

TREE MITIGATION SPECIFICATIONS

- 1. CONTRACTOR SHALL ADHEAR TO ALL TREE PROTECTION REQUIREMENTS LISTED IN THESE SPECIFICATIONS AND/OR THOSE LISTED IN THE CITY OR COUNTY ZONNING CODE, TREE PROTECTION (LATEST EDITION). WHICHEVER IS MORE STRINGENT SHALL APPLY.
- 2. ANY AREAS SUBJECT TO EROSION MUST BE ADEQUATELY STABILIZED WITH VEGETATION MATERIAL THAT WILL, WITHIN A REASONABLE TIME FRAME, DETER SOIL DISTURBANCE
- 3. NO SIGNS, BUILDING PERMITS, WIRES OR OTHER ATTACHMENTS OF ANY KIND SHALL BE ATTACHED TO ANY TREE OR PALM. GUY WIRES DESIGNED TO PROTECT TREES ARE EXCLUDED FROM THIS PROHIBITION.
- EXISTING TREE LOCATIONS AND SIZES ARE ESTIMATES AND ARE BASED ON A SURVEY PROVIDED BY THE OWNER SELECTED
- 5. CONTRACTOR SHALL COORDINATE TREE REMOVAL WITH PERMITTING AGENCY AND PROJECT ARBORIST PRIOR TO CONSTRUCTION. NO PERSON MAY REMOVE OR CAUSE TO BE REMOVED ANY PROTECTED TREE OR PALM WITHOUT FIRST HAVING PROCURED A PERMIT AS PROVIDED BY THE APPROPRIATE PERMITTING AGENCY.
- FOR PROTECTED TREES OR PALMS BEING REMOVED, THE CONTRACTOR MUST GIVE THE PERMITTING AGENCY REASONABLE OPPORTUNITY TO RELOCATE TREES DESIGNATED FOR REMOVAL TO ANOTHER SITE AT THE PERMITTING AGENCY'S EXPENSE.
- CONTRACTOR IS RESPONSIBLE FOR POSSESSING ALL REQUIRED APPLICATOR LICENSES, BUSINESS REGISTRATIONS AND INSURANCE, PESTICIDE LABELS, AND MATERIAL DATA SAFETY SHEETS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR HAVING ALL SPILL CONTAINMENT MATERIALS AND REQUIRED PERSONAL PROTECTIVE EQUIPMENT FOR PESTICIDE APPLICATIONS AND ACCIDENTAL SPILLS ON SITE AT ALL TIMES. THE OWNER RESERVES THE RIGHT TO INSPECT EACH APPLICATOR AND HAVE THESE MATERIALS PRESENTED BEFORE AND DURING ANY PESTICIDE TREATMENT.
- WHERE TRAFFIC AREAS ARE PROPOSED WITHIN THE DRIP LINE OF PROTECTED TREES AND LESS THAN FOUR (4) INCHES OF GRADE CHANGE ARE PROPOSED, PERMEABLE SURFACES THAT ALLOW AIR AND WATER INTO THE SOIL SHOULD BE USED IN LIEU OF ASPHALT OR OTHER SUCH IMPERVIOUS SURFACES.
- TREE WELLS OF AN APPROVED DESIGN SHALL BE CONSTRUCTED AROUND ALL TREES TO BE PRESERVED WHEN MORE THAN FOUR INCHES OF FILL IS TO BE DEPOSITED WITHIN THE DRIP LINE AREA OF THOSE TREES. COORDINATE WITH PROJECT ARBORIST.
- 10. THE SEQUENCE OF TREE MITIGATION AND PRESERVATION MEASURES IS IMPERATIVE TO THE HEALTH AND SURVIVABILITY OF THE SUBJECT TREES AND SHALL BE COORDINATED WITH THE OWNER SELECTED PROJECT ARBORIST. THE DESIRED SEQUENCE IS **OUTLINED BELOW:**
- TREE PROTECTION FENCING.
- b. ROOT PRUNING AND ROOT BARRIERS.
- c. CLEARING.
- TREE CANOPY PRUNING.
- e. FERTILIZATION.
- f. INSECTICIDE g. IRRIGATION.

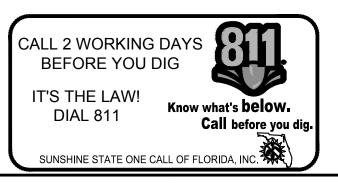
B. TREE PROTECTION FENCING

- PRIOR TO THE ERECTION OF ANY TREE PROTECTION FENCING, ALL FOREIGN SURFACE MATERIAL, TRASH OR DEBRIS SHALL BE REMOVED FROM THE AREA TO BE ENCLOSED BY THE FENCING. AFTER ERECTION OF THE FENCING NO SUCH MATERIAL OR LITTER SHALL BE PERMITTED TO REMAIN WITHIN THE PROTECTED AREA.
- 2. TREE PROTECTION FENCING SHALL BE PLACED AROUND ALL PROTECTED TREES TO CREATE A PROTECTIVE ROOT ZONE AND SHALL REMAIN IN PLACE UNTIL SITE CLEARING, LAND ALTERATION, AND CONSTRUCTION ACTIVITIES ARE COMPLETE.
- NATIVE GROUND COVER AND UNDERSTORY VEGETATION EXISTING WITHIN THE PROTECTED AREA SHALL REMAIN THROUGHOUT CONSTRUCTION. OTHER DESIGNATED VEGETATION AND INVASIVE PLANT SPECIES SHALL BE REMOVED ONLY BY MANUAL LABOR UTILIZING HAND TOOLS, OR BY OTHER METHODS APPROVED BY THE PROJECT ARBORIST.
- TREE PROTECTION FENCING TYPES AND LOCATIONS SHALL BE ERECTED AS SHOWN ON THE TREE MITIGATION PLANS AND DETAILS, OR AS REQUESTED BY LOCAL AGENCY.
- FINAL LOCATIONS SHALL BE COORDINATED WITH AND APPROVED BY THE PROJECT ARBORIST.
- NO MATERIALS, EQUIPMENT, SPOIL, WASTE OR WASHOUT WATER MAY BE DEPOSITED, STORED, OR PARKED WITHIN 20 FEET OF THE TREE PROTECTION ZONE.
- EROSION CONTROL DEVICES SUCH AS SILT FENCING, DEBRIS BASINS, AND WATER DIVERSION STRUCTURES SHALL BE INSTALLED TO PREVENT SILTATION AND/OR EROSION WITHIN THE TREE PROTECTION ZONE.
- 8. CONSTRUCTION ACTIVITY SHALL NOT DESTROY OR IRREVERSIBLY HARM THE ROOT SYSTEM OF PROTECTED TREES. POST HOLES AND TRENCHES LOCATED CLOSE TO PROTECTED TREES SHALL BE ADJUSTED TO AVOID DAMAGE TO MAJOR ROOTS.
- DO NOT INSTALL CONDUIT, DRAIN OR IRRIGATION LINES, OR ANY UTILITY LINE WITHIN THE TREE PROTECTION ZONE WITHOUT THE APPROVAL OF THE PROJECT ARBORIST. IF LINES MUST TRAVERSE THE PROTECTION AREA, THEY SHALL BE TUNNELED OR BORED
- 10. CONTRACTOR'S ACCESS TO FENCED TREE PROTECTION AREAS WILL BE PERMITTED ONLY WITH APPROVAL OF THE PROJECT
- 11. EXCAVATION OR GRADING REQUIRED WITHIN THE PROTECTED AREA SHALL BE LIMITED TO THREE (3) INCHES OF CUT OR FILL.
- COORDINATE WITH PROJECT ARBORIST. 12. STRUCTURES AND UNDERGROUND FEATURES TO BE REMOVED WITHIN THE TREE PROTECTION ZONE SHALL BE COORDINATED
- WITH THE PROJECT ARBORIST. 13. TREE PROTECTION FENCING AROUND TREES TO BE RELOCATED SHALL BE ERECTED UNTIL THE TREE IS READY TO BE RELOCATED AND NEW FENCING SHALL BE ERECTED AT THE TREES NEW LOCATION AND WILL REMAIN IN PLACE UNTIL ALL CONSTRUCTION
- 14. IF ANY DAMAGE TO TREE PROTECTION FENCING SHOULD OCCUR BY ACCIDENT OR NEGLIGENCE, THE CONTRACTOR SHALL BE
- 15. IF TEMPORARY HAUL OR ACCESS ROADS MUST PASS OVER THE PROTECTED AREA OF TREES TO BE PRESERVED, A ROAD BED OF SIX (6) INCHES OF MULCH OR GRAVEL SHALL BE CREATED TO PROTECT THE SOIL. THE ROAD BED MATERIAL SHALL BE REPLENISHED AS NECESSARY TO MAINTAIN A SIX (6) INCH ROAD BED AT ALL TIMES. CONTRACTOR SHALL REMOVE ALL SUCH MATERIALS FROM THE SITE AS SOON AS TEMPORARY ACCESS IS NO LONGER NECESSARY.
- 16. CONTRACTOR SHALL COORDINATE WITH THE PROJECT ARBORIST PRIOR TO THE REMOVAL OF ALL TREE PROTECTION FENCING.
- 1. TRENCHING LOCATIONS SHALL BE APPROVED IN THE FIELD BY THE PROJECT ARBORIST.
- TRENCHING EQUIPMENT THAT WILL TURN AT HIGH RPM'S IS PREFERRED, AND SHALL BE APPROVED BY THE PROJECT ARBORIST. APPROVED EQUIPMENT WILL BE USED TO PERFORM ALL ROOT PRUNING OPERATIONS. A MINIMUM DEPTH OF THREE FEET IS
- 3. INSTALL ROOT BARRIER WHERE DESIGNATED. SEE TREE MITIGATION PLAN AND DETAIL SHEETS.
- 4. THE TRENCH SHALL BE BACKFILLED WITH PREVIOUSLY EXCAVATED SOIL AND COMPACTED IMMEDIATELY.
- 5. TREES TO BE RELOCATED SHALL BE ROOT PRUNED A MINIMUM OF TWELVE (12) WEEKS PRIOR TO TREE RELOCATION.
- WHEN THE TREE ROOT ZONE WILL BE DISTURBED, AFFECTED ROOTS MUST BE SEVERED BY CLEAN PRUNING CUTS AT THE POINT WHERE CONSTRUCTION IMPACTS THE ROOTS.

D. CLEARING

C. ROOT PRUNING/TRENCHING

- 1. ANY BRUSH CLEARING REQUIRED WITHIN THE TREE PROTECTION ZONE SHALL BE ACCOMPLISHED WITH HAND-OPERATED
- CONTRACTOR SHALL CLEAR ALL TREE PROTECTION AREAS OF VINES, SHRUBS, GROUND COVERS, WEEDS, SAPLINGS, AND INVASIVES LISTED ON THE LATEST EDITION OF THE FLORIDA EXOTIC PEST PLANT COUNCIL'S LIST OF INVASIVE SPECIES.
- 3. PROJECT ARBORIST MUST APPROVE METHODS OTHER THAN HAND CLEARING.
- 4. A TWO (2) INCH LAYER OF MULCH SHALL BE APPLIED OVER THE SURFACE OF EXPOSED ROOTS OF PROTECTED TREES DURING THE



SITE CLEARING PHASE.

TREE CANOPY PRUNING

TREE PRUNING SPECIFICATIONS SHALL BE DEFINED BASED ON SPECIFIC RECOMMENDATIONS OF THE PROJECT ARBORIST. INFORMATION PRESENTED BELOW SHOULD BE USED AS A GUIDELINE.

- 1. CONTRACTOR SHALL VISIT THE SITE WITH THE PROJECT ARBORIST TO VERIFY THE EXTENT OF REQUIRED PRUNING.
- ALL PRUNING SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A QUALIFIED INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST OR AN AMERICAN SOCIETY OF CONSULTING ARBORISTS (ASCA) REGISTERED CONSULTING ARBORIST (RCA).
- 3. AT LEAST ONE MEMBER OF THE PRUNING CREW SHALL BE AN ISA CERTIFIED ARBORIST.
- WHILE IN THE TREE, THE ARBORIST SHALL PERFORM AN AERIAL INSPECTION TO IDENTIFY DEFECTS THAT REQUIRE TREATMENT. ANY ADDITIONAL WORK NEEDED SHALL BE REPORTED TO THE OWNER.
- PRUNING CUTS SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE ANSI A300 PRUNING STANDARD (AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS) AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI Z133.1 SAFETY STANDARD. PRUNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ISA'S "BEST MANAGEMENT PRACTICES: TREE PRUNING"
- WHERE TEMPORARY CLEARANCE IS NEEDED FOR ACCESS, BRANCHES SHALL BE TIED BACK TO HOLD THEM OUT OF THE CLEARANCE ZONE.
- NO MORE THAN 20 PERCENT OF LIVE FOLIAGE SHALL BE REMOVED WITHIN ANY TREE.
- 8. ALL TREES WITHIN THE PROJECT AREA SHALL BE PRUNED AS FOLLOWS:
 - a. LIVE BRANCH PRUNING SHOULD BE PERFORMED ONLY WHEN THE DANGER OF INSECT OR DISEASE INFESTATION IS NOT
- b. REMOVE STUBS. CUTTING OUTSIDE THE WOUND WOOD TISSUE THAT HAS FORMED AROUND THE BRANCH.
- c. CLEANING, FOR THE SELECTIVE REMOVAL OF DEAD, DISEASED, BROKEN, OR CROSSING BRANCHES DOWN TO ONE INCH IN DIAMETER OR AS DIRECTED BY THE PROJECT ARBORIST.
- d. PRUNING CUTS LARGER THAN 4 INCHES IN DIAMETER, EXCEPT FOR DEAD WOOD, SHALL BE AVOIDED.
- e. PRUNING CUTS THAT EXPOSE HEARTWOOD SHALL BE AVOIDED WHENEVER POSSIBLE
- ALL TREES WITH CROWNS THAT PROJECT INTO PARKING LOT/ROADWAY AREAS SHALL BE RAISED TO 14 FEET ABOVE
- ALL TREES WITH CROWNS THAT PROJECT INTO SIDEWALK AREAS SHALL BE RAISED TO A HEIGHT OF 8 FEET ABOVE FINISHED
- TREES, WHO'S ROOT SYSTEMS WILL BE IMPACTED SHALL RECEIVE THE FOLLOWING PRUNING TO COMPENSATE FOR ROOT LOSS:
- a. THE LOCATION AND SIZE OF BRANCHES FOR REDUCTION SHALL BE DEFINED BY THE PROJECT ARBORIST.
- b. REDUCTION, OR THE SELECTIVE PRUNING TO REDUCE TREE HEIGHT OR SPREAD.
- REDUCE END WEIGHT ON HEAVY, HORIZONTAL BRANCHES BY SELECTIVELY REMOVING SMALL DIAMETER BRANCHES, NO GREATER THAN 2 TO 3 INCHES, NEAR THE ENDS OF SCAFFOLD BRANCHES.
- d. RAISING SHALL CONSIST OF SELECTIVE PRUNING TO PROVIDE VERTICAL CLEARANCE

10. PROPOSED/REPLACEMENT TREES

- a. PRUNING SHALL BE LIMITED TO CLEANING.
- BRUSH SHALL BE CHIPPED AND SPREAD (ONLY WHEN DISEASE OR INSECT INFESTATION IS NOT PRESENT) UNDERNEATH TREES WITHIN THE TREE PROTECTION ZONE TO A MAXIMUM DEPTH OF THREE (3) INCHES, LEAVING THE TRUNK CLEAR OF MULCH.
- 12. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EXCESS DEBRIS ON A DAILY BASIS.

F. FERTILIZATION

- CONTRACTOR SHALL COORDINATE FERTILIZATION PLAN, FOLLOWING BEST MANAGEMENT PRACTICES WITH THE PROJECT ARBORIST PRIOR TO COMMENCEMENT OF WORK.
- EVERY EFFORT SHALL BE MADE TO UTILIZE CHEMICALS OF AN ORGANIC OR BIODEGRADABLE NATURE IN ORDER TO OFFER THE LEAST IMPACT TO THE NATURAL ENVIRONMENT CONTRACTOR IS RESPONSIBLE FOR MIXING APPLYING AND DISPOSAL OF ALL CHEMICALS IN ACCORDANCE WITH STRICT ADHERENCE TO MANUFACTURER'S SPECIFICATIONS. COORDINATE WITH PROJECT ARBORIST FOR FURTHER INSTRUCTION.
- ONLY TREES AFFECTED BY CONSTRUCTION OR AS SHOWN ON THE TREE MITIGATION PLAN AND TREE INVENTORY SCHEDULE
- 4. TREES SPECIFIED TO RECEIVE FERTILIZER SHALL BE TREATED AS FOLLOWS.
- a. MIX FERTILIZER ACCORDING TO MANUFACTURER'S SPECIFICATIONS INTO A TANK WITH AGITATION CAPABILITY.
- b. MIX WETTING AGENT ACCORDING TO MANUFACTURER'S SPECIFICATIONS INTO SAME TANK WITH FERTILIZER. AGITATE MIX.

c. INJECT THE MIXTURE WITH A HYDRAULIC INJECTION SYSTEM INTO THE UPPER 6-12 INCHES OF SOIL WITH A SOIL PROBE.

- INJECT AT THE RATE OF ONE THIRD (1/3) GALLON AT EACH INJECTION SITE.
- d. THE CRITICAL ROOT ZONE AREA PLUS 2' BEYOND THE CRITICAL ROOT ZONE SHALL BE INJECTED, BUT NOT BEYOND ROOT
- e. FERTILIZER SHALL BE INSTALLED PRIOR TO THE INSTALLATION OF ANY AERATION SYSTEMS.
- f. EMPTY PRODUCT CONTAINERS SHALL BE STOCKPILED FOR INSPECTION BY THE PROJECT ARBORIST PRIOR TO DISPOSAL
- TRANSPLANT INOCULANT & BIOSTIMULANT.
- CONTRACTOR SHALL PROVIDE MYCORRHIZAL TRANSPLANT INOCULANT ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND AS RECOMMENDED BY THE PROJECT ARBORIST. MIX INOCULANT IN 10" WIDE TOPSOIL RING AROUND THE ROOT BALL.
- b. CONTRACTOR SHALL PROVIDE INJECTABLE MYCORRHIZAL INOCULANT ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND AS RECOMMENDED BY THE PROJECT ARBORIST. AGITATE FOR 10 MINUTES.
- INJECT THE MIXTURE WITH A HYDRAULIC INJECTION SYSTEM INTO THE UPPER 6-12 INCHES OF SOIL WITH A SOIL PROBE.
- INJECT AT THE RATE OF ONE THIRD (1/3) GALLON AT EACH INJECTION SITE.
- d. EMPTY PRODUCT CONTAINERS SHALL BE STOCKPILED FOR INSPECTION BY PROJECT ARBORIST PRIOR TO DISPOSAL. TRANSPLANT MAINTENANCE
 - a. APPROXIMATELY ONE YEAR AFTER PLANTING, THE CONTRACTOR SHALL REFERTILIZE ALL TRANSPLANTS UTILIZING THE SAME PROCEDURES ABOVE.

G. INSECTICIDE

- NOTIFY PROJECT ARBORIST IF ANY INFESTATION IS NOTICED.
- FOLLOW PROJECT ARBORIST'S RECOMMENDED PROCEDURES.
- 3. FOLLOW ALL MANUFACTURERS' RECOMMENDATIONS CONCERNING APPLICATION. READ ALL WARNING LABELS.
- ANY PETS, AS WELL AS, THE PETS FOOD AND WATER BOWLS SHOULD BE REMOVED FROM THE AREA AND ANY SWIMMING POOLS SHOULD BE COVERED. COORDINATE WITH PROJECT ARBORIST FOR FURTHER INSTRUCTION.
- 5. ENSURE COMPLETE COVERAGE AND REAPPLY 2-3 MONTHS AFTER INITIAL APPLICATION UTILIZING SAME PROCEDURE.

- EVERY EFFORT SHALL BE MADE TO WATER THE PRESERVED TREES AND TRANSPLANTS. CONTRACTOR SHALL IRRIGATE BY HAND OR BY TEMPORARY IRRIGATION.
- IRRIGATE AS REQUIRED BY PROJECT ARBORIST UNTIL PERMANENT IRRIGATION IS INSTALLED AND OPERATING.

UNDERGROUND IRRIGATION SHALL NOT BE INSTALLED WITHIN THE DRIP LINES OF EXISTING TREES UNLESS ROOT PROTECTION MEASURES ARE PROVIDED AND APPROVED BY PROJECT ARBORIST.

- PRIOR TO AND DURING LAND CLEARING, INCLUDING GRUBBING, ALL TREES TO BE REMOVED SHALL BE CLEARLY MARKED BY PROJECT ARBORIST WITH RED SURVEY RIBBONS AT 36 INCHES MINIMUM ABOVE GRADE.
- CONTRACTOR SHALL REMOVE ALL TREES AS SHOWN ON THE TREE MITIGATION PLANS AFTER THE TREE PROTECTION FENCING IS
- ALL TREES SHOWN TO BE REMOVED SHALL BE FELLED WITH A CHAIN SAW AND STUMP GROUND 6" BELOW SURFACE. ANY TREE SHOWN TO BE REMOVED THAT IS IN AN AREA WHERE COMPACTION IS CRITICAL SHALL BE FELLED WITH A CHAIN SAW AND STUMP
- ALL WOOD AND STUMPS FROM REMOVALS SHALL BE HAULED FROM THE SITE THE SAME DAY, EXCEPT FOR TOPS. ALL TOPS ARE TO BE MULCHED AND STOCKPILED OR HAULED DIRECTLY TO MULCHED AREAS FOR RELOCATED TREES IF SCHEDULING PERMITS. TOPS SHALL BE CHIPPED AND PLACED IN THE TREE PROTECTION ZONE TO A DEPTH OF THREE (3) INCHES. ALL EXCESS WOOD CHIPS SHOULD BE HAULED OFF SITE AFTER TRANSPLANTING IS COMPLETE.
- 5. ALL BURN PITS IF APPLICABLE MUST BE APPROVED BY THE PROJECT ARBORIST AND OWNER.
- TREES TO BE REMOVED THAT HAVE BRANCHES EXTENDING INTO THE CANOPY OF TREES TO REMAIN MUST BE REMOVED BY A QUALIFIED ISA CERTIFIED ARBORIST AND NOT BY DEMOLITION OR CONSTRUCTION CONTRACTORS. THE QUALIFIED ARBORIST SHALL REMOVE THE TREE IN A MANNER THAT CAUSES NO DAMAGE TO THE TREES AND UNDERSTORY VEGETATION TO REMAIN.
- TREES TO BE REMOVED LOCATED WITHIN THE TREE PROTECTION ZONE SHALL BE REMOVED BY A QUALIFIED ISA CERTIFIED ARBORIST. THE TREES SHALL BE CUT NEAR GROUND LEVEL AND THE STUMP GROUND OUT

J. MACHINE DUG TRANSPLANTING

- DIG TRANSPLANT-RECEIVING HOLE.
- 2. SET SPADE DUG ROOT BALL INTO RECEIVING HOLE 4"-6" ABOVE EXISTING GRADE.
- 3. WASH SAND OR TOPSOIL INTO AIR POCKETS BETWEEN ROOT BALL AND RECEIVING HOLE.
- INSTALL TOPSOIL RING, 4" HIGH, 10" WIDE, AROUND PERIMETER OF ROOT BALL. MIX MYCORRHIZAL TRANSPLANT INOCULANT INTO TOPSOIL RING PER MANUFACTURERS SPECIFICATIONS.
- 5. INSTALL THREE INCHES OF MULCH FROM PERIMETER OF ROOT BALL TO WITHIN 6" OF TREE TRUNK.
- 6. COVER TOPSOIL RING WITH 1" OF MULCH AND EXTEND MULCH 4"-6" DEEP, AWAY FROM PERIMETER OF ROOT BALL.

WATER TRANSPLANT. K. HOLDING AREA FOR TRANSPLANTS

- HOLDING AREAS SHOULD NOT BE NECESSARY. CONSTRUCTION PHASING SHOULD BE IMPLEMENTED SO THAT TREES ARE
- IMMEDIATELY RELOCATED TO THEIR PERMANENT LOCATION. COORDINATE WITH PROJECT ARBORIST AS NEEDED. 2. SHOULD A HOLDING AREA BE NECESSARY, TREE PROTECTION FENCING SHALL BE INSTALLED AT THE PERIMETER OF THE ENTIRE
- CONTRACTOR SHALL COORDINATE LOCATION AND SPECIFICATIONS OF THE HOLDING AREA WITH PROJECT ARBORIST.
- 4. CONTRACTOR SHALL SUPPLY TEMPORARY IRRIGATION TO THE HOLDING AREA CONSISTING OF ABOVE GROUND PVC OR POLYETHYLENE PIPE, SPRAY OR ROTOR HEADS (WITH HEAD TO HEAD COVERAGE) AND A CONTROLLER. COORDINATE WITH PROJECT ARBORIST FOR CONTROLLER SETTINGS AND ALTERNATIVE WATERING METHODS.

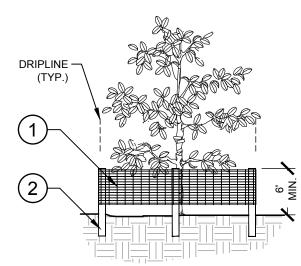
- CONTRACTOR SHALL COORDINATE ALL EARTHWORK OPERATIONS WITHIN TREE PROTECTION AREAS WITH THE PROJECT
- ALL TOPSOIL SHALL BE NATURAL, FRIABLE, FERTILE, FINE LOAMY SOIL POSSESSING CHARACTERISTICS OF REPRESENTATIVE TOPSOIL IN THE VICINITY THAT PRODUCES HEAVY GROWTH.
- TOPSOIL, PH RANGE OF 5.5 TO 7.0, 3-5 PERCENT ORGANIC MATERIAL MINIMUM, FREE FROM SUBSOIL, OBJECTIONABLE WEEDS, LITTER, SODS, STIFF CLAY, STONES LARGER THAN ONE (1) INCH IN DIAMETER, STUMPS, ROOTS, TRASH, TOXIC SUBSTANCES, OR ANY OTHER MATERIAL WHICH MAY BE HARMFUL TO PLANT GROWTH.
- VERIFY AMOUNT STOCKPILED IF ANY, AND SUPPLY ADDITIONAL AS NEEDED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST FOUR (4) INCHES DEEP. DO NOT OBTAIN TOPSOIL FROM BOGS OR MARSHES.
- PROJECT ARBORIST SHALL APPROVE ALL TOPSOIL PRIOR TO PLACEMENT

ASSESSED TO THE OWNER BY THE GOVERNING AGENCY.

M. REPAIR OF DAMAGED TREES

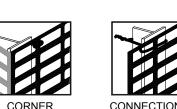
IF DAMAGE TO ANY TREE SHOULD OCCUR BY ACCIDENT OR NEGLIGENCE DURING THE CONSTRUCTION PERIOD. THE PROJECT ARBORIST SHALL APPRAISE THE DAMAGE AND MAKE RECOMMENDATIONS TO THE OWNER FOR REPAIR BY THE CONTRACTOR.

IF ANY TREE DESIGNATED TO BE SAVED IS REMOVED FROM THE SITE WITHOUT PERMISSION OF THE OWNER'S REPRESENTATIVE, THE PROJECT ARBORIST SHALL APPRAISE THE TREE AND MAKE RECOMMENDATIONS TO THE OWNER FOR REPLACEMENT BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF THE TREE AND ANY FEES THAT MAY BE



ELEVATION

<u>PLAN</u>





1) 6'H "PERIMETER PLUS" CONSTRUCTION FENCE BY CONWED PLASTICS OR OWNER'S REPRESENTATIVE APPROVED EQUAL. SUBMIT PRODUCT INFORMATION FOR APPROVAL PRIOR TO INSTALLATION. (2) 8' TALL METAL "T" POSTS OR 2" x 2" X 8' PRESSURE TREATED WOOD POSTS WITH 24" BURIAL BELOW GRADE.

INSTALLATION NOTES:

- A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.
- B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/3 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 6' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.
- C. SPACE POSTS EVERY 6' (MIN.) TO 8' (MAX.).
- D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

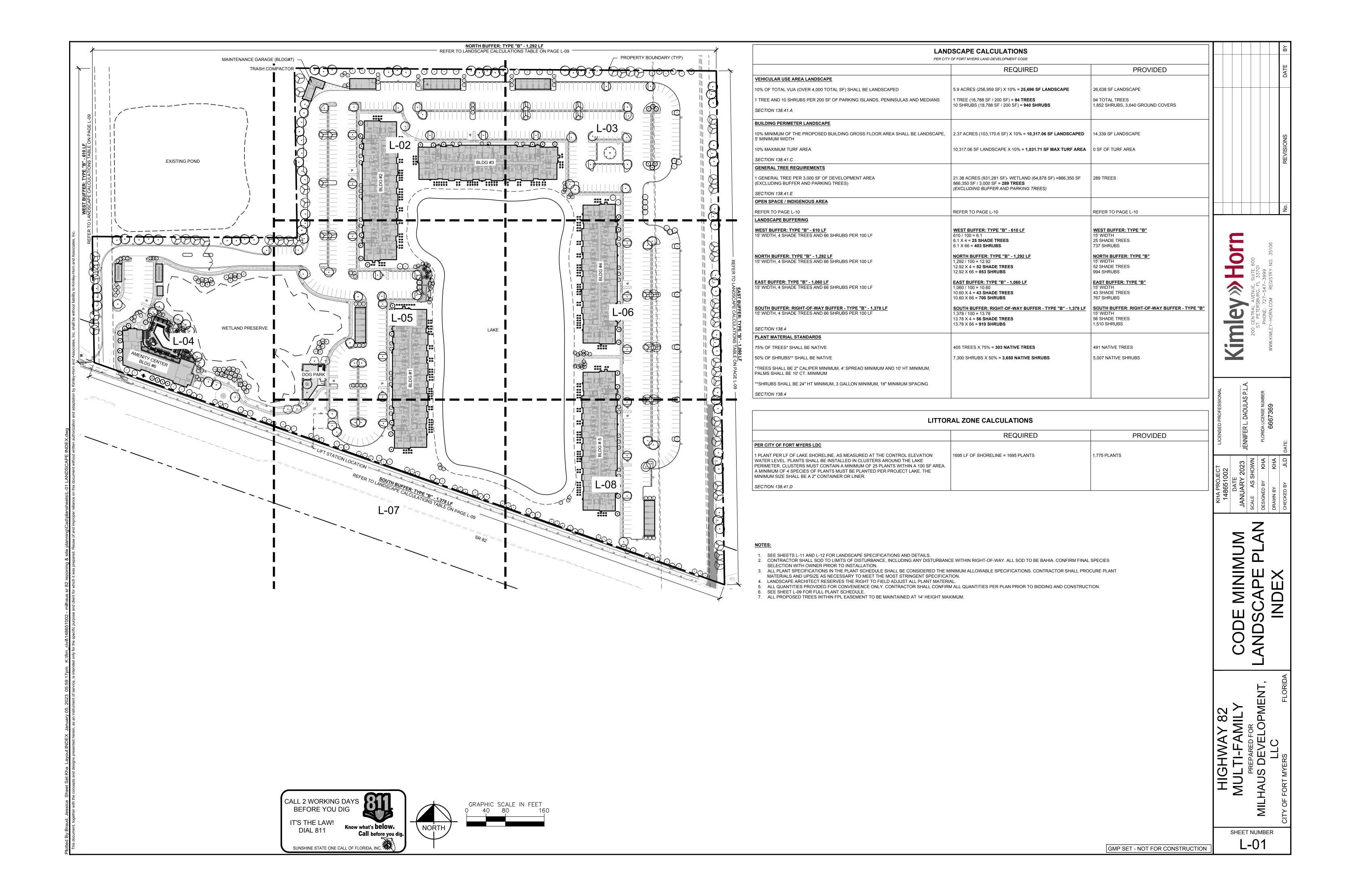
IOTE: IF WIRE TIES ARE USED, AVOID DIRECT CONTACT WITH FENCE. WIRE MAY DAMAGE FENCE OVER TIME.

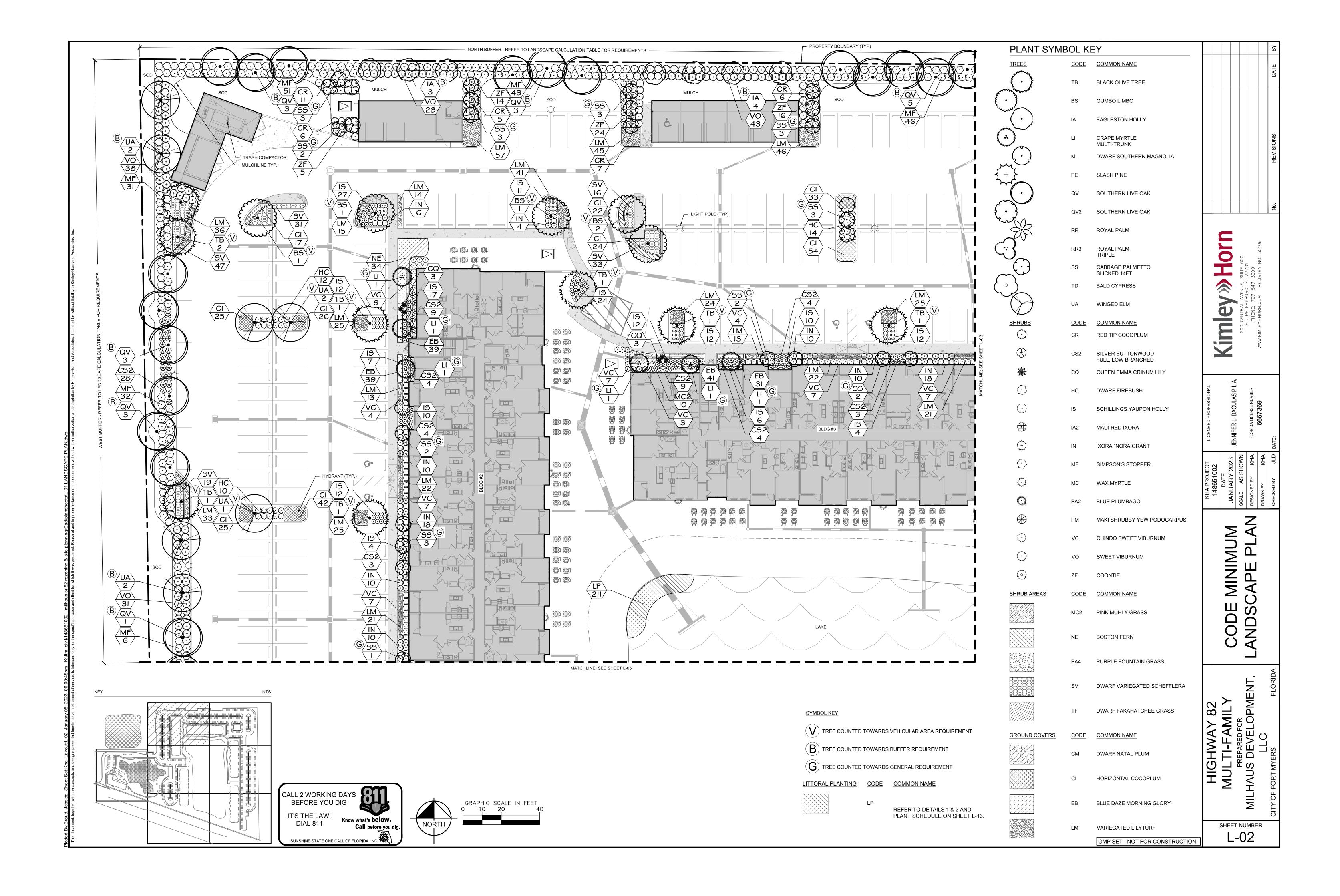
TREE PROTECTION FENCING

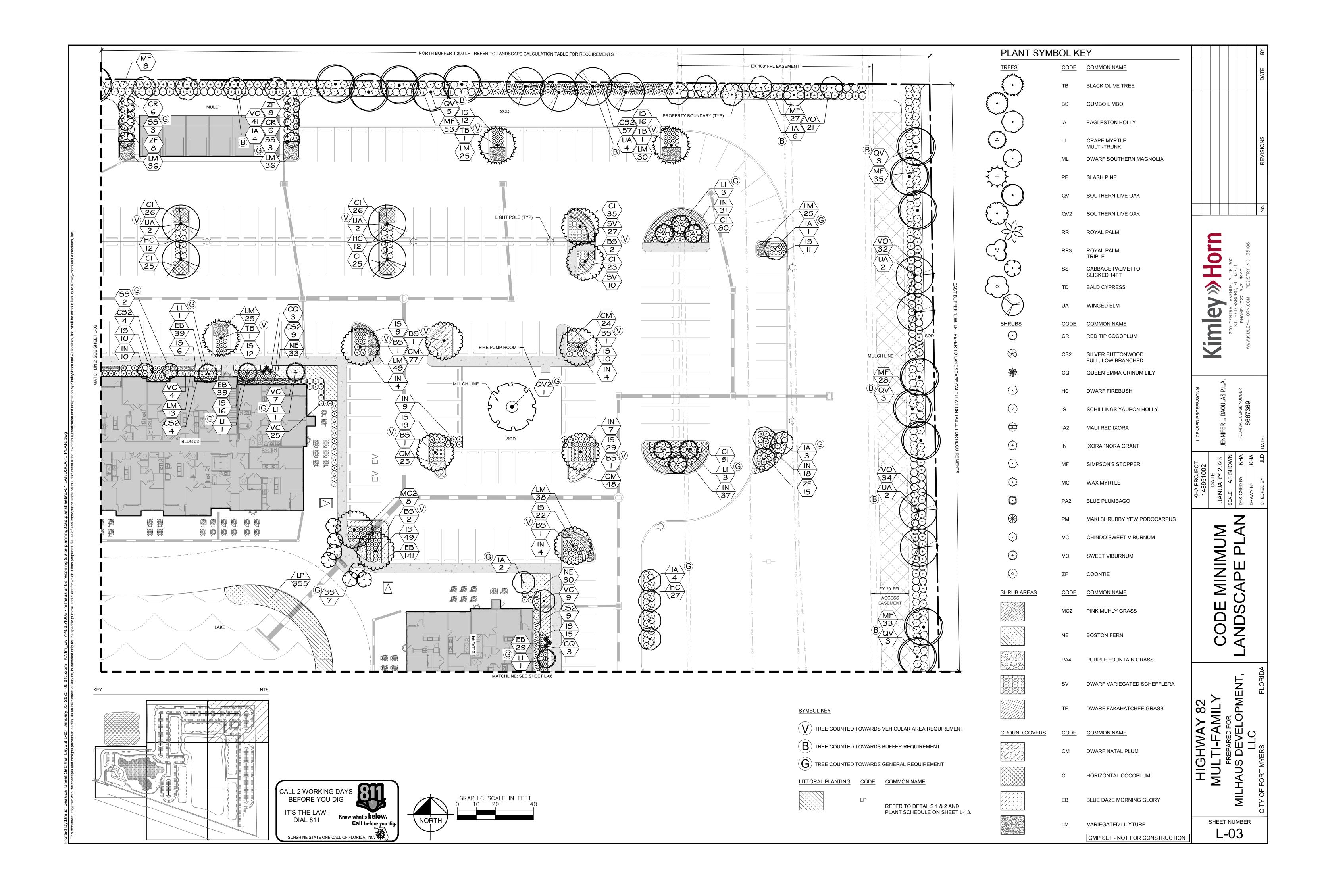
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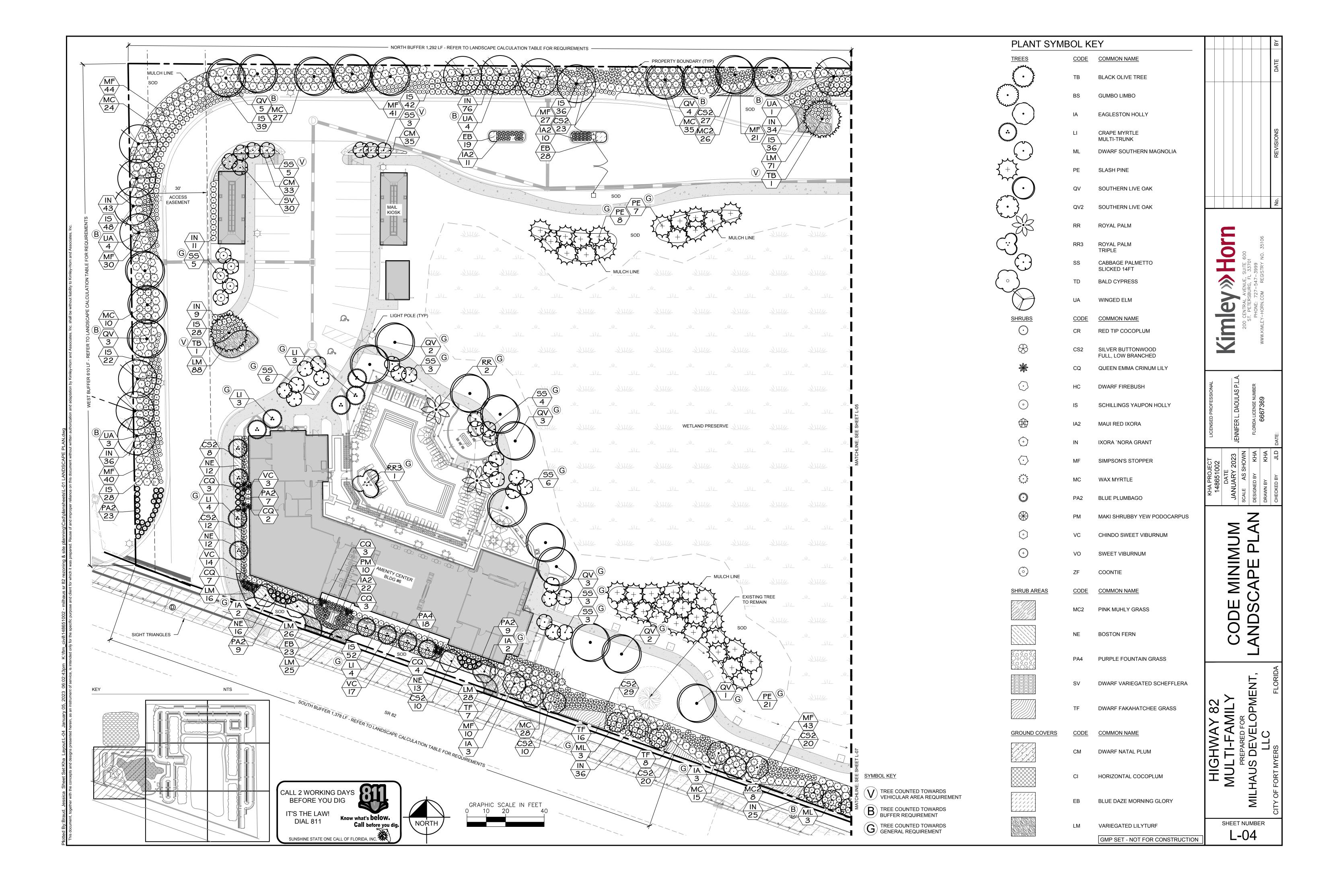
GMP SET - NOT FOR CONSTRUCTION

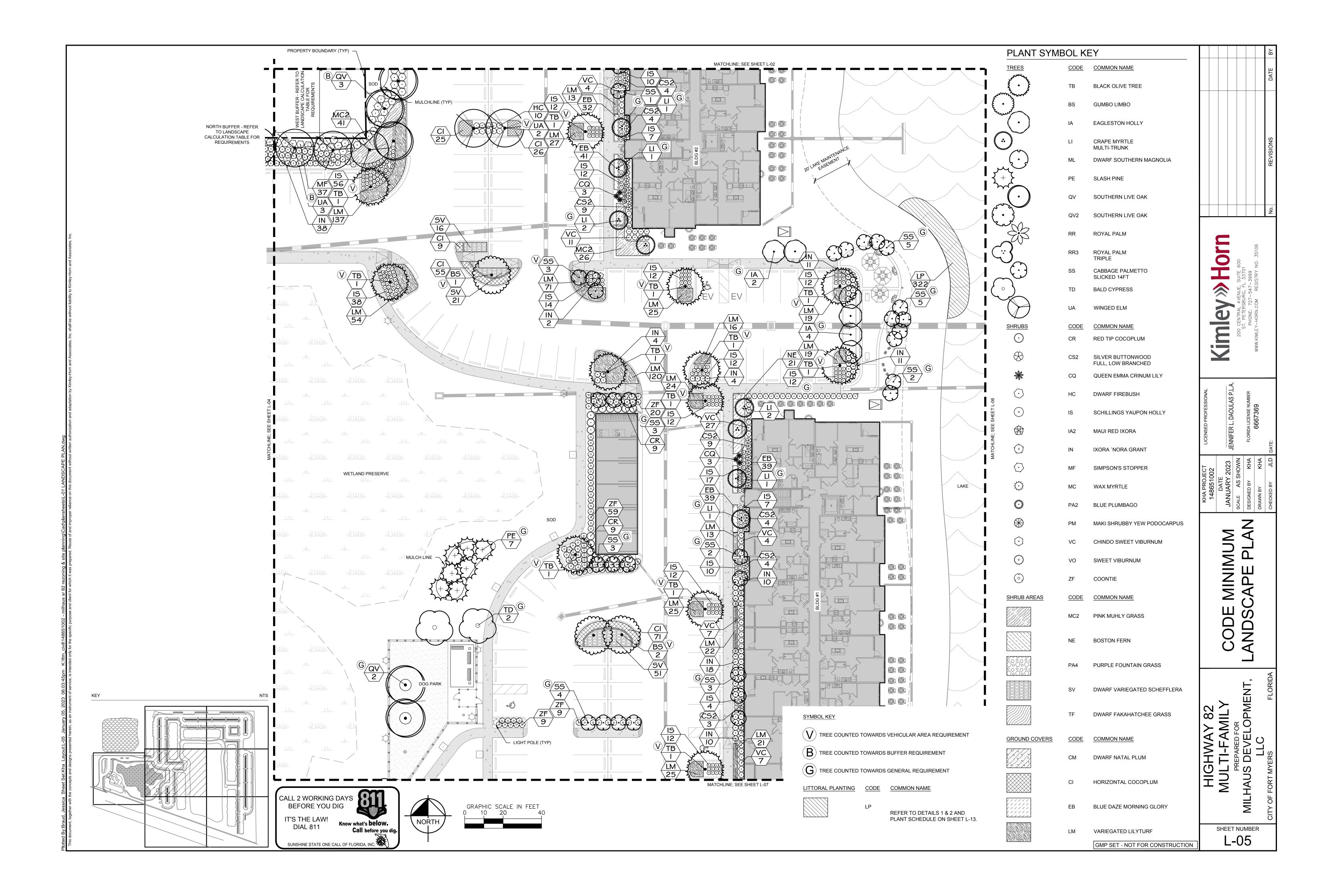
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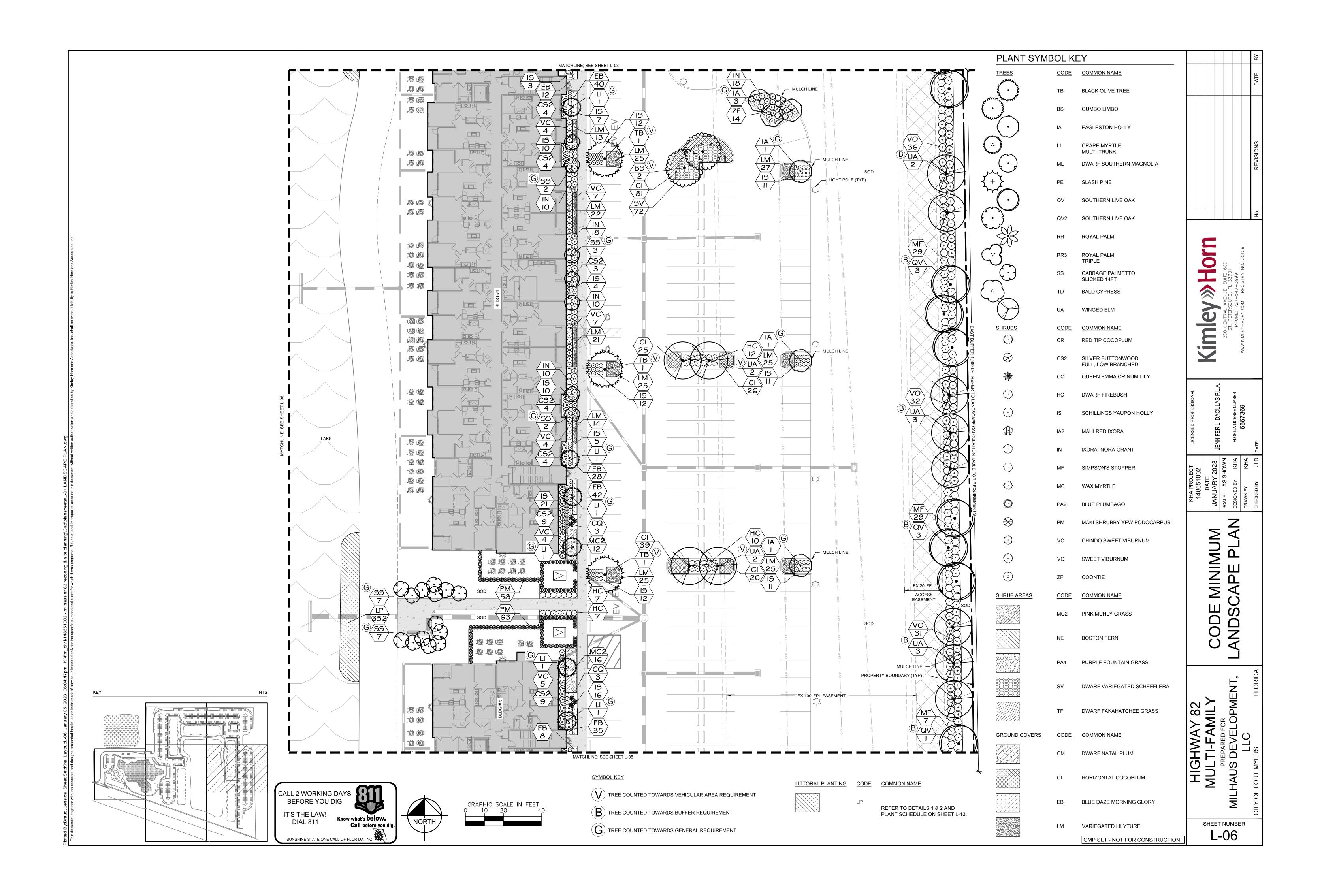


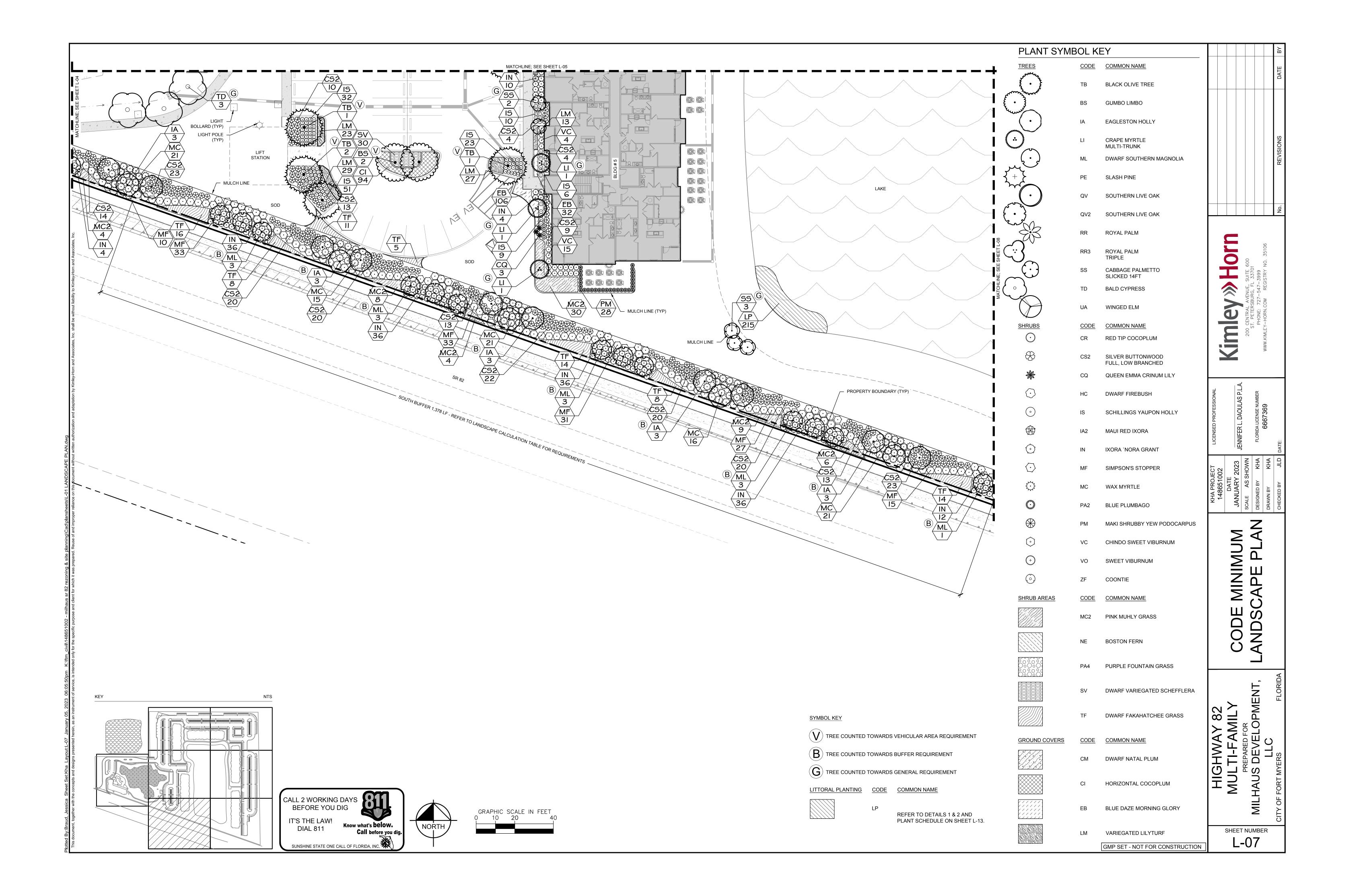


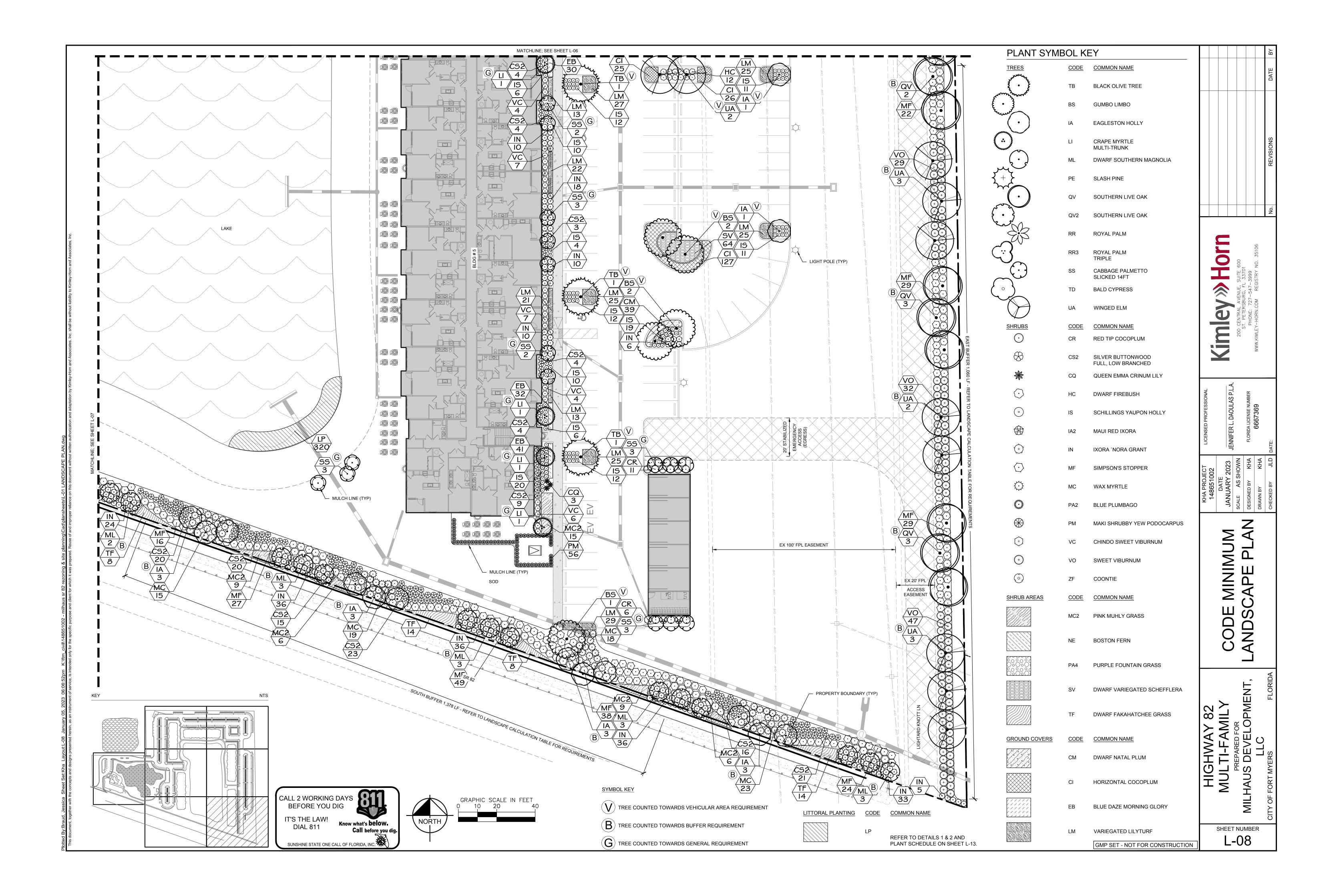




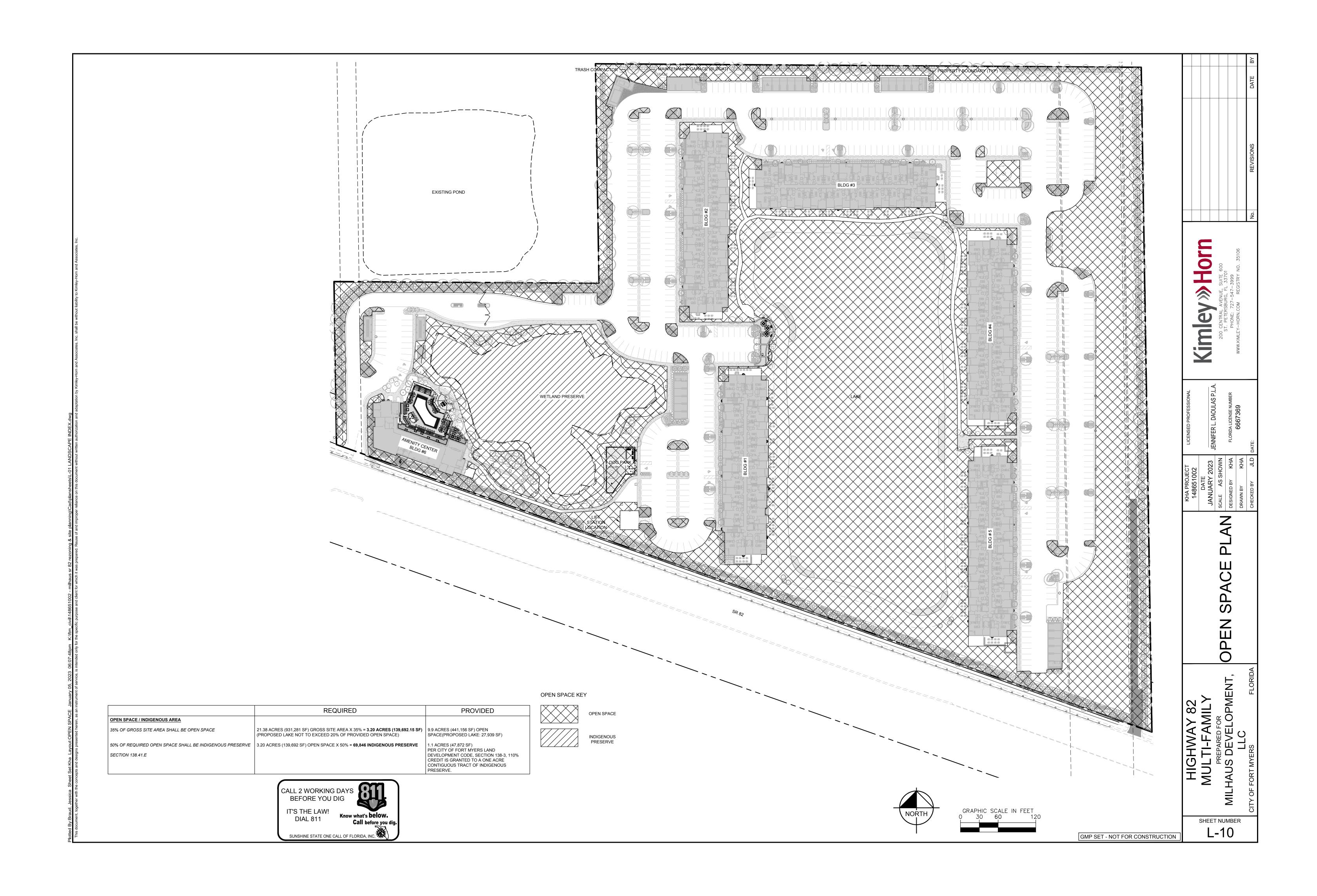








CM 281 CARISSA MACROCARPA DWARF NATAL PLUM 1 GAL POT 4 IN MIN 4 IN MIN 18 IN OC NO CI 1,244 CHRYSOBALANUS ICACO 'HORIZONTAL' HORIZONTAL COCOPLUM 1 GAL POT 4 IN MIN 4 IN MIN 18 IN OC YES EB 1,025 EVOLVULUS GLOMERATUS BLUE DAZE MORNING GLORY 1 GAL POT 4 IN MIN 4 IN MIN 12 IN OC NO	PLAN	NT SCHED	DULE									B
1	TREES	<u>C</u>	CODE QT	Y BOTANICAL NAME	COMMON NAME	CAL (MIN)	CONT (MIN)	HEIGHT (MIN)	SPREAD	SPACING	<u>NATIVE</u>	ATE
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		Е	BS 27	BURSERA SIMARUBA	GUMBO LIMBO	2 IN CAL	FG	10 FT MIN	4 FT MIN	AS SHOWN	YES	
)	IA 78	ILEX X ATTUNUATA 'EAGLESTON'	EAGLESTON HOLLY	2 IN CAL	FG	10 FT MIN	5 FT MIN	AS SHOWN	YES	
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10 10 10 10 10 10 10 10) ,	ML 33	MAGNOLIA GRANDIFLORA 'BRACKEN'S BROWN'	DWARF SOUTHERN MAGNOLIA	2 IN CAL	FG	6 FT MIN	3 FT MIN	AS SHOWN	YES	FVISIO
1		F	PE 43	PINUS ELLIOTTI DENSA	SLASH PINE	30 GAL	РОТ	10 - 14 FT (VARIES	3) 4 FT MIN	AS SHOWN	YES	
1			QV 75	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	2 IN CAL	FG	10 FT MIN	4 FT MIN	AS SHOWN	YES	
No.		Ć	QV2 1	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	6 IN CAL	FG	20 FT MIN	10 FT MIN	AS SHOWN	YES	ÖZ
		Z F	RR 2	ROYSTONEA REGIA	ROYAL PALM	HEAVY	FG	10 FT GW	4 FT MIN	AS SHOWN	YES	
No. 10 10 10 10 10 10 10 1		F	RR3 1		ROYAL PALM	HEAVY	FG	10 FT GW	4 FT MIN	AS SHOWN	YES	90
10 11 12 13 13 13 13 13 13) }	SS 153	SABAL PALMETTO	CABBAGE PALMETTO	FULLY REGENERATED	FG	16 FT CT	4 FT MIN	AS SHOWN	YES	000
		Т	TD 5		BALD CYPRESS	3 IN CAL	FG	8 - 10 FT	3 - 4 FT	AS SHOWN	YES	SUITE 6 33701 33999 ISTRY N
□) .	UA 58	ULMUS ALATA	WINGED ELM	2 IN CAL	FG	10 FT MIN	4 FT MIN	AS SHOWN	YES	VENUE, JRG, FL 7-547-
	SHRUBS	, <u>S</u> <u>C</u>	CODE QT	Y BOTANICAL NAME	COMMON NAME	SIZE	CONT	<u>HEIGHT</u>	SPREAD	<u>SPACING</u>	<u>NATIVE</u>	NTRAL AV PETERSBL HORN. COM
			CR 82	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUM							ST. PH
	\otimes	C	CS2 755		SILVER BUTTONWOOD	7 GAL	POT	36 IN MIN	24 IN MIN	48 IN OC	YES	20 20 WWW.KIMI
		C	CQ 53	CRINUM AUGUSTUM 'QUEEN EMMA'	QUEEN EMMA CRINUM LILY	7 GAL	POT	30 IN MIN	30 IN MIN	36 IN OC	NO	*
## 150 6 SUMMAN SALES PROPERTY OF THE SALES	\odot	H	HC 145	HAMELIA PATENS 'COMPACTA'	DWARF FIREBUSH	3 GAL	POT	18 IN MIN	18 IN MIN	36 IN OC	NO	
N	\odot	IS	IS 1,4	44 ILEX VOMITORIA 'SCHILLINGS'	SCHILLINGS YAUPON HOLLY	3 GAL	РОТ	18 IN MIN	18 IN MIN	24 IN OC	YES	AS P.L.A
		D	IA2 43	IXORA COCCINEA 'MAUI RED'	MAUI RED IXORA	3 GAL	РОТ	12 IN MIN	12 IN MIN	30 IN OC	NO	PROFESS DAOUL
	$\stackrel{\leftarrow}{+}$	II	IN 1,0	62 IXORA X `NORA GRANT`	IXORA `NORA GRANT	7 GAL	РОТ	30 IN MIN	30 IN MIN	36 IN OC	NO	ENSED F
D	\bigcirc	V	MF 1,1	MYRCIANTHES FRAGRANS	SIMPSON'S STOPPER	7 GAL	РОТ	24 IN MIN	24 IN MIN	48 IN OC	YES	JENN FLV
## 12 ## \$10 ##		N	MC 308	MYRICA CERIFERA	WAX MYRTLE	7 GAL	РОТ	36 IN MIN	24 IN MIN	48 IN OC	YES	ECT 02 2023 HOWN KHA KHA
VC 27 VIDERUM ANNEAN DIRECTOR CHROSON/REPARAMENT DIRECTOR CHROSON/REPARAMENT COMMITTED CHROSON/REPARAMENT CHROSON/REPAR		F	PA2 48	PLUMBAGO AURICULATA	BLUE PLUMBAGO	3 GAL	РОТ	12 IN MIN	18 IN MIN	36 IN OC	NO	PROJE 65100 0ATE ARY 2 AS SH AS SH O BY
V3 V8 ME-PRILAN DODATIES BLANK SWEET VB-PRILAN 7 cl. P3T 24 N MIN 24 N M3 48 N C0 NO V2 V3 V3 V3 V3 V3 V3 V3	igoplus	F	PM 215	PODOCARPUS MACROPHYLLUS `MAKI`	MAKI SHRUBBY YEW PODOCARPUS	7 GAL	РОТ	48 IN MIN	18 IN MIN	24 IN OC	NO	KHA I 148 148 JANU, CALE ESIGNET RAWN B
77 70 74 70 74 70 74 70 74 70 74 70 74 70 74 70 74 70 74 70 74 70 74 70 74 70 74 70 70	\odot	V	VC 271	VIBURNUM AWABUKI 'CHINDO'	CHINDO SWEET VIBURNUM	7 GAL	РОТ	24 IN MIN	24 IN MIN	36 IN OC	NO	
	\oplus	V	VO 476	VIBURNUM ODORATISSIMUM	SWEET VIBURNUM	7 GAL	РОТ	24 IN MIN	24 IN MIN	48 IN OC	NO	쁘
NC 171 NEPHROLLETIS ENALTATA DOSTONITEON 3 GAL POT 18 N MIN 18 N MIN 28 N CC VES		Z	ZF 201	ZAMIA PUMILA	COONTIE	5 GAL	РОТ	18 IN MIN	18 IN MIN	36 IN OC	YES	
NE 171 NEPHROLEPIS DOLETATA BOSTON FERN 3 GAL POT 18 IN MIN 19 IN MAN 38 N OC VES	SHRUB A	AREAS C	CODE QT	Y BOTANICAL NAME	COMMON NAME	SIZE	CONT	<u>HEIGHT</u>	SPREAD	SPACING	<u>NATIVE</u>	
NC 171 NEPHROLEPIS EXALTATA DOSTON FERN 3 GAL POT 18 IN MIN 18 IN		N	MC2 253	MUHLENBERGIA CAPILLARIS	PINK MUHLY GRASS	1 GAL	РОТ	18 IN MIN	18 IN MIN	36 IN OC	YES	U 당
PART PURPLE FOUNTAIN GRASS GAL POT 12 IN MIN 12 IN MIN 24 IN OC NO												S
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			LM 2,1	99 LIRIOPE MUSCARI 'VARIEGATA'	VARIEGATED LILYTURF	1 GAL	POT	4 IN MIN	4 IN MIN	18 IN OC	NO	$\mathbf{L} \mathbf{S} \mathbf{S} \mathbf{H}$
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IT'S THE LAW! DIAL 811 Call before you dig. LITTORAL PLANTING CODE QTY BOTANICAL NAME COMMON	DIAL 944 Know what's below.	\supset			COMMON NAME		<u>CONT</u>	<u>neiGHI</u>	SPREAD	<u>SPACING</u>	<u>NATIVE</u>	SHEET NUMBER
Call before you dig. LP 1,775 REFER TO DETAILS 1 & 2 AND PLANT SUNSHINE STATE ONE CALL OF FLORIDA, INC.	Call before you dig.		LP 1,7	REFER TO DETAILS 1 & 2 AND PLANT					GI	MP SET - NOT	FOR CONSTRUCTION	



LANDSCAPE SPECIFICATIONS

1. SCOPE OF WORK

- 1.1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THESE PLANS.
- 1.2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER.
- 1.3. WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS.

2. PROTECTION OF EXISTING AND PROPOSED SITE ELEMENTS

- 2.1. PROTECT ALL EXISTING SITE ITEMS, ALREADY COMPLETED OR ESTABLISHED AND DESIGNATED TO REMAIN FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM THE CONTRACTOR'S WORK SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.
- 2.2. MAINTAIN ALL NECESSARY BMP DEVICES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.
- 2.3. WHERE APPLICABLE, SUBMIT A DETAILED PROJECT SPECIFIC WORK ZONE TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AGENCY STANDARDS UNLESS THE WORK REQUIRES NOTHING MORE THAN A DIRECT APPLICATION OF FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, INDEX 102-600.
- 2.4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES, WHETHER PUBLIC OR PRIVATE, PRIOR TO CONSTRUCTION ACTIVITIES. THE INFORMATION AND DATA SHOWN WITH RESPECT TO EXISTING UTILITIES IS APPROXIMATE THE OWNER AND DESIGN PROFESSIONAL SHALL NOT BE RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR; REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA; LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION; THE SAFETY AND PROTECTION THEREOF; REPAIRING ANY DAMAGE RESULTING FROM THE WORK. THE COST OF ALL WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE. THE CONTRACTOR SHALL NOTIFY ANY AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING WHEN ANY CONFLICT BETWEEN UTILITIES AND THESE PLANS EXIST PRIOR TO
- 2.5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO PLANT MATERIAL EXISTING OR OTHERWISE. THIS SHALL INCLUDE COMPACTION AND SPILLING OF ANY DELETERIOUS MATERIALS WITHIN THE DRIP-LINE OF EXISTING TREES TO REMAIN PLANT MATERIAL KILLED OR DAMAGED THAT IS MISSHAPEN AND/OR UNSIGHTLY SHALL BE REPLACED WITH LIKE SIZE AND KIND TO THE SATISFACTION OF THE OWNER OR REGULATORY AGENCY AT THE COST TO THE CONTRACTOR.
- 2.6. SEE TREE MITIGATION PLAN AND NOTES, IF APPLICABLE.

3. SUBMITTALS

- 3.1. SUBMIT MATERIAL SAMPLES LISTED BELOW FOR APPROVAL, ON SITE OR AS DETERMINED BY THE OWNER. UPON APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.
 - MUI CH SOIL MIXTURE
 - SAMPLE SIZE ONE (1) GALLON PLASTIC BAG ONE (1) GALLON PLASTIC BAG
 - ONE (1) OF EACH VARIETY (OR TAGGED IN NURSERY)
- 3.2. SUBMIT TESTING RESULTS OF SOIL MIXTURE AS PER SECTION 6 BELOW.

4. PLANT MATERIALS

- 4.1. ALL PLANT MATERIAL SHALL CONFORM TO THE SPECIFICATIONS INDICATED ON THE DRAWINGS AND SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE LANDSCAPE ARCHITECT AND OWNER.
- 4.2. ALL TREE SPECIES INSTALLED SHALL BE MATCHED IN SIZE AND SHAPE UNLESS NOTED OTHERWISE.
- 4.3. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY TO THE SITE, DURING PROGRESS OF THE WORK AND/OR AFTER COMPLETION. REJECTED PLANTS SHALL BE REMOVED AND REPLACED

5. DIGGING AND HANDLING

5.1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. NO PLANT MATERIAL SHALL BE HANDLED BY STEMS.

6. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

- 6.1. TEST EXISTING SOIL AND AMEND AS NECESSARY IN ACCORDANCE WITH THE GUIDELINES BELOW:
- 6.2. SOIL MIXTURE (PLANTING MEDIUM FOR PLANT PITS) SHALL CONSIST OF TWO PARTS OF TOPSOIL AND ONE PART SAND, AS DESCRIBED BELOW. SUBMIT SAMPLES AND PH TESTING RESULTS OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.
- 6.3. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER; FREE OF ROOTS, STUMPS. STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND HAVE A PH BETWEEN 5.5 AND 7.0.
- 6.4. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE SAND.
- 6.5. PLANT TREES IN THE EXISTING NATIVE SOIL ON SITE. UNLESS DETERMINED TO BE UNSUITABLE AT WHICH POINT THE CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO
- 6.6 TREES PLANTED IN TREE WELLS SHALL RECEIVE STRUCTURAL URBAN SOIL. MIX SHALL BE: 50% SAND, 20% PERLITE, 20% PINES FINES AND 10% ORGANIC SOIL

7. WATER

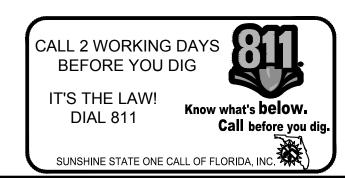
- 7.1. PROVIDE WATER NECESSARY FOR PLANTING ESTABLISHMENT AND MAINTENANCE. WATER SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS
- 7.2. WATERING/IRRIGATION RESTRICTIONS MAY APPLY REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

8. FERTILIZER

- 8.1. PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.
- 8.2. FERTILIZER RESTRICTIONS MAY APPLY REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

9. MULCH

- 9.1. MOISTEN MULCH MATERIAL AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A MINIMUM DEPTH OF THREE (3) INCHES. CONTRACTOR SHALL CLEAR MULCH FROM WITHIN A SIX (6) INCH RADIUS AROUND TRUNK / STEM FLARE. MULCH SHALL BE "FLORIMULCH", EUCALYPTUS MULCH, OR SIMILAR SUSTAINABLY HARVESTED MULCH UNLESS SPECIFIED OTHERWISE.
- 9.2. PROVIDE A THREE (3) INCH MINIMUM LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH PLANTING BED AND TREE RING (SIX (6) FOOT DIAMETER MINIMUM).



10. CONTAINER GROWN STOCK

- 10.1. CONTAINER GROWN PLANTS SHALL HAVE BEEN GROWN IN IT'S CONTAINER SUFFICIENTLY LONG ENOUGH 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.
- 10.2. INSUFFICIENT OR POORLY STRUCTURED ROOT SYSTEMS ARE NOT ACCEPTABLE AND WILL BE REJECTED.
- 10.3. ROOTS PLUS GROWER (RPG) PRODUCTS SHALL BE USED WHERE SPECIFIED.

11. MATERIALS LIST

11.1. ALL QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. CONTRACTOR SHALL CONFIRM ALL QUANTITIES PER PLAN PRIOR TO BIDDING AND CONSTRUCTION.

12. FINE GRADING

- 12.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINE GRADING WHICH CONSISTS OF FINAL FINISHED GRADING (INCLUDING ADDITIONAL SOIL MIXTURE AS NEEDED) FOR LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. FINISH GRADE SHALL ACCOUNT FOR THICKNESS OF SOD AND/OR MULCH DEPTH.
- 12.2. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S

13. PLANTING PROCEDURES

- 13.1 CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER DAILY REMOVE ALL MORTAR CEMENT. AND TOXIC MATERIAL FROM THE SURFACE OF ALL PLANT BEDS. DO NOT MIX THESE MATERIALS WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
- 13.2. LOCATE, MAINTAIN AND PROTECT ALL UTILITIES ABOVE AND BELOW GROUND. CALL SUNSHINE STATE ONE CALL OF FLORIDA, INC. (811) TO LOCATE UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
- 13.3. NOTIFY LANDSCAPE ARCHITECT IN WRITING IMMEDIATELY IF CONFLICT(S) EXIST WITH PROPOSED TREE LOCATIONS AND EXISTING OVERHEAD POWER LINES IN ACCORDANCE WITH SETBACK REQUIREMENTS OF FPL'S "RIGHT TREE, RIGHT PLACE" PROGRAM. CONSULT THE UNIVERSITY OF FLORIDA'S "TREES AND POWER LINE" WEBSITE FOR TREE SIZE CATEGORIES.
- 13.4. NOTIFY LANDSCAPE ARCHITECT IN WRITING IMMEDIATELY IF CONFLICT(S) EXIST WITH PROPOSED TREE LOCATIONS AND EXISTING / PROPOSED LIGHT POLES. TREES INSTALLED IN CONFLICT WITH LIGHT POLES ARE SUBJECT TO RELOCATION AT THE EXPENSE OF THE CONTRACTOR.
- 13.5. REMOVE ALL EXISTING AND IMPORTED DELETERIOUS MATERIAL AND SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36" OR TO NATIVE SOIL. CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE AS NEEDED WITH CLEAN SOIL MIXTURE.
- 13.6. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS. COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK.
- 13.7. EXCAVATE ALL PLANTING PITS IN ACCORDANCE WITH LANDSCAPE DETAILS PROVIDED. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. IF POOR DRAINAGE EXISTS, NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY IN WRITING. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. CONTRACTOR SHALL ENSURE ELIMINATION OF ALL AIR POCKETS AROUND ROOTS.
- 13.8. SET TREES AND SHRUBS STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACK FILLED. THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).
- 13.9. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE. ALL BURLAP, ROPE, WIRES, BASKETS, ETC., SHALL BE REMOVED FROM UPPER ONE THIRD (1/3) OF ROOT BALLS.
- 13.10. ALL SUCKER GROWTH AND BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT IN ACCORDANCE WITH ANSI A-300.
- 13.11. SHRUBS AND GROUND COVER PLANTS SHALL BE SPACED IN ACCORDANCE WITH THE DRAWINGS, LANDSCAPE DETAILS
- 13.12. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN A PLUMB AND UPRIGHT POSITION.
- 13.13. FAILURE TO FOLLOW THE ABOVE PLANTING PROCEDURE SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.

14. LAWN SODDING

- 14.1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING NECESSARY TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.
- 14.2. ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS TO A MINIMUM DEPTH OF THREE (3) INCHES. PROVIDE ONE (1) INCH OF TOPSOIL ACROSS ENTIRE LAWN BED AND MIX THROUGHLY INTO TOP FOUR (4) INCHES OF SOIL TO BRING THE GROUND TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL TOPSOIL AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.
- 14.3. HAND RAKE LAWN BED UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.
- 14.4. SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS,
- 14.5. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.
- 14.6. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID
- UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS. PAVED AND PLANTED AREAS. 14.7. IMMEDIATELY FOLLOWING SOD LAYING, ROLL LAWN AREAS WITH A LAWN ROLLER AND THEN THOROUGHLY IRRIGATED.
- 14.8. 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 OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN. FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.
- 14.9. 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 STACKED SO AS NOT TO BE DAMAGED BY EXCESSIVE HEAT AND MOISTURE.
- 14.10. WITHIN THE CONTRACT LIMITS, PRODUCE AND MAINTAIN 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 ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).

15. CLEANUP

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

16. PLANT MATERIAL MAINTENANCE

16.1. ALL PLANT MATERIAL SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) AS NECESSARY TO INSURE HEALTHY AND VIGOROUS GROWING CONDITIONS BY THE CONTRACTOR UPON DELIVERING TO THE SITE AND UNTIL FINAL ACCEPTANCE OF WORK.

17. FINAL INSPECTION AND ACCEPTANCE OF WORK

- 17.1. ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE PER MANUFACTURER RECOMMENDATIONS. (AS ALLOWED BY JURISDICTIONAL AUTHORITY)
- 17.2. PROVIDE WATERING/IRRIGATION SCHEDULE FOR ALL PLANT MATERIAL TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.
- 17.3. UPON COMPLETION OF ALL WORK, A FINAL INSPECTION SHALL BE PERFORMED BY THE OWNER AND/OR OWNER'S REPRESENTATIVE. ALL PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT SHALL BE INSPECTED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. ANY ITEMS FOUND TO NOT BE IN COMPLIANCE SHALL BE CORRECTED AT THE COST OF THE CONTRACTOR.

18. WARRANTY

- 18.1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION AND ACCEPTANCE OF THE WORK BY THE OWNER AND/OR OWNER'S REPRESENTATIVE.
- 18.2. ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION THROUGHOUT THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED. PLANTED AND MULCHED AS SPECIFIED AT NO ADDITIONAL COST TO THE OWNER. ANY REPLACED PLANT MATERIAL SHALL BE SUBJECT TO A NEW ONE
- 18.3. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE AND IRRIGATION MAINTENANCE, THE CONTRACTOR SHOULD VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE (1) YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER. CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH.

ROOTBALI

3X ROOTBALL

DIAMETER

PLAN

SECTION

LIMITS OF PLANTING

19. ABBREVIATIONS

- BALLED AND BURLAPPED
- BARE ROOT CAL -CALIPER
- CLEAR TRUNK CT -DIAMETER AT BREAST HEIGHT FG -FIELD GROWN
- FTG -FULL TO GROUND GREY WOOD GW
- HO -HARDENED OFF OVERALL HEIGHT ROOTS PLUS GROWER

0

9) SET ROOTBALL ON UNDISTURBED STABLE SUBSOIL SO THAT TOP OF ROOT BALL IS

NTS

A. THIS DETAIL SHALL BE IMPLEMENTED WHERE PERCOLATION RATES ARE 2" PER HOUR OR

1) FINISH GRADE (SEE GRADING PLANS).

2) BACKFILL WITH PREPARED PLANTING

3) FILTER CLOTH, MIRAFI 500X OR BETTER.

THROUGH OCCLUDING LAYER TO WATER TABLE OR TO A DEPTH OF 7' TO ASSURE

REQUIRED DEPTH THROUGH OCCLUDING

5) AUGURED HOLE Ø ±18" PENETRATE

(6) BACKFILL WITH 1/2" - 3/4" GRAVEL TO

LAYER TO ASSURE PROPER

(7) WATER TABLE. (DEPTH VARIES)

1" ABOVE FINISHED GRADE.

8) UNDISTURBED NATIVE SOIL

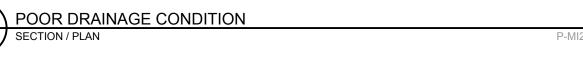
SOIL MIX AS SPECIFIED.

(4) SLOPE BOTTOM TO DRAIN.

PROPER PERCOLATION.

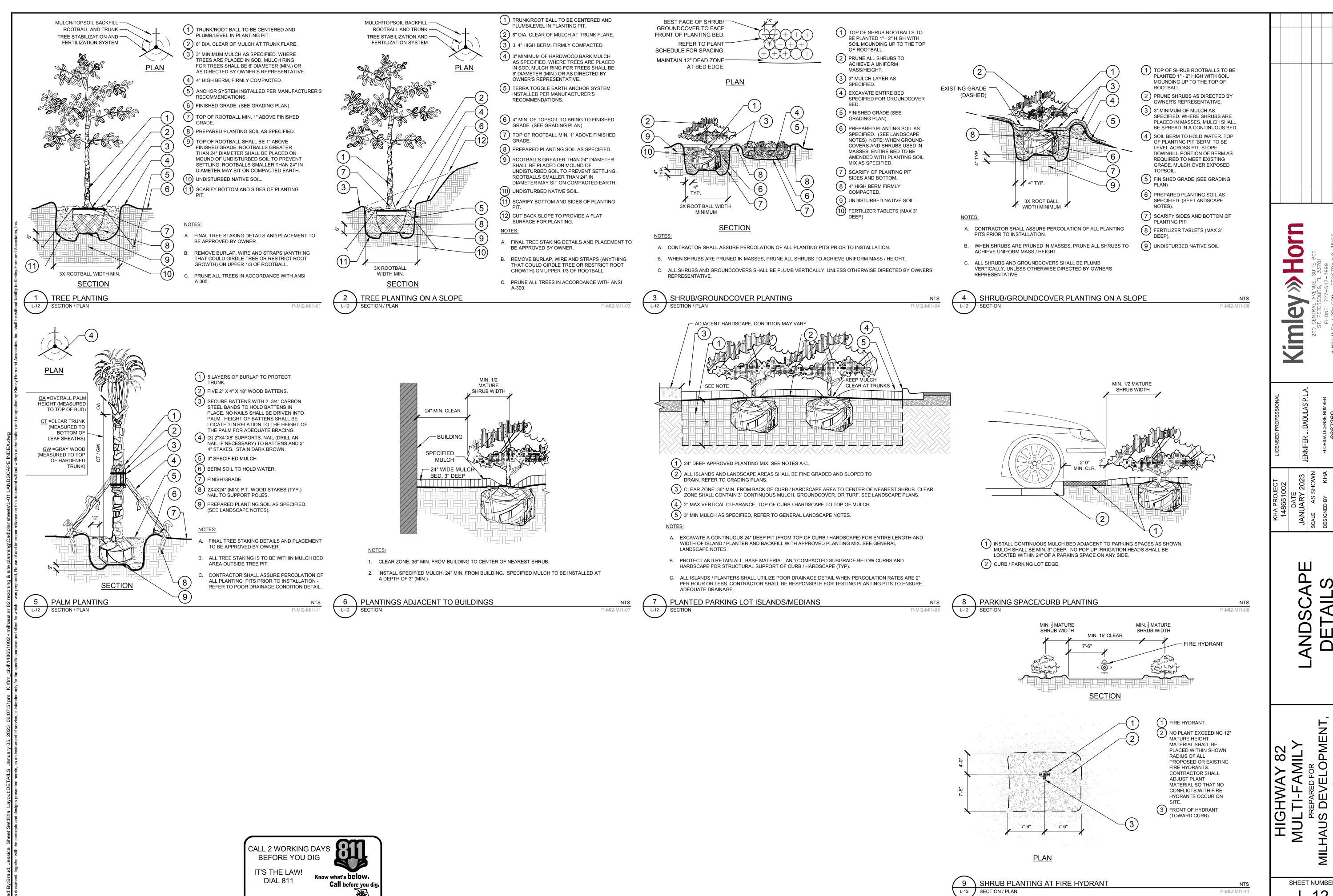
PERCOLATION.

- B. CONTRACTOR TO PERFORM PERCOLATION TEST AS REQUIRED. AND NOTIFY OWNER/LANDSCAPE ARCHITECT
- C. SEE TYPICAL TREE PLANTING DETAIL THIS SHEET FOR PLANT STAKING.



SHEET NUMBER

GMP SET - NOT FOR CONSTRUCTION

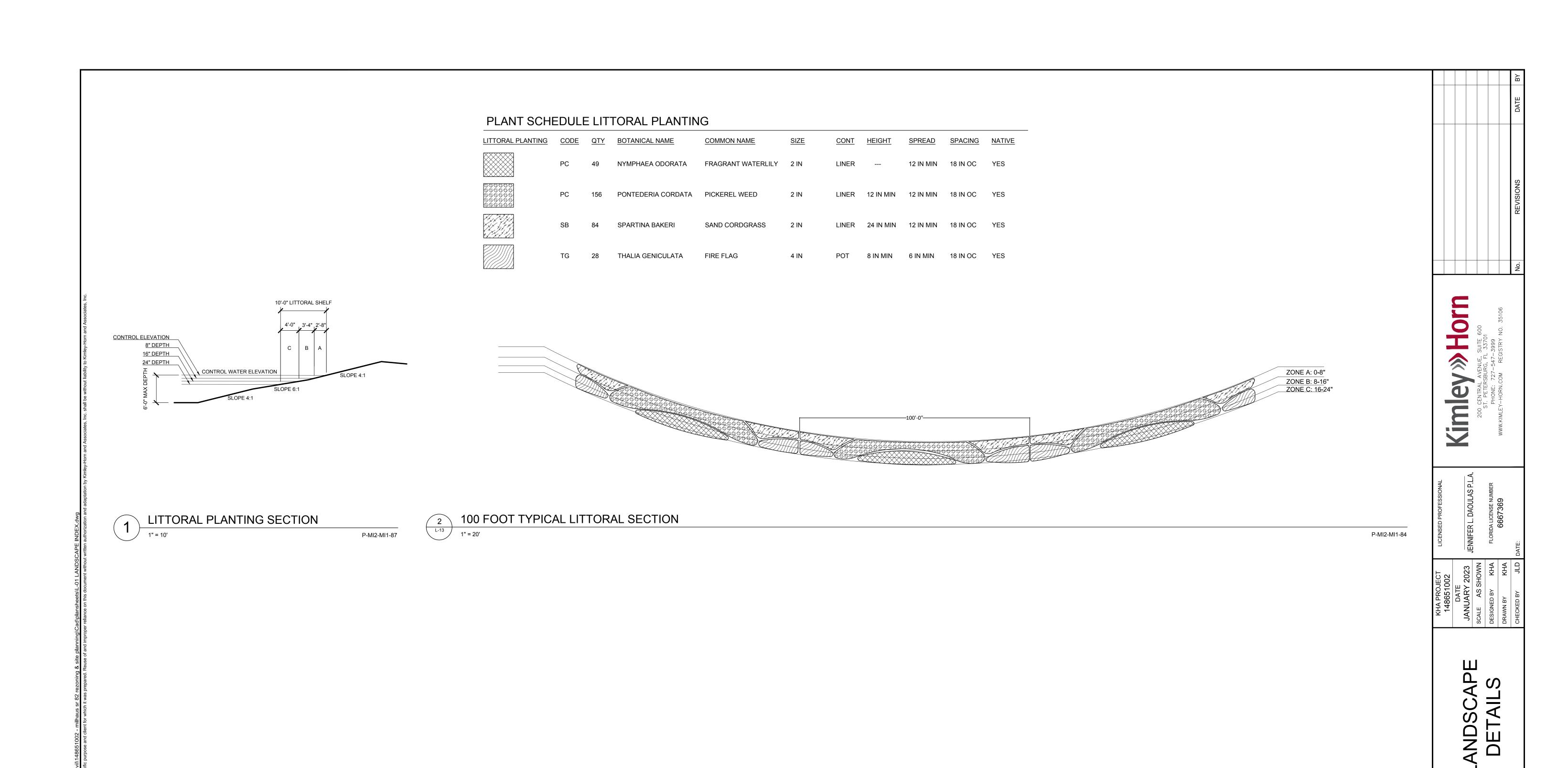


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RED FOR EVELOPMENT, LC

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CALL 2 WORKING DAYS
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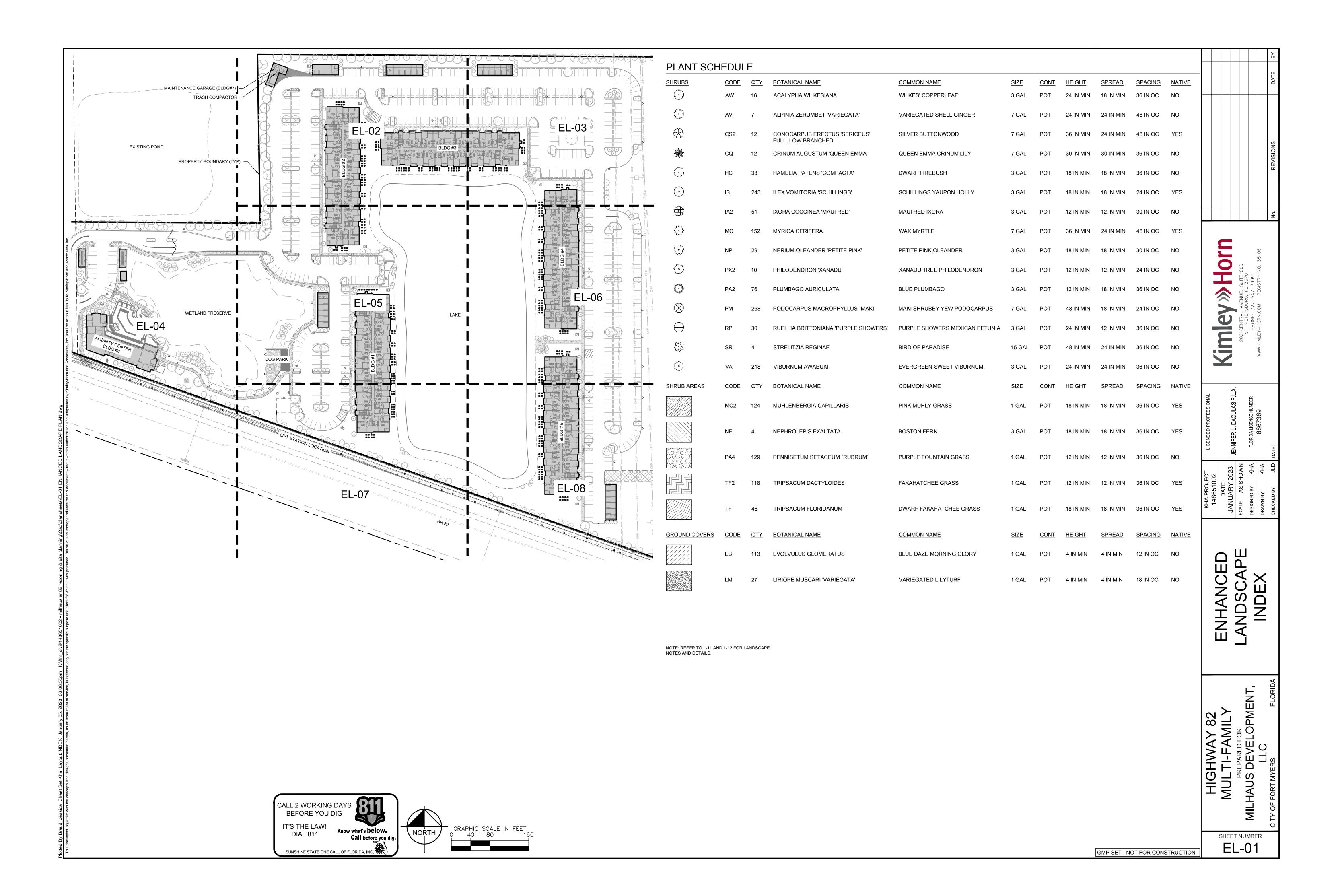
Know what's below.
Call before you dig.

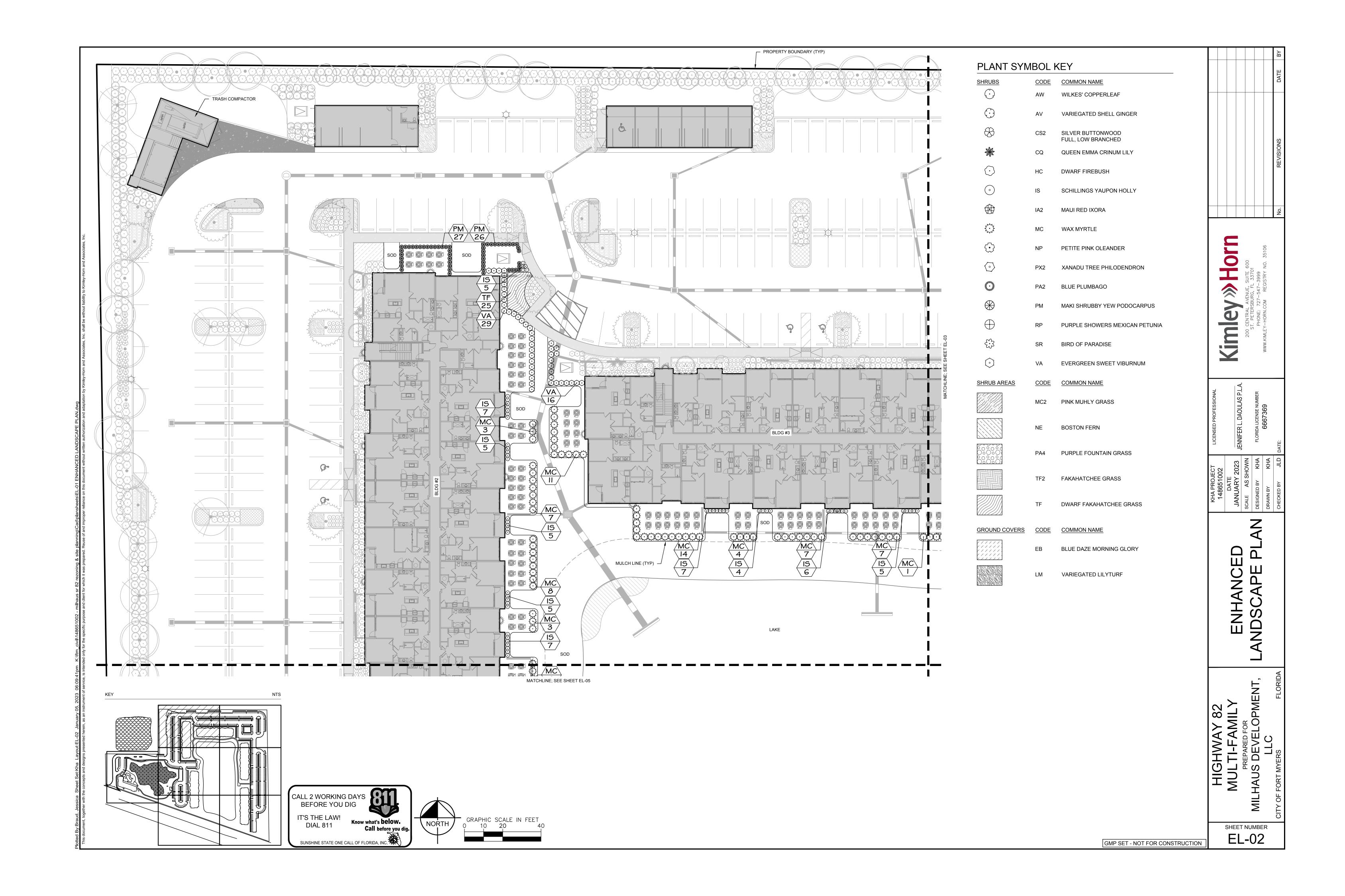
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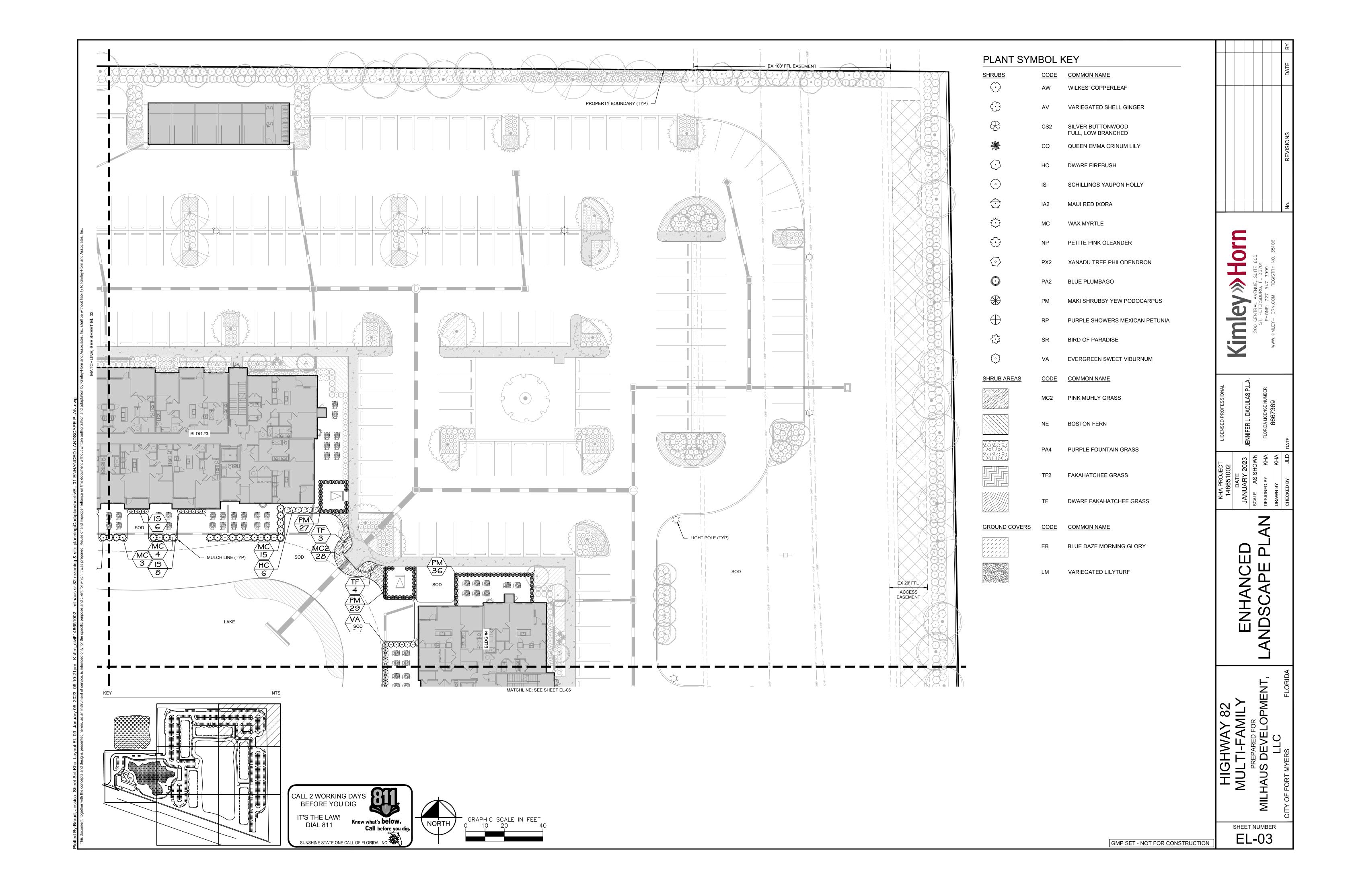
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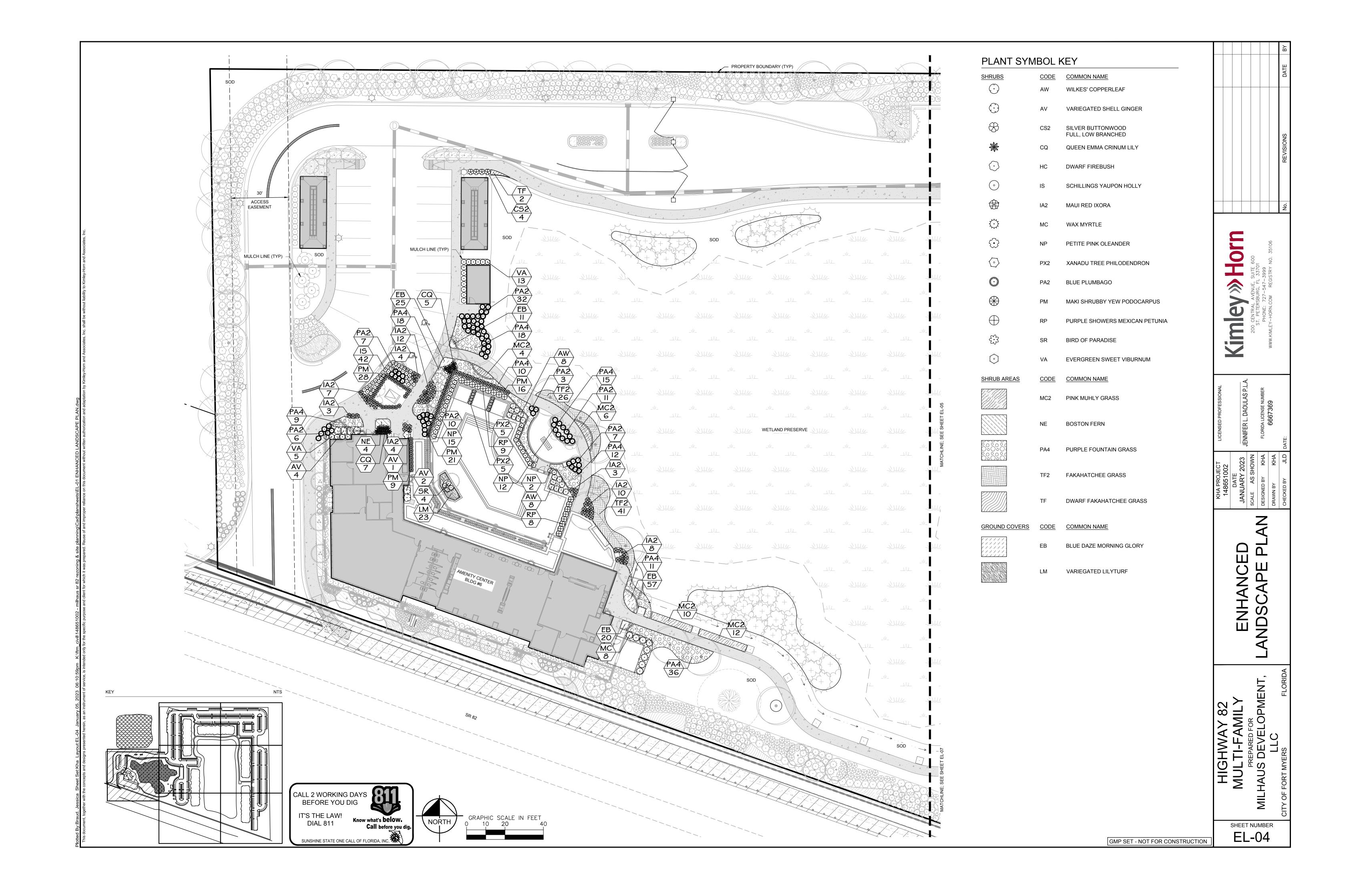
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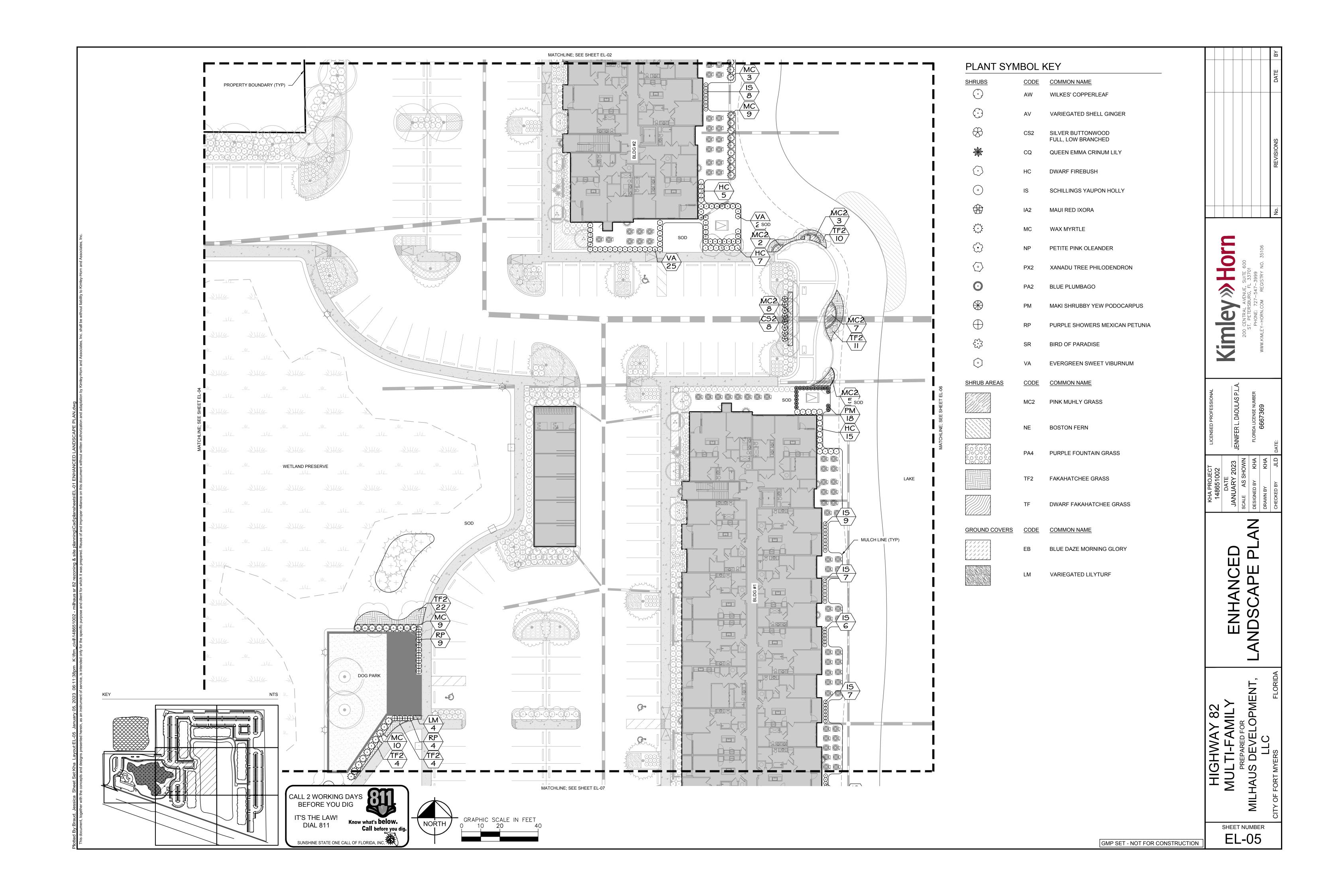
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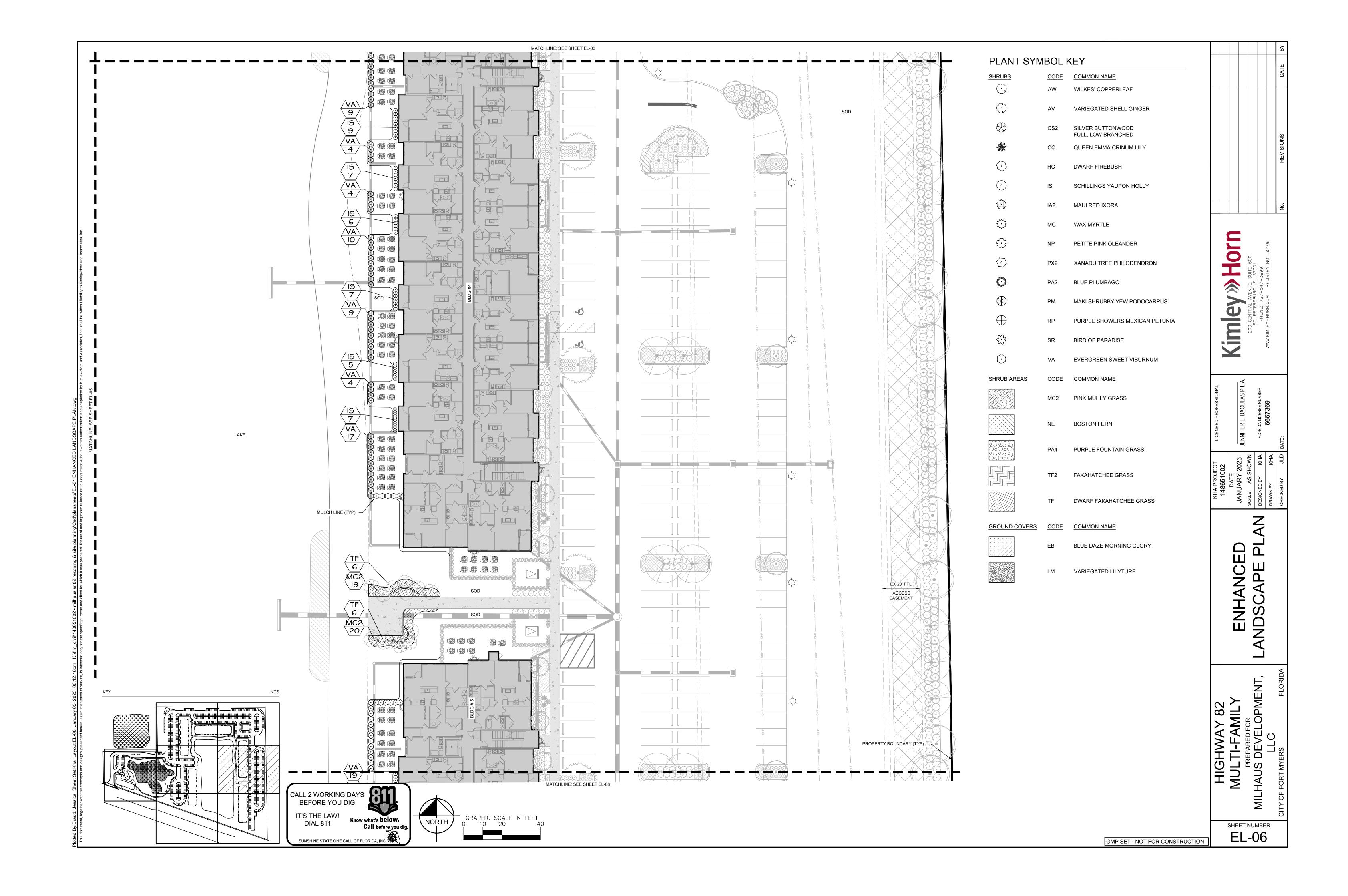


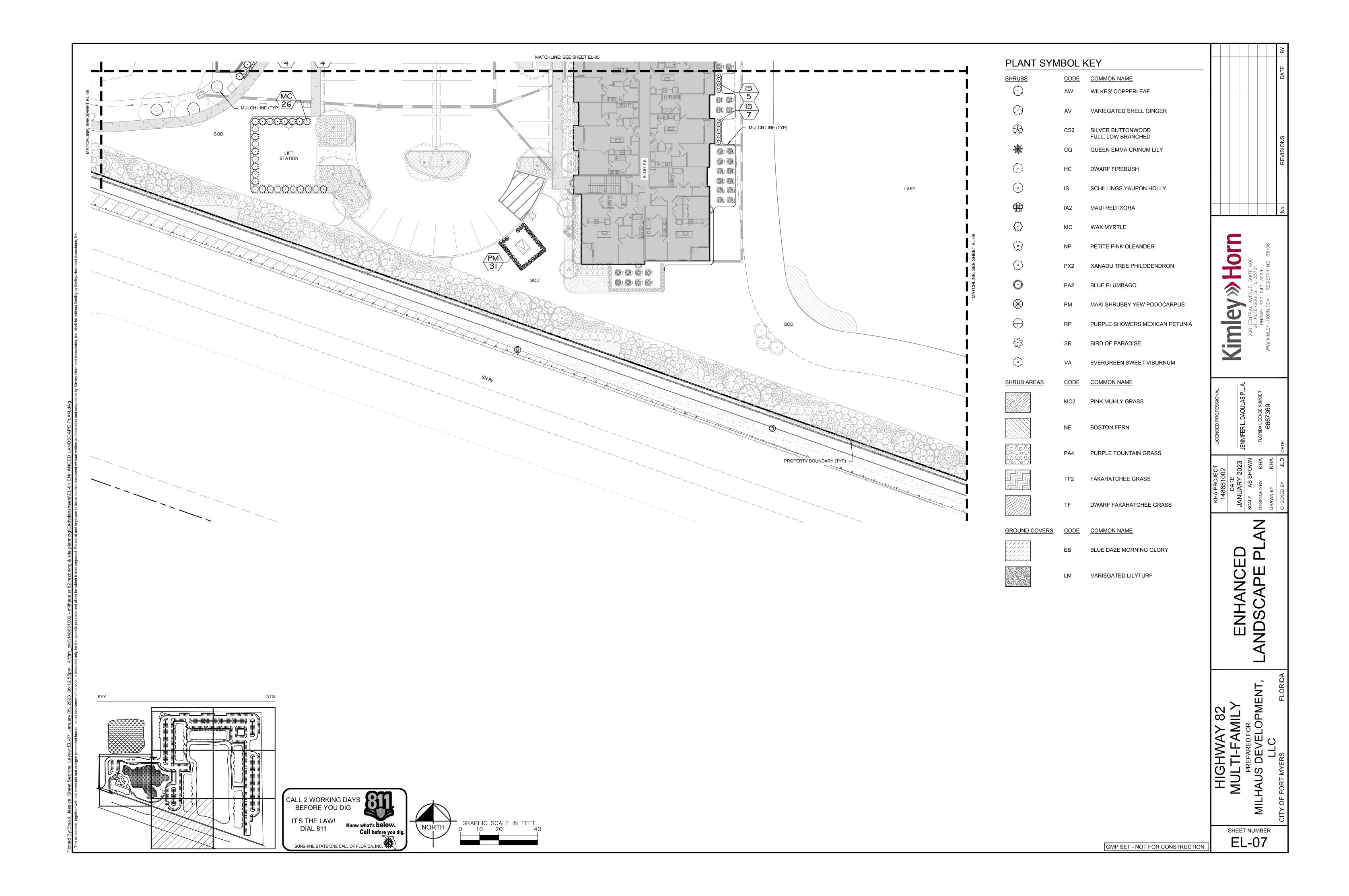


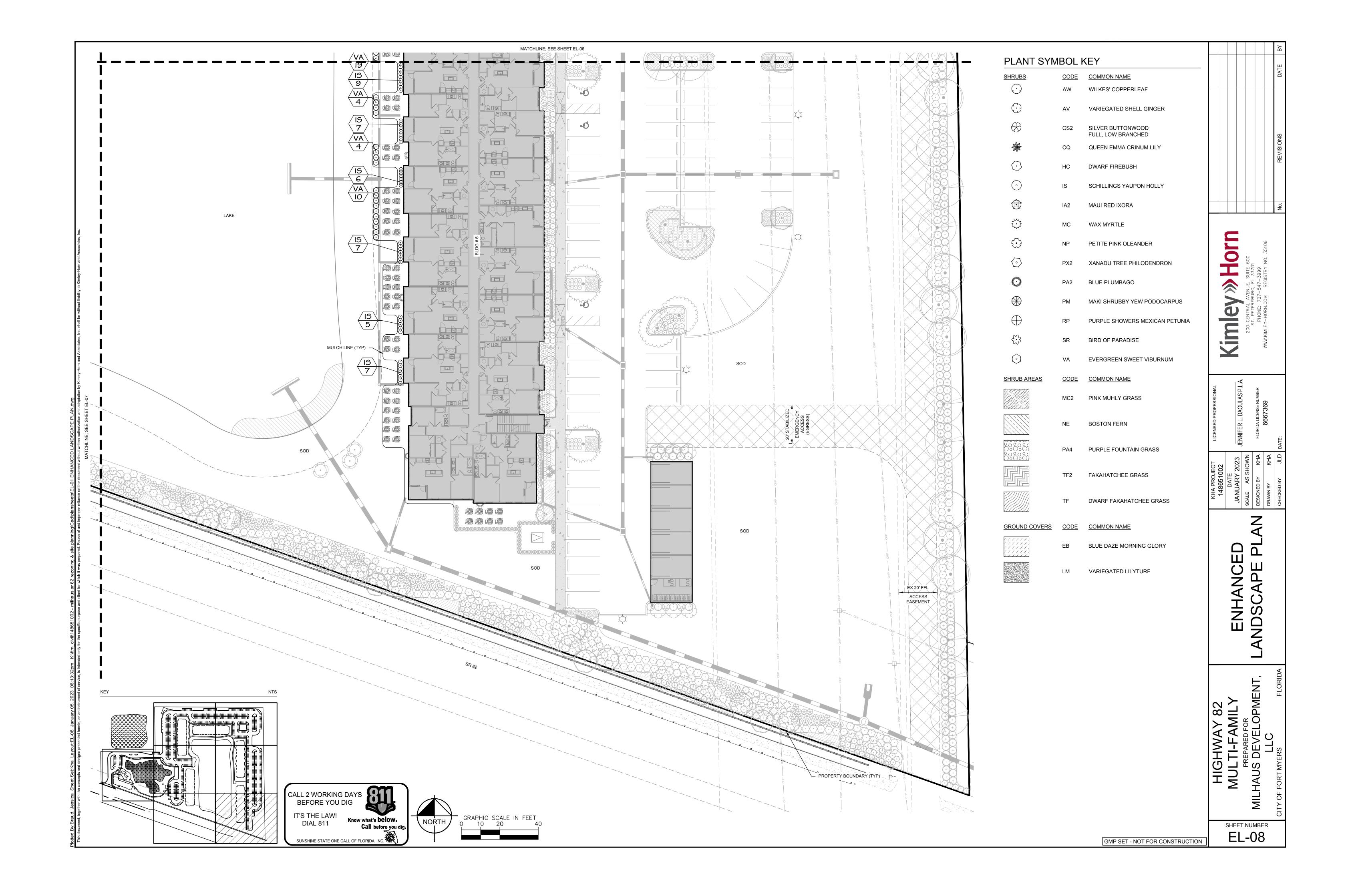


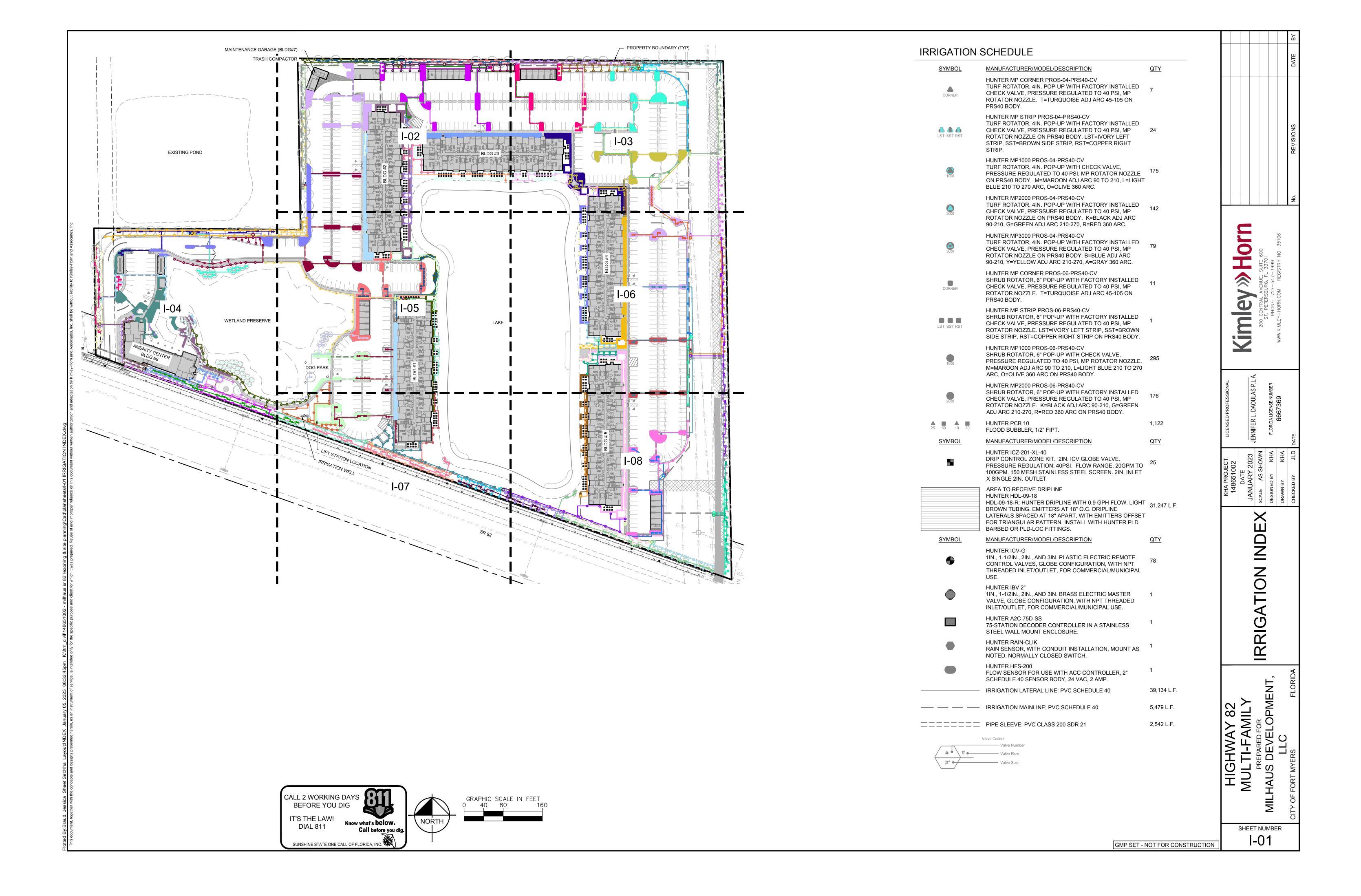


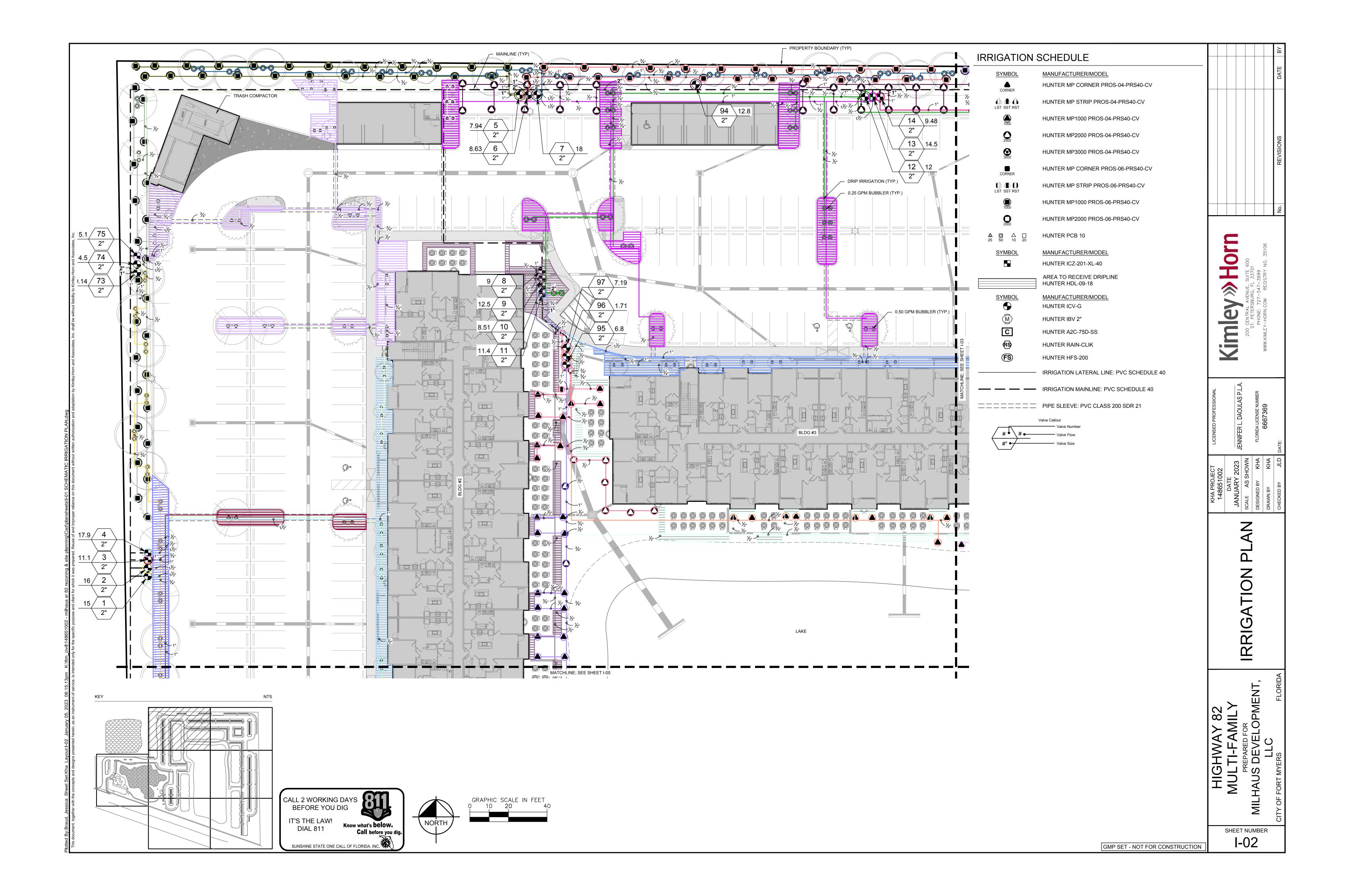


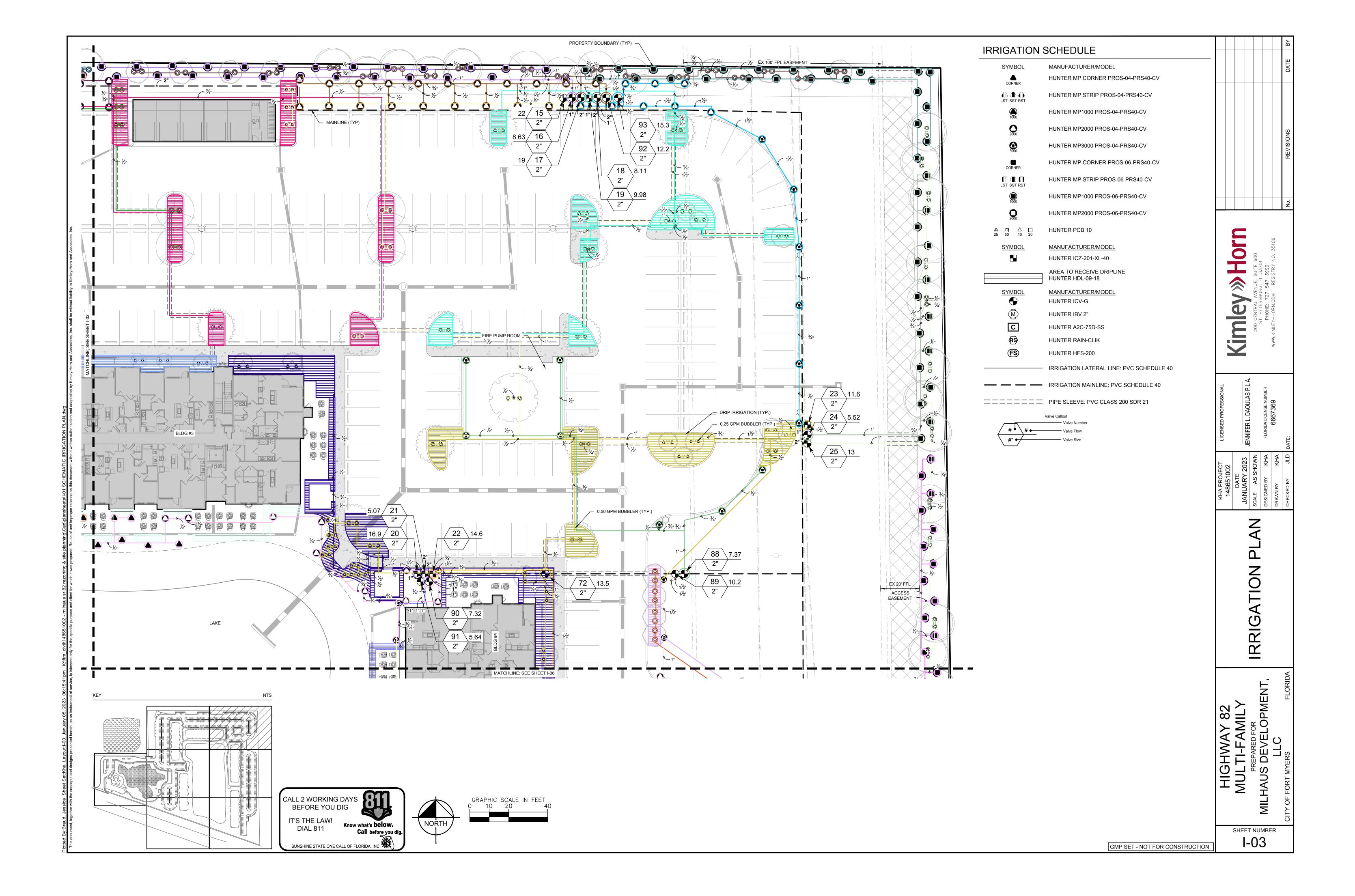


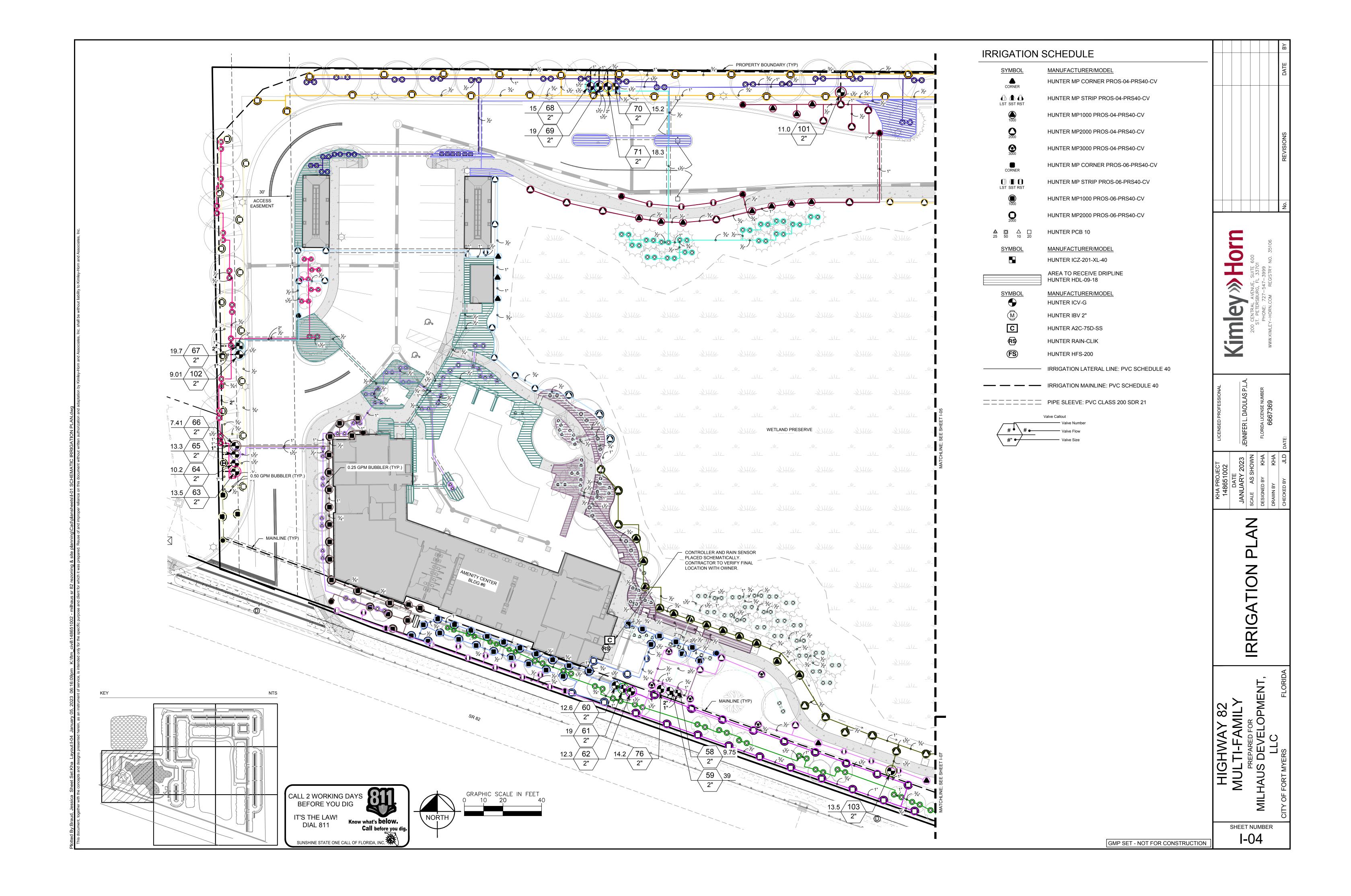


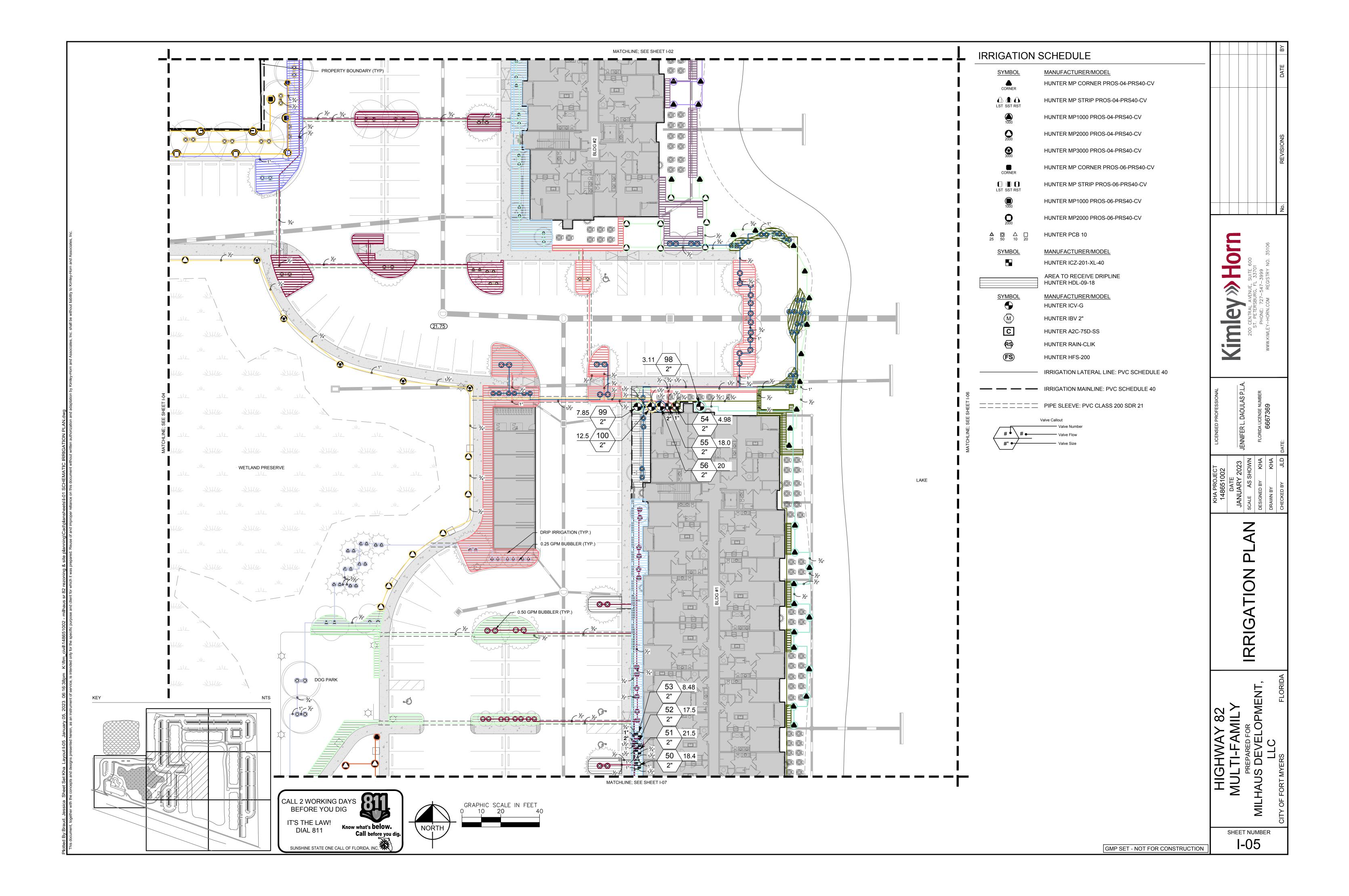


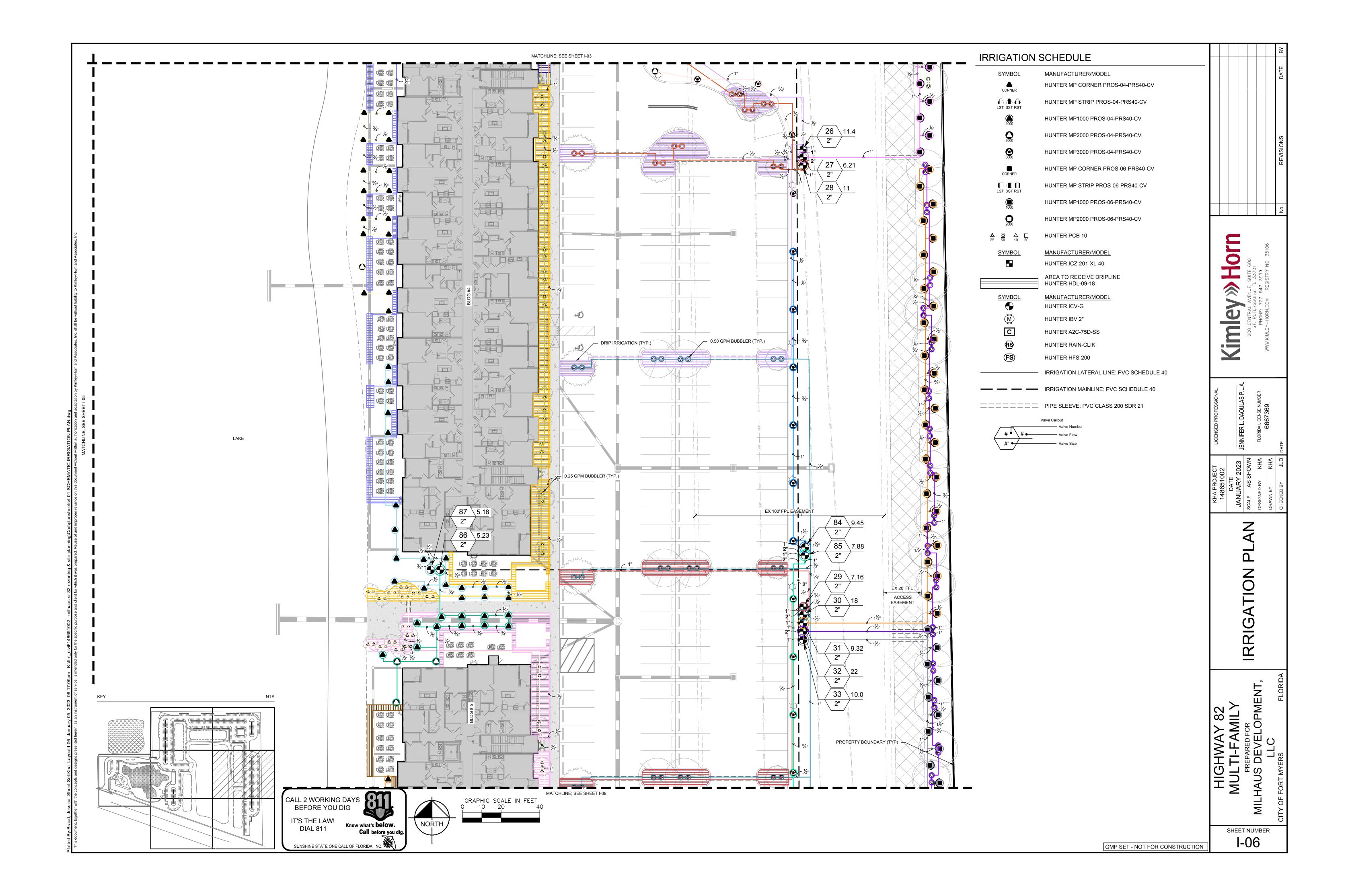


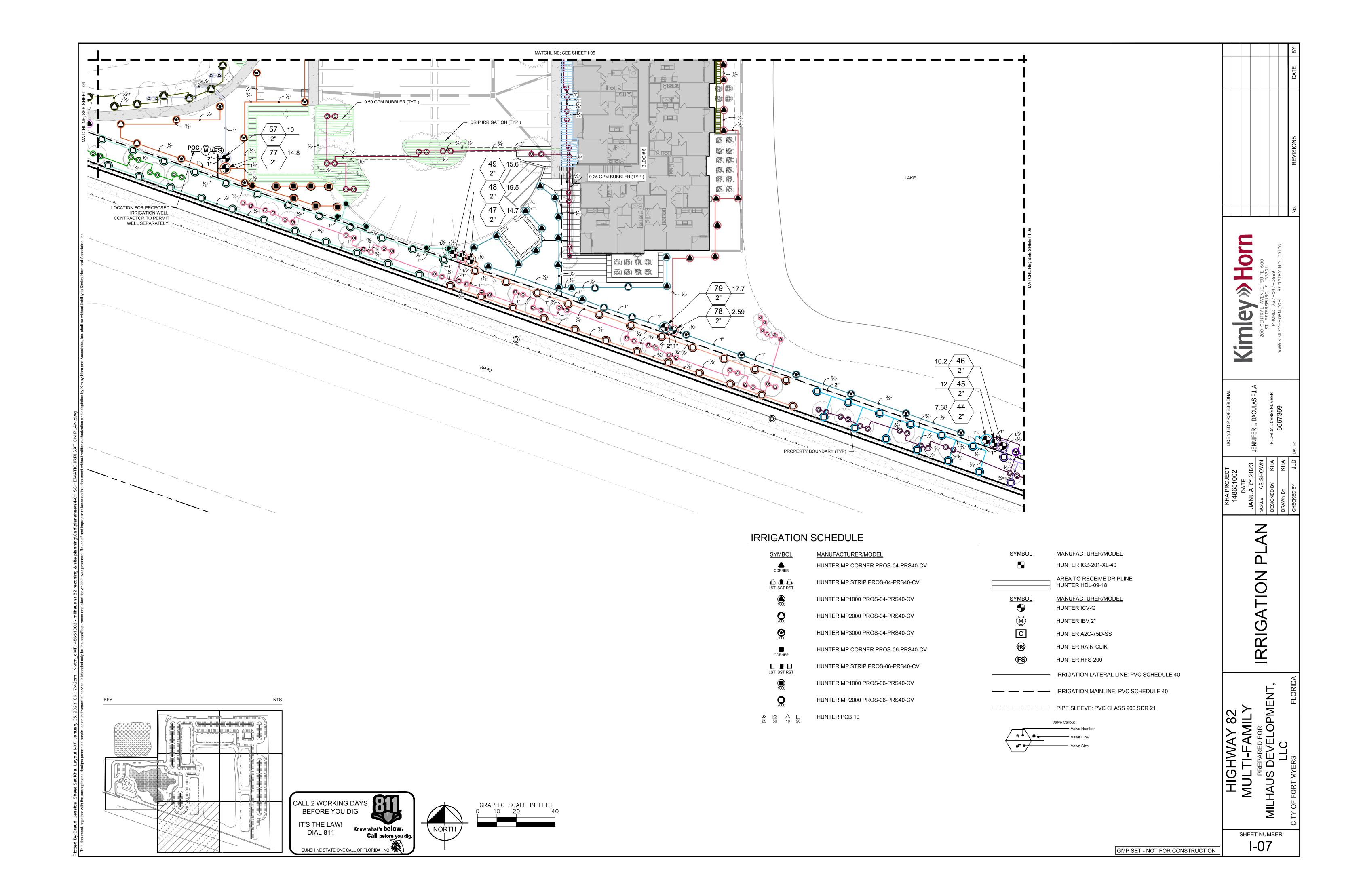


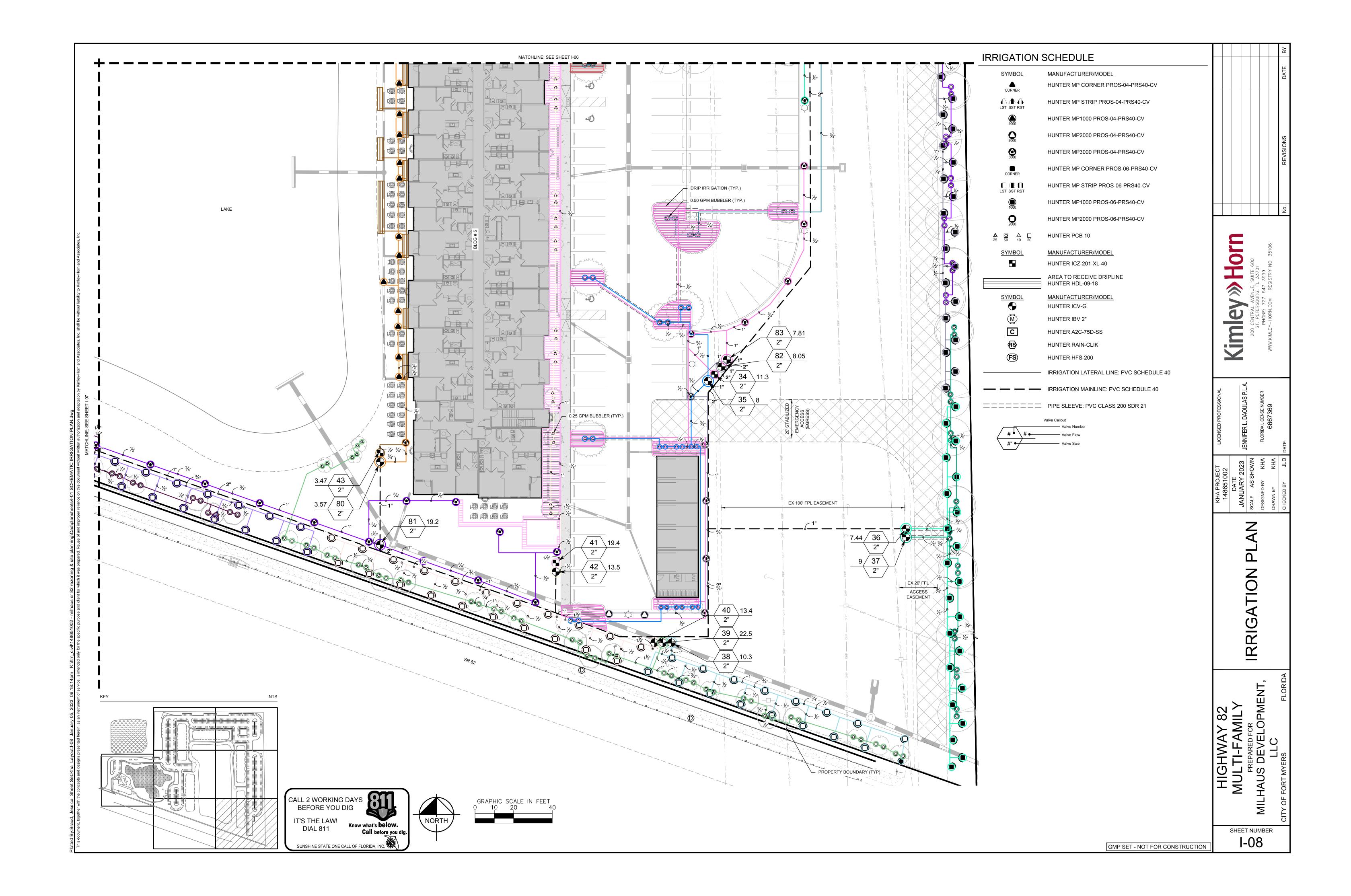












IRRIGATION SPECIFICATIONS

1. SCOPE OF WORK

- 1.1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THESE PLANS.
- 1.2. INSTALL THE IRRIGATION SYSTEM TO PROVIDE 100% UNIFORM COVERAGE INCLUDING ANY CHANGES MADE IN THE LAYOUT DUE TO FIELD CONDITIONS. ALL FIELD CHANGES SHALL BE IN ACCORDANCE WITH THESE PLANS. ANY SYSTEMS THAT REQUIRE FIELD ADJUSTMENT TO PROVIDE FULL AND UNIFORM COVERAGE SHALL BE MADE PRIOR TO FINAL ACCEPTANCE AT THE DIRECTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST
- 1.3. SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF OPERATIONS ON-SITE. SEND COPIES OF THE PERMIT(S) TO THE OWNER'S REPRESENTATIVE. FOR WORK LOCATED IN THE R.O.W., CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE AGENCY HAVING JURISDICTION.
- 1.4. WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS.

2. PROTECTION OF EXISTING AND PROPOSED SITE ELEMENTS

- 2.1. ALL EXISTING SITE ITEMS, ALREADY COMPLETED OR ESTABLISHED AND DESIGNATED TO REMAIN SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM THE CONTRACTOR'S WORK SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE
- 2.2. MAINTAIN ALL NECESSARY BMP DEVICES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.
- 2.3. WHERE APPLICABLE, SUBMIT A DETAILED PROJECT SPECIFIC WORK ZONE TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AGENCY STANDARDS UNLESS THE WORK REQUIRES NOTHING MORE THAN A DIRECT APPLICATION OF FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, INDEX 102-600.
- 2.4. LOCATE ALL UTILITIES, WHETHER PUBLIC OR PRIVATE, PRIOR TO CONSTRUCTION ACTIVITIES. THE INFORMATION AND DATA SHOWN WITH RESPECT TO UTILITIES IS APPROXIMATE. THE OWNER AND DESIGN PROFESSIONAL SHALL NOT BE RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR: REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA: LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION: THE SAFETY AND PROTECTION THEREOF: AND REPAIRING ANY DAMAGE RESULTING FROM THE WORK THE COST OF ALL WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE NOTIFY ANY AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION. NOTIFY THE LANDSCAPE ARCHITECT IN WRITING WHEN ANY CONFLICT BETWEEN UTILITIES AND THESE PLANS EXIST PRIOR

3. SUBMITTALS

- 3.1. SUBMIT FULL AND COMPLETE SHOP DRAWINGS OF ALL IRRIGATION EQUIPMENT AS SHOWN ON THESE PLANS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION.
- 3.2. SUBMIT PRODUCT DATA SHEETS FOR ALL IRRIGATION EQUIPMENT TO BE INSTALLED TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION. THE IRRIGATION SYSTEM, AS SHOWN ON THESE PLANS, HAS BEEN DESIGNED AND CALCULATED WITH THE EQUIPMENT AS SPECIFIED. SUBMIT ANY REQUEST FOR PRODUCT SUBSTITUTION(S) IN WRITING. IF APPROVED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY MODIFICATION(S) AS A RESULT OF PRODUCT SUBSTITUTIONS TO THE IRRIGATION SYSTEM IN THE SHOP DRAWINGS TO MEET THE DESIGN INTENT OF THESE

4. EQUIPMENT LIST

4.1. ALL QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. CONFIRM ALL QUANTITIES PER PLAN PRIOR TO BIDDING AND

5. POINT OF CONNECTION

- 5.1. FIELD VERIFY ALL POINT OF CONNECTION SOURCE INFORMATION INCLUDING STATIC PSI AND GPM AVAILABLE PRIOR TO CONSTRUCTION. NOTIFY OWNER'S REPRESENTATIVE IN WRITING IF DISCREPANCIES BETWEEN THE FLOW AND PRESSURE AS LISTED IN THE CRITICAL ANALYSIS AND THE FIELD CONDITIONS EXIST.
- 5.2. COORDINATE INSTALLATION OF ANY METERS AND BACKFLOW ASSEMBLIES WITH THE AGENCY HAVING JURISDICTION AND **OWNER'S REPRESENTATIVE**

6. MAINLINE INSTALLATION

- INSTALL ALL MAINLINES AND LATERALS UNDER PAVEMENT WITHIN SLEEVES. WHERE VALVE CONTROL LINES PASS THROUGH A SLEEVE WITH OTHER MAIN OR LATERAL LINES. CONTAIN WIRES WITHIN A SEPARATE. SMALLER CONDUIT
- 6.2. INSTALL COLOR CODED METAL DETECTABLE MARKING TAPE WHICH CLEARLY NOTES: "CAUTION: IRRIGATION LINE BURIED BELOW" ABOVE THE FULL LENGTH OF THE IRRIGATION MAINLINE
- 6.3. WHERE MAINLINE RUNS PARALLEL TO PAVEMENT OR CURBING, OFFSET THE MAINLINE 24" FROM THE EDGE OF PAVEMENT OR CURB.

6.4. PERFORM HYDROSTATIC PRESSURE TESTING AS FOLLOWS:

- 6.4.1. AFTER FLUSHING, AND THE INSTALLATION OF VALVES CONDUCT THE FOLLOWING TESTS, IN THE SECUENCE LISTED BELOW. FURNISH ALL EQUIPMENT: MATERIALS AND LABOR NECESSARY TO PERFORM THE TESTS. CONDUCT ALL TESTS IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. NOTIFY THE OWNER'S REPRESENTATIVE FORTY-EIGHT (48) HOURS IN ADVANCE OF TESTING.
- 6.4.2. PERFORM WATER PRESSURE TESTS ON ALL PRESSURE MAIN LINES BEFORE ANY COUPLINGS, FITTINGS, VALVES AND THE LIKE ARE CONCEALED.
- 6.4.3. IMMEDIATELY PRIOR TO TESTING, PURGE ALL IRRIGATION LINES OF ALL ENTRAPPED AIR OR DEBRIS BY ADJUSTING CONTROL VALVES AND INSTALLING TEMPORARY CAPS FORCING WATER AND DEBRIS TO BE DISCHARGED FROM A
- 6.4.4. TEST ALL PRESSURE MAIN LINE AT 150 PSI FOR A MINIMUM OF FOUR (4) HOURS WITH AN ALLOWABLE LOSS OF 5 PSI. PRESSURE AND GAUGES SHALL BE READ IN PSI, AND CALIBRATED SUCH THAT ACCURATE DETERMINATION OF POTENTIAL PRESSURE LOSS CAN BE ASCERTAINED.
- 6.4.5. RE-TEST AS REQUIRED UNTIL THE SYSTEM MEETS THE REQUIREMENTS. REPAIR ANY LEAKS, WHICH OCCUR DURING TEST PERIOD. IMMEDIATELY FOLLOWING THE TEST
- 6.4.6. PROVIDE DOCUMENTATION STATING THE WEATHER CONDITIONS, DATE, THE START TIME AND INITIAL WATER PRESSURE READINGS, THE FINISH TIME AND FINAL WATER PRESSURE READINGS AND THE TYPE OF EQUIPMENT USED TO PERFORM THE TEST. THE DOCUMENTATION MUST BE SIGNED BY A WITNESS ACCEPTABLE TO THE OWNER, VERIFYING ALL OF THE ABOVE-MENTIONED CONDITIONS.
- 6.4.7. SUBMIT A WRITTEN REPORT OF THE PRESSURE TESTING RESULTS WITH THE OTHER ABOVE REQUIRED INFORMATION TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.

7. IRRIGATION VALVES AND WIRING

- 7.1. LOCATE ALL VALVES, SPLICES WITHIN CONTROL LINES, QUICK COUPLERS, AND HOSE BIBBS WITHIN VALVE BOXES. PROVIDE PURPLE VALVE BOX LIDS FOR SYSTEMS UTILIZING A NON-POTABLE WATER SOURCE.
- 7.2. NUMBER THE TOP OF ALL VALVE BOX LIDS WITH MINIMUM 1" HEIGHT BLACK LETTERS TO CORRESPOND TO THE VALVE
- 7.3. WHEN POSSIBLE, LOCATE ALL VALVES IN PLANTING BEDS A MINIMUM OF 24" FROM BACK OF CURB OR EDGE OF PAVEMENT,
- 7.4. SEPARATE IRRIGATION ZONES FOR HIGH AND LOW WATER USE REQUIREMENTS AND OPERATED ON DIFFERENT WATERING CYCLES. AT NO TIME SHALL MULTIPLE IRRIGATION HEAD TYPES BE LOCATED ON THE SAME VALVE UNLESS NOTED
- 7.5. INSTALL ALL DRIP ZONES WITH A FLUSH VALVE AND AIR RELIEF VALVE. IN THE EVENT THAT A DRIP ZONE HAS MORE THAN ONE HIGH OR LOW POINT, MORE THAN ONE AIR RELIEF VALVE OR FLUSH VALVE WILL BE REQUIRED FOR THAT ZONE.
- 7.6. FOLLOW MANUFACTURER'S SPECIFICATIONS FOR ALL WIRING FOR CONNECTION OF THE VALVES TO THE CONTROLLER. ALL WIRE RUNS SHALL BE CONTINUOUS WITH SPLICING OCCURRING IN VALVE BOXES ONLY. WIRE CONNECTIONS SHALL BE MADE USING DBR/Y-6 CONNECTIONS OR APPROVED EQUAL.
- 7.7. INSTALL VALVE CONTROL WIRING IN THE SAME TRENCH AS THE MAINLINE WHERE PRACTICAL.

CALL 2 WORKING DAYS BEFORE YOU DIG IT'S THE LAW! Call before you di SUNSHINE STATE ONE CALL OF FLORIDA INC.

7.8. FOR NON TWO-WIRE SYSTEMS. RUN TWO (2) SPARE VALVE CONTROL WIRES FROM THE CONTROLLER ALONG THE ENTIRE MAINLINE TO LAST REMOTE CONTROLLED VALVE ON EACH AND EVERY LEG OF MAINLINE

8. PIPES AND SLEEVING

- 8.1. DO NOT INSTALL IRRIGATION SYSTEM THROUGH PRESERVED PLANT COMMUNITIES, DRIPLINE OF EXISTING TREES, OR WITHIN WETLANDS UNLESS SPECIFICALLY NOTED OTHERWISE.
- 8.2. LOCATE ALL IRRIGATION LINES WITHIN LANDSCAPED AREAS WHENEVER POSSIBLE. ALL LINES UNDER PAVEMENT MUST BE
- 8.3. SIZE ALL PIPE SLEEVES TWO PIPE SIZES GREATER THAN THE PIPE / CUMULATIVE SUM OF THE PIPES IT CARRIES.
- 8.4. SLEEVES UNDER EXISTING PAVEMENT MUST BE DIRECTIONAL BORE UNLESS APPROVED BY OWNER IN WRITING.
- 8.5. SOLVENT CEMENTS SHALL COMPLY WITH ASTM D2564.

9. CONTROLLER AND SENSORS

- 9.1. COORDINATE WITH OWNER'S REPRESENTATIVE FOR FINAL CONTROLLER AND RAIN SENSOR LOCATIONS. THE CONTROLLER SHALL BE PLACED IN A LOCKING CABINET APPROPRIATE FOR ITS LOCATION. (INDOOR VS. OUTDOOR USE)
- LOCATE THE AUTOMATIC RAIN SENSOR SHUTOFF DEVICE IN AN AREA THAT IS UNOBSTRUCTED BY TREES, ROOF OVERHANGS, OR ANY OTHER OVERHEAD OBJECT, THE SENSOR SHALL NOT BE PLACED WITHIN THE SPRAY ZONE OF ANY SPRINKLER HEAD, INCLUDING OFF-SITE IRRIGATION. CONTRACTOR SHALL LOCATE SENSOR WITHIN CLOSE PROXIMITY TO THE IRRIGATION CONTROLLER

10. CLEANUP

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

11. AS-BUILT IRRIGATION PLANS

- 11.1. PROVIDE "AS-BUILT" DRAWINGS OF THE FINAL INSTALLATION TO OWNER'S REPRESENTATIVE PRIOR TO FINAL ACCEPTANCE OF WORK. INCLUDE THE FOLLOWING ON THE AS-BUILT DRAWINGS AT A MINIMUM:
 - CONTROLLER LOCATION CONNECTION ASSEMBLY
 - MAINLINE ROUTING
 - PIPE SLEEVING - VALVE(S)
 - COLORIZED ZONING DIAGRAM
- 11.2. LOCATE ALL SLEEVES UTILIZED BY THE IRRIGATION CONTRACTOR WHETHER INSTALLED BY THE IRRIGATION CONTRACTOR OR NOT ON THE "AS-BUILT" DRAWINGS. THE DEPTH BELOW FINISH GRADE, TO THE NEAREST FOOT OF EACH END OF THE SLEEVE SHALL BE NOTED AT EACH SLEEVE LOCATION ON THE "AS-BUILT" DRAWINGS

12. FINAL INSPECTION AND ACCEPTANCE OF WORK

- 12.1. MINIMIZE IRRIGATION OVERTHROW TO IMPERVIOUS AND NATURAL AREAS THROUGH FIELD ADJUSTMENTS TO INDIVIDUAL
- 12.2. PROGRAM CONTROLLER TO IRRIGATE ALL ZONES WITHIN APPLICABLE WATERING WINDOWS AND PROVIDE WATERING SCHEDULE TO OWNER'S REPRESENTATIVE.
- 12.3. EQUIPMENT TO BE FURNISHED TO OWNER PRIOR TO ACCEPTANCE OF WORK:
 - TWO (2) SETS OF KEYS FOR EACH AUTOMATIC CONTROLLER. TWO (2) 48 INCH TEE WRENCHES FOR OPERATING GATE VALVES (WHEN INSTALLED AS PART OF WORK).
 - THREE (3) SETS OF SPECIAL TOOLS REQUIRED FOR REMOVING, DISASSEMBLING AND ADJUSTING EACH TYPE OF
 - SPRINKLER AND VALVE SUPPLIED ON THIS PROJECT - FIVE (5) EXTRA SPRINKLER HEADS, NOZZLES, SHRUB ADAPTERS, NOZZLE FILTER SCREENS, FOR EACH TYPE USED ON THE PROJECT.
- TWO (2) QUICK COUPLER KEYS TO MATCH MANUFACTURER TYPE OF QUICK COUPLER. 12.4. UPON COMPLETION OF ALL WORK, A FINAL INSPECTION SHALL BE PERFORMED BY THE OWNER AND/OR OWNER'S
- REPRESENTATIVE. THE IRRIGATION SYSTEM, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT SHALL BE INSPECTED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. ANY ITEMS FOUND TO NOT BE IN COMPLIANCE SHALL BE CORRECTED AT NO COST TO THE OWNER.

13. WARRANTY

- 13.1. THE CONTRACTOR SHALL WARRANTEE ALL WORKMANSHIP AND MATERIALS FOR A PERIOD OF 1 YEAR FOLLOWING THE ACCEPTANCE OF THE WORK.
- 13.2. ANY PART OF THE IRRIGATION WORK THAT FAILS OR IS DEFECTIVE SHALL BE REPLACED OR RECONSTRUCTED AT NO COST TO THE OWNER INCLUDING BUT NOT LIMITED TO: RESTORING GRADES THAT HAVE SETTLED IN TRENCHES AND EXCAVATIONS RELATED TO THE WORK. RECONSTRUCTION SHALL INCLUDE ANY PLANTINGS, SOIL, MULCH OR OTHER PARTS OF THE CONSTRUCTED LANDSCAPE THAT MAY BE DAMAGED DURING THE REPAIR OR THAT RESULTS FROM SOIL
- 13.3. THE DATE OF ACCEPTANCE OF THE WORK AND START OF THE GUARANTEE PERIOD SHALL BE DETERMINED BY THE OWNER, UPON THE FINDING THAT THE ENTIRE IRRIGATION SYSTEM IS INSTALLED AS DESIGNED AND SPECIFIED, AND FOUND TO BE OPERATING CORRECTLY. SUPPLYING WATER EVENLY TO ALL PLANTING AND/OR LAWN AREAS.
- 13.4. NEITHER THE FINAL ACCEPTANCE NOR ANY PROVISION IN THE CONTRACT DOCUMENTS SHALL RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR FAULTY MATERIALS OR WORKMANSHIP. REMEDY ANY DEFECTS WITHIN A PERIOD OF 7 DAYS (S) FROM THE DATE OF NOTIFICATION OF A DEFECT.

14. ABBREVIATIONS

GALLONS PER MINUTE GALLONS PER HOUR POUNDS PER SQUARE INCH

LATERAL PIPE SIZING REQUIREMENTS

MAXIMUM FLOW	MINIMUM PIPE SIZE
10 GPM	3/4"
16 GPM	1"
26 GPM	1-1/4"
35 GPM	1-1/2"
55 GPM	2"
80 GPM	2-1/2"
120 GPM	3"

PIPE SIZES ILLUSTRATED IN THE ABOVE CHART ARE MINIMUM ACCEPTABLE SIZES. PIPE SIZES INDICATED ON PLAN ARE FOR CONVENIENCE ONLY. FIELD SIZE ALL LATERAL PIPING TO KEEP ALL FRICTION LOSS **VELOCITIES BELOW 5.0 FPS**

GENERAL IRRIGATION WELL SPECIFICATIONS

THESE SPECIFICATIONS ARE NOT INTENDED TO SUPERSEDE ANY STATE OR LOCAL STANDARDS AND REGULATIONS FOR WELL CONSTRUCTION MATERIALS AND METHODS. IN THE EVENT THAT ANY PORTION OF THESE SPECIFICATIONS ARE FOUND TO BE INCONSISTENT WITH ANY STATE OR LOCAL STANDARDS AND REGULATIONS, THE CONTRACTOR SHALL IDENTIFY THE SPECIFIC INCONSISTENCY AND SHALL SUGGEST AN APPROPRIATE ALTERNATIVE PRIOR TO THEIR BID SUBMISSION. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM THE DRILLING AND WELL CONSTRUCTION ACTIVITIES IN A MANNER CONSISTENT WITH ALL APPLICABLE STATE AND LOCAL STANDARDS AND REGULATIONS AND TO ALSO PROVIDE CONSTRUCTION MATERIALS THAT ARE CONSISTENT WITH THE SAME STANDARDS AND REGULATIONS.

ANY VARIATION FROM THE WELL DESIGN ON THE APPROVED PLANS IS TO BE REVIEWED AND APPROVED BY THE OWNER.

1. SITE CLEAN UP AND RESTORATION

- 1.1IT IS THE RESPONSIBILITY OF THE WELL DRILLING CONTRACTOR TO RESTORE TO ORIGINAL CONDITION ANY COMMON AREA ALTERED OR DAMAGED DURING THE COURSE OF THE INSTALLATION, THIS INCLUDES BUT IS NOT LIMITED TO DAMAGE TO ROADWAYS, CURBING, LANDSCAPE PLANT MATERIAL, TURF AREAS AND THE EXISTING IRRIGATION SYSTEM, INCLUDING ANY EXISTING UTILITY, LINE OR OBSTRUCTION.
- 2. PERSONNEL AND DRILLING EQUIPMENT
- 2.1 THE CONTRACTOR SHALL BE A LICENSED MASTER WELL DRILLER. THE MASTER WELL DRILLER SHALL ALSO BE CERTIFIED BY THE NATIONAL GROUNDWATER ASSOCIATION IN THE CATEGORY OF "UNCONSOLIDATED MUD ROTARY DRILLING". A COPY OF THE DRILLER'S LICENSE AND CERTIFICATION MUST BE INCLUDED WITH THE OTHER MANDATORY REQUIREMENTS OF THIS BID PACKAGE.
- 2.2THE CONTRACTOR SHALL SUPPLY CAPABLE, EXPERIENCED AND APPROPRIATELY LICENSED PERSONNEL AND SUITABLE DIRECT-CIRCULATION OR REVERSE-CIRCULATION ROTARY DRILLING EQUIPMENT TO PERFORM THIS WORK. SECURITY OF THE DRILLING EQUIPMENT AND MATERIALS WHILE ON SITE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SAFETY OF THEIR OWN PERSONNEL
- PERMITS 3.1 THE CONTRACTOR SHALL APPLY FOR AND ACQUIRE PERMITS FROM AUTHORIZED AGENCIES, AS REQUIRED. NO FIELD OPERATION SHALL BEGIN UNTIL ALL REQUIRED PERMITS HAVE BEEN OBTAINED. COPIES OF ALL PERMIT APPLICATIONS, ALL PERMITS, AND ALL WELL RECORDS SHALL BE PROVIDED TO THE OWNER.
- 4. MOBILIZATION AND DEMOBILIZATION 4.1 THIS ITEM INCLUDES MOVING THE MATERIALS AND EQUIPMENT FOR CONSTRUCTING AND DEVELOPING THE WELL, ALONG WITH THE MOVING OF MATERIALS AND
- EQUIPMENT TO AND FROM THE SITE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CLEANING UP TRASH AND OTHER DEBRIS, DEPOSITED AS A RESULT OF CONSTRUCTION AND DEVELOPMENT ACTIVITIES, FROM THE SITE UPON COMPLETION OF THE SITE WORK. ANY REQUIRED HAULING OF WATER SHALL THE CONTRACTOR'S RESPONSIBILITY

MATERIALS

- 5.1THE CHOICE OF THE DRILLING FLUID AND ITS PROPERTIES AND CONTROL SHALL BE THE COMPLETE RESPONSIBILITY OF THE CONTRACTOR. WATER USED FOR MIXING DRILLING FLUID SHALL BE FROM A POTABLE SOURCE AND SHALL BE CLEAN AND FREE FROM DELETERIOUS MATERIALS. ANY REQUIRED HAULING OF WATER SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- 5.2 ALL WELL CASINGS SHALL BE NEW. THEY SHALL BE MANUFACTURED OF 4-1/2" PVC PIPE, ASTM F-480, SDR-17, O.D. 4.950, I.D. 4.200. CASING AND WELL SCREEN SHALL CARRY A MINIMUM 5 YEAR WARRANTY.
- 5.3 THE CASING SECTIONS SHALL BE JOINED BY EITHER SOLVENT WELDING OR BY THREADED AND COUPLED JOINTS.
- 5.4 TOTAL CASING LENGTH IS TO BE DETERMINED BY THE CONTRACTOR BASED ON SELECTION OF THE MOST FAVORABLE SCREEN INTERVAL
- 5.5 THE WELL SCREEN SECTIONS SHALL BE NEW. THEY SHALL BE MANUFACTURED FROM PVC, MINIMUM LENGTH 10' AND SHALL INCLUDE A MAXIMUM 5' TAILPIECE ON THE BOTTOM OF THE SCREEN.
- a. THE SCREEN SECTIONS SHALL BE JOINED BY THREADED AND COUPLED JOINTS.
- b. THE SCREEN SLOT SIZE SHALL BE 0.020 INCHES.
- c. THE SCREEN SECTIONS SHALL HAVE A NOMINAL DIAMETER OF 4 INCHES.
- d. TOTAL SCREEN LENGTH SHALL BE DETERMINED BY THE DRILLER.
- 5.6 THE FILTER PACK MATERIAL SHALL BE COMMERCIAL WELL GRAVEL CONSISTING OF CLEAN. WELL-ROUNDED GRAINS THAT ARE SMOOTH AND UNIFORM. THE MATERIAL SHALL BE MOSTLY SILICEOUS FILTER PACK MATERIAL SHALL BE 2.5 OR LESS. WITH NO MORE THAN 5 PERCENT CALCAREOUS MATERIAL BY WEIGHT.
- 5.7THE WELL GRAVEL SHALL BE DELIVERED TO THE SITE IN BAGS AND SHALL BE STORED ON SITE SO THAT IT REMAINS CLEAN PRIOR TO PLACEMENT IN THE WELLS.
- 5.8 THE EFFECTIVE SIZE OF THE FILTER PACK MATERIAL SHALL BE 0.5 MM AND THE UNIFORMITY COEFFICIENT OF THE FILTER PACK MATERIAL SHALL BE 2.5 OR LESS. 5.9A HIGH-SOLIDS, BENTONITE-CLAY GROUT SHALL BE USED TO SEAL THE ANNULAR SPACE BETWEEN THE BOREHOLE WALL AND THE WELL CASING. THE GROUT SHALL
- MEET ALL APPLICABLE DEP REQUIREMENTS. 5.10 THE WATER USED FOR MIXING THE GROUT SHALL BE FROM A POTABLE SOURCE AND SHALL BE CLEAN AND FREE FROM ALL DELETERIOUS MATERIALS.
- 6.1 THE CONTRACTOR SHALL INSTALL THE MATERIALS PREVIOUSLY DESCRIBED SO THAT THE FINISHED WELL CONFORMS TO THE SPECIFICATIONS AND TO APPLICABLE
- 6.2BOREHOLE DIAMETER SHALL MEET DEP MINIMUM ANNULAR SPACE REQUIREMENTS.
- 6.3 THE CONTRACTOR SHALL DISPOSE OF DRILLING FLUID, CUTTINGS, AND DISCHARGED WATER IN A MANNER THAT IS CONSISTENT WITH APPLICABLE DEP
- 6.4 THE CONTRACTOR SHALL VERIFY BOREHOLE DEPTH PRIOR TO SETTING THE SCREEN AND CASING.
- 6.5 THE SCREEN AND CASING ASSEMBLY SHALL BE JOINED PROPERLY AND LOWERED INTO THE WELL. THE ASSEMBLY SHALL BE SUPPORTED SO THAT THE SCREEN BOTTOM IS SLIGHTLY ABOVE THE BOTTOM OF THE HOLE TO INSURE THAT THE ENTIRE ASSEMBLY IS UNDER TENSION DURING PLACEMENT OF THE FILTER PACK.
- 6.6 THE SCREEN AND CASING ASSEMBLY SHALL BE PROPERLY CENTERED IN THE BOREHOLE. ONE STAINLESS-STEEL CENTRALIZER SHALL BE PLACED ON THE BOTTOM OF THE SCREEN ASSEMBLY AND ONE STAINLESS-STEEL CENTRALIZER SHALL BE PLACED ON THE TOP OF THE SCREEN ASSEMBLY.
- 6.7THE CONTRACTOR SHALL VERIFY THE OPEN DEPTH OF THE ANNULAR SPACE PRIOR TO PLACING THE FILTER PACK.
- 6.8 THE FILTER PACK SHALL BE PLACED BY THE TREMIE METHOD. THE TREMIE PIPE SHALL TERMINATE 5 FEET ABOVE THE BOTTOM OF THE HOLE OR ABOVE THE LEVEL OF THE FILTER PACK ALREADY PLACED IN THE HOLE. IT SHALL BE LIFTED GRADUALLY AND SECTIONS REMOVED AS THE LEVEL OF THE FILTER MATERIAL RISES. THE TOP OF THE TREMIE PIPE SHALL BE FITTED WITH FUNNEL FITTINGS SO THAT THE FILTER PACK CAN BE POURED INTO THE TREMIE. CLEAN WATER SHALL BE INTRODUCED INTO THE TREMIE ALONG WITH THE PACK MATERIAL IN ORDER TO REDUCE THE LIKELIHOOD OF BRIDGING OF THE PACK MATERIAL DURING PLACEMENT.
- 6.9THE CONTRACTOR SHALL PERIODICALLY CHECK THE FILTER PACK LEVEL TO DETERMINE IF BRIDGING HAS OCCURRED AND TO ENSURE THAT THE FILTER PACK EXTENDS ABOVE THE TOP OF THE WELL SCREEN. THE FILTER PACK SHALL BE ALLOWED TO PROPERLY SETTLE PRIOR TO GROUTING. THE MINIMUM FILTER PACK LEVEL SHALL BE TEN FEET ABOVE THE TOP OF WELL SCREEN.
- 6.10 THE CONTRACTOR SHALL VERIFY THE OPEN DEPTH OF THE ANNULAR SPACE PRIOR TO GROUTING.
- 6.11 GROUTING SHALL BE DONE BY THE TREMIE PIPE METHOD.
- 6.12 GROUTING SHALL BE CARRIED OUT IN ONE CONTINUOUS OPERATION, FILLING THE ANNULAR SPACE BETWEEN THE DRILLED HOLE AND THE CASING, FROM THE TOP OF THE BENTONITE PLUG TO THE LAND SURFACE. THE GROUT RETURNING TO THE SURFACE SHALL BE WASTED UNTIL IT IS DETERMINED THAT THE GROUTING IS

7. WELL DEVELOPMENT

- 7.1THE DEVELOPMENT OF THE WELL SHALL REMOVE THE NATIVE SILTS AND CLAYS AND DRILLING FLUID RESIDUES DEPOSITED ON THE BOREHOLE FACE AND IN ADJACENT PORTIONS OF THE AQUIFER DURING THE DRILLING PROCESS. DEVELOPMENT SHALL ALSO REMOVE A PREDETERMINED FINER FRACTION OF THE FILTER PACK. IF ORGANIC DRILLING FLUIDS ARE USED, THEY MUST BE BROKEN DOWN CHEMICALLY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS BEFORE OR DURING DEVELOPMENT.
- 7.2THE DEVELOPMENT PROCESS SHALL BE CARRIED OUT EITHER BY: 1) MECHANICAL SURGING AND SIMULTANEOUS AIR-LIFT PUMPING; OR
- 2) BY HIGH-PRESSURE JETTING WITH SIMULTANEOUS AIR-LIFT PUMPING.
- 7.3 THE PROPOSED DEVELOPMENT PROCESS SHALL BE SPECIFIED IN THE CONTRACTOR'S BID SUBMITTAL
- 7.4 THE WELL SHALL BE DEVELOPED FOR A MINIMUM PERIOD OF SIX HOURS (CONTINUOUS DEVELOPMENT ACTIVITY). THE CONTRACTOR SHALL SPECIFY THEIR COST FOR ADDITIONAL DEVELOPMENT TIME, AS MAY BE REQUESTED.

8. CAPPING WELL

8.1DURING WELL CONSTRUCTION AND COMPLETION, THE CONTRACTOR SHALL USE ALL REASONABLE MEASURES TO PREVENT THE ENTRANCE OF FOREIGN MATTER INTO THE WELL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY OBJECTIONABLE MATERIAL THAT MAY FALL INTO THE WELL AND ANY EFFECT IT MAY HAVE ON WATER QUALITY OR WELL PERFORMANCE UNTIL COMPLETION AND ACCEPTANCE OF THE WORK BY THE OWNER.

9. GUARANTEES

9.1THE CONTRACTOR SHALL GUARANTEE THAT ALL MATERIALS, EQUIPMENT, STRUCTURES, AND WORK PERFORMED ARE FREE FROM DEFECTS IN WORKMANSHIP OR MATERIALS FOR A PERIOD OF ONE YEAR AFTER COMPLETION AND ACCEPTANCE BY THE OWNER, AND IF ANY PART OF THE WORK SHALL FAIL WITHIN THIS PERIOD, IT SHALL BE REPLACED AND THE UNIT RESTORED TO OPERATION AT NO ADDITIONAL COST.

10. RECORDS

10.1. A COPY OF EACH STATE DRILLING PERMIT AND STATE WELL COMPLETION RECORD SHALL BE GIVEN TO THE OWNER UPON COMPLETION OF THE WORK. IN ADDITION. A COPY OF THE WELL CAPPING PERMIT AND COMPLETION RECORD SHALL BE PROVIDED TO THE OWNER AND STATE OR LOCAL REGULATORY AGENCIES.

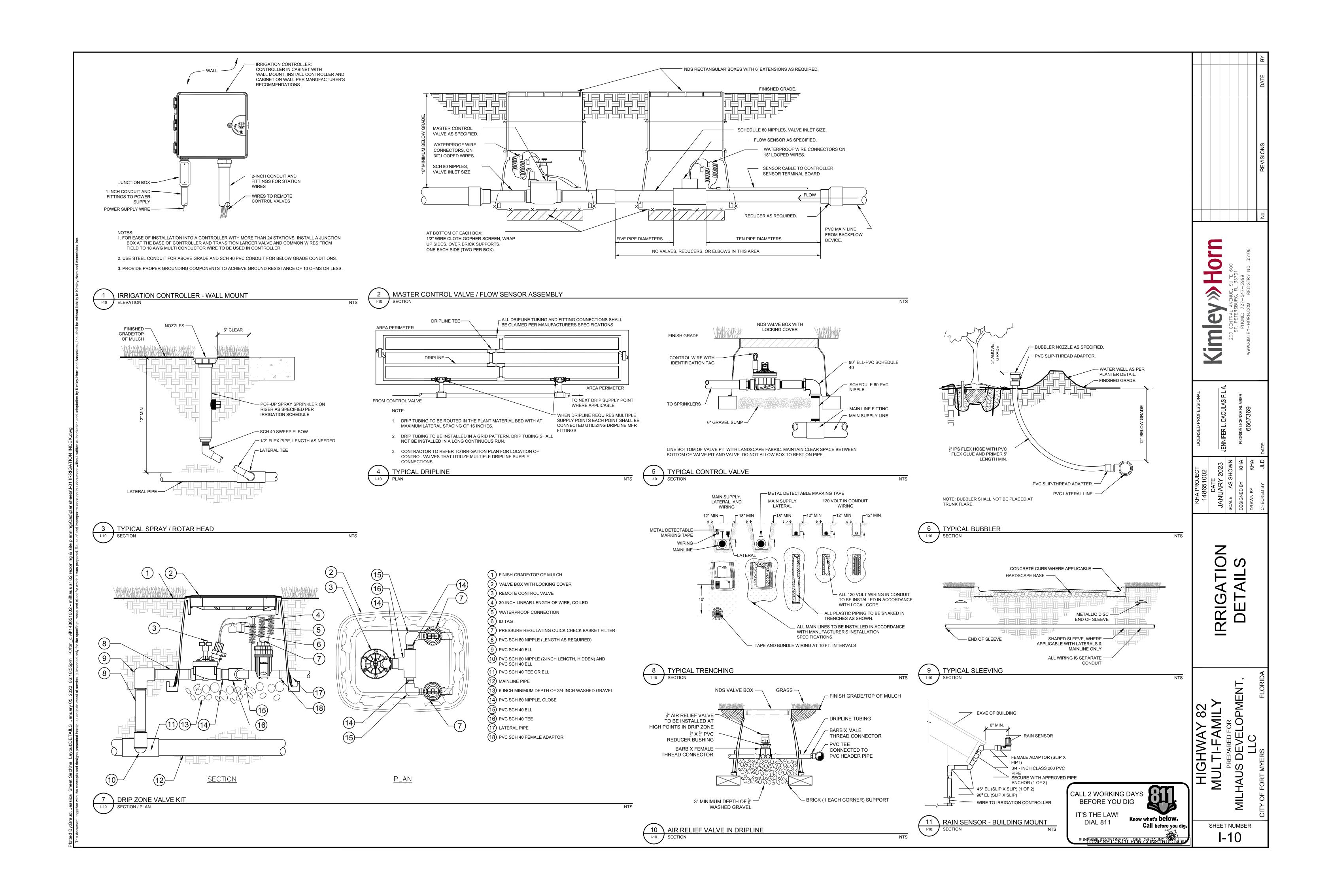
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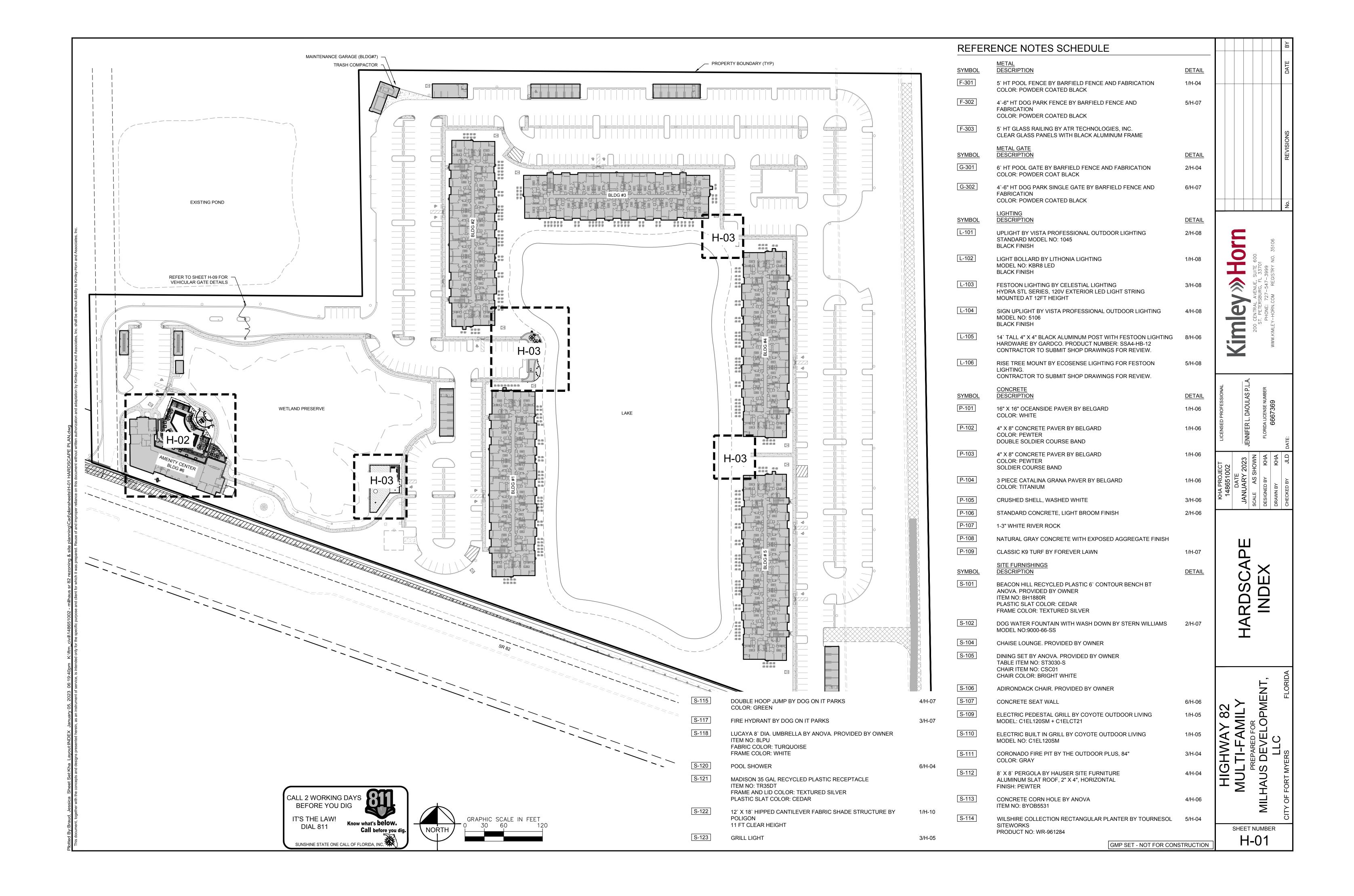
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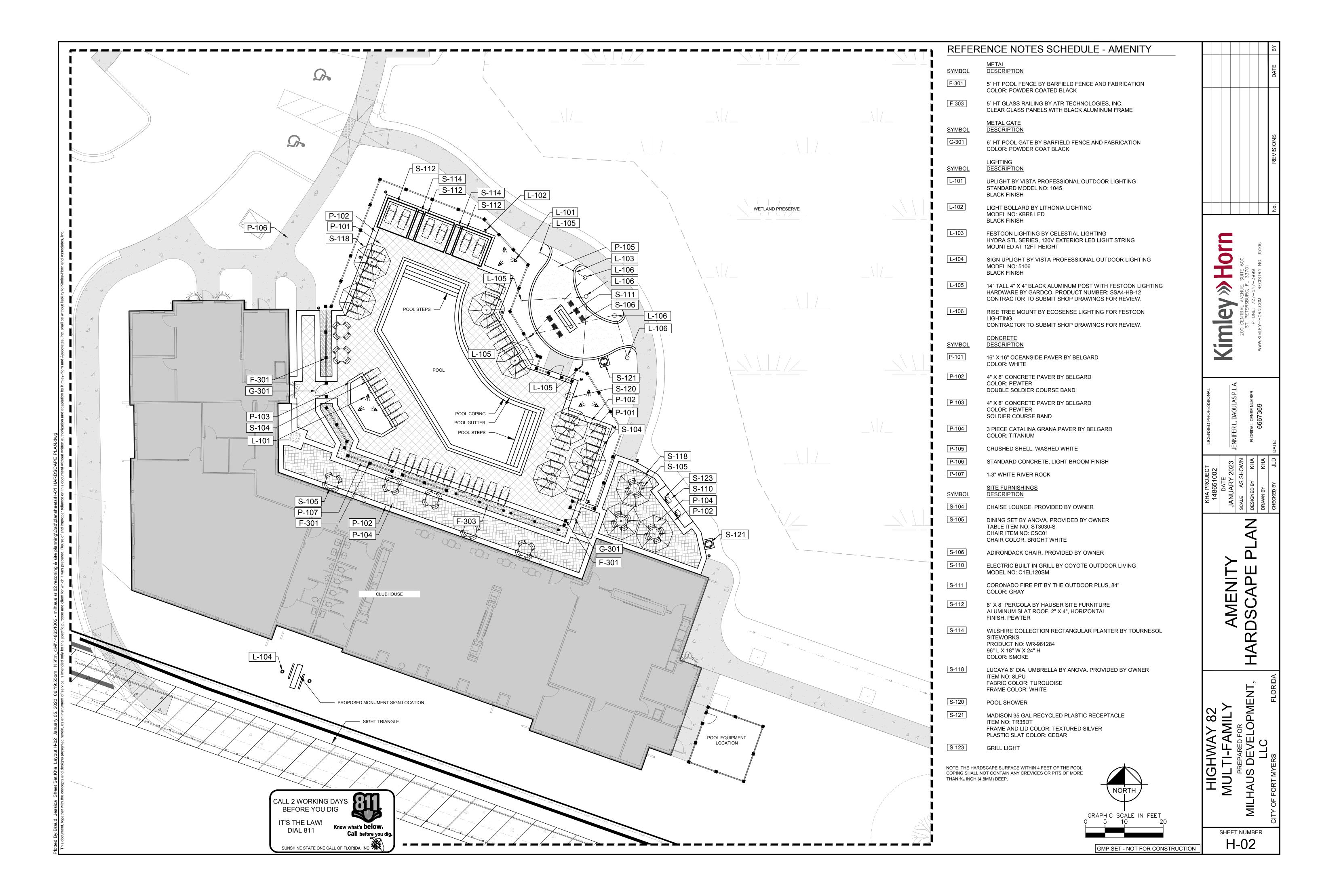
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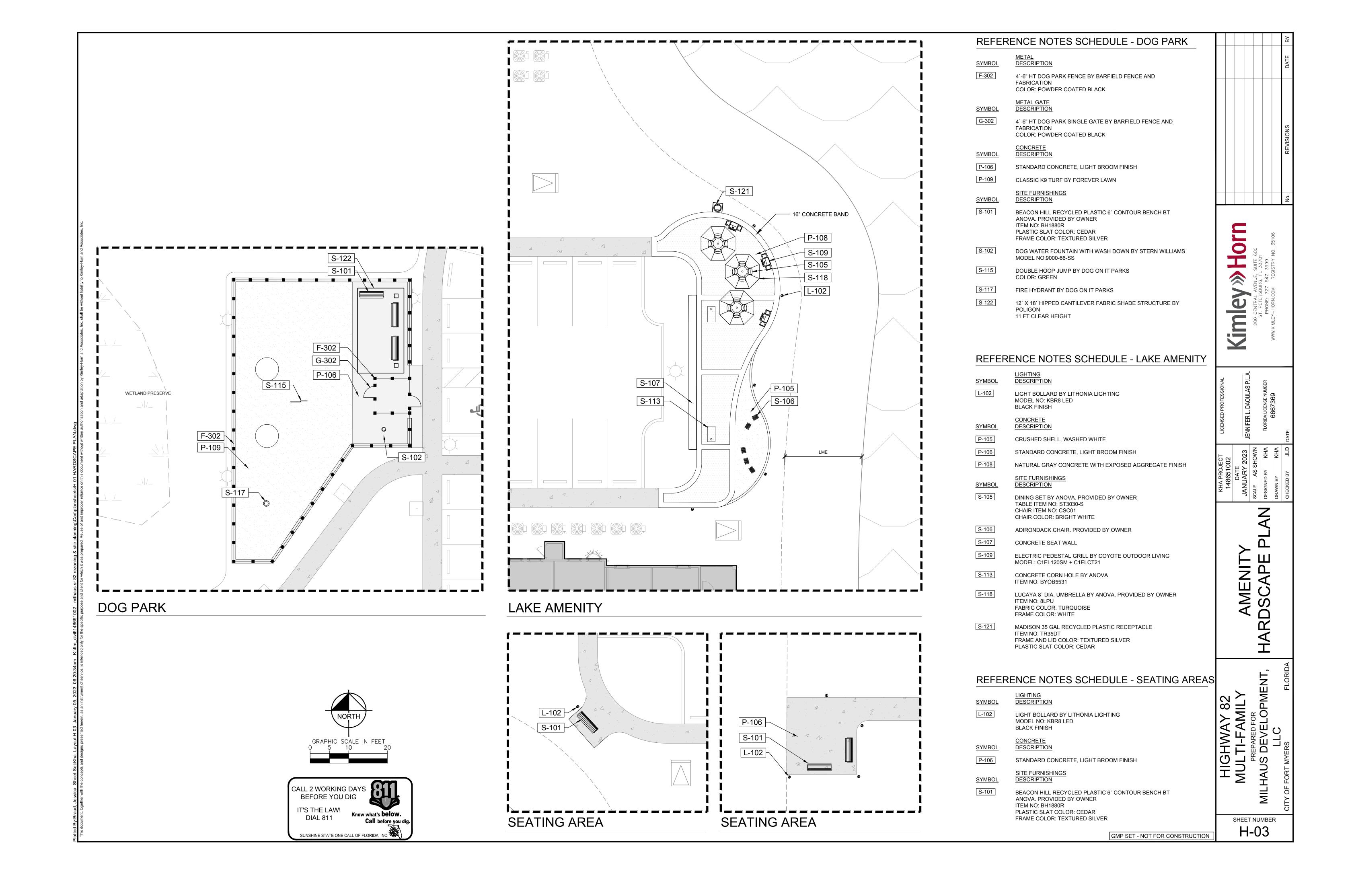
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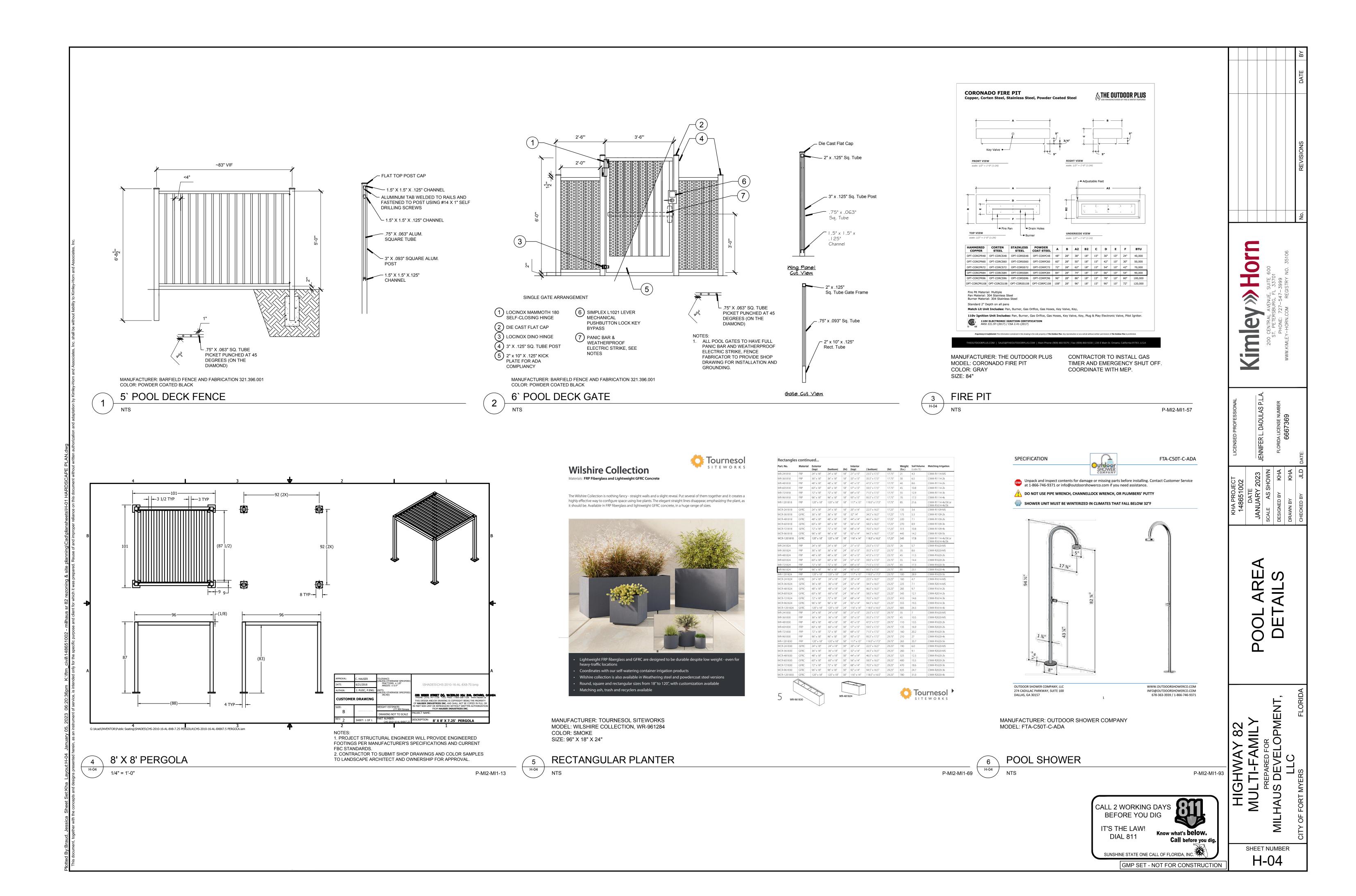
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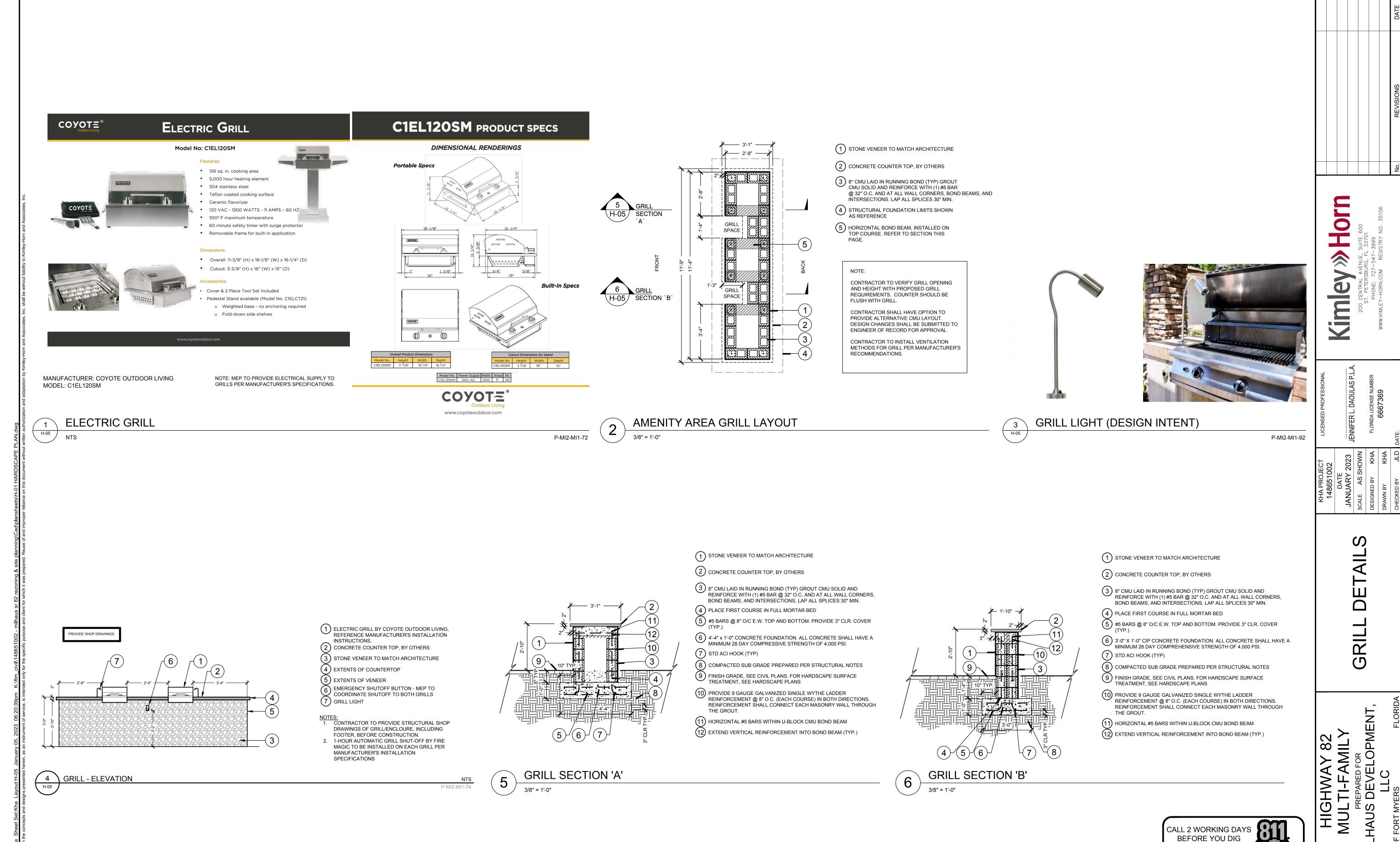












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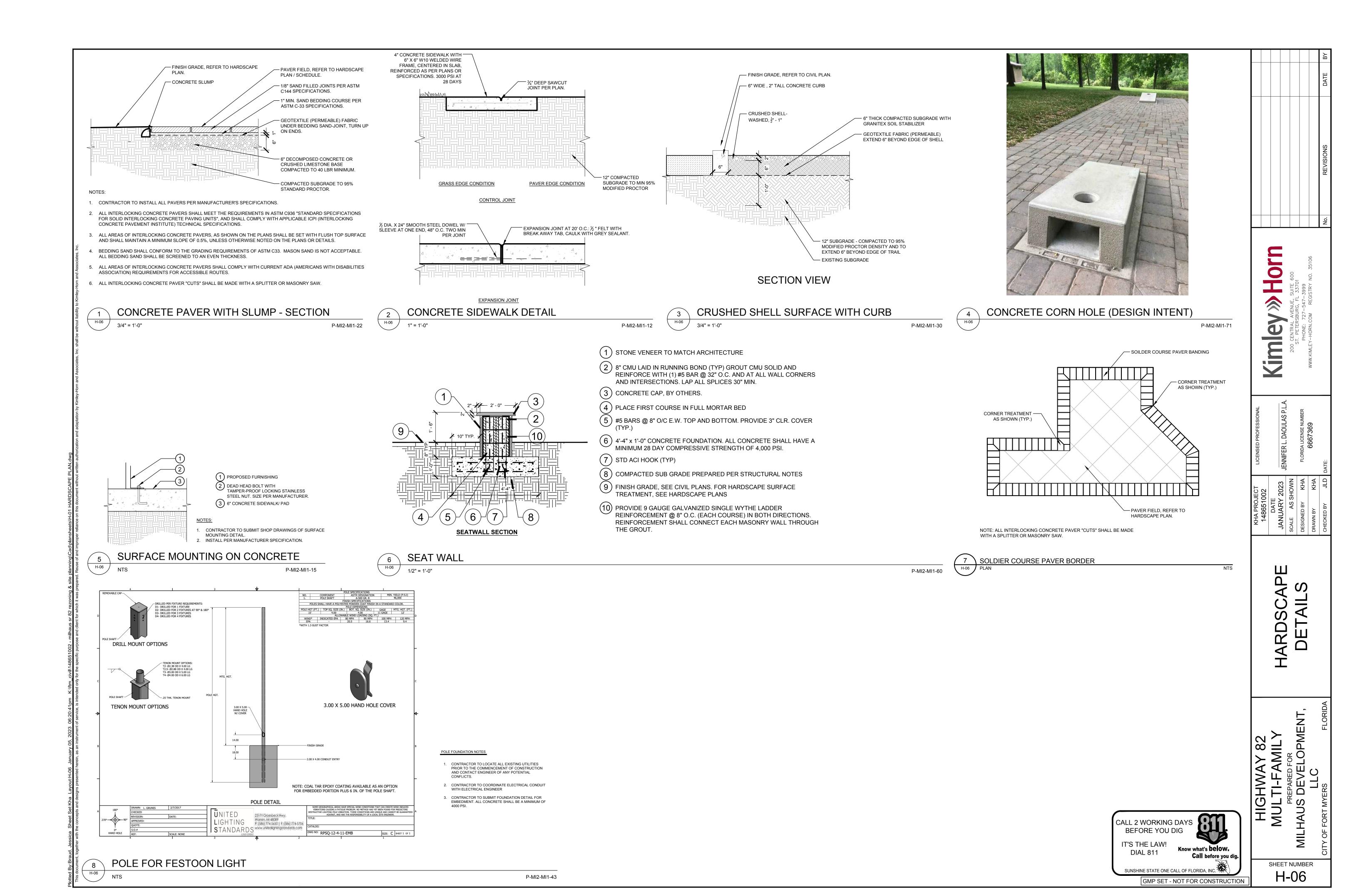
Call before you dig

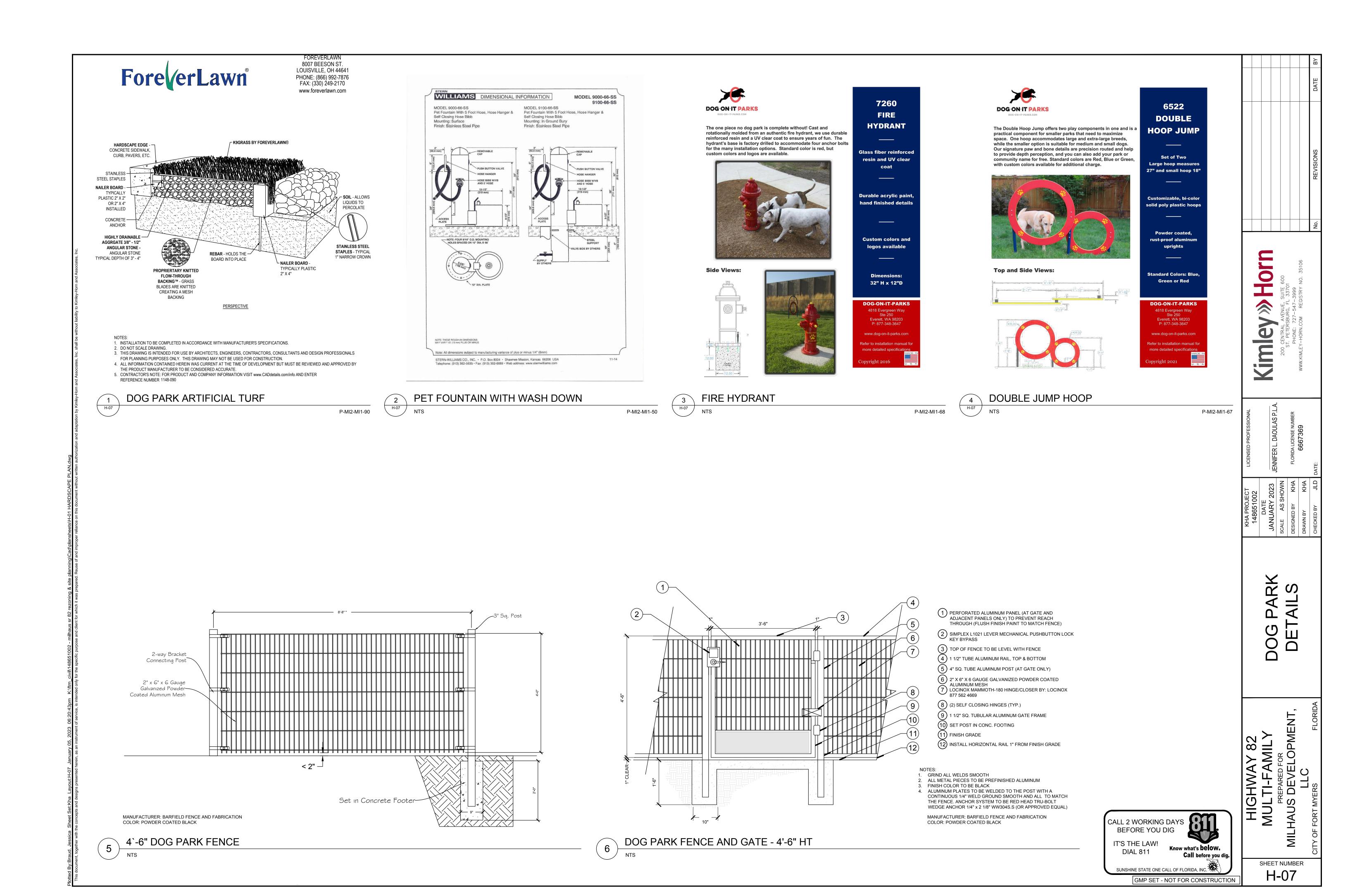
IT'S THE LAW!

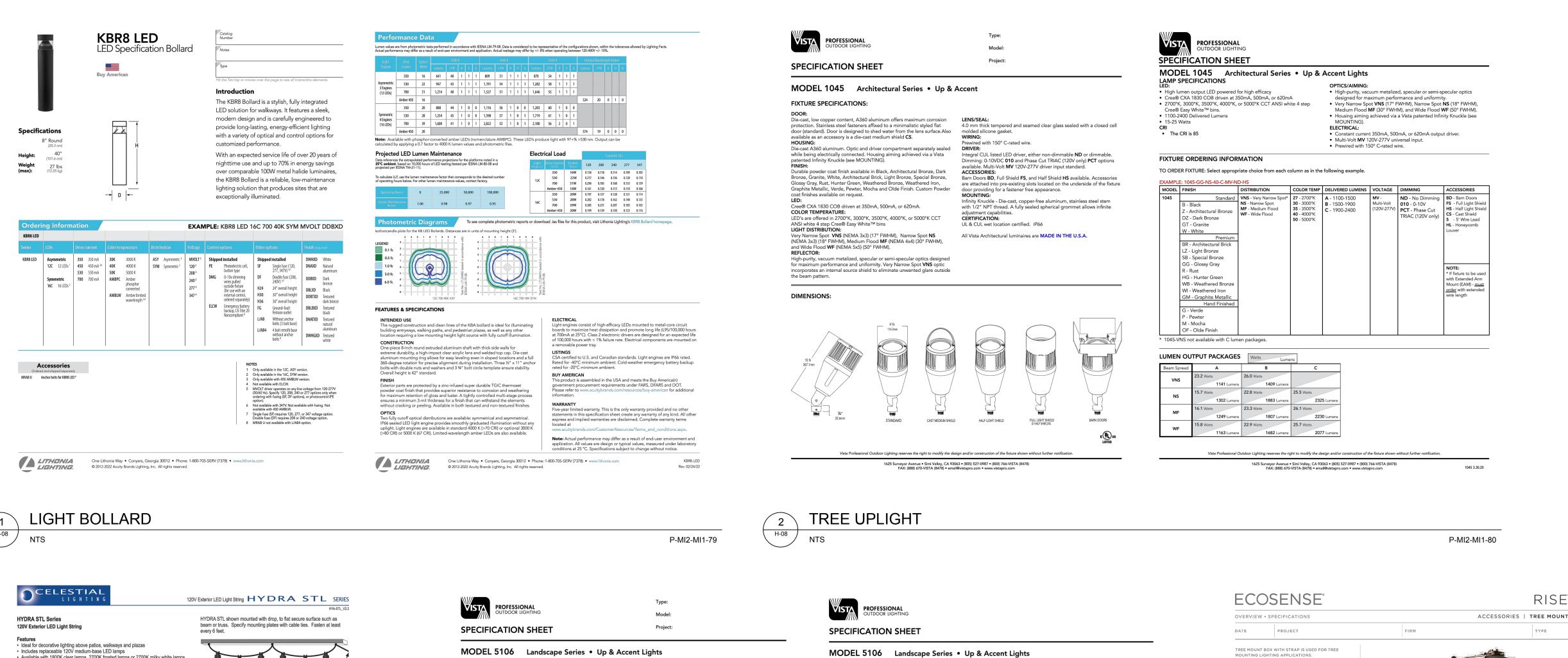
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

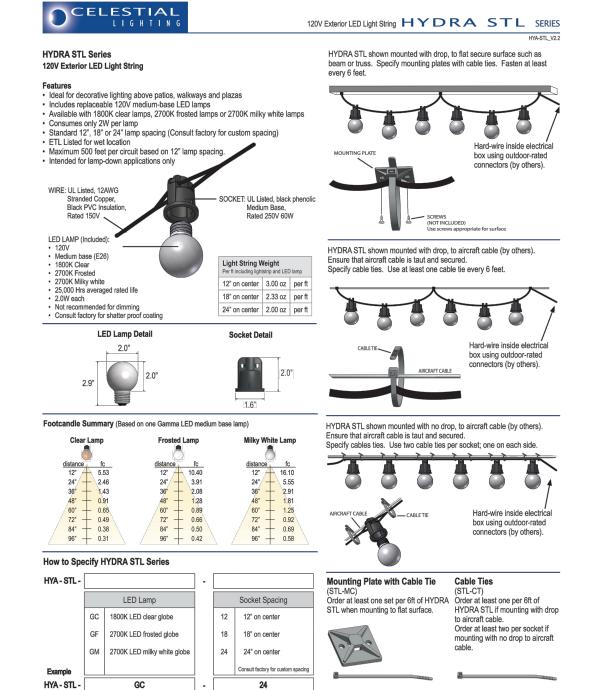
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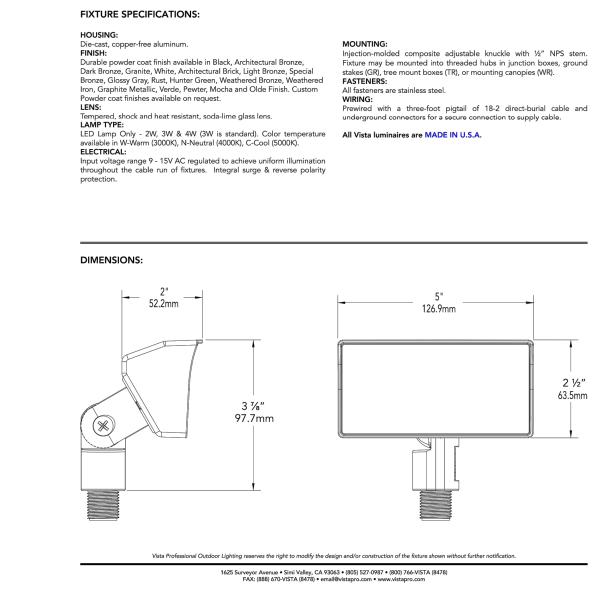




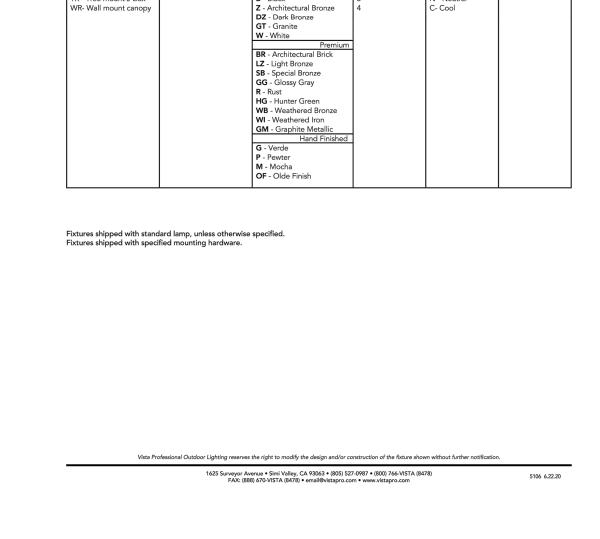








SIGN UPLIGHT



COLOR TEMP ACCESSORIES

P-MI2-MI1-85

N - Neutral

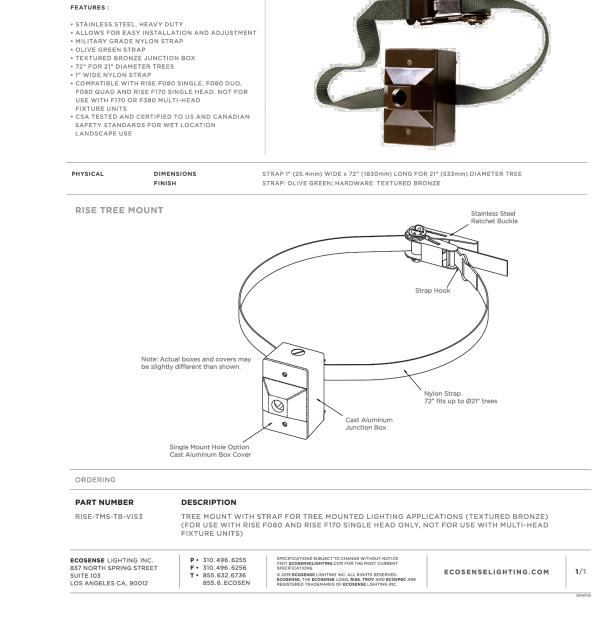
FIXTURE ORDERING INFORMATION

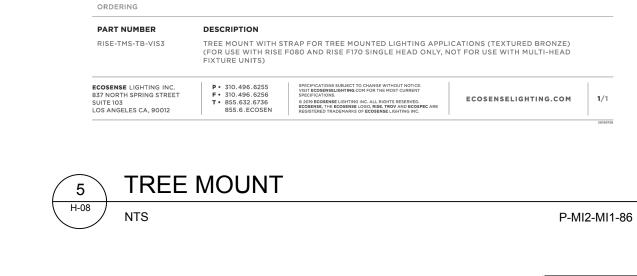
EXAMPLE: GR-5106-SB-2-W-FR

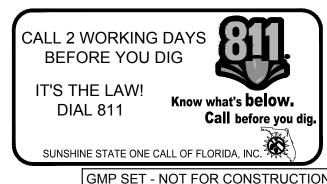
GR- ABS ground stake

TR - Tree mount J-box

TO ORDER FIXTURE: Select appropriate choice from each column as in the following example.





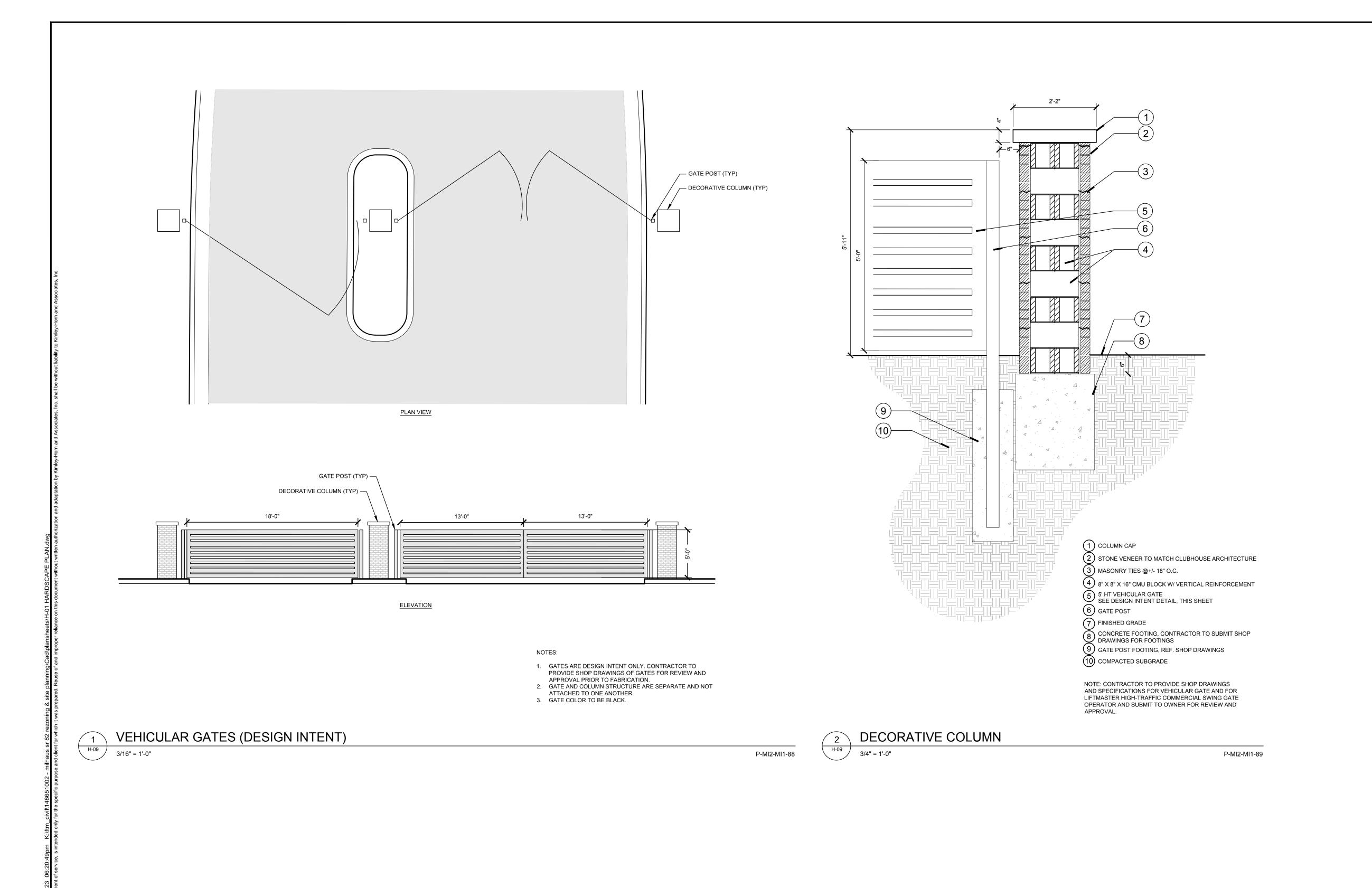


HIGHWAY 82
MULTI-FAMILY
PREPARED FOR
LHAUS DEVELOPMENT
LLC HAUS SHEET NUMBER

.<u>GH</u>

O

Kimley



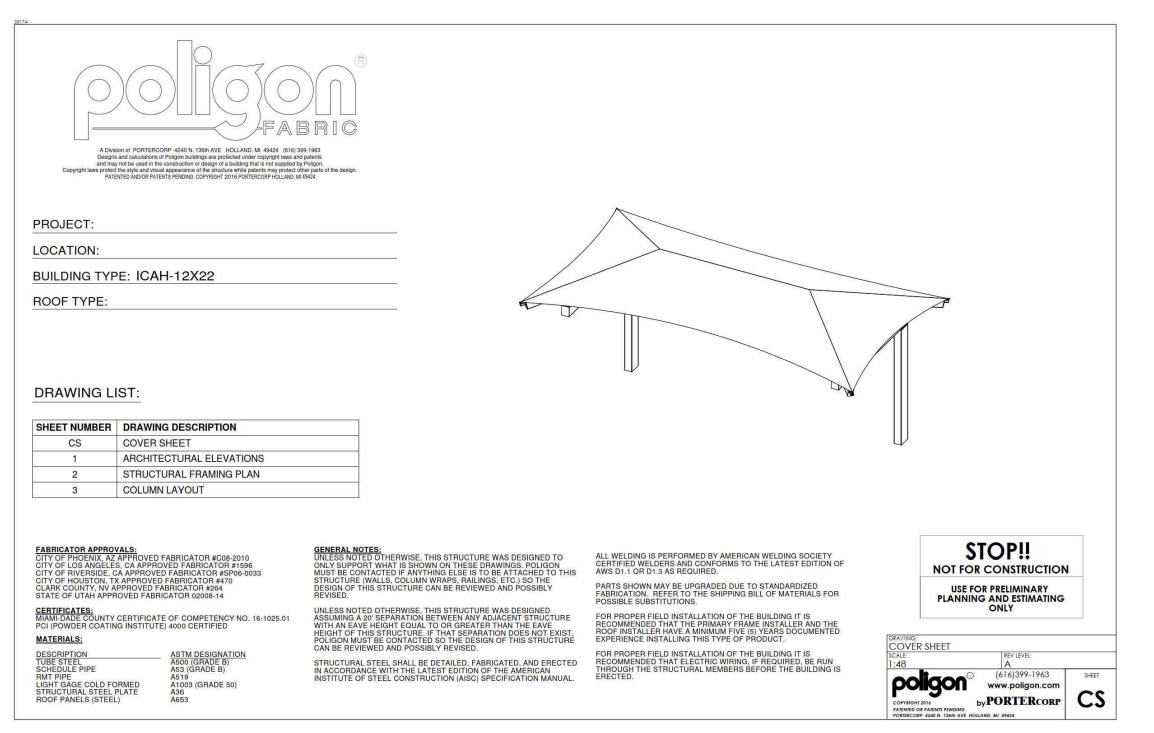
HIGHWAY 82
MULTI-FAMILY
PREPARED FOR
MILHAUS DEVELOPMENT,
LLC

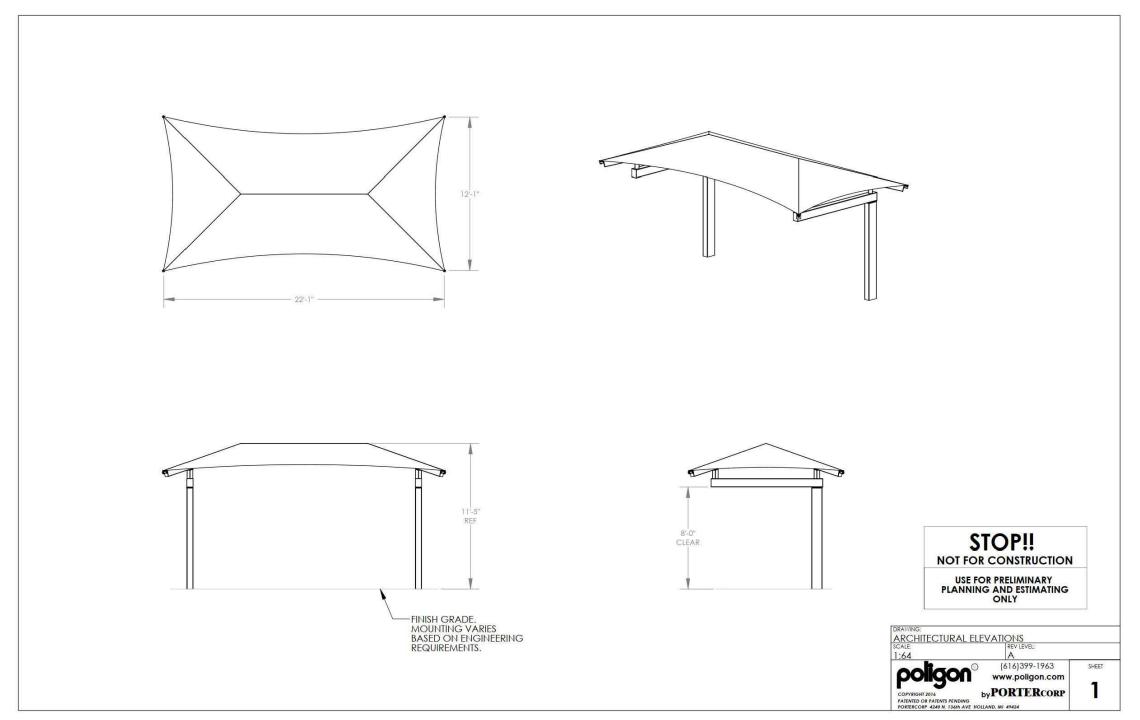
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

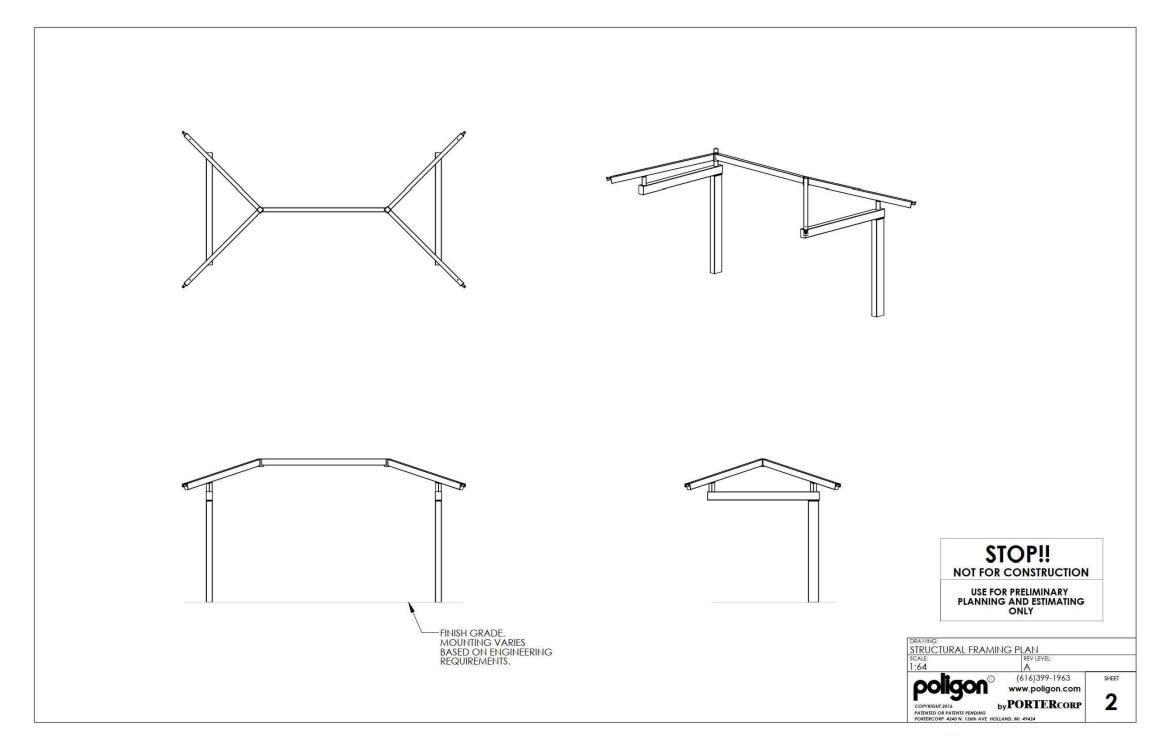
CALL 2 WORKING DAYS BEFORE YOU DIG Know what's **below.** Call before you dig.

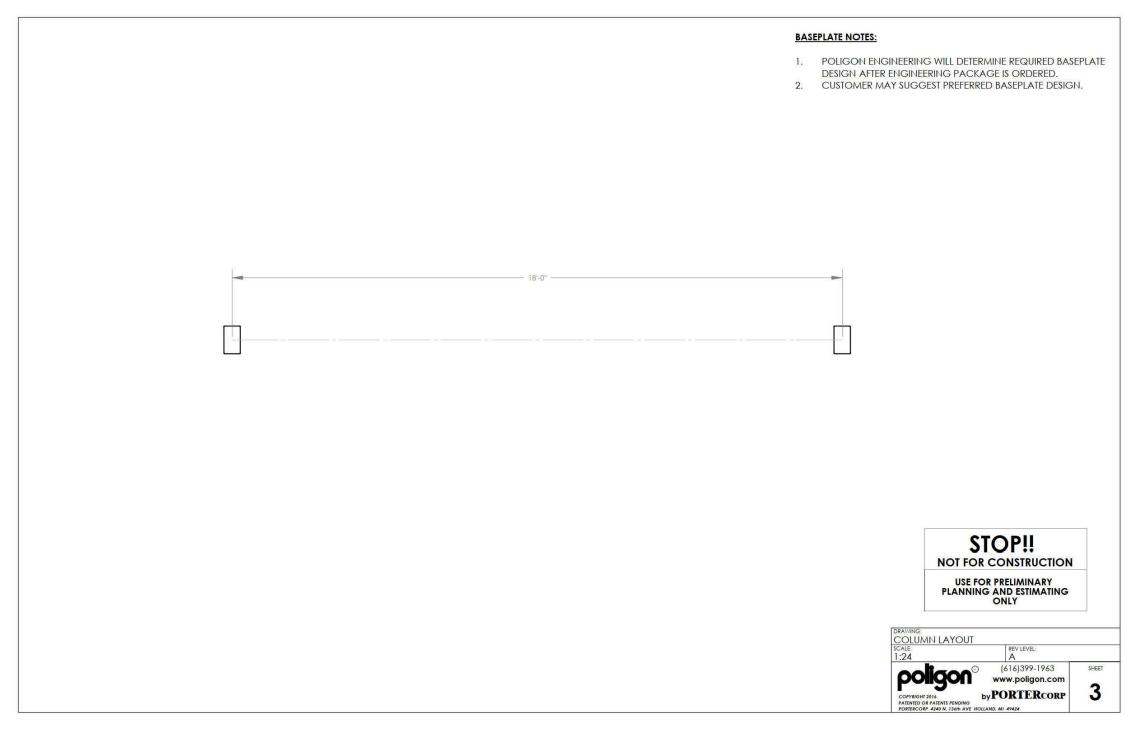
IT'S THE LAW!

SHEET NUMBER GMP SET - NOT FOR CONSTRUCTION









DOG PARK SHADE SAIL

CALL 2 WORKING DAYS BEFORE YOU DIG IT'S THE LAW! DIAL 811 Know what's **below.**Call before you dig. SUNSHINE STATE ONE CALL OF FLORIDA, INC.

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P-MI2-MI1-91

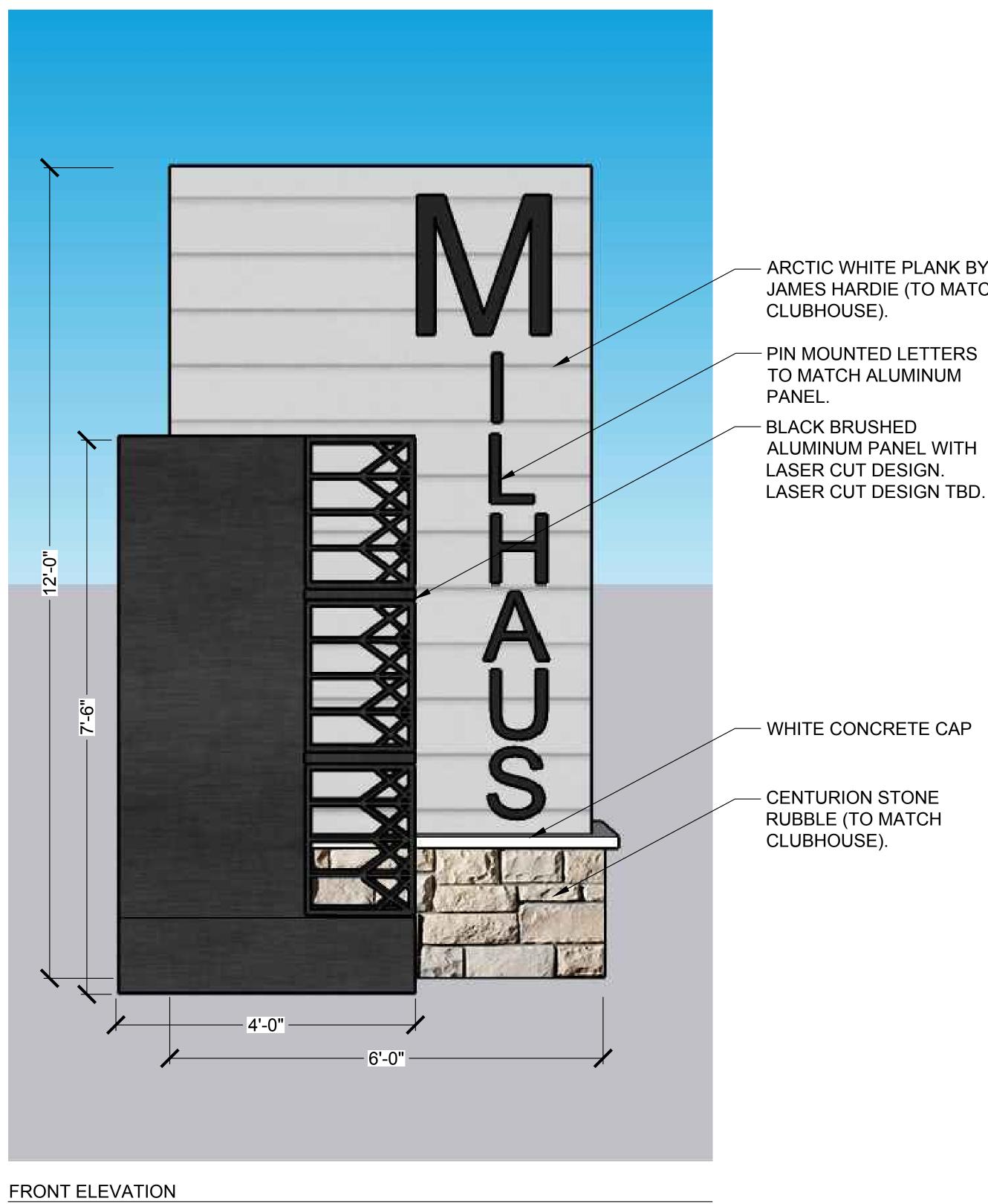
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ER L. DAOULAS P.L

Kimley » Horn

SHADE SAIL DETAILS

HIGHWAY 82
MULTI-FAMILY
PREPARED FOR
MILHAUS DEVELOPMENT,
LLC

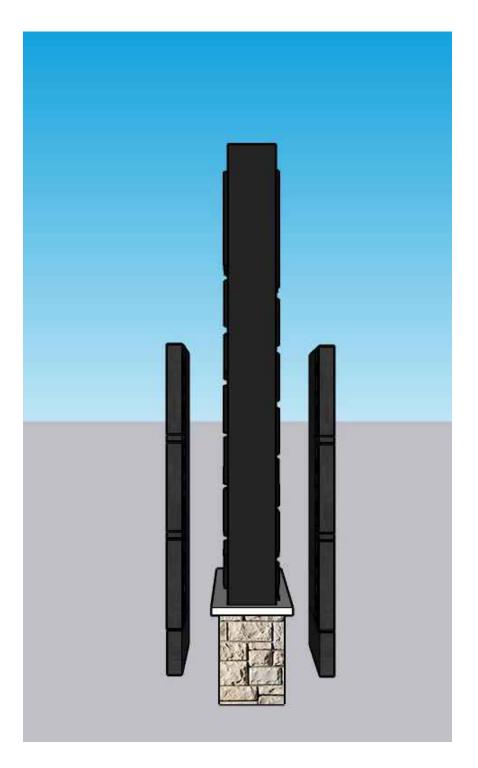


- ARCTIC WHITE PLANK BY JAMES HARDIE (TO MATCH CLUBHOUSE). PIN MOUNTED LETTERS TO MATCH ALUMINUM - BLACK BRUSHED ALUMINUM PANEL WITH

PERSPECTIVE

- WHITE CONCRETE CAP

CENTURION STONE RUBBLE (TO MATCH CLUBHOUSE).



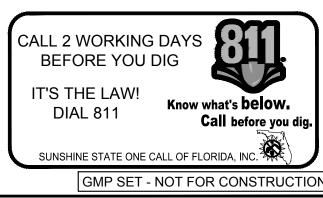
SIDE ELEVATION

SIGN CONSTRUCTION DOCUMENTS BY DON BELL SIGNS. SEE BELOW FOR CONTACT INFORMATION.

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MONUMENT SIGN DESIGN INTENT

SHEET NUMBER H-11