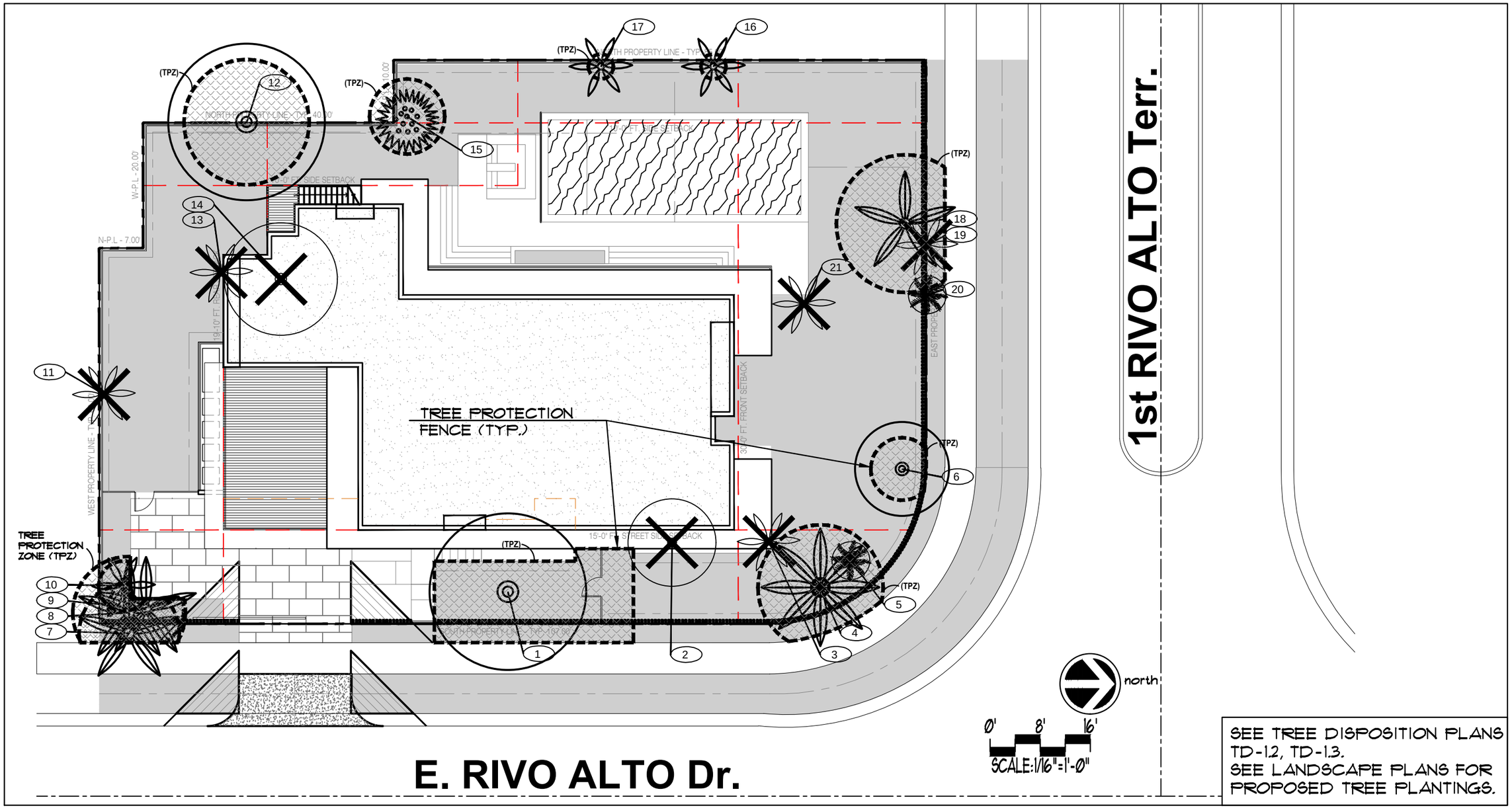

JFS
JFS Design Inc.
LANDSCAPE ARCHITECTURE
LC 000393
jimmy@jfsdesignfl.com

Digitally signed by James F Socash
DN: c=US, o=JFS DESIGN INC., ou=A01410D00000 16E93E46BBA00001 E9C, cn=James F Socash
Date: 2020.11.05 14:04:50 -05'00'

SINGLE FAMILY RESIDENCE

48 E. RIVO ALTO DR.
MIAMI BEACH, FL. 33139

TREE DISPOSITION PLAN

REVISION	date
1.	
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3.	
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designed:	JFS
drawn:	BD
checked:	WM
scale:	as shown
project no.	20-27
date:	Nov. 2, 2020

TD-1.1

20-27-48 E. RIVO ALTO DR., MIAMI BEACH, FL. 33139
10/16/2020

TREE NUM	SYM	COMMON NAME	BOTANICAL NAME	HEIGH	SPREA	DBH inches	CONDITION	CLEAR TRUNK	STATU	DBH LOSS	PALM LOSS	REMARKS	Arborist Remarks
1	CHO	SILK FLOSS TREE	*Chorisia speciosa*	25	25	30	MODERATE	16'	REMAIN				abnormal trunk growths. mediocre scaffold structure
2	TH	TABEBUIA	*Tabebuia spp*	22	14	9	MODERATE	7'	REMOVE	9			codominant stems
3	PE2	ALEXANDER PALM	*Ptychosperma elegans*	24	8	3	MODERATE	15	REMOVE			UNDERSIZED: NOT REGULATED	
4	PC	CANARY ISLAND DATE PALM	*Phoenix canariensis*	24	24	20	GOOD	10'	REMAIN				
5	VM2	MONTGOMERY PALM	*Veitchia montgomeryana*	15	10	4	MODERATE	6	REMOVE			UNDERSIZED: NOT REGULATED	
6	PA	AVOCADO	*Persea americana*	15	15	9	poor	3'	REMAIN				codominance. root lifting. canker.
7	RE	ROYAL PALM dbl	*Roystonea elata*	50	25	15	GOOD	25'	REMAIN			ALONG SOUTH PROPERTY LINE	double stem
8	RE	ROYAL PALM	*Roystonea elata*	60	25	18	GOOD	30'	REMAIN			ALONG SOUTH PROPERTY LINE	part of 7
9	RE	ROYAL PALM	*Roystonea elata*	30	20	12	GOOD	22'	REMAIN			ALONG SOUTH PROPERTY LINE	
10	VM2	MONTGOMERY PALM dbl	*Veitchia montgomeryana*	20	16	4,4	MODERATE	12'	REMAIN			ALONG SOUTH PROPERTY LINE	double stem
11	RAV	TRAVELER'S PALM	*Ravelala madagascarensis*	20	10	12	MODERATE	12'	REMOVE			MUSACEAE FAM.: NOT A TREE	relocation could damage roots of palms on neighbors side of the fence
12	MI	MANGO TREE	*Mangifera indica*	28	25	15	Poor	16'	REMAIN			ALONG WEST PROPERTY LINE	insect frass at base. monitor. good wound response. significant wound at major scaffold failure.. tree side on neighbors property inaccessible.
13	VM2	MONTGOMERY PALM dbl	*Veitchia montgomeryana*	20	16	9	MODERATE	15	REMOVE		1	1-12' TREE REQUIRED MITIGATION	stretched out from shade
14	ESP	UNKNOWN	*UNKNOWN*	23	18	8	MODERATE	5'	REMOVE	8			mediocre structure in close proximity to building
15	LC	CHINESE FAN PALM	*Livistonia chinensis*	12	12	12	MODERATE	3'	REMAIN			ALONG WEST PROPERTY LINE	
16	PE	ALEXANDER PALM	*Ptychosperma elegans*	12	10	3	MODERATE	20	REMAIN			ALONG WEST PROPERTY LINE	
17	VM	MONTGOMERY PALM	*Veitchia montgomeryana*	12	10	3	MODERATE	7'	REMAIN			ALONG WEST PROPERTY LINE	
18	RE	ROYAL PALM	*Roystonea elata*	50	30	22	GOOD	25'	REMAIN			ALONG NORTH PROPERTY LINE	
19	PE	ALEXANDER PALM	*Ptychosperma elegans*	23	10	4	GOOD	17	REMOVE			UNDERSIZED: NOT REGULATED	
20	VM	MONTGOMERY PALM	*Veitchia montgomeryana*	18	10	5	MODERATE	10	REMOVE			UNDERSIZED: NOT REGULATED	
21	VM	MONTGOMERY PALM	*Veitchia montgomeryana*	14	10	4	MODERATE	10	REMOVE			UNDERSIZED: NOT REGULATED	
		TOTALS								17	1		
		FIELD INVENTORY CONDUCTED BY JFS DESIGN INC. ON SEPTEMBER 22, 2020											

TREE MITIGATION-REPLACEMENT PLANTLIST

SYM	NATIVE	#	NAME	BOTANICAL NAME	SPECIFICATION
SEE TREE DISPOSITION PLAN FOR EXISTING TREE INVENTORY AND STATUS					
REMOVAL OF 17" D.B.H. OF EXISTING TREES					
MITIGATION REQUIREMENT: 6 TREES @ 12' HT., 2" DBH OR 3 TREES @ 16' HT., 4" DBH					
REMOVAL OF 1 EXISTING PALM: MITIGATION REQUIREMENT = 1 TREE @ 12' HT., 2" DBH					
REQUIRED MITIGATION: 7 trees @ 12' HT. , 2" DBH.					
BS	YES	4	GUMBO LIMBO	Bursera simaruba	12' x 6'spr., 2" DBH
CD	YES	8	PIGEON PLUM	Coccoloba diversifolia	12' x 6'spr., 2" DBH
CE	YES	5	GREEN BUTTONWOOD	Conocarpus erectus	12' x 6'spr., 2" DBH
KF	YES	4	BLACK IRONWOOD	Krugiodendron ferreum	12' x 5', 2" DBH
PROVIDED MITIGATION: 21 trees @ 12' HT. , 2" DBH.					
TREES WITHIN THE RIGHT OF WAY SHALL BE STANDARD, SINGLE-LEADER WITH 4' OF CLEAR					
TRUNK AT TIME OF PLANTING					
TOTAL MITIGATION DEFICIT: 0					

SEE TREE DISPOSITION PLANS TD-1.2, TD-1.3.
SEE LANDSCAPE PLANS FOR PROPOSED TREE PLANTINGS.

JFS
JFS Design Inc.
LANDSCAPE ARCHITECTURE
LC 000393
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SINGLE FAMILY RESIDENCE
48 E. RIVO ALTO DR.
MIAMI BEACH, FL. 33139

TREE DISPOSITION PLAN

REVISION	date
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checked:	LM
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project no.	20-27
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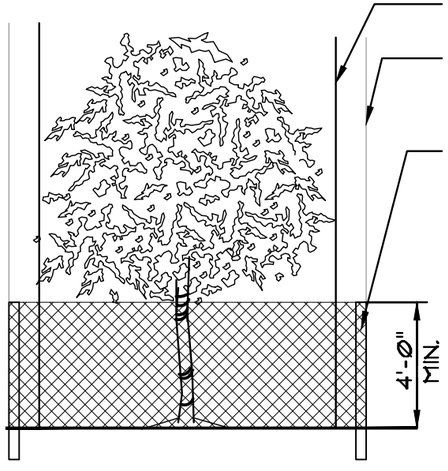
TD-1.2

	CITY OF MIAMI BEACH TREE DISPOSITION NOTES SHALL TAKE PRECEDENCE OVER ANY OTHER NOTES OR DISCREPANCIES
1	The Landscape Contractor shall guarantee all new and or relocated trees and palms for a period of 1-year from the date of initial acceptance and approval.
2	All guying and staking shall be removed from all trees and palms within twelve months after planting. Exceptions require written authorization form the City Urban Forester.
3	Tree protection barriers may not be taken down, modified and or removed without written authorizaton from the City Urban Forester.
4	Mulch shall not be applied within 6" of any tree or palm trunks that are installed or incorporated into the project.
5	A final on-site inspection shall be required by the Urban Forestry Division staff prior to any official acceptance of ROW plant material, in order to verify proper planting depth, spacing and quality of the material. Failure to conduct the inspection could result in rejection of the plant material.



BARRIER TO FORM A CONTINUOUS CIRCLE AROUND THE TREE OR GROUP OF TREES.

DRIP LINE

FENCE TO EXTEND TO THE EDGE OF THE DRIPLINE OR MORE WHERE POSSIBLE.

CONTINUOUS CHAIN LINK FENCE WITH METAL POST AT 8' SPACING, OR TWO-BY-FOUR-INCH POST WITH THREE EQUALLY SPACED TWO-BY-FOUR INCH RAILS. POSTS MAY BE SHIFTED TO AVOID ROOTS.

CONTRACTOR TO INSTALL PROTECTIVE FENCE BARRIER AROUND ALL EXISTING TREES TO REMAIN- AT THE START OF THE PROJECT- FENCE TO REMAIN IN PLACE THROUGHOUT THE DURATION OF THE PROJECT.

CONTRACTOR SHALL TAKE EXTRA CARE DURING EARTHWORK AND UTILITY OPERATIONS TO PROTECT ALL EXISTING TREES - AND SHALL BE RESPONSIBLE TO REPLACE ANY TREES DAMAGED DURING CONSTRUCTION.

TREE PROTECTION DETAIL

N.T.S.

NOTES:

1. A WRITTEN TREE REMOVAL PERMIT IS REQUIRED FROM THE LOCAL GOVERNING AGENCY PRIOR TO REMOVAL OF ANY TREES OR PALMS FROM THE SITE.

2. SEE LANDSCAPE PLANS FOR PROPOSED LANDSCAPE PLANTINGS, LANDSCAPE LEGEND, PLANTLIST, SPECIFICATIONS, DETAILS, ETC.

3. THE CONTRACTOR SHALL REMOVE ALL TREES AND HEDGES AS PER PLANS AND AS APPROVED BY THE LOCAL GOVERNING AGENCIES (CITY OF MIAMI BEACH). TREE, PALM AND HEDGE MATERIAL SHALL INCLUDE ALL TRUNKS, STUMPS AND ROOTS. ALL EXCESS DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED SITE. ALL HOLES AND DEPRESSIONS SHALL BE BACKFILLED WITH CLEAN, APPROVED BACKFILL.

4. LOCATIONS SHOWN FOR THE EXISTING TREES AND PALMS ARE APPROXIMATE, EXACT LOCATIONS ARE TO BE FIELD VERIFIED BY A REGISTERED LAND SURVEYOR (RLS) PRIOR TO ANY PAVING OR ANY OTHER SUCH WORK WHICH WILL BE IMPACTED BY ANY TREES OR PALMS TO REMAIN.

5. ALL INVASIVE EXOTIC VEGETATION AND ANY ANY OTHER PLANTS LISTED AS CATEGORY I, ON THE FLORIDA EXOTIC PEST PLANT COUNCIL'S LIST OF FLORIDA'S MOST INVASIVE SPECIES SHALL BE REMOVED FROM THE SITE AND MAINTENANCE SHALL GUARANTEE CONTROL OF RE-INVASION.

SEE TREE DISPOSITION PLANS TD-1.2, TD-1.3.
SEE LANDSCAPE PLANS FOR PROPOSED TREE PLANTINGS.

JFS
JFS Design Inc.
LANDSCAPE ARCHITECTURE
LC 000393
jimmy@jfsdesignfl.com

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DN: c=US, o=JFS DESIGN INC., ou=A01410D00000 76E93E468BA00001 E9C, cn=James F Socash
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SINGLE FAMILY RESIDENCE
48 E. RIVO ALTO DR.
MIAMI BEACH, FL. 33139

TREE DISPOSITION PLAN

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scale:	as shown
project no.	20-21
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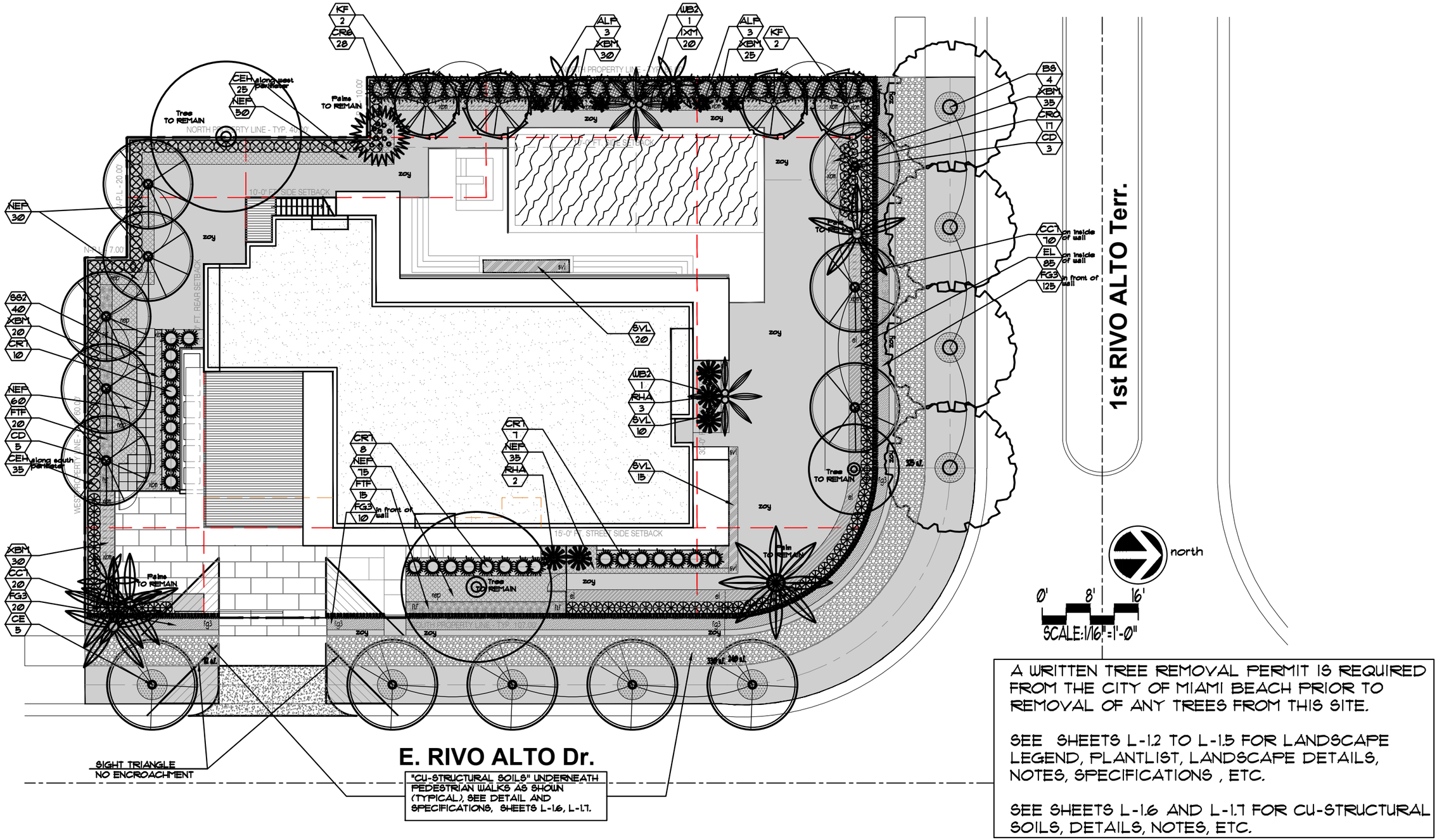
TD-1.3



"CU-STRUCTURAL SOILS" UNDERNEATH PEDESTRIAN WALKS AS SHOWN (TYPICAL), SEE DETAIL AND SPECIFICATIONS, SHEETS L-1.6, L-1.7.

A WRITTEN TREE REMOVAL PERMIT IS REQUIRED FROM THE CITY OF MIAMI BEACH PRIOR TO REMOVAL OF ANY TREES FROM THIS SITE.

SEE SHEETS L-1.2 TO L-1.5 FOR LANDSCAPE LEGEND, PLANTLIST, LANDSCAPE DETAILS, NOTES, SPECIFICATIONS , ETC.

SEE SHEETS L-1.6 AND L-1.7 FOR CU-STRUCTURAL SOILS, DETAILS, NOTES, ETC.

JFS

JFS Design Inc.
LANDSCAPE ARCHITECTURE
LC 000393
jimmy@jfsdesignfl.com

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DN: c=US, o=JFS DESIGN INC., ou=A01410D0000016E93E46BBA00001E9C, cn=James F Socash
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SINGLE FAMILY RESIDENCE

48 E. RIVO ALTO DR.
MIAMI BEACH, FL. 33139

SITE LANDSCAPE PLAN

REVISION	date
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drawn:	BD
checked:	LM
scale:	as shown
project no.	20-27
date:	Nov. 2, 2020

L-1.1

CITY OF MIAMI BEACH

LANDSCAPE LEGEND

INFORMATION REQUIRED TO BE PERMANENTLY AFFIXED TO PLANS

Zoning District **RS-R** Lot Area **11,270 s.f.** Acres **0.26**

		REQUIRED/ ALLOWED	PROVIDED
	OPEN SPACE		
A.	Square feet of required Open Space as indicated on site plan: Lot Area = 11,270 s.f.x **50** % = **5,635** s.f.	**5,635 s.f.**	**5,635 s.f.**
B.	Square feet of parking lot open space required as indicated on site		
	Number of parking spaces N/A x 10 s.f. parking space =	**N/A**	**N/A**
C.	Total square feet of landscaped open space required: A+B=	**5,635 s.f.**	**5,635 s.f.**
	LAWN AREA CALCULATION		
A.	Square feet of landscaped open space required	**5,635 s.f.**	**2,162 s.f.**
B.	Maximum lawn area (sod) permitted= **50** % 5,635=2,818 s.f.	**2,818 s.f.**	**2,162 s.f.**
	TREES		
A.	Number of trees required per lot or net lot acre, less existing number of trees meeting minimum requirements= ____trees x _____ net lot acres - number of existing trees=	**11**	**12**
B.	% Natives required: Number of trees provided x 30% =	**4**	**12**
C.	% Low maintenance / drought and salt tolerant required: Number of trees provided x 50%=	**6**	**12**
D.	Street Trees (maximum average spacing of 20' o.c.) 214.16 linear feet along street divided by 20'= 11	**11**	**11**
E.	Street tree species allowed directly beneath power lines: (maximum average spacing of 20' o.c.):		
	N/A linear feet along street divided by 20'=	**N/A**	**N/A**
	SHRUBS		
A.	Number of shrubs required: Sum of lot and street trees required x 12=	**264**	**367**
B.	% Native shrubs required: Number of shrubs provided x 50%=	**132**	**175**
	LARGE SHRUBS OR SMALL TREES		
A.	Number of large shrubs or small trees required: Number of required shrubs x 10%=	**27**	**28**
B.	% Native large shrubs or small trees required: Number of large shrubs or small trees provided x 50%=	**14**	**28**

STREET TREE TABULATIONS

	REQUIRED	PROVIDED
E. RIVO ALTO DR. 110.83' L.F. , 1 TREE/ 20 L.F. = 6 TREES (128.83'-18' DRIVEWAY)	**6**	**6** 5 CE+ 1 EXIST.
1st RIVO ALTO TERR. 85.33 L.F. , 1 TREE/ 20 L.F. = 5 TREES (NO DRIVEWAY)	**5**	**5** 4 BS+ 1 EXIST.
NOTE: PROPOSED STREET TREE PLANTINGS ARE SHOWN TO BE INSIDE OF THE PROPERTY DUE TO SIGHT TRIANGLE RESTRICTIONS AS SHOWN ON THE PLAN.		
TOTALS	**11**	**11**

JFS
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LANDSCAPE ARCHITECTURE
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MIAMI BEACH, FL. 33139

LANDSCAPE LEGEND

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L-1.2

PLANTLIST

SYM.	NATIVE	#	NAME	BOTANICAL NAME	SPECIFICATION
EXISTING TREES TO REMAIN					
			SEE TREE DISPOSITION PLAN		
PROPOSED TREES					
BS	YES	4	GUMBO LIMBO	Bursera simaruba	12' x 6'spr., 2" DBH
CD	YES	8	PIGEON PLUM	Coccoloba diversifolia	12' x 6'spr., 2" DBH
CE	YES	5	GREEN BUTTONWOOD	Conocarpus erectus	12' x 6'spr., 2" DBH
KF	YES	4	BLACK IRONWOOD	Krugiodendron ferreum	12' x 5', 2" DBH
PALMS					
WB2		2	FOXTAIL PALMS	Wodyetia bifurcata	DBL. TK., FG., 14' o.a., full hd.
SHRUBS					
CCT	YES	90	JAMAICA CAPER	Capparis cynophallophora	7 gal., 30" x 24", 24" o.c. full
CRO		17	CROTON "ORANGE"	Codieaum variegatum	3 gal., 18" x 18", 18" o.c., full
CRT	YES	25	SMALL-LEAVED CLUSIA	Clusia guttifera	7 GAL., 36" ht., 30" O.C., FTB.
CEH	YES	60	GREEN BUTTONWOOD	Conocarpus erectus	3 gal., 24" x 24", 24" o.c., full
FG3		155	"GREEN ISLAND" FICUS	Ficus "Green Island"	3 gal., 18" x 18", 18" o.c., full
IXM		20	IXORA "MAUI"	Ixora spp. "Maui"	3 gal., 18" x 18", 18" o.c., full
PROPOSED LARGE SHRUBS					
CR6	YES	28	SMALL-LEAVED CLUSIA	Clusia guttifera	6' ht., 36" O.C., FTB.
LANDSCAPE MATERIALS					
SS2		40	STEPPING STONES	18" X 18", SIMULATED KEYSTONE,	
				on 2" sand leveling course, level to grade	

PLANTLIST

SYM.	NATIVE	#	NAME	BOTANICAL NAME	SPECIFICATION
ACCENTS AND GROUNDCOVERS					
ALP		6	RED GINGER	Alpinina purpurata	7 gal., 18" x 18", 18"o.c., full
EL	YES	85	GOLDEN CREEPER	Ernodea littoralis	1 gal., 12" x 8", full, 12" o.c.
NEP	YES	250	BOSTON FERN	Nephrolepis exaltata	1 gal., 12" x 12" full, 15" o.c.
FTF	YES	35	FISHTAIL FERN	Nephrolepis falcata "Furcans"	3 gal., 18" x 18" full, 24" o.c.
XBM		140	PHILODENDRON BURLE MARX	Philo. "Burle Marx"	3 gal., 18" x 12" full, 18" o.c.
RHA		5	LADY PALMS	Rhapis excelsa	5'o.a., FTG., sun acclimated
SVL		45	SANSEVIERIA "LAURENTII"	Sansevieria trifasciata	3 gal., 18" x 12", 18" o.c. full
SOD					
lot	ZOY	2,162 s.f.	"EMPIRE TURF" ZOYSIA	Zoysia japonica	SOLID SOD, price per s.f.
ROW	SOD	1,560 s.f.	"FLORATAM" ST. AUGUSTINE	Stenotaphrum secundatum	SOLID SOD, price per s.f.
TOPSOIL:			TOPSOIL:SAND MIX	50:50 TOPSOIL:SAND MIX, SPREAD IN PLACE	
		14 c.y.	TREES, PALMS, SHRUBS AND GROUNDCOVERS		
		22 c.y.	AREA TO BE SODDED WITH A 2" DEPTH OF TOPSOIL SPREAD IN PLACE		
MULCHING:					
		20 c.y.+/-	RECYLED DARK BROWN	3" DEPTH, SPREAD IN PLACE, ATLAS PEAT AND SOIL	
				PROVIDE SAMPLE FOR APPROVAL PRIOR TO INSTALLATION	
		---	TOPSOIL, SOD AND MULCH QUANTITIES SHOWN ARE APPROXIMATE, CONTRACTOR		
			TO PROVIDE A UNIT PRICE PER UNIT AND WILL BE PAID ON THAT UNIT PRICE BASIS		
			UPON FINAL INSPECTION AND APPROVAL.		
INSTALLATION WATERING:					
			CONTRACTOR SHALL THOROUGHLY WATER-IN ALL PLANTINGS WHEN PLANTED,		
			AND SHALL CONTINUE WATERING UNTIL FINAL INSPECTION AND APPROVAL BY		
			THE LOCAL GOVERNING AGENCY AND THE OWNER.		

JFS

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LANDSCAPE ARCHITECTURE
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LANDSCAPE PLANTLIST

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L-1.3

LANDSCAPE NOTES

1. ALL PLANT MATERIAL SHALL BE FLORIDA NO. 1 GRADE OR BETTER.

2. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE LOCATION OF AND AVOID AND PROTECT UTILITY LINES, BURIED CABLES, AND OTHER UTILITIES.

3. TREE, PALM, ACCENT AND BED LINES ARE TO BE LOCATED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

4. ALL PLANTING SOIL SHALL BE 50:50 TOPSOIL:SAND MIX, FREE OF CLAY, STONES, ROCKS, OR OTHER FOREIGN MATTER. THIS SPECIFICATION INCLUDES ALL BACKFILL FOR BERMS AND OTHER LANDSCAPE AREAS.

SODDED-LAWN AREAS
2" DEPTH PLANTING SOIL SPREAD IN PLACE- THROUGHOUT.
GROUNDCOVER PLANTING BEDS:
6" DEPTH PLANTING SOIL SPREAD IN PLACE- THROUGHOUT.
SHRUB AND HEDGE PLANTING AREAS:
12" DEPTH PLANTING SOIL SPREAD IN PLACE- THROUGHOUT.
TREES, PALMS, SPECIMEN PLANT MATERIAL:
24" DEPTH PLANTING SOIL SPREAD IN PLACE OR, TO THE DEPTH OF THE ROOTBALL OR CONTAINER WHICHEVER IS GREATEST.
LANDSCAPE ISLANDS AND BUILDING FOUNDATIONS:
EXCAVATE AND REMOVE ALL LIMEROCK, ROCKS, DEBRIS. ETC. TO A DEPTH OF 18" AND BACKFILL W/ 50:50 TOPSOIL:SAND MIX.
BUILDING FOUNDATIONS SHALL BE THE SAME DEPTH TO A WIDTH OF 36" FROM THE BUILDING BASE.

5. THE SITE CONTRACTOR SHALL BE RESPONSIBLE TO BRING ALL GRADES TO WITHIN 2" OF FINAL GRADES. THIS SHALL INCLUDE A 2" APPLICATION OF 50:50 TOPSOIL:SAND MIX FOR ALL LANDSCAPE AND AREAS TO BE SODDED.

6. THE LANDSCAPE CONTRACTOR SHALL CALCULATE AND SUBMIT AN ITEMIZED PRICE FOR THE 2" APPLICATION OF 50:50 MIX FOR ALL SOD AREAS AS A REFERENCE IN THE CASE THAT THERE WOULD BE A DISCREPANCY BETWEEN SITE AND LANDSCAPE CONTRACTORS AND NOTIFY THE SITE CONTRACTOR OR PROJECT SUPERINTENDENT AS TO THIS DISCREPANCY. IT WILL THEN BE DETERMINED WHICH PARTY WILL PROVIDE THIS 2" TOPSOIL:SAND APPLICATION AND SUBSEQUENT PAYMENT.
OTHER PLANTING SOIL MIXES TO BE ADDED, I.E. FOR TREES, PALMS, SPECIMEN PLANTS, SHRUBS AND GROUNDCOVERS SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR AND BE INCLUSIVE WITH THE LANDSCAPE BID.

7. CONTRACTOR SHALL COORDINATE WITH THE IRRIGATION CONTRACTOR AND LEAVE PROVISIONS FOR ALL, INCLUDING UNDERGROUND UTILITY LINE LOCATIONS
DIAL 811 "NO CUTS" AS REQUIRED BY LAW.

8. ALL PLANTING BEDS SHALL BE MULCHED TO A DEPTH OF 3" WITH AN APPROVED RECYCLED MULCH BY THE PRESIDING GOVERNING AGENCY. NO HEAVY METALS. I.E. ARSENIC, LEAD, ETC. ARE TO BE CONTAINED IN THE MULCH AND THE CONTRACTOR SHALL PROVIDE CERTIFICATION OR PROOF THAT ALL MULCH IS FREE OF HEAVY METALS OR SIMILAR ENVIRONMENTAL CONTAMINANTS.

9. SOD SHALL BE ARGENTINE "BAHIA" OR ST. AUGUSTINE "FLORATAM" AS SHOWN ON THE PLANS, STRONGLY ROOTED, FREE FROM WEED, FUNGUS, INSECTS AND DISEASE. CONTRACTOR SHALL SOD ALL AREAS AS INDICATED ON THE PLAN OR AS DIRECTED. PAYMENT SHALL BE DETERMINED BY THE TOTAL MEASURED SODDED AREAS X THE UNIT PRICE SUBMITTED AND FIELD VERIFIED.

10. SOD SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS AS DEFINED BY FDOT. SOD SHALL CARRY A 5-MONTH WARRANTY.

11. ALL TREES, PALMS, SHRUBS AND GROUNDCOVERS SHALL CARRY A ONE-YEAR WARRANTY FROM THE DATE OF FINAL ACCEPTANCE.

12. ALL TREES AND PALMS SHALL BE STAKED PER ACCEPTED STANDARDS BY THE FLORIDA NURSERYMEN & GROWERS LANDSCAPE ASSOCIATION (FNGLA).
THERE SHALL BE ONE FINAL INSPECTION FOR APPROVAL BY THE PRESIDING GOVERNING AGENCY. CONTRACTOR SHALL INSURE THAT THE PLANS, DETAILS, SPECIFICATIONS AND NOTES HAVE BEEN ADHERED TO AND THAT THE LANDSCAPE AND IRRIGATION INSTALLATION IS COMPLIANT TO ALL ITEMS AS DIRECTED ON THE PLANS PRIOR TO SCHEDULING OF THE FINAL INSPECTION.

13. THE PLANT LIST IS INTENDED ONLY AS AN AID TO BIDDING. ANY DISCREPANCIES FOUND BETWEEN THE QUANTITIES ON THE PLAN AND PLANT LIST, THE QUANTITIES ON THE PLAN SHALL BE HELD VALID.

14. IRRIGATION SHALL PROVIDE FOR A 100% COVERAGE WITH A 100% OVERLAP, AUTOMATIC SYSTEM W/ RAIN MOISTURE SENSOR ATTACHED TO CONTROLLER. ALL FLORIDA BUILDING CODE APPENDIX "F" IRRIGATION REQUIREMENTS SHALL BE STRICTLY ADHERED TO FOR INSTALLATION AND PREVAILING WATER MANAGEMENT DISTRICT RESTRICTIONS AND REGULATIONS SHALL BE IN COMPLIANCE FOR POST-INSTALLATION WATERING SCHEDULES.

15. EXISTING IRRIGATION SYSTEM (IF APPLICABLE) SHALL BE RETROFITTED TO COMPLY WITH THOSE SPECIFICATIONS AS OUTLINED ABOVE.

16. CONTRACTOR SHALL PROVIDE A WATER TRUCK DURING PLANTING TO INSURE PROPER WATERING-IN DURING INSTALLATION AND WILL BE RESPONSIBLE FOR CONTINUAL WATERING UNTIL FINAL ACCEPTANCE BY THE OWNER.

17. ALL EXISTING TREES, PALMS AND PLANT MATERIAL TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION. CONTRACTOR SHALL INSTALL PROTECTIVE BARRIERS SUCH AS "TENAX" PROTECTIVE FENCING OR AS SHOWN ON THE DETAILS TO BE INSTALLED AT THE BEGINNING OF THE PROJECT. BARRIERS SHALL BE LOCATED TO INCLUDE THE DRIPLINE OF THE TREES, PALMS AND PLANT MATERIAL WHERE POSSIBLE. THE CONTRACTOR SHALL TAKE EXTRA CAUTION TO PREVENT ANY DAMAGE TO THE TRUNK,, BRANCHES, ROOTS, ROOT ZONE AREAS AND ADJACENT GRADES.

18. EXISTING TREES AND PALMS TO REMAIN SHALL BE TRIMMED PER ANSI-300 STANDARDS. SUPERVISION OF THE TRIMMING SHALL BE PERFORMED BY AN ISA-CERTIFIED ARBORIST.

19. ALL EXISTING TREES AND PALMS SHALL BE "LIFTED AND THINNED" TO PROVIDE FOR AN 8' MINIMUM CLEARANCE FOR SIDEWALKS AND PEDESTRIAN WALKWAYS AND A 14' MINIMUM CLEARANCE FOR ROADWAYS, DRIVEWAYS, AND ALL VEHICULAR USE AREAS.

20. REMOVAL OF ANY TREES OR PALMS WILL REQUIRE A WRITTEN "TREE REMOVAL PERMIT" FROM THE LOCAL GOVERNING AGENCY PRIOR TO REMOVAL.

21. ALL PLANTINGS IN NON-IRRIGATED AREAS, I.E. RIGHTS OF WAYS, SWALES, ETC.
SHALL BE WATERED-IN THOROUGHLY AND CONTINUED TO BE WATERED THROUGHOUT UNTIL C.O. ACCEPTANCE. COORDINATE WITH OWNER AND PROJECT MANAGER TO PROVIDE POST C.O. WATERING TO INSURE PLANT ESTABLISHMENT FOR A MINIMUM OF ONE YEAR AFTER CERTIFICATE OF OCCUPANCY ACCEPTANCE.

22. THE LANDSCAPE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE LOCAL GOVERNING AGENCY, GENERAL CONTRACTOR, LANDSCAPE ARCHITECT, AND IRRIGATION CONTRACTOR PRIOR TO COMMENCEMENT OF WORK.

JFS
JFS Design Inc.
LANDSCAPE ARCHITECTURE
LC 000393
jimmy@jfsdesignfl.com

Digitally signed by James F Socash
DN: c=US, o=JFS DESIGN INC., ou=A01410D0000001E9EC, cn=James F Socash
Date: 2020.11.05 14:11:19 -05'00'

SINGLE FAMILY RESIDENCE
48 E. RIVO ALTO DR.
MIAMI BEACH, FL. 33139

LANDSCAPE NOTES

REVISION	date
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designed:	JFS
drawn:	BD
checked:	WM
scale:	as shown
project no.	20-27
date:	Nov. 2, 2020

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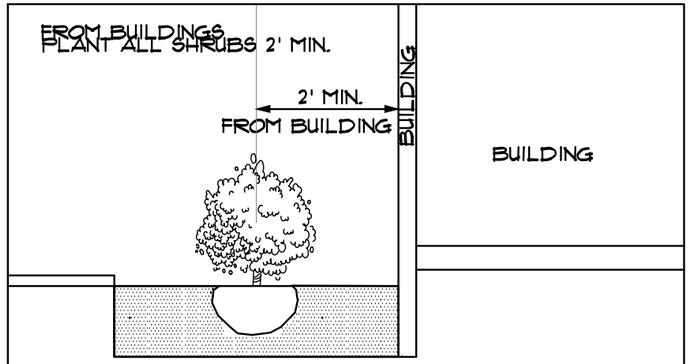
■ FERTILIZATION:

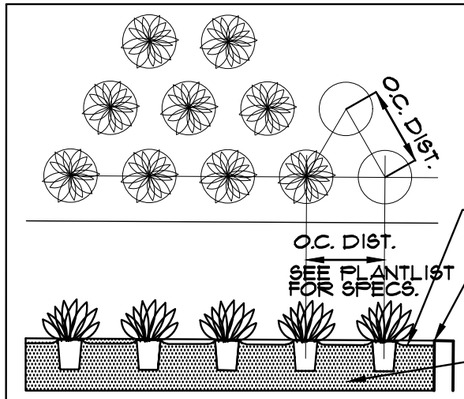
ONE COMPLETE APPLICATION OF GRANULAR FERTILIZER SHALL BE APPLIED PRIOR TO FINAL ACCEPTANCE AND APPROVAL BY THE LANDSCAPE ARCHITECT. AN ADDITIONAL FERTILIZATION PROGRAM SHALL BE SUBMITTED TO THE PROJECT MANAGER FOR AN ANNUAL FERTILIZATION APPLICATION PROGRAM. FERTILIZERS SHALL BE PER ATLANTIC -AFEC FERTILIZER & CHEMICAL (AFEC) OR AN APPROVED EQUAL. CONTRACTOR SHALL SUBMIT FERTILIZATION AS A SEPARATE ITEM IN THE BID.

FERTILIZATION SHALL BE AS FOLLOWS: TREES: 12-06-08 (AFEC # 5231) RATE: 1.5 LBS./ INCH OF DIA. @ DBH PALMS: 12-04-12 (AFEC # 7216) RATE: 1.5 LBS./ INCH OF DIA. @ DBH SHRUBS AND GROUNDCOVERS: (12-06-08 AFEC # 5231) RATE: 1.5 OZ./ FT. OF HEIGHT



SHRUB PLANTINGS BUILDING DETAIL

N.T.S.



GROUNDCOVERS TO BE STAGGERED AS SHOWN - SPACING BETWEEN ROWS TO BE AT A 60 DEGREE ANGLE OF THE O.C. DISTANCE AS SHOWN

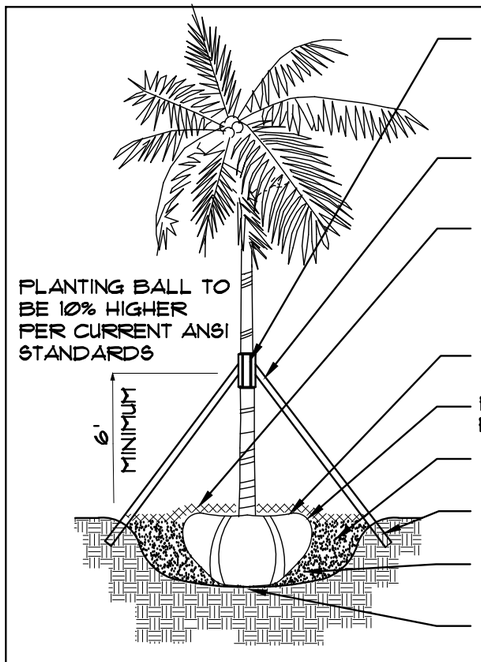
MULCH - SEE SPECS. FOR DEPTH, TYPE, ETC.

MULCH SHALL BE LEVEL WITH ALL EDGES OF PAVEMENT TYPICAL

PLANTING SOIL MIX - SEE NOTES FOR TYPE, DEPTH, ETC.

GROUNDCOVER DETAIL

N.T.S.



3 - 2" x 4" WOOD BATTENS SECURED TO PALM W/ STEEL BANDING-DO NOT NAIL INTO PALM. TOE NAIL 2' X 4" BRACE TO BATTENS.
MINIMUM 5 LAYERS OF BURLAP

2" x 4" WOOD BRACES -MIN. 3 PER PALM SPACED EQUALLY AROUND PALM

3" RECYCLED MULCH OR APPROVED EQUAL, PULL MULCH 2" BACK FROM TRUNK, FORM SAUCER 4"-6" ALL AROUND PLANTING HOLE.

REMOVE BURLAP FROM TOP ⅓ OF THE ROOTBALL.

PLANTING BALL TO BE 10% HIGHER THAN FINAL GRADE PER ANSI STANDARDS

PLANTING PIT TO BE TWICE THE DIAMETER OF THE ROOTBALL.

2" X 4" BRACE BURIED AND TIED W/ #4 REBAR

BACKFILL AROUND THE ROOTBALL W/ ⅓ PLANTING MIX AND ⅔ NATIVE SOIL.

PLACE ROOTBALL AT THE BOTTOM OF THE UNDISTURBED SUBGRADE.

PALM PLANTING DETAIL

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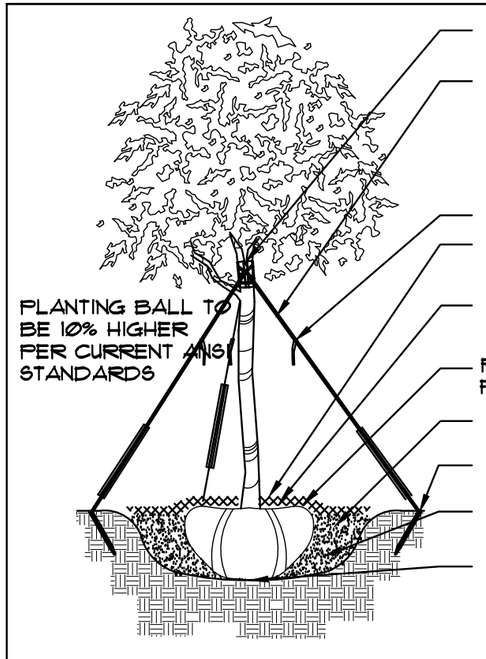

SINGLE LEADER, NO CO-DOMINANT LEADERS, NO INCLUDED BARK.

BIODEGRADABLE SISAL ROPE (3 GUYS PER TREE) SHALL BE USED TO SECURE TREES. USE AMPLE LENGTHS TO ALLOW FOR FUTURE ADJUSTMENTS. TIES SHALL BE SET SO AS NOT TO INJURE BRANCHING HABIT.

FLAGGING RIBBON ON ALL GUY WIRES

REMOVE BURLAP FROM THE TOP ⅓ OF THE ROOTBALL.

3" RECYCLED MULCH OR APPROVED EQUAL, PULL MULCH 2" BACK FROM TRUNK, FORM SAUCER 4"-6" ALL AROUND PLANTING HOLE.

PLANTING BALL TO BE 10% HIGHER THAN FINAL GRADE PER ANSI STANDARDS

PLANTING PIT TO BE TWICE THE DIAMETER OF THE ROOTBALL.

IRON REBAR (#4) OR WOODEN STAKES (TYP.) BURIED BELOW GROUND LEVEL.

BACKFILL AROUND THE ROOTBALL WITH ⅓ PLANTING MIX AND ⅔ NATIVE SOIL.

PLACE ROOTBALL AT THE BOTTOM OF THE UNDISTURBED SUBGRADE.

TREE PLANTING DETAIL

N.T.S.

JFS

JFS Design Inc.
LANDSCAPE ARCHITECTURE
LC 000393
jimmy@jfsdesignfl.com

Digitally signed by James F Socash
DN: c=US, o=JFS DESIGN INC., ou=A01410D000001 6E93E46BBA00001 E9C, cn=James F Socash
Date: 2020.11.05 14:13:31 -05'00'

SINGLE FAMILY RESIDENCE
48 E. RIVO ALTO DR.
MIAMI BEACH, FL. 33139

LANDSCAPE DETAILS, ETC.

REVISION	date
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checked:	LM
scale:	as shown
project no.	20-27
date:	Nov. 2, 2020

L-1.5

CU-STRUCTURAL SOIL® SPECIFICATIONS

PART 1 - DESCRIPTION AND SPECIFICATION

1.1 GENERAL

A. The work of this section consists of all Structural Soil work and related items as indicated on the drawings or as specified herein and includes, but is not limited to, the following:

1. CU Soil™ is a proprietary material patented by Cornell University (US Patent # 5,849,069). Only licensed producers are allowed to supply this material, meeting the specifications described in this text. For a list of licensed CU-Soil™ producers, call AMEREQ, INC. at 1-800-832-8788.
2. The non-highlighted areas are for the specifier's information only. Since these are the specifications under which we have licensed producers to make CU-Structural Soil® (to meet both engineering, and horticultural requirements) they should not be made available to unlicensed contractors.

1.2 REFERENCES AND STANDARDS

A. The following references are used herein and shall mean:

1. ASTM: American Society of Testing Materials
2. USDA: United States Department of Agriculture
3. AASHTO: American Association of State Highway and Transportation Officials
4. Standard Specifications: Regional or Municipal Standard Specifications Documentation for the location of proposed usage
5. AOAC: Association of Official Agricultural Chemists

1.3 SAMPLES AND SUBMITTALS

A. At least 30 days prior to ordering materials, the Contractor shall submit to the Engineers representative samples, certificates, manufacturer's literature and certified tests for materials specified below. No materials shall be ordered until the required samples, certificates, manufacturer's literature and test results have been reviewed and approved by the Engineer. Delivered materials shall closely match the approved samples. Approval shall not constitute final acceptance. The engineer reserves the right to reject, on or after delivery, any material that does not meet these specifications.

B. Submit two, one-half cubic foot representative samples of Clay Loam and one, one cubic foot representative samples Structural Soil mixes in this section for testing, analysis and approval. Submit one set of samples for every 500 CY of material to be delivered. In the event of multiple source fields for Clay Loam, submit a minimum of one set of samples per source field or stockpile. Samples shall be taken randomly throughout the field or stockpile at locations as directed by the Engineer and packaged in the presences of the Engineer. Samples shall be labeled to include the location of the source of the material, the date of the sample and the Contractor's name. One of the two samples is to be used by testing laboratory for testing purposes. The second sample of all Clay Loam and Structural Soil shall be submitted to the Engineer at the same time as test analysis as a record of the soil color and texture.

CU-STRUCTURAL SOIL® SPECIFICATIONS

1. Submit the locations of all source fields for Clay Loam.
2. Submit a list of all chemicals and herbicides applied to the Clay Loam for the last five years and a list of all crops grown in the Clay Loam source fields for the last three years.

C. Submit soil test analysis reports for each sample of Clay Loam and Structural Soil from an approved soil-testing laboratory. The test results shall report the following:

1. The soil testing laboratory shall be approved by the Engineer. The testing laboratory for particle size and chemical analysis may be a public agricultural extension service agency or agricultural experiment station.
2. Submit a bulk density of the sample and particle size analysis including the following gradient of mineral content:

USDA Designation Size in mm.
Gravel >2 mm
Sand .025 - 2 mm
Silt .0002-.025 mm
Clay minus .0002 mm

Sieve analysis shall be performed and compared to USDA Soil Classification System.
Sieve analysis shall be done by a combined hydrometer and wet sieving using sodium hexametaphosphate as a dispersant in compliance with ASTM D422 after destruction of organic matter by hydrogen peroxide.

3. Submit a chemical analysis, performed in accordance with current AOAC Standards, including the following:

a. pH and Buffer pH.
b. Percent organic matter as determined by the loss of ignition of oven dried samples. Test samples shall be oven dried to a constant weight at a temperature of 230 degrees F, plus or minus 9 degrees.
c. Analysis for nutrient levels by parts per million including nitrate nitrogen, ammonium nitrogen, phosphorus, potassium, magnesium, manganese, iron, zinc, calcium and extractable aluminum. Nutrient test shall include the testing laboratory recommendations for supplemental additions to the soil as calculated by the amount of material to be added per volume of soil for the type of plants to be grown in the soil.
d. Analysis for levels of toxic elements and compounds including arsenic, boron, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, zinc and PCB. Test results shall be cited in milligrams per kilogram.
e. Soluble salt by electrical conductivity of a 1:2 soil/water sample measured in Millimho per cm.
f. Cation Exchange Capacity (CEC).
g. Carbon/Nitrogen Ratio.

4. Submit 5-point minimum moisture density curve AASHTO T 99 test results for each Structural Soil sample without removing oversized aggregate.
5. Submit California Bearing Ratio test results for each Structural Soil sample compacted to peak standard density. The soaked CBR shall equal or exceed a value of 50.
6. Submit measured dry-weight percentage of stone in the mixture.
7. The approved Structural Soil samples shall be the standard for each lot of 500 cubic yards of material.
8. All testing and analysis shall be at the expense of the Contractor.

D. Maintenance Instructions: Prior to the time of Final Acceptance of the Work, submit maintenance instructions for the use, removal and replacement of Structural Soil for the licensor's (Amereq Corp.) use. The instructions shall be reviewed by the Project Engineer as a pre-condition for Final Acceptance of the Work.

E. Submit to the Engineer for review a proposed plan and vertical section layout of all Structural Soil.

F. Submit one cubic foot sample per each 500 cubic yards of required material, and for each sample, the following analysis for all Crushed Stone. The soil testing laboratory shall be approved by the Engineer.

1. Provide a particle size analysis including the following gradient of mineral content:

USDA Designation Size in mm.
3" -76 mm
2-1/2" 63-76 mm
2" 50-63 mm
1-1/2" 37-50 mm
1" 25-37 mm
¾" 19-25 mm
Fine gravel 2-19 mm
Sand .025-2 mm
Silt .0002-.025 mm
Clay minus .0002 mm

2. Provide the manufacturers analysis of the following:

a. Loose and rodded unit weight.
b. Bulk specific gravity and absorbency.
c. Stone dimension and surface texture description.
d. Documentation of acceptance for use as DOT approved aggregate by the appropriate regional DOT.

3. Provide a percent pore space analysis defined as follows:

a. Rodded Unit Weight divided by the Bulk Specific Gravity X 100

G. Submit one pound sample of each type of fertilizer and three certificates showing composition and analysis. Submit the purchasing receipt for each fertilizer showing the total quantity purchased for the project prior to installation.

H. Submit the Landscape or Pavement Material Contractor's qualifications outlining projects of similar quality, schedule requirements and construction detailing over the last five years. Qualifications shall include: the names of all similar projects, year completed, location, description of the scope of work including the types and quantities of planting mix/pavement material installed and the name, address and telephone number of the owner or the owner's representative.

DELIVERY, STORAGE AND HANDLING

A. Do not deliver or place soils in frozen, wet, or muddy conditions. Material shall be delivered at or near optimum compaction moisture content as determined by AASHTO T99 (ASTM D 698). Do not deliver or place materials in an excessively moist condition (Beyond two percent above optimum compaction moisture content as determined by AASHTO T 99 (ASTM D 698).
B. Protect soils and mixes from absorbing excess water and from erosion at all times. Do not store materials unprotected from large rainfall events. Do not allow excess water to enter site prior to compaction. If water is introduced into the material after grading, allow material to drain or aerate to optimum compaction moisture content.

1.5 EXAMINATION OF CONDITIONS

A. All areas to receive Structural Soil shall be inspected by the Contractor before starting work and all defects such as incorrect grading, compaction and inadequate drainage etc. shall be reported to the Engineer prior to beginning this work.
B. The Contractor shall be responsible for judging the full extent of work requirements involved, including but not limited to the potential need for temporary storage and staging of soils, including moving soil stock piles at the site to accommodate scheduling of other work and the need to protect installed soils from compaction, erosion and contamination.

1.6 QUALITY ASSURANCE

A. Qualifications of Landscape or Pavement material Contractor: The work of this section shall be performed by a firm which has a minimum of five years experience successfully installing planting mix of a similar quality, schedule requirement and construction detailing to this project. Proof of this experience shall be submitted as per paragraph, SAMPLES and SUBMITTALS, of this Section.

PART 2 - MATERIALS

2.1 CLAY LOAM

A. Clay Loam shall be a "loam" based on the "USDA classification system" as determined by mechanical analysis (ASTM D-422) and it shall be of uniform composition, without admixture of subsoil. It shall be free of stones greater than one-half inch, lumps, plants and their roots, debris and other extraneous matter over one inch in diameter or excess of smaller pieces of the same materials as determined by the Engineer. It shall not contain toxic substances harmful to plant growth. It shall be obtained from naturally well-drained areas, which have never been stripped of topsoil before and have a history of satisfactory vegetative growth. Clay loam shall contain not less than 2% nor more than 5% organic matter as determined by the loss on ignition of over-dried samples. Test samples shall be oven-dried to a constant weight at a temperature of 230 degrees F., plus or minus 9 degrees.

B. Mechanical analysis for a Loam/Clay Loam shall be as follows:

Textural Class % of Total Weight
Gravel less than 5%
Sand 20-45%
Silt 20-50%
Clay 20-40%

C. Chemical analysis: Meet or be amended to meet the following criteria:

1. pH between 5.5 to 6.5.
2. Percent organic matter 2-5% by dry weight.
3. Nutrient levels as required by the testing laboratory recommendations for the type of plants to be grown in the soil.
4. Toxic elements and compounds below the United States Environmental Protection Agency Standards for Exceptional Quality sludge or local standard± whichever is more stringent.
5. Soluble salt less than 10 Millimho per cm.
6. Cation Exchange Capacity (CEC) greater than 10.
7. Carbon/Nitrogen Ratio less than 33:1.

D. Loam/Clay Loam shall be the product of a commercial processing facility specializing in production of stripped natural topsoil. No topsoil shall come from USDA - classified prime farmland.

2.2 FERTILIZER

A. Commercial fertilizer complying with State and United States fertilizer laws. Deliver fertilizer in original unopened containers, which shall bear the manufacturer's certificate of compliance covering analysis, which shall be furnished to the Engineer. Fertilizer shall be formulated for mixing into the soil and be certified by the manufacturer to provide controlled release of nitrogen continuously for a period of no less than nine months and no more than 12 months.
B. Fertilizer percentages of weight of ingredients and application rates shall be as recommended by the soil testing results.

2.3 SULFUR (if needed)

A. Sulfur shall be commercial granular, 96% pure sulfur, delivered in containers with the name of the manufacturer, material and analysis appearing on the container.
B. Sulfur used to lower soil pH above 6.5 shall be ferrous sulfate formulation.

2.4 LIME (if needed)

A. Agricultural limestone containing a minimum of 85% carbonates. Minimum gradation: 100% passing 10 mesh sieve± 98% passing 20 mesh sieve± 55% passing 60 mesh sieve and 40% passing 100 mesh sieve.

2.5 CRUSHED STONE

A. Crushed Stone shall be a DOT certified crushed stone. Granite and limestone have been successfully used in this application. 90-100% of the stone should pass the 1.5 inch sieve, 20-
55% should pass the 1.0 inch sieve and 10% should pass the 0.75 inch sieve. A ratio of nominal maximum to nominal minimum particle size of 2 is required.
B. Acceptable aggregate dimensions will not exceed 2.5:1.0 for any two dimensions chosen.
C. Minimum 90% with one fractured face, minimum 75% with two or more fractured faces.
D. Results of Aggregate Soundness Loss test shall not exceed 18%.
E. Losses from LA Abrasion tests shall not exceed 40%.

2.6 HYDROGEL

A. Hydrogel shall be a potassium propenoate-propenamide copolymer Hydrogel (Geiscape® Hydrogel Tackifier) as manufactured by Amereq Corp. (800) 832-8788

2.7 WATER

A. The Contractor shall be responsible to furnish his own supply of water to the site at no extra cost. All work inured or damaged due to the lack of water, or the use of too much water, shall be the Contractor's responsibility to correct. Water shall be free from impurities injurious to vegetation.

2.8 STRUCTURAL SOIL

A. A uniformly blended mixture of crushed Stone, Clay Loam and Hydrogel, mixed to the following proportion:

Material Unit of Weight
Crushed Stone 100 units dry weight
Loam as determined by the test of the mix (approx. 20 units)
Hydrogel 0.03 units dry weight
Total moisture AASHTO T-99 optimum moisture

B. The initial mix design for testing shall be determined by adjusting the ratio between the Crushed Stone and the clay loam. Adjust final mix dry weight mixing proportion to decrease soil in mixture if CBR test results fail to meet acceptance (CBR *50).

JFS
JFS Design Inc.
LANDSCAPE ARCHITECTURE
LC 000393
jimmy@jfsdesignfl.com

Digitally signed by James F Socash
DN: c=US, o=JFS DESIGN INC., ou=A01410D00000 16E93E46BBA0000 169C, cn=James F Socash
Date: 2020.11.05 14:14:51 -05'00'

SINGLE FAMILY RESIDENCE
48 E. RIVO ALTO DR.
MIAMI BEACH, FL. 33139

"CU-STRUCTURAL SOILS" SPECIFICATIONS, ETC.

REVISION	date
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scale:	as shown
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date:	Nov. 2, 2020

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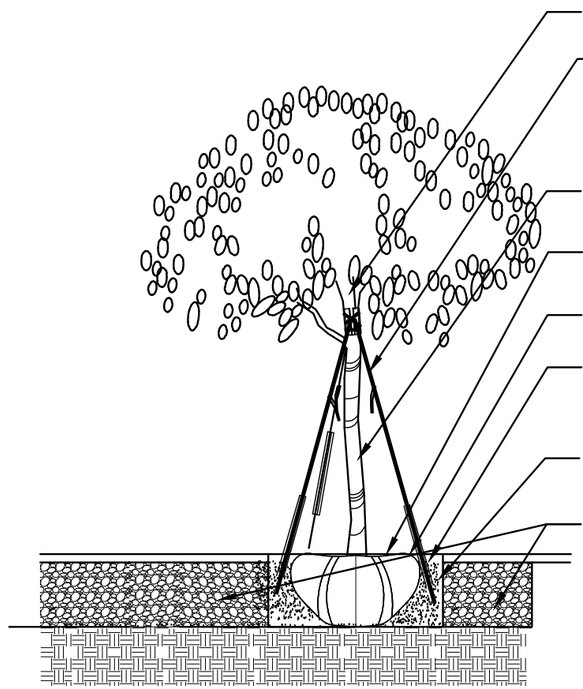
PART 3 - CONSTRUCTION METHODS
3.1 MIX DESIGN
A. Prepare sample Structural Soil mixes to determine the ratio of mix components. Submit for approval.
1. Submit samples and the test results of each mix component for approval. Based on samples and the analysis of the mix components, the Engineer and the Contractor will jointly determine a mix ratio to be tested for conformance with the requirements of the specifications. For Structural Soil quantities greater than 500 cubic yards, test the mix ratio for each Clay Loam or Crushed Stone where the testing indicates a significant difference in physical analysis of the Clay Loam or Crushed Stone as determined by the Engineer.
2. The Contractor shall prepare the samples of the proposed mix ratio options and obtain soil test as described in paragraph 1.3 C. Submit the samples of each of the mixes with the test results.
3. The Engineer may request additional Structural Soil mix ratio samples to be tested in the event that further refinement of the mix is necessary.
4. Submit to the Engineer proposed fertility amendment recommendations including amounts and types of fertilizers and pH adjustments for each mix ratio. Fertility adjustments shall be included as part of the mixing process.
3.2 SOIL MIXING AND QUALITY CONTROL TESTING
A. All Structural Soil mixing shall be performed at the Producer's yard using appropriate soil measuring, mixing and shredding equipment of sufficient capacity and capability to assure proper quality control and consistent mix ratios. No mixing of Structural Soil at the project site shall be permitted. Portable pugging may be used.
1. Maintain adequate moisture content during the mixing process. Soils and mix components shall easily shred and break down without clumping. Soil clods shall easily break down into a fine crumbly texture. Soils shall not be overly wet or dry. The contractor shall measure and monitor the amount of soil moisture at the mixing site periodically during the mixing process.
2. A mixing procedure for front-end loader shall be as follows:
a. On a flat asphalt or concrete paved surface, spread an 8 inch to 12 inch layer of crushed stone.
b. Spread evenly over the stone the specified amount of dry hydrogel.
c. Spread over the dry hydrogel and crushed stone a proportional amount of clay loam according to the mix design.
d. Blend the entire amount by turning, using a front-end loader or other suitable equipment until a consistent blend is produced.
e. Add moisture gradually and evenly during the blending and turning operation as required to achieve the required moisture content. Delay applications of moisture for 10 minutes prior to successive applications. Once established, mixing should produce a material within 1% of the optimum moisture level for compaction.
3. Add soil amendments to alter soil fertility including fertilizers and pH adjustment at the time of mixing at the rates recommended by the soil test.
a. Soil pH shall be adjusted to fall within a value of 5.5 and 6.5 two months after mixing if the material is stored, unless mixing with a high pH stone. Once pavement is laid, no adjustment should be imposed.
b. Soil component carbon/nitrogen ratio shall be adjusted to be less than 33:1 within two months after mixing.
B. The Producer shall mix sufficient material in advance of the time needed at the job site to allow adequate time for final quality control testing as required by the progress of the work. Structural Soil shall be stored in piles of approximately 500 cubic yards and each pile shall be numbered for identification and quality control purposes. Storage piles shall be protected from rain and erosion by covering with plastic sheeting.
C. During the mixing process, the Contractor obtains two, one cubic foot quality control samples per 500 cubic yards of production from the final Structural Soil. The samples shall be taken from random locations in the numbered stockpiles as required by paragraph 1.3.B of this specification. Each sample shall be tested for particle size analysis and chemical analysis as described in Paragraph 1.3.C.2 and 3 above. Submit the results directly to the Engineer for review and approval.
D. The quality control sample Clay Loam-Crushed Stone ratios shall be no greater or less than 2% of the approved test sample as determined by splitting a known weight of oven dried material on a #4 sieve. In the event that the quality control samples vary significantly from the approved Structural Soil sample, as determined by the Engineer, remix and retest any lot of soil that fails to meet the correct analysis making adjustments to the mixing ratios and procedures to achieve the approved consistency.
3.3 UNDERGROUND UTILITIES AND SUBSURFACE CONDITIONS
A. Notify the Engineer of any subsurface conditions which will affect the Contractor's ability to complete the work.
B. Locate and confirm the location of all underground utility lines and structures prior to the start of any excavation.
C. Repair any underground utilities or foundations damaged by the Contractor during the progress of this work. The cost of all repairs shall be at the Contractor's expense.
3.4 SITE PREPARATION
A. Do not proceed with the installation of the Structural Soil material until all walls, curb footings and utility work in the area have been installed. For site elements dependent on Structural Soil for foundation support, postpone installation until immediately after the installation of Structural Soil.
B. Install subsurface drain lines as shown on the Drawings prior to installation of Structural Soil material.
C. Excavate and compact the proposed subgrade to depths, slopes and widths as shown on the Drawings. Maintain all required angles of repose of the adjacent materials as shown on the drawings. Do not over excavate compacted subgrades of adjacent pavement or structures.
D. Confirm that the subgrade is at the proper elevation and compacted as required. Subgrade elevations shall slope parallel to the finished grade and or toward the subsurface drain lines as shown on the drawings.
E. Clear the excavation of all construction debris, trash, rubble and any foreign material. In the event that fuels, oils, concrete washout silts or other material harmful to plants have been spilled into the subgrade material, excavate the soil sufficiently to remove the harmful material. Fill any over excavation with approved fill and compact to the required subgrade compaction.
F. Do not proceed with the installation of Structural Soil until all utility work in the area has been installed. All subsurface drainage systems shall be operational prior to installation of Structural Soils.
G. Protect adjacent walls, walks and utilities from damage or staining by the soil. Use ½" plywood and or plastic sheeting as directed to cover existing concrete, metal and masonry work and other items as directed during the progress of the work.
I. Clean up all trash and any soil or dirt spilled on any paved surface at the end of each working day.
2. Any damage to the paving or architectural work caused by the soils installation Contractor shall be repaired by the general contractor at the soils installation contractor's expense.
H. Maintain all silt and sediment control devices required by applicable regulations. Provide adequate methods to assure that trucks and other equipment do no track soil from the site onto adjacent property and the public right of way.
3.5 INSTALLATION OF STRUCTURAL SOIL MATERIAL
A. Install Structural Soil in 6 inch lifts and compact each lift.
B. Compact all materials to peak dry density from a standard AASHTO compaction curve (AASHTO T 99). No compaction shall occur when moisture content exceeds maximum as listed herein. Delay compaction 24 hours if moisture content exceeds maximum allowable and protect Structural Soil during delays in compaction with plastic or plywood as directed by the Engineer.
C. Bring Structural Soils to finished grades as shown on the Drawings. Immediately protect the Structural Soil material from contamination by toxic materials, trash, debris, water containing cement, clay, silt or materials that will alter the particle size distribution of the mix with plastic or plywood as directed by the Engineer.
D. The Engineer may periodically check the material being delivered and installed at the site for color and texture consistency with the approved sample provided by the Contractor as part of the submittal for Structural Soil. In the event that the installed material varies significantly from the approved sample, the Engineer may request that the Contactor test the installed Structural Soil. Any soil which varies significantly from the approved testing results, as determined by the Engineer, shall be removed and new Structural Soil installed that meets these specifications.
3.6 FINE GRADING
A. After the initial placement and rough grading of the Structural Soil but prior to the start of fine grading, the Contractor shall request review of the rough grading by the Engineer. The Contractor shall set sufficient grade stakes for checking the finished grades.
B. Adjust the finish grades to meet field conditions as directed.
1. Provide smooth transitions between slopes of different gradients and direction.
2. Fill all dips with CU-Soil™ and remove any bumps in the overall plane of the slope.
a. The tolerance for dips and bumps in Structural Soil areas shall be a 3" deviation from the plane in 10'.
3. All fine grading shall be inspected and approved by the Engineer prior to the installation of other items to be placed on the Structural Soil
C. The Engineer will inspect the work upon the request of the Contractor. Request for inspection shall be received by the Engineer at least 10 days before the anticipated date of inspection.
3.7 ACCEPTANCE STANDARDS
A. The Engineer will inspect the work upon the request of the Contractor. Request for inspection shall be received by the Engineer at least 10 days before the anticipated date of inspection.
3.8 CLEAN-UP
A. Upon completion of the Structural Soil installation operations, clean areas within the contract limits. Remove all excess fills, soils and mix stockpiles and legally dispose of all waste materials, trash and debris. Remove all tools and equipment and provide a clean, clear site. Sweep, do not wash, all paving and other exposed surfaces of dirt and mud until the paving has been installed over the Structural Soil material. Do no washing until finished materials covering Structural Soil material are in place.



SINGLE LEADER, NO CO-DOMINANT LEADERS, NO INCLUDED BARK.
BIODEGRADABLE SISAL ROPE (3 GUYS PER TREE) SHALL BE USED TO SECURE TREES. USE AMPLE LENGTHS TO ALLOW FOR FUTURE ADJUSTMENTS. TIES SHALL BE SET SO AS NOT TO INJURE BRANCHING HABIT.
REMOVE BURLAP FROM THE TOP ⅓ OF THE ROOTBALL.
3" RECYCLED MULCH OR APPROVED EQUAL, PULL MULCH 2" BACK FROM TRUNK, FORM SAUCER 4"-6" ALL AROUND PLANTING HOLE.
PLANT TOP OF ROOTBALL EVEN WITH FINISHED GRADE.
PLANTING PIT TO BE TWICE THE DIAMETER OF THE ROOTBALL.
IRON REBAR (#4) OR WOODEN STAKES (TYP.) BURIED BELOW GROUND LEVEL.
BACKFILL AROUND THE ROOTBALL WITH ⅓ PLANTING MIX AND ⅔ NATIVE SOIL.
CU-STRUCTURAL SOILS:
INSTALL "STRUCTURAL SOILS" TO A DEPTH OF 24" AND TO EXTEND UNDERNEATH CONCRETE PAVEMENT TO PROVIDE ADDITIONAL ROOT ZONE GROWING AREA PER PLAN.
SUBMIT STRUCTURAL SOIL SAMPLES TO THE CITY FOR APPROVAL PRIOR TO INSTALLATION.

TREE PLANTING-STRUCTURAL SOIL DETAIL

N.T.S.

"CU-STRUCTURAL SOILS"		
75 c.y.	CU-STRUCTURAL SOILS	PER MANUFACTURER'S SPECIFICATIONS AS SHOWN.
		SEE SPECIFICATIONS AND DETAILS, SHEET L-6 AND L-7.
		(1,007 S.F. X 2' DEPTH = 2,014 C.F./27= 75 C.Y.)

JFS
JFS Design Inc.
LANDSCAPE ARCHITECTURE
LC 000393
jimmy@jfsdesignfl.com

Digitally signed by James F Socash
DN: c=US, o=JFS DESIGN INC., ou=A01410D0000016E93E46BBA00001E9C, cn=James F Socash
Date: 2020.11.05 14:16:40 -05'00'

SINGLE FAMILY RESIDENCE
48 E. RIVO ALTO DR.
MIAMI BEACH, FL. 33139

"CU-STRUCTURAL SOILS" SPECIFICATIONS, ETC.

REVISION	date
1.	
2.	
3.	
4.	

designed:	JFS
drawn:	BD
checked:	LM
scale:	as shown
project no.	20-27
date:	Nov. 2, 2020

L-1.7