Madeira Beach Town Center

Madeira Beach Town Center, LLC
Mesh Architecture

Madeira Beach, Florida
November 4, 2016

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AERIAL VIEW FROM EAST

MBTC

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SHUMAKER
Shumaker, Loop & Kendrick, LLP

Index

PROJECT DESCRIPTION

The Madeira Beach Town Center project is envisioned to be just that, a new gathering place for the local community. The master plan is organized around two new civic places. Madeira Way has been reconceived and redesigned to be a two block long pedestrian-oriented street lined with shops and cafes. At the intersection of Gulf Boulevard and 150th Avenue is Madeira Plaza, a new half-acre town square designed to host events and activities, large and small throughout the day, week and year. In addition to these two spaces a pedestrian/bike trail has been extended from Madeira Way to Causeway Park. Also an elevated crosswalk is proposed to provide safe passage across Gulf Boulevard.

The 6.7-acre mixed-use project consists of two properties, both with frontage onto Madeira Way. All of the existing buildings will be demolished as new construction proceeds. Distributed across the two properties are five new buildings. Two new 6-story condominium buildings, totaling 80 units, front onto 150th Avenue. Parking is located on the first two floors with four floors of residential units above. These buildings are two floors less than Boca Vista across the street. The existing 43-slip marina will be completely redeveloped. A new one or two-story dockmaster building with up to 8,000 square feet will be built at the northeast end of the site to service the marina.

North of Madeira Way a new suites hotel with up to 148 rooms will be developed. This building will have eight floors. On the first floor will be the hotel lobby, up to 5,000 square feet of retail and restaurant space and the entry to the parking garage. The second and third floors will contain parking and above will be five floors of hotel rooms. The building has been designed to reinforce the pedestrian character of Madeira Way.

Across the street, on the triangular block, will be a new full-service hotel with up to 168 rooms plus 10 condominiums. This building will also have eight floors, four floors less than the Ocean Sands Condominiums located across Gulf Boulevard. On the first floor will be the hotel lobby, up to 40,000 square feet of retail and restaurant space and the parking garage entry with covered drop-off for the hotel. In addition, a pedestrian arcade through the building will connect Madeira Way to the public plaza. The parking garage will be on the second and third floors. The hotel amenities are located on the fourth floor with direct access to a large roof terrace. The hotel rooms comprise the 5th through 7th floors and the condominiums are located on the top floor.

Automobile traffic has been carefully considered. The traffic signal at the intersection of 150th Avenue and Madeira Way is proposed to be removed. This will reduce congestion on 150th Avenue by allowing for a smoother flow of traffic. Currently between Causeway Park and Madeira Way there are eight curb cuts on the north side of 150th Avenue. These will all be eliminated except for two, one for the marina and one for the two new condominium buildings. This too will reduce traffic conflicts.

As previously mentioned Madeira Way will be completely re-built as a two-lane, two-way pedestrian oriented street with parallel parking and generous sidewalks. It will no longer function as a shortcut by through traffic due to its slow speed and because vehicles will no longer be allowed to make a left turn at the east end of the street onto 150th Avenue. On the triangular block, the existing curb cuts onto 150th Avenue and Gulf Boulevard will be eliminated. All vehicular access for the two hotels and their accessory retail space will be via Madeira Way, thereby minimizing conflicts with the two major streets.

The parking needs for the proposed new development have also been thoughtfully designed. Consistent with the Madeira Beach Town Center Special Area Plan parking has been designed to improve pedestrian flow throughout the project and minimize conflicts with vehicular traffic. Enough parking has been provided to slightly exceed the city's required standards; and except for a small surface parking lot servicing the marina all other parking has been consolidated into four parking garages. This minimizes the land area occupied by automobile parking and allows more area to be devoted to landscaped green spaces and lively public spaces.

SPECIAL AREA PLAN OBJECTIVES

As described below, special consideration has been given to meeting the Objectives of the Madeira Beach Town Center Special Area Plan as this proposal was developed.

Create a unique sense of place for the Town Center, and create a sense of arrival for those entering the area.

The design emphasis has been on creating distinctive pedestrian oriented places including a redeveloped pedestrian-oriented Madeira Way, a one-half acre public plaza at the intersection of Gulf Boulevard and 150th Avenue and a landscaped green space fronting the marina. Special care has been taken to create scenic gateways and views when entering the district from the east, south and north.

Promote a wide variety of uses to create an activity center for both local residents and tourists.

This is a true mixed-use project with a balance of residences, tourist accommodations, retail, restaurant, entertainment and recreational uses. And all of these uses are connected via sidewalks allowing for safe, convenient access across the district.

Set a standard for urban design so that new development and redevelopment in the Town Center contributes to the public realm.

As a result of this project two major public spaces will either be greatly improved (Madeira Way) or newly created (Madeira Plaza). This project proposes a carefully calibrated balance between new private development and public enhancement. These improvements will be codified through the Development Agreement as well as the Design Guidelines contained within this document.

Promote redevelopment of older properties in a manner that contributes to the quality of urban design in the Town Center.

Although the majority of the property is currently developed, it is at a density and pattern that does not create a sense of place for the community. The goal of the proposed project is to redevelop the area into a memorable destination for both locals and visitors.

Increase the number of temporary lodging units and maintain existing residential units in the Town Center that have the quality characteristics included in the Special Area Plan.

The proposal will add 316 hotel rooms and 90 dwelling units to the core of the Town Center. All will have thoughtful architectural design that reflect the relaxed, subtropical character of Madeira Beach while simultaneously working together to create a coherent character for the Town Center.

Improve pedestrian and bicycling access to all major destinations with the Town Center, including the parks, the beach, retail properties and civic destinations.

Numerous improvements are proposed to enhance pedestrian and bicycle access. A 12-foot-wide combined pedestrian/bicycle trail will connect Madeira Way to Causeway Park. Madeira Way will be redeveloped as a pedestrian oriented shopping street. A new public plaza will be located at the intersection of Gulf Boulevard and 150th Avenue with a direct pedestrian access to Madeira Way. An elevated crosswalk is proposed to provide safe, pedestrian access across Gulf Boulevard.

Increase connections and access to parks, ensuring that views of the Gulf and Boca Ciega Bay are preserved.

A new pedestrian/bicycle trail will connect Causeway Park back to the Town Center. A new public space will be created at the intersection of Gulf Boulevard and 150th Avenue. The new condominium buildings have been separated by 80 feet. And there is a 60 foot opening between Condominium B and Hotel A. The marina property is 345 feet long and is designed to appear as an extension of the Causeway Park. Although sometimes controversial, allowing for taller buildings in waterfront districts reduces the size of the structure's footprint and results in better views overall to and from neighboring properties. It also allows a greater percentage of the site to be dedicated to green space.

Develop parking and access strategies that help to make the most efficient use of scarce land and contribute to the quality of the public realm in the Town Center.

The site plan proposes to eliminate all curb cuts along 150th Avenue and Gulf Boulevard except for two access points, one for the marina and one for the two condominium buildings. All vehicular access for the two hotels will be via Madeira Way. Except for a small, 42 space, surface parking lot serving the marina, all other parking for the development will be located within four parking structures at the base of the new buildings. This allows for a significant increase in the amount of landscaped green space and lively public areas.

PROJECT DATA

	Parcel 1	Parcel 2	Parcel 3	Parcel 4	Parcel 5		Totals
Land Use	Marina	Condo A	Condo B	Hotel A	Hotel B		
Land Area	60,258 s.f.	40,059 s.f.	48,791 s.f.	50,066 s.f.	92,511 s.f.		291,685 s.f.
Parcel Acreage	1.383 ac.	0.920 ac.	1.120 ac.	1.149 ac.	2.124 ac.		6.696 ac.
Causeway District Zoning	1.111 ac.	0.309 ac.					1.420 ac.
Commercial Core District Zoning	0.272 ac.	0.611 ac.	1.120 ac.	1.149 ac.	2.124 ac.		5.276 ac.
Hotel - Density Allowed (Commercial Core)							60 rooms/ac.
Hotel - Rooms Allowed (Commercial Core)							317 rooms
Hotel - Density Proposed (Commercial Core)							59.9 rooms/ac.
Hotel - Rooms Proposed (Commercial Core)				148 rooms	168 rooms		316 rooms
Condos - Density Allowed (Commercial Core)							15 units/ac.
Condos - Units Allowed (Commercial Core)							79 units
Condos - Density Proposed (Commercial Core)							11.1 units/ac.
Condos - Units Proposed (Commercial Core)		*20 units*	*44 units*		*10 units*		74 units
Condos - Density Allowed (Causeway)							15 units/ac.
Condos - Units Allowed (Causeway)							21 units
Condos - Density Proposed (Causeway)							11.3 units/ac.
Condos - Units Proposed (Causeway)		*16 units*					16 units
Condos - Units Proposed (Total)		36 units	44 units		10 units		90 units
Retail Space (Commercial Core)				*2,000 s.f.*	*28,000 s.f.*		*30,000 s.f.*
Restaurant Space (Commercial Core)				*3,000 s.f.*	*12,000 s.f.*		*15,000 s.f.*
Commercial Area - Proposed (Commercial Core)				5,000 s.f.	40,000 s.f.		45,000 s.f.
Commercial Density - Allowed (Commercial Core)							1.2 FAR
Commercial Area - Allowed (Commercial Core)							275,798 s.f.
Retail Space (Causeway)	*7,000 s.f.*						*7,000 s.f.*
Restaurant Space (Causeway)	*1,000 s.f.*						*1,000 s.f.*
Commercial Area - Proposed (Causeway)	8,000 s.f.						8,000 s.f.
Commercial Density - Allowed (Causeway)							0.5500 FAR
Commercial Area - Allowed (Causeway)							34,020 s.f.
Commercial Area - Proposed (Total)							53,000 s.f.
Boat Slips - Allowed							43 slips
Boat Slips - Proposed	43 slips						43 slips
Parking - Minimum Required	40 spaces	72 spaces	88 spaces	175 spaces	326 spaces		701 spaces
Parking - Proposed	42 spaces	77 spaces	93 spaces	175 spaces	326 spaces		713 spaces

Notes
1. Parking Ratios - Residential: 2 spaces per unit / Hotel: 1 space per room / Retail: 3 spaces per 2,000 s.f. / Restaurant: 1 space per 4 seats (125 s.f.) / Marina: 1 space per 2 slips
2. In the Causeway District, 76% of the allowable density is allocated to residential use and 24% is allocated to commercial use.

VIEW FROM 150TH AVENUE LOOKING SOUTHWEST

CITY OF MADEIRA BEACH

The city of Madeira Beach is strategically located midway along the 30 plus miles of Pinellas beaches. It's a small town with a big waterfront - over two miles of gulf beaches and many more miles of frontage onto Boca Ciega Bay. With 4,300 residents in its one square mile, Madeira Beach is almost completely built out with relatively little new development in the last 15 years. A new Courtyard Marriott hotel opened last year on the mainland, but no new hotels have been built on the island since the 1970's. Although the residential housing stock is reasonably stable, much of the commercial property consists of older one-story buildings with large, surface parking lots.

GOOGLE EARTH IMAGE

AERIAL VIEW OF MADEIRA BEACH

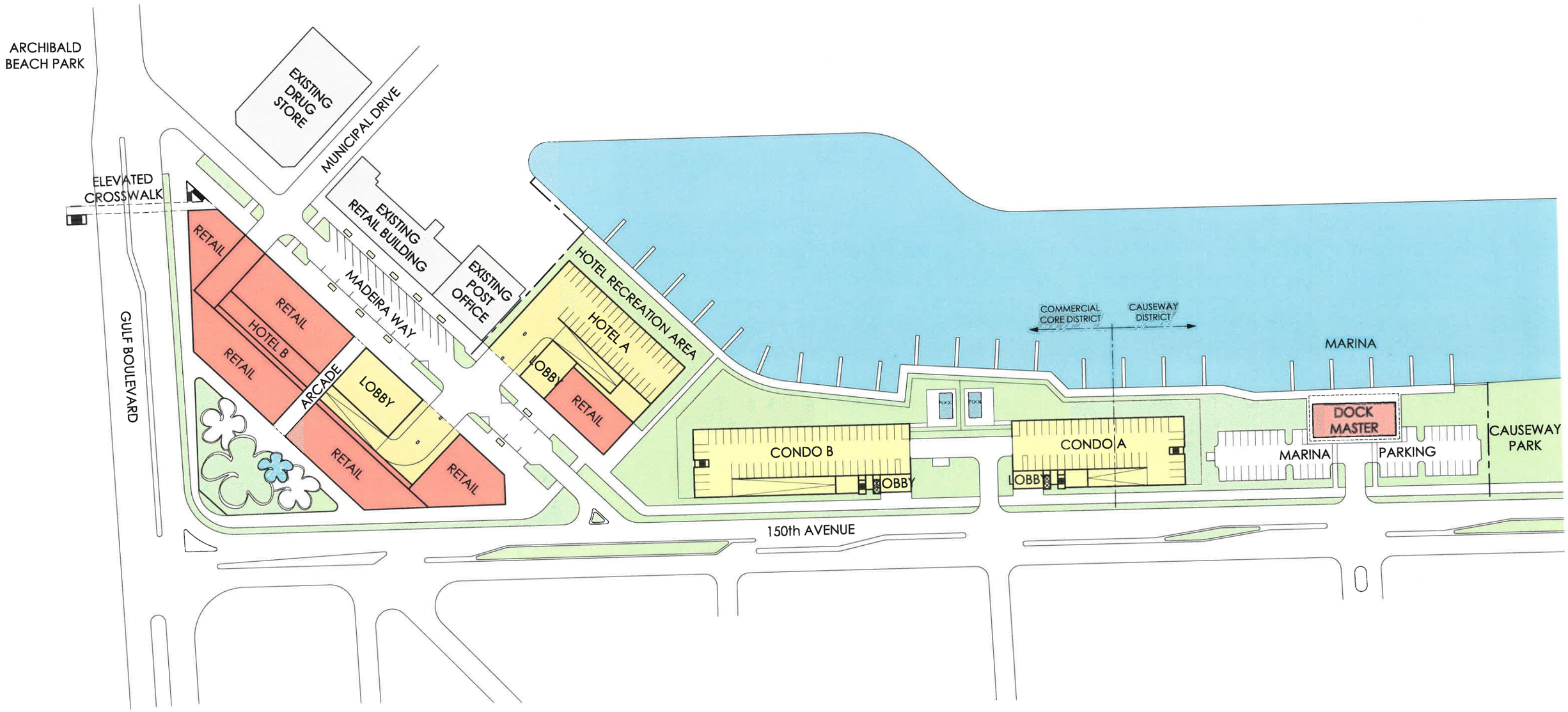
GOOGLE EARTH IMAGE

AERIAL VIEW OF MADEIRA BEACH TOWN CENTER

MADEIRA BEACH TOWN CENTER

As described within the city's Special Area Plan, the overall Town Center district is approximately 80 acres in size. The subject property's 6.7 acres is located right in the heart of the district. This property is significantly under-developed containing only 63,000 square feet of commercial space across multiple parcels. With very little green space the majority of the land consists of surface parking lots. However, as noted within the plan the location is superb. Serviced by two major arterial roadways, Gulf Boulevard and 150th Avenue, the property enjoys over 1,200 feet of frontage on the intercoastal waterway and is within walking distance of the Gulf beaches, the town civic center, public parks and a drug store and grocery store.

5-PHASES
15 YR. PLAN



Overall Site Plan

SCALE: 1" = 120'-0"

0" 120" 240" 360"

VIEW FROM ARCHIBALD PARK LOOKING EAST

VIEW ACROSS GULF BOULEVARD LOOKING SOUTHEAST

VIEW OF MADEIRA WAY LOOKING EAST

VIEW FROM ACROSS 150TH AVENUE LOOKING WEST

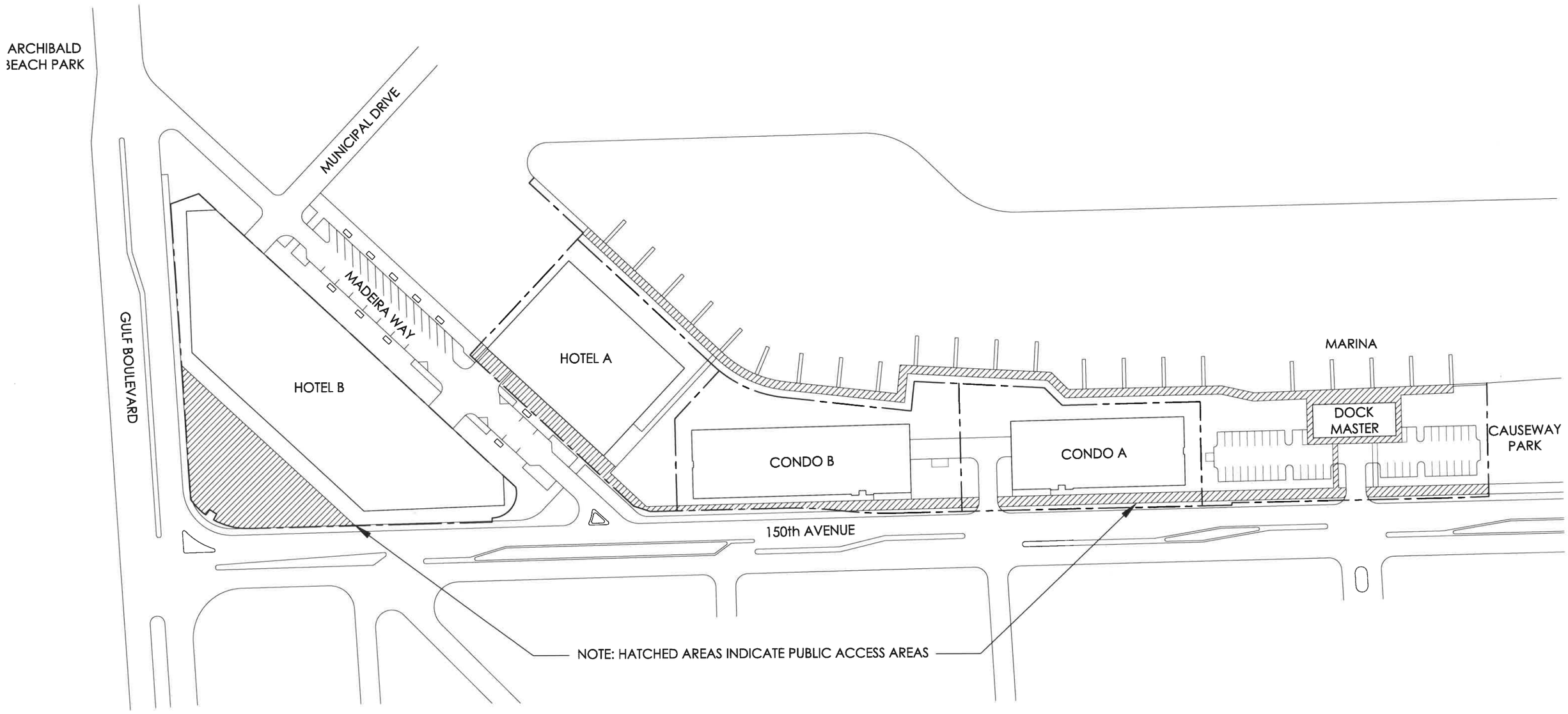
VIEW OF MADEIRA WAY LOOKING WEST

AERIAL VIEW OF MADEIRA PLAZA

VIEW OF MADEIRA PLAZA

AERIAL VIEW LOOKING WEST TOWARDS ARCHIBALD PARK

VIEW FROM ACROSS 150TH AVENUE LOOKING WEST

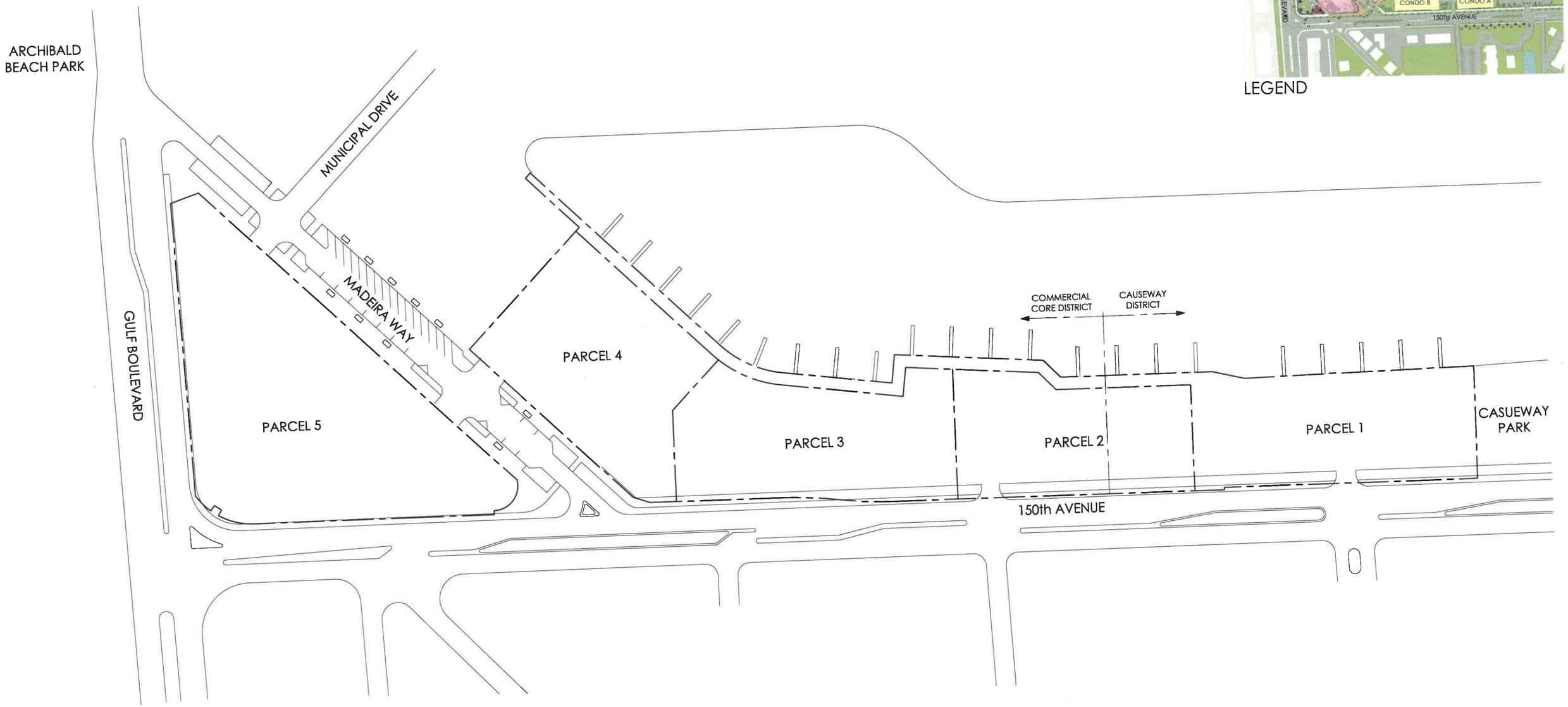


Public Access Site Plan

SCALE: 1" = 120'-0"

0" 120" 240" 360"

LEGEND



Overall Parcel Plan

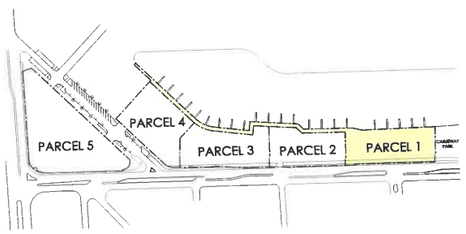
SCALE: 1" = 120'-0"

0" 120" 240" 360"

MARINA

,000 S.F. COMMERCIAL
FLOORS
2 PARKING SPACES

he existing 43 slip marina will be rebuilt with new eawall and docks. Serving the marina will be a ne or two story Dockmaster building located on xis with the new entry drive off of 150th Avenue. he Dockmaster structure may include a small afé or snack stand. Adjacent to the building is a 2-space landscaped parking lot. The waterfront long the marina will be publicly accessible for edestrians.



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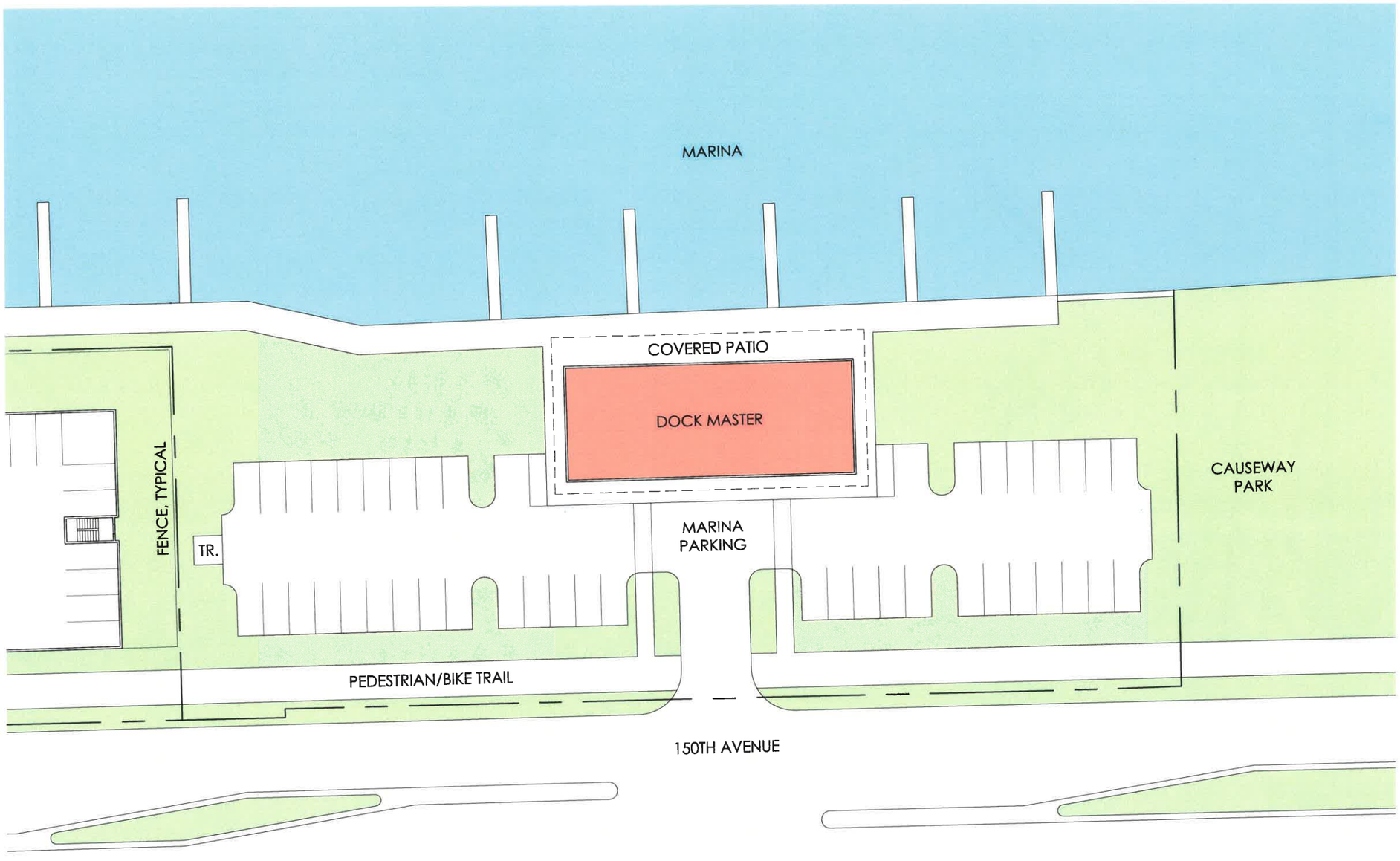
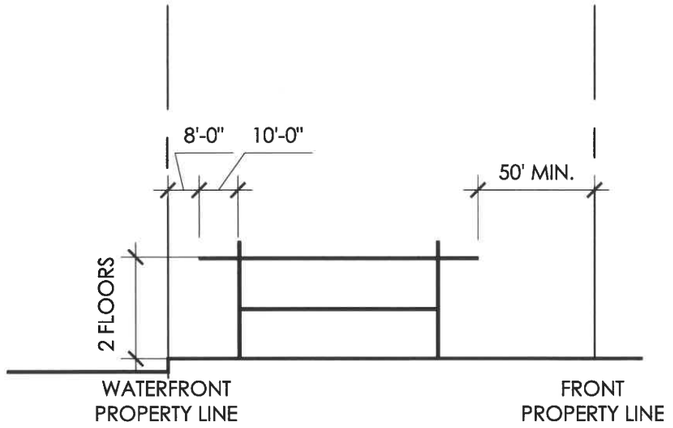


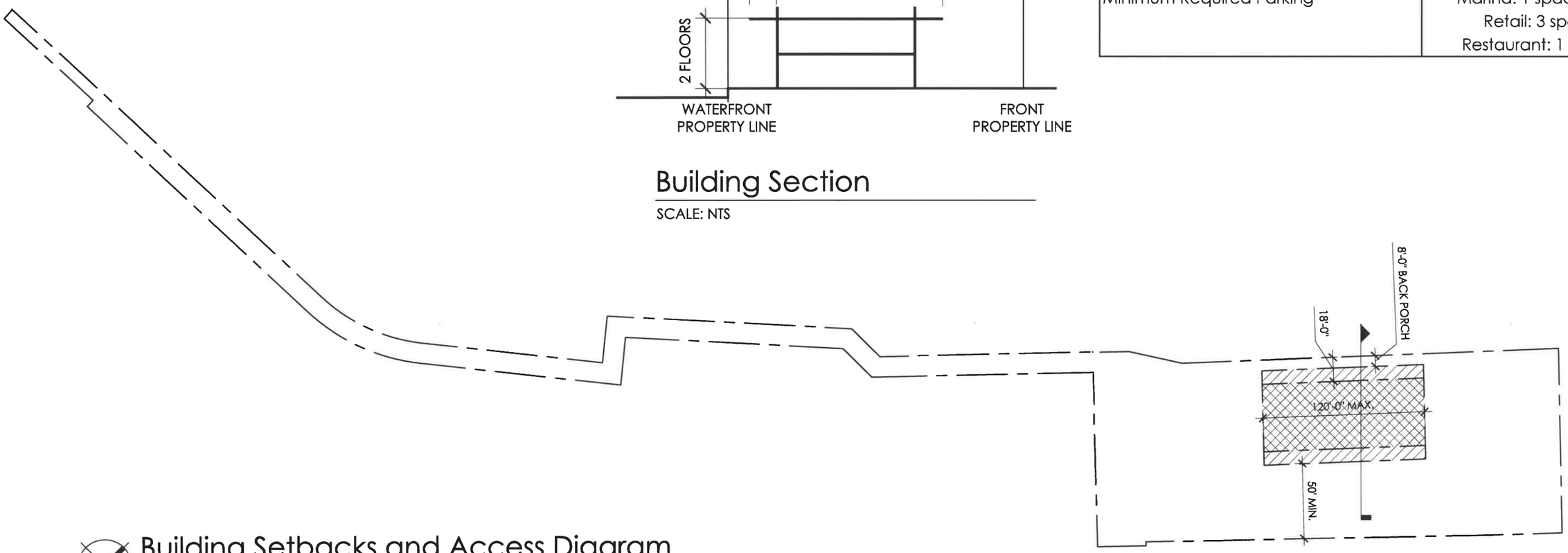
Marina Site Plan
SCALE: 1" = 40'-0"



Building Section

SCALE: NTS

Site Area	60,258 s.f. (1.383 ac.)
Maximum Commercial Space	8,000 s.f.
Maximum Boat Slips	43
Maximum Building Height	30 feet
Maximum Impervious Surface Ratio	70% of site area
Maximum Building Footprint	50% of site area
Minimum Required Parking	Marina: 1 space per 2 boat slips Retail: 3 spaces per 2,000 s.f. Restaurant: 1 space per 4 seats

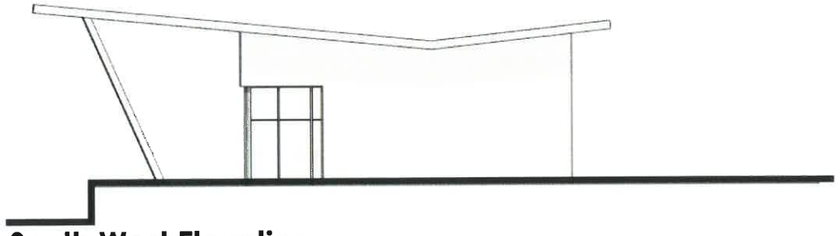


Building Setbacks and Access Diagram

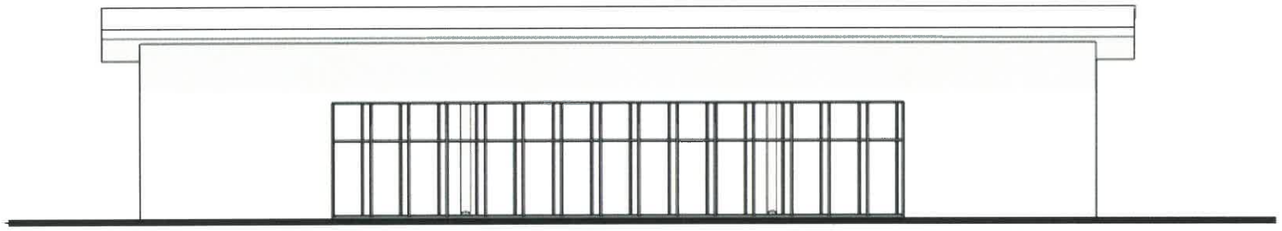
SCALE: 1" = 80'-0"

MAXIMUM EXTENT OF BUILDING FOOTPRINT

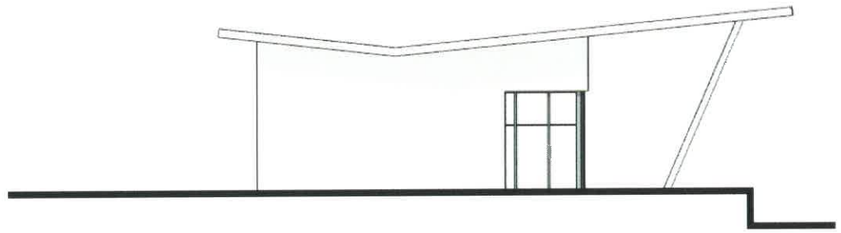
MAXIMUM EXTENT OF PORCH



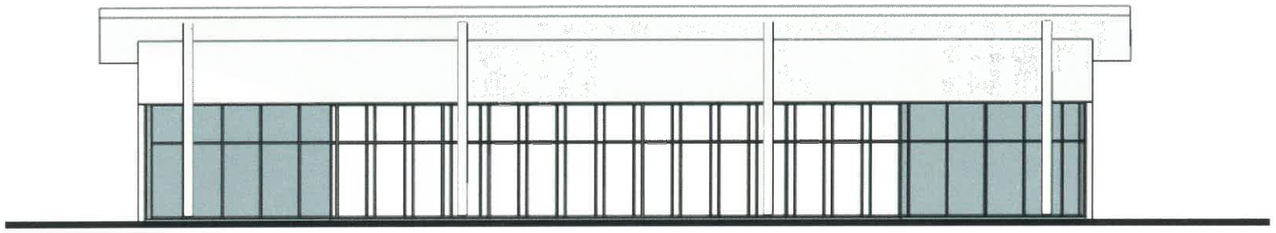
South West Elevation



South East Elevation



North East Elevation



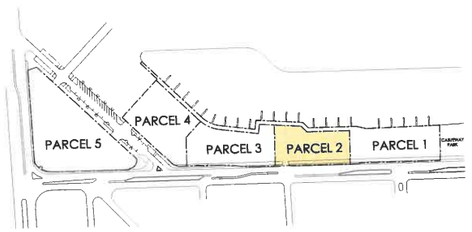
North West Elevation

AERIAL VIEW

:ONDO A

6 CONDOMINIUM UNITS
FLOORS
7 PARKING SPACES

his building will have up to 36 dwelling units veraging approximately 1,600 square feet ach. The building's first floor lobby faces 150th .venue to provide a visible front door. Parking is ocated on the lower two floors with two spaces er unit plus a few extra for visitors. Above are four oors of units. The building is designed to take full dvantage of the water views in all directions. A ear amenity area includes a swimming pool.



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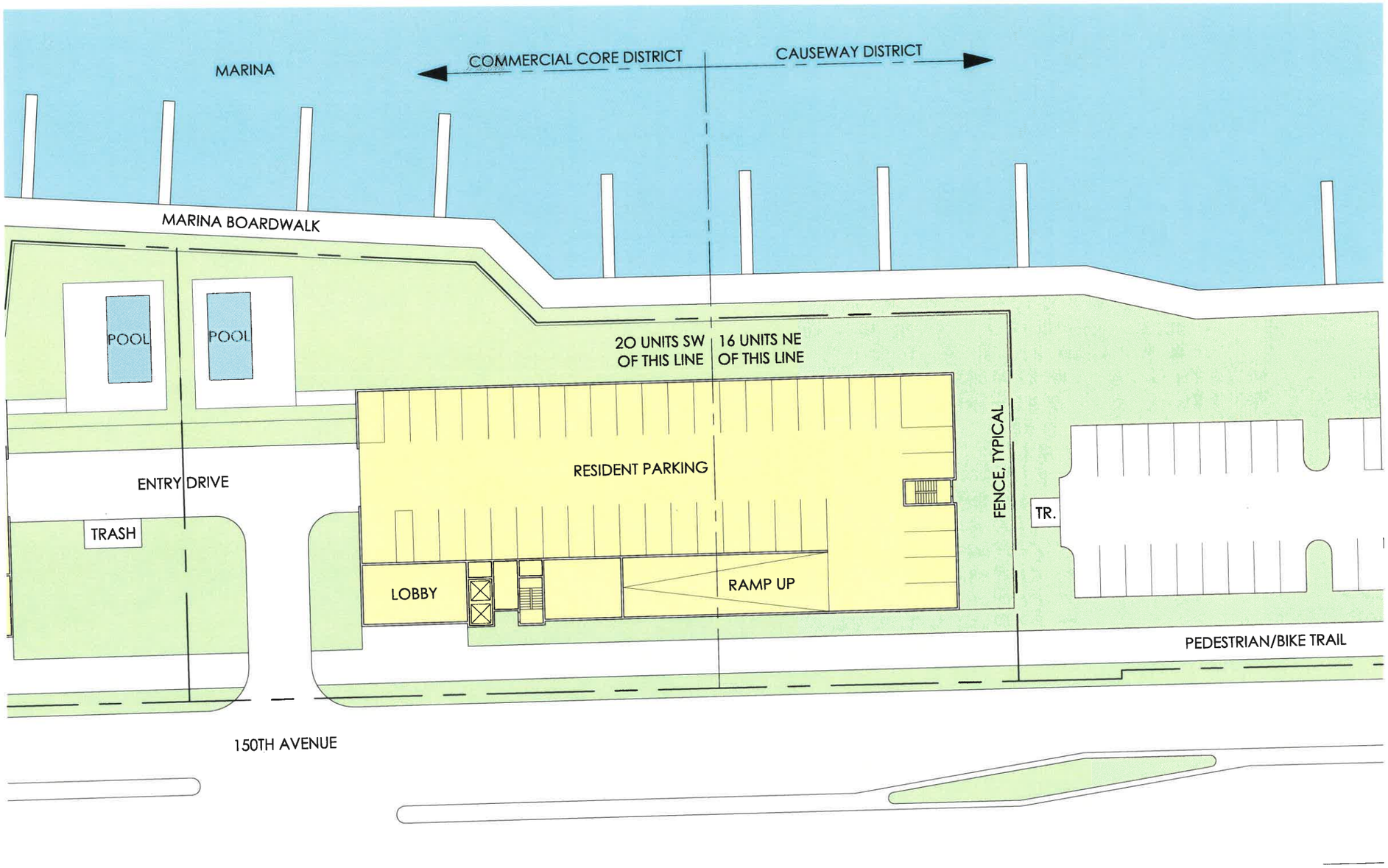
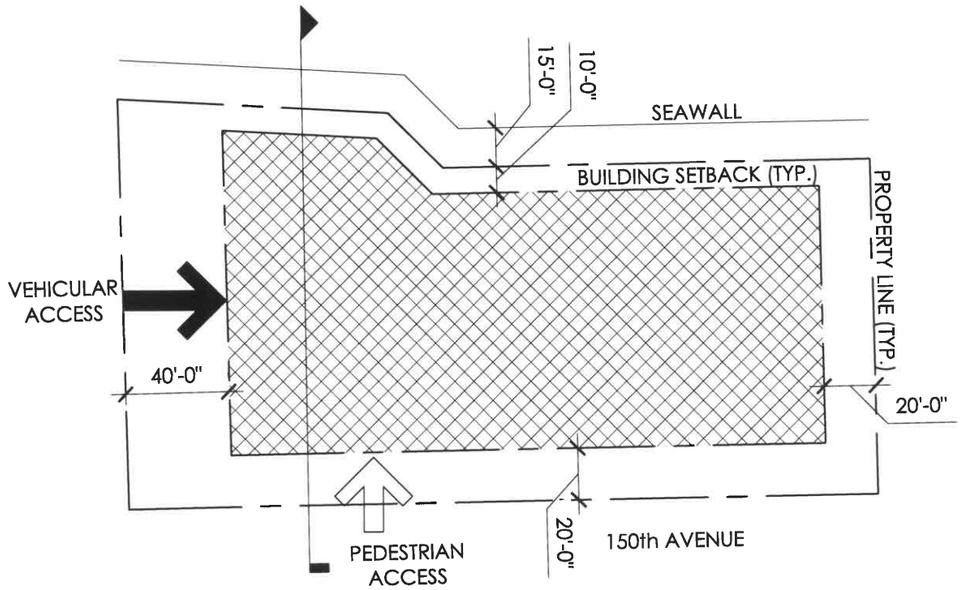


Condo A Site Plan

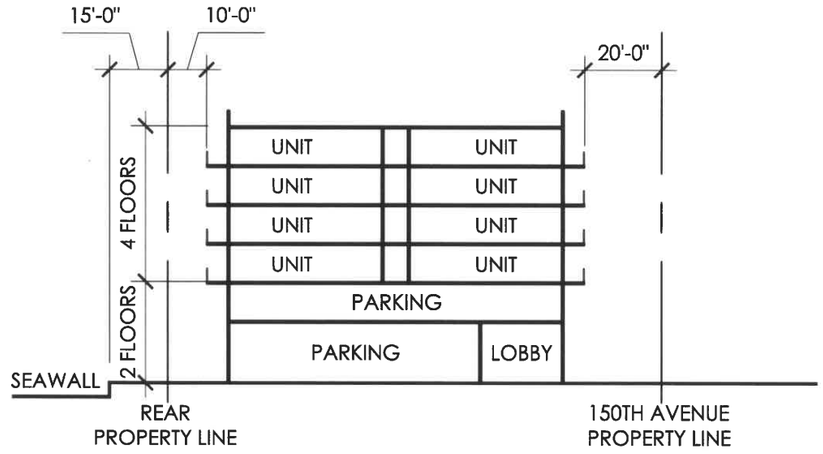
SCALE: 1" = 40'-0"

Site Area	40,059 s.f. (0.920 ac.)
Maximum Dwelling Units	36 units
Maximum Building Height	70 feet
Maximum Impervious Surface Ratio	70% of site area
Maximum Building Footprint	50% of site area
Minimum Required Parking	Residential: 2 spaces per unit



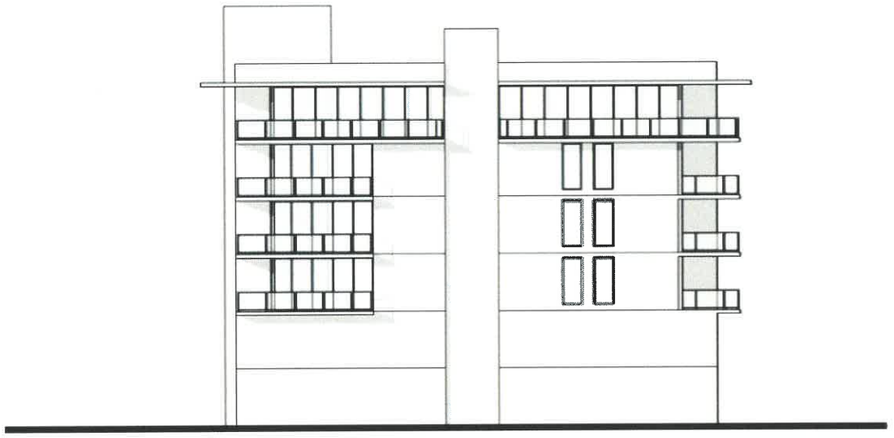
Building Setbacks and Access Diagram

SCALE: 1" = 60'-0"

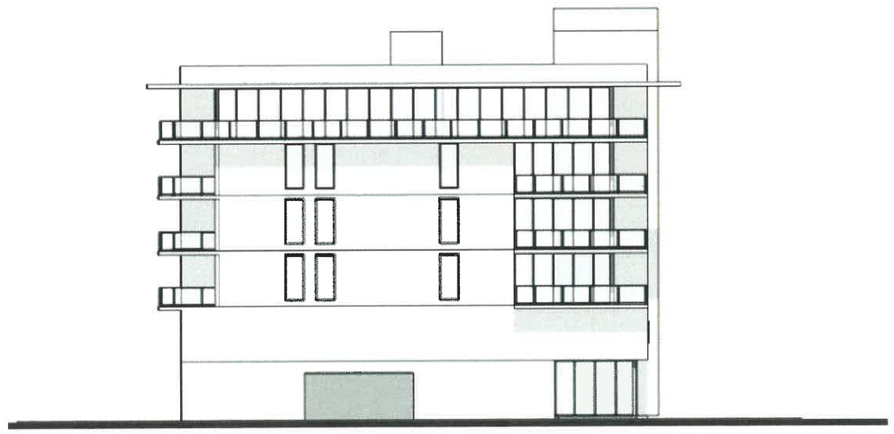


Building Section

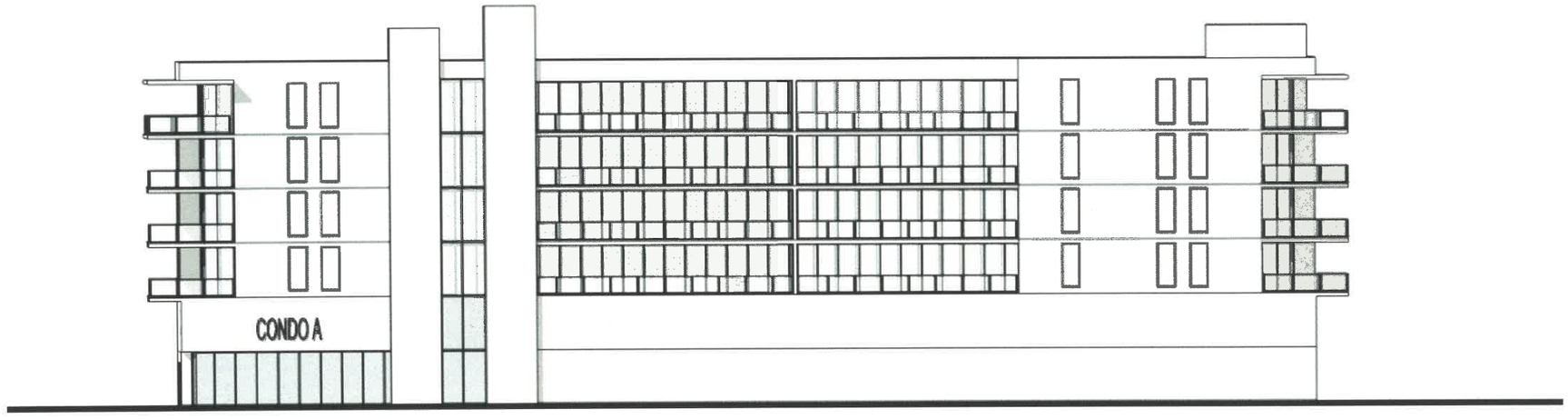
SCALE: NTS



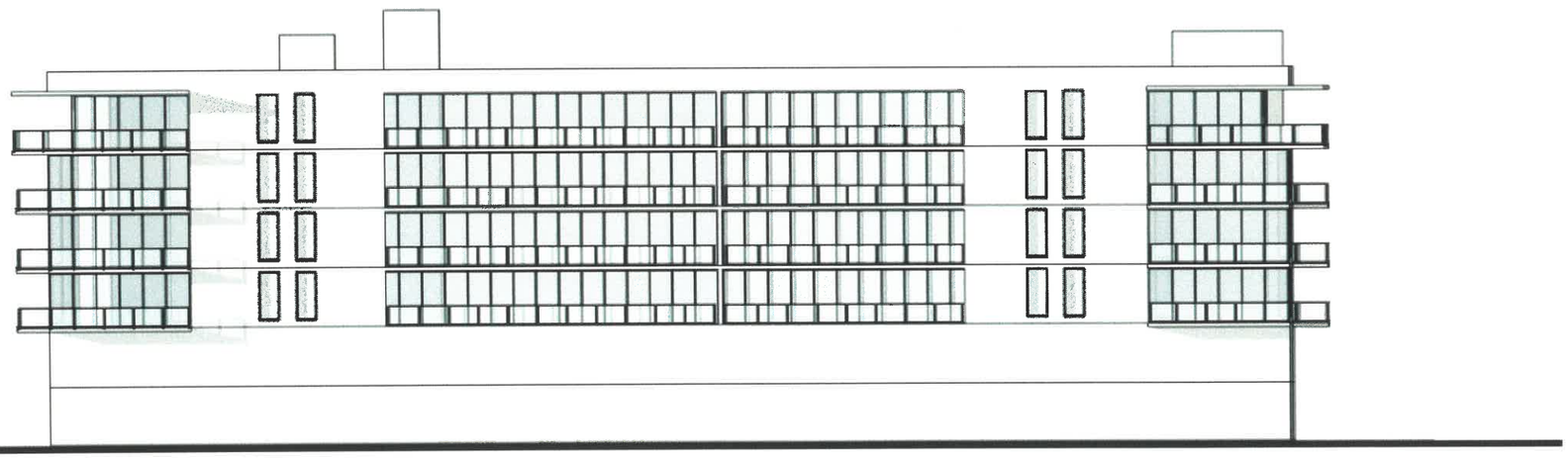
North East Elevation



South West Elevation



South East Elevation

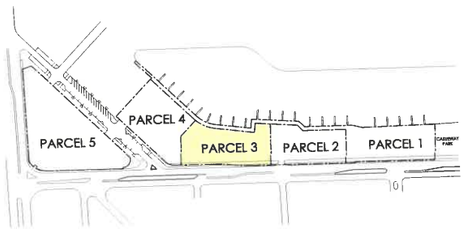


North West Elevation

:ONDO B

4 CONDOMINIUM UNITS
FLOORS
3 PARKING SPACES

ıis building will have up to 44 dwelling units veraging approximately 1,600 square feet ach. The building's first floor lobby faces 150th venue to provide a visible front door. Parking is cated on the lower two floors with two spaces er unit plus a few extra for visitors. Above are four ɔors of units. The building is designed to take full dvantage of the water views in all directions. A ear amenity area includes a swimming pool.



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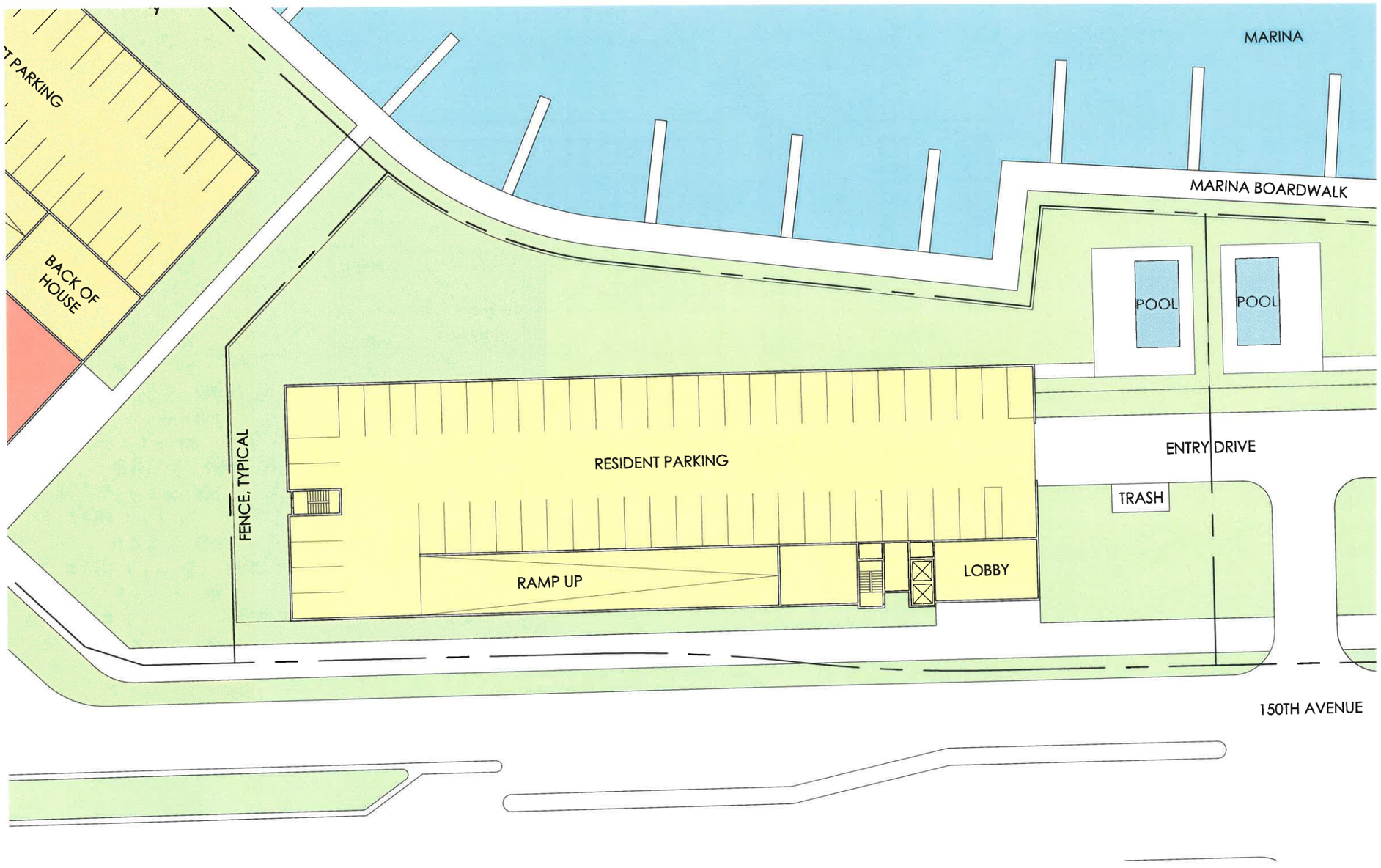
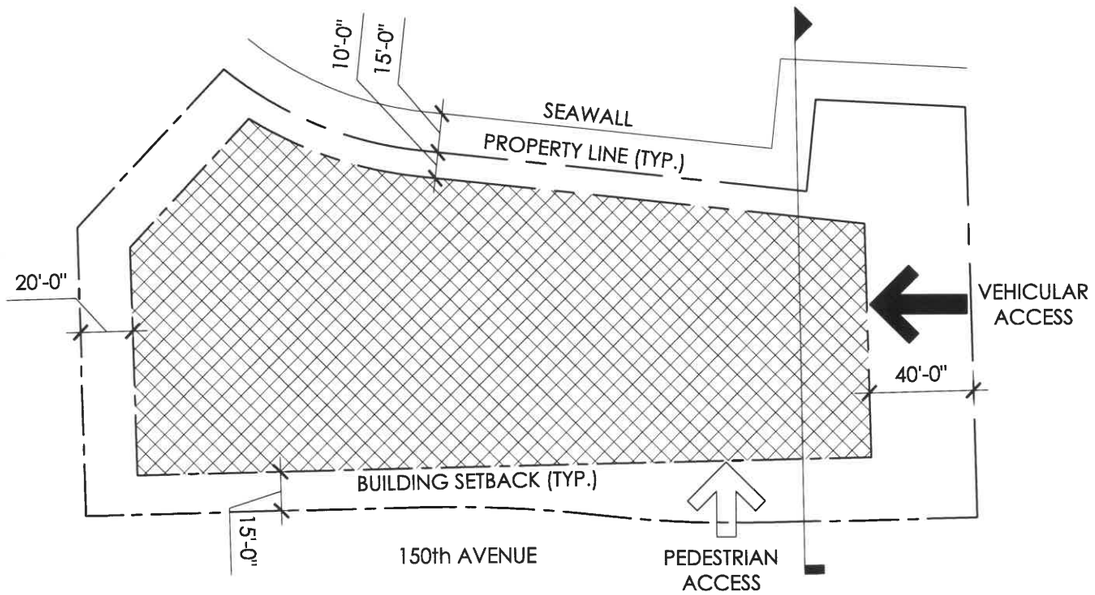


Condo B
SCALE: 1" = 40'-0"

CONDO B SITE PLAN

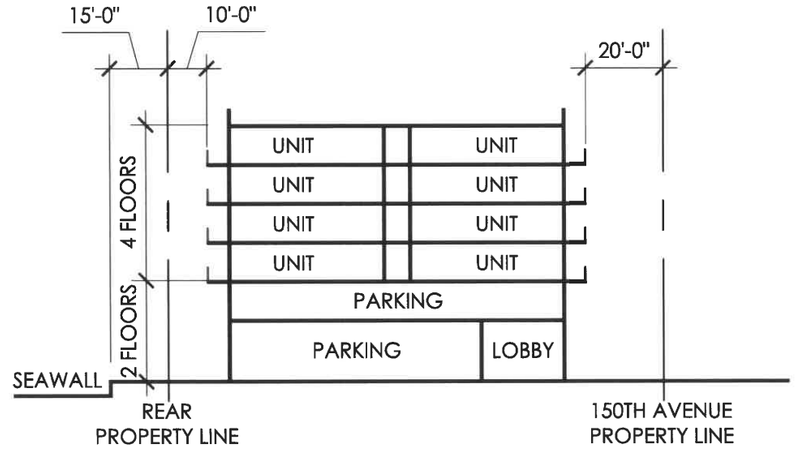
Site Area	48,791 s.f. (1.12 ac.)
Maximum Dwelling Units	44 units
Maximum Building Height	70 feet
Maximum Impervious Surface Ratio	70% of site area
Maximum Building Footprint	50% of site area
Minimum Required Parking	Residential: 2 spaces per unit



Building Setbacks and Access Diagram

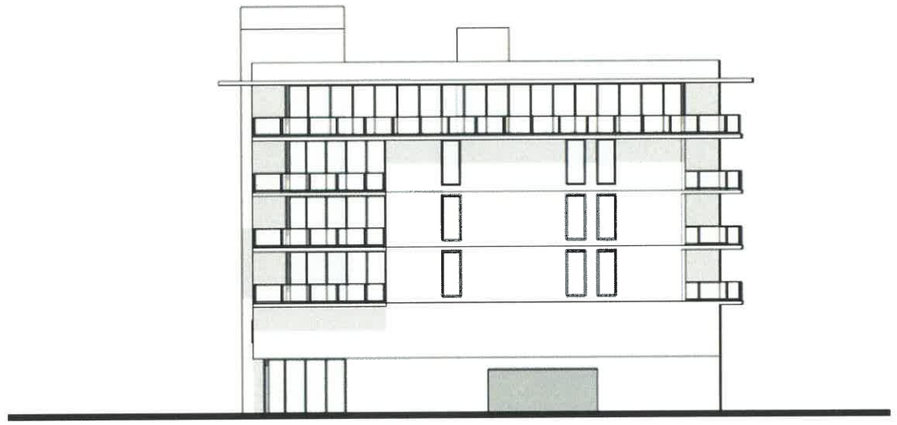
SCALE: 1" = 60'-0"

MAXIMUM EXTENT OF BUILDING FOOTPRINT

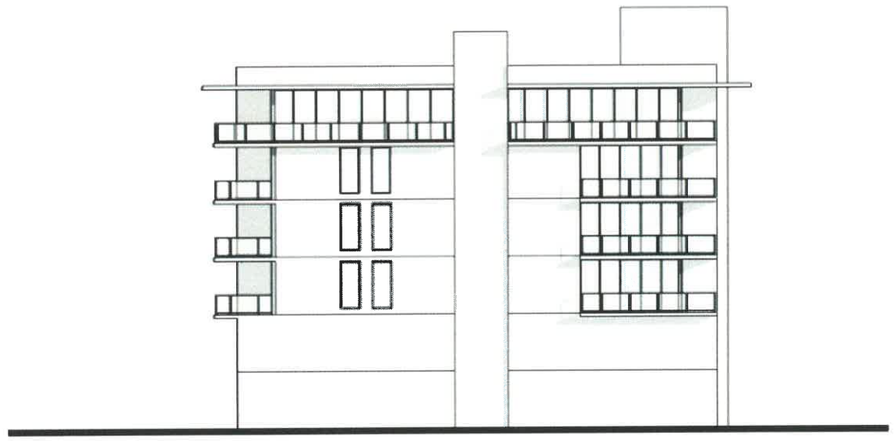


Building Section

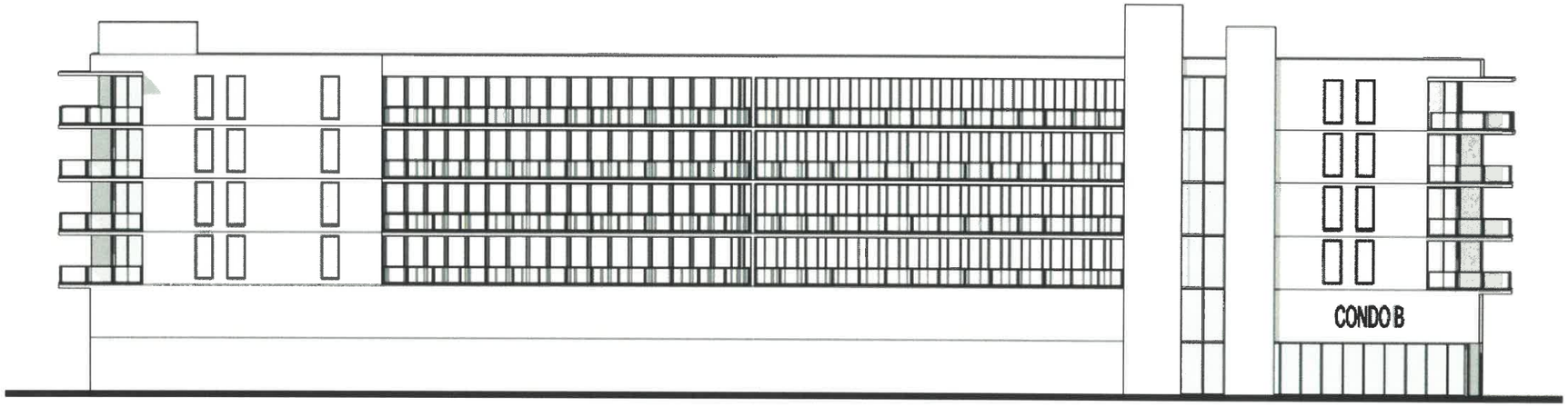
SCALE: NTS



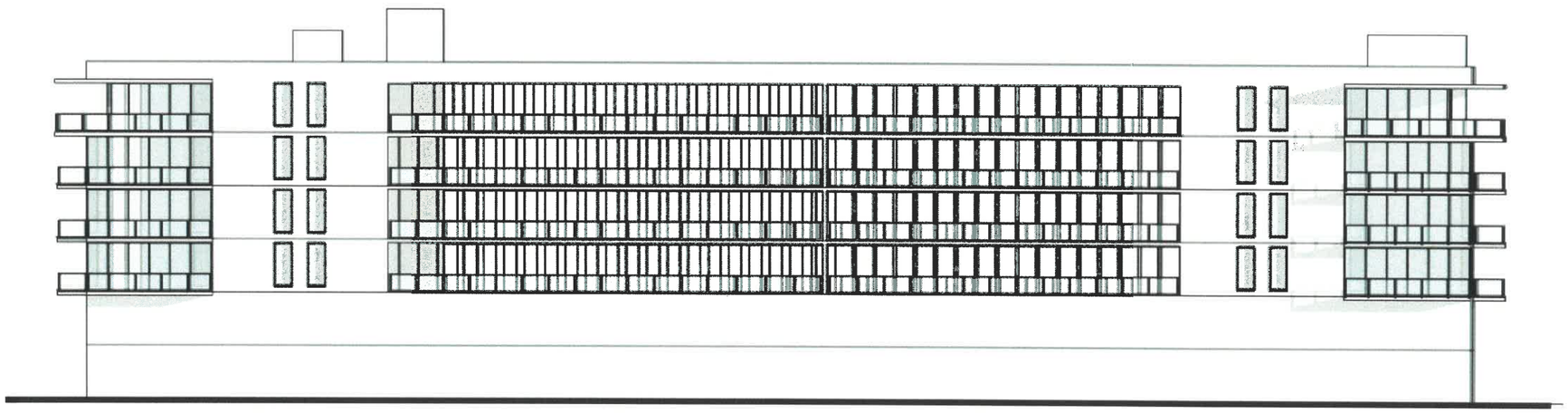
North East Elevation



South West Elevation



South East Elevation

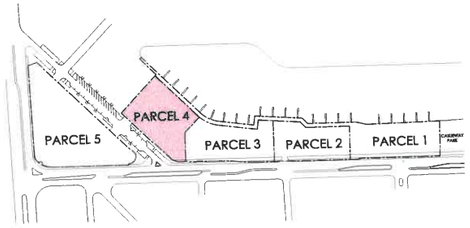


North West Elevation

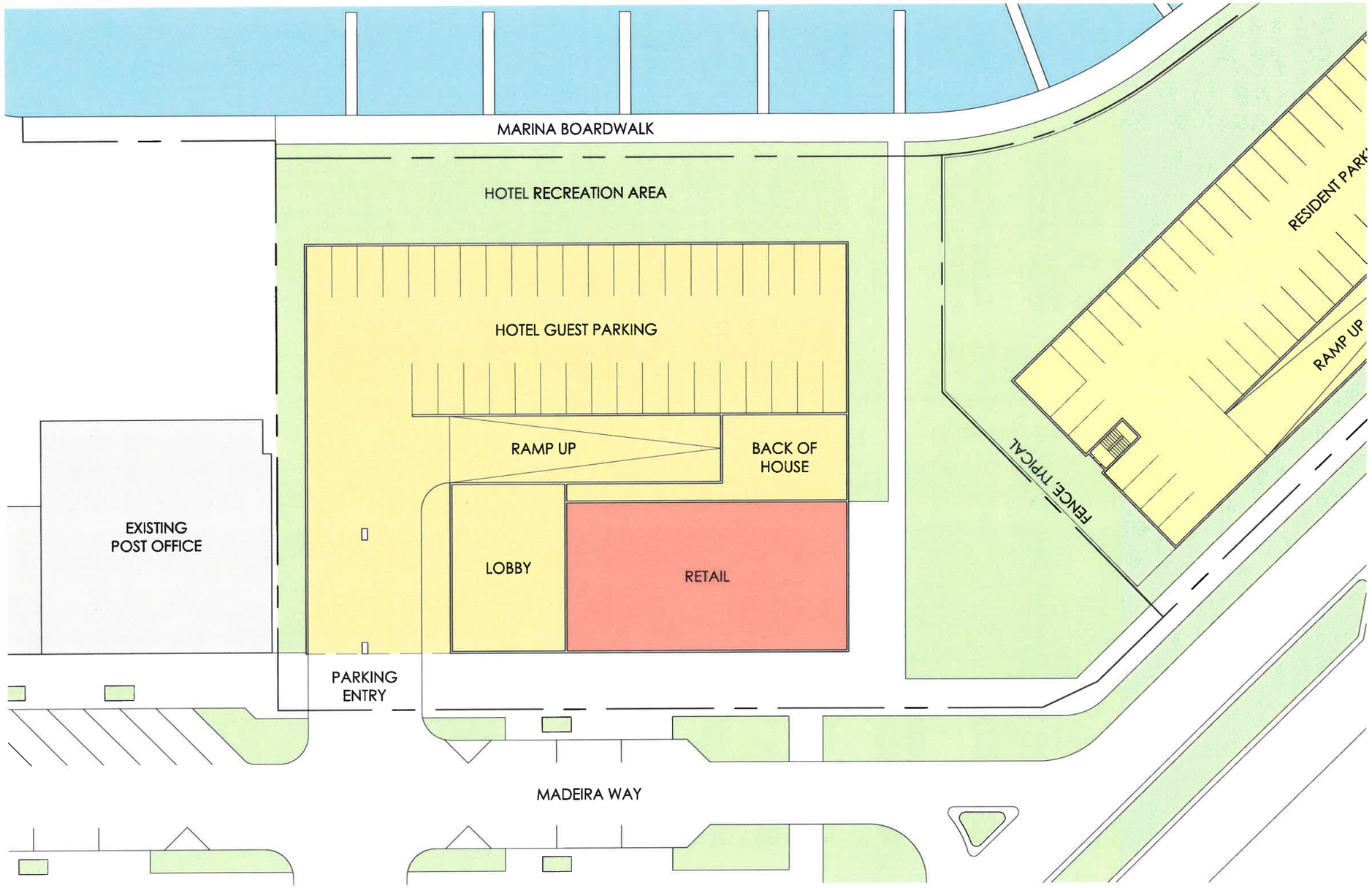
IOTEL A

48 HOTEL ROOMS
,000 S.F. COMMERCIAL
FLOORS
75 PARKING SPACES

ıis is programmed to be a suites hotel with up to 48 rooms. The first floor of the building contains ıe lobby, up to 5,000 square feet of retail and estaurant space, parking and support and ervice spaces. Above are two additional floors f parking. The 4th floor will have hotel amenities pening onto a roof terrace as well as some hotel ooms. The remainder of the hotel rooms will be ın floors 5 through 8. The design of the building einforces the pedestrian nature of Madeira Vay by its close relationship to the sidewalk and ground level active uses.



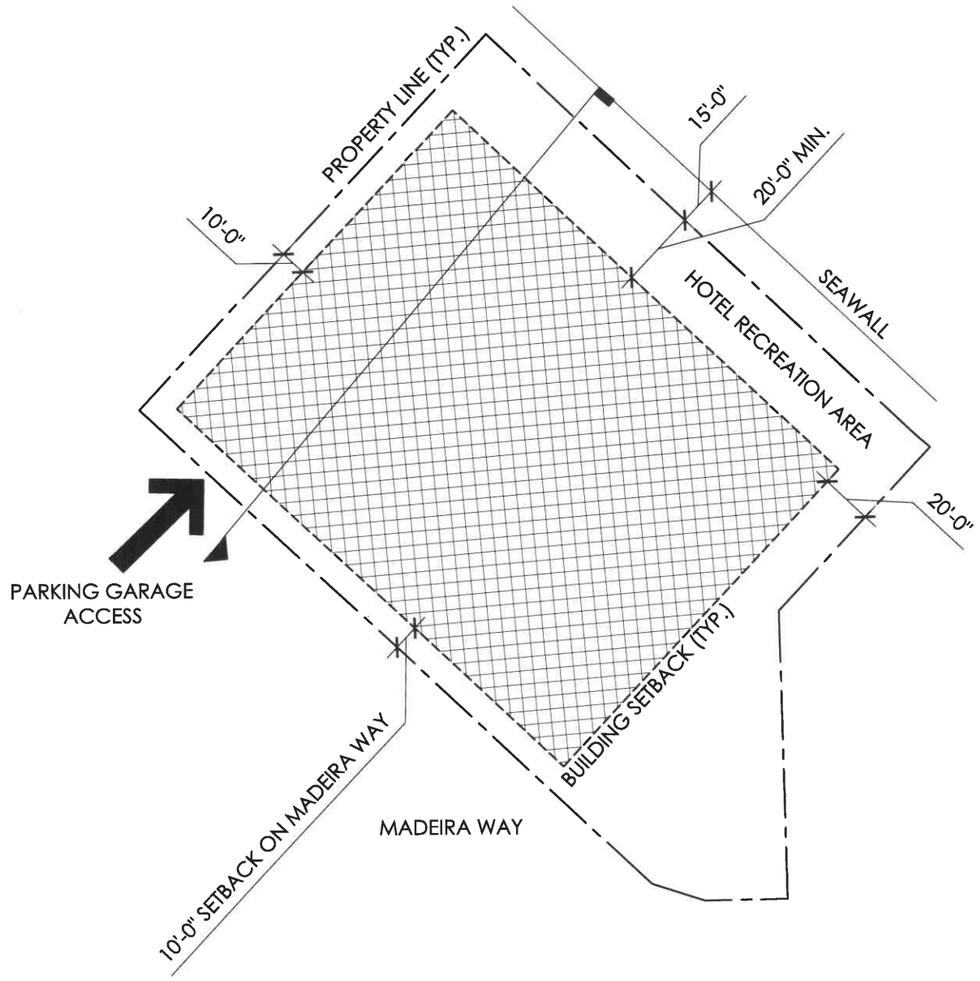
.EGEND



Hotel A
SCALE: 1" = 40'-0"

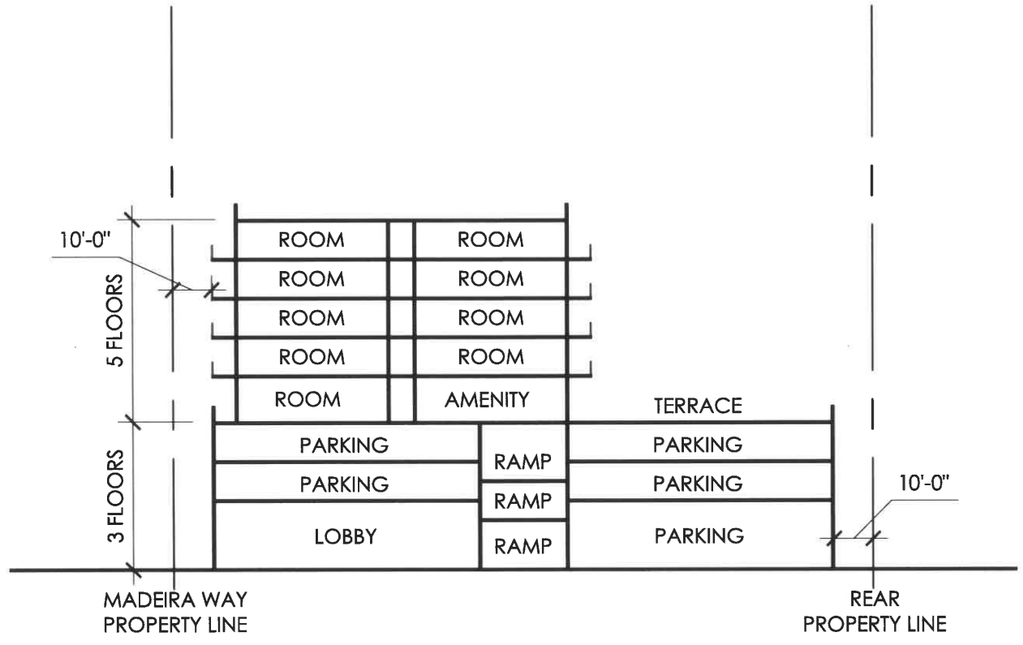
HOTEL A SITE PLAN

Site Area	50,066 s.f. (1.149 ac.)
Maximum Hotel Rooms	148
Maximum Commercial Space	5,000 s.f.
Maximum Building Height	90 feet
Maximum Impervious Surface Ratio	85% of site area
Maximum Building Footprint	70% of site area
Minimum Required Parking	Hotel: 1 space per room Retail: 3 spaces per 2,000 s.f. Restaurant: 1 space per 4 seats



Building Setbacks and Access Diagram

SCALE: 1" = 60'-0"



Building Section

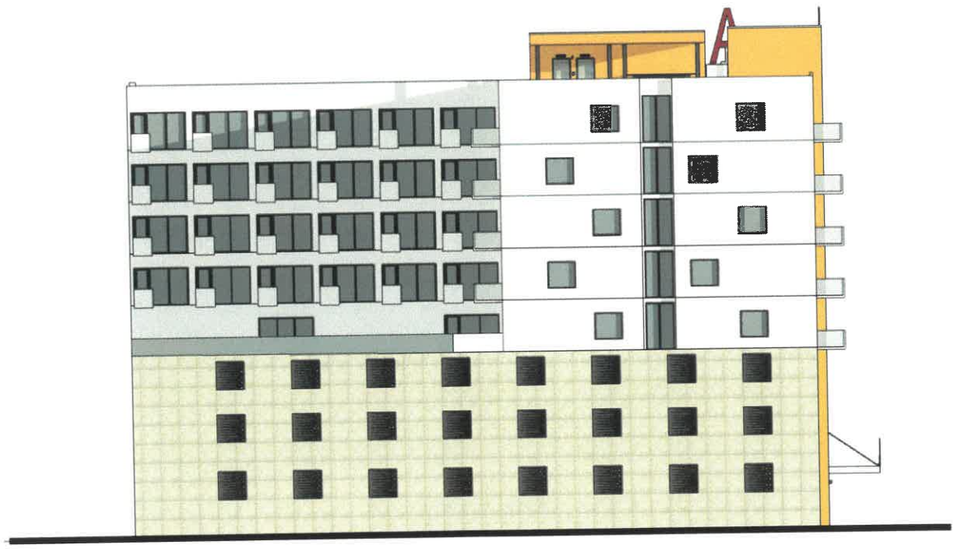
SCALE: NTS

MAXIMUM EXTENT OF BUILDING FOOTPRINT

North Elevation

South Elevation

East Elevation

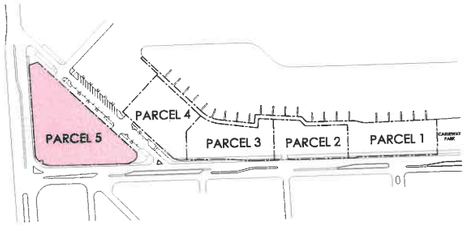


West Elevation

IOTEL B

68 HOTEL ROOMS
0 CONDOMINIUM UNITS
0,000 S.F. COMMERCIAL
FLOORS
26 PARKING SPACES

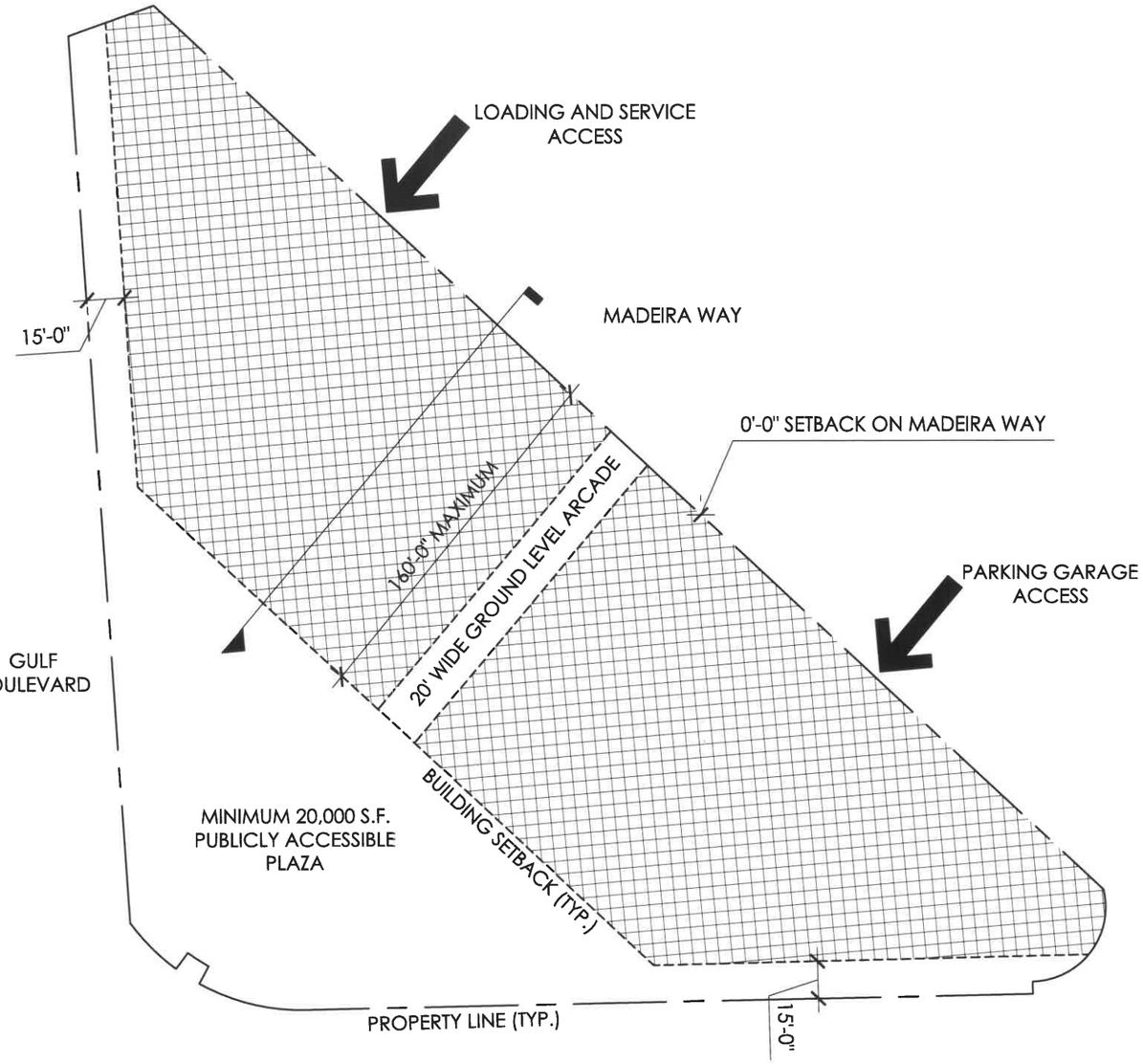
ıis is a true mixed-use block designed to be a ecognizable landmark at the heart of Madeira each. It combines 40,000 square feet of retail nd restaurant space on the ground floor with full-service hotel with up to 168 rooms above s well as 10 condominium units. All sides of ıe first floor are lined with active uses fronting nto Madeira Way to the north and a new ublic plaza to the south. These two spaces are onnected by a mid-block pedestrian arcade ırough the building. The parking garage is ocated on the 2nd and 3rd floors. The 4th floor is ledicated to the hotel's amenity spaces (fitness enter, spa, meeting rooms, business center, tc.). These open onto a generous roof terrace vith swimming pool, spa and bar. Hotel rooms ıre located on the 5th through 7th floors, with 10 condominiums on the 8th floor. All are oriented o maximize water views.



EGEND

Hotel B
SCALE: 1" = 60'-0"

Site Area	92,511 s.f. (2.124 ac.)
Maximum Hotel Rooms	168
Maximum Commercial Space	40,000 s.f.
Maximum Building Height	99 feet
Maximum Impervious Surface Ratio	85% of site area
Maximum Building Footprint	70% of site area
Minimum Required Parking	Hotel: 1 space per room Retail: 3 spaces per 2,000 s.f. Restaurant: 1 space per 4 seats

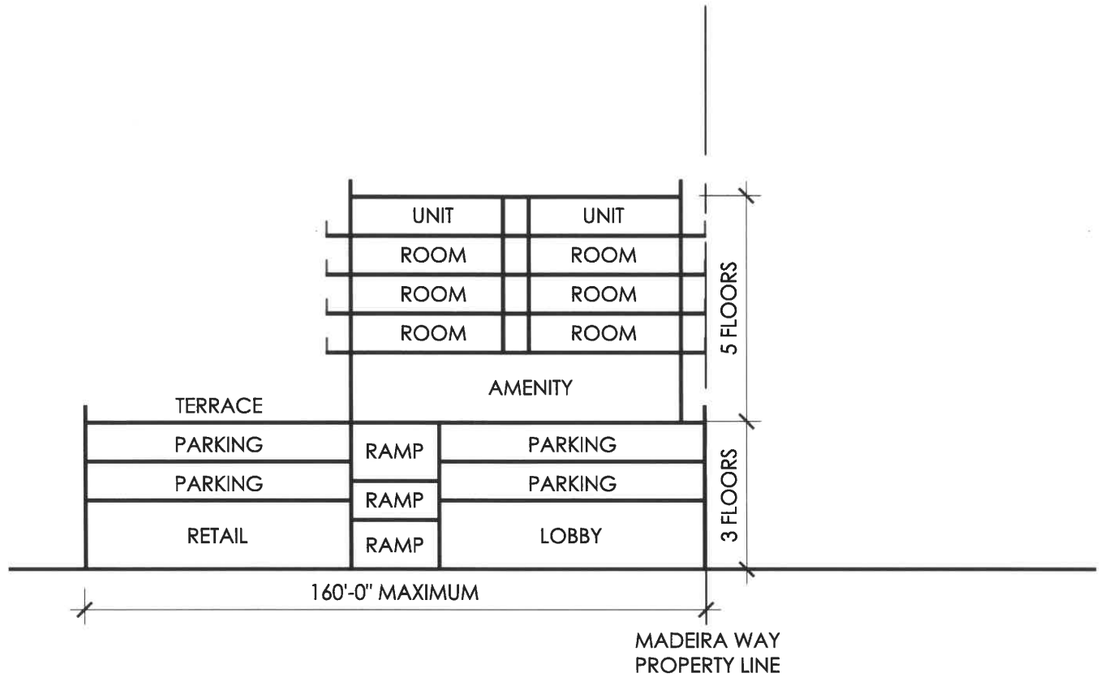


NOTE: NO CURB CUTS ON 150TH AVENUE OR GULF BOULEVARD

Building Setbacks and Access Diagram

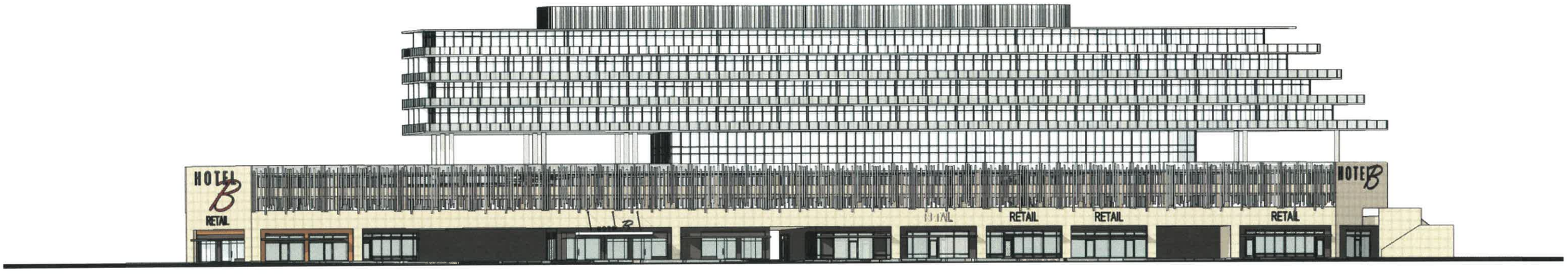
SCALE: 1" = 60'-0"

MAXIMUM EXTENT OF BUILDING FOOTPRINT

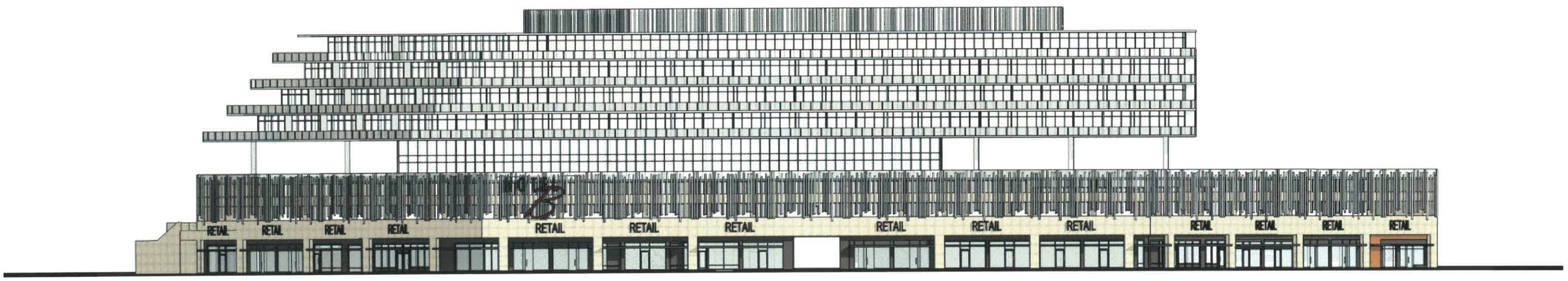


Building Section

SCALE: NTS



North Elevation



South Elevation

East Elevation

West Elevation

APPENDIX SECTION

Surveys
Civil Site Plan and Data
Traffic Analysis

SEC. 09, TWP. 31 S., RNG. 15 E.

PINELLAS COUNTY, FLORIDA

LEGEND

A/C	AIR CONDITIONER
ACOE	ARMY CORPS & ENGINEERS
ADA	AMERICANS WITH DISABILITIES ACT DETECTIBLE SURFACE
BFPD	BACK FLOW PREVENTION DEVICE
B/T	BUILDING TIE
C#	CURVE – SEE CURVE TABLE
(C)	CALCULATED
CB	CATCH BASIN
CBW	CONCRETE BLOCK WALL
CCR	CERTIFIED CORNER RECORD
CHB	CHORD BEARING
℄	CENTERLINE
CLF	CHAIN LINK FENCE
CONC.	CONCRETE
C/T	CURB TIE
CTV	CABLE TELEVISION
(D)	DEED
DB	DEED BOOK
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
EP	EDGE OF PAVEMENT
EL	ELEVATION
ELEC.	ELECTRIC
(F)	FIELD
F.	FOUND
FCIR	FOUND CAPPED IRON ROD
FCM	FOUND CONCRETE MONUMENT
(FDOT)	FLORIDA DEPARTMENT OF TRANSPORTATION
FFE	FINISHED FLOOR ELEVATION
FIP	FOUND IRON PIPE
FIR	FOUND IRON ROD
FN&D	FOUND NAIL AND DISK
FPC	FLORIDA POWER CORPORATION (NOW KNOWN AS DUKE ENERGY)
FR&D	FOUND RIVET AND DISK
F/T	FENCE TIE
GI	GRATE INLET
GTE	GENERAL TELEPHONE COMPANY (NOW KNOWN AS VERIZON)
ID.	IDENTIFICATION
INV.	INVERT
(L)	LEGAL DESCRIPTION
LB	LICENSED BUSINESS
(M)	MEASURED
MH	MANHOLE
NAVD88	NORTH AMERICAN VERTICAL DATUM 1988
NCF	NO CORNER FOUND OR SET
NGS	NATIONAL GEODETIC SURVEY
N&D	NAIL AND DISK
NFL	NOT FIELD LOCATED
No.	NUMBER
OH	OVERHEAD WIRES
OR	OFFICIAL RECORD BOOK
ORD	ORDINANCE
(P)	PLAT BOOK 26, PAGE 52
PB	PLAT BOOK
PC	POINT OF CURVE
PG	PAGE/PAGES
PID#	POINT IDENTIFICATION NUMBER
PLP	POWER & LIGHT POLE
POB	POINT OF BEGINNING
POL	POINT ON LINE
PRC	POINT OF REVERSE CURVE
PRM	PERMANENT REFERENCE MONUMENT
PSM	PROFESSIONAL SURVEYOR & MAPPER
PVC	POLY VINYL CHLORIDE
PVCF	POLY VINYL CHLORIDE FENCE
PT	POINT OF TANGENCY
P/T	PAVEMENT TIE
RCP	REINFORCED CONCRETE PIPE
RCW	RECLAIMED WATER
RNG.	RANGE
R/W	RIGHT-OF-WAY
SEC.	SECTION
S.	SET
SAN.	SANITARY
SCIR	SET CAPPED IRON ROD
SCO	SANITARY CLEAN-OUT
SCM	SET CONCRETE MONUMENT
SN&D	SET PK NAIL AND DISK
SR	STATE ROAD
SWFWMD	SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
SW/T	SIDEWALK TIE
TBM	TEMPORARY BENCHMARK
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TYP	TYPICAL
TWP.	TOWNSHIP
VCP	VITRIFIED CLAY PIPE
WF	WOOD FENCE
WV	WATER VALVE

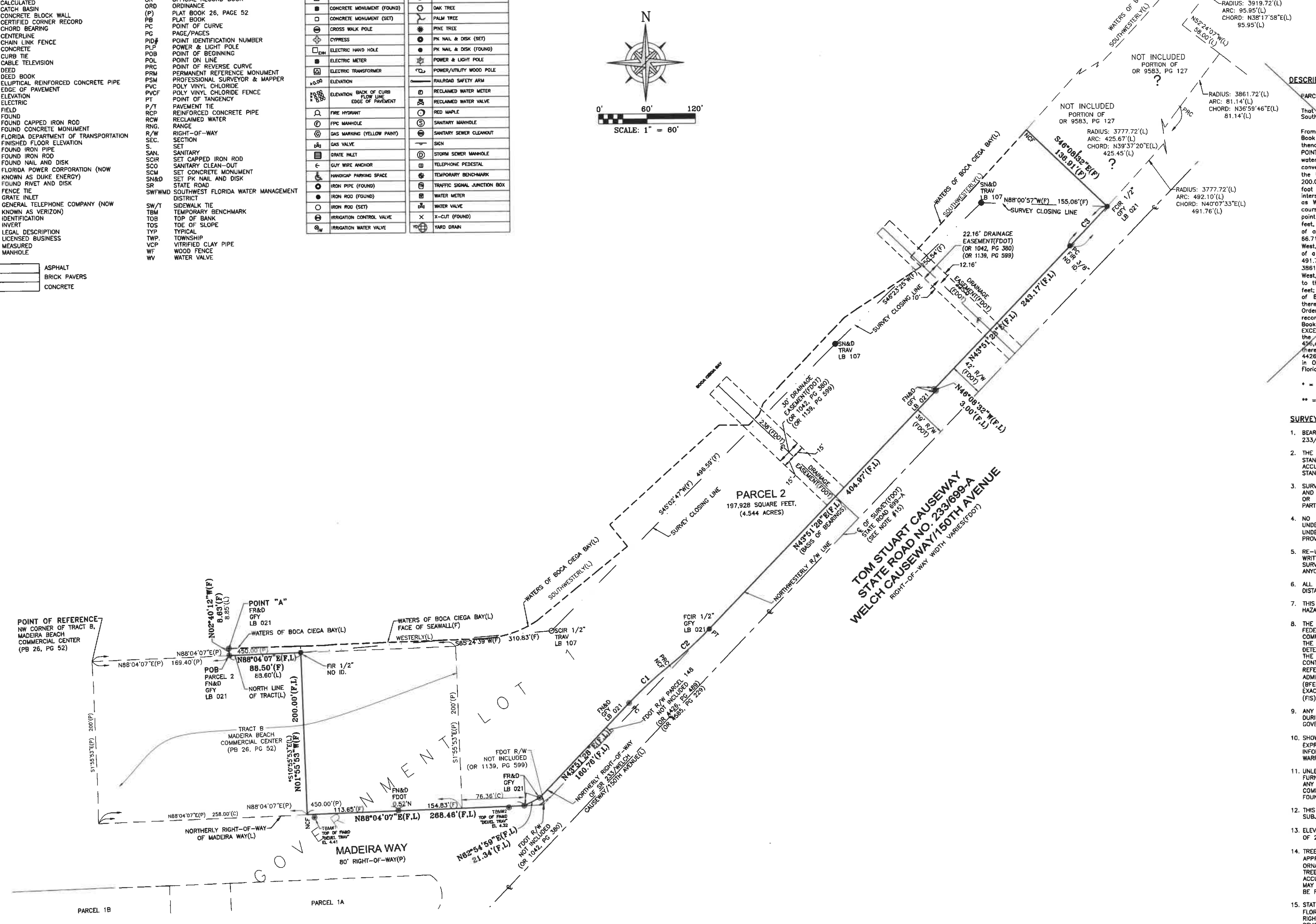
ASPHALT

BRICK PAVERS

CONCRETE

SYMBOL LEGEND

BACK FLOW PREVENTION DEVICE	LIGHT POLE (METAL)
BOLLARD	LIGHT POLE
CABLE TV BOX	MISCELLANEOUS TREE
CLEANOUT	MONITORING WELL
CONCRETE LIGHT POLE	NAIL AND DISK (SET)
CONCRETE MONUMENT (FOUND)	OAK TREE
CONCRETE MONUMENT (SET)	PALM TREE
CROSS WALK POLE	PINE TREE
CYPRESS	PK NAIL & DISK (SET)
ELECTRIC HAND HOLE	PK NAIL & DISK (FOUND)
ELECTRIC METER	POWER & LIGHT POLE
ELECTRIC TRANSFORMER	POWER/UTILITY WOOD POLE
ELEVATION	RAILROAD SAFETY ARM
ELEVATION BACK OF CURB FLOW LINE EDGE OF PAVEMENT	RECLAIMED WATER METER
	RECLAIMED WATER VALVE
FIRE HYDRANT	RED MAPLE
FPC MANHOLE	SANITARY MANHOLE
GAS MARKING (YELLOW PAINT)	SANITARY SEWER CLEANOUT
GAS VALVE	SIGN
GRATE INLET	STORM SEWER MANHOLE
GUY WIRE ANCHOR	TELEPHONE PEDESTAL
HANDICAP PARKING SPACE	TEMPORARY BENCHMARK
IRON PIPE (FOUND)	TRAFFIC SIGNAL JUNCTION BOX
IRON ROD (FOUND)	WATER METER
IRON ROD (SET)	WATER VALVE
IRRIGATION CONTROL VALVE	X-CUT (FOUND)
IRRIGATION WATER VALVE	YARD DRAIN



CURVE TABLE					
CURVE	ARC DISTANCE	RADIUS	CENTRAL ANGLE	CHORD BEARING	CHORD DISTANCE
C1	68.10'(C,L)	505.00'(C,L)	07°43'36"(C)	N47°43'17"E(F,L)	68.05'(F,L)
C2	66.76'(C,L)	495.00'(C,L)	07°43'39"(C)	N47°43'17"E(F,L)	66.71'(F,L)
C3	66.43'(C)	3777.72'(C,L)	01°00'27"(C)	N43°21'14"E(F)	66.43'(F)

DESCRIPTION: (PROVIDED BY CLIENT)

PARCEL 2:

That following described portion of Government Lot 1, in Section 9, Township 31 South, Range 15 East, Pinellas County, Florida, described as follows:

From the Northwest corner of Tract B, MADEIRA BEACH COMMERCIAL CENTER, recorded in Plat Book 26, page 52, of the public records of Pinellas County, Florida, as a point of reference; thence North 88°04'07" East, along the Northerly line of said tract, 169.40 feet to the POINT OF BEGINNING; thence North 01°55'53" West, 8.85 feet to an intersection with the waters of Boca Ciega Bay, said point hereinafter being referred to as Point "A" for convenience; return thence to the POINT OF BEGINNING; thence North 88°04'07" East, along the North line of said tract, 88.60 feet; thence leaving said line *South 10°55'53" East, 200.00 feet to an intersection with the Northerly right-of-way line of Madeira Way (an 80 foot right-of-way); thence North 88°04'07" East, along said line 268.46 feet to an intersection with the northerly right-of-way line of State Road No. 233, also known locally as Welch Causeway or 150th Avenue; thence along right-of-way line by the following 11 courses: 1) North 62°54'59" East, 21.34 feet; 2) North 43°51'28" East, 160.76 feet to a point of curve; 3) Along the arc of a curve to the right, radius 505.00 feet, arc 68.10 feet, chord North 47°43'17" East, 68.05 feet to a point of reverse curve; 4) Along the arc of a curve to the left, radius 495.00 feet, arc 66.76 feet, chord North 47°43'17" East, 66.71 feet to a point of tangency; 5) North 43°51'28" East, 404.97 feet; 6) North 46°08'32" West, 3.00 feet; 7) North 43°51'28" East, 243.17 feet, to a point of curve; 8) Along the arc of a curve to the left, radius 3777.72 feet, arc 492.10 feet, chord North 40°07'33" East, 491.76 feet to the point of reverse curve; 9) Along the arc of a curve to the right, radius 3861.72 feet; arc 81.14 feet, chord North 36°59'46" East, 81.14 feet; 10) North 52°24'07" West, 58.00 feet to a point on a curve; 11) Along the arc of a curve to the right, concave to the Southeast, radius 3919.72 feet, arc 95.95 feet, chord North 38°17'58" East, 95.95 feet; thence leaving said line North 46°08'32" West, 38.84 feet to the aforementioned waters of Boca Ciega Bay; thence Southwesterly and Westerly along said waters and binding therewith to the aforementioned Point "A"; LESS AND EXCEPT any part thereof lying within Order of Taking recorded in Official Records Book 1042, page 380, as amended by Order recorded in Official Records Book 1139, page 599, and Order recorded in Official Record's Book 1681, page 514, all of the public records of Pinellas County, Florida; ALSO LESS AND EXCEPT those lands deeded to the City of Madeira Beach, Florida, a political subdivision of the State of Florida by Warranty Deed recorded in **Official Records Book 11243, page 456, of the public records of Pinellas County, Florida; ALSO LESS AND EXCEPT any part thereof lying within the lands described in Order of Taking recorded in Official Records Book 4426, page 489, as amended by Supplemental Order of Taking as to Parcel 148, recorded in Official Records Book 4585, page 229, both of the public records of Pinellas County, Florida.

* = APPARENT SCRIVENER'S ERROR, South 10°55'53" East should read South 01°55'53" East

** = "ALSO LESS AND EXCEPT" PARCEL REFERENCED INCLUDES THE SUBJECT PARCEL

SURVEYOR'S REPORT:

1. BEARINGS ARE BASED ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 233/WELCH CAUSEWAY/150TH AVENUE, BEING N43°51'28"W PER DESCRIPTION PROVIDED.
2. THE ACCURACY STANDARD USED FOR THIS SURVEY, AS CLASSIFIED IN THE MINIMUM TECHNICAL STANDARDS (5J-17 FAC), IS "COMMERCIAL/HIGH RISK". THE MINIMUM RELATIVE DISTANCE ACCURACY FOR THIS TYPE OF SURVEY IS 1 FOOT IN 10,000 FEET. THIS SURVEY EXCEEDS THIS STANDARD.
3. SURVEY MAP AND REPORT OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED.
4. NO EXCAVATION WAS PERFORMED TO VERIFY THE LOCATION OR EXISTENCE OF ANY UNDERGROUND UTILITIES, ENCROACHMENTS, IMPROVEMENTS, STRUCTURES OR FOUNDATIONS. UNDERGROUND UTILITY LINE LOCATIONS (IF SHOWN HEREON) ARE BASED UPON UTILITY PROVIDER ATLASES AND VISIBLE SURFACE EVIDENCE.
5. RE-USE OF THIS SURVEY FOR PURPOSES OTHER THAN WHICH IT WAS INTENDED, WITHOUT WRITTEN VERIFICATION, WILL BE AT THE RE-USERS SOLE RISK AND WITHOUT LIABILITY TO THE SURVEYOR. NOTHING HEREIN SHALL BE CONSTRUED TO GIVE ANY RIGHTS OR BENEFITS TO ANYONE OTHER THAN THOSE TO WHOM CERTIFIED.
6. ALL FOUND POINTS ARE UNMARKED UNLESS OTHERWISE NOTED. ALL PERIMETER BEARINGS AND DISTANCES ARE ALSO FIELD MEASURED UNLESS NOTED.
7. THIS SURVEY IS NOT INTENDED TO SHOW THE LOCATION OR EXISTENCE OF ANY JURISDICTIONAL, HAZARDOUS OR ENVIRONMENTALLY SENSITIVE AREAS.
8. THE SITE APPEARS TO BE IN FLOOD ZONE AE (EL. 10 & EL. 11), ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP 12103C0191G, COMMUNITY NUMBER 125127, EFFECTIVE DATE SEPTEMBER 3, 2003. DEUEL & ASSOCIATES AND THE SIGNING SURVEYOR HEREON ASSUMES NO LIABILITY FOR THE ACCURACY OF THIS DETERMINATION. THE AUTHOR OF THE MAP, THE FEDERAL EMERGENCY MANAGEMENT AGENCY, OR THE LOCAL GOVERNMENTAL AGENCY HAVING JURISDICTION OVER SUCH MATTERS SHOULD BE CONTACTED PRIOR TO ANY JUDGMENTS BEING MADE FROM THIS INFORMATION. THE ABOVE REFERENCED MAP STATES IN THE NOTES TO THE USER THAT "THIS MAP IS FOR USE IN ADMINISTERING THE NATIONAL FLOOD INSURANCE PROGRAM" AND "THAT BASE FLOOD ELEVATIONS (BFEs) SHOWN REPRESENT ROUNDED WHOLE-FOOT ELEVATIONS AND THEREFORE MAY NOT EXACTLY REFLECT THE FLOOD ELEVATION DATA PRESENTED IN THE FLOOD INSURANCE STUDY (FIS) REPORT". THE FIS REPORT WAS NOT CONSULTED FOR THIS SURVEY.
9. ANY ZONING INFORMATION SHOWN OR NOTED HEREON IS BASED ON INFORMATION AVAILABLE DURING THE PREPARATION OF THE SURVEY. THIS INFORMATION SHOULD BE VERIFIED WITH THE GOVERNING AUTHORITY PRIOR TO ANY DETERMINATIONS OR DESIGN.
10. SHOWN ANYWHERE ON THIS SURVEY, THE WORD "CERTIFY" IS UNDERSTOOD TO BE AN EXPRESSION OF A PROFESSIONAL OPINION BASED UPON THE SURVEYOR'S BEST KNOWLEDGE, INFORMATION AND BELIEF, AND THAT IT THUS CONSTITUTES NEITHER A GUARANTEE NOR A WARRANTY.
11. UNLESS OTHERWISE INDICATED, THE PROPERTY DESCRIPTION AND EASEMENTS SHOWN WERE FURNISHED TO DEUEL & ASSOCIATES AND ARE PRESUMED TO BE CORRECT. NO SEARCH OF ANY PUBLIC RECORDS, FOR EASEMENTS, DEEDS, ETC., WAS PERFORMED BY THIS FIRM FOR THE COMPLETION OF THIS SURVEY AND THERE MAY BE ADDITIONAL RESTRICTIONS THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.
12. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE AND MAY BE SUBJECT TO EASEMENTS, RESTRICTIONS, RIGHTS-OF-WAY AND OTHER MATTERS OF RECORD.
13. ELEVATIONS ARE BASED ON NGS BENCHMARK "210 FLHD" (PID# AG0118) HAVING AN ELEVATION OF 20.84 FEET NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
14. TREES 4" IN DIAMETER AND LARGER HAVE BEEN LOCATED WITH COMMON NAME AND APPROXIMATE DIAMETER BREAST HIGH. SMALLER TREES, NON-PROTECTED SPECIES (INCLUDING ORNAMENTALS) AND TREES WITHIN JURISDICTIONAL AREAS (IF ANY) HAVE NOT BEEN LOCATED. TREES BY NATURE ARE IRREGULAR IN SIZE AND SHAPE. EVERY EFFORT IS MADE TO ACCURATELY LOCATE TREES. THE TREE LOCATION IS THE CENTER OF THE TREE. THIS LOCATION MAY BE DIFFERENT IF LOCATED FROM A DIFFERENT DIRECTION. ALL TREE LOCATIONS SHOULD BE FIELD CHECKED IF CRITICAL TO DESIGN.
15. STATE ROAD RIGHT-OF-WAY INFORMATION SHOWN HEREON WAS TAKEN FROM THE STATE OF FLORIDA STATE ROAD DEPARTMENT (NOW KNOWN AS FLORIDA DEPARTMENT OF TRANSPORTATION) RIGHT OF WAY MAP FOR ROAD NO. S.R. 699-A, SECTION 15100-2150 DATED 3-10-58, LAST REVISED ON 7-16-61.
16. THIS SURVEY IS BASED ON U.S. FEET.
17. THE SUBJECT PARCEL CONTAINS 197,928 SQUARE FEET, (4.544 ACRES) MORE OR LESS.

REV.#	DESCRIPTION	DATE	BY

DEUEL & ASSOCIATES
CONSULTING ENGINEERS LAND SURVEYORS LAND PLANNERS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PH 727.822.4151 FAX 727.821.7255
WWW.DEUELENGINEERING.COM
CERTIFICATE OF AUTHORIZATION NUMBER 26320
LICENSED BUSINESS NUMBER 107

BOUNDARY AND TOPOGRAPHIC SURVEY
200–420 150TH AVE AND
15015 MADEIRA WAY, MADEIRA BEACH, FLORIDA
CITY OF MADEIRA BEACH FLORIDA

PREPARED FOR:
WILLIAM KARNS ENTERPRISES
286 107TH AVENUE, SUITE #300
TREASURE ISLAND, FL 33706

DANA A. WYLLIE
PROFESSIONAL SURVEYOR AND MAPPER
STATE OF FLORIDA, LS 5874

WORK ORDER NO.	2015-128
DRAWN BY:	DES/LKC
FIELD DATE:	10/12/2015
SCALE:	1" = 60'
SHEET NO.	1 OF 4

Feb 18, 2016 - 4:10pm X:\CAD Projects\Projects\2015\2015-128 150th Ave Madeira Bch\Survey\Acad\2015-128-BTT.dwg

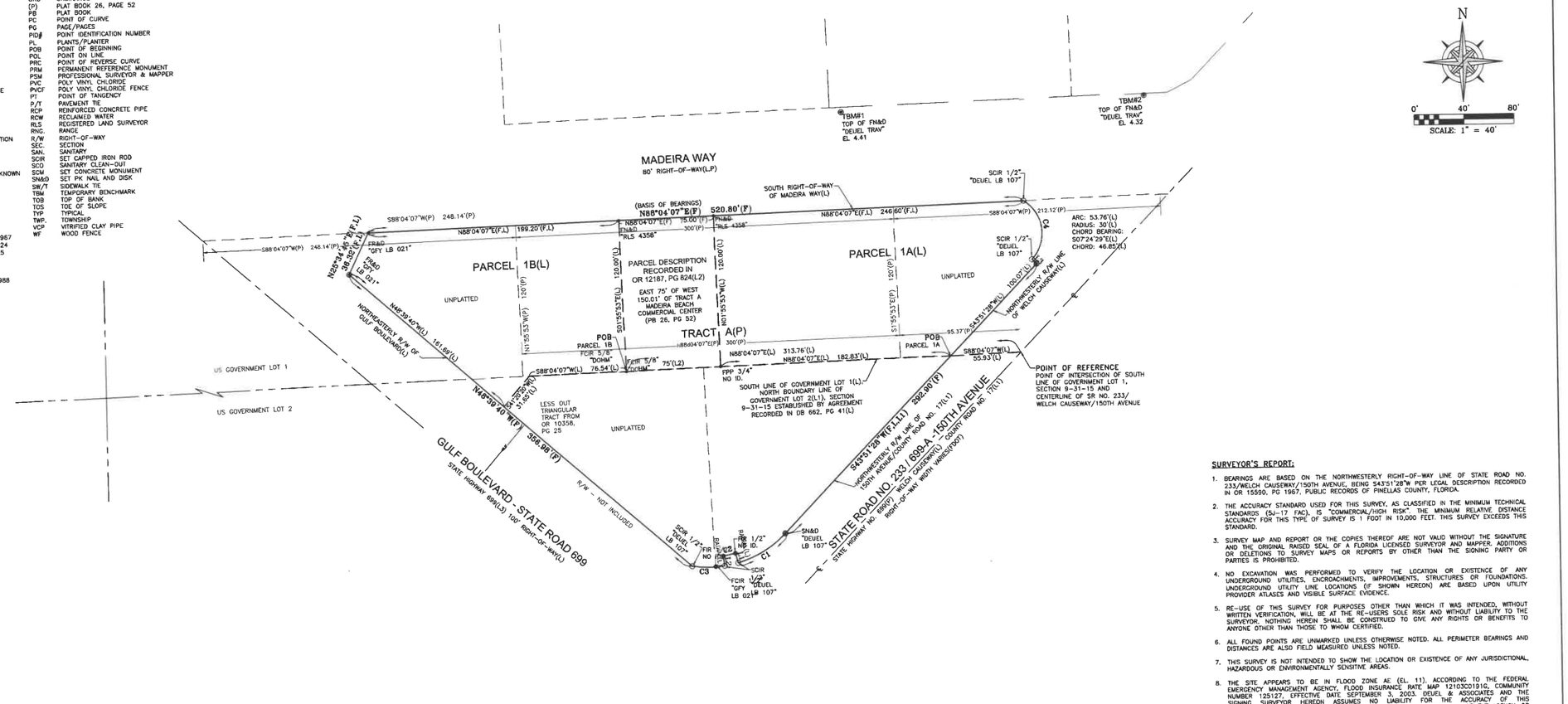
SEC. 9, TWP. 31 S., RNG. 15 E.
PINELLAS COUNTY, FLORIDA

LEGEND

A/C	AIR CONDITIONER
ADA	AMERICANS WITH DISABILITIES ACT DETECTIBLE SURFACE
BFPD	BACK FLOW PREVENTION DEVICE
(C)	CALCULATED
CB	CATCH BASIN
CBW	CONCRETE BLOCK WALL
℄	CENTERLINE
CLF	CHAIN LINK FENCE
CI	CURB INLET
CIP	CAST IRON PIPE
CONC.	CONCRETE
C/T	CURB TIE
CTV	CABLE TELEVISION
(D)	DEED
DB	DEED BOOK
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
EP	EDGE OF PAVEMENT
EL	ELEVATION
(F)	FIELD
F.	FOUND
FCIR	FOUND CAPPED IRON ROD
FCM	FOUND CONCRETE MONUMENT
(FDOT)	FLORIDA DEPARTMENT OF TRANSPORTATION
FFE	FINISHED FLOOR ELEVATION
FIP	FOUND IRON PIPE
FIR	FOUND IRON ROD
FN&D	FOUND NAIL AND DISK
FPC	FLORIDA POWER CORPORATION (NOW KNOWN AS DUKE ENERGY)
FR&D	FOUND RIVET AND DISK
F/T	FENCE TIE
FPP	FOUND PINCHED IRON PIPE
GI	GRATE INLET
ID.	IDENTIFICATION
INV.	INVERT
(L)	LEGAL DESCRIPTION PROVIDED
(L1)	LEGAL DESCRIPTION OR 15590, PG 1967
(L2)	LEGAL DESCRIPTION OR 12187, PG 824
(L3)	LEGAL DESCRIPTION OR 10358, PG 25
LB	LICENSED BUSINESS
(M)	MEASURED
MH	MANHOLE
NAVD88	NORTH AMERICAN VERTICAL DATUM 1988
NGS	NATIONAL GEODETIC SURVEY

No.	NUMBER
OH	OVERHEAD WIRES
OR	OFFICIAL RECORD BOOK
ORD	ORDINANCE
(P)	PLAT BOOK 26, PAGE 52
PB	PLAT BOOK
PC	POINT OF CURVE
PG	PAGE/PAGES
PID#	POINT IDENTIFICATION NUMBER
PL	PLANTS/PLANTER
POB	POINT OF BEGINNING
POL	POINT ON LINE
PRC	POINT OF REVERSE CURVE
PRM	PERMANENT REFERENCE MONUMENT
PSM	PROFESSIONAL SURVEYOR & MAPPER
PVC	POLY VINYL CHLORIDE
PVCF	POLY VINYL CHLORIDE FENCE
PT	POINT OF TANGENCY
P/T	PAVEMENT TIE
RCP	REINFORCED CONCRETE PIPE
RCW	RECLAIMED WATER
RLS	REGISTERED LAND SURVEYOR
RNG.	RANGE
R/W	RIGHT-OF-WAY
SEC.	SECTION
SAN.	SANITARY
SCIR	SET CAPPED IRON ROD
SCO	SANITARY CLEAN-OUT
SCM	SET CONCRETE MONUMENT
SN&D	SET PK NAIL AND DISK
SW/T	SIDEWALK TIE
TBM	TEMPORARY BENCHMARK
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TYP.	TYPICAL
TWP.	TOWNSHIP
VCP	VITRIFIED CLAY PIPE
WF	WOOD FENCE

ASPHALT
BRICK PAVERS
CONCRETE



SURVEYOR'S REPORT:

1. BEARINGS ARE BASED ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 233/WELCH CAUSEWAY/150TH AVENUE, BEING S45°51'28"W PER LEGAL DESCRIPTION RECORDED IN OR 15590, PG 1967, PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA.
2. THE ACCURACY STANDARD USED FOR THIS SURVEY, AS CLASSIFIED IN THE MINIMUM TECHNICAL STANDARDS (5J-17 FAC), IS "COMMERCIAL/HIGH RISK". THE MINIMUM RELATIVE DISTANCE ACCURACY FOR THIS TYPE OF SURVEY IS 1 FOOT IN 10,000 FEET. THIS SURVEY EXCEEDS THIS STANDARD.
3. SURVEY MAP AND REPORT OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED.
4. NO EXCAVATION WAS PERFORMED TO VERIFY THE LOCATION OR EXISTENCE OF ANY UNDERGROUND UTILITIES, ENCROACHMENTS, IMPROVEMENTS, STRUCTURES OR FOUNDATIONS. UNDERGROUND UTILITY LINE LOCATIONS (IF SHOWN HEREON) ARE BASED UPON UTILITY PROVIDER ATLASES AND VISIBLE SURFACE EVIDENCE.
5. RE-USE OF THIS SURVEY FOR PURPOSES OTHER THAN WHICH IT WAS INTENDED, WITHOUT WRITTEN VERIFICATION, WILL BE AT THE RE-USERS SOLE RISK AND WITHOUT LIABILITY TO THE SURVEYOR. NOTHING HEREIN SHALL BE CONSTRUED TO GIVE ANY RIGHTS OR BENEFITS TO ANYONE OTHER THAN THOSE TO WHOM CERTIFIED.
6. ALL FOUND POINTS ARE UNMARKED UNLESS OTHERWISE NOTED. ALL PERIMETER BEARINGS AND DISTANCES ARE ALSO FIELD MEASURED UNLESS NOTED.
7. THIS SURVEY IS NOT INTENDED TO SHOW THE LOCATION OR EXISTENCE OF ANY JURISDICTIONAL, HAZARDOUS OR ENVIRONMENTALLY SENSITIVE AREAS.
8. THE SITE APPEARS TO BE IN FLOOD ZONE AE (EL. 11), ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP 12103C0191G, COMMUNITY NUMBER 125127, EFFECTIVE DATE SEPTEMBER 3, 2003. DEUEL & ASSOCIATES AND THE SIGNING SURVEYOR HEREON ASSUMES NO LIABILITY FOR THE ACCURACY OF THIS DETERMINATION. THE AUTHOR OF THE MAP, THE FEDERAL EMERGENCY MANAGEMENT AGENCY, OR THE LOCAL GOVERNMENTAL AGENCY HAVING JURISDICTION OVER SUCH MATTERS SHOULD BE CONTACTED PRIOR TO ANY JUDGMENTS BEING MADE FROM THIS INFORMATION. THE ABOVE REFERENCED MAP STATES IN THE NOTES TO THE USER THAT "THIS MAP IS FOR USE IN ADMINISTERING THE NATIONAL FLOOD INSURANCE PROGRAM" AND "THAT BASE FLOOD ELEVATIONS (BFEs) SHOWN REPRESENT ROUNDED WHOLE-FOOT ELEVATIONS AND THEREFORE MAY NOT EXACTLY REFLECT THE FLOOD ELEVATION DATA PRESENTED IN THE FLOOD INSURANCE STUDY (FIS) REPORT". THE FIS REPORT WAS NOT CONSULTED FOR THIS SURVEY.
9. ANY ZONING INFORMATION SHOWN OR NOTED HEREON IS BASED ON INFORMATION AVAILABLE DURING THE PREPARATION OF THE SURVEY. THIS INFORMATION SHOULD BE VERIFIED WITH THE GOVERNING AUTHORITY PRIOR TO ANY DETERMINATIONS OR DESIGN.
10. SHOWN ANYWHERE ON THIS SURVEY, THE WORD "CERTIFY" IS UNDERSTOOD TO BE AN EXPRESSION OF A PROFESSIONAL OPINION BASED UPON THE SURVEYOR'S BEST KNOWLEDGE, INFORMATION AND BELIEF, AND THAT IT THUS CONSTITUTES NEITHER A GUARANTEE NOR A WARRANTY.
11. UNLESS OTHERWISE INDICATED, THE PROPERTY DESCRIPTION AND EASEMENTS SHOWN WERE FURNISHED TO DEUEL & ASSOCIATES AND ARE PRESUMED TO BE CORRECT. NO SEARCH OF ANY PUBLIC RECORDS, FOR EASEMENTS, DEEDS, ETC., WAS PERFORMED BY THIS FIRM FOR THE COMPLETION OF THIS SURVEY AND THERE MAY BE ADDITIONAL RESTRICTIONS THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.
12. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE AND MAY BE SUBJECT TO EASEMENTS, RESTRICTIONS, RIGHTS-OF-WAY AND OTHER MATTERS OF RECORD.
13. ELEVATIONS ARE BASED ON NGS BENCHMARK "210 FLHD" (PID# AG0118) HAVING AN ELEVATION OF 20.84 FEET NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
14. TREES 4" IN DIAMETER AND LARGER HAVE BEEN LOCATED WITH COMMON NAME AND APPROXIMATE DIAMETER BREAST HIGH. SMALLER TREES, NON-PROTECTED SPECIES (INCLUDING ORNAMENTALS) AND TREES WITHIN JURISDICTIONAL AREAS (IF ANY) HAVE NOT BEEN LOCATED. TREES BY NATURE ARE IRREGULAR IN SIZE AND SHAPE. EVERY EFFORT IS MADE TO ACCURATELY LOCATE TREES. THE TREE LOCATION IS THE CENTER OF THE TREE. THIS LOCATION MAY BE DIFFERENT IF LOCATED FROM A DIFFERENT DIRECTION. ALL TREE LOCATIONS SHOULD BE FIELD CHECKED IF CRITICAL TO DESIGN.
15. STATE ROAD RIGHT-OF-WAY INFORMATION SHOWN HEREON WAS TAKEN FROM THE STATE OF FLORIDA STATE ROAD DEPARTMENT (NOW KNOWN AS FLORIDA DEPARTMENT OF TRANSPORTATION) RIGHT OF WAY MAP FOR ROAD NO. S.R. 699-A, SECTION 15100-2150 DATED 3-10-58, LAST REVISED ON 7-16-81.
16. THIS SURVEY IS BASED ON U.S. FEET.
17. THE SUBJECT PARCEL CONTAINS 92,504 SQUARE FEET, (2.124 ACRES) MORE OR LESS.

DESCRIPTION: PROVIDED BY CLIENT(L)

PARCEL 1A:

From the point of intersection of the South line of Government Lot 1, Section 9, Township 31 South, Range 15 East, Pinellas County, Florida (as established by Agreement recorded in Deed Book 662, Page 41, of the public records of said County), with the centerline of State Road No. 233, said road also being locally known as Welch Causeway or 150th Avenue, as a point of reference, thence South 88°04'07" West, along the South Line of said Government Lot 1, a distance of 55.93 feet to an intersection with a Northwesterly right-of-way line of said Welch Causeway and the POINT OF BEGINNING; thence continue South 88°04'07" West, along the South line of said Government Lot 1, a distance of 182.83 feet; thence leaving said South line, North 01°55'53" West, 120.00 feet to an intersection with the South right-of-way of Madeira Way (an 80 foot right-of-way); thence North 88°04'07" East, along said South right-of-way of Madeira Way, 246.60 feet to a point on a curve; thence along the arc of a curve to the right, concave to the West, radius 30 feet, arc 53.76 feet, chord South 07°24'29" East, 46.85 feet to the end of said curve; thence South 46°08'32" East, 5.00 feet to an intersection with the aforementioned Northwesterly right-of-way line of said Welch Causeway; thence South 43°51'28" West, along the Northwesterly right-of-way line of said Welch Causeway, 100.07 feet to the aforementioned mentioned POINT OF BEGINNING.

PARCEL 1B:

From the point of intersection of the South line of Government Lot 1, Section 9, Township 31 South, Range 15 East, Pinellas County, Florida (as established by Agreement recorded in Deed Book 662, Page 41, of the public records of said County), with the centerline of State Road No. 233, said road also being locally known as Welch Causeway or 150th Avenue, as a point of reference, thence South 88°04'07" West, along the South line of said Government Lot 1, a distance of 313.76 feet to the POINT OF BEGINNING; thence continue South 88°04'07" West, along the South line of said Government Lot 1, a distance of 76.54 feet; thence leaving said South line, South 41°20'20" West, 31.65 feet to an intersection with the Northeasterly right-of-way of Gulf Boulevard (State Road No. 699, a 100 foot right-of-way); thence North 48°39'40" West, along said Northeasterly right-of-way of Gulf Boulevard, 161.69 feet; thence leaving said Northeasterly right-of-way of Gulf Boulevard, North 25°34'45" East, 36.32 feet to an intersection with the South right-of-way of Madeira Way (an 80 foot right-of-way); thence North 88°04'07" East, along said South right-of-way of Madeira Way, 199.20 feet; thence leaving said South right-of-way, South 01°55'53" East, 120.00 feet to the aforementioned POINT OF BEGINNING.

SYMBOL LEGEND

BACK FLOW PREVENTION DEVICE	LIGHT POLE (METAL)
BOLLARD	LIGHT POLE
CABLE TV BOX	MISCELLANEOUS TREE
CLEANOUT	MONITORING WELL
CONCRETE LIGHT POLE	OAK TREE
CONCRETE MONUMENT (FOUND)	PALM TREE
CROSS WALK POLE	PARKING SPACES
ELECTRIC HAND HOLE	PINE TREE
ELECTRIC METER	PK NAIL & DISK (SET)
ELECTRIC OUTLET	PK NAIL & DISK (FOUND)
ELECTRIC TRANSFORMER	POWER & LIGHT POLE
ELEVATION	POWER/UTILITY WOOD POLE
ELEVATION BACK OF CURB / EDGE OF PAVEMENT	RAILROAD SAFETY ARM
ELEVATION BACK OF CURB / FLOW LINE / EDGE OF PAVEMENT	RECLAIMED WATER METER
FIRE HYDRANT	RECLAIMED WATER VALVE
GAS MARKER POST	SANITARY MANHOLE
GAS MARKING (YELLOW PAINT)	SIGN
GAS VALVE	STORM SEWER MANHOLE
GRATE INLET	TELEPHONE SIGN (UNDERGROUND)
GUY WIRE ANCHOR	TELEPHONE PEDESTAL
HANDICAP PARKING SPACE	TEMPORARY BENCHMARK
IRON PIPE (FOUND)	TRAFFIC SIGNAL JUNCTION BOX
IRON ROD (FOUND)	WATER METER
IRON ROD (SET)	WATER VALVE
IRRIGATION CONTROL VALVE	X-CUT (FOUND)
IRRIGATION WATER VALVE	CROSS WALK POLE

LINE TABLE

LINE	BEARING	DISTANCE
L1	N15°48'31"W(L1)	8.00'(L1)
L2	S08°22'03"E	8.00'(L1)
L3	S46°08'32"E(L)	5.00'(L)

CURVE TABLE

CURVE	ARC DISTANCE	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD DISTANCE
C1	45.00'	85.00'	30°19'59"	S59°01'29"W	44.48'
C2	10.00'	77.00'	07°26'28"	S27°44'43"W	9.99'
C3	26.04'	85.00'	17°33'12"	N89°35'27"W	25.94'
C4	53.89'	30.00'	102°33'08"	S07°24'41"E	46.81'

REV.#	DESCRIPTION	DATE	BY

DEUEL & ASSOCIATES
CONSULTING ENGINEERS · LAND SURVEYORS · LAND PLANNERS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PH 727.822.4151 FAX 727.821.7255
WWW.DEUELENGINEERING.COM
CERTIFICATE OF AUTHORIZATION NUMBER 26320
LICENSED BUSINESS NUMBER 107

BOUNDARY AND TOPOGRAPHIC SURVEY
15000 - 15042 MADEIRA WAY
MADEIRA BEACH, FLORIDA
CITY OF MADEIRA BEACH FLORIDA

PREPARED FOR:
WILLIAM KARNS ENTERPRISES
288 107TH AVENUE, SUITE #300
TREASURE ISLAND, FL 33706

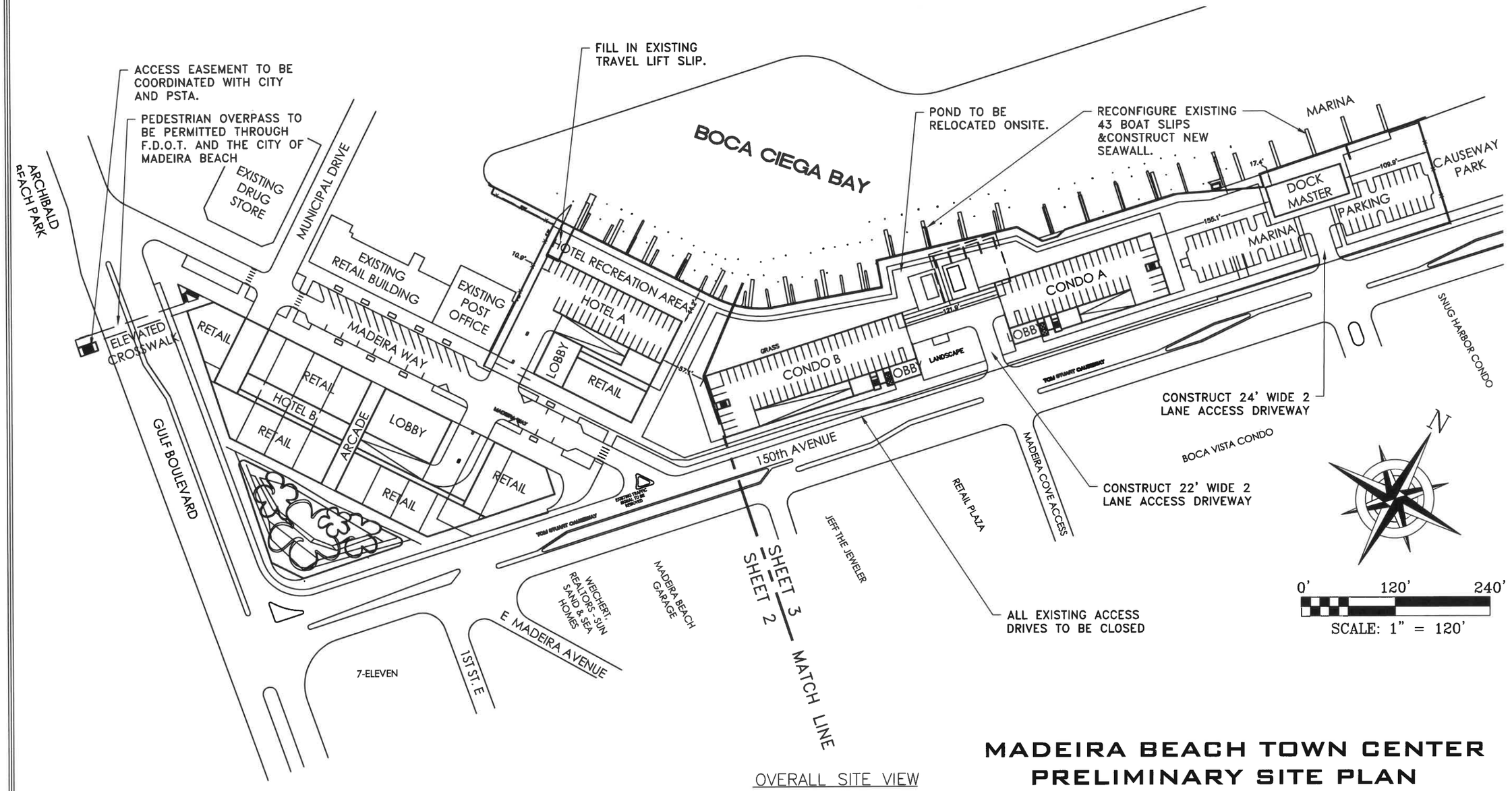
DANA A. WYLLIE
PROFESSIONAL SURVEYOR AND MAPPER
STATE OF FLORIDA, LS 5874

WORK ORDER NO.	2015-128
DRAWN BY:	LKC
FIELD DATE:	2/09/2016
SCALE:	1" = 40'
SHEET NO.	1 OF 2

Feb 18, 2016 - 4:07pm X:\CAD Projects\Projects\2015\2015-128 150th Ave Madeira Bch\Survey\Acad\2015-128-BT1-SRVMDE.dwg

SURVEY OF WEST PROPERTY

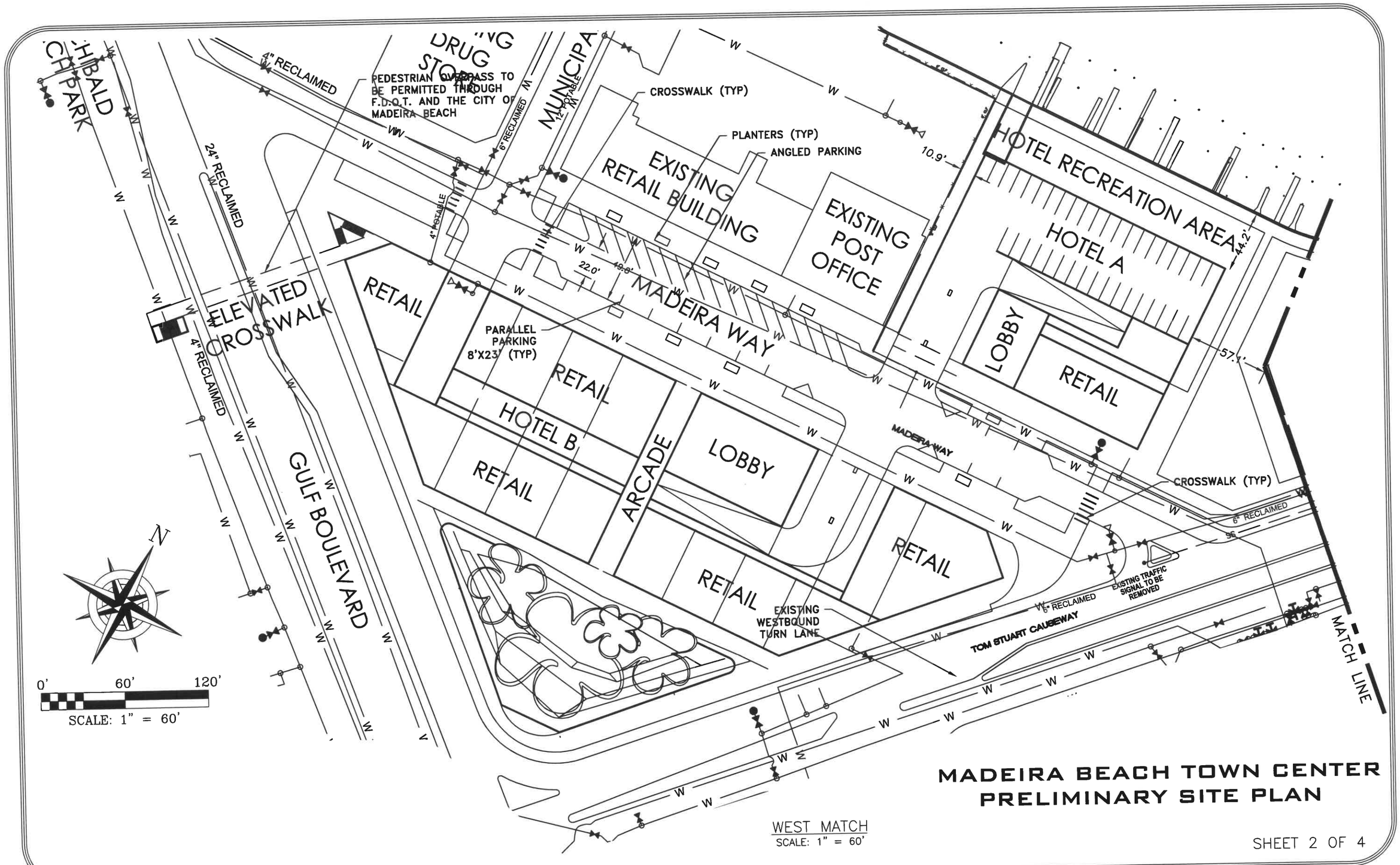
Madeira Beach Town Center
MADEIRA BEACH, FLORIDA



OVERALL SITE VIEW
SCALE: 1" =120'

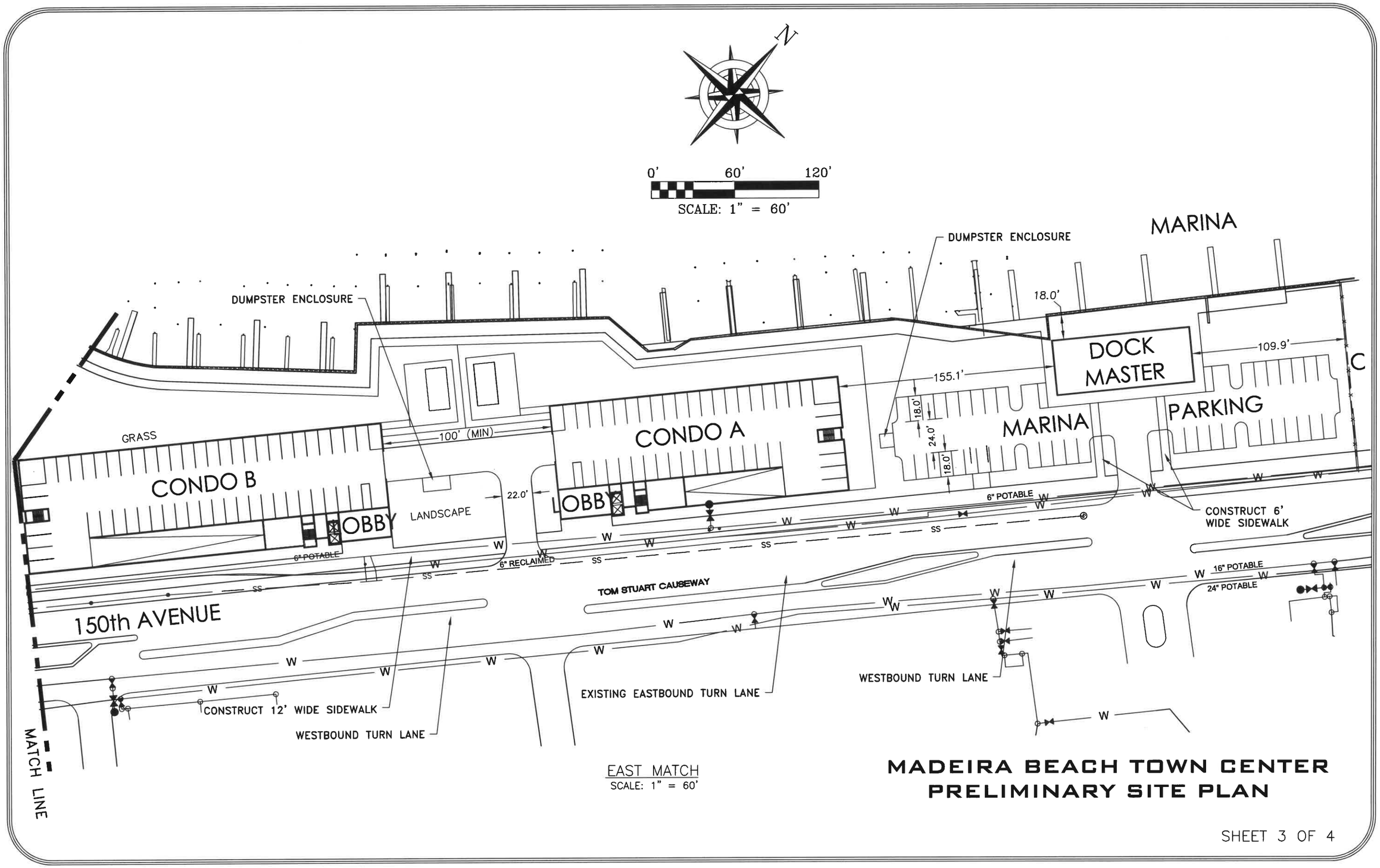
MADEIRA BEACH TOWN CENTER
PRELIMINARY SITE PLAN

SHEET 1 OF 4



MADEIRA BEACH TOWN CENTER
PRELIMINARY SITE PLAN

SHEET 2 OF 4



EAST MATCH
SCALE: 1" = 60'

MADEIRA BEACH TOWN CENTER
PRELIMINARY SITE PLAN

SHEET 3 OF 4

SITE DATA

HOTEL A

	PARKING REQUIRED:
ROOMS: 148	1 SP/ROOM = 148
RETAIL SPACE: 2,000 SF	3 SP/2,000 SF = 3
RESTAURANT SPACE: 3,000 SF	1 SP/4 SEATS =
PARKING PROVIDED: 210 SPACES	TOTAL REQUIRED =

HOTEL B

	PARKING REQUIRED:
ROOMS: 168	1 SP/ROOM = 168
RETAIL SPACE: 28,000 SF	3 SP/2,000 SF = 42
RESTAURANT SPACE: 12,000 SF	1 SP/4 SEATS =
PARKING PROVIDED: 400 SPACES	TOTAL REQUIRED =

CONDO A

	PARKING REQUIRED:
UNITS: 36	2 SP/UNIT = 72
PARKING PROVIDED: 77 SPACES	TOTAL REQUIRED = 72

CONDO B

	PARKING REQUIRED:
UNITS: 44	2 SP/UNIT = 88
PARKING PROVIDED: 93 SPACES	TOTAL REQUIRED = 88

MARINA

	PARKING REQUIRED:
RETAIL SPACE: 7,000 SF	3 SP/2,000 SF = 6
RESTAURANT SPACE: 1,000 SF	1 SP/4 SEATS =
PARKING PROVIDED: 42 SPACES	
DOCK SLIPS: 43	
	TOTAL REQUIRED = 40

OVERALL PROJECT SUMMARY & SITE DATA:

	EXISTING	PROPOSED
TOTAL BUILDING AREA	= 62,904 SF(21.7%)	130,729 SF(45.0%)
TOTAL ASPHALT/CONC.	= 173,003 SF(59.5%)	81,171 SF(27.9%)
TOTAL IMPERVIOUS AREA	= 235,907 SF(81.2%)	211,900 SF(72.9%)
TOTAL GREEN AREA	= 54,525 SF(18.8%)	78,532 SF(27.4%)
TOTAL PROJECT AREA	= 290,432 SF (6.67 AC)	

OVERALL SITE IMPERVIOUS SURFACE RATIO: 0.73

MADEIRA BEACH TOWN CENTER
PRELIMINARY SITE PLAN

SHEET 4 OF 4

FDOT PERMIT TRAFFIC ANALYSIS
FOR
MADEIRA BEACH TOWN CENTER
150TH AVENUE / MADEIRA WAY
MADEIRA BEACH, FL

PREPARED FOR:
MADEIRA BEACH TOWN CENTER, LLC

PREPARED BY:
GULF COAST CONSULTING, INC.
REVISED NOVEMBER 2016
PROJECT # 16-006

TABLE OF CONTENTS

Robert Pergolizzi, AICP/PTP
AICP # 9023 / PTP #133

Octavio Cabrera, P.E.
FL. Reg. #14663

Octavio Cabrera
NOV 0 1 2016
FL P.E. No. 14663

I. INTRODUCTION

The applicant proposes to improve its property located on the north side of Tom Stuart Causeway (SR 666 / 150th Avenue) at Madeira Way and the west side of Madeira Way in the City of Madeira Beach (See Figure 1) The property is currently developed with various retail uses, a marina, and surface parking lots with multiple driveways to Tom Stuart Causeway as well as Madeira Way. Since the June 14, 2016 Madeira Beach City Commission approval, the applicant has revised the plan to reduce the height and intensity of the development to address neighbor concerns. The applicant now intends to redevelop the property with a 148 room hotel (Hotel "A"), a 168 room hotel (Hotel "B"), each containing ancillary ground floor retail space, and 90 condominium units in multiple buildings, with associated parking. Of the 90 condominium units, 80 will be accessed directly from 150th Avenue (Condo "A" and Condo "B") and10 units will be included in Hotel "B" which is accessed from Madeira Way. Relocation of the existing marina access is also proposed.

The potential improvements include consolidation of access points, removal of the traffic signal at Madeira Way, access connection with a turn lane at the median opening serving the site and Madeira Cove Condominiums, and modifying turn lanes within 150th Avenue. This traffic analysis was prepared to evaluate the traffic impacts at the driveways and to aid in driveway/ turn lane design. A pre-application meeting was held with FDOT in February 2016.

II. EXISTING CONDITIONS

The Tom Stuart Causeway (SR 666) is a four-lane divided arterial roadway with a posted speed of 40 MPH (45 MPH design speed) and is controlled by traffic signals at Madeira Way and Gulf Boulevard to the west. SR 666 is an Access Class 7 roadway per FDOT Rule 14-97, with a minimum driveway spacing requirement of 125 feet, and a full median opening spacing of 660 feet. Existing conditions were established by obtaining PM peak period (4-6 PM) intersection turning movement counts at multiple locations shown below on February 2, 2016. Weather conditions were excellent with a high temperature of 79 degrees and sunshine.

Gulf Boulevard / Madeira Way (signal)
Tom Stuart Causeway (SR 666/150th Ave.) / Gulf Boulevard (signal)
Tom Stuart Causeway (SR 666/150th Ave)/ Madeira Way (signal)
Tom Stuart Causeway (SR 666/150th Ave.)/ Directional Median opening serving retail plaza
Tom Stuart Causeway (SR 666/ 150th Ave.) / Full Median opening serving Madeira Cove
Tom Stuart Causeway (SR 666/150th Ave.) / Full Median opening serving Boca Vista

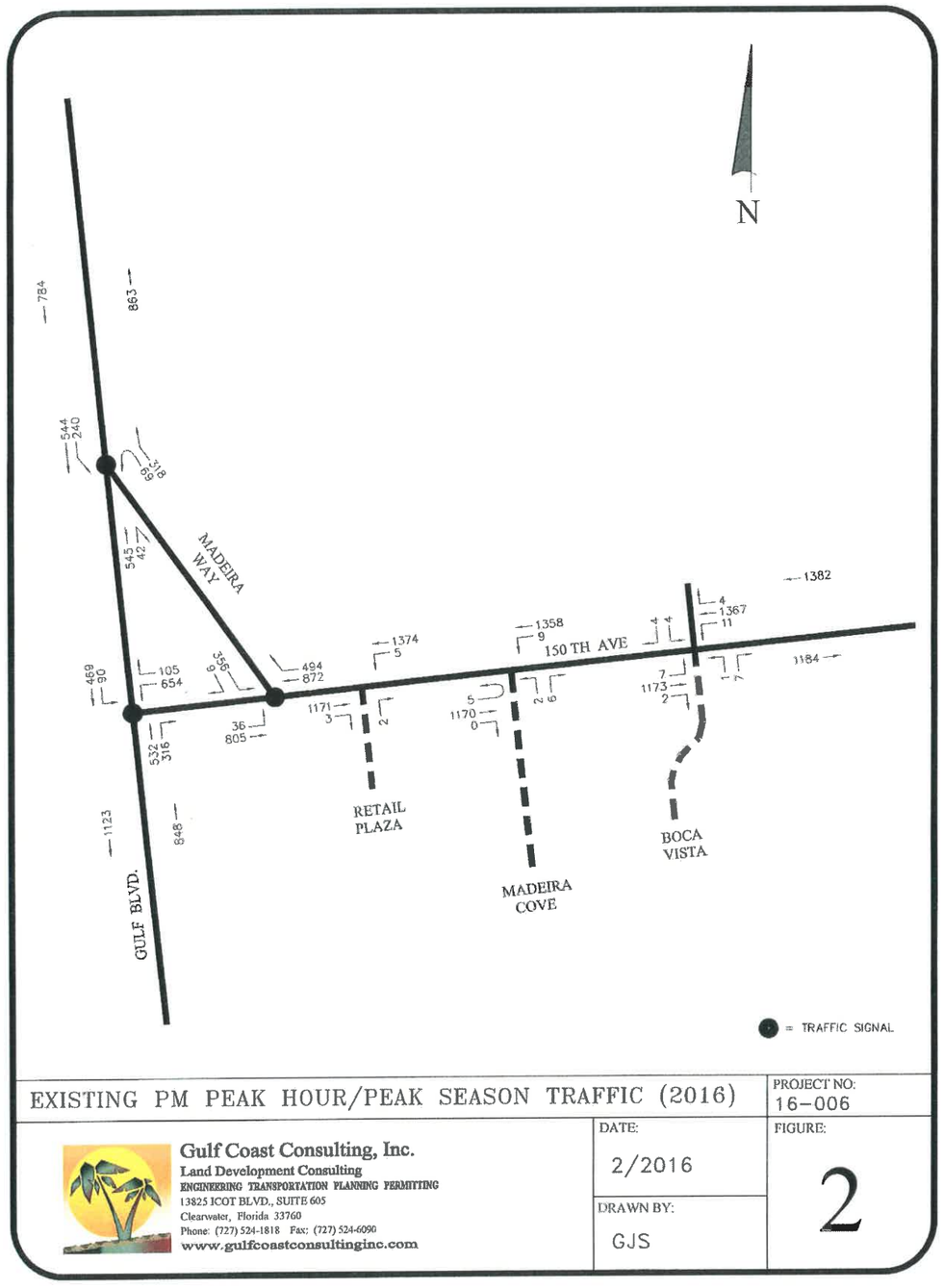
These counts were seasonally adjusted to peak season equivalents using FDOT seasonal adjustment factors. Intersection analysis was performed using the SYNCHRO and HCS software. The existing (2016) peak hour traffic volumes are shown in Figure 2, the intersection operations are shown below in Table 1 and the SYNCHRO and HCS printouts are included in Appendix A.

PROJECT LOCATION – MADEIRA BEACH TOWN CENTER SITE

Gulf Coast Consulting, Inc.
Land Development Consulting

PROJECT NO: 16-006
DATE: 01/2016
DRAWN BY: MKC
FIGURE: 1

Y:\PINELLAS\Madeira Beach Town Center (16-006)\Drawings\16-006 TC.dwg, 1/22/2016 2:34:55 PM



EXISTING PM PEAK HOUR/PEAK SEASON TRAFFIC (2016)

PROJECT NO: 16-006

DATE: 2/2016

DRAWN BY: GJS

FIGURE: 2

Gulf Coast Consulting, Inc.
Land Development Consulting
ENGINEERING TRANSPORTATION PLANNING PERMITTING
13825 ICOT BLVD., SUITE 605
Clearwater, Florida 33760
Phone: (727) 524-1818 Fax: (727) 524-6090
www.gulfcoastconsultinginc.com

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Table 1 – Existing Intersection Conditions (2016)

Intersection Location	Type	PM Peak Hour LOS	Ave. Delay (sec/veh)
Gulf Blvd / Madeira Way	Signal	A	9.1
150th Ave / Gulf Blvd.	Signal	B	16.5
150 Ave / Madeira Way	Signal	B	17.5
150th Ave / Directional Opening Retail	Unsignalized	B/B	12.6 / 13.5
150th Avenue / Madeira Cove	Unsignalized	B/C	12.2 / 17.1
150th Avenue / Boca Vista	Unsignalized	B/C	12.7 / 17.4

B/C = LOS of SR 666 left turn / LOS of side street approach

Tom Stuart Causeway (SR 666/150th Avenue) is a 4-lane divided arterial roadway with a poste speed of 40 MPH and is controlled by traffic signals at Madeira Way and Gulf Boulevard. These traffic signals are closely spaced and do not meet FDOT signal spacing criteria. Based on the adjusted traffic counts, roadway segment volumes were calculated and analyzed using FDOT Generalized Capacity Tables. The adjacent segment of SR 666 carries 2,566 vehicles during the PM peak hour which represents LOS C on a 4-lane divided roadway.

Gulf Boulevard (SR 699) is a 4-lane divided arterial roadway with a posted speed of 35 MPH and is controlled by traffic signals at Madeira Way and 150th Avenue. Gulf Boulevard is considered a Class II arterial due to the lower posted speed. Gulf Boulevard north of Madeira Way carries 1,647 vehicles during the PM peak hour which represents LOS D conditions. Gulf Boulevard south of 150th Avenue carries 1,971 vehicles during the PM peak hour which represents LOS D conditions.

III. FUTURE CONDITIONS WITH DEVELOPMENT

Traffic impacts from the recently proposed Holiday Isle (Holton) project on the south side of Tom Stuart Causeway east of this property was included as background traffic to evaluate the cumulative effects of both redevelopments. The Holiday Isle project has also been downsized and is now expected to generate 3,092 daily trips with 248 trips occurring during the PM peak hour. Of these 173 are expected to travel to/from the mainland over the drawbridge, and 75 are expected to impact the study area for Madeira Beach Town Center. This traffic volume was added to the existing counts to consider the impact of Holiday Isle.

Trip generation estimates of the additional traffic caused by the proposed Madeira Beach Town Center development were made using ITE Trip Generation, 9th Edition rates.

Table 2 – Trip Generation Estimates

Land Use	Amount	ITE LUC	Daily Trips	PM Peak (in/out)
High-Rise Condo "A"	36 units	232	150	14 (8/6)
High-Rise Condo "B"	44 units	232	184	16 (10/6)
Hotel "A"	148 rooms	310	1209	89 (45/44)
Hotel "B" + 10 condos	168 rooms/10	310/232	1415	105 (54/51)
Total			2,958	224 (117/107)

The additional traffic caused by the development is expected to be 2,958 daily trips of which 224 would occur during the PM peak hour (117 entering/107 exiting). This represents a 24% reduction in trip generation as compare to the previously approved development levels. This would classify as a Category "D" permit application with FDOT. Based on pre-application meetings with FDOT, substantial access management improvements are proposed. These include removing the traffic signal at Madeira Way, and constructing a turn lane at the Madeira Cove median opening which will also serve the project condominiums. In addition, converting Madeira Way into right-in/right out access at the 150th Avenue intersection, lengthening left turn lanes, and providing an eastbound left turn lane at the project access aligning with Madeira Cove is proposed. These changes will create U-turns and a redistribution of existing traffic. This will also provide median opening separation to better conform to FDOT access management criteria.

Project traffic was distributed to the surrounding roadway system based on the following percentages.

10% north on Gulf Boulevard (SR 699)
20% south on Gulf Boulevard (SR 699)
70% east on SR 666 (Tom Stuart Causeway)

Project generated traffic is shown in Figure 3.

The intersections were reanalyzed considering the project traffic, median opening modifications, the removal of a traffic signal and revised access points. The expected future traffic volumes are shown in Figure 4, intersection conditions are shown in Table 3, and the SYNCHRO and HCS printouts are included in Appendix B.

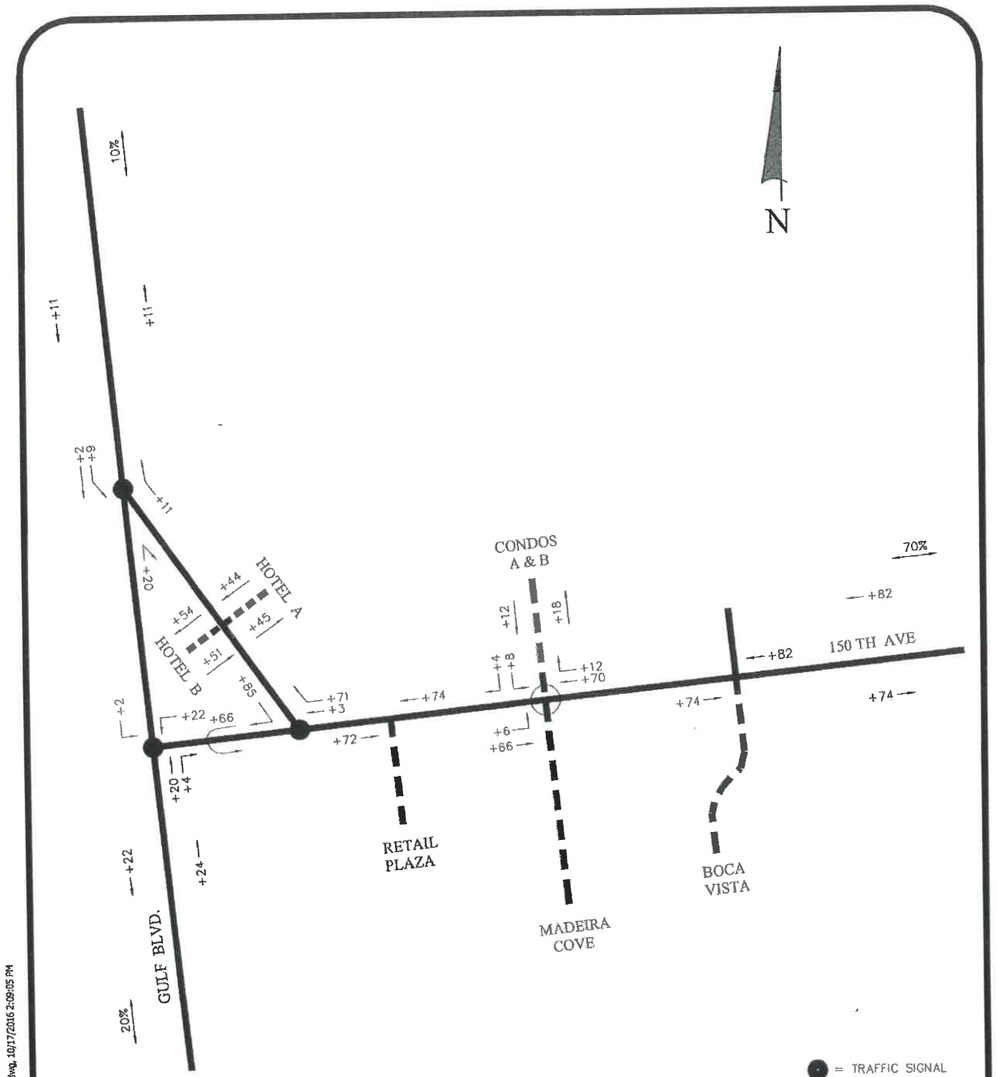
Table 3 – Future Intersection Conditions

Intersection Location	Type	PM Peak Hour LOS	Ave. Delay (sec/veh)
Gulf Blvd / Madeira Way	Signal	B	10.3
150th Ave / Gulf Blvd.	Signal	C	20.7
150 Ave / Madeira Way (RIRO)	Unsignalized	C* (SBRT)	18.2
150th Ave / Directional Opening Retail	Unsignalized	B/B*	13.6/15.6
150th Avenue / Madeira Cove	Unsignalized	C/E*	16.2/40.9
150th Avenue / Boca Vista	Unsignalized	C/E*	15.4/43.0
Madeira Way / Hotel Driveways	Unsignalized	A/D*	8.5/25.5

B/C = LOS of SR 666 left turn / LOS of side street approach

The adjacent segment of SR 666 would continue to operate at LOS C with volume increasing to 2,793 vehicles during the PM peak hour. This represents an acceptable level of service.

The segment of Gulf Boulevard north of Madeira Way would carry 1,694 vehicles during the PM peak hour which represents LOS D conditions. Gulf Boulevard south of 150th Avenue would carry 2,067 vehicles during the PM peak hour which represents LOS D conditions.



PROJECT ADDED TRAFFIC

PROJECT NO: 16-006

Gulf Coast Consulting, Inc.
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ENGINEERING TRANSPORTATION PLANNING PERMITTING
13825 ICOT BLVD., SUITE 605
Clearwater, Florida 33760
Phone: (727) 524-1818 Fax: (727) 524-6090
www.gulfcoastconsultinginc.com

DATE: 10/2016

DRAWN BY: GJS

FIGURE: 3

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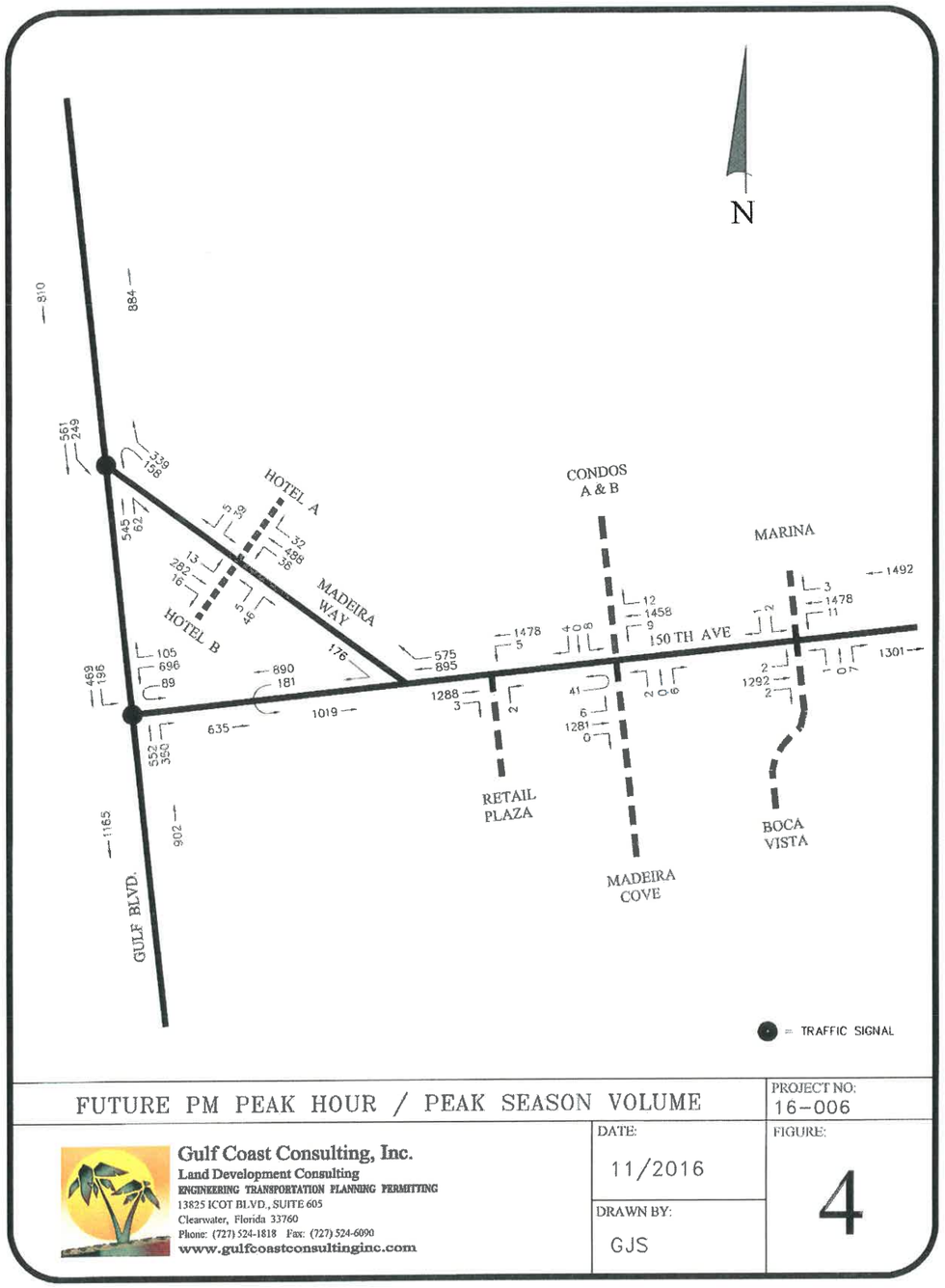

FUTURE PM PEAK HOUR / PEAK SEASON VOLUME

PROJECT NO: 16-006

DATE: 11/2016

FIGURE: 4

DRAWN BY: GJS

Gulf Coast Consulting, Inc.
Land Development Consulting
ENGINEERING TRANSPORTATION PLANNING PERMITTING
13825 ICOT BLVD., SUITE 605
Clearwater, Florida 33760
Phone: (727) 524-1818 Fax: (727) 524-6090
www.gulfcoastconsultinginc.com

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IV. CONCLUSIONS AND RECOMMENDATIONS

The proposed development of this property to contain condominiums, and hotels with ancillary ground floor retail space is expected to generate 2,958 daily trips and an additional 224 PM peak hour trips. With the impacts of the proposed development all affected intersections and roadway segments would continue to operate at acceptable levels of service.

The following access management improvements are recommended:

Tom Stuart Causeway (150th Avenue) / Madeira Way – Remove traffic signal, install raised median in 150th Avenue, permit right turn only into/from Madeira Way.

Tom Stuart Causeway (150th Avenue)/ Median Opening at 1st Street E. – Extend the westbound left turn lane past Madeira Way to contain 150 feet of queue storage plus 185 feet of deceleration distance per FDOT Index # 301 for a 45 MPH design speed.

Tom Stuart Causeway (150th Avenue) / Madeira Cove Median Opening – Construct an eastbound left turn lane into Madeira Beach Town Center access. Construct driveway with 2 exiting lanes to separate left and right turns. The eastbound left turn lane should include 50 feet of queue storage plus 185 feet of deceleration distance per FDOT Index # 301. Due to distance constraints a design exception for deceleration distance may be needed from FDOT. The westbound left turn lane should contain 50 feet queue storage plus 185 feet deceleration distance per FDOT Index #301. This requires lengthening the existing left turn lane and removal of landscaping area.

Tom Stuart Causeway / Boca Vista / Marina Median Opening – Extend the westbound left turn lane to include 50 feet of queue storage plus 185 feet of deceleration distance per FDOT Index #301. This requires lengthening the existing left turn lane and removal of landscaping area. Provide eastbound left turn lane into the marina access with 50-feet queue storage and 185 feet deceleration distance. Due to distance constraints a design exception from FDOT may be needed.

APPENDIX A

2014 Peak Season Factor Category Report - Report Type: ALL
Category: 1500 PINELLAS COUNTYWIDE

Week	Dates	SF	MOCF: 0.95 PSCF	
1	01/01/2014 - 01/04/2014	1.03	1.08	
2	01/05/2014 - 01/11/2014	1.05	1.11	
3	01/12/2014 - 01/18/2014	1.07	1.13	
4	01/19/2014 - 01/25/2014	1.05	1.11	
5	01/26/2014 - 02/01/2014	1.03	1.08	
6	02/02/2014 - 02/08/2014	1.00	1.05	Tmc Counts
7	02/09/2014 - 02/15/2014	0.98	1.03	
* 8	02/16/2014 - 02/22/2014	0.96	1.01	
* 9	02/23/2014 - 03/01/2014	0.95	1.00	
*10	03/02/2014 - 03/08/2014	0.95	1.00	
*11	03/09/2014 - 03/15/2014	0.94	0.99	
*12	03/16/2014 - 03/22/2014	0.93	0.98	
*13	03/23/2014 - 03/29/2014	0.93	0.98	
*14	03/30/2014 - 04/05/2014	0.94	0.99	
*15	04/06/2014 - 04/12/2014	0.94	0.99	
*16	04/13/2014 - 04/19/2014	0.94	0.99	
*17	04/20/2014 - 04/26/2014	0.95	1.00	
*18	04/27/2014 - 05/03/2014	0.96	1.01	
*19	05/04/2014 - 05/10/2014	0.97	1.02	
*20	05/11/2014 - 05/17/2014	0.98	1.03	
21	05/18/2014 - 05/24/2014	0.99	1.04	
22	05/25/2014 - 05/31/2014	0.99	1.04	
23	06/01/2014 - 06/07/2014	0.99	1.04	
24	06/08/2014 - 06/14/2014	0.99	1.04	
25	06/15/2014 - 06/21/2014	0.99	1.04	
26	06/22/2014 - 06/28/2014	1.00	1.05	
27	06/29/2014 - 07/05/2014	1.00	1.05	
28	07/06/2014 - 07/12/2014	1.00	1.05	
29	07/13/2014 - 07/19/2014	1.01	1.06	
30	07/20/2014 - 07/26/2014	1.01	1.06	
31	07/27/2014 - 08/02/2014	1.01	1.06	
32	08/03/2014 - 08/09/2014	1.02	1.07	
33	08/10/2014 - 08/16/2014	1.02	1.07	
34	08/17/2014 - 08/23/2014	1.02	1.07	
35	08/24/2014 - 08/30/2014	1.04	1.09	
36	08/31/2014 - 09/06/2014	1.05	1.11	
37	09/07/2014 - 09/13/2014	1.06	1.12	
38	09/14/2014 - 09/20/2014	1.07	1.13	
39	09/21/2014 - 09/27/2014	1.06	1.12	
40	09/28/2014 - 10/04/2014	1.06	1.12	
41	10/05/2014 - 10/11/2014	1.05	1.11	
42	10/12/2014 - 10/18/2014	1.05	1.11	
43	10/19/2014 - 10/25/2014	1.05	1.11	
44	10/26/2014 - 11/01/2014	1.05	1.11	
45	11/02/2014 - 11/08/2014	1.06	1.12	
46	11/09/2014 - 11/15/2014	1.06	1.12	
47	11/16/2014 - 11/22/2014	1.06	1.12	
48	11/23/2014 - 11/29/2014	1.06	1.12	
49	11/30/2014 - 12/06/2014	1.05	1.11	
50	12/07/2014 - 12/13/2014	1.04	1.09	
51	12/14/2014 - 12/20/2014	1.03	1.08	
52	12/21/2014 - 12/27/2014	1.05	1.11	
53	12/28/2014 - 12/31/2014	1.07	1.13	

* Peak Season

Page 10 of 11

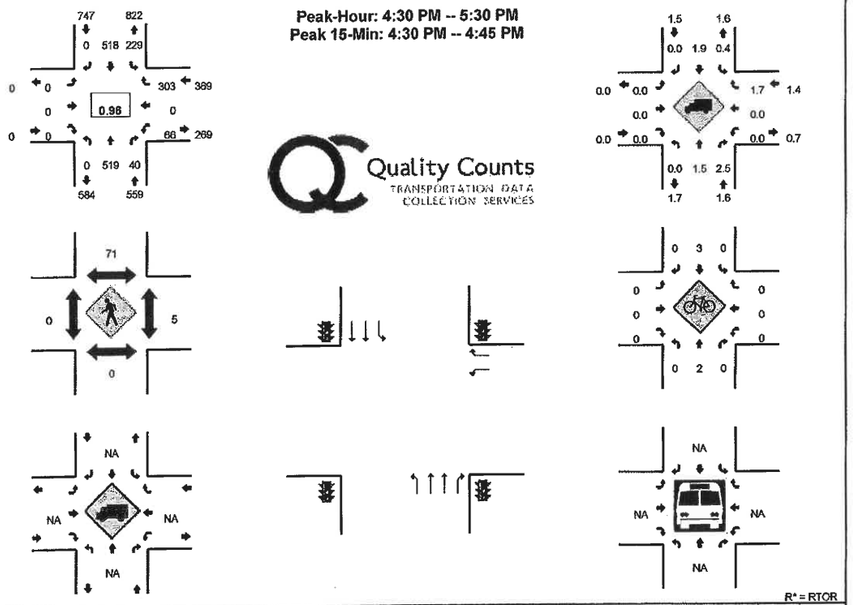
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Gulf Blvd -- Madeira Way
CITY/STATE: Madeira Beach, FL

QC JOB #: 13698601
DATE: Tue, Feb 02 2016

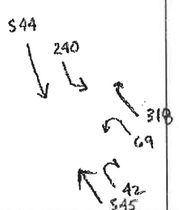
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:30 PM -- 4:45 PM



R* = RTOR

15-Min Count Period Beginning At	Gulf Blvd (Northbound)					Gulf Blvd (Southbound)					Madeira Way (Eastbound)					Madeira Way (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	0	147	14	0	0	70	124	0	0	0	0	0	0	0	0	18	0	19	0	34	426	
4:15 PM	0	130	11	0	0	48	94	0	0	0	0	0	0	0	0	25	0	16	0	40	364	
4:30 PM	0	124	8	0	0	53	146	0	0	0	0	0	0	0	0	16	0	25	0	63	435	
4:45 PM	0	137	10	0	0	50	116	0	0	0	0	0	0	0	0	22	0	23	0	58	416	1641
5:00 PM	0	141	8	0	0	60	125	0	0	0	0	0	0	0	0	13	0	22	0	46	415	1630
5:15 PM	0	117	14	0	0	66	131	0	0	0	0	0	0	0	0	15	0	29	0	37	409	1675
5:30 PM	0	155	9	0	0	47	99	0	0	0	0	0	0	0	0	21	0	29	0	62	422	1662
5:45 PM	0	141	18	0	0	52	98	0	0	0	0	0	0	0	0	20	0	23	0	49	401	1647

PSCF = 1.05



Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	0	498	32	0	0	212	584	0	0	0	0	0	0	0	0	64	0	100	0	252	1740
Heavy Trucks	0	8	4			0	12	0			0	0	0			0	0	4			28
Pedestrians		0					88					0					4				92
Bicycles	0	0	0			0	1	0			0	0	0			0	0	0			1
Railroad																					
Stopped Buses																					

Comments:

Report generated on 2/5/2016 8:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

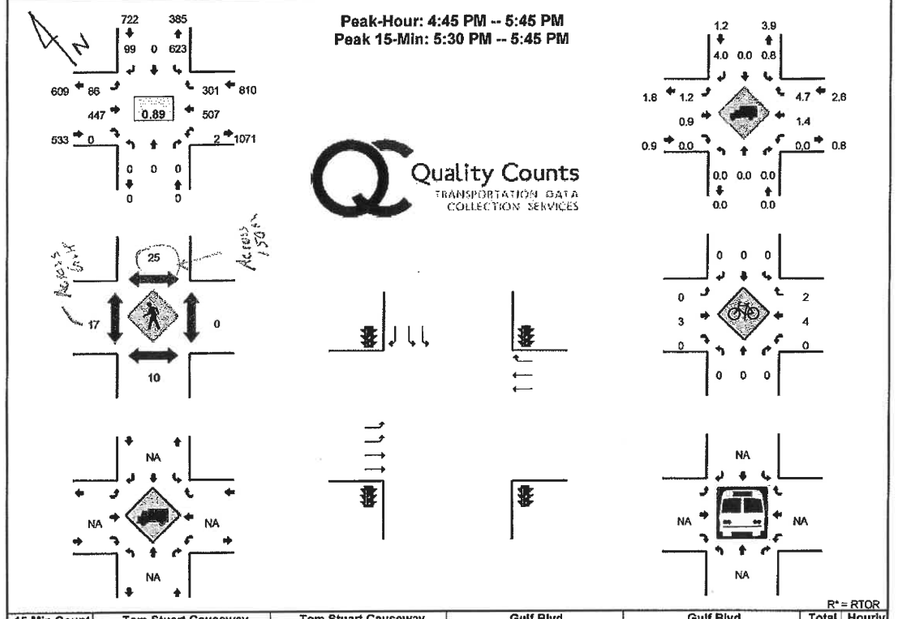
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Tom Stuart Causeway – Gulf Blvd
CITY/STATE: Madeira Beach, FL

QC JOB #: 13698602
DATE: Tue, Feb 02 2016

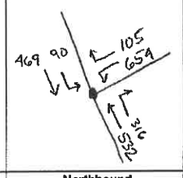
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM



R* = RTOR

15-Min Count Period Beginning At	Tom Stuart Causeway (Northbound)					Tom Stuart Causeway (Southbound)					Gulf Blvd (Eastbound)					Gulf Blvd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	0	0	0	0	0	132	0	18	0	0	28	108	0	0	0	0	141	76	0	0	503	
4:15 PM	0	0	0	0	0	137	0	17	0	0	24	90	0	0	0	0	130	69	0	0	467	
4:30 PM	0	0	0	0	0	184	0	22	3	0	28	122	0	2	0	0	115	68	0	0	544	
4:45 PM	0	0	0	0	0	156	0	32	0	0	24	115	0	1	0	0	122	64	0	0	514	2028
5:00 PM	0	0	0	0	0	104	0	17	0	0	25	105	0	0	0	0	135	89	0	0	475	2000
5:15 PM	0	0	0	0	0	144	0	18	0	0	21	124	0	1	0	0	110	79	1	0	498	2031
5:30 PM	0	0	0	0	0	218	0	32	1	0	13	103	0	1	0	0	140	69	1	0	578	2065
5:45 PM	0	0	0	0	0	169	0	31	0	0	19	81	0	2	0	0	143	65	1	0	511	2062

PSCF = 1.05



Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	0	0	0	0	0	872	0	128	4	0	52	412	0	4	0	0	560	276	4	0	2312
Heavy Trucks	0	0	0			8	0	4			0	0	0			0	12	4			28
Pedestrians		24					80					40					0				144
Bicycles	0	0	0			0	0	0			0	0	0			0	0	1			1
Railroad																					
Stopped Buses																					

Comments:

Report generated on 2/5/2016 8:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

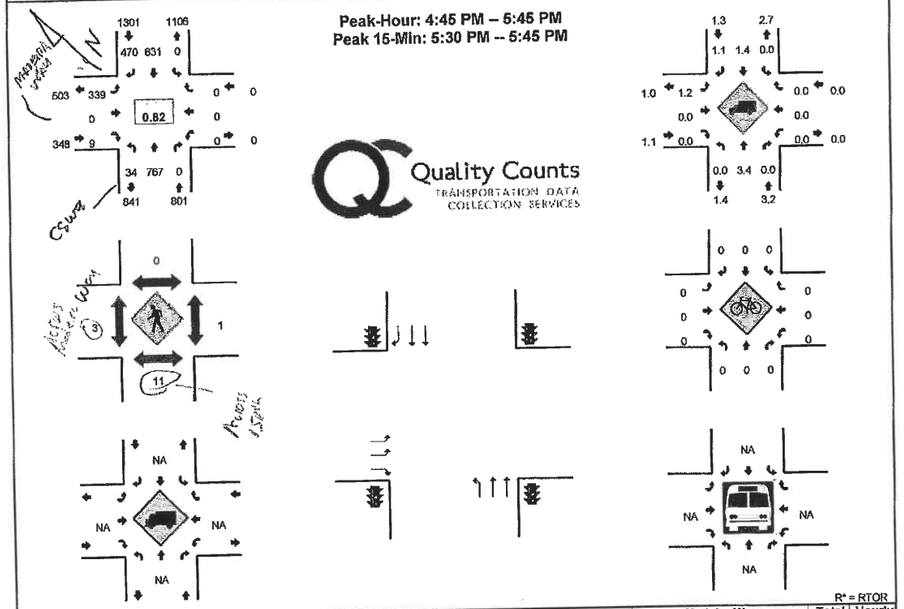
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Tom Stuart Causeway -- Madeira Way
CITY/STATE: Madeira Beach, FL

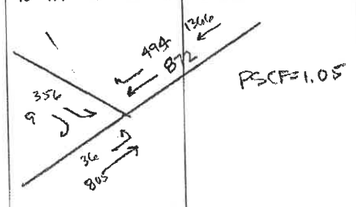
QC JOB #: 13698603
DATE: Tue, Feb 02 2016

Peak-Hour: 4:45 PM – 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM



R* = RTOR

15-Min Count Period Beginning At	Tom Stuart Causeway (Northbound)					Tom Stuart Causeway (Southbound)					Madeira Way (Eastbound)					Madeira Way (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	16	195	0	0	0	0	149	80	0	0	107	0	5	0	0	0	0	0	0	0	552	
4:15 PM	7	233	0	0	0	0	180	92	0	0	76	0	6	0	0	0	0	0	0	0	594	
4:30 PM	11	191	0	0	0	0	236	136	0	0	93	0	2	0	0	0	0	0	0	0	669	
4:45 PM	14	187	0	0	0	0	200	122	0	0	80	0	1	0	0	0	0	0	0	0	604	2419
5:00 PM	7	196	0	0	0	0	147	102	0	0	92	0	3	0	0	0	0	0	0	0	547	2414
5:15 PM	4	183	0	0	0	0	176	96	0	0	89	0	3	0	0	0	0	0	0	0	551	2371
5:30 PM	8	201	0	1	0	0	208	150	0	0	76	0	2	0	0	0	0	0	0	0	748	2450
5:45 PM	19	174	0	0	0	0	202	115	0	0	81	0	7	0	0	0	0	0	0	0	598	2444



Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	32	804	0	4	0	0	1232	600	0	0	312	0	8	0	0	0	0	0	0	0	2992
Heavy Trucks	0	24	0			0	16	4			8	0	0			0	0	0			52
Pedestrians		20					0					4					4				28
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Railroad Stopped Buses																					

Comments:

Report generated on 2/5/2016 8:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

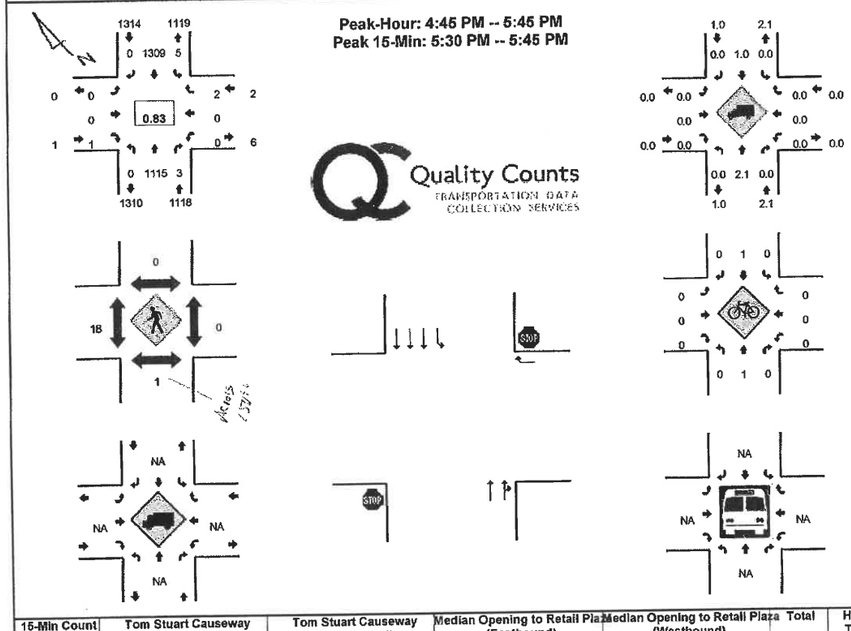
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

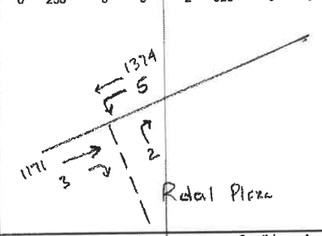
LOCATION: Tom Stuart Causeway -- Median Opening to Retail Plaza
CITY/STATE: Madeira Beach, FL

QC JOB #: 13698604
DATE: Tue, Feb 02 2016

Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM



15-Min Count Period Beginning At	Tom Stuart Causeway (Northbound)				Tom Stuart Causeway (Southbound)				Median Opening to Retail Plaza (Eastbound)				Median Opening to Retail Plaza (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	291	1	1	1	244	0	2	0	0	0	0	0	0	1	0	541	
4:15 PM	0	321	3	0	1	270	0	0	0	0	1	0	0	0	0	0	596	
4:30 PM	0	284	0	0	3	367	0	0	0	0	0	0	0	0	1	0	655	
4:45 PM	0	263	2	0	1	326	0	1	0	0	0	0	0	0	0	0	593	2385
5:00 PM	0	296	0	0	0	252	0	0	0	0	0	0	0	0	0	0	548	2392
5:15 PM	0	274	0	0	2	279	0	0	0	0	1	0	0	0	1	0	557	2353
5:30 PM	0	282	1	0	0	452	0	1	0	0	0	0	0	0	1	0	737	2435
5:45 PM	0	258	0	0	2	329	0	0	0	0	0	0	0	0	0	0	589	2431



Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1128	4	0	0	1808	0	4	0	0	0	0	0	0	4	0	2948
Heavy Trucks	0	24	0		0	8	0		0	0	0		0	0	0		32
Pedestrians		0				0				8				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 2/5/2016 6:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

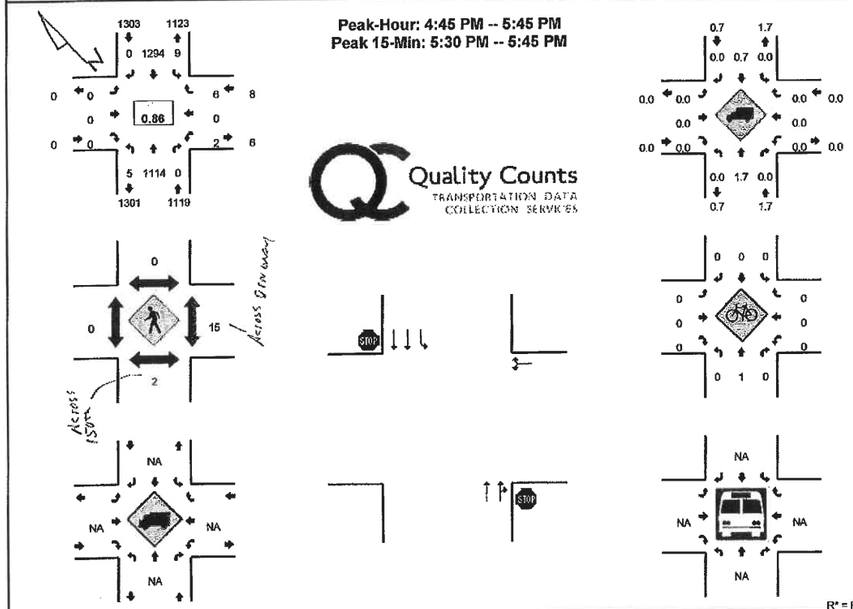
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Tom Stuart Causeway -- Full Median Opening/Medeira Cove
CITY/STATE: Madeira Beach, FL

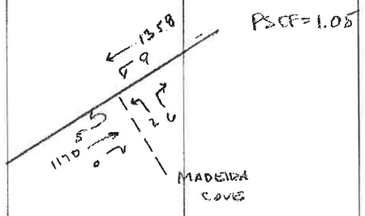
QC JOB #: 13698605
DATE: Tue, Feb 02 2016

Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM



R* = RTOR

15-Min Count Period Beginning At	Tom Stuart Causeway (Northbound)					Tom Stuart Causeway (Southbound)					Full Median Opening/Medeira Cove (Eastbound)					Median Opening/Medeira Cov (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	0	324	1	3	0	0	267	0	0	0	0	0	0	0	0	0	0	1	0	0	596	
4:15 PM	0	288	0	2	0	2	265	0	0	0	0	0	0	0	0	1	0	1	0	0	559	
4:30 PM	0	290	0	3	0	2	343	0	1	0	0	0	0	0	0	1	0	1	0	0	641	
4:45 PM	0	276	0	1	0	1	332	0	1	0	0	0	0	0	0	0	0	0	0	0	611	2407
5:00 PM	0	294	0	2	0	2	268	0	0	0	0	0	0	0	0	1	0	2	0	0	569	2380
5:15 PM	0	266	0	1	0	2	271	0	1	0	0	0	0	0	0	0	0	1	0	0	542	2363
5:30 PM	0	278	0	1	0	1	423	0	1	0	0	0	0	0	0	1	0	3	0	0	708	2430
5:45 PM	0	254	0	0	0	4	339	0	0	0	0	0	0	0	0	0	0	0	0	0	597	2416



Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	0	1112	0	4	0	4	1692	0	4	0	0	0	0	0	0	4	0	12	0	0	2832
Heavy Trucks	0	12	0			0	8	0			0	0	0			0	0	0			20
Pedestrians		0					0					0					16				16
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Railroad																					
Stopped Buses																					

Comments:

Report generated on 2/5/2016 8:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

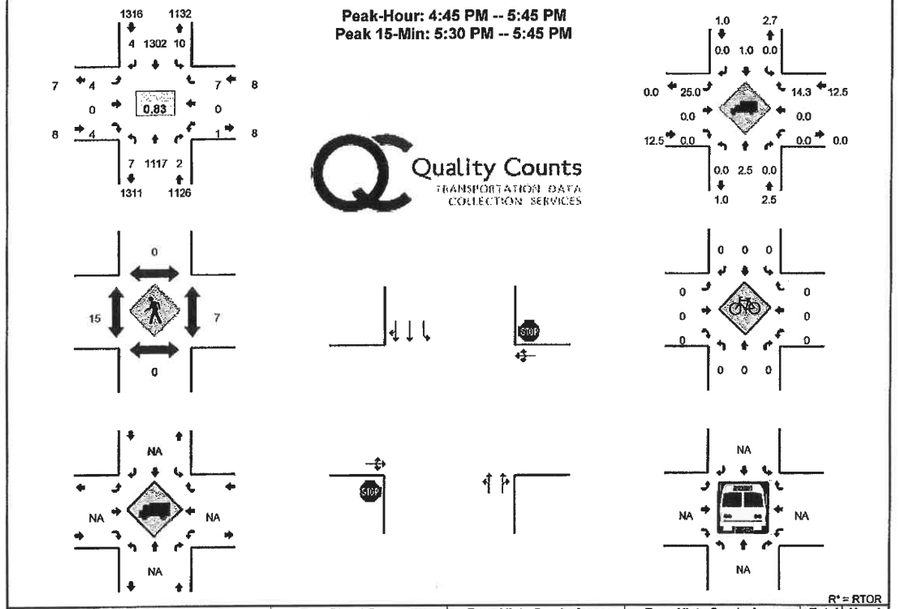
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Tom Stuart Causeway -- Boca Vista Condo Access
CITY/STATE: Pinellas, FL

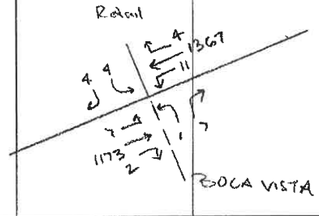
QC JOB #: 13698606
DATE: Tue, Feb 02 2016

Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM



R* = RTOR

15-Min Count Period Beginning At	Tom Stuart Causeway (Northbound)					Tom Stuart Causeway (Southbound)					Boca Vista Condo Access (Eastbound)					Boca Vista Condo Access (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	0	285	2	2	0	0	262	0	3	0	1	0	0	0	0	0	0	0	0	0	555	
4:15 PM	1	312	2	2	0	0	247	0	3	0	2	0	0	0	0	0	0	1	0	0	570	
4:30 PM	1	297	0	0	0	1	360	0	0	0	3	0	0	0	0	1	0	2	0	0	665	
4:45 PM	0	258	1	0	0	3	328	0	1	0	0	0	0	0	0	1	0	2	0	0	594	2384
5:00 PM	1	295	0	1	0	0	264	0	1	0	1	0	2	0	0	0	0	1	0	0	566	2395
5:15 PM	2	269	1	1	0	0	277	0	0	0	1	0	2	0	0	0	0	4	0	0	557	2382
5:30 PM	0	295	0	2	0	3	433	4	2	0	2	0	0	0	0	0	0	0	0	0	741	2458
5:45 PM	1	252	1	1	0	1	333	0	0	0	0	0	0	0	0	0	0	2	0	0	591	2455



Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	0	1180	0	8	0	12	1732	16	8	0	8	0	0	0	0	0	0	0	0	0	2964
Heavy Trucks	0	28	0			0	12	0			0	0	0			0	0	0			40
Pedestrians		0					0					16					4				20
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Railroad																					
Stopped Buses																					

Comments:

Report generated on 2/5/2016 8:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	69	318	545	42	240	544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99	0.83		0.96	0.92	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.294	
Satd. Flow (perm)	1751	1321	3539	1525	503	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		331		44		
Link Speed (mph)	30		35			35
Link Distance (ft)	689		705			435
Travel Time (s)	15.7		13.7			8.5
Confl. Peds. (#/hr)	5	76		5	76	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	72	331	568	44	250	567
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	331	568	44	250	567
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	8.0	20.5
Total Split (s)	29.0	29.0	64.0	64.0	17.0	81.0
Total Split (%)	26.4%	26.4%	58.2%	58.2%	15.5%	73.6%
Maximum Green (s)	25.0	25.0	60.0	60.0	13.0	76.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	5.0	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	7.9	7.9	13.7	13.7	26.6	26.1
Actuated g/C Ratio	0.18	0.18	0.32	0.32	0.62	0.61
v/c Ratio	0.22	0.64	0.50	0.09	0.44	0.26
Control Delay	18.2	9.4	14.0	5.1	6.3	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	9.4	14.0	5.1	6.3	4.3
LOS	B	A	B	A	A	A
Approach Delay	11.0		13.3			4.9

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS			B			A
Queue Length 50th (ft)	14	0	53	0	19	24
Queue Length 95th (ft)	48	56	117	17	56	57
Internal Link Dist (ft)	609		625			355
Turn Bay Length (ft)						
Base Capacity (vph)	1070	929	3539	1525	711	3539
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.36	0.16	0.03	0.35	0.16

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 42.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 9.1 Intersection LOS: A
Intersection Capacity Utilization 50.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: GULF BLVD & MADEIRA WAY

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	654	105	532	316	90	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	400		400	300	
Storage Lanes	1	0		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	0.95
Ped Bike Factor	0.91			0.94	0.94	
Frt	0.979			0.850		
Flt Protected	0.959				0.950	
Satd. Flow (prot)	3350	0	3505	1568	3400	3505
Flt Permitted	0.959				0.950	
Satd. Flow (perm)	3102	0	3505	1470	3186	3505
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	17			355		
Link Speed (mph)	40		35			35
Link Distance (ft)	776		506			611
Travel Time (s)	13.2		9.9			11.9
Confl. Peds. (#/hr)	25	42		25	42	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	3%	3%	3%	3%
Adj. Flow (vph)	735	118	598	355	101	527
Shared Lane Traffic (%)						
Lane Group Flow (vph)	853	0	598	355	101	527
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		20.0	20.0	8.0	20.0
Total Split (s)	37.0		57.0	57.0	16.0	73.0
Total Split (%)	33.6%		51.8%	51.8%	14.5%	66.4%
Maximum Green (s)	32.0		53.0	53.0	12.0	69.0
Yellow Time (s)	4.0		3.0	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Min	Min	None	Min
Walk Time (s)	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	22.9		20.2	20.2	7.9	29.0
Actuated g/C Ratio	0.37		0.33	0.33	0.13	0.47
v/c Ratio	0.68		0.52	0.49	0.23	0.32
Control Delay	20.5		20.2	5.1	30.4	10.8

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	20.5		20.2	5.1	30.4	10.8
LOS	C		C	A	C	B
Approach Delay	20.5		14.5			13.9
Approach LOS	C		B			B
Queue Length 50th (ft)	138		97	0	18	57
Queue Length 95th (ft)	237		174	53	47	110
Internal Link Dist (ft)	696		426			531
Turn Bay Length (ft)	400			400	300	
Base Capacity (vph)	1886		2936	1289	714	3377
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.45		0.20	0.28	0.14	0.16

Intersection Summary
Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 61.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 16.5 Intersection LOS: B
Intersection Capacity Utilization 51.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: GULF BLVD & SR 666/150TH

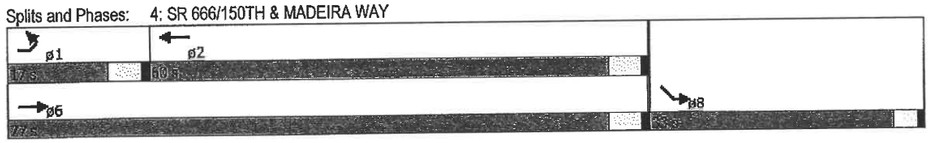
Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (vph)	36	805	872	494	356	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			250	500	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.95
Ped Bike Factor	1.00		0.99		0.99	
Frt			0.946		0.996	
Flt Protected	0.950				0.954	
Satd. Flow (prot)	1752	3505	3344	0	3462	0
Flt Permitted	0.950				0.954	
Satd. Flow (perm)	1744	3505	3344	0	3427	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			144		2	
Link Speed (mph)		40	40		30	
Link Distance (ft)		519	535		561	
Travel Time (s)		8.8	9.1		12.8	
Confl. Peds. (#/hr)	14			3	3	14
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Adj. Flow (vph)	44	982	1063	602	434	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	982	1665	0	445	0
Turn Type	Prot	NA	NA		Prot	
Protected Phases	1	6	2		8	
Permitted Phases						
Detector Phase	1	6	2		8	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	
Minimum Split (s)	9.0	21.0	21.0		20.0	
Total Split (s)	17.0	77.0	60.0		33.0	
Total Split (%)	15.5%	70.0%	54.5%		30.0%	
Maximum Green (s)	12.0	72.0	55.0		29.0	
Yellow Time (s)	4.0	4.0	4.0		3.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		4.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	Min	Min		None	
Walk Time (s)		5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0	
Act Effct Green (s)	7.9	55.6	48.5		16.9	
Actuated g/C Ratio	0.10	0.68	0.59		0.21	
v/c Ratio	0.26	0.41	0.82		0.62	
Control Delay	44.6	6.4	18.2		36.2	

Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	44.6	6.4	18.2		36.2	
LOS	D	A	B		D	
Approach Delay		8.1	18.2		36.2	
Approach LOS		A	B		D	
Queue Length 50th (ft)	25	100	357		128	
Queue Length 95th (ft)	56	142	468		165	
Internal Link Dist (ft)		439	455		481	
Turn Bay Length (ft)	100				500	
Base Capacity (vph)	274	2952	2415		1310	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.16	0.33	0.69		0.34	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 82.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 17.5 Intersection LOS: B
Intersection Capacity Utilization 59.1% ICU Level of Service B
Analysis Period (min) 15

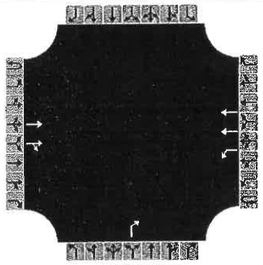
Splits and Phases: 4: SR 666/150TH & MADEIRA WAY



HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RP	Intersection	SR 666 / RETAIL PLAZA ACCESS
Agency/Co.	GCC	Jurisdiction	FDOT
Date Performed	10/17/2016	East/West Street	SR 666
Analysis Year	2016 EXISTING	North/South Street	RETAIL PLAZA ACCESS
Time Analyzed	PM PEAK	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	MADEIRA BEACH TOWN CTR		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	0	1		0	0	0
Configuration			T	TR		L	T					R				
Volume (veh/h)			1171	3		5	1374					2				
Percent Heavy Vehicles						1						1				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left + Thru															
Median Storage	2															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						6						2				
Capacity						483						380				
v/c Ratio						0.01						0.01				
95% Queue Length						0.0						0.0				
Control Delay (s/veh)						12.6						14.5				
Level of Service (LOS)						B						B				
Approach Delay (s/veh)					0.0				14.5							
Approach LOS									B							

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SR666RETAILX.xtw

RETAIL PLAZA

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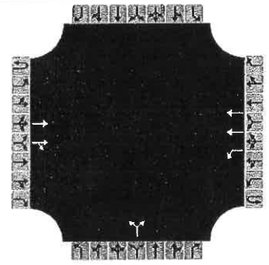
HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RP	Intersection	SR 666 / MADEIRA COVE ACCESS
Agency/Co.	GCC	Jurisdiction	FDOT
Date Performed	10/17/16	East/West Street	SR 666
Analysis Year	2016 EXISTING	North/South Street	MADEIRA COVE ACCESS
Time Analyzed	PM PEAK	Peak Hour Factor	0.86
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	MADEIRA BEACH TOWN CTR		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	0	0		0	0	0
Configuration			T	TR		L	T					LR				
Volume (veh/h)			1170	0		9	1358			2		6				
Percent Heavy Vehicles						1				1		1				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left + Thru															
Median Storage	2															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						10					9					
Capacity						507					308					
v/c Ratio						0.02					0.03					
95% Queue Length						0.1					0.1					
Control Delay (s/veh)						12.2					17.1					
Level of Service (LOS)						B					C					
Approach Delay (s/veh)					0.1				17.1							
Approach LOS									C							

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MADEIRA COVE

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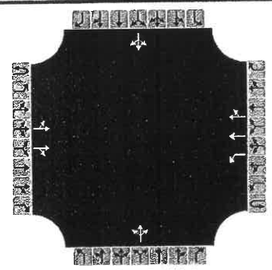
HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RP	Intersection	SR 666 / BOCA VISTA ACCESS
Agency/Co.	GCC	Jurisdiction	FDOT
Date Performed	10/17/2016	East/West Street	SR 666
Analysis Year	2016 EXISTING	North/South Street	BOCA VISTA ACCESS
Time Analyzed	PM PEAK	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	MADEIRA BEACH TOWN CTR		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		LT		TR		L	T	TR			LTR				LTR	
Volume (veh/h)		7	1173	2		11	1367	4		1	0	7		4	0	4
Percent Heavy Vehicles		1				1				1	1	1		1	1	1
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left + Thru															
Median Storage	2															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		8				13				9				10		
Capacity		396				483				299				138		
v/c Ratio		0.02				0.03				0.03				0.07		
95% Queue Length		0.1				0.1				0.1				0.2		
Control Delay (s/veh)		14.3				12.7				17.4				33.0		
Level of Service (LOS)		B				B				C				D		
Approach Delay (s/veh)	0.9				0.1				17.4				33.0			
Approach LOS									C				D			

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BOCA VISTA

TABLE 4

Generalized **Peak Hour Two-Way** Volumes for Florida's **Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

SR 666

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	1,510	1,600	**
4	Divided	*	3,420	3,580	**
6	Divided	*	5,250	5,390	**
8	Divided	*	7,090	7,210	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	660	1,330	1,410
4	Divided	*	1,310	2,920	3,040
6	Divided	*	2,090	4,500	4,590
8	Divided	*	2,880	6,060	6,130

GULF BLVD

Non-State Signalized Roadway Adjustments
(Alter corresponding state volumes by the indicated percent.)
Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+5%

One-Way Facility Adjustment
Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	260	680	1,770
50-84%	190	600	1,770	>1,770
85-100%	830	1,770	>1,770	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	250	850
50-84%	*	150	780	1,420
85-100%	340	960	1,560	>1,770

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	4,120	5,540	6,700	7,190
6	6,130	8,370	10,060	11,100
8	8,230	11,100	13,390	15,010
10	10,330	14,040	16,840	18,930
12	14,450	18,880	22,030	22,860

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 1,800	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	770	1,530	2,170	2,990
4	Divided	3,300	4,660	5,900	6,530
6	Divided	4,950	6,990	8,840	9,790

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as peak hour two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES

APPENDIX B

High-Rise Residential Condominium/Townhouse
(232)

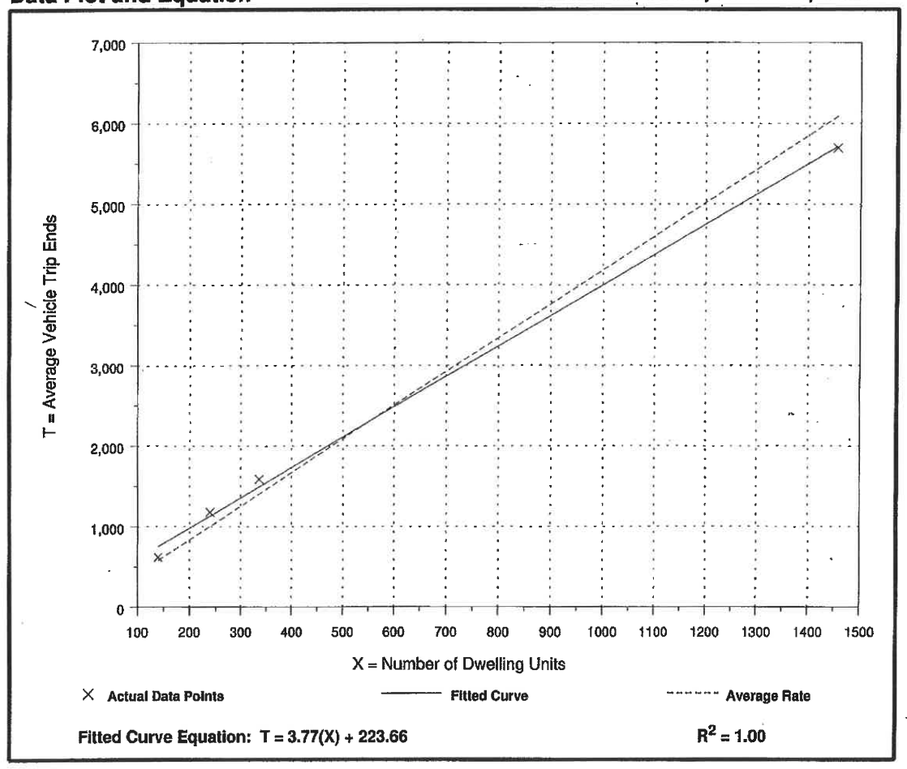
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Number of Studies: 4
Avg. Number of Dwelling Units: 543
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.18	3.91 - 4.93	2.08

Data Plot and Equation ***Caution - Use Carefully - Small Sample Size***



Fitted Curve Equation: T = 3.77(X) + 223.66 **R^2 = 1.00**

High-Rise Residential Condominium/Townhouse
(232)

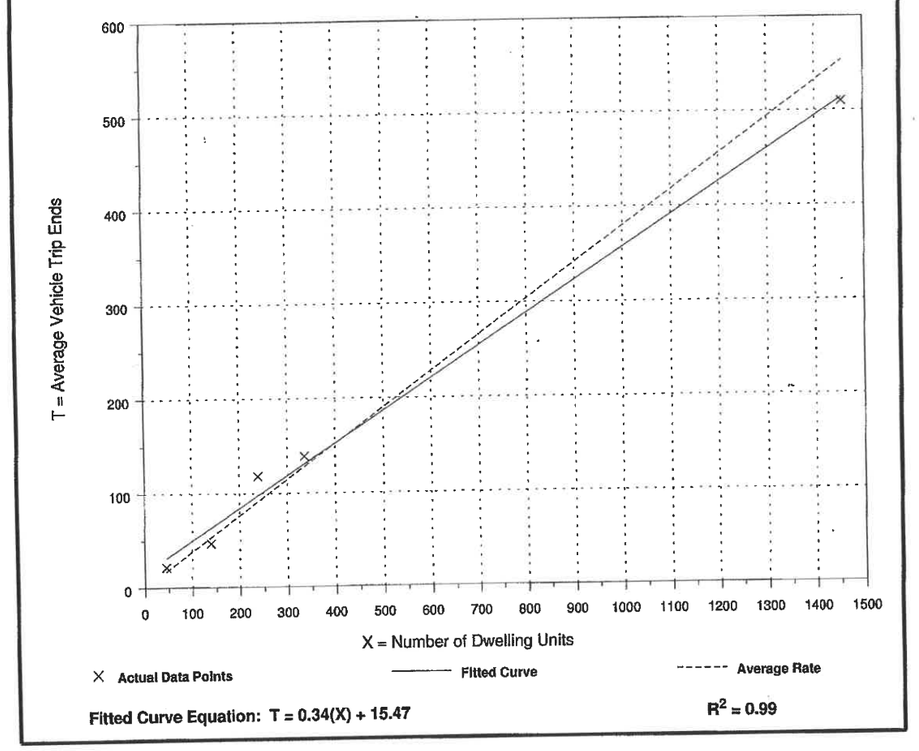
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 5
Avg. Number of Dwelling Units: 444
Directional Distribution: 62% entering, 38% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.38	0.34 - 0.49	0.62

Data Plot and Equation *Caution - Use Carefully - Small Sample Size*



Fitted Curve Equation: T = 0.34(X) + 15.47 $R^2 = 0.99$

Hotel
(310)

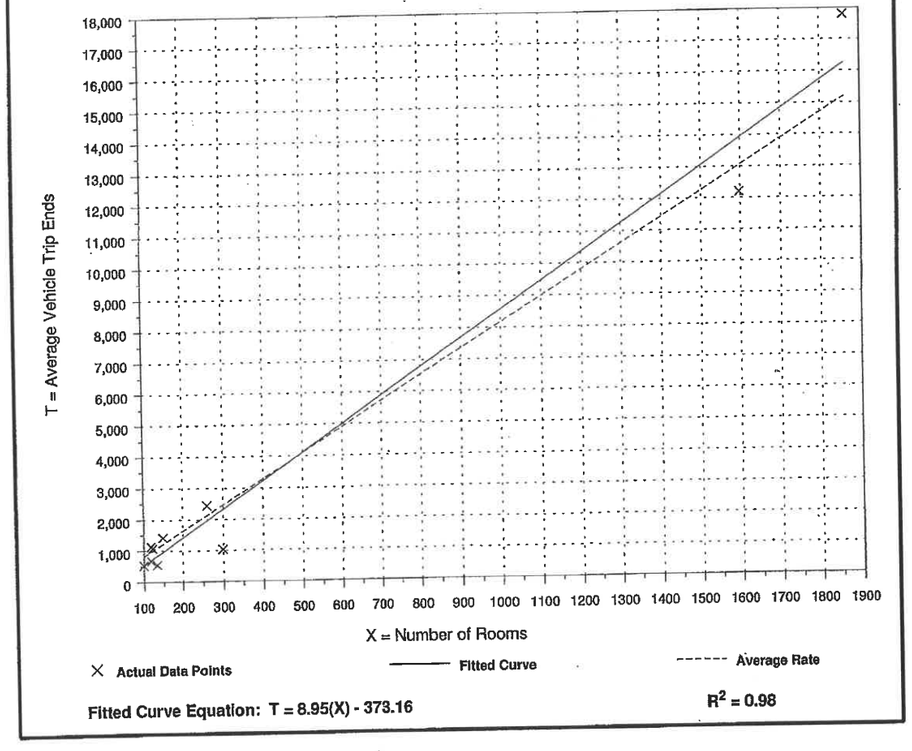
Average Vehicle Trip Ends vs: **Rooms**
On a: **Weekday**

Number of Studies: 10
Average Number of Rooms: 476
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
8.17	3.47 - 9.58	3.38

Data Plot and Equation



Fitted Curve Equation: T = 8.95(X) - 373.16 $R^2 = 0.98$

Hotel
(310)

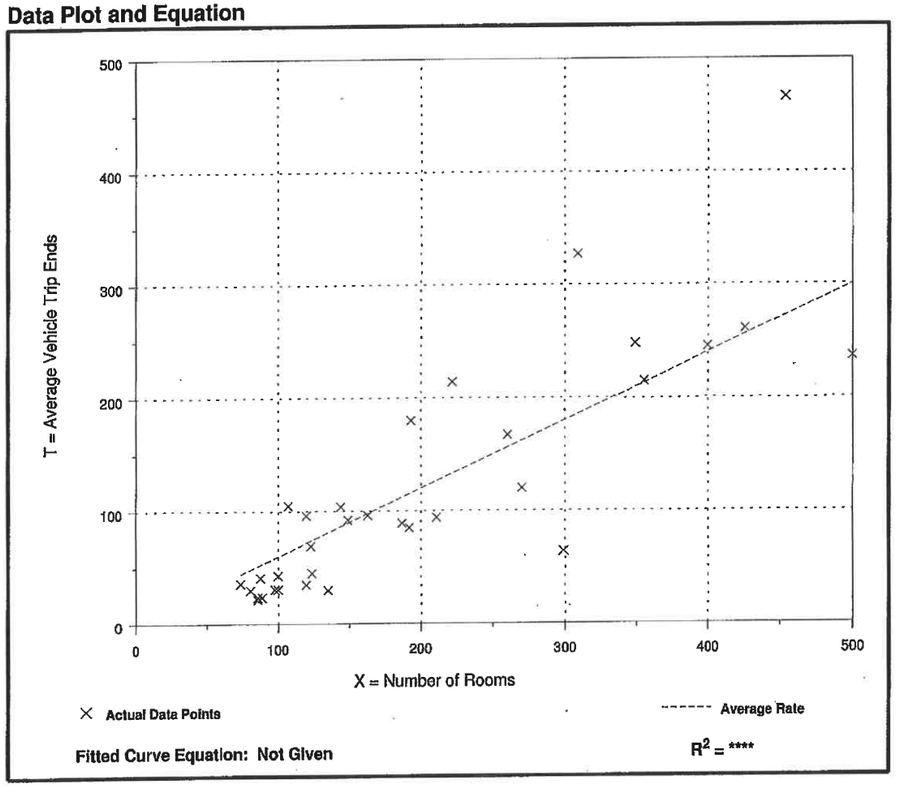
Average Vehicle Trip Ends vs: **Rooms**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 33
Average Number of Rooms: 200
Directional Distribution: 51% entering, 49% exiting

Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.60	0.21 - 1.06	0.81

Data Plot and Equation



Fitted Curve Equation: Not Given R^2 = ****

Marina
(420)

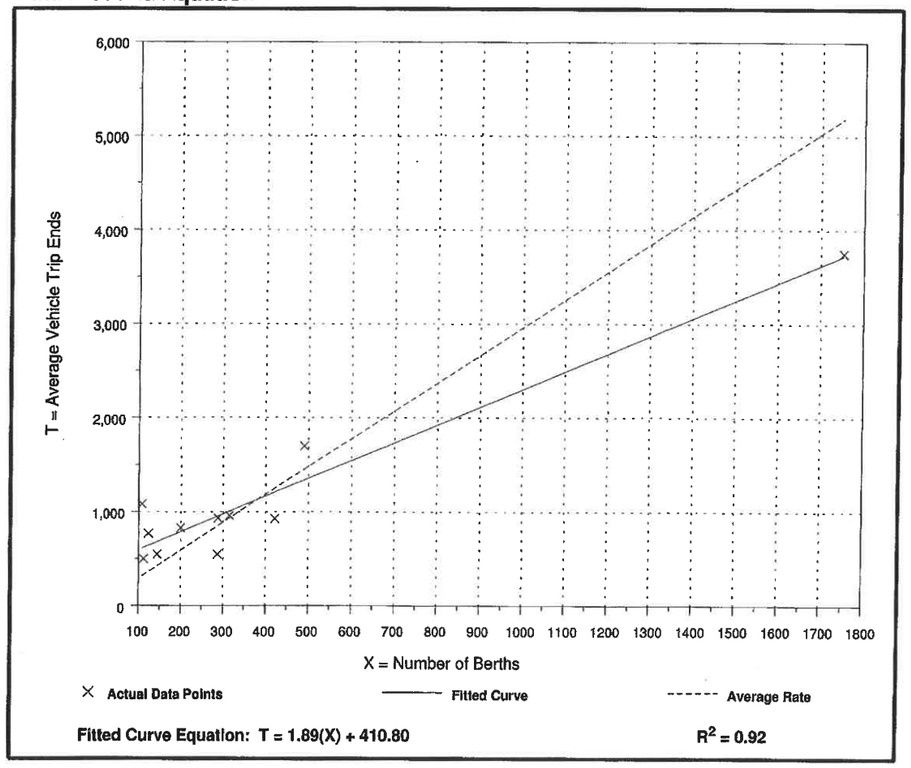
Average Vehicle Trip Ends vs: **Berths**
On a: **Weekday**

Number of Studies: 11
Average Number of Berths: 386
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Berth

Average Rate	Range of Rates	Standard Deviation
2.96	1.91 - 10.04	2.26

Data Plot and Equation



Fitted Curve Equation: T = 1.89(X) + 410.80 R^2 = 0.92

Marina
(420)

Average Vehicle Trip Ends vs: Berths
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

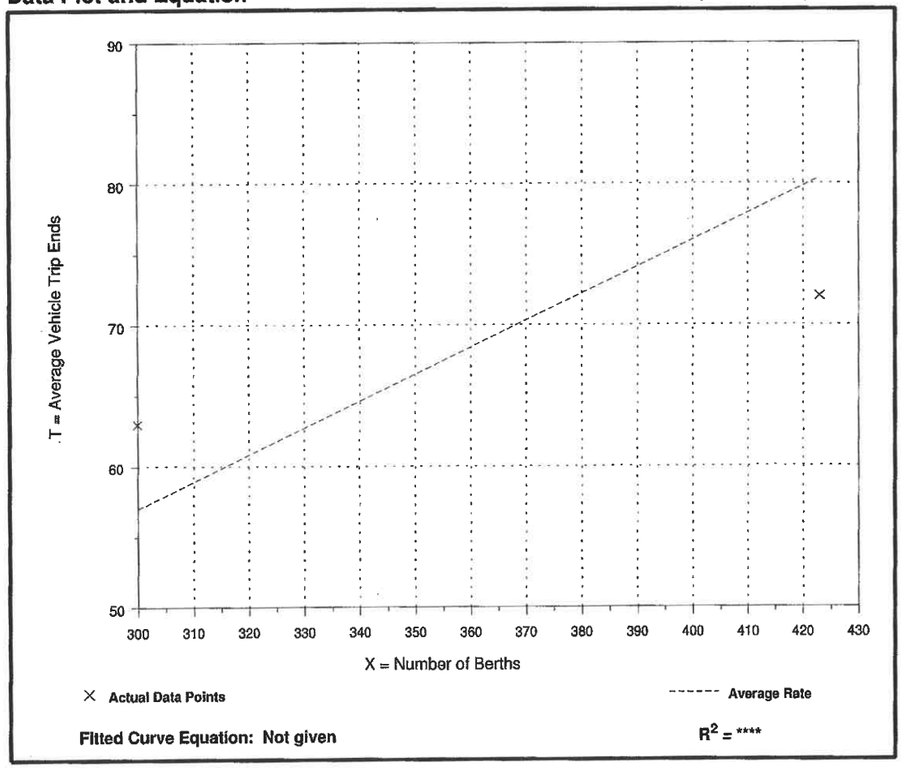
Number of Studies: 2
Average Number of Berths: 362
Directional Distribution: 60% entering, 40% exiting

Trip Generation per Berth

Average Rate	Range of Rates	Standard Deviation
0.19	0.17 - 0.21	*

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Lanes, Volumes, Timings
4: GULF BLVD & MADEIRA WAY

10/17/2016

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	158	339	545	62	249	561
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99	0.83		0.96	0.92	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.286	
Satd. Flow (perm)	1751	1321	3539	1525	489	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		353		65		
Link Speed (mph)	30		35			35
Link Distance (ft)	689		705			435
Travel Time (s)	15.7		13.7			8.5
Confl. Peds. (#/hr)	5	76		5	76	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	165	353	568	65	259	584
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	353	568	65	259	584
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	8.0	20.5
Total Split (s)	29.0	29.0	64.0	64.0	17.0	81.0
Total Split (%)	26.4%	26.4%	58.2%	58.2%	15.5%	73.6%
Maximum Green (s)	25.0	25.0	60.0	60.0	13.0	76.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	5.0	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	10.2	10.2	14.6	14.6	28.3	27.8
Actuated g/C Ratio	0.22	0.22	0.31	0.31	0.60	0.59
v/c Ratio	0.43	0.63	0.51	0.12	0.46	0.28
Control Delay	21.3	8.4	15.5	5.0	7.4	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	8.4	15.5	5.0	7.4	5.1
LOS	C	A	B	A	A	A
Approach Delay	12.5		14.4			5.8

Lanes, Volumes, Timings
4: GULF BLVD & MADEIRA WAY

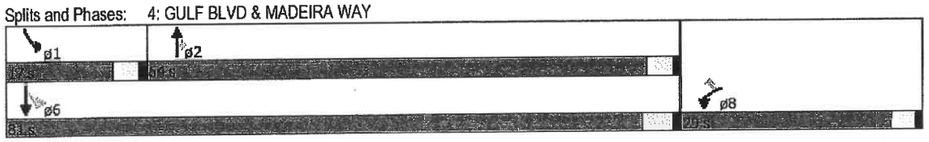
10/17/2016

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	B		B			A
Queue Length 50th (ft)	37	0	62	0	25	31
Queue Length 95th (ft)	99	59	124	21	64	66
Internal Link Dist (ft)	609		625			355
Turn Bay Length (ft)						
Base Capacity (vph)	979	888	3523	1518	664	3539
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.40	0.16	0.04	0.39	0.17

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 46.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 10.3 — Intersection LOS: B
Intersection Capacity Utilization 51.8% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: GULF BLVD & MADEIRA WAY



Lanes, Volumes, Timings
3: GULF BLVD & SR 666/150TH

10/17/2016

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	785	105	552	350	196	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	400		400	300	
Storage Lanes	1	0		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	0.95
Ped Bike Factor	0.91			0.94	0.94	
Frt	0.982			0.850		
Flt Protected	0.958				0.950	
Satd. Flow (prot)	3368	0	3505	1568	3400	3505
Flt Permitted	0.958				0.950	
Satd. Flow (perm)	3113	0	3505	1470	3192	3505
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	14			393		
Link Speed (mph)	40		35			35
Link Distance (ft)	776		506			611
Travel Time (s)	13.2		9.9			11.9
Confl. Peds. (#/hr)	25	42		25	42	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	3%	3%	3%	3%
Adj. Flow (vph)	882	118	620	393	220	527
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1000	0	620	393	220	527
Turn Type	Prot		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Detector Phase	8		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	21.0		20.0	20.0	8.0	20.0
Total Split (s)	37.0		57.0	57.0	16.0	73.0
Total Split (%)	33.6%		51.8%	51.8%	14.5%	66.4%
Maximum Green (s)	32.0		53.0	53.0	12.0	69.0
Yellow Time (s)	4.0		3.0	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Min	Min	None	Min
Walk Time (s)	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	31.6		21.9	21.9	10.1	36.0
Actuated g/C Ratio	0.41		0.29	0.29	0.13	0.47
v/c Ratio	0.72		0.62	0.56	0.49	0.32
Control Delay	23.4		26.6	5.8	36.2	13.0

Lanes, Volumes, Timings
3: GULF BLVD & SR 666/150TH

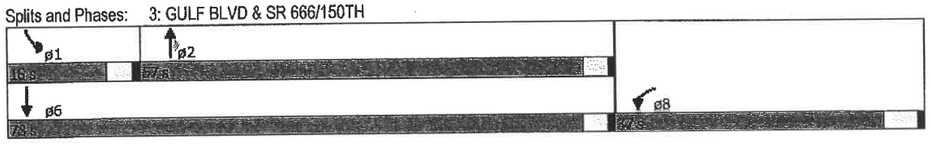
10/17/2016

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	23.4		26.6	5.8	36.2	13.0
LOS	C		C	A	D	B
Approach Delay	23.4		18.6			19.8
Approach LOS	C		B			B
Queue Length 50th (ft)	197		135	0	51	79
Queue Length 95th (ft)	318		188	57	92	108
Internal Link Dist (ft)	696		426			531
Turn Bay Length (ft)	400			400	300	
Base Capacity (vph)	1428		2448	1145	537	3139
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.70		0.25	0.34	0.41	0.17

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 76.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 20.7 Intersection LOS: C
Intersection Capacity Utilization 57.8% ICU Level of Service B
Analysis Period (min) 15

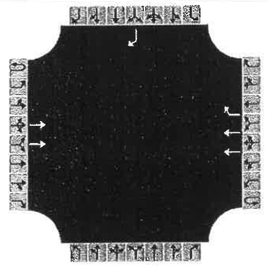
Splits and Phases: 3: GULF BLVD & SR 666/150TH



HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RP	Intersection	SR 666 / MADEIRA WAY
Agency/Co.	GCC	Jurisdiction	FDOT
Date Performed	10/17/16	East/West Street	SR 666
Analysis Year	FUTURE WITH PROJECTS	North/South Street	MADEIRA WAY (RIRO)
Time Analyzed	PM PEAK	Peak Hour Factor	0.82
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	MADEIRA BEACH TOWN CTR		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	1		0	0	0		0	0	1
Configuration			T				T	R								R
Volume (veh/h)			1019				895	575								176
Percent Heavy Vehicles																1
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left + Thru															
Median Storage	0															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)																215
Capacity																484
v/c Ratio																0.44
95% Queue Length																2.2
Control Delay (s/veh)																18.2
Level of Service (LOS)																C
Approach Delay (s/veh)														18.2		
Approach LOS														C		

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SR666MADWYWP.xtw
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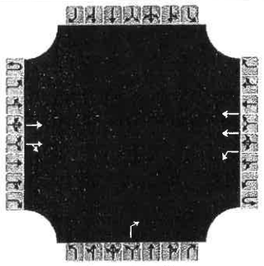
HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RP	Intersection	SR 666 / RETAIL PLAZA ACCESS
Agency/Co.	GCC	Jurisdiction	FDOT
Date Performed	10/17/2016	East/West Street	SR 666
Analysis Year	2017	North/South Street	RETAIL PLAZA ACCESS
Time Analyzed	PM PEAK	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	MADEIRA BEACH TOWN CTR - FUTURE WITH PROJECTS		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	0	1		0	0	0
Configuration			T	TR		L	T					R				
Volume (veh/h)			1288	3		5	1478					2				
Percent Heavy Vehicles						1						1				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left + Thru															
Median Storage	2															

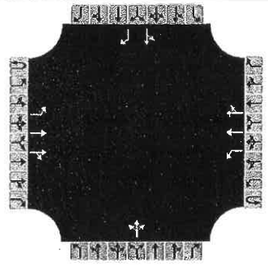
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						6						2				
Capacity						426						341				
v/c Ratio						0.01						0.01				
95% Queue Length						0.0						0.0				
Control Delay (s/veh)						13.6						15.6				
Level of Service (LOS)						B						C				
Approach Delay (s/veh)					0.0				15.6							
Approach LOS									C							

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RP	Intersection	SR 666 / MADEIRA COVE ACCESS
Agency/Co.	GCC	Jurisdiction	FDOT
Date Performed	10/17/16	East/West Street	SR 666
Analysis Year	2017	North/South Street	MADEIRA COVE ACCESS
Time Analyzed	PM PEAK	Peak Hour Factor	0.86
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	MADEIRA BEACH TOWN CTR - FUTURE WITH PROJECTS		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		0	1	1
Configuration		L	T	TR		L	T	TR			LTR			LT		R
Volume (veh/h)		47	1281	0		9	1458	12		2	0	6		8	0	4
Percent Heavy Vehicles		0				1				1	0	1		0	0	0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left + Thru															
Median Storage	2															

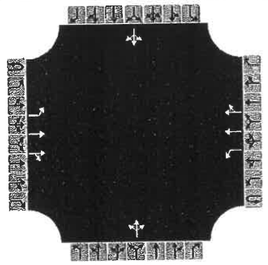
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		55				10					9			9		5
Capacity		377				452					208			82		306
v/c Ratio		0.15				0.02					0.04			0.11		0.02
95% Queue Length		0.5				0.1					0.1			0.4		0.0
Control Delay (s/veh)		16.2				13.1					23.1			54.2		17.0
Level of Service (LOS)		C				B					C			F		C
Approach Delay (s/veh)	0.6				0.1				23.1				40.9			
Approach LOS									C				E			

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RP	Intersection	SR 666 / BOCA VISTA ACCESS
Agency/Co.	GCC	Jurisdiction	FDOT
Date Performed	11/1/16	East/West Street	SR 666
Analysis Year	2017	North/South Street	BOCA VISTA ACCESS/MARINA
Time Analyzed	PM PEAK	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	MADEIRA BEACH TOWN CTR - FUTURE WITH PROJECTS		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	TR		L	T	TR			LTR				LTR	
Volume (veh/h)		2	1292	2		11	1478	3		1	0	7		2	0	1
Percent Heavy Vehicles		1				1				1	1	1		1	1	1
Proportion Time Blocked																
Right Turn Channelized		No				No				No				No		
Median Type		Left + Thru														
Median Storage		2														

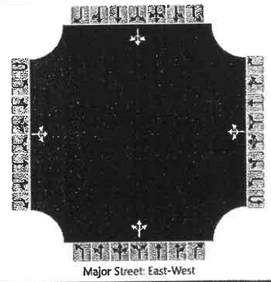
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		2				13					9				3	
Capacity		348				425					271				98	
v/c Ratio		0.01				0.03					0.03				0.03	
95% Queue Length		0.0				0.1					0.1				0.1	
Control Delay (s/veh)		15.4				13.7					18.8				43.0	
Level of Service (LOS)		C				B					C				E	
Approach Delay (s/veh)		0.0				0.1				18.8				43.0		
Approach LOS										C				E		

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	RP	Intersection	MADEIRA WAY/HOTEL DRIVEWAYS
Agency/Co.	GCC	Jurisdiction	MADEIRA BCH
Date Performed	10/17/16	East/West Street	MADEIRA WAY
Analysis Year	FUTURE WITH PROJECTS	North/South Street	HOTEL DRIVEWAYS
Time Analyzed	PM PEAK HOUR	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	MADEIRA BEACH TOWN CTR		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		13	282	16		38	488	32		5	0	46		39	0	5
Percent Heavy Vehicles		1				1				1	1	1		1	1	1
Proportion Time Blocked																
Right Turn Channelized		No				No				No				No		
Median Type		Undivided														
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		14				40					53				46	
Capacity		1032				1258					610				224	
v/c Ratio		0.01				0.03					0.09				0.21	
95% Queue Length		0.0				0.1					0.3				0.7	
Control Delay (s/veh)		8.5				8.0					11.5				25.2	
Level of Service (LOS)		A				A					B				D	
Approach Delay (s/veh)		0.5				0.9				11.5				25.2		
Approach LOS										B				D		

HOTEL "B"

HOTEL "A"

END OF DOCUMENT