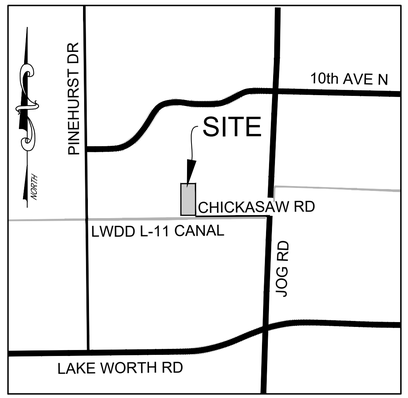
DATUM = NAVD '88
ADD 1.53' FOR NGVD '29

CIVIL ENGINEERING PLANS

FOR

GARDEN SQUARE
GREENACRES, FLORIDA

OWNER: MF Associates Greenacres, LLC.
5301 N. FEDERAL HIGHWAY, SUITE 190
BOCA RATON, FL 33487
TEL: (561) 347-5151



SEC. 22 - TWP. 44S - RGE. 42E

LOCATION MAP

N.T.S.

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West Palm Beach, FL 33401
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6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:
GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Gabriel Burden, P.E.
Florida License No. 75425

CDI PROJECT NO.
23805-01

DATE:	11/08/2024
DESIGNED:	CDI
DRAWN:	CDI

NO.	DATE	REVISION DESCRIPTION
1	9/6/2023	CROSS SECTIONS ADDED
2	9/30/2024	SITE PLAN AMENDMENT
3	1/16/2025	SITE PLAN AMENDMENT
4	2/21/2025	SITE PLAN AMENDMENT

COVER SHEET

C0.0

EXHIBIT "A"

GENERAL NOTES:

1. COORDINATION OF DRAWINGS AND DISCIPLINES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR COMPLETENESS AND ACCURACY. FURTHER CONTRACTOR IS COORDINATE ALL TRADES AND DISCIPLINES PROPERLY. ANY DISCREPANCIES IN PLANS OR SPECIFICATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING.

2. BUILDINGS. CONTRACTOR IS ADVISED THAT THE BUILDINGS AND ASSOCIATED SYSTEMS MAY STILL UNDER DESIGN AND REVIEW. AS SUCH, THERE MAY BE MODIFICATIONS TO SERVICE LINES (MATERIALS, SIZES, LOCATIONS, DEPTHS, ETC.) AS THE BUILDING DOCUMENTS ARE FINALIZED AND PERMITTED.

3. SAFETY. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO TAKE THE NECESSARY PRECAUTIONS TO ENSURE PROPER SAFETY AND WORKMANSHIP WHEN WORKING IN THE VICINITY OF EXISTING UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE RESPECTIVE UTILITY PROVIDER ON ANY WORK IN THE VICINITY OF OVERHEAD OR UNDERGROUND LINES. CONTRACTOR SHALL VERIFY PROPER CLEARANCE BELOW EXISTING OVERHEAD LINES PRIOR TO WORKING WITHIN THE VICINITY OF THE LINES.

4. FAMILIARITY WITH SITE CONDITIONS. THE CONTRACTOR SHALL VISIT THE SITE AND ACQUAINT HIMSELF WITH ALL EXISTING CONDITIONS. MAKE HIS OWN SUBSURFACE INVESTIGATION TO SATISFY HIMSELF AS TO THE SITE AND SUBSURFACE CONDITIONS, BUT SUCH SUBSURFACE INVESTIGATIONS SHALL BE PERFORMED ONLY UNDER TIME SCHEDULES AND ARRANGEMENTS APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE AND ENGINEER. THE EXISTING GRADES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY AND NO REPRESENTATION IS MADE AS TO THEIR ACCURACY OR CONSISTENCY. THE CONTRACTOR SHALL VERIFY ALL EXISTING GRADES TO THE EXTENT NECESSARY TO INSURE COMPLETION OF THE JOB TO THE PROPOSED GRADES INDICATED ON THE DRAWINGS.

5. WORKMANSHIP. ALL WORK SHALL BE PERFORMED IN A WORKMANSHIP-LIKE MANNER AND SHALL CONFORM WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL REGULATIONS AND/OR CODES, INCLUDING OSHA.

6. ELEVATIONS. ALL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NGAVD '88).

7. SITE PLAN. REFER TO ARCHITECTURAL SITE PLAN PREPARED BY COTLEUR & HEARING FOR ADDITIONAL INFORMATION.

8. SURVEY. REFER TO SURVEY PREPARED BY PERIMETER SURVEYING & MAPPING, INC. FOR ADDITIONAL INFORMATION.

9. BENCHMARK. REFER TO SURVEY BY PERIMETER SURVEYING & MAPPING, INC. FOR BENCHMARK LOCATIONS AND ELEVATIONS.

10. GEOTECHNICAL INFORMATION. REFER TO GEOTECHNICAL REPORTS AND BORING LOGS FOR ADDITIONAL INFORMATION.

11. FIELD LOCATIONS. THE CONTRACTOR SHALL CONTACT "SUNSHINE STATE ONE CALL OF FLORIDA, INC. (1-800-432-4770)" AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION. THE CONTRACTOR SHALL GIVE ADEQUATE NOTIFICATION TO ALL AFFECTED UTILITY OWNERS FOR REMOVAL, RELOCATION AND ALTERATION OF THEIR EXISTING FACILITIES.

12. PROTECTION OF UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF ALL EXISTING AND NEWLY INSTALLED ABOVE GROUND, UNDERGROUND, AND ON THE SURFACE STRUCTURES AND UTILITIES FROM DAMAGE OR SERVICE DISRUPTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY, AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.

13. EXISTING UTILITIES. EXISTING UTILITY LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE EXISTING UTILITIES SHOWN ON THE PLANS OR FOR ANY EXISTING UTILITIES THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS FOR FIELD LOCATIONS OF EXISTING UTILITIES. ANY RELOCATIONS OF THE VARIOUS EXISTING UTILITIES SHALL BE COORDINATED WITH THE RESPECTIVE UTILITY PROVIDER IN A TIMELY MANNER TO MINIMIZE IMPACT ON THE CONSTRUCTION SCHEDULE. ANY DELAY CAUSED DUE TO THE RELOCATION OF UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED. ALL COSTS ASSOCIATED WITH VERIFICATION, PROTECTION OF EXISTING SYSTEMS OR CONNECTION TO THOSE SYSTEMS AS IDENTIFIED ON THE PLANS IS INCLUDED IN THE CONTRACTOR'S BID.

14. EXISTING UTILITIES. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, ELEVATION, AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE AREA OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UTILITIES AND SOILS CONDITIONS AND SHALL NOTIFY THE ENGINEER IN THE EVENT OF ANY DISCREPANCIES WITH THE PLANS.

15. EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH IT FAILS TO REQUEST LOCATIONS FROM THE UTILITY OWNER. THE CONTRACTOR IS RESPONSIBLE AS WELL FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.

16. EXISTING UTILITIES. IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION OR TO BE OF A SIZE OR MATERIAL DIFFERENT FROM THAT SHOWN ON THE PLANS; THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

17. FIELD REVIEWS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS PRIOR TO ANY REQUIRED FIELD REVIEWS OR INSPECTIONS AND SHALL SUPPLY ALL EQUIPMENT NECESSARY, LABOR AND MATERIALS FOR INSPECTION AND/OR TEST. ALL WORK SHALL BE OPEN AND SUBJECT TO REVIEW AND/OR INSPECTION BY AUTHORIZED PERSONNEL OF THE CITY, OWNER, INVOLVED UTILITY COMPANIES, PROJECT ENGINEER, AND REGULATORY AGENCIES. ALL RECOMMENDATIONS AND REQUIREMENTS OF INSPECTION PERSONNEL OTHER THAN THE OWNER'S SHALL BE REPORTED TO THE ENGINEER PRIOR TO IMPLEMENTATION. COMPENSATION WILL NOT BE ALLOWED FOR WORK WHICH IS NOT AUTHORIZED BY THE ENGINEER OR OWNER.

18. DIFFERING SITE CONDITIONS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND THE FIELD CONDITIONS PRIOR TO CONSTRUCTION IN THE AREA OF CONFLICT. ANY DIFFERING SITE CONDITIONS FROM THAT WHICH ARE REPRESENTED ON THE PLANS, WHETHER ABOVE, ON OR BELOW THE SURFACE OF THE GROUND, ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND THE OWNER IN WRITING.

19. REQUIRED PERMITS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR(S) TO ENSURE THAT ALL REQUIRED PERMITS ARE AT THE JOB SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL ABIDE BY ALL PERMIT CONDITIONS.

20. DEWATERING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ANY DEWATERING PERMITS AND/OR APPROVALS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED FACILITIES AND SYSTEMS.

21. PERMITS. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND/OR LICENSES TO COMMENCE CONSTRUCTION.

22. USE OF EXISTING MATERIALS. NO EXISTING MATERIAL SHALL BE USED IN NEW CONSTRUCTION UNLESS APPROVED DURING THE SHOP DRAWING APPROVAL PROCESS.

23. EXISTING LANDSCAPE. CONTRACTOR SHALL BE EXTREMELY CAUTIOUS WHEN WORKING NEAR TREES WHICH ARE TO BE SAVED, WHETHER SHOWN ON THE PLAN OR DESIGNATED IN THE FIELD.

24. SHOP DRAWINGS. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS, PRODUCT DATA, MATERIAL SPECIFICATIONS AND OTHER INFORMATION REGARDING CONSTRUCTION MATERIALS AND STRUCTURES AS REQUESTED BY THE OWNER, ENGINEER OR JURISDICTIONAL AGENCY. SHOP DRAWINGS MUST BE NEWLY PREPARED INFORMATION, DRAWN TO ACCURATE SCALE. DO NOT REPRODUCE CONTRACT DOCUMENTS OR COPY STANDARD INFORMATION AS THE BASIS OF SHOP DRAWINGS. STANDARD INFORMATION PREPARED WITHOUT SPECIFIC REFERENCE TO THE PROJECT WILL NOT BE CONSIDERED A SHOP DRAWING.

    A. BY SUBMITTAL OF ANY SHOP DRAWING OR CATALOG DATA, BEARING AN APPROVAL STAMP, THE CONTRACTOR REPRESENTS THAT IT HAS DETERMINED AND VERIFIED ALL FIELD MEASUREMENTS, FIELD CONSTRUCTION CRITERIA, MATERIALS, DIMENSIONS, CATALOG NUMBERS AND SIMILAR DATA, OR WILL DO SO, AND THAT IT HAS CHECKED AND COORDINATED EACH ITEM WITH OTHER APPLICABLE APPROVED SHOP DRAWINGS AND THE CONTRACT REQUIREMENTS.

    B. SHOP DRAWINGS AND CATALOG DATA SUBMITTED WITHOUT THE CONTRACTOR'S STAMP OF APPROVAL WILL BE RETURNED TO THE CONTRACTOR WITHOUT REVIEW. APPROVAL OF SHOP DRAWINGS, SAMPLES, OR CATALOG DATA BY THE ENGINEER SHALL NOT AUTHORIZE ANY DEVIATION FROM THE REQUIREMENT OF THE CONTRACT DOCUMENTS.

    C. ANY PROPOSED SUBSTITUTE OR EQUAL TO THE THAT SHOWN ON THE CONTRACT DOCUMENTS SHALL BE ACCOMPANIED BY CALCULATIONS SUBSTANTIATING EQUIVALENCY. SHOP DRAWINGS WITH SUBSTITUTE MATERIALS NOT ACCOMPANIED BY CALCULATIONS WILL BE RETURNED WITHOUT REVIEW.

    D. THE CONTRACTOR SHALL CONFIRM COMPATIBILITY OF PIPE SLOPES AND INVERTS DURING SHOP DRAWING AND MATERIALS ORDERING PHASE OF THE PROJECT AND ADVISE THE ENGINEER IN WRITING OF ANY DISCREPANCIES.

    E. INDIVIDUAL SHOP DRAWINGS FOR ALL STRUCTURES ARE REQUIRED. CATALOG LITERATURE WILL NOT BE ACCEPTED FOR PRECAST STRUCTURES.

GENERAL NOTES CONTINUED:

25. TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED TESTS TO BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY APPROVED BY THE ENGINEER. THE CONTRACTOR UNDERSTANDS THAT ANY AND ALL TESTS, INSPECTIONS, PROCEDURES INCLUDING ALL LABOR, MATERIALS, TIME AND EFFORT IN ORDER TO HAVE ALL WORK DESIGNATED AS FINAL BY THE RESPECTIVE JURISDICTIONAL AUTHORITIES AND THAT SUCH TESTS, INSPECTIONS AND PROCEDURES ARE INCLUDED IN THE BID.

26. RECORD DRAWINGS. RECORD DRAWINGS SHALL BE SUBMITTED IN SUFFICIENT QUANTITIES AS REQUIRED BY THE OWNER, ENGINEER AND JURISDICTIONAL AGENCIES TO COMPLETE THE CLOSE-OUT OF THE PROJECT.

    A. THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD WITH ADEQUATE RECORD DRAWING INFORMATION, WHICH HAS BEEN PREPARED BY A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA. THE INFORMATION SHALL BE PROVIDED ON A 24"X36" REPRODUCIBLE MYLAR. THE SURVEYOR SHALL SIGN AND SEAL THE RECORD DRAWINGS. THE FOLLOWING SHALL BE THE MINIMUM REQUIREMENTS FOR RECORD DRAWING INFORMATION:

    B. THE WORDS "RECORD DRAWINGS" SHALL BE WRITTEN IN BOLD LETTERS IN A CONSPICUOUS PLACE. NO RUBBER STAMP ON PLANS OR MYLARS SHALL BE ACCEPTED.

    C. ANY CHANGES IN ALIGNMENT, PIPE CONFLICTS, LOCATION OF STORM MANHOLES, CATCH BASINS, ETC. SHALL BE SHOWN TO SCALE ON RECORD DRAWINGS. THE "PROPOSED" ALIGNMENT, ETC. SHALL BE CROSSED OUT.

    D. THE DRAWINGS SHALL BE LEGIBLE AND THE AS-BUILT DIMENSIONS EASY TO IDENTIFY.

    E. DATA FOR STRUCTURES (RIM, INVERTS), PIPE SLOPES, AND PIPE LENGTHS AS CONSTRUCTED SHALL BE SHOWN ON THE PLAN SHEET NEXT TO "PROPOSED" DIMENSIONS. THE "PROPOSED" NUMBERS SHALL BE CROSSED OUT. IF THE ASBUILT CONDITION IS THE SAME AS THE PROPOSED INFORMATION, THEN THE PROPOSED INFORMATION WILL BE CROSSED OUT AND THE ASBUILT DATA WRITTEN.

    F. RECORD DRAWING INFORMATION SHALL BE PROVIDED FOR THE CONTROL STRUCTURE, INCLUDING ALL PIPE INVERTS AND PIPE SIZES, AND GRATE ELEVATION. ELEVATIONS AND DIMENSIONS SHALL BE PROVIDED ON THE WEIR, THE BLEEDER ORIFICE AND THE POLLUTION CONTROL BAFFLE (IF APPLICABLE). THE BOTTOM ELEVATION OF STRUCTURE AND ELEVATIONS AND DIMENSIONS OF ANY SLOTS OR ORIFICES IN THE INLET WALLS SHALL BE PROVIDED.

    G. PERIMETER BERM ELEVATIONS ADJACENT TO THE PROPERTY LINES SHALL BE PROVIDED EVER 200 LINEAR FEET MINIMUM.

27. FINAL UTILITY ADJUSTMENTS. ALL UTILITIES SHALL BE ADJUSTED TO NEW FINISH GRADES AND PROPERLY SET TO PAVEMENT CROSS SLOPE AS REQUIRED.

SITE DEMOLITION AND EROSION CONTROL NOTES:

1. SITE ACCESS. SUITABLE STABILIZED ROADS ARE TO BE PROVIDED DURING CONSTRUCTION FOR FIRE AND PARAMEDICAL ACCESS.

2. SITE. CONTRACTOR ACCEPTS THE SITE AS IS. ANY REPAIRS TO EXISTING SITE ELEMENTS INCLUDING PAVEMENT, SIDEWALKS, CURBING, DRAINAGE, SANITARY SEWER, WATER, SIGNAGE & STRIPING SHALL BE INCLUDED IN THE BID PRICE.

3. EROSION CONTROL. THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION AND TURBIDITY BARRIERS PRIOR TO AND DURING CONSTRUCTION TO PREVENT VIOLATION OF STATE WATER QUALITY STANDARDS FOR OFFSITE DISCHARGES THESE BARRIERS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED, SOILS ARE STABILIZED, AND VEGETATION HAS BEEN ESTABLISHED. REFERENCE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS INDICES 102, 103 AND 106 FOR TYPICAL INSTALLATION DETAILS.

4. FILTER FABRIC. FILTER FABRIC SHALL BE INSTALLED ON ALL CATCH BASIN GRATES AND MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.

5. ADJACENT IMPACTS. CONTRACTOR SHALL PROTECT ADJACENT WATER BODIES, WETLANDS AND PROPERTIES FROM DAMAGE BY SEDIMENTATION OR OTHER POTENTIAL CONSTRUCTION RELATED CAUSES.

6. SILT FENCES. SILT FENCES SHALL BE INSTALLED AND MAINTAINED AROUND ALL CLEARING PERIMETERS.

7. SITE CLEARING. CLEAR AREAS INDICATED SHALL BE COMPLETELY CLEAR OF ALL TIMBER, BRUSH, STUMPS, ROOTS, GRASS, WEEDS, RUBBISH AND ALL OTHER DEBRIS AND OBSTRUCTIONS RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE GROUND. THIS DEBRIS SHALL BE DISPOSED OF IN A LEGAL MANNER. BURNING OF THIS MATERIAL IS NOT PERMITTED UNLESS THE CONTRACTOR OBTAINS SPECIFIC PERMITS ALLOWING SUCH ACTIVITY.

GEOMETRIC, SIGNING, AND STRIPING NOTES:

1. DIMENSIONS. ALL DIMENSIONS TO EDGE OF PAVEMENT OR FACE OF CURB UNLESS OTHERWISE NOTED.

2. REFERENCES. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), FDOT TRAFFIC DESIGN STANDARDS (LATEST EDITION), MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) (LATEST EDITION) AND THE PALM BEACH COUNTY TYPICALS FOR PAVEMENT MARKINGS, SIGNING & GEOMETRICS (T-P-18). ALL REFERENCES ARE INCORPORATED INTO THE PLAN DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR OBTAINING COMPLETE COPIES OF THE LATEST EDITION OF THE REFERENCES.

3. BUILDING TIES AND DIMENSIONS. BUILDING TIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY WITH ARCHITECTURAL PLANS. BUILDINGS SHOWN ON THESE DRAWINGS MAY NOT REFLECT MINOR ARCHITECTURAL REVISIONS AND SHOULD NOT BE RELIED UPON FOR STAKING OF BUILDINGS. CONTRACTOR SHOULD OBTAIN LATEST ARCHITECTURAL INFORMATION AND ESTABLISH GEOMETRIC DATA FOR STAKING. SHOULD THE CONTRACTOR IDENTIFY A CONFLICT BETWEEN THE ARCHITECTURAL INFORMATION AND THESE DRAWINGS, NOTIFY THE ENGINEER IN WRITING.

4. MAINTENANCE OF TRAFFIC. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING A PROPER TRAFFIC MAINTENANCE AND CONTROL PLAN IN ACCORDANCE WITH REGULATORY STANDARDS. INCLUDED WILL BE THE LABOR, EQUIPMENT AND MATERIALS REQUIRED TO IMPLEMENT THAT PLAN. ALL WORK MUST BE DONE IN ACCORDANCE WITH AGENCY REQUIREMENTS AND ANY REQUIRED PERMITS OR APPROVALS MUST BE APPLIED FOR AND OBTAINED BY THE CONTRACTOR.

ABBREVIATIONS:

BELOW FLOOR ELEVATION	BFE
BUFFER EASEMENT	B.E.
BUTTERFLY VALVE	BFV
CLEANOUT	CO
CONCRETE	CONC.
CONTROL WATER ELEVATION	C.W.E.
CORRUGATED ALUMINUM PIPE	CAP
DOUBLE CHECK DETECTOR ASSEMBLY	DCDA
EXISTING	EXIST. / EX
FINISHED FLOOR ELEVATION	FFE
FIRE HYDRANT	FH
GATE VALVE	GV
MANHOLE	MH
MINIMUM	MIN.
POLYVINYL CHLORIDE	PVC
PROPOSED	PROP.
PROPERTY LINE	P/L
RAINWATER LEADER	RWL
REDUCED PRESSURE ZONE VALVE ASSEMBLY	RPZ
RIGHT-OF-WAY	R/W
SANITARY	SAN
SERVICE	SVC
SIZE DIAMETER RATIO	SDR
STORM	STM
STORM MANHOLE	SMH
TYPICAL	TYP
UNKNOWN	UNK
UTILITY EASEMENT	U.E.
VERIFY IN FIELD	VIF
WATER	WTR
WATERMAIN	WM

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1400 Centrepark Blvd, Suite 905
West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
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APPROVED BY:
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Gabriel Burden, P.E.
Florida License No. 75425

CDI PROJECT NO.
23805-01

DATE:	11/08/2024
DESIGNED:	CDI
DRAWN:	CDI

NO.	DATE	REVISION DESCRIPTION

GENERAL NOTES

C0.1

EXHIBIT "A"

PAVING, GRADING, AND DRAINAGE NOTES:

1. REFERENCES. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, AND FDOT ROADWAY TRAFFIC DESIGN STANDARDS, LATEST EDITION. ALL FDOT INDICES ARE INCORPORATED AS PLAN REFERENCES. CONTRACTOR IS RESPONSIBLE FOR OBTAINING COMPLETE COPIES OF THE LATEST EDITION OF THE FDOT INDICES.

2. SITE FAMILIARIZATION. PRIOR TO BID PREPARATION, THE CONTRACTOR MUST BECOME FAMILIAR WITH THE OVERALL SITE CONDITIONS AND PERFORM ADDITIONAL INVESTIGATIONS AS DETERMINED NECESSARY TO UNDERSTAND THE LIMIT AND DEPTH OF EXPECTED ORGANIC MATERIAL, ADEQUACY OF EXISTING MATERIALS AS FILL, DEWATERING REQUIREMENTS, CLEAN FILL REQUIRED FROM OFFSITE AND MATERIALS TO BE DISPOSED OF OFFSITE. ANY DELAY, INCONVENIENCE OR EXPENSE CAUSED TO THE CONTRACTOR DUE TO INADEQUATE INVESTIGATION OF EXISTING CONDITIONS SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED. THE MATERIALS ANTICIPATED TO BE ENCOUNTERED DURING CONSTRUCTION MAY REQUIRE DRYING PRIOR TO USE AS BACKFILL AND THE CONTRACTOR MAY HAVE TO IMPORT MATERIALS, AT NO EXTRA COST, FROM OFFSITE TO MEET THE REQUIREMENTS FOR COMPACTION AND PROPER FILL.

3. SITE FILL BALANCE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXISTING SITE CONDITIONS OF SOIL DURING THE BID PREPARATION TO DETERMINE IF ANY OFF SITE MATERIALS WILL NEED TO BE IMPORTED TO ACHIEVE THE GRADES SPECIFIED ON THE PLANS.

4. RESTORATION. ALL DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION OR BETTER AS DETERMINED BY THE ENGINEER, OWNER AND RESPECTIVE JURISDICTIONAL AUTHORITY.

5. HORIZONTAL CONTROL AND LAYOUT. CONTRACTOR/OWNER SHALL COORDINATE WITH A REGISTERED SURVEYOR TO LAY OUT LINE, GRADES, STRUCTURES, LOT CORNERS, ETC. AS NECESSARY TO CONSTRUCT THE PROPOSED FACILITIES IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. BENCH MARKS SHALL BE ESTABLISHED BY A REGISTERED SURVEYOR. BENCH MARKS SHALL BE PERMANENT AND EASILY ACCESSIBLE AND MAINTAINED AND REPLACED IF DISTURBED OR DESTROYED. HORIZONTAL CONTROL SHALL SIMILARLY BE ESTABLISHED AND MAINTAINED.

6. CLEARING, GRADING AND DISPOSAL. CLEARING AND GRADING SHALL CONFORM TO SECTION 110 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. CLEARING SHALL BE CONTAINED TO THE CONSTRUCTION AREA AND/OR AS DIRECTED BY THE OWNER AND/OR HIS REPRESENTATIVE. ALL ROOTS, STUMPS, OR OTHER OBSTRUCTIONS SHALL BE REMOVED TO A DEPTH OF 18" BELOW NATURAL GRADE OR DESIGN GRADE WHICHEVER IS LOWER. ALL DEBRIS SHALL BE REMOVED FROM THE AREA AND BE DISPOSED OF LEGALLY.

7. EXCAVATION AND EMBANKMENT. ALL EXCAVATION AND EMBANKMENT SHALL CONFORM TO THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

8. EARTHWORK. NO SEPARATE PAYMENT SHALL BE PROVIDED TO THE CONTRACTOR FOR EARTHWORK ASSOCIATED WITH THIS CONTRACT. ALL COSTS ASSOCIATED WITH SITE PREPARATION NECESSARY TO EXECUTE THE WORK SET FORTH IN THE CONTRACT SHALL BE INCLUDED IN THE BID.

9. EXCESS MATERIAL. ANY EXCESS MATERIAL REMAINING UPON COMPLETION OF CONSTRUCTION SHALL BE REMOVED TO AN ACCEPTABLE LOCATION AT THE EXPENSE OF THE CONTRACTOR. AT THE OWNER'S OPTION, A LOCATION MAY BE IDENTIFIED FOR MATERIAL STOCK PILING OR THE OWNER MAY INSTRUCT THE CONTRACTOR TO REMOVE THE EXCESS MATERIAL IN WHICH CASE THE CONTRACTOR IS TO LEGALLY DISPOSE OF ALL MATERIALS OFFSITE.

10. FINISHED SITE GRADING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL GRADING OF THE SITE TO WITHIN ±0.1 FOOT OF ALL THE PROPOSED FINISHED GRADE ELEVATIONS THROUGHOUT THE PROJECT SITE AS DEPICTED ON THE PLANS. ELEVATIONS OF CONSTRUCTED FACILITIES, I.E. ROADWAYS, DRAINAGE, ETC. ARE TO BE AS INDICATED ON THE PLANS UNLESS APPROVED DIFFERENTLY IN WRITING.

11. BUILDING AREAS. ALL ORGANIC AND OTHER UNSUITABLE MATERIAL IN BUILDING OR PAVEMENT AREAS SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS AND SOUND CONSTRUCTION PRACTICES.

12. LANDSCAPE AREAS. ALL LANDSCAPE ISLANDS SHALL CONTAIN SUITABLE LANDSCAPE MATERIAL FOR LANDSCAPE INSTALLATION. ALL LANDSCAPE AREAS SHALL BE SUITABLY SLOPED TO PROVIDE POSITIVE DRAINAGE.

13. SOD AREAS. ELEVATIONS OF GRASSED AREAS ARE GIVEN AT FINISHED SOD/SEED GRADE. CONTRACTOR TO GRADE AREAS RECEIVING SOD LOWER TO ACCOMMODATE SOD THICKNESS.

14. UNSUITABLE MATERIALS. WHERE ENCOUNTERED, UNSUITABLE MATERIAL SHALL BE REMOVED TO A DEPTH AND AREA DETERMINED BY THE ENGINEER. BACKFILLING SHALL BE IN LAYERS NOT GREATER THAN 8" THICKNESS AND COMPACTED TO 98 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180. ANY UNSTABLE SOIL AND/OR SOIL CONTAINING ORGANIC MATERIAL ENCOUNTERED DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO MUCK, SILT, SLUDGE, AND MARL SHALL BE REMOVED AND SHALL BE REPLACED BY MATERIAL ACCEPTABLE TO THE ENGINEER. IF ANY ROCK, HARDPAN, ETC. IS ENCOUNTERED DURING CONSTRUCTION OF ANY ITEMS, THE REMOVAL AND BACKFILL REQUIRED SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OF THAT ITEM AND NO SEPARATE PAYMENT WILL BE MADE.

15. GRADING. GRADING FROM PROPOSED TO EXISTING CONDITIONS SHALL NOT BE STEEPER THAN 6H:1V NOR FLATTER THAN 20H:1V. ALL SWALES AND SLOPES SHALL BE SODDED AFTER GRADING.

16. ELEVATIONS. ELEVATIONS GIVEN ADJACENT TO CURB OR FRONT OF SIDEWALK ARE CONSIDERED EDGE OF PAVEMENT GRADES UNLESS OTHERWISE NOTED.

17. POSITIVE DRAINAGE. CONTRACTOR IS RESPONSIBLE FOR GRADING ALL PAVEMENT TO DRAIN POSITIVELY. INTERSECTIONS SHALL BE TRANSITIONED TO PROVIDE A SMOOTH DRIVING SURFACE WHILE MAINTAINING POSITIVE DRAINAGE. SHOULD AREAS OF POOR DRAINAGE BE OBSERVED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO PLACEMENT OF CURBS OR PAVEMENT COURSES, SO THAT RECOMMENDATIONS FOR CORRECTION CAN BE MADE.

18. ASPHALT MIX DESIGN. BEFORE CONSTRUCTION OF ASPHALT SURFACE, A JOB MIX FORMULA SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER.

19. ROADWAY CONSTRUCTION. ALL ROADWAY CONSTRUCTION AND MATERIAL SHALL CONFORM TO THE APPLICABLE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. ALL SUBBASE, BASE COURSE, PRIME COAT, TACK COAT AND ASPHALT MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS (LATEST EDITION).

20. DRAINAGE STRUCTURES. ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED AS PER THE PLANS AND IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION). ALL GRATES SHALL BE SECURED TO THE DRAINAGE STRUCTURE WITH A CHAIN AND EYEBOLT.

21. PIPE LENGTHS. PIPE LENGTHS SHOWN ON THE PLANS REPRESENT SCALED DISTANCES BETWEEN CENTERLINES OF DRAINAGE STRUCTURES AND FROM INVERTS OF ENDWALLS AND/OR MITERED END SECTIONS.

22. PIPE INSTALLATION. PIPE TRENCH SHALL BE DRY WHILE PIPE IS BEING LAID AND TO BE BEDDED PER DETAIL AND IN CONFORMANCE WITH THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION). ALL CORRUGATED PIES SHALL BE INSTALLED WITH MAXIMUM LENGTHS IN ORDER TO MINIMIZE JOINTS.

23. PIPE TRENCHES. PIPE TRENCHES TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).

24. DRAINAGE PIPING. ALL DRAINAGE PIPES, EXCEPT ROOF DRAINS, TO BE HIGH DENSITY POLYETHYLENE (HP-HDPE) UNLESS NOTED OTHERWISE ON THE PLANS (I.E. ROOF DRAINS, OUTFALLS, ETC.).

25. ROOF DRAIN PIPING. ALL ROOF DRAIN PIPING (OUTSIDE THE BUILDING) TO BE PVC SCHEDULE 40 UNLESS OTHERWISE NOTED. ALL FITTINGS REQUIRED TO MAKE A FULLY OPERATIONAL DRAINAGE SYSTEM MAY NOT BE SHOWN ON THE PLANS. ALL FITTINGS AND MATERIALS REQUIRED TO COMPLETE THE PROJECT ARE TO BE INCLUDED IN THE CONTRACTOR'S BID.

26. DRAINAGE CONNECTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF DEBRIS AND SILT WHERE CONNECTIONS TO EXISTING DRAINAGE STRUCTURES OR SWALES ARE TO BE PERFORMED. SWALES, DITCHES, LAKES, ETC. SHALL BE RESTORED TO THEIR ORIGINAL DESIGN SECTION AND SODDED. SUCH REMOVAL AND RESTORATION SHALL BE TO THE POINT OF LEGAL POSITIVE OUTFALL.

27. DRAINAGE JOINT WRAPPING. ALL DRAINAGE PIPE JOINTS TO BE WRAPPED IN FILTER FABRIC PER FDOT INDEX 280. THE FIRST JOINT OF PIPE ENTERING OR LEAVING A DRAINAGE STRUCTURE SHALL BE WRAPPED WITH FILTER FABRIC PER FDOT SPECIFICATIONS.

PAVING, GRADING, AND DRAINAGE NOTES CONTINUED:

28. DRAINAGE CONNECTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF DEBRIS AND SILT WHERE CONNECTIONS TO EXISTING DRAINAGE STRUCTURES OR SWALES ARE TO BE PERFORMED. SWALES, DITCHES, LAKES, ETC. SHALL BE RESTORED TO THEIR ORIGINAL DESIGN SECTION AND SODDED. SUCH REMOVAL AND RESTORATION SHALL BE TO THE POINT OF LEGAL POSITIVE OUTFALL.

29. DRAINAGE JOINT WRAPPING. ALL DRAINAGE PIPE JOINTS TO BE WRAPPED IN FILTER FABRIC PER FDOT INDEX 280. THE FIRST JOINT OF PIPE ENTERING OR LEAVING A DRAINAGE STRUCTURE SHALL BE WRAPPED WITH FILTER FABRIC PER FDOT SPECIFICATIONS.

30. DRAINAGE LAMPING. ALL DRAINAGE SYSTEMS SHALL BE PUMPED DOWN BELOW ONE-THIRD OF THE DIAMETER OF THE PIPE (FROM THE INVERT) AND LAMPED AS A REQUIREMENT OF THE FINAL DRAINAGE INSPECTION.

31. SUBGRADE. SUBBASE SHALL BE FREE OF MUCK, STUMPS, ROOTS, UNDERBRUSH, VEGETATIVE MATTER, GARBAGE, TRASH OR ANY MATERIAL THAT WILL NOT PROVIDE A SUITABLE STABLE, CLEAN SUBGRADE. SUBGRADE SHALL BE AS SHOWN ON THE PLANS AND TO BE COMPACTED TO 98 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 UNLESS OTHERWISE NOTED ON THE PLANS.

32. UNDER PAVEMENT UTILITIES AND CONDUITS. THE SEQUENCE OF CONSTRUCTION SHALL BE SUCH THAT ALL UNDERGROUND INSTALLATIONS OF ANY KIND, INCLUDING IRRIGATION AND ELECTRICAL CONDUITS, THAT WILL REMAIN UNDER THE PROPOSED PAVEMENT OR WITHIN 10 FEET OF ITS EDGES SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF THE BASE.

33. SOIL STABILIZATION. THE SOILS REQUIRE PROPER SOIL STABILIZATION MIX DESIGNS AND STRINGENT QUALITY CONTROL OF FIELD MIXING APPLICATION ON THE DESIGN MIX IN ORDER TO OBTAIN AN EFFECTIVE STABILIZED SOIL. CONSTRUCTION SPECIFICATIONS SHOULD REQUIRE THAT THE SOIL BE SAMPLED AND MIX DESIGN(S) PREPARED AND TESTED BY A CERTIFIED TESTING LAB. THE MIX DESIGN SHOULD BE SPECIFIED OR OTHERWISE PREPARED AND TESTED BY A TESTING LAB. THE MIX DESIGN SHOULD BE SPECIFIED OR OTHERWISE ADMINISTERED CLOSELY DURING FIELD INSTALLATIONS OR CONSTRUCTION, INCLUDING PERFORMANCE OF FREQUENT LBR TESTS. STABILIZED SUBGRADE SHALL, AT A MINIMUM, BE TESTED TO MEET A MINIMUM OF LBR 40 VALUE.

34. BASE. BASE SHALL BE AS SHOWN ON SECTION AND SHALL BE COMPACTED TO 98 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 UNLESS OTHERWISE NOTED ON THE PLANS.

35. ASPHALT TACK AND PRIME COATS. PRIME COAT SHALL BE APPLIED AT THE RATE OF 0.15 GALLONS PER SQUARE YARD. WHERE REQUIRED, TACK SHALL BE APPLIED AT THE RATE OF 0.08 GALLONS PER SQUARE YARD.

36. UTILITIES BY OTHERS. AT NO ADDITIONAL COST TO THE OWNER, THE CONTRACTOR SHALL PROVIDE ACCESS AND ALLOW FOR COORDINATION SERVICES TO ACCOMMODATE UTILITIES, CONDUIT AND/OR SLEEVE CONSTRUCTION BY OTHERS. ANY UTILITIES, CONDUITS AND/OR SLEEVES INSTALLED BY OTHERS AND DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

37. CONCRETE. ALL CONCRETE SHALL BE 3,000 PSI CONCRETE (MINIMUM 28 DAY COMPRESSIVE STRENGTH) UNLESS OTHERWISE SPECIFIED.

38. REINFORCING STEEL. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-615 AND HAVE A TENSILE STRENGTH OF 60,000 PSI OR AS OTHERWISE NOTED.

39. FIELD REVIEWS. FIELD REVIEWS OF CONSTRUCTED FACILITIES WILL BE REQUIRED DURING THE CONSTRUCTION PROCESS. THE CONTRACTOR IS TO NOTIFY THE ENGINEER A MINIMUM OF 48 HOURS PRIOR TO THE REQUESTED TIME FOR REVIEW OF THE COMPLETED ITEMS. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO ACCOMMODATE THE FIELD REVIEW. THESE REVIEWS INCLUDE BUT ARE NOT LIMITED TO:

   A. DRAINAGE PIPE AND STRUCTURE REVIEW
   B. SUBGRADE REVIEW
   C. CURB REVIEWS
   D. BASE REVIEWS
   E. PUMP OUT AND LAMPING OF DRAINAGE SYSTEM
   F. ASPHALT REVIEWS
   G. SEMI-FINAL AND FINAL REVIEWS

40. COMPLETENESS FOR REVIEW. FACILITIES MUST BE COMPLETED PRIOR TO SCHEDULING THE FIELD REVIEW. IF A FIELD REVIEW FAILS TO MEET THE AGENCY REQUIREMENTS AND AN ADDITIONAL REVIEW IS REQUIRED, THE CONTRACTOR WILL BE RESPONSIBLE TO PAY ANY FEES ASSOCIATED WITH THE ADDITIONAL REVIEW.

41. TESTING. TESTING OF CONSTRUCTION MATERIALS AND/OR CONSTRUCTED FACILITIES WILL BE REQUIRED AS OUTLINED IN THE GOVERNING SPECIFICATIONS AS NECESSARY TO MEET THE REQUIREMENTS OF THE JURISDICTIONAL AGENCIES. ALL TESTING IS TO BE DONE BY A FLORIDA LICENSED TESTING LABORATORY. THE CONTRACTOR IS TO SUBMIT ALL REQUIRED TESTS ON UTILITY EMBANKMENT, BACKFILL, SUBGRADE, BASE AND SURFACE COURSE MATERIAL TO THE ENGINEER PRIOR TO ANY REQUEST FOR PAYMENT. IF ANY TESTS FAIL TO MEET THE SPECIFICATIONS, THE CONTRACTOR, AT ITS EXPENSE, SHALL CORRECT ALL DEFICIENT WORK AND SUBMIT TEST RESULTS INDICATING COMPLIANCE WITH THESE SPECIFICATIONS PRIOR TO ANY REQUEST FOR PAYMENT.

42. DENSITY TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY TESTING TO ASSURE THAT THE PROPER COMPACTION HAS BEEN ACHIEVED ON THE SUBGRADE, BASE MATERIAL, PIPE BASE MATERIAL AND ALL OTHER PERTINENT AREAS THAT HAVE BEEN COMPLETED. THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH TESTING AND RETESTING THE AREAS AND SHALL PROVIDE THE OWNER AND THE ENGINEER COPIES OF ALL TEST RESULTS. ALL REPORTS ARE TO BE SIGNED AND SEALED BY A REGISTERED GEOTECHNICAL ENGINEER IN THE STATE OF FLORIDA.

43. VERTICAL DISTRIBUTION OF DENSITY TESTING. NUCLEAR DENSITY COMPACTION TESTS ARE TO BE TAKEN ON EVERY LIFT PLACED (12" MAXIMUM THICKNESS), STARTING WITH THE SOIL AT THE SPRINGLINE OF THE UTILITY OR AT THE BASE OF ANY STRUCTURE AND PROCEEDING UPWARD TO GRADE AT THE LOCATIONS DEFINED BY THE HORIZONTAL DISTRIBUTION OF DENSITY TESTING NOTE. IF THICKER LIFTS ARE APPROVED AND IMPLEMENTED, DENSITY TESTING SHALL BE PERFORMED VIA DIG DOWNS TO SUFFICIENT DEPTH TO TEST EACH 12 INCHES FOR THE FULL THICKNESS OF LIFT.

44. HORIZONTAL DISTRIBUTION OF DENSITY TESTING. DENSITY TESTING SHALL BE PERFORMED AT THE FOLLOWING MINIMUM LOCATIONS WITH HORIZONTAL SPACING PER THE VERTICAL DISTRIBUTION OF DENSITY TAKING NOTE. MORE SPECIFICALLY:

   A. PIPE TRENCHES - TESTS SHALL BE PERFORMED AT RANDOMLY SELECTED LOCATIONS WITHIN EACH 300 FOOT INTERVAL (MAXIMUM)ALONG THE LENGTH OF A PIPE INSTALLATION, AND BETWEEN EACH SET OF STRUCTURES SEPARATED BY LESS THAN 300 FEET. AT LEAST ONE TEST SHALL BE PERFORMED FOR EVERY 12 INCH BACKFILL LAYER, STARTING WITH THE FIRST TEST PERFORMED AT THE PIPE SPRINGLINE (COVERING THE 12" LAYER BELOW SPRINGLINE ELEVATION).

   B. STRUCTURES - TESTS SHALL BE PERFORMED AT EACH MANHOLE OR DRAINAGE STRUCTURE. AT LEAST ONE TEST SHALL BE PERFORMED FOR EVERY 12 INCH BACKFILL LIFT, STARTING WITH THE FIRST TEST PERFORMED AT THE BASE OF THE STRUCTURE (COVERING THE 12" LAYER BELOW BASE ELEVATION).

   C. SUBGRADE - TESTS SHALL BE PERFORMED AT RANDOMLY SELECTED LOCATIONS WITHIN EACH 300 FOOT INTERVAL (MAXIMUM) ALONG THE LENGTH OF THE ROADWAY, SIDEWALK, OR PATHWAY AND EVERY 6,000 SQUARE FEET OF PARKING AREA.

   D. BASE ROCK - TESTS SHALL BE PERFORMED AT RANDOMLY SELECTED LOCATIONS WITHIN EACH 300 FOOT INTERVAL (MAXIMUM) ALONG THE LENGTH OF THE ROADWAY, SIDEWALK, OR PATHWAY AND EVERY 6,000 SQUARE FEET OF PARKING AREA.

   E. ROAD CROSSINGS - TESTS SHALL BE PERFORMED FOR EACH 12 INCH LIFT WITHIN ANY OPEN CUT ROAD CROSSING LOCATION.

WATER AND SANITARY SEWER NOTES:

1. AVAILABILITY OF SYSTEMS FOR ASBUILT MEASUREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL WATER MAIN BENDS, VALVES, HYDRANTS, TEES AND WATER SERVICE TAPS AVAILABLE TO FACILITATE DIRECT PHYSICAL MEASUREMENT OF RECORD DRAWING INFORMATION. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER, ENGINEER, AND SURVEYOR TO OBTAIN RECORD DRAWING MEASUREMENTS SO AS NOT TO ENDANGER THE GENERAL PUBLIC OR CREATE DELAY IN THE PROGRESS OF THE PROJECT. CONTRACTOR SHALL PROVIDE 48 HOURS MINIMUM WRITTEN NOTICE.

2. SYSTEM CLEANING. CONTRACTOR SHALL THOROUGHLY CLEAN ALL SANITARY AND DRAINAGE GRAVITY SYSTEMS TO FACILITATE MEASUREMENT OF RECORD DRAWING INFORMATION. CLEANING SHALL BE PERFORMED PRIOR TO "PRE-LAMPING" INSPECTIONS BY ENGINEER. CONTRACTOR SHALL ALSO HAVE ALL MANHOLE RIMS INSTALLED PRIOR TO PRE-LAMPING.

3. WATER MAINS. ALL WATER MAINS TO BE PVC C-900 UNLESS OTHERWISE NOTED ON THE PLANS. ALL LINES FROM THE WATER MAIN TO A FIRE HYDRANT TO BE DUCTILE IRON PIPE (DIP) UNLESS OTHERWISE NOTED ON THE PLANS. ALL LINES FROM THE WATER MAIN TO A FIRE LINE BACKFLOW TO BE DUCTILE IRON PIPE (DIP) UNLESS OTHERWISE NOTED ON THE PLANS.

4. WATER SERVICE LINES. ALL WATER SERVICE LINES TO BE PVC SCHEDULE 40 OR PE-3408 UNLESS NOTED OTHERWISE ON THE PLANS.

5. MINIMUM PIPE DEPTHS. ALL PRESSURE PIPE TO BE INSTALLED AT MIN. 36" COVER FROM FINISHED GRADE.

6. VALVES. ALL VALVES ARE TO BE CONSTRUCTED COMPLETELY IN GRASSED AREAS UNLESS SHOWN OTHERWISE ON THE PLANS. NO VALVES SHALL BE CONSTRUCTED WITHIN THE SIDEWALK, CURB OR PARKING STALLS.

7. FIRE HYDRANTS. ALL FIRE HYDRANTS SHALL BE CONSTRUCTED COMPLETELY IN GRASSED AREAS WITH NO LESS THAN 3' FROM THE EDGE OF PAVEMENT (PROTECTIVE BOLLARDS REQUIRED FOR FIRE HYDRANTS CLOSER THAN 7' FROM EDGE OF PAVEMENT OR AS SHOWN ON THE DRAWINGS).

8. EXISTING UTILITIES IMPACTED. ALL EXISTING VALVES AND MANHOLES IMPACTED BY CONSTRUCTION OF THIS PROJECT SHALL BE ADJUSTED IN ACCORDANCE WITH THE UTILITY SPECIFICATIONS.

9. FIELD VERIFICATION. PRIOR TO CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY (ELEVATION & LOCATION) ALL EXISTING UTILITIES. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONTINUATION OF WORK.

10. PIPE COLOR INFUSION. ALL WATER MAINS (BLUE), FORCE MAINS (GREEN), AND RECLAIM WATER MAINS (PURPLE) SHALL BE P.V.C. (C-900) COLORED DURING INFUSION PROCESS, UNLESS A DIFFERENT MATERIAL IS OTHERWISE NOTED.

11. HORIZONTAL SEPARATION FROM DRAINAGE. ALL WATER AND SANITARY SERVICES SHALL BE CONSTRUCTED A MINIMUM OF 5' FROM DRAINAGE STRUCTURES.

12. TESTING. PRESSURE TESTING AND CERTIFICATION SHALL FOLLOW PALM BEACH COUNTY WATER UTILITIES DEPARTMENT MINIMUM ENGINEERING AND CONSTRUCTION STANDARDS LATEST EDITION.

13. VERTICAL PIPE SEPARATIONS. ALL WATER MAINS TO CROSS OVER SANITARY SEWER SERVICES. WHERE 12" MINIMUM CLEARANCE CANNOT BE MAINTAINED, 20 LINEAR FEET OF DUCTILE IRON WATER MAIN SHALL BE CENTERED ON THE CROSSING AND THE SEWER SERVICE SHALL BE C-900, SDR-18. IN NO CASE SHALL THERE BE LESS THAN 6" CLEARANCE.

14. RECORD DRAWING NOTE. RECORD DRAWINGS SHALL INCLUDE ALL UTILITY OBJECTS AND ASSOCIATED LOCATIONS IDENTIFIED AS REQUIRED BY PALM BEACH COUNTY WATER UTILITIES DEPARTMENT AND SHOWN IN THE AS-BUILT LOCATION.

15. STATE PLANE COORDINATES FOR RECORD DRAWINGS. ALL RECORD DRAWINGS SHALL BE DRAWN IN THE STATE PLANE COORDINATE SYSTEM. STATE PLANE COORDINATES ARE REQUIRED FOR ALL AS-BUILT UTILITY OBJECTS AS REQUIRED BY PALM BEACH COUNTY WATER UTILITIES DEPARTMENT. ALL OBJECTS SHALL BE IDENTIFIED BY ASSIGNING AN APPROVED FEATURE CODE AND A UNIQUE NUMBER.

16. WATER MAIN DUCTILE IRON PIPE (DIP). ALL WATER MAIN DUCTILE IRON PIPE AND PIPE FITTINGS SHALL BE PAINTED WITH A 4" WIDE CONTINUOUS BLUE LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE. APPROVED PAINT: INDURON, AQUANAUT 5082 ALASKAN BLUE (ONE COAT, 3 MILS DRY FILM THICKNESS APPLIED WITH 1/2" NAP MEDIUM ROLLER).

17. PIPE COLORS. ALL WATER MAIN PIPE, INCLUDING FITTINGS, INSTALLED ON OR AFTER AUGUST 28, 2003, EXCEPT PIPE INSTALLED UNDER A CONSTRUCTION PERMIT FOR WHICH THE DEPARTMENT RECEIVED A COMPLETE APPLICATION BEFORE AUGUST 28, 2003, SHALL BE COLOR CODED OR MARKED USING BLUE AS A PREDOMINANT COLOR TO DIFFERENTIATE DRINKING WATER FROM RECLAIMED OR OTHER WATER. UNDERGROUND PLASTIC PIPE SHALL BE SOLID-WALL BLUE PIPE, SHALL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN, OR SHALL BE WHITE OR BLACK WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE SHALL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE SHALL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THE TAPE OR PAINT SHALL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF PIPE; FOR PIPES WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT SHALL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE AT DRINKING WATER TREATMENT PLANTS SHALL BE COLOR CODED AND LABELED IN ACCORDANCE WITH SUBSECTION 62-555.320(10), F.A.C., AND ALL OTHER ABOVEGROUND PIPE SHALL BE PAINTED BLUE OR COLOR CODED OR MARKED LIKE UNDERGROUND PIPE.

18. FIRE HYDRANTS. ALL FIRE HYDRANT FLANGE GRADES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR TO FIELD ADJUST AS REQUIRED TO MEET UTILITY DEPARTMENT CRITERIA.

CDI
CIVIL DESIGN, INC.
Service Driven Design – Engineered Results
1400 Centrepark Blvd, Suite 905
West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
www.civil-design.com

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:
GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Gabriel Burden, P.E.
Florida License No. 75425

CDI PROJECT NO.
23805-01

DATE:	11/08/2024
DESIGNED:	CDI
DRAWN:	CDI

NO.	DATE	REVISION DESCRIPTION

GENERAL NOTES

C0.2

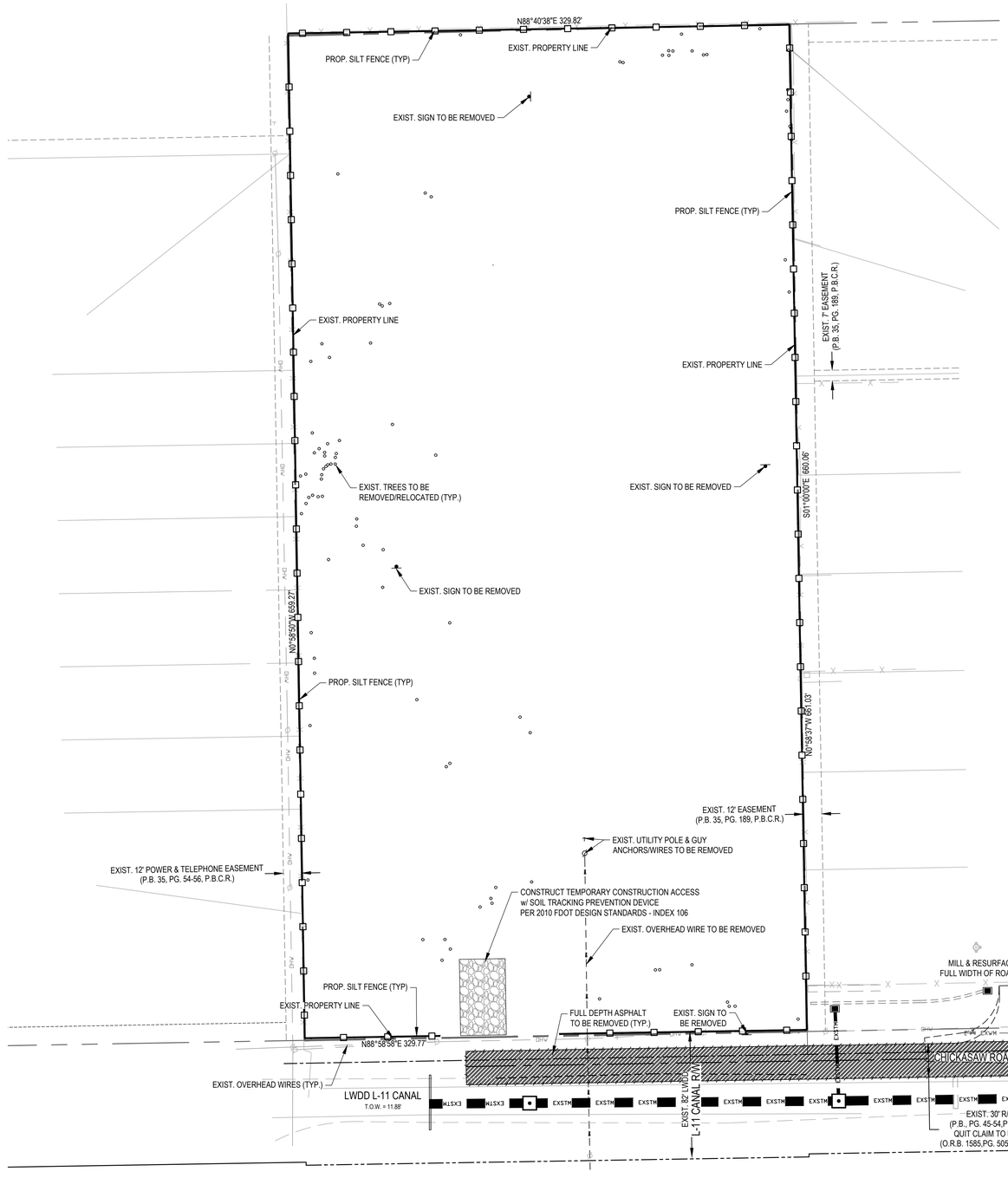


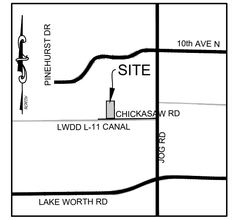
EXHIBIT "A"

DATUM = NAVD '88
ADD 1.53' FOR NGVD '29

NORTH

0 8 20 40 80 120

SCALE: 1" = 40'



SEC. 27 - TWP. 43S - RGE. 42E
LOCATION MAP
N.T.S.

LEGEND

EXISTING WATERMAIN	EXWM
EXISTING WATER SERVICE	EX-WSVC
EXISTING SANITARY SEWER	EXSAN
EXISTING FORCEMAIN	EXFM
EXISTING STORM DRAINAGE	EXSTM
PROPOSED SILT FENCE	
PAVEMENT TO BE REMOVED	
FULL DEPTH ASPHALT REMOVAL	
PROPOSED MILL & RESURFACE	

NOTES:

1. PROTECT ALL EXISTING AND PROPOSED INLETS DURING CONSTRUCTION.
2. SWEEP ROADS AND CONSTRUCTION SITE PERIODICALLY TO REMOVE CONSTRUCTION DEBRIS AND SEDIMENT.
3. STORM DRAINAGE TO BE SEDIMENT AND SILT FREE DURING CONSTRUCTION AND AT FINAL SITE WALK THROUGH.
4. ALL AREAS TO BE DEMOLISHED ARE TO BE REMOVED IN THEIR ENTIRETY. BACKFILL WITH CLEAN, SUITABLE MATERIAL APPROPRIATE TO THE FUTURE APPLICATION AND IN COMPLIANCE WITH THE RESPECTIVE REQUIREMENTS (i.e. STRUCTURAL BUILDING FILL, LANDSCAPE FILL, PARKING LOT SUBGRADE).
5. EXISTING BASEROCK MAY NOT BE REUSED FOR PROPOSED BASE COURSE UNLESS CERTIFIED BY THE GEOTECHNICAL ENGINEER THAT IT MEETS THE REQUIRED SPECIFICATIONS. IT MAY BE USED FOR SUBGRADE STABILIZATION.
6. REFER TO LANDSCAPE PLANS FOR ALL RELOCATION/REMOVAL OF LANDSCAPING AND TREES.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION, DEPTH AND CONDITION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO SHOP DRAWING SUBMITTAL AND/OR COMMENCEMENT OF CONSTRUCTION. PROVIDE WRITTEN CONFIRMATION/DIAGRAMS OF ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION OR ANTICIPATED CONSTRUCTION (HORIZONTAL & VERTICAL LOCATIONS, PIPE SIZES, ETC.)
8. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND SUPPORT THESE EXISTING UTILITIES AND MAINTAIN CONTINUOUS SERVICE OF ALL UTILITIES DURING THE ENTIRE COURSE OF CONSTRUCTION UNLESS OTHERWISE COORDINATED WITH AND APPROVED BY AFFECTED UTILITY PROVIDERS AND CUSTOMERS.
9. CONTRACTOR IS ADVISED THAT THE EXISTING UTILITIES SHOWN ARE BASED ON SURVEY AND ASBUILT DATA AVAILABLE AT TIME OF DESIGN.
10. ALL IRRIGATION IN THE AFFECTED CONSTRUCTION AREA IS TO BE REMOVED BY THE CONTRACTOR.
11. IF NECESSARY, CONTRACTOR WILL NEED TO PROVIDE DEWATERING TO BUILD FOUNDATIONS. CONFIRM WITH GEOTECHNICAL REPORT.
12. ALL CONCRETE/PAVEMENT TO BE REMOVED SHALL HAVE ALL EDGES OF REMOVAL MARKED ON SURFACE WITH A STRAIGHT LINE & TO BE SAW CUT STRAIGHT.
13. IT IS THE CONTRACTORS RESPONSIBILITY TO: ASSESS EXISTING CONDITION; REMOVE ALL TREES, SHRUBS, EXOTICS NOT DESIGNATED ON PLAN TO REMAIN, REMOVE ALL SITE DEBRIS AND TO CLEAR & GRUB AND LEVEL THE SITE TO PROPOSED GRADES.

CIVIL DESIGN, INC.
Service Driven Design – Engineered Results
1400 Centrepark Blvd, Suite 905
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Gabriel Burden, P.E.
Florida License No. 75425

CDI PROJECT NO.
23805-01

DATE: 11/08/2024
DESIGNED: CDI
DRAWN: CDI

NO.	DATE	REVISION DESCRIPTION
3	1/16/2025	SITE PLAN AMENDMENT

SITE DEMOLITION & EROSION CONTROL PLAN

C1.1

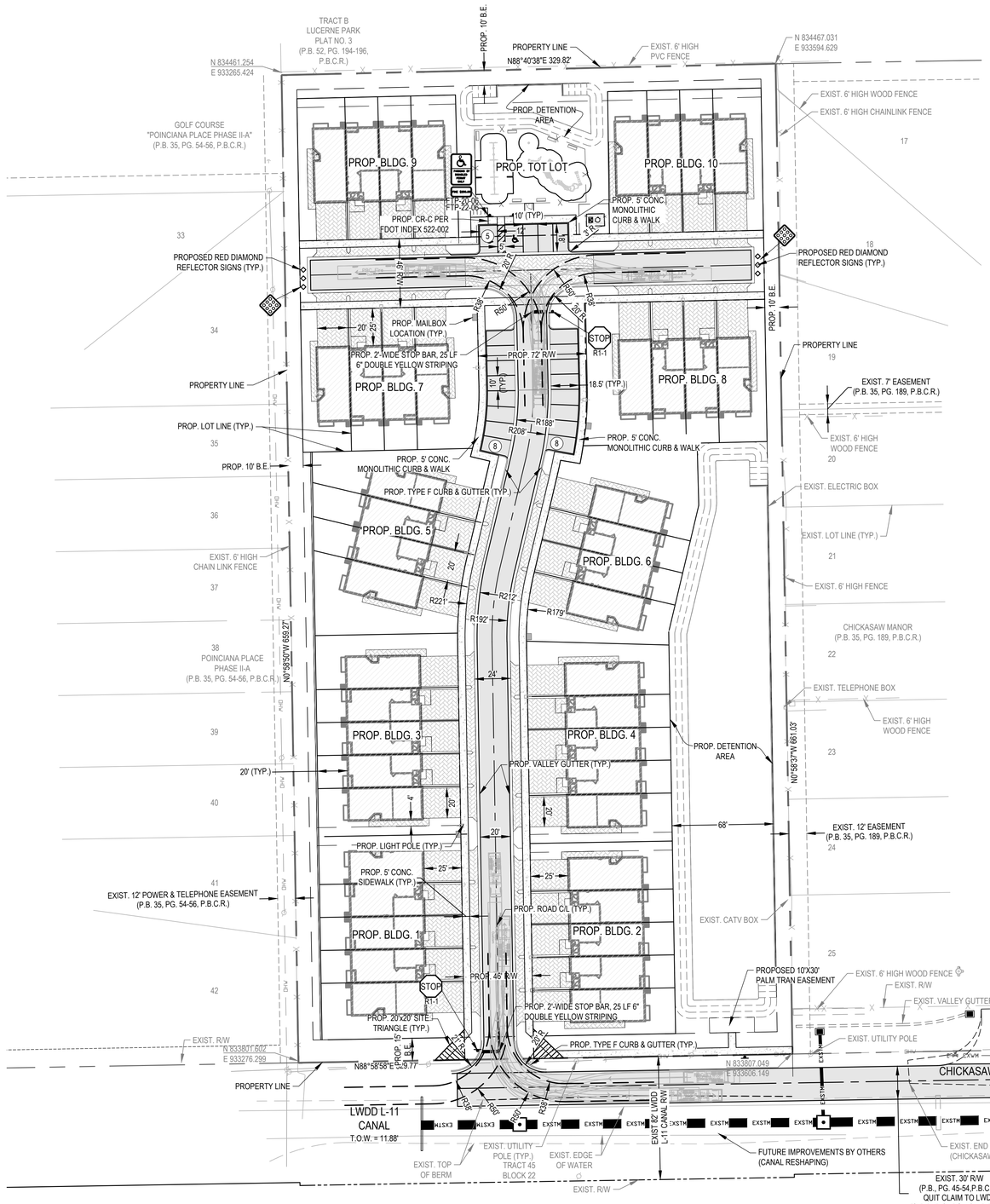


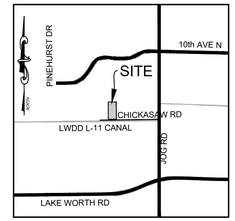
EXHIBIT "A"

DATUM = NAVD '88
ADD 1.53' FOR NGVD '29

NORTH

0 8 20 40 80 120

SCALE: 1" = 40'



SEC. 27 - TWP. 43S - RGE. 42E
LOCATION MAP
N.T.S.

LEGEND

PROPOSED PAVEMENT	
PROPOSED CONCRETE	
PROPOSED CONCRETE PAVERS	
PROPOSED BUILDING	
BUFFER EASEMENT	B.E.
STOP SIGN & 2' STOP BAR (THERMO.)	
STOP SIGN (R1-1)	STOP R1-1
HANDICAP (FTP-20-06) & $250 FINE SIGN (FTP-22-06)	

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GARDEN SQUARE TOWNHOUSE DEVELOPMENT

6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:
GABRIEL BURDEN
LICENSE
NO. 75425
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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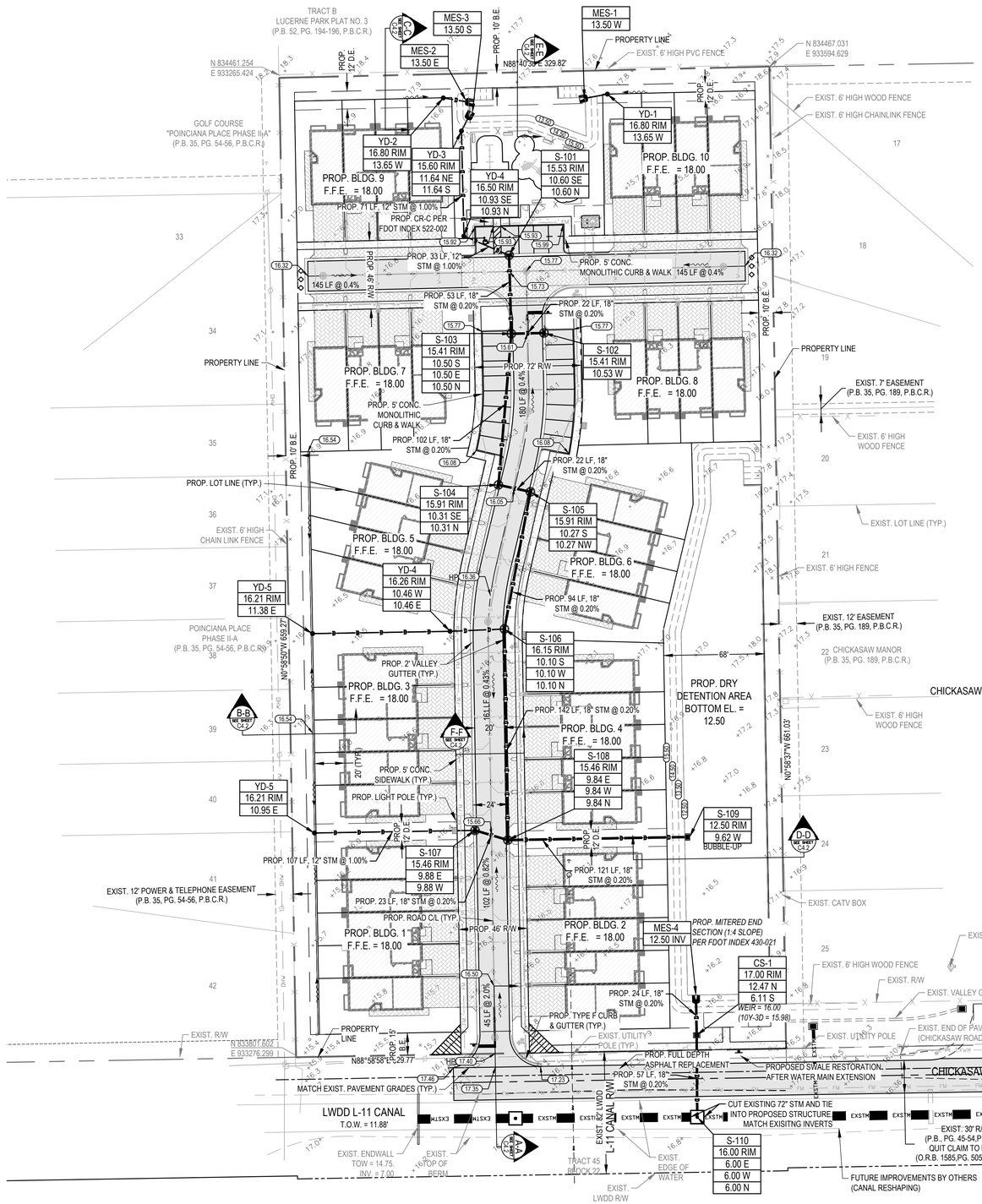
CDI PROJECT NO.
23805-01

DATE:	11/08/2024
DESIGNED:	CDI
DRAWN:	CDI

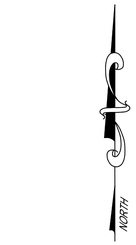
NO.	DATE	REVISION DESCRIPTION
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3	1/16/2025	SITE PLAN AMENDMENT
4	2/21/2025	SITE PLAN AMENDMENT

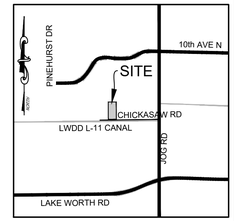
SIGNING, STRIPING & GEOMETRIC PLAN

C2.1



DATUM = NAVD '88
ADD 1.53' FOR NGVD '29





SEC. 27 - TWP. 43S - RGE. 42E
LOCATION MAP
N.T.S.

0 8 20 40 80 120

SCALE: 1" = 40'

LEGEND

- EXISTING WATERMAIN — EXWM
- EXISTING FORCEMAIN — EXFM
- EXISTING SANITARY SEWER — EXSAN
- EXISTING STORM DRAINAGE — EXSTM
- STRUCTURE NUMBER / RIM ELEVATION / INVERT / STRUCTURE BOTTOM — S-100 / 00.00 RIM / 0.00 / 0.00 BOT
- PROPOSED STORM DRAINAGE LINE W/ STORM STRUCTURE
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN
- PROPOSED FORCEMAIN — FM
- PROPOSED PAVEMENT
- PROPOSED CONCRETE
- PROPOSED CONCRETE PAVERS
- PROPOSED BUILDING
- PROPOSED MILL & RESURFACE
- BUFFER EASEMENT — B.E.
- DRAINAGE EASEMENT — D.E.
- PROPOSED ELEVATION — 0.00
- EXISTING ELEVATION — + 0.00
- DIRECTION OF FLOW

NOTES:

1. ALL ELEVATIONS REFER TO NAVD '88.
2. ALL DRAINAGE STRUCTURES DESIGNATED U.S.F. 170 MANHOLE LIDS TO BE LABELED "STORM".
3. CONTRACTOR IS ADVISED THAT THE EXISTING UTILITIES SHOWN ARE BASED ON SURVEY AND ASBUILT DATA AVAILABLE AT TIME OF DESIGN.
5. CONTRACTOR TO POTHOLE & LOCATE ALL EXISTING UTILITIES PRIOR TO SUBMITTAL OF SHOP DRAWINGS OR COMMENCEMENT OF CONSTRUCTION. PROVIDE WRITTEN CONFIRMATION/DIAGRAMS OF ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION OR ANTICIPATED CONSTRUCTION (HORIZONTAL & VERTICAL LOCATIONS, PIPE SIZES, ETC.)
6. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND SUPPORT THESE EXISTING UTILITIES AND MAINTAIN CONTINUOUS SERVICE OF ALL UTILITIES PARTICULARLY WATER AND SEWER DURING THE ENTIRE COURSE OF CONSTRUCTION.
7. DISCHARGE TO COUNTY DRAINAGE SYSTEMS SHALL CONSIST SOLELY OF STORMWATER AND SHALL CONTAIN NO OIL, GREASE, FLOATING SOLIDS, SETTLEABLE SOILS, FLAMMABLE LIQUIDS, OR DOMESTIC OR INDUSTRIAL WASTEWATER WHICH WOULD CAUSE OR CONTRIBUTE TO CONTRAVENTION OF STATE WATER QUALITY STANDARDS IN THE RECEIVING WATER BODIES.
8. CONTRACTOR TO LIMIT SOIL COMPACTION IN THE PERVIOUS AREAS TO BE CONSISTENT WITH THE 25% COMPACTION UTILIZED IN THE SOIL STORAGE CALCULATIONS.

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GREENACRES, FL 33467

APPROVED BY:
GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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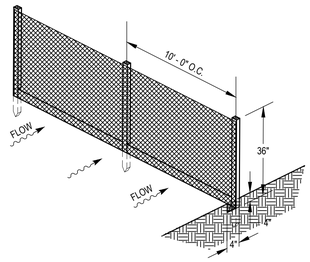
DATE: 11/08/2024
DESIGNED: CDI
DRAWN: CDI

NO.	DATE	REVISION DESCRIPTION
1	9/6/2023	CROSS SECTIONS ADDED
2	9/30/2024	SITE PLAN AMENDMENT
3	1/16/2025	SITE PLAN AMENDMENT
4	2/21/2025	SITE PLAN AMENDMENT

PAVING, GRADING & DRAINAGE PLAN

C3.1

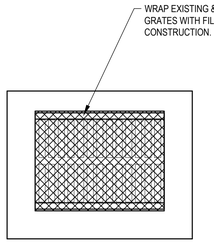
EXHIBIT "A"



NOTES

1. MESH TO BE BENT, LAID FLAT ON BOTTOM OF TRENCH AND BACKFILLED.
2. POSTS TO BE DRIVEN A MINIMUM OF TWO (2) FEET INTO THE GROUND.
3. SILT FENCE TO BE PLACED ALL AROUND CLEARING PERIMETERS.

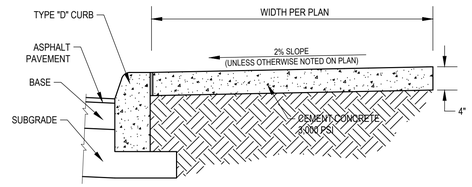
N.T.S.	DETAIL
TYPICAL FILTER FABRIC FENCE	1



NOTES:

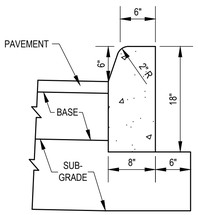
1. PROTECT ALL EXISTING AND PROPOSED INLETS DURING CONSTRUCTION.
2. SWEEP ROADS AND CONSTRUCTION SITE PERIODICALLY TO REMOVE CONSTRUCTION DEBRIS AND SEDIMENT.
3. STORM DRAINAGE TO BE SEDIMENT AND SILT FREE DURING CONSTRUCTION AND AT FINAL SITE WALK THROUGH.

N.T.S.	DETAIL
INLET PROTECTION	2

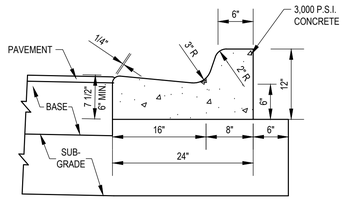


NOTE:
1. 4" THICK CONCRETE (3,000 PSI) ON 12" THICK COMPACTED SUBGRADE (98% AASHTO T-180). SIDEWALKS SHALL BE 6" THICK AT DRIVEWAYS & TRAFFIC AREAS.
2. SIDEWALKS TO BE BROOM FINISHED WITH EVEN, DUSTLESS SURFACE. CONTROL JOINTS TO BE SPACED EQUALLY ON CENTER PER ACI 330. JOINTS TO BE CUT WITHIN 4 TO 12 HOURS OF PLACEMENT. JOINTS TO BE NO FURTHER APART THAN 30 TIMES SLAB THICKNESS.
3. EXPANSION JOINTS REQUIRED EVERY 50 FEET (120 LF MAX), AT EACH CHANGE OF DIRECTION, AND WHEN SIDEWALK ABUTS BUILDING.
4. "V" TOOL JOINT TO BE USED AT BACK OF CURB.

N.T.S.	DETAIL
TYPICAL TYPE "D" CURB AND CONCRETE WALK	3

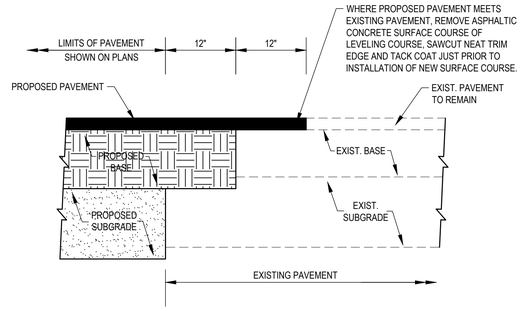


N.T.S.	DETAIL
TYPICAL TYPE "D" CURB	4



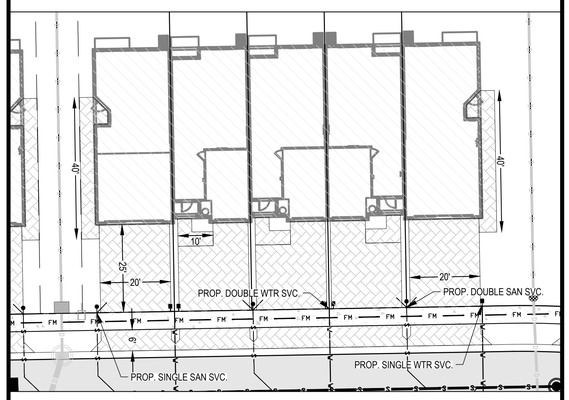
NOTE:
WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE SLOPE OF ADJACENT PAVEMENT AND THICKNESS OF THE LIP SHALL BE 6 INCHES.

N.T.S.	DETAIL
TYPICAL TYPE "F" CURB	5



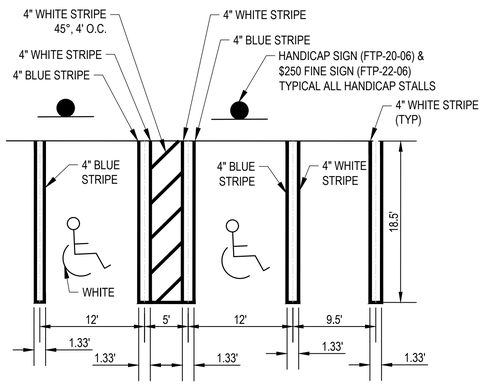
NOTE:
REFER TO PAVEMENT SECTIONS FOR MATERIAL THICKNESS

N.T.S.	DETAIL
TYPICAL PAVEMENT MATCH SECTION	6



SCALE: 1" = 20'

N.T.S.	DETAIL
ENLARGED DRIVEWAY DETAIL	7



NOTE: MAXIMUM 2.0% SLOPE IN ANY DIRECTION SCALE: 1" = 10'

N.T.S.	DETAIL
ACCESSIBLE PARKING SPACES	8

GENERAL NOTES

BEVELED EDGES: ALL EXPOSED CORNERS AND EDGES TO BE CHAMFERED ¾".

FOUNDATION MATERIAL: WHERE MATERIAL UNSATISFACTORY FOR FOUNDATION IS ENCOUNTERED AT FLOW LINE, OMIT FLOOR AND CARRY WALLS DOWN TO SATISFACTORY FOUNDATION. BACKFILL TO FLOW LINE WITH CLEAN SAND.

GRATES: CAST IRON GRATES IN ACCORDANCE WITH F.D.O.T. SPECS.

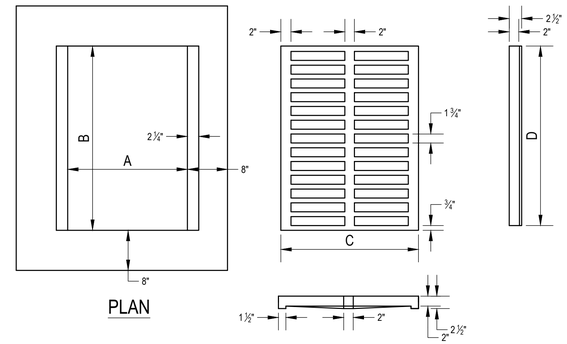
*INLETS TYPES: INLETS ARE TO BE AS SHOWN HEREON. TYPE "E MOD" IS A TYPE "E" TURNED 90° TO RECEIVE R.C.P. UP TO 48" DIA. INLETS RECEIVING R.C.P. LARGER THAN 48" DIA. SHALL BE IN ACCORDANCE WITH F.D.O.T. STANDARDS.

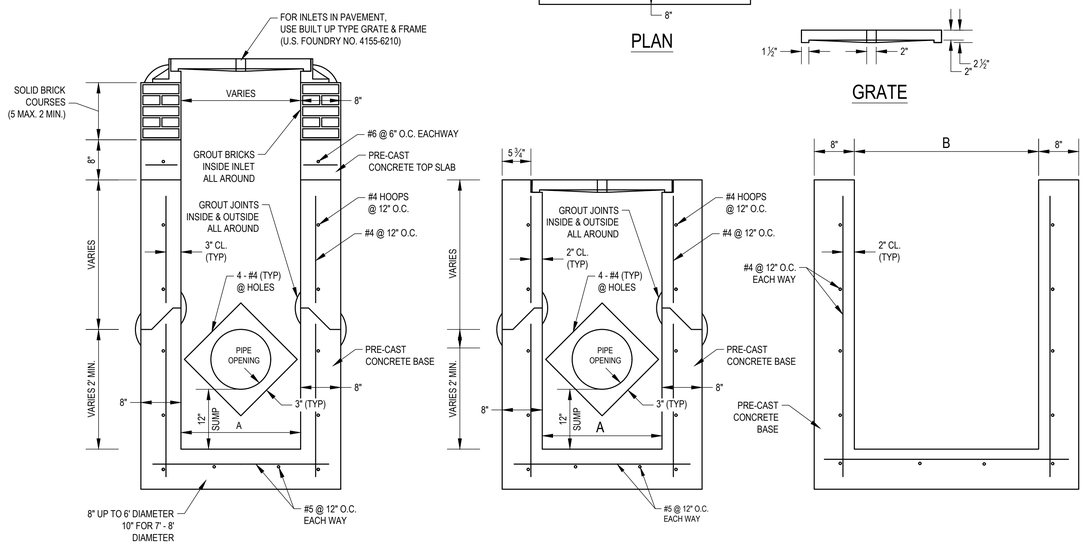
MATERIAL: INLET WALLS AND FOOTING MAY EITHER POURED-IN-PLACE 2500 LB. CONC.; OR PRECAST CLASS "A" 3000 LB. CONC.

ALL INLET CONSTRUCTION IS IN ACCORDANCE WITH THE CURRENT F.D.O.T. STANDARDS INDEX NO. 201 & 232.

ALL INLET GRATES TO BE SECURED WITH A LOCKING CHAIN PER F.D.O.T. INDEX 201

TYPE INLET					MAX. PIPE SIZE	
	"A"	"B"	"C"	"D"	SHORT SIDE	LONG SIDE
"C"	2'-0"	3'-1"	2'-4"	3'-0"	18"	24"
"D"	4'-1"	3'-1"	3'-4"	4'-4"	24"	36"
"E"	3'-0"	4'-6"	3'-4"	4'-4"	48"	48"
"G"	3'-0"	4'-6"	3'-4"	4'-4"	48"	48"
"E MOD"*	3'-0"	4'-6"	3'-4"	4'-4"	48"	48"





N.T.S.	DETAIL
TYPICAL INLET AND GRATE	9

EXHIBIT "A"

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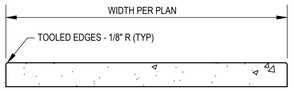
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DATE: 11/08/2024
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DRAWN: CDI

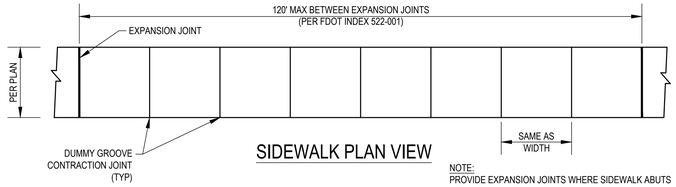
NO.	DATE	REVISION DESCRIPTION
2	9/30/2024	SITE PLAN AMENDMENT
3	1/16/2025	SITE PLAN AMENDMENT
4	2/21/2025	SITE PLAN AMENDMENT

PAVING, GRADING & DRAINAGE DETAILS

C4.1



SIDEWALK CROSS SECTION

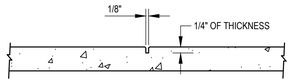


SIDEWALK PLAN VIEW

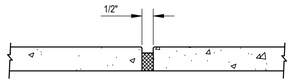
NOTE:
PROVIDE EXPANSION JOINTS WHERE SIDEWALK ABUTS STRUCTURES OR OTHER SIDEWALKS. EXPANSION JOINTS REQUIRED EVERY 120 LF.

NOTES:

1. 4" THICK CONCRETE (3,000 PSI) ON 12" THICK COMPACTED SUBGRADE (98% AASHTO T-180). SIDEWALKS SHALL BE 6" THICK AT DRIVEWAYS & TRAFFIC AREAS.
2. SIDEWALKS TO BE BROOM FINISHED WITH EVEN, DUSTLESS SURFACE. CONTROL JOINTS TO BE SPACED EQUALLY ON CENTER PER ACI 330. JOINTS TO BE CUT WITHIN 4 TO 12 HOURS OF PLACEMENT. JOINTS TO BE NO FURTHER APART THAN 30 TIMES SLAB THICKNESS.
3. EXPANSION JOINTS REQUIRED EVERY 50 FEET (120 LF MAX), AT EACH CHANGE OF DIRECTION, AND WHEN SIDEWALK ABUTS BUILDING.



CONTRACTION JOINT



EXPANSION JOINT

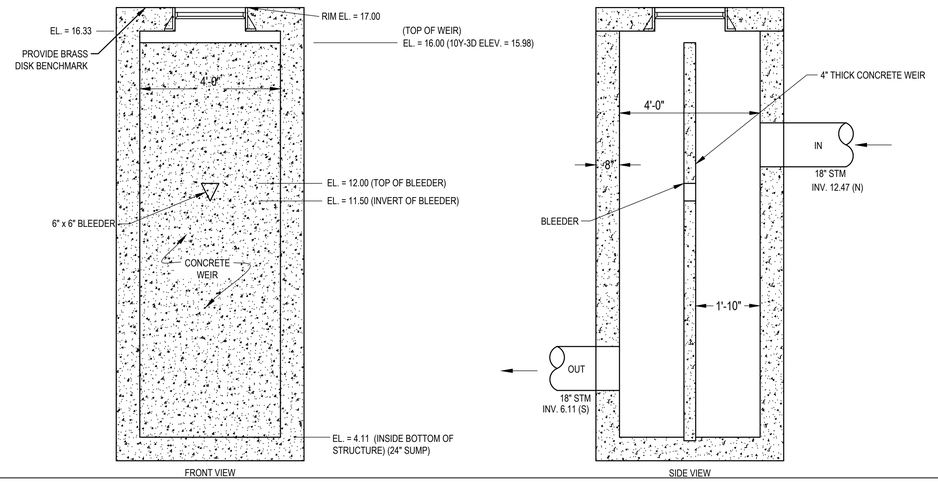
N.T.S. | DETAIL 10

TYPICAL CONCRETE SIDEWALK

TYPE	WEARING SURFACE	BASE	SUBGRADE
OFFSITE PAVEMENT - FULL DEPTH	1" FRICTION COURSE FC 9.5 OVER 1.5" SP STRUCTURAL COURSE (TRAFFIC LEVEL C) WITH TACK COAT	OPTIONAL BASE GROUP 13 WITH PRIME COAT COMPACTED TO 98% MAXIMUM DRY DENSITY AASHTO T-180.	12" THICK, COMPACTED TO 98% MAXIMUM DRY DENSITY AASHTO T-180.
ONSITE PAVEMENT	1.5" SP STRUCTURAL COURSE (TRAFFIC LEVEL A) WITH TACK COAT	OPTIONAL BASE GROUP 8 WITH PRIME COAT COMPACTED TO 98% MAXIMUM DRY DENSITY AASHTO T-180.	12" THICK, COMPACTED TO 98% MAXIMUM DRY DENSITY AASHTO T-180.

N.T.S. | DETAIL 11

PAVING SPECIFICATIONS

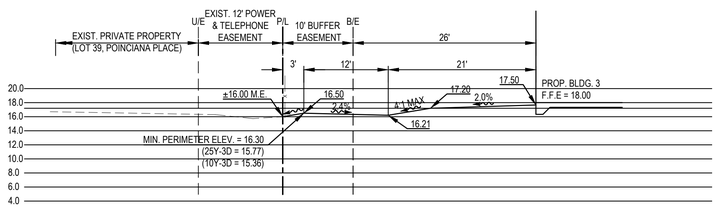


N.T.S. | DETAIL 12

CONTROL STRUCTURE DETAIL

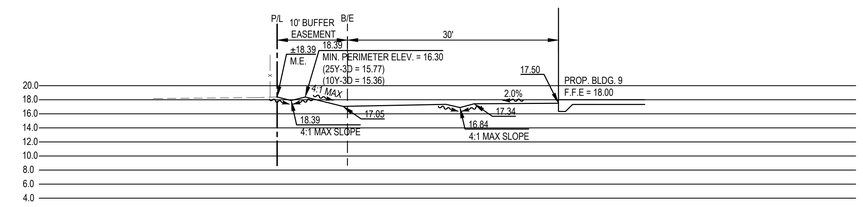
SCALE: 1" = 10' DATUM = NAVD '88 | DETAIL 13

SECTION A-A (ENTRANCE - SOUTH PROPERTY LINE)



SCALE: 1" = 10' DATUM = NAVD '88 | DETAIL 14

SECTION B-B (WEST PROPERTY LINE)



SCALE: 1" = 10' DATUM = NAVD '88 | DETAIL 15

SECTION C-C (NORTH PROPERTY LINE)

EXHIBIT "A"

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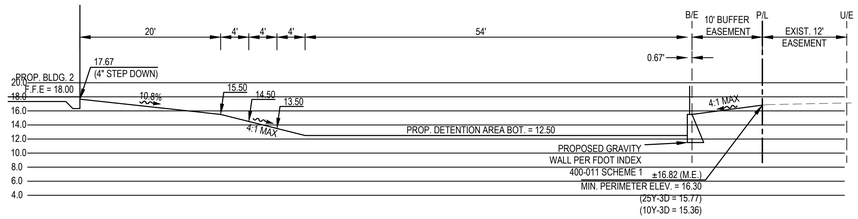
CDI PROJECT NO.
23805-01

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DRAWN: CDI

NO.	DATE	REVISION DESCRIPTION
1	9/6/2023	CROSS SECTIONS ADDED
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4	2/21/2025	SITE PLAN AMENDMENT

PAVING, GRADING & DRAINAGE DETAILS

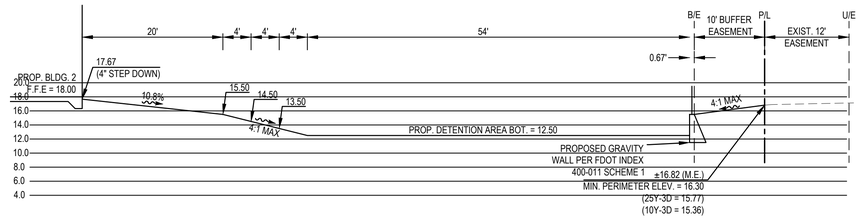
C4.2



SCALE: 1" = 10' DATUM = NAVD '88

DETAIL 16

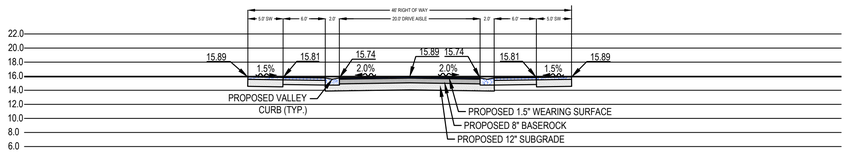
SECTION D-D (EAST PROPERTY LINE)



SCALE: 1" = 10' DATUM = NAVD '88

DETAIL 17

SECTION E-E (NORTH PROPERTY LINE)



SCALE: 1" = 10' DATUM = NAVD '88

DETAIL 18

SECTION F-F (INTERNAL STREET SECTION)

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6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:

GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Gabriel Burden, P.E.
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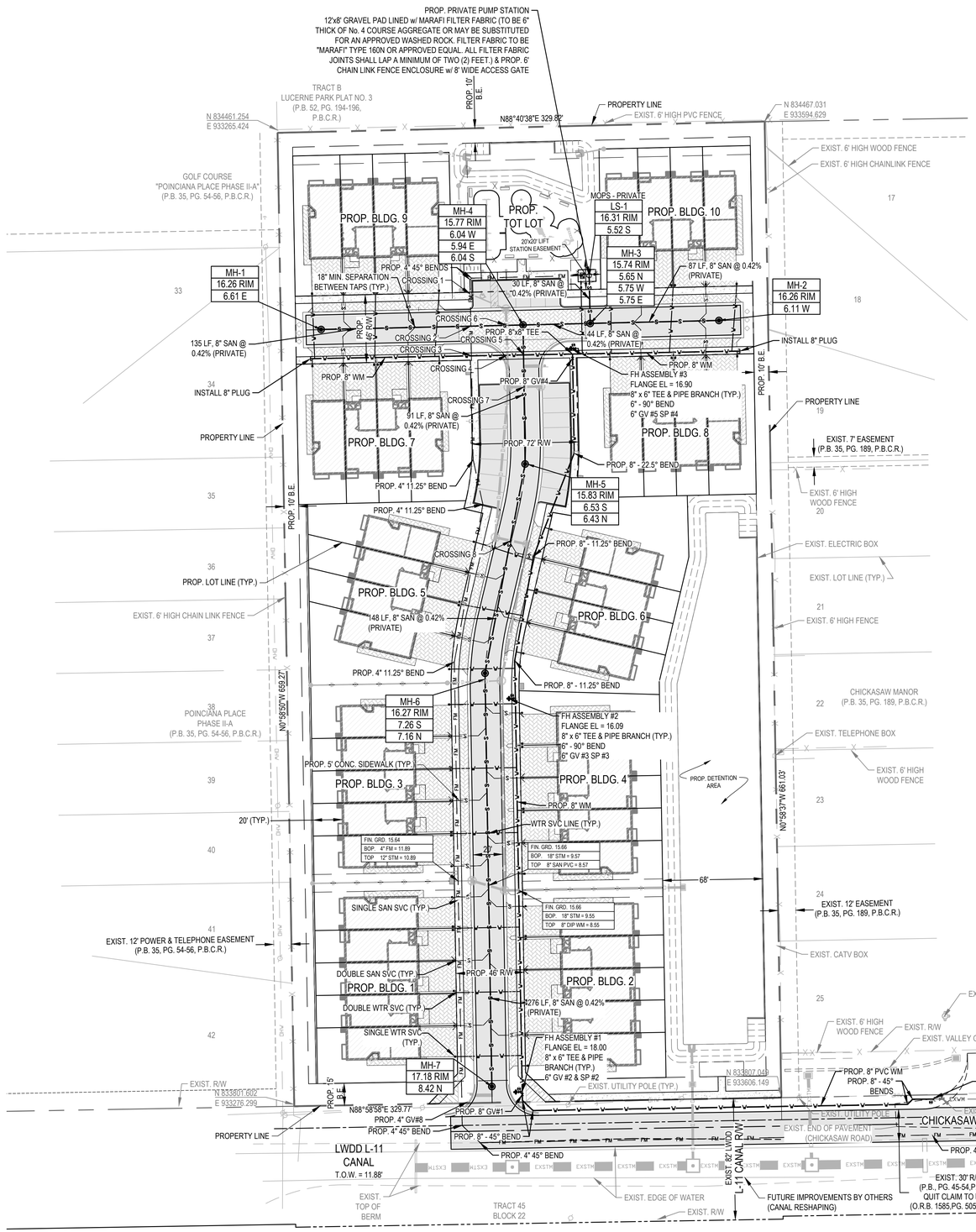
CDI PROJECT NO.
23805-01

DATE:	11/08/2024
DESIGNED:	CDI
DRAWN:	CDI

NO.	DATE	REVISION DESCRIPTION
1	9/6/2023	CROSS SECTIONS ADDED
2	9/30/2024	SITE PLAN AMENDMENT
4	2/21/2025	SITE PLAN AMENDMENT

PAVING, GRADING & DRAINAGE DETAILS

C4.3



CROSSING 1
FIN. GRD. 16.22
BOP. 12" STM = 10.72
TOP 4" FM = 9.72

CROSSING 2
FIN. GRD. 15.82
BOP. 4" FM = 9.38
TOP 8" SAN PVC = 6.91

CROSSING 3
FIN. GRD. 15.78
BOP. 8" DIP WM = 8.57
TOP 4" FM = 7.57

CROSSING 4
FIN. GRD. 15.95
BOP. 18" STM = 10.29
TOP 8" DIP WM = 9.29

CROSSING 5
FIN. GRD. 15.69
BOP. 8" DIP WM = 8.57
TOP 8" SAN PVC = 6.84

CROSSING 6
FIN. GRD. 15.73
BOP. 18" STM = 10.33
TOP 8" SAN PVC = 6.80

CROSSING 7
FIN. GRD. 15.61
BOP. 18" STM = 10.28
TOP 8" SAN PVC = 6.94

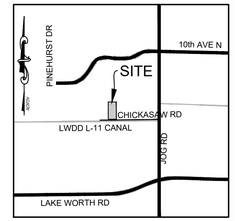
CROSSING 8
FIN. GRD. 16.05
BOP. 18" STM = 10.03
TOP 8" SAN PVC = 7.38

NORTH

0 8 20 40 80 120

SCALE: 1" = 40'

DATUM = NAVD '88
ADD 1.53' FOR NGVD '29



SEC. 27 - TWP. 43S - RGE. 42E

LOCATION MAP

N.T.S.

LEGEND

- EXISTING WATERMAIN — EXWM
- EXISTING FORCEMAIN — EXFM
- EXISTING SANITARY SEWER — EXSAN
- EXISTING STORM DRAINAGE — EXSTM
- PROPOSED STORM DRAINAGE LINE W/ STORM STRUCTURE
- STRUCTURE NUMBER / RIM ELEVATION / INVERT — MH # / RIM / INV
- PROPOSED SANITARY SEWER — S
- PROPOSED WATERMAIN — W
- PROPOSED FORCEMAIN — FM
- PROPOSED PAVEMENT
- PROPOSED CONCRETE
- PROPOSED CONCRETE PAVERS
- PROPOSED BUILDING

NOTES:

1. PRIOR TO CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY (ELEVATION & LOCATION) ALL EXISTING UTILITIES. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONTINUATION OF WORK.
2. ALL SANITARY SEWER SHALL BE P.V.C. SDR 26 (UNLESS OTHERWISE NOTED).
3. ALL WATER MAINS & FORCE MAINS SHALL BE P.V.C. (C-900) UNLESS OTHERWISE NOTED.
4. FIRE HYDRANTS SHALL BE LOCATED A MINIMUM OF 7' AND A MAXIMUM OF 12' FROM EDGE OF PAVEMENT.
5. ALL PRESSURE PIPES ARE TO BE RESTRAINED PER THE PIPE RESTRAINT FOR PRESSURE PIPE DETAIL.
6. VALVES SHALL NOT BE PLACED IN CURBS.
7. ALL WATER AND SANITARY SERVICES SHALL BE CONSTRUCTED A MINIMUM OF 5' FROM DRAINAGE STRUCTURES.
8. MAGNETIC TAPE IS REQUIRED FOR ALL WATER & FORCE MAINS AND SHALL BE 6" WIDE, IMPRINTED WITH 2" HIGH LETTERING READING "CAUTION - WATER MAIN BURIED BELOW" OR "CAUTION - FORCE MAIN BURIED BELOW", AS REQUIRED.
9. RECORD DRAWINGS MUST HAVE DATA FOR TAP AND METER LOCATIONS FOR ALL NON-PERPENDICULAR WATER MAIN SERVICES.
10. PRESSURE TESTING AND CERTIFICATION SHALL FOLLOW PALM SPRINGS UTILITIES DEPARTMENT MINIMUM ENGINEERING AND CONSTRUCTION STANDARDS LATEST EDITION.
11. ALL WATERMAINS TO CROSS OVER SANITARY SEWER SERVICES. WHERE 18" MINIMUM CLEARANCE CANNOT BE MAINTAINED, 20 LINEAR FEET OF DUCTILE IRON WATERMAIN SHALL BE CENTERED ON THE CROSSING AND THE SEWER SERVICE SHALL BE C-900, SDR-18. IN NO CASE SHALL THERE BE LESS THAN 6" CLEARANCE.
12. ALL WATER MAIN PIPE, INCLUDING FITTINGS, INSTALLED ON OR AFTER AUGUST 28, 2003, EXCEPT PIPE INSTALLED UNDER CONSTRUCTION PERMIT FOR WHICH THE DEPARTMENT RECEIVED A COMPLETE APPLICATION BEFORE AUGUST 28, 2003, SHALL BE COLOR CODED OR MARKED USING BLUE AS A PREDOMINANT COLOR TO DIFFERENTIATE DRINKING WATER FROM RECLAIMED OR OTHER WATER. UNDERGROUND PLASTIC PIPE SHALL BE SOLID-WALL BLUE PIPE, SHALL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN, OR SHALL BE WHITE OR BLACK WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE SHALL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE SHALL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THE TAPE OR PAINT SHALL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF PIPE; FOR PIPES WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT SHALL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE AT DRINKING WATER TREATMENT PLANTS SHALL BE COLOR CODED AND LABELED IN ACCORDANCE WITH SUBSECTION 62-555.320(10), F.A.C., AND ALL OTHER ABOVEGROUND PIPE SHALL BE PAINTED BLUE OR COLOR CODED OR MARKED LIKE UNDERGROUND PIPE.
13. ANY TREES OR SHRUBS PLACED WITHIN WATER, SEWER OR DRAINAGE EASEMENTS SHALL CONFORM TO THE CITY STANDARDS.

CDI
CIVIL DESIGN, INC.
Service Driven Design – Engineered Results
1400 Centrepark Blvd, Suite 905
West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
www.civil-design.com

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

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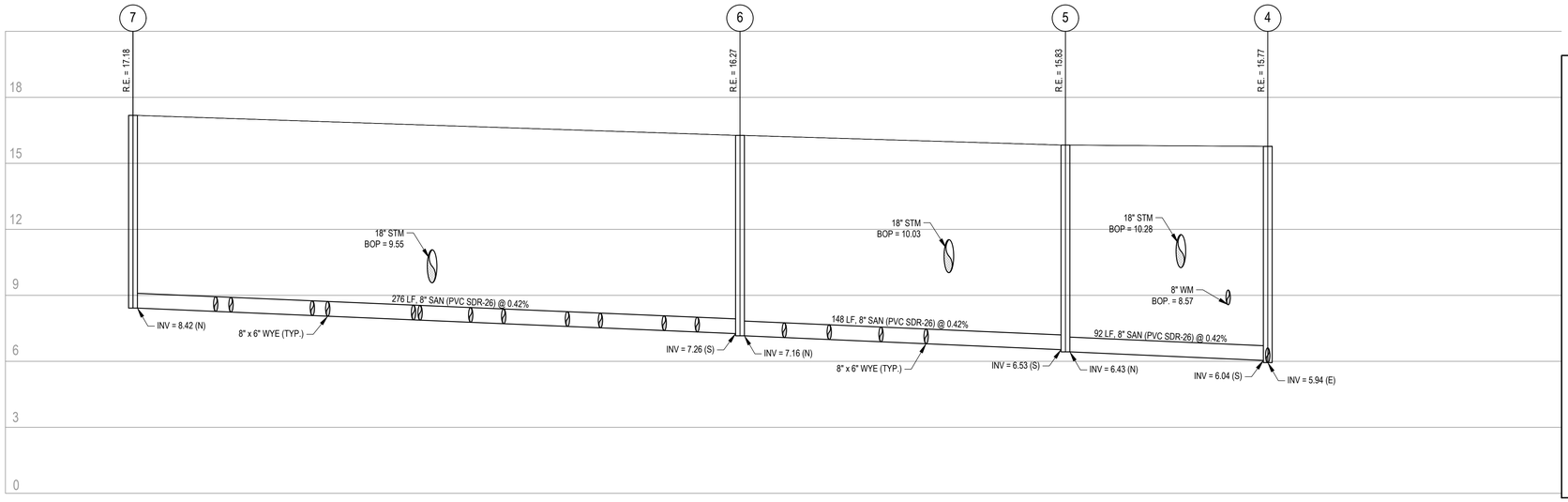
NO.	DATE	REVISION DESCRIPTION
2	9/30/2024	SITE PLAN AMENDMENT
3	1/16/2025	SITE PLAN AMENDMENT

POTABLE WATER & SANITARY SEWER PLAN

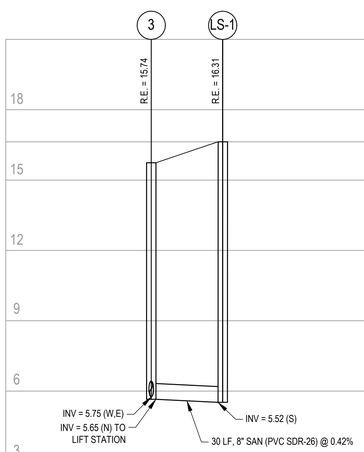
C5.1

EXHIBIT "A"

DATUM = NAVD '88







SANITARY PROFILES
SCALE: 1" = 30' H & 1" = 3' V

PBC ROAD & BRIDGE NOTES:

1. IF DURING THE PROPOSED CONSTRUCTION/CROSSING ANY EXISTING PALM BEACH COUNTY STORM DRAIN PIPE/STRUCTURES ARE AFFECTED IN ANY WAY PALM BEACH COUNTY R&B REQUIRES FULL RESTORATION OF THE AFFECTED SYSTEM TO LIKE OR BETTER THEN LIKE CONDITION AND TO PB COUNTY/FDOT STANDARDS. ALL AFFECTED ROADWAYS ARE TO BE RESTORED FROM EOP TO EOP, LANE WIDTH MIN, AND 50' IN EITHER DIRECTION.
2. (NOTE-FLOWABLE FILL IS NOT AN APPROVED WEAR COURSE IN PALM BEACH COUNTY). ALL MEDIANS, SWALES AND GRASS AREAS TO BE RESTORED TO LIKE OR BETTER THAN LIKE CONDITION.
3. IF ANY ADDITIONAL LANES ARE AFFECTED FOR ANY REASON DURING CONSTRUCTION, PALM BEACH COUNTY R&B WILL REQUIRE THE ADDITIONAL LANES BE RESTORED TO LIKE OR BETTER THEN LIKE CONDITION AND TO EQUAL DIMENSIONS AS THE ADJACENT LANES.
4. IF PALM BEACH COUNTY SIDEWALK / PATHWAY / C&G / AND OR ADA FACILITIES ARE AFFECTED PALM BEACH COUNTY ROAD & BRIDGE WILL REQUIRE RESTORATION ONE ADDITIONAL FLAG IN EITHER DIRECTION FROM THE POINT OF CONSTRUCTION AND TO BE LIKE OR BETTER THEN LIKE CONDITION / FDOT / PALM BEACH COUNTY STANDARDS.

PBC ROADWAY NOTE:

1. ALL CONSTRUCTION AND RESTORATION WORK WITHIN THE HAVERHILL ROAD RIGHT OF WAY SHALL COMPLY WITH THE LATEST EDITION OF THE FDOT STANDARD INDEX AND THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION .

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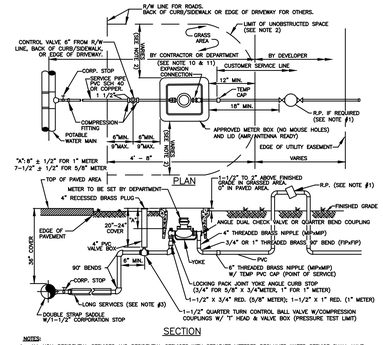
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SANITARY SEWER PROFILES

C6.1

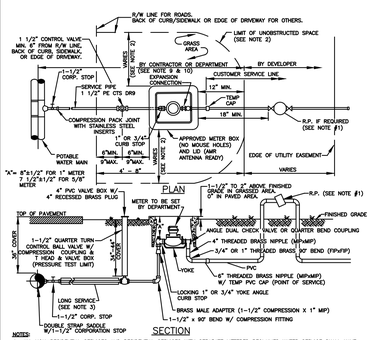
EXHIBIT "A"



NOTES:

1. ALL NON-RESIDENTIAL SERVICES AND RESIDENTIAL SERVICES WITH SEPARATE METERED RECLAIMED WATER SERVICE SHALL HAVE AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (R.P.), THE INITIAL TEST OF THE R.P. SHALL BE PERFORMED BY THE DEPARTMENT. THE R.P. SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF SERVICE NOT TO EXCEED 48" WITHOUT PRIOR DEPARTMENT APPROVAL. THE R.P. DEVICE SHALL BE USC APPROVED PER FAC 62-555.360.#
2. METER BOX SHALL BE LOCATED 12" MINIMUM FROM EDGE OF SIDEWALK, BACK OF CURB, OR EDGE OF DRIVEWAY WITH SOD ONLY WITHIN 5' MINIMUM AND NO TREES WITHIN 10' MINIMUM. IF METER BOX IS 18" OR LESS FROM A DRIVEWAY, THE BOX AND LID MUST BE RATED TIER 15.#
3. FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS USE MIN. 3" DIAMETER BLACK IRON, PVC SCH 40 OR HDPE SDR 9 CASING. CASING SHALL EXTEND MIN. 24" BEYOND EDGE OF PAVEMENT. END OF CASING TO BE SEALED WITH FOAM SEALANT. CASING SHALL BE COLOR-CODED BLACK, WHITE, BLUE, OR BLUE STRIPED.
4. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" APART. TAPS ON SAME SIDE OF A PVC PIPE SECTION SHALL BE MIN. 10' APART
5. METER SHALL NOT BE PLACED IN SIDEWALK OR DRIVEWAY AREAS. WATER SERVICE LINES AND TAPS SHALL NOT BE PLACED UNDER DRIVEWAYS WHENEVER POSSIBLE AND IF REQUIRED, ONLY WITH PRIOR DEPARTMENT APPROVAL.
6. MAXIMUM SERVICE LENGTH IS 100' TO METER.
7. PVC PIPE SHALL BE SCH. 40, WITH SCH 80 PVC FITTINGS. ALL BRASS SHALL BE "LEAD FREE".#
8. BEDDING (MIN. 4") AND COVER (MIN. 4") OVER SERVICE LINE OR CASING SHALL CONSIST OF FINE GRANULAR MATERIAL. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED WITH 2" MAXIMUM SIZE.
9. METER/SERVICE WILL NOT BE INSTALLED/ACTIVATED UNTIL:
   A. ALL FORM BOARDS FOR DRIVEWAY AND/OR SIDEWALK MUST BE COMPLETELY INSTALLED OR THE DRIVEWAY AND/OR SIDEWALK MUST HAVE BEEN INSTALLED.
   B. "MINIMUM UNOBSTRUCTED SPACE" AS SHOWN IN NOTE 2 AND ON THE PLAN VIEW IS PROVIDED WITH 12" MINIMUM VERTICAL SEPARATION REQUIRED TO ALL OTHER UTILITIES.
   C. THE REQUIRED BACKFLOW PREVENTION ASSEMBLY/DEVICE IS INSTALLED AND HAS PASSED INITIAL TEST.
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11. THE DEVELOPER/PROPERTY OWNER OR ASSIGNEE SHALL BE RESPONSIBLE FOR INSTALLATION OF SERVICES BEYOND PRESSURE TEST LIMITS AS SPECIFIED BY THE DEPARTMENT.
12. THREADED AREAS OF CORPORATION STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO (2) WRAPS OF TEFLON TAPE.
13. METER BOXES IN NON-GRASS AREAS SHALL HAVE TRAFFIC RATED LIDS.
14. A 12" THICK COMPACTED 3/4" ROCK BASE IS REQUIRED FOR METER BOXES OUTSIDE OF GRASS AREA. THE BASE SHALL EXTEND MINIMUM 12" BEYOND THE METER BOX PERIMETER.

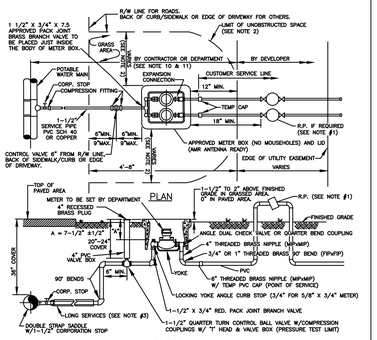
POTABLE WATER SERVICE SINGLE 5/8" X 3/4" & 1" METER INSTALLATION DETAIL (PVC) ✳ 1W



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6. MAXIMUM SERVICE LENGTH IS 100' TO METER.
7. BEDDING (MIN. 4") AND COVER (MIN. 4") OVER SERVICE LINE OR CASING SHALL CONSIST OF FINE GRANULAR MATERIAL. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED WITH 2" MAXIMUM SIZE.
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12. METER BOXES IN NON-GRASS AREAS SHALL HAVE TRAFFIC RATED LIDS.
13. A 12" THICK COMPACTED 3/4" ROCK BASE IS REQUIRED FOR METER BOXES OUTSIDE OF GRASS AREA. THE BASE SHALL EXTEND MIN. 12" BEYOND THE METER BOX PERIMETER.
14. STAINLESS STEEL INSERTS ARE REQUIRED FOR ALL COMPRESSION FITTINGS.
15. PVC SHALL BE SCHEDULE 40 PIPE WITH SCHEDULE 80 FITTINGS. ALL BRASS FITTINGS SHALL BE "LEAD FREE".

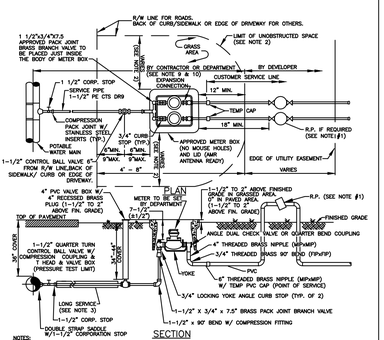
POTABLE WATER SERVICE SINGLE 5/8" X 3/4" & 1" METER INSTALLATION DETAIL (POLYETHYLENE) ✳ 2W



NOTES:

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3. FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS USE MIN. 3" DIAMETER BLACK IRON, PVC SCH 40 OR HDPE SDR 9 CASING. CASING SHALL EXTEND MIN. 24" BEYOND EDGE OF PAVEMENT. END OF CASING TO BE SEALED WITH FOAM SEALANT. CASING SHALL BE COLOR-CODED BLACK, WHITE, BLUE, OR BLUE STRIPED.
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6. MAXIMUM SERVICE LENGTH IS 100' TO METER.
7. BEDDING (MIN. 4") AND COVER (MIN. 4") OVER SERVICE LINE OR CASING SHALL CONSIST OF FINE GRANULAR MATERIAL. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED WITH 2" MAXIMUM SIZE.
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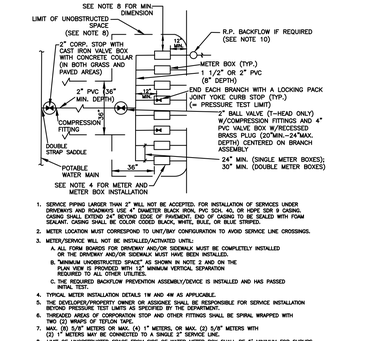
POTABLE WATER SERVICE DUAL 5/8" X 3/4" METER INSTALLATION DETAIL (PVC) ✳ 3W



NOTES:

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7. BEDDING (MIN. 4") AND COVER (MIN. 4") OVER SERVICE LINE OR CASING SHALL CONSIST OF FINE GRANULAR MATERIAL. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED WITH 2" MAXIMUM SIZE.
8. METER/SERVICE WILL NOT BE INSTALLED/ACTIVATED UNTIL:
   A. ALL FORM BOARDS FOR DRIVEWAY AND/OR SIDEWALK MUST BE COMPLETELY INSTALLED OR THE DRIVEWAY AND/OR SIDEWALK MUST HAVE BEEN INSTALLED.
   B. "MINIMUM UNOBSTRUCTED SPACE" AS SHOWN IN NOTE 2 AND ON THE PLAN VIEW IS PROVIDED WITH 12" MINIMUM VERTICAL SEPARATION REQUIRED TO ALL OTHER UTILITIES.
   C. THE REQUIRED BACKFLOW PREVENTION ASSEMBLY/DEVICE IS INSTALLED AND HAS PASSED INITIAL TEST.
9. METER TO BE INSTALLED BY DEPARTMENT. THE PIPING BEYOND THE CONTROL VALVE SHALL BE INSTALLED BY THE DEVELOPER OR THE DEPARTMENT DEPENDING ON THE TYPE OF SERVICE INSTALLATION REQUESTED.
10. THE DEVELOPER/PROPERTY OWNER OR ASSIGNEE SHALL BE RESPONSIBLE FOR INSTALLATION OF SERVICES BEYOND PRESSURE TEST LIMITS AS SPECIFIED BY THE DEPARTMENT.
11. THREADED AREAS OF CORPORATION STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO (2) WRAPS OF TEFLON TAPE.
12. METER BOXES IN NON-GRASS AREAS SHALL HAVE TRAFFIC RATED LIDS.
13. A 12" THICK COMPACTED 3/4" ROCK BASE IS REQUIRED FOR METER BOXES OUTSIDE OF GRASS AREA. THE BASE SHALL EXTEND MINIMUM 12" BEYOND THE METER BOX PERIMETER.

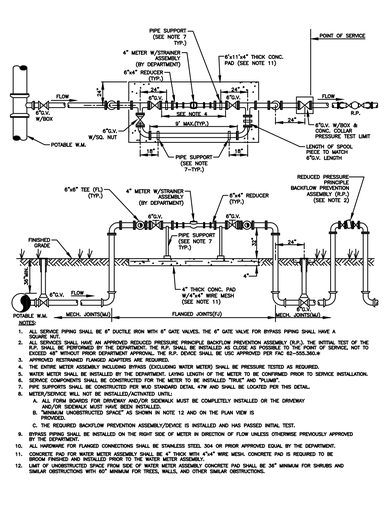
POTABLE WATER SERVICE DUAL 5/8" X 3/4" METER INSTALLATION DETAIL (POLYETHYLENE) ✳ 4W



NOTES:

1. SERVICE PIPING LARGER THAN 2" WILL NOT BE ACCEPTED. FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS USE 4" DIAMETER BLACK IRON, PVC SCH. 40, OR HDPE SDR 9 CASING. CASING SHALL EXTEND 24" BEYOND EDGE OF PAVEMENT. END OF CASING TO BE SEALED WITH FOAM SEALANT. CASING SHALL BE COLOR CODED BLACK, WHITE, BLUE, OR BLUE STRIPED.
2. METER LOCATION MUST CORRESPOND TO UNIT/BAY CONFIGURATION TO AVOID SERVICE LINE CROSSINGS.
3. METER/SERVICE WILL NOT BE INSTALLED/ACTIVATED UNTIL:
   A. ALL FORM BOARDS FOR DRIVEWAY AND/OR SIDEWALK MUST BE COMPLETELY INSTALLED OR THE DRIVEWAY AND/OR SIDEWALK MUST HAVE BEEN INSTALLED.
   B. "MINIMUM UNOBSTRUCTED SPACE" AS SHOWN IN NOTE 2 AND ON THE PLAN VIEW IS PROVIDED WITH 12" MINIMUM VERTICAL SEPARATION REQUIRED TO ALL OTHER UTILITIES.
   C. THE REQUIRED BACKFLOW PREVENTION ASSEMBLY/DEVICE IS INSTALLED AND HAS PASSED INITIAL TEST.
4. TYPICAL METER INSTALLATION DETAILS 1W AND 4W AS APPLICABLE.
5. THE DEVELOPER/PROPERTY OWNER OR ASSIGNEE SHALL BE RESPONSIBLE FOR SERVICE INSTALLATION BEYOND PRESSURE TEST LIMITS AS SPECIFIED BY THE DEPARTMENT.
6. THREADED AREAS OF CORPORATION STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO (2) WRAPS OF TEFLON TAPE.
7. MIN. PV 5/8" OR MAL (4) 1" METERS, OR MAX. (2) 5/8" METERS WITH (3) 3/4" SERVICE LINE TO A SINGLE 2" SERVICE LINE.
8. LIMIT OF UNOBSTRUCTED SPACE FROM SIDE OF WATER METER BOX SHALL BE 5" MINIMUM FOR SHRUBS AND SIMILAR OBSTRUCTIONS AND 10" MINIMUM FOR TREES, WALLS, AND OTHER SIMILAR OBSTRUCTIONS.#
9. PVC PIPE SHALL BE SCHEDULE 40 PIPE WITH SCHEDULE 80 FITTINGS. ALL BRASS FITTINGS SHALL BE "LEAD FREE".
10. ALL NON-RESIDENTIAL SERVICES AND RESIDENTIAL SERVICES WITH SEPARATE METERED RECLAIMED WATER SERVICE SHALL HAVE AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (R.P.), THE INITIAL TEST OF THE R.P. SHALL BE PERFORMED BY THE DEPARTMENT. THE R.P. SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF SERVICE NOT TO EXCEED 48" WITHOUT PRIOR DEPARTMENT APPROVAL. THE R.P. DEVICE SHALL BE USC APPROVED PER FAC 62-555.360.# DEPARTMENT APPROVAL. THE R.P. DEVICE SHALL BE USC APPROVED PER FAC 62-555.360.#

POTABLE WATER TYPICAL CONNECTION FOR MULTIPLE SERVICES ✳ 5W



POTABLE WATER 4" METER INSTALLATION ✳ 9W

POTABLE WATER #1 STANDARD DETAILS

CONSULTANT:

IT'S THE LAW! CALL 48 HOURS BEFORE YOU DIG 1-800-432-4770 SUNSHINE STATE ONE CALL OF FLORIDA, INC. UTILITIES NOTIFICATION CENTER

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DRAWN BY: M. BUCKNER
CHECKED BY: J. LAMMERT
APPROVED BY: WUD

Palm Beach County
Water Utilities Department
P.O.Box 16097
West Palm Beach, FL 33416-6097

POTABLE WATER 1 1/2" METER INSTALLATION ✳ 6W

POTABLE WATER 2" METER INSTALLATION ✳ 7W

POTABLE WATER 3" METER INSTALLATION RESIDENTIAL ONLY* ✳ 8WA

POTABLE WATER 3" METER INSTALLATION NON-RESIDENTIAL ONLY* ✳ 8WB

WUD PROJECT No. 00-000

WUD PROJECT NAME

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561)493-6000

NO.	DATE	REVISION / REMARKS	BY
1	JUNE 2019	GENERAL REVISIONS	J.L.
2	JAN 2023	GENERAL REVISION	

STD DETAILS

SHEET NUMBER 0 OF 0

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GREENACRES, FL 33467

APPROVED BY:
GABRIEL E. BURDEN
LICENSE
NO. 75425
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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23805-01

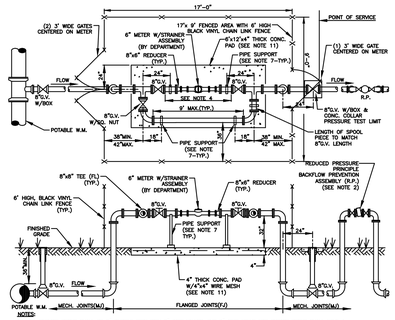
DATE: 11/08/2024
DESIGNED: CDI
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NO.	DATE	REVISION DESCRIPTION

WATER & SEWER DETAILS

C7.1

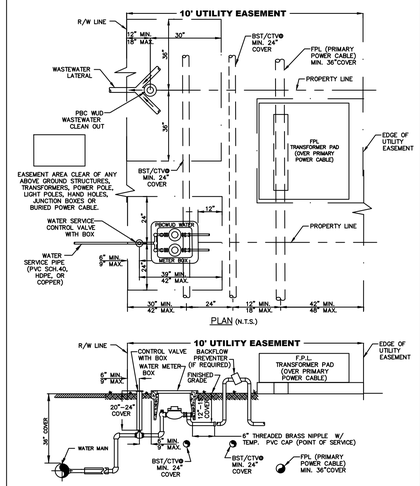
EXHIBIT "A"



NOTES:

1. ALL SERVICE PIPING SHALL BE 8" DUCTILE IRON WITH 8" GATE VALVES. THE 8" GATE VALVE FOR BYPASS PIPING SHALL HAVE A SQUARE NUT.
2. ALL SERVICES SHALL HAVE AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (R.P.). THE INITIAL TEST OF THE ASSEMBLY SHALL BE PERFORMED BY THE DEPARTMENT. THE R.P. SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF SERVICE, NOT TO EXCEED 48" WITHOUT PRIOR DEPARTMENT APPROVAL. THE R.P. DEVICE SHALL BE USC APPROVED PER FAC 62-550.360.4
3. APPROVED RESTRAINED FLANGED ADAPTERS ARE REQUIRED.
4. THE ENTIRE METER ASSEMBLY INCLUDING BYPASS (EXCLUDING WATER METER) SHALL BE PRESSURE TESTED AS REQUIRED.
5. WATER METER SHALL BE INSTALLED BY THE DEPARTMENT. LAYING LENGTH OF THE METER TO BE CONFIRMED PRIOR TO SERVICE INSTALLATION.
6. SERVICE COMPONENTS SHALL BE CONSTRUCTED FOR THE METER TO BE INSTALLED "TRUE" AND "PLUMB".
7. PIPE SUPPORTS SHALL BE CONSTRUCTED PER WUD STANDARD DETAIL 479 AND SHALL BE LOCATED PER THIS DETAIL.
8. METER/SERVICE WILL NOT BE INSTALLED/ACTIVATED UNTIL:
   A. ALL FORM BOARDS FOR DRIVEWAY AND/OR SIDEWALK MUST BE COMPLETELY INSTALLED OR THE DRIVEWAY AND/OR SIDEWALK MUST HAVE BEEN INSTALLED.
   B. "MINIMUM UNOBSTRUCTED SPACE" AS SHOWN IN NOTE 12 AND ON THE PLAN VIEW IS PROVIDED.
   C. THE REQUIRED BACKFLOW PREVENTION ASSEMBLY/DEVICE IS INSTALLED AND HAS PASSED INITIAL TEST.
9. BYPASS PIPING SHALL BE INSTALLED ON THE RIGHT SIDE OF METER IN DIRECTION OF FLOW UNLESS OTHERWISE PREVIOUSLY APPROVED BY THE DEPARTMENT.
10. ALL HARDWARE FOR FLANGED CONNECTIONS SHALL BE STAINLESS STEEL 304 OR PRIOR APPROVED EQUAL BY THE DEPARTMENT.
11. CONCRETE PAD FOR WATER METER ASSEMBLY SHALL BE 4" THICK WITH 4"x4" WIRE MESH. CONCRETE PAD IS REQUIRED TO BE BROOM FINISHED AND INSTALLED PRIOR TO THE WATER METER ASSEMBLY.
12. LIMIT OF UNOBSTRUCTED SPACE FROM SIDE OF WATER METER ASSEMBLY CONCRETE PAD SHALL BE 36" MINIMUM FOR SHRUBS AND SIMILAR OBSTRUCTIONS WITH 60" MINIMUM FOR TREES, WALLS, AND OTHER SIMILAR OBSTRUCTIONS.

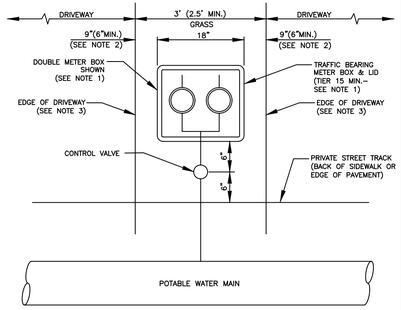
POTABLE WATER
6" METER INSTALLATION — 10W



NOTES:

1. THE DETAIL WAS DEVELOPED IN COLLABORATION WITH UTILITY COMPANIES SUPPLYING VARIOUS UTILITY SERVICES TO P.B.C.W.U.D. CUSTOMERS.
2. THE DIMENSIONS SHOWN SHALL SERVE AS A GENERAL GUIDELINE TO INSTALL UTILITIES WITHIN A 10' WIDE UTILITY EASEMENT PARALLELING A RIGHT-OF-WAY.
3. THE PARTICIPATING UTILITIES PLEDGE TO OBSERVE, FOLLOW, AND ENFORCE THE INSTALLATION PARAMETERS SHOWN ON THIS DETAIL.

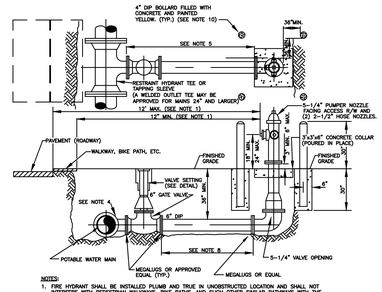
TYPICAL UTILITY INSTALLATION DETAIL IN A 10' UTILITY EASEMENT ADJACENT TO R/W — 11WA



NOTES:

1. METER BOX AND LID MUST BE TIER 15 RATED MINIMUM AND APPLIES TO BOTH A SINGLE METER BOX OR A DOUBLE METER BOX.
2. WHEN INSTALLING A SINGLE METER BOX THE 9" DIMENSION APPLIES. THEN WHEN INSTALLING A DOUBLE METER BOX THE 6" MINIMUM DIMENSION WILL APPLY.
3. THE EDGE OF THE DRIVEWAY IS EITHER THE ASPHALT/CONCRETE PAVEMENT AREA AND/OR PAVER BRICK AREA WHICH MAY INCLUDE ANY CONCRETE EDGING.

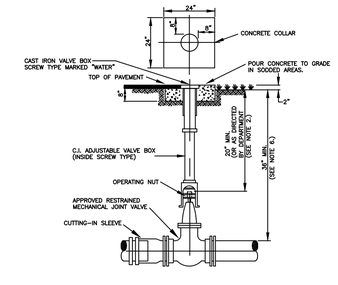
WATER METER BOX
BETWEEN TOWNHOME DRIVEWAYS DETAIL — 11WB



NOTES:

1. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE IN UNOBSTRUCTED LOCATION AND SHALL NOT INTERFERE WITH PEDESTRIAN WALKWAYS, BIKE PATHS, SUCH OTHER SIMILAR PASSWAYS WITH THE EDGE OF THE PUMPER NOZZLE AND/OR HOSE NOZZLES BEING A MINIMUM OF 12" BEHIND SUCH PATHWAYS. A MINIMUM OF 7.5' FEET CLEARANCE IS REQUIRED FROM EACH SIDE AND REAR OF THE HYDRANT. THE FRONT OF THE HYDRANT PUMPER NOZZLE SHALL BE LOCATED A MAXIMUM OF 12' FROM THE EDGE OF PAVEMENT UNLESS OTHERWISE PREVIOUSLY APPROVED BY THE FIRE MARSHAL, OFFICE HAVING JURISDICTION.
2. THE SAME MODEL HYDRANT SHALL BE USED THROUGHOUT THE SAME PROJECT OR CONTRACT PHASE. HYDRANTS MUST BE ORDERED RED IN COLOR, WITH FINISHED EPOXY COAT APPLIED BY THE HYDRANT MANUFACTURER. HYDRANT SHALL BE FACTORY EQUIPPED WITH PLUGGED DRAIN HOLES.
3. VALVE SHALL BE PLACED ADJACENT TO MAIN AND RESTRAINED WITH MEGALUGS OR EQUAL.
4. ALL HYDRANTS SHALL BE TEE'D OF THE MAIN PREFERABLY BY A TEE OR TAPPING SLEEVE WITH PRIOR DEPARTMENT APPROVAL.
5. ALL D.I.P. MATERIALS SHALL BE USED BETWEEN TEE/TAPPING SLEEVE AND HYDRANT.
6. HYDRANTS SHALL NOT BE PLACED IN SIDEWALKS, ROADWAYS, OR BIKEPATHS.
7. FIRE HYDRANT SHALL BE LOCATED 7' MINIMUM FROM EDGE OF PAVEMENT WITH RAISED CURBING AND 6' MINIMUM WITHOUT RAISED CURBING.
8. ON RUNS LONGER THAN 660 FEET ANOTHER VALVE IS REQUIRED LESS THAN ONE PIPE JOINT FROM THE HYDRANT.
9. PAINT SAFETY RED, IF REQUIRED, WITH APPROVED PAINT.
10. BOLLARDS MAY BE REQUIRED FOR HYDRANTS WITH LESS THAN SIX (6) FEET TO EDGE OF PAVEMENT WITHOUT RAISED CURBING. NO BOLLARDS SHALL BE INSTALLED IN COUNTY AND/OR FDOT RIGHT-OF-WAY "CLEAR ZONE".
11. BURIED HYDRANT HARDWARE SHALL BE STAINLESS STEEL (TYPE 304L OR TYPE 304 BOLTS/TYPE 304 NUTS).
12. NO CONNECTION (TEE, TAP) IS ALLOWED BETWEEN THE HYDRANT CONTROL VALVE AND THE FIRE HYDRANT.
13. APPROVED SECURITY CAPS WITH CHAINS ARE REQUIRED FOR ALL NOZZLES.

TYPICAL FIRE HYDRANT INSTALLATION WITH BOLLARDS DETAIL — 12W



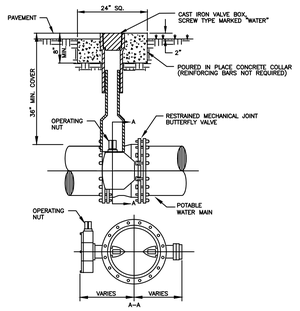
NOTES:

1. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
2. WHEN OPERATING NUT IS DEEPER THAN 36" A CHE PIECE EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT 24"–30" BELOW FINISHED GRADE. EXTENSION BOLTS & NUTS ARE TO BE STAINLESS STEEL. A HIGH STRENGTH STEEL CENTERING PLATE, WELDED TO THE EXTENSION, IS ALSO REQUIRED.
3. VALVE BOXES SHALL HAVE COVERS MARKED "WATER".
4. VALVE BOX EXTENSION TO BE D.I.P. OR C-900 PVC SDR 18 (BLUE)
5. A CUT-IN INSTALLATION SHALL REQUIRE MEGALUGS OR EQUAL THROUGHOUT ASSEMBLY.
6. IN ORDER TO MAINTAIN ADEQUATE COVER OVER VALVE NUT, THE FOLLOWING MINIMUM COVERS OVER PIPE ARE REQUIRED

GATE VALVE SIZE	MIN. COVER OVER PIPE
16"	48"
20"	54"
24"	60"
30"	72"
36"	84"

7. VALVES IN ROADWAYS SHALL BE LOCATED OUTSIDE OF WHEEL PATHS WHENEVER POSSIBLE.

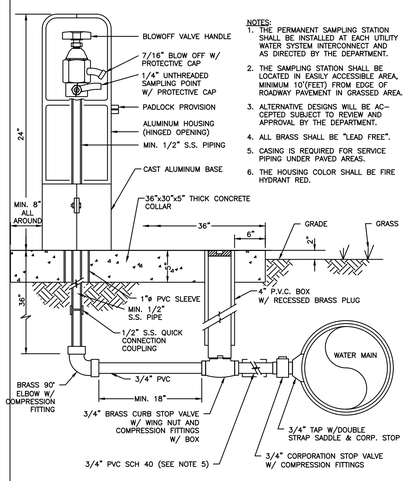
POTABLE WATER MAIN TYPICAL GATE VALVE
SETTING AND MAIN CUT–IN DETAIL — 13W



NOTES:

1. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
2. WHEN TOP OF OPERATING NUT IS DEEPER THAN 42" AN EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT 24"–30" BELOW FINISHED GRADE. EXTENSION BOLTS & NUTS ARE TO BE STAINLESS STEEL. A HIGH STRENGTH STEEL CENTERING PLATE, WELDED TO THE EXTENSION, IS ALSO REQUIRED.
3. VALVE BOXES SHALL HAVE COVERS MARKED "WATER".
4. A CUT–IN INSTALLATION SHALL REQUIRE MEGALUGS OR EQUAL THROUGHOUT ASSEMBLY.
5. EXTENSION VALVE BOX TO BE D.I.P. OR C–900 PVC DR 18 (COLOR: BLUE)
6. VALVES IN ROADWAYS SHALL BE LOCATED OUTSIDE OF WHEEL PATHS WHENEVER POSSIBLE.

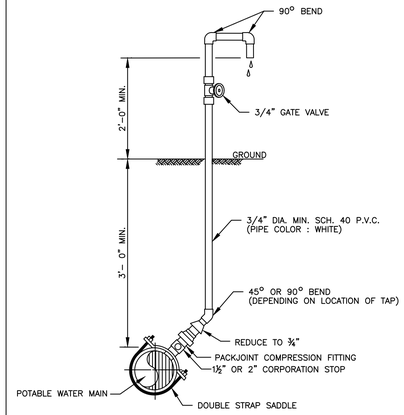
POTABLE WATER MAIN
TYPICAL BUTTERFLY VALVE SETTING — 14W



NOTES:

1. THE PERMANENT SAMPLING STATION SHALL BE INSTALLED AT EACH UTILITY WATER SYSTEM INTERCONNECT AND AS DIRECTED BY THE DEPARTMENT.
2. THE SAMPLING STATION SHALL BE LOCATED IN EASILY ACCESSIBLE AREA, MINIMUM 10'(FEET) FROM EDGE OF ROADWAY PAVEMENT IN GRASSED AREA.
3. ALTERNATIVE DESIGNS WILL BE ACCEPTED SUBJECT TO REVIEW AND APPROVAL BY THE DEPARTMENT.
4. ALL BRASS SHALL BE "LEAD FREE".
5. CASING IS REQUIRED FOR SERVICE PIPING UNDER PAVED AREAS.
6. THE HOUSING COLOR SHALL BE FIRE HYDRANT RED.

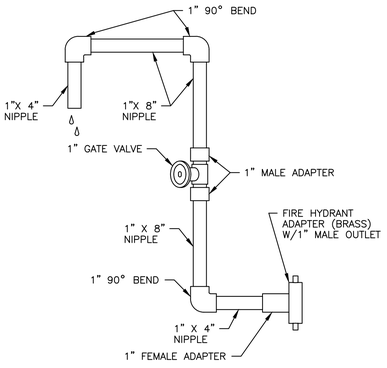
PERMANENT SAMPLING POINT — 15W



NOTE:

1. SAMPLE POINT SHOULD BE A SERVICE LINE OR FIRE HYDRANT IF POSSIBLE.
2. THREADED AREAS OF CORPORATION STOP SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.
3. CLOSE AND CAP CORPORATION STOP AFTER SAMPLING COMPLETION.

POTABLE WATER MAIN TEMPORARY SAMPLING POINT — 16W



NOTES:

1. USE HYDRANT WRENCH ONLY.
2. ALL PIPES AND FITTINGS SCH. 40 P.V.C. (PIPE COLOR : WHITE).

POTABLE WATER MAIN FIRE HYDRANT SAMPLING POINT — 17W

THIS SPACE INTENTIONALLY LEFT BLANK

POTABLE WATER #2
STANDARD DETAILS

CONSULTANT:

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DRAWN BY:	M. BUCKNER	Palm Beach County
CHECKED BY:	J. LAMMERT	Water Utilities Department
APPROVED BY:	WUD	P.O.Box 16097 West Palm Beach, FL 33416–6097

WUD PROJECT No. 00–000

WUD PROJECT NAME

PALM BEACH COUNTY FLORIDA

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT P.O. BOX 16097 WEST PALM BEACH, FL 33416 (561)493-6000

NO.	DATE	REVISION / REMARKS	BY
*	JUNE 2019	GENERAL REVISION	J.L.
	JAN 2023	GENERAL REVISION	J.L.

STD DETAILS

SHEET NUMBER 0 OF 0

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GREENACRES, FL 33467

APPROVED BY:

GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Gabriel Burden, P.E.
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CDI PROJECT NO. 23805-01

DATE: 11/08/2024
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DRAWN: CDI

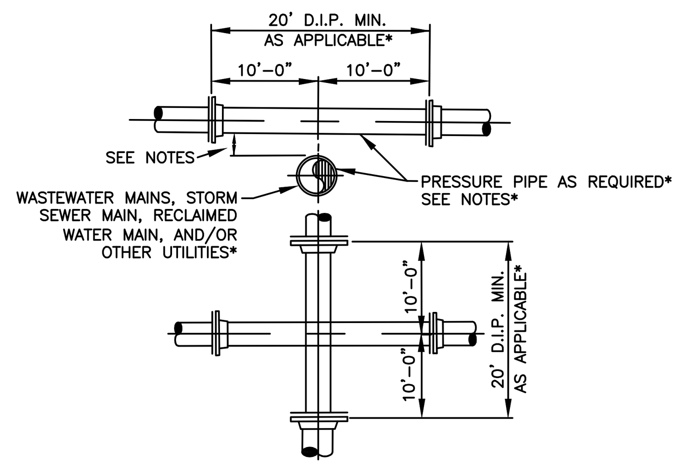
NO.	DATE	REVISION DESCRIPTION

WATER & SEWER DETAILS

C7.2

EXHIBIT "A"

18W — POTABLE WATER, WASTEWATER MAIN AND STORM SEWER CONFLICT

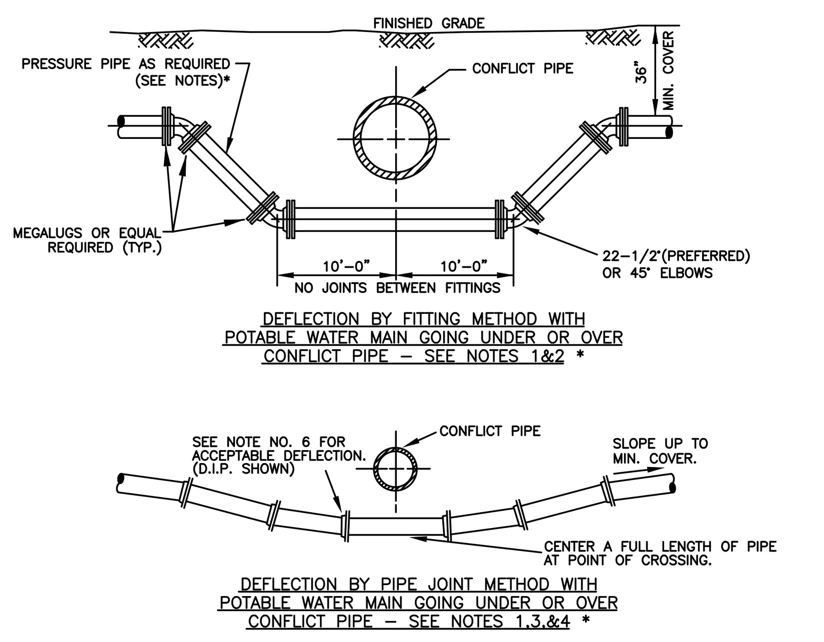


NOTES:

1. WHEN A POTABLE WATER MAIN CROSSES OVER A STORM SEWER, GRAVITY WASTEWATER, VACUUM GRAVITY WASTEWATER, WASTEWATER FORCE MAIN, AND/OR A RECLAIMED WATER MAIN THE POTABLE WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM OF TWELVE (12) INCH VERTICAL SEPARATION BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHEN THE MINIMUM TWELVE (12) INCH VERTICAL SEPARATION CANNOT BE OBTAINED, A MINIMUM SIX (6) INCH VERTICAL SEPARATION IS PERMITTED PROVIDED THAT A TWENTY (20) FOOT SECTION OF POTABLE WATER DUCTILE IRON PIPE MAIN IS CENTERED ON CROSSING WITH THE LOWER PIPE BEING A PRESSURE CLASS PIPE HAVING A TWENTY (20) FOOT SECTION CENTERED ON THE CROSSING PER DEP REGULATIONS. WHEN THE POTABLE WATER MAIN CROSSES UNDER ANY STORM SEWER, GRAVITY WASTEWATER, VACUUM GRAVITY WASTEWATER, WASTEWATER FORCE MAIN, AND/OR A RECLAIMED WATER MAIN A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION IS REQUIRE WITH NO EXCEPTIONS AND ONLY WITH PRIOR DEPARTMENT APPROVAL. *
2. A TEN (10) FOOT MINIMUM HORIZONTAL SEPARATION (OUTSIDE WALL TO OUTSIDE WALL) IS REQUIRED BETWEEN A POTABLE WATER MAIN AND A STORM SEWER, GRAVITY WASTEWATER, VACUUM GRAVITY WASTEWATER, WASTEWATER FORCE MAIN, AND/OR A RECLAIMED WATER MAIN. A SIX (6) FOOT MINIMUM HORIZONTAL SEPARATION (OUTSIDE WALL TO OUTSIDE WALL) IS ACCEPTABLE WITH PRIOR DEPARTMENT APPROVAL BEFORE THE INSTALLATION OF THE POTABLE WATER MAIN. A THREE (3) FOOT MINIMUM HORIZONTAL SEPARATION (OUTSIDE WALL TO OUTSIDE WALL) BETWEEN A POTABLE WATER MAIN AND A RECLAIMED WATER MAIN IS ACCEPTABLE WITH PRIOR DEPARTMENT APPROVAL BEFORE THE INSALLATION OF THE POTABLE WATER MAIN. *
3. WHEN A POTABLE WATER MAIN CROSSES ANY ELECTRICAL CONDUIT(S), COMMUNICATION CONDUIT(S), AND/OR GAS MAIN, A MINIMUM OF EIGHTEEN (18) INCH VERTICAL SEPARATION IS REQUIRED BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. THE POTABLE WATER MAIN SHALL ALWAYS CROSS OVER THE OTHER UTILITY MAIN(S) UNLESS THE DEPARTMENT APPROVED OTHERWISE BEFORE THE INSTALLATION OF THE POTABLE WATER MAIN. WHEN THE POTABLE WATER MAIN IS D.I.P. AND THE GAS MAIN IS STEEL PIPE THE POTABLE WATER MAIN SHALL BE POLYWRAPPED PER DEPARTMENT STANDARDS.*
4. WASTEWATER LATERALS SHALL CROSS UNDER POTABLE WATER MAINS WITH A MINIMUM OF TWELVE (12) INCH VERTICAL SEPARATION BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHEN THE MINIMUM TWELVE (12) INCH VERTICAL SEPARATION CANNOT BE OBTAINED A MINIMUM SIX (6) INCH VERTICAL SEPARATION IS PERMITTED PROVIDED THAT A TWENTY (20) FOOT SECTION OF POTABLE WATER DUCTILE IRON PIPE MAIN IS CENTERED OVER THE WASTEWATER LATERAL AND THE LATERAL IS PVC C-900 PIPE. WHEN A WASTEWATER LATERAL MUST CROSS OVER A POTABLE WATER MAIN A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION IS REQUIRED WITH THE LATERAL BEING PVC C-900 PIPE AND THE POTABLE WATER MAIN HAVING A TWENTY (20) FOOT SECTION OF POTABLE WATER DUCTILE IRON PIPE POTABLE WATER MAIN CENTERED ON THE CROSSING. *
5. POTABLE WATER SERVICE LINES SHALL ALWAYS CROSS OVER WASTEWATER MAINS WITH MINIMUM TWELVE (12) INCH VERTICAL SEPARATION BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. IF THE MINIMUM TWELVE (12) INCH VERTICAL SEPARATION CANNOT BE MAINTAINED THE WATER SERVICE LINE SHALL BE ENCASED IN A TEN (10) FOOT MINIMUM LONG CASING CENTERED OVER THE CROSSING WITH SIX (6) INCH MINIMUM VERTICAL SEPARATION. *
6. POTABLE WATER MAINS SHALL CROSS PERPENDICULAR TO ALL WASTEWATER MAINS, STORM SEWER MAINS, RECLAIMED WATER MAINS, AND/OR OTHER UTILITIES WHENEVER POSSIBLE. *

POTABLE WATER, WASTEWATER MAIN AND STORM SEWER CONFLICT * 18W

19W — POTABLE WATER MAIN / FORCE MAIN PRESSURE PIPE CONFLICT DETAIL

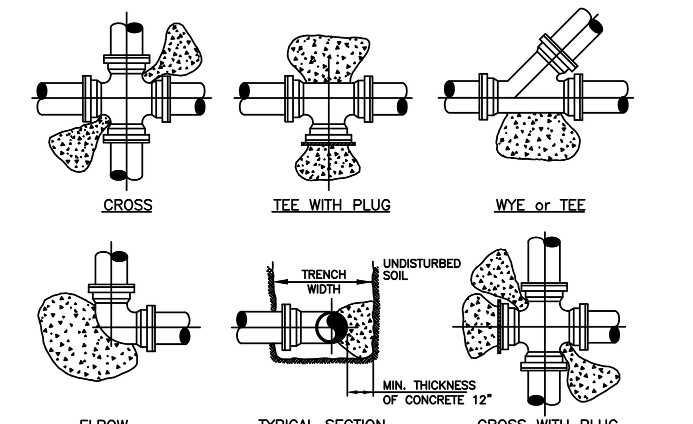


NOTES:

1. DEFLECTIONS BY FITTINGS AND/OR PIPE JOINT METHODS APPLIES TO POTABLE WATER MAIN CROSSING OVER OR UNDER CONFLICT PIPE WITH CROSSING OVER CONFLICT PIPE PREFERRED. WHEN A POTABLE WATER MAIN CROSSES OVER A STORM SEWER, GRAVITY WASTEWATER, VACUUM GRAVITY WASTEWATER, WASTEWATER FORCE MAIN, AND/OR RECLAIMED WATER MAIN THE POTABLE WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION BETWEEN THE BOTTOM OF THE OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHEN THE MINIMUM TWELVE (12) INCH VERTICAL SEPARATION CANNOT BE OBTAINED, A MINIMUM SIX (6) INCH VERTICAL SEPARATION IS PERMITTED PROVIDED THAT A TWENTY (20) FOOT SECTION OF POTABLE WATER DUCTILE IRON PIPE MAIN IS CENTERED ON THE CROSSING WITH THE LOWER PIPE BEING A PRESSURE CLASS PIPE HAVING A TWENTY (20) FOOT SECTION CENTERED ON CROSSING PER DEP REGULATIONS. WHEN THE POTABLE WATER MAIN CROSSES UNDER ANY STORM SEWER, GRAVITY WASTEWATER, VACUUM GRAVITY WASTEWATER, WASTEWATER FORCE MAIN, AND/OR RECLAIMED WATER MAIN, A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION IS REQUIRED WITH NO EXCEPTIONS AND ONLY WITH PRIOR DEPARTMENT APPROVAL. *
2. THE PREFERRED PIPE DEFLECTION METHOD IS BY USING MECHANICAL RESTRAINT FITTINGS. *
3. POTABLE WATER MAIN DEFLECTION BY PIPE JOINT METHOD REQUIRES DEPARTMENT APPROVAL PRIOR TO THE INSTALLATION OF THE POTABLE WATER MAIN. *
4. DEFLECTION BY PIPE JOINT SHALL NOT EXCEED SEVENTY-FIVE PERCENT (75%) OF MANUFACTURER'S RECOMMENDED MAXIMUM JOINT DEFLECTION FOR DUCTILE IRON PIPE AND PVC PIPE DEFLECTION CAN ONLY BE ALLOWED BY INSTALLING THE APPROPRIATE FITTINGS – NO EXCEPTIONS. *

POTABLE WATER MAIN / FORCE MAIN PRESSURE PIPE CONFLICT DETAIL * 19W

20W — TYPICAL THRUST BLOCKS FOR PRESSURE PIPE



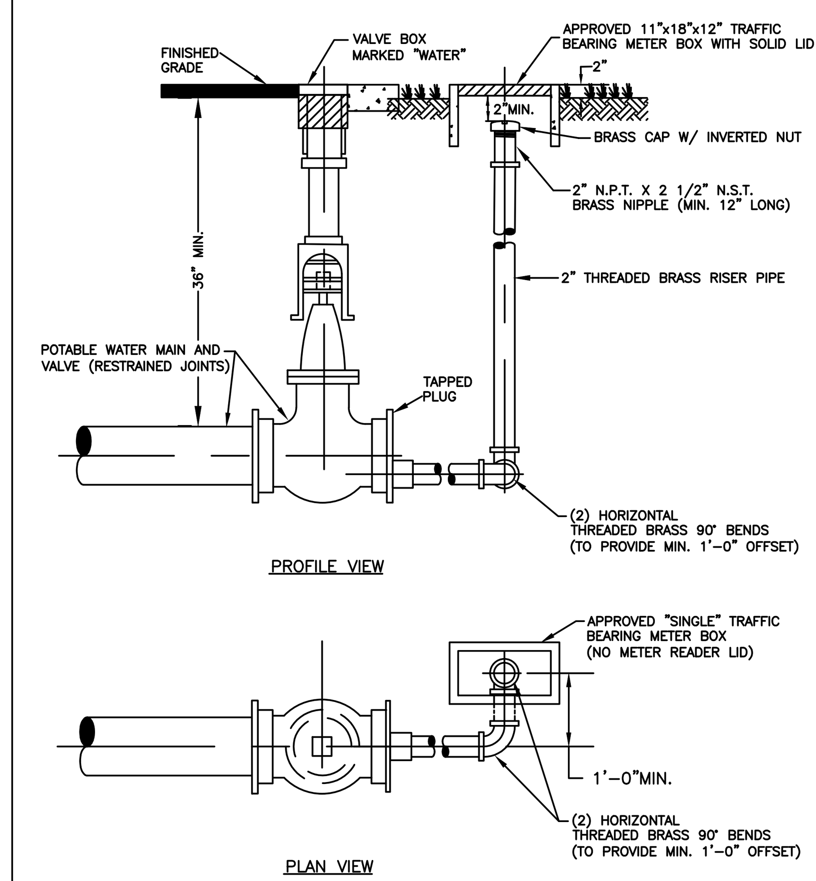
PIPE	THRUST BLOCK AREA REQ'D	REMARKS	NOTE: FOR OTHER FITTINGS USE THE FOLLOWING FACTORS.
4"	2.0 SQ. FT.	VALUES ARE FOR 90° BEND, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. FOR OTHER SOILS & PRESSURES THE AREA REQUIRED IS IN DIRECT PROPORTION	TEE 100% 45° BEND 71% 22 1/2° BEND 39% 11 1/4° BEND 20% DEAD END 100%
6"	4.0 SQ. FT.		
8"	6.6 SQ. FT.		
10"	10.0 SQ. FT.		
12"	14.0 SQ. FT.		
14"	18.6 SQ. FT.		

NOTES:

1. CONCRETE THRUST BLOCKS OR THRUST COLLARS MAY BE UTILIZED ONLY IF NECESSARY FOR CONNECTIONS TO AN EXISTING PIPING SYSTEM, OTHERWISE MECHANICAL RESTRAINTS SHALL BE USED. KEEP "T" BOLTS CLEAR OF CONCRETE, WRAPPED IN VISQUEEN FOR FUTURE ACCESS, WITH A MINIMUM OF 1' THICKNESS BETWEEN THE FITTING AND SOIL.
2. BEFORE POURING CONCRETE, PLUGS SHALL BE WRAPPED WITH VISQUEEN AND A BOARD PLACED IN FRONT.
3. CONCRETE SHALL BE 2500 P.S.I. MINIMUM.
4. THE ENGINEER OF RECORD SHALL SUBMIT A THRUST BLOCK SIZE CALCULATION FOR TEE CONNECTIONS INTO UNRESTRAINED EXISTING MAINS LARGER THAN 14".
5. THE ENGINEER OF RECORD SHALL SUBMIT A PIPE RESTRAINT DESIGN FOR INLINE EXTENSIONS OF A EXISTING UNRESTRAINED MAIN IF MECHANICAL JOINT RESTRAINT CAN NOT BE INSTALLED ON THE EXISTING MAIN.

TYPICAL THRUST BLOCKS FOR PRESSURE PIPE 20W

21W — TYPICAL 2" TERMINAL BLOWOFF POTABLE WATER DISTRIBUTION MAINS

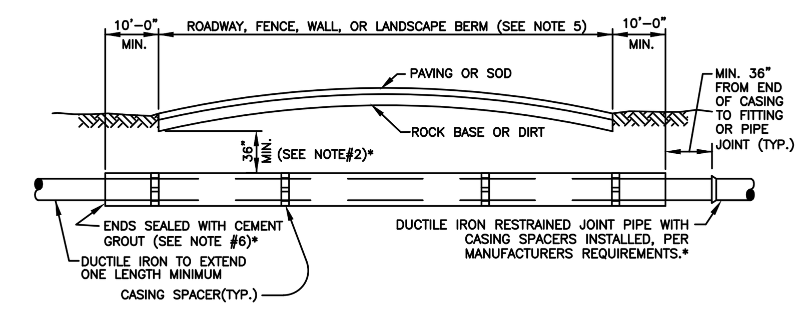


NOTES:

1. TEMPORARY DEAD END BLOWOFF ONLY ALLOWED WITH PRIOR DEPARTMENT APPROVAL.
2. BLOWOFF BOX TO BE LOCATED IN GRASS AREA, MIN. 2' FROM SIDEWALK OR PAVEMENT
3. PERMANENT DEAD ENDS REQUIRE THE INSTALLATION OF AN APPROVED AUTOMATIC FLUSHING ASSEMBLY.
4. ALL BRASS SHALL BE "LEAD FREE".

TYPICAL 2" TERMINAL BLOWOFF POTABLE WATER DISTRIBUTION MAINS 21W

22WA — POTABLE WATER MAIN SOLID CASING INSTALLATION DETAIL



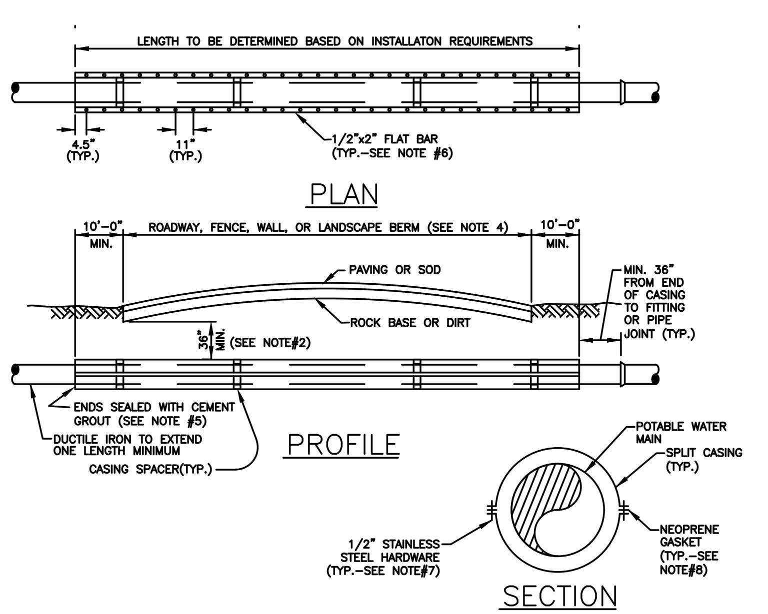
CARRIER PIPE SIZE	STEEL CASING INSIDE DIAMETER (MIN)	MINIMUM WALL THICKNESS (SEE NOTE 2)
4"	12"	.188
6"	14"	.250
8"	20"	.250
10"	20"	.250
12"	24"	.250
14"	24"	.250
16"	30"	.312
18"	30"	.312
20"	36"	.372
24"	42"	.500
30"	48"	.500
36"	54"	.625
42"	60"	.625
48"	72"	.625

NOTES:*

1. A PROFILE DRAWING TO SCALE FOR EACH JACK AND BORE, DIRECTIONAL DRILL, OR DIRECT BURIED INSTALLATION IS REQUIRED TO BE APPROVED BY THE DEPARTMENT PRIOR TO INSTALLATION. IF A SPLIT CASING IS REQUIRED SEE WUD DETAIL 22WB.*
2. THE RIGHT-OF-WAY OWNER MAY REQUIRE THICKER WALL CASING AND LARGER COVER OVER CASING.*
3. STEEL CASING SHALL BE COATED OUTSIDE WITH COAL TAR EPOXY (MIN. 16 MILS DFT) AND BE PAINTED WITH A 4" MINIMUM CONTINUOUS STRIPE, ALASKA BLUE IN COLOR, ALONG THE TOP SIDE OF THE CASING.*
4. PIPE IN CASING SHALL BE PULLED TO FULLY ENGAGE RESTRAINT.
5. STEEL CASING IS REQUIRED FOR ALL POTABLE WATER MAIN INSTALLATIONS UTILIZING JACK AND BORE OR WHEN MAINS ARE INSTALLED UNDER FENCES, WALLS, OR LANDSCAPE BERMS. WHEN A CASING IS INSTALLED UNDER A FENCE, WALL, OR BERM SEE WUD STANDARD DETAIL 48W FOR INSTALLATION REQUIREMENTS.*
6. NON-SHRINKABLE CEMENT GROUT TO BE INSTALLED TO OBTAIN WATERTIGHT SEAL AT EACH END OF CASING.*

POTABLE WATER MAIN SOLID CASING INSTALLATION DETAIL * 22WA

22WB — POTABLE WATER MAIN SPLIT CASING INSTALLATION DETAIL



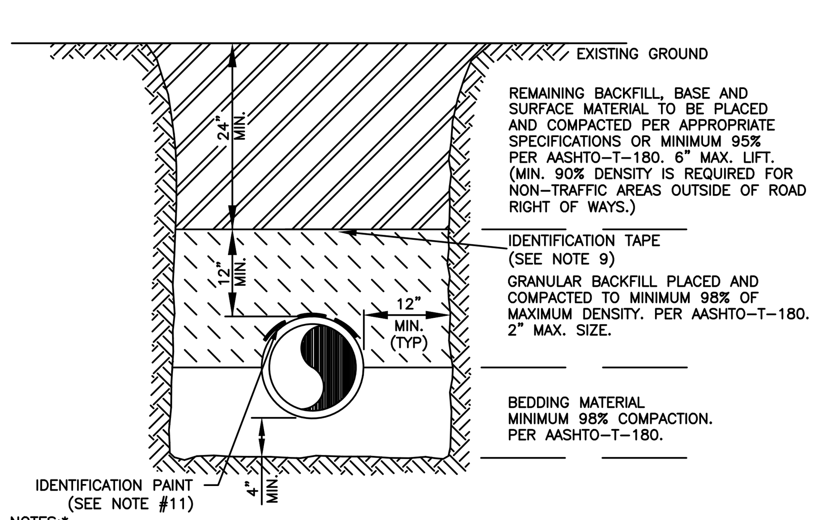
CARRIER PIPE SIZE	STEEL CASING INSIDE DIAMETER (MIN)	MINIMUM WALL THICKNESS (SEE NOTE 2)
4"	12"	.188
6"	14"	.250
8"	20"	.250
10"	20"	.250
12"	24"	.250

NOTES:

1. A SHOP DRAWING TO SCALE FOR EACH SPLIT CASING INSTALLATION IS REQUIRED AND TO BE APPROVED BY THE DEPARTMENT PRIOR TO INSTALLATION.
2. THE RIGHT-OF-WAY OWNER MAY REQUIRE THICKER WALL CASING AND LARGER COVER OVER CASING.
3. STEEL CASING SHALL BE COATED OUTSIDE WITH COAL TAR EPOXY (MIN. 16 MILS DFT) AND BE PAINTED WITH A 4" MINIMUM CONTINUOUS STRIPE, ALASKA BLUE IN COLOR, ALONG THE TOP SIDE OF THE CASING.
4. SPLIT STEEL CASING IS REQUIRED ON ALL EXISTING POTABLE WATER INSTALLATIONS WHEN A NEW STORM DRAINAGE OR OTHER UTILITY PIPE IS INSTALLED AND CANNOT ACHIEVE THE PROPER VERTICAL SEPARATION PER WUD STANDARDS ALONG WITH WHEN A NEW FENCE, WALL, OR LANDSCAPE BERM IS INSTALLED OVER AN EXISTING POTABLE WATER MAIN. WHEN A SPLIT CASING IS INSTALLED UNDER A FENCE, WALL, OR LANDSCAPE BERM SEE WUD STANDARD DETAIL 48W FOR INSTALLATION REQUIREMENTS.
5. NON-SHRINKABLE CEMENT GROUT TO BE INSTALLED TO OBTAIN WATERTIGHT SEAL AT EACH END OF CASING.
6. FLAT BARS TO BE STITCH WELDED AT 6" LENGTHS TO EDGE OF CASING ON EACH SIDE.
7. CASING TO BE ASSEMBLED IN FIELD WITH 1/2" STAINLESS STEEL BOLTS, WASHERS, AND NUTS ON EACH SIDE.
8. 1/4" NEOPRENE GASKET MATERIAL EXTENDING PAST CASING JOINT FOR POSITIVE SEAL ON EACH SIDE.

POTABLE WATER MAIN SPLIT CASING INSTALLATION DETAIL * 22WB

23W — POTABLE WATER TRENCH DETAIL



NOTES:*

1. BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8"- 7/8" SIZING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
2. THE PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
3. THE PIPE SHALL BE PLACED IN A DRY TRENCH.
4. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK AND DEBRIS.
5. DENSITY TESTS ARE REQUIRED IN 1 FOOT LIFTS ABOVE THE PIPE AT INTERVALS OF 400' MAXIMUM, MINIMUM 1 SET OF TESTS FOR EACH WASTEWATER GRAVITY MAIN RUN, OR AS DIRECTED BY THE INSPECTOR.
6. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH ALL TRENCH SAFETY LAWS AND REGULATIONS.
7. SEE SEPARATE DETAILS FOR "PIPE INSTALLATION UNDER EXISTING PAVEMENT – OPEN CUT."
8. THE AFFECTED AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION OR AS SPECIFIED IN PERMIT/CONTRACT DOCUMENTS.
9. APPROVED 6" WIDE MAGNETIC TAPE IS REQUIRED ON ALL POTABLE WATER MAINS.*
10. CONTINUOUS 4" WIDE BLUE PAINT STRIPPING IS REQUIRED FOR POTABLE WATER MAIN DUCTILE IRON PIPE (D.I.P.) INSTALLED BELOW GRADE ONLY.*
11. A CONTINUOUS 4" WIDE PAINTED STRIP (BLUE) IS REQUIRED FOR ALL DIP/PCCP POTABLE WATER MAINS.*
12. POTABLE WATER MAIN INSTALLATIONS WITHIN PUBLIC ROAD RIGHT-OF-WAYS SHALL BE BY THE SPECIFICATIONS OF THE JURISDICTION GRANTING THE RIGHT-OF-WAY UTILITY PERMIT.*
13. FOR PIPE INSTALLATIONS IN ROAD RIGHTS-OF-WAY, ROAD OWNER'S PERMIT SPECIFICATIONS SHALL APPLY.

POTABLE WATER TRENCH DETAIL * 23W

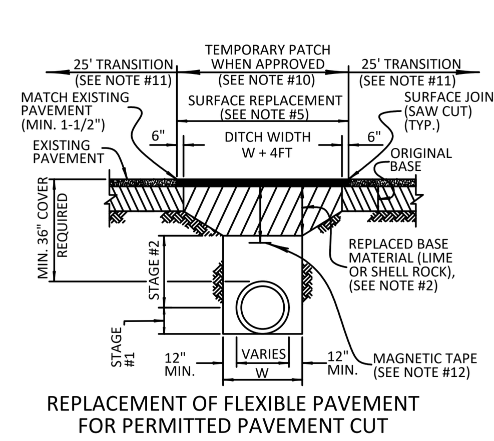
24W — OPEN CUT PIPE INSTALLATION NON-THOROUGHFARE ROAD

CONSTRUCTION PROCEDURES

THE BACKFILL FOR THE FIRST AND SECOND STAGES SHALL BE PLACED IN 6" LAYERS (COMPACTED THICKNESS) AND SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.

STAGE 1:
THE CONTRACTOR SHALL PROVIDE ADEQUATE COMPACTED FILL BENEATH THE HAUNCHES OF THE PIPE, USING MECHANICAL TAMPS SUITABLE FOR THIS PURPOSE. THIS COMPACTION APPLIES TO THE MATERIAL PLACED BENEATH THE HAUNCHES OF THE PIPE AND ABOVE ANY BEDDING REQUIRED.

STAGE 2:
THE CONTRACTOR SHALL OBTAIN A WELL-COMPACTED BED AND FILL ALONG THE SIDES OF THE PIPE AND TO A POINT INDICATING THE TOP OF SUB-GRADE MATERIAL.



REPLACEMENT OF FLEXIBLE PAVEMENT FOR PERMITTED PAVEMENT CUT

NOTES

1) BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8" – 7/8" SIZING WITH EQUAL OR GREATER STRUCTURAL ADEQUACY AS EXISTING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
2) REPLACED BASE MATERIAL (PER LAND DEVELOPMENT DESIGN STANDARDS) OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE AND MATCH THE TYPE OF MATERIAL OF THE ORIGINAL BASE OR 12" MINIMUM, WHICHEVER IS GREATER.
3) ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED AND BUTT-JOINTED.
4) BASE MATERIAL SHALL BE PLACED IN TWO OR THREE LAYERS (6" MAX. PER LAYER) AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO THE SPECIFIED DENSITY (MINIMUM 98% AASHTO – T-180)
5) SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE OR 1-1/2" SP 12.5 STRUCTURAL COURSE (TRAFFIC LEVEL A) ASPHALTIC CONCRETE WITH RC-70 PRIME COAT AT 0.10 GAL/SQ. YD. FOR LIMEROCK BASE AND TACK COAT AT 0.05 GAL/S.Y FOLLOW THE LATEST FDOT SPECIFICATIONS FOR APPLICATION RATES OF PRIME AND TACK COATS, CONTRACTOR TO SUBMIT MATERIALS AND RATES TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK.
6) PIPE SHALL BE PLACED IN A DRY TRENCH.
7) ALL ROADWAY REPAIR WORK SHALL BE PERFORMED IN CONFORMANCE WITH APPLICABLE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND COUNTY PPM# EL-0-3606.
8) DENSITY TESTS SHALL BE TAKEN IN 1 FT. LIFTS ABOVE THE PIPE AT INTERVALS OF 400 FT MAXIMUM (1 SET MINIMUM) OR AS DIRECTED BY THE CONSTRUCTION COORDINATION DIVISION. RESULTS SHALL BE SUBMITTED TO CONSTRUCTION COORDINATION DIVISION AS PART OF THEIR FIELD REVIEW.
9) ENGINEER-OF-RECORD SHALL PROVIDE FULL-TIME INSPECTION DURING THE ENTIRETY OF THE OPEN-CUT OPERATION, BEGINNING WITH THE EXCAVATION AND CONTINUING THROUGH THE COMPLETION OF THE PAVING.
10) IF THE PAVEMENT IS NOT COMPLETELY RESTORED IMMEDIATELY FOLLOWING THE OPEN CUT, A SMOOTH TEMPORARY PATCH (MINIMUM 1.5" SP 12.5 STRUCTURAL COURSE ASPHALT) SHALL BE INSTALLED PROPERLY MATCHING THE EXISTING GRADING OF THE ROADWAY. THE TEMPORARY PATCH SHALL BE ALLOWED TO REMAIN IN PLACE AND BE MAINTAINED FOR A PERIOD NO LONGER THAN 45 DAYS. THE COUNTY RETAINS THE RIGHT TO USE POSTED SURETY TO COMPLETE ANY RESTORATION WORK THAT HAS NOT BEEN COMPLETED IN THE 45 DAY PERIOD. ALTERNATIVE TEMPORARY TRENCH PROTECTION (STEEL PLATES OR OTHERS) MAY BE APPROVED BY THE CONSTRUCTION COORDINATION DIVISION.
11) FOR THE FINAL RESTORATION (INCLUDES THE PATCHED/SURFACE REPLACEMENT AREA OVER THE TRENCH), THE ROAD SHALL BE MILLED AND RESURFACED WITH 1-1/2" (ONE AND A HALF INCH) OF SP 12.5 STRUCTURAL COURSE (TRAFFIC LEVEL A) WITH TACK COAT AT 0.05 GAL/SY AND RC-70 PRIME COAT AT 0.10 GAL./SY. FOR A FULL LANE WIDTH ENCROACHED BY THE TRENCH INCLUDING A TRANSITION AREA OF 25 FT. EACH SIDE MEASURED FROM TOP OF TRENCH.
12) APPROVED MAGNETIC TAPE IS REQUIRED FOR ALL MAIN PRESSURE PIPES AND CONDUIT IN THE COUNTY'S RIGHT-OF-WAY. INSTALL TAPE 24" BELOW FINISHED GRADE.
13) CONTINUOUS 4" WIDE PAINT STRIPING IS REQUIRED FOR DIP/PCCP WATER MAINS (BLUE), DIP SANITARY FORCE MAINS (GREEN), DIP RECLAIMED WATER MAINS (PURPLE), GAS MAINS (YELLOW), OR AS REQUIRED BY THE APWA .

WUD ONLY UTILITY NOTE:
THE CONTINUOUS PAINTED STRIPE REFERENCED IN NOTE #13 ABOVE SHALL BE ALASKA BLUE IN COLOR PER WUD STANDARDS.

OPEN CUT PIPE INSTALLATION NON-THOROUGHFARE ROAD * 24W

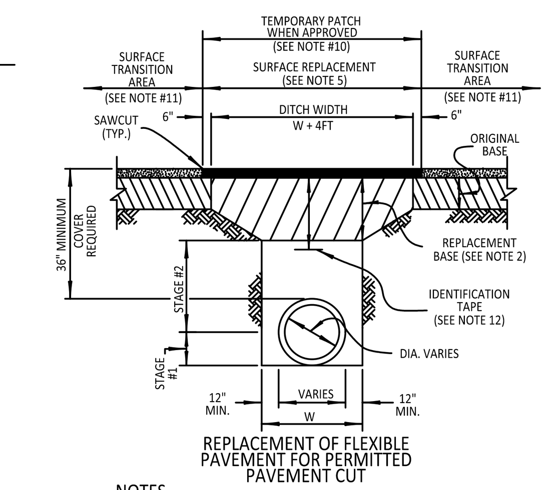
25W — OPEN CUT PIPE INSTALLATION THOROUGHFARE ROAD

CONSTRUCTION PROCEDURES

THE BACKFILL FOR THE FIRST AND SECOND STAGES SHALL BE PLACED IN 6" LAYERS (COMPACTED THICKNESS) AND SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.

STAGE 1:
THE CONTRACTOR SHALL PROVIDE ADEQUATE COMPACTED FILL BENEATH THE HAUNCHES OF THE PIPE, USING MECHANICAL TAMPS SUITABLE FOR THIS PURPOSE. THIS COMPACTION APPLIES TO THE MATERIAL PLACED BENEATH THE HAUNCHES OF THE PIPE AND ABOVE ANY BEDDING REQUIRED.

STAGE 2:
THE CONTRACTOR SHALL OBTAIN A WELL-COMPACTED BED AND FILL ALONG THE SIDES OF THE PIPE AND TO A POINT INDICATING THE TOP OF SUB-GRADE MATERIAL.



REPLACEMENT OF FLEXIBLE PAVEMENT FOR PERMITTED PAVEMENT CUT

NOTES

1) BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8" - 7/8" SIZING WITH EQUAL OR GREATER STRUCTURAL ADEQUACY AS EXISTING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
2) REPLACED BASE MATERIAL OVER DITCH SHALL BE 16" LIMEROCK (LBR100) MINIMUM FOR THOROUGHFARE PLAN ROADS. ANY ALTERNATE BASE MATERIAL REQUESTED BY THE ENGINEER OF RECORD REQUIRES APPROVAL BY THE ROADWAY PRODUCTION DIVISION.
3) ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED AND BUTT-JOINTED.
4) BASE MATERIAL (PER ROADWAY PRODUCTION DESIGN STANDARDS) SHALL BE PLACED IN TWO OR THREE LAYERS (6" MAX. PER LAYER) AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO THE SPECIFIED DENSITY. (MINIMUM 98% AASHTO-T-180).
5) 1" FRICTION COURSE FC-9.5 OVER 1-1/2" TYPE SP STRUCTURAL COURSE (TRAFFIC LEVEL C) WITH TACK COAT AT 0.05 GAL/SY AND RC-70 PRIME COAT AT 0.10 GAL/SY FOR LIMEROCK BASE. FOLLOW THE LATEST FDOT SPECIFICATIONS FOR APPLICATION RATES OF PRIME AND TACK COATS. CONTRACTOR TO SUBMIT MATERIALS AND RATES TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK.
6) PIPE SHALL BE PLACED IN A DRY TRENCH.
7) ALL ROADWAY REPAIR WORK SHALL BE PERFORMED IN CONFORMANCE WITH APPLICABLE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND COUNTY PPM# EL-0-3605.
8) DENSITY TESTS SHALL BE TAKEN IN 1 FT LIFTS ABOVE THE PIPE AT INTERVALS OF 400 FT MAXIMUM (1 SET MINIMUM) OR AS DIRECTED BY THE CONSTRUCTION COORDINATION DIVISION. RESULTS SHALL BE SUBMITTED TO CONSTRUCTION COORDINATION DIVISION AS PART OF THEIR FIELD REVIEW.
9) ENGINEER-OF-RECORD SHALL PROVIDE FULL-TIME INSPECTION DURING THE ENTIRETY OF THE OPEN-CUT OPERATION, BEGINNING WITH THE EXCAVATION AND CONTINUING THROUGH THE COMPLETION OF THE PAVING.
10) IF THE PAVEMENT IS NOT COMPLETELY RESTORED IMMEDIATELY FOLLOWING THE OPEN CUT, A SMOOTH TEMPORARY PATCH (MINIMUM 2.5" SP 12.5 STRUCTURAL COURSE ASPHALT) SHALL BE INSTALLED, PROPERLY MATCHING THE EXISTING GRADING OF THE ROADWAY. THE TEMPORARY PATCH SHALL BE ALLOWED TO REMAIN IN PLACE AND BE MAINTAINED FOR A PERIOD NO LONGER THAN 45 DAYS. THE COUNTY RETAINS THE RIGHT TO USE POSTED SURETY TO COMPLETE ANY RESTORATION WORK THAT HAS NOT BEEN COMPLETED IN THE 45 DAY PERIOD. ALTERNATIVE TEMPORARY TRENCH PROTECTION (STEEL PLATES OR OTHERS) MAY BE APPROVED BY THE CONSTRUCTION COORDINATION DIVISION.
11) FOR FINAL RESTORATION (INCLUDES THE PATCHED/SURFACE REPLACEMENT AREA OVER THE TRENCH). THE ROAD SHALL BE MILLED 1" MILLING DEPTH/ RESURFACED PER NOTE 5 ABOVE FOR A FULL LANE WIDTH OF THE TRAVEL LANES ENCROACHED BY THE TRENCH AREA, INCLUDING A TRANSITION AREA OF 50 FT. ON EACH SIDE MEASURED FROM TOP OF TRENCH.
12) APPROVED MAGNETIC TAPE IS REQUIRED FOR ALL MAIN PRESSURE PIPES AND CONDUIT IN THE COUNTY'S RIGHT-OF-WAY. INSTALL TAPE 24" BELOW FINISHED GRADE.
13) CONTINUOUS 4" WIDE PAINT STRIPING IS REQUIRED FOR DIP/PCCP WATER MAINS (BLUE), SANITARY MAINS (GREEN),DIP RECLAIMED WATER MAINS (PURPLE), GAS MAINS (YELLOW), OR AS REQUIRED BY THE APWA.

WUD ONLY UTILITY NOTE:
THE CONTINUOUS PAINTED STRIPE REFERENCED IN NOTE #13 ABOVE SHALL BE ALASKA BLUE IN COLOR PER WUD STANDARDS.

OPEN CUT PIPE INSTALLATION THOROUGHFARE ROAD * 25W

THIS SPACE INTENTIONALLY LEFT BLANK

POTABLE WATER #3 STANDARD DETAILS

CONSULTANT:

IT'S THE LAW ! CALL 48 HOURS BEFORE YOU DIG 1-800-432-4770 SUNSHINE STATE ONE CALL OF FLORIDA, INC. UTILITIES NOTIFICATION CENTER

DESIGNED BY:	WUD	
DRAWN BY:	M. BUCKNER	Palm Beach County Water Utilities Department P.O.Box 16097 West Palm Beach, FL 33416-6097
CHECKED BY:	J. LAMMERT	
APPROVED BY:	WUD	

WUD PROJECT No. 00-000

WUD PROJECT NAME

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT P.O. BOX 16097 WEST PALM BEACH, FL 33416 (561)493-6000

NO.	DATE	REVISION / REMARKS	BY
	JUNE 2019	GENERAL REVISION	J.L.
	JAN 2023	GENERAL REVISION	J.L.

STD DETAILS

SHEET NUMBER 0 OF 0

SEAL

CDI CIVIL DESIGN, INC.
Service Driven Design – Engineered Results
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West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
www.civil-design.com

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:

GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Gabriel Burden, P.E.
Florida License No. 75425

CDI PROJECT NO. 23805-01

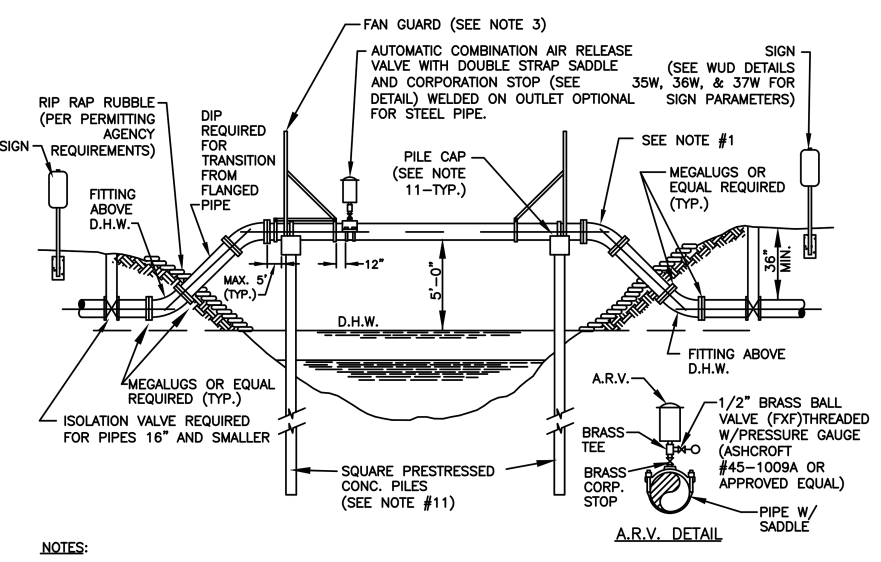
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NO.	DATE	REVISION DESCRIPTION

WATER & SEWER DETAILS

C7.3

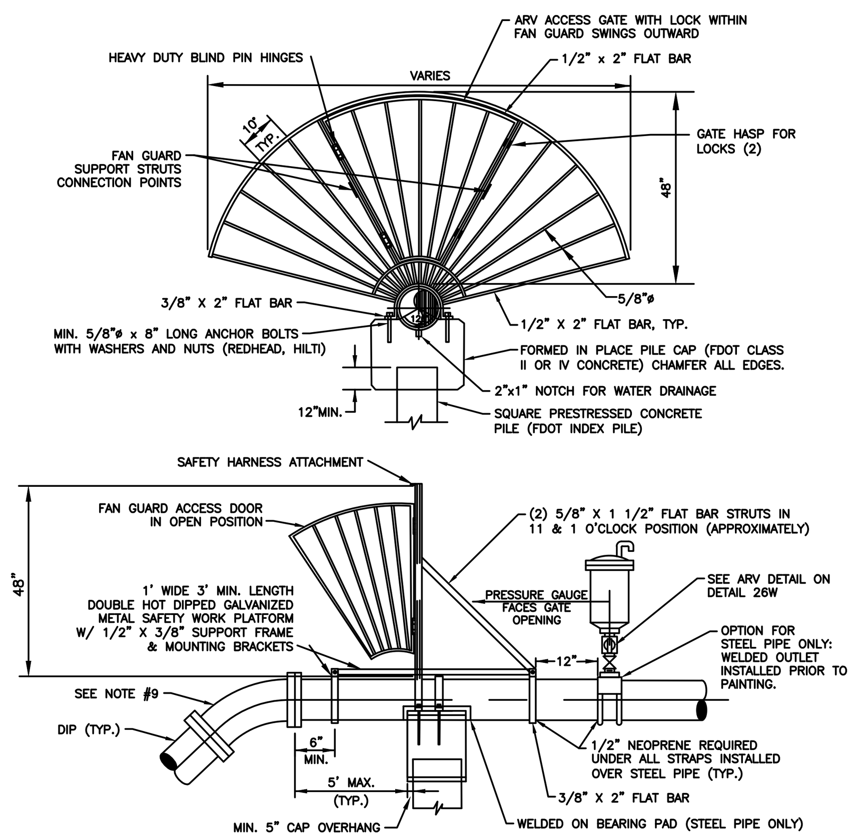
EXHIBIT "A"



NOTES:

1. ALL EXPOSED PIPE SHALL BE DUCTILE IRON OR PREFABRICATED STEEL WITH FLANGED FITTINGS AND PROFILED GASKETS. RETAINER GLANDS AND UNIFLANGE TYPE FITTINGS ARE NOT TO BE SUBSTITUTED FOR FLANGED FITTINGS. PREFABRICATED STEEL PIPE MAY INCORPORATE WELDED ON LONG RADIUS UPPER BENDS. PREFABRICATED FLANGED PIPE SHALL BE FACTORY TESTED.
2. SPAN LENGTHS AS REQUIRED BY PERMITTING AGENCY
3. FAN GUARDS ARE REQUIRED. SEE FAN GUARD/PILE CAP DESIGN DETAIL 27W FOR ADDITIONAL REQUIREMENTS. ACCESS PLATFORM AND GATE REQUIRED ON ARV SIDE ONLY.
4. ALL STEEL PIPE SHALL HAVE WELDED ON BEARING PADS EXTENDED 1" MINIMUM BEYOND PIPE CRADLE WITH PAD INSTALLED PRIOR TO PAINTING. ALL EXPOSED STEEL PIPING SHALL BE PAINTED AS SPECIFIED IN THE APPROVED MATERIALS LIST WITH ALL HARDWARE BEING PAINTED WITH COAL-TAR EPOXY.
5. PIPE SHALL BE CRADLED ON ½" THICK NEOPRENE.(DUROMETER GRADE 50,) CURRENT FDOT STANDARDS APPLY. NEOPRENE IS REQUIRED AT ALL STRAPS INSTALLED OVER STEEL PIPE. NEOPRENE SHALL EXTEND MIN. 1" BEYOND THE EDGES OF CRADLE AND STRAPS.
6. TIE-DOWN STRAPS MUST PROPERLY FIT AND SECURE PIPE IN CRADLE.
7. PIPE CRADLE IN CAP SHALL CONTACT ⅓ CIRCUMFERENCE OF PIPE. (SEE FAN GUARD DETAIL 27W)
8. SHOW EXISTING CANAL CROSS SECTION ULTIMATE CANAL SECTION AND RELEVANT ELEVATIONS AND DISTANCES ON A TO SCALE DETAIL DRAWING.
9. PILE LIFT CABLE SHALL BE REMOVED BELOW SURFACE; HOLE SHALL BE FILLED WITH EPOXY CEMENT.
10. THREADED AREAS OF BRASS FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.
11. THE PILES AND CAP DESIGN TO BE ON DETAILED SHOP DRAWINGS. THE REQUIRED PILES SHALL BE 14"x14" MIN. – TYPE 1A PER FLORIDA DOT INDEX PILES. PILE PENETRATION BELOW CANAL BOTTOM SHALL BE 15' MINIMUM WITH EACH PILE LOAD CAPACITY BEING 20 TONS MINIMUM (FDOT STANDARDS APPLY). ALL REQUIRED AERIAL CROSSING SHOP DRAWINGS SHALL BE TO SCALE AND SIGNED AND SEALED BY A STRUCTURAL ENGINEER.
12. THE AERIAL CROSSING STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE IN WRITING A SIGNED AND SEALED LETTER CERTIFYING THE AERIAL CROSSING INSTALLATION WAS COMPLETED PER HIS/HER DESIGN AND ALL APPLICABLE STANDARDS AND PERMITS.

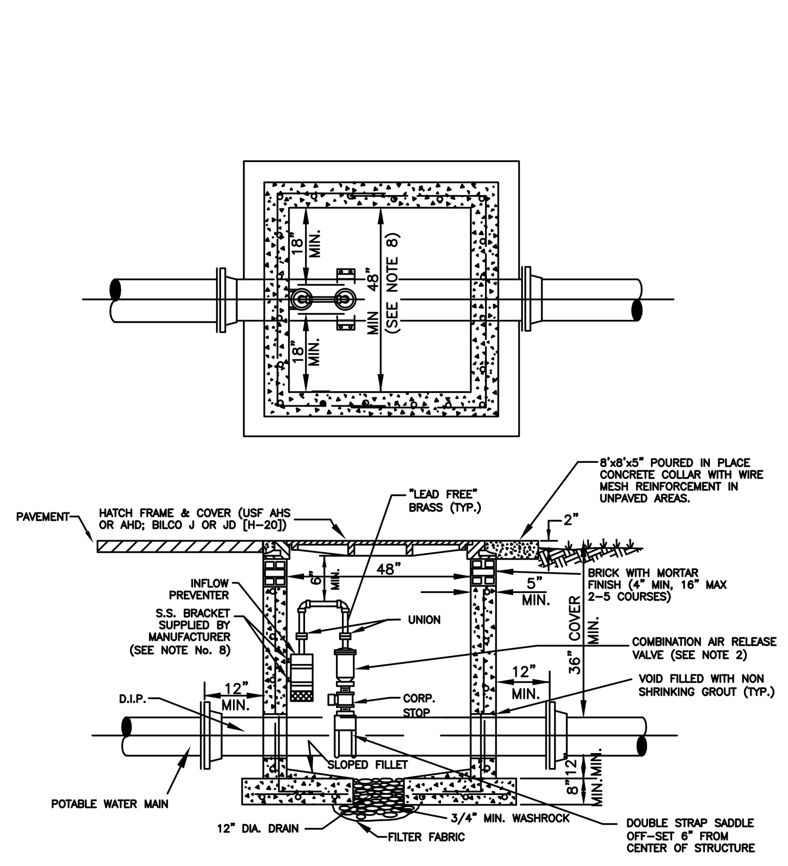
POTABLE WATER MAIN TYPICAL AERIAL CANAL CROSSING – SINGLE PIPE (SINGLE PILES) * 26W



NOTES:

1. FAN GUARDS SHALL BE PLACED AT EACH END OF CANAL CROSSING.
2. FANGUARD WITH HARDWARE SHALL BE FABRICATED FROM DOUBLE HOT DIPPED GALVANIZED STEEL.
3. SHOP DRAWINGS FOR FANGUARDS, CAPS, AND PILES MUST BE SUBMITTED TO PBCWUD FOR REVIEW AND APPROVAL PRIOR TO PRE-CONSTRUCTION MEETING.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60. MIN. 2" CONCRETE COVER OVER ALL STEEL.
5. NO WELDING OF REBAR TO REBAR OR REBAR TO PILE STRANDS SHALL BE ALLOWED.
6. LONG RADIUS WELDED ON UPPER BENDS ARE ACCEPTABLE FOR STEEL PIPE.
7. THE PILE/CAP STEEL CONNECTION SHALL BE WITH A MINIMUM OF 4-#8 REINFORCEMENT BARS. THE BARS SHALL BE DRILLED AND DOWLED (EPOXIED) A MINIMUM OF 14" IN DEPTH INTO THE PILE AND TIED TO THE CAP STEEL.
8. ACCESS PLATFORM AND GATE REQUIRED ON ARV SIDE ONLY.
9. SEE TYPICAL AERIAL CROSSING DETAIL 26W FOR ADDITIONAL REQUIREMENTS.

FAN GUARD/ PILE CAP DESIGN SINGLE PIPE (SINGLE PILES) * 27W



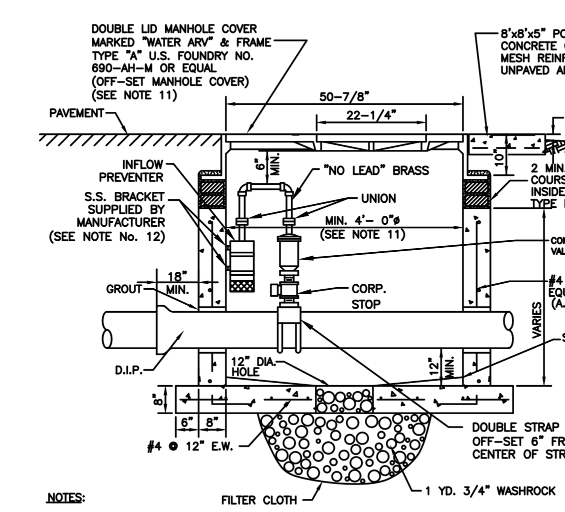
NOTES:

1. PRECAST 4000 P.S.I. TYPE II CONCRETE STRUCTURE. SHOP DRAWING IS REQUIRED TO BE APPROVED BY THE DEPARTMENT PRIOR TO VAULT CONSTRUCTION AND/OR INSTALLATION.
2. COMBINATION AIR RELEASE VALVE (ARV) SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED ALTHOUGH A 1" MINIMUM SIZED ARV IS REQUIRED ON POTABLE WATER MAIN INSTALLATIONS.
3. ALL OPENINGS SHALL BE SEALED WITH WATERPROOF NON-SHRINKING GROUT.
4. ALTERNATE VAULT AND COVER DESIGN MAY BE USED PROVIDED ALTERNATE VAULT AND/OR COVER SHOP DRAWINGS WERE SUBMITTED AND APPROVED BY THE DEPARTMENT PRIOR TO THE VAULT AND/OR COVER BEING INSTALLED.
5. DUCTILE IRON PIPE IS REQUIRED THROUGH THE VAULT. NO PIPE JOINTS INSIDE OR WITHIN 12" OF THE VAULT.
6. THREADED AREAS OF BRASS FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.
7. LARGER VAULTS WILL BE REQUIRED FOR PIPES LARGER THAN 12"

PIPE SIZE	MIN. VAULT SIZE
16"–24"	4'X5'
30"–42"	4'X6'

8. SHOP DRAWINGS ARE REQUIRED FOR CUSTOM MADE BRACKETS

POTABLE WATER MAIN UNDERGROUND AIR RELEASE VALVE AND VAULT IN NON-TRAFFIC AREAS OUTSIDE OF ROAD R/W 28W



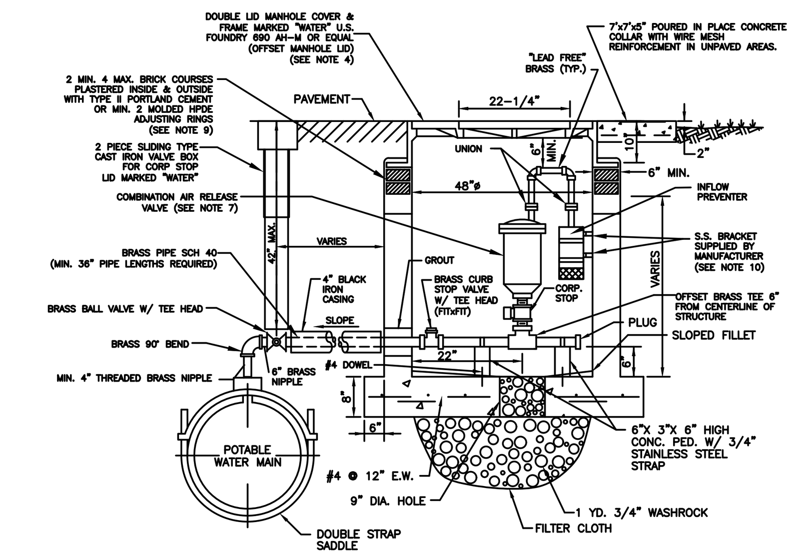
NOTES:

1. PRECAST 4000 P.S.I. TYPE II CONCRETE STRUCTURE. SHOP DRAWING IS REQUIRED TO BE APPROVED BY THE DEPARTMENT PRIOR TO VAULT CONSTRUCTION AND/OR INSTALLATION.
2. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
3. LIFT HOLES ARE PERMITTED.
4. ALL PIPE HOLES SHALL BE PRECAST.
5. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478 LATEST STANDARD.
6. CONCRETE COLLAR REQUIRED WHEN MANHOLE IS OUTSIDE OF PAVEMENT, SEE DETAIL.
7. COMBINATION AIR RELEASE VALVE (ARV) SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED ALTHOUGH A 1" MINIMUM SIZED ARV IS REQUIRED ON POTABLE WATER MAIN INSTALLATIONS.
8. DUCTILE IRON PIPE IS REQUIRED THROUGH THE VAULT. NO PIPE JOINTS INSIDE OR WITHIN 18" OF THE MANHOLE.
9. THREADED AREAS OF BRASS FITTINGS SHALL BE SPIRAL WRAP WITH TWO WRAPS OF TEFLON TAPE.
10. POTABLE WATER MAINS 12" AND SMALLER, AN ALTERNATE VAULT AND COVER DESIGN MAY BE USED PROVIDED ALTERNATE VAULT AND/OR COVER SHOP DRAWINGS WERE SUBMITTED AND APPROVED BY THE DEPARTMENT PRIOR TO THE VAULT AND/OR COVER BEING INSTALLED.
11. LARGER MANHOLES WILL BE REQUIRED FOR PIPES LARGER THAN 12"

PIPE SIZE	MIN. MANHOLE DIAMETER
16"–24"	60"
30"–42"	72"

12. SHOP DRAWINGS ARE REQUIRED FOR CUSTOM MADE BRACKETS
13. MANHOLES IN ROADWAYS SHALL BE LOCATED OUTSIDE OF WHEEL PATHS.

POTABLE WATER MAIN AIR RELEASE MANHOLE IN PAVED AREAS AND ROAD R/W 29W



NOTES:

1. PRECAST MONOLITHIC POURED 4000 P.S.I. TYPE II CONCRETE STRUCTURE. SHOP DRAWING IS REQUIRED TO BE APPROVED BY THE DEPARTMENT PRIOR TO VAULT CONSTRUCTION AND/OR INSTALLATION.
2. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
3. ALL PIPE HOLES SHALL BE PRECAST.
4. ALTERNATIVE VAULT DESIGN MAY BE USED WITH AN APPROVED 32" DIAMETER HINGED MANHOLE COVER PROVIDED ALTERNATE VAULT AND/OR COVER SHOP DRAWING WAS SUBMITTED AND APPROVED BY THE DEPARTMENT PRIOR TO THE VAULT AND/OR COVER BEING INSTALLED.
5. ARV, TAP AND PIPING TO BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED.
6. COMBINATION AIR RELEASE VALVE (ARV) SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED ALTHOUGH A 1" MINIMUM SIZED ARV IS REQUIRED ON POTABLE WATER MAIN INSTALLATIONS.
7. SHOP DRAWING IS REQUIRED FOR REVIEW AND APPROVAL.
8. THREADED AREAS OF BRASS FITTINGS AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.
9. IN LIEU OF BRICK WORK, APPROVED PRECAST CONCRETE ADJUSTING RINGS MAY BE USED. INSTALLATION SHALL FOLLOW MANUFACTURERS RECOMMENDATIONS.
10. SHOP DRAWINGS ARE REQUIRED FOR CUSTOM MADE BRACKETS
11. PIPE AND FITTINGS SHALL BE NO LEAD BRASS.
12. MANHOLES SHALL BE INSTALLED OUTSIDE TRAFFIC AREAS.

POTABLE WATER MAIN OFF-SET UNDERGROUND AIR RELEASE VALVE 30W

MAXIMUM QUANTITY OF WATER (GALLONS PER HOUR) THAT MAY BE SUPPLIED TO MAINTAIN PRESSURE WITHIN 5 P.S.I. OF THE SPECIFIED TEST PRESSURE

(MECHANICAL OR PUSH-ON JOINT, 18 FT. NOMINAL LENGTHS, PER 1000 FT. OF PIPE)

AVG. TEST PRESSURE PSI	PIPE DIAMETER (INCHES) 2	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48
150	0.10	0.14	0.18	0.27	0.37	0.46	0.55	0.64	0.73	0.83	0.92	1.10	1.38	1.65	1.93	2.20
200	0.10	0.15	0.21	0.31	0.42	0.53	0.63	0.74	0.84	0.95	1.06	1.27	1.59	1.91	2.22	2.54

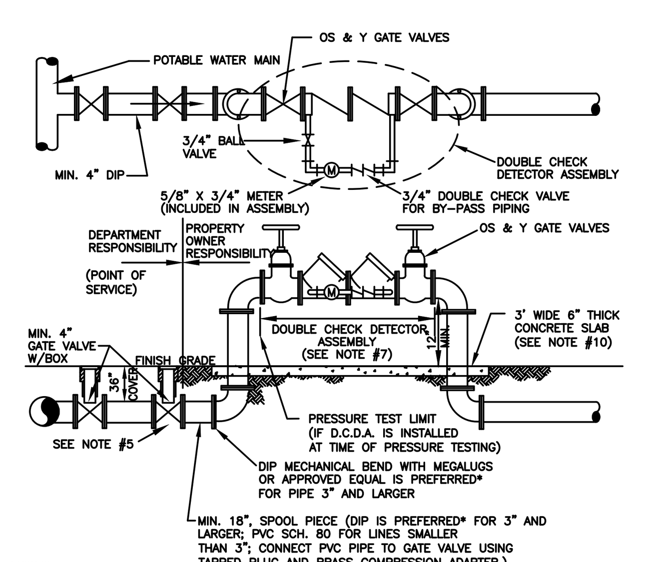
FORMULA BASIS: $L = \frac{(S) \times (D) \times (P)^{1/2}}{148{,}000} \times 1/2$

L = MAXIMUM QUANTITY OF WATER TO BE ADDED (GALLONS PER HOUR)
S = LENGTH OF PIPE TESTED (FEET)
D = DIAMETER OF PIPE (INCHES)
P = TEST PRESSURE (P.S.I.)

NOTES:

1. TO OBTAIN THE MAXIMUM QUANTITY OF WATER FOR PIPE WITH 20 FT. NOMINAL LENGTHS, MULTIPLY THE QUANTITY CALCULATED FROM THE TABLE BY 0.9
2. THE MAXIMUM QUANTITY OF ADDED WATER FOR A PIPELINE IS CALCULATED BY MULTIPLYING THE QUANTITY PER HOUR AS OBTAINED FROM THE ABOVE TABLE, BY THE DURATION OF THE TEST IN HOURS,AND BY THE TOTAL LENGTH OF THE LINE BEING TESTED DIVIDED BY 1,000. IF THE LINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE MAXIMUM QUANTITY ADDED WILL BE THE SUM OF THE COMPUTED QUANTITIES FOR EACH SIZE.
3. MAXIMUM TEST LENGTH = 2,500 FEET PER SECTION.
4. THIS STANDARD SHALL REFLECT ANY REVISION OF A.W.W.A. C-600. HOWEVER, THE MAXIMUM QUANTITY OF WATER ADDED SHALL NOT EXCEED 50% OF THE RECOMMENDED LIMIT PER APPLICABLE AWWA C-600 STANDARD.
5. STANDARD TEST PRESSURE = 150 P.S.I.; 200 P.S.I. FOR MAINS LARGER THAN 24"
6. PRESSURE TEST DURATION TO BE MIN. 2 HOURS.

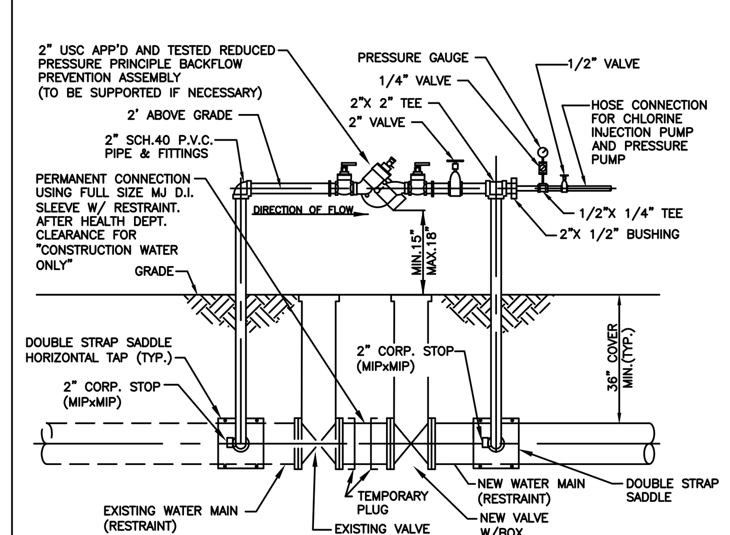
POTABLE WATER MAIN PRESSURE TEST CRITERIA 31W



NOTES:

1. ALL PIPE AND FITTINGS UP TO THE BACKFLOW PREVENTION ASSEMBLY (I.E. D.C.D.A.) POINT OF SERVICE VALVE SHALL BE DUCTILE IRON PER WUD STANDARDS.*
2. THE INITIAL TEST OF THE BACKFLOW PREVENTION ASSEMBLY SHALL BE PERFORMED BY THE DEPARTMENT PRIOR TO SERVICE ACTIVATION.
3. THE DOUBLE CHECK DETECTOR ASSEMBLY SHALL BE APPROVED BY THE UNIVERSITY OF SOUTHERN CALIFORNIA (U.S.C.) OR THE A.S.S.E. (WITH ONE YEAR FIELD TESTING).
4. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE PROPER OPERATION, MAINT-ENANCE AND SUBSQUENT TESTING OF THE DOUBLE CHECK DETECTOR ASSEMBLY BY A CERTIFIED BACKFLOW TECHNICIAN.
5. WHEN FIRE LINE LENGTH IS OVER ONE PIPE LENGTH, LINE SHALL BE TERMINATED WITH A GATE VALVE (=POINT OF SERVICE). NO PIPE JOINTS / CONNECTIONS ARE PERMITTED BETWEEN POINT OF SERVICE AND VERTICAL 90° BEND
6. THE DESIGN SHALL MINIMIZE ANY POTENTIAL FOR WATER MAIN WITH NO FLOW. A FIRE HYDRANT LOCATED NEAR THE DOUBLE CHECK DETECTOR ASSEMBLY MAY BE REQUIRED FOR LONG, DEAD ENDING DEDICATED FIRE LINES.
7. AN APPROVED REDUCED PRESSURE PRINCIPLE DETECTOR ASSEMBLY SHALL BE REQUIRED FOR ALL FIRE SYSTEMS WITH STORAGE TANKS AND/OR AUXILIARY WATER SUPPLY.
8. TAMPER SWITCHES MAY BE REQUIRED BY THE FIRE MARSHAL.*
9. PIPE MATERIAL ON THE CUSTOMER SIDE OF POINT OF SERVICE VALVE SHALL COMPLY WITH FIRE MARSHAL REQUIREMENTS.*
10. 3' WIDE 6" THICK CONCRETE SLAB IS RECOMMENDED FOR ASSEMBLY SMALLER THAN 4".

DOUBLE CHECK DETECTOR ASSEMBLY * 32W



1. ENSURE PROPER RESTRAINT OF EXISTING VALVE AND EXISTING PIPE PRIOR TO NEW PIPE CONNECTION.
2. ENSURE PROPER OPERATION OF EXISTING VALVE.
3. INSTALL BY-PASS PIPING AS SHOWN. A NEARBY HYDRANT OR SERVICE TAP MAY BE USED AS A WATER SOURCE.
4. USING BY-PASS AND CHLORINE INJECTOR PUMP, DISINFECT NEW WATER MAIN (MIN. 50 CHLORINE PPM IS REQUIRED FOR DISINFECTION).
5. COMPLETE FILLING OF THE NEW WATER MAIN AND PERFORM BACTERIOLOGICAL TESTING.
6. REMOVE EXISTING BLOW OFF (IF APPLICABLE) AND EXISTING PLUG., CONNECT NEW MAIN TO EXISTING VALVE.
7. CRACK OPEN EXISTING VALVE AFTER INITIAL DISINFECTION AND FLUSH THE NEW WATER MAIN (PBCWUD PRESENCE IS REQUIRED).
8. REMOVE BY-PASS PIPING. CAP CORPORATION STOPS WITH BRASS CAPS.
9. PRESSURE TESTING IS REQUIRED AFTER SUCCESSFUL COMPLETION OF BACTERIOLOGICAL TESTING AND HEALTH DEPARTMENT RELEASE FOR "CONSTRUCTION WATER"(IF APPLICABLE). PRESSURE TEST TO BE PERFORMED AFTER BACKFILL/ ROAD BASE AND ROAD ROCK BASE INSTALLATION/ COMPACTION.
10. AN ALTERNATIVE TIE-IN PROCEDURE (PRESSURE TESTING PRIOR TO BACTERIOLOGICAL TESTING) MAY BE CONSIDERED WITH PRIOR APPROVAL (SEE SEPARATE DETAIL).
11. RECORD DRAWINGS TO SHOW DATA FOR ALL TEST TAPS.
12. ALL BRASS SHALL BE "LEAD FREE".

STANDARD POTABLE WATER MAIN TIE-IN 33W

MIN. LENGTH OF PIPE (FEET) TO BE RESTRAINED
(SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE		PIPE SIZE 4"	6"	8"	10"	12"	16"	20"	24"	200psi 30"	36"	42"	48"
90° HORIZ. BEND		14	20	25	30	35	45	54	62	98	112	124	135
45° HORIZ. BEND		6	8	11	13	15	19	22	26	41	46	51	56
22.5° HORIZ. BEND		3	4	5	6	7	9	11	12	19	22	25	27
11.25° HORIZ. BEND		1	2	3	3	4	4	5	6	10	11	12	13
90° VERT. OFFSET	UPPER BEND	29	41	53	64	74	95	115	134	214	246	276	304
	LOWER BEND	7	10	13	16	19	25	30	35	57	66	74	83
45° VERT. OFFSET	UPPER BEND	12	19	24	29	34	39	48	56	89	102	114	126
	LOWER BEND	3	4	6	7	8	10	12	15	23	27	31	34
22.5° VERT. OFFSET	UPPER BEND	6	9	12	14	17	19	23	27	43	49	55	60
	LOWER BEND	1	2	4	4	4	5	6	7	11	13	15	16
11.25° VERT. OFFSET	UPPER BEND	3	4	6	7	8	9	11	13	21	24	27	30
	LOWER BEND	1	1	1	2	2	2	3	3	6	6	7	8
PLUG (DEAD END)		32	45	59	70	83	107	129	151	214	246	276	304
IN-LINE VALVE		32	45	45	45	45	55	65	80	110	125	140	155
TEE (BRANCH RESTRAINT)	4"X ø	23	–	–	–	–	–	–	–	–	–	–	–
	6"X ø	21	35	–	–	–	–	–	–	–	–	–	–
	8"X ø	18	34	47	–	–	–	–	–	–	–	–	–
	10"X ø	16	32	46	58	–	–	–	–	–	–	–	–
	12"X ø	13	30	44	57	69	–	–	–	–	–	–	–
	16"X ø	7	26	41	55	67	90	–	–	–	–	–	–
	20"X ø	1	21	38	52	65	88	109	–	–	–	–	–
	24"X ø	1	16	34	49	62	86	108	129	–	–	–	–
	30"X ø	1	8	28	44	58	83	106	127	208	–	–	–
	36"X ø	1	1	22	39	54	80	103	124	206	240	–	–
	42"X ø	1	1	15	33	49	77	100	122	205	239	270	–
	48"X ø	1	1	7	27	44	73	97	120	203	238	269	298
REDUCER (LARGER PIPE RESTRAINT)	6"X ø	23	–	–	–	–	–	–	–	–	–	–	–
	8"X ø	38	25	–	–	–	–	–	–	–	–	–	–
	10"X ø	57	43	24	–	–	–	–	–	–	–	–	–
	12"X ø	72	60	44	41	–	–	–	–	–	–	–	–
	16"X ø	99	90	78	75	45	–	–	–	–	–	–	–
	20"X ø	123	116	107	105	81	45	–	–	–	–	–	–
	24"X ø	146	140	132	131	111	82	45	–	–	–	–	–
200psi	30"X ø	209	204	197	188	177	153	116	75	–	–	–	–
	36"X ø	243	236	233	226	217	196	168	135	74	–	–	–
	42"X ø	273	270	265	259	252	234	211	183	133	72	–	–
	48"X ø	301	298	294	289	283	268	249	226	183	131	71	–

NOTES:

1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
   SOIL TYPE–SAND — TEST PRESSURE–150 PSI/200 PSI — DEPTH OF BURY–3'
   TRENCH TYPE–3 — SAFETY FACTOR– 1.5 — VERTICAL OFFSET–3'
   MINIMUM PIPE LENGTH ALONG TEE RUN–5'
2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF VALVES AND FITTINGS.
5. MULTIPLY PIPE LENGTH BY 1.4 FOR POLYETHYLENE ENCASED PIPE.
6. RESTRAINED PIPE LENGTHS EQUAL TO AN "INLINE VALVE" CONDITION ARE REQUIRED AT EACH END OF A TRANSITION FROM HDPE PIPE TO OTHER PIPE MATERIALS.
7. DESIGN ENGINEER IS RESPONSIBLE TO PROPERLY SIZE THE RESTRAINT PIPE LENGTHS FOR THE PROJECT

MECHANICAL THRUST RESTRAINT MINIMUM PIPE LENGTHS 34W

GENERAL NOTES

DEFINITIONS

1. DEPARTMENT – THE PALM BEACH COUNTY WATER UTILITIES DEPARTMENT.
2. CONTRACTOR – UTILITY CONTRACTOR AND ALL UTILITY SUBCONTRACTORS.
3. ENGINEER – ENGINEER RESPONSIBLE FOR INSPECTION AND CERTIFICATION.

PROCEDURE

1. A PRE-CONSTRUCTION MEETING IS TO BE HELD PRIOR TO DELIVERY OF MATERIALS AND INITIATION OF ANY POTABLE WATER, RECLAIMED WATER AND/OR WASTEWATER SYSTEM CONSTRUCTION. THE MEETING SHALL BE ATTENDED BY THE DEPARTMENT, CONTRACTOR, ENGINEER AND OTHER INTERESTED PARTIES.
2. ANY REVISIONS TO THE APPROVED PLANS SHALL BE CALLED TO THE ATTENTION OF THE DEPARTMENT PRIOR TO THE PRE-CONSTRUCTION MEETING. REVISED PLANS MUST BE APPROVED PRIOR TO THE MEETING.
3. FIVE (5) COPIES OF THE CURRENT APPROVED MATERIAL LIST AND ALL NECESSARY SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO SCHEDULING OF THE PRE-CONSTRUCTION MEETING.
4. ALL APPLICABLE PERMITS MUST BE OBTAINED PRIOR TO PRECONSTRUCTION MEETING. (DOT, HEALTH DEPARTMENT, COUNTY ENGINEER, ETC.).
5. THE CONTRACTOR SHALL MAINTAIN A CURRENT APPROVED SET OF CONSTRUCTION PLANS ON JOB SITE.
6. ALL MATERIALS SUPPLIED SHALL CONFORM TO PRODUCT LIST AND SHOP DRAWINGS AS APPROVED PRIOR TO CONSTRUCTION. SUBSTITUTE MATERIALS SHALL NOT BE APPROVED AFTER DELIVERY TO THE JOB SITE. ALL REQUESTS FOR MATERIAL SUBSTITUTION SHALL BE APPROVED PRIOR TO DELIVERY OF THESE MATERIALS TO THE JOB SITE.
7. THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THE APPROVED PLANS ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. APPROVAL OF DEVELOPMENT PLANS BY THE DEPARTMENT IN NO WAY IMPLIES VERIFICATION OF THE ACCURACY OF THOSE PLANS OR FEATURES DEPICTED THEREON. ANY DISCREPANCY IN OR VARIATION FROM THE APPROVED PLANS IS TO BE BROUGHT TO THE ATTENTION OF THE DEPARTMENT BY THE ENGINEER AND CONTRACTOR. THE CONTRACTOR SHALL CONFIRM AND INSTALL (IF NECESSARY) ADEQUATE MECHANICAL PIPE / JOINT RESTRAINT ON EXISTING PIPES PRIOR TO CONNECTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING LOCATIONS FROM ALL OTHER UTILITY FACILITIES.
10. THE CONTRACTOR OR ENGINEER SHALL SCHEDULE INSPECTIONS AND TESTS A MINIMUM OF 24-48 HOURS IN ADVANCE.
11. NO CONNECTION TO OR ANY OTHER CONSTRUCTION SHALL BE PERFORMED ON AN EXISTING DEPARTMENT OWNED OR MAINTAINED MAIN OR STRUCTURE WITHOUT THE PRESENCE OF A DEPARTMENT INSPECTOR.
12. FACILITIES PROPOSED HEREIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND THE DEPARTMENT'S MINIMUM STANDARDS. CONFLICTS BETWEEN THE PRECEDING DOCUMENTS SHOULD BE CALLED TO THE ATTENTION OF THE DEPARTMENT FOR RESOLUTION. DEVIATIONS FROM THE APPROVED PLANS MUST BE APPROVED IN ADVANCE BY THE DEPARTMENT.
13. UPON COMPLETION OF CONSTRUCTION, A FINAL INSPECTION SHALL VERIFY PROPER ADHERENCE TO ALL FACETS OF THE PLANS AND SPECIFICATIONS.

PRESSURE PIPE NOTES

1. THERE SHALL BE 36" MINIMUM COVER FROM FINISHED GRADE TO TOP OF PIPE.
2. DUCTILE IRON PIPE (DIP) THICKNESS SHALL CONFORM TO THE DEPARTMENT'S APPROVED MATERIAL LIST. POTABLE WATER AND RECLAIMED WATER MAINS DIP SHALL BE CEMENT LINED. FORCE MAIN DIP SHALL BE CERAMIC EPOXY LINED.
3. PVC PRESSURE PIPE SHALL BE C-900, SDR-18, 150 PSI.
4. ALL FITTINGS SHALL BE DUCTILE IRON WITH MECHANICAL JOINTS AND CEMENT OR APPROVED EPOXY LINING.
5. POTABLE WATER, RECLAIMED WATER AND WASTEWATER FORCE MAIN VALVES 10 INCHES AND SMALLER SHALL BE RESILIENT SEAT GATE VALVES. TWELVE-INCH (12") OR LARGER FORCE MAIN VALVES SHALL BE RESILIENT SEAT GATE VALVES OR ECCENTRIC PLUG VALVES (IF APPROVED IN ADVANCE BY DEPARTMENT). POTABLE WATER AND RECLAIMED WATER MAIN VALVES LARGER THAN 10 INCHES SHALL BE BUTTERFLY VALVES.
6. ALL TRENCHING, PIPE-LAYING, BACKFILL, PRESSURE TESTING, AND DISINFECTION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, COUNTY AND HEALTH DEPARTMENT STANDARDS AND REGULATIONS.

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POTABLE WATER #4
STANDARD DETAILS

CONSULTANT:

IT'S THE LAW! CALL 48 HOURS BEFORE YOU DIG 1-800-432-4770 SUNSHINE STATE ONE CALL OF FLORIDA, INC. UTILITIES NOTIFICATION CENTER

DESIGNED BY: WUD
DRAWN BY: M. BUCKNER
CHECKED BY: J. LAMMERT
APPROVED BY: WUD

Palm Beach County Water Utilities Department P.O.Box 16097 West Palm Beach, FL 33416-6097

WUD PROJECT No. 00-000

WUD PROJECT NAME

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT P.O. BOX 16097 WEST PALM BEACH, FL 33416 (561)493-6000

NO.	DATE	REVISION / REMARKS	BY
	JUNE 2019	GENERAL REVISION	J.L.
*	JAN 2023	GENERAL REVISION	J.L.

STD DETAILS

SHEET NUMBER 0 OF 0

SEAL

CDI CIVIL DESIGN, INC.
Service Driven Design – Engineered Results
1400 Centrepark Blvd, Suite 905
West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
www.civil-design.com

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:

GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Gabriel Burden, P.E.
Florida License No. 75425

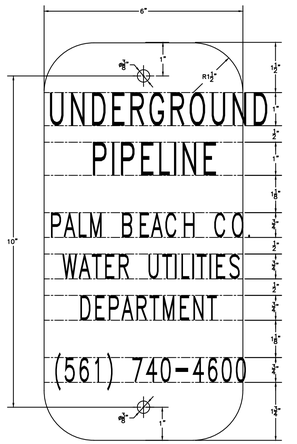
CDI PROJECT NO. 23805-01

DATE:	11/08/2024
DESIGNED:	CDI
DRAWN:	CDI

NO.	DATE	REVISION DESCRIPTION

WATER & SEWER DETAILS

C7.4

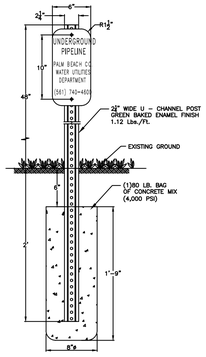


NOTE:

SIGN SHALL BE 6" WIDE X 12" LONG, ALUMINUM (0.080 GA.). SIGN COLOR IS WHITE WITH BLACK LETTERING. ROUNDED CORNERS (1.5" RAD.), 2 HOLES (3/8" DIAM.), 10" O.C.

UNDERGROUND PIPELINE SIGN DETAIL

35W

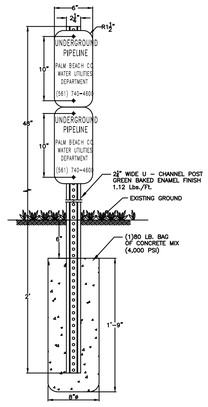


NOTE:

SIGNS SHALL BE 6" WIDE X 12" LONG, ALUMINUM (0.080 GA.). SIGN COLOR IS WHITE WITH BLACK LETTERING. ROUNDED CORNERS (1.5" RAD.), 2 HOLES (3/8" DIAM.), 10" O.C.

SINGLE UNDERGROUND
PIPELINE SIGN DETAIL

36W

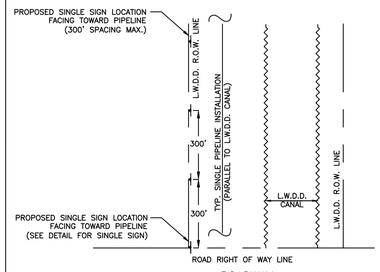


NOTES:

1. SIGNS SHALL BE 6" WIDE X 12" LONG, ALUMINUM (0.080 GA.). SIGN COLOR IS WHITE WITH BLACK LETTERING. ROUNDED CORNERS (1.5" RAD.), 2 HOLES (3/8" DIAM.), 10" O.C.
2. THE DUAL UNDERGROUND PIPELINE SIGN SHALL BE UTILIZED FOR TWO UNDERGROUND PIPELINES WITHIN THE L.W.D.D. RIGHT-OF-WAY.

DUAL UNDERGROUND
PIPELINE SIGN DETAIL

37W

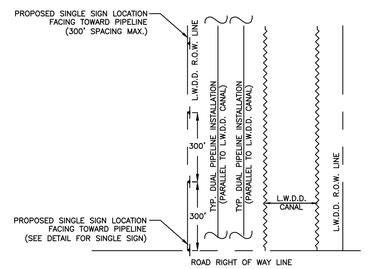


NOTE:

1. UNDERGROUND PIPELINE WARNING SIGNS ARE TO BE PLACED AT THE POINT IN WHICH THE LINE INGRESSES AND EGRESSES THE L.W.D.D. RIGHT-OF-WAY.
2. SIGN SPACING IS TO BE A MAXIMUM OF 300' ALONG THE L.W.D.D. RIGHT-OF-WAY, AS CLOSE AS POSSIBLE TO THE L.W.D.D. RIGHT-OF-WAY.

L.W.D.D. – SINGLE PIPE PARALLEL
INSTALLATION UNDERGROUND PIPELINE
SIGN INSTALLATION DETAIL

38W

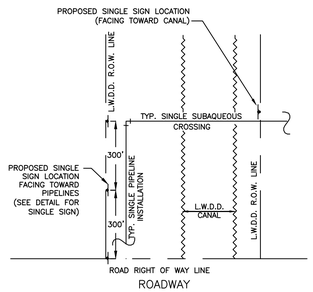


NOTE:

1. UNDERGROUND PIPELINE WARNING SIGNS ARE TO BE PLACED AT THE POINT IN WHICH THE LINE INGRESSES AND EGRESSES THE L.W.D.D. RIGHT-OF-WAY.
2. SIGN SPACING IS TO BE A MAXIMUM OF 300' ALONG THE L.W.D.D. RIGHT-OF-WAY, AS CLOSE AS POSSIBLE TO THE L.W.D.D. RIGHT-OF-WAY.

L.W.D.D. – DUAL PIPE PARALLEL
INSTALLATION UNDERGROUND PIPELINE
SIGN INSTALLATION DETAIL

39W

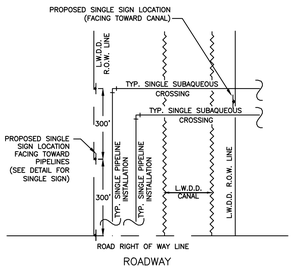


NOTE:

1. UNDERGROUND PIPELINE WARNING SIGNS ARE TO BE PLACED ON BOTH SIDES OF THE CANAL CROSSING; AT THE INSIDE EDGE OF THE RIGHT-OF-WAY.
2. SIGN POST IS NOT TO BE PLACED DIRECTLY OVER PIPELINE. OFFSET SIGN POST 5' FROM PIPELINE.

L.W.D.D. – SINGLE PIPE SUBAQUEOUS
CROSSING UNDERGROUND PIPELINE SIGN
INSTALLATION DETAIL

40W

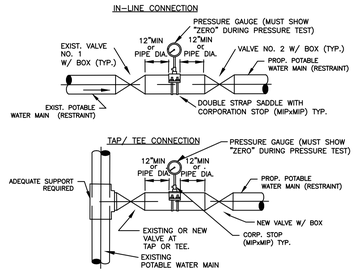


NOTE:

1. UNDERGROUND PIPELINE WARNING SIGNS ARE TO BE PLACED ON BOTH SIDES OF THE CANAL CROSSING; AT THE INSIDE EDGE OF THE RIGHT-OF-WAY.
2. SIGN POST IS NOT TO BE PLACED DIRECTLY OVER PIPELINE. OFFSET SIGN POST 5' FROM PIPELINE.

L.W.D.D. – DUAL PIPE SUBAQUEOUS CROSSING
UNDERGROUND PIPELINE SIGN INSTALLATION DETAIL

41W

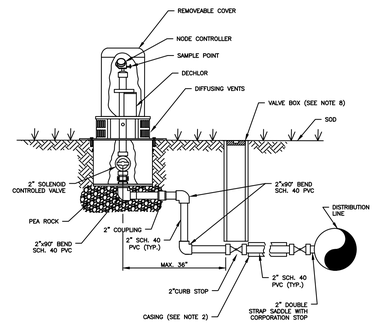


NOTES:

1. THE "ALTERNATIVE" PROCEDURE MUST BE APPROVED BY WUD IN ADVANCE. IT ALLOWS THE NEW PIPE TO BE PRESSURE TESTED PRIOR TO BACTERIOLOGICAL TESTING.
2. BOTH VALVES SHALL BE KEPT CLOSED EXCEPT FOR FILLING AND FLUSHING.
3. WUD SHALL BE NOTIFIED BEFORE FILLING AND FLUSHING.
4. PRESSURE TEST PUMP MAY BE CONNECTED TO SERVICE LINE, FIRE HYDRANT OR BLOWOFF IN THE TESTED WATER MAIN. NO EXTRA TAPS ARE PERMITTED UNLESS UNAVOIDABLE.
5. GAUGE AND RISER TO BE REMOVED AFTER PRESSURE TEST, HOLE TO BE PLUGGED AT SADDLE WITH BRASS PLUG. A BRASS CAP IS REQUIRED.
6. THREAD AREAS OF CORPORATION STOP SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.
7. ENSURE PROPER RESTRAINT OF EXISTING VALVE(S) AND PIPE PRIOR TO NEW CONNECTION.
8. SEE ALSO DETAIL FOR "STANDARD POTABLE WATER MAIN TIE-IN PROCEDURE"
9. RECORD DRAWINGS TO SHOW DATA FOR ALL TEST TAPS.
10. ALL BRASS SHALL BE "LEAD FREE".

ALTERNATIVE WATER MAIN TIE-IN

42W



NOTES:

1. AUTOMATIC FLUSHING ASSEMBLY TO BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.
2. FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS, USE MIN. 4" DIAMETER BLACK IRON, PVC SCH 40, OR HDPE SDR 9 CASING. CASING SHALL EXTEND MIN. 24" BEYOND EDGE OF PAVEMENT. CASING TO BE SEALED WITH CEMENT. CASING SHALL BE COLOR-CODED BLACK, WHITE, BLUE, OR BLUE STRIPED.
3. AUTOMATIC FLUSHING ASSEMBLY TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE WATER MAIN WITHIN AN UTILITY EASEMENT OR ROAD RIGHT-OF-WAY WITH PRIOR DEPARTMENT APPROVAL. IF AUTOMATIC FLUSHING ASSEMBLY HOUSING IS INSTALLED IN ROAD RIGHT-OF-WAY IT SHALL NOT INTERFERE WITH CLEAR ZONE REQUIREMENTS AS SPECIFIED BY ROAD OWNER.
4. BEDDING (MIN. 4") AND COVER (MIN. 4") OVER SERVICE LINE OR CASING SHALL CONSIST OF FINE GRANULAR MATERIAL. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED WITH 2" MAXIMUM SIZE.
5. ALL HARDWARE (I.E. BOLTS, ETC.) REQUIRED FOR ASSEMBLY INSTALLATION SHALL BE 304 STAINLESS STEEL.
6. THREADED AREAS OF CORPORATION STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO (2) WRAPS OF TEFLON TAPE. ALL BRASS SHALL BE "LEAD FREE".
7. A 4" THICK COMPACTED 3/4" ROCK BASE IS REQUIRED. THE BASE SHALL EXTEND MINIMUM 12" BEYOND AUTOMATIC FLUSHING ASSEMBLY PAD PERIMETER.
8. WHEN VALVE BOX IS LOCATED IN GRASS A CONCRETE COLLAR IS REQUIRED PER DEPARTMENT STANDARDS.

AUTOMATIC FLUSHING ASSEMBLY (TYPE A)

43W

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POTABLE WATER #5
STANDARD DETAILS

CONSULTANT:

IT'S THE LAW ! CALL 48 HOURS BEFORE YOU DIG 1-800-432-4770 SUNSHINE STATE ONE CALL OF FLORIDA, INC. UTILITIES NOTIFICATION CENTER

DESIGNED BY: WUD
DRAWN BY: M. BUCKNER
CHECKED BY: J. LAMMERT
APPROVED BY: WUD

Palm Beach County
Water Utilities Department
P.O.Box 16097
West Palm Beach, FL 33416-6097

WUD PROJECT No.
00-000

WUD PROJECT NAME

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561)493-6000

NO.	DATE	BY	REVISION / REMARKS
*	JUNE 2019	J.L.	GENERAL REVISION
	JAN 2023	J.L.	GENERAL REVISION

STD DETAILS

SHEET NUMBER 0 OF 0

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West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
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GARDEN
SQUARE
TOWNHOUSE
DEVELOPMENT

6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:
GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Gabriel Burden, P.E.
Florida License No. 75425

CDI PROJECT NO.
23805-01

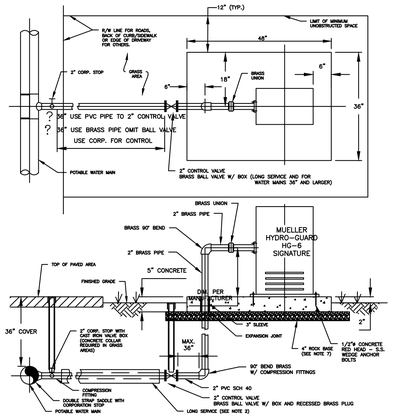
DATE: 11/08/2024
DESIGNED: CDI
DRAWN: CDI

NO.	DATE	REVISION DESCRIPTION

WATER & SEWER DETAILS

C7.5

EXHIBIT "A"

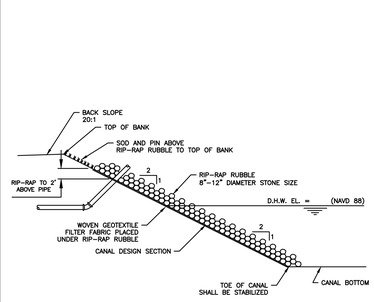


NOTES:

1. 12" MINIMUM CLEARANCE TO BE MAINTAINED BETWEEN AUTOMATIC FLUSHING SYSTEM PAD AND ANY OBSTRUCTION.
2. FOR INSTALLATION OF SERVICES UNDER DRIVEWAYS AND ROADWAYS, USE MIN. 4" DIAMETER BLACK IRON, PVC SCH 40, OR HDPE SDR 9 CASING. CASING SHALL EXTEND MIN. 24" BEYOND EDGE OF PAVEMENT. CASING TO BE SEALED WITH CEMENT. CASING SHALL BE COLOR-CODED BLACK, WHITE, BLUE, OR BLUE STRIPED.
3. AUTOMATIC FLUSHING ASSEMBLY TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE WATER MAIN.
4. BEDDING (MIN. 4") AND COVER (MIN. 4") OVER SERVICE LINE OR CASING SHALL CONSIST OF FINE GRANULAR MATERIAL. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED WITH 2" MAXIMUM SIZE.
5. ALL HARDWARE FOR FLANGED CONNECTIONS (BOLTS, ETC.) TO BE STAINLESS STEEL.
6. THREADED AREAS OF CORPORATION STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO (2) WRAPS OF TEFLON TAPE. ALL BRASS SHALL BE "LEAD FREE".
7. A 4" THICK COMPACTED 3/4" ROCK BASE IS REQUIRED. THE BASE SHALL EXTEND MINIMUM 12" BEYOND AUTOMATIC FLUSHING ASSEMBLY PAD PERIMETER.

PRIOR DEPARTMENT APPROVAL REQUIRED BEFORE PROJECT BEING APPROVED FOR INSTALLATION.

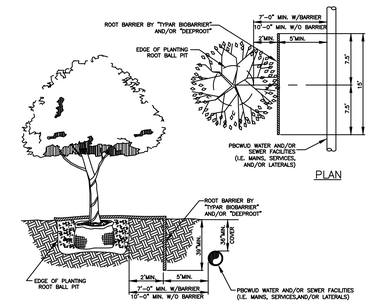
AUTOMATIC FLUSHING ASSEMBLY (TYPE B) 44W



NOTES:

1. RIP-RAP RUBBLE AND ITS INSTALLATION MUST MEET CANAL OWNERSHIP SPECIFICATIONS AND PERMITTING REQUIREMENTS.
2. DUMP RUBBLE IN PLACE FORMING A COMPACT LAYER CONFORMING TO THE CANAL DESIGN SECTION SLOPE. ENSURE THAT RUBBLE DOES NOT SEGREGATE SO THAT SMALLER PIECES EVENLY FILL THE VOIDS BETWEEN LAGER PIECES.
3. AN ALTERNATIVE DESIGN WILL BE CONSIDERED AND MUST RECEIVE PRIOR APPROVAL FROM THE CANAL PROPERTY OWNER.

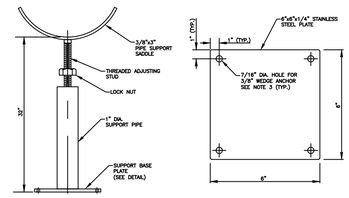
RIP-RAP RUBBLE DETAIL 45W



NOTES:

1. TREES SHOWN ON THIS PLAN ARE FOR GRAPHIC REPRESENTATION ONLY. TREE SPACING IS BASED ON DESIGN REQUIREMENTS AND THE TREES SHOWN ON THESE PLANS ATTEMPT TO ACCOMPLISH THAT SPACING WHILE MAINTAINING THE REQUIRED SETBACKS FROM UTILITIES. TREES MAY BE FIELD ADJUSTED TO AVOID CONFLICTS WITH DRIVEWAYS AND UTILITIES. HOWEVER, IN NO CASE SHALL THESE TREES BE LOCATED IN THE FIELD IN ACCORDANCE WITH THE PLANTING DETAILS SHOWN HEREON.
2. TREES ARE TO BE INSTALLED WITH A TEN FOOT (10') SEPARATION FROM ANY WATER OR SEWER MAIN AND/OR SERVICE, HYDRANTS, AND LIFT STATIONS. IF A TEN FOOT (10') SEPARATION CANNOT BE ACHIEVED, THE TREE CAN BE INSTALLED WITH A ROOT BARRIER SYSTEM. HOWEVER, IN NO CASE SHALL A TREE ENCROACH INTO A PIBCW WITHOUT PRIOR DEPARTMENT APPROVAL.
3. ONLY SOD CAN BE INSTALLED WITHIN 7.5' MINIMUM OF A FIRE HYDRANT UNLESS OTHERWISE APPROVED BY THE FIRE MARSHAL AND THE DEPARTMENT.
4. SOD ONLY SHALL BE INSTALLED WITHIN 5.0' MINIMUM OF ANY DEPARTMENT WATER METER.
5. WHEN INSTALLING A SOLID ROOT BARRIER PANEL SYSTEM THE PANEL RIBS MUST FACE THE TREE ROOT BALL.*

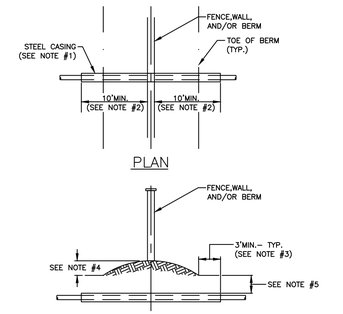
LANDSCAPE AND ROOT BARRIER DETAIL * 46W



NOTES:

1. SHOP DRAWING FOR THE METER ASSEMBLY PIPE SUPPORT IS REQUIRED TO BE SUBMITTED FOR APPROVAL BY THE DEPARTMENT PRIOR TO THE PIPE SUPPORT BEING CONSTRUCTED AND/OR INSTALLED. ALL PIPE SUPPORTS FOR EACH METER ASSEMBLY INSTALLATION SHALL BE THE SAME.
2. ALL PIPE SUPPORT MATERIALS AND MOUNTING HARDWARE ARE REQUIRED TO BE 304 STAINLESS STEEL.
3. THE REQUIRED WEDGE ANCHORS FOR EACH SUPPORT SHALL BE 3/8" DIAMETER WITH NOMINAL EMBEDMENT OF 2-3/8". EACH ANCHOR SHALL HAVE A WASHER, LOCK WASHER, AND NUT.

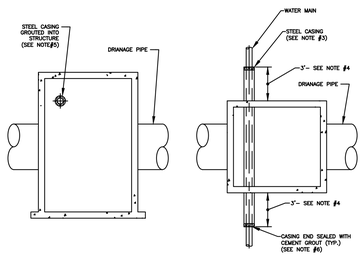
ABOVE GROUND WATER METER INSTALLATION PIPE SUPPORT 47W



NOTES:

1. STEEL CASING PER WUD STANDARD DETAIL 22W (SOLID CASING) OR WUD STANDARD DETAIL 22AW (SPLIT CASING) AS APPLICABLE.
2. STEEL CASING SHALL EXTEND TEN (10) FEET MINIMUM PAST FENCE OR WALL. FIVE (5) FEET MINIMUM MAY BE ACCEPTABLE ON A CASE-BY-CASE BASIS DUE TO SITE CONDITIONS AND ONLY WITH PRIOR DEPARTMENT APPROVAL.
3. STEEL CASING SHALL EXTEND THREE (3) FEET MINIMUM PAST THE TOE OF THE BERM. IF BERM CASING IS ASSOCIATED WITH A WALL OR FENCE INSTALLATION OF THE CASING SHALL EXTEND THREE (3) FEET MINIMUM PAST THE TOE OF THE BERM OR TEN (10) FEET MINIMUM PAST THE WALL OR FENCE WHICH EVER IS GREATER.
4. STEEL CASING INSTALLATION REQUIRED WHEN A BERM IS TWO (2) FEET OR HIGHER ABOVE SURROUNDING GRADE.
5. TOP OF STEEL CASING SHALL BE THREE (3) FEET MINIMUM BELOW THE TOE OF THE BERM OR BASE OF WALL OR FENCE ELEVATION WHICHEVER IS LOWER.

POTABLE WATER MAIN CROSSING FENCE,WALL, OR BERM CASING DETAIL* * 48W



WUD MAIN SIZE	DIAMETER OF STEEL CASING SIZE	OPENING SIZE FOR SOLID CASING	OPENING SIZE FOR SPLIT CASING
6"	14"	18"	20"
8"	20"	24"	26"
10"	20"	24"	26"
12"	24"	28"	30"

NOTES:

1. THE CONFLICT STRUCTURE IS TO BE DESIGNED PER CURRENT FDOT UTILITY CONFLICT THRU DRAINAGE STRUCTURE STANDARDS.
2. A SHOP DRAWING TO SCALE FOR EACH CONFLICT STRUCTURE INSTALLATION IS REQUIRED TO BE APPROVED BY THE DEPARTMENT PRIOR TO INSTALLATION.
3. STEEL CASING PER WUD STANDARD DETAIL 22W (SOLID CASING) OR WUD STANDARD DETAIL 22AW (SPLIT CASING) FOR EXISTING WATER MAIN ONLY.
4. STEEL CASING SHALL EXTEND THREE (3) FEET PAST EACH SIDE OF STRUCTURE. CASING CAN EXTEND FURTHER PAST THE STRUCTURE WHEN EXISTING CONDITIONS WARRANT AND ONLY WITH PRIOR DEPARTMENT APPROVAL.
5. STEEL CASING SHALL BE GROUTED IN PLACE WITH NON-SHRINKABLE CEMENT GROUT TO PROVIDE A WATERTIGHT SEAL TO PREVENT ANY LEAKAGE INTO THE STRUCTURE.
6. NON-SHRINKABLE CEMENT GROUT TO BE INSTALLED AT EACH END OF CASING TO OBTAIN WATERTIGHT SEAL.

POTABLE WATER MAIN CONFLICT STRUCTURE DETAIL* * 49W

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POTABLE WATER #6 STANDARD DETAILS

CONSULTANT:

IT'S THE LAW! CALL 48 HOURS BEFORE YOU DIG 1-800-432-4770 SUNSHINE STATE ONE CALL OF FLORIDA, INC. UTILITIES NOTIFICATION CENTER

DESIGNED BY: WUD
DRAWN BY: M. BUCKNER
CHECKED BY: J. LAMMERT
APPROVED BY: WUD

Palm Beach County
Water Utilities Department
P.O.Box 16097
West Palm Beach, FL 33416-6097

WUD PROJECT No. 00-000

WUD PROJECT NAME

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561)493-6000

NO.	DATE	BY	REVISION / REMARKS
*	JUNE 2019	J.L.	GENERAL REVISION
	JAN 2023	J.L.	GENERAL REVISION

STD DETAILS

SHEET NUMBER 0 OF 0

SEAL

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Service Driven Design – Engineered Results
1400 Centrepark Blvd, Suite 905
West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
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6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:
GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Florida License No. 75425

CDI PROJECT NO.
23805-01

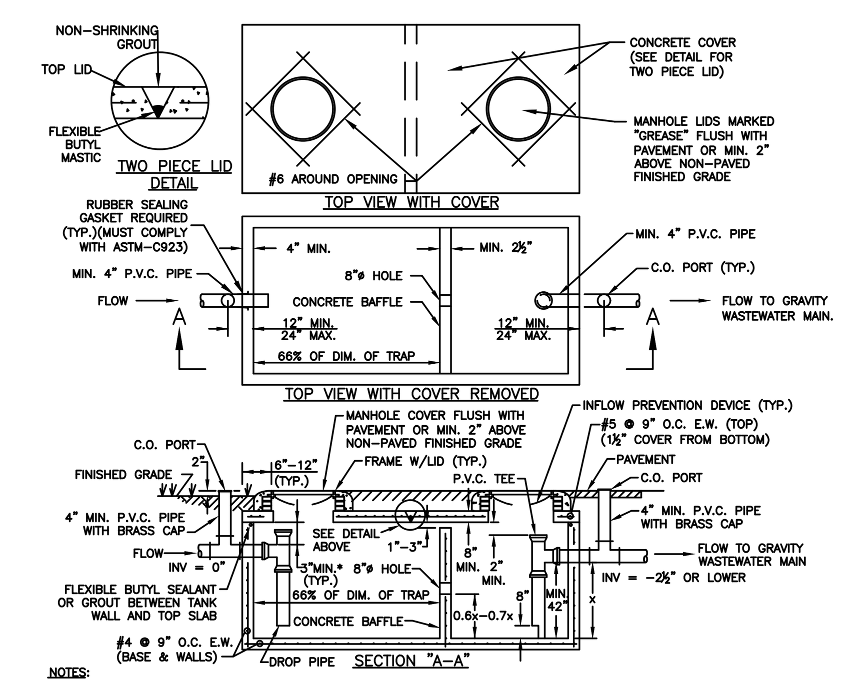
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WATER & SEWER DETAILS

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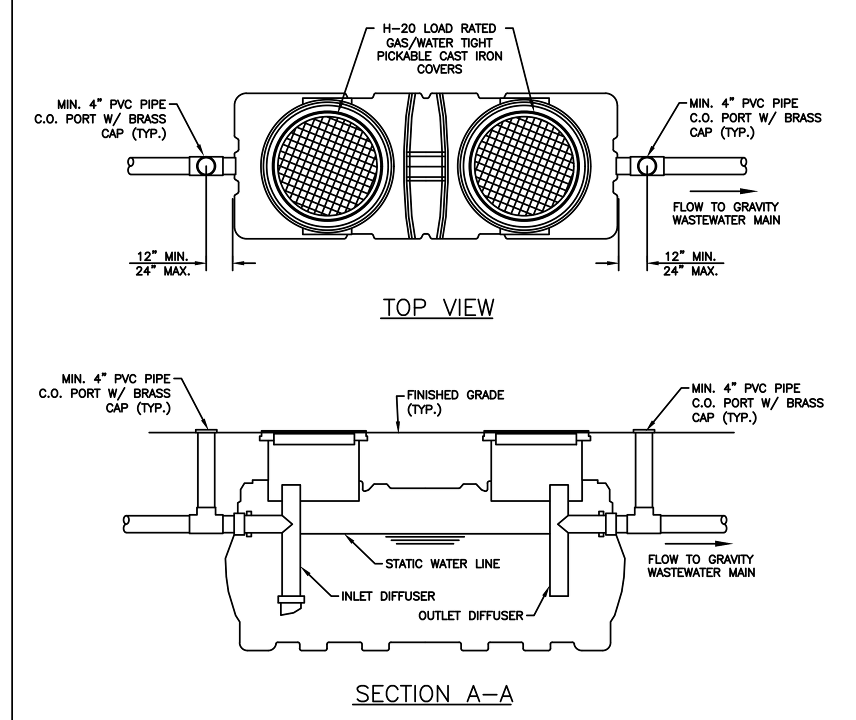
EXHIBIT "A"



NOTES:

1. OIL/GREASE INTERCEPTORS SHALL BE WATERTIGHT AND SHALL BE BUILT OF PRECAST CONCRETE WHICH HAS A DESIGN COMPRESSIVE STRENGTH OF MINIMUM 3000 PSI AFTER 28 DAYS CURE. THE DESIGN, SIZING AND CONSTRUCTION MUST CONFORM TO THIS STANDARD AND TO ALL APPLICABLE BUILDING CODES, HEALTH DEPARTMENT REQUIREMENTS AND REGULATIONS, INCLUDING, BUT NOT LIMITED TO CHAPTER 64E-6, FLORIDA ADMINISTRATIVE CODE. WALL AND SLAB THICKNESS SHOWN ARE MINIMUMS, AND SHALL BE DETERMINED BY THE OWNER'S ENGINEER. THE CONCRETE BOX SHALL BE MONOLITHIC POURED AND SHALL HAVE A PRECAST HOLE ON EACH END ONLY FOR LATERAL. THE PRECAST HOLES SHALL HAVE CAST-IN BOOTS WHENEVER POSSIBLE. AN ALTERNATIVE TYPE OF INTERCEPTOR OTHER THAN A PRECAST CONCRETE STRUCTURE MAY BE INSTALLED ONLY WITH PRIOR DEPARTMENT APPROVAL. SHOP DRAWINGS ARE REQUIRED TO BE SUBMITTED AND APPROVED BY THE DEPARTMENT PRIOR TO THE PRE-CONSTRUCTION MEETING FOR ALL INTERCEPTORS.
2. THE OIL/GREASE INTERCEPTOR SHALL BE USED FOR APPLICATIONS EXCEEDING 25 GPM FLOW RATE, DETERMINED USING THE PLUMBING AND DRAINAGE INSTITUTE PDI G101 STANDARD. A DESIGN CALCULATION MUST BE SUBMITTED FOR APPROVAL WITH A SHOP DRAWING PRIOR TO THE PRE-CONSTRUCTION MEETING. FOR APPLICATIONS UP TO 25 GPM FLOW RATE (ONE MINUTE FLOW) OR 50 GPM (TWO MINUTE FLOW), AN APPROVED OUTDOOR "GREASE TRAP" MAY BE USED; OTHER DESIGNS MAY BE CONSIDERED UPON SUBMITTAL AND APPROVAL OF SHOP DRAWINGS.
3. INSPECTION PORTS (CLEAN OUTS) ARE REQUIRED TO BE INSTALLED AT EACH END OF ANY TYPE OF INTERCEPTOR WITH PORTS TO REMAIN EASILY ACCESSIBLE FOR UTILITY INSPECTION AND SAMPLING.
4. THE INTERCEPTOR AND CLEAN-OUTS PORT SHALL BE LOCATED OUTSIDE AND IN NON-TRAFFIC AREA WHENEVER POSSIBLE. IF INSTALLED IN IN A TRAFFIC AREA MINI-MANHOLES ARE REQUIRED ON THE INSPECTION PORTS (CLEAN OUTS). THE SURFACE SURROUNDING THE INTERCEPTOR SHALL BE SLOPED TO DRAIN STORM WATER AWAY FROM THE INTERCEPTOR.
5. THE CAPACITY DETERMINATION FOR THE INTERCEPTOR IS THE RESPONSIBILITY OF THE OWNER/CUSTOMER. THE MINIMUM VOLUME OF ANY GREASE INTERCEPTOR SHALL BE 750 GALLONS AND THE MAXIMUM VOLUME OF A SINGLE GREASE INTERCEPTOR SHALL BE 1250 GALLONS. WHEN THE REQUIRED EFFECTIVE CAPACITY OF THE GREASE INTERCEPTOR IS GREATER THAN 1250 GALLONS, INSTALLATION OF MULTIPLE GREASE INTERCEPTORS IN SERIES IS REQUIRED.
6. NO BAFFLE IS REQUIRED IF THERE ARE MULTIPLE GREASE INTERCEPTORS INSTALLED IN SERIES. HOWEVER, CLEANOUT PORTS MUST BE INSTALLED ON EACH END OF EACH INTERCEPTOR.
7. THE PROPERTY OWNER/CUSTOMER SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE INTERCEPTOR.
8. THE GREASE INTERCEPTOR SHALL NOT BE USED FOR THE PURPOSE OF INTERCEPTING SAND AND OIL FROM NON- FOOD HANDLING ESTABLISHMENTS.
9. EACH FACILITY WITH AN OIL/GREASE INTERCEPTOR SHALL HAVE A SEPARATE (NOT SHARED) INTERCEPTOR AND SHALL BE INDIVIDUALLY METERED THROUGH THE DEPARTMENT.
10. A "GREASE TRAP" OR "OIL/GREASE INTERCEPTOR" SHALL BE REQUIRED TO RECEIVE THE DRAINAGE FROM FIXTURES AND EQUIPMENT (SINKS, DISHWASHERS, FLOOR DRAINS, CAN WASH AREAS, ETC.) WITH GREASE LADEN WASTE LOCATED IN COMMERCIAL FOOD PREPARATION AREAS SUCH AS RESTAURANTS, HOTEL KITCHENS, HOSPITALS, SCHOOL KITCHENS, BARS, FACTORY CAFETERIAS, CLUBS, ETC.
11. THE "GREASE TRAP" OR "OIL/GREASE INTERCEPTOR" SHALL BE LOCATED AS CLOSE AS PRACTICALLY POSSIBLE TO THE FIXTURES AND EQUIPMENT GENERATING GREASE.
12. A "SOLIDS INTERCEPTOR" SHALL BE CONSIDERED TO BE INSTALLED UPSTREAM OF A " GREASE TRAP" WHERE SUBSTANTIAL AMOUNT OF SOLIDS FROM FOOD GRINDERS, DISPOSALS MAY BE PRESENT.
13. MANHOLE COVER SHALL BE MACHINED TO ACCEPT INFLOW PROTECTOR.
14. SEE WUD STANDARD DETAIL 1SB FOR FIBERGLASS TYPE OIL/GREASE INTERCEPTOR INSTALLATIONS.*

OIL/ GREASE INTERCEPTOR CONCRETE STRUCTURE * 1SA

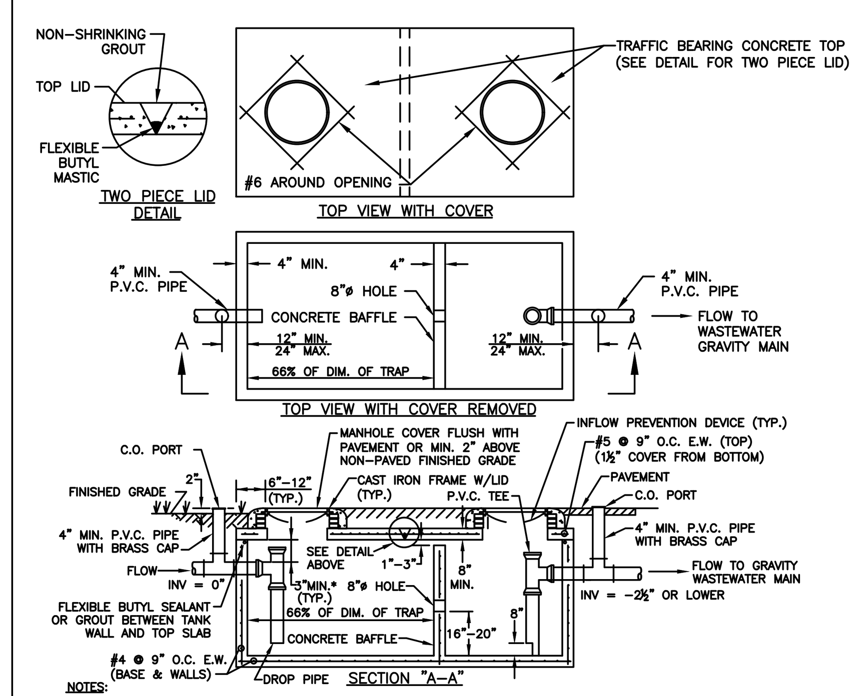


SECTION A–A

NOTES:

1. INSPECTION PORTS (CLEANOUTS) ARE REQUIRED TO BE INSTALLED AT EACH END OF ANY TYPE OF INTERCEPTOR WITH PORTS TO REMAIN ACCESSIBLE TO FOR UTILITY INSPECTION AND SAMPLING.
2. THE INTERCEPTOR PORTS (CLEANOUTS) SHALL BE LOCATED OUTSIDE AND IN A NON-TRAFFIC AREA WHEREVER POSSIBLE. IF INSTALLED IN A TRAFFIC AREA, MINI-MANHOLES ARE REQUIRED TO BE INSTALLED ON ALL PORTS (CLEANOUTS). THE SURFACE SURROUNDING THE INTERCEPTOR SHALL BE SLOPED TO DRAIN STORM WATER AWAY FROM THE INTERCEPTOR.
3. IF AN INTERCEPTOR NEEDS TO BE INSTALLED IN DOORS DUE TO EXISTING SITE CONDITIONS, PRIOR DEPARTMENT APPROVAL IS REQUIRED WITH IN DOOR INSTALLATIONS APPROVED ON A CASE BY CASE BASIS.
4. THE PROPERTY OWNER/CUSTOMER SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE INTERCEPTOR.
5. EACH FACILITY WITH AN OIL/GREASE INTERCEPTOR SHALL HAVE A DEDICATED (NOT SHARED) INTERCEPTOR WITH THEIR POTABLE WATER SERVICE INDIVIDUALLY METERED THROUGH THE DEPARTMENT.
6. SEE WUD STANDARD DETAIL 1SA FOR CONCRETE STRUCTURE TYPE OIL/GREASE INTERCEPTOR INSTALLATIONS.

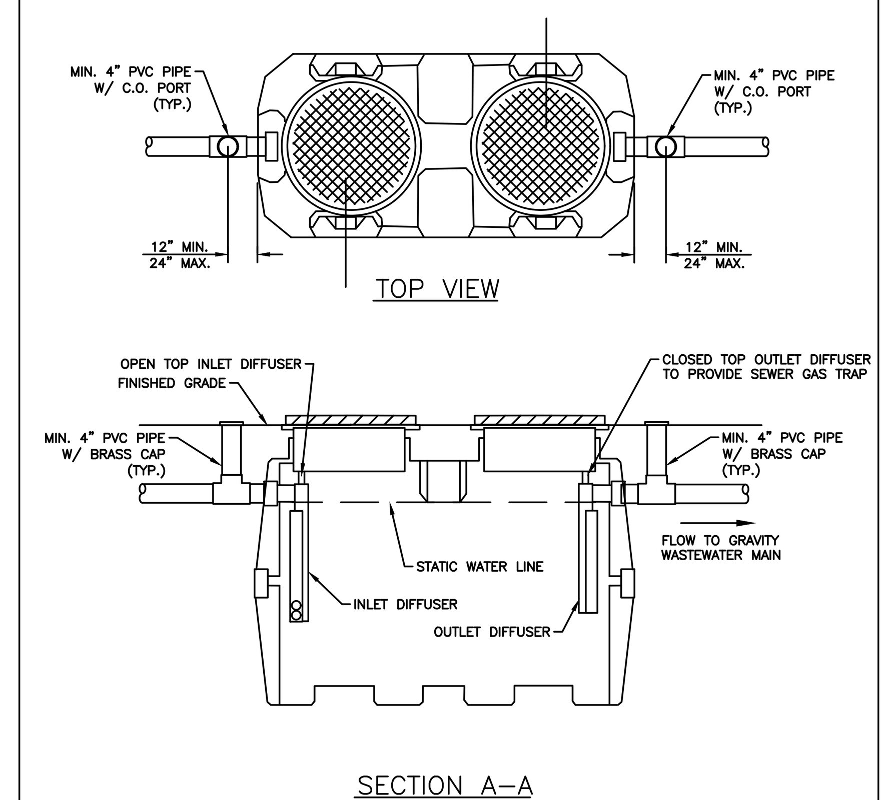
OIL/ GREASE INTERCEPTOR FIBERGLASS STRUCTURE ONLY * 1SB



NOTES:

1. SAND/OIL INTERCEPTORS SHALL BE WATERTIGHT AND SHALL BE BUILT OF PRECAST CONCRETE WHICH HAS A DESIGN COMPRESSIVE STRENGTH OF MINIMUM 3000 PSI AFTER 28 DAYS CURE. THE DESIGN, SIZING AND CONSTRUCTION MUST CONFORM TO THIS STANDARD AND TO ALL APPLICABLE BUILDING CODES, HEALTH DEPARTMENT REQUIREMENTS AND REGULATIONS, INCLUDING, BUT NOT LIMITED TO CHAPTER 64E-6, FLORIDA ADMINISTRATIVE CODE. WALL AND SLAB THICKNESS SHOWN ARE MINIMUMS, AND SHALL BE DETERMINED BY THE OWNER'S ENGINEER. THE CONCRETE BOX SHALL BE MONOLITHIC POURED AND SHALL HAVE A PRECAST HOLE ON EACH END ONLY FOR LATERAL. THE PRECAST HOLES SHALL HAVE CAST-IN BOOTS WHENEVER POSSIBLE.
2. AN ALTERNATIVE TYPE OF INTERCEPTOR STRUCTURE MAY BE INSTALLED ONLY WITH PRIOR DEPARTMENT APPROVAL. SHOP DRAWINGS ARE REQUIRED TO BE SUBMITTED AND APPROVED BY THE DEPARTMENT PRIOR TO THE PRE-CONSTRUCTION MEETING FOR ALL INTERCEPTORS.
3. INSPECTION PORTS (CLEAN OUTS) ARE REQUIRED TO BE INSTALLED AT EACH END OF ANY TYPE OF INTERCEPTOR WITH PORTS TO REMAIN EASILY ACCESSIBLE FOR UTILITY INSPECTION AND SAMPLING.
4. THE INTERCEPTOR SHALL BE LOCATED IN GRASS AREA/NON-TRAFFIC AREA WHENEVER POSSIBLE. THE SURFACE SURROUNDING THE INTERCEPTOR SHALL BE SLOPED TO DRAIN STORM WATER AWAY FROM THE INTERCEPTOR.
5. THE CAPACITY DETERMINATION FOR THE INTERCEPTOR IS THE RESPONSIBILITY OF THE OWNER/CUSTOMER. THE MINIMUM VOLUME OF A SAND/OIL INTERCEPTOR SHALL BE 750 GALLONS. WHEN THE REQUIRED EFFECTIVE CAPACITY OF THE SAND/OIL INTERCEPTOR IS GREATER THAN 750 GALLONS, INSTALLATION OF SINGLE COMPARTMENT SAND/OIL INTERCEPTORS IN SERIES IS REQUIRED.
6. THE PROPERTY OWNER/CUSTOMER SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE INTERCEPTOR.
7. SAND/OIL INTERCEPTOR SHALL NOT BE USED FOR THE PURPOSE OF INTERCEPTION OF GREASE FROM FOOD HANDLING ESTABLISHMENTS.
8. EACH FACILITY REQUIRED TO HAVE A SAND/OIL INTERCEPTOR SHALL HAVE A SEPERATE INTERCEPTOR AND SHALL BE INDIVIDUALLY METERED THROUGH THE DEPARTMENT.
9. MANHOLE LIDS SHALL BE MACHINED TO ACCEPT INFLOW PREVENTER.
10. SEE WUD STANDARD DETAIL 2SB FOR FIBERGLASS TYPE SAND/OIL INTERCEPTOR INSTALLATIONS.*

SAND/ OIL INTERCEPTOR CONCRETE STRUCTURE * 2SA

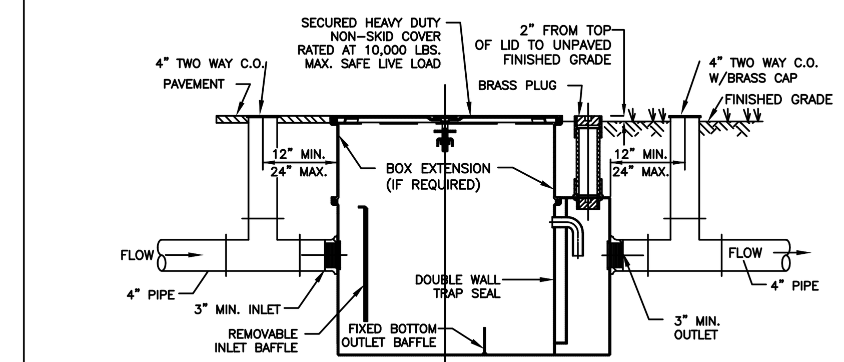


SECTION A–A

NOTES:

1. INSPECTION PORTS (CLEANOUTS) ARE REQUIRED TO BE INSTALLED AT EACH END OF ANY TYPE OF INTERCEPTOR WITH PORTS TO REMAIN ACCESSIBLE TO FOR UTILITY INSPECTION AND SAMPLING.
2. THE INTERCEPTOR PORTS (CLEANOUTS) SHALL BE LOCATED OUTSIDE AND IN A NON-TRAFFIC AREA WHEREVER POSSIBLE. IF INSTALLED IN A TRAFFIC AREA, MINI-MANHOLES ARE REQUIRED TO BE INSTALLED ON ALL PORTS (CLEANOUTS). THE SURFACESURROUNDING THE INTERCEPTOR SHALL BE SLOPED TO DRAIN STORM WATER AWAY FROM THE INTERCEPTOR.
3. IF AN INTERCEPTOR NEEDS TO BE INSTALLED IN DOORS DUE TO EXISTING SITE CONDITIONS, PRIOR DEPARTMENT APPROVAL IS REQUIRED WITH IN DOOR INSTALLATIONS APPROVED ON A CASE BY CASE BASIS.
4. THE PROPERTY OWNER/CUSTOMER SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE INTERCEPTOR.
5. EACH FACILITY WITH AN SAND/OIL INTERCEPTOR SHALL HAVE A DEDICATED (NOT SHARED) INTERCEPTOR WITH THEIR POTABLE WATER SERVICE INDIVIDUALLY METERED THROUGH THE DEPARTMENT.
6. SEE WUD STANDARD DETAIL 2SA FOR CONCRETE STRUCTURE TYPE SAND/OIL INTERCEPTOR INSTALLATIONS.

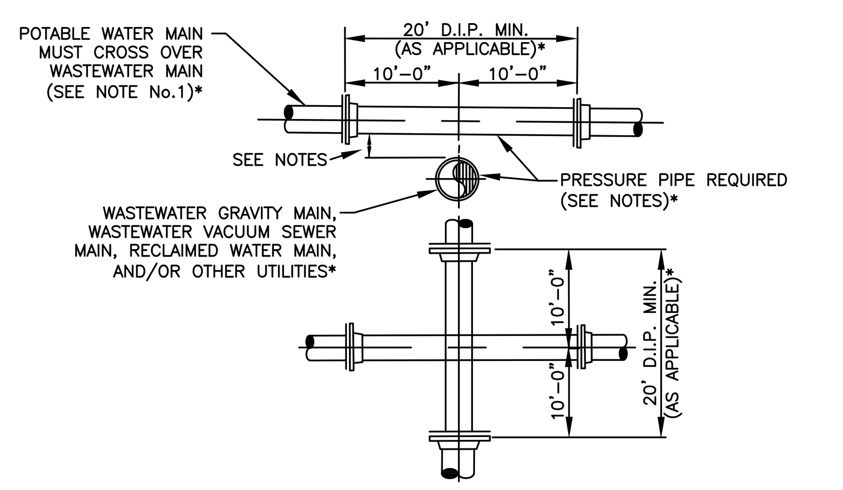
SAND/ OIL INTERCEPTOR POLYETHEYLENE/FIBERGLASS STRUCTURE ONLY * 2SB



NOTES:

1. THE GREASE TRAP SHALL BE WATERTIGHT AND GAS TIGHT AND SHALL BE FABRICATED FROM STEEL, ACID RESISTANT COATED INTERIOR AND EXTERIOR.
2. THE GREASE TRAP SHALL BE CERTIFIED AND TAGGED BY THE SEAL OF THE PLUMBING AND DRAINAGE INSTITUTE (PDI), AND PDI RATED AT 50 GPM FLOW RATE AND 100 LBS. GREASE CAPACITY. THE GREASE TRAP SIZE, DESIGN AND INSTALLATION MUST COMPLY OR EXCEED THE APPLICABLE BUILDING CODES AND REGULATIONS.
3. THE GREASE TRAP MAY BE USED IF AN OIL/GREASE INTERCEPTOR IS NOT REQUIRED AND ONLY FOR APPLICATIONS UP TO 25 GPM FLOW RATE (ONE MINUTE FLOW) OR 50 GPM (TWO MINUTE FLOW), DETERMINED USING THE PDI G 101 STANDARD. FOR HIGHER FLOW RATES OR GREASE CAPACITY GREATER THAN 50 LBS., AN APPROVED "OIL/GREASE INTERCEPTOR" WILL BE REQUIRED. A DESIGN CALCULATION SHALL BE SUBMITTED FOR APPROVAL WITH A SHOP DRAWING PRIOR TO PRE-CONSTRUCTION MEETING. THE SHOP DRAWING SHALL BE SIGNED BY THE DESIGNING ENGINEER AND BY THE CONTRACTOR. THE PROJECT NAME WITH STREET ADDRESS OF THE FACILITY (IF AVAILABLE) SHALL BE SHOWN ON THE SHOP DRAWING. OTHER DESIGNS MAY BE USED UPON APPROVAL OF SHOP DRAWINGS.
4. THE GREASE TRAP SHALL BE LOCATED OUTDOORS, EASY ACCESSIBLE FOR MAINTENANCE AND SAMPLING, PREFERABLY IN GRASS AREA, NOT IN TRAFFIC AREA, PARKING SPACES OR SIDEWALKS. THE SURFACE SURROUNDING THE GREASE TRAP SHALL BE SLOPED TO DRAIN STORM WATER AWAY FROM THE GREASE TRAP.
5. THE GREASE TRAP SHALL NOT BE USED FOR THE PURPOSE OF INTERCEPTING SAND AND OIL FROM NON-FOOD HANDLING ESTABLISHMENTS.
6. THE PROPERTY OWNER/CUSTOMER SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE GREASE TRAP.
7. EACH FACILITY WITH A GREASE TRAP SHALL BE INDIVIDUALLY METERED THROUGH THE DEPARTMENT.
8. EACH FACILITY WHICH IS REQUIRED TO INSTALL A GREASE TRAP SHALL HAVE A SEPARATE (NOT SHARED) GREASE TRAP.
9. INSPECTION PORTS (CLEAN OUTS) ARE REQUIRED TO BE INSTALLED AT EACH END OF ANY TYPE OF INTERCEPTOR WITH PORTS TO REMAIN EASILY ACCESSIBLE FOR UTILITY INSPECTION AND SAMPLING.
10. A "GREASE TRAP" OR "OIL/GREASE INTERCEPTOR" SHALL BE REQUIRED TO RECEIVE THE DRAINAGE FROM FIXTURES AND EQUIPMENT (SINKS, DISHWASHERS, FLOOR DRAINS, CAN WASH AREAS, ETC.) WITH GREASE LADDEN WASTE LOCATED IN COMMERCIAL FOOD PREPARATION AREAS SUCH AS RESTAURANTS, HOTEL KITCHENS, HOSPITALS, SCHOOL KITCHENS, BARS, FACTORY CAFETERIAS, CLUBS, ETC.
11. THE "GREASE TRAP" OR "OIL/GREASE INTERCEPTOR" SHALL BE LOCATED AS CLOSE PRACTICALLY POSSIBLE TO THE FIXTURES AND EQUIPMENT GENERATING GREASE.
12. GREASE TRAPS SHALL BE EQUIPPED WITH DEVICES TO CONTROL THE RATE OF FLOW, SO THE RATE OF THE FLOW DO NOT EXCEED 25 GPM. THE FLOW CONTROL DEVICE SHALL BE INSTALLED IN ACCORDANCE WITH THE CODE AND MANUFACTURER'S INSTRUCTIONS.
13. A "SOLIDS INTERCEPTOR" SHALL BE CONSIDERED TO BE INSTALLED UPSTREAM OF A " GREASE TRAP" WHERE SUBSTANTIAL AMOUNT OF SOLIDS FROM FOOD GRINDERS, DISPOSALS MAY BE PRESENT.

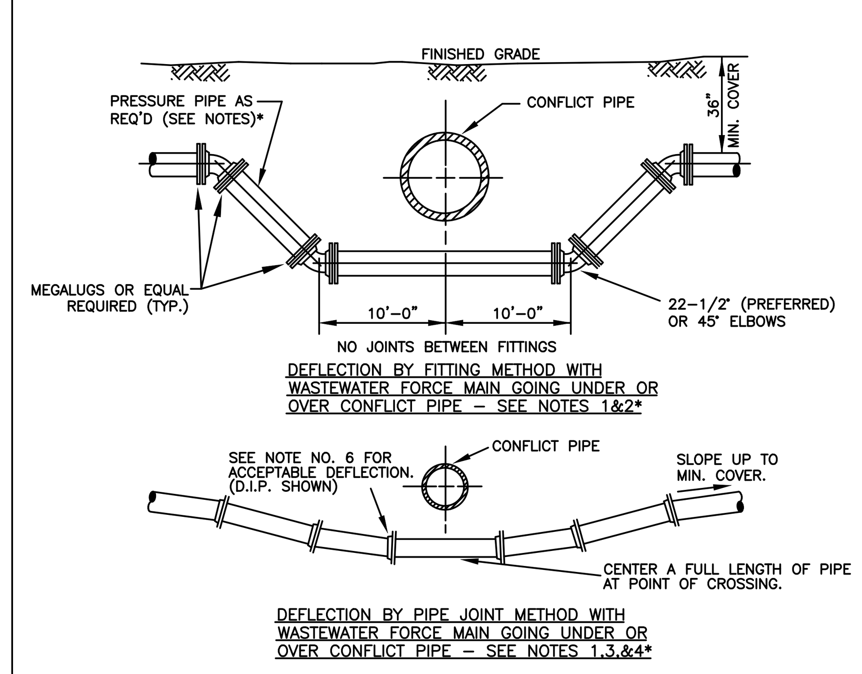
GREASE TRAP 3S



NOTES:

1. WHEN A WASTEWATER FORCE MAIN CROSSES OVER AND/OR UNDER A STORM SEWER, GRAVITY WASTEWATER, VACUUM GRAVITY WASTEWATER, AND/OR RECLAIMED WATER MAIN THE WASTEWATER FORCE MAIN SHALL BE LAID TO PROVIDE A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHEN THE MINIMUM TWELVE (12) INCH VERTICAL SEPARATION CANNOT BE OBTAINED A MINIMUM SIX (6) INCH VERTICAL SEPARATION IS PERMITTED PROVIDED THAT A TWENTY (20) FOOT SECTION OF WASTEWATER DUCTILE IRON PIPE MAIN IS CENTERED ON THE CROSSING WITH THE OTHER PIPE HAVING A TWENTY (20) FOOT SECTION CENTERED ON THE CROSSING AND WITH PRIOR DEPARTMENT APPROVAL. A WASTEWATER FORCE MAIN MUST CROSS UNDER ANY POTABLE WATER MAIN WITH A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION REQUIRED. WHEN THE MINIMUM TWELVE (12) INCH VERTICAL SEPARATION CANNOT BE OBTAINED A MINIMUM SIX (6) INCH VERTICAL SEPARATION IS PERMITTED PROVIDED THAT A TWENTY (20) FOOT SECTION OF POTABLE WATER DUCTILE IRON PIPE MAIN IS CENTERED ON THE CROSSING WITH THE WASTEWATER FORCE MAIN HAVING A TWENTY (20) FOOT SECTION CENTERED ON THE CROSSING AND ONLY WITH PRIOR DEPARTMENT APPROVAL. A WASTEWATER FORCE MAIN MAY CROSS OVER A POTABLE WATER MAIN ON A CASE BY CASE BASIS PROVIDED A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION IS OBTAINED BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE AND ONLY WITH PRIOR DEPARTMENT APPROVAL.*
2. TEN (10) FOOT MINIMUM HORIZONTAL SEPARATION (OUTSIDE WALL TO OUTSIDE WALL) IS REQUIRED BETWEEN A WASTEWATER MAIN AND POTABLE WATER MAIN, A STORM SEWER, AND/OR RECLAIMED WATER MAIN. A SIX (6) FOOT MINIMUM HORIZONTAL SEPARATION (OUTSIDE WALL TO OUTSIDE WALL) IS ACCEPTABLE WITH PRIOR DEPARTMENT APPROVAL BEFORE THE INSTALLATION OF THE WASTEWATER MAIN. A THREE (3) FOOT MINIMUM HORIZONTAL SEPARATION (OUTSIDE WALL TO OUTSIDE WALL) BETWEEN A WASTEWATER MAIN AND A RECLAIMED WATER MAIN IS ACCEPTABLE WITH PRIOR DEPARTMENT APPROVAL BEFORE THE INSTALLATION OF THE WASTEWATER MAIN.*
3. WHEN A WASTEWATER MAIN CROSSES ANY ELECTRICAL CONDUIT(S), COMMUNICATION CONDUIT(S), AND/OR GAS MAIN, A MINIMUM OF EIGHTEEN (18) INCH VERTICAL SEPARATION IS REQUIRED BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. A WASTEWATER PIPE SHALL ALWAYS CROSS OVER THE OTHER UTILITY MAINS UNLESS APPROVED BY THE DEPARTMENT BEFORE THE INSTALLATION OF THE WASTEWATER MAIN. WHEN THE WASTEWATER MAIN IS D.I.P. AND THE GAS MAIN IS STEEL PIPE, THE WASTEWATER MAIN SHALL BE POLY-WRAPPED PER DEPARTMENT STANDARDS.
4. WASTEWATER LATERALS SHALL CROSS UNDER POTABLE WATER MAINS WITH A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHEN THE MINIMUM TWELVE (12) INCH VERTICAL SEPARATION CANNOT BE OBTAINED A MINIMUM SIX (6) INCH VERTICAL SEPARATION IS PERMITTED PROVIDED THAT A TWENTY (20) FOOT SECTION OF POTABLE WATER DUCTILE IRON PIPE MAIN IS CENTERED OVER THE WASTEWATER LATERAL AND THE LATERAL IS PVC C-900 PIPE. WHEN A WASTEWATER LATERAL MUST CROSS OVER A POTABLE WATER MAIN A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION IS REQUIRED WITH THE LATERAL MAIN BEING PVC C-900 PIPE AND THE POTABLE WATER MAIN HAVING A TWENTY (20) FOOT SECTION OF POTABLE WATER DUCTILE IRON PIPE MAIN CENTERED ON CROSSING.*
5. WASTEWATER MAINS SHALL ALWAYS CROSS UNDER POTABLE WATER SERVICE LINES WITH A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. IF THE MINIMUM TWELVE (12) INCH VERTICAL SEPARATION CANNOT BE MAINTAINED THE WATER SERVICE LINE SHALL BE ENCASED IN A TEN (10) FOOT MINIMUM LONG CASING CENTERED OVER THE CROSSING WITH SIX (6) INCH MINIMUM VERTICAL SEPARATION.*
6. WASTEWATER MAINS SHALL CROSS PERPENDICULAR TO ALL POTABLE WATER MAINS, STORM MAINS, STORM SEWER MAINS, RECLAIMED WATER MAINS, AND/OR OTHER UTILITIES WHENEVER POSSIBLE.*

WASTEWATER MAIN CROSSING OTHER MAINS AND UTILITIES * 4S



DEFLECTION BY FITTING METHOD WITH WASTEWATER FORCE MAIN GOING UNDER OR OVER CONFLICT PIPE – SEE NOTES 1&2*

DEFLECTION BY PIPE JOINT METHOD WITH WASTEWATER FORCE MAIN GOING UNDER OR OVER CONFLICT PIPE – SEE NOTES 1,3,&4*

NOTES:

1. DEFLECTION BY FITTINGS AND/OR PIPE JOINT METHODS APPLIES TO WASTEWATER FORCE MAIN CROSSING OVER OR UNDER CONFLICT PIPE WITH CROSSING OVER CONFLICT PIPE PREFERRED. WHEN A WASTEWATER FORCE MAIN CROSSES OVER A STORM SEWER, GRAVITY WASTEWATER, VACUUM GRAVITY AND/OR RECLAIMED WATER MAIN THE WASTEWATER FORCE MAIN SHALL BE LAID TO PROVIDE A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHEN THE MINIMUM OF TWELVE (12) INCH VERTICAL SEPARATION CANNOT BE OBTAINED A MINIMUM SIX (6) INCH VERTICAL SEPARATION IS PERMITTED PROVIDED THAT A TWENTY (20) FOOT SECTION OF WASTEWATER DUCTILE IRON PIPE FORCE MAIN IS CENTERED ON THE CROSSING WITH THE LOWER PIPE HAVING A TWENTY (20) FOOT SECTION CENTERED ON THE CROSSING. A WASTEWATER FORCE MAIN MUST CROSS UNDER ANY POTABLE WATER MAIN WITH A MINIMUM TWELVE (12) INCH VERTICAL SEPARATION REQUIRED. WHEN THE MINIMUM TWELVE (12) INCH VERTICAL SEPARATION CANNOT BE OBTAINED A MINIMUM SIX (6) INCH VERTICAL SEPARATION IS PERMITTED PROVIDED THAT A TWENTY (20) FOOT DUCTILE IRON PIPE SECTION OF POTABLE WATER MAIN IS CENTERED ON THE CROSSING WITH THE WASTEWATER FORCE MAIN HAVING A TWENTY (20) FOOT DUCTILE IRON PIPE SECTION CENTERED ON THE CROSSING. A WASTEWATER FORCE MAIN MAY CROSS OVER A POTABLE WATER MAIN ON A CASE BY CASE BASIS PROVIDED A MINIMUM OF TWELVE (12) INCH VERTICAL SEPARATION IS OBTAINED BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE AND ONLY WITH PRIOR DEPARTMENT APPROVAL.*
2. THE PREFERRED PIPE DEFLECTION METHOD IS BY USING MECHANICAL RESTRAINT FITTINGS.*
3. WASTEWATER FORCE MAIN DEFLECTION BY PIPE JOINT METHOD REQUIRES DEPARTMENT APPROVAL PRIOR TO THE INSTALLATION OF THE FORCE MAIN.*
4. DEFLECTION BY PIPE JOINT SHALL NOT EXCEED SEVENTY-FIVE PERCENT (75%) OF MANUFACTURER'S RECOMMENDED MAXIMUM JOINT DEFLECTION FOR DUCTILE IRON PIPE AND PVC PIPE DEFLECTION CAN ONLY BE ALLOWED BY INSTALLING THE APPROPRIATE FITTINGS – NO EXCEPTIONS.*

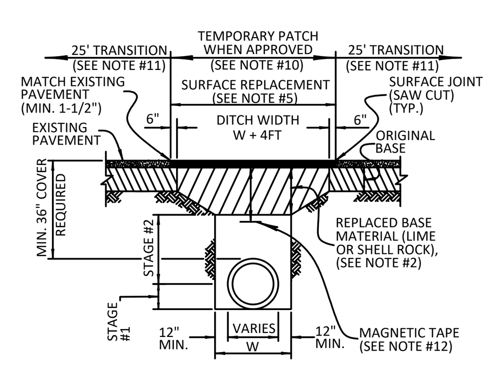
WASTEWATER MAIN CONFLICT DEFLECTION DETAIL * 5S

CONSTRUCTION PROCEDURES

THE BACKFILL FOR THE FIRST AND SECOND STAGES SHALL BE PLACED IN 6" LAYERS (COMPACTED THICKNESS) AND SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.

STAGE 1:
THE CONTRACTOR SHALL PROVIDE ADEQUATE COMPACTED FILL BENEATH THE HAUNCHES OF THE PIPE, USING MECHANICAL TAMPS SUITABLE FOR THIS PURPOSE. THIS COMPACTION APPLIES TO THE MATERIAL PLACED BENEATH THE HAUNCHES OF THE PIPE AND ABOVE ANY BEDDING REQUIRED.

STAGE 2:
THE CONTRACTOR SHALL OBTAIN A WELL-COMPACTED BED AND FILL ALONG THE SIDES OF THE PIPE AND TO A POINT INDICATING THE TOP OF SUB-GRADE MATERIAL.



REPLACEMENT OF FLEXIBLE PAVEMENT FOR PERMITTED PAVEMENT CUT

NOTES

1) BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8" – 7/8" SIZING WITH EQUAL OR GREATER STRUCTURAL ADEQUACY AS EXISTING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
2) REPLACED BASE MATERIAL (PER LAND DEVELOPMENT DESIGN STANDARDS) OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE AND MATCH THE TYPE OF MATERIAL OF THE ORIGINAL BASE OR 12" MINIMUM, WHICHEVER IS GREATER.
3) ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED AND BUTT-JOINTED.
4) BASE MATERIAL SHALL BE PLACED IN TWO OR THREE LAYERS (6" MAX. PER LAYER) AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO THE SPECIFIED DENSITY (MINIMUM 98% AASHTO – T-180)
5) SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE OR 1-1/2" SP 12.5 STRUCTURAL COURSE (TRAFFIC LEVEL A) ASPHALTIC CONCRETE WITH RC-70 PRIME COAT AT 0.10 GAL/SQ. YD. FOR LIMEROCK BASE AND TACK COAT AT 0.05 GAL/S.Y FOLLOW THE LATEST FDOT SPECIFICATIONS FOR APPLICATION RATES OF PRIME AND TACK COATS, CONTRACTOR TO SUBMIT MATERIALS AND RATES TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK.
6) PIPE SHALL BE PLACED IN A DRY TRENCH.
7) ALL ROADWAY REPAIR WORK SHALL BE PERFORMED IN CONFORMANCE WITH APPLICABLE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND COUNTY PPM# EL-0-3606.
8) DENSITY TESTS SHALL BE TAKEN IN 1 FT. LIFTS ABOVE THE PIPE AT INTERVALS OF 400 FT MAXIMUM (1 SET MINIMUM) OR AS DIRECTED BY THE CONSTRUCTION COORDINATION DIVISION. RESULTS SHALL BE SUBMITTED TO CONSTRUCTION COORDINATION DIVISION AS PART OF THEIR FIELD REVIEW.
9) ENGINEER-OF-RECORD SHALL PROVIDE FULL-TIME INSPECTION DURING THE ENTIRETY OF THE OPEN-CUT OPERATION, BEGINNING WITH THE EXCAVATION AND CONTINUING THROUGH THE COMPLETION OF THE PAVING.
10) IF THE PAVEMENT IS NOT COMPLETELY RESTORED IMMEDIATELY FOLLOWING THE OPEN CUT, A SMOOTH TEMPORARY PATCH (MINIMUM 1.5" SP 12.5 STRUCTURAL COURSE ASPHALT) SHALL BE INSTALLED PROPERLY MATCHING THE EXISTING GRADING OF THE ROADWAY. THE TEMPORARY PATCH SHALL BE ALLOWED TO REMAIN IN PLACE AND BE MAINTAINED FOR A PERIOD NO LONGER THAN 45 DAYS. THE COUNTY RETAINS THE RIGHT TO USE POSTED SURETY TO COMPLETE ANY RESTORATION WORK THAT HAS NOT BEEN COMPLETED IN THE 45 DAY PERIOD. ALTERNATIVE TEMPORARY TRENCH PROTECTION (STEEL PLATES OR OTHERS) MAY BE APPROVED BY THE CONSTRUCTION COORDINATION DIVISION.
11) FOR THE FINAL RESTORATION (INCLUDES THE PATCHED/SURFACE REPLACEMENT AREA OVER THE TRENCH), THE ROAD SHALL BE MILLED AND RESURFACED WITH 1-1/2" (ONE AND A HALF INCH) OF SP 12.5 STRUCTURAL COURSE (TRAFFIC LEVEL A) WITH TACK COAT AT 0.05 GAL/SY AND RC-70 PRIME COAT AT 0.10 GAL./SY. FOR A FULL LANE WIDTH ENCROACHED BY THE TRENCH INCLUDING A TRANSITION AREA OF 25 FT. EACH SIDE MEASURED FROM TOP OF TRENCH.
12) APPROVED MAGNETIC TAPE IS REQUIRED FOR ALL MAIN PRESSURE PIPES AND CONDUIT IN THE COUNTY'S RIGHT-OF-WAY. INSTALL TAPE 24" BELOW FINISHED GRADE.
13) CONTINUOUS 4" WIDE PAINT STRIPING IS REQUIRED FOR DIP/PCCP WATER MAINS (BLUE), DIP SANITARY FORCE MAINS (GREEN), DIP RECLAIMED WATER MAINS (PURPLE), GAS MAINS (YELLOW), OR AS REQUIRED BY THE APWA .

WUD ONLY UTILITY NOTE:
THE CONTINUOUS PAINTED STRIPE REFERENCED IN NOTE #13 ABOVE SHALL BE EUCLID GREEN IN COLOR PER WUD STANDARDS.

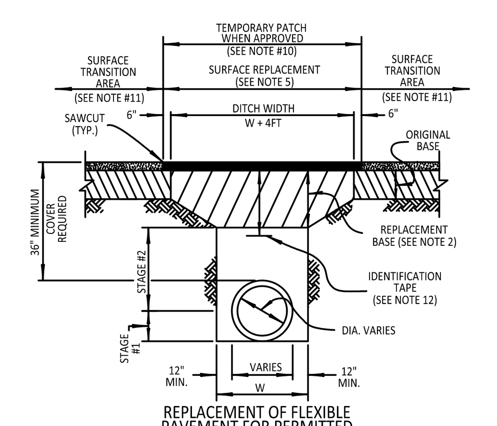
OPEN CUT PIPE INSTALLATION NON-THOROUGHFARE ROAD * 6S

CONSTRUCTION PROCEDURES

THE BACKFILL FOR THE FIRST AND SECOND STAGES SHALL BE PLACED IN 6" LAYERS (COMPACTED THICKNESS) AND SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.

STAGE 1:
THE CONTRACTOR SHALL PROVIDE ADEQUATE COMPACTED FILL BENEATH THE HAUNCHES OF THE PIPE, USING MECHANICAL TAMPS SUITABLE FOR THIS PURPOSE. THIS COMPACTION APPLIES TO THE MATERIAL PLACED BENEATH THE HAUNCHES OF THE PIPE AND ABOVE ANY BEDDING REQUIRED.

STAGE 2:
THE CONTRACTOR SHALL OBTAIN A WELL-COMPACTED BED AND FILL ALONG THE SIDES OF THE PIPE AND TO A POINT INDICATING THE TOP OF SUB-GRADE MATERIAL.



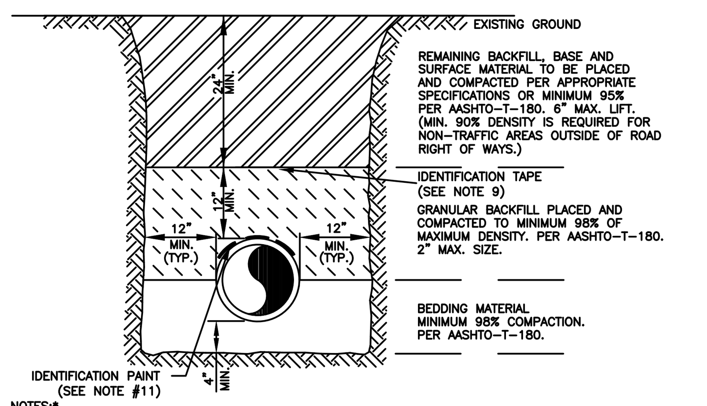
REPLACEMENT OF FLEXIBLE PAVEMENT FOR PERMITTED PAVEMENT CUT

NOTES

1) BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8" - 7/8" SIZING WITH EQUAL OR GREATER STRUCTURAL ADEQUACY AS EXISTING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
2) REPLACED BASE MATERIAL OVER DITCH SHALL BE 16" LIMEROCK (LBR100) MINIMUM FOR THOROUGHFARE PLAN ROADS. ANY ALTERNATE BASE MATERIAL REQUESTED BY THE ENGINEER OF RECORD REQUIRES APPROVAL BY THE ROADWAY PRODUCTION DIVISION.
3) ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED AND BUTT-JOINTED.
4) BASE MATERIAL (PER ROADWAY PRODUCTION DESIGN STANDARDS) SHALL BE PLACED IN TWO OR THREE LAYERS (6" MAX. PER LAYER) AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO THE SPECIFIED DENSITY. (MINIMUM 98% AASHTO-T-180).
5) 1" FRICTION COURSE FC-9.5 OVER 1-1/2" TYPE SP STRUCTURAL COURSE (TRAFFIC LEVEL C) WITH TACK COAT AT 0.05 GAL/SY AND RC-70 PRIME COAT AT 0.10 GAL/SY FOR LIMEROCK BASE. FOLLOW THE LATEST FDOT SPECIFICATIONS FOR APPLICATION RATES OF PRIME AND TACK COATS. CONTRACTOR TO SUBMIT MATERIALS AND RATES TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK.
6) PIPE SHALL BE PLACED IN A DRY TRENCH.
7) ALL ROADWAY REPAIR WORK SHALL BE PERFORMED IN CONFORMANCE WITH APPLICABLE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND COUNTY PPM# EL-0-3605.
8) DENSITY TESTS SHALL BE TAKEN IN 1 FT LIFTS ABOVE THE PIPE AT INTERVALS OF 400 FT MAXIMUM (1 SET MINIMUM) OR AS DIRECTED BY THE CONSTRUCTION COORDINATION DIVISION. RESULTS SHALL BE SUBMITTED TO CONSTRUCTION COORDINATION DIVISION AS PART OF THEIR FIELD REVIEW.
9) ENGINEER-OF-RECORD SHALL PROVIDE FULL-TIME INSPECTION DURING THE ENTIRETY OF THE OPEN-CUT OPERATION, BEGINNING WITH THE EXCAVATION AND CONTINUING THROUGH THE COMPLETION OF THE PAVING.
10) IF THE PAVEMENT IS NOT COMPLETELY RESTORED IMMEDIATELY FOLLOWING THE OPEN CUT, A SMOOTH TEMPORARY PATCH (MINIMUM 2.5" SP 12.5 STRUCTURAL COURSE ASPHALT) SHALL BE INSTALLED, PROPERLY MATCHING THE EXISTING GRADING OF THE ROADWAY. THE TEMPORARY PATCH SHALL BE ALLOWED TO REMAIN IN PLACE AND BE MAINTAINED FOR A PERIOD NO LONGER THAN 45 DAYS. THE COUNTY RETAINS THE RIGHT TO USE POSTED SURETY TO COMPLETE ANY RESTORATION WORK THAT HAS NOT BEEN COMPLETED IN THE 45 DAY PERIOD. ALTERNATIVE TEMPORARY TRENCH PROTECTION (STEEL PLATES OR OTHERS) MAY BE APPROVED BY THE CONSTRUCTION COORDINATION DIVISION.
11) FOR FINAL RESTORATION (INCLUDES THE PATCHED/SURFACE REPLACEMENT AREA OVER THE TRENCH). THE ROAD SHALL BE MILLED 1" MILLING DEPTH/ RESURFACED PER NOTE 5 ABOVE FOR A FULL LANE WIDTH OF THE TRAVEL LANES ENCROACHED BY THE TRENCH AREA, INCLUDING A TRANSITION AREA OF 50 FT. ON EACH SIDE MEASURED FROM TOP OF TRENCH.
12) APPROVED MAGNETIC TAPE IS REQUIRED FOR ALL MAIN PRESSURE PIPES AND CONDUIT IN THE COUNTY'S RIGHT-OF-WAY. INSTALL TAPE 24" BELOW FINISHED GRADE.
13) CONTINUOUS 4" WIDE PAINT STRIPING IS REQUIRED FOR DIP/PCCP WATER MAINS (BLUE), SANITARY MAINS (GREEN),DIP RECLAIMED WATER MAINS (PURPLE), GAS MAINS (YELLOW), OR AS REQUIRED BY THE APWA.

WUD ONLY UTILITY NOTE:
THE CONTINUOUS PAINTED STRIPE REFERENCED IN NOTE #13 ABOVE SHALL BE EUCLID GREEN IN COLOR PER WUD STANDARDS.

OPEN CUT PIPE INSTALLATION THOROUGHFARE ROAD * 7S



NOTES:*

1. BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8"– 7/8" SIZING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
2. THE PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
3. THE PIPE SHALL BE PLACED IN A DRY TRENCH.
4. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK AND DEBRIS.
5. DENSITY TESTS ARE REQUIRED IN 1 FOOT LIFTS ABOVE THE PIPE AT INTERVALS OF 400' MAXIMUM, MINIMUM 1 SET OF TESTS FOR EACH WASTEWATER GRAVITY MAIN RUN, OR AS DIRECTED BY THE INSPECTOR.
6. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH ALL TRENCH SAFETY LAWS AND REGULATIONS.
7. SEE SEPARATE DETAILS FOR "PIPE INSTALLATION UNDER EXISTING PAVEMENT – OPEN CUT."
8. THE AFFECTED AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION OR AS SPECIFIED IN PERMIT/CONTRACT DOCUMENTS.
9. APPROVED 6" WIDE MAGNETIC TAPE IS REQUIRED ON ALL FORCE MAINS.*
10. CONTINUOUS FOUR (4) INCH WIDE GREEN PAINT STRIPPING IS REQUIRED FOR FORCE MAIN DUCTILE IRON PIPE (D.I.P.) INSTALLED BELOW GRADE ONLY.*
11. A CONTINUOUS 4" WIDE PAINTED STRIP (GREEN) IS REQUIRED FOR ALL DIP SEWER (FORCE OR GRAVITY) MAINS.*
12. WASTEWATER MAIN INSTALLATIONS WITHIN PUBLIC ROAD RIGHT-OF-WAYS SHALL BE BY THE SPECIFICATIONS OF THE JURISDICTION GRANTING THE RIGHT-OF-WAY UTILITY PERMIT.*
13. FOR PIPE INSTALLATIONS IN ROAD RIGHTS-OF-WAY, ROAD OWNER'S PERMIT SPECIFICATIONS SHALL APPLY.

FORCE MAIN TRENCH DETAIL * 8S

WUD PROJECT No. 00–000

WUD PROJECT NAME

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561)493–6000

NO.	DATE	REVISION / REMARKS	BY
	DEC 2021	GENERAL REVISION	J.L.
	JAN 2023	GENERAL REVISION	J.L.

STD DETAILS

SHEET NUMBER 0 OF 0

WASTEWATER #1 STANDARD DETAILS

CONSULTANT:

IT'S THE LAW !
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SUNSHINE STATE ONE CALL OF FLORIDA, INC.
UTILITIES NOTIFICATION CENTER

SEAL

DESIGNED BY: WUD
DRAWN BY: M. BUCKNER
CHECKED BY: J. LAMMERT
APPROVED BY: WUD

Palm Beach County
Water Utilities Department
P.O.Box 16097
West Palm Beach, FL 33416–6097

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6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:

GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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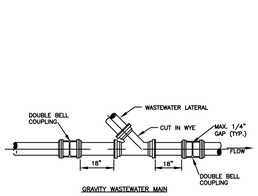
DATE:	11/08/2024
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NO.	DATE	REVISION DESCRIPTION

WATER & SEWER DETAILS

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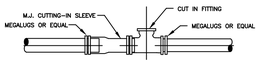
EXHIBIT "A"



GRAVITY WASTEWATER MAIN

NOTE:

DUCTILE IRON FITTINGS (WYE, TEE, SLEEVES) ARE REQUIRED FOR DUCTILE IRON AND/OR C-900 PVC MAIN.



DUCTILE IRON-MECHANICAL JOINT (FORCE MAIN)

NOTE:

MEGALUGS OR EQUAL ARE REQUIRED THROUGHOUT ASSEMBLY.

WASTEWATER SYSTEM STANDARD CUT-IN DETAILS 9S

I. FORCE MAINS AND GRAVITY WASTEWATER MAINS WITHIN WELLFIELD PROTECTION ZONE

PRESSURE TEST PROCEDURE TO FOLLOW THE CURRENT AWWA C-600 STANDARD (150psi, (2) HOUR DURATION).

THERE SHALL BE NO PRESSURE DROP IN THE PIPE DURING THE TEST ("ZERO" FILL-UP TOLERANCE).

II. FORCE MAINS OUTSIDE OF WELLFIELD PROTECTION ZONE

MAXIMUM QUANTITY OF WATER (GALLONS PER HOUR) THAT MAY BE SUPPLIED TO MAINTAIN PRESSURE WITHIN 5 P.S.I. OF THE SPECIFIED TEST PRESSURE

(MECHANICAL OR PUSH-ON JOINT, 18 FT. NOMINAL LENGTHS, PER 1000 FT. OF PIPE)

AVG. TEST PRESSURE	PIPE DIAMETER (INCHES)															
PSI	2	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48
150	0.10	0.14	0.18	0.27	0.37	0.46	0.55	0.64	0.73	0.83	0.92	1.10	1.38	1.65	1.93	2.20

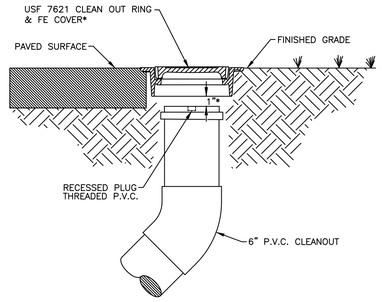
FORMULA BASIS: $L = \frac{(S) \times (D) \times (P)^{1/2}}{148,000} \times 1/2$

L = MAXIMUM QUANTITY OF WATER TO BE ADDED (GALLONS PER HOUR)
S = LENGTH OF PIPE TESTED (FEET)
D = DIAMETER OF PIPE (INCHES)
P = TEST PRESSURE (P.S.I.)

NOTES:

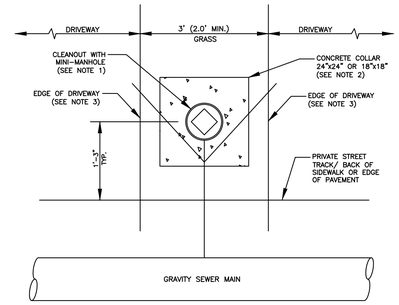
1. TO OBTAIN THE MAXIMUM QUANTITY OF WATER FOR PIPE WITH 20 FT. NOMINAL LENGTHS, MULTIPLY THE QUANTITY CALCULATED FROM THE TABLE BY 0.9
2. THE MAXIMUM QUANTITY OF ADDED WATER FOR A PIPELINE IS CALCULATED BY MULTIPLYING THE QUANTITY PER HOUR AS OBTAINED FROM THE ABOVE TABLE, BY THE DURATION OF THE TEST IN HOURS,AND BY THE TOTAL LENGTH OF THE LINE BEING TESTED DIVIDED BY 1,000. IF THE LINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE MAXIMUM QUANTITY ADDED WILL BE THE SUM OF THE COMPUTED QUANTITIES FOR EACH SIZE.
3. MAXIMUM TEST LENGTH = 2,500 FEET PER SECTION.
4. THIS STANDARD SHALL REFLECT ANY REVISION OF A.W.W.A. C-600. HOWEVER, THE MAXIMUM QUANTITY OF WATER ADDED SHALL NOT EXCEED 50% OF THE RECOMMENDED LIMIT PER APPLICABLE AWWA C-600 STANDARD.
5. STANDARD TEST PRESSURE = 150 P.S.I.
6. PRESSURE TEST DURATION TO BE MIN. 2 HOURS.

PRESSURE TEST CRITERIA FOR GRAVITY WASTEWATER MAIN IN WELL FIELD & FORCE MAIN 10S



1. CLEANOUTS TO BE LOCATED IN GRASS AREA WHENEVER POSSIBLE WITH A MINIMUM OF THREE (3) FEET FROM EDGE OF PAVEMENT, BACK OF CURB, EDGE OF DRIVEWAY, AND TRANSFORMERS ON RESIDENTIAL AND NON-RESIDENTIAL LOTS UNLESS LOTS ARE ASSOCIATED WITH TOWNHOME OR ZERO LOT LINE LOTS. ON ZERO LOT LINE LOTS THE MINIMUM DIMENSION SHALL BE ONE (1) FOOT INSTEAD OF THREE (3) FOOT MINIMUM UNLESS OTHERWISE APPROVED BY THE DEPARTMENT.*
2. CLEANOUTS SHALL NOT BE INSTALLED IN TRAFFIC LANES OR AREAS UNDER HEAVY TRAFFIC LOADS.
3. THE COVER TO BE MARKED "S".
4. CLEANOUTS TO BE INSTALLED PRIOR TO WATER METER RELEASE.
5. THE DEVELOPER/PROPERTY OWNER OR ASSIGNEE SHALL BE RESPONSIBLE FOR CLEANOUT INSTALLATION PRIOR TO WATER METER INSTALLATION AS SPECIFIED BY THE DEPARTMENT.
6. A CONCRETE COLLAR MAY BE REQUIRED IF CLEANOUT IS LOCATED BETWEEN DRIVEWAYS. SPECIAL CONSTRUCTION DETAIL WILL BE REQUIRED.
7. ALONG STREETS WITH ADJACENT NON-EXCLUSIVE UTILITY EASEMENT, THE CLEANOUTS ENDING PBCWUD MAINTENANCE RESPONSIBILITY SHALL BE INSTALLED MIN. 12", MAX. 18" INTO THE EASEMENT.

TYPICAL CLEANOUT INSTALLATION 11SA



NOTES:

1. CLEANOUT WITH MINI-MANHOLE MUST BE CENTERED BETWEEN DRIVEWAYS IN GRASS AREA.
2. DRIVEWAYS THAT ARE SEPARATED BY (3)THREE FEET INSTALL A 24"x24" CONCRETE COLLAR. WHEN THERE IS LESS THAN (3)THREE FEET SEPARATION BETWEEN DRIVEWAYS INSTALL A 18"x18" CONCRETE COLLAR.
3. THE EDGE OF THE DRIVEWAY IS EITHER THE ASPHALT/CONCRETE PAVEMENT AREA AND/OR PAVER BRICK AREA WHICH MAY INCLUDE ANY CONCRETE EDGING.

CLEANOUT INSTALLATION DETAIL BETWEEN TOWNHOME DRIVEWAYS 11SB

GENERAL NOTES

DEFINITIONS

1. DEPARTMENT – THE PALM BEACH COUNTY WATER UTILITIES DEPARTMENT.
2. CONTRACTOR – UTILITY CONTRACTOR AND ALL UTILITY SUBCONTRACTORS.
3. ENGINEER – ENGINEER RESPONSIBLE FOR INSPECTION AND CERTIFICATION.

PROCEDURE

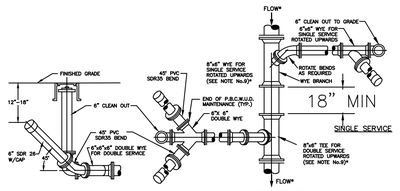
1. A PRE-CONSTRUCTION MEETING IS TO BE HELD PRIOR TO DELIVERY OF MATERIALS AND INITIATION OF ANY POTABLE WATER, RECLAIMED WATER AND/OR WASTEWATER SYSTEM CONSTRUCTION. THE MEETING SHALL BE ATTENDED BY THE DEPARTMENT, CONTRACTOR, ENGINEER AND OTHER INTERESTED PARTIES.
2. ANY REVISIONS TO THE APPROVED PLANS SHALL BE CALLED TO THE ATTENTION OF THE DEPARTMENT PRIOR TO THE PRE-CONSTRUCTION MEETING. REVISED PLANS MUST BE APPROVED PRIOR TO THE MEETING.
3. FIVE (5) COPIES OF THE CURRENT APPROVED MATERIAL LIST AND ALL NECESSARY SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO SCHEDULING OF THE PRE-CONSTRUCTION MEETING.
4. ALL APPLICABLE PERMITS MUST BE OBTAINED PRIOR TO PRECONSTRUCTION MEETING. (DOT, HEALTH DEPARTMENT, COUNTY ENGINEER, ETC.).
5. THE CONTRACTOR SHALL MAINTAIN A CURRENT APPROVED SET OF CONSTRUCTION PLANS ON JOB SITE.
6. ALL MATERIALS SUPPLIED SHALL CONFORM TO PRODUCT LIST AND SHOP DRAWINGS AS APPROVED PRIOR TO CONSTRUCTION. SUBSTITUTE MATERIALS SHALL NOT BE APPROVED AFTER DELIVERY TO THE JOB SITE. ALL REQUESTS FOR MATERIAL SUBSTITUTION SHALL BE APPROVED PRIOR TO DELIVERY OF THESE MATERIALS TO THE JOB SITE.
7. THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THE APPROVED PLANS ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. APPROVAL OF DEVELOPMENT PLANS BY THE DEPARTMENT IN NO WAY IMPLIES VERIFICATION OF THE ACCURACY OF THOSE PLANS OR FEATURES DEPICTED THEREON. ANY DISCREPANCY IN OR VARIATION FROM THE APPROVED PLANS IS TO BE BROUGHT TO THE ATTENTION OF THE DEPARTMENT BY THE ENGINEER AND CONTRACTOR. THE CONTRACTOR SHALL CONFIRM AND INSTALL (IF NECESSARY) ADEQUATE MECHANICAL PIPE / JOINT RESTRAINT ON EXISTING PIPES PRIOR TO CONNECTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING LOCATIONS FROM ALL OTHER UTILITY FACILITIES.
10. THE CONTRACTOR OR ENGINEER SHALL SCHEDULE INSPECTIONS AND TESTS A MINIMUM OF 24-48 HOURS IN ADVANCE.
11. NO CONNECTION TO OR ANY OTHER CONSTRUCTION SHALL BE PERFORMED ON AN EXISTING DEPARTMENT OWNED OR MAINTAINED MAIN OR STRUCTURE WITHOUT THE PRESENCE OF A DEPARTMENT INSPECTOR.
12. FACILITIES PROPOSED HEREIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND THE DEPARTMENT'S MINIMUM STANDARDS. CONFLICTS BETWEEN THE PRECEDING DOCUMENTS SHOULD BE CALLED TO THE ATTENTION OF THE DEPARTMENT FOR RESOLUTION. DEVIATIONS FROM THE APPROVED PLANS MUST BE APPROVED IN ADVANCE BY THE DEPARTMENT.
13. UPON COMPLETION OF CONSTRUCTION, A FINAL INSPECTION SHALL VERIFY PROPER ADHERENCE TO ALL FACETS OF THE PLANS AND SPECIFICATIONS.

PRESSURE PIPE NOTES

1. THERE SHALL BE 36" MINIMUM COVER FROM FINISHED GRADE TO TOP OF PIPE.
2. DUCTILE IRON PIPE (DIP) THICKNESS SHALL CONFORM TO THE DEPARTMENT'S APPROVED MATERIAL LIST. POTABLE WATER AND RECLAIMED WATER MAINS DIP SHALL BE CEMENT LINED. FORCE MAIN DIP SHALL BE CERAMIC EPOXY LINED.
3. PVC PRESSURE PIPE SHALL BE C-900, SDR-18, 150 PSI.
4. ALL FITTINGS SHALL BE DUCTILE IRON WITH MECHANICAL JOINTS AND CEMENT OR APPROVED EPOXY LINING.
5. POTABLE WATER, RECLAIMED WATER AND WASTEWATER FORCE MAIN VALVES TO INCHES AND SMALLER SHALL BE RESILIENT SEAT GATE VALVES. TWELVE-INCH (12") OR LARGER FORCE MAIN VALVES SHALL BE RESILIENT SEAT GATE VALVES OR ECCENTRIC PLUG VALVES (IF APPROVED IN ADVANCE BY DEPARTMENT). POTABLE WATER AND RECLAIMED WATER MAIN VALVES LARGER THAN 10 INCHES SHALL BE BUTTERFLY VALVES.
6. ALL TRENCHING, PIPE-LAYING, BACKFILL, PRESSURE TESTING, AND DISINFECTION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, COUNTY AND HEALTH DEPARTMENT STANDARDS AND REGULATIONS.

GRAVITY SEWER NOTES

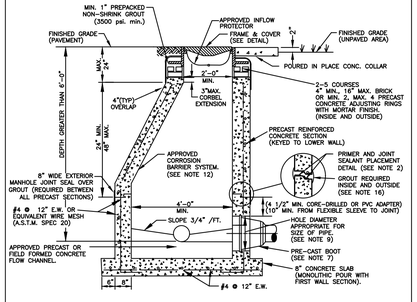
1. MANHOLES AND OTHER CASTINGS SHALL BE INSPECTED BY THE DEPARTMENT BEFORE PLACEMENT AND BEFORE APPLICATION OF THE CORROSION BARRIER SYSTEM (IF APPLICABLE).
2. ALL OPENINGS IN PRECAST MANHOLES SHALL BE CAST AT TIME OF MANUFACTURE OR CORED IN FIELD.
3. ALL MANHOLES SHALL BE SET PLUMB TO LINE AND GRADE, AND SHALL REST ON A FIRM, CAREFULLY GRADED SUBGRADE, WHICH SHALL PROVIDE UNIFORM BEARING UNDER BASE.
4. PVC WASTEWATER GRAVITY PIPE SHALL CONFORM TO ASTM D-3034, SDR 26 WITH PVC SDR 35 FITTINGS, OR PVC C-900 SDR 18, PIPE AND FITTINGS, WITH PUSH-ON RUBBER GASKET JOINTS.
5. D.I.P. GRAVITY SEWER PIPE SHALL BE PRESSURE CLASS 350, EPOXY LINED.
6. THE COMPLETED GRAVITY WASTEWATER SYSTEM SHALL BE INSPECTED BY THE DEPARTMENT TO VERIFY ALIGNMENT AND INTEGRITY. THERE SHALL BE NO LEAKAGE. ALL MAINS SHALL BE LAMPED, SHOWING A FULL CIRCLE OF LIGHT, DURING THESE INSPECTIONS, THE MAIN SHALL BE CLEAN AND DRY.



NOTES:

1. MIN. 3' AND 5' MAX. DEPTH IS REQUIRED, UNLESS PLANS SHOW OTHERWISE, FOR SERVICE LATERAL WYE AT THE CLEAN OUT ENDING P.B.C.W.U.D. OWNERSHIP AND MAINTENANCE RESPONSIBILITY.
2. CLEAN OUT IS TO BE INSTALLED PER DEPARTMENT STANDARDS PRIOR TO WATER METER INSTALLATION.
3. WASTEWATER MAIN WYE BRANCH TO MATCH MAIN PIPE MATERIAL.
4. CLEAN OUTS DESIGNATING THE END OF THE DEPARTMENT'S MAINTENANCE RESPONSIBILITY SHALL BE LOCATED WITHIN AN UTILITY EASEMENT OR RIGHT-OF WAY DEDICATED FOR UTILITIES.
5. THE DEVELOPER/PROPERTY OWNER OR ASSIGNEE SHALL BE RESPONSIBLE FOR CLEAN OUT INSTALLATION PRIOR TO WATER METER INSTALLATION AS SPECIFIED BY THE DEPARTMENT.
6. SEE MINIMUM SEPARATION STATEMENT FOR P.V.C. C-900 SDR 18 PIPE MATERIAL REQUIREMENTS AT WASTEWATER LATERAL/POTABLE WATER MAIN CROSSINGS.
7. ALONG STREETS WITH ADJACENT NON-EXCLUSIVE UTILITY EASEMENT, THE CLEANOUT ENDING PBCWUD MAINTENANCE RESPONSIBILITY SHALL BE INSTALLED 12" MIN. TO 18" MAX. INTO THE UTILITY EASEMENT.*
8. MIN. 3" HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN CLEANOUTS AND EDGE OF PAVEMENT, BACK OF CURB, EDGE OF DRIVEWAY, LIGHTPOLES, TRANSFORMERS, POWER POLES.
9. GRAVITY SEWER MAINS ARE 8" DIAMETER WITH ALL SEWER LATERAL CONNECTIONS TO A GRAVITY SEWER MAINS REQUIRED TO BE 6" DIAMETER IN SIZE UNLESS OTHERWISE PREVIOUSLY APPROVED BY THE DEPARTMENT.*

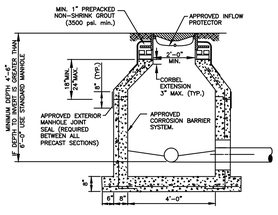
TYPICAL WASTEWATER SERVICE CONNECTION 12S



NOTES:

1. PRECAST CONCRETE TYPE II 4000 P.S.I. CALCAREOUS AGGREGATE REQUIRED (MIN. CaCO3 CONTENT: 65% IN LARGE AGGREGATE, 50% IN CONCRETE SCREENING).
2. INSTALL APPROVED JOINT SEALANT AT ALL RISER JOINTS WITH GROUT ON INSIDE AND OUTSIDE. MANHOLE SHOP DRAWINGS SHALL INCLUDE THE SIZE AND PLACEMENT OF JOINT SEALANT. AN APPROVED JOINT PRIMER SHALL BE APPLIED BY THE PRECASTER (TONGUE SECTION ONLY).
3. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
4. FLOW CHANNELS SHALL BE PRECAST OR FIELD CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM. (SEE DETAIL)
5. LIFT HOLES ARE PERMITTED.
6. ALL PIPE HOLES SHALL BE PRECAST OR CORE – DRILLED.
7. A. FOR PVC PIPE ENTERING MANHOLE WITH PRECAST HOLES USE THE APPROVED, PRECASTED FLEXIBLE MANHOLE SLEEVE FOR THE APPROPRIATE PIPE DIAMETER AND DIMENSION RATIO. DOUBLE BANDING IS REQUIRED FOR FLEXIBLE MANHOLE SLEEVE.
   B. CONNECTION TO A MANHOLE WITH A CORE DRILLED HOLE SHALL BE MADE USING A 5' MIN. PVC C900 DR 18 AND THE APPROVED PVC-MANHOLE ADAPTER. THE ADAPTER SHALL NOT EXTEND MORE THAN 1"INTO THE MANHOLE.
   C. THE INSIDE AND OUTSIDE SPACE BETWEEN PIPE AND MANHOLE WALL SHALL BE FILLED WITH GROUT
8. INSIDE DROPS SHALL NOT BE DESIGNED TO EXCEED 1.80 FEET AND NOT CONSTRUCTED TO EXCEED 2.0 FEET. MAX. 6" INSIDE DROP IS PERMITTED FOR MANHOLES WITH 3 OR MORE INVERTS AND MANHOLES WITH A CHANGE IN FLOW DIRECTION OF MORE THAN 45 DEGREES.
9. 8" DIAMETER PIPE: 15" HOLE FOR PVC – 10" DIAMETER PIPE: 17" HOLE FOR PVC.
10. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH ASTM C-478, LATEST STANDARD.
11. MINIMUM 5 FEET IS REQUIRED BETWEEN OUTSIDE OF MANHOLE AND A SERVICE WYE.
12. MANHOLES TO BE COATED INSIDE WITH AN APPROVED CORROSION BARRIER SYSTEM. SOLID THERMOPLASTIC CAST-IN LINER IS REQUIRED FOR LAST MANHOLE PRIOR TO LIFT STATION, MANHOLES DEEPER THAN 14 FT., MANHOLES WITH OUTSIDE DROP, AND MANHOLES WITH A FORCE MAIN CONNECTION. (SEE APPROPRIATE DETAILS)
13. APPROVED INFLOW PROTECTORS ARE REQUIRED.
14. MANHOLES IN ROADWAYS SHALL BE LOCATED OUTSIDE OF WHEEL PATHS.
15. SPECIAL PRE-APPROVED GROUT IS REQUIRED FOR PRECAST STRUCTURES WITH ANTIMICROBIAL ADMIXTURE.

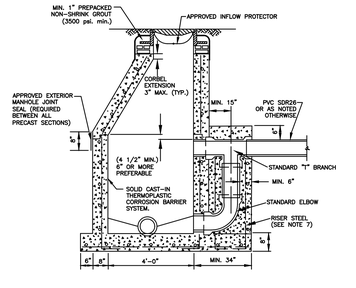
STANDARD MANHOLE 13S



NOTE:

ALL STANDARD MANHOLE NOTES AND DETAILS ARE APPLICABLE.

SHALLOW MANHOLE 14S



NOTES:

1. ALL DETAILS AND SPECIFICATIONS FOR STANDARD MANHOLES ARE APPLICABLE EXCEPT FOR REFERENCES TO DROP ASSEMBLY AND CAST IN LINERS.
2. THE PRECAST BASE SHALL EXTEND FULLY UNDER THE DROP ASSEMBLY.
3. MASONRY CONSTRUCTION ABOVE THE EXTENDED PRECAST BASE, IF FILLED WITH CONCRETE, IS PERMISSIBLE.
4. BRICK AND CONCRETE RUBBLE ARE PERMITTED AS FILLER IN DROP ENCASEMENT.
5. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT INVERT IS LOCATED 2.0 FEET OR MORE ABOVE THE MAIN INVERT CHANNEL. DROP CONNECTIONS SHOULD NOT BE DESIGNED FOR LESS THAN A 2.4 FOOT DROP.
6. PVC SDR 26 PIPE WITH PVC SDR 35 FITTINGS SHALL BE UTILIZED IN THE DROP ASSEMBLY.
7. RISER STEEL TO BE CAST IN PLACE WITH BASE (4 #005) OR USE 4 – 1/2" DIA. COIL LOOP INSERTS CAST IN PLACE WITH BASE (TO BE USED WITH 1/2" COIL #005). COIL LOOP INSERTS TO BE "DAYTON SUPERIOR" B16, 1/2"x 4" OR APPROVED EQUAL.

DROP CONNECTION PRECAST MANHOLE 15S

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WASTEWATER #2 STANDARD DETAILS

CONSULTANT:

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DESIGNED BY: WUD
DRAWN BY: M. BUCKNER
CHECKED BY: J. LAMMERT
APPROVED BY: WUD

Palm Beach County
Water Utilities Department
P.O.Box 16097
West Palm Beach, FL 33416-6097

WUD PROJECT No. 00-000

WUD PROJECT NAME

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561)493-6000

NO.	DATE	REVISION / REMARKS	BY
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*	JAN 2023	GENERAL REVISION	J.L.

STD DETAILS

SHEET NUMBER 0 OF 0

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West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
www.civil-design.com

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:
GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Gabriel Burden, P.E.
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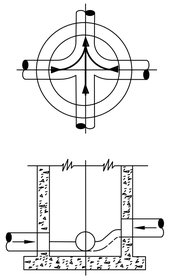
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DESIGNED: CDI
DRAWN: CDI

NO.	DATE	REVISION DESCRIPTION

WATER & SEWER DETAILS

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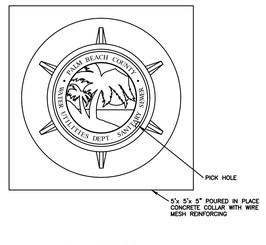
EXHIBIT "A"



NOTES:

1. PROPERLY SHAPED INVERT CHANNELS AND SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS TO PROVIDE FOR SMOOTH FLOWS.
2. SERVICE LATERALS SHALL NOT ENTER MANHOLES UNLESS SPECIFIED ON PLANS AND THEN MUST BE TREATED AS MAINS (ELEVATIONS SHOWN, PRECAST HOLE, FLOW CHANNEL)
3. APPROVED PRECAST POLYPROPYLENE OR FIBER REINFORCED POLYMER (FRP) FLOW CHANNELS WITH INTEGRATED PIPE INVERTS (SEE SEPARATE DETAILS). PRECAST CONCRETE FLOW CHANNELS, OR FIELD INSTALLED CONCRETE FLOW CHANNELS ARE REQUIRED.
4. SIDEWALLS OF FLOW CHANNELS SHALL BE AT LEAST HALF OF PIPE HEIGHT AT ALL POINTS.
5. NO INSIDE DROP LARGER THAN 6" SHALL BE ALLOWED WITH 3 OR 4 INVERTS AND MANHOLES WITH A CHANGE OF DIRECTION OF FLOW OF MORE THAN 45 DEGREES.
6. THE FIELD APPLIED CORROSION BARRIER SYSTEM SHALL BE INSTALLED AFTER INVERT CHANNEL CONSTRUCTION UNLESS PRECAST THERMOPLASTIC BASELINER IS USED. THE FIELD APPLIED CORROSION BARRIER MAY NOT BE APPLIED TO THE FLOW CHANNEL.

INVERT FLOW CHANNELS — 16S



PICK HOLE

5"x 5"x 5" POURED IN PLACE CONCRETE COLLAR WITH WIRE MESH REINFORCING

COVER

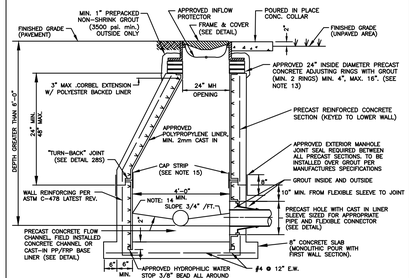
MACHINED COVER SURFACE (TO ACCOMMODATE INFLOW PROTECTOR)



NOTES:

1. COLLAR IS REQUIRED ONLY WHEN MANHOLE IS OUT OF PAVEMENT.
2. STANDARD FRAME AND COVER SIZE SHALL BE SEVEN INCHES (7"). A 4" FRAME MAY ONLY BE USED WITH PRIOR APPROVAL.
3. A STEEL MANHOLE RISER, APPROVED PRECAST CONCRETE ADJUSTING RINGS OR ADDITIONAL BRICKS MAY BE USED TO ELEVATE EXISTING MANHOLE COVERS TO RESURFACED GRADE (MAX. 4" HEIGHT).
4. COVER SHALL FIT FLUSH WITH THE FRAME WITH THE INFLOW PROTECTOR INSTALLED.

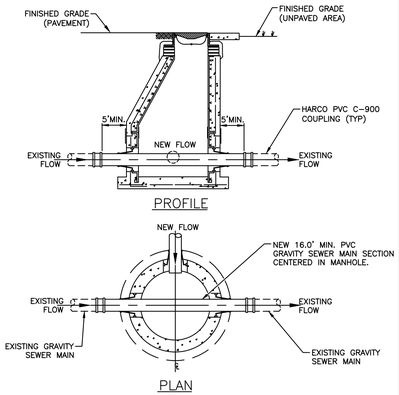
GRAVITY SEWER MANHOLE FRAME & COVER — 17S



NOTES:

1. PRECAST CONCRETE TYPE II 4000 P.S.I. CALCAREOUS AGGREGATE REQUIRED (MIN. CaCO3 CONTENT: 65% IN LARGE AGGREGATE, 50% IN CONCRETE SCREENING).
2. APPROVED PRIMER AND SEALANT GASKET AT ALL RISER JOINTS. SEALANT GASKET SIZE AND PLACEMENT SHALL BE CALLED OUT ON SHOP DRAWINGS. PRIMER TO BE APPLIED BY THE PRECASTER (TONGUE SECTION ONLY).
3. ALL PIPE OPENINGS SHALL BE GAS TIGHT AND WATER TIGHT WITH NO EXPOSED CONCRETE SURFACES.
4. CAST OPENINGS SHALL BE MANUFACTURED WITH A POLYPROPYLENE SLEEVE CAST IN. APPROVED FLEXIBLE MANHOLE CONNECTORS SHALL BE USED AT PIPE CONNECTIONS. HOLE SIZE PER BOOT MANUFACTURER'S SPECIFICATIONS. DOUBLE PIPE CLAMPS MUST BE INSTALLED ON FLEXIBLE SLEEVES WHERE REQUIRED BY BOOT MANUFACTURERS INSTALLATION INSTRUCTIONS.
5. CORED PIPE OPENINGS SHALL BE INSTALLED PER DETAIL. APPROVED FLEXIBLE CONNECTOR WILL BE INSTALLED ONTO POLY-PROPYLENE WALL SLEEVE. WALL SLEEVE SHALL BE EPOXIED INTO CORED OPENING AND THERMAL WELDED TO WALL LINER.
6. FLOW CHANNELS SHALL BE CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM. APPROVED CAST-IN PP/FRP BASE LINER IS ACCEPTABLE (SEE DETAIL).
7. LIFT HOLES ARE PERMITTED.
8. INSIDE DROPS SHALL NOT BE DESIGNED TO EXCEED 1.80 FEET AND NOT CONSTRUCTED TO EXCEED 2.0 FEET. MAX. 6" INSIDE DROP IS PERMITTED FOR MANHOLES WITH 3 OR MORE INVERTS AND MANHOLES WITH A CHANGE IN FLOW DIRECTION OF MORE THAN 45 DEGREES.
9. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH ASTM C-478, LATEST STANDARD.
10. MINIMUM 5 FEET IS REQUIRED BETWEEN OUTSIDE OF MANHOLE AND SERVICE WYE OR ANY PIPE JOINT.
11. ONLY APPROVED THERMOPLASTIC LINER SYSTEM SHALL BE USED. LINERS MUST BE WELDED BY LINER MFG CERTIFIED WELDERS AND BE CAST INTO THE MANHOLE BY A LINER MANUFACTURER CERTIFIED PRECASTER.
12. APPROVED INFLOW PROTECTORS ARE REQUIRED.
13. MAXIMUM HEIGHT OF CHIMNEY SHALL NOT EXCEED 24" (INCLUDING FRAME CASTING).
14. SEAL INVERT BENCH AND CHANNEL TO WALL LINER WITH 3M WEATHERBAN 5354 SEALANT TAPE OR APPROVED EQUAL.
15. MIN. 4" WIDE FIELD WELDED CAP STRIP IS REQUIRED FOR ALL JOINTS.
16. SOLID THERMOPLASTIC CAST-IN LINER IS REQUIRED FOR LAST MANHOLE PRIOR TO LIFT STATION. MANHOLES DEEPER THAN 14 FT., MANHOLES WITH OUTSIDE DROP, AND MANHOLES WITH A FORCE MAIN CONNECTION. (SEE APPROPRIATE DETAILS)
17. MANHOLES IN ROADWAYS SHALL BE LOCATED OUTSIDE OF WHEEL PATHS.

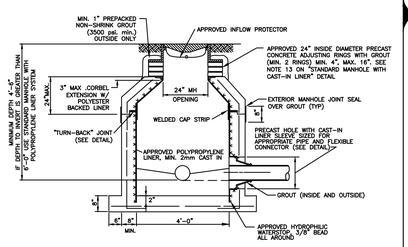
STANDARD MANHOLE WITH CAST-IN LINER — * 18SA



NOTES:

1. MANHOLE TO BE CONSTRUCTED AND INSTALLED PER WUD STANDARD DETAIL 18SA.
2. A TEMPORARY GRAVITY SEWER MAIN BYPASS SIXTEEN(16) FOOT MINIMUM TO BE INSTALLED THROUGH NEW MANHOLE TO MAINTAIN EXISTING WASTEWATER FLOW DURING CONSTRUCTION OF NEW GRAVITY SEWER SYSTEM.
3. ONCE THE NEW GRAVITY SEWER SYSTEM INSTALLATION IS COMPLETED AND HAS RECEIVED FINAL DEP WASTEWATER CERTIFICATION THE TEMPORARY BYPASS PIPE SHALL BE CUT AND REMOVED FROM WITHIN THE MANHOLE WITH A NEW FLOW CHANNEL CONSTRUCTED PER WUD MINIMUM DESIGN STANDARDS.
4. AFTER ALL CONSTRUCTION HAS BEEN COMPLETED, INCLUDING THE REMOVAL OF THE BYPASS PIPE AND CONSTRUCTION OF THE NEW FLOW CHANNEL, THE EXISTING UPSTREAM AND DOWNSTREAM GRAVITY SEWER MAIN SHALL BE LAMPED TO VERIFY NO ADVERSE DAMAGE OCCURED DURING CONSTRUCTION TO THE EXISTING GRAVITY SEWER MAIN.

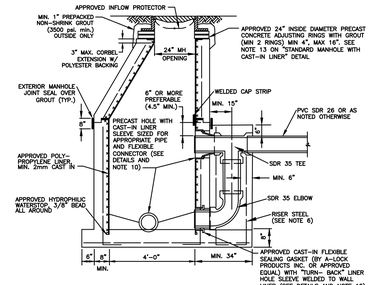
NEW MANHOLE CUT INTO EXISTING GRAVITY SEWER MAIN — * 18SB



NOTES:

1. ALL "STANDARD MANHOLE WITH POLYPROPYLENE LINER SYSTEM" NOTES AND DETAILS ARE APPLICABLE.
2. SEAL INVERT BENCH AND CHANNEL TO WALL LINER WITH 3M WEATHERBAN 5354 SEALANT TAPE (OR APPROVED EQUAL).
3. SEE SEPARATE DETAIL FOR OPTIONAL CAST-IN POLYPROPYLENE OR FIBER REINFORCED POLYMER BASE LINER.

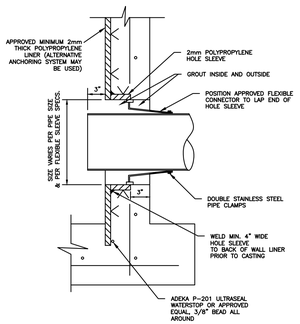
SHALLOW MANHOLE WITH CAST-IN LINER — 19S



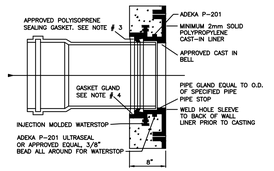
NOTES:

1. ALL DETAILS AND SPECIFICATIONS FOR "STANDARD MANHOLE WITH SOLID POLYPROPYLENE LINER SYSTEM" ARE APPLICABLE EXCEPT FOR REFERENCES TO DROP ASSEMBLY.
2. THE PRECAST BASE SHALL EXTEND FULLY UNDER THE DROP ASSEMBLY.
3. PRECAST DROP ENCASEMENT REQUIRED UP TO TOP EDGE OF 90 DEGREE ELBOW, BRICK AND CONCRETE RUBBLE ARE PERMITTED AS FILLER IN REMAINDER OF DROP ENCASEMENT.
4. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT INVERT IS LOCATED 2.0 FEET OR MORE ABOVE THE MAIN INVERT CHANNEL. DROP CONNECTIONS SHOULD NOT BE DESIGNED FOR LESS THAN A 2.4 FOOT DROP.
5. PVC SDR 26 PIPE WITH PVC SDR 35 FITTINGS SHALL BE UTILIZED IN THE DROP ASSEMBLY.
6. DROP ENCASEMENT REINFORCING STEEL TO BE CAST IN PLACE WITH BASE (4 RODS) OR USE 4-1/2" DIA. COIL INSERTS CAST IN PLACE WITH BASE (10 FOR LESS THAN 1/2" COIL RODS). COIL LOOP INSERTS TO BE "DAYTON SUPERIOR" B16, 1/2"x 4" OR APPROVED EQUAL.
7. MIN. 4" WIDE FIELD WELDED CAP STRIP IS REQUIRED OVER ALL JOINTS.
8. SEAL INVERT BENCH AND CHANNEL TO WALL LINER WITH 3M WEATHERBAN 5354 SEALANT TAPE (OR APPROVED EQUAL).
9. SEE SEPARATE DETAIL FOR OPTIONAL CAST-IN POLYPROPYLENE OR FIBER REINFORCED POLYMER BASE LINER.

OUTSIDE DROP MANHOLE WITH CAST-IN LINER — 20S



PIPE TO MANHOLE CONNECTION – TYPE "A" — 21S



INSTALLATION:

1) CLEAN BELL
2) INSTALL GASKET AS SHOWN
3) LUBRICATE PIPE SPIGOT AND SLIDE INTO BELL AND GASKET UNTIL REACHING PIPESTOP
4) CHECK FOR WATERTIGHT CONNECTION

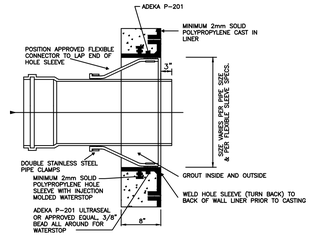
DO NOT LUBRICATE THE GASKET OR THE BELL

NOTES:

1) MANHOLE SHOP DRAWINGS SHALL IDENTIFY THE TYPE OF MANHOLE/PIPE CONNECTION.
2) MANHOLE SHOP DRAWINGS SHALL IDENTIFY THE PIPE SIZE, TYPE, GASKET TYPE, AND HOLE SIZE.
3) ONLY THE POLYISOPRENE GASKET SUPPLIED BY THE BELL MANUFACTURER SHALL BE USED IN COMPRESSION TYPE BELLS.
4) GASKET GLAND VARIES ACCORDING TO PIPE SIZE AND TYPE.
5) HOLE SLEEVES AND BELL CONNECTORS SHALL EXTEND TO THE OUTER PROFILE OF THE CONCRETE STRUCTURE AT MINIMUM PROVIDING A COMPLETELY LINED SURFACE WHERE THE GASKET AND HOLE LINER MATE TOGETHER.

CAST-IN BELL WITH COMPRESSION SEAL GASKET

PIPE TO MANHOLE CONNECTION – TYPE "B" — 22S



INSTALLATION:

1) CLEAN BOOT HUB
2) INSTALL RUBBER BOOT CONNECTOR (PER MANUFACTURER'S INSTRUCTIONS).
3) LUBRICATE PIPE SPIGOT AND SLIDE INTO RUBBER BOOT CONNECTOR.
4) TIGHTEN RUBBER BOOT CLAMPS (PER MANUFACTURER'S INSTRUCTIONS)
5) SECURE AND BACKFILL WITH PROPER MATERIAL AS SPECIFIED
6) CHECK FOR WATERTIGHT CONNECTION

DO NOT LUBRICATE THE BOOT CONNECTOR OR THE BOOT HUB

NOTES:

1) MANHOLE SHOP DRAWINGS SHALL IDENTIFY THE TYPE OF MANHOLE/PIPE CONNECTION.
2) MANHOLE SHOP DRAWINGS SHALL IDENTIFY THE PIPE SIZE, TYPE, GASKET TYPE, AND HOLE SIZE.
3) ONLY THE POLYISOPRENE GASKET SUPPLIED BY THE BELL MANUFACTURER SHALL BE USED IN COMPRESSION TYPE BELLS.
4) GASKET GLAND VARIES ACCORDING TO PIPE SIZE AND TYPE.
5) HOLE SLEEVES AND BELL CONNECTORS SHALL EXTEND TO THE OUTER PROFILE OF THE CONCRETE STRUCTURE AT MINIMUM PROVIDING A COMPLETELY LINED SURFACE WHERE THE GASKET AND HOLE LINER MATE TOGETHER.

TURN BACK BOOT HUB WITH BOOT CONNECTOR

PIPE TO MANHOLE CONNECTION – TYPE "C" — 23S

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WASTEWATER #3 STANDARD DETAILS

CONSULTANT:

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CHECKED BY: J. LAMMERT
APPROVED BY: WUD

Palm Beach County
Water Utilities Department
P.O.Box 16097
West Palm Beach, FL 33416-6097

WUD PROJECT No. 00-000

WUD PROJECT NAME

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561)493-6000

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*	JAN 2023	GENERAL REVISION	J.L.

STD DETAILS

SHEET NUMBER 0 OF 0

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1400 Centrepark Blvd, Suite 905
West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
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GARDEN SQUARE TOWNHOUSE DEVELOPMENT

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APPROVED BY:
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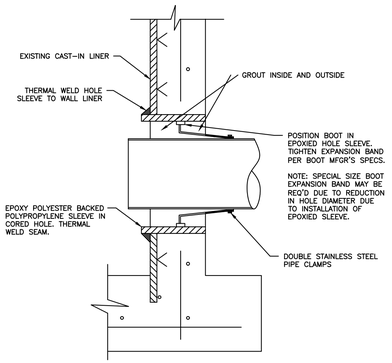
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WATER & SEWER DETAILS

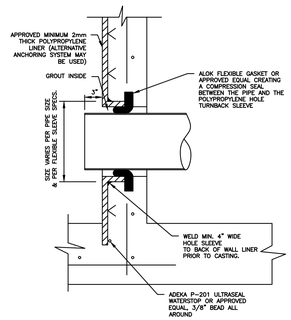
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EXHIBIT "A"

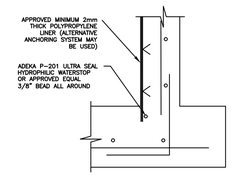


NOTE:
THERMAL WELDING AND EPOXY OF THE SLEEVE TO BE PERFORMED BY A CONTRACTOR CERTIFIED BY THE LINER MANUFACTURER

CORED HOLE W/FLEX. CONNECTOR & TURNBACK SLEEVE POLYPROPYLENE LINER SYSTEM CAST-IN — 24S

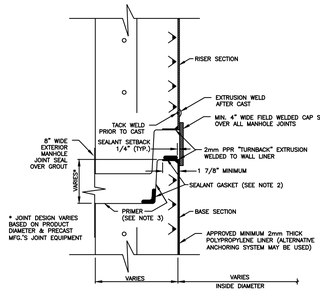


PIPE TO DROP MANHOLE CONNECTION LOWER INVERT — 25S



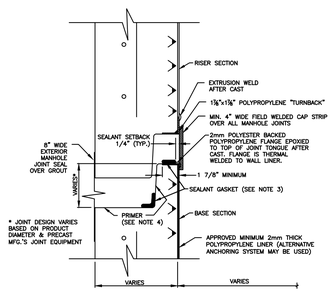
NOTE:
THIS STYLE WATERSTOP IS USED ON STRUCTURES CAST WITH A MONOLITHICALLY POURED BOTTOM SLAB.

BASE MANHOLE SECTION WATERSTOP DETAIL — 26S



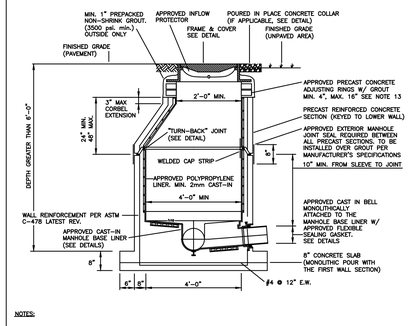
NOTES:
1. LINER WELDING SHALL BE PERFORMED EXCLUSIVELY BY LICENSED, CERTIFIED WELDERS.
2. STRUCTURE SHOP DRAWINGS SHALL CALL OUT THE SIZE, TYPE AND PLACEMENT OF THE JOINT SEALANT.
3. JOINT PRIMER TO BE APPLIED BY THE PRECASTER (TONGUE SECTION ONLY).

TURN BACK JOINT INSTALLED PRIOR TO CAST — 27S



NOTES:
1. THE "AFTER CAST" "TURNBACK" JOINT IS USED WHEN THE "PRIOR TO CAST" "TURNBACK" JOINT IS NOT FEASIBLE.
2. LINER WELDING SHALL BE PERFORMED EXCLUSIVELY BY LICENSED, CERTIFIED WELDERS.
3. STRUCTURE SHOP DRAWINGS SHALL CALL OUT THE SIZE, TYPE AND PLACEMENT OF THE JOINT SEALANT.
4. JOINT PRIMER TO BE APPLIED BY THE PRECASTER (TONGUE SECTION ONLY).

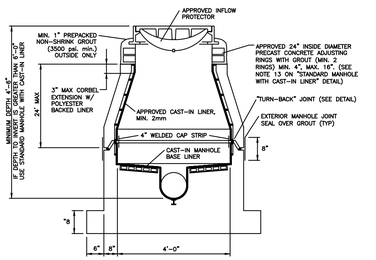
TURN BACK JOINT INSTALLED AFTER CAST — 28S



NOTES:
1. PRECAST CONCRETE TYPE II 4000 P.S.I. CALCAREOUS AGGREGATE REQUIRED (MIN. CaCO3 CONTENT: 65% IN LARGE AGGREGATE, 50% IN CONCRETE SCREENING).
2. RUB'R NEK (RU 106) OR APPROVED EQUAL AT ALL RISER JOINTS. SIZES TO BE SPECIFIED ON SHOP DRAWINGS.
3. ALL PIPE OPENINGS SHALL BE GAS TIGHT AND WATER TIGHT WITH NO EXPOSED CONCRETE SURFACES.
4. CAST OPENINGS SHALL BE MANUFACTURED WITH A POLYPROPYLENE SLEEVE CAST IN. APPROVED FLEXIBLE MANHOLE CONNECTORS SHALL BE USED AT PIPE CONNECTIONS. HOLE SIZE PER BOOT MANUFACTURER'S SPECIFICATIONS. DOUBLE PIPE CLAMPS MUST BE INSTALLED ON FLEXIBLE SLEEVES WHERE REQUIRED BY BOOT MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. CORED PIPE OPENINGS SHALL BE INSTALLED PER DETAIL. APPROVED FLEXIBLE CONNECTOR WILL BE INSTALLED ONTO POLY-PROPYLENE WALL SLEEVE. WALL SLEEVE SHALL BE EPOXIED INTO CORED OPENING AND THERMAL WELDED TO WALL LINER. BY LICENSED CONTRACTOR.
6. FLOW CHANNELS SHALL DIRECT INFLUENT INTO FLOW STREAM. (SEE DETAIL)
7. LIFT HOLES ARE PERMITTED.
8. INSIDE DROPS SHALL NOT BE DESIGNED TO EXCEED 1.80 FEET AND NOT CONSTRUCTED TO EXCEED 2.0 FEET, MAX. 6" INSIDE DROP IS PERMITTED FOR MANHOLES WITH 3 OR MORE INVERTS AND MANHOLES WITH A CHANGE IN FLOW DIRECTION OF MORE THAN 45 DEGREES.
9. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH ASTM C-478, LATEST STANDARD.
10. MINIMUM 5 FEET IS REQUIRED BETWEEN OUTSIDE OF MANHOLE AND SERVICE WYE.
11. MANHOLES SHALL BE LINED INSIDE WITH AN APPROVED POLYPROPYLENE LINER SYSTEM. LINERS MUST BE WELDED BY LINER MFG CERTIFIED WELDERS AND BE CAST INTO THE MANHOLE BY A LINER MANUFACTURER CERTIFIED PRECASTER.
12. APPROVED INFLOW PROTECTORS ARE REQUIRED.
13. MAXIMUM HEIGHT OF CHIMNEY SHALL NOT EXCEED 24" (INCLUDING FRAME CASTING).
14. APPROVED THERMO-PLASTIC CHIMNEY LINER SHALL COMPLETELY COVER THE PRECAST CONCRETE GRADE RINGS AND SHALL BE SEALED TO THE CORBEL LINER BY MEANS OF AN APPROVED POLYISOPRENE LIP SEAL GASKET AND SEALED TO THE RING USING APPROVED BUTYL STRIPS. SEE DETAILS.
15. SOLID THERMO-PLASTIC CAST-IN LINER SYSTEM IS REQUIRED FOR LAST MANHOLE PRIOR TO A LIFT STATION, MANHOLES DEEPER THAN 14 FEET, MANHOLES WITH AN OUTSIDE DROP, AND MANHOLES WITH A FORCE MAIN CONNECTION. SEE APPROPRIATE DETAILS.
16. MANHOLES IN ROADWAYS SHALL BE LOCATED OUTSIDE OF WHEEL PATHS.

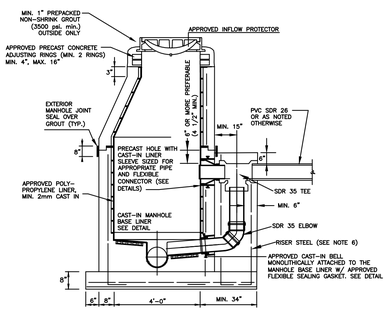
STANDARD MANHOLE WITH CAST-IN LINER AND BASE LINER — 29S

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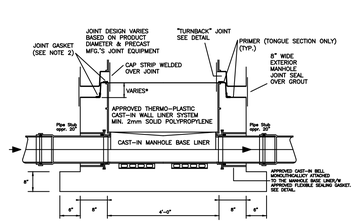
NOTE: ALL CORRESPONDING STANDARD MANHOLE NOTES AND DETAILS SHALL APPLY.

SHALLOW MANHOLE WITH CAST-IN LINER AND BASE LINER — 30S



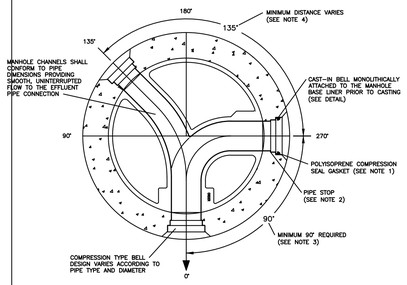
NOTES:
1. ALL DETAILS AND SPECIFICATIONS FOR "STANDARD MANHOLE WITH SOLID POLYPROPYLENE LINER SYSTEM" ARE APPLICABLE EXCEPT FOR REFERENCES TO DROP ASSEMBLY.
2. THE PRECAST BASE SHALL EXTEND FULLY UNDER THE DROP ASSEMBLY.
3. PRECAST DROP ENCASEMENT REQUIRED UP TO TOP EDGE OF 90 DEGREE ELBOW, BRICK AND CONCRETE RUBBLE ARE PERMITTED AS FILLER IN REMAINDER OF DROP ENCASEMENT.
4. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT INVERT IS LOCATED 2.0 FEET OR MORE ABOVE THE MAIN INVERT CHANNEL. DROP CONNECTIONS SHOULD NOT BE DESIGNED FOR LESS THAN A 2.4 FOOT DROP.
5. PVC SDR 26 PIPE WITH PVC SDR 35 FITTINGS SHALL BE UTILIZED IN THE DROP ASSEMBLY.
6. DROP ENCASEMENT REINFORCING STEEL TO BE CAST IN PLACE WITH BASE (4 RODS) OR USE 4-1/2" DIA. COIL LOOP INSERTS CAST IN PLACE WITH BASE (TO BE USED WITH 1/2" COIL RODS). COIL LOOP INSERTS TO BE "DAYTON SUPERIOR" B16, 1/2"X 4" OR APPROVED EQUAL.

OUTSIDE DROP MANHOLE WITH CAST-IN LINER AND BASE LINER — 31S



NOTES:
1. LINER WELDING SHALL BE PERFORMED EXCLUSIVELY BY LICENSED, CERTIFIED WELDERS.
2. SHOP DRAWINGS SHALL CALL OUT THE SIZE, TYPE AND POSITIONING OF THE APPROVED JOINT SEALANT.
3. PRIMER TO BE APPLIED BY THE PRECASTER (TONGUE SECTION ONLY).

MANHOLE BASE SECTION — 32S



NOTES:
1. ONLY THE POLYISOPRENE GASKET PROVIDED BY THE MANHOLE BASE LINER MANUFACTURER SHALL BE USED IN COMPRESSION TYPE BELLS.
2. CONNECTION PIPES SHALL BE INSERTED COMPLETELY INTO THE BELL CONNECTOR FLUSH WITH THE PIPE STOP PROVIDING A SMOOTH TRANSITION FROM PIPE TO MANHOLE BASE LINER CHANNEL.
3. MINIMUM OF 90 DEGREES BETWEEN INCOMING, LEFT OR RIGHT OF OUTGOING PIPE. DISTANCE BETWEEN CONNECTIONS MAY VARY ACCORDING TO MANHOLE DIAMETER, PIPE SIZE AND TYPE.
4. MINIMUM DISTANCE BETWEEN INFLUENT PIPE CONNECTIONS MAY VARY AND SHALL BE SPECIFIED BY THE LINER MANUFACTURER ACCORDING TO MANHOLE AND/OR PIPE DIAMETER AND TYPE.

FLOW CHANNEL/PIPE CONNECTION TO NEW CAST-IN BASE LINER — 33S

WASTEWATER #4
STANDARD DETAILS

CONSULTANT:

IT'S THE LAW! CALL 48 HOURS BEFORE YOU DIG 1-800-432-4770 SUNSHINE STATE ONE CALL OF FLORIDA, INC. UTILITIES NOTIFICATION CENTER

DESIGNED BY: WUD
DRAWN BY: M. BUCKNER
CHECKED BY: J. LAMMERT
APPROVED BY: WUD

Palm Beach County
Water Utilities Department
P.O.Box 16097
West Palm Beach, FL 33416-6097

SEAL

WUD PROJECT No.
00-000

WUD PROJECT NAME

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561)493-6000

NO.	DATE	BY	REVISION / REMARKS
*	DEC 2021	J.L.	GENERAL REVISION
	JAN 2023	J.L.	GENERAL REVISION

STD DETAILS

SHEET NUMBER 0 OF 0

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GREENACRES, FL 33467

APPROVED BY:
GABRIEL E. BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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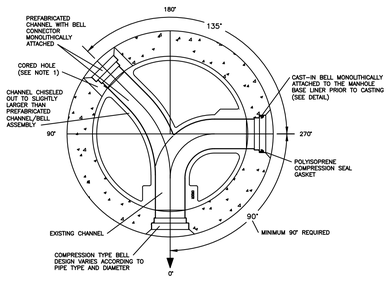
DATE: 11/08/2024
DESIGNED: CDI
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NO.	DATE	REVISION DESCRIPTION

WATER & SEWER DETAILS

C7.10

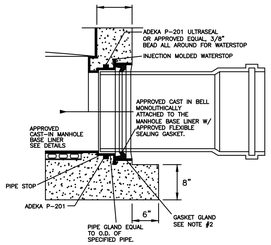
EXHIBIT "A"



NOTES:

1. CORED OPENING AND CHANNEL DIAMETER PER CHANNEL/BELL MANUFACTURER REQUIREMENTS. SIZES SHALL BE SPECIFIED ON SHOP DRAWING.
2. ONLY AN APPROVED CHANNEL/BELL ASSEMBLY PROVIDED BY THE BASE LINER MANUFACTURER SHALL BE USED.
3. CHANNEL/BELL ASSEMBLY MUST BE COMPLETELY GROUTED IN PLACE USING AN APPROVED CEMENT.
4. UPON "SETTING" OF GROUT, THE NEW CHANNEL/BELL ASSEMBLY MUST BE JOINED TO THE EXISTING MANHOLE BASE LINER BY EITHER THERMO-PLASTIC WELDING OR FRP PATCH AS SPECIFIED BY BASE LINER MANUFACTURER.

FLOW CHANNEL / PIPE CONNECTION TO EXISTING CAST-IN BASE LINER — 34S



INSTALLATION:

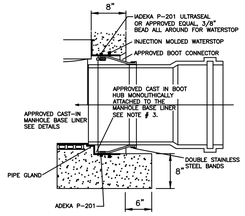
1. CLEAN BELL REMOVING ANY EXCESS CONCRETE SLURRY OR DIRT INSIDE BELL.
2. INSTALL GASKET AS SHOWN.
3. LUBRICATE PIPE SPIGOT AND SLIDE INTO BELL AND GASKET UNTIL REACHING PIPE STOP.
4. CHECK FOR WATERTIGHT CONNECTION. (VACUUM TESTING OR OTHER APPROVED METHOD).

DO NOT LUBRICATE THE GASKET OR THE BELL

NOTES:

1. MANHOLE SHOP DRAWINGS SHALL IDENTIFY THE TYPE OF MANHOLE/PIPE CONNECTION.
2. ONLY THE POLYISOPRENE GASKET SUPPLIED BY THE BELL MANUFACTURER SHALL BE USED IN COMPRESSION TYPE BELLS.
3. BOOT HUB VARIES ACCORDING TO GASKET MANUFACTURER'S SPECIFICATION FOR SPECIFIC PIPE SIZE AND TYPE.
4. MANHOLE SHOP DRAWINGS MUST IDENTIFY THE PIPE SIZE, TYPE, GASKET TYPE AND HOLE SIZE.

PIPE TO MANHOLE CONNECTION DETAIL TYPE "A" (GASKET) — 35S



INSTALLATION:

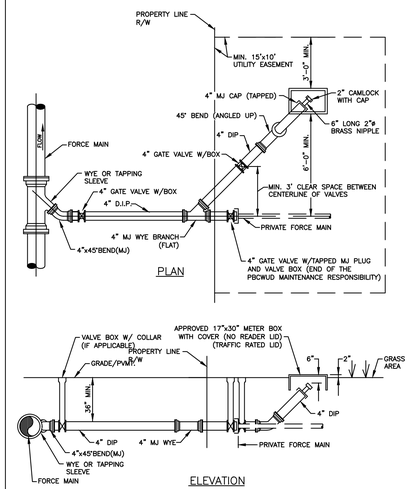
1. CLEAN BOOT HUB REMOVING ANY EXCESS CONCRETE SLURRY OR DIRT INSIDE BELL.
2. INSTALL RUBBER BOOT CONNECTOR (PER MANUFACTURER'S INSTRUCTIONS). WEDGE STYLE EXPANDER BOLTS MUST BE ALIGNED WITH THE "TOP" OF BOOT HUB ACCESS NOTCH.
3. PIPE-WITH PIPE END AS REQUIRED TO PREDETERMINED PIPE DEFLECTION ANGLE. MERELY "DE-BURR" PIPE END - DO NOT CHAMFER OR BEVEL PIPE END.
4. LUBRICATE SPIGOT; ORIENT PIPE MITER; SLIDE INTO RUBBER BOOT CONNECTOR; "HOME" PIPE TO BASE LINER CHANNEL END; DEFLECT PIPE AS REQUIRED. INSPECT MANHOLE BASE INTERIOR FOR CHANNEL/PIPE INVERT ALIGNMENT AND SEAL; TIGHTEN RUBBER BOOT CLAMP (PER MANUFACTURER'S INSTRUCTIONS).
1. CHECK FOR WATERTIGHT CONNECTION; (VACUUM TESTING OR OTHER APPROVED METHOD).

DO NOT LUBRICATE THE GASKET OR THE BELL

NOTES:

1. MANHOLE SHOP DRAWINGS SHALL IDENTIFY THE TYPE OF MANHOLE/PIPE CONNECTION.
2. ONLY THE POLYISOPRENE GASKET SUPPLIED BY THE BELL MANUFACTURER SHALL BE USED IN COMPRESSION TYPE BELLS.
3. BOOT HUB VARIES ACCORDING TO GASKET MANUFACTURER'S SPECIFICATION FOR SPECIFIC PIPE SIZE AND TYPE.
4. MANHOLE SHOP DRAWINGS MUST IDENTIFY THE PIPE SIZE, TYPE, GASKET TYPE AND HOLE SIZE.

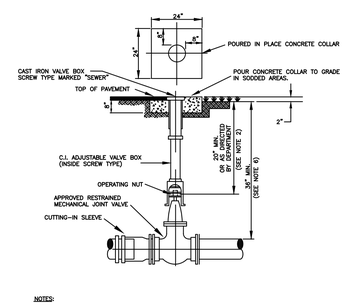
PIPE TO MANHOLE CONNECTION TYPE "B" (BOOT) — 36S



NOTE:

1. THE FLUSHING CONNECTION SHALL BE LOCATED IN GRASS AREA.
2. ALL 4" PIPES SHALL BE RESTRAINED.

CONNECTION OF PRIVATE FORCE MAIN UNDER 4" IN DIAMETER — 37S



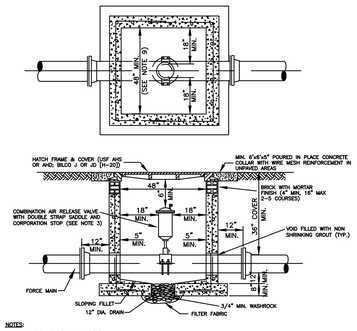
NOTES:

1. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
2. WHEN OPERATING NUT IS DEEPER THAN 36" A ONE PIECE EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT 20"-30" BELOW FINISHED GRADE. EXTENSION BOLTS & NUTS ARE TO BE STAINLESS STEEL. A HIGH STRENGTH STEEL CENTERING PLATE, WELDED TO THE EXTENSION, IS ALSO REQUIRED.
3. VALVE BOXES SHALL HAVE COVERS MARKED "SEWER".
4. EXTENSION VALVE BOX TO BE D.I.P. OR C-900 PVC DR 18 (COLOR: GREEN).
5. A CUT-IN INSTALLATION SHALL REQUIRE MEGALUGS OR EQUAL THROUGHOUT ASSEMBLY.
6. IN ORDER TO MAINTAIN ADEQUATE COVER OVER VALVE NUT, THE FOLLOWING MINIMUM COVERS OVER PIPE ARE REQUIRED:

GATE VALVE SIZE	MIN. COVER OVER PIPE
16"	48"
20"	54"
24"	60"
30"	72"
36"	84"

7. PIPE SHALL BE RESTRAINED ON BOTH SIDES OF THE VALVE AS REQUIRED.
8. VALVES IN ROADWAYS SHALL BE LOCATED OUTSIDE OF WHEEL PATHS WHENEVER POSSIBLE.

TYPICAL FORCE MAIN GATE VALVE SETTING AND CUT-IN DETAIL — 38S

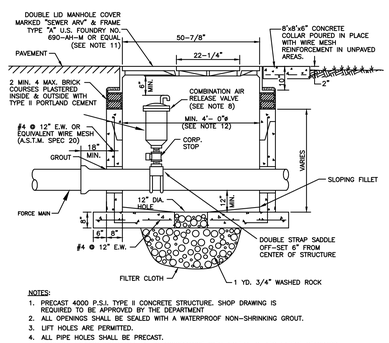


NOTES:

1. 4000 P.S.I. TYPE II CONCRETE.
2. VAULT SHALL BE PRECAST WITH STEEL REINFORCING. SHOP DRAWING IS REQUIRED TO BE APPROVED BY THE DEPARTMENT PRIOR TO VAULT CONSTRUCTION AND/OR INSTALLATION.
3. COMBINATION AIR RELEASE VALVE (ARV) SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED. ALTHOUGH A 2" MINIMUM SIZED ARV IS REQUIRED ON FORCE MAIN INSTALLATIONS.
4. ALL OPENINGS SHALL BE SEALED WITH WATERPROOF NON-SHRINKING GROUT.
5. ALTERNATE VAULT AND COVER DESIGN MAY BE USED PROVIDED ALTERNATE VAULT AND/OR COVER SHOP DRAWINGS WERE SUBMITTED AND APPROVED BY THE DEPARTMENT PRIOR TO THE VAULT AND/OR COVER BEING INSTALLED.
6. COAT INSIDE WITH AN APPROVED CORROSION BARRIER SYSTEM.
7. DUCTILE IRON PIPE IS REQUIRED THROUGH THE VAULT. NO PIPE JOINTS WITHIN THE VAULT.
8. THREADED AREAS OF CORPORATION STOP SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.
9. LARGER VAULTS WILL BE REQUIRED FOR PIPES LARGER THAN 12"

PIPE SIZE	MIN. VAULT SIZE
16"-24"	4'W x 5'L
30"-42"	4'W x 6'L

FORCE MAIN AIR RELEASE VALVE AND VAULT OUTSIDE OF R/W, NON-TRAFFIC AREAS — 39S



NOTES:

1. PRECAST 4000 P.S.I. TYPE II CONCRETE STRUCTURE. SHOP DRAWING IS REQUIRED TO BE APPROVED BY THE DEPARTMENT.
2. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
3. LIFT HOLES ARE PERMITTED.
4. ALL PIPE HOLES SHALL BE PRECAST.
5. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478 LATEST STANDARD.
6. COAT INSIDE WITH AN APPROVED PROTECTIVE CORROSION BARRIER SYSTEM.
7. CONCRETE COLLAR REQUIRED WHEN MANHOLE IS OUTSIDE OF PAVEMENT, SEE DETAIL.
8. COMBINATION AIR RELEASE VALVE (ARV) SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED. ALTHOUGH A 2" MINIMUM SIZED ARV IS REQUIRED ON FORCE MAIN INSTALLATIONS.
9. DUCTILE IRON PIPE IS REQUIRED THROUGH THE MANHOLE. NO PIPE JOINTS INSIDE THE MANHOLE.
10. THREADED AREAS OF CORPORATION STOP SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.
11. FORCE MAINS 12" AND SMALLER, AN ALTERNATIVE VAULT AND COVER DESIGN MAY BE USED PROVIDED ALTERNATE VAULT AND/OR COVER SHOP DRAWINGS WERE SUBMITTED AND APPROVED BY THE DEPARTMENT PRIOR TO THE VAULT AND/OR COVER BEING INSTALLED.
12. LARGER MANHOLES WILL BE REQUIRED FOR PIPES LARGER THAN 12"

PIPE SIZE	MIN. MANHOLE DIAMETER
16"-24"	60"
30"-42"	72"

13. MANHOLES IN ROADWAYS SHALL BE LOCATED OUTSIDE OF WHEEL PATHS.

FORCE MAIN AIR RELEASE VALVE AND MANHOLE IN PAVED AREAS AND ROAD R/W — 40S

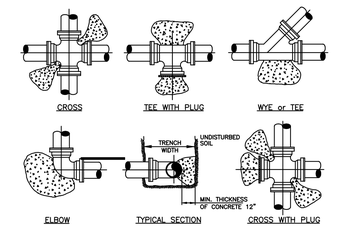
MIN. LENGTH OF PIPE (FEET) TO BE RESTRAINED
(SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE		PIPE SIZE										
		4"	6"	8"	10"	12"	16"	20"	24"	30"	42"	48"
90° HORIZ. BEND		14	20	25	30	35	45	54	62	73	84	93	101
45° HORIZ. BEND		6	8	11	13	15	19	22	26	30	35	38	42
22.5° HORIZ. BEND		3	4	5	6	7	9	11	12	15	17	18	20
11.25° HORIZ. BEND		1	2	3	3	4	4	5	6	7	8	9	10
90° VERT. OFFSET	UPPER BEND	29	41	53	64	74	95	115	134	160	185	207	228
	LOWER BEND	7	10	13	16	19	25	30	35	42	49	56	62
45° VERT. OFFSET	UPPER BEND	12	19	24	29	34	39	48	56	66	77	86	94
	LOWER BEND	3	4	6	7	8	10	12	15	18	20	23	26
22.5° VERT. OFFSET	UPPER BEND	6	9	12	14	17	19	23	27	32	37	41	45
	LOWER BEND	1	2	4	4	4	5	6	7	8	10	11	12
11.25° VERT. OFFSET	UPPER BEND	3	4	6	7	8	9	11	13	16	18	20	22
	LOWER BEND	1	1	1	2	2	2	3	3	4	5	5	6
PLUG (DEAD END)		32	45	59	70	83	107	129	151	160	185	207	228
IN-LINE VALVE		32	45	45	45	45	55	65	80	85	95	105	115
TEE (BRANCH RESTRAINT)	4"x 4	23	–	–	–	–	–	–	–	–	–	–	–
	6"x #	21	35	–	–	–	–	–	–	–	–	–	–
	8"x #	18	34	47	–	–	–	–	–	–	–	–	–
	10"x #	16	32	46	58	–	–	–	–	–	–	–	–
	12"x #	13	30	44	57	69	–	–	–	–	–	–	–
	16"x #	7	28	41	55	67	90	–	–	–	–	–	–
	20"x #	1	21	38	52	65	88	109	–	–	–	–	–
	24"x #	1	16	34	49	62	86	108	129	–	–	–	–
	30"x #	1	8	28	44	58	83	106	127	154	–	–	–
	36"x #	1	1	22	39	54	80	103	124	153	179	–	–
	42"x #	1	1	15	33	49	77	100	122	151	177	201	–
	48"x #	1	1	7	27	44	73	97	120	149	176	200	222
REDUCER (LARGER PIPE RESTRAINT)	6"x #	23	–	–	–	–	–	–	–	–	–	–	–
	8"x #	38	25	–	–	–	–	–	–	–	–	–	–
	10"x #	57	43	24	–	–	–	–	–	–	–	–	–
	12"x #	72	60	44	41	–	–	–	–	–	–	–	–
	16"x #	99	90	78	75	45	–	–	–	–	–	–	–
	20"x #	123	116	107	105	81	45	–	–	–	–	–	–
	24"x #	146	140	132	131	111	82	45	–	–	–	–	–
	30"x #	157	153	148	141	133	113	87	56	–	–	–	–
	36"x #	182	179	175	169	163	147	126	101	56	–	–	–
	42"x #	205	202	199	194	189	175	150	138	100	54	–	–
	48"x #	226	224	221	217	213	201	187	169	138	98	53	–

NOTES:

1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
   SOIL TYPE-SAND — TEST PRESSURE-150 PSI — DEPTH OF BURY-3'
   TRENCH TYPE-3 — SAFETY FACTOR-1.5 — VERTICAL OFFSET-3'
   MINIMUM PIPE LENGTH ALONG TEE RUN-5'
2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF VALVES AND FITTINGS.
5. MULTIPLY PIPE LENGTH BY 1.5 FOR POLYETHYLENE ENCASED PIPE.
6. RESTRAINED PIPE LENGTHS EQUAL TO AN "INLINE VALVE" CONDITION ARE REQUIRED AT EACH END OF A TRANSITION FROM HDPE PIPE TO OTHER PIPE MATERIALS.
7. DESIGN ENGINEER IS RESPONSIBLE FOR PROPER RESTRAINT PIPE LENGTH SIZING FOR THE PROJECT.

MECHANICAL THRUST RESTRAINT MINIMUM PIPE LENGTHS (FORCE MAINS) — 41S

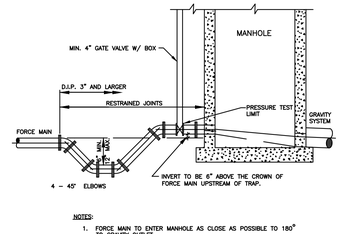


PIPE	THRUST BLOCK AREA REQ'D	REMARKS	NOTE:
4"	2.0 SQ. FT.	VALUES ARE FOR 90° BEND, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. FOR OTHER SOILS & PRESSURES THE AREA REQUIRED IS IN DIRECT PROPORTION	FOR OTHER FITTINGS USE THE FOLLOWING FACTORS: TEE 100% 45° BEND 71% 22 1/2° BEND 39% 11 1/4° BEND 20% DEAD END 100%
6"	4.0 SQ. FT.		
8"	6.6 SQ. FT.		
10"	10.0 SQ. FT.		
12"	14.0 SQ. FT.		
14"	18.6 SQ. FT.		

NOTES:

1. CONCRETE THRUST BLOCKS OR THRUST COLLARS MAY BE UTILIZED ONLY IF NECESSARY FOR CONNECTIONS TO AN EXISTING PIPING SYSTEM, OTHERWISE MECHANICAL RESTRAINTS SHALL BE USED. KEEP "T" BOLTS CLEAR OF CONCRETE, WRAPPED IN VISQUEEN FOR FUTURE ACCESS, WITH A MINIMUM OF 1" THICKNESS BETWEEN THE FITTING AND SOIL.
2. BEFORE POURING CONCRETE, PLUGS SHALL BE WRAPPED WITH VISQUEEN AND A BOARD PLACED IN FRONT.
3. CONCRETE SHALL BE 2500 P.S.I. MINIMUM.
4. THE ENGINEER OF RECORD SHALL SUBMIT A THRUST BLOCK SIZE CALCULATION FOR TEE CONNECTIONS INTO UNRESTRAINED EXISTING MAINS LARGER THAN 14".
5. THE ENGINEER OF RECORD SHALL SUBMIT A PIPE RESTRAINT DESIGN FOR INLINE EXTENSIONS OF A EXISTING UNRESTRAINED MAIN IF MECHANICAL JOINT RESTRAINT CAN NOT BE INSTALLED ON THE EXISTING MAIN.

TYPICAL THRUST BLOCKS FOR PRESSURE PIPING — 42S



NOTES:

1. FORCE MAIN TO ENTER MANHOLE AS CLOSE AS POSSIBLE TO 180° TO GRAVITY OUTLET.
2. THE INVERT LEVEL OF FORCE MAIN AT POINT OF ENTRY SHALL BE 6" ABOVE OUTFLOW INVERT OF MANHOLE.
3. CORE ENTRY ONLY INTO EXISTING MANHOLES.
4. TRAP TO BE LOCATED PRIOR TO DROP INTO MANHOLE AND OUTSIDE OF PAVED AREAS.
5. USE TWO 45° ELBOWS PAST TRAP IF ELEVATION DROP IS REQUIRED TO ENTER MANHOLE.
6. CAST-IN OR FIELD INSTALLED FLOW CHANNEL IS REQUIRED.
7. MANHOLE WALL TO BE COATED WITH AN APPROVED SOLID THERMOPLASTIC CAST-IN CORROSION BARRIER SYSTEM.
8. TRAP JOINTS TO BE RESTRAINED.

FORCE MAIN ENTERING MANHOLE — 43S

WASTEWATER #5 STANDARD DETAILS

CONSULTANT:

IT'S THE LAW ! CALL 48 HOURS BEFORE YOU DIG **1-800-432-4770** SUNSHINE STATE ONE CALL OF FLORIDA, INC. UTILITIES NOTIFICATION CENTER

DESIGNED BY:	WUD	
DRAWN BY:	M. BUCKNER	Palm Beach County
CHECKED BY:	J. LAMMERT	Water Utilities Department
APPROVED BY:	WUD	P.O.Box 16097 West Palm Beach, FL 33416-6097

EXHIBIT "A"

WUD PROJECT No. 00-000

WUD PROJECT NAME

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561)493-6000

NO.	DATE	REVISION / REMARKS	BY
1	JUNE 2019	GENERAL REVISION	J.L.
2	OCT 2021	GENERAL REVISION	J.L.
3	JAN 2023	GENERAL REVISION	J.L.
*			

STD DETAILS

SHEET NUMBER 0 OF 0

SEAL

CIVIL DESIGN, INC.
Service Driven Design – Engineered Results
1400 Centrepark Blvd, Suite 905
West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
www.civil-design.com

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:
GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY GABRIEL BURDEN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
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Florida License No. 75425

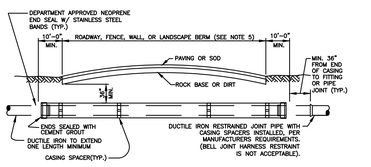
CDI PROJECT NO. 23805-01

DATE: 11/08/2024
DESIGNED: CDI
DRAWN: CDI

NO.	DATE	REVISION DESCRIPTION

WATER & SEWER DETAILS

C7.11

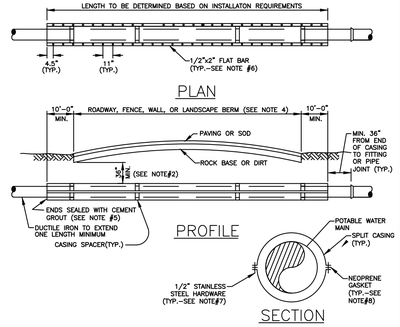


CARRIER PIPE SIZE	STEEL CASING INSIDE DIAMETER (MIN)	MINIMUM WALL THICKNESS (SEE NOTE 2)
4"	12"	.188
6"	14"	.250
8"	20"	.250
10"	20"	.250
12"	24"	.250
14"	24"	.250
16"	30"	.312
18"	30"	.312
20"	36"	.372
24"	42"	.500
30"	48"	.500
36"	54"	.625
42"	60"	.625
48"	72"	.625

NOTES:

1. A PROFILE DRAWING TO SCALE FOR EACH JACK AND BORE, DIRECTIONAL DRILL, OR DIRECT BURIED INSTALLATION IS REQUIRED TO BE APPROVED BY THE DEPARTMENT PRIOR TO INSTALLATION. IF A SPLIT CASING IS REQUIRED THEN SHOP DRAWINGS ARE REQUIRED TO BE SUBMITTED AND APPROVED BY THE DEPARTMENT PRIOR TO CONSTRUCTION AND/OR INSTALLATION.
2. THICKER WALL CASINGS AND LARGER COVER OVER CASING MAY BE REQUIRED BY THE RIGHT-OF-WAY OWNER.
3. STEEL CASING SHALL BE COATED OUTSIDE WITH COAL TAR EPOXY (MIN. 16 MILS DFT) AND BE PAINTED WITH A 4" MINIMUM WIDE CONTINUOUS STRIPE, COLOR CODED TO MATCH THE PIPE INSIDE, ALONG THE TOP AXIS OF THE CASING.
4. PIPE IN CASING SHALL BE PULLED TO FULLY ENGAGE RESTRAINT.
5. STEEL CASING IS REQUIRED FOR ALL WASTEWATER MAIN INSTALLATIONS UTILIZING JACK AND BORE CONSTRUCTION AND WHEN MAINS ARE INSTALLED UNDER FENCES, WALLS, OR LANDSCAPE BERMS. WHEN THE CASING IS INSTALLED UNDER FENCES, WALLS, OR LANDSCAPE BERMS IT SHALL BE CENTERED ON THE PREVIOUS BARRIER AND IS REQUIRED TO EXTEND 10' MINIMUM PAST BARRIER ON EACH SIDE UNLESS OTHERWISE PREVIOUSLY APPROVED BY THE DEPARTMENT.

WASTEWATER MAIN CASING INSTALLATION * 44SA

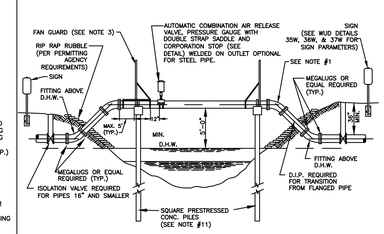


CARRIER PIPE SIZE	STEEL CASING INSIDE DIAMETER (MIN)	MINIMUM WALL THICKNESS (SEE NOTE 2)
4"	12"	.188
6"	14"	.250
8"	20"	.250
10"	20"	.250
12"	24"	.250

NOTES:*

1. A SHOP DRAWING TO SCALE FOR EACH SPLIT CASING INSTALLATION IS REQUIRED AND TO BE APPROVED BY THE DEPARTMENT PRIOR TO INSTALLATION.
2. THE RIGHT-OF-WAY OWNER MAY REQUIRE THICKER WALL CASING AND LARGER COVER OVER CASING.
3. STEEL CASING SHALL BE COATED OUTSIDE WITH COAL TAR EPOXY (MIN. 16 MILS DFT) AND BE PAINTED WITH A 4" MINIMUM CONTINUOUS STRIPE, ALASKA BLUE IN COLOR, ALONG THE TOP SIDE OF THE CASING.
4. SPLIT STEEL CASING IS REQUIRED ON ALL EXISTING WASTEWATER INSTALLATIONS WHEN A NEW STORM DRAINAGE OR OTHER UTILITY PIPE IS INSTALLED AND CANNOT ACHIEVE THE PROPER VERTICAL SEPARATION PER WUD STANDARDS ALONG WITH WHEN A NEW FENCE, WALL, OR LANDSCAPE BERM IS INSTALLED OVER AN EXISTING POTABLE WATER MAIN. WHEN A SPLIT CASING IS INSTALLED UNDER A FENCE, WALL, OR LANDSCAPE BERM SEE WUD STANDARD DETAIL 91S FOR INSTALLATION REQUIREMENTS.
5. NON-SHRINKABLE CEMENT GROUT TO BE INSTALLED TO OBTAIN WATERTIGHT SEAL AT EACH END OF CASING.*
6. FLAT BARS TO BE STITCH WELDED AT 6" LENGTHS TO EDGE OF CASING ON EACH SIDE.
7. CASING TO BE ASSEMBLED IN FIELD WITH 1/2" STAINLESS STEEL BOLTS, WASHERS, AND NUTS ON EACH SIDE.
8. 1/4" NEOPRENE GASKET MATERIAL EXTENDING PAST CASING JOINT FOR POSITIVE SEAL ON EACH SIDE.

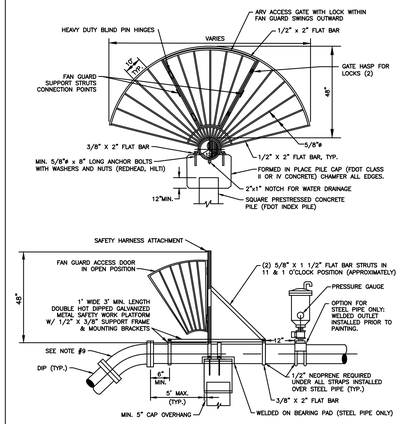
WASTEWATER MAIN SPLIT CASING INSTALLATION * 44SB



NOTES:

1. ALL EXPOSED PIPE SHALL BE DUCTILE IRON OR PREFABRICATED STEEL WITH FLANGED FITTINGS AND PROFILED GASKETS. RETAINER GLANDS AND UNIFLANGE TYPE FITTINGS ARE NOT TO BE SUBSTITUTED FOR FLANGED FITTINGS. PREFABRICATED STEEL PIPE MAY INCORPORATE MITERS ON LONG RADIUS UPPER BENDS. PREFABRICATED FLANGED PIPE SHALL BE FACTORY TESTED.
2. SPAN LENGTHS AS REQUIRED BY PERMITTING AGENCY
3. FAN GUARDS ARE REQUIRED. SEE FAN GUARD/PILE CAP DESIGN DETAILS, FOR ADDITIONAL REQUIREMENTS. ACCESS PLATFORM AND GATE REQUIRED ON ARV SIDE ONLY.
4A. ALL EXPOSED PIPING SHALL BE PAINTED AS SPECIFIED IN THE APPROVED MATERIAL LIST.
4B. ALL HARDWARE SHALL BE PAINTED WITH COAL-TAR EPOXY.
5. PIPE SHALL BE CRADLED ON 3" THICK NEOPRENE, (DUROMETER GRADE 50) CURRENT FDOT STANDARDS APPLY. NEOPRENE IS REQUIRED AT ALL STRAPS INSTALLED OVER STEEL PIPE. NEOPRENE SHALL EXTEND 1" BEYOND THE EDGES OF CRADLE AND STRAPS.
6. TIE-DOWN STRAPS MUST PROPERLY FIT AND SECURE PIPE IN CRADLE.
7. PIPE CRADLE IN CAP SHALL CONTACT ⅓ CIRCUMFERENCE OF PIPE. (SEE FAN GUARD DETAIL)
8. SHOW EXISTING CANAL CROSS SECTION, ULTIMATE CANAL SECTION, AND RELEVANT ELEVATIONS AND DISTANCES ON A TO SCALE DETAIL DRAWING.
9. PILE LIFT CABLE SHALL BE REMOVED BELOW SURFACE; HOLE SHALL BE FILLED WITH EPOXY CEMENT.
10. THREADED AREAS OF BRASS FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE.
11. THE PILES AND CAP DESIGN SHALL BE SHOWN ON TO SCALE SIGNED AND SEALED DETAIL DRAWINGS. MIN. 12"x12" TYPE 1A FLORIDA DOT INDEX PILES ARE REQUIRED. PILE PENETRATION BELOW CANAL BOTTOM SHALL BE 15' MINIMUM. MINIMUM LOAD CAPACITY OF 20 TONS PER PILE IS REQUIRED (FDOT STANDARDS APPLY). SIGNED AND SEALED SHOP DRAWINGS ARE REQUIRED.
12. PREFABRICATED STEEL PIPE SHALL HAVE WELDED ON BEARING PADS EXTENDING MIN. 1" BEYOND PIPE CRADLE. THE PADS SHALL BE INSTALLED BY THE STEEL PIPE MANUFACTURER PRIOR TO PAINTING.
13. FORCE MAIN CROSSINGS OVER BODIES OF WATER MAY BE SUBJECT TO A D.E.P. "NOTICED GENERAL ENVIRONMENTAL RESOURCE PERMIT" (NGP)

TYPICAL FORCE MAIN AERIAL CANAL CROSSING – SINGLE PIPE (SINGLE PILES) * 45S



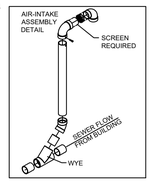
NOTES:

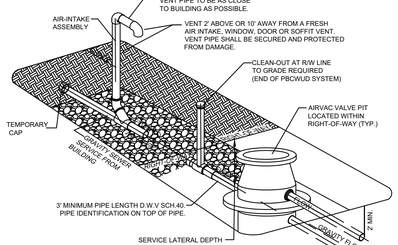
1. FAN GUARDS SHALL BE PLACED AT EACH END OF CANAL CROSSING.
2. HARDWARE SHALL BE PAINTED WITH COAL TAR EPOXY.
3. FANGUARD WITH HARDWARE SHALL BE FABRICATED FROM DOUBLE HOT DIPPED GALVANIZED STEEL.
4. SHOP DRAWINGS FOR FANGUARDS, CAPS, AND PILES MUST BE SUBMITTED TO PBCWUD FOR REVIEW AND APPROVAL PRIOR TO PRE-CONSTRUCTION MEETING.
5. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60. MIN. 2" CONCRETE COVER OVER ALL STEEL.
6. SEE "TYPICAL CANAL CROSSING DETAIL" FOR ADDITIONAL REQUIREMENTS.
7. NO WELDING OF REBAR TO REBAR OR REBAR TO PILE STRANDS SHALL BE ALLOWED.
8. DESIGN DRAWINGS ARE REQUIRED.
9. LONG RADIUS WELDED ON UPPER BENDS ARE ACCEPTABLE FOR STEEL PIPE.
10. IF A PILE/CAP STEEL CONNECTION IS REQUIRED BY DESIGNING ENGINEER, MIN. (4) #8 REINFORCEMENT BARS SHALL BE DRILLED AND DOWELED (EPOXIED) MIN. 18" DEEP INTO THE PILE AND TIED WITH THE CAP STEEL.
11. ACCESS PLATFORM AND GATE REQUIRED ON ARV SIDE ONLY.

FAN GUARD/ PILE CAP DESIGN – SINGLE PIPE (SINGLE PILES) * 46S

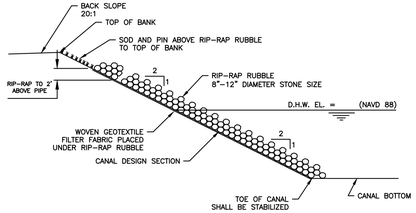
NOTES:

1. APPROVED PLUMBING PLAN MUST BE ON JOB SITE FOR INSPECTION, IF NOT, INSTALLATION WILL BE REJECTED.
2. PLUMBING SHALL CONFORM TO ALL PALM BEACH COUNTY AND OTHER APPLICABLE CODES.
3. TEMPORARY CAP IN PLACE (NO SEWAGE); UPSTREAM OF THE VENT PIPE TO BE IN PLACE UNTIL WUD INSPECT AND INSTALL VALVE
4. EXISTING SEPTIC TANK TO BE ABANDONED IN ACCORDANCE WITH LOCAL HEALTH DEPT. SPECIFICATIONS.
5. AIR INTAKE ASSEMBLY IS REQUIRED.
6. AIR VAC VALVE WILL BE INSTALLED BY UTILITY AFTER 4" AIR-INTAKE ASSEMBLY IS IN PLACE.
7. 6. SEWER CONNECTION FEES TO BE PAID PRIOR TO CONNECTION.
8. TEMPORARY CAP IN PLACE UNTIL WUD INSPECT AND INSTALL VALVE.
9. CAP IS NOT TO BE REMOVED UNTIL WUD HAS INSTALLED VALVE COMPLETE.





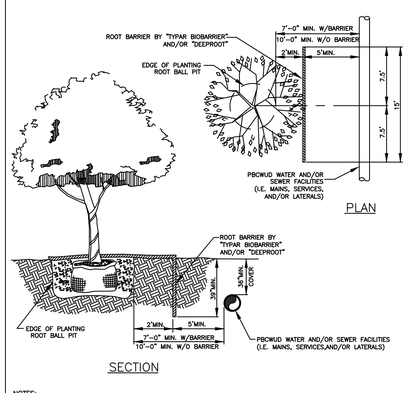
TYPICAL WASTEWATER SERVICE INSTALLATION FOR VACUUM SEWER * 87S



NOTES:

1. RIP-RAP RUBBLE AND ITS INSTALLATION MUST MEET CANAL OWNERSHIP SPECIFICATIONS AND PERMITTING REQUIREMENTS.
2. DUMP RUBBLE IN PLACE FORMING A COMPACT LAYER CONFORMING TO THE CANAL DESIGN SECTION SLOPE. ENSURE THAT RUBBLE DOES NOT SEGREGATE SO THAT SMALLER PIECES EVENLY FILL THE VOIDS BETWEEN LAGER PIECES.
3. AN ALTERNATIVE DESIGN WILL BE CONSIDERED AND MUST RECEIVE PRIOR APPROVAL FROM THE CANAL PROPERTY OWNER.

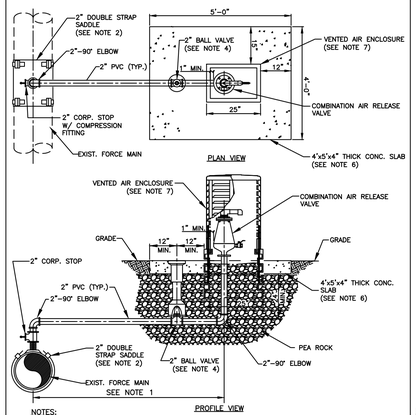
RIP-RAP RUBBLE DETAIL (N.T.S.) * 88S



NOTES:

1. TREES SHOWN ON THIS PLAN ARE FOR GRAPHIC REPRESENTATION ONLY. TREE SPACING IS BASED ON DESIGN REQUIREMENTS AND THE TREES SHOWN ON THESE PLANS ATTEMPT TO ACCOMPLISH THAT SPACING WHILE MAINTAINING THE REQUIRED SETBACKS FROM UTILITIES. TREES MAY BE FIELD ADJUSTED TO AVOID CONFLICTS WITH DRIVEWAYS AND UNDERGROUND UTILITIES. IN ANY CASE THE TREES SHALL BE LOCATED IN THE FIELD IN ACCORDANCE WITH THE PLANTING DETAILS SHOWN HEREON.
2. TREES ARE TO BE INSTALLED WITH A TEN FOOT (10') SEPARATION FROM ANY WATER OR SEWER MAIN AND/OR SERVICE, HYDRANTS, AND LIFT STATIONS. IF A TEN FOOT (10') SEPARATION CANNOT BE ACHIEVED, THE TREE CAN BE INSTALLED WITH A ROOT BARRIER SYSTEM. HOWEVER, IN NO CASE SHALL A TREE ENCROACH INTO A PBCUE WITHOUT PRIOR DEPARTMENT APPROVAL.

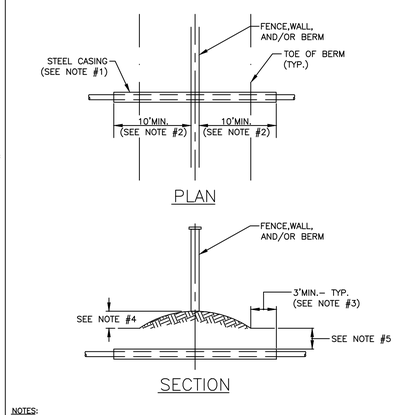
LANDSCAPE AND ROOT BARRIER DETAIL * 89S



NOTES:

1. OFF-SET DISTANCE VARIES ON LOCATION OF FORCE MAIN TO ARV ENCLOSURE. IN NO CASE SHALL THE OFF-SET DISTANCE EXCEED 10' UNLESS OTHERWISE APPROVED BY THE DEPARTMENT PRIOR TO INSTALLATION.
2. 2" DOUBLE STRAP SADDLE TO BE INSTALLED PERPENDICULAR TO FORCE MAIN IN THE DIRECTION OF TOP.
3. ALL PVC PIPING AND FITTINGS TO BE SCHEDULE 80.
4. 2" BALL VALVE AND CORPORATION STOP SHALL BE BRASS WITH COMPRESSION FITTINGS ON EACH END.
5. ALL FITTINGS AND VALVES SHALL BE COMPRESSION TYPE.
6. CONCRETE PAD FOR WATER METER ASSEMBLY SHALL BE 4" THICK WITH WIRE MESH (4"x4") CONCRETE PAD IS REQUIRED TO BE BROOM FINISHED.
7. VENTED ENCLOSURE SHALL BE CHANNELL COMPANY #SPH1420, SEE APPROVED MATERIALS AND EQUIPMENT LIST. ENCLOSURE SHALL BE CAPABLE OF ALLOWING THE SAME AMOUNT OF AIR FLOW AS THE ARV.
8. THIS FORCE MAIN OFF-SET ARV REQUIRES PREVIOUS DEPARTMENT APPROVAL PRIOR TO INSTALLATION.

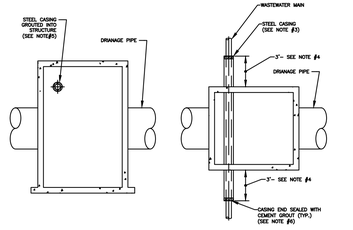
FORCE MAIN AIR RELEASE VALVE W/ VENTED AIR ENCLOSURE * 90S



NOTES:

1. STEEL CASING PER WUD STANDARD DETAIL 44S (SOLID CASING) OR WUD STANDARD DETAIL 44AS (SPLIT CASING) AS APPLICABLE.
2. STEEL CASING SHALL EXTEND TEN (10) FEET MINIMUM PAST FENCE OR WALL. FIVE (5) FEET MINIMUM MAY BE ACCEPTABLE ON A CASE-BY-CASE BASIS DUE TO SITE CONDITIONS AND ONLY WITH PRIOR DEPARTMENT APPROVAL.
3. STEEL CASING SHALL EXTEND THREE (3) FEET MINIMUM PAST THE TOE OF THE BERM. IF BERM CASING IS ASSOCIATED WITH A WALL OR FENCE INSTALLATION OF THE CASING SHALL EXTEND THREE (3) FEET MINIMUM PAST THE TOE OF THE BERM OR TEN (10) FEET MINIMUM PAST THE WALL OR FENCE WHICH EVER IS GREATER.
4. STEEL CASING INSTALLATION REQUIRED WHEN A BERM IS TWO (2) FEET OR HIGHER ABOVE SURROUNDING GRADE.
5. TOP OF STEEL CASING SHALL BE THREE (3) FEET MINIMUM BELOW THE TOE OF THE BERM OR BASE OF WALL OR FENCE ELEVATION WHICHEVER IS LOWER.

WASTEWATER MAIN CROSSING FENCE, WALL, OR BERM CASING DETAIL * 91S



WUD MAIN SIZE	DIAMETER OF STEEL CASING SIZE	OPENING SIZE FOR SOLID CASING	OPENING SIZE FOR SPLIT CASING
6"	14"	18"	20"
8"	20"	24"	28"
10"	20"	24"	28"
12"	24"	28"	30"

NOTES:

1. THE CONFLICT STRUCTURE IS TO BE DESIGNED PER CURRENT FDOT UTILITY CONFLICT THRU DRAINAGE STRUCTURE STANDARDS.
2. A SHOP DRAWING TO SCALE FOR EACH CONFLICT STRUCTURE INSTALLATION IS REQUIRED TO BE APPROVED BY THE DEPARTMENT PRIOR TO INSTALLATION.
3. STEEL CASING PER WUD STANDARD DETAIL 44S (SOLID CASING) OR WUD STANDARD DETAIL 44AS (SPLIT CASING) FOR EXISTING WASTEWATER MAIN ONLY.
4. STEEL CASING SHALL EXTEND THREE (3) FEET PAST EACH SIDE OF STRUCTURE. CASING CAN EXTEND FURTHER PAST THE STRUCTURE WHEN EXISTING CONDITIONS WARRANT AND ONLY PRIOR TO DEPARTMENT APPROVAL.
5. STEEL CASING SHALL BE GROUTED IN PLACE WITH NON-SHRINKABLE CEMENT GROUT TO PROVIDE A WATERTIGHT SEAL TO PREVENT ANY LEAKAGE INTO THE STRUCTURE.
6. NON-SHRINKABLE CEMENT GROUT TO BE INSTALLED AT EACH END OF CASING TO OBTAIN WATERTIGHT SEAL.
7. 16" AND LARGER WASTEWATER MAINS REQUIRING A CONFLICT STRUCTURE WILL BE CONSIDERED BY THE DEPARTMENT ONLY WHEN EXTREME CIRCUMSTANCES EXIST WHEN THE MAIN CANNOT BE DEFLECTED AROUND THE DRAINAGE PIPE.

WASTEWATER MAIN CONFLICT STRUCTURE DETAIL * 92S

WASTEWATER #6 STANDARD DETAILS

CONSULTANT:

IT'S THE LAW ! CALL 48 HOURS BEFORE YOU DIG 1-800-432-4770 SUNSHINE STATE ONE CALL OF FLORIDA, INC. UTILITIES NOTIFICATION CENTER

DESIGNED BY:	WUD	
DRAWN BY:	M. BUCKNER	Palm Beach County
CHECKED BY:	J. LAMMERT	Water Utilities Department
APPROVED BY:	WUD	P.O.Box 16097
		West Palm Beach, FL 33416-6097

WUD PROJECT No. 00-000

WUD PROJECT NAME

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT
P.O. BOX 16097
WEST PALM BEACH, FL 33416
(561)493-6000

NO.	DATE	REVISION / REMARKS	BY
1	JUNE 2019	GENERAL REVISION	J.L.
2	OCT. 2021	GENERAL REVISION	J.L.
3	JAN 2023	GENERAL REVISION	J.L.

STD DETAILS

SHEET NUMBER 0 OF 0

SEAL

CDI
CIVIL DESIGN, INC.
Service Driven Design – Engineered Results
1400 Centrepark Blvd, Suite 905
West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
www.civil-design.com

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

6645 CHICKASAW ROAD
GREENACRES, FL 33467

APPROVED BY:
GABRIEL BURDEN LICENSE NO. 75425 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Gabriel Burden, P.E.
Florida License No. 75425

CDI PROJECT NO. 23805-01

DATE: 11/08/2024
DESIGNED: CDI
DRAWN: CDI

NO.	DATE	REVISION DESCRIPTION

WATER & SEWER DETAILS

C7.12

EXHIBIT "A"

MOPS

MANUFACTURED ODORLESS PUMP STATION
ATLANTIC ENVIRONMENTAL SYSTEMS, INC.
LAKE WORTH, FL 33461
PH: (561) 547-8080 FAX: (561) 547-3999

© 2000

PRIVATE SERIES

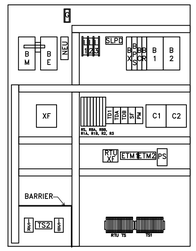
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REVISION	DATE
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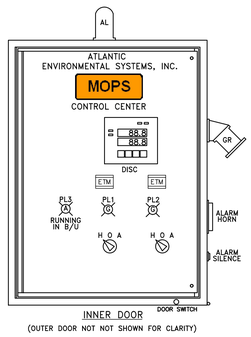
MOPS CONTROL CENTER

CONTROL CENTER DESIGNED & MANUFACTURED TO MEET ALL D.E.P. REQUIREMENTS

SEE SCHEDULE FOR ELECTRICAL SERVICE REQUIREMENTS



INTERIOR LAYOUT



INNER DOOR
(OUTER DOOR NOT NOT SHOWN FOR CLARITY)

PANEL COMPONENTS

ALT	ALTERNATOR (IN DISC)
AS	ALARM SILENCE SWITCH
B1-2	MOTOR BREAKERS
BC	CONTROL BREAKER
BE	EMERGENCY BREAKER
BM	MAIN BREAKER
BR	GFI RECEPTACLE BREAKER
BPS	POWER SUPPLY BREAKER
BX	TRANSFORMER BREAKER
C1-2	MOTOR START CONTACTORS
CR	GFI CONVENIENCE RECEPTACLE
DISC	DUPLEX INTRINSICALLY- SC100 SAFE CONTROLLER
ETM	ELAPSED TIME METER
G	GROUND
GR	GENERATOR RECEPTACLE
H	HORN
HOA	HAND-OFF-AUTO SWITCH- GE (ON DISC)
NEU	NEUTRAL
PL1,2,3	PILOT LIGHT (GE)
PM	PHASE MONITOR
PS	POWER SUPPLY
R2-3	RELAYS
RBA-B	BATTERY RELAYS
RS	SILENCE RELAY
R1A-B	RELAYS
R1UX	RTU TRANSFORMER
SF	SEAL FAIL RELAY
SLPD	SURGE/LIGHTNING PROTECTION DEVICE
TS1	TERMINAL STRIP FOR PUMPS
TS2	TERMINAL STRIP FOR I.S.
XF	50/60Hz 0.5KVA TRANSFORMER

ENCLOSURE

NEMA 4X STAINLESS STEEL
SINGLE DOOR w/PADLOCK HASP
ALUMINUM INNER (DEAD FRONT) DOOR
30"H x 30"W x 8"D
PANEL LABELED FOR U.L. 508A "MOTOR CONTROL CENTERS" AND U.L. 698A "HAZARDOUS LOCATION PANELS"

NOTE:

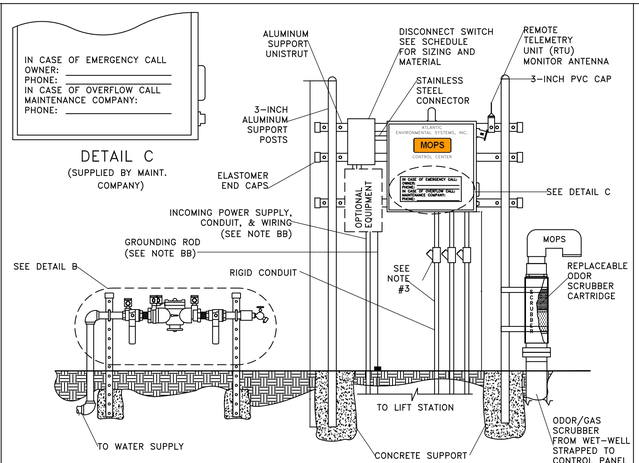
SEE CONTROL PANEL DETAIL SHEET FOR ADDITIONAL NOTES.

27	NEU	NEU	NEU	120	120	120	#1-20	COM	SF1	SF2	T1	T2	T3
	NEU			120V			RTU TERMINALS		PUMP SEAL FAIL		MOTOR LEADS		

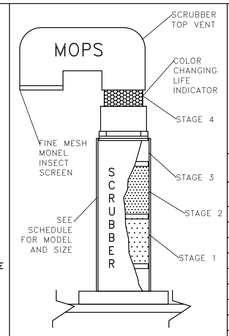
TS1 TERMINAL SCHEDULE

15	16	PTC	T1	T2	T3	17	18	PTC
MT1 MOTOR 1		GND	MOTOR 2 LEADS			MT2 MOTOR 2		GND

TS2 TERMINAL SCHEDULE



CONTROL CENTER ASSEMBLY AND INSTALLATION N.T.S.



DETAIL A

MOPS ODOR/GAS SCRUBBER

NOTES:
1. SCRUBBER DESIGNED TO REMOVE TOXIC SEWAGE GASES, H2S, AND OFFENSIVE ODORS SUCH AS SKATOLES AND MERCAPTANS.
2. SCRUBBER'S LIFE EXPECTANCY CALCULATIONS ARE INCLUDED IN SHOP DRAWING SUBMITTALS.
3. SCRUBBER UNIT CAN BE MOUNTED INSIDE WET-WELL OR TOP MOUNTED.
4. MODEL 'B' SHOWN.

MOPS PUMP STATION SCHEDULE

MOPS SERIES			ITEM DESCRIPTION	
INITIAL DESIGN FLOW (G.P.M.)	114		100 YEAR FLOOD ELEVATION	17.10'
INITIAL DESIGN HEAD (T.D.H.)	53'		25 YEAR FLOOD ELEVATION	16.30'
SECONDARY DESIGN FLOW (G.P.M.)	145	A	GRADE ELEVATION	16.31'
SECONDARY DESIGN HEAD (T.D.H.)	50'	B	TOP ELEVATION OF WET WELL	16.31'
RATED PERFORMANCE SPEED	3450	C	BOTTOM ELEVATION OF WET WELL	-1.69'
RATED MOTOR HORSEPOWER	7.5	D	ALL PUMPS OFF ELEVATION	1.70'
SUBMERSIBLE PUMP TYPE (P-1,P-2)	NON-CLOG	E	LEAD PUMP ON ELEVATION	3.00'
PUMP MODEL NUMBER	MOPS	F	LAG PUMP ON ELEVATION	4.00'
SERVICE ENTRANCE VOLTAGE	230	G	HIGH ALARM ELEVATION	5.00'
SERVICE ENTRANCE PHASE	3	H	INSIDE DIAMETER OF WET-WELL	72"
CONTROL CENTER FULL LOAD AMPS	51	I	OUTSIDE DIAMETER OF ANTI-FLOATATION RING	96"
NEMA 3R PAINTED STEEL DISCONNECT SWITCH, RATED AMPS	60	J	MINIMUM CUBIC FEET OF CONCRETE BALLAST (CU YDS)	270/(10)
WET WELL SCOURER SYSTEM	N/A	K	INVERT PIPE DIAMETER	8"
REMOTE STATION MONITOR (TELEMETRY)	W/SA	L	FORCE MAIN DIAMETER	4"
ON-SITE GENERATOR SYSTEM	N/A	M	PRIMARY INVERT ELEVATION	5.52'
		N	SECONDARY INVERT ELEVATION	N/A

MOPS EQUIPMENT IDENTIFICATION	QTY.	MODEL DESIGNATION
MOPS PUMP STATION	1	A24-72216-C-7.5
MOPS VALVE BOX ASSEMBLY (VBA)	1	VBA-24
MOPS ODOR/GAS SCRUBBER (OGS)	1	OGS-B
MOPS R.P.Z. ASSEMBLY	1	75
MOPS CONTROL CENTER	1	PSC-222-7.5-T
MOPS DISCONNECT SWITCH	1	FDS-60-3-2-PS
MOPS CONTROL CENTER MOUNTING ASSEMBLY	1	CCMA-32AL
MOPS WET WELL SCOURER SYSTEM	0	N/A
MOPS REMOTE STATION MONITOR	1	PROVIDED WITH SERVICE AGREEMENT
1st YEAR SERVICE/MAINTENANCE CONTRACT	1	LEVEL 2 WITH REMOTE MONITOR
MOPS ON-SITE GENERATOR SYSTEM	0	N/A
MOPS FIELD SERVICE WORK	1	CONTROL INSTALLATION & START-UP

MOPS PUMP STATION COMPLIANCE NOTES:

THIS PUMP STATION DESIGN COMPLIES WITH THE FOLLOWING REQUIRED STANDARDS:
- STATE OF FLORIDA ENVIRONMENTAL PROTECTION STANDARDS
- FLORIDA ADMINISTRATIVE CODE (F.A.C.): 62-640.400- COLLECTION AND TRANSMISSION SYSTEMS
- NATIONAL ELECTRIC CODE (NEC) CLASS 1, DIVISION 1, GROUP D- HAZARDOUS LOCATIONS
- UNDERWRITER'S LABORATORIES (U.L.) 508A-MOTOR CONTROL CENTERS AND U.L. 698A-INSTRINSICALLY SAFE CONTROL CENTERS
- RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES (1997 EDITION).

1. PUMPS ARE RATED BY FACTORY MUTUAL FOR CLASS 1, DIVISION 1, GROUP D ATMOSPHERES AS REQUIRED BY NEC.
2. THE CONTROL CENTER INCORPORATES INTRINSICALLY SAFE RELAYS AND IS LISTED TO UL 698A INTRINSICALLY SAFE FOR CLASS 1, DIVISION 1 ATMOSPHERES.
3. THE CONDUIT PROVIDED, ALONG WITH CONDUIT GAS-SEAL-OFFS, ARE RATED FOR CLASS 1, DIVISION 1 LOCATIONS.
4. THE WASTEWATER PUMPS AND THE CONTROL CENTER INCORPORATE A MECHANICAL SEAL FAILURE DETECTION AND NOTIFICATION SYSTEM.
5. THE CONTROL CENTER INCLUDES EITHER A REMOTE TELEMETRY UNIT (RTU) OR A SELF-CHARGING, BACK-UP ALARM SYSTEM TO OPERATE ON POWER FAILURE.
6. THE PUMP STATION INCORPORATES AN ODORLESS DESIGN WITH A SCRUBBER SYSTEM TO CONTROL TOXIC GASES AND ODORS FOR COMPLIANCE TO F.A.C. 62-604.400.
7. THE BOTTOM OF THE TOP RIM ELEVATION OF PUMP STATION MUST BE LOCATED AT A HIGHER ELEVATION THAN THE 25 YEAR FLOOD ELEVATION. THE LISTED 25 YEAR FLOOD ELEVATION PROVIDED BY SITE CIVIL ENGINEER.
8. THE BOTTOM ELEVATION OF THE MOPS CONTROL CENTER MUST BE LOCATED AT A HIGHER ELEVATION THAN THE 100 YEAR FLOOD ELEVATION. THE LISTED 100 YEAR FLOOD ELEVATION PROVIDED BY THE SITE CIVIL ENGINEER.

MOPS ENGINEERING NOTES:

AA. THE HORSEPOWER SHOWN ON THE SCHEDULE IS A MINIMUM HORSEPOWER REQUIREMENT BASED ON THE STATION'S DESIGN CRITERIA AND THE REQUIRE TORQUE. (LOWER RATED HORSEPOWER EQUIPMENT WILL NOT BE ACCEPTABLE.)
BB. THESE ITEMS ARE NOT SUPPLIED BY A.E.S. WITH THE MOPS STATION.
CC. INVERT ELEVATIONS BASED ON INSIDE BOTTOM OF PIPE.
DD. THE MOPS CONTROL ASSEMBLY CONSISTS OF THE FOLLOWING: CONTROL CENTER DISCONNECT SWITCH, MOUNTING ASSEMBLY, ELECTRICAL CONDUITS, AND SEAL-OFF. THESE ITEMS MUST BE SUPPLIED AND INSTALLED BY THE MOPS PUMP STATION MANUFACTURER TO VALIDATE MOPS WARRANTY PROGRAM.
EE. FOR STATIONS IN MIAMI-DADE COUNTY, THE MOPS PUMP STATION IS SUPPLIED WITH A REMOTE TELEMETRY MONITORING UNIT AND A.E.S. MAINTENANCE SERVICE. THE R.T.U. ALLOWS FOR MONITORING OF LAG ALARM, HIGH ALARM, AND POWER FAILURE PER CHAPTER 24.42.2(5). THE R.T.U. IS EQUIPPED WITH A BATTERY BACK UP AND IS INSTALLED ABOVE THE 100 YEAR FLOOD ELEVATION.

THE MOPS WASTEWATER PUMP STATION DESIGN AND EQUIPMENT SHOWN ON THIS DRAWING HAS BEEN REVIEWED, PERMITTED, AND CERTIFIED AS COMPLYING WITH ALL THE STATE OF FLORIDA D.E.P. AND LOCAL REQUIREMENTS. ANY SUBSTITUTION FROM THIS DESIGN MAY REQUIRE NEW PERMITS, APPLICATION FEES, AND ENGINEERING SERVICES FOR RE-CERTIFICATION AND DESIGN REVIEW.

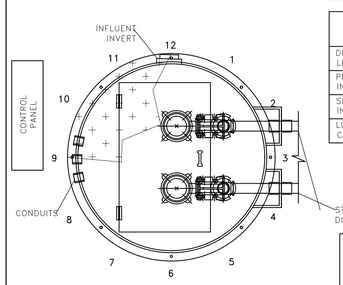
P.E. CERTIFICATION:

Bonnie McLeod, P.E., Lic # 70797 V.P. of Engineering
Atlantic Environmental Systems, Inc., Certificate # 26398
2244 4th Ave. North, Lake Worth, Florida 33461
Ph: 561-547-8080 Fax: 561-547-3999

TOP VIEW N.T.S.

SECTION VIEW N.T.S.

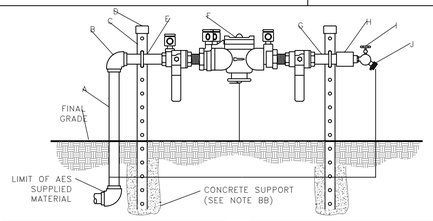
HUB AND INVERT LOCATION



ITEMS	CLOCK POSITION
DISCHARGE LINES	3:00
PRIMARY INVERT	12:00
SECONDARY INVERT	N/A
LOCATION OF CONTROL PANEL	9:00

SCHEMATIC BASED ON THE STATION'S DISCHARGE BEING LOCATED AT THE #3 CLOCK POSITION. SEE SCHEDULE FOR LOCATION OF INVERTS AND CONTROL PANEL. LOCATIONS SUBJECT TO CHANGE.

NOTE: BACKFILL AROUND LIFT STATION FROM ANTI-FLOATATION RING UP TO FINISHED GRADE SHALL BE COMMON FILL COMPACTED IN 12-INCH MAX. LIFTS TO 98% DENSITY PER AASHTO T-180. CONTRACTOR SHALL EXERCISE CARE NOT TO DAMAGE WETWELL DURING COMPACTION.



MATERIALS		
ITEM	QTY.	DESCRIPTION
A	1	3/4" x 36" S.S. NIPPLE
B	1	3/4" S.S. 90° ELBOW
C	2	1-5/8"x1-5/8"x40" ALUM. SUPPORT BRACKET
D	2	SUPPORT BRACKET CAPS P/N 2083
E	2	3/4" S.S. PIPE BOLTS

MATERIALS		
ITEM	QTY.	DESCRIPTION
F	1	3/4" APP. BACKFLOW PREVENTER
G	2	3/4" x 3" S.S. NIPPLE
H	1	3/4" x 3/4" S.S. COUPLING
I	1	3/4" BRONZE HOSE BIB
J	1	3/4" VACUUM BREAKER

DETAIL B

R.P.Z. BACKFLOW PREVENTER ASSEMBLY DETAIL

U.S.C. AND A.S.S.E. APPROVED N.T.S.

CDI
CIVIL DESIGN, INC.
Service Driven Design – Engineered Results
1400 Centrepark Blvd, Suite 905
West Palm Beach, FL 33401
T: 561.659.5760 F: 561.659.5772
www.civil-design.com

GARDEN SQUARE
TOWNHOUSE DEVELOPMENT

6645 CHICKASAW ROAD
GREENACRES, FL 33467

Project: GARDEN SQUARE
Prepared For: CIVIL DESIGN, INC.
1400 CENTREPARK BLVD., SUITE 500, WEST PALM BEACH, FL 33401

AES. Project No: 2083
Date: 10/28/2024

Page No. LS-1

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CDI PROJECT NO.
23805-01

DATE: 11/08/2024
DESIGNED: CDI
DRAWN: CDI

NO.	DATE	REVISION DESCRIPTION

MOPS PRIVATE SEWER PUMP STATION

LS-1

EXHIBIT "A"

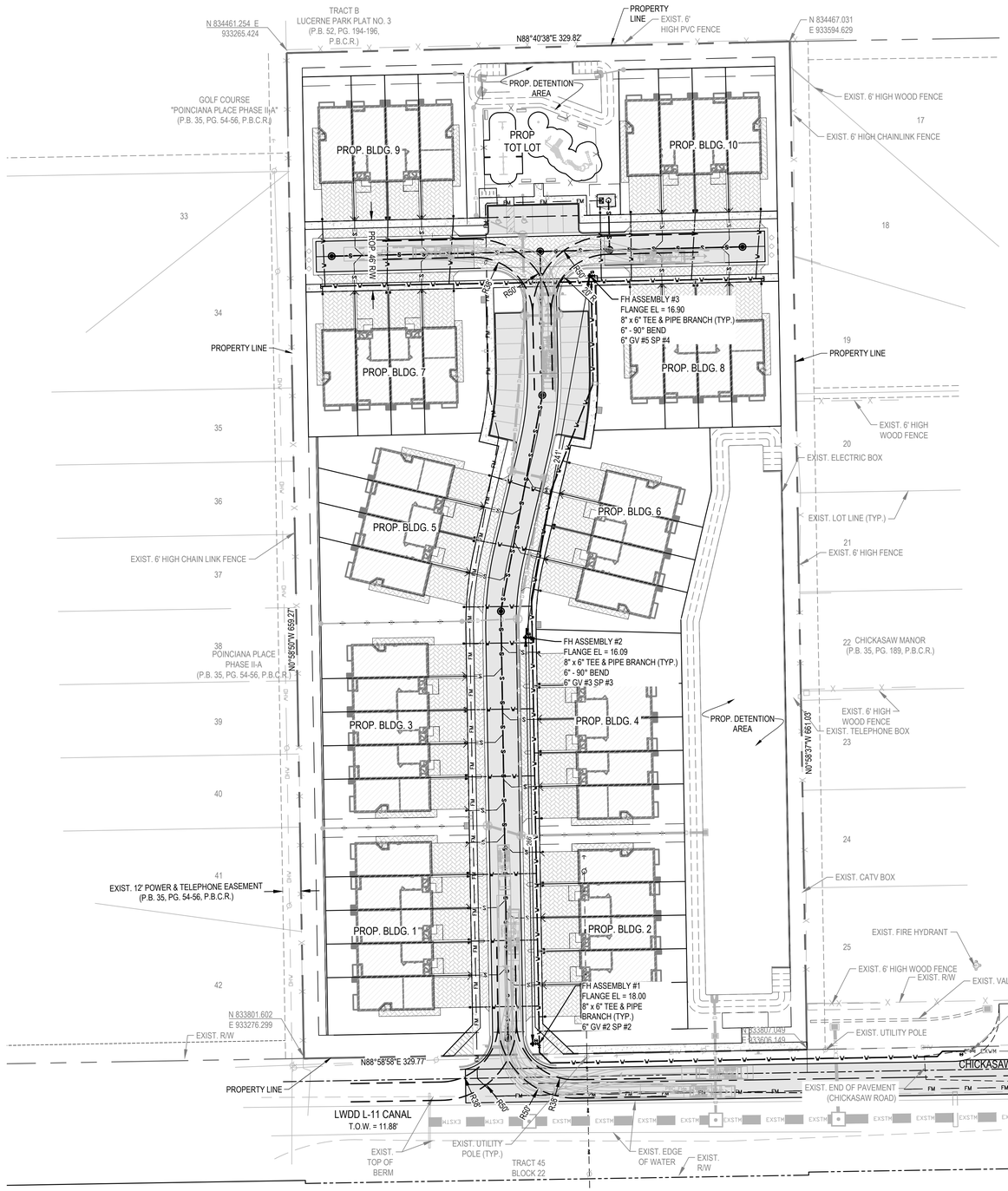
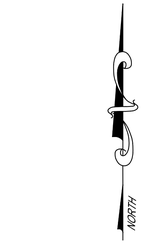


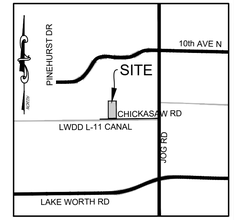
EXHIBIT "A"

DATUM = NAVD '88
ADD 1.53' FOR NGVD '29



0 8 20 40 80 120

SCALE: 1" = 40'



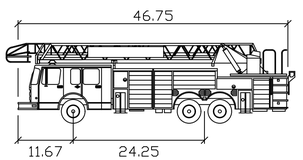
SEC. 27 - TWP. 43S - RGE. 42E

LOCATION MAP

N.T.S.

Wayne Titan

	feet
Width	: 8.46
Track	: 8.00
Lock to Lock Time	6.0
Steering Angle	: 45.0



PBC Fire

	feet
Width	: 9.00
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

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GARDEN SQUARE TOWNHOUSE DEVELOPMENT

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23805-01

DATE:	11/08/2024
DESIGNED:	CDI
DRAWN:	CDI

NO.	DATE	REVISION DESCRIPTION
2	9/30/2024	SITE PLAN AMENDMENT
4	2/21/2025	SITE PLAN AMENDMENT

LIFE SAFETY PLAN

C9.1



PROJECT TEAM

OWNER/CLIENT:
MF ASSOCIATES GREENACRES LLC
5301 N FEDERAL HWY, SUITE 190
BOCA RATON, FL 33487

CONTRACT PURCHASER:
LENNAR HOMES LLC
5505 WATERFORD DISTRICT DRIVE
MIAMI, FL 33126

ARCHITECT:
CDN ENGINEERING INC
3200 N. FEDERAL HWY. SUITE 226
BOCA RATON, FL 33431

ENGINEER:
CIVIL DESIGN INC
1400 CENTREPARK BLVD, SUITE 905
WEST PALM BEACH, FL 33401

SURVEYOR:
CAULIFIELD & WHEELER INC
7900 GLADES RD SUITE 100
BOCA RATON, FLORIDA 33434

PLANNER/ LANDSCAPE ARCHITECT:
COTLEUR & HEARING
1934 COMMERCE LANE, SUITE 1
JUPITER, FL 33458

PHOTOMETRICS:
KAMM CONSULTING
405 ANGLE RD.
FORT PIERCE, FL 34947

LEGAL DESCRIPTION

TRACT 36 BLOCK 22, "PALM BEACH FARMS COMPANYS PLAT NO. 3", ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 2, PAGES 45 THROUGH 54, OF THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA.

SAID LANDS SITUATE IN THE CITY OF GREENACRES, PALM BEACH COUNTY, FLORIDA AND CONTAIN 4.993 ACRES, MORE OR LESS.

GENERAL NOTES

REFUSE SERVICE SHALL BE ACCOMPLISHED BY WAY OF INDIVIDUAL DUMPSTER AND RECYCLING AS SHOWN ON THE SITE PLAN.

10' X 30' SAFE SIGHT TRIANGLE SHALL BE PROVIDED AT THE PROJECTS ENTRY ROADS.

TYPE D OR F RAISED CONCRETE CURBING SHALL BE PROVIDED AROUND ALL PLANTING ISLANDS WITHIN VEHICULAR USE AREAS.

ON STREET PARKING IS UTILIZED IN THE CALCULATION FOR REQUIRED PARKING IN ACCORDANCE WITH THE PROVISIONS OF THE APPLICABLE CODE.

RAMPS SHALL BE PROVIDED AT ALL PLAZA, SIDEWALK AND STREET INTERSECTIONS IN ACCORDANCE WITH ADA AND THE FLORIDA HANDICAP ACCESSIBILITY CODE.

ALL A/C UNITS SHALL BE LOCATED TO THE REAR OR SIDE OF ALL BUILDINGS AND FULLY SCREENED ON THREE SIDES WITH LANDSCAPING.

THE BUILDING, LANDSCAPE AND LIGHTING DESIGN SHALL MAXIMIZE THE USE OF CPTED DESIGN PRINCIPLES.

MINIMUM TYPE CONSTRUCTION FOR ALLOWABLE HEIGHT & BUILDING AREA MUST BE COMPLIANCE WITH THE FLORIDA BUILDING CODE T-500 (AFTER OCT. 1, 2005 FBC 2004)

ALL SIGNAGE SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF GREENACRES CODE.

"PEDESTRIAN XING" SIGNS SHALL BE PROVIDED FOR ALL MID-BLOCK CROSSINGS.

GARAGES MUST BE ENCLOSED AND MUST BE AVAILABLE FOR PARKING.

LEGEND

HC	HANDICAP
LB	LANDSCAPE BUFFER
R	RADIUS
SB	SETBACK
SW	SIDEWALK
TYP	TYPICAL
ROW	RIGHT OF WAY
EXIST.	EXISTING
℄	CENTER LINE
L.W.D.D.	LAKE WORTH DRAINAGE DISTRICT

HC SIGN
STOP SIGN
RED DIAMOND REFLECTIVE SIGN
LIGHT POLES

SITE DATA

NAME OF PROJECT	GARDEN SQUARE TOWNHOUSE DEVELOPMENT	
PROPERTY CONTROL NUMBERS	18-42-43-27-05-022-0360	
FEMA FLOOD ZONE	X & AE (16.3)	
EXISTING LAND USE DESIGNATION	RESIDENTIAL HIGH (RH)	
EXISTING ZONING DISTRICT	RESIDENTIAL HIGH (RH)	
MAXIMUM BUILDING HEIGHT	20 FT	

	REQ	PROV
NUMBER OF STORIES/ HEIGHT	35'	27.5' /2 STORIES
NUMBER OF BUILDINGS		10
GROSS SITE AREA		**5.00 AC** / **217,710 SF**
TOTAL R.O.W. AREA		**0.63 AC** / **27,573 SF**
NET SITE AREA		**4.37 AC** / **190,357 SF**

BUILDING DATA	
TOT LOT	3,848 SF
TOTAL OF UNITS	44 UNITS
4 UNITS (6)	24 UNITS
5 UNITS (4)	20 UNITS
DENSITY	10 D/U

LAND USE	**SF**	**AC**	**%**
BUILDING LOT COVERAGE	48,080	1.10	22.08%
VEHICULAR USE AREA	50,461	1.16	23.18%
SIDEWALKS & HARDSCAPE	15,453	0.35	7.10%
OPEN SPACE	103,716	2.38	47.64%
TOTAL	**217,710**	**5.00**	**100.00%**

OPEN SPACE	**MIN**	**PROV**
	20%	47.64%

LOT COVERAGE			
IMPERVIOUS AREA	**SF**	**AC**	**%**
BUILDING LOT COVERAGE	48,080	1.10	22.08%
VEHICULAR USE AREA	50,461	1.16	23.18%
SIDEWALKS & HARDSCAPE	15,453	0.35	7.10%
TOTAL IMPERVIOUS AREA	**113,994**	**2.62**	**52.36%**
PERVIOUS AREA	**SF**	**AC**	**%**
BUFFER AREA	19,408	0.45	8.91%
GREEN SPACE	57,265	1.31	26.30%
DRY DETENTION	27,043	0.62	12.42%
TOTAL PERVIOUS AREA	**103,716**	**2.38**	**47.64%**
TOTAL SITE AREA	**217,710**	**5.00**	**100.00%**

PARKING DATA Sec. 16-1336	**REQ**	**PROV**
4 UNITS (1 OR 2 CAR GARAGES & 2 CAR DRIVEWAYS)	72	84
Buildings 5,6,7,8,9,10 (4 BEDROOMS PER UNIT)		
5 UNITS (1 OR 2 CAR GARAGES & 2 CAR DRIVEWAYS)	60	68
Buildings 1,2,3,4 (4 BEDROOMS PER UNIT)		
GUEST PARKING	22	22
ADA PARKING (INCLUDED IN TOTAL)	2	2
TOTAL	**154**	**174**

	REQ	**PROV**
Sec. 16-1335(21) Bicycle Parking	8	8

Sec. 16-882-MAXIMUM LOT COVERAGE	**MAX**	**PROV**
	40%	**22%**

Sec. 16-367-LOT REQUIREMENTS	**REQ**	**PROV**	
WIDTH	50'	118'/ 96'	
		(Buildings 1,2,3,4,5,6)	(Buildings 7,8,9,10)
AREA	6,000 SF	12,868 SF	Building 1
		12,199 SF	Building 2
		12,741 SF	Building 3
		12,625 SF	Building 4
		12,956 SF	Building 5
		12, 698 SF	Building 6
		11,479 SF	Building 7
		11,432 SF	Building 8
		10,077 SF	Building 9
		9,793 SF	Building 10

Sec. 16-860 SETBACK	**REQUIRED**	**PROPOSED**
FRONT	25'	25'
SIDE (WEST)	20'	20'
SIDE (EAST)	20'	20'
REAR	20'	36'

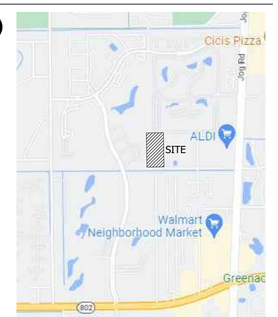
Sec. 16-1286 -LANDSCAPE BUFFER	**REQUIRED**	**PROPOSED**
NORTH	10'	10'
SOUTH	10'	10'
EAST	10'	10'
WEST	10'	10'

LAND DEDICATION	**REQUIRED**	
REQUIRED RECREATION AREA (5AC/1000)	0.484 AC,	Reduced to 0.436 AC**
REQUIRED GOVERNMENT SERVICES (2 AC/1000)	0.194 AC	
TOTAL REQUIRED LAND DEDICATION	0.678 AC,	Reduced to 0.63 AC**
PROVIDED PRIVATE RECREATION AREA	0.078 AC	

**10% Reduction applied due to private recreational credit=0.436 AC, fee-in-lieu payment

PRIVATE RECREATION CREDI (TABLE 12-84)					
	Min. size per 1000	Full Credit	Min. amenity size for full credit	Provided Amenity Size(Square Feet)	Credit
44 Townhomes	0.0968				
Tot Lot	25,000	10%	2,420	3,403	10%
Total Credit					10%

LOCATION MAP



Cotleur & Hearing
Landscape Architects
Land Planners
Environmental Consultants
1934 Commerce Lane
Suite 1
Jupiter, Florida 33458
561.747.6336 · Fax 747.1377
www.cotleurhearing.com
Lic# LC-26000535

Garden Square Townhouse Development
Final Site Plan
Greenacres, Florida

Scale: 1" = 40'
0' 20' 40' 80'

DESIGNED	DEH
DRAWN	RO/JS
APPROVED	DEH
JOB NUMBER	22-1019
DATE	04-04-23
REVISIONS	11-13-23
03-06-25	02-28-24
	04-01-24
	10-31-24
	01-03-25

March 06, 2025 8:44:41 a.m.
Drawing: 22-1019_SP.DWG

SHEET FSP 1 OF 3

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EXHIBIT "A"

TRACT B
LUCERNE PARK PLAT NO. 3
(P.B. 52, PG. 194-196, P.B.C.R.)
LAND USE: RS-MD
ZONING: RM-2

GOLF COURSE
"POINCIANA PLACE PHASE II-A"
(P.B. 35, PG. 54-56, P.B.C.R.)

POINCIANA PLACE PHASE II-A
(P.B. 35, PG. 54-56, P.B.C.R.)
LAND USE: HR-12
ZONING: RS

CHICKASAW MANOR
SINGLE FAMILY RESIDENTIAL
LAND USE: RS-MD
ZONING: RL-3

ASPHALT PAVEMENT
ROOT BARRIER ALONG DRY DETENTION EDGE
ASPHALT PAVEMENT
EXIST. 6' PVC FENCE
NEW 6' HT. OPAQUE FENCE
10' LB (H)
TABLE 16-1286(I)
N88°40'38"E 329.82'
EXIST. 6' WOOD FENCE
EXIST. 6' CHAIN LINK FENCE
0.06 AC
GRAVITY WALL W/ RAILING
BENCH, TYP.
PLAYGROUND
ADA SIGN & RAMP, TYP.
BIKE RACK (8 BIKES)
5' SW
LIFT STATION
LIFT STATION EASEMENT
12' POWER & TELEPHONE EASEMENT
RED DIAMOND REFLECTIVE SIGNS
VALLEY CURB, TYP.
PAVERS, TYP.
LIGHT POLE, TYP.
MAIL KIOSK
STOP BAR & SIGN, TYP.
DRAINAGE, TYP.
F CURB, TYP.
DRAINAGE INLET, TYP.
MAIL KIOSK
WATER, TYP.
GRAVITY WALL W/ RAILING
ROOT BARRIER ALONG DRY DETENTION EDGE
7' EASEMENT
N0°58'50"W 659.27'
N0°58'37"W 661.03'
BUILDING 9 4 UNITS
BUILDING 10 4 UNITS
BUILDING 7 4 UNITS
BUILDING 8 4 UNITS
BUILDING 5 4 UNITS
BUILDING 6 4 UNITS
33
34
35
36
37
17
18
19
20
21

LOCATION MAP

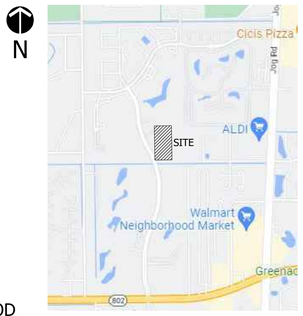


EXHIBIT "A"

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Landscape Architects
Land Planners
Environmental Consultants
1934 Commerce Lane
Suite 1
Jupiter, Florida 33458
561.747.6336 · Fax 747.1377
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Lic# LC-26000535

Garden Square Townhouse Development
Final Site Plan
Greenacres, Florida

Scale: 1" = 20'
0' 10' 20' 40'

DESIGNED	DEH
DRAWN	RO/JS
APPROVED	DEH
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POINCIANA PLACE PHASE II-A
(P.B. 35, PG. 54-56, P.B.C.R.)
LAND USE: HR-12
ZONING: RS

36
37
38
39
40
41
42

N0°58'50"W 659.27'

BUILDING 5
4 UNITS

BUILDING 6
4 UNITS

BUILDING 3
5 UNITS

BUILDING 4
5 UNITS

BUILDING 1
5 UNITS

BUILDING 2
5 UNITS

35.2' SB

36' SB

10' LB (H)
TABLE 16-1286(I)

12' POWER &
TELEPHONE
EASEMENT

NEW 6' HT.
OPAQUE
FENCE

30.9'

SANITARY, TYP.

VALLEY CURB,
TYP.

MAIL KIOSK

FH

46'
ROW

25.2'

20'

24'

95'

25'

4'

21'

10'

LIGHT POLE, TYP.

MAIL KIOSK

30.6' SB

23.5' SB

STOP BAR
& STOP
SIGN, TYP.

N88°58'58"E 329.77'

20'X20' CORNER
CLIP, TYP.

30' TO CL

52' TO CL

82' R/W

R20'

TOP OF
BANK

EXIST.
EDGE OF
WATER

L.W.D.D. L-11 CANAL

30' R/W (PB 2, PG 45-54 PBCR)
QUIT CLAIM TO LWDD
(ORB 1585, PG 505 PBCR)

CHICKASAW ROAD

TRACT 45 BLOCK 22

GRAVITY
WALL
W/
RAILING

ROOT BARRIER
ALONG DRY
DETENTION EDGE

67.8' DRY
DETENTION
0.55 AC

77.8'

ROOT BARRIER
ALONG DRY
DETENTION
EDGE

15' LB (F-1)
TABLE 16-1286(I)

CHICKASAW MANOR
SINGLE FAMILY RESIDENTIAL
LAND USE: RS-MD
ZONING: RL-3

N0°58'37"W 661.03'

21
22
23
24
25

EXIST.
6' WOOD
FENCE

EXIST.
6' CHAIN LINK
FENCE

10' LB (H)
TABLE 16-1286(I)

12' EASEMENT

EXIST. 6' WIRE
FENCE

10'X30' PALM
TRAN EASEMENT

30' R/W
(PB 35, PG 189, PBCR)

4' SW

ASPHALT PAVEMENT

CHICKASAW CIRCLE

LOCATION MAP

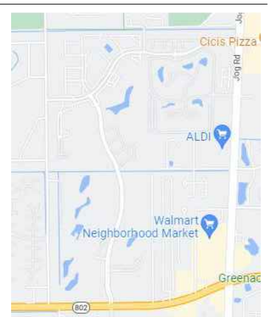


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0' 10' 20' 40'

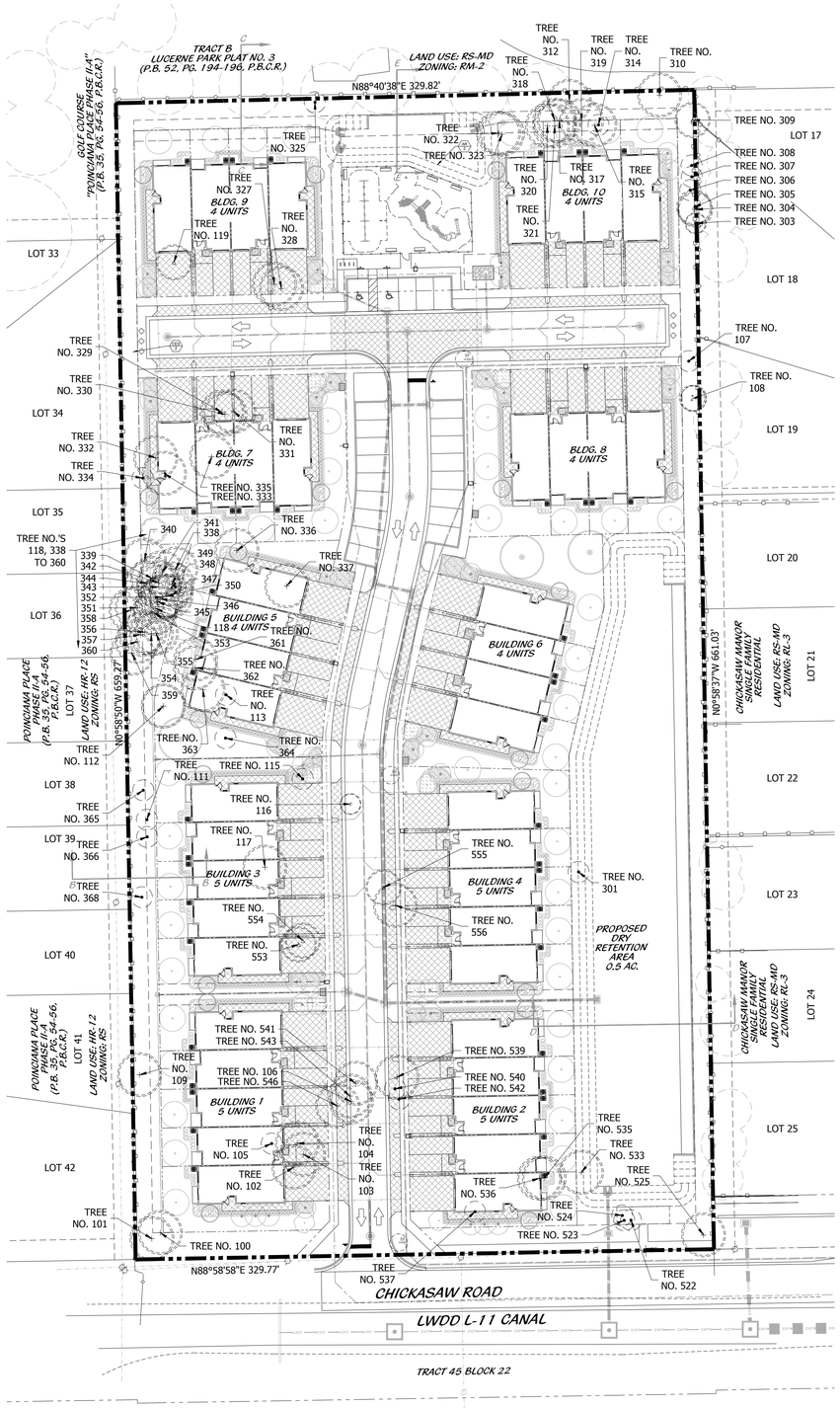
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Drawing: 22-1019_SP.DWG

SHEET FSP 3 OF 3

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Tree Disposition Plan



Tree Disposition Chart

TREE NO.	DIAMETER (IN.)	CANOPY (FT.)	BOTANICAL NAME	COMMON NAME	DISPOSITION	NOTES	REMOVED TREES** (DEBITS)	REMOVED PALMS** (DEBITS)	REMOVED INVASIVES	RELOCATED TREES* (CREDITS)	RELOCATED PALMS* (CREDITS)	TREES TO REMAIN (CREDITS PER DIAMETER)	PALMS TO REMAIN (CREDITS PER CANOPY)
100	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
101	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
102	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
103	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
104	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
105		12	SABAL PALMETTO	CABBAGE PALM	TO BE RELOCATED	IN DEVELOPED AREA					1		
106	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
107		15	SABAL PALMETTO	CABBAGE PALM	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'							1
108	120		BAMBOO CLUSTER	BAMBOO CLUSTER	TO BE REMOVED	INVASIVE			1				
109	10		QUERCUS SP.	OAK	TO BE RELOCATED	IN DEVELOPED AREA				1			
111		12	SABAL PALMETTO	CABBAGE PALM	TO REMAIN	LOCATED NEAR PERIMETER AT ELEVATION GREATER THAN 16'							1
112	6		QUERCUS SP.	OAK	TO BE RELOCATED	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'				1			
113		10	SABAL PALMETTO	CABBAGE PALM	TO BE RELOCATED	IN DEVELOPED AREA					1		
115		12	SABAL PALMETTO	CABBAGE PALM	TO BE RELOCATED	IN DEVELOPED AREA					1		
116		12	PALM	PALM	TO BE REMOVED	IN DEVELOPED AREA		1					
117	6		QUERCUS SP.	OAK	TO BE RELOCATED	IN DEVELOPED AREA				1			
118	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
119	10		PINE CLUMP	PINE CLUMP	TO BE REMOVED	IN DEVELOPED AREA	1						
301		14	SABAL PALMETTO	CABBAGE PALM	TO BE RELOCATED	IN DEVELOPED AREA					1		
303		24	PALM	PALM	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'							2
304	10		PINUS SP.	PINE	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						2	
305	10		PINUS SP.	PINE	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						2	
306		12	SABAL PALMETTO	CABBAGE PALM	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'							1
307		16	SABAL PALMETTO	CABBAGE PALM	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'							1
308		12	SABAL PALMETTO	CABBAGE PALM	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'							1
309	2		PINUS SP.	PINE	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
310	10		EXOTIC SHADE	EXOTIC SHADE	TO BE REMOVED	INVASIVE			1				
312	8		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						2	
314		14	SABAL PALMETTO	CABBAGE PALM	TO BE REMOVED	IN DEVELOPED AREA		1					
315	8		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
317	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
318	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
319	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
320	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
321	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
322	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
323	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
325		14	SABAL PALMETTO	CABBAGE PALM	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'							1
327	10		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
328	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
329	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
330	8		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
331	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
332	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
333	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
334		14	CABBAGE PALM	CABBAGE PALM	TO BE RELOCATED	IN DEVELOPED AREA					1		
335	6		QUERCUS SP.	OAK	TO BE RELOCATED	IN DEVELOPED AREA				1			
336	14		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
337	8		QUERCUS SP.	OAK	TO BE RELOCATED	IN DEVELOPED AREA				1			
338	8		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						2	
339	8		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						2	
340	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
341	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
342	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
343	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
344	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
345	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
346	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
347	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
348	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
349	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
350	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
351	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
352	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
353	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
354	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
355	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
356	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
357	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
358	6		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						1	
359	8		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						2	
360	8		QUERCUS SP.	OAK	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'						2	
361	8		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
362	8		QUERCUS SP.	3 TRUNK OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
363	8		QUERCUS SP.	3 TRUNK OAK	TO BE RELOCATED	IN DEVELOPED AREA				1			
364		15	SABAL PALMETTO	CABBAGE PALM	TO BE RELOCATED	IN DEVELOPED AREA					1		
365		15	SABAL PALMETTO	CABBAGE PALM	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'							1
366		12	SABAL PALMETTO	CABBAGE PALM	TO REMAIN	LOCATED IN PERIMETER AT ELEVATION GREATER THAN 16'							1
368		20	SABAL PALMETTO	CABBAGE PALM	TO BE RELOCATED	IN DEVELOPED AREA					1		
522		12	SABAL PALMETTO	CABBAGE PALM	TO BE REMOVED	IN DEVELOPED AREA		1					
523		12	SABAL PALMETTO	CABBAGE PALM	TO BE REMOVED	IN DEVELOPED AREA		1					
524		12	SABAL PALMETTO	CABBAGE PALM	TO BE REMOVED	IN DEVELOPED AREA		1					
525	14		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
533	12		QUERCUS SP.	3 TRUNK OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
535	8		QUERCUS SP.	3 TRUNK OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
536	8		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
537		14	SABAL PALMETTO	CABBAGE PALM	TO BE RELOCATED	IN DEVELOPED AREA					1		
539	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
540		8	SABAL PALMETTO	CABBAGE PALM	TO BE RELOCATED	IN DEVELOPED AREA					1		
541	10		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
542		14	SABAL PALMETTO	CABBAGE PALM	TO BE RELOCATED	IN DEVELOPED AREA					1		
543	10		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
546	6		QUERCUS SP.	OAK	TO BE REMOVED	IN DEVELOPED AREA	1						
553	6		PINUS SP.	PINE	TO BE REMOVED	IN DEVELOPED AREA	1						
554	7		PINUS SP.	PINE	TO BE REMOVED	IN DEVELOPED AREA	1						
555	7		PINUS SP.	PINE	TO BE REMOVED	IN DEVELOPED AREA	1						
556	12		EXOTIC SHADE	EXOTIC SHADE	TO BE REMOVED	IN DEVELOPED AREA	1						
							37	5	2	6	10	35	10

NOTES:

1.) EACH TREE REMOVED MUST BE REPLACED WITH A NEW TREE THAT MEETS CURRENT CITY CODE REQUIREMENTS IF REMOVAL REDUCES THE NUMBER OF TREES ON THE LOT BELOW CODE MINIMUM FOR QUANTITY. REPLACEMENT SHALL BE ON THE AFFECTED LOT.

2.) TREES WITH A TRUNK LESS THAN ONE (1) INCH IN DIAMETER, MEASURE AT A POINT WHICH IS AT LEAST FOUR AND ONE-HALF (4 1/2) FEET ABOVE FINISHED GRADE, MAY BE REMOVED WITHOUT A PERMIT.

3.) ONE (1) TREE CREDIT SHALL BE GRANTED FOR THE RELOCATION OF EACH NATIVE, DROUGHT TOLERANT TREE SPECIES WITH A SIX (6) INCH DIMATER OR LESS AT A POINT THAT IS AT LEAST FOUR AND ONE-HALF (4 1/2) FEET ABOVE GRADE.

4.) CREDIT FOR PERSERVED PLANT MATERIAL:

CROWN SPREAD	DIAMETER OF TREE[1]	TREE CREDITS[2]
90 FT. OR GREATER	36 IN. OR GREATER	7
60 TO 89 FT.	30 TO 35 IN.	6
50 TO 59 FT.	26 TO 29 IN.	5
40 TO 49 FT.	20 TO 25 IN.	4
30 TO 39 FT.	13 TO 19 IN.	3
20 TO 29 FT.	8 TO 12 IN.	2
10 TO 19 FT.	2 TO 7 IN.	1
LESS THAN 10 FT.	LESS THAN 2 IN.	0

[1] MEASUREMENTS TAKEN AT 4 1/2 FEET ABOVE NATURAL GRADE.
[2] ONE (1) CREDIT CORRESPONDS TO ONE (1) TREE AS REQUIRED PER THE PROVISIONS OF THIS CODE.

(*) NOTE: RECEPTOR LOCATIONS FOR RELOCATED TREES AND PALMS ARE LOCATED IN THE NORTH AND EAST BUFFER AREAS. IF IT IS DETERMINED THAT A TREE CAN NOT BE RELOCATED, A NEW OAK OR GUMBO LIMBO TREE (MIN. 12' HT. X 5' SPREAD, 2 IN. CAL.) SHALL BE PLANTED IN THE RECEPTOR LOCATION. IF IT IS DETERMINED THAT A PALM CAN NOT BE RELOCATED, A NEW SABAL PALM (MIN. 12' C.T.), SHALL BE PLANTED IN THE RECEPTOR LOCATION. RECEPTOR LOCATION ARE SHOWN WITH THE

(**) NOTE: TREES AND PALMS PROPOSED FOR MITIGATION OF REMOVED TREES AND PALMS ARE SHOWN WITH THE "M-" PREFIX IN THEIR PLANT TAG.

TOTAL DEBITS = **42**

TOTAL CREDITS = **61**

REPLACEMENTS REQUIRED = **0**
(CREDITS EXCEED DEBITS)

Tree Disposition Plan

EXHIBIT "A"

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Tree Disposition Plan
Greenacres, Florida

REGISTERED LANDSCAPE ARCHITECT
TOM CROSS JR. H. HEARING
LA 0000943
STATE OF FLORIDA

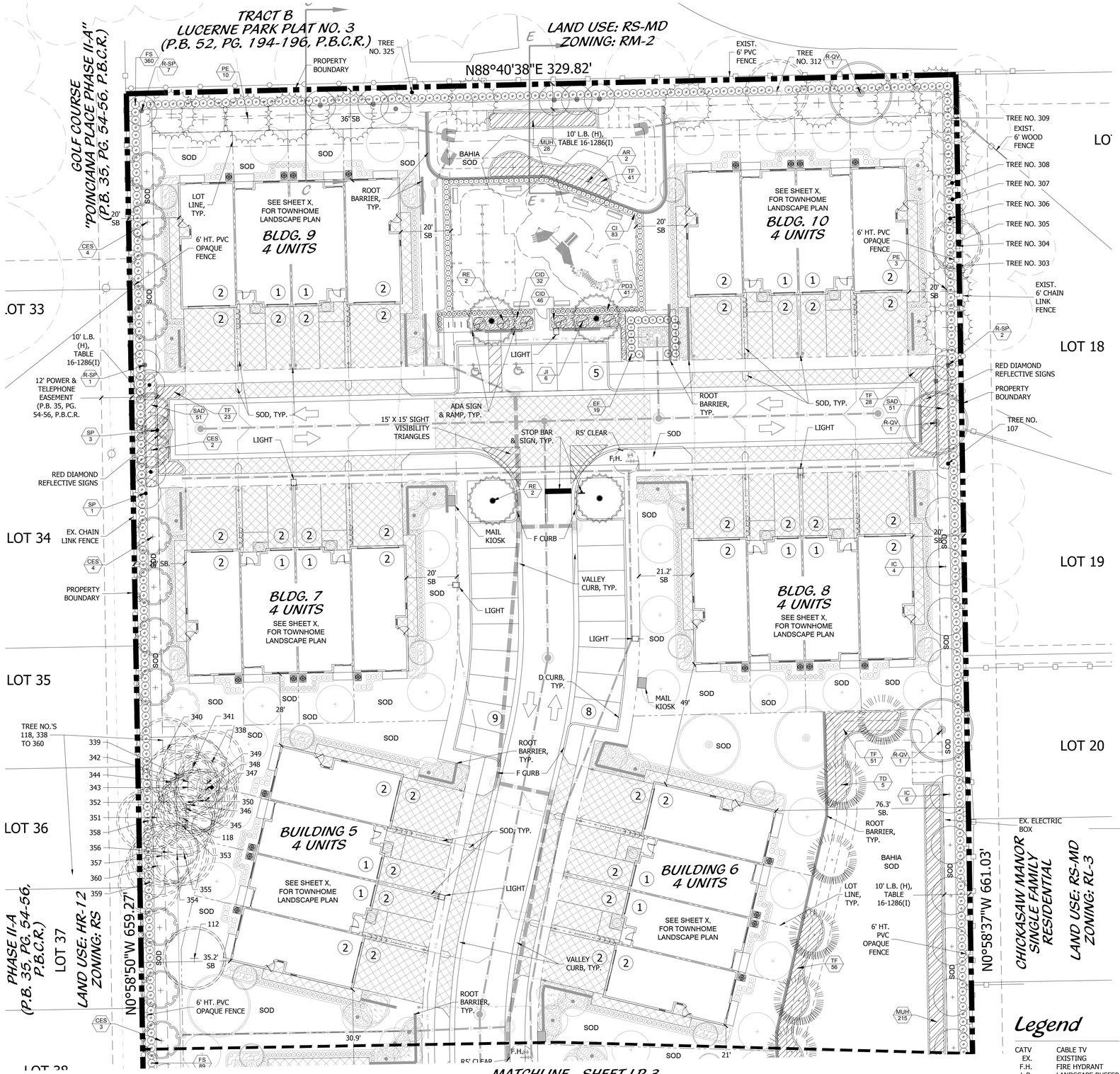
Scale: 1" = 40'
0' 20' 40' 80'

DESIGNED	HK/DEH
DRAWN	HK
APPROVED	DEH
JOB NUMBER	22-1019
DATE	07-02-24
REVISIONS	10-24-24
	01-31-25
	03-07-25

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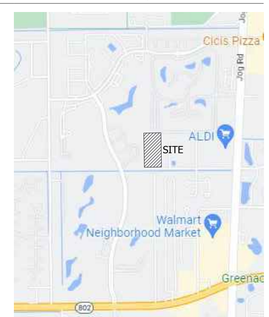
Note:

STORMWATER MANAGEMENT AREAS ARE TO BE MAINTAINED WITH PLANTED NATIVE VEGETATION, IN PERPETUITY.

Legend

CATV	CABLE TV
EX.	EXISTING
F.H.	FIRE HYDRANT
L.B.	LANDSCAPE BUFFER
OHW	OVERHEAD WIRE
P.B.	PLAT BOOK
PG.	PAGE
TYP.	TYPICAL

Location Map



Landscape Data

PROJECT DATA			
NAME OF PROJECT	GARDEN SQUARE TOWNHOUSE DEVELOPMENT		
PROPERTY CONTROL NUMBERS	18-42-43-27-05-022-0360		
FEMA FLOOD ZONE	X & AE (16.3)		
EXISTING LAND USE DESIGNATION	RESIDENTIAL HIGH (RH)		
EXISTING ZONING DISTRICT	RESIDENTIAL HIGH (RH)		
MAXIMUM BUILDING HEIGHT	20 FT.		
NUMBER OF STORIES	2		
NUMBER OF BUILDINGS	10		
SITE AREA			
	5.00	**AC.**	
	217,709.86	**SQ. FT.**	
LAND USE AREAS	**SQ. FT.**	**AC.**	**%**
BUILDING LOT COVERAGE	48,079.56	1.10	22.08%
VEHICULAR USE AREA	50,460.70	1.16	23.18%
SIDEWALKS & HARDSCAPE AREA	15,453.31	0.35	7.10%
OPEN SPACE AREA	103,716.29	2.38	47.64%
TOTAL	**217,709.86**	**5.00**	**100.00%**
OPEN SPACE PERCENTAGE	**MINIMUM**	**PROVIDED**	
	20.00%	47.64%	
LOT COVERAGE			
IMPERVIOUS AREAS	**SQ. FT.**	**AC.**	**%**
BUILDING LOT COVERAGE	48,079.56	1.10	22.08%
VEHICULAR USE AREA	50,460.70	1.16	23.18%
SIDEWALKS & HARDSCAPE AREA	15,453.31	0.35	7.10%
TOTAL AREA OF IMPERVIOUS	**113,993.57**	**2.62**	**52.36%**
PERVIOUS AREA	**SQ. FT.**	**AC.**	**%**
BUFFER AREA	19,407.69	0.45	8.91%
LANDSCAPE AREA	57,265.19	1.31	26.30%
DRY DETENTION AREA	27,043.41	0.62	12.42%
TOTAL PERVIOUS AREA	**103,716.29**	**2.38**	**47.64%**
TOTAL SITE AREA	**217,709.86**	**5.00**	**100.00%**
LANDSCAPE BUFFER REQUIREMENTS	**REQUIRED**	**PROVIDED**	
329.82 L.F. NORTH (BUFFER TYPE H, ADJ. TO RESIDENTIAL)	**10'**	**10'**	
1 TREE PER EA. 25'	**14**	**14**	
CANOPY TREES (PE, EX. QV & RELOCATED QV)		12	
3:1 PALM GROUPINGS (EX. SP & RELOCATED SP)		2	
PERCENTAGE PALMS	MAX 30%	14.29%	
(SABAL PALMS OVER REQUIRED COUNTED TOWARD INTERIOR TREES PROVIDED)			
CONTINUOUS 24" TALL HEDGE (FS)			
329.77 L.F. SOUTH (BUFFER TYPE F-1, ADJ. TO MINOR ROADWAY)	**15'**	**15'**	
2 ROWS OF TREES , EACH ROW WITH 1 TREE PER EA. 35'	**19**	**19**	
CANOPY TREES, ADJACENT TO POWER LINES (MF & LIM)		19	
(TREES OVER REQUIRED COUNTED TOWARD INTERIOR TREES PROVIDED)			
CONTINUOUS 24" TALL HEDGE (CI)			
661.03 L.F. EAST (BUFFER TYPE H, ADJ. TO RESIDENTIAL)	**10'**	**10'**	
1 TREE PER EA. 25'	**27**	**27**	
CANOPY TREES (IC,PE, EX. QV & RELOCATED QV)		25	
3:1 PALM GROUPINGS (SP)		2	
PERCENTAGE PALMS	MAX 30%	7.41%	
(TREES OVER REQUIRED COUNTED TOWARD INTERIOR TREES PROVIDED)			
CONTINUOUS 24" TALL HEDGE (FS)			
659.27 L.F. WEST (BUFFER TYPE H, ADJ. TO RESIDENTIAL)	**10'**	**10'**	
1 TREE PER EA. 25'	**27**	**27**	
CANOPY TREES, SOME ADJACENT TO POWER LINES (CES & EX. QV)		26	
3:1 PALM GROUPINGS (SP)		1	
PERCENTAGE PALMS	MAX 30%	3.70%	
(TREES & PALMS OVER REQ. COUNTED TOWARD INTERIOR TREES PROVIDED)			
CONTINUOUS 24" TALL HEDGE (FS)			
INTERIOR LANDSCAPE REQUIREMENTS	**REQUIRED**	**PROVIDED**	
INTERIOR OPEN SPACE AREA = 56,636.09 SQ. FT.			
1 TREE PER EA. 2,500 SQ. FT.	**23**	**48**	
CANOPY TREES (AR, EX. QV, PE, EX. PE, RE & TD)		45	
3:1 PALMS (SP, E-SP, R-SP & EX-SR)		3	
3 SHRUBS PER EA. 2,500 SQ. FT.	69	1228	

Project Team

OWNER/CLIENT:
MF ASSOCIATES GREENACRES LLC
5301 N FEDERAL HIGHWAY, SUITE 190
BOCA RATON, FL 33487

LANDSCAPE ARCHITECT/PLANNER:
COTLEUR & HEARING, INC.
1934 COMMERCE LANE, SUITE 1
JUPITER, FL 33458

ARCHITECT:
SPECIALTY ENGINEERING CONSULTANTS, INC
1599 SW 30TH AVENUE, SUITE 20
BOYNTON BEACH, FL 33426

SURVEYOR:
PERIMETER SURVEYING & MAPPING
947 CLINT MOORE ROAD
BOCA RATON, FL 33487

ENGINEERING:
CIVIL DESIGN, INC
1400 CENTREPARK BOULEVARD
SUITE 905
WEST PALM BEACH, FL 33401

Landscape Plan

EXHIBIT "A"

Cotleur & Hearing
Landscape Architects
Land Planners
Environmental Consultants
1934 Commerce Lane
Suite 1
Jupiter, Florida 33458
561.747.6336 · Fax 747.1377
www.cotleurhearing.com
Lic# LC-26000535

Garden Square Townhouse Development
Open Space Landscape Plan
Greenacres, Florida

REGISTERED LANDSCAPE ARCHITECT DONALDSON E. HEARING LA 0000943 STATE OF FLORIDA

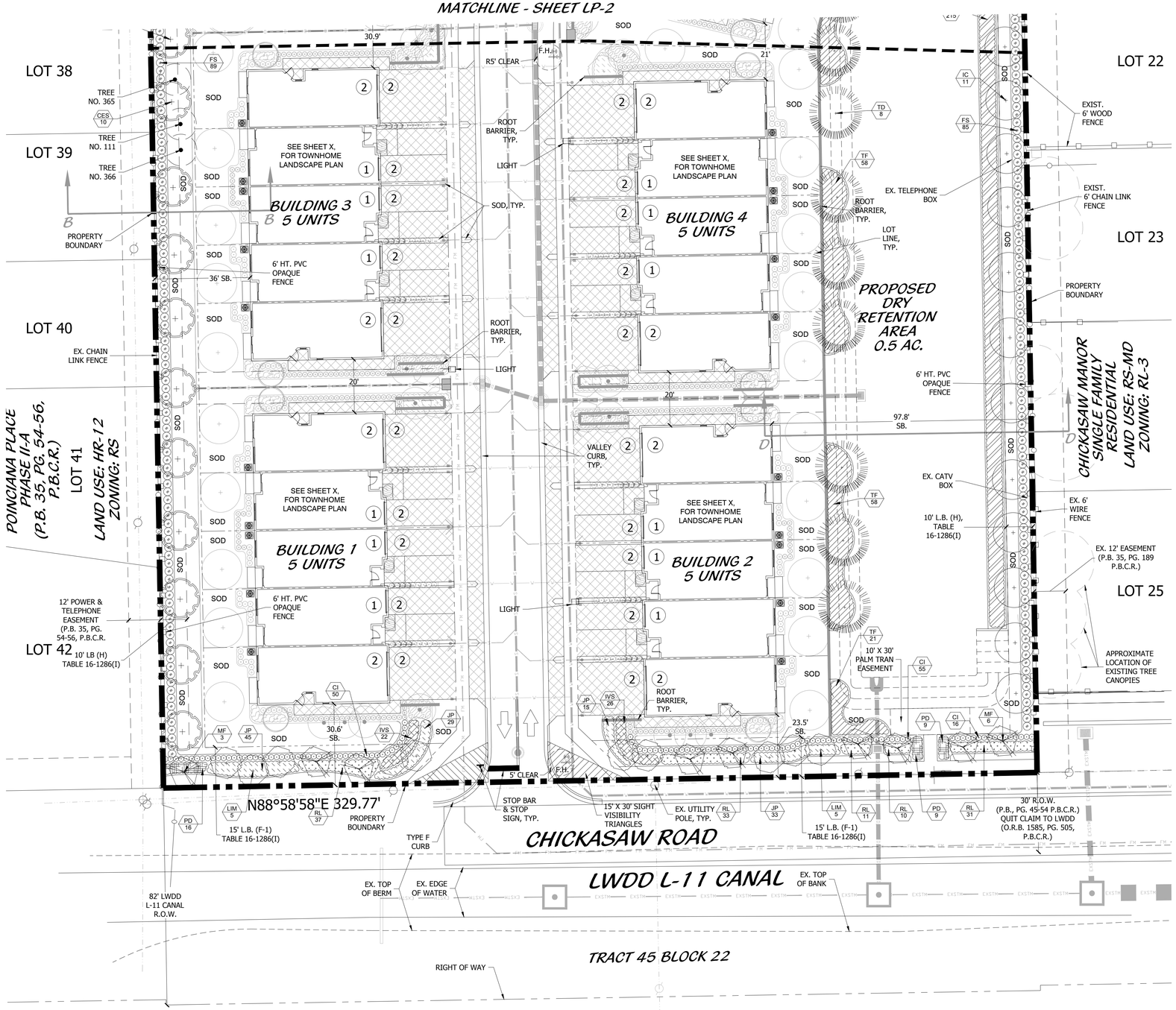
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DESIGNED	HK/DEH
DRAWN	HK
APPROVED	DEH
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SHEET LP-2 OF 9

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CANOPY TREES, SOME ADJACENT TO POWER LINES (CES & EX. QV)		26	
3:1 PALM GROUPINGS (SP)		1	
PERCENTAGE PALMS	MAX 30%	3.70%	
(TREES & PALMS OVER REQ. COUNTED TOWARD INTERIOR TREES PROVIDED)			
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3 SHRUBS PER EA. 2,500 SQ. FT.	69	1228	

Legend

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EX.	EXISTING
F.H.	FIRE HYDRANT
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OHW	OVERHEAD WIRE
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Landscape Plan

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Landscape Architects
Land Planners
Environmental Consultants
1934 Commerce Lane
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Jupiter, Florida 33458
561.747.6336 · Fax 747.1377
www.cotleurhearing.com
Lic# LC-26000535

Garden Square Townhouse Development
Open Space Landscape Plan
Greenacres, Florida

REGISTERED LANDSCAPE ARCHITECT DONALD E. HEARING LA 0000943 STATE OF FLORIDA

Scale: 1" = 20'
0' 10' 20' 40'

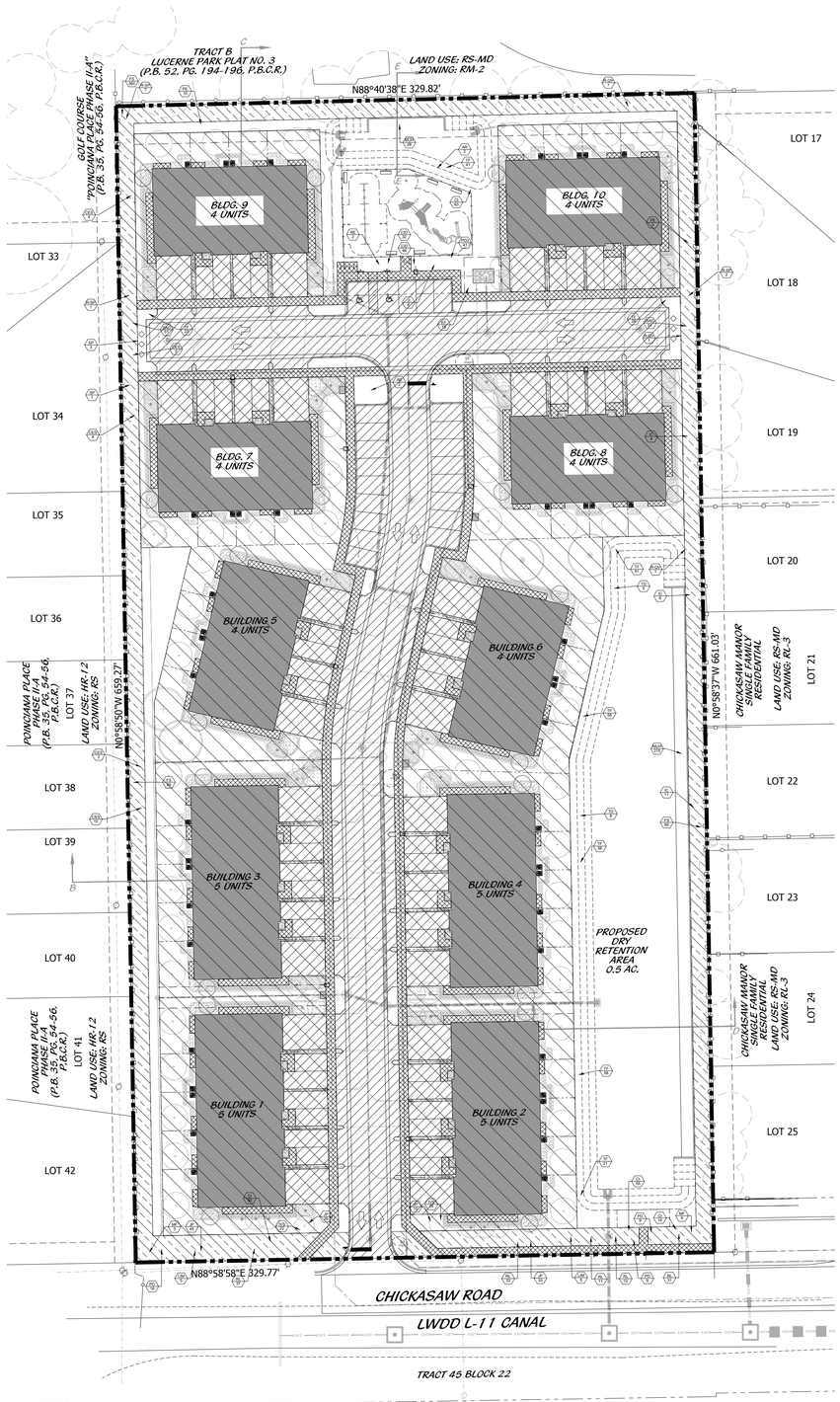
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Land-use Area Diagram



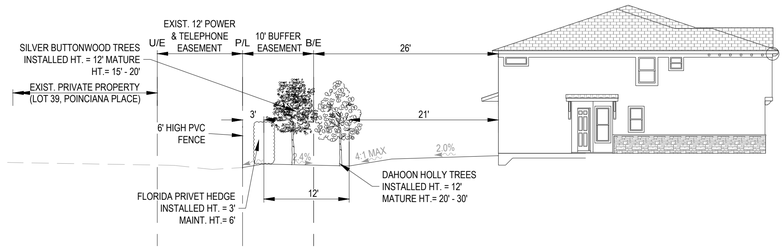
Land-use Legend

- BUILDING AREA
- VEHICULAR USE AREA
- SIDEWALK AREA
- BUFFER AREA
- LOT AREA
- INTERIOR OPEN SPACE

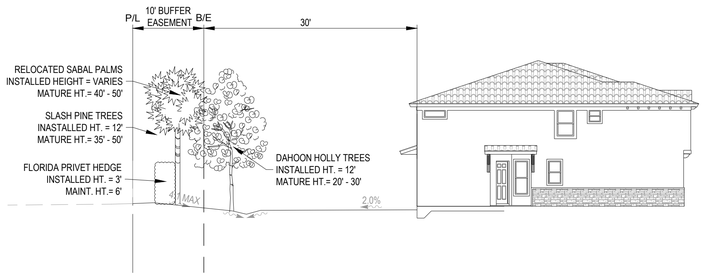
Open Space Plant List

CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	REMARKS
ACCENT TREES								
JI	6	JATROPHA INTEGERRIMA 'COMPACTA'	JATROPHA TREE	15 GAL.	---	5` HT.	N	FULL CANOPY
CANOPY TREES								
AR	2	ACER RUBRUM	RED MAPLE	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY
CES	23	CONCARPUS ERECTUS 'SERICEUS'	SILVER BUTTONWOOD	30 GAL.	2" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
IC	21	ILEX CASSINE	DAHOON HOLLY	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
LIM	10	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	45 GAL.	---	12` HT. X 6` SPRD.	N	FULL CANOPY, MULTI
MF	9	MYRCIANTHES FRAGRANS	SIMPSON'S STOPPER	45 GAL. MIN.	2" CAL. MIN.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
PE	13	PINUS ELLIOTII	SLASH PINE	45 GAL. OR F.G.	3" CAL.	12` HT. X 5` SPRD.	Y	FULL
R-QV	3	RELOCATED QUERCUS VIRGINIANA	RELOCATED LIVE OAK	---	VARIES	VARIES	Y	RELOCATED FROM ON-SITE
TD	13	TAXODIUM DISTICHUM	BALD CYPRESS	45 GAL.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY
PALM TREES								
R-SP	10	RELOCATED SABAL PALMETTO	RELOCATED SABAL PALM	---	VARIES	VARIES	Y	RELOCATED FROM ON-SITE
RE	4	ROYSTONEA ELATA	ROYAL PALM	F.G.	---	10` G.W.	Y	FULL CANOPY
SP	4	SABAL PALMETTO	SABAL PALM	F.G.	---	SEE REMARKS	Y	12', 18' AND 24' C.T., STGG. HTS., 1/3 EACH SIZE, SLICK TRUNKS
MEDIUM AND LARGE SHRUBS								
CI	204	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUS	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
EF	19	EUGENIA FOETIDA	SPANISH STOPPER	7 GAL.	4` X 2.5`	3` O.C.	Y	FULL & THICK
FS	534	FORESTIERA SEGREGATA	FLORIDA PRIVET	7 GAL.	3` X 3`	3` O.C.	Y	FULL & THICK
SMALL SHRUBS								
PD3	41	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	2` O.C.	N	FULL & THICK
MEDIUM AND LARGE SHRUBS								
SAD	102	SCHEFFLERA ARBORICOLA 'DAZZLE'	DWARF VARIEGATED SCHEFFLERA	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
SMALL SHRUBS AND GROUNDCOVERS								
CID	78	CHRYSOBALANU ICACO 'HORIZONTALIS'	DWARF COCOPLUM	3 GAL.	12" X 18"	24" O.C.	Y	FULL & THICK
IVS	48	ILEX VOMITORIA 'SCHILLINGS DWARF'	DWARF YAUPON HOLLY	3 GAL.	12" X18"	24" O.C.	Y	FULL & THICK
JP	122	JUNIPERUS CHINENSIS 'PARSONII'	PARSONS JUNIPER	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
MUH	243	MUHLENBERGIA CAPILLARIS	PINK MUHLY GRASS	3 GAL.	18" X 18"	36" O.C.	Y	FULL & THICK
PD	34	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	24" O.C.	N	FULL & THICK
RL	122	RONDELETIA LEUCOPHYLLA	PANAMA ROSE	3 GAL.	18" X 18"	24" O.C.	N	FULL & THICK
TF	336	TRIPSACUM FLORIDANA	DWARF FAKAHATCHEE GRASS	3 GAL.	24" X 24"	36" O.C.	Y	FULL & THICK

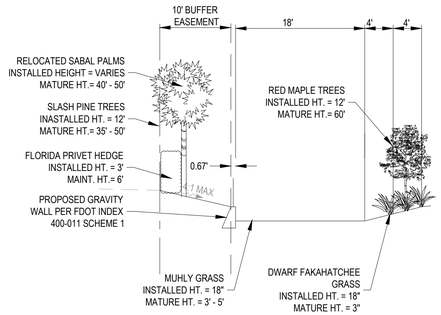
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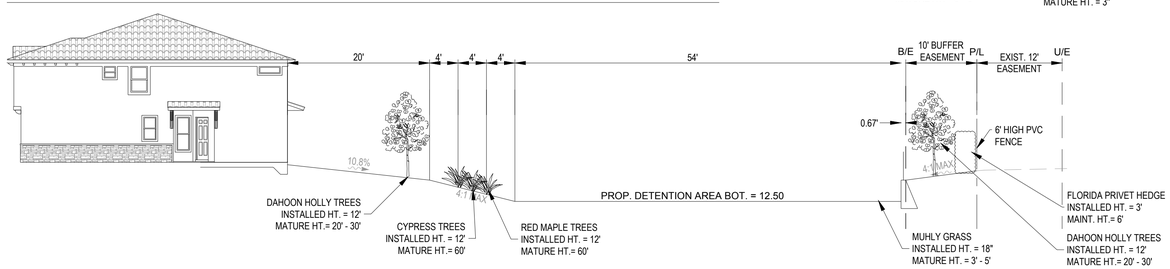
Section C-C



Section E-E



Section D-D



Plant List, Sections & Land-use Area Plan

EXHIBIT "A"

Cotleur & Hearing
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Garden Square Townhouse Development
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0' 20' 40' 80'

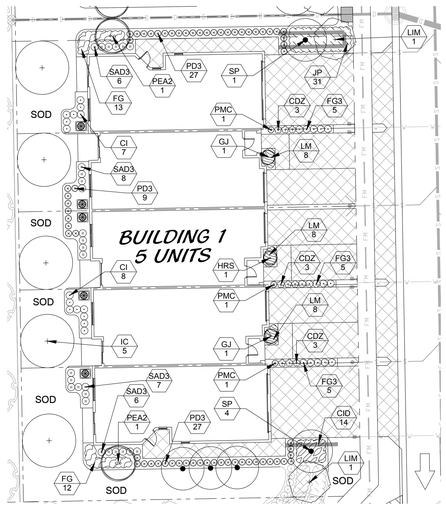
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Building One - Landscape Plan



Building One - Plant List

CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	REMARKS
ACCENT TREES								
GJ	2	GARDENIA JASMINODES	MIAMI SUPREME GARDENIA	15 GAL.	---	5` HT.	N	FULL CANOPY, STANDARD
HRS	1	HIBISCUS ROSA-SINENSIS 'DOUBLE PEACH'	DOUBLE PEACH HIBISCUS	15 GAL.	---	4'-5' HT. X 2'-3' SPRD.	N	FULL CANOPY, STANDARD
CANOPY TREES								
IC	5	ILEX CASSINE	DAHOON HOLLY	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
LIM	2	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	45 GAL.	---	12` HT. X 6` SPRD.	N	FULL CANOPY, MULTI
PALM TREES								
PEA2	2	PTYCHOSPERMA ELEGANS	ALEXANDER PALM	45 GAL. OR F.G.	---	12` O.A.	N	FULL CANOPY, DOUBLE STEM
SP	5	SABAL PALMETTO	SABAL PALM	F.G.	---	SEE REMARKS	Y	12', 18' AND 24' C.T., STGG. HTS., 1/3 EACH SIZE, SLICK TRUNKS

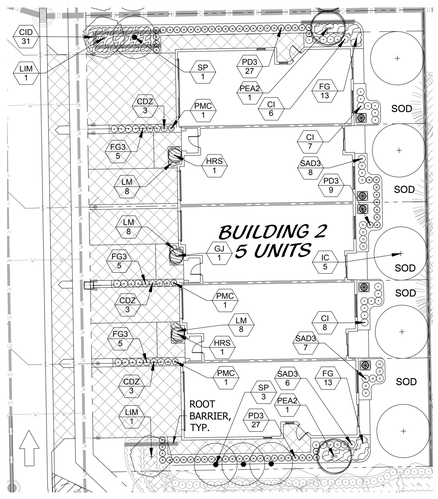
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	REMARKS
MEDIUM AND LARGE SHRUBS								
CI	15	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUS	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
CDZ	9	CODIAEUM VARIEGATUM 'ZANZIBAR'	ZANZIBAR CROTON	3 GAL.	2` X 2`	2` O.C.	---	FULL & THICK
PMC	3	PODOCARPUS MACROPHYLLUS 'MAKI'	PODOCARPUS COLUMN	7 GAL.	4` X 2`	A.S.	N	FULL & THICK
SAD3	27	SCHEFFLERA ARBORICOLA 'DAZZLE'	DWARF VARIEGATED SCHEFFLERA	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
SMALL SHRUBS								
FG3	15	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	2` O.C.	N	FULL & THICK
PD3	63	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	2` O.C.	N	FULL & THICK
SMALL SHRUBS AND GROUNDCOVERS								
CID	14	CHRYSOBALANU ICACO 'HORIZONTALIS'	DWARF COCOPLUM	3 GAL.	12" X 18"	24" O.C.	Y	FULL & THICK
FG	25	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
JP	31	JUNIPERUS CHINENSIS 'PARSONII'	PARSONS JUNIPER	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
LM	24	LIRIOPE MUSCARI 'EVERGREEN GIANT'	EVERGREEN GIANT LILYTURF	1 GAL.	12" X 12"	18" O.C.	N	FULL & THICK

Building One - Landscape Data

BUILDING ONE
LOT AREA = 12,868.20

	REQUIRED	PROVIDED
TREES 1 TREE PER EA. 1,500 SQ.FT.	**9**	**9**
CANOPY TREES (IC & LIM)		7
PALM TREES @3:1 (PEA & SP)		2
PERCENTAGE PALMS	MAX 30%	22.22%
SHRUBS 3 SHRUBS PER EA. 1,500 SQ.FT.	**26**	**>26**

Building Two - Landscape Plan



Building Two - Plant List

CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	REMARKS
ACCENT TREES								
GJ	1	GARDENIA JASMINODES	MIAMI SUPREME GARDENIA	15 GAL.	---	5` HT.	N	FULL CANOPY, STANDARD
HRS	2	HIBISCUS ROSA-SINENSIS 'DOUBLE PEACH'	DOUBLE PEACH HIBISCUS	15 GAL.	---	4'-5' HT. X 2'-3' SPRD.	N	FULL CANOPY, STANDARD
CANOPY TREES								
IC	5	ILEX CASSINE	DAHOON HOLLY	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
LIM	2	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	45 GAL.	---	12` HT. X 6` SPRD.	N	FULL CANOPY, MULTI
PALM TREES								
PEA2	2	PTYCHOSPERMA ELEGANS	ALEXANDER PALM	45 GAL. OR F.G.	---	12` O.A.	N	FULL CANOPY, DOUBLE STEM
SP	4	SABAL PALMETTO	SABAL PALM	F.G.	---	SEE REMARKS	Y	12', 18' AND 24' C.T., STGG. HTS., 1/3 EACH SIZE, SLICK TRUNKS

CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	REMARKS
MEDIUM AND LARGE SHRUBS								
CI	21	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUS	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
CDZ	9	CODIAEUM VARIEGATUM 'ZANZIBAR'	ZANZIBAR CROTON	3 GAL.	2` X 2`	2` O.C.	---	FULL & THICK
PMC	3	PODOCARPUS MACROPHYLLUS 'MAKI'	PODOCARPUS COLUMN	7 GAL.	4` X 2`	A.S.	N	FULL & THICK
SAD3	21	SCHEFFLERA ARBORICOLA 'DAZZLE'	DWARF VARIEGATED SCHEFFLERA	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
SMALL SHRUBS								
FG3	15	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	2` O.C.	N	FULL & THICK
PD3	63	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	2` O.C.	N	FULL & THICK
SMALL SHRUBS AND GROUNDCOVERS								
CID	31	CHRYSOBALANU ICACO 'HORIZONTALIS'	DWARF COCOPLUM	3 GAL.	12" X 18"	24" O.C.	Y	FULL & THICK
FG	26	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
LM	24	LIRIOPE MUSCARI 'EVERGREEN GIANT'	EVERGREEN GIANT LILYTURF	1 GAL.	12" X 12"	18" O.C.	N	FULL & THICK

Building Two - Landscape Data

BUILDING TWO
LOT AREA = 12,119.48

	REQUIRED	PROVIDED
TREES 1 TREE PER EA. 1,500 SQ.FT.	**9**	**9**
CANOPY TREES (IC & LIM)		7
PALM TREES @3:1 (PEA & SP)		2
PERCENTAGE PALMS	MAX 30%	22.22%
SHRUBS 3 SHRUBS PER EA. 1,500 SQ.FT.	**25**	**>25**

Cotleur & Hearing
Landscape Architects
Land Planners
Environmental Consultants
1934 Commerce Lane
Suite 1
Jupiter, Florida 33458
561.747.6336 · Fax 747.1377
www.cotleurhearing.com
Lic# LC-26000535

Garden Square Townhouse Development
Town Home Landscape Plans
Greenacres, Florida

REGISTERED LANDSCAPE ARCHITECT
DONALDSON E. HEARING
LA 0000943
STATE OF FLORIDA

Scale: 1" = 20'
0' 10' 20' 40'

DESIGNED	HK/DEH
DRAWN	HK
APPROVED	DEH
JOB NUMBER	22-1019
DATE	07-02-24
REVISIONS	10-24-24
	01-31-25
	03-07-25

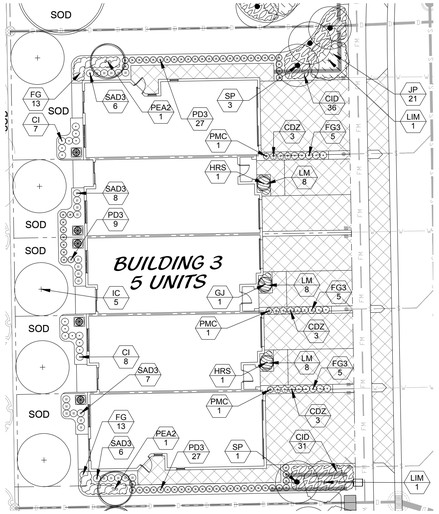
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SHEET LP-2 OF 9

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EXHIBIT "A"

Building Three - Landscape Plan



Building Three - Plant List

CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	REMARKS
ACCENT TREES								
GJ	1	GARDENIA JASMINODES	MIAMI SUPREME GARDENIA	15 GAL.	---	5` HT.	N	FULL CANOPY, STANDARD
HRS	2	HIBISCUS ROSA-SINENSIS 'DOUBLE PEACH'	DOUBLE PEACH HIBISCUS	15 GAL.	---	4'-5' HT. X 2'-3' SPRD.	N	FULL CANOPY, STANDARD
CANOPY TREES								
IC	5	ILEX CASSINE	DAHOON HOLLY	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
LIM	2	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	45 GAL.	---	12` HT. X 6` SPRD.	N	FULL CANOPY, MULTI
PALM TREES								
PEA2	2	PTYCHOSPERMA ELEGANS	ALEXANDER PALM	45 GAL. OR F.G.	---	12` O.A.	N	FULL CANOPY, DOUBLE STEM
SP	4	SABAL PALMETTO	SABAL PALM	F.G.	---	SEE REMARKS	Y	12', 18' AND 24' C.T., STGG. HTS., 1/3 EACH SIZE, SLICK TRUNKS

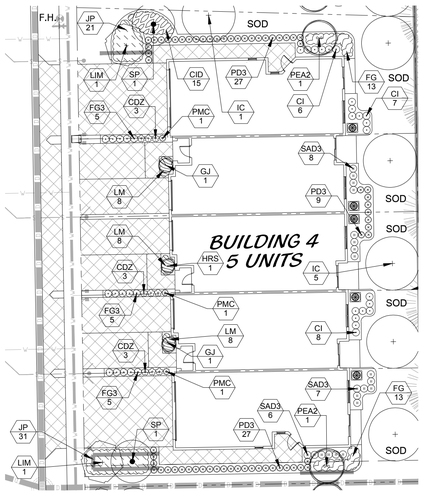
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	REMARKS
MEDIUM AND LARGE SHRUBS								
CI	15	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUS	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
CDZ	9	CODIAEUM VARIEGATUM 'ZANZIBAR'	ZANZIBAR CROTON	3 GAL.	2` X 2`	2` O.C.	---	FULL & THICK
PMC	3	PODOCARPUS MACROPHYLLUS 'MAKI'	PODOCARPUS COLUMN	7 GAL.	4` X 2`	A.S.	N	FULL & THICK
SAD3	27	SCHEFFLERA ARBORICOLA 'DAZZLE'	DWARF VARIEGATED SCHEFFLERA	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
SMALL SHRUBS								
FG3	15	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	2` O.C.	N	FULL & THICK
PD3	63	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	2` O.C.	N	FULL & THICK
SMALL SHRUBS AND GROUNDCOVERS								
CID	67	CHRYSOBALANU ICACO 'HORIZONTALIS'	DWARF COCOPLUM	3 GAL.	12" X 18"	24" O.C.	Y	FULL & THICK
FG	26	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
JP	21	JUNIPERUS CHINENSIS 'PARSONII'	PARSONS JUNIPER	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
LM	24	LIRIOPE MUSCARI 'EVERGREEN GIANT'	EVERGREEN GIANT LILYTURF	1 GAL.	12" X 12"	18" O.C.	N	FULL & THICK

Building Three - Landscape Data

BUILDING THREE
LOT AREA = 12,740.83

	REQUIRED	PROVIDED
TREES 1 TREE PER EA. 1,500 SQ.FT.	**9**	**9**
CANOPY TREES (IC & LIM)		7
PALM TREES @3:1 (PEA & SP)		2
PERCENTAGE PALMS	MAX 30%	22.22%
SHRUBS 3 SHRUBS PER EA. 1,500 SQ.FT.	**26**	**>26**

Building Four - Landscape Plan



Building Four - Plant List

CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	REMARKS
ACCENT TREES								
GJ	2	GARDENIA JASMINODES	MIAMI SUPREME GARDENIA	15 GAL.	---	5` HT.	N	FULL CANOPY, STANDARD
HRS	1	HIBISCUS ROSA-SINENSIS 'DOUBLE PEACH'	DOUBLE PEACH HIBISCUS	15 GAL.	---	4'-5' HT. X 2'-3' SPRD.	N	FULL CANOPY, STANDARD
CANOPY TREES								
IC	6	ILEX CASSINE	DAHOON HOLLY	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
LIM	2	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	45 GAL.	---	12` HT. X 6` SPRD.	N	FULL CANOPY, MULTI
PALM TREES								
PEA2	2	PTYCHOSPERMA ELEGANS	ALEXANDER PALM	45 GAL. OR F.G.	---	12` O.A.	N	FULL CANOPY, DOUBLE STEM
SP	2	SABAL PALMETTO	SABAL PALM	F.G.	---	SEE REMARKS	Y	12', 18' AND 24' C.T., STGG. HTS., 1/3 EACH SIZE, SLICK TRUNKS

CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	REMARKS
MEDIUM AND LARGE SHRUBS								
CI	21	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUS	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
CDZ	9	CODIAEUM VARIEGATUM 'ZANZIBAR'	ZANZIBAR CROTON	3 GAL.	2` X 2`	2` O.C.	---	FULL & THICK
PMC	3	PODOCARPUS MACROPHYLLUS 'MAKI'	PODOCARPUS COLUMN	7 GAL.	4` X 2`	A.S.	N	FULL & THICK
SAD3	21	SCHEFFLERA ARBORICOLA 'DAZZLE'	DWARF VARIEGATED SCHEFFLERA	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
SMALL SHRUBS								
FG3	15	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	2` O.C.	N	FULL & THICK
PD3	63	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	2` O.C.	N	FULL & THICK
SMALL SHRUBS AND GROUNDCOVERS								
CID	15	CHRYSOBALANU ICACO 'HORIZONTALIS'	DWARF COCOPLUM	3 GAL.	12" X 18"	24" O.C.	Y	FULL & THICK
FG	26	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
JP	52	JUNIPERUS CHINENSIS 'PARSONII'	PARSONS JUNIPER	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
LM	24	LIRIOPE MUSCARI 'EVERGREEN GIANT'	EVERGREEN GIANT LILYTURF	1 GAL.	12" X 12"	18" O.C.	N	FULL & THICK

Building Four - Landscape Data

BUILDING FOUR
LOT AREA = 12,624.69

	REQUIRED	PROVIDED
TREES 1 TREE PER EA. 1,500 SQ.FT.	**9**	**9**
CANOPY TREES (IC & LIM)		8
PALM TREES @3:1 (PEA & SP)		1
PERCENTAGE PALMS	MAX 30%	11.11%
SHRUBS 3 SHRUBS PER EA. 1,500 SQ.FT.	**26**	**>26**

Cotleur & Hearing
Landscape Architects
Land Planners
Environmental Consultants
1934 Commerce Lane
Suite 1
Jupiter, Florida 33458
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Town Home Landscape Plans
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REGISTERED LANDSCAPE ARCHITECT
DONALDSON E. HEARING
LA 0000943
STATE OF FLORIDA

Scale: 1" = 20'
0' 10' 20' 40'

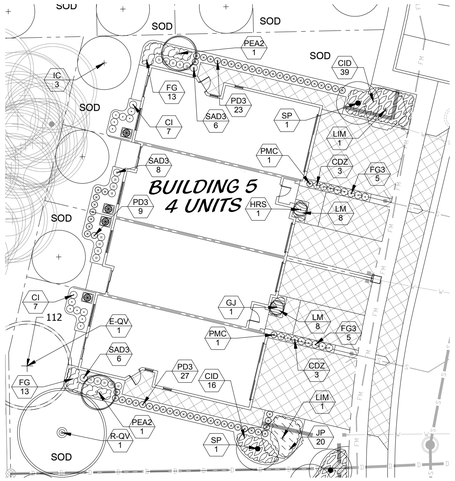
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Building Five - Landscape Plan



Building Five - Plant List

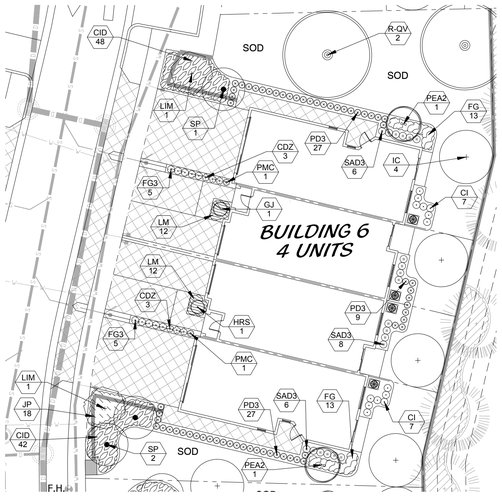
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	REMARKS
TREES								
E-QV	1	EXISTING QUERCUS SP.	EXISTING LIVE OAK	EXISTING	SEE TREE DISPOSITION CHART	SEE TREE DISPOSITION CHART	Y	EXISTING OAK TREE, SEE TREE DISPOSITION CHART FOR DISPOSITION
ACCENT TREES								
GJ	1	GARDENIA JASMINODES	MIAMI SUPREME GARDENIA	15 GAL.	---	5` HT.	N	FULL CANOPY, STANDARD
HRS	1	HIBISCUS ROSA-SINENSIS 'DOUBLE PEACH'	DOUBLE PEACH HIBISCUS	15 GAL.	---	4'-5' HT. X 2'-3' SPRD.	N	FULL CANOPY, STANDARD
CANOPY TREES								
IC	3	ILEX CASSINE	DAHOON HOLLY	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
LIM	2	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	45 GAL.	---	12` HT. X 6` SPRD.	N	FULL CANOPY, MULTI
R-QV	1	RELOCATED QUERCUS VIRGINIANA	RELOCATED LIVE OAK	---	VARIES	VARIES	Y	RELOCATED FROM ON-SITE
PALM TREES								
PEA2	2	PTYCHOSPERMA ELEGANS	ALEXANDER PALM	45 GAL. OR F.G.	---	12` O.A.	N	FULL CANOPY, DOUBLE STEM
SP	2	SABAL PALMETTO	SABAL PALM	F.G.	---	SEE REMARKS	Y	12', 18' AND 24' C.T., STGG. HTS., 1/3 EACH SIZE, SLICK TRUNKS
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	REMARKS
MEDIUM AND LARGE SHRUBS								
CI	14	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUS	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
CDZ	6	CODIAEUM VARIEGATUM 'ZANZIBAR'	ZANZIBAR CROTON	3 GAL.	2` X 2`	2` O.C.	---	FULL & THICK
PMC	2	PODOCARPUS MACROPHYLLUS 'MAKI'	PODOCARPUS COLUMN	7 GAL.	4` X 2`	A.S.	N	FULL & THICK
SAD3	20	SCHEFFLERA ARBORICOLA 'DAZZLE'	DWARF VARIEGATED SCHEFFLERA	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
SMALL SHRUBS								
FG3	10	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	2` O.C.	N	FULL & THICK
PD3	59	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	2` O.C.	N	FULL & THICK
SMALL SHRUBS AND GROUNDCOVERS								
CID	55	CHRYSOBALANU ICACO 'HORIZONTALIS'	DWARF COCOPLUM	3 GAL.	12" X 18"	24" O.C.	Y	FULL & THICK
FG	26	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
JP	20	JUNIPERUS CHINENSIS 'PARSONII'	PARSONS JUNIPER	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
LM	16	LIRIOPE MUSCARI 'EVERGREEN GIANT'	EVERGREEN GIANT LILYTURF	1 GAL.	12" X 12"	18" O.C.	N	FULL & THICK

Building Five - Landscape Data

BUILDING FIVE
LOT AREA = 11,776.92

	REQUIRED	PROVIDED
TREES 1 TREE PER EA. 1,500 SQ.FT.	**8**	**8**
CANOPY TREES (IC, LIM & EX. QV)		7
PALM TREES @3:1 (SP)		1
PERCENTAGE PALMS	MAX 30%	12.50%
SHRUBS 3 SHRUBS PER EA. 1,500 SQ.FT.	**24**	**>24**

Building Six - Landscape Plan



Building Six - Plant List

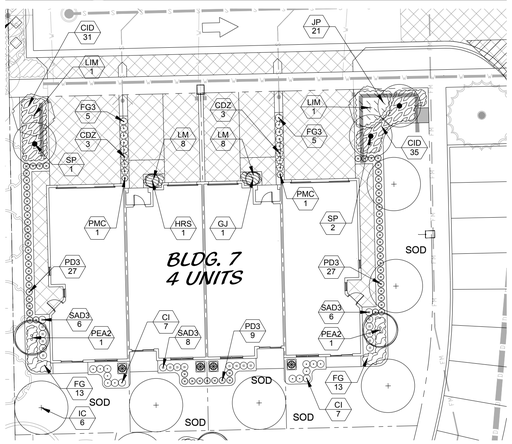
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	REMARKS
ACCENT TREES								
GJ	1	GARDENIA JASMINODES	MIAMI SUPREME GARDENIA	15 GAL.	---	5` HT.	N	FULL CANOPY, STANDARD
HRS	1	HIBISCUS ROSA-SINENSIS 'DOUBLE PEACH'	DOUBLE PEACH HIBISCUS	15 GAL.	---	4'-5' HT. X 2'-3' SPRD.	N	FULL CANOPY, STANDARD
CANOPY TREES								
IC	4	ILEX CASSINE	DAHOON HOLLY	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
LIM	2	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	45 GAL.	---	12` HT. X 6` SPRD.	N	FULL CANOPY, MULTI
R-QV	2	RELOCATED QUERCUS VIRGINIANA	RELOCATED LIVE OAK	---	VARIES	VARIES	Y	RELOCATED FROM ON-SITE
PALM TREES								
PEA2	2	PTYCHOSPERMA ELEGANS	ALEXANDER PALM	45 GAL. OR F.G.	---	12` O.A.	N	FULL CANOPY, DOUBLE STEM
SP	3	SABAL PALMETTO	SABAL PALM	F.G.	---	SEE REMARKS	Y	12', 18' AND 24' C.T., STGG. HTS., 1/3 EACH SIZE, SLICK TRUNKS
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	REMARKS
MEDIUM AND LARGE SHRUBS								
CI	14	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUS	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
CDZ	6	CODIAEUM VARIEGATUM 'ZANZIBAR'	ZANZIBAR CROTON	3 GAL.	2` X 2`	2` O.C.	---	FULL & THICK
PMC	2	PODOCARPUS MACROPHYLLUS 'MAKI'	PODOCARPUS COLUMN	7 GAL.	4` X 2`	A.S.	N	FULL & THICK
SAD3	20	SCHEFFLERA ARBORICOLA 'DAZZLE'	DWARF VARIEGATED SCHEFFLERA	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
SMALL SHRUBS								
FG3	10	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	2` O.C.	N	FULL & THICK
PD3	63	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	2` O.C.	N	FULL & THICK
SMALL SHRUBS AND GROUNDCOVERS								
CID	90	CHRYSOBALANU ICACO 'HORIZONTALIS'	DWARF COCOPLUM	3 GAL.	12" X 18"	24" O.C.	Y	FULL & THICK
FG	26	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
JP	18	JUNIPERUS CHINENSIS 'PARSONII'	PARSONS JUNIPER	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
LM	24	LIRIOPE MUSCARI 'EVERGREEN GIANT'	EVERGREEN GIANT LILYTURF	1 GAL.	12" X 12"	18" O.C.	N	FULL & THICK

Building Six - Landscape Data

BUILDING SIX
LOT AREA = 12,700.85

	REQUIRED	PROVIDED
TREES 1 TREE PER EA. 1,500 SQ.FT.	**9**	**9**
CANOPY TREES (IC, LIM & QV)		8
PALM TREES @3:1 (SP)		1
PERCENTAGE PALMS	MAX 30%	11.11%
SHRUBS 3 SHRUBS PER EA. 1,500 SQ.FT.	**26**	**>26**

Building Seven - Landscape Plan



Building Seven - Plant List

CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	REMARKS
ACCENT TREES								
GJ	1	GARDENIA JASMINODES	MIAMI SUPREME GARDENIA	15 GAL.	---	5` HT.	N	FULL CANOPY, STANDARD
HRS	1	HIBISCUS ROSA-SINENSIS 'DOUBLE PEACH'	DOUBLE PEACH HIBISCUS	15 GAL.	---	4'-5' HT. X 2'-3' SPRD.	N	FULL CANOPY, STANDARD
CANOPY TREES								
IC	6	ILEX CASSINE	DAHOON HOLLY	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
LIM	2	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	45 GAL.	---	12` HT. X 6` SPRD.	N	FULL CANOPY, MULTI
PALM TREES								
PEA2	2	PTYCHOSPERMA ELEGANS	ALEXANDER PALM	45 GAL. OR F.G.	---	12` O.A.	N	FULL CANOPY, DOUBLE STEM
SP	3	SABAL PALMETTO	SABAL PALM	F.G.	---	SEE REMARKS	Y	12', 18' AND 24' C.T., STGG. HTS., 1/3 EACH SIZE, SLICK TRUNKS
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	REMARKS
MEDIUM AND LARGE SHRUBS								
CI	14	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUS	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
CDZ	6	CODIAEUM VARIEGATUM 'ZANZIBAR'	ZANZIBAR CROTON	3 GAL.	2` X 2`	2` O.C.	---	FULL & THICK
PMC	2	PODOCARPUS MACROPHYLLUS 'MAKI'	PODOCARPUS COLUMN	7 GAL.	4` X 2`	A.S.	N	FULL & THICK
SAD3	20	SCHEFFLERA ARBORICOLA 'DAZZLE'	DWARF VARIEGATED SCHEFFLERA	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
SMALL SHRUBS								
FG3	10	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	2` O.C.	N	FULL & THICK
PD3	63	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	2` O.C.	N	FULL & THICK
SMALL SHRUBS AND GROUNDCOVERS								
CID	66	CHRYSOBALANU ICACO 'HORIZONTALIS'	DWARF COCOPLUM	3 GAL.	12" X 18"	24" O.C.	Y	FULL & THICK
FG	26	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
JP	21	JUNIPERUS CHINENSIS 'PARSONII'	PARSONS JUNIPER	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
LM	16	LIRIOPE MUSCARI 'EVERGREEN GIANT'	EVERGREEN GIANT LILYTURF	1 GAL.	12" X 12"	18" O.C.	N	FULL & THICK

Building Seven - Landscape Data

BUILDING SEVEN
LOT AREA = 11,151.51

	REQUIRED	PROVIDED
TREES 1 TREE PER EA. 1,500 SQ.FT.	**8**	**8**
CANOPY TREES (IC & LIM)		8
PERCENTAGE PALMS	MAX 30%	0.00%
SHRUBS 3 SHRUBS PER EA. 1,500 SQ.FT.	**23**	**>23**

Cotleur & Hearing
Landscape Architects
Land Planners
Environmental Consultants
1934 Commerce Lane
Suite 1
Jupiter, Florida 33458
561.747.6336 · Fax 747.1377
www.cotleurhearing.com
Lic# LC-26000535

Garden Square Townhouse Development
Town Home Landscape Plans
Greenacres, Florida

REGISTERED LANDSCAPE ARCHITECT DONNA RON E. HEARING LA 0000943 STATE OF FLORIDA

Scale: 1" = 20'
0' 10' 20' 40'

DESIGNED	HK/DEH
DRAWN	HK
APPROVED	DEH
JOB NUMBER	22-1019
DATE	07-02-24
REVISIONS	10-24-24
	01-31-25
	03-07-25

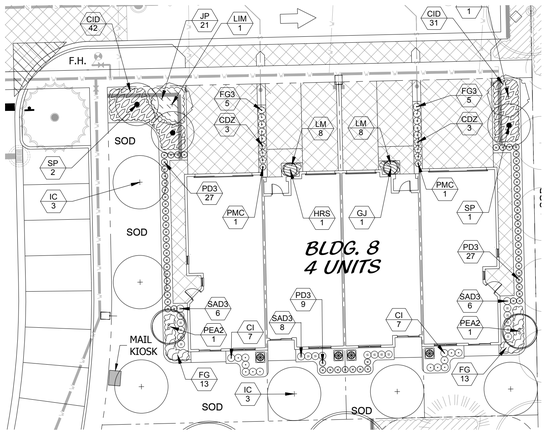
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SHEET LP-2 OF 9

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EXHIBIT "A"

Building Eight - Landscape Plan



Building Eight - Plant List

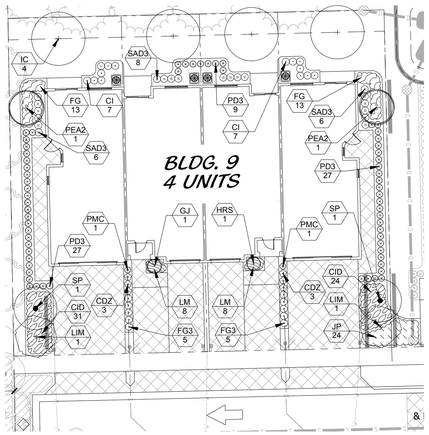
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	REMARKS
ACCENT TREES								
GJ	1	GARDENIA JASMINODES	MIAMI SUPREME GARDENIA	15 GAL.	---	5` HT.	N	FULL CANOPY, STANDARD
HRS	1	HIBISCUS ROSA-SINENSIS 'DOUBLE PEACH'	DOUBLE PEACH HIBISCUS	15 GAL.	---	4'-5' HT. X 2'-3' SPRD.	N	FULL CANOPY, STANDARD
CANOPY TREES								
IC	6	ILEX CASSINE	DAHOON HOLLY	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
LIM	2	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	45 GAL.	---	12` HT. X 6` SPRD.	N	FULL CANOPY, MULTI
PALM TREES								
PEA2	2	PTYCHOSPERMA ELEGANS	ALEXANDER PALM	45 GAL. OR F.G.	---	12` O.A.	N	FULL CANOPY, DOUBLE STEM
SP	3	SABAL PALMETTO	SABAL PALM	F.G.	---	SEE REMARKS	Y	12', 18' AND 24' C.T., STGG. HTS., 1/3 EACH SIZE, SLICK TRUNKS
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	REMARKS
MEDIUM AND LARGE SHRUBS								
CI	14	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUS	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
CDZ	6	CODIAEUM VARIEGATUM 'ZANZIBAR'	ZANZIBAR CROTON	3 GAL.	2` X 2`	2` O.C.	---	FULL & THICK
PMC	2	PODOCARPUS MACROPHYLLUS 'MAKI'	PODOCARPUS COLUMN	7 GAL.	4` X 2`	A.S.	N	FULL & THICK
SAD3	20	SCHEFFLERA ARBORICOLA 'DAZZLE'	DWARF VARIEGATED SCHEFFLERA	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
SMALL SHRUBS								
FG3	10	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	2` O.C.	N	FULL & THICK
PD3	63	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	2` O.C.	N	FULL & THICK
SMALL SHRUBS AND GROUNDCOVERS								
CID	73	CHRYSOBALANU ICACO 'HORIZONTALIS'	DWARF COCOPLUM	3 GAL.	12" X 18"	24" O.C.	Y	FULL & THICK
FG	26	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
JP	21	JUNIPERUS CHINENSIS 'PARSONII'	PARSONS JUNIPER	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
LM	16	LIRIOPE MUSCARI 'EVERGREEN GIANT'	EVERGREEN GIANT LILYTURF	1 GAL.	12" X 12"	18" O.C.	N	FULL & THICK

Building Eight - Landscape Data

BUILDING EIGHT
LOT AREA = 11,381.73

	REQUIRED	PROVIDED
TREES 1 TREE PER EA. 1,500 SQ.FT.	**8**	**8**
CANOPY TREES (IC & LIM)		8
PERCENTAGE PALMS	MAX 30%	0.00%
SHRUBS 3 SHRUBS PER EA. 1,500 SQ.FT.	**23**	**>23**

Building Nine - Landscape Plan



Building Nine - Plant List

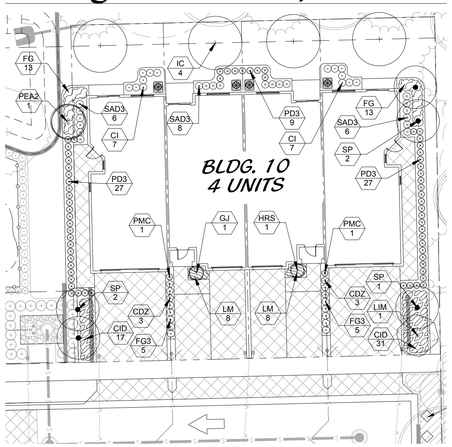
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	REMARKS
ACCENT TREES								
GJ	1	GARDENIA JASMINODES	MIAMI SUPREME GARDENIA	15 GAL.	---	5` HT.	N	FULL CANOPY, STANDARD
HRS	1	HIBISCUS ROSA-SINENSIS 'DOUBLE PEACH'	DOUBLE PEACH HIBISCUS	15 GAL.	---	4'-5' HT. X 2'-3' SPRD.	N	FULL CANOPY, STANDARD
CANOPY TREES								
IC	4	ILEX CASSINE	DAHOON HOLLY	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
LIM	2	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	45 GAL.	---	12` HT. X 6` SPRD.	N	FULL CANOPY, MULTI
PALM TREES								
PEA2	2	PTYCHOSPERMA ELEGANS	ALEXANDER PALM	45 GAL. OR F.G.	---	12` O.A.	N	FULL CANOPY, DOUBLE STEM
SP	2	SABAL PALMETTO	SABAL PALM	F.G.	---	SEE REMARKS	Y	12', 18' AND 24' C.T., STGG. HTS., 1/3 EACH SIZE, SLICK TRUNKS
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	REMARKS
MEDIUM AND LARGE SHRUBS								
CI	14	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUS	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
CDZ	6	CODIAEUM VARIEGATUM 'ZANZIBAR'	ZANZIBAR CROTON	3 GAL.	2` X 2`	2` O.C.	---	FULL & THICK
PMC	2	PODOCARPUS MACROPHYLLUS 'MAKI'	PODOCARPUS COLUMN	7 GAL.	4` X 2`	A.S.	N	FULL & THICK
SAD3	20	SCHEFFLERA ARBORICOLA 'DAZZLE'	DWARF VARIEGATED SCHEFFLERA	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
SMALL SHRUBS								
FG3	10	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	2` O.C.	N	FULL & THICK
PD3	63	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	2` O.C.	N	FULL & THICK
SMALL SHRUBS AND GROUNDCOVERS								
CID	55	CHRYSOBALANU ICACO 'HORIZONTALIS'	DWARF COCOPLUM	3 GAL.	12" X 18"	24" O.C.	Y	FULL & THICK
FG	26	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
JP	24	JUNIPERUS CHINENSIS 'PARSONII'	PARSONS JUNIPER	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
LM	16	LIRIOPE MUSCARI 'EVERGREEN GIANT'	EVERGREEN GIANT LILYTURF	1 GAL.	12" X 12"	18" O.C.	N	FULL & THICK

Building Nine - Landscape Data

BUILDING NINE
LOT AREA = 10,079.29

	REQUIRED	PROVIDED
TREES 1 TREE PER EA. 1,500 SQ.FT.	**7**	**7**
CANOPY TREES (IC & LIM)		6
PALM TREES @3:1 (PEA2 & SP)		1
PERCENTAGE PALMS	MAX 30%	14.29%
SHRUBS 3 SHRUBS PER EA. 1,500 SQ.FT.	**21**	**>21**

Building Ten - Landscape Plan



Building Ten - Plant List

CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	NATIVE	REMARKS
ACCENT TREES								
GJ	1	GARDENIA JASMINODES	MIAMI SUPREME GARDENIA	15 GAL.	---	5` HT.	N	FULL CANOPY, STANDARD
HRS	1	HIBISCUS ROSA-SINENSIS 'DOUBLE PEACH'	DOUBLE PEACH HIBISCUS	15 GAL.	---	4'-5' HT. X 2'-3' SPRD.	N	FULL CANOPY, STANDARD
CANOPY TREES								
IC	4	ILEX CASSINE	DAHOON HOLLY	45 GAL. OR F.G.	2.5" CAL.	12` HT. X 5` SPRD.	Y	FULL CANOPY, STANDARD
LIM	1	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	45 GAL.	---	12` HT. X 6` SPRD.	N	FULL CANOPY, MULTI
PALM TREES								
PEA2	1	PTYCHOSPERMA ELEGANS	ALEXANDER PALM	45 GAL. OR F.G.	---	12` O.A.	N	FULL CANOPY, DOUBLE STEM
SP	5	SABAL PALMETTO	SABAL PALM	F.G.	---	SEE REMARKS	Y	12', 18' AND 24' C.T., STGG. HTS., 1/3 EACH SIZE, SLICK TRUNKS
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SIZE	SPACE	NATIVE	REMARKS
MEDIUM AND LARGE SHRUBS								
CI	14	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCOPLUS	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
CDZ	6	CODIAEUM VARIEGATUM 'ZANZIBAR'	ZANZIBAR CROTON	3 GAL.	2` X 2`	2` O.C.	---	FULL & THICK
PMC	2	PODOCARPUS MACROPHYLLUS 'MAKI'	PODOCARPUS COLUMN	7 GAL.	4` X 2`	A.S.	N	FULL & THICK
SAD3	20	SCHEFFLERA ARBORICOLA 'DAZZLE'	DWARF VARIEGATED SCHEFFLERA	3 GAL.	2` X 2`	2` O.C.	N	FULL & THICK
SMALL SHRUBS								
FG3	10	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	2` O.C.	N	FULL & THICK
PD3	63	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL.	18" X 18"	2` O.C.	N	FULL & THICK
SMALL SHRUBS AND GROUNDCOVERS								
CID	48	CHRYSOBALANU ICACO 'HORIZONTALIS'	DWARF COCOPLUM	3 GAL.	12" X 18"	24" O.C.	Y	FULL & THICK
FG	26	FICUS MICROCARPA 'GREEN ISLAND'	GREEN ISLAND FICUS	3 GAL.	12" X18"	24" O.C.	N	FULL & THICK
LM	16	LIRIOPE MUSCARI 'EVERGREEN GIANT'	EVERGREEN GIANT LILYTURF	1 GAL.	12" X 12"	18" O.C.	N	FULL & THICK

Building Ten - Landscape Data

BUILDING TEN
LOT AREA = 9,692.68

	REQUIRED	PROVIDED
TREES 1 TREE PER EA. 1,500 SQ.FT.	**7**	**7**
CANOPY TREES (IC & LIM)		5
PALM TREES @3:1 (PEA2 & SP)		2
PERCENTAGE PALMS	MAX 30%	28.57%
SHRUBS 3 SHRUBS PER EA. 1,500 SQ.FT.	**20**	**>20**

EXHIBIT "A"

Cotleur & Hearing
Landscape Architects
Land Planners
Environmental Consultants
1934 Commerce Lane
Suite 1
Jupiter, Florida 33458
561.747.6336 · Fax 747.1377
www.cotleurhearing.com
Lic# LC-26000535

Garden Square Townhouse Development
Town Home Landscape Plans
Greenacres, Florida

REGISTERED LANDSCAPE ARCHITECT
DONALD E. HEARING
LA 0000945
STATE OF FLORIDA

Scale: 1" = 20'
0' 10' 20' 40'

DESIGNED	HK/DEH
DRAWN	HK
APPROVED	DEH
JOB NUMBER	22-1019
DATE	07-02-24
REVISIONS	10-24-24
	01-31-25
	03-07-25

March 07, 2025 10:20:11 a.m.
Drawing: 22-1019_LP.DWG

SHEET LP-2 OF 9

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Landscape Specifications

1. GENERAL LANDSCAPE REQUIREMENTS

LANDSCAPE CONTRACT WORK INCLUDES, BUT IS NOT LIMITED TO, SOIL PREPARATION, FINE OR FINISH GRADING, FURNISHING AND INSTALLING PLANT MATERIAL, WATERING, STAKING, GUYING AND MULCHING.

PLANT SIZE AND QUALITY

TREES, PALMS, SHRUBS, GROUNDCOVERS:
PLANT SPECIES AND SIZES SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS, NOMENCLATURE SHALL CONFORM TO STANDARD PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS PARTS I & II, LATEST EDITION PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, UNLESS SPECIFIED OTHERWISE. ALL PLANTS SHALL BE FLORIDA GRADE NUMBER 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY.

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 OF GOOD QUALITY AND BE IN A HEALTHY GROWING CONDITION.

AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT 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.

STANDARD PLANTING MIXTURE SHALL BE ONE (1) PART RECYCLED ORGANIC MATERIAL ADDED TO THREE (3) PARTS EXISTING NATIVE SOIL.

REPLACEMENT SOIL SHALL BE USED AS SPECIFIED TO REPLACE EXISTING SOILS THAT ARE DETERMINED BY THE LANDSCAPE ARCHITECT TO BE UNSUITABLE FOR PLANTING, IE. ROAD BASE, PAVEMENT, ETC. REPLACEMENT SOIL MIX SHALL CONTAIN 60% SAND AND 40% MUCK. SAND SHALL BE 100% CLEAN NATIVE SAND SCREENED TO 1/4" AND MUCK SHALL BE 100% CLEAN ORGANIC NATIVE MUCK SCREENED TO 1/2". ALL SOIL SHALL BE MIXED PRIOR TO DELIVERY ON SITE.

MULCH SHALL BE SHREDDED MELALEUCA, EUCALYPTUS OR GRADE "A" RECYCLED. ALL MULCH IS TO BE APPLIED TO A DEPTH OF 3", EXCEPT AS OTHERWISE NOTED.

FERTILIZER IN BACKFILL MIXTURE FOR ALL PLANTS SHALL CONSIST OF MILORGANITE ACTIVATED SLUDGE MIXED WITH THE BACKFILL AT A RATE OF NOT LESS THAN 50 LBS. PER CUBIC YARD.

FERTILIZER FOR TREES AND SHRUBS MAY BE TABLET FORM OR GRANULAR. GRANULAR FERTILIZER SHALL BE UNIFORM IN COMPOSITION, DRY AND FREE-FLOWING. THIS FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED BAGS, EACH BEARING THE MANUFACTURER'S STATEMENT OF ANALYSIS, AND SHALL MEET THE FOLLOWING REQUIREMENTS: 16% NITROGEN, 7% PHOSPHORUS, 12% POTASSIUM, PLUS IRON. TABLET FERTILIZER (AGRIFORM OR EQUAL) IN 21 GRAM SIZE SHALL MEET THE FOLLOWING REQUIREMENTS: 20% NITROGEN, 10% PHOSPHORUS AND 5% POTASSIUM.

FERTILIZER WILL BE APPLIED AT THE FOLLOWING RATES:

PLANT SIZE	16-7-12	AGRIFORM TABLETS (21 GRAM)
1 GAL.	1/4 LB.	1
3 GAL.	1/3 LB.	3
7-15 GAL.	1/2 LB.	6
1"-6" CALIPER	2 LBS./1" CALIPER	2 PER 1" CALIPER
6" AND LARGER	3 LBS./1" CALIPER	2 PER 1" CALIPER

"FLORIDA EAST COAST PALM SPECIAL" SHALL BE APPLIED TO ALL PALMS AT INSTALLATION AT A RATE OF ½ LB. PER INCH OF TRUNK UNLESS OTHERWISE SPECIFIED.

FIELD GROWN TREES AND PALMS PREVIOUSLY ROOT PRUNED SHALL OBTAIN A ROOT BALL WITH SUFFICIENT ROOTS FOR CONTINUED GROWTH WITHOUT RESULTING SHOCK.

CONTRACTOR SHALL NOT MARK OR SCAR TRUNK IN ANY FASHION.

PLANTS SHALL BE WATERED AS NECESSARY OR WITHIN 24 HOURS AFTER NOTIFICATION BY THE LANDSCAPE ARCHITECT.

THE LOCATIONS OF PLANTS, AS SHOWN IN THESE PLANS, ARE APPROXIMATE. THE FINAL LOCATIONS MAY BE ADJUSTED TO ACCOMMODATE UNFORESEEN FIELD CONDITIONS. MAJOR ADJUSTMENTS TO THE LAYOUT ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT.

ALL PLASTIC FABRIC SHALL BE REMOVED FROM PLANT MATERIAL AT TIME OF INSTALLATION.

ALL TREES MUST BE STAKED AS SHOWN ON THE PLANTING DETAILS WITHIN 24 HOURS OF PLANTING. STAKES TO REMAIN FOR A MINIMUM OF 9 MONTHS, BUT NO LONGER THAN 18 MONTHS. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND REMOVAL OF THE STAKES.

ALL TREES MUST BE PRUNED AS PER LANDSCAPE ARCHITECT'S DIRECTION. SABAL PALMS MAY BE HURRICANE CUT.

ALL SHRUBS, TREES AND GROUND COVER WILL HAVE IMPROVED SOIL AS PER PLANTING SOIL NOTES. THE SOILS SHALL BE PLACED IN THE HOLE DURING PLANTING. TOP DRESSING ONLY IS NOT ACCEPTABLE.

DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING. ALL TREES SHALL BE SPIKED IN UTILIZING WATER AND A TREE BAR.

THE LANDSCAPE CONTRACTOR SHALL WATER, MULCH, WEED, PRUNE, AND OTHERWISE MAINTAIN ALL PLANTS, INCLUDING SOD, UNTIL COMPLETION OF CONTRACT OR ACCEPTANCE BY LANDSCAPE ARCHITECT. SETTLED PLANTS SHALL BE RESET TO PROPER GRADE, PLANTING SAUCERS RESTORED, AND DEFECTIVE WORK CORRECTED.

THE LANDSCAPE CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS OR DEBRIS CAUSED BY HIS CREWS DURING THE PERFORMANCE OF THE WORK. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL PROMPTLY REMOVE ALL WASTE MATERIALS, DEBRIS, UNUSED PLANT MATERIAL, EMPTY PLANT CONTAINERS AND ALL EQUIPMENT FROM THE PROJECT SITE.

UPON COMPLETION OF THE WORK, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AND REQUEST A FINAL INSPECTION. ANY ITEMS THAT ARE JUDGED INCOMPLETE OR UNACCEPTABLE BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE SHALL BE CORRECTED BY THE LANDSCAPE CONTRACTOR WITHIN 14 DAYS.

ALL LABOR AND MATERIAL FOR SOIL AMENDMENTS AND FERTILIZER THAT IS REQUIRED TO INSURE THE SUCCESSFUL ESTABLISHMENT AND SURVIVAL OF THE PROPOSED VEGETATION, AS WELL AS ALL THE COST FOR THE REMOVAL OF UNSUITABLE OR EXCESS BACKFILL MATERIAL, SHALL BE INCLUDED IN THE CONTRACTOR'S BID TO PERFORM THE WORK REPRESENTED IN THIS PLAN SET.

2. PLANTING TREES

EXCAVATE PIT AS PER PLANTING DETAILS.

BACKFILL AROUND BALL WITH STANDARD PLANTING MIXTURE AND SLIGHTLY COMPACT, WATER THOROUGHLY AS LAYERS ARE PLACED TO ELIMINATE VOIDS AND AIR POCKETS. BUILD A 6" HIGH BERM OF STANDARD PLANTING MIXTURE BEYOND EDGE OF EXCAVATION. APPLY 3" (AFTER SETTLEMENT) OF MULCH EXCEPT WITHIN 6" OF TRUNK.

PRUNE TREE TO REMOVE DAMAGED BRANCHES, IMPROVE NATURAL SHAPE AND THIN OUT STRUCTURE. DO NOT REMOVE MORE THAN 15% OF BRANCHES. DO NOT PRUNE BACK TERMINAL LEADER.

GUY AND STAKE TREE IN ACCORDANCE WIT THE STAKING DETAILS IMMEDIATELY AFTER PLANTING.

3. PLANTING SHRUBS

LAYOUT SHRUBS TO CREATE A CONTINUOUS SMOOTH FRONT LINE AND FILL IN BEHIND.

EXCAVATE PIT OR TRENCH TO 1-1/2 TIMES THE DIAMETER OF THE BALLS OR CONTAINERS OR 1'-0" WIDER THAN THE SPREAD OF ROOTS FOR POSITIONING AT PROPER HEIGHT. BACKFILL AROUND PLANTS WITH STANDARD PLANTING MIXTURE, COMPACTED TO ELIMINATE VOIDS AND AIR POCKETS. FORM GRADE SLIGHTLY DISHED AND BERMED AT EDGES OF EXCAVATION. APPLY 3" OF MULCH EXCEPT WITHIN 3" OF STEMS.

PRUNE SHRUBS TO REMOVE DAMAGED BRANCHES, IMPROVE NATURAL SHAPE AND THIN OUT STRUCTURE. DO NOT REMOVE MORE THAN 15% OF BRANCHES.

4. PLANTING GROUND COVER

LOOSEN SUBGRADE TO DEPTH OF 4" IN AREAS WHERE TOPSOIL HAS BEEN STRIPPED AND SPREAD SMOOTH.

SPACE PLANTS AS OTHERWISE INDICATED. DIG HOLES LARGE ENOUGH TO ALLOW SPREADING OF ROOTS. COMPACT BACKFILL TO ELIMINATE VOIDS AND LEAVE GRADE SLIGHTLY DISHED AT EACH PLANT. WATER THOROUGHLY. APPLY 3" OF MULCH OVER ENTIRE PLANTING BED, LIFTING PLANT FOLIAGE ABOVE MULCH.

DURING PERIODS OF HOT SUN AND/OR WIND AT TIME OF PLANTING, PROVIDE PROTECTIVE COVER FOR SEVERAL DAYS OR AS NEEDED.

5. PLANTING LAWNS

SODDING: SOD TYPE SPECIFIED ON PLANT LIST SHALL BE MACHINE STRIPPED NOT MORE THAN 24 HOURS PRIOR TO LAYING.

LOOSEN SUBGRADE TO DEPTH OF 4" AND GRADE WITH TOPSOIL EITHER PROVIDED ON SITE OR IMPORTED STANDARD PLANTING MIX TO FINISH DESIGN ELEVATIONS. ROLL PREPARED LAWN SURFACE. WATER THOROUGHLY, BUT DO NOT CREATE MUDDY SOIL CONDITION.

FERTILIZE SOIL AT THE RATE OF APPROXIMATELY 10 LBS. PER 1,000 S.F. SPREAD FERTILIZER OVER THE AREA TO RECEIVE GRASS BY USING AN APPROVED DISTRIBUTION DEVICE CALIBRATED TO DISTRIBUTE THE APPROPRIATE QUANTITY. DO NOT FERTILIZE WHEN WIND VELOCITY EXCEEDS 15 M.P.H. THOROUGHLY MIX FERTILIZER INTO THE TOP 2" OF TOPSOIL.

LAY SOD STRIPS WITH TIGHT JOINTS, DO NOT OVERLAP, STAGGER STRIPS TO OFFSET JOINTS IN ADJACENT COURSES. WORK SIFTED STANDARD PLANTING MIXTURE INTO MINOR CRACKS BETWEEN PIECES OF SOD AND REMOVE EXCESS SOIL DEPOSITS FROM SODDED AREAS. SOD ON SLOPES GREATER THAN 3:1 SHALL BE STAKED IN PLACE. ROLL OR STAMP LIGHTLY AND WATER THOROUGHLY WITH A FINE SPRAY IMMEDIATELY AFTER PLANTING.

6. MISCELLANEOUS LANDSCAPE WORK

LANDSCAPE MAINTENANCE

MAINTAIN LANDSCAPE WORK UNTIL FINAL ACCEPTANCE IS ISSUED BY THE OWNER'S REPRESENTATIVE. INCLUDE WATERING, WEEDING, CULTIVATING, RESTORATION OF GRADE, MOWING AND TRIMMING GRASS, PRUNING TREES AND SHRUBS, PROTECTION FROM INSECTS AND DISEASES, FERTILIZING AND SIMILAR OPERATIONS AS NEEDED TO INSURE NORMAL GROWTH AND GOOD HEALTH FOR LIVE PLANT MATERIAL.

PLANT MATERIAL SUBSTITUTION

NO SUBSTITUTION OF PLANT MATERIAL, TYPE OR SIZES WILL BE PERMITTED WITHOUT AUTHORIZATION FROM THE LANDSCAPE ARCHITECT.

PLANTING BED PREPARATION

ALL PLANTING BEDS SHALL BE PROPERLY PREPARED PRIOR TO THE COMMENCEMENT OF ANY PLANTING. PLANTING AREAS, INCLUDING LAWNS SHALL BE FREE OF ALL WEEDS AND NUISANCE VEGETATION. IF TORPEDO GRASS (PANICUM REPENS) IS PRESENT OR ENCOUNTERED DURING PLANTING, THE LANDSCAPE CONTRACTOR SHALL STOP ALL PLANTING UNTIL IT CAN BE DEMONSTRATED THAT IT HAS BEEN COMPLETELY REMOVED OR ERADICATED. THERE SHALL BE NO EXCEPTIONS TO THIS PROVISION.

ALL LANDSCAPE ISLANDS AND BEDS WILL BE FREE OF SHELL ROCK AND CONSTRUCTION DEBRIS AND WILL BE EXCAVATED TO A DEPTH OF 30 INCHES OR TO CLEAN, NATIVE SOIL AND FILLED WITH THE SPECIFIED REPLACEMENT SOIL.

LANDSCAPE WARRANTY

THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF SIX (6) MONTHS FROM THE DATE OF CONDITIONAL ACCEPTANCE IN WRITING FROM THE LANDSCAPE ARCHITECT. AT THE TIME OF CONDITIONAL ACCEPTANCE, THE SIX (6) MONTH PERIOD SHALL COMMENCE. ANY MATERIALS WHICH HAVE DIED OR DECLINED TO THE POINT WHERE THEY NO LONGER MEET FLORIDA #1 CONDITION DURING THIS PERIOD SHALL BE PROMPTLY REPLACED WITH SPECIMENS THAT MEET THE MINIMUM REQUIREMENTS CALLED FOR ON THE DRAWINGS. THE LANDSCAPE CONTRACTOR SHALL NOT BE HELD RESPONSIBLE FOR THE DEATH OR DAMAGE RESULTING FROM ACTS OF GOD SUCH AS LIGHTNING, VANDALISM, AND AUTOMOBILES OR FROM NEGLIGENCE BY THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING AND OTHERWISE MAINTAINING PLANTS UP TO THE CONDITIONAL ACCEPTANCE PERIOD, UNLESS A WRITTEN AGREEMENT WITH THE LANDSCAPE ARCHITECT PROVIDES FOR A DIFFERENT ARRANGEMENT.

Landscape Notes

THE LANDSCAPE CONTRACTOR SHALL REVIEW THE PROJECT DRAINAGE AND UTILITY PLANS PRIOR TO CONSTRUCTION AND AVOID ALL CONFLICTS. THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK.

ALL PLANT MATERIAL SHALL BE FLORIDA NUMBER 1 OR BETTER AS DEFINED BY THE DIVISION OF PLANT INDUSTRY 'GRADES AND STANDARDS' LATEST EDITION.

THE LANDSCAPE CONTRACTOR SHALL NOT MAKE ANY SUBSTITUTIONS OR CHANGES WITHOUT THE AUTHORIZATION OF THE CITY OF GREENACRES, THE OWNER AND THE LANDSCAPE ARCHITECT.

ALL TREES SHALL BE LOCATED WITHIN A MULCH PLANTING BED WITH A MINIMUM OF TWO (2) FEET OF CLEARANCE TO THE EDGE OF THE BED.

TREES SHALL BE POSITIONED TO AVOID CONFLICTS WITH SITE LIGHTING AND STREET SIGNS.

ALL SOD SHALL BE STENOTAPHRUM SECONDATUS "FLORITAM" (ST. AUGUSTINE SOD)

TREES WITHIN PLANTING ISLANDS LESS THAN FIVE (5) FEET IN WIDTH SHALL BE LOCATED TO AVOID CONFLICTS WITH THE OVERHANG OF VEHICLES.

ALL LANDSCAPE SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF GREENACRES LDR'S.

ALL ABOVE GROUND UTILITIES I.E. TRANSFORMERS, SWITCH BOXES, AC CONDENSERS AND THE LIKE SHALL BE FULLY SCREENED FROM VIEW ON THREE SIDES WITH LANDSCAPING. THE LANDSCAPING SHALL EXTEND ONE FOOT HIGHER THAN THE TALLEST POINT OF SAID EQUIPMENT AT TIME OF PLANTING.

PLANTING OF ANY TREES WITHIN TEN (10) FEET OF ANY ABOVE-GROUND POWER OR UTILITY LINES SHALL CONFORM TO THE CRITERIA LISTED IN "PLANT THE RIGHT TREE IN THE RIGHT PLACE" DOCUMENT ISSUED BY FLORIDA POWER & LIGHT.

A PROGRAM SHALL BE IMPLEMENTED TO ERADICATE AND PREVENT THE RE-ESTABLISHMENT OF PROHIBITED PLANT SPECIES LISTED IN SECTION 16-1312.

TREES SHOWN ON THIS PLAN ARE FOR GRAPHIC REPRESENTATION ONLY. TREE SPACING IS BASED ON DESIGN REQUIREMENTS AND THE TREES SHOWN ON THESE PLANS ATTEMPT TO ACCOMPLISH THAT SPACING WHILE MAINTAINING THE REQUIRED SETBACK FROM UTILITIES. IN ANY CASE THE TREES SHALL BE LOCATED IN THE FIELD IN ACCORDANCE WITH THE PLANTING DETAILS SHOWN HEREON.

ADDITIONALLY, TREES ARE TO BE INSTALLED WITH A TEN FOOT (10') SEPARATION FROM ANY WATER OR SEWER MAIN AND/OR SERVICE, HYDRANTS, AND LIFT STATIONS. IF A TEN FOOT (10') SEPARATION CANNOT BE ACHIEVED, THE TREE CAN BE INSTALLED WITH A ROOT BARRIER SYSTEM. REFER TO THE "ROOT BARRIER" DETAIL FOR INSTALLATION REQUIREMENTS. HOWEVER, IN NO CASE SHALL A TREE ENCROACH INTO A PBC UE AND ONLY SOD CAN BE INSTALLED WITHIN 10' OF A FIRE HYDRANT UNLESS OTHERWISE APPROVED BY THE FIRE MARSHAL.

PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, A PROTECTIVE BARRIER SHALL BE INSTALLED AND MAINTAINED AROUND ANY TREE, STAND OF TREES, ECOLOGICAL COMMUNITY, NATIVE HABITAT OR NATURAL FEATURE WHICH ARE TO BE PRESERVED UNTIL THE COMPLETION OF CONSTRUCTION ACTIVITIES ON SITE.

A BARRIER SHALL BE CONSTRUCTED OUTSIDE OF THE DRIP LINE OF THE TREE(S) TO BE PRESERVED USING EITHER METAL RODS, OR WOODEN STAKES AT LEAST TWO (2) INCHES × FOUR (4) INCHES × EIGHT (8) FEET LONG, SPACED A MAXIMUM OF TEN (10) FEET APART, AND CONNECTED WITH BRIGHTLY COLORED RIBBON OR TEMPORARY FENCING FROM STAKE TO STAKE AT A HEIGHT OF AT LEAST FOUR (4) FEET.

DURING SITE DEVELOPMENT, NO SOIL SHALL BE ADDED OR REMOVED OR OTHERWISE DISTURBED, NOR SHALL ANY CONSTRUCTION EQUIPMENT, LIQUIDS, DEBRIS OR MATERIALS, BE LOCATED WITHIN THE PRESERVE AREA.

NO ATTACHMENTS OR WIRES SHALL BE ATTACHED TO ANY VEGETATION DURING THE SITE DEVELOPMENT PROCESS.

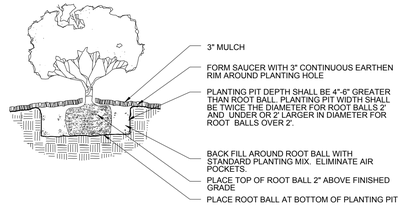
THE PROTECTIVE BARRIER SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION ACTIVITY IS COMPLETED ON SITE; UNTIL A FINAL LANDSCAPING INSPECTION IS MADE; OR UNTIL AUTHORIZATION IS GRANTED BY THE CITY TO REMOVE THE PROTECTIVE BARRIER.

THE IRRIGATION SYSTEM SHALL BE DESIGNED TO PROVIDE COVERAGE TO ALL LANDSCAPE AND SOD AREAS. THE IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN SENSOR/CUT OFF SWITCH IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS. ALL AREAS SHALL BE FULLY IRRIGATED IN ACCORDANCE WITH THE REQUIREMENTS THE CITY OF GREENACRES.

ALL LANDSCAPED AREAS SHALL BE PROVIDED WITH AN AUTOMATICALLY OPERATED IRRIGATION SYSTEM THAT WILL ADEQUATELY COVER ALL LIVING PLANT MATERIAL, OR IN SPECIAL CASES MANUALLY OPERATED SYSTEMS IF APPROVED BY THE CITY OF GREENACRES, BETWEEN THE HOURS OF 5:00 P.M. TO 8:00 A.M.

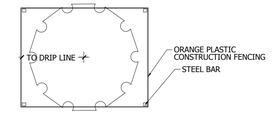
ALL WELL WATER IRRIGATION SYSTEMS MUST BE DESIGNED AND MAINTAINED IN SUCH A MANNER THAT STAINING OF BUILDINGS, WALLS, WALKS, PLANTS AND THE LIKE DOES NOT OCCUR.

Planting Details



SHRUB/GROUNDCOVER PLANTING DETAIL

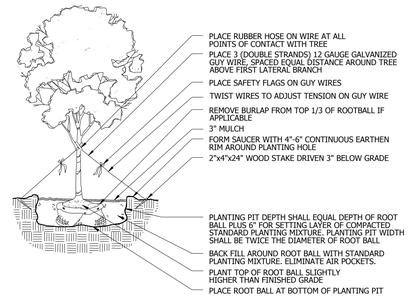
NTS



TREE PROTECTION DETAIL

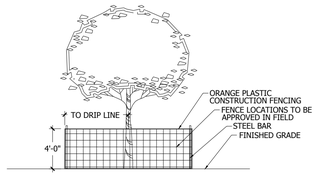
PLAN VIEW

NTS



LARGE TREE PLANTING DETAIL

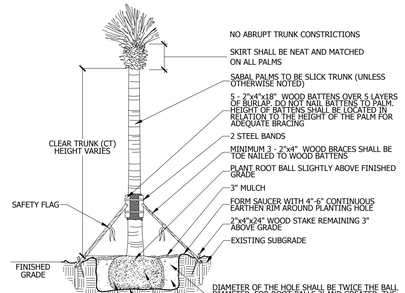
NTS



TREE PROTECTION DETAIL

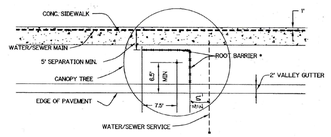
SECTION VIEW

NTS



PALM PLANTING DETAIL

NTS



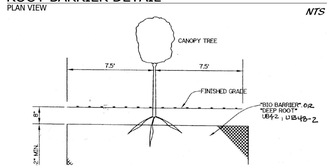
* IF A TREE IS INSTALLED WITH LESS THAN 10 FEET OF SEPARATION FROM A WATER MAIN OR SERVICE AND/OR A SEWER MAIN OR SERVICE, THE CONTRACTOR SHALL INSTALL A ROOT BARRIER. THE BARRIER SHALL BE 10' IN LENGTH CENTERED ON THE TREE TRUNK AND INSTALLED PARALLEL TO THE UTILITY WITH A MINIMUM 5' HORIZONTAL SEPARATION.

ROOT BARRIER DETAIL "A"

ROOT BARRIER DETAIL

PLAN VIEW

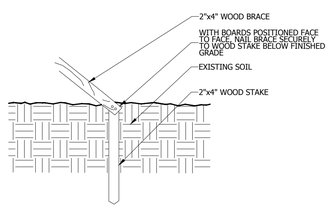
NTS



ROOT BARRIER DETAIL

SECTION VIEW

NTS



WOOD STAKING DETAIL

NTS

Landscape Details

EXHIBIT "A"

Cotleur & Hearing
Landscape Architects
Land Planners
Environmental Consultants
1934 Commerce Lane
Suite 1
Jupiter, Florida 33458
561.747.6336 · Fax 747.1377
www.cotleurhearing.com
Lic# LC-26000535

Garden Square Townhouse Development
Landscape Details
Greenacres, Florida

REGISTERED LANDSCAPE ARCHITECT
CHRISTOPHER E. HEARING
LA 0000943
STATE OF FLORIDA

DESIGNED	HK/DEH
DRAWN	HK
APPROVED	DEH
JOB NUMBER	22-1019
DATE	07-02-24
REVISIONS	10-24-24
	01-31-25
	03-07-25

March 07, 2025 10:20:11 a.m.
Drawing: 22-1019_LP.DWG

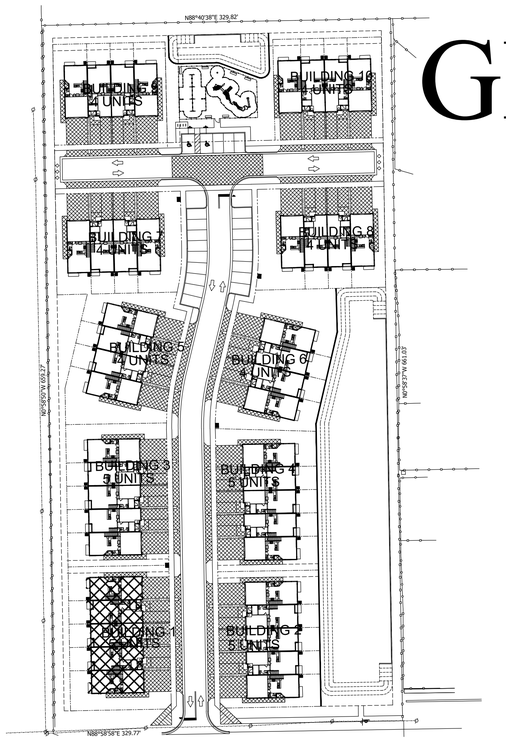
SHEET LP-5 OF 9

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5 UNIT BUILDING 1

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

GREENACRES, FLORIDA



PARTIAL SITE PLAN
KEY PLAN

N

DRAWING INDEX

CS - COVER SHEET
A1.0 - UNIT MIX PLAN
A2.0 - UNIT EXTERIOR ELEVATIONS

DESIGN PARAMETERS & ASSUMPTIONS

CODE EDITION:
FLORIDA BUILDING CODE 8th EDITION (2023)
THE 8TH EDITION OF THE FLORIDA RESIDENTIAL BUILDING CODE
THE NATIONAL ELECTRICAL CODE, NFPA 70-20
THIS PLAN COMPLIES WITH THE REQUIREMENTS OF TMS 402-16 AND 602-16, FOR THE DESIGN OF MASONRY STRUCTURES.
WIND LOAD PROVISIONS OF ASCE 7-22
NFPA FLORIDA FIRE PREVENTION CODE 8TH EDITION

ASCE 7-22 | EXPOSURE CONDITION, INDICATE C
CONSTRUCTION TYPE: VB
OCCUPANCY CLASSIFICATION: R-3

RISK FACTOR II:
(DETERMINED BY BUILDING USE/ OCCUPANCY,
REFER TO ASCE 7-22 TABLE 1.5-1)

INTERNAL PRESSURE COEFFICIENT.

±.18 (ENCLOSED BUILDING)

BASIC WIND VELOCITY PRESSURES:
APPROPRIATE POSITIVE / NEGATIVE PRESSURE COEFFICIENTS HAVE BEEN APPLIED TO MAIN WIND FORCE RESISTING SYSTEM, AND BUILDING ENVELOPE COMPONENTS AND CLADDING, AS APPLICABLE:

WIND SPEED 170 (3 SEC. GUST) BASIC VELOCITY PRESSURE 35.47 PSF

ROOF TRUSS LIVE LOAD 20 PSF FOR TOP CHORD
10 PSF FOR BOTTOM CHORD

ROOF TRUSS DEAD LOAD 15 PSF FOR TOP CHORD
10 PSF FOR BOTTOM CHORD

ROOF TRUSS DEAD LOAD TO RESIST WIND UPLIFT 6 PSF TOTAL

FLOOR TRUSS LOADS (APPLICABLE FOR ALL 2 STORY MODELS)
FLOOR TRUSS LIVE LOAD 40 PSF FOR TOP CHORD

FLOOR TRUSS DEAD LOAD 20 PSF FOR TOP CHORD
5 PSF FOR BOTTOM CHORD

SOIL BEARING CAPACITY 2500 PSF

Rev	Date	Document History	Int

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COVER SHEET

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

CDN ENGINEERING INC.
Casey Najjar P.E.
3200 N. Federal Hwy. | Suite 226
Boca Raton, Florida 33431
Office: 561.362.0237
www.cdneng.com
PE # 87108 • CA # 34513

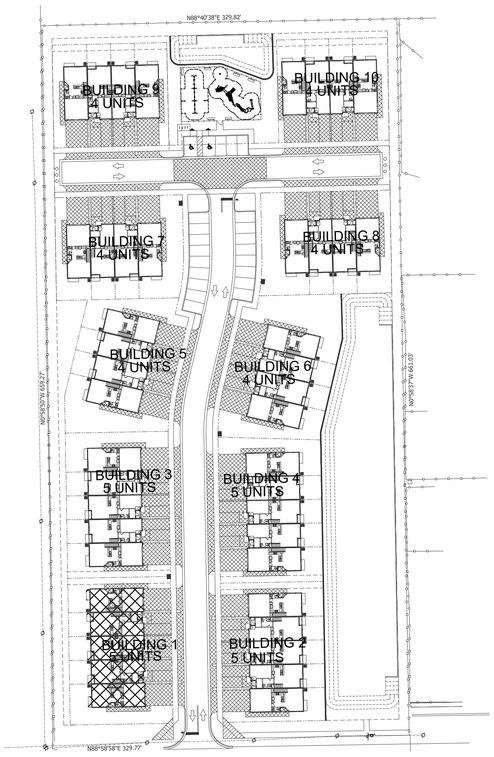
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Document Information

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Date:	01/25/2024
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Checked:	JHL

Sheet #
CS
1 of 18 Sheets

EXHIBIT "A"



PARTIAL SITE PLAN

KEY PLAN

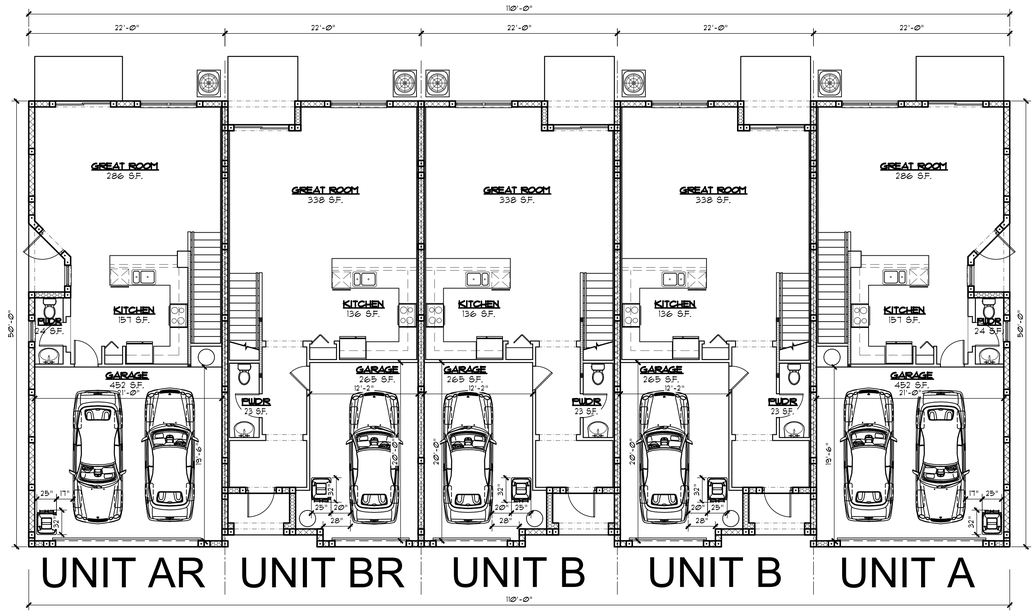
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AREA CALCULATIONS
UNITS A / AR

1st FLOOR LIVING:	625 S.F.
2nd FLOOR LIVING:	1129 S.F.
TOTAL LIVING:	1754 S.F.
GARAGE:	452 S.F.
COVERED ENTRY:	23 S.F.
TOTAL:	2229 S.F.

AREA CALCULATIONS
UNITS B / BR

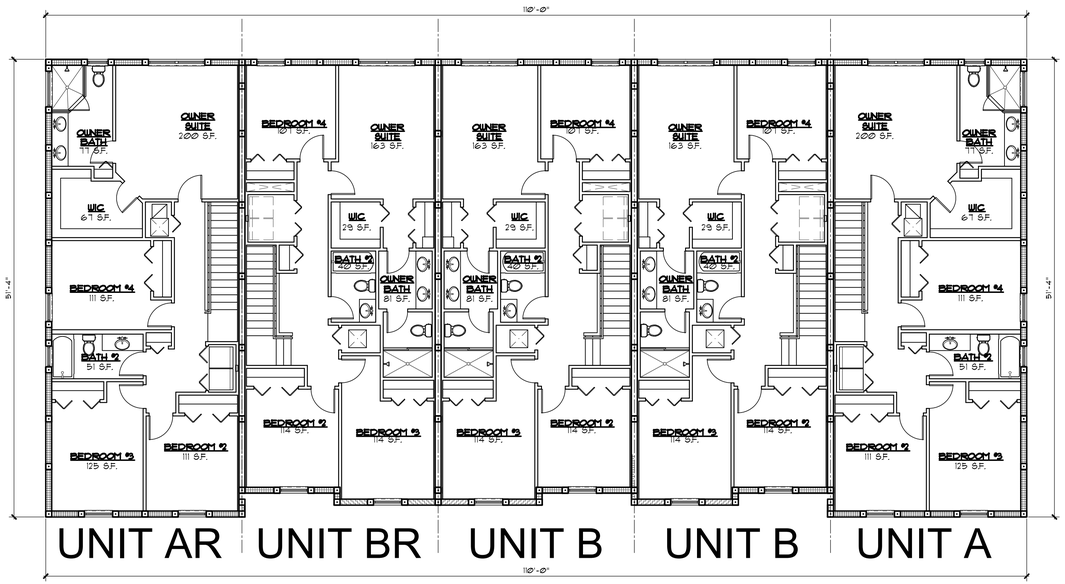
1st FLOOR LIVING:	763 S.F.
2nd FLOOR LIVING:	1086 S.F.
TOTAL LIVING:	1849 S.F.
GARAGE:	265 S.F.
COVERED ENTRY & LANAI:	56 S.F.
TOTAL:	2170 S.F.



5-UNIT FIRST FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

N



5-UNIT SECOND FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

N

EXHIBIT "A"

Rev	Date	Document History	Int

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5-UNIT MIX PLAN

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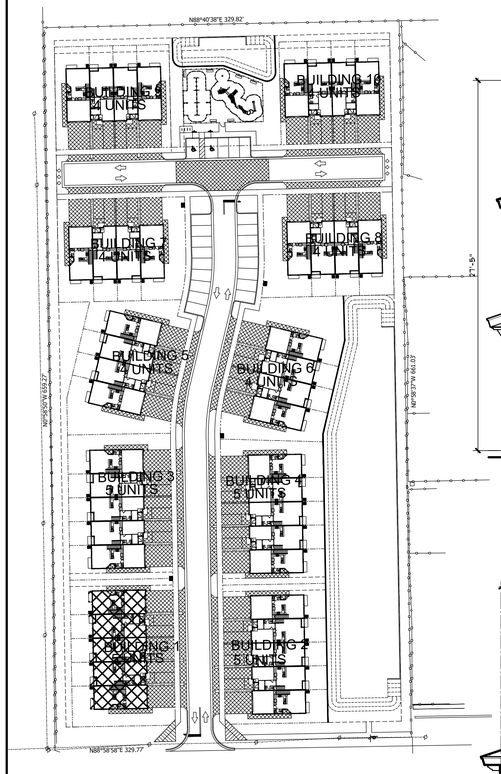
Document Information

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Date:	01/25/2024
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Checked:	JHL

Sheet #

A1.0

5 of 18 Sheets



PARTIAL SITE PLAN

KEY PLAN

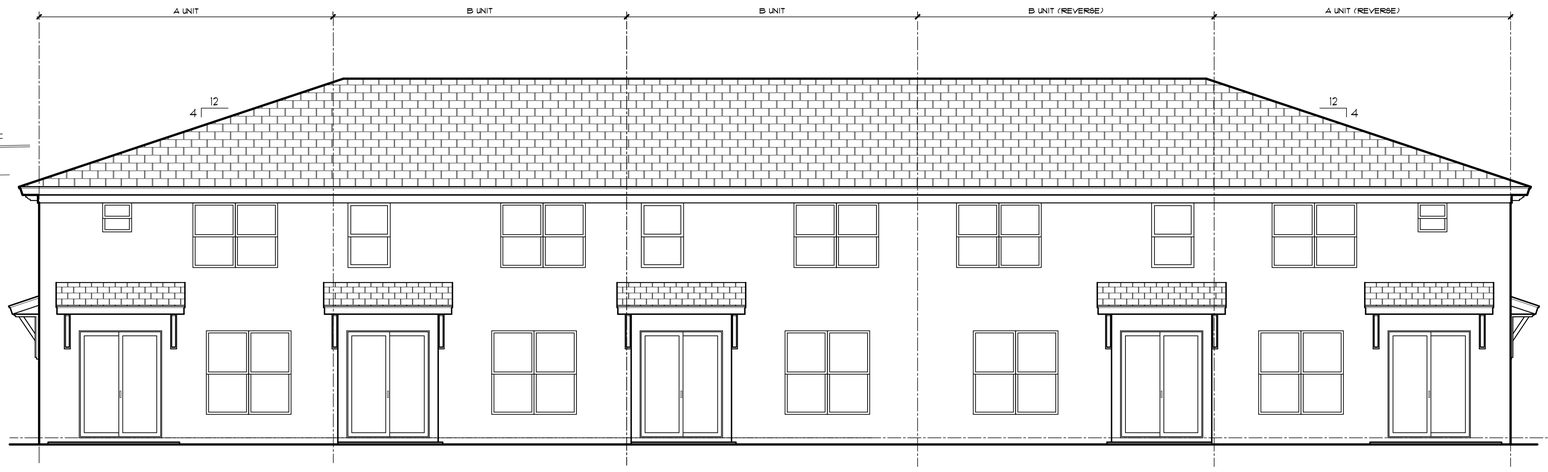
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FRONT ELEVATION EAST ELEVATION

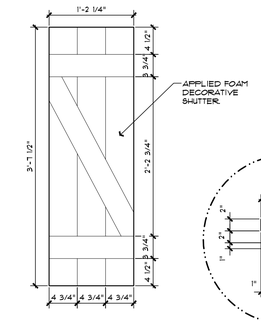
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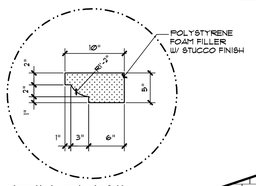
REAR ELEVATION WEST ELEVATION

SCALE: 1/8" = 1'-0"



SHUTTER DETAIL

SCALE: 1/2" = 1'-0"



TRIM DETAIL

SCALE: 1" = 1'-0"



LEFT SIDE ELEVATION SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION NORTH ELEVATION

SCALE: 1/8" = 1'-0"

SCHEME 1

ROOF SHINGLES		GAF WEATHERED WOOD
TRIM & COLUMNS		PAPERWHITE SW7105
BODY		PEARL GRAY SW0052
FAUX SIDING		WHITE HYACINTH SW0046
FRONT DOOR		WHITE HYACINTH SW0046
SHUTTERS		SEAWORTHY SW7620
FASCIA		WHITE HYACINTH SW0046
GARAGE DOOR		WHITE HYACINTH SW0046
ACCENT STONE		BORAL CULTURED STONE- WINTER HAVEN PRO-FIT ALPINE EDGESTONE

Rev	Date	Document History	Int

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5-UNIT ELEVATIONS

Garden Square Townhouse Development
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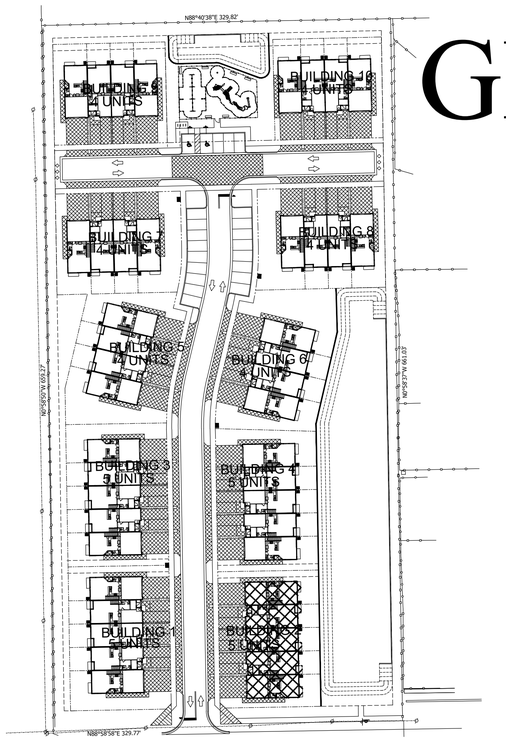
Sheet #
A2.0
6 of 18 Sheets

EXHIBIT "A"

5 UNIT BUILDING 2

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

GREENACRES, FLORIDA



PARTIAL SITE PLAN
KEY PLAN

N

DRAWING INDEX

CS - COVER SHEET
A1.0 - UNIT MIX PLAN
A2.0 - UNIT EXTERIOR ELEVATIONS

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NFPA FLORIDA FIRE PREVENTION CODE 8TH EDITION

ASCE 7-22 | EXPOSURE CONDITION, INDICATE C
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OCCUPANCY CLASSIFICATION: R-3

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(DETERMINED BY BUILDING USE/ OCCUPANCY,
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PE # 87108 • CA # 34513

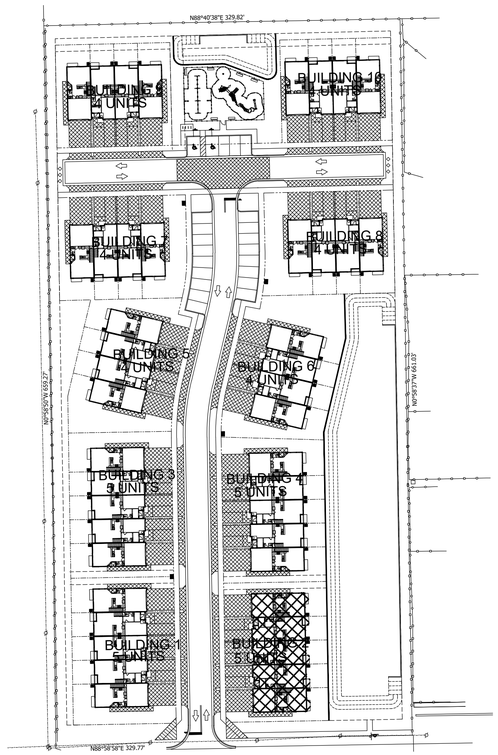
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Date:	01/25/2024
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Checked:	JHL

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1 of 18 Sheets

EXHIBIT "A"



PARTIAL SITE PLAN
KEY PLAN

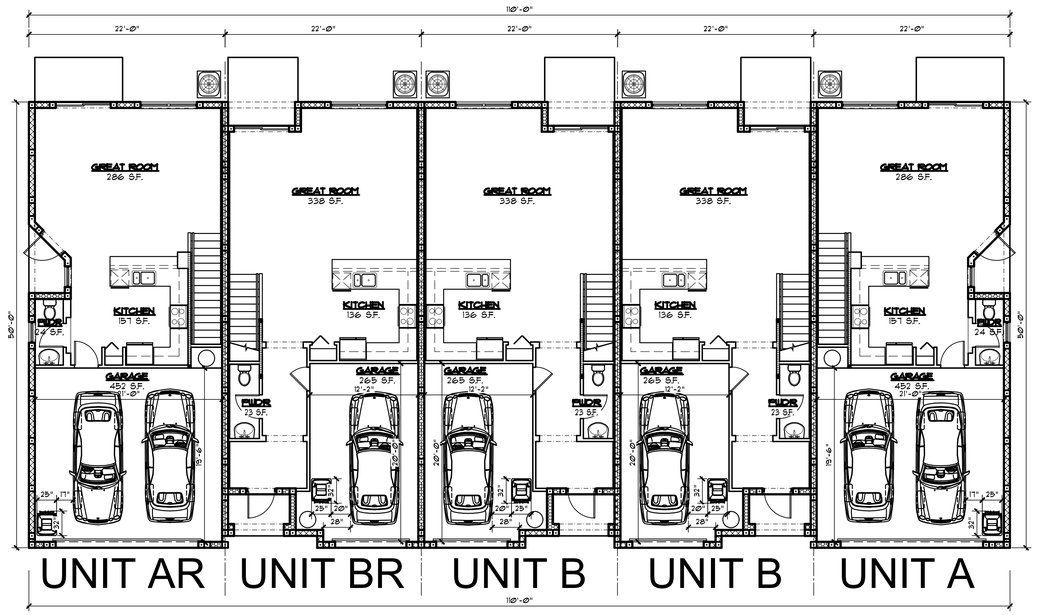
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AREA CALCULATIONS
UNITS A / AR

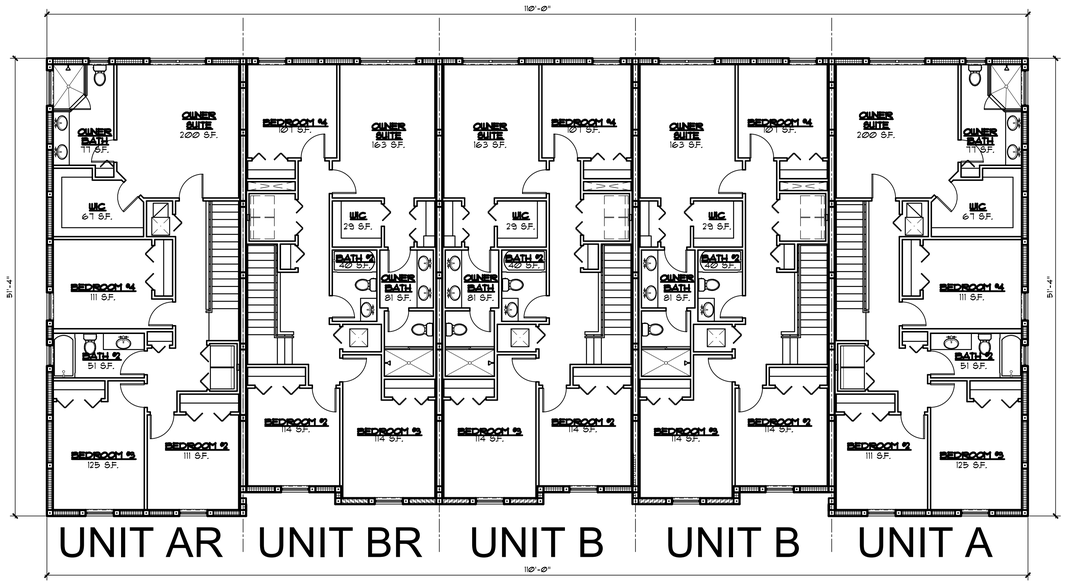
1st FLOOR LIVING:	625 S.F.
2nd FLOOR LIVING:	1129 S.F.
TOTAL LIVING:	1754 S.F.
GARAGE:	452 S.F.
COVERED ENTRY:	23 S.F.
TOTAL:	2229 S.F.

AREA CALCULATIONS
UNITS B / BR

1st FLOOR LIVING:	763 S.F.
2nd FLOOR LIVING:	1086 S.F.
TOTAL LIVING:	1849 S.F.
GARAGE:	265 S.F.
COVERED ENTRY & LANAI:	56 S.F.
TOTAL:	2170 S.F.



5-UNIT FIRST FLOOR MIX PLAN
SCALE: 1/8" = 1'-0"



5-UNIT SECOND FLOOR MIX PLAN
SCALE: 1/8" = 1'-0"

EXHIBIT "A"

Rev	Date	Document History	Int

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5-UNIT MIX PLAN

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

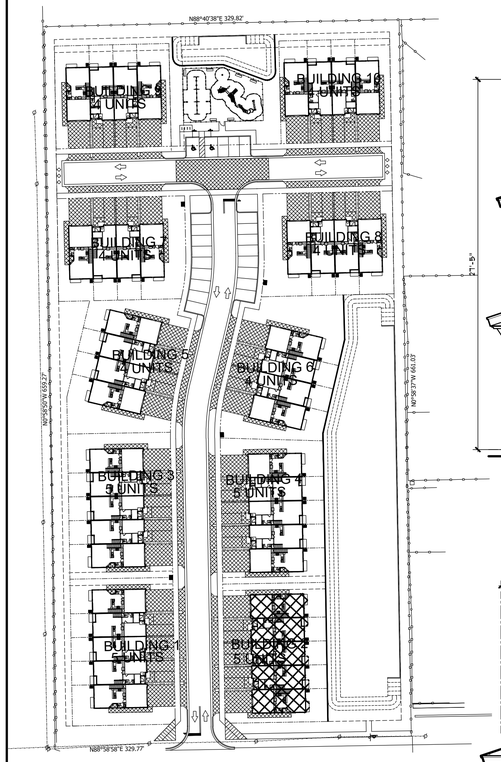
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3200 N. Federal Hwy. | Suite 226
Boca Raton, Florida 33431
Office: 561.362.0237
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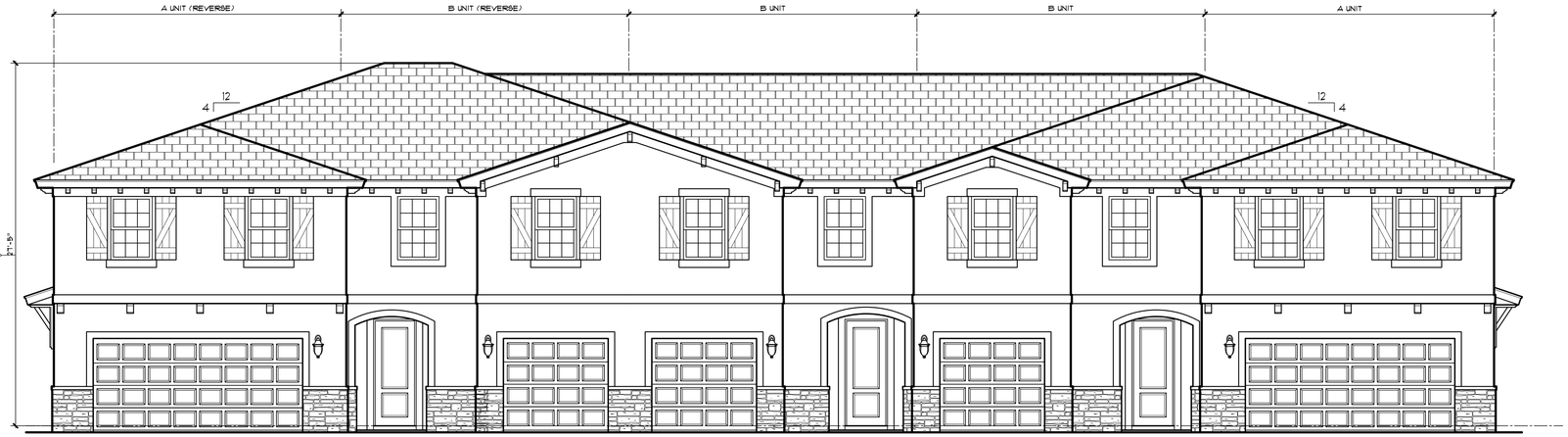
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PARTIAL SITE PLAN

KEY PLAN

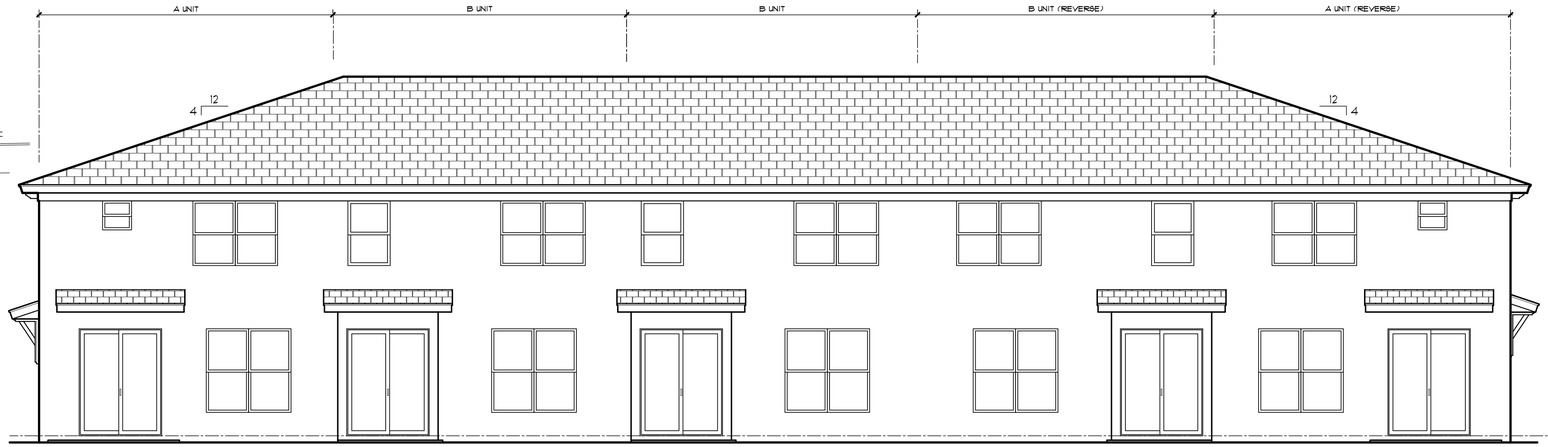
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FRONT ELEVATION WEST ELEVATION

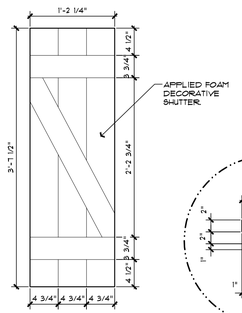
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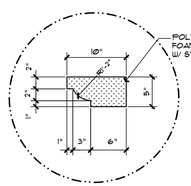
REAR ELEVATION EAST ELEVATION

SCALE: 1/8" = 1'-0"



SHUTTER DETAIL

SCALE: 1/2" = 1'-0"



TRIM DETAIL

SCALE: 1" = 1'-0"



LEFT SIDE ELEVATION SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION NORTH ELEVATION

SCALE: 1/8" = 1'-0"

SCHEME 2

ROOF SHINGLES	GAF WEATHERED WOOD
TRIM & COLUMNS	ALABASTER SW7008
BODY	COMFORT GRAY SW6205
FAUX SIDING	ALABASTER SW7008
FRONT DOOR	ROOKWOOD RED SW2802
SHUTTERS	REGATTA SW6517
FASCIA	ALABASTER SW7008
GARAGE DOOR	ALABASTER SW7008
ACCENT STONE	BORAL CULTURED STONE- WINTER HAVEN PRO-FIT ALPINE EDGESTONE

Rev	Date	Document History	Int

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5-UNIT ELEVATIONS

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

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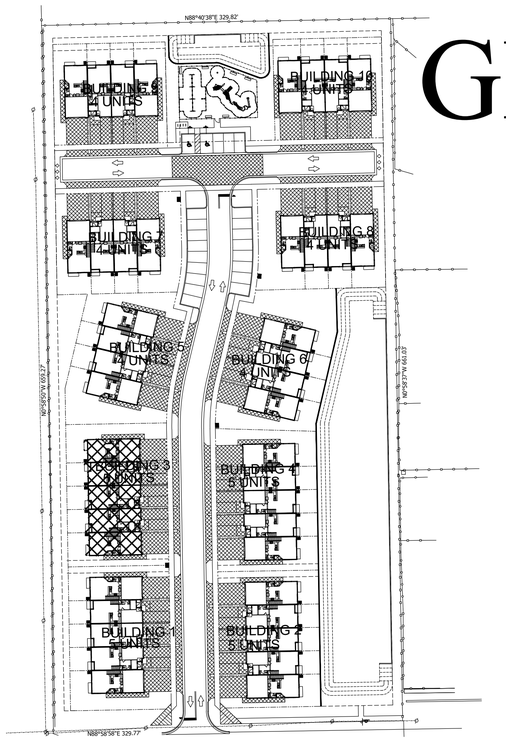
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EXHIBIT "A"

5 UNIT BUILDING 3

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

GREENACRES, FLORIDA



PARTIAL SITE PLAN
KEY PLAN

N

DRAWING INDEX

CS - COVER SHEET
A1.0 - UNIT MIX PLAN
A2.0 - UNIT EXTERIOR ELEVATIONS

DESIGN PARAMETERS & ASSUMPTIONS

CODE EDITION:
FLORIDA BUILDING CODE 8th EDITION (2023)
THE 8TH EDITION OF THE FLORIDA RESIDENTIAL BUILDING CODE
THE NATIONAL ELECTRICAL CODE, NFPA 70-20
THIS PLAN COMPLIES WITH THE REQUIREMENTS OF TMS 402-16 AND 602-16, FOR THE DESIGN OF MASONRY STRUCTURES.
WIND LOAD PROVISIONS OF ASCE 7-22
NFPA FLORIDA FIRE PREVENTION CODE 8TH EDITION

ASCE 7-22 | EXPOSURE CONDITION, INDICATE C
CONSTRUCTION TYPE: VB
OCCUPANCY CLASSIFICATION: R-3

RISK FACTOR II:
(DETERMINED BY BUILDING USE/ OCCUPANCY, REFER TO ASCE 7-22 TABLE 1.5-1)

INTERNAL PRESSURE COEFFICIENT:

±.18 (ENCLOSED BUILDING)

BASIC WIND VELOCITY PRESSURES:
APPROPRIATE POSITIVE / NEGATIVE PRESSURE COEFFICIENTS HAVE BEEN APPLIED TO MAIN WIND FORCE RESISTING SYSTEM, AND BUILDING ENVELOPE COMPONENTS AND CLADDING, AS APPLICABLE:

WIND SPEED 170 (3 SEC. GUST) BASIC VELOCITY PRESSURE 35.47 PSF

ROOF TRUSS LIVE LOAD 20 PSF FOR TOP CHORD
10 PSF FOR BOTTOM CHORD

ROOF TRUSS DEAD LOAD 15 PSF FOR TOP CHORD
10 PSF FOR BOTTOM CHORD

ROOF TRUSS DEAD LOAD TO RESIST WIND UPLIFT 6 PSF TOTAL

FLOOR TRUSS LOADS (APPLICABLE FOR ALL 2 STORY MODELS)
FLOOR TRUSS LIVE LOAD 40 PSF FOR TOP CHORD

FLOOR TRUSS DEAD LOAD 20 PSF FOR TOP CHORD
5 PSF FOR BOTTOM CHORD

SOIL BEARING CAPACITY 2500 PSF

Rev | Date | Document History | Int

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Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

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Boca Raton, Florida 33431
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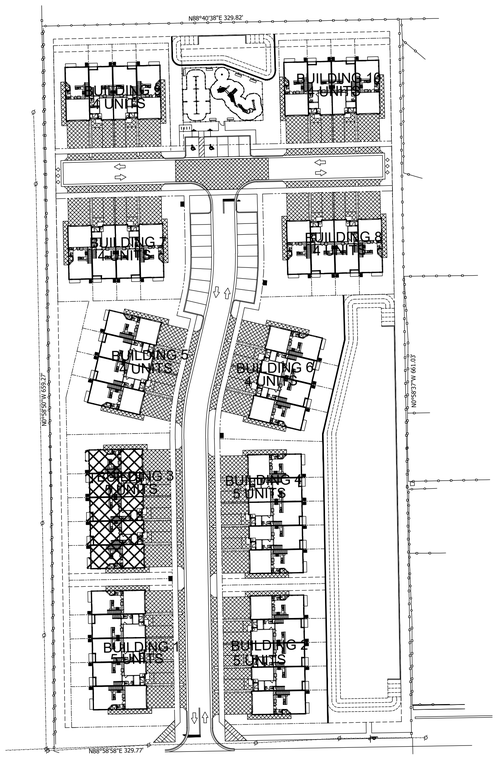
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EXHIBIT "A"



PARTIAL SITE PLAN

KEY PLAN

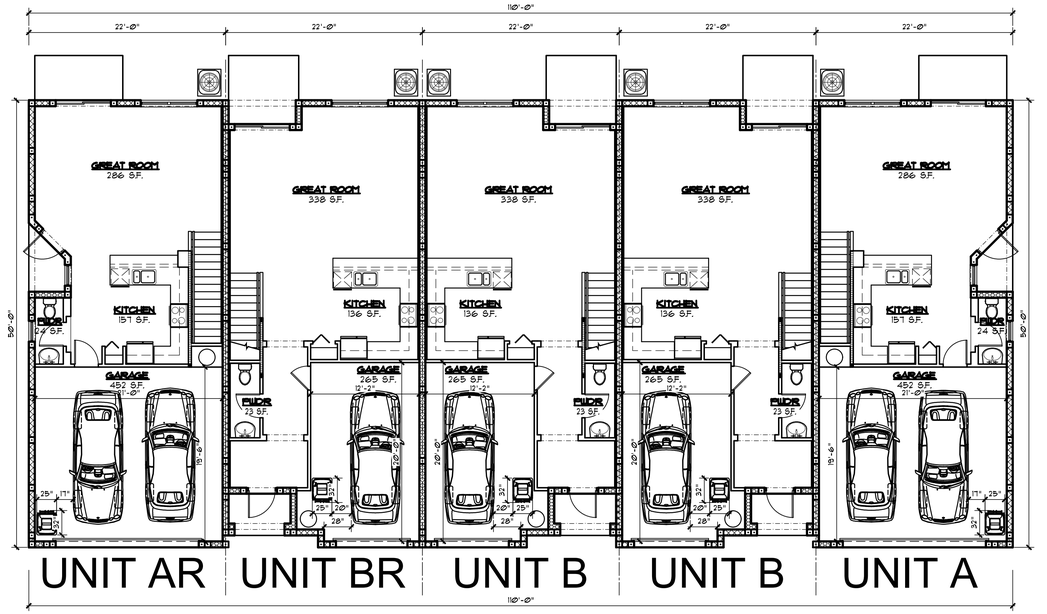
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AREA CALCULATIONS
UNITS A / AR

1st FLOOR LIVING:	625 S.F.
2nd FLOOR LIVING:	1129 S.F.
TOTAL LIVING:	1754 S.F.
GARAGE:	452 S.F.
COVERED ENTRY:	23 S.F.
TOTAL:	2229 S.F.

AREA CALCULATIONS
UNITS B / BR

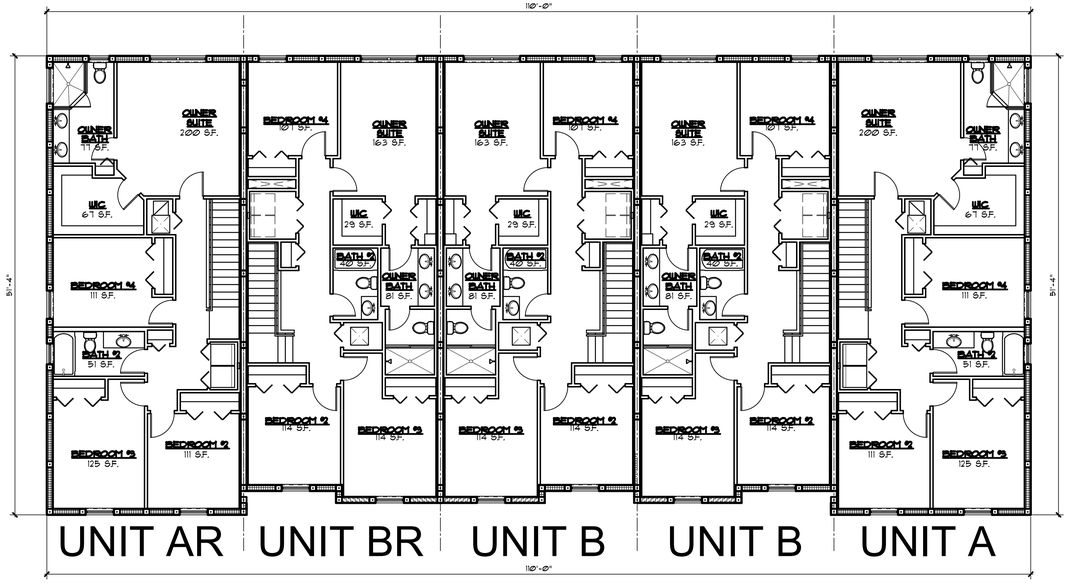
1st FLOOR LIVING:	763 S.F.
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TOTAL LIVING:	1849 S.F.
GARAGE:	265 S.F.
COVERED ENTRY & LANAI:	56 S.F.
TOTAL:	2170 S.F.



5-UNIT FIRST FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

N



5-UNIT SECOND FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

EXHIBIT "A"

Rev	Date	Document History	Int

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5-UNIT MIX PLAN

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

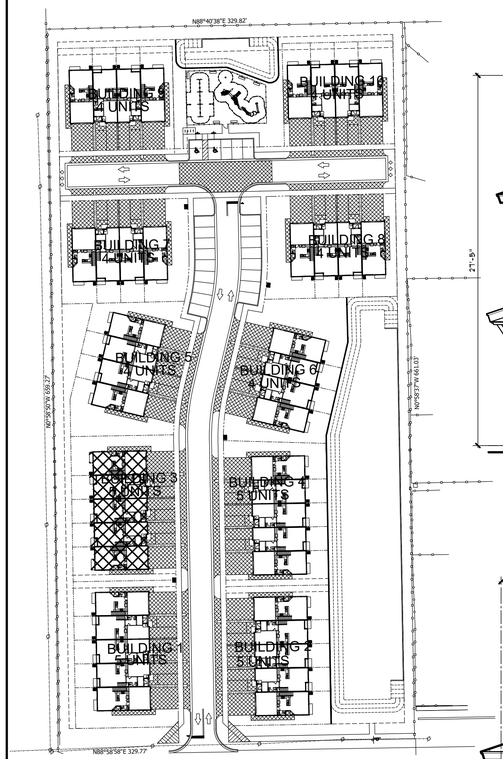
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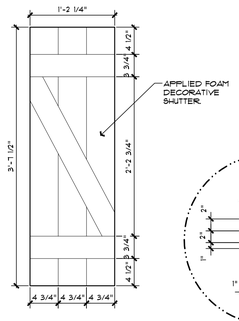
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PARTIAL SITE PLAN

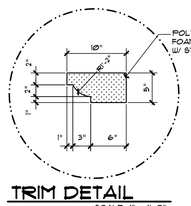
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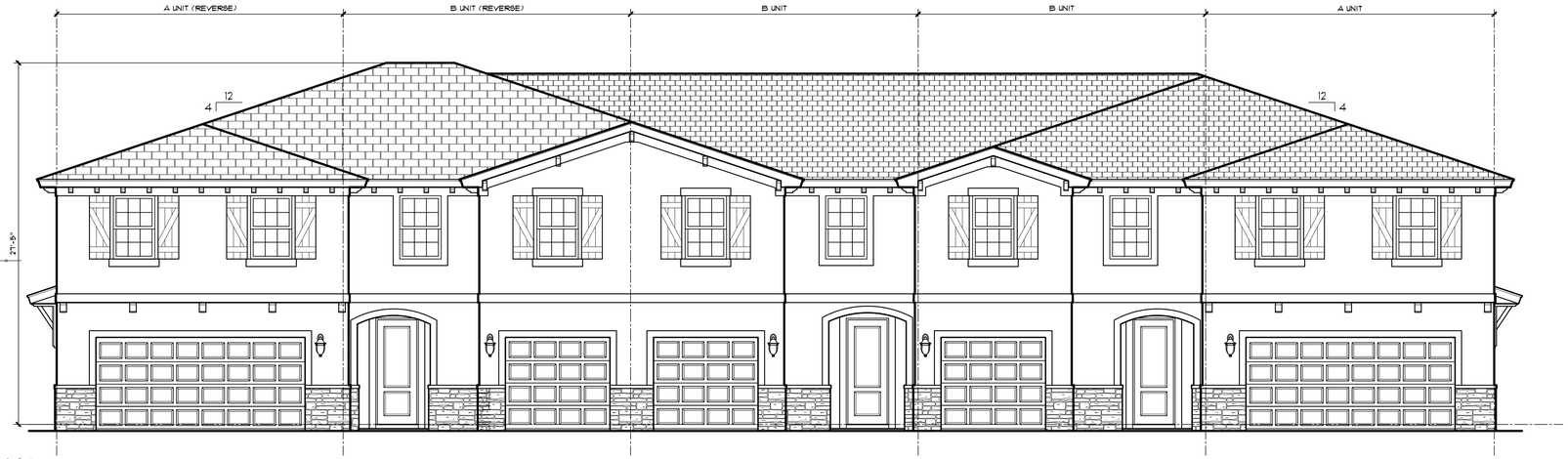
SHUTTER DETAIL

SCALE: 1/2" = 1'-0"



TRIM DETAIL

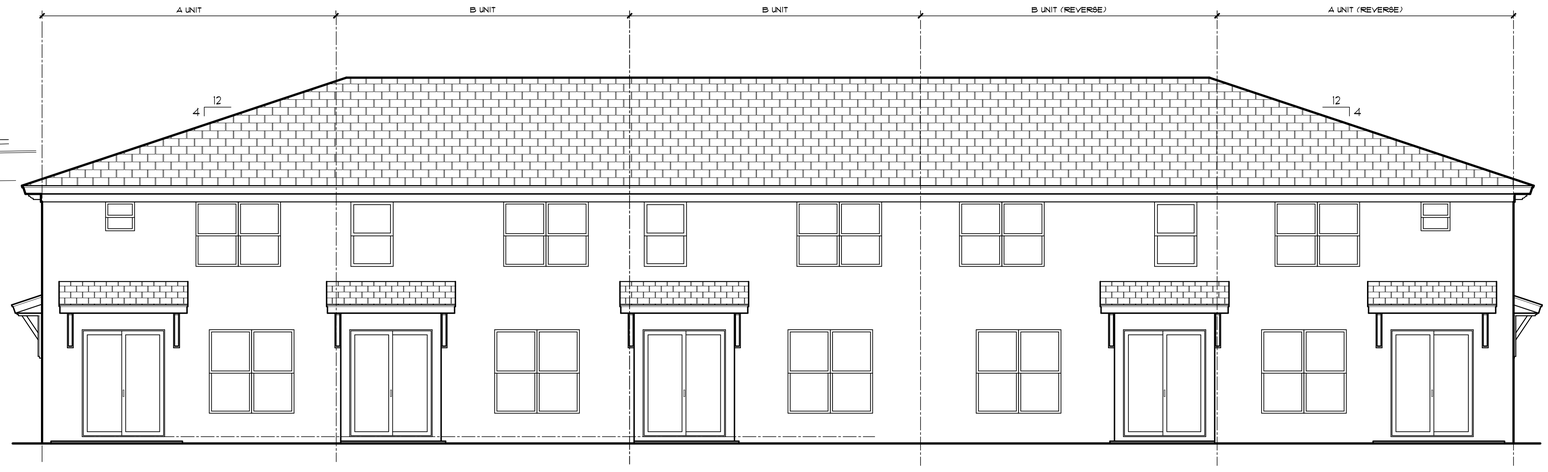
SCALE: 1" = 1'-0"



FRONT ELEVATION EAST ELEVATION

SCALE: 1/8" = 1'-0"

N



REAR ELEVATION WEST ELEVATION

SCALE: 1/8" = 1'-0"



LEFT SIDE ELEVATION SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION NORTH ELEVATION

SCALE: 1/8" = 1'-0"

SCHEME 3

ROOF SHINGLES	GAF WEATHERED WOOD
TRIM & COLUMNS	COTTON WHITE SW7104
BODY	COTTON WHITE SW7104
FAUX SIDING	COTTON WHITE SW7104
FRONT DOOR	BLACK MAGIC SW6991
SHUTTERS	BLACK MAGIC SW6991
FASCIA	COTTON WHITE SW7104
GARAGE DOOR	COTTON WHITE SW7104
ACCENT STONE	BORAL CULTURED STONE- WINTER HAVEN PRO-FIT ALPINE EDGESTONE

Rev	Date	Document History	Int

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5-UNIT ELEVATIONS

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
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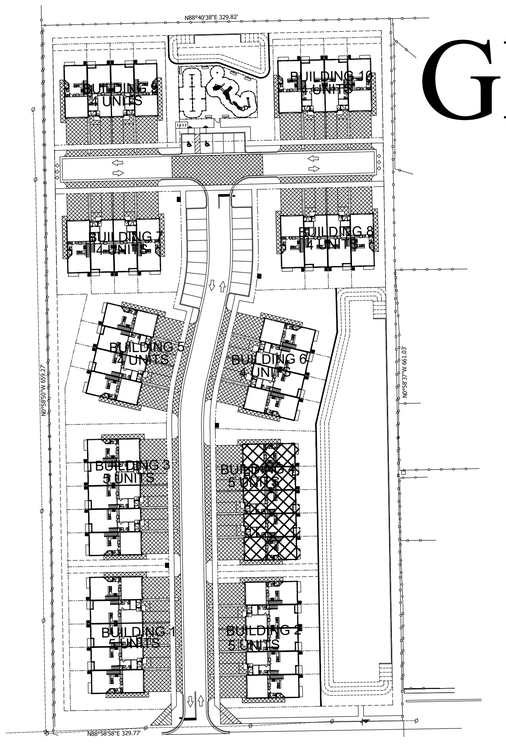
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EXHIBIT "A"

5 UNIT BUILDING 4

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

GREENACRES, FLORIDA



PARTIAL SITE PLAN
KEY PLAN

N

DRAWING INDEX

CS - COVER SHEET
A1.0 - UNIT MIX PLAN
A2.0 - UNIT EXTERIOR ELEVATIONS

DESIGN PARAMETERS & ASSUMPTIONS

CODE EDITION:
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THE 8TH EDITION OF THE FLORIDA RESIDENTIAL BUILDING CODE
THE NATIONAL ELECTRICAL CODE, NFPA 70-20
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WIND LOAD PROVISIONS OF ASCE 7-22
NFPA FLORIDA FIRE PREVENTION CODE 8TH EDITION

ASCE 7-22 | EXPOSURE CONDITION, INDICATE C
CONSTRUCTION TYPE: VB
OCCUPANCY CLASSIFICATION: R-3

RISK FACTOR II:
(DETERMINED BY BUILDING USE/ OCCUPANCY, REFER TO ASCE 7-22 TABLE 1.5-1)

INTERNAL PRESSURE COEFFICIENT:

±.18 (ENCLOSED BUILDING)

BASIC WIND VELOCITY PRESSURES:
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WIND SPEED 170 (3 SEC. GUST) BASIC VELOCITY PRESSURE 35.47 PSF

ROOF TRUSS LIVE LOAD 20 PSF FOR TOP CHORD
10 PSF FOR BOTTOM CHORD

ROOF TRUSS DEAD LOAD 15 PSF FOR TOP CHORD
10 PSF FOR BOTTOM CHORD

ROOF TRUSS DEAD LOAD TO RESIST WIND UPLIFT 6 PSF TOTAL

FLOOR TRUSS LOADS (APPLICABLE FOR ALL 2 STORY MODELS)
FLOOR TRUSS LIVE LOAD 40 PSF FOR TOP CHORD

FLOOR TRUSS DEAD LOAD 20 PSF FOR TOP CHORD
5 PSF FOR BOTTOM CHORD

SOIL BEARING CAPACITY 2500 PSF

Rev	Date	Document History	Int

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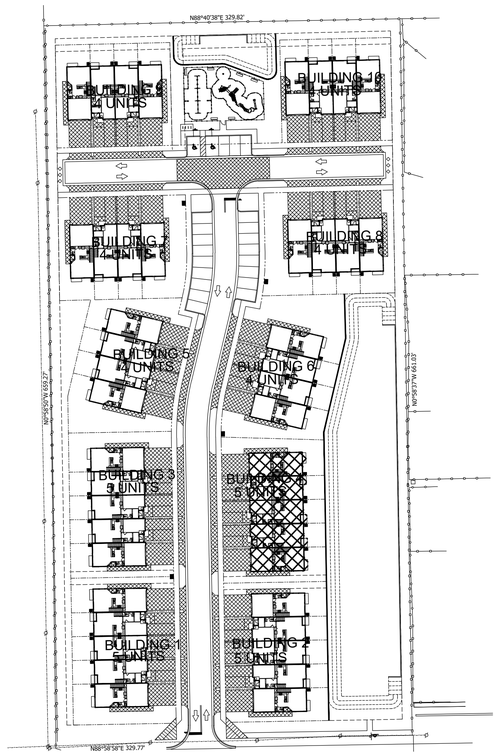
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EXHIBIT "A"



PARTIAL SITE PLAN

KEY PLAN

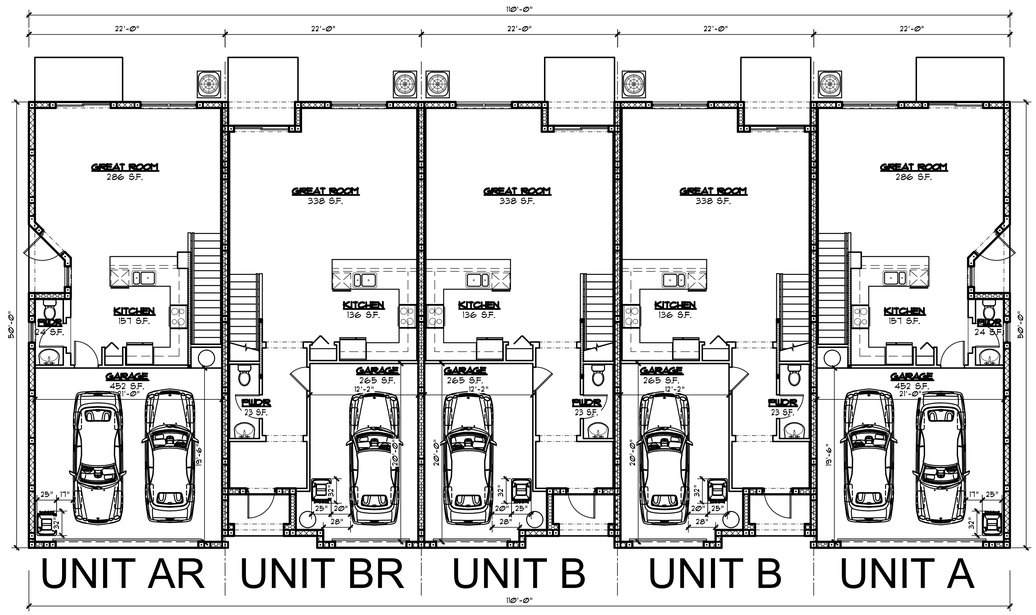
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AREA CALCULATIONS
UNITS A / AR

1st FLOOR LIVING:	625 S.F.
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GARAGE:	452 S.F.
COVERED ENTRY:	23 S.F.
TOTAL:	2229 S.F.

AREA CALCULATIONS
UNITS B / BR

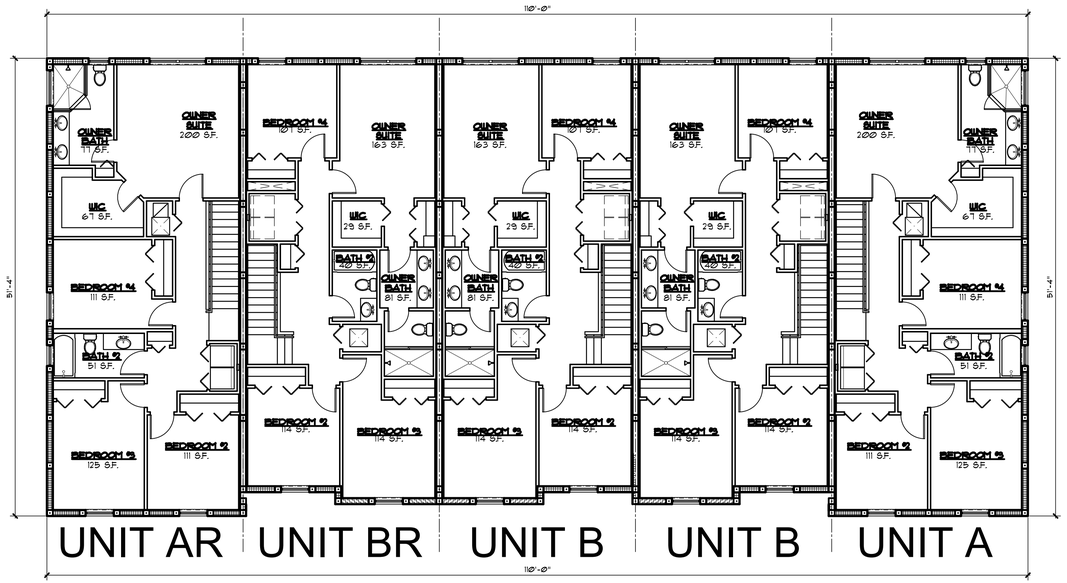
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TOTAL LIVING:	1849 S.F.
GARAGE:	265 S.F.
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TOTAL:	2170 S.F.



5-UNIT FIRST FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

N



5-UNIT SECOND FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

EXHIBIT "A"

Rev	Date	Document History	Int

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5-UNIT MIX PLAN

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

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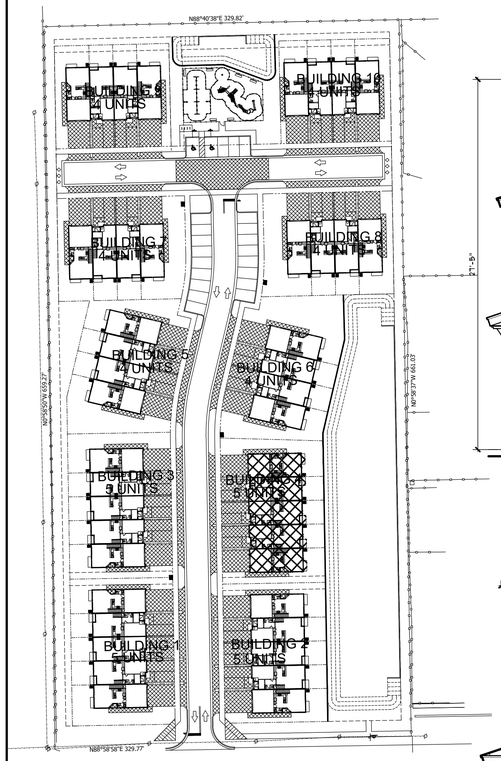
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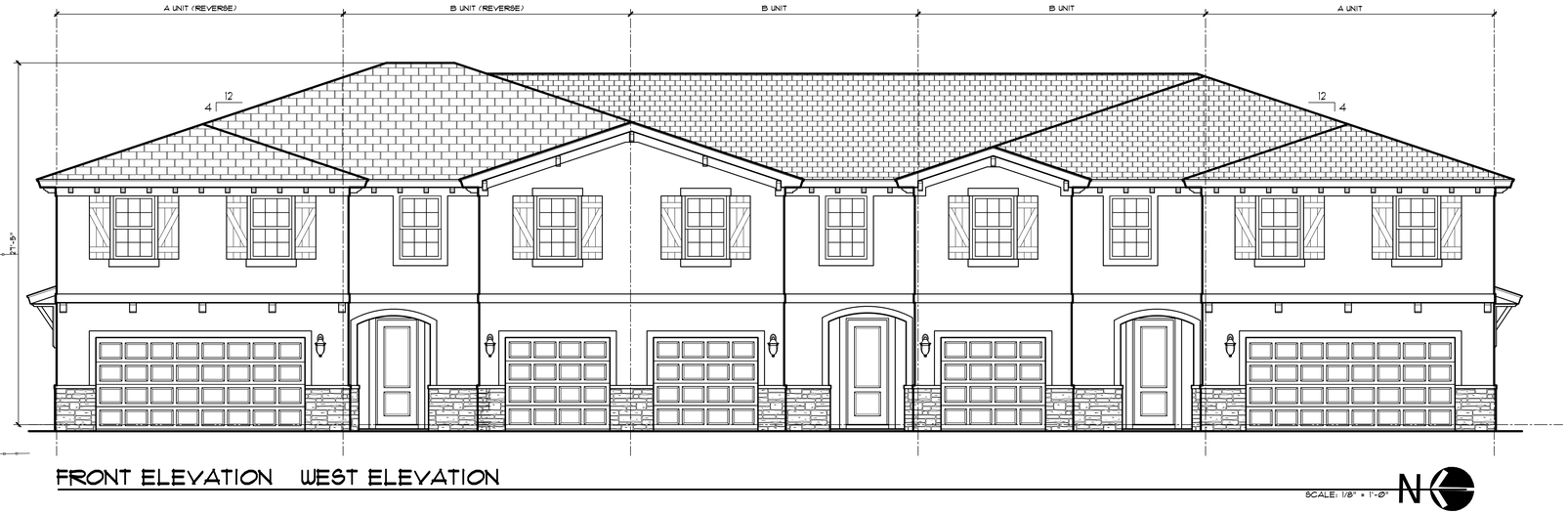
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PARTIAL SITE PLAN
KEY PLAN

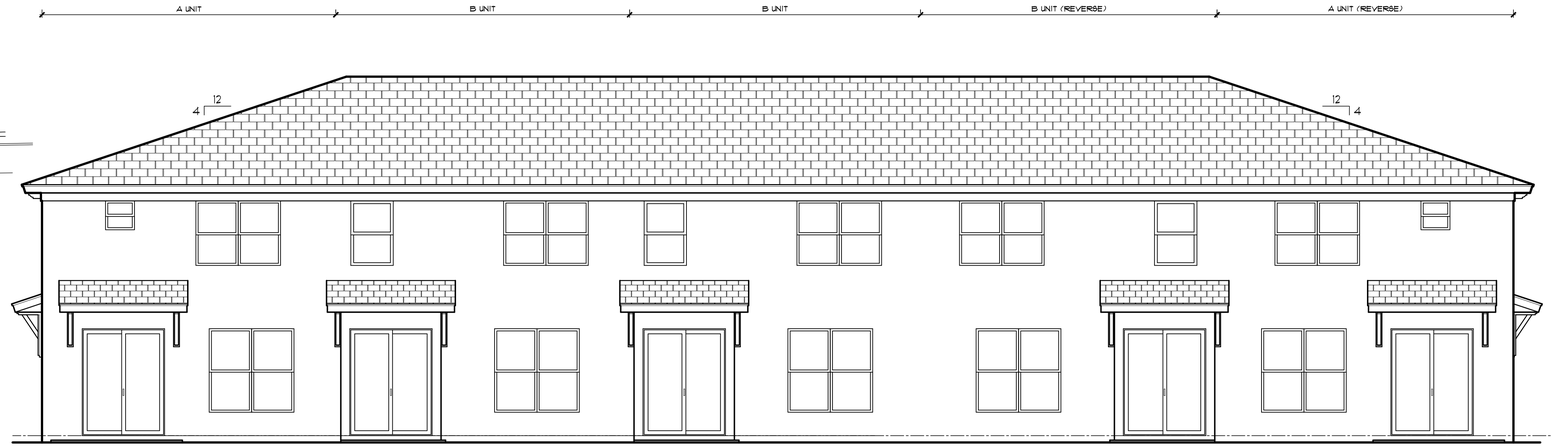
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FRONT ELEVATION WEST ELEVATION

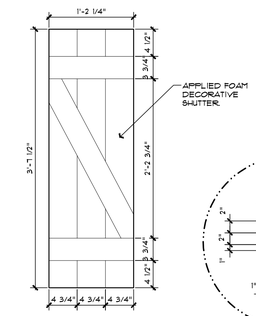
SCALE: 1/8" = 1'-0"

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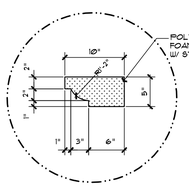
REAR ELEVATION EAST ELEVATION

SCALE: 1/8" = 1'-0"



SHUTTER DETAIL

SCALE: 1/2" = 1'-0"



TRIM DETAIL

SCALE: 1" = 1'-0"



LEFT SIDE ELEVATION SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION NORTH ELEVATION

SCALE: 1/8" = 1'-0"

SCHEME 1

ROOF SHINGLES	GAF WEATHERED WOOD
TRIM & COLUMNS	PAPERWHITE SW7105
BODY	PEARL GRAY SW0052
FAUX SIDING	WHITE HYACINTH SW0046
FRONT DOOR	WHITE HYACINTH SW0046
SHUTTERS	SEAWORTHY SW7620
FASCIA	WHITE HYACINTH SW0046
GARAGE DOOR	WHITE HYACINTH SW0046
ACCENT STONE	BORAL CULTURED STONE- WINTER HAVEN PRO-FIT ALPINE EDGESTONE

Rev	Date	Document History	Int

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5-UNIT ELEVATIONS

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

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Casey Najjar P.E.
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Boca Raton, Florida 33431
Office: 561.362.0237
www.cdneng.com
PE # 87108 • CA # 34513

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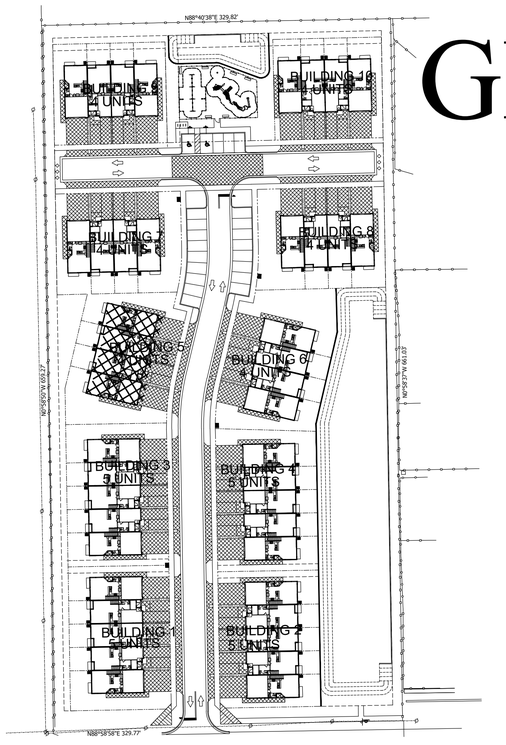
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EXHIBIT "A"

4 UNIT BUILDING 5

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

GREENACRES, FLORIDA



PARTIAL SITE PLAN
KEY PLAN

N

DRAWING INDEX

CS - COVER SHEET
A1.0 - UNIT MIX PLAN
A2.0 - UNIT EXTERIOR ELEVATIONS

DESIGN PARAMETERS & ASSUMPTIONS

CODE EDITION:
FLORIDA BUILDING CODE 8th EDITION (2023)
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THIS PLAN COMPLIES WITH THE REQUIREMENTS OF TMS 402-16 AND 602-16, FOR THE DESIGN OF MASONRY STRUCTURES.
WIND LOAD PROVISIONS OF ASCE 7-22
NFPA FLORIDA FIRE PREVENTION CODE 8TH EDITION

ASCE 7-22 | EXPOSURE CONDITION, INDICATE C
CONSTRUCTION TYPE: VB
OCCUPANCY CLASSIFICATION: R-3

RISK FACTOR II:
(DETERMINED BY BUILDING USE/ OCCUPANCY, REFER TO ASCE 7-22 TABLE 1.5-1)

INTERNAL PRESSURE COEFFICIENT.

±.18 (ENCLOSED BUILDING)

BASIC WIND VELOCITY PRESSURES:
APPROPRIATE POSITIVE / NEGATIVE PRESSURE COEFFICIENTS HAVE BEEN APPLIED TO MAIN WIND FORCE RESISTING SYSTEM, AND BUILDING ENVELOPE COMPONENTS AND CLADDING, AS APPLICABLE:

WIND SPEED 170 (3 SEC. GUST) BASIC VELOCITY PRESSURE 35.47 PSF

ROOF TRUSS LIVE LOAD 20 PSF FOR TOP CHORD
10 PSF FOR BOTTOM CHORD

ROOF TRUSS DEAD LOAD 15 PSF FOR TOP CHORD
10 PSF FOR BOTTOM CHORD

ROOF TRUSS DEAD LOAD TO RESIST WIND UPLIFT 6 PSF TOTAL

FLOOR TRUSS LOADS (APPLICABLE FOR ALL 2 STORY MODELS)
FLOOR TRUSS LIVE LOAD 40 PSF FOR TOP CHORD

FLOOR TRUSS DEAD LOAD 20 PSF FOR TOP CHORD
5 PSF FOR BOTTOM CHORD

SOIL BEARING CAPACITY 2500 PSF

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COVER SHEET

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
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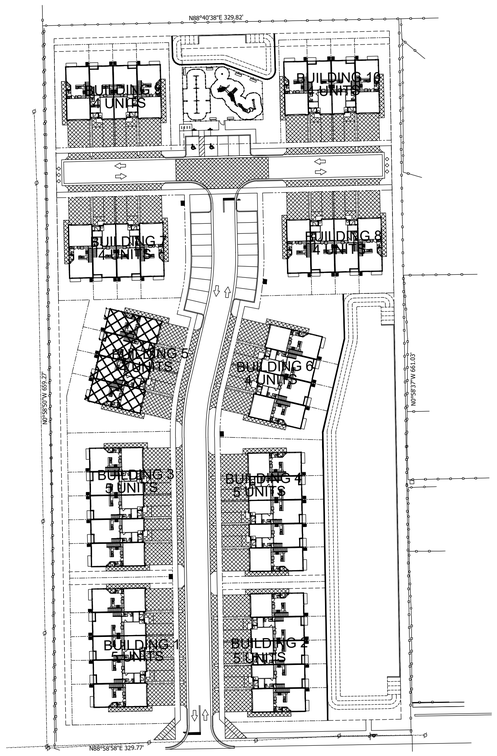
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EXHIBIT "A"



PARTIAL SITE PLAN

KEY PLAN

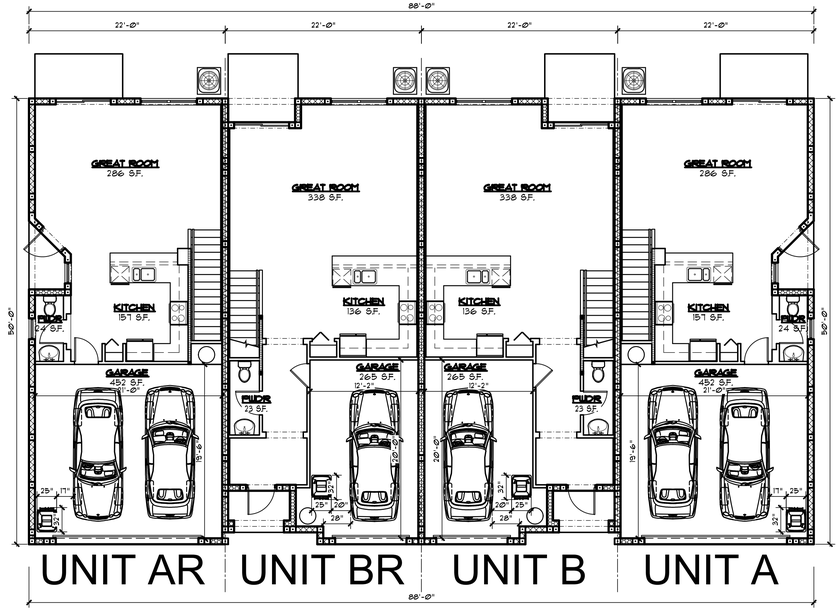
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AREA CALCULATIONS
UNITS A / AR

1st FLOOR LIVING:	625 S.F.
2nd FLOOR LIVING:	1129 S.F.
TOTAL LIVING:	1754 S.F.
GARAGE:	452 S.F.
COVERED ENTRY:	23 S.F.
TOTAL:	2229 S.F.

AREA CALCULATIONS
UNITS B / BR

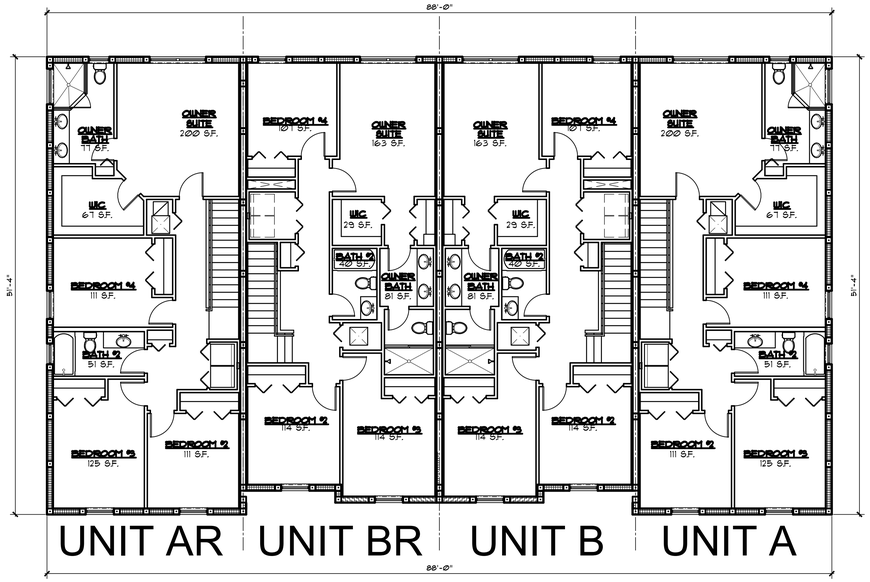
1st FLOOR LIVING:	763 S.F.
2nd FLOOR LIVING:	1086 S.F.
TOTAL LIVING:	1849 S.F.
GARAGE:	265 S.F.
COVERED ENTRY & LANAI:	56 S.F.
TOTAL:	2170 S.F.



4-UNIT FIRST FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

N



4-UNIT SECOND FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

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4-UNIT MIX PLAN

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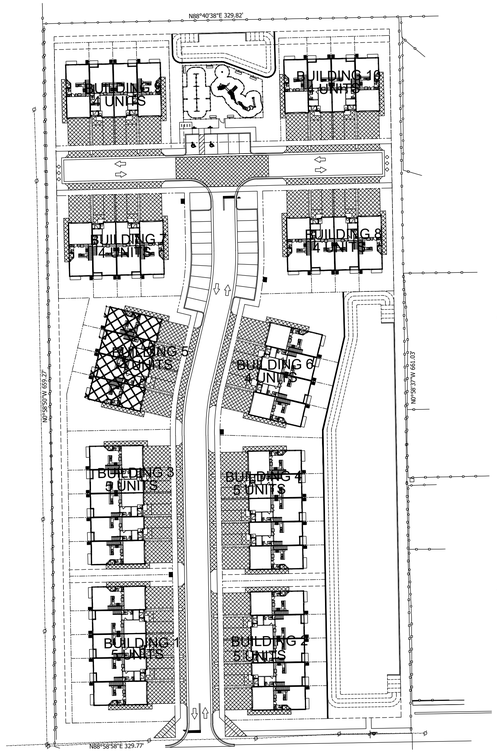
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EXHIBIT "A"



PARTIAL SITE PLAN
KEY PLAN

N

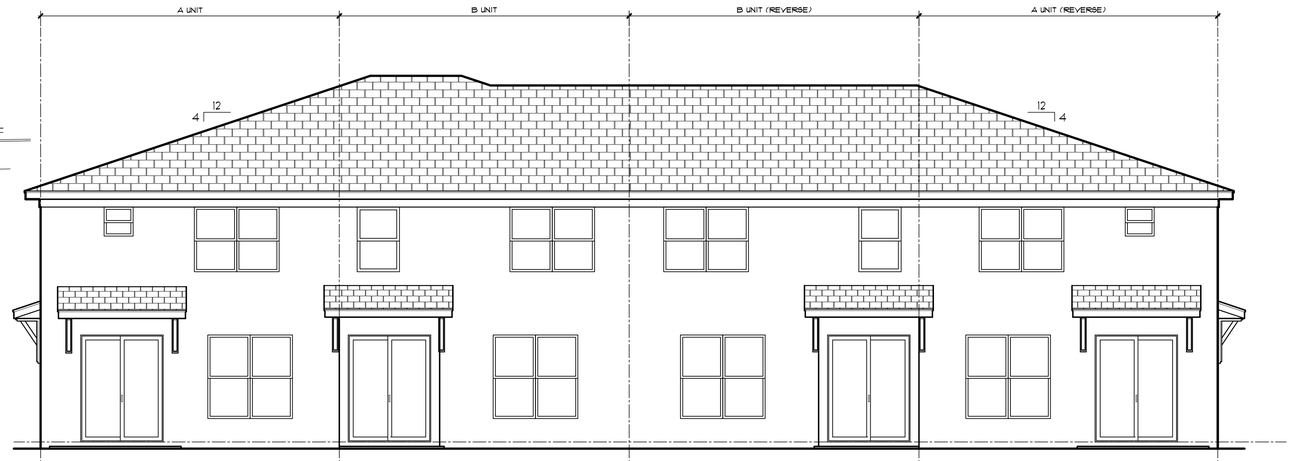
SHUTTER DETAIL
SCALE: 1/2" = 1'-0"

TRIM DETAIL
SCALE: 1" = 1'-0"



FRONT ELEVATION EAST ELEVATION
SCALE: 1/8" = 1'-0"

N



REAR ELEVATION WEST ELEVATION
SCALE: 1/8" = 1'-0"



LEFT SIDE ELEVATION NORTH ELEVATION
SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

SCHEME 2

ROOF SHINGLES	GAF WEATHERED WOOD
TRIM & COLUMNS	ALABASTER SW7008
BODY	COMFORT GRAY SW6205
FAUX SIDING	ALABASTER SW7008
FRONT DOOR	ROOKWOOD RED SW2802
SHUTTERS	REGATTA SW6517
FASCIA	ALABASTER SW7008
GARAGE DOOR	ALABASTER SW7008
ACCENT STONE	BORAL CULTURED STONE- WINTER HAVEN PRO-FIT ALPINE EDGESTONE

Rev	Date	Document History	Int

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4-UNIT ELEVATIONS

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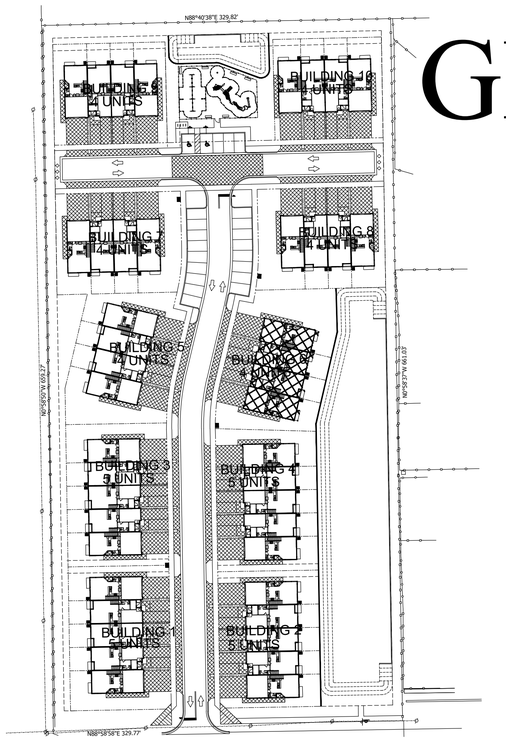
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EXHIBIT "A"

4 UNIT BUILDING 6

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

GREENACRES, FLORIDA



PARTIAL SITE PLAN
KEY PLAN

N

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CS - COVER SHEET
A1.0 - UNIT MIX PLAN
A2.0 - UNIT EXTERIOR ELEVATIONS

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WIND LOAD PROVISIONS OF ASCE 7-22
NFPA FLORIDA FIRE PREVENTION CODE 8TH EDITION

ASCE 7-22 | EXPOSURE CONDITION, INDICATE C
CONSTRUCTION TYPE: VB
OCCUPANCY CLASSIFICATION: R-3

RISK FACTOR II:
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±.18 (ENCLOSED BUILDING)

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5 PSF FOR BOTTOM CHORD

SOIL BEARING CAPACITY 2500 PSF

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Garden Square Townhouse Development
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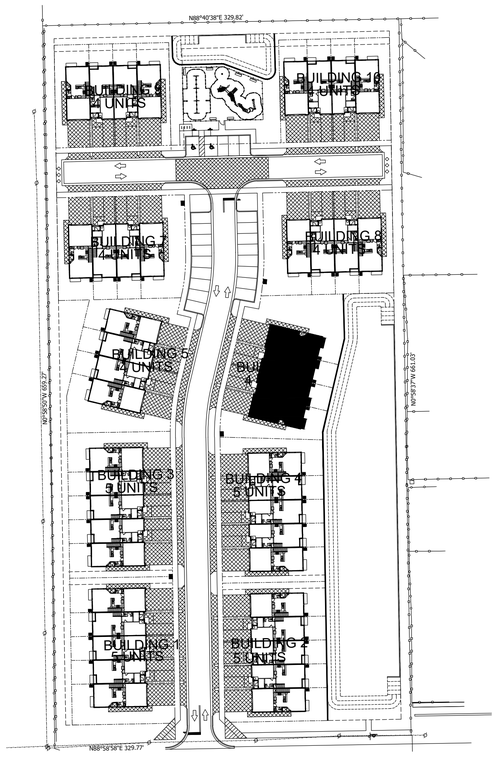
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EXHIBIT "A"



PARTIAL SITE PLAN

KEY PLAN

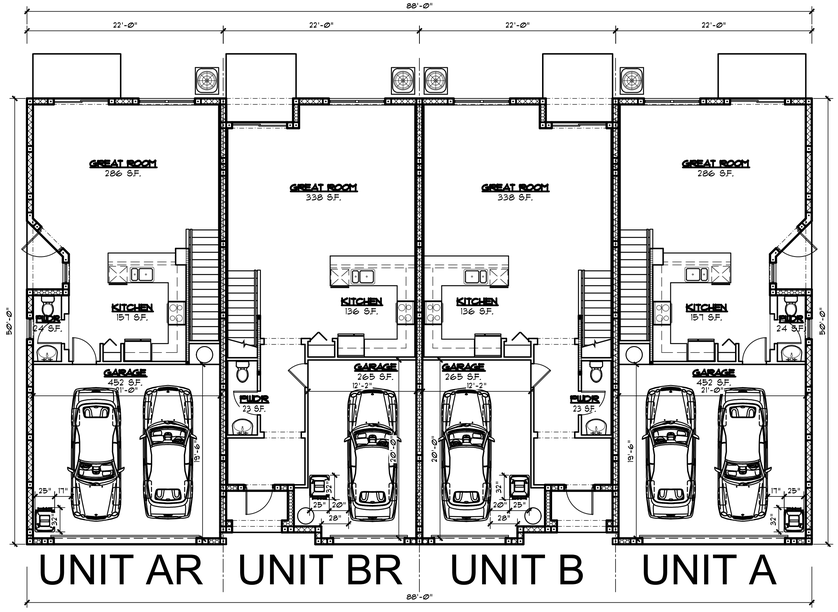
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AREA CALCULATIONS
UNITS A / AR

1st FLOOR LIVING:	625 S.F.
2nd FLOOR LIVING:	1129 S.F.
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GARAGE:	452 S.F.
COVERED ENTRY:	23 S.F.
TOTAL:	2229 S.F.

AREA CALCULATIONS
UNITS B / BR

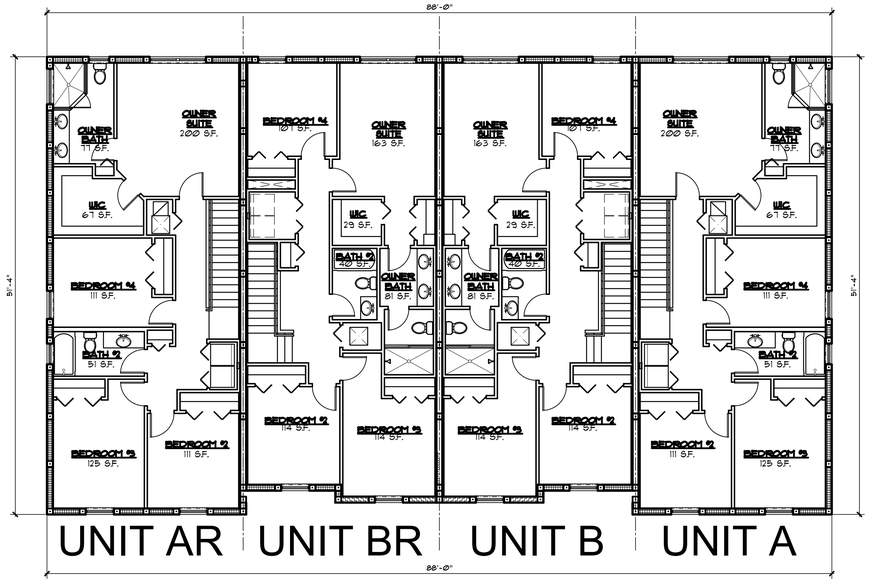
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TOTAL:	2170 S.F.



4-UNIT FIRST FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

N



4-UNIT SECOND FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

EXHIBIT "A"

Rev	Date	Document History	Int

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4-UNIT MIX PLAN

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
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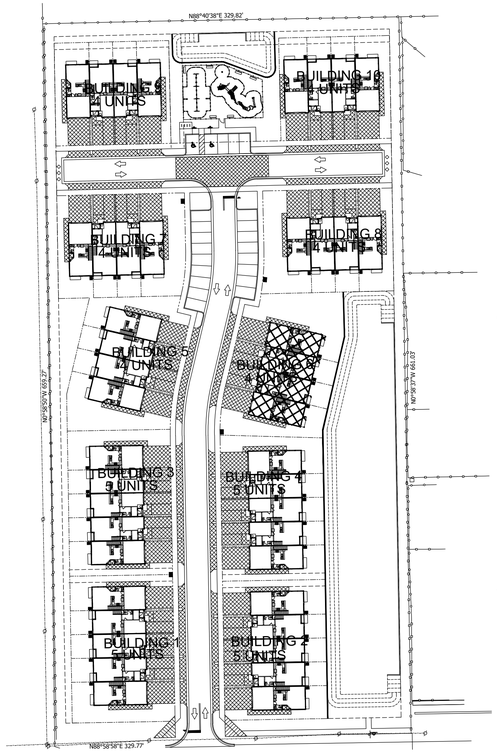
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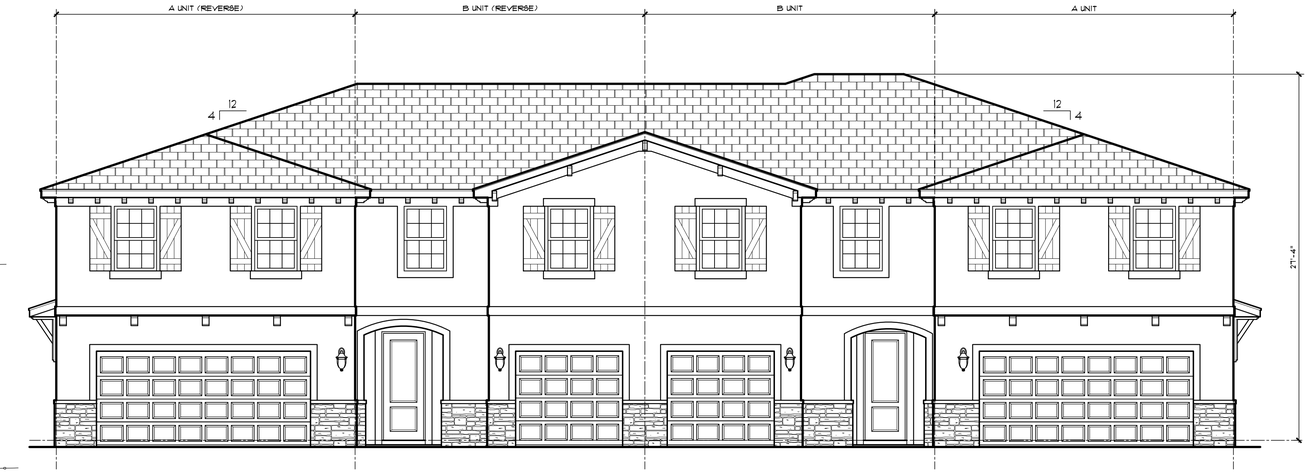
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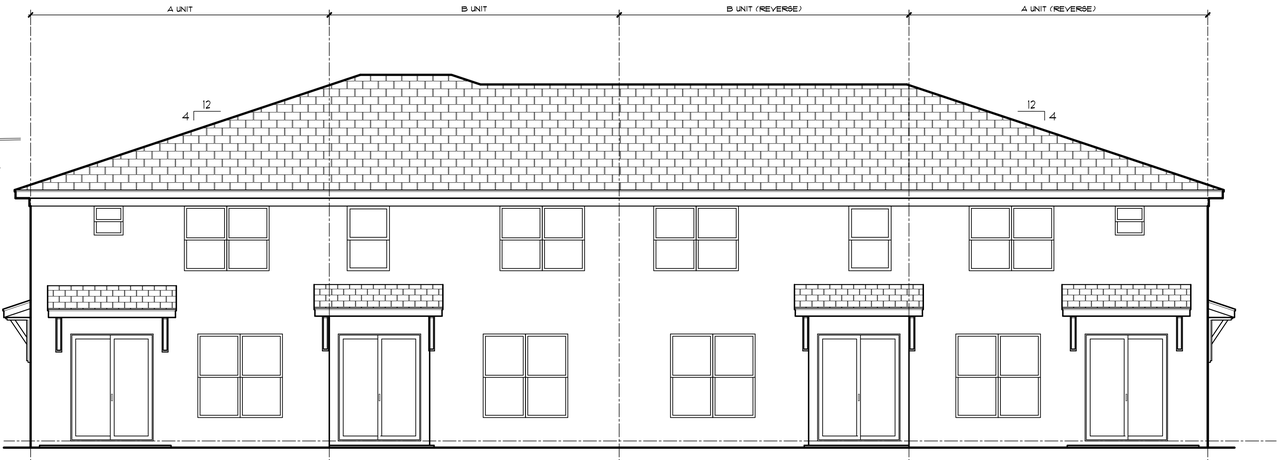
PARTIAL SITE PLAN
KEY PLAN

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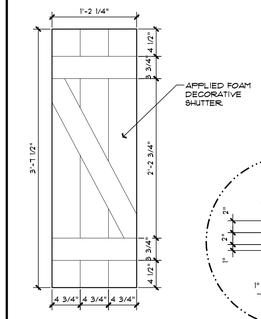


FRONT ELEVATION WEST ELEVATION
SCALE: 1/8" = 1'-0"

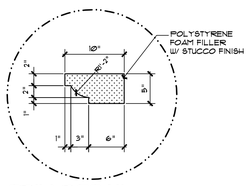
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REAR ELEVATION EAST ELEVATION
SCALE: 1/8" = 1'-0"



SHUTTER DETAIL
SCALE: 1/2" = 1'-0"



TRIM DETAIL
SCALE: 1" = 1'-0"



LEFT SIDE ELEVATION SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION NORTH ELEVATION
SCALE: 1/8" = 1'-0"

SCHEME 3

ROOF SHINGLES	GAF WEATHERED WOOD
TRIM & COLUMNS	COTTON WHITE SW7104
BODY	COTTON WHITE SW7104
FAUX SIDING	COTTON WHITE SW7104
FRONT DOOR	BLACK MAGIC SW6991
SHUTTERS	BLACK MAGIC SW6991
FASCIA	COTTON WHITE SW7104
GARAGE DOOR	COTTON WHITE SW7104
ACCENT STONE	BORAL CULTURED STONE- WINTER HAVEN PRO-FIT ALPINE EDGESTONE

Rev	Date	Document History	Int

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4-UNIT ELEVATIONS

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
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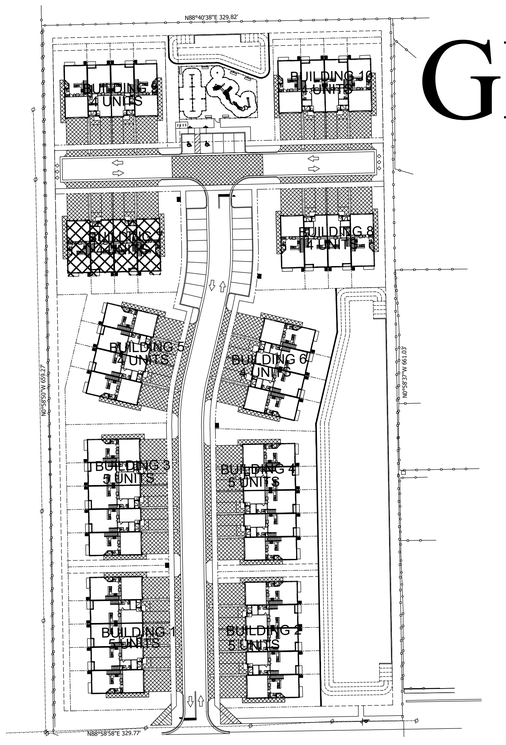
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EXHIBIT "A"

4 UNIT BUILDING 7

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

GREENACRES, FLORIDA



PARTIAL SITE PLAN
KEY PLAN

N

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CS - COVER SHEET
A1.0 - UNIT MIX PLAN
A2.0 - UNIT EXTERIOR ELEVATIONS

DESIGN PARAMETERS & ASSUMPTIONS

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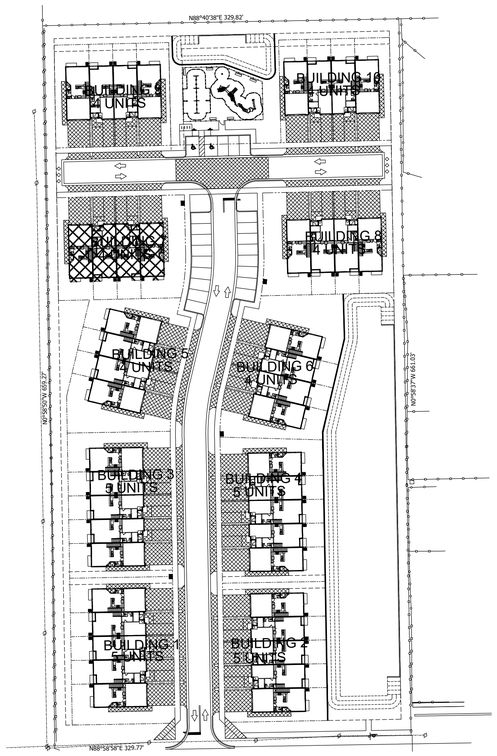
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EXHIBIT "A"



PARTIAL SITE PLAN

KEY PLAN

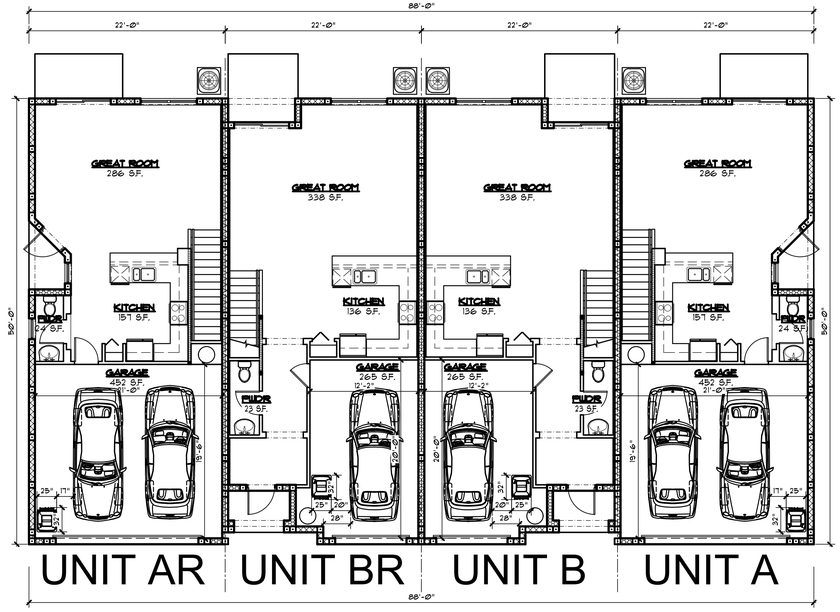
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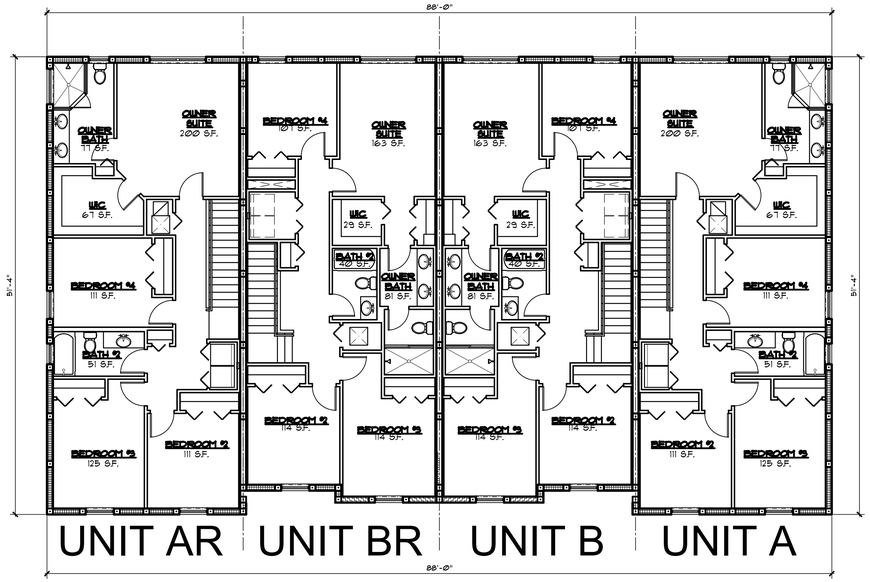
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4-UNIT FIRST FLOOR MIX PLAN

N



4-UNIT SECOND FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

EXHIBIT "A"

Rev	Date	Document History	Int

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4-UNIT MIX PLAN

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

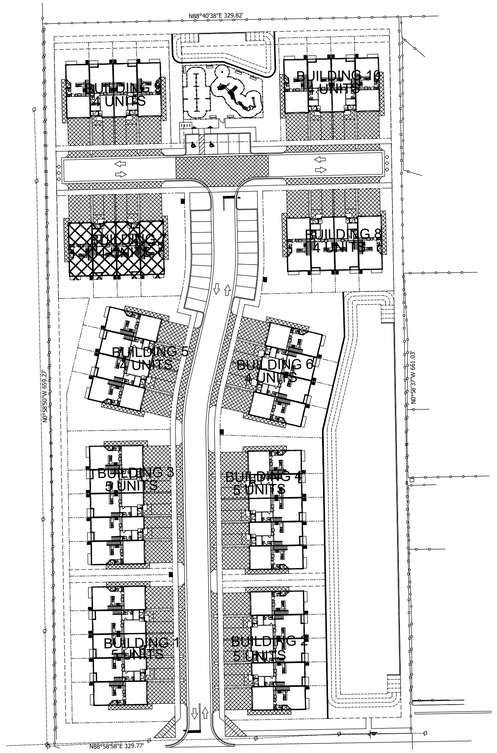
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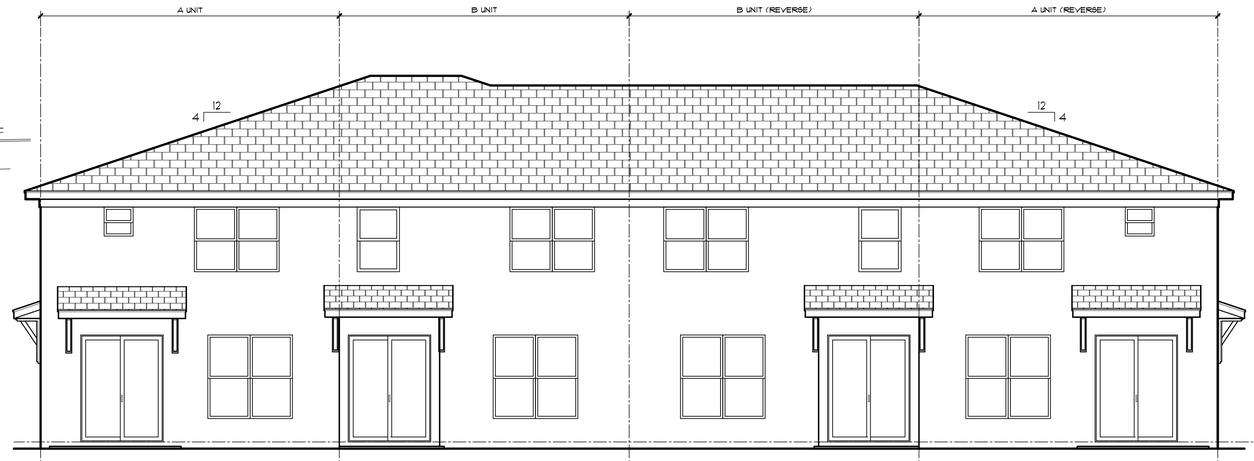
PARTIAL SITE PLAN
KEY PLAN

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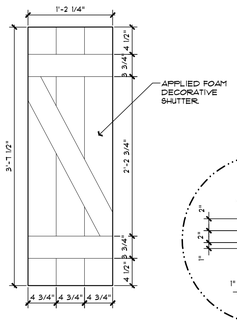


FRONT ELEVATION NORTH ELEVATION
SCALE: 1/8" = 1'-0"

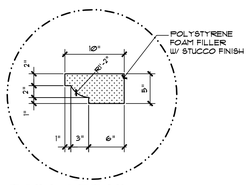
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REAR ELEVATION SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



SHUTTER DETAIL
SCALE: 1/2" = 1'-0"



TRIM DETAIL
SCALE: 1" = 1'-0"



LEFT SIDE ELEVATION EAST ELEVATION
SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION WEST ELEVATION
SCALE: 1/8" = 1'-0"

SCHEME 1

ROOF SHINGLES	GAF WEATHERED WOOD
TRIM & COLUMNS	PAPERWHITE SW7105
BODY	PEARL GRAY SW0052
FAUX SIDING	WHITE HYACINTH SW0046
FRONT DOOR	WHITE HYACINTH SW0046
SHUTTERS	SEAWORTHY SW7620
FASCIA	WHITE HYACINTH SW0046
GARAGE DOOR	WHITE HYACINTH SW0046
ACCENT STONE	BORAL CULTURED STONE- WINTER HAVEN PRO-FIT ALPINE EDGESTONE

Rev	Date	Document History	Int

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4-UNIT ELEVATIONS

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

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Boca Raton, Florida 33431
Office: 561.362.0237
www.cdneng.com
PE # 87108 • CA # 34513

Seal

Document Information

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Date:	01/25/2024
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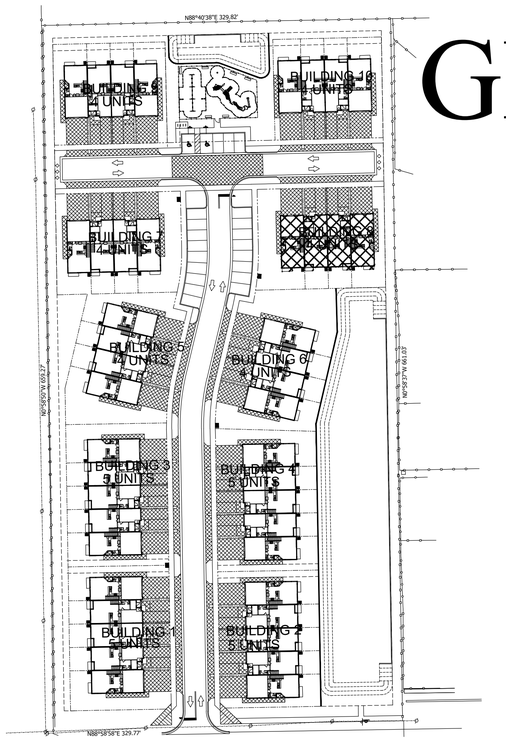
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EXHIBIT "A"

4 UNIT BUILDING 8

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

GREENACRES, FLORIDA



PARTIAL SITE PLAN
KEY PLAN

N

DRAWING INDEX

CS - COVER SHEET
A1.0 - UNIT MIX PLAN
A2.0 - UNIT EXTERIOR ELEVATIONS

DESIGN PARAMETERS & ASSUMPTIONS

CODE EDITION:
FLORIDA BUILDING CODE 8th EDITION (2023)
THE 8TH EDITION OF THE FLORIDA RESIDENTIAL BUILDING CODE
THE NATIONAL ELECTRICAL CODE, NFPA 70-20
THIS PLAN COMPLIES WITH THE REQUIREMENTS OF TMS 402-16 AND 602-16, FOR THE DESIGN OF MASONRY STRUCTURES.
WIND LOAD PROVISIONS OF ASCE 7-22
NFPA FLORIDA FIRE PREVENTION CODE 8TH EDITION

ASCE 7-22 | EXPOSURE CONDITION, INDICATE C
CONSTRUCTION TYPE: VB
OCCUPANCY CLASSIFICATION: R-3

RISK FACTOR II:
(DETERMINED BY BUILDING USE/ OCCUPANCY, REFER TO ASCE 7-22 TABLE 1.5-1)

INTERNAL PRESSURE COEFFICIENT.

±.18 (ENCLOSED BUILDING)

BASIC WIND VELOCITY PRESSURES:
APPROPRIATE POSITIVE / NEGATIVE PRESSURE COEFFICIENTS HAVE BEEN APPLIED TO MAIN WIND FORCE RESISTING SYSTEM, AND BUILDING ENVELOPE COMPONENTS AND CLADDING, AS APPLICABLE:

WIND SPEED 170 (3 SEC. GUST) BASIC VELOCITY PRESSURE 35.47 PSF

ROOF TRUSS LIVE LOAD 20 PSF FOR TOP CHORD
10 PSF FOR BOTTOM CHORD

ROOF TRUSS DEAD LOAD 15 PSF FOR TOP CHORD
10 PSF FOR BOTTOM CHORD

ROOF TRUSS DEAD LOAD TO RESIST WIND UPLIFT 6 PSF TOTAL

FLOOR TRUSS LOADS (APPLICABLE FOR ALL 2 STORY MODELS)
FLOOR TRUSS LIVE LOAD 40 PSF FOR TOP CHORD

FLOOR TRUSS DEAD LOAD 20 PSF FOR TOP CHORD
5 PSF FOR BOTTOM CHORD

SOIL BEARING CAPACITY 2500 PSF

Rev	Date	Document History	Int

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COVER SHEET

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

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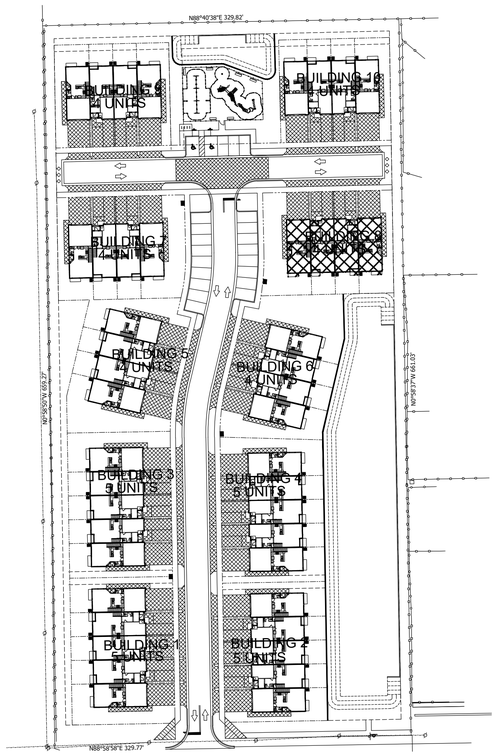
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Document Information

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Date:	01/25/2024
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Sheet #
CS
1 of 18 Sheets

EXHIBIT "A"



PARTIAL SITE PLAN

KEY PLAN

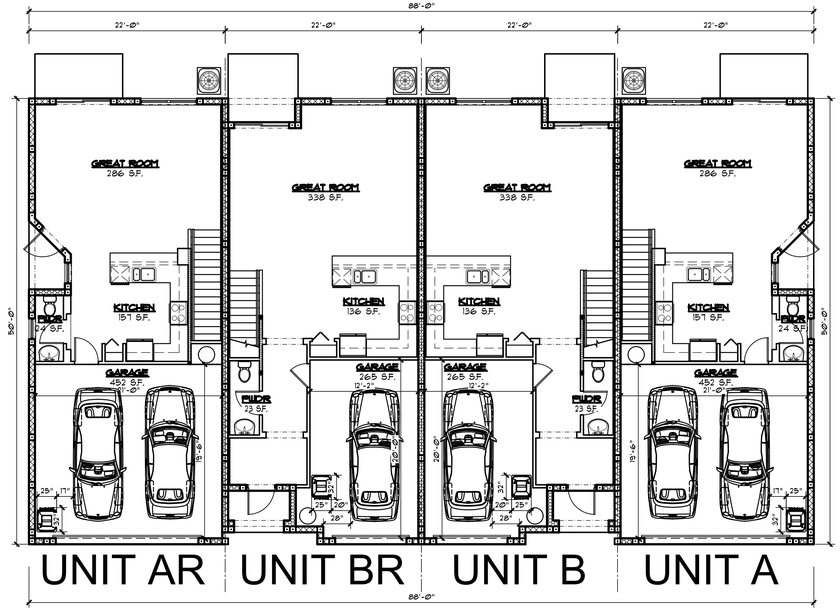
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AREA CALCULATIONS
UNITS A / AR

1st FLOOR LIVING:	625 S.F.
2nd FLOOR LIVING:	1129 S.F.
TOTAL LIVING:	1754 S.F.
GARAGE:	452 S.F.
COVERED ENTRY:	23 S.F.
TOTAL:	2229 S.F.

AREA CALCULATIONS
UNITS B / BR

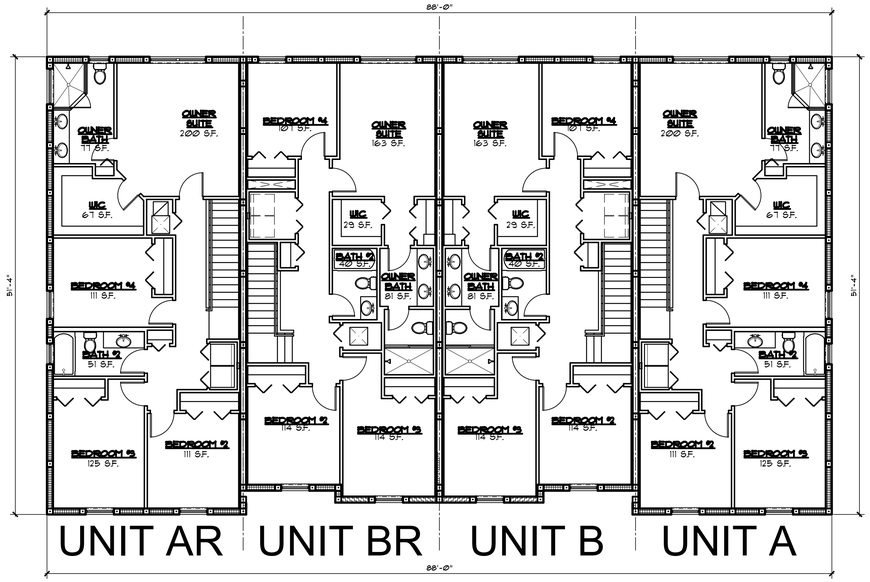
1st FLOOR LIVING:	763 S.F.
2nd FLOOR LIVING:	1086 S.F.
TOTAL LIVING:	1849 S.F.
GARAGE:	265 S.F.
COVERED ENTRY & LANAI:	56 S.F.
TOTAL:	2170 S.F.



4-UNIT FIRST FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

N



4-UNIT SECOND FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

EXHIBIT "A"

Rev	Date	Document History	Int

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4-UNIT MIX PLAN

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

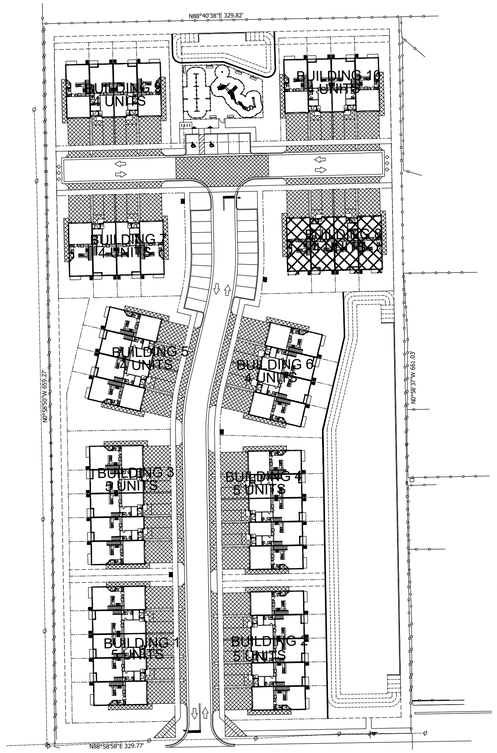
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3200 N. Federal Hwy. | Suite 226
Boca Raton, Florida 33431
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A1.0
5 of 18 Sheets



PARTIAL SITE PLAN
KEY PLAN

N

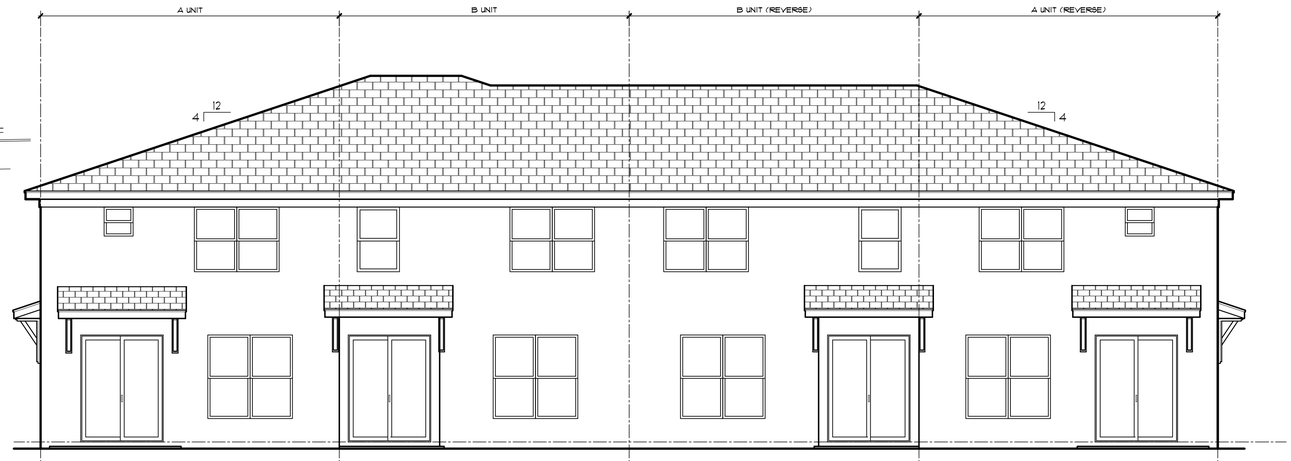
SHUTTER DETAIL
SCALE: 1/2" = 1'-0"

TRIM DETAIL
SCALE: 1" = 1'-0"



FRONT ELEVATION NORTH ELEVATION
SCALE: 1/8" = 1'-0"

N



REAR ELEVATION SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



LEFT SIDE ELEVATION EAST ELEVATION
SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION WEST ELEVATION
SCALE: 1/8" = 1'-0"

SCHEME 2

ROOF SHINGLES	GAF WEATHERED WOOD
TRIM & COLUMNS	ALABASTER SW7008
BODY	COMFORT GRAY SW6205
FAUX SIDING	ALABASTER SW7008
FRONT DOOR	ROOKWOOD RED SW2802
SHUTTERS	REGATTA SW6517
FASCIA	ALABASTER SW7008
GARAGE DOOR	ALABASTER SW7008
ACCENT STONE	BORAL CULTURED STONE- WINTER HAVEN PRO-FIT ALPINE EDGESTONE

Rev	Date	Document History	Int

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4-UNIT ELEVATIONS

Garden Square Townhouse Development
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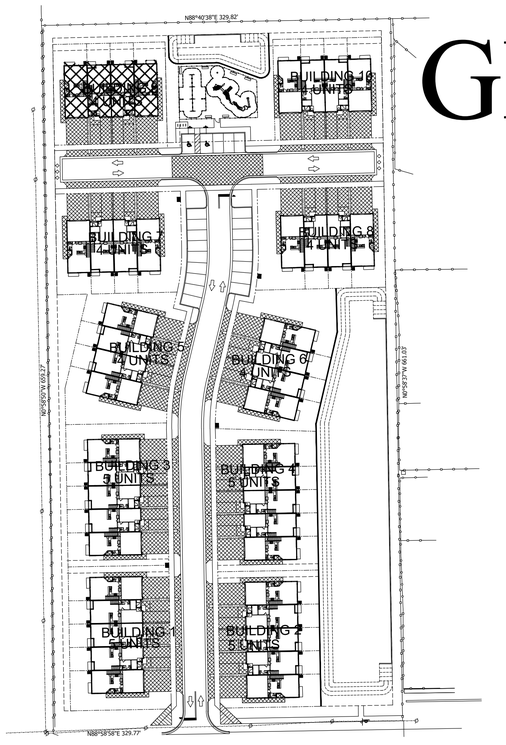
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A2.0
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4 UNIT BUILDING 9

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

GREENACRES, FLORIDA



PARTIAL SITE PLAN
KEY PLAN

N

DRAWING INDEX

CS - COVER SHEET
A1.0 - UNIT MIX PLAN
A2.0 - UNIT EXTERIOR ELEVATIONS

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WIND LOAD PROVISIONS OF ASCE 7-22
NFPA FLORIDA FIRE PREVENTION CODE 8TH EDITION

ASCE 7-22 | EXPOSURE CONDITION, INDICATE C
CONSTRUCTION TYPE: VB
OCCUPANCY CLASSIFICATION: R-3

RISK FACTOR II:
(DETERMINED BY BUILDING USE/ OCCUPANCY, REFER TO ASCE 7-22 TABLE 1.5-1)

INTERNAL PRESSURE COEFFICIENT.

±.18 (ENCLOSED BUILDING)

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10 PSF FOR BOTTOM CHORD

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ROOF TRUSS DEAD LOAD TO RESIST WIND UPLIFT 6 PSF TOTAL

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FLOOR TRUSS LIVE LOAD 40 PSF FOR TOP CHORD

FLOOR TRUSS DEAD LOAD 20 PSF FOR TOP CHORD
5 PSF FOR BOTTOM CHORD

SOIL BEARING CAPACITY 2500 PSF

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Garden Square Townhouse Development
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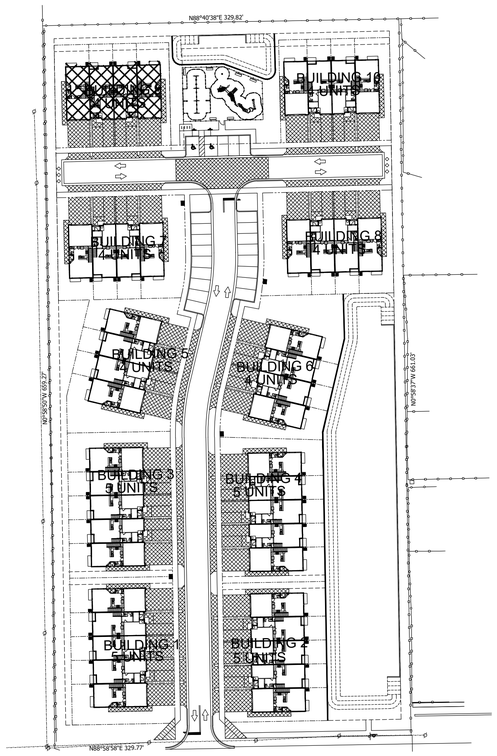
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Document Information

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Date:	01/25/2024
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CS
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EXHIBIT "A"



PARTIAL SITE PLAN

KEY PLAN

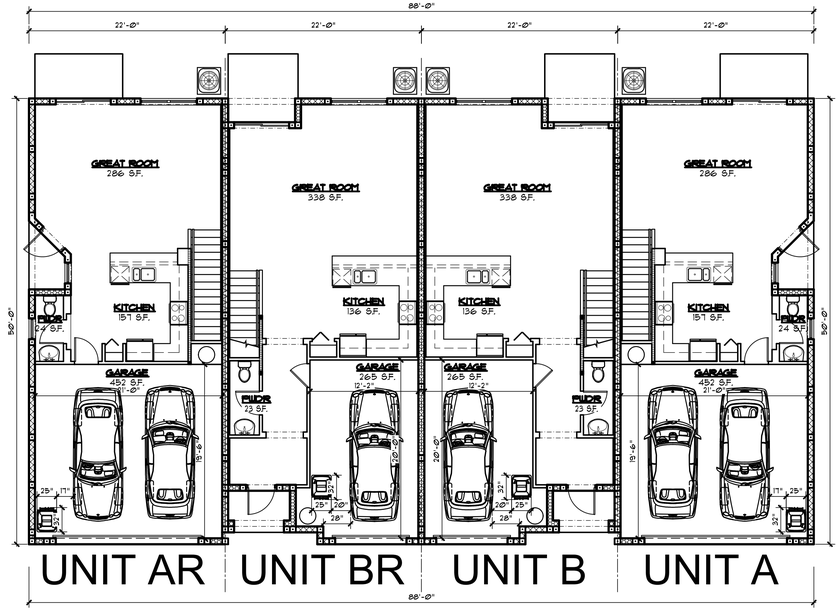
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AREA CALCULATIONS
UNITS A / AR

1st FLOOR LIVING:	625 S.F.
2nd FLOOR LIVING:	1129 S.F.
TOTAL LIVING:	1754 S.F.
GARAGE:	452 S.F.
COVERED ENTRY:	23 S.F.
TOTAL:	2229 S.F.

AREA CALCULATIONS
UNITS B / BR

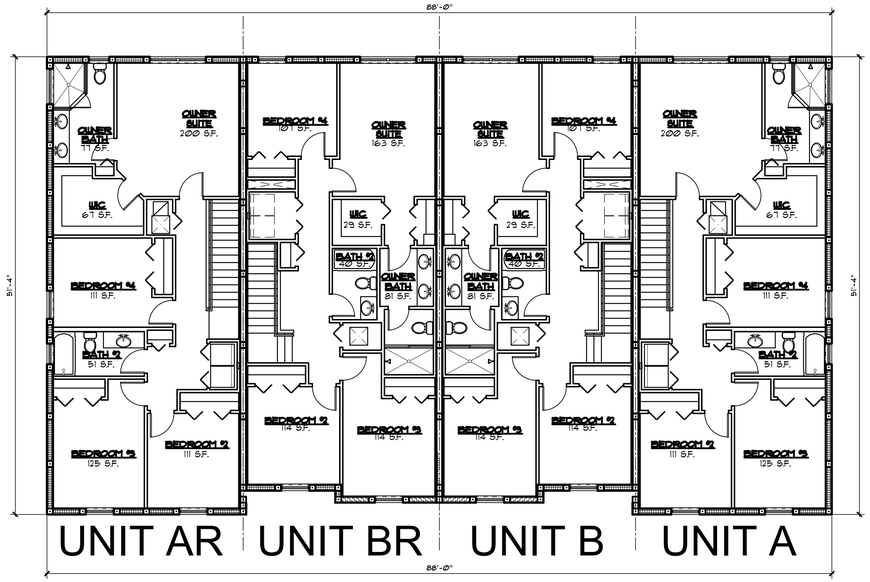
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TOTAL LIVING:	1849 S.F.
GARAGE:	265 S.F.
COVERED ENTRY & LANAI:	56 S.F.
TOTAL:	2170 S.F.



4-UNIT FIRST FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

N



4-UNIT SECOND FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

EXHIBIT "A"

Rev	Date	Document History	Int

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4-UNIT MIX PLAN

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

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Boca Raton, Florida 33431
Office: 561.362.0237
www.cdneng.com
PE # 87108 • CA # 34513

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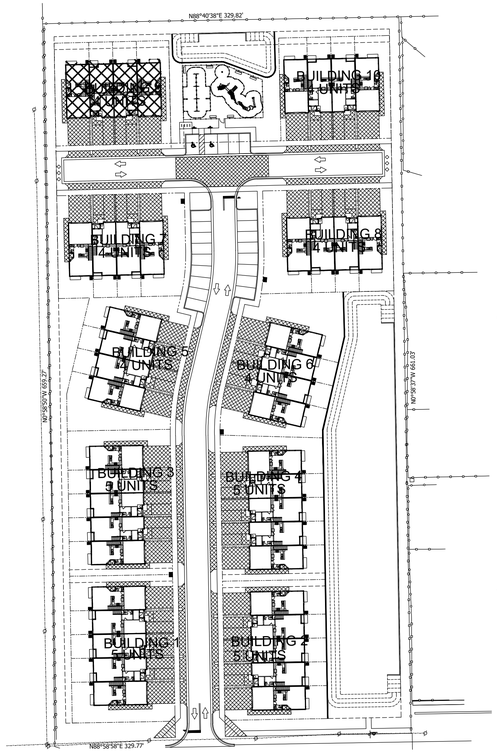
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Sheet #

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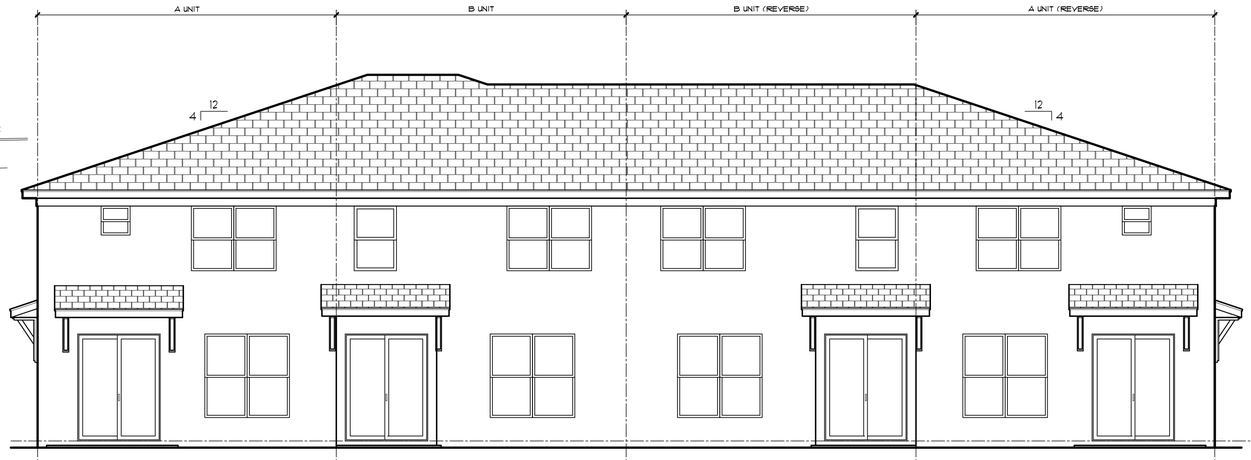
PARTIAL SITE PLAN
KEY PLAN

N

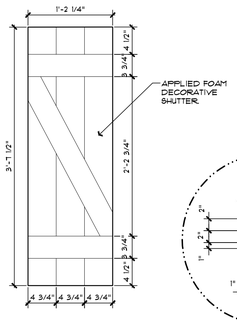


FRONT ELEVATION SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

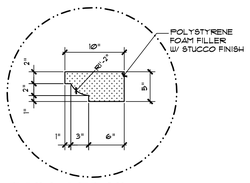
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REAR ELEVATION NORTH ELEVATION
SCALE: 1/8" = 1'-0"



SHUTTER DETAIL
SCALE: 1/2" = 1'-0"



TRIM DETAIL
SCALE: 1" = 1'-0"



LEFT SIDE ELEVATION WEST ELEVATION
SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION EAST ELEVATION
SCALE: 1/8" = 1'-0"

SCHEME 3

ROOF SHINGLES	GAF WEATHERED WOOD
TRIM & COLUMNS	COTTON WHITE SW7104
BODY	COTTON WHITE SW7104
FAUX SIDING	COTTON WHITE SW7104
FRONT DOOR	BLACK MAGIC SW6991
SHUTTERS	BLACK MAGIC SW6991
FASCIA	COTTON WHITE SW7104
GARAGE DOOR	COTTON WHITE SW7104
ACCENT STONE	BORAL CULTURED STONE- WINTER HAVEN PRO-FIT ALPINE EDGESTONE

Rev	Date	Document History	Int

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4-UNIT ELEVATIONS

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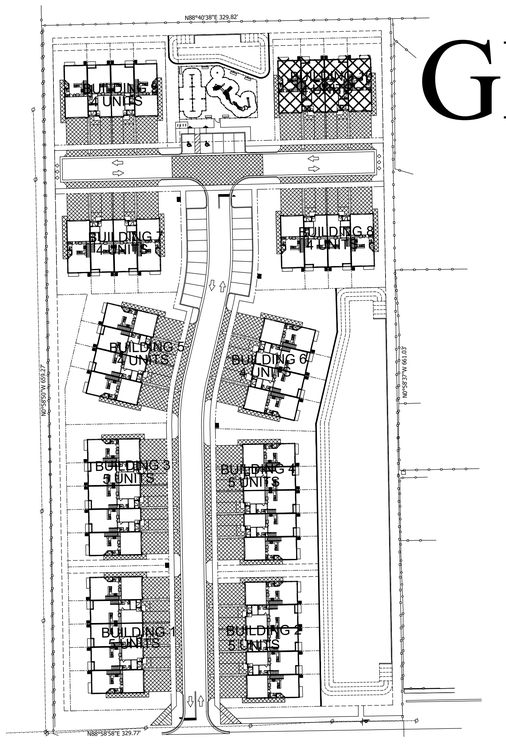
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4 UNIT BUILDING 10

GARDEN SQUARE TOWNHOUSE DEVELOPMENT

GREENACRES, FLORIDA



PARTIAL SITE PLAN
KEY PLAN

N

DRAWING INDEX

CS - COVER SHEET
A1.0 - UNIT MIX PLAN
A2.0 - UNIT EXTERIOR ELEVATIONS

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SOIL BEARING CAPACITY 2500 PSF

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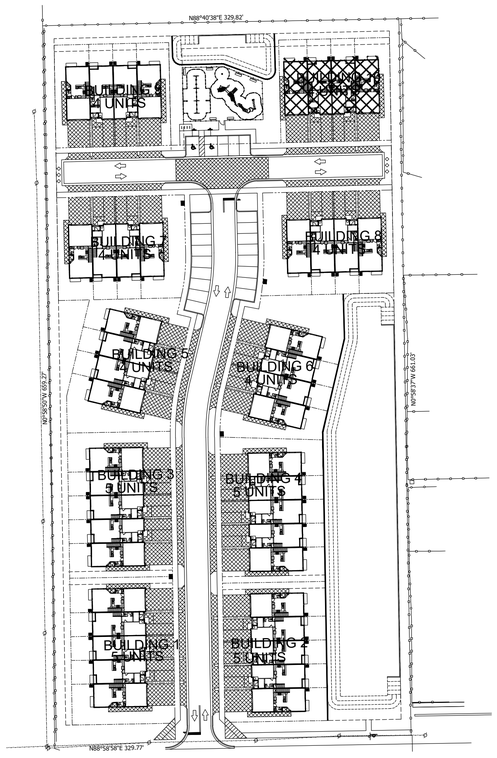
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EXHIBIT "A"



PARTIAL SITE PLAN

KEY PLAN

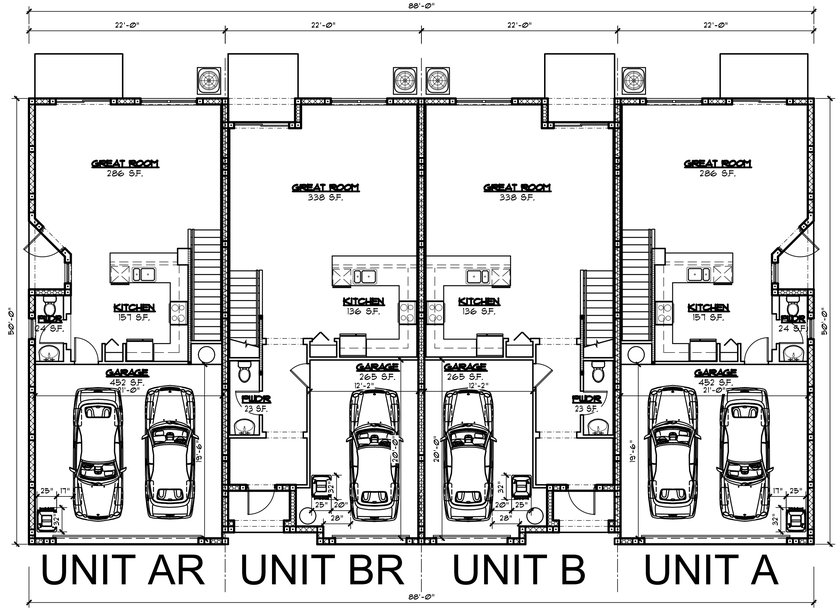
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AREA CALCULATIONS
UNITS A / AR

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TOTAL:	2229 S.F.

AREA CALCULATIONS
UNITS B / BR

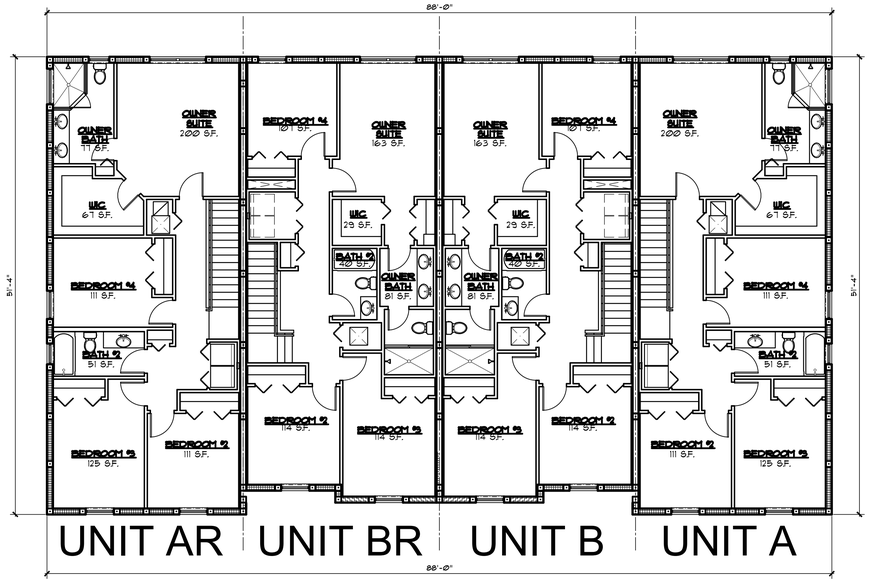
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TOTAL:	2170 S.F.



4-UNIT FIRST FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

N



4-UNIT SECOND FLOOR MIX PLAN

SCALE: 1/8" = 1'-0"

EXHIBIT "A"

Rev	Date	Document History	Int

LENNAR®

4-UNIT MIX PLAN

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

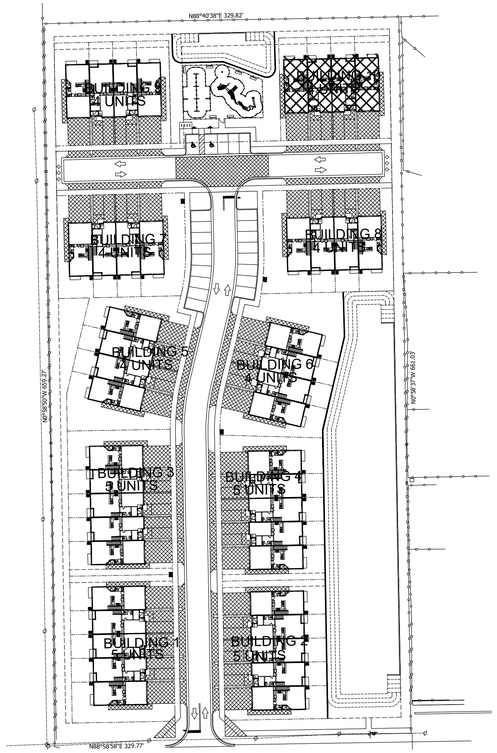
CDN ENGINEERING INC.
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A1.0
5 of 18 Sheets



PARTIAL SITE PLAN
KEY PLAN

N

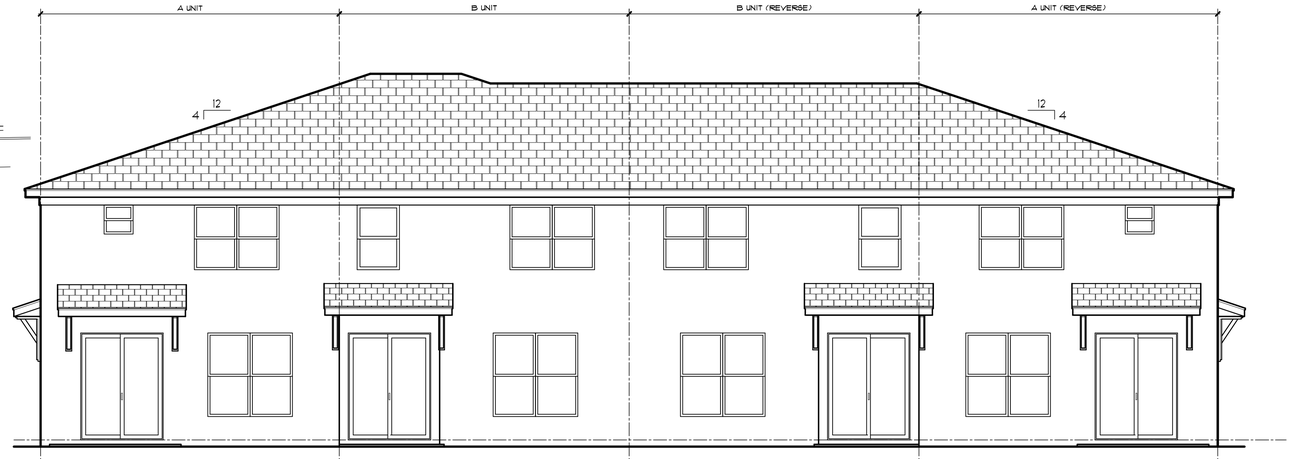
SHUTTER DETAIL
SCALE: 1/2" = 1'-0"

TRIM DETAIL
SCALE: 1" = 1'-0"



FRONT ELEVATION SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

N



REAR ELEVATION NORTH ELEVATION
SCALE: 1/8" = 1'-0"



LEFT SIDE ELEVATION WEST ELEVATION
SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION EAST ELEVATION
SCALE: 1/8" = 1'-0"

SCHEME 1

ROOF SHINGLES	GAF WEATHERED WOOD
TRIM & COLUMNS	PAPERWHITE SW7105
BODY	PEARL GRAY SW0052
FAUX SIDING	WHITE HYACINTH SW0046
FRONT DOOR	WHITE HYACINTH SW0046
SHUTTERS	SEAWORTHY SW7620
FASCIA	WHITE HYACINTH SW0046
GARAGE DOOR	WHITE HYACINTH SW0046
ACCENT STONE	BORAL CULTURED STONE- WINTER HAVEN PRO-FIT ALPINE EDGESTONE

Rev	Date	Document History	Int

LENNAR

Development

4-UNIT ELEVATIONS

Garden Square Townhouse Development
Plan A = 1752 | Plan B = 1814
Lot #'s:

CDN ENGINEERING INC.
Casey Najjar P.E.
3200 N. Federal Hwy. | Suite 226
Boca Raton, Florida 33431
Office: 561.362.0237
www.cdneng.com
PE # 87108 • CA # 34513

Seal

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