

TYPICAL ROOT BARRIER

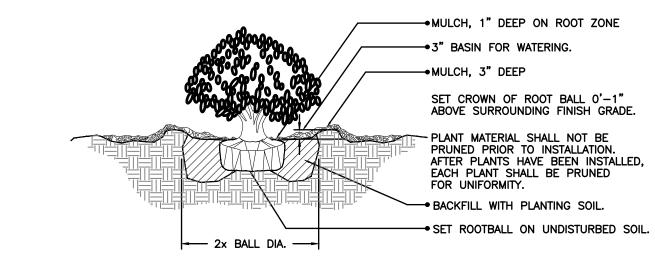
APPLICATION DETAIL

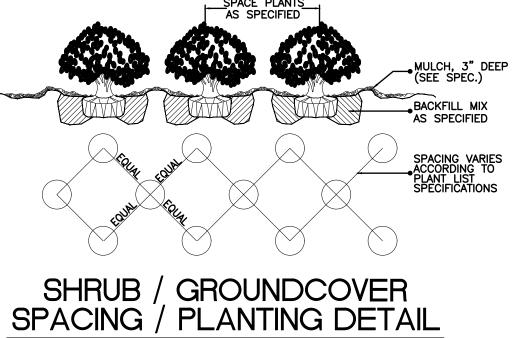
and Activate The Product By Saturating The Backfill and 'Bio-Barrier"

With Water. After Completed, Smooth The Soil Surface To Finish

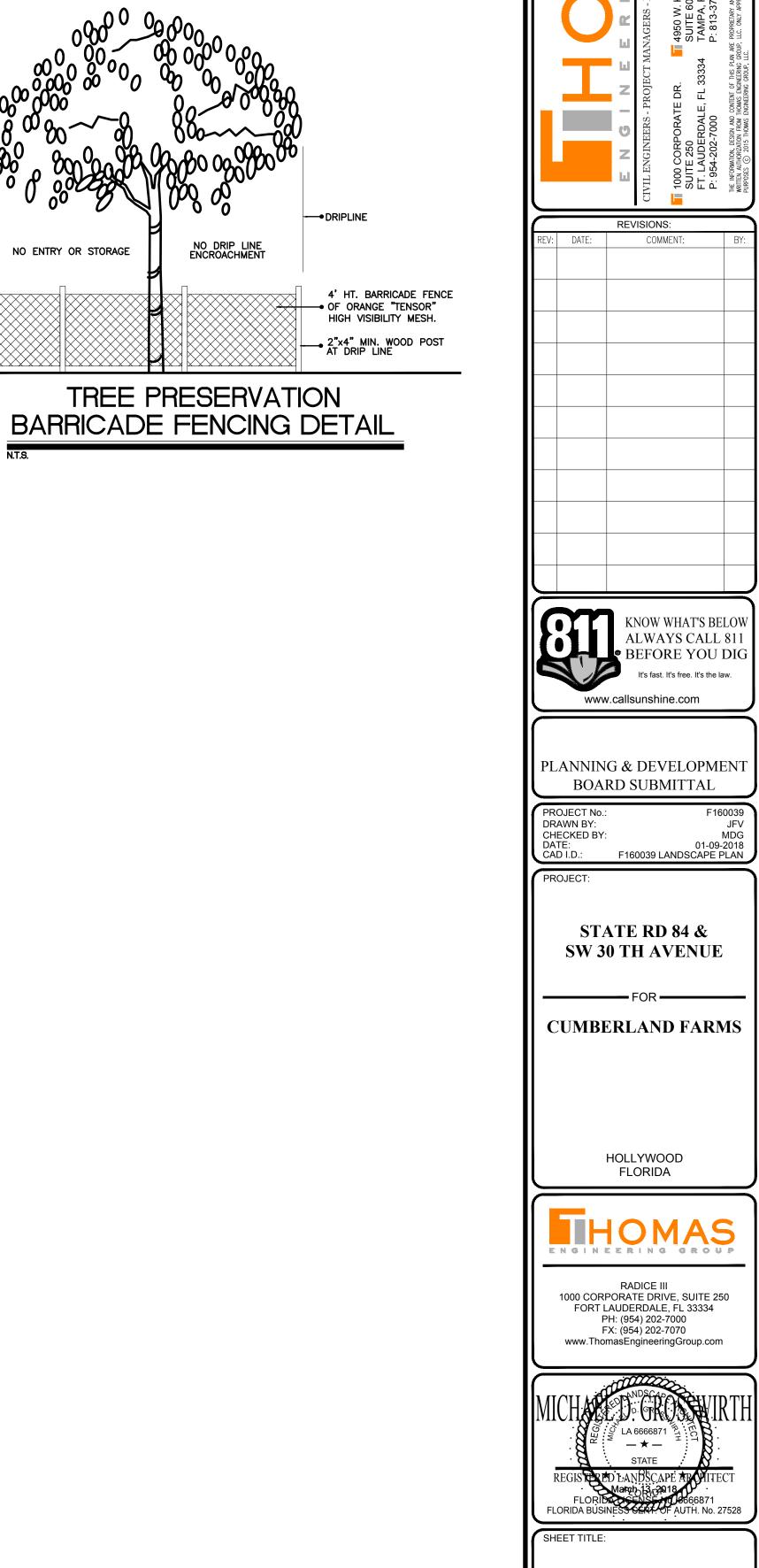
Grade, Allowing Excess Material For Soil Setting.











LANDSCAPE DETAILS

**CFG08.2** 

2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL PLANTING AREAS OF THIS CONTRACT UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

### B. PROTECTION OF EXISTING STRUCTURES

1. ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, AND OTHER ITEMS OF CONSTRUCTION AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THIS CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER.

. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS, EXISTING OR OTHERWISE, CAUSED BY CARELESS OPERATION OF EQUIPMENT, STOCKPILING OF MATERIALS, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP—LINE OR THE SPILLING OF OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP—LINE.

TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS (\$100) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY PERCENT (20%) PER INCH OVER FOUR INCHES (4") CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES, OR AS MAY BE REQUIRED BY THE REGULATING GOVERNMENT AGENCY, WHICHEVER IS GREATER. CALIPER SHALL BE MEASURED AT BREAST HEIGHT OR FOUR FEET (4') ABOVE SURROUNDING GROUND.

2. NO MATERIALS SHALL BE BURNED WHERE THE HEAT WILL DAMAGE ANY PLANT

1. SUBMITTALS: GENERAL SAMPLES OF PLANTING MATERIALS AS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON THE SITE OR AS OTHERWISE DETERMINED BY THE OWNER. UPON APPROVAL OF SAMPLES, DELIVERY OF MATERIALS MAY MATERIALS SAMPLE SUBMITTALS
MULCH ONE (1) CUBIC FOOT

TOPSOIL ONE (1) CUBIC FOOT PLANTS ONE (1) REPRESENTATIVE SAMPLE OF EACH VARIETY

a) GENERAL: PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON HE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES 942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH "GRADES AND STANDARDS FOR NURSERY PLANTS" PARTS I AND II, LATEST EDITION PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA NO. 1 AS AN ABSOLUTE MINIMUM UNLESS OTHERWISE SUPERCEDED BY A FLORIDA FANCY DESIGNATION. AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE FRESHLY DUG, SOUND. HEALTHY, VIGOROUS, WELL—BRANCHED AND FREE OF DISEASE AND INSECT INSECT EGGS AND LARVAE, AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY UPON THE

b) MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE TOP OF ROOTBALL (TRUNK FLARE) AND/OR ACROSS THE AVERAGE SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO

c) INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY; SUCH PRELIMINARY APPROVAL SHALL NOT SUPERCEDE THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING ROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF BALLS OR ROOTS, LATENT DEFECTS OR INJURIES, PRESENCE OF INSECTS, AND OTHER CONDITIONS THAT MAY HAVE OCCURRED SINCE THE NURSERY INSPECTION. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

d) AMENDED PLANTING SOIL: PLANTING SOIL FOR USE IN BACK FILLING PLANTING HOLES SHALL BE FORTY PERCENT (40%) TOPSOIL AND SIXTY PERCENT (60%) SAND AND BE FERTILE, FRIABLE, AND OF À LOAMY CHARACTER, WITHOUT MIXTURÉ OF SUBSOIL MATERIALS, AND OBTAINED FROM A WELL-DRAINED, ARABLE SITE. IT AND SHALL BE FREE FROM HEAVY CLAY, COARSE SAND, STONES, LIME, LUMPS, PLANTS ROOTS OR OTHER FOREIGN MATERIALS OR NOXIOUS WEEDS IT SHALL NOT CONTAIN TOXIC SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. PH RANGE SHALL BE 5.0 TO 7.0 INCLUSIVE.

e) SAND SHALL BE CLEAN, WELL DRAINING NATIVE SAND. IF REQUESTED, CONTRACTOR SHALL AT ANY TIME AND AT NO COST TO OWNER SUBMIT RESULTS OF SOIL TESTS FOR TOPSOIL AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL BY OWNER.

## E. WATER

1. WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE GROWTH OF PLANTS AND SHALL NOT CONTAIN HARMFUL NATURAL OR MAN—MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SUCH SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

## F. COMMERCIAL FERTILIZER

1. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FORMULA; IT SHALL BE UNIFORM N COMPOSITION, DRY AND FREE FLOWING. THIS FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED CONTAINERS, EACH BEARING THE MANUFACTURER'S GUARANTEED STATEMENT OF ANALYSIS.

FIFTY PERCENT (50%) OF THE NITROGEN SHALL BE DELIVERED FROM NATURAL ORGANIC SOURCES. THE FOLLOWING FERTILIZERS SHALL BE USED AND APPLIED AT RATES AS SUGGESTED BY MANUFACTURER'S SPECIFICATIONS

1. SHRUBS AND TREES — MILORGANITE, OR APPROVED EQUAL 2. ANNUALS AND GROUNDCOVERS — OSMOCOTE/SIERRA BLEND 14—14—14

IN ADDITION TO SURFACE APPLIED FERTILIZERS, ALL CONTAINER GROWN AND FIELD GROWN PLANT MATERIAL SHALL RECEIVE "AGRIFORM" PLANTING TABLETS 24—10— FORMULA, 21 GRAM OR EQUAL. THESE TABLETS SHALL BE PLACED AT THE RATE AND DEPTH SPECIFIED BY MANUFACTURER.

1. MULCH SHALL BE FROM SHREDDED WOOD DERIVED FROM MELALEUCA OR OTHER INVASIVE TREE SPECIES AND SHALL BE STERILIZED TO EFFECTIVELY ELIMINATE ALL SEEDS, SPORES, ETC. AND RENDER THEM BARREN

2. MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A DEPTH OF THREE INCHES (3"). 3. MULCH SHALL BE GRADE 'B' SHREDDED, AND SHALL BE APPLIED EVENLY AND

4. NO RED OR COLORED MULCH SHALL BE ACCEPTED UNLESS SPECIFIED

ACCORDINGLY. NO CYPRESS MULCH SHALL BE USED. H. DIGGING AND HANDLING

1. PROTECT ROOT SYSTEMS OR ROOTBALLS OF PLANTS AT ALL TIMES FROM SUN AND DRYING WINDS, WATER EROSION, AND OTHER HARMFUL CRITERIA AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT BREAKING AND DRYING OUT DURING LOADING, TRANSIT, AND UNLOADING/PLANTING. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED

WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN

ANTITRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL

2, BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS, AND IN ACCORDANCE WITH "GRADES AND STANDARDS FOR NURSERY PLANTS" FLORIDA PUBLICATION. NO PLANT WITH A ROOTBALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.

3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS. THE ROOTS SHALL NOT BE CUT WITHIN THE MINIMUM SPREAD SPECIFIED IN THE PLANT LIST. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT IN MOVING AND PRIOR TO PLANTING

4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS BY "GRADES AND STANDARDS FOR NURSERY PLANTS" FLORIDA PUBLICATION PRUNING PRACTICED OTHER THAN MINIMAL PRUNING OF FRONDS, PRIMARILY TO REACH A "CLEAR TRUNK" SPECIFICATION, MAY CONSTITUTE REJECTION, OR ALL PALMS SUBJECTED TO SUCH PRACTICE. LIKEWISE EXCESSIVE PRUNING OR "SHAVING" OF ROOTBALLS TO MEET "CLEAR TRUNK" CRITERIA MAY CONSTITUTE REJECTION ONSITE. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL ON THE PLANTING DETAILS SHEET.

5. EXCAVATION OF PLANTING HOLES SHALL BE DONE USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS, AND PREPARED SUB—BASES.

### I. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL—ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION, AND SHALL MEET MINIMUM SPECIFICATIONS IN THE PLANT LIST

2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.

3, PLANT ROOTS BOUND IN CONTAINERS SHALL NOT BE ACCEPTABLE.

4. SUBSTITUTION OF NON—CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NEED AUTHORIZATION FROM THE OWNER. J. COLLECTED STOCK

1. WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED ON THE PLANT LIST SCHEDULE. THE MINIMUM SIZES OF ROOT BALLS SHALL BE EQUAL TO THA SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME K. NATIVE STOCK

1. PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED GROWN WHEN THEY HAVE BEEN SUCCESSFULLY REESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY

### L. MATERIALS LIST

1. QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN A BIDDER'S TAKE OFF AND THE PLANT LIST QUANTITY, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO THE SUBMISSION OF BIDS. DRAWING SHALL TAKE PRECEDENCE. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE.

### M. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR, UNLESS OTHERWISE NOTED.

CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT—END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.

3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE

## N. PLANTING PROCEDURES

1 CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN UP WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE COMPLETELY REMOVED FROM THE SITE. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY AFFECT THAT VIABILITY OF THE PLANTS TO BE INSTALLED. HE/SHE SHALL IMMEDIA CALL IT TO THE ATTENTION OF THE OWNER'S CONSTRUCTION MANAGER OR DESIGNEE

2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES. INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER SANITARY SEWER, STORM WATER LINES, CABLE AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES.

3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB—BASE FROM ALL LANDSCAPE PLANTING AREAS TO MINIMUM DEPTH OF APPROXIMATELY 20% GREATER THAN RECOMMENDED PLANTING SOIL DEPTH. CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ONSITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE PLANTING DETAIL THAT ADDRESSES POOR DRAINAGE OR CONTACT OWNER'S CONSTRUCTION MANAGER OR DESIGNEE FOR RESOLUTION.

4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.

5. GENERAL: COMPLY WITH FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. PLANTS SHALL BE PROTECTED UPON ARRIVAL AT THE SITE BY BEING THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED PLANTS SHALL NOT REMAIN UNPROTECTED FOR A PERIOD EXCEEDING TWENTY—FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.

6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE THE PLANTING WITH THE IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION ITEMS AND PLANTS.

7. ALL PLANTING HOLES SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD TO NURSERY STOCK Z60.1 UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL AS SPECIFIED HEREIN BEFORE (SEE MATERIALS, SECTION D). TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE PLANTING DETAIL THAT ADDRESSES THIS CONDITION. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURE AND UNDER THE SUPERVISION OF A QUALIFIED PLANTING FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS

8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS, CURBS, PAVING, AND OTHER HARDSCAPE MATERIALS WHILE INSTALLING TREES.

9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION D (MATERIALS) OF THESE SPECIFICATIONS. IN ADDITION. EACH PLANTING HOLE SHALL RECEIVE 21—GRAM "AGRIFORM" PLANTING TABLETS PER MANUFACTURER'S SPECIFICATIONS OR AS

— TWO (2) TABLETS PER 1 GAL. PLANT — THREE (3) TABLETS PER 3 GAL. PLANT — FOUR (4) TABLETS PER 10 GAL. PLANT

— TWO (2) TABLETS PER HALF INCH (1/2") OF TRUNK CALIPER

AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.

10. TREES AND SHRUBS SHALL BE SET STRAIGHT AND AT SUCH A LEVEL THAT AFTER SETTLEMENT, THE TOP OF THE ROOT SYSTEM (FOR SHRUBS AND GROUNDCOVER) OR TRUNK FLARE (TREES AND PALMS) WILL STAND ONE (1) TO TWO (2) INCHES ABOVÉ FINAL GRADE. ÈACH PLANT SHALL BE SET IN THE CENTER OF THE PLANTING HOLE. PLANTING SOIL MIXTURE SHALL BE BACKFILLED AND THOROUGHLY TAMPED AROUND THE BALL AND SHALL BE SETTLED BY WATER AFTER TAMPING.

11. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES TURNING SOIL IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET OR OTHER TAMPING DEVICE. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE, ONLY WITH MULCH. ALL BURLAP, ROPE, WIRES, ETC., SHALL BE PULLED FROM UNDERNEATH.

12. PRUNING: FOR DAMAGED OR BROKEN LIMBS, EACH TREE SHALL BE PRUNED TO PRESERVE THE NATURAL CHARACTER OF THE SPECIES. ALL SUCKER GROWTH SHALL BE COMPLETELY REMOVED PRIOR TO DIGGING.

13. SHRUBS AND GROUNDCOVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED IN THE PLANT LIST. CULTIVATE ALL MASS PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSED ALL DEBRIS, TILL 4" OF PLANTING SOIL MIX INTO THE NEWLY TILLED PLANTING BED FOR GENERAL NUTRIENT DISBURSEMENT. MASS PLANTING BED IS NOW READY TO RECEIVE HOLES FOR NEW PLANTS. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.

14. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE LANDSCAPE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. TREES SHALL USE ARBORTIE AS PER DETAIL SHEET PALMS SHALL USE WOOD BRACING PER DETAIL SHEET.

15. MULCHING: PROVIDE A THREE INCH (3") MINIMUM LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUNOCOVER AND VINE BED AND TREE PIT (FOR TREES AND PALMS, MIN. THREE INCH (3") FROM EDGE OF TRUNKS). -UNLESS OTHER REQUIRED BY LOCAL CODES AND SPECIFIED AS SUCH.

16. SYSTEMIC HERBICIDE WEED CONTROL ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER OR THEIR DESIGNEE, A SYSTEMIC HERBICIDE SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS AFTER MUI CHIHAS BEEN APPLIED TO PLANTING BEDS AND TREE RINGS, TREAT ALL MULCHED AREAS WITH AN APPROVED PRE—EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED

O. LAWN SODDING
STENOTAPHRUM SECUNDATUM, V. 'FLORITAM' UNLESS OTHERWISE NOTED. (ST. AUGUSTINE SOLID SOD). 1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND COMPLETE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A GRASS LAWN ACCEPTABLE TO THE OWNER AND

GOVERNING AGENCIES. 2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE SOIL BROUGHT TO AN EVEN PREPARED GRADE TO ALLOW FOR SOIL PREPARATION BELOW.

3. SOIL PREPARATION: PREPARE LOOSE BED FOUR INCHES (4") DEEP. APPLY FERTILIZER AT A RATE OF TWENTY (20) POUNDS PER ONE THOUSAND (1000) SQUARE FEET. APPLICATION SHALL BÉ UNIFORM, UTILIZING COMMERCIAL BROADCAST SPREADERS. MIX FERTILIZER THOROUGHLY WITH THE SOIL TO A DEPTH OF THREE INCHES (3"). HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY TO PREPARE FOR SOD INSTALLATION.

4. SODDING: THE CONTRACTOR SHALL SOD ALL PERVIOUS AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT

LIMITS TO CREATE A UNIFORM, NEW TURF BLANKET FOR THE SITE.

a) THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETY TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS. AND DISEASE OF ANY KIND, SOD PANELS SHALL BE LAID TIGHTLY TOGETHER TO MAKE

b) SOD SHALL BE LAID IN ROWS. WITH EVERY OTHER ROW STAGGERED HALFWAY BETWEEN THE NEXT TO INSURE NO CONTINUOUS STACKED JOINTS. SEW JOINTS OF SOD TO INSURE A TIGHT FIT AT JOINTS.

c) SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. ADJACENT TO BUILDINGS, A FOUR INCH (4") MULCH STRIP SHALL BE PROVIDED. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED TO THOROUGHLY MOISTEN THE SOIL BENEATH. IF, IN THE OPINION OF THE OWNER, TOP—DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND AS APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN

5 DURING DELIVERY PRIOR TO AND DURING THE PLANTING OF THE LAWN AREAS. THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE INSTALLED DURING THE DAY OF ITS ARRIVAL

a) WITHIN THE SITE, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE—SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS UNTIL CERTIFICATION OF ACCEPTABILITY BY OWNER OR AS IN THE ORIGINAL WORK SCOPE AND PROCESS (INCLUDING REGRADING. IF NECESSARY)

b) WATER EVERY DAY FOR FOURTEEN (14) SUCCESSIVE DAYS, THEN WATER THREE 3) TIMES PER WEEK (AT EVEN INTERVALS) UNTIL FULLY ESTABLISHED OR UNTIL AUTOMATIC IRRIGATION SYSTEM IS FULLY OPERATIONAL AND PROGRAMMED ACCORDINGLY. COORDINATE WATERING SCHEDULE WITH NATURAL RAINFALL RAINFALL EVENTS IN DURATION OF TWENTY (20) MINUTES OR MORE THAT PRODUCE MORE THAN A HALF INCH (1/2") OF PRECIPITATION WILL NEGATE THE NEED FOR WATERING THE FOLLOWING DAY IF PREVIOUSLY SCHEDULED. ALL WATERING SHALL BE OF SUFFICIENT QUANTITY TO WET OR RESTORE WATER TO A DEPTH OF FOUR INCHES (4").

## P. CLEANUP

6. LAWN MAINTENANCE:

1. UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S ALITHORIZED REPRESENTATIVE

## Q. PLANT MATERIAL MAINTENANCE

1. ALL PLANTS AND PLANTING MATERIALS INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE—STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER OR OWNER'S DESIGNEE. MAINTENANCE AFTER THE CERTIFICATION OF ACCEPTABILITY SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THIS SECTION. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE TO COVER LANDSCAPE AND IRRIGATION MAINTENANCE FOR A PERIOD OF NINETY (90) CALENDAR DAYS COMMENCING AFTER ACCEPTANCE (SEE NEXT SECTION).

## R. MAINTENANCE (ALTERNATE BID ITEM)

1. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE FOR LANDSCAPE AND IRRIGATION MAINTENANCE FOLLOWING THE INITIAL 90—DAY MAINTENANCE PERIOD ON A COST PER MONTH BASIS.

## S. GUARANTEE

1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED BY CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER OR OWNER'S DESIGNEE.

2. THE LIFE AND SATISFACTORY CONDITION OF ALL SOD INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A MINIMUM OF NINETY (90) CALENDAR DAYS, COMMENCING AT THE TIME OF CERTIFICATION OF ACCÉPTABILITY BY THE OWNERS OR OWNER'S DESIGNEE.

3 REPLACEMENT: ANY PLANT NOT IN A HEALTHY THRIVING GROWING CONDITION SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. SHOULD THE OWNER ELECT, TREES AND PALMS MAY BE GIVEN A PERIOD OF NINETY (90) DAYS BEFORE REMOVAL TO ALLOW THE CONTRACTOR TO RESURRECT THE TREE OR PALM IN QUESTION AND BRING IT TO A THRIVING, HEALTHY CONDITION. ALL REPLACEMENTS SHALL BE PLANTS OF LIKE KIND, CONDITION AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED, PLANTED. AND MULCHED AS SPECIFIED WITHIN THESE SPECIFICATIONS, AT NO ADDITIONAL COST TO THE OWNER. ANY REPAIRS FROM THIS REPLACEMENT MATERIAL SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY. REPLACEMENT MATERIAL SHALL BE GUARANTEED TO A ONE (1) YEAR PERIOD FROM THE DAY OF REPLACEMENT ACCEPTANCE BY THE OWNER SHOULD REPLACEMENT MATERIAL FAIL WITHIN THE GUARANTEE PERIOD. OWNER MAY OPT FOR A CREDIT OF THE MONETARY AMOUNT FOR THE REPLACEMENT

MATERIALS, AT A RATE OF THE ORIGINAL CONTRACT BID RATE, IN LIEU OF AN ADDITIONAL REPLACEMENT.

4. IN THE EVENT THE OWNER ELECTS NOT TO CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE (AND IRRIGATION) MAINTENANCE, THE CONTRACTOR IS ENCOURAGED TO VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE (1) YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER OR THEIR DESIGNEE, AND SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH OF ITEMS UNDER REPLACEMENT WARRANTY. IT IS SUGGESTED SUCH SITE VISITS SHALL BE CONDUCTED A MINIMUM OF ONCE PER MONTH FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE.

## T. FINAL INSPECTION AND ACCEPTANCE OF WORK

1. FINAL INSPECTION BY OWNER OR THEIR DESIGNEE AT THE END OF THE GUARANTEE PERIOD SHALL INCLUDE PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY PLANTS NOT MEETING THE CRITERIA OF HEALTHY, VIGOROUS, AND THRIVING AT THIS TIME, AND THAT HAVE NOT ALREADY BEEN REPLACED PREVIOUSLY UNDER SAID WARRANTY, SHALL BE SUBJECT TO THE SAME ONE (1) YEAR GUARANTEE (OR AS SPECIFIED BY THE OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

### U. GRADING & DRAINAGE NOTES

1. PRIOR TO COMMENCING ANY EXCAVATION WORK, THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE "DIG SAFE" NOTIFICATION PROCEDURES PROMOTED BY THE RESPECTIVE UTILITY COMPANIES IN FLORIDA, CALL FLORIDA SUNSHINE AT 811.

2. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING PROVIDING VERTICAL CURVES OR ROUNDINGS AT ALL TOP AND BOTTOM OF SLOPES. 3. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM SLOPE OF ONE—EIGHTH INCH (1/8") PER FOOT. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER PRIOR TO CONTINUING WORK.

4. WHERE NEW PAVING OR EARTHWORK MEETS EXISTING PAVING OR EARTHWORK SMOOTHLY BLEND LINE AND GRADE OF EXISTING WITH NEW, WHERE EXISTING VEGETATION IS TO REMAIN, MEET EXISTING GRADES; DO NOT FILL ABOVE BASAL FLARE OF EXISTING TREES.

### V. UTILITY PLAN NOTES

1. CONTRACTOR SHALL INSTALL SCHEDULE 40 PVC CONDUIT (SLEEVES) FOR ALL IRRIGATION PIPING UNDER ALL PAVEMENT AREAS TO CONNECT ALL LANDSCAPE

## W. SITE PREPARATION

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL MEET THE OWNER AND IDENTIFY TREES AND SHRUBS WHICH ARE TO BE PROTECTED AS WELL AS THOSE WHICH ARE TO BE REMOVED. DO NO CLEARING WITHOUT A CLEAR UNDERSTANDING OF EXISTING CONDITIONS TO BE PRESERVED.

2. TREES AND SHRUBS TO REMAIN SHALL BE PROTECTED BY THE INSTALLATION OF FENCING AT THE DRIP LINE OR AS DIRECTED BY THE OWNER (SEE LANDSCAPE DETAIL SHEET). PROTECTIVE FENCING SHALL BE INSTALLED PRIOR TO CONSTRUCTION, PROTECTIVE FENCING SHALL BE SUFFICIENT TO PREVENT CONSTRUCTION EQUIPMENT FROM COMPACTING SOIL AT THE ROOT ZONE AND DAMAGING TRUNKS AND BRANCHES.

3. IF, IN ORDER TO PERFORM EXCAVATION WORK, IT SHOULD BECOME NECESSARY

A SMOOTH CLEAN CUT BY A SHARP SAW, COVERED WITH BURLAP, AND KEPT MOIST UNTIL ROOTS ARE BACK FILLED. TEARS OR JAGGED CUTS TO ROOTS ARE UNACCEPTABLE. 4. TREE AND SHRUB REMOVAL SHALL INCLUDE THE FILLING, CUTTING, GRUBBING OUT

TO CUT ROOTS OF PLANTS TO BE SAVED, SUCH ROOTS SHOULD BE CUT NEATLY WITH

OF ENTIRE ROOT SYSTEMS AND SATISFACTORY OFF-SITE DISPOSAL OF ALL TREES, SHRUBS, STUMPS, VEGETATIVE AND EXTRANEOUS DEBRIS PRODUCED BY THE REMOVAL OPERATIONS.

5. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE INSIDE AND OUTSIDE THE LIMITS OF CONSTRUCTION DUE TO HIS CONTRACT OPERATIONS.

6. ALL REFUSE, DEBRIS, UNSUITABLE MATERIALS AND MISCELLANEOUS MATERIALS TO BE REMOVED SHALL BE LEGALLY DISPOSED OF OFF—SITE BY CONTRACTOR. 7. ALL INVASIVE EXOTIC VEGETATION SHALL BE DISPOSED OF OR TREATED AS PER THE LOCAL OR REGIONAL GOVERNING AUTHORITIES, REQUIREMENTS OR

## X. ROOT CONTROL BARRIER

RECOMMENDATIONS.

1. ROOT CONTROL PRODUCT SHALL BE A BIOLOGICAL BARRIER PRODUCT. PRODUCT SHALL BE 810—BARRIER ROOT CONTROL SYSTEM, AS MANUFACTURED BY BBA FIBERWEB/REEMAY, INC. AND DISTRIBUTED BY HORT ENTERPRISES, INC. HORT ENTERPRISES, INC.

POMPANO BEACH, FL 33061 1-800-966-4678

2. PRODUCT SHALL BE A BIOLOGICAL BARRIER UTILIZING LIME—RELEASE CAPSULES INTEGRATED INTO A GEOTEXTILE FABRIC. ACTIVE HERBICIDE SHALL BE TRIFLURALIN, AND MINIMUM TIME RELEASE OF EFFECTIVE PRODUCT SHALL BE 1—5 YEARS IN THE MOST ADVERSE CONDITIONS FOR SUCH A PRODUCT

3. PRODUCT SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS FOR ROOT CONTROL SYSTEMS.

4. USE PRODUCT WHERE TREES ARE WITHIN EIGHT FEET (8') OR LESS OF HARDSCAPE SURFACES INCLUDING CURBS, SIDEWALKS, STEPS, AND ROADWAYS. 5. SPECIFY 1 9.5" WIDTH OPTION.

6. WHERE CONDITIONS REQUIRE PRODUCT AS SET FORTH IN NO. 4 ABOVE, USE PRODUCT AT LEAST TEN FEET (10') IN EITHER DIRECTION FROM THE CENTER OF TRUNK ALONG LINEAR FEATURES SUCH AS CURBS, WALKWAYS, ETC. THE INTENT OF THIS SPECIFICATION IS TO PROVIDE A ROOT CONTROL SYSTEM WHERE ROOTS WOULD LIKELY CAUSE PHYSICAL DAMAGE TO ADJACENT HARDSCAPE SURFACES. FOUNDATIONS, OR OTHER ELEMENTS THAT MAY RECEIVE DAMAGE FROM ROOT

### 7. SEE WWW.BIOBARRIER.COM FOR ADDITIONAL INFORMATION AND PRODUCT SPECIFICATION.

## Y. IRRIGATION

1. CONTRACTOR TO PROVIDE AN IRRIGATION DESIGN FOR BOTH LAWN AND BED AREAS. DESIGN TO BE SUBMITTED TO PROJECT LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL. CONTRACTOR TO VERIFY STATIC PRESSURE PRIOR TO DESIGN. CONTRACTOR IS RESPONSIBLE FOR ANY PRESSURE REDUCING DEVICES REQUIRED TO MEET PRESSURE REQUIREMENTS. SYSTEM DESIGN TO SHOW ALL VALVES, PIPING HEADS, BACKFLOW PREVENTION, METERS, AND CONTROLLERS. ALL SLEEVES IN PAVEMENT AREAS MUST BE SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BACKFLOW PREVENTION DEVICE INSTALLATION AND PERMITTING. CONTRACTOR SHALL NOT INSTALL IRRIGATION IN RIGHT—OF—WAY UNLESS REQUIRED BY CITY. NETAFIM DRIP IRRIGATION TO BE INSTALLED IMMEDIATELY AROUND BUILDING TO PREVENT WATER SPRAY ON BUILDING, WALKS, AND WINDOWS. NETAFIM PIPING TO BE BURIED JUST BENEATH SOIL SURFACE AND COVERED INSTALLED BY AN OWNER

2. DESIGNED SYSTEM SHALL CONSIST OF AN AUTOMATIC, UNDERGROUND IRRIGATION SYSTEM PROVIDING 100% COVERAGE WITH 100% OVERLAP, AND CONTAINING A RAIN SENSOR INSTALLED BY AN OWNER APPROVED CONTACTOR. THIS SYSTEM SHALL BE INSTALLED AND OPERATIONAL WITHIN TEN (10) DAYS OF THE INITIAL LANDSCAPE

SITE NOTES

1. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES IN THE SITE SURVEY TO THE OWNER PRIOR TO STARTING WORK.

### **GENERAL PLANTING NOTES**

1. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THIS DRAWING.

2. ALL BIODEGRADABLE BURLAP SHALL BE UNTIED AND PULLED DOWN TO EXPOSE THE TOP 1/3 OF THE BALL. WIRE BASKETS AND OTHER NON—BIODEGRADABLE MATERIALS ATTACHED TO PLANTS SHALL BE REMOVED PRIOR TO PLANTING. CARE SHALL BE TAKEN NOT TO BREAK OR DISTURB ROOT BALL OF PLANTS.

#### 3. ALL PLANTS SHALL BE WATERED BY HAND IN SUFFICIENT QUANTITIES TO THOROUGHLY WET ENTIRE ROOT SYSTEM IMMEDIATELY AFTER PLANTING.

4. PLANTS SHALL BE GUARANTEED TO A PERIOD OF ONE (1) YEAR AFTER ACCEPTANCE OF THE PROJECT AND SHALL BE VIGOROUS AND THRIVING AT THE END OF THE GUARANTEE PERIOD SEE SECTIONS S, GUARANTEE FOR MORE DETAILS.

5. CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICTS TO THE OWNER.

#### 6. CONTRACTOR SHALL FAMILIARIZE HIM/HER SELF WITH THE LIMITS OF WORK AND EXISTING CONDITIONS AND VERIFY ALL INFORMATION. IF DISCREPANCIES EXIST, CONTRACTOR SHALL NOTIFY OWNER OR OWNER'S DESIGNEE IN WRITING WITHIN SEVEN (7) CALENDAR DAYS OF NOTICE TO PROCEED.

7. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES AND OBTAIN AS—BUILT INFORMATION. DRAWINGS WERE PREPARED ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IN WRITING WITHIN SEVEN (7) CALENDAR DAYS OF NOTICE TO PROCEED OF ANY DISCREPANCIES.

8. CONTRACTOR SHALL NOTIFY ALL NECESSARY UTILITY COMPANIES FORTY—EIGHT (48) HOURS MINIMUM PRIOR TO DIGGING FOR VERIFICATION OF ALL UNDERGROUND UTILITIES AND OTHER OBSTRUCTIONS AND COORDINATE WITH OWNER'S DESIGNEE IN WRITING PRIOR TO INITIATING OPERATIONS.

9. CONTRACTOR SHALL TAG AND NUMBER ALL PLANT MATERIAL TO BE RELOCATED. THE CONTRACTOR SHALL FULLY ASSIST AND COORDINATE THIS WORK WITH THE OWNER'S DESIGNEE PRIOR TO INITIATING FIELD DIGGING THE TREES. 10. LOCATIONS OF RELOCATED PLANT MATERIAL ARE APPROXIMATED ON THE

BY THE OWNER'S DESIGNEE ON SITE. 11. THE CONTRACTOR SHALL BEAR ALL COSTS OF TESTING SOILS, AMENDMENTS, ETC. ASSOCIATED WITH THE WORK AND INCLUDED IN THE SPECIFICATIONS. 12. TYPICALLY, SHRUB AND GROUNDCOVER PLANTINGS ARE SHOWN IN MASS PLANTING BEDS. PLANTS SHALL BE PLACED ON A LINEAR SPACING CONFIGURATION

AROUND BUILDING FOUNDATION AS SHOWN ON DRAWING. PLANT CENTER TO CENTER DIMENSIONS (O.C.) ARE LISTED ON THE PLANT LIST. FOR PERIMETER AND PARKING ISLAND SPACING, USE THE TRIANGULAR SPACING METHOD. 13. CONTRACTOR SHALL FIELD STAKE THE LOCATIONS OF ALL PLANT MATERIAL PRIOR TO INITIATING INSTALLATION FOR THE REVIEW AND APPROVAL OF THE OWNER'S

DRAWINGS. EXACT LOCATIONS OF RELOCATED PLANT MATERIAL WILL BE CLARIFIED

14. CONTRACTOR SHALL FIELD ADJUST LOCATION OF PLANT MATERIAL AS NECESSARY TO AVOID DAMAGE TO ALL EXISTING UNDERGROUND UTILITIES AND/OR EXISTING ABOVE GROUND ELEMENTS. ALL CHANGES REQUIRED SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AND SHALL BE COORDINATED WITH THE OWNER'S DESIGNEE.

15. ALL PLANTING AREAS, UNLESS OTHERWISE NOTED, SHALL INCLUDE THREE INCH (3") LAYER OF MULCH AS PER THE SPECIFICATIONS.

16. ALL TREES PLANTED IN LAWN AREA SHALL RECEIVE A THREE FOOT DIAMETER (3') MULCH RING AT DEPTH OF THREE INCHES (3"). 17. ALL EXISTING TREES TO REMAIN IN LAWN AREA SHALL RECEIVE A MULCH RING TWO FEET (2') OUT FROM EDGE OF TRUNK OR TO THE LIMIT OF THE ADJACENT LAWN

AREA AT A DÉPTH OF THREE INCHES (3") AS PER THE SPECIFICATIONS,

OWNER'S DESIGNEE IN WRITING. ALL PLANTS WILL BE SUBJECT TO APPROVAL BY OWNER'S DESIGNEE BEFORE PLANTING CAN BEGIN. 19. PLANT LIST QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN THE EVENT OF QUANTITY DISCREPANCIES, THE DRAWING SHALL TAKE PRECEDENCE. ANY

18. ANY SUBSTITUTIONS IN SIZE AND/OR PLANT MATERIAL MUST BE APPROVED BY THE

DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE

20. CONTRACTOR SHALL REFER TO THE LANDSCAPE PLANTING DETAILS, PLANT LIST, GENERAL NOTES AND THE PROJECT MANUAL AND SPECIFICATIONS FOR FURTHER AND COMPLETE INSTRUCTIONS. 21. ALL UTLITY BOXES, CLEANOUTS, ETC., SHALL BE PAINTED GREEN IF IN GRASS AREAS AND BROWN IF IN MULCH AREAS.

22. THIS SITE MAY CONTAIN EXISTING TREES WHICH REQUIRE TRIMMING AND/OR PRUNING. THE LANDSCAPE COMPANY/CONTRACTOR MUST HAVE A CERTIFIED ARRORIST ON STAFF TO ENSURE PROPER ISA HORTICULTURAL PROCEDURES ARE FOLLOWED REGARDING THE TRIMMING, PRUNING, TRANSPLANTING, ETC. OF THESE TREES.

REVISIONS COMMENT

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PLANNING & DEVELOPMENT **BOARD SUBMITTAL** 

PROJECT No DRAWN BY: CHECKED BY: CAD I.D.: F160039 LANDSCAPE PLAN

ROJECT

STATE RD 84 &

**SW 30 TH AVENUE** 

**CUMBERLAND FARMS** 

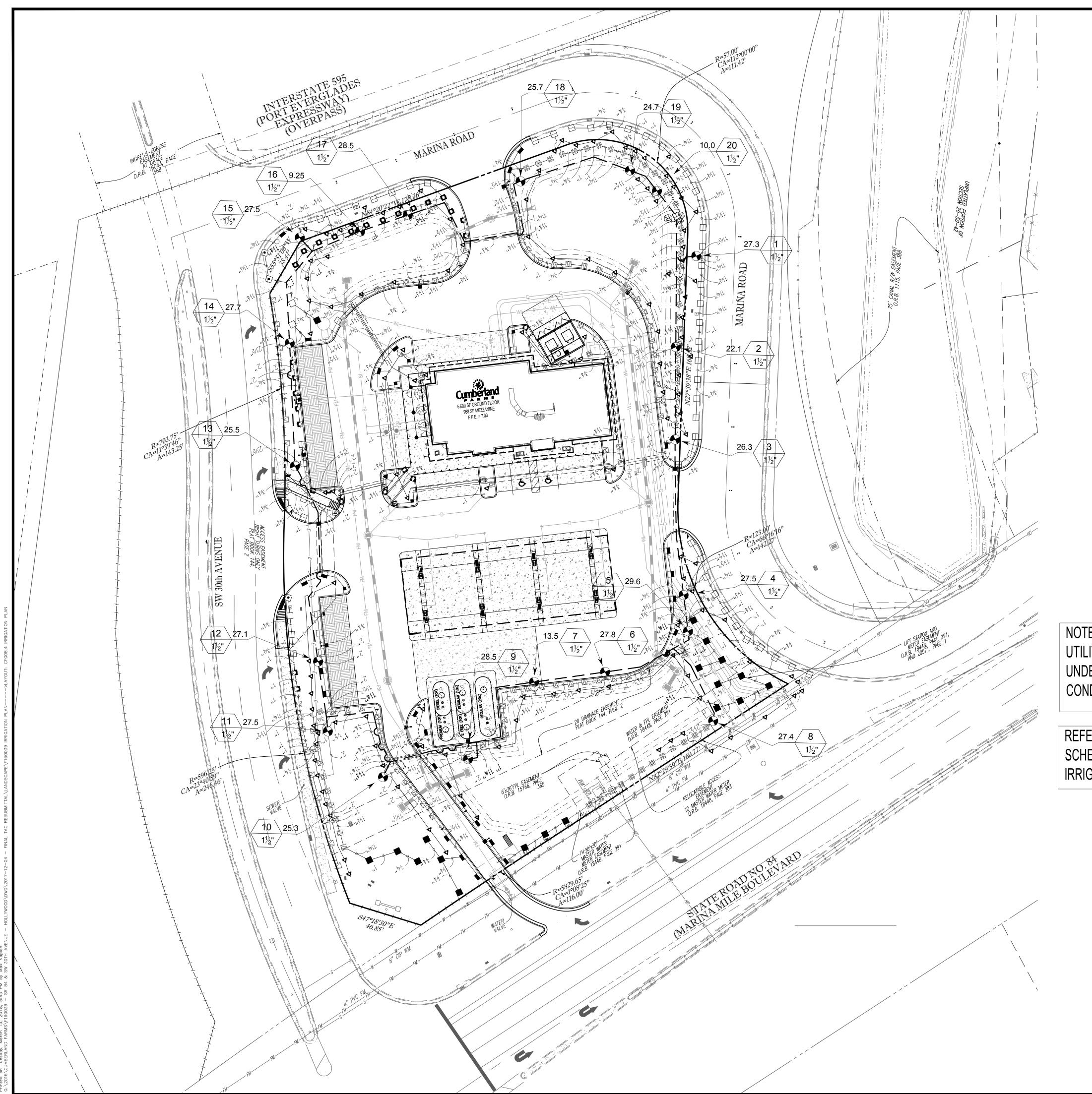
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LANDSCAPE GENERAL **NOTES** 

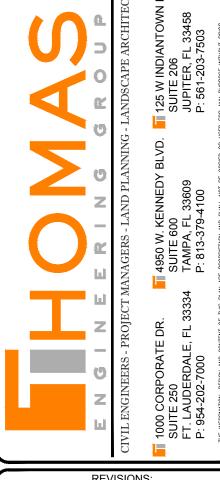


## IRRIGATION SCHEDULE

		<u>QTY</u>	<u>PSI</u>
EST LCS RCS CST SST	Rain Bird 1806-PRS 15 Strip Series Turf Spray 6" popup with pressure regulator.	15	30
□ ♥ ♥ 図 Q T H F	Rain Bird 1806-PRS 5 Series MPR Turf Spray 6" popup with pressure regulator.	19	30
	Rain Bird 1806-PRS 8 Series MPR Turf Spray 6" popup with pressure regulator.	48	30
SST	Rain Bird 1806-PRS 15 Strip Series Turf Spray 6" popup with pressure regulator.	80	30
Q T H F	Rain Bird 1806-PRS 10 Series MPR Turf Spray 6" popup with pressure regulator.	22	30
	Rain Bird 1806-PRS 12 Series MPR Turf Spray 6" popup with pressure regulator.	62	30
Q T H TT TQ F	Rain Bird 1806-PRS 15 Series MPR Turf Spray 6" popup with pressure regulator.	52	30
<ul><li></li></ul>	Rain Bird 1806-PRS ADJ Turf Spray 6" popup with pressure regulator.	14	30
1402 1408 1401 1404	Rain Bird 1804-1400 Flood Flood Bubbler 4" popup	131	40
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	
•	Rain Bird PEB Electric Remote Control Valve	20	
С	Rain Bird ESP12LXMEF-LXMMSS with (01) ESPLXMSM12 24 Station Commercial Controller. Stainless Steel Metal Cabinet. Flow Sensing	1	
$\langle \overline{\mathbb{R}} \rangle$	Rain Bird RSD-BEx Rain Sensor, with bracket, extension wire	1	
POC '코'	5hp Submersible Pump 30gpm, 205 TDH at 55 psi	1	
	Irrigation Lateral Line: CPVC Schedule 40	6,139 l.f.	
	Irrigation Mainline: Polyethylene and PVC Class 200	1,285 l.f.	
======	Pipe Sleeve: PVC Schedule 80 Typical pipe sleeve for irrigation pipe. Pipe sleeve size shall allow for irrigation piping and their related couplings to easily slide through sleeving material. Extend sleeves 18 inches	434.5 l.f.	

NOTE! PRIOR TO INSTALLATION, CONTRACTOR SHALL REFER TO ENGINEERS UTILITIES AND PAVING/GRADING/DRAINAGE PLANS FOR LOCATIONS OF UNDERGROUND UTILITIES (WATER, SEWER, DRAINAGE AND ELECTRICAL CONDUIT).

REFER TO SHEET CFG08.5 FOR IRRIGATION SCHEDULES AND NOTES, AND SHEET CFG08.6 FOR IRRIGATION DETAILS.



REV:	DATE:	COMMENT:	BY:
			$\preccurlyeq$

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ATE: AD I.D.:	01-09-201 F160039 IRRIGATION PLAN
ROJECT:	
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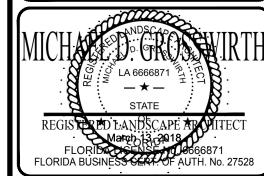
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IRRIGATION PLAN

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MICHAEL D. GROSSWIRTH, LA6666871 ON 2018-01-18

## VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	HEADS	PIPE	WIRE	DESIGN PSI	FRICTION LOSS	PSI	PSI @ POC	PRECIP
1	Rain Bird PEB	1-1/2"	Turf Spray	27.30	21	246.9	200.8	30	1.17	34.86	36.51	0.87 in/h
2	Rain Bird PEB	1-1/2"	Turf Spray	22.09	17	154.9	132.3	30	1.09	34.93	35.58	3.37 in/h
3	Rain Bird PEB	1-1/2"	Turf Spray	26.26	32	367.6	132.3	30	1.15	34.87	37.24	1.32 in/h
4	Rain Bird PEB	1-1/2"	Turf Spray	27.50	18	234.5	230.6	30	1.17	34.85	41.52	0.85 in/h
5	Rain Bird PEB	1-1/2"	Turf Spray	29.60	8	129.5	253.6	30	1.02	34.63	43.61	0.87 in/h
6	Rain Bird PEB	1-1/2"	Turf Spray	27.80	16	149.9	316.6	30	1.10	34.76	45.66	7.57 in/h
7	Rain Bird PEB	1-1/2"	Bubbler	13.50	54	961.6	361.8	40	1.36	45.26	48.65	7.66 in/h
8	Rain Bird PEB	1-1/2"	Turf Spray	27.40	17	175.7	324.0	30	1.19	34.88	47.34	0.77 in/h
9	Rain Bird PEB	1-1/2"	Turf Spray	28.52	16	210.9	448.9	30	1.17	34.82	52.51	1.80 in/h
10	Rain Bird PEB	1-1/2"	Turf Spray	25.30	11	150.7	499.5	30	1.16	34.91	50.36	1.27 in/h
11	Rain Bird PEB	1-1/2"	Turf Spray	27.53	14	198.2	561.0	30	1.19	34.86	54.35	1.31 in/h
12	Rain Bird PEB	1-1/2"	Turf Spray	27.05	21	228.3	587.3	30	1.17	34.86	53.83	1.32 in/h
13	Rain Bird PEB	1-1/2"	Turf Spray	25.53	26	400.9	661.3	30	0.70	34.44	51.01	1.14 in/h
14	Rain Bird PEB	1-1/2"	Turf Spray	27.69	21	324.6	583.8	30	1.06	34.73	51.28	1.18 in/h
15	Rain Bird PEB	1-1/2"	Turf Spray	27.54	16	210.2	531.5	30	0.98	34.65	47.62	0.81 in/h
16	Rain Bird PEB	1-1/2"	Bubbler	9.25	37	828.9	487.2	40	1.50	45.40	46.73	7.66 in/h
17	Rain Bird PEB	1-1/2"	Turf Spray	28.52	18	208.9	455.5	30	1.07	34.72	42.33	1.69 in/h
18	Rain Bird PEB	1-1/2"	Turf Spray	25.73	17	206.2	330.0	30	1.03	34.76	38.57	2.28 in/h
19	Rain Bird PEB	1-1/2"	Turf Spray	24.65	23	197.9	257.0	30	1.17	34.94	36.40	0.80 in/h
20	Rain Bird PEB	1-1/2"	Bubbler	10.00	40	555.0	234.8	40	1.38	45.28	45.41	7.66 in/h
	Common Wire						1,285					

## WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	Rain Bird PEB	Turf Spray	0.87 in/h	1	69	1,884	
2	Rain Bird PEB	Turf Spray	3.37 in/h	1	18	397.6	
3	Rain Bird PEB	Turf Spray	1.32 in/h	1	46	1,208	
4	Rain Bird PEB	Turf Spray	0.85 in/h	1	71	1,953	
5	Rain Bird PEB	Turf Spray	0.87 in/h	1	70	2,072	
6	Rain Bird PEB	Turf Spray	7.57 in/h	1	8	222.4	
7	Rain Bird PEB	Bubbler	7.66 in/h	1	8	108	
8	Rain Bird PEB	Turf Spray	0.77 in/h	1	78	2,137	
9	Rain Bird PEB	Turf Spray	1.80 in/h	1	34	969.7	
10	Rain Bird PEB	Turf Spray	1.27 in/h	1	48	1,214	
11	Rain Bird PEB	Turf Spray	1.31 in/h	1	46	1,266	
12	Rain Bird PEB	Turf Spray	1.32 in/h	1	46	1,244	
13	Rain Bird PEB	Turf Spray	1.14 in/h	1	53	1,353	
14	Rain Bird PEB	Turf Spray	1.18 in/h	1	51	1,412	
15	Rain Bird PEB	Turf Spray	0.81 in/h	1	75	2,065	
16	Rain Bird PEB	Bubbler	7.66 in/h	1	8	74	
17	Rain Bird PEB	Turf Spray	1.69 in/h	1	36	1,027	
18	Rain Bird PEB	Turf Spray	2.28 in/h	1	27	694.7	
19	Rain Bird PEB	Turf Spray	0.80 in/h	1	76	1,873	
20	Rain Bird PEB	Bubbler	7.66 in/h	1	8	80	
		TOTALS:			876	23,255	

## CRITICAL ANALYSIS

CRITICAL AN	ALYSIS
Generated:	2018-01-18 13:24
P.O.C. NUMBER: 01 Water Source Information:	30gpm, 205 TDH at 55 p
FLOW AVAILABLE Custom Max Flow: Flow Available:	30.00 gpm 30.00 gpm
PRESSURE AVAILABLE Static Pressure at POC: Pressure Available:	55.00 psi 55.00 psi
DESIGN ANALYSIS Maximum Station Flow: Flow Available at POC: Residual Flow Available:	26.42 gpm 30.00 gpm 3.58 gpm
Critical Station: Design Pressure: Friction Loss: Fittings Loss: Elevation Loss:	9 30.00 psi 1.15 psi 0.02 psi 0.00 psi
Loss through Valve: Pressure Req. at Critical Station: Loss for Fittings: Loss for Main Line: Loss for POC to Valve Elevation:	3.64 psi 34.82 psi 1.78 psi 17.84 psi 0.00 psi
Loss for Backflow: Critical Station Pressure at POC: Pressure Available: Residual Pressure Available:	0.00 psi 54.44 psi 55.00 psi 0.56 psi

## IRRIGATION NOTES

- 1. ALL LOCAL MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR.
- 2. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE.
- 3. THE CONTRACTOR SHALL OBTAIN THE PERTINENT ENGINEERING OR ARCHITECTURAL PLANS BEFORE BEGINNING WORK.
- 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK INDICATED HEREIN BEFORE BEGINNING WORK
- 5. THIS DESIGN IS DIAGRAMMATIC. ALL EQUIPMENT SHOWN IN PAVED AREAS IS FOR DESIGN CLARITY ONLY AND IS TO BE INSTALLED WITHIN PLANTING AREAS.
- 6. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY EQUIPMENT AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN CONDITIONS EXIST THAT WERE NOT EVIDENT AT THE TIME THESE PLANS WERE PREPARED. ANY SUCH CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO ANY WORK OR THE IRRIGATION CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY FIELD CHANGES DEEMED NECESSARY BY THE OWNER
- 7. INSTALL ALL EQUIPMENT AS SHOWN IN THE DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH LOCAL CITY, COUNTY AND STATE REQUIREMENTS FOR BOTH EQUIPMENT AND INSTALLATION.
- 8. ACTUAL LOCATION FOR THE INSTALLATION OF THE BACKFLOW PREVENTER AND THE AUTOMATIC CONTROLLER IS TO BE DETERMINED IN THE FIELD BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
- 9. CONTRACTOR IS TO PROVIDE AN ADDITIONAL PILOT WIRE FROM CONTROLLER ALONG ENTIRETY OF MAIN LINE TO THE LAST RCV ON EACH AND EVERY LEG OF MAIN LINE. LABEL SPARE WIRES AT BOTH ENDS.
- 10. ALL PIPE UNDER PAVED AREAS TO BE INSTALLED IN SLEEVING TWICE THE DIAMETER OF THE PIPE CARRIED. SEE LEGEND FOR TYPE. ALL WIRE UNDER PAVED AREAS TO BE INSTALLED IN A SCH. 40 SLEEVE THE SIZE REQUIRED TO EASILY PULL WIRE THROUGH. ALL SLEEVES TO BE INSTALLED WITH A MINIMUM DEPTH AS SHOWN ON THE SLEEVING DETAILS. SLEEVES TO EXTEND AT LEAST 12" PAST THE EDGE OF THE PAVING.
- 11. ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED IN SHRUB OR GROUND COVER AREAS WHERE POSSIBLE. ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED AS SHOWN ON THE INSTALLATION DETAILS. INSTALL ALL QUICK COUPLER AND REMOTE CONTROL VALVES WITHIN 18" OF HARDSCAPE.
- 12. ALL HEADS ARE TO BE INSTALLED WITH THE NOZZLE, SCREEN AND ARCS SHOWN ON THE PLANS. ALL HEADS ARE TO BE ADJUSTED TO PREVENT OVERSPRAY ONTO BUILDINGS, WALLS, FENCES AND HARDSCAPE. THIS INCLUDES, BUT NOT LIMITED TO, ADJUSTMENT OF DIFFUSER PIN OR ADJUSTMENT SCREW, REPLACEMENT OF PRESSURE COMPENSATING SCREENS, REPLACEMENT OF NOZZLES WITH MORE APPROPRIATE RADIUS UNITS AND THE REPLACEMENT OF NOZZLES WITH ADJUSTABLE ARC UNITS.
- 13. THE CONTRACTOR SHALL USE PROPER GROUNDING TECHNIQUES FOR GROUNDING THE CONTROLLER AND RELATED EQUIPMENT PER MANUFACTURERS SPECIFICATIONS. THOMAS ENGINEERING GROUP RECOMMENDS MEASURING FOR PROPER GROUND AT LEAST ONCE ANNUALLY, AND NECESSARY ADJUSTMENTS MADE TO COMPLY WITH MANUFACTURER SPECIFICATIONS.
- 14. CONTRACTOR TO RECERTIFY EXISTING PUMP AND PVB IF APPLICABLE.

NOTE A

POINTS OF CONNECTION SHALL BE FROM A NEW 5 hp SUBMERSIBLE PUMP AND 4" WELL. VERIFY THE ACTUAL LOCATION, SIZE AND WATER PRESSURE IN THE FIELD PRIOR TO STARTING WORK. IF ANY OF THE POC INFORMATION SHOWN ON THESE DRAWING IS FOUND TO BE DIFFERENT THAN THE ACTUAL POC INFORMATION GATHERED IN THE FIELD, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT AND IRRIGATION CONSULTANT. SHOULD THE CONTRACTOR FAIL TO VERIFY THE POC INFORMATION ANY CHANGES REQUIRED BY LOW PRESSURE OR VOLUME SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

MINIMUM PRESSURE REQUIRED: 34.44 PSI DESIGN WATER PRESSURE: 55 PSI MAXIMUM SYSTEM DEMAND: 29.60

NOTE B:

CONTROLLER IS AS SPECIFIED. CONTRACTOR TO VERIFY CONDITION AND FINAL LOCATION OF CONTROLLER AND ELECTRICAL POC SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.

NOTE C:

MAINLINE AND RELATED EQUIPMENT SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL MAINLINE AND RELATED EQUIPMENT LOCATION TO BE WITHIN PLANTERS AND A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.

NOTE D:

CONTRACTOR SHALL ADJUST ALL HEADS AS REQUIRED TO ACCOMMODATE ANY VERTICAL OBSTRUCTIONS THAT MAY OCCUR, INCLUDING BUT NOT LIMITED TO LIGHT POLES, FIRE HYDRANTS, ETC. VERIFY ALL HEAD LAYOUT WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.

NOTE E:

BUBBLERS AND LATERAL LINES ARE SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL LOCATION TO BE WITHIN PLANTER.
BUBBLERS SHALL BE ALIGNED WITH TREES AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. CONFIRM ALL
LAYOUT IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.



		REVISIONS:	
REV:	DATE:	COMMENT:	BY:
			-



PLANNING & DEVELOPMENT BOARD SUBMITTAL

ı	PROJECT No.:	F160
	DRAWN BY:	
	CHECKED BY:	M
	DATE:	01-09-2
	CAD I.D.:	F160039 IRRIGATION PL

DJECT:

STATE RD 84 &

STATE RD 84 & SW 30 TH AVENUE

CUMBERLAND FARMS

HOLLYWOOD FLORIDA



RADICE III
1000 CORPORATE DRIVE, SUITE 250
FORT LAUDERDALE, FL 33334
PH: (954) 202-7000
FX: (954) 202-7070
www.ThomasEngineeringGroup.com

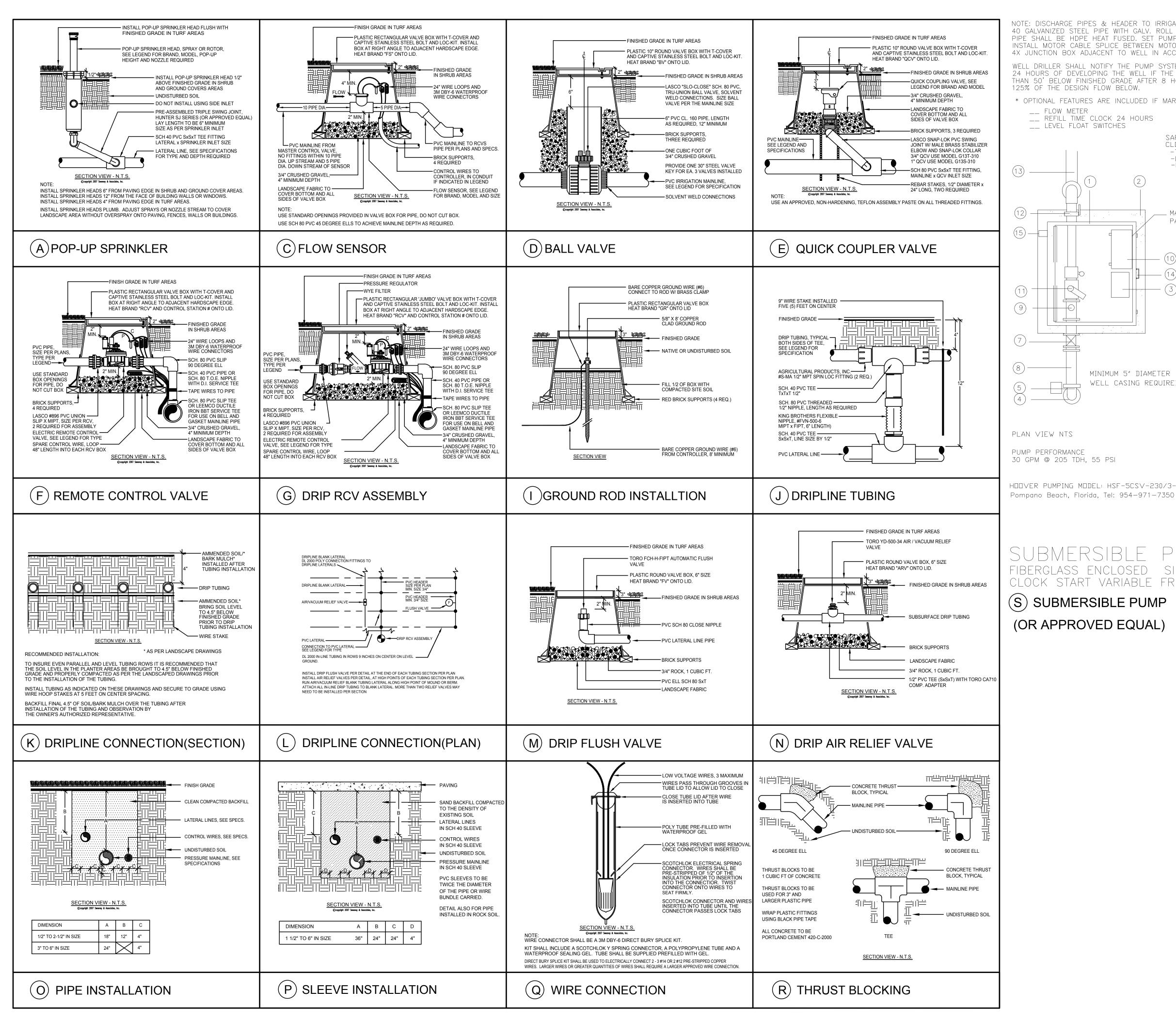


IRRIGATION SCHEDULES AND NOTES

HEET TITLE:

SHEET NUMBER:

CFG08.



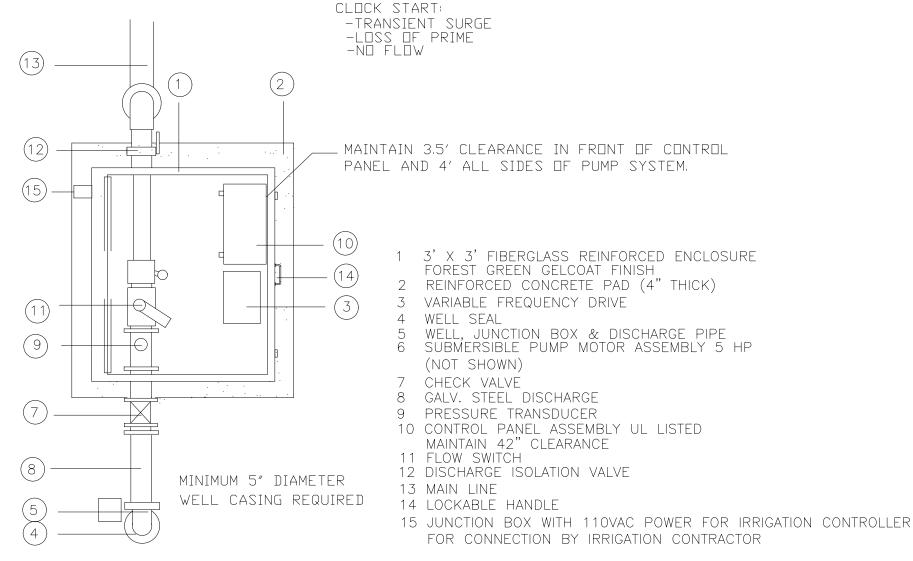
NOTE: DISCHARGE PIPES & HEADER TO IRRIGATION MAIN SHALL BE SCHED 40 GALVANIZED STEEL PIPE WITH GALV. ROLL GROOVE FITTINGS. PUMP DROP PIPE SHALL BE HDPE HEAT FUSED. SET PUMP 60' ON 2" PIPE. INSTALL MOTOR CABLE SPLICE BETWEEN MOTOR AND CONTROL PANEL IN NEMA 4X JUNCTION BOX ADJACENT TO WELL IN ACCORDANCE WITH ELECTRICAL CODES.

WELL DRILLER SHALL NOTIFY THE PUMP SYSTEM MANUFACTURER IN WRITING WITHIN 24 HOURS OF DEVELOPING THE WELL IF THE WELL PUMPING LEVEL IS GREATER THAN 50' BELOW FINISHED GRADE AFTER 8 HOURS OF CONTINUOUS PUMPING AT

125% OF THE DESIGN FLOW BELOW. \* OPTIONAL FEATURES ARE INCLUDED IF MARKED WITH AN "X"

\_\_ FLOW METER

\_\_ REFILL TIME CLOCK 24 HOURS \_\_ LEVEL FLOAT SWITCHES



PLAN VIEW NTS

PUMP PERFORMANCE

HOOVER PUMPING MODEL: HSF-5CSV-230/3-W,Z

FILE PN13834.DWG 12/15

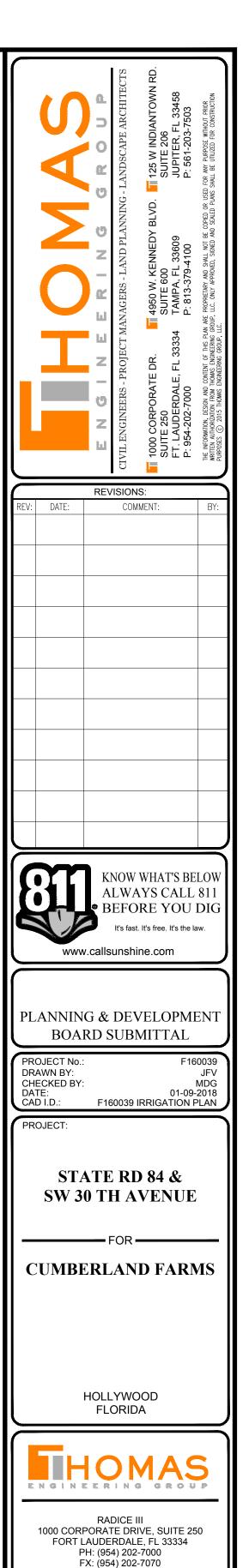
ELECTRIC SERVICE TO BE, IN ORDER OF PREFERENCE:

230 1-PHASE, 208V 1-PHASE, 230 OPEN-DELTA 3-PHASE.

460V 3-PHASE, 230V CLOSED-DELTA 3-PHASE, 208 WYE 3-PHASE,

SUBMERSIBLE PUMP SYSTEM DETAIL CLOCK START VARIABLE FREQUENCY DRIVE

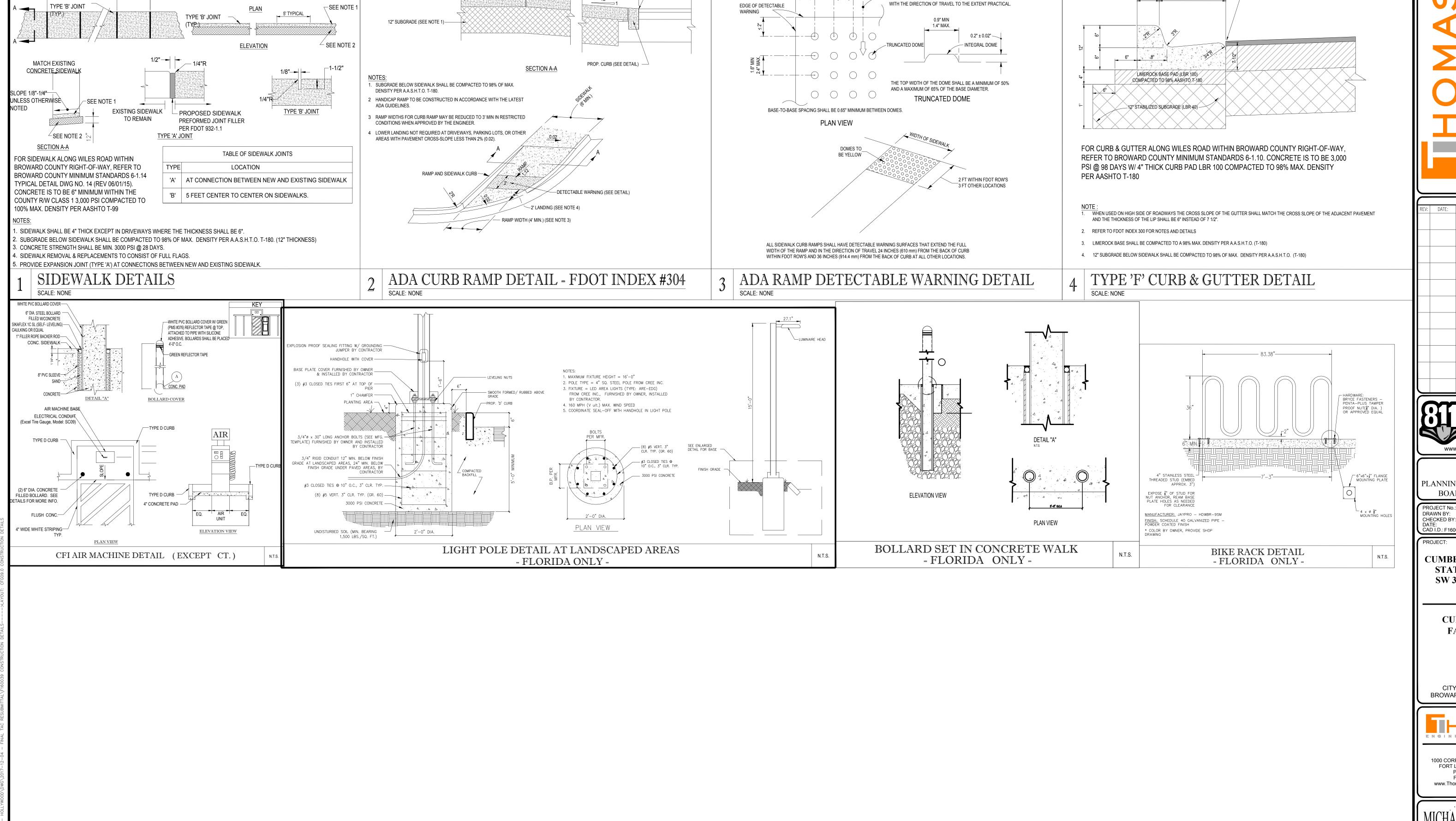
(S) SUBMERSIBLE PUMP (OR APPROVED EQUAL)



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**IRRIGATION DETAILS** 

**CFG08.6** 



CURB & RAMP TO BE FLUSH

W/ASPHALT PAVEMENT

ON RAMPS THAT ARE PERPENDICUALR WITH THE CURB LINE, THE DOME

PATTERN SHALL BE IN-LINE WITH THE DIRECTION OF TRAVEL. ON RAMPS

INTERSECTING CURBS ON A RADIUS, THE DOME PATTERN SHALL BE IN-LINE

1/2" PREFORMED EXPANSION JOINT FILLER, BITUMINOUS -

4" THICK CONCRETE, 3000 PSI

@ 28 DAYS.

- FEATHER ASPHALT 1/4" ABOVE LIP

OF GUTTER (ON LOW SIDE OF ROAD ONLY)

COMMENT:

PLANNING & DEVELOPMENT BOARD SUBMITTAL

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It's fast. It's free. It's the law

DRAWN BY: CHECKED BY: MAT DATE: 01-09-2018 CAD I.D.: F160039 CONSTRUCTION DETAILS

**CUMBERLAND FARMS** STATE ROAD 84 & **SW 30TH AVENUE** 

**CUMBERLAND** 

FARMS, INC.

CITY OF HOLLYWOOD BROWARD COUNTY, FLORIDA



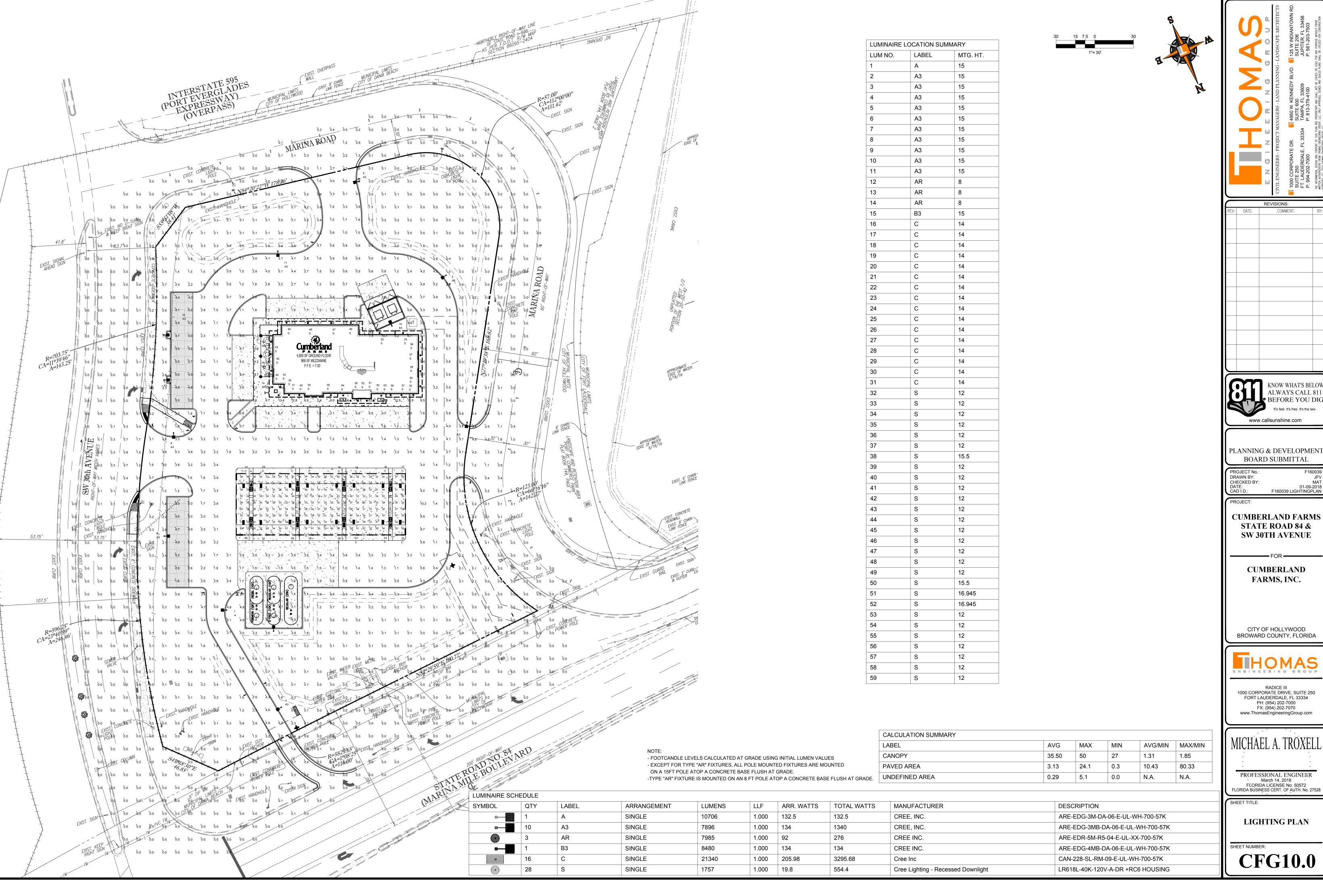
RADICE III 1000 CORPORATE DRIVE, SUITE 250 FORT LAUDERDALE, FL 33334 PH: (954) 202-7000 FX: (954) 202-7070 www. Thomas Engineering Group.com

MICHAEL A. TROXELL

PROFESSIONAL ENGINEER March 13, 2018 FLORIDA LICENSE No. 50572 FLORIDA BUSINESS CERT. OF AUTH. No. 27528

CONSTRUCTION **DETAILS** 

**CFG09.0** 



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PLANNING & DEVELOPMENT **BOARD SUBMITTAL** 

**CUMBERLAND FARMS** STATE ROAD 84 &

FARMS, INC.

CITY OF HOLLYWOOD



PH: (954) 202-7000 FX: (954) 202-7070 www. Thomas Engineering Group.com

LIGHTING PLAN

**CFG10.0** 







# **AREA**

SYMBOL:	QTY:	LABEL:
	1	Α

## ARE-EDG-3M-DA-06-E-UL-WH-700-57K

	10	A
RE-EDG-3MB-DA-	·06-E-UL-WH-70	0-57K

## **ARE-EDG-4MB-DA-06-E-UL-WH-700-57K**

Cree Edge <sup>TM</sup> Series LED Area/Flood Luminaire	
Product Description	DA Mount
The Cree Edge <sup>™</sup> Series has a slim, low profile design. Its rugged cast aluminum housing minimizes wind load requirements and features an integral, weathertight LED driver compartment and high performance aluminum heat sinks. Various mounting choices. Adjustable Arm, Direct Arm Long, or Side Arm (details on page 2.) Includes a leaf/debris guard.  Applications: Parking lots, walkways, campuses, car dealerships, office complexes, and internal	

1	rformance Summary
F	Patented NanoOptic® Product Technology
١	Made in the U.S.A. of U.S. and imported parts
C	CRI: Minimum 70 CRI
C	CCT: 4000K (+/- 300K), 5700K (+/- 500K) standard
L	.imited Warranty*: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

Ai				
Accessories		LED Count	Dim. "A"	Weight
Field-Installed		(X10)		
Bird Spikes	Backlight Control Shields	02	12.1" (306mm)	21 lbs. (10kg)
XA-BRDSPK Hand-Held Remote	XA-20BLS-4 - Four-pack	04	12.1" (306mm)	24 lbs. (11kg)
XA-SENSREM  - For successful implementation of the programmable multi-level	- Unpainted stainless steel	06	14.1" (357mm)	27 lbs. (12kg)
option, a minimum of one hand-held remote is required		08	16.1" (408mm)	28 lbs. (13kg)
		10	18.1" [459mm]	32 lbs. [15kg]
		12	20.1" (510mm)	34 lbs. [15kg]
		14	22.1" (560mm)	37 lbs. (17kg)
		16	24.1° (611mm)	41 lbs. (19kg)

Ordering Information Example: ARE-EDG-2M-AA-12-E-UL-SV-350									AA/DL/SA Mount - see pag	22 f	or weight & dimensions		
						E							
Product	Optic			Mounting*	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Option	s		
ARE- EDG	ZM Type II Medium ZMB Type II Medium w/BLS ZMP Type II Medium w/Partial BLS 3M Medium Medium	3MB Type III Medium w/BLS 3MP Type III Medium w/Partial BLS 4M Type IV Medium 4MB Type IV Medium w/BLS	Type IV Medium w/Partial BLS SM Type V Medium 5S Type V Short	AA Adjustable Arm DA Direct Arm DL Direct Long Arm	02 04 06 08 10 12 14 16	E	UL Universal 120-277V UH Universal 347-480V	BK Black BZ Bronze SV Silver WH White	350 350mA 525 525mA 700 700mA - Available with 20- 60 LEDs	F FI	-TeV Summing Control by others Refer to Dimming spec sheet for details Can't exceed specified drive current use Refer to ML spec sheet for availability with ML options Anutiboe with Ut utstage only Available for U.S. applications When code dictates fusing use time delay fuse (I/Low Diau Circuit input) Refer to BL spec sheet for details		Programmable Mutti-Level. 20-64 Mounting Height - Refer to PML space aheat for details - Intended for downlight applications at 0'1-tievt, 20-70 Mounting Medical Programmable Mutti-Level, 20-70 Mounting Medical Programmable Mutti-Level 20-70 Medical Programmable Mutti-Level 2
FLD- ED0	25° Flood 40° Flood	70 70° Flood SN Sign	N6 NEMA® 6	AA Adjustable Arm SA Side Arm						ML M	Sensor not included fulti-Level Refer to ML spec sheet for details Intended for downlight applications at 0° tilt	40K	- Refer to ML spec sheet for availability with ML options 4000K Color Temperature - Minimum 70 CRI - Color temperature per luminaire

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US: lighting.cree.com/	(lighting T (800) 236-6	800 F (262) 504-5415

	Ι.								
Product Specifications	П	Electrical D	ata*						
CONSTRUCTION & MATERIALS  Slim. low profile, minimizing wind load requirements				Total Cur	rent (A)				
Luminaire sides are rugged die cast aluminum with integral, weathertight LED driver compartment and high performance heat sinks		LED Count (x10)	System Watts 120-480V	120V	208V	240V			
<ul> <li>DA and DL mount utilizes convenient interlocking mounting method.</li> <li>Mounting is rugged die cast aluminum, mounts to 3-6" [76-152mm]</li> <li>square or round pole and secures to pole with 5/16-18 UNC bolts spaced on 2" [51mm] centers</li> </ul>	350mA								
AA and SA mounts are rugged die cast aluminum and mount to 2"		02	25	0.21	0.13	0.11			
[51mm] IP, 2.375" [60mm] O.D. tenons		04	46	0.36	0.23	0.21			
<ul> <li>Includes leaf/debris guard</li> </ul>	Н								
<ul> <li>Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver, and white are available</li> </ul>		06	90	0.52	0.31	0.28			
Weight: See Dimensions and Weight Charts on pages 1 and 22		10	110	0.92	0.53	0.47			
ELECTRICAL SYSTEM		12	130	1.10	0.63	0.55			
<ul> <li>Input Voltage: 120-277V or 347-480V, 50/60Hz, Class 1 drivers</li> </ul>	Ш	14	158	1.32	0.77	0.68			
Power Factor: > 0.9 at full load	Н								
<ul> <li>Total Harmonic Distortion: &lt; 20% at full load</li> </ul>	Ш	16	179	1.49	0.87	0.77			
<ul> <li>DA and DL mounts designed with integral weathertight electrical box with terminal strips (12Ga-20Ga) for easy power hookup</li> </ul>		525mA							
<ul> <li>Integral 10kV surge suppression protection standard</li> </ul>	Ш	02	37	0.30	0.19	0.17			
<ul> <li>When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current</li> </ul>		04	70	0.58	0.34	0.31			
<ul> <li>Maximium 10V Source Current: 20 LED (350mA): 10mA; 20 LED (525 &amp; 700mA) and 40-80 LED: 0.15mA; 100-160 LED: 0.30mA</li> </ul>		06	101	0.84	0.49	0.43			

Total Harmonic Distortion: < 20% at full load	16	179	1.49	0.87	0.77	0.68	0.53	0.39
DA and DL mounts designed with integral weathertight electrical box with terminal strips (12Ga-20Ga) for easy power hookup	525mA							
Integral 10kV surge suppression protection standard	02	37	0.30	0.19	0.17	0.16	0.12	0.10
<ul> <li>When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current</li> </ul>	04	70	0.58	0.34	0.31	0.28	0.21	0.16
<ul> <li>Maximium 10V Source Current: 20 LED (350mA): 10mA; 20 LED (525 &amp; 700mA) and 40-80 LED: 0.15mA; 100-160 LED: 0.30mA</li> </ul>	06	101	0.84	0.49	0.43	0.38	0.30	0.22
REGULATORY & VOLUNTARY QUALIFICATIONS	08	133	1.13	0.66	0.58	0.51	0.39	0.28
cULus Listed	10	171	1.43	0.83	0.74	0.66	0.50	0.38
Suitable for wet locations								
Enclosure rated IP66 per IEC 60529 when ordered without P or R options	12	202	1.69	0.98	0.86	0.77	0.59	0.44
Consult factory for CE Certified products	14	232	1.94	1.12	0.98	0.87	0.68	0.50
Certified to ANSI C136.31-2001, 3G bridge and overpass vibration						5.07	0.00	
standards when ordered with AA, DA and DL mounts	16	263	2.21	1.27	1.11	0.97	0.77	0.56
<ul> <li>10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2</li> </ul>	700mA							
<ul> <li>Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions</li> </ul>	02	50	0.41	0.25	0.22	0.20	0.15	0.12
Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117	04	93	0.78	0.46	0.40	0.36	0.27	0.20

elevated ambient salt by conditions as defined in ASTM Standard B 117								
<ul> <li>DLC qualified. Exceptions apply when ordered with full backlight control or 3MP optic with 20 LEDs. Please refer to www.designlights.org/QPL</li> </ul>	06	134	1.14	0.65	0.57	0.50	0.39	0.29
for most current information	* Electrical data at	25°C [77°F]. Actual	wattage may	differ by +/- 1	10% when opera	ting between	120-480V +/-	10%
Meets Buy American requirements within ARRA								
	Recommend	led Cree Edge	Series L	umen Mai	intenance F	actors (LN	MF)¹	
	Ambient	Initial LMF	25K h Proje LMF	cted <sup>2</sup>	50K hr Projected <sup>2</sup> LMF	75K hr Calculat LMF		0K hr lculated 1F
	5°C (41°F)	1.04	1.01	0	).99	0.98	0.9	6
	10°C (50°F)	1.03	1.00	0	0.98	0.97	0.9	5
	15°C (59°F)	1.02	0.99	0	).97	0.96	0.9	4
	20°C (68°F)	1.01	0.98	0	).96	0.95	0.93	3
	25°C (77°F)	1.00	0.97	0	0.95	0.94	0.9	2
		i IESNA TM-21-11, I I-80-08 total test du	Projected Valu	ies represent rs) for the dev	interpolated va	lue based on t ng ((DUT) i.e. ti	time duration he packaged	s that are LED chipl
	<sup>3</sup> In accordance with LM-80-08 total tes	t duration (in hours	accutated Val	ues represen e under testi	ng ((DUT) i.e. th	e packaged LE	six timės (6X) ED chip)	tne iESNA

Canada: www.cree.com/canada

## CREE 🕏

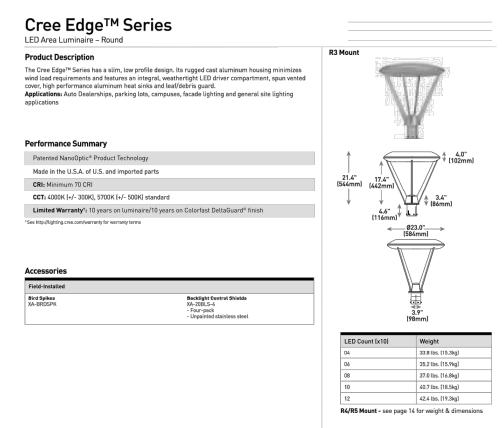
Canada: www.cree.com/canada T (800) 473-1234 F (800) 890-7507

# **AREA**



SYMBOL:	QTY:	LABEL:
	3	AR

### ARE-EDR-5M-R5-04-E-UL-XX-700-57K



ARE-EDR					E				
Product	Optic		Mounting*	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options
ARE-EDR	ZM Type II Medium ZMB Type II Medium W/BLS ZMP Type II Medium w/BLS ZMP Type II Medium w/Partial BLS 3M Type III Medium 3MB Type III Medium w/BLS	JMP Type III Medium w/Partial BLS 4M Type IV Medium 4MB Type IV Medium w/BLS 4MP Type IV Medium w/Partial BLS 5M Type IV Medium schools Type V Medium 5S Type V Short	R3 Spider, Center Tenon, 2-3/8" to 3" 0D R4 Spider, Center Direct, 4" Square R5 Spider, Center Direct, 5" Round	04** 06** 08** 10 12	E	UL Universal 120-277V UH Universal 347-480V	BK Black BZ Bronze SV Silver WH White	350 350mA 350mA 350mA 700 700mA - Available with 40-60 LEDs	DIM 0-19V Dimming - Control by others - Refer to Dimming sees sheet for d - Can't exceed specified drive currer F Fuse - When code dictates fusing, use tim delay fuse - Available with UL vottage only - Available with UL so applications only HL HI/Low Dlusa Circuit Input - Refer to HI_spec_sheet for details - Sensor not included - Available with UL vottage only - Available with UL vottage only - Minimum 70 CRI - Color temperature - Minimum 70 CRI - Color temperature per luminaire

Product	Optic		Mounting*	Count (x10)	Series	Voltage	Options	Current	Opti	ons
ARE-EDR	ZM Type II Medium ZMB Type II Medium w/BLS ZMP Type II Medium w/Partial BLS 3M Type III Medium 3MB Type III Medium w/BLS	3MP Type III Medium w/Partial BLS 4M Type IV Medium 4MB Type IV Medium w/BLS 4MP Type IV Medium w/Partial BLS 5M Type V Medium 5S Type V Medium	R3 Spider, Center Terion, 2-3/8" to 3" OD R4 Spider, Center Direct, 4" Square R5 Spider, Center Direct, 5" Round	04** 06** 08** 10 12	E	UL Universal 120-277V UH Universal 347-480V	BK Black BZ Bronze SV Silver WH White	350 350mA 525 525mA 700 700m - Available with 40-60 LEDs	F HL P	D-10V Dimming - Control by others - Refer to Dimming soes sheet for detail - Refer to Dimming soes sheet for detail - Can't exceed specified drive current Fuse - When code dictates fusing, use time delay fuse - Available with UL voltage only - Available for U.S. applications only H/Low [Dust Circuit Input] - Refer to III, agges sheet for details - Sensor not fucuded - Available with UL voltage only - Colloc Compensature per Luminaire

c UL us	Rev. Date: V4 09/20/2016	CREE 🚓
US: lighting.cree.com/lighting T (800) 236-6800 F (262) 504-5415	Canada: www.cree.com/canada	T (800) 473-1234 F (800) 890-7507
Cree Edge™ LED Area Luminaire – Round		

Product Specifications	Electrical D	ata*						Ī
CONSTRUCTION & MATERIALS		Ĭ	Total Cur	rent (A)				
<ul> <li>Slim, low profile, minimizing wind load requirements</li> </ul>		System	Total our	Tent (A)				_
<ul> <li>Luminaire sides are rugged die cast aluminum with integral, weathertight LED driver compartment, spun vented cover, and high performance aluminum heat sinks</li> </ul>	LED Count (x10)	Watts 120-480V	120V	208V	240V	277V	347V	
<ul> <li>R3 spider mount hub slip-fits over a 2.375" [60mm] to 3" [76mm] 0.D. steel or aluminum tenon or pole and secures with eight set screws</li> </ul>	350mA	'						
<ul> <li>R4 spider mount fits directly inside 4" (102mm) square pole and secures to pole with four set screws</li> </ul>	04	46	0.36	0.23	0.21	0.20	0.15	
<ul> <li>R5 spider mount fits directly inside of a 5" (127mm) round pole to provide a clean hardware-less outer appearance</li> </ul>	06	66	0.52	0.31	0.28	0.26	0.20	
Includes leaf/debris guard	08	90	0.75	0.44	0.38	0.34	0.26	l
<ul> <li>Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to</li> </ul>	10	110	0.92	0.53	0.47	0.41	0.32	
corrosion, ultraviolet degradation and abrasion. Black, bronze, silver, and white are available	12	130	1.10	0.63	0.55	0.48	0.38	
<ul> <li>Weight: See Dimensions and Weight charts on pages 1 and 14</li> </ul>	525mA							
ELECTRICAL SYSTEM	04	70	0.58	0.34	0.31	0.28	0.21	Ī
<ul> <li>Input Voltage: 120-277V or 347-480V, 50/60Hz, Class 1 drivers</li> </ul>		1						H
<ul> <li>Power Factor: &gt; 0.9 at full load</li> </ul>	06	101	0.84	0.49	0.43	0.38	0.30	l
<ul> <li>Total Harmonic Distortion: &lt; 20% at full load</li> </ul>	08	133	1.13	0.66	0.58	0.51	0.39	Γ
<ul> <li>10V Source Current: 40-80 LEDs: 0.15mA; 100-120 LEDs: 0.30mA</li> </ul>		1	-					ł
<ul> <li>Integral 10kV surge suppression protection standard</li> </ul>	10	171	1.43	0.83	0.74	0.66	0.50	l
<ul> <li>When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current</li> </ul>	12	202	1.69	0.98	0.86	0.77	0.59	
REGULATORY & VOLUNTARY QUALIFICATIONS	700mA							
cULus Listed	04	93	0.78	0.46	0.40	0.36	0.27	T
Suitable for wet locations	04	70	0.78	0.40	0.40	0.36	0.21	ļ
<ul> <li>Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions</li> </ul>	06	134	1.14	0.65	0.57	0.50	0.39	
<ul> <li>Enclosure rated IP66 per IEC 60529 when ordered without P option</li> </ul>	* Electrical data at	t 25°C (77°F). Actua	ıt wattage may	aitter by +/- 1	u% wnen oper	ating between	12U-480V +/-	10

06 * Flectr	13	4	1.14	0.65	0.57	0.50	0.39	
* Flectr								0.29
	rical data at 25°C	(77°F). Actual w	attage may d	liffer by +/- 1	0% when operat	ing between '	20-480V +/-	10%
Rec	commended	Cree Edge™	Series L	umen Ma	aintenance F	actors (L	MF)¹	
Amb	bient	Initial				75K hr Calculat		0K hr Iculated <sup>3</sup>
		LMIF	LMF	l l	_MF	LMF	LN	1F
5°C (41°F	FJ	1.04	1.01	0	1.99	0.98	0.9	6
10°C (50°F		1.03	1.00	0	.98	0.97	0.9	5
15°C (59°F		1.02	0.99	0	.97	0.96	0.9	4
20°C (68°F		1.01	0.98	0	1.96	0.95	0.9	3
25°C (77°F		1.00	0.97	0	.95	0.94	0.9	2
<sup>2</sup> In acco within packag <sup>3</sup> In acco	ordance with IES a six times [6X] the aged LED chip] cordance with IES	NA TM-21-11, Pn e IESNA LM-80-0 NA TM-21-11, Ca	ojected Value 18 total test d Iculated Valu	es represent luration (in h les represen	interpolated values) for the development time durations	ie based on t ice under tes that exceed s	me duration ing ((DUT) i. ix times (6X)	s that are e. the
	Rec   Ami	Recommended  Ambient  5°C [41°F] 10°C [50°F] 15°C [59°F] 20°C [66°F] 25°C [77°F] -1 Lumen maintenance with 165 within six times (Oat) and a six an	Recommended Cree Edge™  Ambient Initial LMF  5°C [41°F] 1.04  10°C [50°F] 1.03  15°C [50°F] 1.02  20°C [68°F] 1.01  25°C [77°F] 1.00  1-Lumen maintenance values at 25°C are in accordance with IESNA TM-21-11, Privation is times [60] the IESNA LM-83-3 and accordance with IESNA Companies of the IESNA LM-83-3 and accordance with IESNA TM-21-11, Privation as times [60] the IESNA LM-83-3 and accordance with IESNA TM-21-11, Privation and IESNA TM-21-11, Privation and IESNA LM-83-3	Recommended Cree Edge™ Series L	Recommended Cree Edge™ Series Lumen Management   Initial LMF   25K hr Projected* LMF   LMF	Recommended Cree Edge <sup>TM</sup> Series Lumen Maintenance F	Recommended Cree Edge™ Series Lumen Maintenance Factors (LI	Ambient   Initial LMF   Projected*   Projected*   Calculated*   Calcul

CREE 💠

T (800) 473-1234 F (800) 890-7507

# **CANOPY**



SYMBOL:	QTY:	LABEL:
	16	С

### CAN-228-SL-RM-09-E-UL-WH-700-57K







CAN-228				E				
Product	Optic	Mounting	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options
CAN-228	5M Type V Medium SL Sparkle Petroleum PS Petroleum Symmetric	RM Recessed	03 - Available with SL optic only 06 09	E	UL Universal 120-277V UH Universal 347-480V	BK Black BZ Bronze SV Silver WH White	350 mA - Available with 90 LEDs only 525 525 mA 700° 700 mA 900° 900 mA 900° - Available with UL voltage only - Available with 60 LEDs only	DIM 0-10V Dimming Control by others Refer to Dimming spec sheet for detai Can't exceed specified drive current ML Mutti-Level Refer to MI. spec sheet for details MP. Programmable Mutti-Level Refer to PMI. spec sheet for details 404 4000K Color Temperature Color temperature Unimaire Minimum 70 CRI

							- Available with 60 LEDs only	- Minimum 70 CRI	
	* 60 LED luminaires with 900mA drive cur center to side building member, 6" (1524 NOTE: Price adder may apply depending of the price adder may apply depending of the price adder may apply depending the price adder may apply dependent may apply depending the price adder may apply depending the price adder may apply depending the price adder may apply dependent may apply dependent may apply depending the price adder may apply dependent may apply dependent may apply dependent may appl	mm) top of lumi	naire to overhead building member	ed spacing:	48" x 24" x 6" (1,	219mm x 610m	nm x 152mm]; 48" [1,219mm] center-to-ce	enter of adjacent luminaires, 24	(610mm) luminaire
	cŲLus 👊						Rev. Date: V2 08/03/2016	CRE	E 💠
	US: lighting.cree.com/lighting	T (800) 2	36-6800 F (262) 504-5415			C	anada: www.cree.com/canada	T [800] 473-1234	F (800) 890-7507
2	28 Series™ LED Recesse	ed Canop	y Luminaire						

oduct Specifications										
oddet Specifications	Electrical	Data*								
NSTRUCTION & MATERIALS		1	Total Cur	ront						
Slim, low profile, easy mounting from below or above the deck		System	lotal current							
Luminaire sides are rugged cast aluminum with high performance extruded aluminum heat sink specifically designed for LED	LED Count (x10)	Watts 120-480V	120V	208V	240V	277V	347V	480\		
Luminaire mounts directly to the canopy deck and is secured in place with compression molded trim frame	350mA									
Luminaire is provided with factory applied foam gasket and provides for a weathertight seal between luminaire housing and canopy deck	09	99	0.83	0.48	0.42	0.38	0.29	0.22		
Suitable for single or double skin canopies with 12" (305mm) or 16" (406mm) wide panels. Designed for canopies of 16-22 gauge (maximum 0.065" [1.65mm] thickness)	525mA	1								
Weathertight driver compartment is constructed of anodized extruded aluminum for exceptional corrosion resistance and thermal performance	03	54	0.45	0.28	0.25	0.23	0.16	0.12		
Integral weathertight junction box with 4.5" (114mm) IP threaded	06	99	0.83	0.48	0.42	0.38	0.29	0.22		
connection points. Rated for feed through 8 (4 in, 4 out) #12 AWG conductors	09	155	1.32	0.76	0.68	0.61	0.45	0.34		
Below ceiling serviceable driver tray for ease of upgrade or replacement	700mA									
Field adjustable drive current. Can't exceed drive current specified in part number. Exception is 90 LEDs at 350mA which can be adjusted to 525mA	03	70	0.58	0.35	0.31	0.28	0.21	0.16		
Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer	06	132	1.11	0.66	0.57	0.50	0.39	0.28		
with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver, and white are available	09	201	1.64	0.96	0.84	0.75	0.59	0.44		
Weight: See Dimensions and Weight chart on page 1	900mA		,		_					
ECTRICAL SYSTEM	06	180	1.53	0.91	0.79	0.70	N/A	N/A		
Input Voltage: 120-277V or 347-480V, 50/60Hz, Class 1 drivers	* Electrical data	at 25°C (77°F)								
Power Factor: > 0.9 at full load										
Total Harmonic Distortion: < 20% at full load										
Maximum 10V Source Current: 30-60 LED: 0.15mA; 90 LED: 0.30mA										
Integral 10kV surge suppression protection standard	Recomme	nded 228 Serie	es™ Lumei	Mainter	ance Facto	rs (LMF)				
To address inrush current, slow blow fuse or type C/D breaker should be used	Ambient	Initial LMF	25K hr Projected	2 Pr	K hr ojected <sup>2</sup>	75K hr Calculate	ed <sup>3</sup> C	100K hr Calculate		
GULATORY & VOLUNTARY QUALIFICATIONS		E-H	LMF	LN	1F	LMF	L	_MF		
cULus Listed	5°C (41°F)	1.04	0.99	0.9	7	0.95	0.	.93		
Suitable for wet locations			-	-		-	-			

US: lighting.cree.com/lighting T (800) 236-6800 F (262) 504-5415

Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver,	06	201	1.11	0.66	0.57	0.50	0.39	0.28
and white are available	900mA	1-4.					1,	1 44
Weight: See Dimensions and Weight chart on page 1	700IIIA	1			г			_
LECTRICAL SYSTEM	06	180	1.53	0.91	0.79	0.70	N/A	N/A
Input Voltage: 120-277V or 347-480V, 50/60Hz, Class 1 drivers	* Electrical data	at 25°C [77°F]						
Power Factor: > 0.9 at full load								
Total Harmonic Distortion: < 20% at full load								
Maximum 10V Source Current: 30-60 LED: 0.15mA; 90 LED: 0.30mA								
Integral 10kV surge suppression protection standard	Recommen	nded 228 Serie:	s™ Lumen	Maintena	nce Factor	rs (LMF)		
To address inrush current, slow blow fuse or type C/D breaker should be used	Ambient	Initial LMF	25K hr Projected <sup>2</sup> LMF	50K Proj LMF	ected <sup>2</sup>	75K hr Calculate LMF	d <sup>3</sup> C	00K hr Calculated <sup>3</sup> MF
REGULATORY & VOLUNTARY QUALIFICATIONS CULus Listed	5°C [41°F]	1.04	0.99	0.97		0.95		.93
Suitable for wet locations	3 C [41 F]	1.04	U.99	0.77		0.75	0.	73
Meets FCC Part 15 Class A standards for conducted and radiated emissions	10°C (50°F)	1.03	0.98	0.96		0.94	0.	.92
10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2	15°C (59°F)	1.02	0.97	0.95		0.93	0.	.91
Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt for conditions as defined in ASTM Standard B 117		1.01	0.96	0.94		0.92	-	90
Meets Buy American requirements within ARRA	25°C (77°F)	1.00	0.95	0.93		0.91	0.	.89
DLC qualified when ordered with PS or SL optics with 60 LEDs and 525 or 700mA drive current. Please refer to www.designlights.org/QPL for most current information	<sup>2</sup> In accordance w are within six ti packaged LED of <sup>2</sup> In accordance w	ance values at 25°C, ith IESNA Th-21-11, mes (6X) the IESNA L chipl ith IESNA TM-21-11, test duration (in hour	Projected Value M-80-08 total Calculated Value	es represent est duration ( ues represen	nterpolated w in hours) for t time duration	alue based on he device und ns that exceed	time durat er testing ( six times (	ions that [DUT] i.e. the

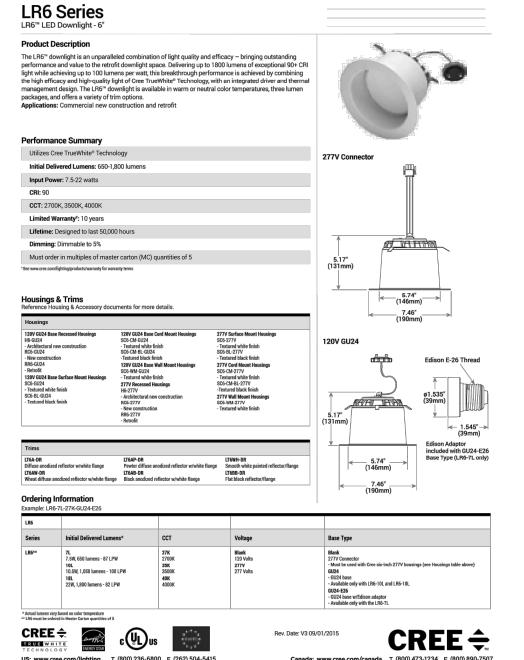
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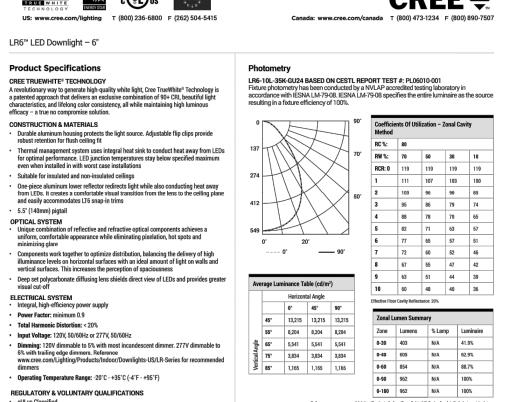
## **SOFFIT**



SYMBOL:	QTY:	LABEL:
	28	S

### LR618L-40K-120V-A-DR +RC6 HOUSING





						detailed i	eference www.cree.com/Li installation instructions	gnung/Products/Indo	or/vownights-US/	LM-SerieS TOF			
	on Referenc	e											
Open Space					Corridor								
Spacing	Lumens	Wattage	LPW	w/ft <sup>2</sup>	Average FC		Spacing	Lumens	Wattage	LPW	w/ft <sup>e</sup>	Average FC	
4 x 4				0.63	62		4' on Center				0.44	27	
6 x 6	1.000	10.5	100	0.29	29		6' on Center	1.050	10.5	100	0.28	17	
8 x 8	1,050	1,050	10.5	100	0.16	16		8' on Center	1,050	10.5	100	0.21	13
10 x 10				0.11	11		10 <sup>t</sup> on Center				0.18	11	
	20 Reflectances, 2.5 wo				11		10' on Center 10' Ceiling, 80/20/50 Refi			1			

Designed to easily install in standard 6" (152mm) downlight housings with minimum depth 6.5" (165mm) and diameter of 5.75" - 6.25" (146mm - 159mm)

Canada: www.cree.com/canada T (800) 473-1234 F (800) 890-7507

ENERGY STAR® qualified. Please refer to

Exceeds California Title-24 high efficacy luminaire requirements when ordered with GU24 base or 277V. Please refer to www.appliances.energy.ca.gov/AdvancedSearch.aspx for most current information.

Meets FCC Part 15 standards for conducted and radiated emissions

US: www.cree.com/lighting T (800) 236-6800 F (262) 504-5415

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RL-4986-S1

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REV:	DATE:	COMMENT:	BY:
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$\succeq$			
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PLANNING & DEVELOPMENT **BOARD SUBMITTAL** 

PROJECT No.

DRAWN BY:

CHECKED BY: DATE: CAD I.D.:	N 01-09-20 F160039 LIGHTINGPL
PROJECT:	
PROJECT:	
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CUMBEI	RLAND FARM

STATE ROAD 84 & **SW 30TH AVENUE** 

> **CUMBERLAND** FARMS, INC.

CITY OF HOLLYWOOD BROWARD COUNTY, FLORIDA



RADICE III 1000 CORPORATE DRIVE, SUITE 250 FORT LAUDERDALE, FL 33334 PH: (954) 202-7000 FX: (954) 202-7070 www. Thomas Engineering Group.com

PROFESSIONAL ENGINEER March 13, 2018 FLORIDA LICENSE No. 50572 FLORIDA BUSINESS CERT. OF AUTH. No. 27528

LIGHTING DETAILS

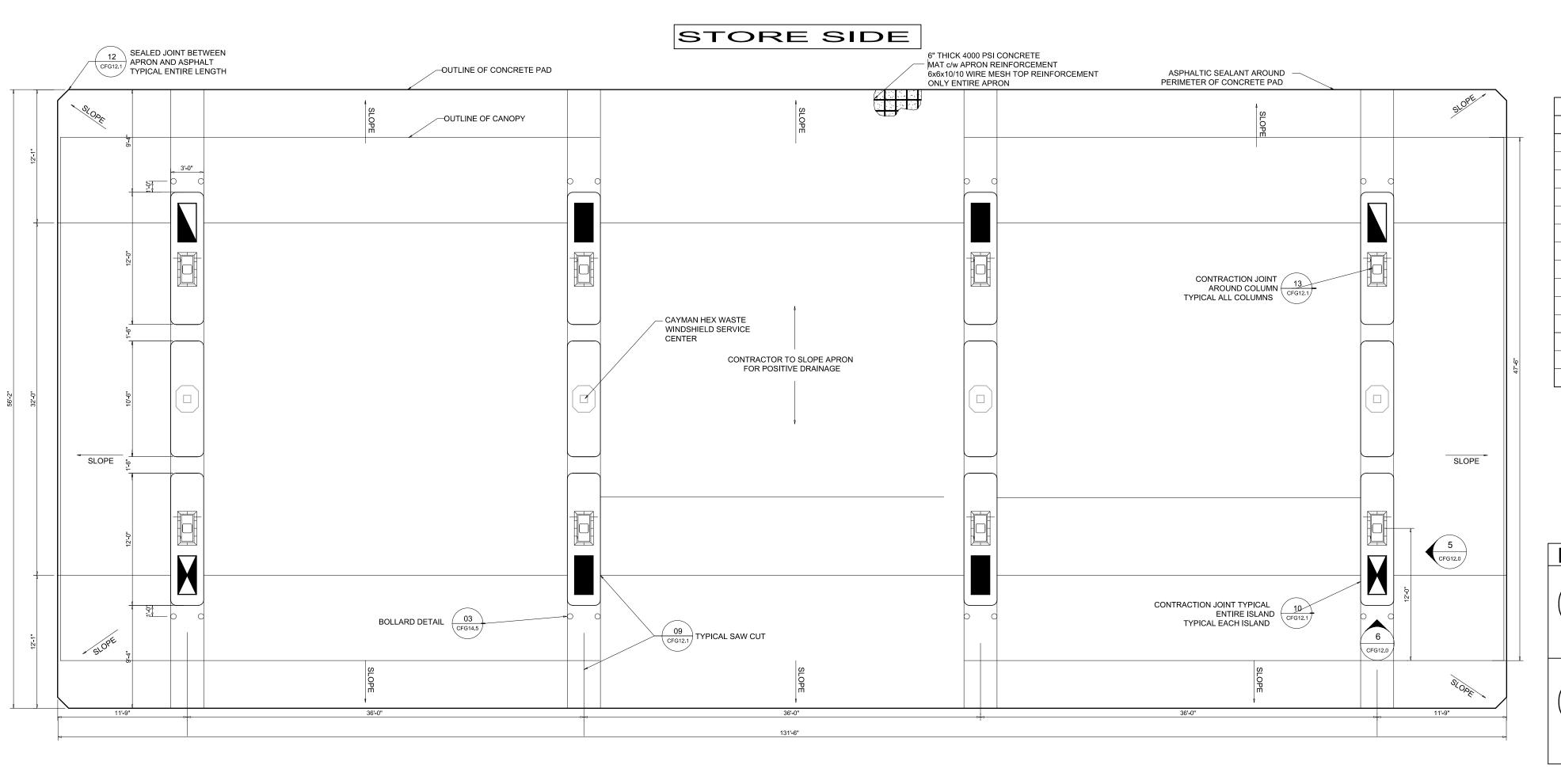
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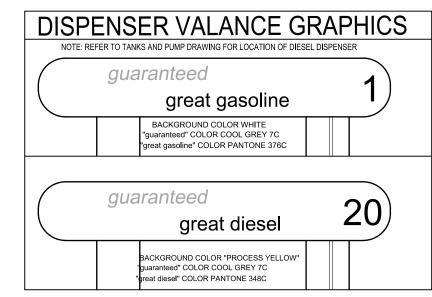
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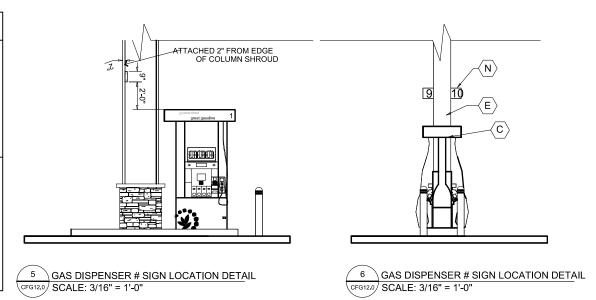
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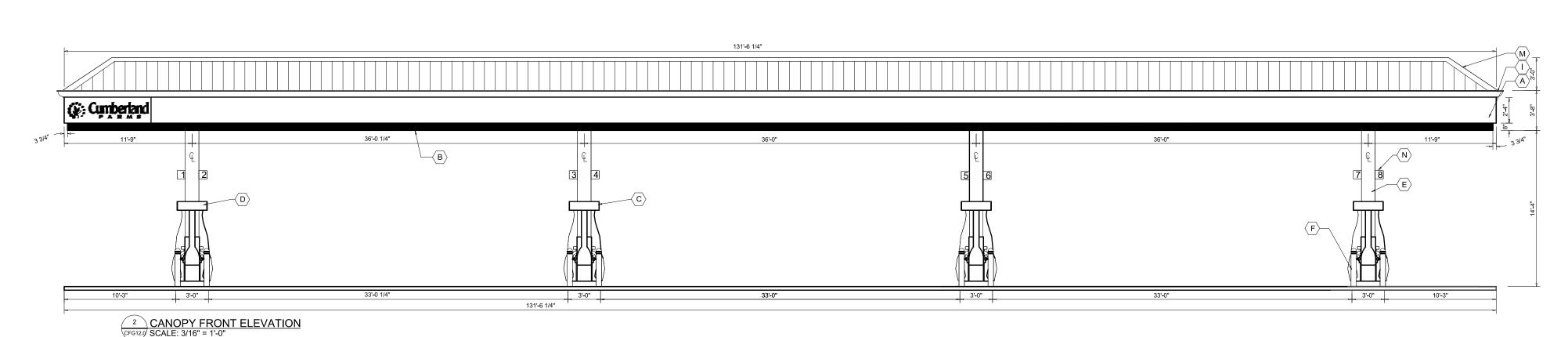
PAGE 2 OF 2



CANOPY DETAIL SCHEDULE									
MARK	DESCRIPTION	MANUFACTURER	MODEL	COLOR	QUANTITY	REMARKS			
А	CANOPY FASCIA	ALCOA	ACM: RYNOBOND	SHELL WHITE	PER PLAN	BY CANOPY MFR.			
В	CANOPY STRIPING	ALCOA	ACM: RYNOBOND	" OUT RAGEOUS GREEN"	PER PLAN	8" ACM, BY CANOPY MFR.			
С	MULTI-PRODUCT DISPENSER	WAYNE	OVATION B12		PER PLAN	SUPPLIED BY KENNEDY			
D	3+1 DIESEL DISPENSER	WAYNE	OVATION B23		PER PLAN	SUPPLIED BY KENNEDY			
E	CANOPY COLUMN BASE CAPS	BROSCO/TURNCRAFT	18" DIA. CAP AND BASE TUSCAN	SHELL WHITE	PER PLAN	COLUM N WITH BAS E AND CAPITALS, BY CANOPY MFR.			
F	BOLLARDS	UNIVERSAL	6" OD X 42"H	SHELL WHITE	PER PLAN	STEEL BOLLARD WITH PVC SLEEVE BY CFI			
G	CULTURED STONE VENEER	OWENS CORNING CULTURED STONE	CSV-2028 SOUTHERN LEDGESTONE	ECHO RIDGE	PER PLAN	BY CUMBERLAND FARMS INSTALLED BY GC			
Н	CULTURED STONE CAPS	OWENS CORNING CULTURED STONE	CSV-2028 SOUTHERN LEDGESTONE	ECHO RIDGE	PER PLAN	BY CUMBERLAND FARMS INSTALLED BY GC			
ı	DECORATIVE MOULDING	SEE CANOPY MANUFACTURER		SHELL WHITE	PER PLAN	BY CANOPY MFR MATCHING BLDG.			
J	DISPENSER ISLAND FORM	RIVERSIDE STEEL		STAINLESS STEEL	PER PLAN	SUPPLIED BY KENNEDY			
К	DISPENSER LED PUMP TOPPER	ABLE		BLACK W/ RED, GREEN, & WHITE LEDS	PER PLAN	SMARTPAY ALTERNATOR SUPPLIED BY KENNEDY			
L	HAND OPERATED 40BC FIRE EXTINGUISHER	LARSON			PER PLAN	ALL CABINETS IN COLUMN FACING STORE SIDE			
М	CANOPY ROOFING					METAL STANDING SEAM			
N	DISPENSER NUMBERING SIGN			WHITE W/ GREEN #	8	PROVIDED BY CFI, DISPENSER# DECAL TO BE APPLIED IN THE FIELD BY GC			



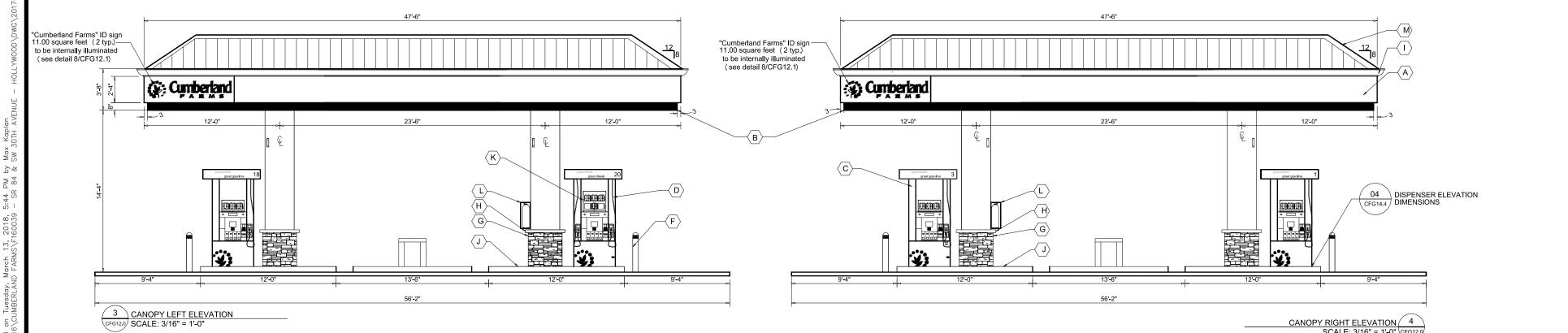


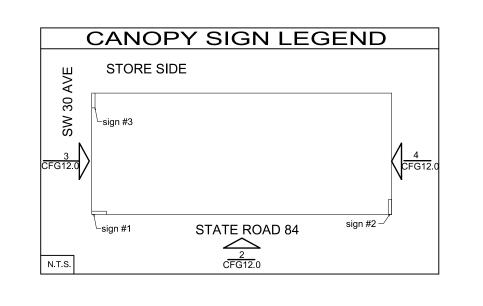


NOTES:
1. COORDINATE APRON ELEVATIONS WITH CIVIL DRAWINGS AND FIELD ELEVATIONS.
2. DISPENSER SUMPS TO BE SET IN PLACE AND USED AS A FORM TO POUR CONCRETE AROUND.
3. CONCRETE SPECIFICATIONS:
-SOIL BEARING CAPACITY REQ'D: AS PER GEOTECHNICAL REPORT
-CONC. STRENGTH: 4000psi @ 28 DAYS 3% TO 7% AIR,

TROWELLED SMOOTH FINISH WITH TWO COATS SEALING/CURING COMPOUND.
-CANOPY FOOTING CONC. STRENGTH: REFER TO DRAWINGS PROVIDED BY MANUFACTURER

4. ALL EQUIPMENT INSTALLATIONS MUST COMPLY WITH MANUFACTURER'S SPECIFICATIONS.
5. ALL EQUIPMENT AND CONSTRUCTION ARE NEW AND FACILITY IS TO BE ATTENDED SELF-SERVICE.
6. REFER TO CANOPY MANUFACTURERS DRAWINGS FOR SPECIFIC CANOPY FOOTING OPTIONS.
7. REFER TO CANOPY MANUFACTURERS DRAWINGS FOR ARCHITECTURAL DETAILS ON CANOPY AND COLUMNS.
8. SEE CIVIL PLANS FOR ORIENTATION ON SITE, AND FOR TRAFFIC FLOW
9. REFER TO CANOPY DETAIL SCHEDULE ON SHEET CFG12.1 FOR ADDITIONAL INFORMATION
10. GC TO COORDINATE THE SPECIFIC LOCATIONS OF THE APRON EXPANSION JOINTS BASED ON THE FINAL POSITIVE LIMITING BARRIER DESIGN. REFER TO THE FIRE SUPPRESSION PLAN FOR THE PLB LAYOUT





REVISIONS:
REV: DATE: COMMENT: BY:

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PLANNING & DEVELOPMENT BOARD SUBMITTAL

www.callsunshine.com

PROJECT No.: F160039
DRAWN BY: JFV
CHECKED BY: MAT
DATE: 01-09-2018
CAD I.D.: F160039 CANOPY ELEVATIONS

PROJECT:

CLIMBERIAND FARMS

CUMBERLAND FARMS STATE ROAD 84 & SW 30TH AVENUE

CUMBERLAND FARMS, INC.

CITY OF HOLLYWOOD BROWARD COUNTY, FLORIDA



RADICE III
1000 CORPORATE DRIVE, SUITE 250
FORT LAUDERDALE, FL 33334
PH: (954) 202-7000
FX: (954) 202-7070
www.ThomasEngineeringGroup.com

MICHAEL A. TROXELL

PROFESSIONAL ENGINEER
March 13, 2018
FLORIDA LICENSE No. 50572
FLORIDA BUSINESS CERT. OF AUTH. No. 27528

SHEET TITLE:

**CANOPY ELEVATIONS** 

SHEET NUMBER:

CFG12.0