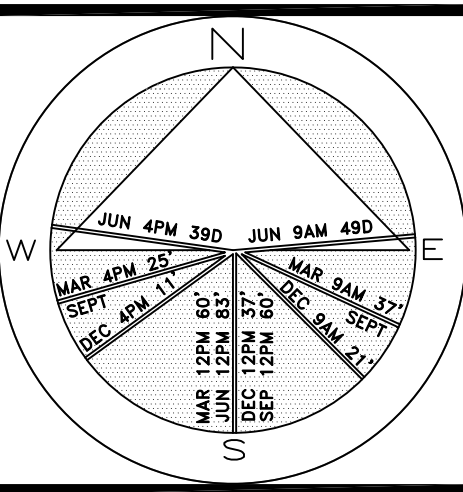


Private Residence
321 Barton Ave
Palm Beach



JOB NUMBER: # 22119.00 LA
DRAWN BY: D.J. Hay
Jean Twomey
DATE: 04.25.2022

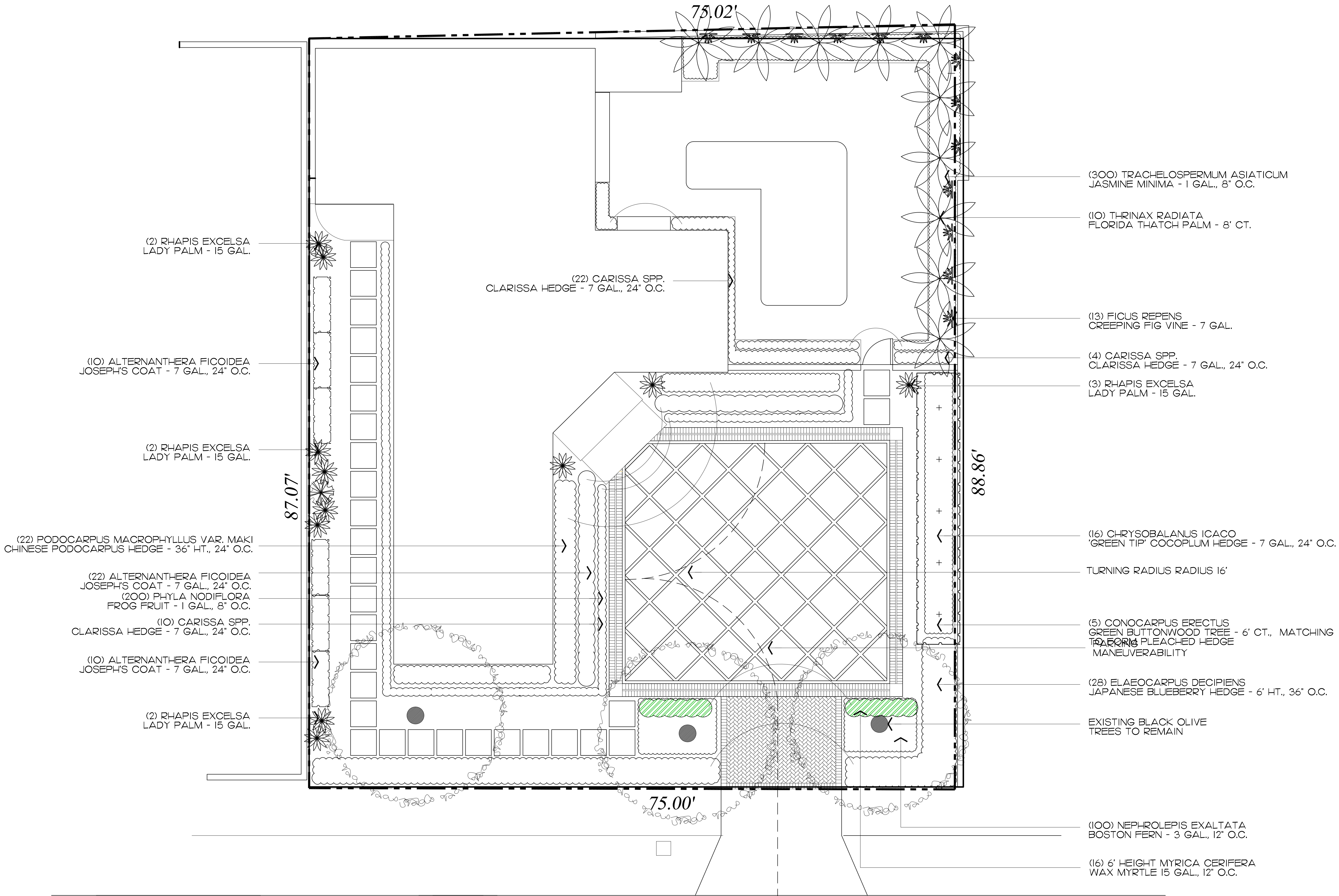
SHEET L8.O

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DISCLAIMER: 2022
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ARC-22-137
ZON-22-092
Landscape Plan
SCALE: 3/16" = 1'



Trees

SYMBOL	PLANT NAME	QTY.	DESCRIPTION	NATIVE
	CONOCARPUS ERECTUS GREEN BUTTONWOOD TREE	5	6' CT., 16' HT., MATCHING TO FORM PLEACHED HEDGE	YES
TOTAL: NATIVE SPECIES:		5 5 (100%)		

Palms

SYMBOL	PLANT NAME	QTY.	DESCRIPTION	NATIVE
	THRINAX RADIATA FLORIDA THATCH PALM	10	8' CT.	YES
TOTAL: NATIVE SPECIES:		10 10 (100%)		

Vines, & Groundcovers

SYMBOL/KEY	PLANT NAME	QTY.	DESCRIPTION	NATIVE
	FICUS REPENS CREEPING FIG VINE	13	15 GAL.	NO
	PHYLLA NODIFLORA FROG FRUIT	200	1 GAL. 12" O.C.	YES
	TRACHELOSPERMUM ASIATICUM JASMINE MINIMA	350	15 GAL.	NO
TOTAL: NATIVE SPECIES:		563 200 (35.5%)		

Shrubs

SYMBOL/KEY	PLANT NAME	QTY.	DESCRIPTION	NATIVE
	ALTERNANTHERA FICOIDEA JOSEPH'S COAT	42	7 GAL., 24" O.C.	NO
	CARISSA SPP. CARISSA HEDGE	36	7 GAL., 24" O.C.	NO
	CHRYSOBALANUS ICACO GREEN TIP COCOPLUM	16	7 GAL., 24" O.C.	YES
	ELAEOCARPUS DECIPIENS JAPANESE BLUEBERRY HEDGE	28	6' HT., 36" O.C.	NO
	NEPHROLEPIS EXALTATA BOSTON FERN	100	3 GAL., 18" O.C.	YES
	PODOCARPUS MACROPHYLLUS PODOCARPUS 'MAKI'	22	36" HT., 24" O.C.	NO
	RHAPIS EXCELSA LADY PALM	11	15 GAL.	NO
	MYRICA CERIFERA WAX MYRTLE	16	15 GAL.	YES
TOTAL: NATIVE SPECIES:		271 132 (48.70%)		

Lawn & Mulch

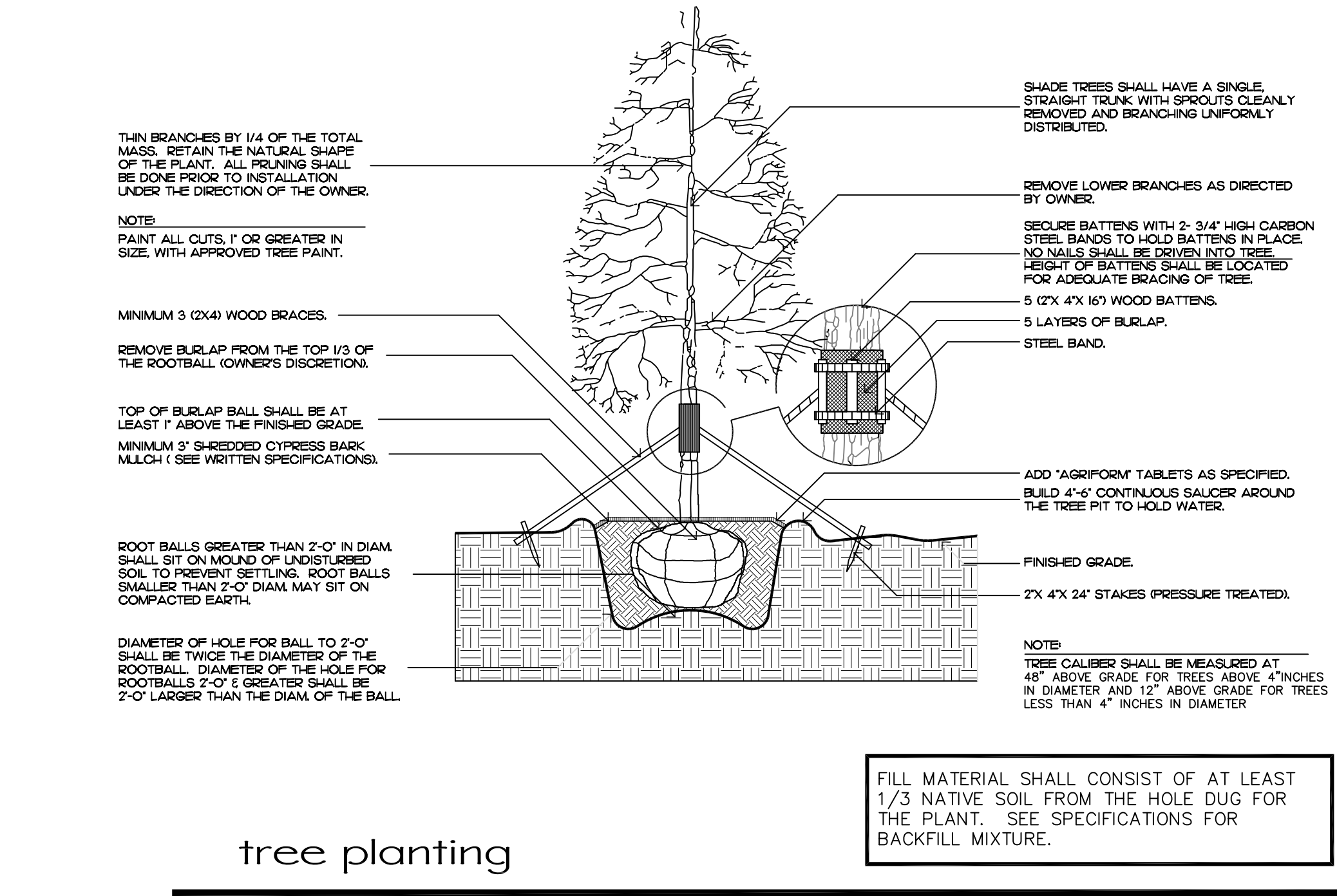
SYMBOL/KEY	PLANT NAME	QTY.	DESCRIPTION
LAWN	DIAMOND ZOYSIA LAWN	AS NEEDED	SOD PALLETS
PLANTING BED	SHREDDED EUCALYPTUS MULCH	AS NEEDED	MULCH ALL BEDS 3" MIN. DEPTH

Private Residence
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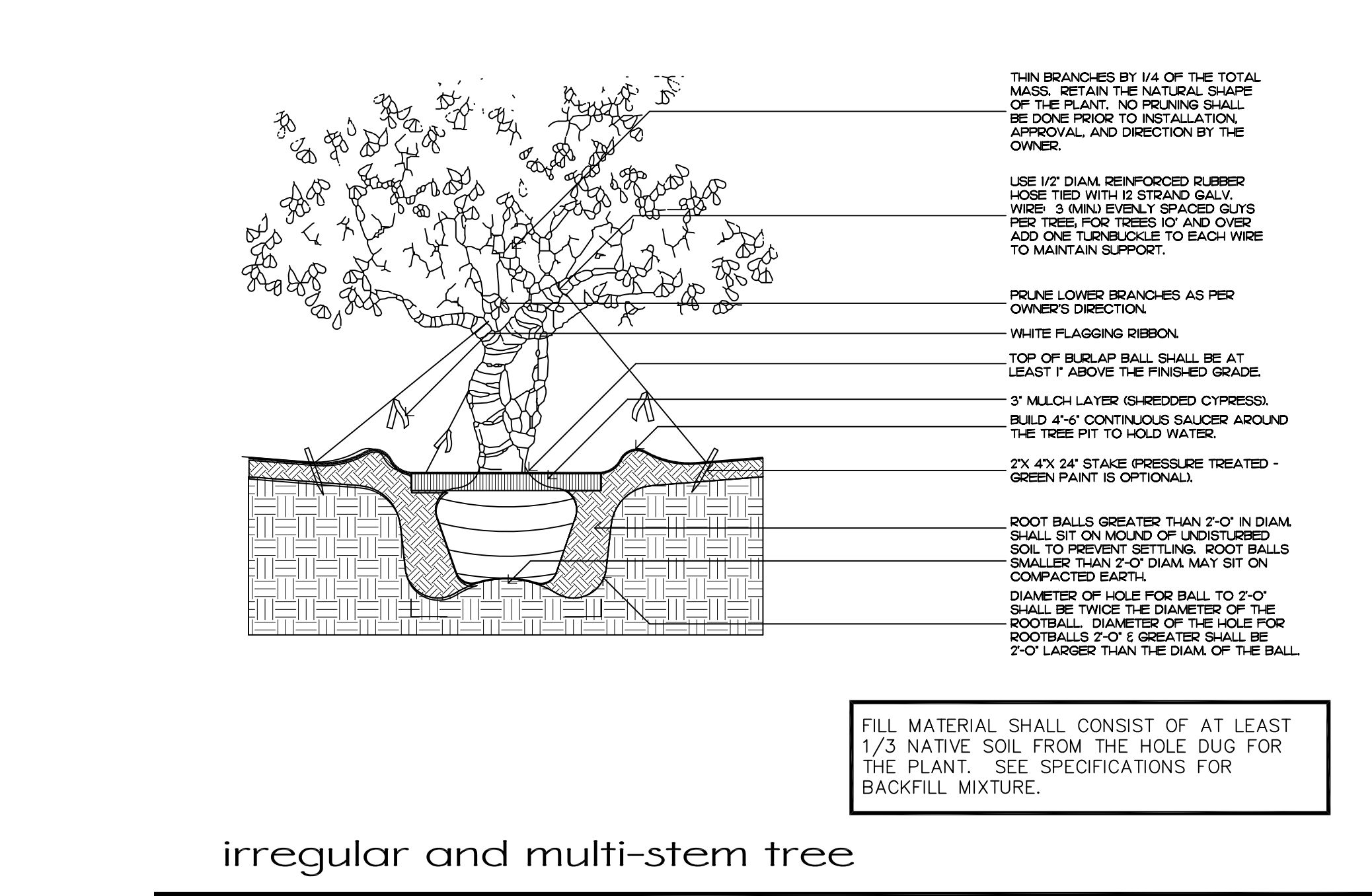
JOB NUMBER: # 22119.00 LA
DRAWN BY: Jean Twomey
DATE: 04.25.2022

SHEET L8.1

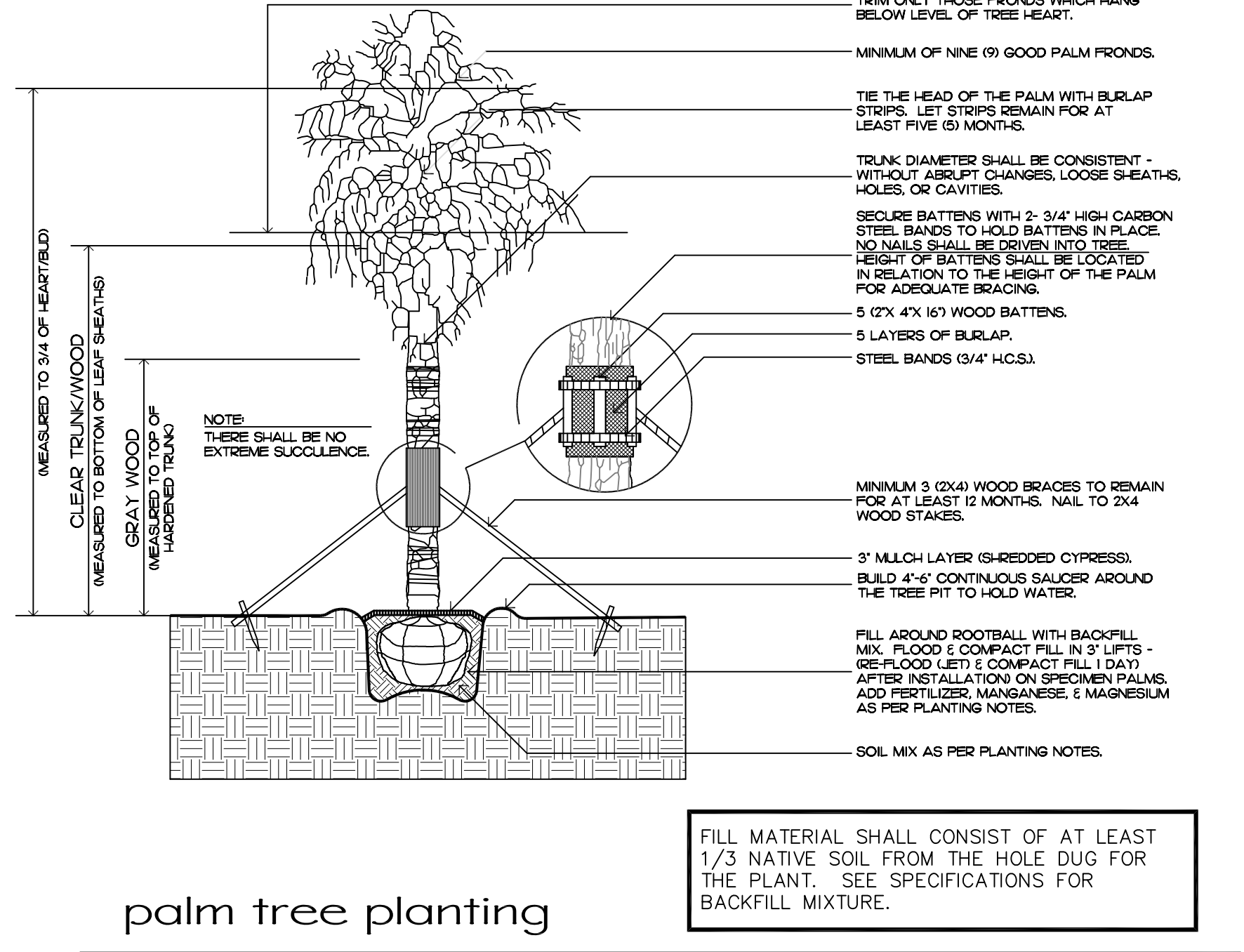
ARC-22-137
ZON-22-092
Plant Schedule



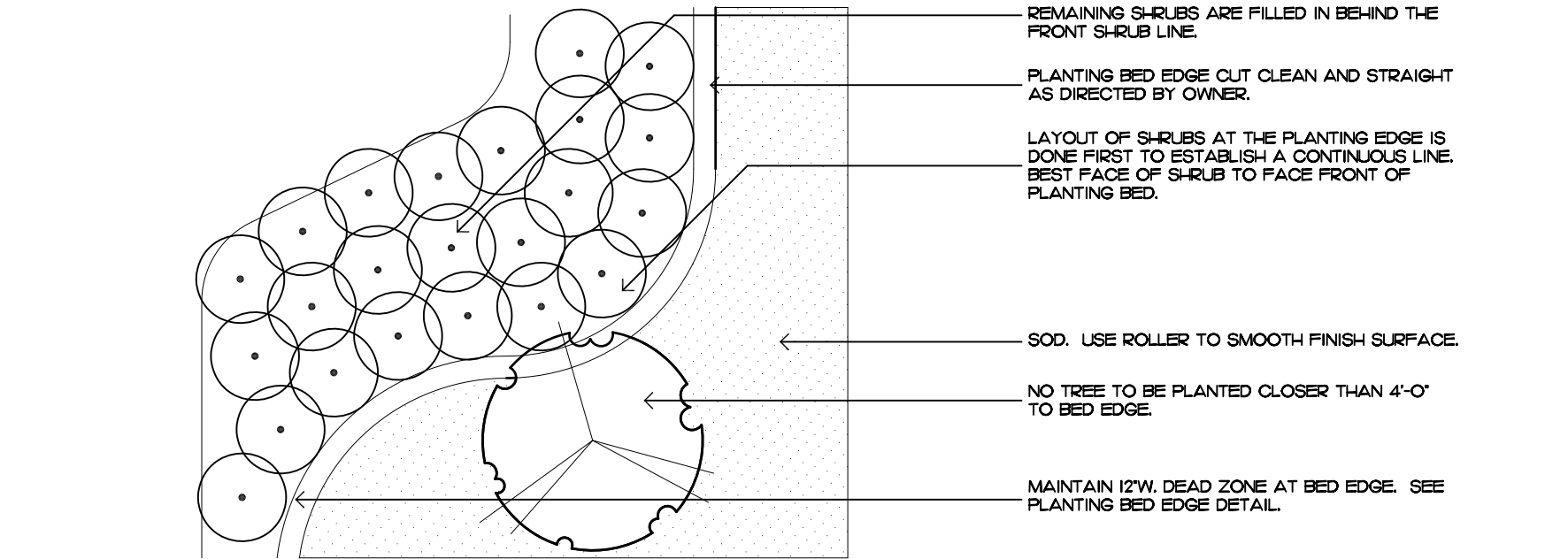
tree planting



irregular and multi-stem tree



palm tree planting



shrub & ground cover layout

Planting Notes

COMMERCIAL FERTILIZER:

FERTILIZER SHALL BE COMPLETELY ORGANIC. IT 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:

- SIX PERCENT (6%) NITROGEN
- SIX PERCENT (6%) PHOSPHOROUS
- SIX PERCENT (6%) POTASSIUM

FERTILIZER SHALL BE APPLIED TO ALL SHRUBS (1/3 LB. PER 3 GAL. POT, 1/4 LB. PER 1 GAL. POT) AND GROUNDCOVER. THE SAME FERTILIZER MIXTURE SHALL BE USED ON SOD AT A RATE OF 15 LBS. PER 1000 SQUARE FEET. A FOURTEEN PERCENT (14%) NITROGEN, FOURTEEN PERCENT (14%) PHOSPHOROUS AND FOURTEEN PERCENT (14%) POTASSIUM IS REQUIRED ON ALL TREES AND SHRUBS OVER 8'-0" IN HEIGHT (1/2 LB. PER 5'-0" OF SPREAD). AGRIFORM TABLETS WITH TWENTY PERCENT (20%) NITROGEN, TEN PERCENT (10%) PHOSPHOROUS, FIVE PERCENT (5%) POTASSIUM IN 21 GRAM SIZES SHALL BE APPLIED ALONG WITH THE FERTILIZER PROCESS (1 WITH 1 GAL. PLANTS, 2 WITH 3 GAL. PLANTS AND 2 TABLETS PER 1" OF TREE TRUNK CALIBER). BACK FILL HALFWAY UP THE ROOT BALL. PLACE ABOUT ONE INCH (1") FROM ROOT TIPS. MAGNESIUM SULFATE SHALL BE APPLIED TO ALL PALMS AT INSTALLATION AT A RATE OF 1/2 LB. PER INCH OF TRUNK CALIBER. MANGANESE SHALL BE APPLIED AT THE SAME RATE.

MULCH:

MULCH MATERIAL SHALL BE SHREDDED CYPRESS MULCH OR APPROVED EQUAL, MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT. MULCH SHALL BE APPLIED TO A MINIMUM 3" DEPTH IN PLANTING BEDS.

SOD:

THE SOD SHALL BE FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASES OF ANY KIND, CLEAN, STRONGLY ROOTED, UNIFORMLY SIZED STRIPS, MACHINE STRIPPED NOT MORE THAN TWENTY-FOUR (24) HOURS PRIOR TO LAYING.

SUBSTITUTION:

NO SUBSTITUTION OF PLANT MATERIAL, TYPES OR SIZES WILL BE ALLOWED WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER. CONTAINER GROWN MATERIAL WILL NOT BE ACCEPTED AS SUBSTITUTE FOR B&B MATERIAL UNLESS PREVIOUSLY APPROVED. INTENDED SUBSTITUTIONS SHALL BE SPELLED OUT IN BID.

MEASUREMENTS:

- SHADE TREES: HEIGHT SHALL BE MEASURED FROM GROUND TO THE AVERAGE BRANCH HEIGHT OF CANOPY. SPREAD SHALL BE MEASURED TO THE END OF THE BRANCHING EQUALLY AROUND THE CROWN FROM THE CENTER OF THE TRUNK. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH. SINGLE TRUNK TREES SHALL BE FREE OF "V" CROTCHES THAT COULD BE POINTS OF WEAK LIMB STRUCTURE OR DISEASE INFESTATION.
- SHRUBS: HEIGHT SHALL BE MEASURED FROM THE GROUND TO THE AVERAGE POINT WHERE MATURE PLANT GROWTH STOPS. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE SHRUB MASS. MEASUREMENT AREA NOT TO INCLUDE ANY TERMINAL GROWTH.
- PALMS: CLEAR TRUNK (C.T.) - SHALL BE MEASURED FROM THE GROUND AT TIME OF INSTALLATION TO THE POINT WHERE THE MATURE AGED TRUNK JOINS THE IMMATURE OR GREEN PORTION OF THE TRUNK OR HEAD. OVERALL HEIGHT (O.A.) - SHALL BE MEASURED FROM THE GROUND AT THE TIME OF INSTALLATION TO THE AVERAGE FROND HEIGHT. PALMS WITH MARRED OR BURNED TRUNKS WILL NOT BE ACCEPTED.

PLANTING SOIL AND BACKFILL:

PLANTING SOIL FOR USE IN PREPARING BACKFILL FOR PLANT PITS SHALL BE A FERTILE, FRIABLE AND NATURAL TOPSOIL, WITHOUT MIXTURE OF SUBSOIL MATERIALS, AND SHALL BE FREE FROM HEAVY CLAY, STONES, LIMES, LUMPS, SHELLS, PLANTS, ROOTS OR OTHER FOREIGN MATERIALS, WEEDS, OR NOXIOUS GRASSES (SUCH AS BERBERIS OR NUT GRASS). IT SHALL NOT CONTAIN TOXIC SUBSTANCES WHICH MAY BE HARMFUL TO THE PLANT GROWTH.

BACKFILL FOR SOD AREAS SHALL BE SUBJECT TO LESSER STANDARDS AT THE DISCRETION AND DECISION OF THE OWNER.

EXISTING TOPSOIL SHALL BE USED IN ALL PLANT MATERIAL PITS EXCEPT SABAL PALMS WHERE THE SOIL SHALL CONSIST OF CLEAN SAND.

PLANTING SOIL FOR USE IN BEDS FOR ANNUALS AND/OR PERENNIALS SHALL CONTAIN ONE-THIRD (1/3) POTTING SOIL OR A BLENDED TOPSOIL, TILL INTO TOP 10" - 12" OF SOIL WITH A TIME-RELEASE FERTILIZER.

PLANT MATERIALS:

PALMS, TREES, SHRUBS, GROUNDCOVERS AND VINES

PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO 'STANDARDIZED 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. SPECIMEN MEANS AN EXCEPTIONALLY HEAVY, SYMMETRICAL, TIGHTLY KNIT PLANT, SO TRAINED OR FAVORED IN ITS DEVELOPMENT THAT FIRST APPEARANCE IS UNQUESTIONABLE AND OUTSTANDINGLY SUPERIOR IN FORM, NUMBER OF BRANCHES, COMPACTNESS AND SYMMETRY. ALL PLANTS SHALL BE FRESHLY DUG, SOUND, HEALTHY, VIGOROUS, WELL BRANCHED AND FREE OF DISEASE AND INSECT EGGS AND LARVAE AND SHALL HAVE ABSOLUTE ROOT SYSTEM. TREES FOR PLANTING ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY AND FLORIDA NUMBER 1. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY UPON THE APPROVAL OF THE OWNER.

CONTAINER GROWN STOCK:

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 FIBERUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER.
-

WARRANTY:

WARRANTY PLANTS, SHRUBS AND GROUNDCOVERS FOR A PERIOD OF NINETY (90) DAYS: TREES & PALMS FOR ONE YEAR (1) AGAINST UNHEALTHY CONDITION, EXCEPT AS MAY RESULT FROM NEGLIGENCE BY OWNER, DAMAGE BY OTHERS, AND UNUSUAL PHENOMENA BEYOND INSTALLER'S CONTROL. REPLACE AT TIME REQUESTED BY THE OWNER OR LANDSCAPE ARCHITECT.

MAINTENANCE:

MAINTAIN LANDSCAPE WORK UNTIL THE LETTER OF SUBSTANTIAL COMPLETION BY THE GENERAL CONTRACTOR. INCLUDE WATERING, WEEDING, CULTIVATING, RESTORATION OF GRADE, MOWING AND TRIMMING GRASS, PRUNING TREES AND SHRUBS, PROTECTION FROM INSECTS AND DISEASES, FERTILIZATION AND SIMILAR OPERATIONS AS NEEDED TO ENSURE NORMAL GOOD HEALTH FOR LIVE PLANT MATERIAL.

ZON-22-092 / ARC-22-137

Planting Details & Specifications

STORMWATER RETENTION CALCULATIONS

A. SITE INFORMATION

Total Property Area = 6,599 sq.ft.

Drainage Area Impervious Surface = 4,614 sq.ft.

Drainage Area Pervious Surface = 1,985 sq.ft.

B. ESTIMATED STORMWATER RETENTION VOLUME

The retention volume is estimated using the Rational Method ($Q=CiA$) where:
 $C = 1.0$ (impervious surface)
 $C = 0.2$ (pervious surface)
 $i = 2$ in/hr

Impervious Surface Runoff Volume:
 $1.0 \times 2 \text{ in/hr} \times 4,614 \text{ sq.ft.} \times 1 \text{ ft./12 in.} = 769 \text{ cu.ft.}$

Pervious Runoff Volume:
 $0.2 \times 2 \text{ in/hr} \times 1,985 \text{ sq.ft.} \times 1 \text{ ft./12 in.} = 67 \text{ cu.ft.}$

Total Volume to be Retained = 836 cu.ft.

C. PROPOSED EXFILTRATION TRENCH SIZING

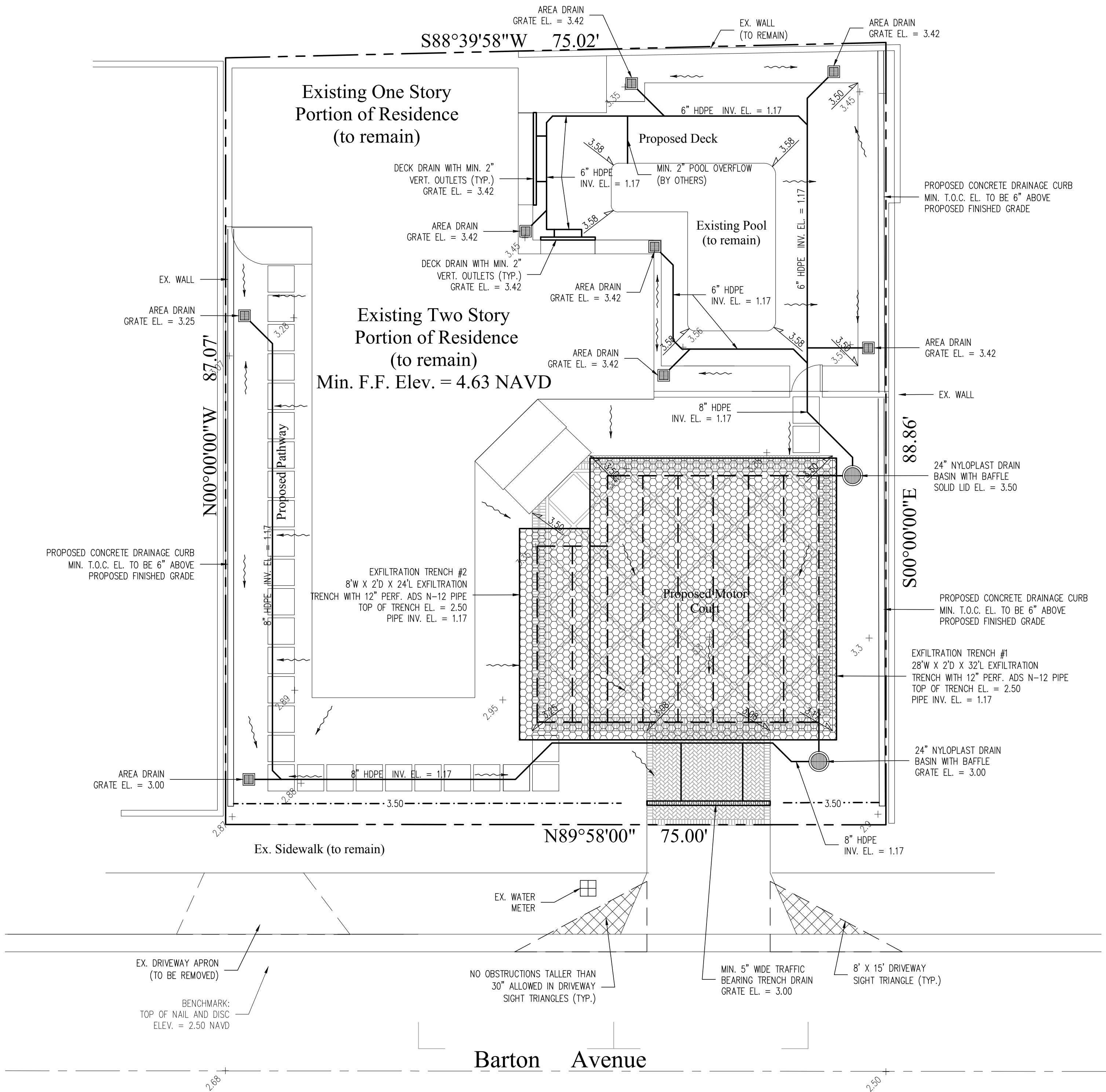
Exfiltration Trench #1
 L = Total Length of Trench Provided = 32 ft
 W = Trench Width = 28 ft
 K = Hydraulic Conductivity = 0.00005 cfs/sq.ft./ft. of head
 H_2 = Depth to Water Table = 1.50 ft
 DU = Un-Saturated Trench Depth = 1.00 ft
 DS = Saturated Trench Depth = 1.00 ft
 V = Volume Treated = 725 cu.ft.

Exfiltration Trench #2
 L = Total Length of Trench Provided = 24 ft
 W = Trench Width = 8 ft
 K = Hydraulic Conductivity = 0.00005 cfs/sq.ft./ft. of head
 H_2 = Depth to Water Table = 1.50 ft
 DU = Un-Saturated Trench Depth = 1.00 ft
 DS = Saturated Trench Depth = 1.00 ft
 V = Volume Treated = 170 cu.ft.

Total Volume to be retained in Exfiltration Trenches = 895 cu.ft.

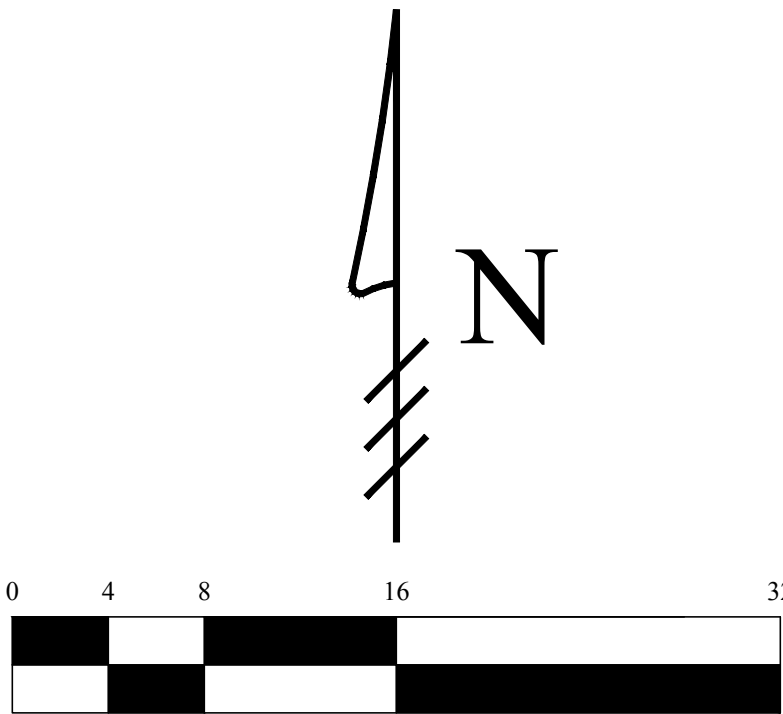
Notes:

- Exfiltration trenches and storm piping to be protected from roots with a root barrier.
- Roof drain downspouts are to be connected to the proposed drainage system. Contractor to provide engineer with downspout locations prior to installation of drainage system.
- Exfiltration trench design uses an assumed value of hydraulic conductivity. Client may obtain a site specific test for hydraulic conductivity prior to exfiltration trench installation.
- Contractor shall mill and overlay all roadway cuts a minimum of 50 ft. on either side of the excavation the entire width of each affected lane.
- Contractor is responsible for installing and maintaining erosion control measures during construction.
- Video inspection of storm drainage system required prior to installation of sod.



Legend

- + EXISTING ELEVATION PER MILLER LAND SURVEYING (NAVD-88)
- PROPOSED ELEVATION (NAVD-88)
- - - 7.00 - - - PROPOSED ELEVATION CONTOUR (NAVD-88)
- FLOW DIRECTION
- EXFILTRATION TRENCH
- AREA DRAIN
- 24" NYLOPLAST DRAIN BASIN WITH BAFFLE



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Contractor is responsible for obtaining
location of existing utilities prior to
commencement of construction activities.



Gruber Consulting
Engineers, Inc.
3474 MERCER AVE., SUITE 305
WEST PALM BEACH, FL 33401
PHONE: 561.312.2841
office@gruberengineers.com

Project Information				
Project No.	2021-0139	Issue Date	05/17/2022	Scale
Scale	1/8" = 1'-0"	Drawn By	KM	Checked By
CG				

Conceptual Site Grading & Drainage Plan For:
Proposed Renovation
321 Barton Avenue
Palm Beach, Florida

Revisions	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Chad M. Gruber
FL P.E. No. 57466

Sheet No.
C-1

This item has been electronically signed and sealed by Chad M. Gruber on the date adjacent to the seal using a SHA authentication code. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies.

Plan Background from Hardscape Plan by
Environment Design Group Received 5/24/22

ARC-22-137
ZON-22-092

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2

PROPOSED ELEVATION

NO SCALE



1

EXISTING ELEVATION

NO SCALE