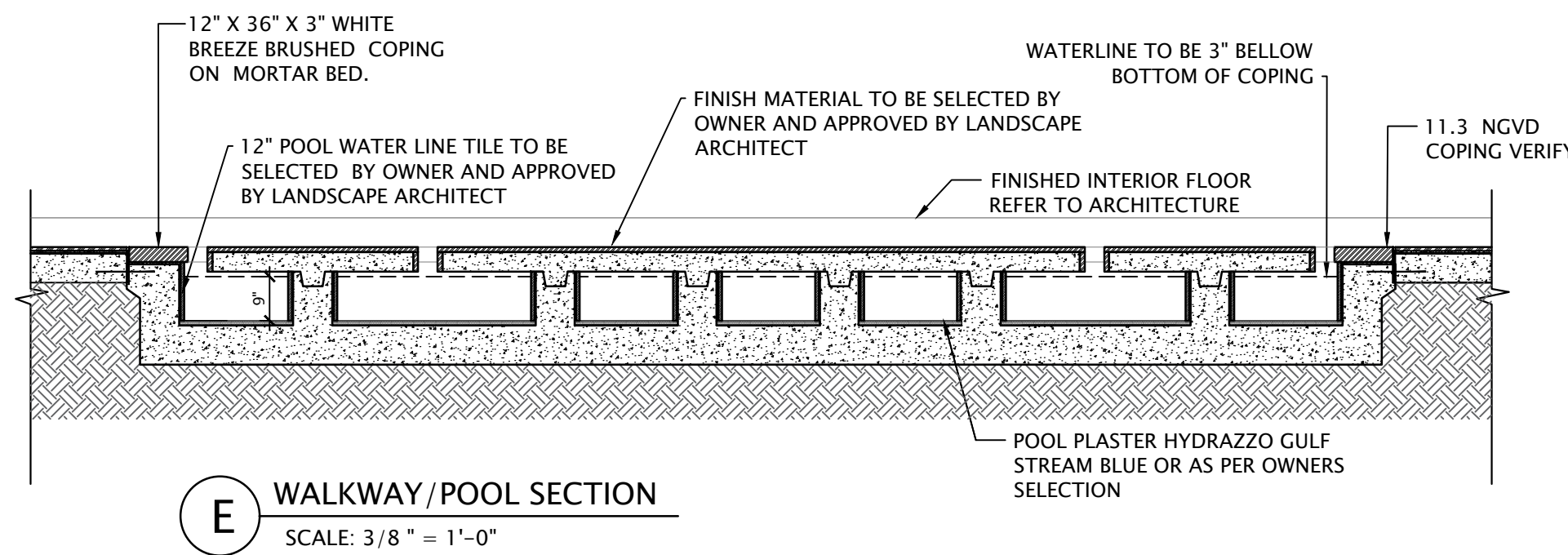
B POOL SECTION
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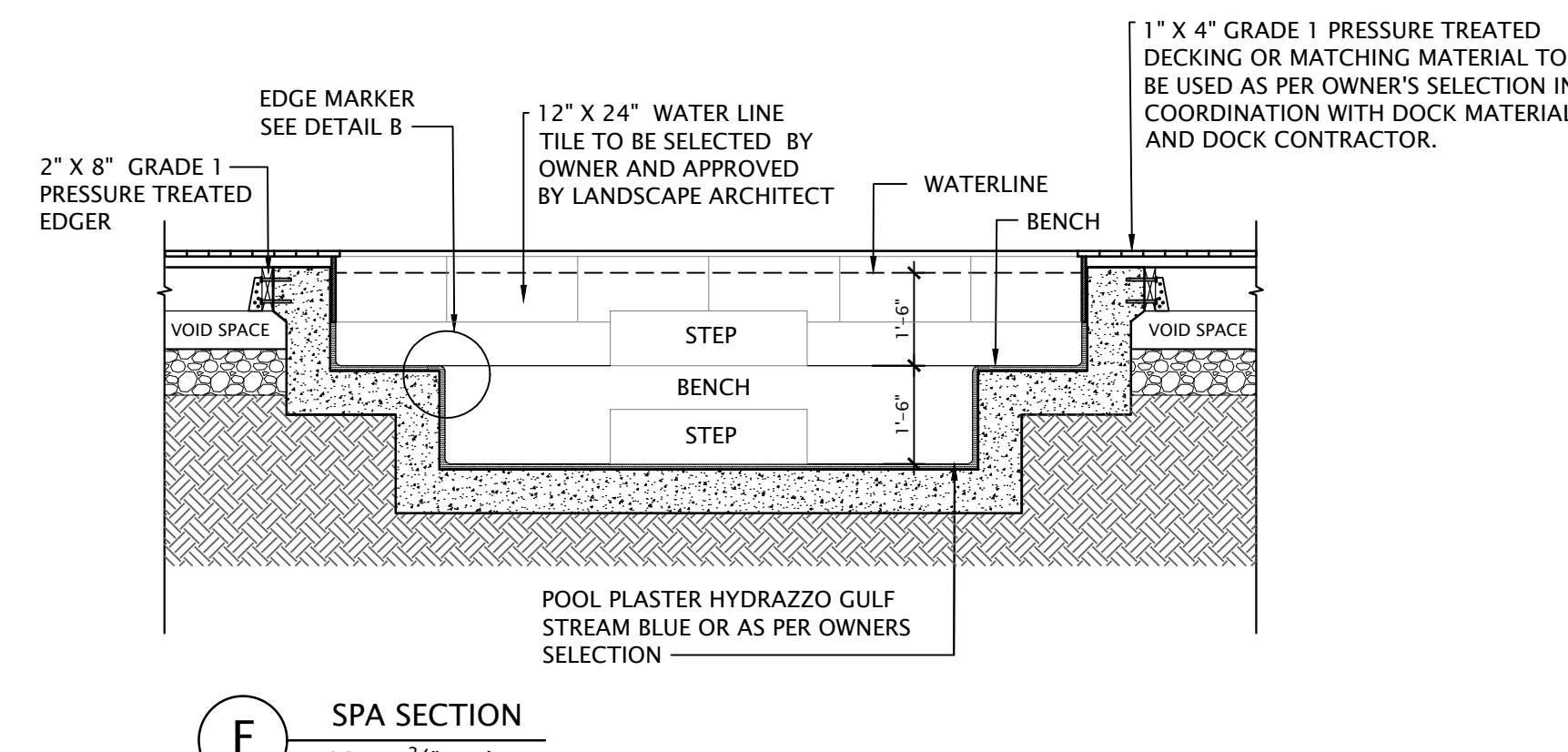
C POOL SECTION
SCALE: $\frac{3}{8}" = 1'$



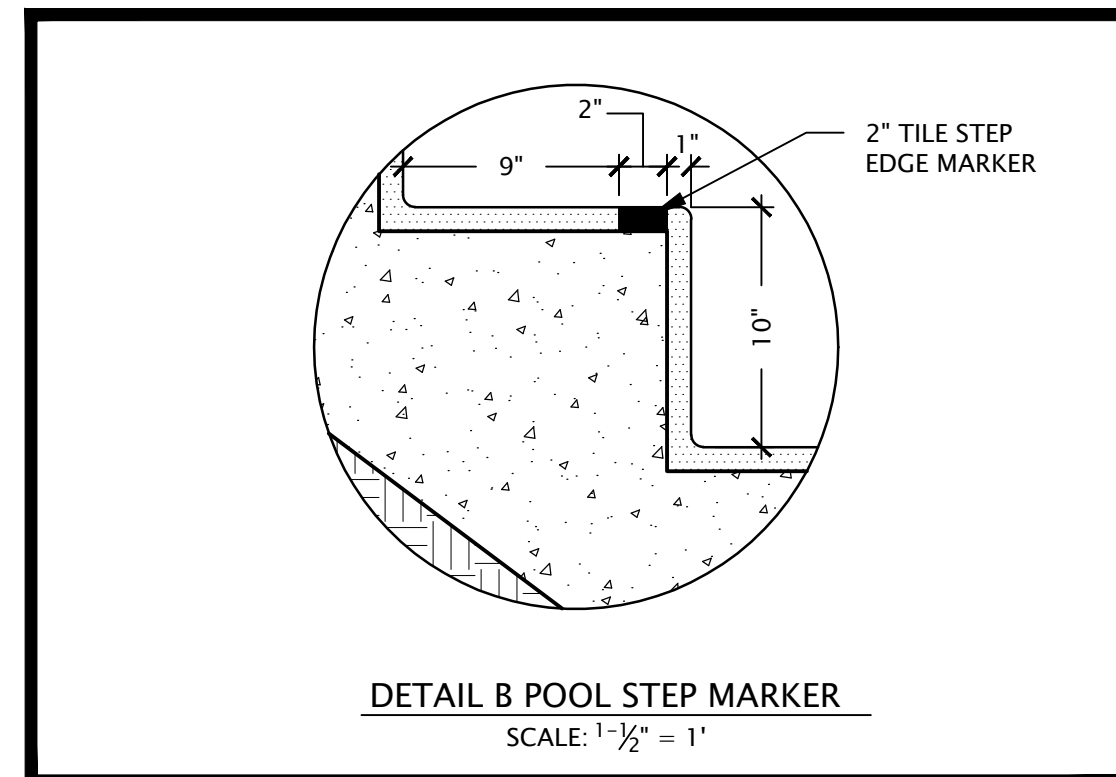
D POOL SECTION
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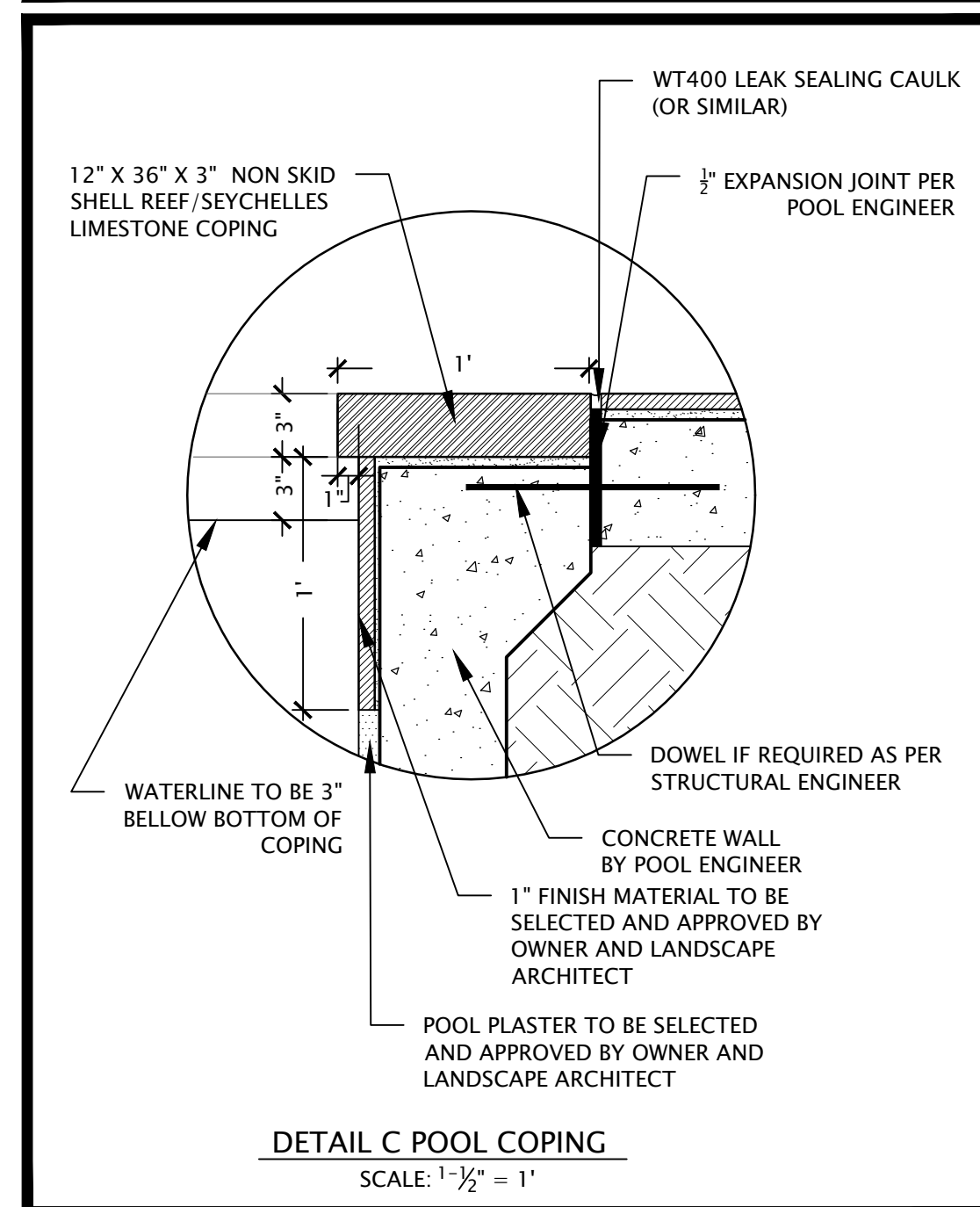
E WALKWAY/POOL SECTION
SCALE: $\frac{3}{8}" = 1'-0"$



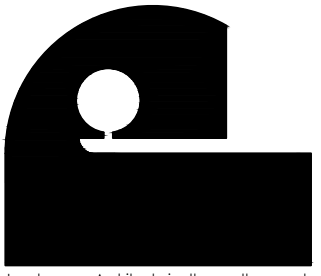
F SPA SECTION
SCALE: $\frac{3}{8}" = 1'$



DETAIL B POOL STEP MARKER
SCALE: $1'-\frac{1}{2}" = 1'$

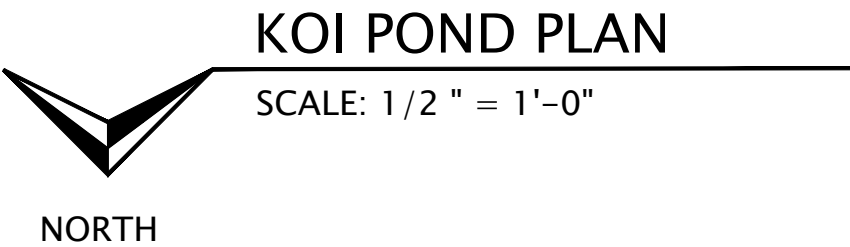


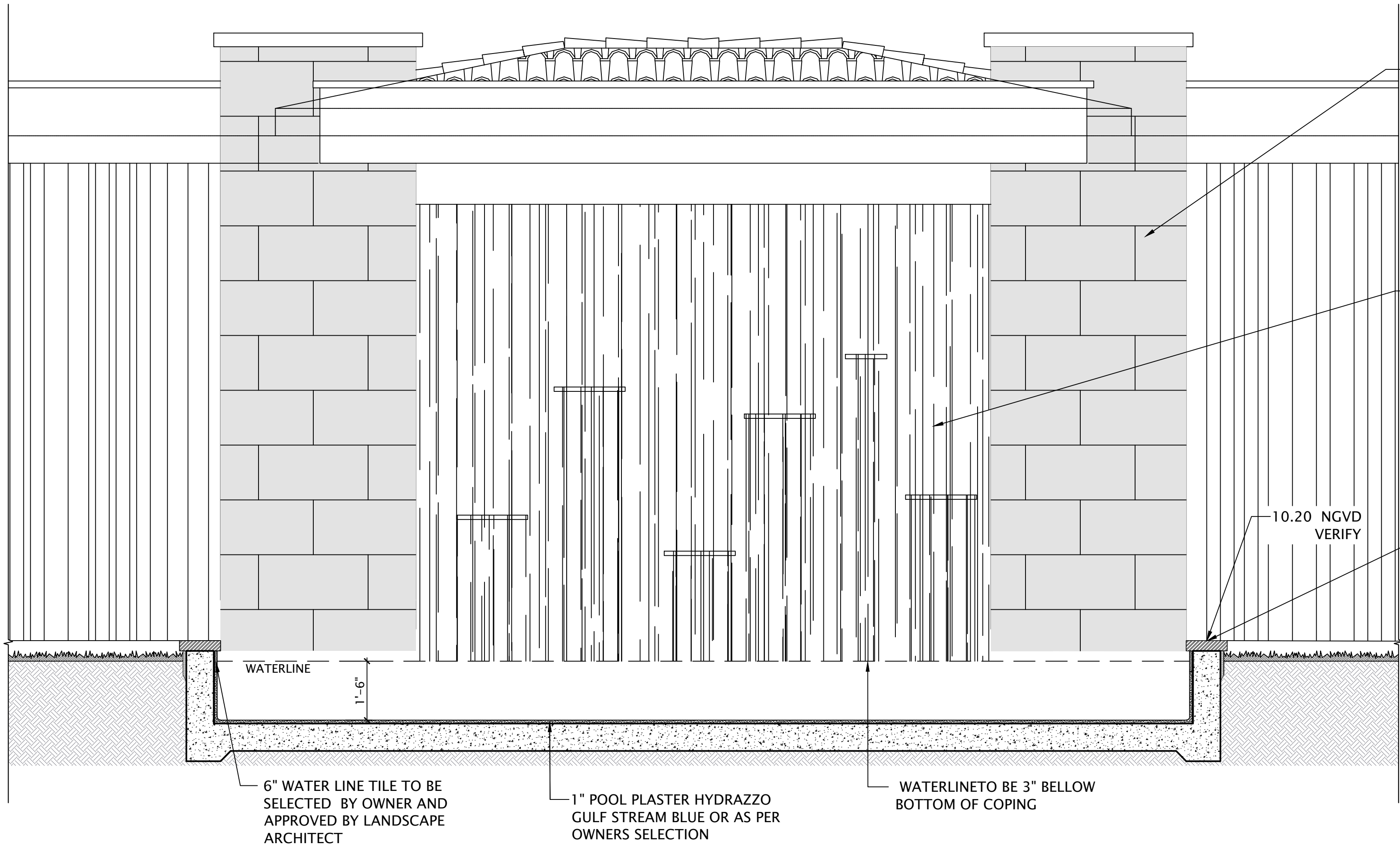
DETAIL C POOL COPING
SCALE: $1'-\frac{1}{2}" = 1'$



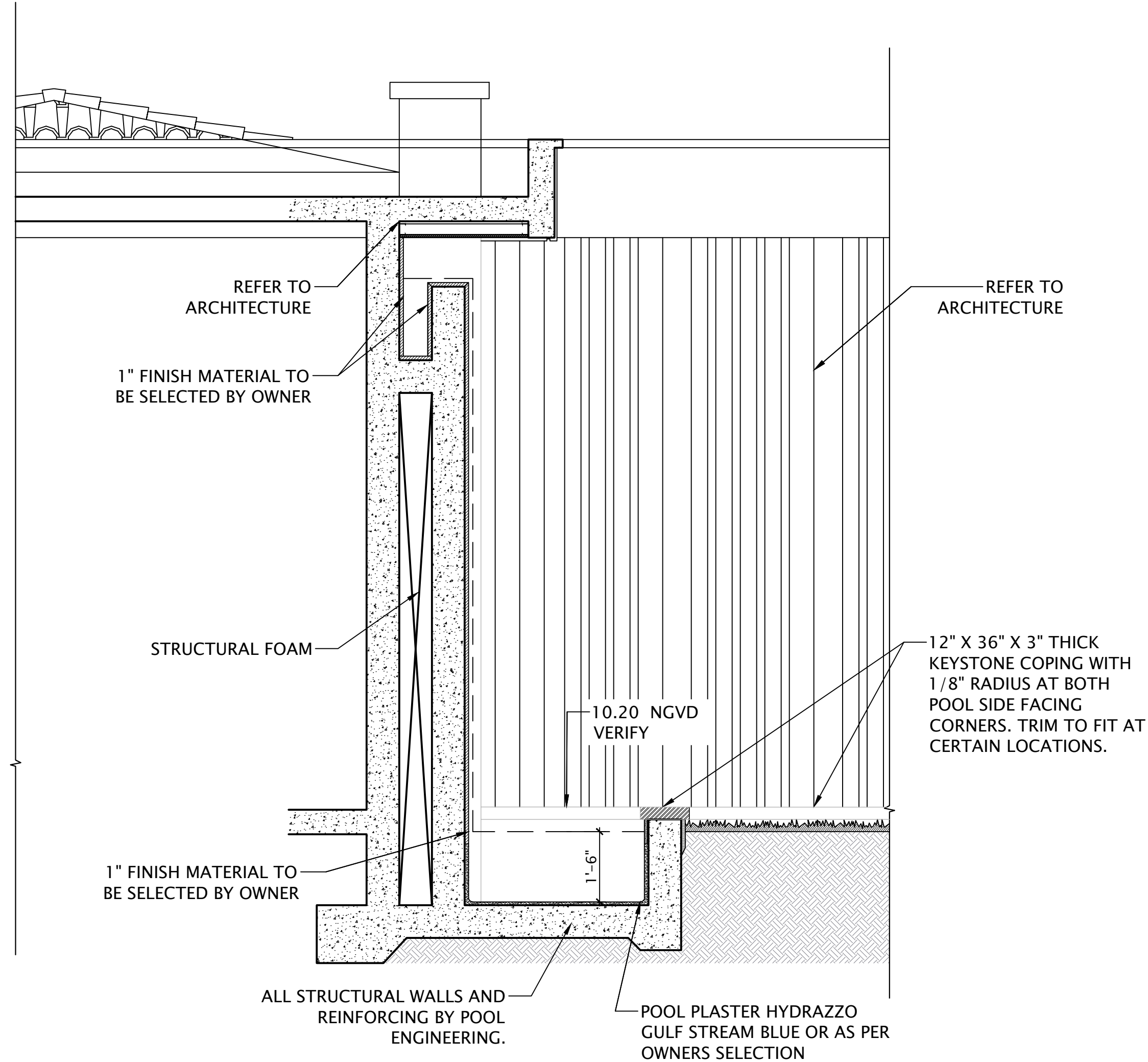
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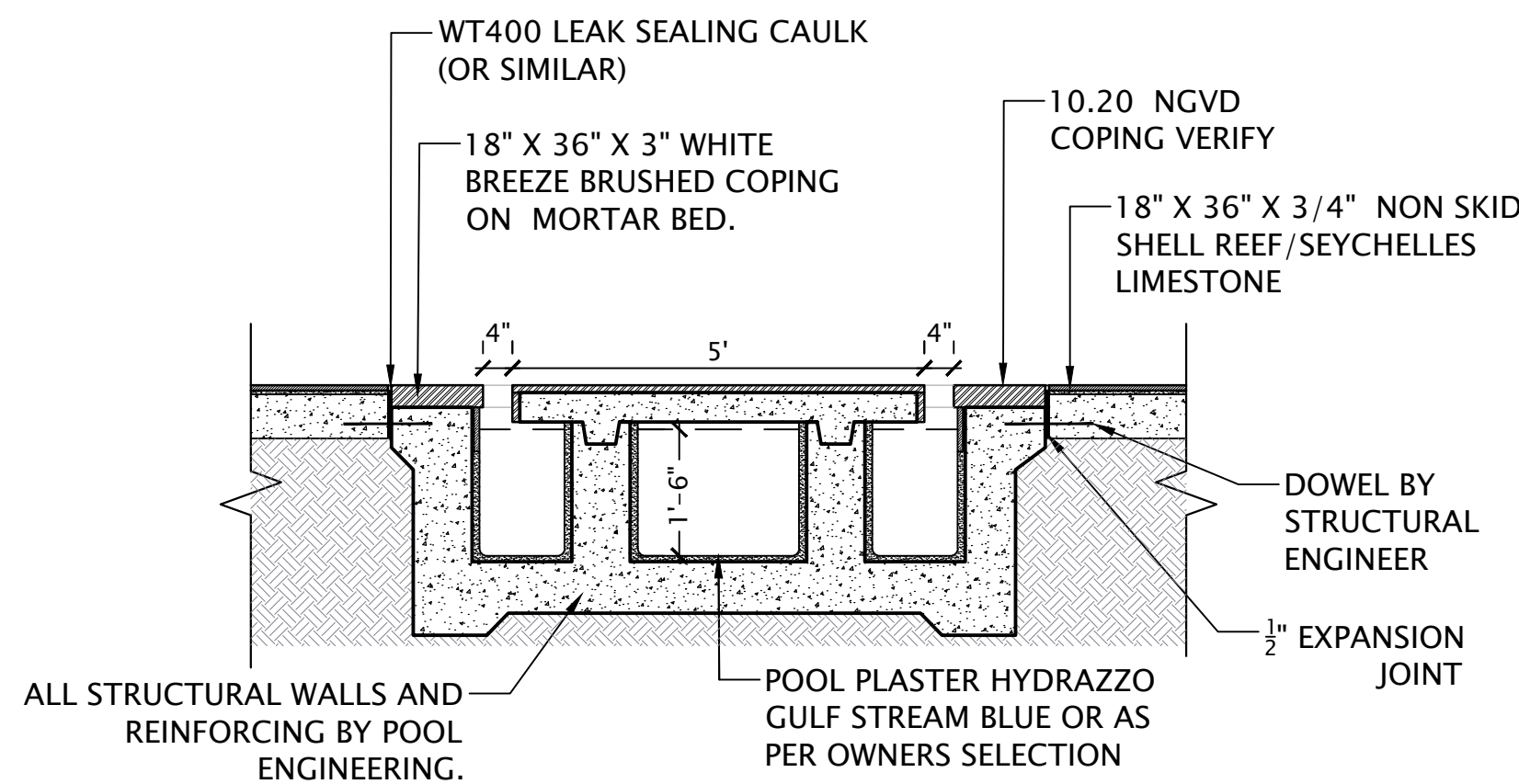




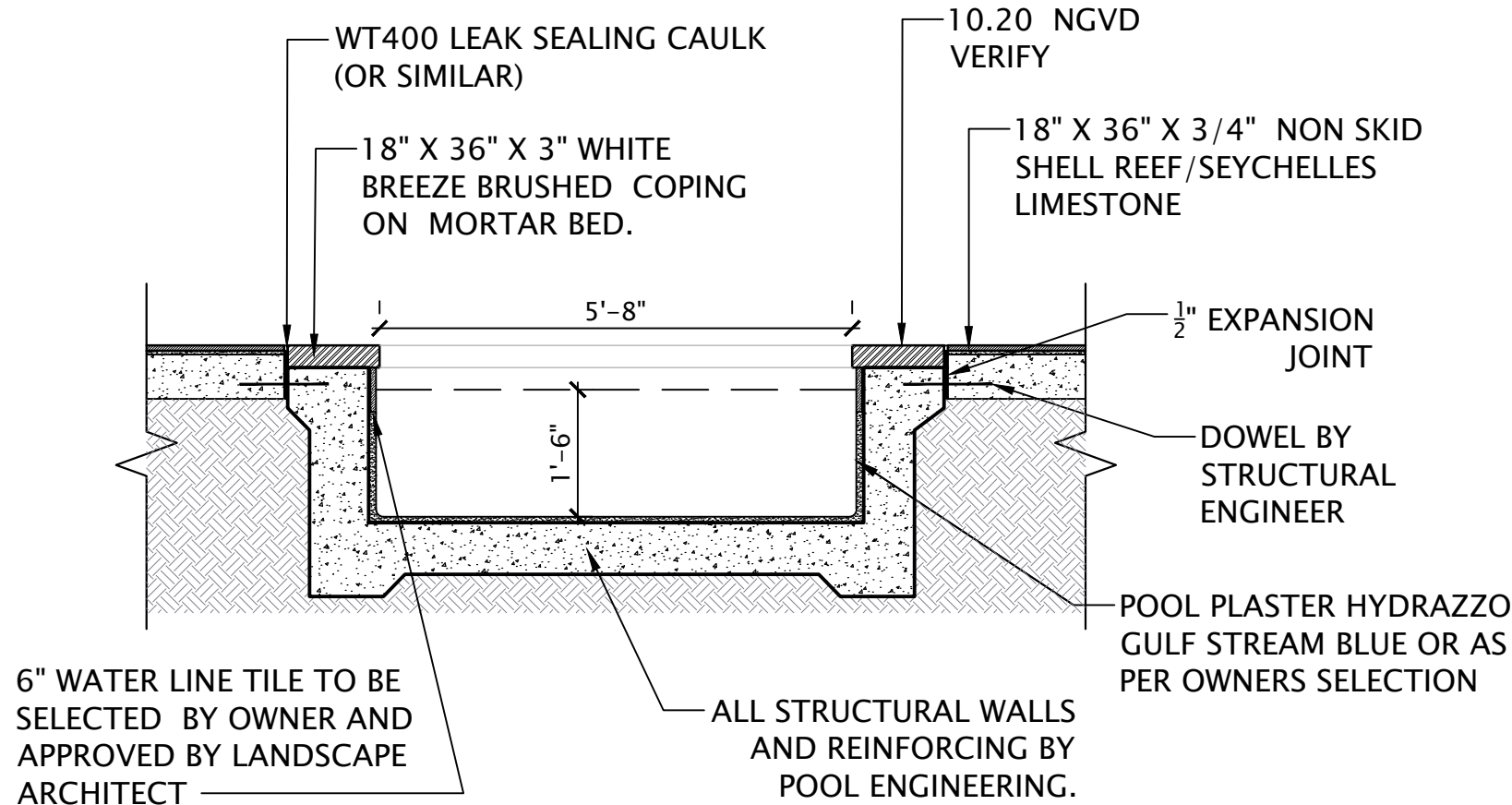
G KOI POND SECTION
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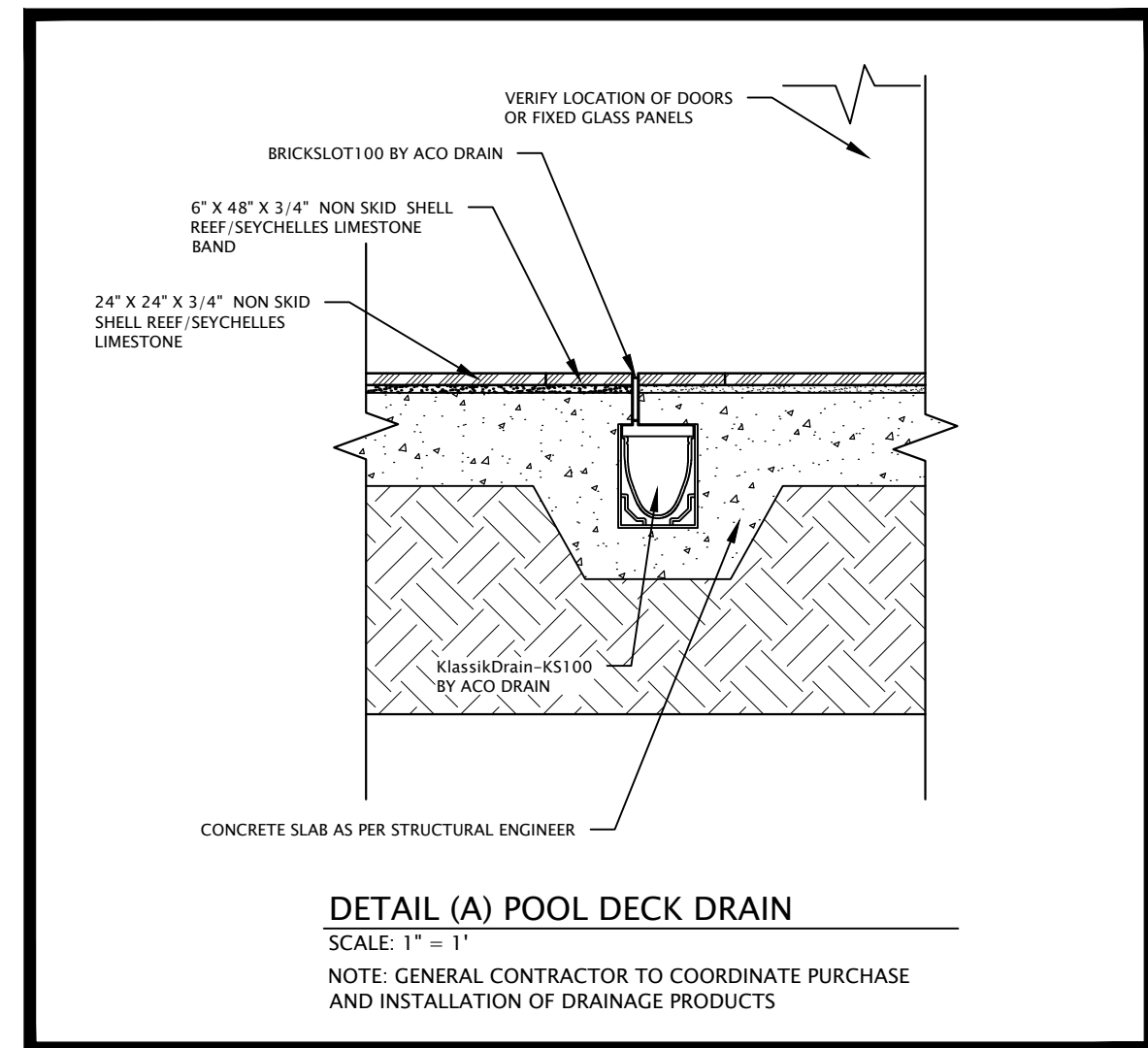
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H KOI POND SECTION
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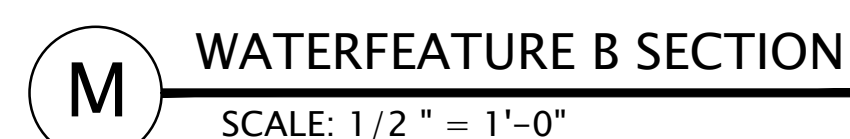
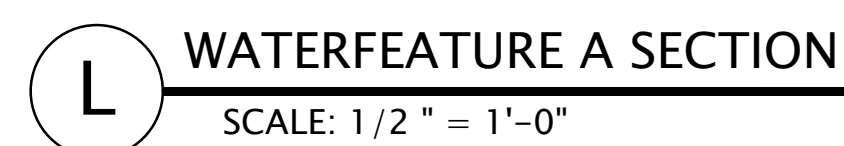
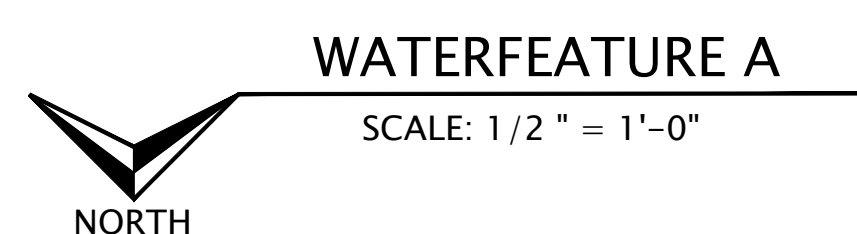


I KOI POND SECTION
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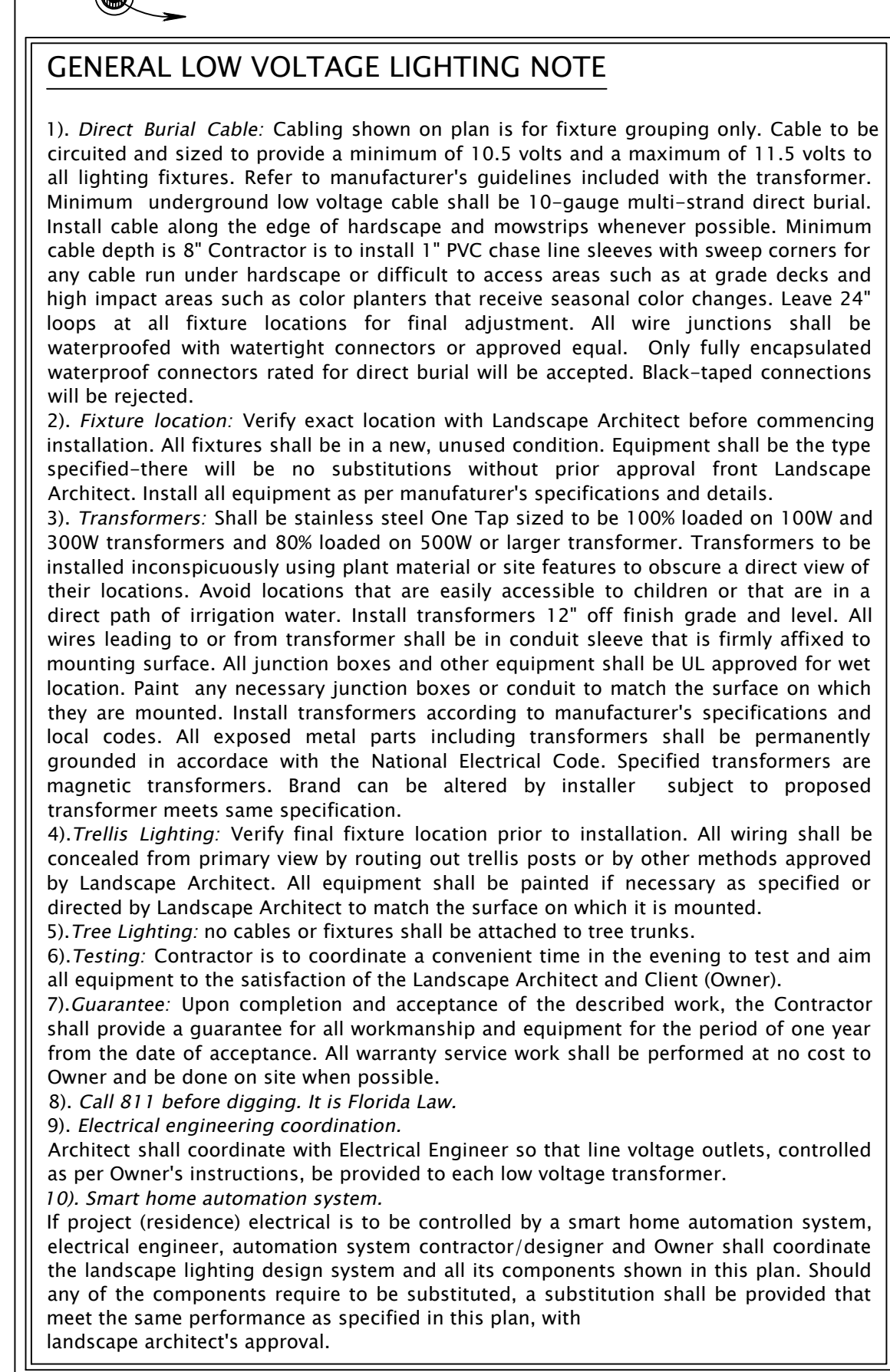


POOL, SPA, KOY POND, FOUNTAINS AND/OR WATERFEATURES NOTE: LANDSCAPE ARCHITECT PROVIDES THESE DRAWINGS AS MEANS OF DESIGN INTENT. ALL STRUCTURAL INCLUDING CONCRETE WALL AND FLOOR SLAB THICKNESS AND THEIR REINFORCING, ELECTRICAL AND MECHANICAL DESIGN SHALL BE COORDINATED AND DESIGNED BY POOL ENGINEER. POOL ENGINEER MAY AS REQUIRED ALTER ALL AND ANY PORTION OF THE DRAWINGS WHICH WILL NOT ALTER THE DESIGN INTENT. IT IS UNDERSTOOD THAT DESIGN INTENT MEANS ANY DESIGN WHICH IS VIEWED BY USERS AND NO CHANGES SHALL BE MADE TO THE DESIGN SHOWN IN THE PLANS LABELED LA-5.0, LA-5.1, LA-6.0, LA-6.1 AND LA-6.2 UNLESS THE CHANGES ARE NOT VISIBLE. THESE PLANS ARE SENT TOGETHER WITH A COPY IN PDF FORM TO PREVENT ANY CHANGES TO THE ORIGINAL DESIGN.

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NOTE: ALL STRUCTURAL WALLS AND REINFORCING IN
STEPS, LANDINGS FOR POOL, SPA, POOL DECK TO BE BY
POOL AND/OR STRUCTURAL ENGINEER.



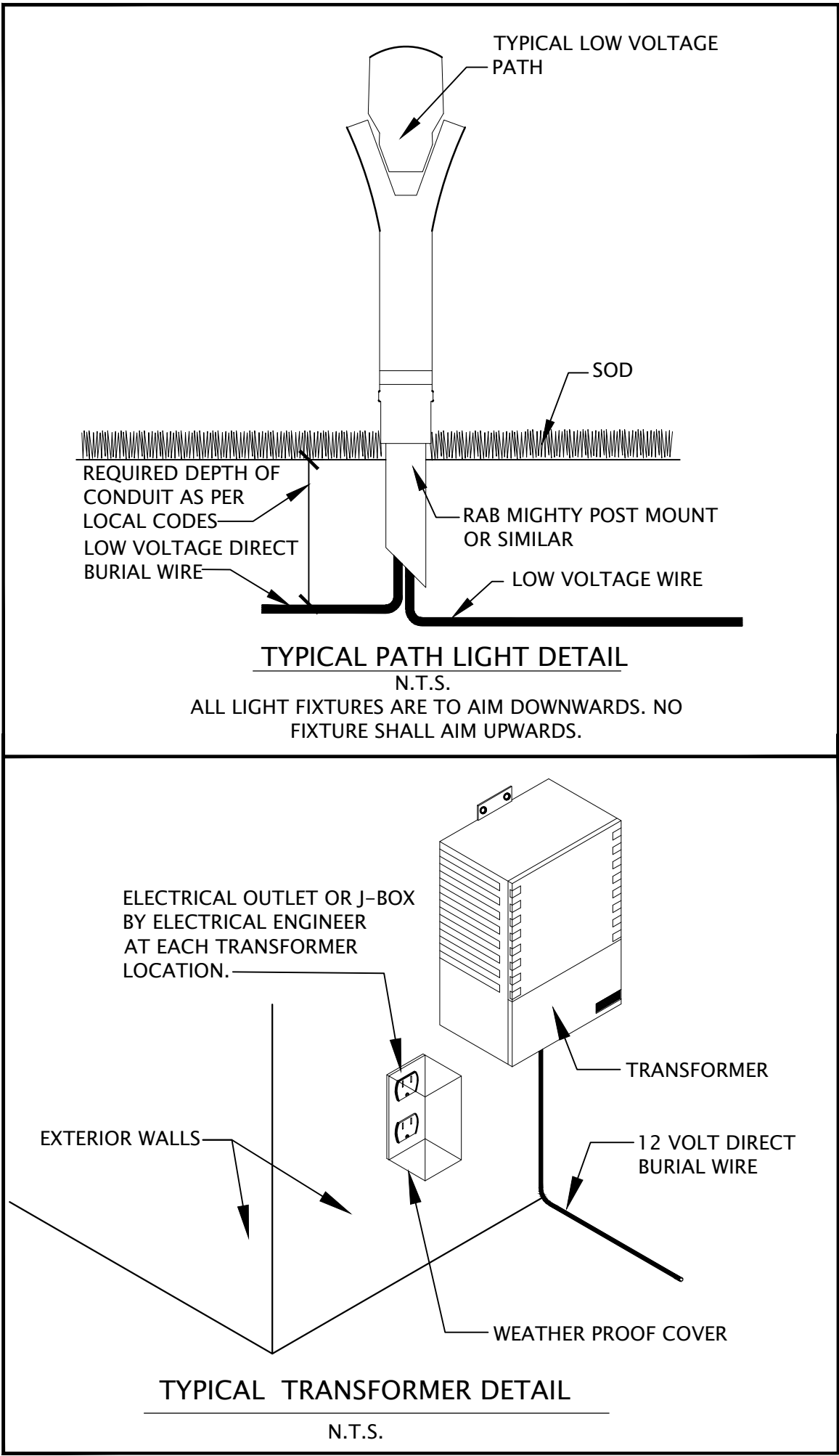
Know what's below.
Call before you dig.
It's the Law!

LIGHTING FIXTURES NOTES

Note A. Mounting Post: RAB/Mighty Post may be use instead of 490017 "Excalibur" PVC Mounting Stake

COORDINATION NOTE:
ARCHITECT TO COORDINATE WITH ELECTRICAL ENGINEER PROVIDING A GFI CONNECTION TO EACH OUTDOOR TRANSFORMER AND MEANS OF TURNING ON/OFF.

NOTE: ALL LIGHT FIXTURES ARE TO AIM DOWNWARDS. NO FIXTURE SHALL AIM UPWARDS.



NOTES & SPECIFICATIONS FOR LOW VOLTAGE LANDSCAPE LIGHTING SYSTEMS

A. GENERAL

- FOR THE PURPOSE OF THIS PLAN, THE TERM "LOW VOLTAGE LANDSCAPE LIGHTING SYSTEM," WHETHER INTENDED FOR LANDSCAPE OR ARCHITECTURAL USE, SHALL BE CONSIDERED AS PERMANENTLY INSTALLED LANDSCAPE LIGHTING SYSTEMS. THIS INCLUDES THE USE OF TRANSFORMERS, FIXTURES (LUMINAIRES) AND CABLING FOR THE PURPOSE OF ILLUMINATING LANDSCAPE ENVIRONMENTS AND THE EXTERIOR OF STRUCTURES OR BUILDINGS.
- PURPOSE OF GUIDELINES**
 - GUIDELINES SHOULD BE UTILIZED BY BOTH THE CONTRACTOR AND THE CONSUMER AS A MEANS FOR UNDERSTANDING WHAT IS EXPECTED WITH THE INSTALLATION OF THE LIGHTING SYSTEMS.
 - LANDSCAPE LIGHTING DESIGN PLAN IS IN THE FORM OF A CONCEPTUAL IT IS THE RESPONSIBILITY OF THE LANDSCAPE LIGHTING CONTRACTOR TO VERIFY THE PLAN INFORMATION AND ACCURACY, SINCE THIS PLAN IS CONCEPTUAL. THE PURPOSE OF THIS PLANS IS TO COMMUNICATE THE WHAT, WHERE AND WHEN TO INSTALL THE LIGHTING SYSTEM(S). THESE DESIGNS (PLANS) SHOULD DEFINE THE FOLLOWING GENERAL CRITERIA:
 - EQUIPMENT QUANTITIES--TRANSFORMERS, FIXTURES, CONTROL DEVICES, AND MOUNTING DEVICES
 - EQUIPMENT PLACEMENT OR LOCATIONS
 - POWER SOURCE TYPE & LOCATIONS
 - STRUCTURES AND/OR HARDSCAPE ELEMENTS--TO BE UTILIZED IN LIGHTING APPLICATIONS
 - CONDUIT & SLEEVE LOCATIONS
 - TREE & FOCAL POINT LOCATIONS--IDENTIFICATION FOR USE IN LIGHTING APPLICATIONS
 - ELECTRICAL LOADS--CALCULATIONS FOR EACH ELECTRICAL CIRCUIT AND TRANSFORMER

C. INSTALLATION AGREEMENTS

- INSTALLATION AGREEMENTS ARE LEGALLY BINDING CONTRACTS BETWEEN THE CONTRACTOR AND THE OWNER AND/OR GENERAL CONTRACTOR. THESE CONTRACT DOCUMENTS INCLUDE THE LANDSCAPE LIGHTING PLAN AND WRITTEN SPECIFICATIONS.
- THE CONTRACTOR SHOULD SUPPLY THE OWNER AND/OR GENERAL CONTRACTOR WITH A WRITTEN AGREEMENT THAT BOTH PARTIES SHALL MUTUALLY AGREE UPON AND BOTH SHALL SIGN UPON ACCEPTANCE. THE FOLLOWING LIST DESCRIBES ITEMS THAT ARE EXPECTED TO BE INCLUDED IN THE AGREEMENTS (CONSULT AN ATTORNEY FOR ADDITIONAL INFORMATION) DESCRIPTION OF THE PROPERTY WHERE THE WORK IS TO BE PERFORMED SCOPE OF WORK--GENERAL DESCRIPTION OF WHAT IS TO BE DONE, WHO IS TO DO IT, AND HOW IT WILL BE PERFORMED QUANTITIES OF ALL MATERIALS USED--TRANSFORMERS, FIXTURES, CABLE, CONTROLS, AND OTHER RELEVANT INFORMATION TOTAL COST OF WORK TO BE PERFORMED START & FINISH DATES GENERAL PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION
- CHANGE ORDERS AND/OR ADDITIONS ARE ACTIONS TAKING PLACE AFTER THE AGREEMENT IS IN EFFECT. ONCE THESE CHANGES ARE AGREED UPON BY BOTH PARTIES, THEN THEY BECOME PART OF THE ORIGINAL CONTRACT AGREEMENT AND WILL AFFECT THE FINAL JOB COST.
- MAINTENANCE, IF ANY SHALL BE PART OF THE ORIGINAL INSTALLATION AGREEMENT, THE CONTRACTOR SHOULD DEFINE THE ACTIONS TO BE TAKEN WITH ALL FUTURE LIGHTING SERVICE WORK. THE INSTALLATION CONTRACTOR WILL WARRANT THE LIGHTING SYSTEM FOR A PERIOD OF ONE (1) YEAR FROM DATE OF COMPLETION OF INSTALLATION.

D. UTILITIES

- THE CONTRACTOR SHOULD CONTACT SUNSHINE 811 48 HRS. PRIOR TO ANY DIGGING, TO IDENTIFY ALL LOCATIONS WITHIN THE WORK ZONE THAT CONTAIN UTILITY RUNS.

E. PROTECTION OF CUSTOMER'S PROPERTY

- THE CONTRACTOR SHOULD MAINTAIN ADEQUATE INSURANCE COVERAGE FOR ANY DAMAGES CAUSED DURING THE INSTALLATION PROCESS. THE INSTALLATION CONTRACTOR SHOULD MAKE EVERY EFFORT TO KEEP THE CUSTOMER'S PROPERTY IN GOOD CONDITION AND TO RETURN IT AS BEST AS POSSIBLE TO THE ORIGINAL CONDITION PRIOR TO LEAVING THE INSTALLATION SITE.

F. JOB SITE SAFETY & SAFETY PROCEDURES

- JOB SITE SAFETY MUST BE CONSIDERED AT ALL TIMES AND ABOVE ALL ELSE. OTHER THAN "ACTS OF GOD," ALL ACCIDENTS ARE PREVENTABLE. EACH CONTRACTOR, SUB-CONTRACTOR, AND EACH EMPLOYEE ON-SITE IS RESPONSIBLE FOR CHECKING THE JOB SITE FOR SAFETY-RELATED ISSUES PRIOR TO STARTING ANY WORK. ANY UNSAFE WORKING CONDITION NEEDS TO BE DOCUMENTED. ANY UNSAFE TOOL, OR EQUIPMENT NEEDS TO BE REPORTED, REPLACED AND/OR REPAIRED. JOB SITE WORKERS ARE TO BE USING ALL SAFETY DEVICES AND EQUIPMENT AVAILABLE TO THEM TO MAINTAIN A SAFE AND FRIENDLY WORKING ENVIRONMENT.
- ALL SAFETY PROCEDURES ARE TO COMPLY WITH THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) OF THE UNITED STATES DEPARTMENT OF LABOR STANDARDS FOR THE CONSTRUCTION INDUSTRY. REFER TO WWW.OSHA.GOV.

G. JOB SITE PROTECTION

- PROPER TRAINING OF HAND AND POWER TOOLS (OSHA 1926.300) TO ALL EMPLOYEES USING TOOLS & EQUIPMENTS.
 - EYE AND EAR PROTECTION
 - HAND AND FEET PROTECTION
 - HEAD PROTECTION
 - LADDER AND SCAFFOLDING USE TRAINING.
 - TREE CLIMBING TECHNIQUES AND PROCEDURES TRAINING.

H. MATERIALS & WORKMANSHIP

- LIGHTING CONTRACTOR AND EMPLOYEES SHALL USE GOOD WORKMANSHIP AND TO UTILIZE GOOD QUALITY MATERIALS ON EVERY JOB. THIS INCLUDES PROVIDING ALL NECESSARY INFORMATION AND ALTERNATIVE MATERIALS AND EQUIPMENTS ABOUT THE JOB TO THE CUSTOMER.
- UPON JOB COMPLETION, THE CONTRACTOR SHOULD PROVIDE A LIST OF THE PRIMARY EQUIPMENT USED WITH THEIR WARRANTY INFORMATION, TO INCLUDE TRANSFORMERS, FIXTURES, AND CONTROLS.

I. LICENSE & INSURANCE

- THE INSTALLATION CONTRACTOR OF THE LANDSCAPE LIGHTING SYSTEM, AS REQUIRED BY LAW PER MUNICIPALITY, VILLAGE, TOWN, COUNTY OR STATE, MUST SHOW PROOF OF HIS LICENSE AND ANY MINIMUM AMOUNTS OF INSURANCE COVERAGE.

J. WARRANTIES

- THE LANDSCAPE LIGHTING CONTRACTOR WARRANTS ITS LANDSCAPE LIGHTING SYSTEM INSTALLATION AND WORKMANSHIP FOR A MINIMUM OF ONE (1) YEAR FROM THE COMPLETION OF THE PROJECT.
- WARRANTIES ON MATERIALS SHOULD INCLUDE THE FOLLOWING INFORMATION:
 - MANUFACTURER'S NAME & CONTACT INFORMATION.
 - MODEL NUMBER AND NAME, AND WARRANTY PERIOD FROM MANUFACTURER AND ASSOCIATED TERMS & CONDITIONS.
 - NO WARRANTY IS GIVEN BY INCANDESCENT OR HALOGEN LAMP (BULB) MANUFACTURERS. THIS IS CONSIDERED ACCEPTABLE IN THE LIGHTING INDUSTRY, DUE TO THE SENSITIVITY AND THE BURN CYCLE OF EACH LAMP FILAMENT. LED COMPONENTS WILL HAVE THEIR OWN SET OF WARRANTIES--SEE INDIVIDUAL MANUFACTURER INFORMATION.

K.MATERIALS AND EQUIPMENT

- MATERIALS AND EQUIPMENT SELECTION SHALL BE AS SPECIFIED BY LANDSCAPE ARCHITECT IN THE LANDSCAPE LIGHTING PLAN. THE LANDSCAPE LIGHTING CONTRACTOR CAN PROVIDE ALTERNATE RECOMMENDATIONS TO THE LANDSCAPE ARCHITECT FOR HIM/HER TO DISCUSS WITH OWNER. LANDSCAPE LIGHTING CONTRACTOR SHALL NOT MAKE RECOMMENDATIONS TO OWNERS WITHOUT LANDSCAPE ARCHITECT HAVING APPROVED SUCH RECOMMENDATIONS.

L. MATERIALS SELECTION

- THE INSTALLATION CONTRACTOR SHOULD ONLY UTILIZE PRODUCTS THAT ARE "LISTED" (PER UNDERWRITER'S LABORATORY) FOR THEIR INTENDED USE AS PER NEC CODE. THIS REQUIREMENT IS IN PLACE TO ENSURE THE SAFETY OF THE CONSUMER, AS ALL "LISTED" PRODUCTS HAVE BEEN PROPERLY TESTED BY A CERTIFIED TESTING FACILITY. THERE ARE SEVERAL CERTIFIED TESTING FACILITIES THAT PROVIDE THESE SERVICES--UNDERWRITERS LABORATORY (UL), ELECTRICAL TESTING LABORATORY (ETL), CANADIAN STANDARDS ASSOCIATION (CSA), AND OTHERS.
- THE CURRENT "LISTING" THAT GOVERNS ALL MANUFACTURERS OF ANY LANDSCAPE LIGHTING SYSTEM COMPONENTS IS UL 1838. THIS LISTING COVERS AND APPLIES TO A COMPLETE OUTDOOR LIGHTING SYSTEM--ALL SUB-COMPONENTS ARE CONSIDERED PART OF THE "SYSTEM."
- TRANSFORMERS**
 - THE TRANSFORMER IS THE HEART OF A LOW VOLTAGE LIGHTING SYSTEM, AND IT CONTROLS THE DISTRIBUTION OF POWER TO THE INDIVIDUAL LIGHT FIXTURES. TRANSFORMERS MUST BE "LISTED" (HAVING BEEN TESTED BY A CERTIFIED TESTING FACILITY) FOR THEIR INTENDED USE. A TRANSFORMER IS BASICALLY A "CONVERTER" THAT ALLOWS THE INCOMING LINE VOLTAGE (120-VOLTS) THAT IS PRESENT ON THE PRIMARY SIDE TO BE CONVERTED DOWN TO LOW VOLTAGE (12-VOLTS) ON THE SECONDARY SIDE.
 - TRANSFORMERS CAN BE MANUFACTURED TO ALLOW FOR SINGLE-VOLTAGE OUTPUT (SINGLE-TAP) OR MULTI-VOLTAGE OUTPUTS (MULTI-TAP). THE MAJORITY BEING MULTI-TAP UNITS.
 - LOW VOLTAGE TRANSFORMERS THAT ARE "LISTED" UNDER UL 1838 ARE LIMITED TO 15-VOLTS MAXIMUM AND 25-AMPS MAXIMUM ON THE SECONDARY LOW VOLTAGE OUTPUT SIDE.
 - LOW VOLTAGE TRANSFORMERS THAT ARE NOT "LISTED" UNDER UL 1838, ARE THOSE THAT CONTAIN VOLTAGE TAPS ABOVE 15-VOLTS AND UP TO 30-VOLTS MAXIMUM. THESE TRANSFORMERS ARE "LISTED" UNDER UL 508 AND ARE CONSIDERED TO BE "GENERAL PURPOSE" TRANSFORMERS. THESE TRANSFORMERS ARE NOT ACCEPTABLE.
 - LOW VOLTAGE TRANSFORMERS THAT SUPPLY POWER TO ANY UNDERWATER FIXTURE LOCATED IN A WATER FEATURE (NON-HUMAN USE) OR A NON-POOL APPLICATION MUST BE SPECIFICALLY RATED FOR SUBMERSIBLE USE.
 - INSTALL TRANSFORMERS IN WELL VENTILATED AREAS.
 - ABOVE-GRADE TRANSFORMERS, WHEN INSTALLED OUTSIDE, MUST BE MOUNTED A MINIMUM OF 12-INCHES ABOVE GRADE.

N. CABLE

- LOW VOLTAGE ELECTRICAL CABLE SUPPLIES THE ELECTRICITY NECESSARY TO ENERGIZE THE LIGHT SOURCE OR LAMP WITHIN THE LIGHT FIXTURE.THERE ARE STANDARDS THAT GOVERN MANY ASPECTS OF CABLE PRODUCTION. THE USE OF A REGIRD OR RECYCLED MATERIAL IS NOT ACCEPTABLE. CABLE SHOWN ON PLAN IS TO BE CIRCUITED AND SIZED TO PROVIDE A MINIMUM OF 10.5 VOLTS AND A MAXIMUM OF 11.5 VOLTS TO ALL LIGHTING FIXTURES. REFER TO MANUFACTURER'S GUIDELINES INCLUDED WITH THE TRANSFORMER. MINIMUM UNDERGROUND LOW VOLTAGE CABLE SHALL BE 10-GAUGE MULTI-STRAND DIRECT BURIAL.
- THE FOLLOWING CABLE SPECIFICATIONS SHOULD BE USED FOR ALL LOW VOLTAGE LIGHTING INSTALLATIONS. CABLE OR UNDERGROUND LOW ENERGY CIRCUIT CABLE (SPT STYLE) CONSTRUCTION CONSISTS OF STRANDED, UNCOATED ANNEALED COPPER CONDUCTORS, LAID PARALLEL AND INSULATED WITH A POLYVINYL CHLORIDE (PVC) JACKET. ALL CABLE USED IN LANDSCAPE LIGHTING APPLICATIONS MUST BE LISTED FOR DIRECT BURIAL BY UL, ETL, OR CSA.
- THE INSULATION, JACKET, OR SHEATHING OF A CABLE MUST CONFORM TO UL CLASS 43--MADE OF BLACK PVC, RATED AT 60-DEGREES CELSIUS, THERMOPLASTIC, 150-VOLTS MAXIMUM, AND SUITABLE FOR DIRECT-BURIAL APPLICATIONS. ONE LEG HAS "RAISED RIDGES" AND THE OTHER LEG IS "PLAIN" AND SHOWS IDENTIFICATION MARKINGS THAT ARE EITHER INK PRINTED OR INDENTED INTO THE PVC JACKET. THIS MARKING SHOULD SHOW THE FOLLOWING:

- CABLE MANUFACTURER
- SIZE RATING (AWG)
- DESCRIPTION OF CABLE, AS "UNDERGROUND LOW ENERGY CIRCUIT CABLE SUNLIGHT RESISTANT FOR OUTDOOR LIGHTING".
- "LISTING" FILE NUMBER
- THE LOAD PLACED ON LOW VOLTAGE LIGHTING CABLE SHOULD NOT EXCEED 80% OF ITS RATED CAPACITY.
- CABLE RUNS USED IN DIRECT-BURIAL APPLICATIONS SHOULD BE BURIED AND/OR SECURED IN PLACE TO A MINIMUM DEPTH OF 6-INCHES. NO CABLE SHOULD BE LEFT EXPOSED ON THE SURFACE OF THE LANDSCAPE. CABLE RUNS SHOULD FOLLOW HARDSCAPE ELEMENTS, SUCH AS CONCRETE EDGES, FENCES, WALLS, ETC., TO BETTER ENSURE THEIR PROTECTION. EXTRA CABLE LENGTH SHOULD BE ALLOWED FOR AND BUNDLED UP AT KEY POINTS ALONG EACH RUN: 1) AT THE ENDS OF SLEEVE CROSSINGS (12-INCHES MINIMUM OUTSIDE OF EACH CONDUIT END), 2) JUST BELOW THE TRANSFORMER (12-INCHES MINIMUM), AND 3) AT EACH FIXTURE LOCATION (3-FEET MINIMUM).
- USE STAINLESS STEEL FASTENERS ON TREES. NEVER USE COPPER OR BRASS SCREWS BECAUSE OF THEIR TOXICITY TO THE TREE. CABLE AND FIXTURES SHOULD NOT BE DIRECTLY ATTACHED TO THE TREE WITH STAPLES OR TIE-WRAPS AS THEY WILL BE ENGULFED OR BANDS WILL CHOKE OFF THE TREE'S CAMBIUM LAYER AND BLOCK ESSENTIAL NUTRIENT FLOW.
- CABLES NEED TO BE "OFF-SET" FROM THE TREE TRUNK OR BRANCH AND HAVE A "STAND-OFF" CLEARANCE OF A MINIMUM OF 1/2-INCH TO 1-INCH AWAY FROM THE TREE EXTERIOR. A METHOD OF ATTACHMENT SHOULD BE USED THAT WILL ALLOW THE CABLE TO HANG SECURELY, YET FREELY, AWAY FROM THE TREE.
- CABLES SHOULD BE SUPPORTED AND ATTACHED TO A TREE WITH THE USE OF A STAINLESS STEEL SCREW AND CABLE ATTACHMENT DEVICE. A 3-INCH TO 4-INCH SCREW SHOULD BE DRIVEN INTO THE OUTER BARK AND THEN THE CABLE CAN BE ATTACHED TO THE SCREW SHAFT WITH EITHER A "C" CLAMP OR CINCH-TIE.
- CABLE RUNS SHOULD BE LOCATED ON THE LEAST VISIBLE SIDE OR BACK SIDE OF THE TREE TO HIDE THEM FROM THE PRIMARY VIEWING ANGLES OF THE MOST VIEWERS WITHIN THE LANDSCAPE. FOR TREE MOUNTED FIXTURES, IT IS BEST TO RUN THE WIRE ALONG THE SIDE OF THE BRANCH AND NOT ON TOP WHERE SQUIRRELS OR OTHER RODENTS MAY CHEW AT IT IF THE CABLE IS UNDERFOOT.
- NO CABLES ARE TO BE INSTALLED AND ATTACHED WITHIN TREES TRUNK OR BRANCHES WITHOUT THIS CONDITION HAVING BEEN SHOWN IN THE PLAN BY THE LANDSCAPE ARCHITECT.

O. WIRE CONNECTIONS

- THE WIRE CONNECTION IS THE MOST IMPORTANT PROCESS PERFORMED IN THE INSTALLATION OF ANY LIGHTING SYSTEM. IT IS OFTEN THE MOST OVER-LOOKED STEP AND IT REQUIRES GREAT CARE FOR A PROPERLY FUNCTIONING SYSTEM. THERE ARE FOUR (4) STEPS TO ENSURING A GOOD, SOLID CONNECTION:
 - STRIPPING AND REMOVAL OF THE OUTER PROTECTIVE INSULATION/JACKET OF THE CABLE WITHOUT THE LOSS OF ANY COPPER WIRE STRANDS
 - SECURING ALL WIRE STRANDS WITHIN THE CONNECTOR OR SPLICE JUNCTION
 - ENSURING A TIGHT AND SOLID CONNECTION BETWEEN ALL PARTS AND
 - WATERPROOFING THE CONNECTION AND CABLE EITHER INSIDE A WATERPROOFING CONNECTOR ASSEMBLY OR A SILICONE FILLED LARGE WIRE NUT.

P. FIXTURES

- ALL FIXTURES SHOULD BE SUBJECTED TO THE PERFORMANCE TESTS ESTABLISHED UNDER UL 1838. THIS TESTING IS COMPLETED BY THE MANUFACTURER. VERIFY THAT ALL LIGHT FIXTURES ARE UL 1838 LISTED BEFORE SPECIFYING THEM.
- ALL FIXTURES ARE SPECIFIED IN THE LIGHTING PLAN BY THE LANDSCAPE ARCHITECT IN THE LANDSCAPE LIGHTING PLAN. THE LANDSCAPE LIGHTING CONTRACTOR CAN PROVIDE ALTERNATE RECOMMENDATIONS TO THE LANDSCAPE ARCHITECT FOR HIM/HER TO DISCUSS WITH OWNER. LANDSCAPE LIGHTING CONTRACTOR SHALL NOT MAKE RECOMMENDATIONS TO OWNERS WITHOUT LANDSCAPE ARCHITECT HAVING APPROVED SUCH RECOMMENDATIONS.

Q. HARDWARE

THE TERM "HARDWARE" IS USED TO DESCRIBE MATERIAL COMPONENTS THAT ARE ASSOCIATED WITH THE INSTALLATION OF LANDSCAPE LIGHTING EQUIPMENT. THIS INCLUDES COMPONENTS OF THE POWER ESTABLISHMENT, TRANSFORMERS, FIXTURES, MOUNTING DEVICES, ETC. THE CONTRACTOR SHOULD UTILIZE HARDWARE COMPONENTS THAT ARE SPECIFICALLY DESIGNED TO WITHSTAND THE EXTREMES OF ANY EXTERIOR ENVIRONMENT, SUCH AS STAINLESS STEEL OR ANY OTHER SUITABLE NON-CORROSIVEL MATERIAL DEEMED APPROPRIATE FOR THE AREA IN WHICH IT IS BEING INSTALLED.

R. CONDUIT & SLEEVES

- CONDUIT SHOULD BE UTILIZED FOR THE PROTECTION OF CABLE RUNS THAT ARE EXPOSED TO POTENTIAL DAMAGE. THIS TYPE OF PROTECTION IS ALSO CALLED "SLEEVING." APPLICATIONS FOR SUCH USE ARE UNDER HARDSCAPE AREAS, SUCH AS CONCRETE SLABS, WALKWAYS OR DRIVEWAYS. CONDUIT SHOULD BE USED IN ABOVE-GRADE APPLICATIONS WHERE CABLE EXPOSURE IS UNSIGHTLY OR HAS A POTENTIAL FOR DAMAGE SUCH AS WIRE RUNS UP INTO STRUCTURES AND INTO THE TRANSFORMER HOUSING.
- PVC SCHEDULE 40 CONDUIT SHALL BE USED FOR EXTERIOR APPLICATIONS WHEN USING AS A SLEEVE.. ELECTRICAL CONDUIT SHOULD BE GREY IN COLOR. IF POLYVINYLCHLORIDE (PVC) PIPE IS USED.
- POWER**
 - THE POWER PROVIDED TO ALL LANDSCAPE LIGHTING SYSTEM SHOWN IN THIS PLAN IS CONSIDERED TO BE 120-VOLT ALL 120-VOLT ELECTRICAL WORK SHOULD BE PERFORMED BY A LICENSED ELECTRICIAN UNLESS OTHERWISE SPECIFIED BY LAW. REFER TO ALL NEC AND ALL LOCAL CODES FOR ADDITIONAL DETAILS.
 - ALL EXTERIOR RECEPTACLE BOXES SHOULD BE G.F.C.I.-PROTECTED FOR USE WITH TRANSFORMERS THAT UTILIZE A PLUG-IN CORD. DO NOT CUT OFF THE PLUG END OF THE TRANSFORMER POWER CORD IN ORDER TO HARD-WIRE THE UNIT INTO THE 120-VOLT SUPPLY, AS THIS WILL NEGATE ITS UL LISTING.
 - ALL RECEPTACLE BOXES SHOULD UTILIZE AN "IN-US" OR "BUBBLE" TYPE RECEPTACLE COVER TO PROTECT IT FROM WATER ENTRY.
 - ALL RECEPTACLES, LOW VOLTAGE TRANSFORMERS, AND FIXTURES CANNOT BE LOCATED WITHIN 10 FEET OF ANY WATER NSOURCE THAT WOULD BE NORMALLY OCCUPIED BY HUMANS. REFER TO NEC 411.4(2).
- IN GRADE FIXTURES**
 - IN-GRADE FIXTURES OR "SEALED" WELL LIGHTS SHOULD BE COMPLETELY ENCLOSED TO PREVENT ANY WATER OR DEBRIS FROM ENTERING THE LAMP HOUSING AREA. "OPEN-SLEEVE" WELL LIGHTS ARE NOT ACCEPTABLE. IT IS RECOMMENDED TO HAVE A LOUVERED GRATE TO MINIMIZE DAMAGE TO THE SLEEVE AREA.
 - IT IS IMPORTANT TO PREPARE THE FIXTURE PIT OR HOLE, TO ALLOW WATER TO DRAIN AWAY FROM THE WELL LIGHT. THE CONTRACTOR NEEDS TO CONSTRUCT A GRAVEL DRAINAGE BASE IN A WELL BOTTOM PIT AS PER MANUFACTURER'S INSTRUCTIONS.
 - THE TOP OF THE WELL LIGHT SHOULD BE SLIGHTLY HIGHER THAN THE SURROUNDING GRADE TO PREVENT WATER FROM SETTLING IN AT THE FIXTURE.
 - SECURE THE FIXTURE IN PLACE. PREPARE AND TEST THE WELL LIGHT WITH ITS APPROPRIATE LAMP OR LED TO ENSURE THAT IT IS OPERATING PROPERLY. CONTRACTOR SHOULD REFER TO THE MANUFACTURER'S INSTALLATION REQUIREMENTS PRIOR TO COMPLETION OF THIS WORK. FINISH OFF THE BACKFILL WITH EITHER PEA GRAVEL OR THE LANDSCAPE MATERIALS REMOVED DURING EXCAVATION (SOIL, LAWN, MULCH, DECOMPOSED GRANITE, ETC...).
 - FINAL AIMING SHALL BE COORDINATED WITH LANDSCAPE ARCHITECT.

U. ABOVE-GRADE FIXTURES

- ABOVE-GRADE FIXTURES INCLUDE THOSE THAT ARE ATTACHED TO STRUCTURES, INSTALLED ON GRADE WITH A MOUNTING POST AND THOSE THAT ARE ATTACHED TO TREES.
- ALL ABOVE GRADE FIXTURES MOUNTED ON A MOUNTING POST SHALL USE A MIGHTY POST BY RAB LIGHTING OR SIMILAR. ALLOW AN EXTRA 6-INCHES TO 12-INCHES OF CABLE AT EACH FIXTURE CONNECTION INSIDE THE MOUNTING POST AT EACH FIXTURE.
- LOCATE AND ATTACH THE FIXTURE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ENSURE THAT ITS FINAL PLACEMENT IS APPROPRIATE FOR HIDING THE FIXTURE AND TO ENSURE PROPER AIMING AS INTENDED BY LANDSCAPE ARCHITECT. AVOID CREATING A GLARE SPOT FROM THE PRIMARY VIEWING ANGLE(S) AS MUCH AS POSSIBLE.
- FIXTURES ATTACHED TO A TREE SHOULD HAVE STAND-OFF CLEARANCE OF AT LEAST 1/2-INCH TO 1-INCH AWAY FROM THE TREE TO ENSURE THAT THE TREE DOES NOT GROW INTO THE ATTACHED FIXTURE OR ITS MOUNTING HARDWARE. MOUNTING HARDWARE ATTACHED DIRECTLY TO THE TREE BARK (WITHOUT ANY PRESCRIBED STAND-OFF CLEARANCE) WILL HARM THE TREE BY ALLOWING THE TREE TO GROW AROUND THE HARDWARE.
- CONTRACTOR SHALL ENSURE THAT ALL CONNECTIONS ARE SOLID AND WATERPROOF.
- IT IS NOT ACCEPTABLE TO ATTACH A FIXTURE OR CABLE DIRECTLY TO THE TREE BY ANY OF THE FOLLOWING METHODS: STAPLES, SCREWS WITHOUT ANY STAND-OFF ABILITY, WIRE OR METAL TIE STRAPS, OR ANY OTHER METHOD OF FLUSH-MOUNT ATTACHMENT TO THE TREE. TREE FIXTURES SHOULD BE PRE-ASSEMBLED PRIOR TO CLIMBING INTO A TREE. WATERPROOF CONNECTIONS AND PROPER LAMP OPERATION NEED BE CONFIRMED SAFELY PRIOR TO FINAL INSTALLATION ABOVE GROUND.
- ONLY THOSE WITH PROPER TRAINING AND EQUIPMENT SHOULD PERFORM INSTALLATION WORK. THE CONTRACTOR SHOULD ENSURE THE SAFETY OF THE CLIMBER AT ALL TIMES. THIS INCLUDES THE USE OF SAFETY BELTS AND LANYARDS AND/OR A PROPERLY PLACED EXTENSION LADDER. LADDERS SHOULD BE TIED-OFF OR SECURED TO PREVENT MOVEMENT OR FALLING.
- PRE-AIM ALL TREE FIXTURES DURING THE DAY TIME HOURS SO THAT NIGHT TIME ADJUSTMENTS WILL BE MINIMAL.CONTRACTOR SHOULD ENSURE THAT THE LANDSCAPE ARCHITECT IS PRESENT FOR THE FINAL NIGHT ADJUSTMENTS,SO THAT THE DESIGN INTENT OF THE PROJECT IS CAPTURED AND APPROVED.

V. UNDERWATER FIXTURES

- UNDERWATER LOW VOLTAGE LIGHTING FIXTURES ARE USED IN BODIES OF WATER NOT MEANT FOR HUMANS TO OCCUPY. IT IS MOST IMPORTANT TO PROTECT THE CABLING AND FIXTURE FROM ANY DAMAGE.
- ALL CABLE JUNCTIONS OR CONNECTIONS SHOULD TAKE PLACE OUTSIDE OF THE WATER SOURCE. UNDERWATER FIXTURES CAN BE SET IN PLACE WITH THEIR ASSOCIATED WEIGHTED BASE ASSEMBLY, OR THEY CAN BE SECURELY INSTALLED WITHIN ROCKS ORPLANTS. IT SHOULD BE NOTED THAT LAMP OR LED CHANGES NEED TO OCCUR ABOVE WATER, SO EITHER THE FIXTURE NEEDS TO HAVE ENOUGH EXTRA CABLE TO ALLOW FOR THAT OR THE CONTRACTOR WILL NEED TO DRAIN THE BODY OF WATER TO GAIN ACCESS.
- THE INSTALLATION AND USE OF UNDERWATER FIXTURES HAVE SPECIAL RESTRICTIONS AND MUST FOLLOW ALL NEC AND LOCAL CODES. FIXTURES MUST BE RATED AS "SUBMERSIBLE," AND THEY MUST BE LISTED FOR THEIR INTENDED APPLICATION.
- PERMANENT, SECURED FIXTURES AND CABLE RUNS SHOULD BE INSTALLED IN CONDUIT TO A PRE-DETERMINED LOCATION

FOR OPTIMUM PERFORMANCE, ALL CONDUIT THAT IS TERMINATED OUTSIDE OF THE WATER SOURCE SHOULD BE LOCATED AT A MINIMUM LEVEL OF 8-INCHES ABOVE THE WATER LEVEL AT THE WATER FEATURE OR MEET LOCAL CODES IF DIFFERENT.

W. UNDERGROUND CONDUIT

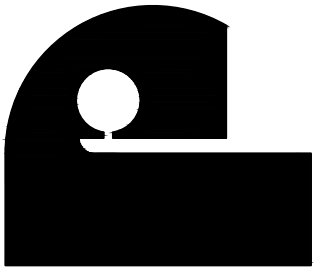
- CONDUIT OR "SLEEVING" IS RECOMMENDED FOR THOSE AREAS OF THE LANDSCAPE WHERE DAMAGE PROTECTION AND/OR EASE OF CABLE ACCESS MIGHT BE REQUIRED. ALL ELECTRICAL CONDUITS MUST USE SWEEP BENDS (90-DEGREE AND 45-DEGREE) TO ENSURE THAT CABLING CAN BE EASILY PULLED FROM ONE POINT TO ANOTHER. A MAXIMUM OF FOUR (4) CONSECUTIVE TURNS IS ALLOWED BEFORE A PULL-BOX MUST BE INSTALLED OR THE CABLE MUST BE TERMINATED--REFER TO NEC AND LOCAL CODES.
- NEVER USE IRRIGATION FITTINGS TO MAKE TURNS--CABLE CANNOT BE PULLED THROUGH THESE TIGHT ANGLES. CONDUIT FOR ELECTRICAL WIRE SHOULD ALWAYS BE GREY IN COLOR.
- ALL SLEEVES UNDER HARDSCAPE AREAS MUST EXTEND 4 INCHES MINIMUM, BEYOND THE OUTER EDGE OF THESE ELEMENTS. SLEEVES SHOULD ALWAYS BE USED WHEN PASSING THROUGH CONCRETE FOOTINGS AND WALLS OR ANY OTHER STRUCTURAL ELEMENT.

X. CONTROLS

- LANDSCAPE LIGHTING SYSTEMS CONTROL DEVICES CAN VARY GREATLY IN PERFORMANCE AND COST. IT IS THE CONTRACTOR RESPONSIBILITY TO DISCUSS THE SEVERAL AVAILABLE OPTIONS TO OWNER BEFORE COMMENCEMENT OF SYSTEM INSTALLATION AND HAVE OWNER MAKE A SELECTION AS TO HOW OWNER DESIRES TO CONTROL THE SYSTEM.

Y. GENERAL CONDITIONS.

- APPLICABLE PUBLICATIONS LISTED BELOW (INCLUDING AMENDMENTS, ADDENDA, REVISIONS, SUPPLEMENTS, AND ERRATA) FORM A PART OF THIS SPECIFICATIONS TO THE EXTENT REFERENCED PUBLICATIONS ARE REFERENCED IN THE TEXT BY DESIGNATION ONLY.
 - AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
 - AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
 - ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA)
 - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
 - UNDERWRITERS LABORATORIES, INC. (UL)
- PROVIDE MANUFACTURER'S STANDARD FINISH, AS SCHEDULED ON THE PLAN. IF NOT AVAILABLE, CONSULT WITH LANDSCAPE ARCHITECT.
- GROUND NONCURRENT-CARRYING PARTS OF EQUIPMENT, INCLUDING METAL POLES, LUMINAIRES, MOUNTING ARMS, BRACKETS, AND METALLIC ENCLOSURES. WHERE COPPER GROUNDING CONDUCTOR IS CONNECTED TO A METAL OTHER THAN COPPER, PROVIDE SPECIALLY-TREATED OR LINED CONNECTORS SUITABLE AND LISTED FOR THIS PURPOSE.
- IF PROJECT ELECTRICAL DESIGN IS TO BE CONTROLLED BY A SMART HOME AUTOMATION SYSTEM, ELECTRICAL ENGINEER AND AUTOMATION SYSTEM CONTRACTOR SHALL COORDINATE WITH OWNER, GENERAL CONTRACTOR AND LANDSCAPE LIGHTING CONTRACTOR. THE LANDSCAPE LIGHTING DESIGN SYSTEM OPERATION.
- LANDSCAPE LIGHTING PLAN SHALL BE COORDINATED BY PROJECT ARCHITECT WITH ELECTRICAL ENGINEER SO THAT LINE VOLTAGE OUTLETS FOR TRANSFORMERS CONECTIONS ARE PLACED AS PER LANDSCAPE LIGHTING PLAN OR AS A LOCATION AGREED WITH OWNER. CONTRACTOR INSTALLING THE SYSTEM SHALL COORDINATE WITH GENERAL CONTRACTOR AND OWNER THE LANDSCAPE LIGHTING ON/OFF TIMING AND DAYS OF THE WEEK CONTROL.



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NEW RESIDENCE FOR:

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DE LA CONCEPCION

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revisions

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