PLANNING DI	File No. (internal use only): GENERAL APPLICATION ard Room 315				
Hollywood, FL	83022				
	APPLICATION TYPE (CHECK ONE):				
ST HOLLYWOOD AL					
E VE	Iechnical Advisory Committee				
DIAMOND OF THE GOLD COAST					
Progener D Int	Date of Application: October 2, 2017				
	Location Address: 4231 N 58th Avenue, Hollywood Florida 33021				
Tel: (954) 921-3471	Lot(s): N/A Block(s): N/A Subdivision: N/A				
Fax: (954) 921-3347	Folio Number(s): <u>5141 01 00 0040</u>				
	Zoning Classification: M-12 (North-Mixed Use; Land Use Classification: TOC				
This application must be	Existing Property Use: Single Family residence Sq Ft/Number of Units: 1 SF home with accessory				
completed <u>in full</u> and submitted with all documents	Is the request the result of a violation notice? () Yes (x) No If yes, attach a copy of violation.				
to be placed on a Board or	Has this property been presented to the City before? If yes, check al that apply and provide File				
Committee's agenda.	Number(s) and Resolution(s):N/A				
	Economic Roundtable				
for obtaining the appropriate	City Commission				
checklist for each type of	Explanation of Request: Site Plan approval to allow for the redevelopment of the Property to a mixed-use				
application.	project consisting of 47-multifamily units and 9.617 sg. ft. of general office use				
Applicant(c) or their					
authorized legal agent must be	Number of units/rooms: 47- multifamily units Sq Et: 9.617 of office				
present at all Board or	Value of Improvement: \$18 050 000 00 Estimated Date of Completion: Desember 2021				
Committee meetings.	Will Project to Phased2 ( ) Yes ( ) No. ( ) No.				
At least one set of the	I Phased, Estimated Completion of Each Phase				
submitted plans for each					
application must be signed	Name of Current Property Owner: Dawn Louise Meyer				
Engineer).	Address of Property Owner: 4231 N 58th Avenue, Hollywood Florida 33021				
	Telephone: Fax: Email Address:				
Documents and forms can be	Name of Consultant/Representative/Tenant (circle one): Autumn Sorrow/ AJ Entitlements & Planning LLC				
accessed on the City's website	Address: 6311 Riverwalk Lane Unit 4 Jupiter FL 33458 Telephone: 561-284-2472				
at http://www.hollowandfl.err/Do	Fax: N/A Email Address: Autumn@ajentitlements.com				
cumentCenter/Home/View/21	Date of Purchase: <u>NA</u> Is there an option to purchase the Property? Yes (x) No ()				
	If Yes, Attach Copy of the Contract. Included with the application submittal				
80	List Anyone Else Who Should Receive Notice of the Hearing: David Blattner ESQ				
D.C.	Address:213 East Sheridan St, Ste. 3 Dania Beach,				
1/E					
	1				



#### CERTIFICATION OF COMPLIANCE WITH APPLICABLE REGULATIONS

The applicant/owner(s) signature certifies that he/she has been made aware of the criteria, regulations and guidelines applicable to the request. This information can be obtained in Room 315 of City Hall or on our website at <u>www.hollywoodfl.org</u>. The owner(s) further certifies that when required by applicable law, including but not limited to the City's Zoning and Land Development Regulations, they will post the site with a sign provided by the Office of Planning and Development Services. The owner(s) will photograph the sign the day of posting and submit photographs to the Office of Planning and Development Services as required by applicable law. Failure to post the sign will result in violation of State and Municipal Notification Requirements and Laws.

(I)(We) certify that (I) (we) understand and will comply with the provisions and regulations of the City's Zoning and Land Development Regulations, Design Guidelines, Design Guidelines for Historic Properties and City's Comprehensive Plan as they apply to this project. (I)(We) further certify that the above statements and drawings made on any paper or plans submitted herewith are true to the best of (my)(our) knowledge. (I)(We) understand that the application and attachments become part of the official public records of the City and are not returnable.

Signature of Current Owner: Dawn Mayur	Date: <u>9 25</u> 17
PRINT NAME: Dawn Louise Meyer	Date:
Signature of Consultant/Representative:	Date:9/29//7
PRINT NAME: Autumn Sorrow	Date:
Signature of Tenant: N/A	Date:
PRINT NAME: N/A	Date:
Current Owner Power of Attorney	

this day of	Signature of Current Owner
Notary Public	Print Name
State of Florida	
My Commission Expires: (Check One)	Personally known to me: OR Produced Identification



#### EXISTING LEGEND

PROPERTY LINE
 EDGE OF PAVEMENT
SANITARY MANHOLE
FIRE HYRANT
WATER VALVE
UTILITY POLE
 OVERHEAD ELECTRIC SERVICE
ELECTRIC HANDHOLE
 CHAIN LINK FENCE
 ADJACENT ROW
 RIGHT-OF-WAY CENTERLINE

SITE	CULATI	ONS			
AREA		SF	ACRES	%	
AL SITE AREA		54,552	1.25	100	
L PERVIOUS ARE	4	13,971	0.32	26	
SCAPE BUFFERS		7,399	0.17	14	
DING (FIRST FLOO	R)	2,926	0.07	6	
DING (SECOND FL	OOR)	21,693	0.50	45	
DING (THIRD FLOOR)					
MENT / SIDEWALK		37,655	0.86	68	
AL IMPERVIOUS AREA		40,581	0.93	74	
BUILD	ING	SETBA	CKS		
TBACKS	REQUIRED		PROVID	ED	
IT YARD (WEST)	15 FT		15 FT		
YARD (EAST)	15 FT		15 FT		
YARD (NORTH)	15 FT		19.1 FT		
YARD (SOUTH)	15 FT		15 FT		
ING LOT (FRONT)	1	0 FT	10 FT		
ING LOT (SIDE)	Ę	5 FT	10 FT		

5 FT



CONCRETE PAVEMENT

ASPHALT PAVEMENT

PROPOSED LEGEND

#### GENERAL NOTES:

1. ALL LIGHTING LEVELS SHALL NOT EXCEED 0.5 FOOT-CANDLES AT ANY PROPERTY LINE ADJACENT TO RESIDENTIAL DEVELOPMENT.

2. ALL SIGNAGE SHALL BE IN COMPLIANCE WITH THE ZONING AND LAND DEVELOPMENT REGULATIONS

3. ALL SIDEWALK REPAIRS SHALL BE FULL FLAG REPLACEMENT. PARTIAL FLAG REPAIR OF SIDEWALKS IS NOT PERMITTED.

4. NO SIGNIFICANT AREAS OF RARE AND UNIQUE UPLAND HABITATS EXIST ON SITE.

5. NO KNOWN RECORDED HISTORICAL OR ARCHAEOLOGICAL SITE S EXIST ON SITE.

6. THIS PROJECT PRESENTS NO ADVERSE IMPACTS ON LOCAL GROUND OR SURFACE WATERS

10 FT

7. THIS PROJECT DOES NOT ADVERSELY IMPACT A FLOOD PLAIN

8. THIS PROJECT DOES NOT IMPACT ANY KNOWN UNMITIGATED WETLANDS, AND THE SITE DOES NOT EXHIBIT ANY SALTWATER PONDING.

#### LEGAL DESCRIPTION:

A PORTION OF THE NW 1/4 OF THE NE 1/4 OF SECTION 1, TOWNSHIP 51 SOUTH, RANGE 41 EAST, BROWARD COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID NW 1/4 OF THE NE 1/4; THENCE, NORTH ALONG THE EAST LINE OF SAID NW 1/4 OF THE NE 1/4, A DISTANCE OF 750.00 FEET TO THE POINT OF BEGINNING; THENCE, CONTINUING NORTH ALONG SAID EAST LINE 381.64 FEET; THENCE, WEST PARALLEL TO THE SOUTH LINE OF SAID NW ¼ OF THE NE 1/4 , A DISTANCE OF 83.87 FEET TO THE EAST RIGHT-OF-WAY OF OLD DAVIE ROAD; THENCE, SOUTHWESTERLY ALONG SAID RIGHT-OF-WAY LINE 326.27 FEET TO THE POINT OF CURVATURE OF A 125.00 FOOT RADIUS CURVE CONCAVE NORTHWESTERLY; THEN CE, CONTINUING ALONG SAID RIGHT-OF-WAY LINE, SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A CENTRAL ANGLE OF 40°23'01", AN ARC DISTANCE OF 88.10 FEET TO APOINT OF NON-TANGENCY; THENCE, EAST PARALLEL WITH SAID SOUTH LINE OF SAID NW ¼ OF THE NE ¼, A DISTANCE OF 230.49 FEET TO THE POINT OF BEGINNING.

SAID LAND LYING IN BROWARD COUNTY, FLORIDA AND CONTAINS 54,552 SQUARE FEET (1.2523 ACRES) MORE OR LESS.

SITE PLAN SITE PLAN Bowman Consulting Group, 13450 W. Sunrise Blvd., Surite 320 Sunrise, FL 33323 Phone: (954) 314-8470 Www.bowmanconsulting.co CITY OF HOLLYWOOD BROWARD COUNTY, FLORIDA © Bowman Consulting Group, 1	Ltd.			m Certificate of Authorizatio
SITE PLAN HOLLYWOOD HOUSE 4231 NORTH 58TH AVENUE CITY OF HOLLYWOOD BROWARD COUNTY, FLORIDA	Bowman Consulting Group, I	13450 W. Sunrise Blvd., Suite 320 Sunrise, FL 33323	Phone: (954) 314-8470	www.bowmanconsulting.co © Bowman Consulting Group, I
<pre> HOLLYV HOLLYV A231 NORC CITY OF HOLLYWOOD </pre>	SITE PLAN	<b>VOOD HOUSE</b>	TH 58TH AVENUE	BROWARD COUNTY, FLORIDA
	0)	HOLLYW	4231 NOR	CITY OF HOLLYWOOD

	(?			
	GRAF	PHIC	SCALE	l L
20 I	0	10	20	4
	( 1 in	IN FEE $ch = 2$	ET ) 20 ft.	

DATE

SHEET

9/25/17

 $C_{2}$ 

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ING LEGEND		PROPOSED LEGEND		
			CONCRETE PAVEMENT	<b>U</b>
SEWER	SANITARY MANHOLE		ASPHALT PAVEMENT	Z
$\overset{\forall}{\bowtie}$	FIRE HYRANT WATER VALVE		- BUILDING OVERHANG (2ND FLOOR)	
,Ґ ————————————————————————————————————	UTILITY POLE — OVERHEAD ELECTRIC SERVICE		<ul> <li>BUILDING OVERHANG (3RD FLOOR)</li> <li>2' VEHICLE PARKING OVERHANG</li> </ul>	Jo. 3046
E			<ul><li>4" WHITE PARKING STRIPE</li><li>6" WHITE STRIPE</li></ul>	
x	ADJACENT ROW	- (7)	SIGN PARKING COUNT	ation Li
\U			REINFORCED CONCRETE COLUMN	
				te of A

B - POLLUTION CONTROL BAFFLE TO BE INSTALLED PER DRAINAGE DETAIL SHEET C7

DRAINAGE STRUCTURE TABLE								
TURE #	JRE # GRATE/INLET TYPE BOT. STR. TYPE RIM N INVERT E INVERT S INVERT W							
1	TYPE "C"	TYPE "C"	6.60	1.90B	1.90B			
2	TYPE "C"	TYPE "C"	6.60	1.90B		1.90B		
3	TYPE "C"	TYPE "C"	6.50		1.90	1.90B	1.90B	
4	TYPE "C"	TYPE "C"	6.40	1.90B	1.90		1.90B	
-1	MANHOLE		6.40		1.90	1.90		

DATUM NOTE

1. ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD)

R) R) Z				Cartificate of Authorization License No. 30469	
	Bowman Consulting Group, Ltd.	13450 W. Sunrise Blvd., Suite 320 Sunrise, FL 33323	Phone: (954) 314-8470	www.bowmanconsulting.com	© Bowman Consulting Group, Ltd.
	PAVING, GRADING AND DRAINAGE PLAN	HOLLYWOOD HOUSE	4231 NORTH 58TH AVENUE		CITY OF HOLLYWOOD BROWARD COUNTY, FLORIDA
	WIL	LIAM PFI CENSE M 9/25 PLAN S	EFFER NO. 73( /17	, P.E 058	Ξ.
)	DATE EL DESIG SCALE JOB N DATE	DE: EL N DRA E 0. 010:	SCRIP 	ТІОІ ВР СНК 1-00 7	N (D 1

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SHEET

C6

	e	- J		_
	GRAP	HIC	SCALE	
20	0	10	20	4
	( 1 ine	IN FEE' $ch = 2$	Г) 0 ft.	



EXISTING LEGEND		PROPOSED LEGEND					
	PROPERTY LINE		CONCRETE PAVEMENT			U	
$\frown$	- EDGE OF PAVEMENT	<u>                                     </u>	- LANDSCAPE BUFFER				
(SENER) acDha			2' VEHICLE PARKING OVERHANG			Z	1
(W)	WATER VALVE		- 4" WHITE PARKING STRIPE				
д	UTILITY POLE		6" WHITE STRIPE				30462
	- OVERHEAD ELECTRIC SERVICE	(7)	PARKING COUNT			2	No.
E			REINFORCED CONCRETE COLUMN	i			cense
xxx	- CHAIN LINK FENCE	M					on Lic
<del></del>	<ul> <li>RIGHT-OF-WAY CENTERLINE</li> </ul>		WATER METER				rizatio
	- SANITARY SEWER SERVICE						utho
——————————————————————————————————————	- ELECTRIC SERVICE						e of A
	- EASEMENT					) Z 0	Certifica
						U	)
<ol> <li>CONTRACTOR SHALL PRODURING CONSTRUCTION</li> <li>ALL UTILITIES ARE SHOW EXACT DEPTHS AND LOC.</li> <li>CONTRACTOR SHALL COI</li> <li>ALL PIPE MATERIALS SHA</li> <li>ALL TRENCHING AND BEE</li> <li>IF PAVEMENT WITHIN RIG WITH LENGTH EQUAL TO</li> <li>CONTRACTOR SHALL REF</li> <li>ANY WATER AND/OR SEV DISTRICT PERSONNEL. P</li> </ol>	AT NO COST TO THE OWNER. 'N FROM INFORMATION GATHERED AND SHOULD NOT E ATIONS PRIOR TO UTILITY INSTILLATION. NTACT THE APPROPRIATE UTILITY COMPANY FOR INST ALL COMPLY WITH LOCAL REGULATIONS AND STANDAF DDING SHALL BE PER THE UTILITY TRENCH AND BEDDIF GHT-OF-WAY IS DAMAGED DURING UTILITY CONSTRUCT WIDTH IS REQUIRED PER PAVEMENT RESTORATION D FER TO ARCHITECTURAL PLANS FOR ALL BUILDING UTI WER CONNECTIONS IN THE RIGHT-OF-WAY MUST BE CO 2 LEASE GIVE 72 HOURS NOTICE FOR CONNECTIONS.	TO REPAIR ANY DAMAGE TO EXIS BE USED AS EXACT. CONTRACT TALLATION AND SPECIFICATION I RDS. NG DETAIL. TION, FULL LANE WIDTH PAVEME PETAIL G-12.1 ON PLAN SHEET C6 ILITY TIE INS. OORDINATED AND SUPERVISED	OR SHALL VERIFY REQUIREMENTS. NT RESTORATION	Bowman Consulting Group, Ltd.	13450 W. Sunrise Blvd., Suite 320 Sunrise, FL 33323	Phone: (954) 314-8470	www.bowmanconsulting.com © Bowman Consulting Group, Ltd.
9. FIRE MAIN UNDERGROUN		V PER FS. 633.102.					AC
TO CONFIRM LOCATION, S	DIP WATER MAIN WITH 8" X 4" TAPPING SLEEVE AND V JIZE, AND ELEVATION OF EXISTING MAIN PRIOR TO CON	'ALVE. CONTRACTOR NSTRUCTION					BIL
(2W) CONST. 25 LF OF 4" DIP WA	ATER PIPE						
(3w) CONST. 4" X 1.5" REDUCEF	AT PROPERTY LINE						Ч Ч
(4W) CONST. DUAL 1.5" METER	WATER SERVICE INCLUDING (2) 1.5" WATER METERS				[T]		NT
⟨5₩⟩ CONST. 1.5" BACKFLOW PF	REVENTER				S	[T]	0 O
(W) CONST. 1" - IRRIGATION M	ETER AND BACKFLOW PREVENTER (SEE IRRIGATION P	PLAN FOR CONTINUATION)			$\mathbf{\tilde{D}}$	5	
FIRE NOTES					$\overline{O}$		ARI
CONNECT TO EXISTING 8" CONFIRM LOCATION, SIZE (2F) CONST. 25 LF OF 4" DIP WA	DIP WATER MAIN WITH 8" X 4" TAPPING SLEEVE AND V. , AND ELEVATION OF EXISTING MAIN PRIOR TO CONST ATER PIPE	ALVE. CONTRACTOR TO RUCTION		Z	)H(	I AVI	BROW,
(3F) CONST. 4" GATE VALVE					Ξ	μ	
(4F) CONST. DOUBLE DETECTO	DR CHECK VALVE				$\mathbf{i}$	58	
(5F) CONST. FIRE DEPARTMEN	IT CONNECTION (FDC)				$\sum_{i=1}^{n}$	Η	
SANITARY SEWER NO	OTES			E		RT	
(15) CONST. 6" CLEAN OUT - IN	IV EL. = 5.00'					Ō	
(25) CONST. 43 LF OF 6" PVC G	iRAVITY SEWER LINE @ 5% SLOPE					Z	
(35) CONST. 6" CLEAN OUT - IN	IV EL. = 3.00'					231	D
CONNECT TO EXISTING MA	ANHOLE. CONTRACTOR TO CONFIRM LOCATION, SIZE,	AND				4	00
$\sim$ ELEVATION OF EXISTING M $\langle 5S \rangle$ EXISTING MANHOLE					Η		M M
ELECTRICAL NOTES							JLL
(1E) TRANSFORMER - CONSTR	UCTED BY OTHERS						H
$\langle 2E \rangle$ CONST. 29 LF ELECTRIC S	ERVICE (BY OTHERS)			1			ОF
	· · · · · ·						Υ
							C
				1			

				_
	GRAP	HIC	SCALE	
20	0	10 I	20	4
	( 1 inc	IN FEE' $ch = 20$	T ) 0 ft.	

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SHEE	т С7

WILLIAM PFEFFER, P.E. LICENSE NO. 73058 9/25/17 PLAN STATUS

DATE DESCRIPTION

EL EL BP DESIGN DRAWN CHKD

JOB No. 010508-01-001

9/25/17

SCALE 1" = 20'

DATE



# HOLLYWOOD HOUSE

4231 N. 58 AVE. HOLLYWOOD, FLORIDA. JOB Nº. 2017-122

# INDEX OF DRAWINGS

## ARCHITECTURE

C01	COVER SHEET
SP1	SITE PLAN
A1.1	FIRST FLOOR
A1.2	SECOND FLOOR
A1.3	THIRD FLOOR
A1.4	FOURTH FLOOR
A1.5	FIFTH FLOOR
A2.0	BUILDING ELEVATIONS

### CIVIL

C1	EXISTING CONDITION PLAN
C5	CIVIL SITE PLAN
C6	PAVING, GRADING AND DRAINAGE PLAN
C9	UTILITY PLAN

### LANDSCAPE

LP.1 LANDSCAPE PLAN LP.2 LANDSCAPE DETAILS

# ш **NOH** WOOD WOOD 58 AVE. HOLI FLORIDA. 4231 N. HOLI



3501 Griffin Road Ft. Lauderdale, FL 33312 (954) 266-2700 Fx:(954) 266-2701 sma@saltzmichelson.com

AA-0002897

#### Charles Michelson AR 0009976

Project No. : 2017-122 Drawn By : AA

Checked By : SD

Date: 9.27.2017





	PRO		ГА	.		
PROPOSED ZONING [	DISTRI	<u>CT:</u> N	ORTH MIXED USE			
CONSTRUCTION TYPI	<u>E:</u>	TYPE 1-B	(FULLY FIRE SPRINKLERED)			
OCCUPANCIES/USES	<u>:</u>	COVERED (GROUP E FLOOR , A ON THE 3	) PARKING ON 1ST FLOOR, OFFICES 3) & APARTMENTS (GROUP R-2) ON 2ND ND APARTMENTS (GROUP R-2) RD, 4TH & 5TH FLOORS			
TOTAL SITE AREA:		54,552.00	SF OR 1.25 ACRES			
BUILDING AREA:		2 026 SE (	STAIRS /FLEV/ATORS & LOBRY)			
2ND FLOOR:		9,617 SF ( 1,644 SF (	LEASABLE OFFICE AREA), OFFICE CORRIDOR + COMMON AREAS)		D U	
3RD FLOOR: 4TH FLOOR: 5TH FLOOR:		10,432 SF 23,892 SF 23,892 SF 23,892 SF	(APARTMENTS / AMENITIES) (APARTMENTS) (APARTMENTS) (APARTMENTS)		<b>00%</b>	
TOTAL FLOOR AREA:		96,295 SF			<b>H</b>	
EVILDING SETBACKS	<u>.</u>	<u>REQUIREI</u> MIN 15'-0"	<u>D:</u> <u>PROVIDED</u> 15'-0"			
(NON-RESIDENTIAL) SIDE INTERIOR ALLEY	:	MIN.10'-0" 0'-0" MIN.5'-0"	15'-0" 15'-0" MIN. N/A		DOI Ve. H Oric	
BUILDING HEIGHT: MAXIMUM ALLOWED PROVIDED	: 65' : 54	' - 0" MAX. TC '- 0" OR (5) S	D THE ROOF LINE. STORIES		<b>YW(</b> 58 A'	
DENSITY: MAXIMUM ALLOWED	: 50		ACRE			
IMPERVIOUS AREA: 1ST FL. BLDG FOOTPRINT ASPHALT PAVEMENT &	: 2, · 37	,926.00 S.F.			<b>HOI</b> 4231	
SIDEWALKS	. 01,	,000.00 0.1 .				
I O I AL IMPERVIOUS AREA	: 40,	,581 S.F. (749	% OF SITE AREA)			
PERVIOUS AREA: REQUIRED LANDSCAPE AREA PROVIDE NOTE: REFER TO LANDSCAP	: 10 D : 13, PE PI AN	% MIN. PER\ ,971 S.F (26%	/IOUS AREA 6 OF SITE AREA) TIONAL INFORMATION			
PARKING CALCULATI	ONS (F	PER ARTI	<u>CLE 7):</u>			
RESIDENTIAL : 1.5 FO RF	SPACES R VISITC	5 PER UNIT + ORS: 47 X 1.5 )	1 SPACE FOR EVERY 5 UNITS 5 = 71 + 47 / 5 = 9; 71+ 9 = 80 SPACES			
OFFICES : 1 S	PACE PE	ER 250 S.F.=	9,617 S.F. LEASABLE AREA / 250 = 38 SPACES REQUIRED			
IOTAL REQUIRED : 118	SPACE	5		SALT'	Z MICHELSON	[
SHARED PARKING RE	DUCT		ULATIONS FOR MIXED USE:			l
WEEKDAYS AT NIGHT			TOTALS:			
RESIDENTIAL	100% 5%	80 CARS		Ft. L	301 Griffin Road auderdale, FL 33312	
		 82 ≃	83 CARS	(954) 266- sma(d	-2700 Fx:(954) 266-2701 @saltzmichelson.com	
RESIDENTIAL	60%	48 CARS	MIN. PARKING REQUIRED		 AA-0002897	
OFFICE	100%	$\frac{38 \text{ CARS}}{86} \simeq$	86 CARS*			
WEEKDAYS DURING DAY						
	90% 10%	72 CARS 4 CARS	4			
		 76	78 CARS			
RESIDENTIAL	80%	64 CARS				
OFFICE	10%	$rac{6 \text{ CARS}}{70} \simeq$				
WEEKENDS NIGHT & EVE.		—		Charl	es Michelson AR 0009976	
RESIDENTIAL	90% 5%	69.5 CARS				
OFFICE	5%	3 CARS 72.5	73 CARS		Project No. :	
					2017-122 Drawn Bv :	
	REVERY		SPACES FOR A 5% PARKING REDUCTION: = 6 RIKE RACKS		JPG	
ROVIDED (118 SPACES / 20 PROVIDED ALLOWED BICYCLE PARKING	") G REDU(	CTION (.25 X	= 6 BIKE RACKS = 6 SPACES		Checked By : SMA	
	PARKI	NG REDU	CTION:		Date:	
SHARED PARKING REDUCTI BICYCLE RACKS PARKING R TOTAL CALCULATED DADKIN	UN EDUCTIONG REDU	= : ON = : JCTION -	32 SPACES 6 SPACES 38 SPACES OR 32% OF TOTAL PEO PARMIN	IG	9.27.2017	
MAX. REDUCTION ALLOWER	10 REDU	DE IS 25% OF	TOTAL REQ. PARKING:		REVISIONS	
			CES OR 25% ALLOWED REDUCTION	CIA.RVT		
MIN. PARKING REQUIRED (1 PARKING PROVIDED	18 SPAC	ES - 30 SPA	CES) = 88 SPACES = 89 SPACES (INCLUDES 4 H C. SPACE	ES)		
OCCUPANT LOAD ( FE	BC TAE	<u>BLE 1004.</u>	<b>1.2 ):</b>	OPT2_		
FIRST FLOOR EXTERIOR COVERED PARKI	NG		= N/A	_RAL_(		
<u>SECOND FLOOR</u> OFFICES GROUP 'B' RESIDENTIAL GROUP R-2	:	11,261 S.F. 10,432 S.F./2	/100 PER OCC. = 112 OCC. 200 PER OCC. = 52 OCC.	AN_CENT		
THIRD FLOORS RESIDENTIAL GROUP R-2	: 0	23,892 S F /20	00 S.F. PER OCC. = 119 OCC	ITE PL		
FOURTH FLOORS OCCUPA	. 2 <u>NT LOAE</u>	<u>):</u>		22_ SI	<b>L</b>	
	: 2	23,892 S.F./20	00 S.F. PER OCC. = 119 OCC	2017-12	A	
RESIDENTIAL GROUP R-2	<u>LOAD:</u> : 2	23,892 S.F./20	00 S.F. PER OCC. = 119 OCC	1ENTS/		
TOTAL BUILDING OCCUPAN	TS:		= 521 OCC	Docum		
	NTIAL /		ENTS:	ARCIA	BN BI	
LEVEL 2 : LEVEL 3 : LEVEL 4 :	2 A 15 A 15 A		S S	RS\J6		
LEVEL 5 : TOTAL APARTMENTS:	<u>15</u> 47 A	APARTMENT APARTMENT	<u>s</u>	:: \User		
NOTE: ALL UNITS ARE 2 BED	ROOM /	2 BATH		6 AMC		
				9:43:1		
				2017.5	SP1	
				3/28/;		
				O`		



![](_page_8_Figure_0.jpeg)

![](_page_9_Figure_0.jpeg)

![](_page_9_Picture_1.jpeg)

![](_page_9_Figure_2.jpeg)

![](_page_9_Picture_3.jpeg)

3501 Griffin Road Ft. Lauderdale, FL 33312 (954) 266-2700 Fx:(954) 266-2701 sma@saltzmichelson.com

AA-0002897

#### Charles Michelson AR 0009976

Project No. : 2017-122 Drawn By : JPG Checked By :

SD

Date: 9.27.2017

![](_page_9_Picture_11.jpeg)

![](_page_9_Picture_12.jpeg)

![](_page_10_Figure_0.jpeg)

![](_page_10_Picture_1.jpeg)

![](_page_10_Figure_2.jpeg)

![](_page_10_Picture_3.jpeg)

3501 Griffin Road Ft. Lauderdale, FL 33312 (954) 266-2700 Fx:(954) 266-2701 sma@saltzmichelson.com

AA-0002897

#### Charles Michelson AR 0009976

Project No. : 2017-122 Drawn By : Author Checked By : Checker Date: 9.27.2017

![](_page_10_Picture_9.jpeg)

![](_page_10_Picture_10.jpeg)

![](_page_11_Figure_0.jpeg)

![](_page_11_Picture_1.jpeg)

# HOUSE AVE. HOI FLORIDA HOLLYWOOD 58 Ż 4231

![](_page_11_Picture_3.jpeg)

3501 Griffin Road Ft. Lauderdale, FL 33312 (954) 266-2700 Fx:(954) 266-2701 sma@saltzmichelson.com

AA-0002897

#### Charles Michelson AR 0009976

Project No. : 2017-122 Drawn By : Author Checked By Checker Date: 9.27.2017

![](_page_11_Picture_10.jpeg)

![](_page_11_Picture_11.jpeg)

![](_page_12_Figure_0.jpeg)

![](_page_12_Figure_1.jpeg)

![](_page_12_Figure_3.jpeg)

![](_page_12_Picture_4.jpeg)

![](_page_12_Picture_5.jpeg)

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# SITE DATA

Total Site Area Open Space Provided Trees Required (1/1,000 SF.) Trees Provided

<u>Perimeter Landscape</u> Street Trees Required (1/50 LF.) Street Trees Provided

Trees Required (1/20 LF.) Trees Provided 1.25 Ac. 13,911 SF. (25%) 14 Trees 58 Trees

> 7 Trees 9 Trees

52 Trees 58 Trees

![](_page_13_Picture_7.jpeg)

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		BY REVISIONS DATE
		Design and Entitlement Consultants, LLC. 2135 Bellcrest Court Royal Palm Beach, FL. 33411 Tel: (561) 707-3410 Email: info@designandentitlement.com
		CIGN AND NTITLEMENT DNSULTANTS, LLC.
CD CHR 28 CU 25 CU 25 CHR 26 CU 25 C		HOLLYWOOD HOUSE City of Hollywood, florida
		LANDSCAPE PLAN SCALE: 1"=20' CHECKED BY: W.E.D./R.M.B. DRAWN BY: W.E.D. DATE: 09.25.17 FILE: SHEET LP.1 1 OF 2 SHEETS
0' = 20' = 40' = 80' Scale : 1" = 20'	N O R T H	

![](_page_14_Figure_0.jpeg)

![](_page_14_Figure_15.jpeg)

![](_page_15_Picture_0.jpeg)

#### Hollywood House Project Narrative/Criteria Statement Request: Preliminary Site Plan Approval TAC Application Submittal: October 2, 2017

On behalf Reuven Rogatinsky, the Applicant, we are requesting preliminary Technical Advisory Committee (TAC) approval for a mixed-use project, within the City of Hollywood.

#### **LOCATION**

The subject site is generally located at the southeast intersection of Sterling Road and North 58th Avenue within the municipal limits of the City of Hollywood ("City") and contains approximately 1.25-acre/54,552 square feet. The subject property has a situs address of 4231 N. 58th Avenue, Hollywood Florida 33021 and the following Folio Number: 5141 01 00 0040 (the "Property").

#### **BACKGROUND**

Historical aerial photographs indicate the Property was utilized for agricultural purposes (citrus groves) circa 1947. Also at this time, what appears to be a single-family home was also present in the central-southern portion of the site. By 1958, although remnants of the former citrus groves are visible, it is clear the Property was no longer utilized for commercial citrus production. Additionally, during this time period, a second residential home was constructed along the southern property boundary; the northern portion of the site is observed as heavily-wooded. Circa 1981, a third single-family home was constructed in the central portion of the site. No significant changes to the site were observed since the addition of the third residential home in the early 1980s, and, the Property remains used for residential purposes until present day.

#### LAND USE & ZONING

The Property has a future land use designation of Transit Oriented Corridor (TOC) and is zoned Residential Medium 12 (RM-12).

According to the City's Land Use Element, the TOC land designation allows for residential uses and encourages redevelopment or development of significant areas. The major purpose of the TOC land use designation is to facilitate multi-use and mixed-use development, encourage mass transit, reduce the need for automobile travel, provide incentives for quality development, and give definition to the urban form. The proposed Project will further the goals of the City's Land

AJ ENTITLEMENTS & PLANNING, LLC

6311 Riverwalk Lane, Unit 4 | Jupiter, FL 33458 (561) 284-2472 | autumn@ajentitlements.com Use Plan by providing a mixed-use, multi-family housing need that is located within close proximity to the City's mass transit lines.

The RM zoning district is classified under the "Multiple Family Districts" in the City's Code of Ordinances. It is important to note that the Property is located within the City-Initiated Rezoning of the State Road 7 Corridor. Although the rezoning has not been officially adopted, the anticipated new zoning designation of the Property will be "North Mixed-Use". The following table shows the land use and zoning designations of the surrounding properties.

Direction	Future Land Use Designation	Zoning Designation	Existing Use
North	TOC	*RM-12	Vacant land. (Beyond Stirling Road to the northeast is an RV park and to the northwest are single-story commercial uses)
South	TOC	*RM-12	Single-family home
West	ТОС	*OS	Single-family homes and a strip commercial center (Poinciana Plaza)
East	MRES	RM-18	3-story Multi-family development

\* Properties to the north, south, and west are also included in the City-Initiated rezoning and are subject to change.

#### **REQUEST**

The applicant is seeking preliminary TAC approval to allow for the redevelopment of the Property for the purposes of constructing a mixed-use project with 47 multi-family units (apartments) and 9,617 square feet of leasable office use combined in one, five-story, 96,269-square foot building on 1.25 acres (the "Project"). With this Project the existing single-family home and accessory structures will be completely demolished and replaced with the Project. The proposed 47 multi-family units will be developed and conveyed as rental units. Each apartment unit will feature two-bedrooms with w/d hook-ups. The first floor will feature the stair/elevators & lobby, while the second floor will contain the office users, with the apartment units on floors 3 through 5.

#### Density/Intensity

The applicant is proposing to construct 47 multifamily dwelling units, which equates to a density of 38 du/acre. The proposed density will be far less than the maximum permitted by the underlying land use designation and the pending North Mixed-Use zoning district which allows for a maximum density of 50 du/acre. With this project, 9,617 square feet of general office use is also being proposed. This mixed-use Project of 47 multifamily dwelling units and 9,617 square feet

of general office will further the goals of the City's Land Use Plan by providing a true mixed-use project that is located within close proximity to the City's mass transit lines. Locating high residential densities in this area of the City will increase mass transit ridership which will help fund the same and will be an economic benefit to the City.

#### Analysis of Article 6, Section II, 6.23

The following is a summary of how the proposed Project conforms to the application requirements of City of Hollywood Technical Review Standards of Final Site Plans within Article 6, Section II, 6.23. Please note that the agent has prepared responses to the code requirements immediately following the code requirements.

A. Natural Environment. All proposed development shall be designed in such a manner as to preserve, perpetuate and improve the existing natural character of the site. Existing trees and other landscape features shall, to the maximum extent possible, be preserved in their natural state; and additional landscape features shall be provided to enhance architectural features, to relate structural design to the site, and to conceal unattractive uses. In all instances the city's tree protection, landscaping and all other applicable regulations shall be fully complied with as minimum standards.

**Response:** As shown on the tree survey prepared by Avirom & Associates, the site contains large oak trees that the applicant has taken great measures to preserve in place and incorporate into the design of the project, per City Code. The applicant has designed the site plan and building placement so that the specimen oak trees can be preserved in place. During construction, the trees will be properly protected so as to not cause any damage to their health. (Please see the tree protection detail on the landscape plan(s) included with the submittal)

The project will further be enhanced with lush landscaping through the project that compliments the building architecture, site, and surrounding properties. The landscaping pallet will consist of trees (Pigeon Plums, Silver Buttonwood, Dahoon Holly, Live Oaks, Cabbage Palms), shrubs (Coco Plums, Clusia, Ficus, Firebrush, Wild Coffee, Trinette), and ground cover (Asiatic Jasmine, St. Augustine).

B. Open space. Adequate landscaped open space shall be provided which meets the particular needs and demands of the proposed development and all specific zoning district requirements. Legal methods assuring the continued preservation and maintenance of required open space shall be submitted to and approved by the City Attorney. The type and distribution of all open space shall be determined by the character, intensity and anticipated residential or user composition of the proposed development.

1. Passive open spaces (those areas not planned for intensive activity) shall be arranged as to enhance internal spatial relationships between proposed structures, to provide buffers between the project and adjacent less intensive uses, to facilitate pedestrian movements within the development, and to improve the overall visual quality of the site.

2. Active open spaces (those areas containing activities such as playgrounds, tennis courts, swimming pools and other active recreational facilities) shall be located so as to permit easy access to all residents or users within a development. Private recreational facilities and activities within specific projects shall, wherever possible, complement, rather than duplicate, nearby public recreational activities.

**Response:** The Project has been designed with adequate landscaping and open space for the anticipated needs to the residents, business owners, and guests. The Project will have open space and landscaping for the residents, business owners, and guests to utilize and enjoy along the entire permitter of the property. Recreational needs of the residents, business owners, and guests will be accomplished through the interior spaces of the building. Locating the recreational amenities inside the building will allow the residents, business owners, and guests access at all times despite any inclement weather. Such recreational amenities include: a gym that will feature aerobic equipment and weight machines/free weights for strength training.

C. Circulation and parking. All circulation systems and parking facilities within a proposed development shall be designed and located in such a manner as to comply with the following:

1. A clearly defined vehicular circulation system shall be provided which allows free movement within the proposed development while discouraging excessive speeds. Said systems shall be separated insofar as practicable from pedestrian circulation systems. Pavement widths and access points to peripheral streets shall be provided which adequately serve the proposed development and which are compatible and functional with circulation systems outside the development.

2. Whenever possible in proposed residential developments, living units should be located on residential streets or courts which are designed to discourage nonlocal through traffic.

3. Off-street parking areas shall be provided which adequately accommodate maximum vehicle storage demands for the proposed project and are located and designed in such a manner so as to conveniently serve the uses to which they are accessory and not create incompatible visual relationships.

4. Safe and efficient access to all areas of the proposed development shall be provided for emergency and service vehicles, as required by the Florida Building Code in effect in Broward County, Florida, as revised from time to time.

- 5. Sidewalks shall be provided as required by the city regulations.
- 6. Handicapped Accessibility shall be provided as required by all applicable regulations.

**Response:** Residents, business owners and their guests will access the development from the main entrance on the east site of North 58th Avenue; an additional egress-only driveway is also provided for motorist leaving the Project on the east site of North 58th Avenue. The Project has been designed, due to the size and unique configuration, to accommodate most of the parking and circulation "garaged" and located under the building. The majority of the parking will be totally obscured from view from North 58th Avenue and Sterling Road.

The proposed 47 dwelling units requires 1.5 parking spaces per unit plus one guest parking space per every 5 units for a total of 80 parking spaces. The proposed 9,617 feet of leasable office use requires 1 parking space for every 250 square feet for a total of 38 parking spaces. The Applicant maintains that utilizing the strict application of the code required parking would cause the project to be over-parked. Additionally, as part of the City-initiated rezoning effort, this area of the City is envisioned for redevelopment that will focus on walkability and mass-transit ridership. The applicant anticipates that the majority of the residents will be either a one-car or no-car house-hold. Given the anticipated parking projection needs, the application has submitted a shared parking study reduction for this mixed use project. As shown on the site plan prepared by Saltz Michelson, the shared parking study reduction requires 88 parking spaces. The applicant is providing a total of 89 parking spaces, four of which are handicap spaces. The applicant is willing to accept a condition of approval that the leasable office area will not exceed 9,617 square feet so that parking demands are met through the duration of the Project.

D. Community services and utilities. All proposed developments shall be designed and located in such a manner as to insure the adequate provision, use and compatibility of necessary community services and utilities.

1. An adequate sanitary sewer collection system including all necessary extensions and connections, shall be provided in accordance with city standards for location and design. Where necessitated by the size of the development and/or by the unavailability of city treatment facilities, sanitary sewage treatment and disposal systems must be provided in accordance with city and state standards and regulations.

2. An efficient solid waste collection system, including the provisions of an adequate number of properly screened local receptacles in locations which afford maximum use and collection convenience, shall be provided in accordance with all applicable city standards.

3. A well designed internal system for fire protection, including the provisions of an adequate number of properly located fire hydrants and an efficient access arrangement for emergency fire vehicles, shall be provided to insure the safety of all persons within the project.

**Response:** As shown on the preliminary Paving, Grading & Drainage and Utility Plans prepared by Bowman Consulting, the Project has been designed to insure the adequate provision of community services and utilities in accordance to the City of Hollywood standard requirements.

The building has been designed to feature internal trash collection, thus eliminating the need for unsightly and cumbersome exterior dumpsters. The building has also been designed with an internal system for fire protection. Should a fire occur, the site has been designed with efficient access for fire trucks.

*E.* Building and other structures. All buildings and structures proposed to be located within a development shall be oriented and designed in such a manner as to enhance, rather than detract from, the overall quality of the site and its immediate environment. The following guidelines shall be followed in the review and evaluation of all buildings and structures:

1. Proposed buildings and structures shall be related harmoniously to the terrain, other buildings and the surrounding neighborhood, and shall not create through their location, style, color or texture incompatible physical or visual relationships.

2. All buildings and structures shall be designed and oriented in a manner insuring maximum privacy of residential uses and related activities both on the site being developed and property adjacent thereto.

3. All permanent outdoor identification features which are intended to call attention to proposed projects and/or structures shall be designed and located in such a manner as to be an integral part of the total project and/or structural design and shall not exceed a size and scale necessary for the recognition from vehicles moving along adjacent streets at prescribed legal speeds.

**Response:** Included in this submittal are full Architectural renderings with four-sided architectural elevations with additional labeling and dimensioning, and other application requirements. The architect for this project is Saltz Michelson Architects. The architecture can be described as Coastal Contemporary. The colors and building materials will feature a sleek design through the utilization of steel and glass elements. The balconies have also been designed with glass railings and associated materials. Glass detailing and the incorporation of warm residential materials, such as store and ceramic, will soften the building massing. The units are broken-up externally, giving the roofline and facade a sculpture image. The abundance of fully developed landscape gives the building the image of a treehouse.

The proposed architecture is consistent with the diversity of the surrounding architecture already established in the neighborhood. The architecture in this neighborhood has a blend of multiple architectural styles. To the north is vacant land and beyond Stirling Road is also vacant land with an RV Park and single-story commercial uses with non-distinct architectural styles. To the east is a 3-story simplified multifamily residential development with no distinct architectural styles. The properties to the west have a combination of 1-story commercial and residential homes with multiple architectural styles and to the south is a large estate style home. With such diversity it was important to introduce multiple material change to remain true to the surrounding properties. The proposed Coastal Contemporary style incorporates multiple recessed and exposed elements along the exterior face as well as frequent roof undulations.

F. Level of service standards. For the purpose of the issuance of development orders and permits, the city has adopted level of service standards for public facilities 6 and services which include roads, sanitary sewer, solid waste, drainage, potable water, and parks and recreation. All applicants are required to prove concurrency pursuant to the City's Comprehensive Plan and F.S. Chapter 163, as amended from time to time.

**Response:** The Project complies with the adopted Level of Service (LOS) standards for public facilities and services, as indicated on the LOS letter prepared by Bowman Consulting and included in the application submittal. The following table lists the current LOS standards for the public facilities and services.

Service	City Required LOS
Roads	"D" or better
Sanitary Sewer	315 gallons per day per equivalent residential unit
Potable Water	350 gallons per day per unit
Solid Waste	8.9 pounds per day per unit
Drainage	1/2 inch of stormwater runoff for any 5 minutes
Parks & Recreation	3 acres of park per 1,000 population

G. Other requirements. Requirements and recommendations as provided in the city tree and landscape regulations shall be observed as will the requirements of all applicable standards and regulations.

**Response:** As shown on the preliminary landscape plans prepared by Design and Entitlement Consultants, the proposed landscape plans comply with the City's tree and landscape regulations. The application will continue to work with City staff to ensure that all City requirements and recommendations are addressed.

#### **CONCLUSION**

On behalf of the Applicant, the Development Team respectfully request favorable review and consideration of this application. The Development Team for this Project consists of: AJ Entitlements & Planning - Autumn Sorrow Assouline & Berlow, PA - David Blattner, ESQ Avirom & Associates - John Doogan Bowman Consulting - Bill Pfeffer Design and Entitlement Consultants - Ken DeLaTorre, Bill DuMond Saltz Michelson - Charles Michelson, Scott Willis Team GFA - Jonathan Bassett

![](_page_22_Picture_0.jpeg)

28 September 2017

Arceli Redila Planning and Development Services Administrator 2600 Hollywood Blvd, Suite 315 Hollywood, FL 33022

Proposed: Hollywood House - 4231 North 58th Avenue

This letter is to request confirmation of adequate services available to the aforementioned proposed project.

The entire existing 7,595 sq. ft. residence will be demolished, and a 27,321 sq. ft. Mixed Use Residential / Office Building, which will consist of 43 dwelling units and approximately 10,000 sq. ft. of office floor area will be developed.

This project will generate an additional 41 trips on the abutting road, North 58<sup>th</sup> Avenue. The City of Hollywood requires that the roads be classified as type "D" or better based on the vehicular volume of the road. We do not anticipate the addition of 41 trips to change the current classification of the road.

The project will generate a water demand of approximately 140 gpd/unit. The City of Hollywood requires a level of service of 350 gpd per unit. The project will not exceed the City's required level of service. The project will generate approximately 167 gallons per equivalent residential unit, which will not exceed the City of Hollywood's requirement of 315 gallons per day per equivalent residential unit.

The site shall be designed to meet the City's required Level of Service of  $\frac{1}{2}$  inch of runoff for any 5 minutes.

The solid waste level of service requirement is 8.9 pounds per day per unit, and the Parks & Recreation level of service requirement is 3 acres of park per 1,000 population. All efforts are being made to work with the City to meet the requirements set forth.

If you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Bill Pfeffer, PE | Principal | Branch Manager Bowman Consulting 13450 W Sunrise Blvd, Sunrise FL 33323 Office: 954-314-8466 | mobile: 772.341.6223

bowmanconsulting.com

### **GFA INTERNATIONAL** FLORIDA'S LEADING ENGINEERING SOURCE

#### **Preliminary Exploration Report**

Proposed Apartment Building 4231 North 58<sup>th</sup> Avenue, Hollywood, Florida

> February 8, 2017 GFA Project No.: 16-2974.00

Prepared for: Mr. Reuven Rogatinsky

![](_page_23_Picture_5.jpeg)

![](_page_24_Picture_0.jpeg)

Florida's Leading Engineering Source

Environmental · Geotechnical · Construction Materials Testing · Threshold and Special Inspections · Plan Review & Code Compliance

February 8, 2017

Mr. Reuven Rogatinsky 3113 Stirling Road, Suite 103 Fort Lauderdale, Florida 33312

#### RE: Preliminary Exploration Report Proposed Apartment Building 4231 North 58<sup>th</sup> Avenue Hollywood, Florida GFA Project No.: 16-2974.00

Since 1988

Dear Mr. Rogatinsky:

In accordance with your authorization, GFA International, Inc. (GFA) has completed a subsurface exploration and geotechnical engineering evaluation for the above referenced project in accordance with the signed geotechnical and engineering service agreement for this project. The scope of GFA's services was planned in conjunction with and authorized by you.

The purpose of our subsurface exploration was to classify the nature of the subsurface soils and general geomorphic conditions and to evaluate their impact upon the proposed construction. A determination of sinkhole potential at the site was outside the scope of this investigation. If a determination is requested, GFA can propose and perform this service utilizing the appropriate geophysical methods. This report contains the results and our engineering interpretation of subsurface conditions of the site with respect to the project characteristics as described to us including recommendations for foundation design, hydro-geological concerns, and site preparation procedures.

#### EXECUTIVE SUMMARY

It is GFA's understanding that this project is to consist of the proposed construction of an eight-story apartment building, to be located at 4231 North 58<sup>th</sup> Avenue in Hollywood, Florida. We have assumed that the maximum column loads will be **800 kips** and maximum wall loads will be **10 kips per lineal foot**, and that the structure will not have any basement levels and that the ground floor of the building will be an at-grade slab.

For purposes of this study, two (2) standard penetration test (SPT) borings were drilled to depths of 50 feet below ground surface (BGS) at the site. In addition, two (2) exfiltration tests were performed at depths of 10 feet BGS.

Currently, there is an existing residential structure at the site. The subsurface conditions encountered in our test borings generally consisted of a surficial cover of very loose to loose topsoil with trace roots and limerock to an approximate depth of 1 foot BGS, underlain by very loose to medium dense fine to medium grained sand to approximate depths of 40 feet in Boring B-1 and 45 feet in Boring B-2 BGS. The borings then encountered moderately hard to hard limestone with fine to medium grained sand to the maximum termination depth of the explorations at 50 feet BGS.

Based on the very loose to medium dense nature of the soils, the soils supporting the proposed structure will require special consideration in order to safely support the shallow foundations as well as to control foundation settlements within tolerable limits. The soil improvement option considered was **vibro-compaction**. Deep foundation systems (**augered cast-in-place piles**) were also considered but may be viewed as a cost prohibitive alternative. **Preliminary recommendations for vibro-compaction and auger cast-in-place piles are contained herein**.

We appreciate the opportunity to be of service to you on this project and look forward to a continued association. Please contact the undersigned if you have any questions or comments, or if we may further assist you as your plans proceed.

Respectfully Submitted, GFA INTERNATIONAL, INC. FBPE CA #4930

Jonathan Bassett. E.I. Project Engineer

Carlos A. Mercado, M.S., P.E. Professional Engineer #71707 State of Florida

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#### **Appendices**

Appendix A	Record of Test Borings
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- Appendix B Notes Related to Test Borings Appendix C Discussion of Soil Groups
- Appendix D Hydraulic Conductivity Results
- Appendix E USDA Soils Report

#### **1.0 INTRODUCTION**

#### 1.1 Project Description

The addressee provided the project information to our office. The project site is located at 4231 North 58<sup>th</sup> Avenue in Hollywood, Florida. **Figure** 1 shows the location of the project. The proposed project will consist of constructing a new eight-story apartment building. Structural details were not available at this time; however, GFA anticipates the use of reinforced concrete, masonry and structural steel supported on conventional shallow footing foundations. No structural loads were available at the time of this study. For purposes of analysis, GFA has assumed maximum column loads will be 800 kips and maximum wall loads will be 10 kips per lineal foot for the eight-story apartment complex. Furthermore, the structure will not have any basement levels and that the ground floor of the building will be an at-grade slab.

The preliminary recommendations provided in this report are based upon the above considerations. If project information differs significantly, please inform GFA so that we may review and revise our recommendations, if necessary, with respect to any modifications.

#### 1.2 Purpose

The primary purpose of the preliminary geotechnical exploration was to evaluate the general type and condition of the subsurface materials at the project site, and to provide professional opinions and foundation recommendations for foundation design for the proposed structure.

#### 1.3 Scope of Services

The preliminary conditions were explored using two (2) standard penetration test (SPT) borings to depths of 50 feet below ground surface (BGS). The locations of the borings performed are illustrated in **Figure 2** Boring Location Plan. The objective of our preliminary geotechnical services was to collect subsurface data for the subject project, summarize the test results and discuss any apparent site conditions that may have geotechnical significance for building construction. The following scopes of services are provided within this report:

- Soil boring logs depicting the subsurface soil conditions encountered during our field exploration.
- Conduct a review of each soil sample obtained during our field exploration by the project engineer for further analysis, classification and additional tests if necessary.
- Analysis of the existing soil conditions found during our exploration with the respect to foundation support and provide an allowable soil bearing pressure.
- Submittal of evaluation and recommendations with respect to foundation support of the structure, including soil bearing pressures, bearing elevations and foundation design.
- Provide soil criteria and site preparation procedures to prepare the site for the proposed construction of the structure.

![](_page_28_Picture_2.jpeg)

FIGURE 1 – SITE LOCATION PLAN

GFA

![](_page_29_Picture_2.jpeg)

**FIGURE 2 – BORING LOCATION PLAN** 

NOTE: BORING LOCATIONS WERE LOCATED USING A MEASURING TAPE AND EXISTING LANDMARKS AS REFERENCE POINTS. THEREFORE, LOCATIONS SHOWN ON THE PLAN ARE APPROXIMATE.

#### 2.0 OBSERVATIONS

#### 2.1 Site Inspection

The site is located at project site is located at 4231 North 58<sup>th</sup> Avenue in Hollywood, Florida. Currently, there is an existing residential structure at the site which is to be demolished.

No soil staining or visual evidence of chemical or petroleum spillage was apparent. The recovered samples were not examined, either visually or analytically, for chemical composition or environmental hazards. GFA would be pleased to perform these services, if required.

#### 2.2 Laboratory Testing and Procedures

Soil samples recovered from our field exploration were returned to our laboratory. A geotechnical engineer visually examined and reviewed the field descriptions of the recovered soils in general accordance with ASTM D-2488. Samples were visually examined to accurately evaluate the subsurface soil properties and site geomorphic conditions. Based upon our examination of the samples obtained and the relatively clean granular nature of the soils encountered for this project, additional laboratory testing was not deemed necessary.

Representative samples of the soils encountered during our field exploration will be held in our laboratory for your inspection for 30 days unless we are notified otherwise.

#### 2.3 Geomorphic Conditions

The geology of the immediate vicinity, based on the USDA Soil Survey, is mainly representative of the **Dade-Urban land complex**. See Appendix D for a copy of the USDA Soils Report.

The South Florida region is a low probable area of sinkhole development or intense seismic activity. There are no known fault lines located on or near the project site. Based on the Seismicity Map of the State of Florida produced by B.G. Reagor 1987, the closest seismic activity occurred near Miami in 1945. This event registered a III on the Modified Mercalli Intensity Scale of 1931. This intensity is similar to vibrations like that due to passing of heavy or heavily loaded trucks.

#### 2.4 Field Exploration

For purposes of this study, the following was performed:

- Two (2) standard penetration test (SPT) borings (ASTM D-1586) performed to depths of 50 feet BGS.
- Two (2) exfiltration tests performed to depths of 10 feet BGS.

The SPT boring method was used as the investigative tool within the borings. Penetration tests were performed in substantial accordance with ASTM Procedure D-1586, "Penetration Test and Split-Barrel Sampling of Soils". This test procedure consists of driving a 1.4-inch I.D. split-tube sampler into the soil profile using a 140-pound automatic hammer falling 30 inches. The number of blows per foot, for the second and third 6-inch increment, is an indication of soil strength. The soil samples recovered from the soil borings were classified and stratified by a geotechnical engineer. Following completion of our field services, both boreholes were backfilled with excavated soil/rock, and the site generally cleaned, as required.

The results of the classification and stratification are encountered during our exploration are presented in the **Appendix A** "Record of Test Boring". It should be noted that soil conditions might vary between what is depicted on the attached log and other areas of the site. The soil boring data reflect information from a specific test location only. Site specific survey staking for the test locations was not provided for our field exploration. The boring locations were determined in the field by a project engineer by measuring distances and estimating right angles from existing site features. The boring locations should, therefore, be considered approximate. The boring depths were confined to the zone of soil likely to be stressed by the proposed construction.

The boring logs depict the observed soils in graphic detail. The Standard Penetration Test borings indicate the penetration resistance, or N-values logged during the drilling and sampling activities. Please refer to **Appendix B** "Notes Related to the Test Borings" for further clarification of our field exploration. The classifications and descriptions shown on the logs are generally based upon visual characterizations of the recovered soil samples. All soil samples reviewed have been depicted and classified in accordance with the Unified Soil Classification System symbols (i.e. SP, SP-SM, SC etc.). See in **Appendix C** "Discussion of Soil Groups", for a detailed description of various soil groups.

#### 2.5 Subsurface Conditions

The subsurface conditions encountered in our test borings generally consisted of a surficial cover of very loose to loose topsoil with trace roots and limerock to an approximate depth of 1 foot BGS, underlain by very loose to medium dense fine to medium grained sand to approximate depths of 40 feet in Boring B-1 and 45 feet in Boring B-2 BGS. The borings then encountered moderately hard to hard limestone with fine to medium grained sand to the maximum termination depth of the explorations at 50 feet BGS.

For detailed information on subsurface conditions encountered in the borings, please refer to **Appendix A** "Record of Test Boring" sheets attached to this report.

#### 3.0 ENGINEERING EVALUATION AND RECOMMENDATIONS

#### 3.1 Hydrogeological Conditions

On the date of our field exploration, the groundwater was encountered at approximate depths ranging from 5'0" to 5'6" BGS at the time of drilling (January 2017). It should be noted that groundwater levels will fluctuate seasonally depending upon local rainfall and tidal fluctuations. Brief ponding of stormwater may occur across the site after heavy rain events. No additional investigation was conducted in relation to any existing well field in the vicinity. Well fields can influence water table levels and cause significant fluctuations. If a more comprehensive water table analysis is necessary, we recommend contacting a registered professional specialized in hydrogeology.

As part of our field exploration, we performed two (2) exfiltration tests in accordance with the South Florida Water Management District method for open hole constant head field testing at a depth of 10 feet BGS. The tests were conducted at the areas presented in **Figure 2** – Boring Location Plan. Based on these tests, the hydraulic conductivity (K-value) on the site soils ranged from **5.3** X 10<sup>-04</sup> (cfs/ft<sup>2</sup>-ft) to **5.7** X 10<sup>-04</sup> (cfs/ft<sup>2</sup>-ft). The test results are presented in **Appendix D**.

#### 3.2 Preliminary Foundation Recommendations

#### 3.2.1 General

A foundation system for any structure must be designed to resist bearing capacity failures, have settlements within tolerable limits for the structure type, and resist environmental forces, which the foundation may be subjected to over the life of the structure. Environmental forces in Florida can include sinkholes, shrinking and swelling soils, and soil consolidation, among others. It is our opinion that these specific environmental forces have a low risk (on a scale of low, moderate, high) of detrimentally affecting shallow foundation performance at this site. The allowable amount of settlement that a structure may tolerate is dependent on several factors including: uniformity of settlement, time rate of settlement, structural dimensions and properties of the structural materials. Generally, total or uniform settlement does not damage a structure but may affect drainage and utility connections. These can generally tolerate movements of several inches for building construction. In contrast, differential settlement affects a structure's frame and is limited by the structural flexibility.

Based on the very loose to medium dense nature of the soils, the soils supporting the proposed structure will require special consideration in order to safely support the shallow foundations as well as to control foundation settlements within tolerable limits. The soil improvement option considered was vibro-compaction. Deep foundation systems (augered cast-in-place piles) were also considered but may be viewed as a cost prohibitive alternative. Preliminary recommendations for vibro-compaction and auger cast-in-place piles are contained herein.

#### 3.2.2 General Site Preparation

- 1. Following the site stripping, areas of surficial sand should be compacted prior to the placement of any fill. GFA recommends a steel drum vibratory roller with a minimum static weight of 20,000 lbs. and minimum vibratory impact energy of 50,000 lbs. The roller should be operated at 2 mph making at least 10 perpendicular overlapping passes. Densification should continue until no further settlement can be visually discerned at the excavated surface. No section of the subgrade should receive less than 4 passes of the roller or until at least 95% maximum density (ASTM D 1557) is achieved for a depth of at least 1 foot below the excavated surface. Upon completion of the proof rolling, backfill shall be placed in maximum 12-inch loose lifts and compacted to a minimum density of 98 percent of the Modified Proctor maximum dry density (ASTM D-1557).
- 2. Place fill material, as required. The excavated site soils that do not contain organics or other deleterious material should be suitable for use as engineered fill. The fill material should be inorganic (classified as SP, SW, GP or GW) containing not more than 5 percent (by weight) organic materials. Fill should be placed in maximum 12-inch loose lifts and compacted to a minimum density of **98 percent** of the Modified Proctor maximum dry density (ASTM D-1557) with a vibratory roller as mentioned in item #1.
- 3. Perform compliance tests within the fill at a frequency of not less than one test per 2,500 square feet per lift in the building areas, or at a minimum of 2 test locations per lift, whichever is greater.
- 4. The bottom of all footings shall be examined by the engineer or his representative to determine if the soil is free of all organic and/or deleterious materials, and if the required compaction and soil pressures are achieved or if additional compaction is required. We recommend testing all footing cuts for compaction to a depth of 1 foot.
- 5. The contractor shall take into account the final contours and grades as established by the plan when executing his backfilling and compaction operations.
- 6. Use of vibratory compaction equipment at this site may disturb adjacent structures. If the location of the adjacent structures is within very close proximity of the new development, then a representative from this office can monitor the vibration disturbance to the adjacent structures using seismograph equipment.

#### 3.2.3 Excavation Conditions

In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its "Construction Standards for Excavations, 29 CFR, part 1926, Subpart P". This document was issued to better insure the safety of workmen entering trenches or excavations. It is mandated by this federal regulation that all excavations, whether they be utility trenches, basement excavations or footing excavations, be constructed in accordance with the OSHA guidelines.

Based on the anticipated final grades, control of the groundwater will be necessary during the installation of deep underground utilities (e.g. stormwater pipes). Some control may be necessary depending on recent rainfall for foundation construction.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of any excavations deeper than 4 feet as required to maintain stability of both the excavation sides and bottom. The contractor's responsible person, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations.

The encountered site soils are likely suitable for re-use as site leveling or subgrade fill. All of the soils may be saturated upon excavation (depending on excavation techniques) and require some minimal drying time before they could be used. The silty sands may require extended drying periods. Requirements for site leveling fill and pad fill are contained in the applicable sections above.

We are providing this information solely as a service to our client. GFA is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

#### 3.2.4 Preliminary Foundation Design

#### 3.2.4.1 Vibro-Compaction

For shallow foundations, following vibro-compaction as outlines below, it is GFA's opinion that the proposed building can be supported on conventional shallow foundations bearing on existing soils or newly placed engineered fills. A net allowable soil bearing pressure of **6,000 pounds per square foot (psf)** may be used for the design of isolated spread footings and continuous strip footings.

Vibro-compaction techniques are well suited for the soil conditions encountered at this site. Vibro-compaction is typically performed under all wall and column foundations. Vibro-flotation beneath the floor slab is not required.

The safe bearing capacity will need to be confirmed with test borings after the site preparation technique has been completed. Fill required to raise the building pad to the final grade, will need to be completed before vibro-compaction begins to increase the confining pressure and increase the effectiveness of these techniques.

The vibro-compaction process employs the use of a large cylindrical vibrating probe suspended from a crane, which is jetted under the action of water or air into the soil. This process rearranges the soil particles into a more compact configuration, typically in excess of 70 percent relative density. As the probe is withdrawn; granular fill is added into the annulus to compensate for the loss of volume due to densification. Vibrating probe insertion points are typically spaced 6 to 14 feet apart. The zone of compaction around a single probe will vary according to the type of vibroflot used. The cylindrical zone of compaction will have a radius of up to 6 feet for a 30-HP unit, and a radius up to 10 feet for a 100-HP unit.

The vibro-compaction method does not generally densify soils in the upper 3 to 4 feet of the subsurface profile due to lack of overburden pressure and confinement. For this reason, heavy surface vibratory compaction using a steel drum roller is generally performed following the completion of vibro-compaction and acceptance testing. This technique is an applicable method for soil improvement on this site. Specific details concerning probe spacing will depend on the foundation size and desired degree of soil improvement. The required depth of improvement will vary based on foundation size for the proposed structures.

In general, there are limitations on the extent of soil improvement. The vibro-compaction technique and acceptance-testing program, can achieve an allowable bearing capacity of up to **6,000 psf** when the soils have been improved to a high percent of relative density for the full depth of the treatment. We recommend that the soils be improved in a way to achieve an allowable bearing capacity of at least **6,000** psf for this project.

The vibro-improvement process is a highly-specialized ground modification technique and its successful completion depends on the experience of the specialty contractor, the size and energy of the equipment used, and the spacing of the probe locations. A vibroimprovement plan including the methods and equipment to be used, and a probe location plan should be submitted by the vibro-improvement specialty contractor and approved by GFA prior to initiation of vibro-improvement operation. The approval of the vibroimprovement plan by GFA is in no way a warranty or guarantee that the intended improvements will be achieved. The responsibility for achieving the required improvement is solely the responsibility of the vibro-improvement contractor.

The soils underlying the footing areas (continuous and isolated) should be improved using a 150 horsepower vibroflot imparting a centrifugal force of not less than 22 tons. Vibroflotation treatment should extend to a depth of 2 footing widths beneath the bearing levels of isolated (column) footings, and 4 footing widths beneath the bottoms of continuous footings. Clean fine to medium sand should be used as add fill within the compaction points. Vibro compaction for the project should be carried out by an experienced contractor employing a ground improvement plan that he prepares. The ground improvement plan should be reviewed in concert by the geotechnical engineer and structural engineer for conformance with the intent of the foundation design.

We recommend that quality assurance criteria be established to serve as a guideline for determining that the required degrees of improvement have been achieved. Standard penetration test (ASTM D1586) borings or Cone Penetration Test Soundings (CPTs – ASTM D3441) will be required upon completion of vibro-compaction operations. We recommend that the mean N value within the zone improved be at least **18 blows per foot (or Qc value of 72 tsf)**, with no single N value less than **15 blows per foot (or Qc value of 60 tsf)**. Post improvement testing should not be initiated until a period of at least 48 hours has elapsed following the completion of the vibro-points in order of allow time for any pore pressure to dissipate.

In addition, the production of the vibroflotation points should be monitored continuously to verify depth of each probe and that the desired pressures are achieved as the probe is advanced back to ground surface.

Following the soil improvement and verification as recommended above, a net allowable soil bearing pressure of **6,000 pounds per square foot (psf)** may be used for the design of isolated spread footings and continuous strip footings. Provided that the site is prepared in accordance as discussed in this report, foundation settlement is expected to be less than 1 inch total across the structure and 1/2-inch differential between adjacent columns or a horizontal distance of 20 feet.

Shallow foundations should be embedded a minimum of 2 feet into the bearing soils for continuous footing and 3 feet for isolated (column) footings. The embedment shall be measured from the lowest adjacent exterior grade. All footings and columns should be structurally separated from the floor slab so that minor differential foundation settlement can occur without causing damage to the slab-on-grade floor unless a monolithic slab-on-grade foundation is planned.

The vibro-compaction process, which employs the use of a large cylindrical vibrating probe at this site, may disturb adjacent structures. We recommend that you monitor nearby structures before and during vibro-compaction operations. A representative from this office can monitor the vibration disturbance of adjacent structures utilizing a seismograph.

If the vibration levels cannot be controlled next to the existing building, then an alternative to the vibro-compaction must be considered for those footings closed to the existing structure. A viable option in lieu of the vibro-compaction is the use of chemical grout.

#### Site Preparation for Vibro-Compaction

Our recommendations for preparation of the site for isolated footings are noted below.

- 1. Perform vibro-compaction operation under isolated column pads as mentioned before using a vibroflot for any range between 30-HP unit and 100-HP unit.
- 2. After the completion of vibro-compaction operation, level the ground surface, and recompact up to the finish grade of the building pad.
- 3. Perform confirmation standard penetration test borings at the completion of site densification compaction. The allowable soil bearing capacity certification will be confirmed after completion of confirmation borings.

#### 3.2.4.2 Deep Foundations (Piles) Option

The proposed structure foundations can also be supported using a deep augered castin-place (ACIP) pile foundation system. The slab-on-grade can be supported on soils prepared as noted in the Site Preparation section above.

The auger-cast piles will develop their axial compressive capacity through a combination of end-bearing and side shear (skin friction) between the periphery of the grouted pile and the layers of sand through which the piles penetrate.

From a preliminary design standpoint, 16 and 24-inch diameter augercast piles can be considered for use in supporting the proposed structure. The preliminary allowable pile compression and tension capacities together with estimated pile depths are presented in the following table:

SUMMARY OF ACIP PILE CAPACITIES						
Pile DiameterPile Tip Depth (from existing grade of drilled locations)Minimum pile tip elevation*Allowable Compression CapacityAllowable Lateral CapacityAllowable Lateral CapacityMinimum Required G Strength						
16 in	50 feet	-43 ft NAVD	135 tons	90 tons	5 tons	6,000 psi
24 in	50 feet	-43 ft NAVD	305 tons	150 tons	8 tons	6,000 psi

\* Assuming existing grade elevation to be +7 ft NAVD at the location of the borings.

Please note that structural stresses in the piles may impose a more severe limitation on the design capacity; therefore, we recommend the allowable stresses be verified for the selected pile section.

The proposed piles should be constructed to a minimum of <u>50 feet (minimum pile tip</u> elevation of -43 ft NAVD assuming existing grade elevation to be +7 ft NAVD at the location of the borings), with at least 5 feet into the very dense limestone layer as determined by the inspecting Geotechnical Engineer.

#### Pile Installation

Pile design and installation shall be in accordance with the applicable sections of the Florida Building Code and other applicable federal, state and local requirements. In addition, ACIP pile installation procedures should be performed in accordance with the guidelines presented in the latest edition of the *Deep Foundations Institute's Augered Cast-In-Place Pile Manual*. GFA recommends that the minimum grout compressive strength be **6,000 psi**.

In addition, piles should be installed in accordance with the following:

- <u>Depth</u> Preliminarily, the proposed piles should be constructed to a minimum pile tip elevation of -43 ft NAVD assuming existing grade is at +7 ft NAVD (depth of 50 feet) as determined by the inspecting Geotechnical Engineer. <u>The contractor</u> <u>should note that hard drilling may be encountered in moderately hard to hard</u> <u>limestone layers.</u> If practical refusal (less than 1 foot per minute of drilling) is obtained, the allowable compression and tension capacities will be affected.
- 2. <u>Spacing</u> Piles installed in groups should be spaced at a center-to-center distance of not less than 3 pile diameters.
- 3. <u>Plan Location</u> The center of the top of any pile at cut-off should be displaced laterally no more than 3 inches from the position shown on the plans. This applies to both single piles and piles installed in groups.
- 4. <u>Vertical Alignment</u> The vertical alignment of the piling should not deviate from the plumb by more than 1/4 inch per foot of length.
- 5. <u>Reinforcing Cage Positioning</u> The top of the reinforcing cages installed in the piling should not be more than 6 inches above and no more than 3 inches below the positions shown in the plans. The reinforcing cages should be positioned concentrically within the grouted pile shaft. The grout cover over longitudinal reinforcing bars should not be less than 3 inches.
- 6. <u>Adjacent Piles</u> A minimum time period of 24 hours should be specified for the installation of piles located within 6 pile diameters, center-to-center, of each other.
- 7. <u>Grout Factor</u> The minimum acceptable grout factor (i.e. actual grout volume divided by theoretical grout volume) should be 1.2. NOTE: Based on the soils encountered during the SPT borings, higher grout factors are anticipated.

#### Pile Load Tests

For the capacities outlined, GFA recommends that a least one pile load test be made at the site for each pile size/length and load type specified in the design (at least one compression, one tension, and one lateral load test). The load test will be used to evaluate the installation conditions, confirm the length required for the permanent piles, and to verify the design pile capacity can be achieved. The load test piles can be instrumented with vibrating wire strain gauges (VWSG) which can indicate the depth to which the test load is being transferred within the pile. The test piles should be of the same size and materials as the permanent piles. In addition, the equipment and methods used for the installation of the test pile should be identical to those used for the production piles. The test piles should be located as near to one of our test borings as is practical to permit an accurate correlation to be made of the installation characteristics with known subsurface conditions. The test piles should be constructed at a design position so that it may ultimately be incorporated into the completed foundations.

The compression pile load test should be conducted in general accordance with ASTM D 1143, "*Standard Test Method for Piles Under Static Axial Compressive Load*". The test pile should be loaded to twice the design load or to failure, whichever occurs first. If the contractor elects to use an anchored reaction frame for testing, the anchor piling should be installed at a clear distance from the test pile which is at least 5 times the maximum diameter of the anchor, but not less than 7 feet. Tension load tests should be ran in general accordance with ASTM D3689, "*Standard Test Methods for Deep Foundations Under Static Axial Tensile Load*". Lateral load tests should be ran in general accordance with ASTM D366, *Standard Test Method for Deep Foundations Under Lateral Load*.

#### 3.2.5 Floor Slab

The ground floor slab may be supported directly on the granular fill pad following the foundation site preparation procedures. The ground floor slab should be structurally separated from all walls and columns to allow for differential vertical movement. Water vapor is likely to rise through the granular fill building pad and condense beneath the base of the floor slab. If moisture entry into the floor slab is not desirable, an Impermeable membrane should be installed at the slab bottom - subgrade interface.

#### **4.0 FUTURE INVESTIGATION**

As noted earlier, the intent of this preliminary exploration report is to provide upfront recommendations so that you can proceed with the design. A formal geotechnical report will be prepared and issued for this project at a later date after our final exploration is completed. In the meantime, we trust this preliminary exploration report and attachments are sufficient for your current needs; however, should you have any questions or should additional information be required, please do not hesitate to contact our office. The findings and recommendations provided in this report were based on subsurface information geotechnical investigation will be required to obtain specific subsurface soil information within the proposed building location and use that information to assess the recommendations of this report and potential future development changes.

#### 5.0 REPORT LIMITATIONS

This preliminary consulting report has been prepared for the exclusive use of the current project owners and other members of the design team for the **Proposed Apartment Building** in Hollywood, Florida. This report has been prepared in accordance with generally accepted local geotechnical engineering practices; no other warranty is expressed or implied. The evaluation submitted in this report, is based in part upon the data collected during a field exploration, however, the nature of extent of variations throughout the subsurface profile may not become evident until the time of construction. If variations then appear evident, it may be necessary to reevaluate information and professional opinions as provided in this report. In the event changes are made in the nature, design, or locations of the proposed structure, the evaluation and opinions contained in this report shall not be considered valid, unless the changes are reviewed and conclusions modified or verified in writing by GFA International. Lastly, in accepting this report, the client understands that the data obtained from the soil borings is intended for foundation analysis only and is not to be used for excavating or backfilling pricing estimates.

Due to the limited project information, this investigation is preliminary in nature and was limited to minimal site investigation. The recommendations contained herein are extrapolated from the limited soils information gathered. They should not be used for final design until further investigations are made and the recommendations are determined to be valid for the proposed structures.

In addition, an environmental assessment regarding the potential for contaminated soil and/or groundwater on this site has not been performed as part of this study. If an assessment is requested, GFA can propose and perform this service.

#### 6.0 BASIS FOR RECOMMENDATIONS

The analysis and recommendations submitted in this report are based on the data obtained from the tests performed at the locations indicated on **Figure 2**. This report does not reflect any variations, which may occur between borings. While the borings are representative of the subsurface conditions at their respective locations and for their vertical reaches, local variations characteristic of the subsurface soils of the region are anticipated and may be encountered. The delineation between soil types shown on the soil logs is approximate and the description represents our interpretation of the subsurface conditions at the designated boring locations on the particular date drilled.

Any third-party reliance of our preliminary geotechnical report or parts thereof is strictly prohibited without the expressed written consent of GFA International. The methodology (ASTM D-1586) used in performing our borings and for determining penetration resistance is specific to the sampling tools utilized and does not reflect the ease or difficulty to advance other tools or materials.

Appendix A

**Record of Test Borings** 

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Appendix B

Notes Related to the Test Borings

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#### NOTES RELATED TO RECORDS OF TEST BORING AND GENERALIZED SUBSURFACE PROFILE

- 1. Groundwater level was encountered and recorded (if shown) following the completion of the soil test boring on the date indicated. Fluctuations in groundwater levels are common; consult report text for a discussion.
- 2. The boring location was identified in the field by offsetting from existing reference marks and using a cloth tape and survey wheel.
- 3. The borehole was backfilled to site grade following boring completion, and patched with asphalt cold patch mix when pavement was encountered.
- 4. The Record of Test Boring represents our interpretation of field conditions based on engineering examination of the soil samples.
- 5. The Record of Test Boring is subject to the limitations, conclusions and recommendations presented in the Report text.
- 6. "Field Test Data" shown on the Record of Test Boring indicated as 11/6 refers to the Standard Penetration Test (SPT) and means 11 hammer blows drove the sampler 6 inches. SPT uses a 140-pound hammer falling 30 inches.
- 7. The N-value from the SPT is the sum of the hammer blows required to drive the sampler the second and third 6-inch increments.
- 8. The soil/rock strata interfaces shown on the Records of Test Boring are approximate and may vary from those shown. The soil/rock conditions shown on the Records of Test Boring refer to conditions at the specific location tested; soil/rock conditions may vary between test locations.

SPT	СРТ	SANDS/GRAVELS	SPT	СРТ	SILTS/CLAYS				
BLOWS/FOOT	KG/CM <sup>2</sup>	RELATIVE DENSITY	BLOWS/FOOT	KG/CM <sup>2</sup>	<u>CONSISTENCY</u>				
0-4	0-16	Very loose	0-1	0-3	Very soft				
5-10	17-40	Loose	2-4	4-9	Soft				
11-30	41-120	Medium Dense	5-8	10-17	Firm				
31-50	over 120	Dense	9-15	18-31	Stiff				
over 50		Very Dense	16-30	32-60	Very stiff				
			31-50	over 60	Hard				

9. Relative density for sands/gravels and consistency for silts/clays are described as follows:

10. Grain size descriptions are as follows:

NAME	SIZE LIMITS
Boulder	12 Inches or more
Cobbles	3 to 12 Inches
Coarse Gravel	¾ to 3 Inches
Fine Gravel	No. 4 sieve to ¾ inch
Coarse Sand	No. 10 to No. 4 sieve
Medium Sand	No. 40 to No. 10 sieve
Fine Sand	No. 200 to No. 40 sieve
Fines	Smaller than No. 200 sieve

11. Definitions related to adjectives used in soil/rock descriptions:

PROPORTION	ADJECTIVE	APPROXIMATE ROOT DIAMETER	ADJECTIVE
Up to 5%	with a trace	Less than 1/32"	Fine roots
5 to 30%	with some	1/32" to ¼"	Small roots
30 to 50%	with	¼" to 1"	Medium roots
		Greater than 1"	Large roots

Appendix C

**Discussion of Soil Groups** 

![](_page_48_Picture_2.jpeg)

#### **DISCUSSION OF SOIL GROUPS**

#### **COARSE GRAINED SOILS**

**GW and SW GROUPS.** These groups comprise well-graded gravelly and sandy soils having little or no plastic fines (less than 5 percent passing the No. 200 sieve). The presence of the fines must not noticeably change the strength characteristics of the coarse-grained fraction and must not interface with it's free-draining characteristics.

**GP and SP GROUPS.** Poorly graded gravels and sands containing little of no plastic fines (less than 5 percent passing the No. 200 sieve) are classed in GP and SP groups. The materials may be called uniform gravels, uniform sands or non-uniform mixtures of very coarse material and very fine sands, with intermediate sizes lacking (sometimes called skip-graded, gap-graded or step-graded). This last group often results from borrow pit excavation in which gravel and sand layers are mixed.

**GM and SM GROUPS.** In general, the GM and SM groups comprise gravels or sands with fines (more than 12 percent passing the No. 200 sieve) having low or no plasticity. The plasticity index and liquid limit of soils in the group should plot below the "A" line on the plasticity chart. The gradation of the material is not considered significant and both well and poorly graded materials are included.

**GC and SC GROUPS.** In general, the GC and SC groups comprise gravelly or sandy soils with fines (more than 12 percent passing the No. 200 sieve), which have a fairly high plasticity. The liquid limit and plasticity index should plot above the "A" line on the plasticity chart.

#### FINE GRAINED SOILS

**ML and MH GROUPS.** In these groups, the symbol M has been used to designate predominantly silty material. The symbols L and H represent low and high liquid limits, respectively, and an arbitrary dividing line between the two is set at a liquid limit of 50. The soils in the ML and MH groups are sandy silts, clayey silts or inorganic silts with relatively low plasticity. Also included are loess type soils and rock flours.

**CL and CH GROUPS.** In these groups the symbol C stands for clay, with L and H denoting low or high liquid limits, with the dividing line again set at a liquid limit of 50. The soils are primarily inorganic clays. Low plasticity clays are classified as CL and are usually lean clays, sandy clays or silty clays. The medium and high plasticity clays are classified as CH. These include the fat clays, gumbo clays and some volcanic clays.