

**Exhibit C**  
**Site Plans**



MITCHELL PLANNING & DESIGN

INNOVATIVE ENGINEERING  
GROUP INC.

TRAFFIC TECH ENGINEERING

ISLAND SURVEYING INC.



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WILLIAM P. HORN

DATE

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NUMBER

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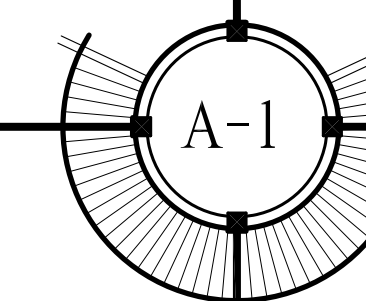
# CLARENCE HIGGS BEACH

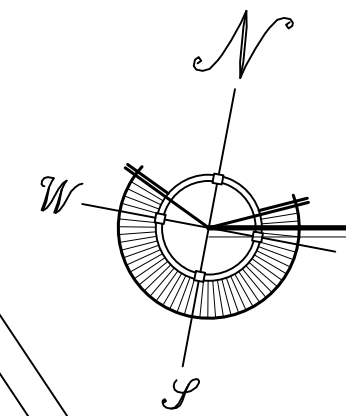
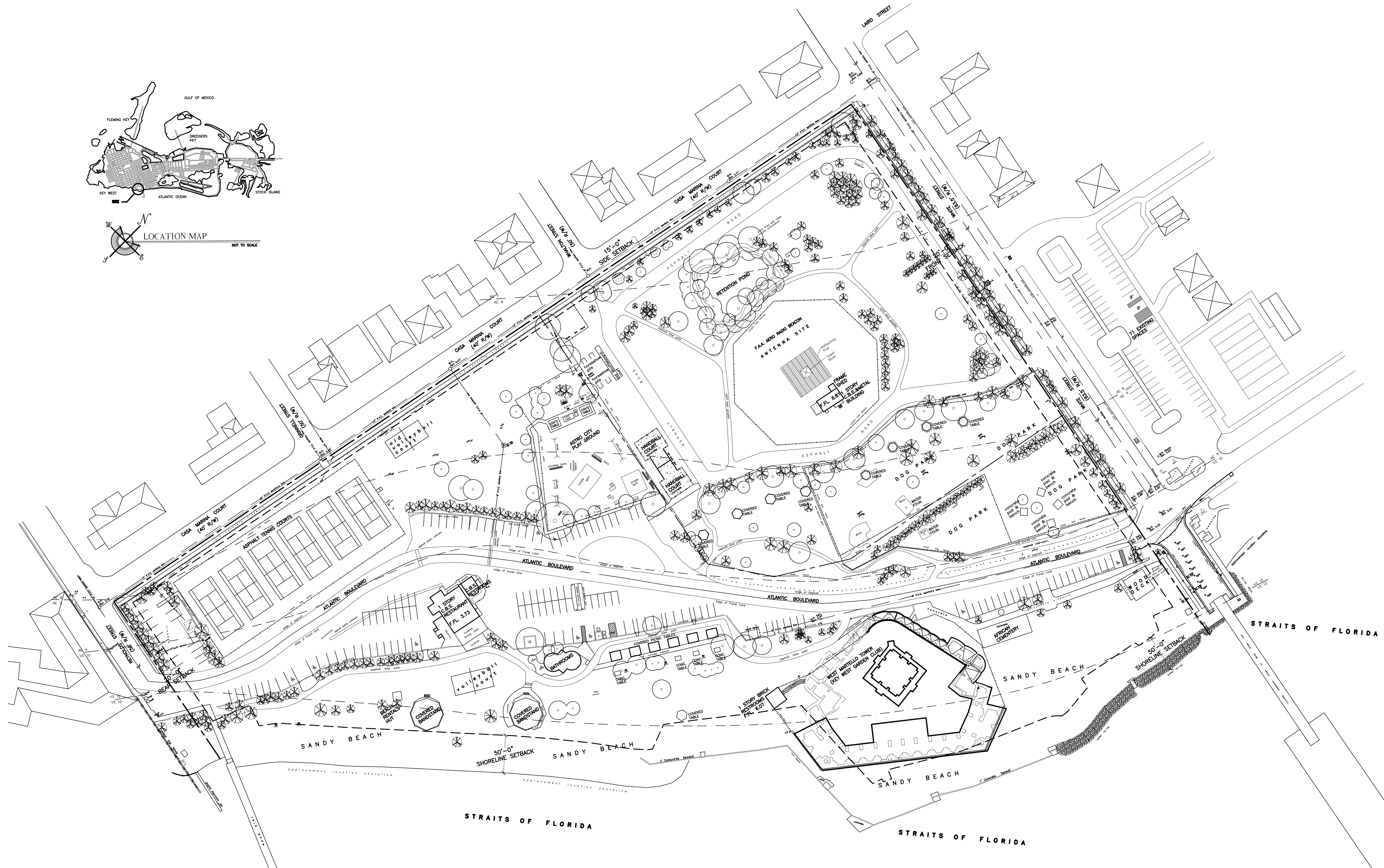
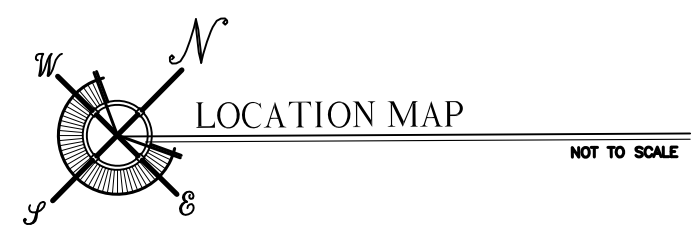
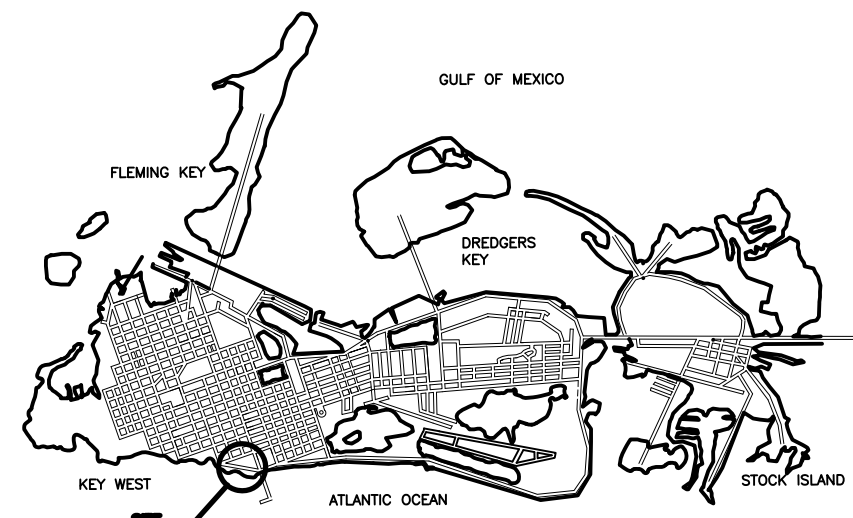
## MASTER PLAN

### KEY WEST, FLORIDA

SITE DATA	
SITE AREA:	762,891 S.F. (17.5 ACRES)
LAND USE:	PS (PUBLIC SERVICES INC. RECREATION & OPEN SPACE)
FLOOD ZONE:	AE +8.0'/AE +9.0'/AE +10.0'/VE 10/VE 12
SETBACKS:	
FRONT SETBACK: (WHITE STREET)	REQUIRED = 20.0' EXISTING = 25'-4" (WOOD DECK) PROPOSED = 25'-4" (WOOD DECK)
SIDE SETBACK: (CASA MARINA COURT)	REQUIRED = 15.0' EXISTING = 123'-9" (COVD. TABLE IN PLAYGROUND) PROPOSED = 24'-0" (EQUIPMENT STORAGE)
REAR SETBACK: (REYNOLDS STREET)	REQUIRED = 20.0' EXISTING = 237'-8" (COVERED BANDSTAND) PROPOSED = 55'-4" (TENNIS PAVILION)
COASTAL CONST. CONTROL LINE:	REQUIRED = 50'-0" EXISTING = 11'-5" (WEST MARTELLO) PROPOSED = 11'-5" (WEST MARTELLO)
FAR: (INTERIOR AND COVERED AREA)	ALLOWABLE: 0.2 MAX. (152,578 S.F.) EXISTING: 0.02 (19,578 S.F.) PROPOSED: 0.02 (22,605 S.F.)
HEIGHT:	ALLOWABLE: 25.0' EXISTING: 25.0' (WEST MARTELLO) PROPOSED: 25.0' (NEW VISITOR CENTER)
LOT COVERAGE AREA:	REQUIRED: 305,156 S.F. (40% MAX.) EXISTING: 29,945 S.F. (3.92%) PROPOSED: 32,972 S.F. (4.32%)
IMPERVIOUS AREA:	REQUIRED: 381,446 S.F. (50% MAX.) EXISTING: 230,499 S.F. (30.2%) PROPOSED: 256,333 S.F. (33.6%)
LANDSCAPE AREA:	REQUIRED: 152,578 S.F. (20%) EXISTING: 532,392 S.F. (69.78%) PROPOSED: 506,558 S.F. (66.31%)
OPEN SPACE (INCLUDES RECREATIONAL OPEN SPACE):	REQUIRED: 152,578 S.F. (20%) EXISTING: 570,362 S.F. (74.7%) PROPOSED: 544,528 S.F. (71.3%)
PARKING:	EXISTING: 145 SPACES PROPOSED: 145 SPACES (INCLUDES 6 HANDICAP SPACES)
BIKE/SCOOTER PARKING:	EXISTING: 60 SPACES (±18 NON CONFORMING) PROPOSED: 45 SPACES

MASTER PLAN TEAM MEMBERS				LIST OF DRAWINGS
<p><u>ARCHITECT:</u></p> <p><b>WILLIAM P. HORN ARCHITECT, P.A.</b></p> <p>WILLIAM P. HORN, RA, LEED AP EVELIA MEDINA, LEED AP</p> <p>915 EATON ST. KEY WEST, FL 33040 TEL. (305) 296-8302</p>	<p><u>PLANNER:</u></p> <p><b>MITCHELL PLANNING &amp; DESIGN</b></p> <p>BARBARA MITCHELL, LEED AP</p> <p>15450 SE 103rd. PLACE RD. OKLAWAHA, FL 32197 (305) 509-0966</p>	<p><u>LANDSCAPE DESIGN:</u></p> <p><b>LANDWISE DESIGN</b></p> <p>LADD ROBERTS, RLA</p> <p>9822 TAPESTRY PARK CIRCLE SUITE 201 JACKSONVILLE, FL 32246 TEL. (904) 343 4194</p>	<p>A-1 COVER SHEET, SITE DATA</p> <p>A-2 EXISTING SITE PLAN 1" = 60.0'</p> <p>A-3 PROPOSED SITE PLAN 1" = 60.0'</p> <p>A-4 PARTIAL SITE PLAN 1/16" = 1'-0"</p> <p>A-5 PARTIAL SITE PLAN 1/16" = 1'-0"</p> <p>A-6 PARTIAL SITE PLAN 1/16" = 1'-0"</p> <p>A-7 VISITOR/NATURE CENTER, PLANS, ELEVATIONS &amp; RENDERINGS</p> <p>A-7.1 VISITOR/NATURE CENTER, ELEVATIONS &amp; RENDERINGS</p> <p>A-8 STORAGE BUILDINGS, PLANS, ELEVATIONS, RENDERINGS &amp; SITE DETAILS</p> <p>E-1 LIGHTING SITE PLAN</p>	
<p><u>CIVIL ENGINEERING:</u></p> <p><b>PEREZ ENGINEERING AND DEVELOPMENT INC.</b></p> <p>ALLEN E. PEREZ, PE</p> <p>1010 EAST KENNEDY DRIVE SUITE 400 MIAMI FL 33040 TEL. (305) 293-9440</p>	<p><u>LIGHTING DESIGN:</u></p> <p><b>INNOVATIVE ENGINEERING GROUP INC.</b></p> <p>SUDHIR GUPTA, PE, LEED AP</p> <p>5532 N.W. 72ND AV. MIAMI FL 33166 TEL. (305) 888-9626</p>	<p><u>TRAFFIC ENGINEER:</u></p> <p><b>TRAFFIC TECH ENGINEERING</b></p> <p>JOAQUIN VARGUS, PE</p> <p>8400 N. UNIVERSITY DR. FT. LAUDERDALE, FL 33321 TEL. (954) 582 0988</p>		<p><u>SURVEYOR:</u></p> <p><b>ISLAND SURVEYING INC.</b></p> <p>FREDERICK H. HILDEBRANDT, PE</p> <p>33152 NORTHSIDE DRIVE #201. KEY WEST, FL 33040 TEL. (305) 293-0466</p>
<p>C-1 CONCEPTUAL DRAINAGE PLAN</p> <p>C-2 CONCEPTUAL DRAINAGE PLAN -A</p> <p>C-3 CONCEPTUAL DRAINAGE PLAN -B</p> <p>C-4 CONCEPTUAL DRAINAGE PLAN -C</p>				
<p>L-1 TREE IMPACT PLAN</p> <p>L-2 CODE PLANTING &amp; TREE RELOCATIONS</p> <p>L-3 PLANTING DETAILS &amp; SUGGESTED PLANT PALETTE</p>				
<p>SURVEY</p>				





**EXISTING SITE PLAN**  
 SCALE: 1" = 60'-0"  
 SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED BY FREDERICK H. HILDEBRANDT, SURVEYOR DATED ON 04-23-10

WILLIAM P. HORN  
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915 EATON ST.  
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 33040

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HIGGS BEACH  
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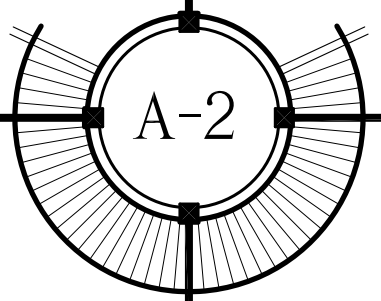
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**CLARENCE HIGGS BEACH - MASTER PLAN**  
 KEY WEST, FLORIDA

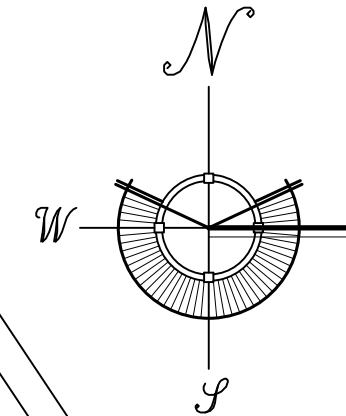
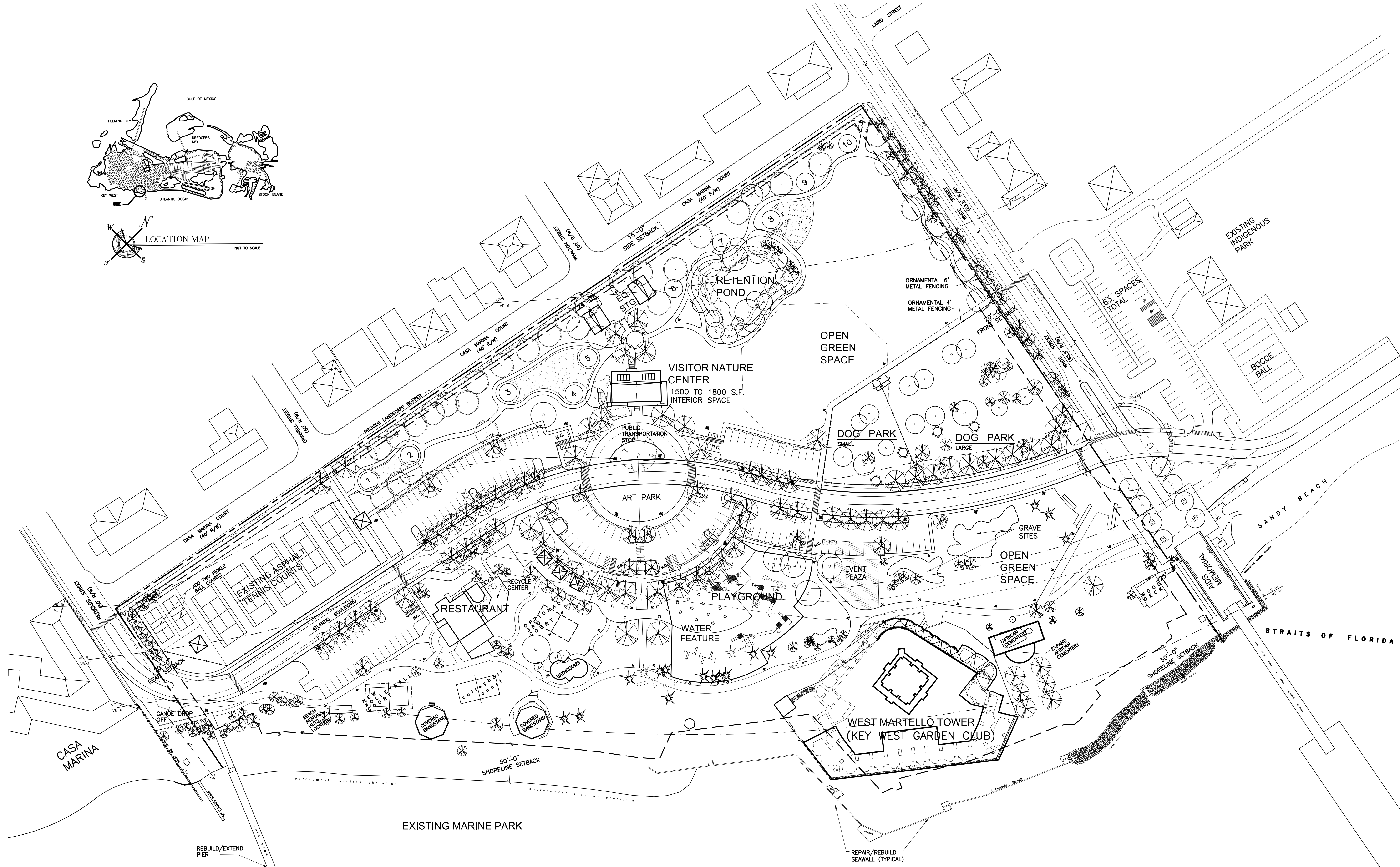
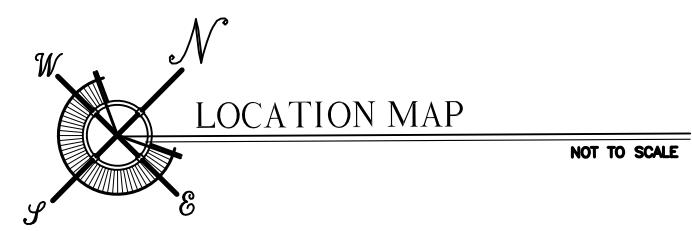
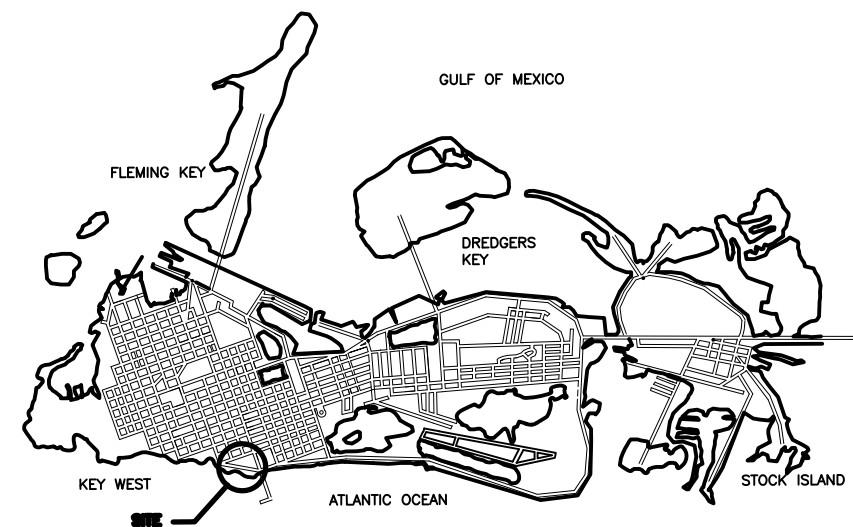


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- ① FITNESS TRAIL STOP
- ⬡ COVERED TABLE
- ⊠ SHADE STRUCTURE



**PROPOSED SITE PLAN - OPTION F'**

SCALE: 1" = 60'-0"

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED BY FREDERICK H. HILDEBRANDT, SURVEYOR DATED ON 04-23-10

- ① FITNESS TRAIL STOP
- ⊕ COVERED TABLE
- ☒ SHADE STRUCTURE

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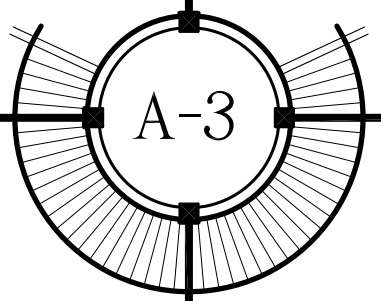
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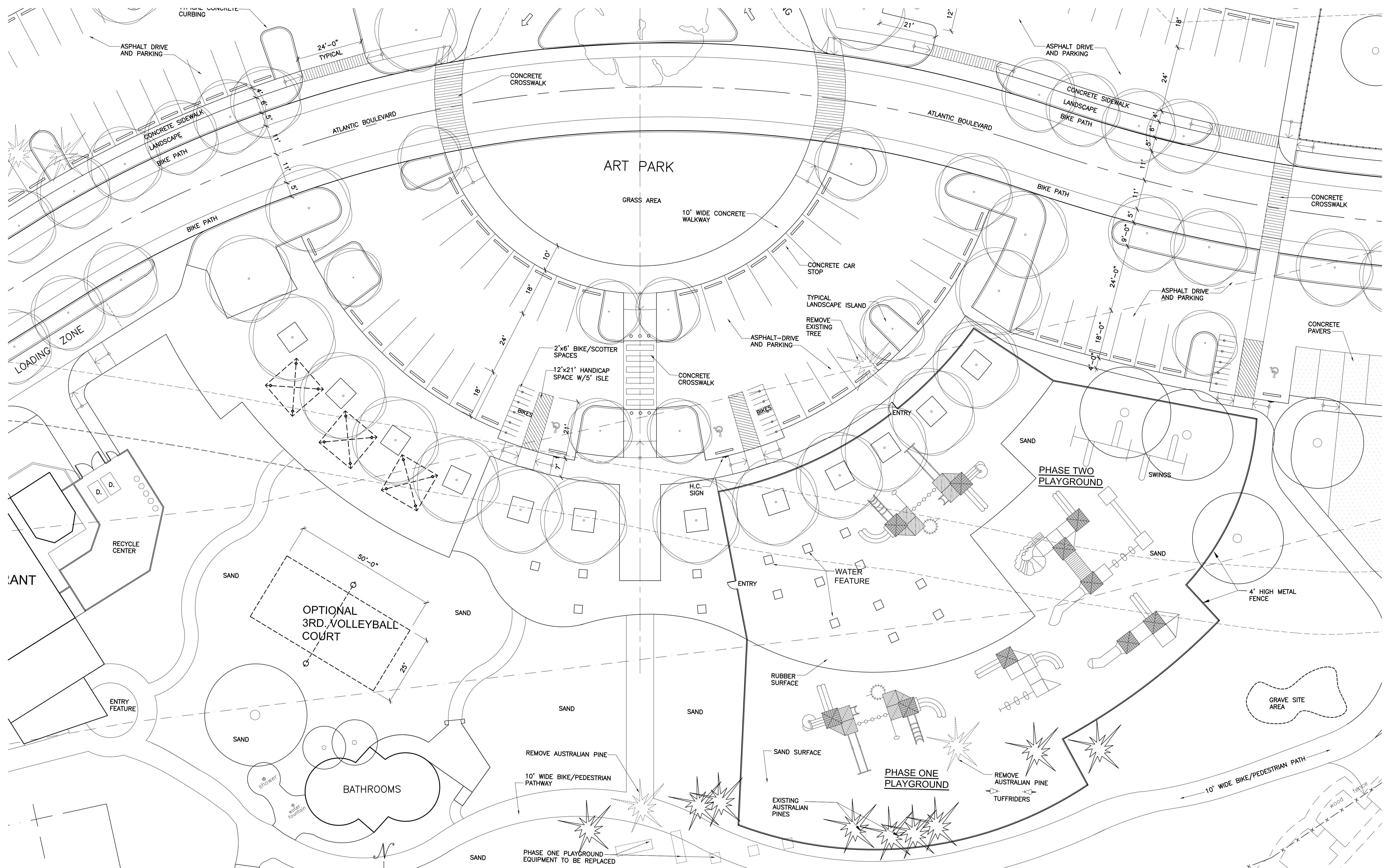
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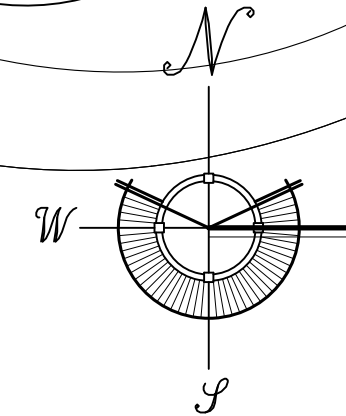




PROPOSED PARTIAL SITE PLAN - PLAYGROUND AREA'

SCALE: 1/16" = 1'-0"

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED BY FREDERICK H. HILDEBRANDT, SURVEYOR DATED ON 04-23-10



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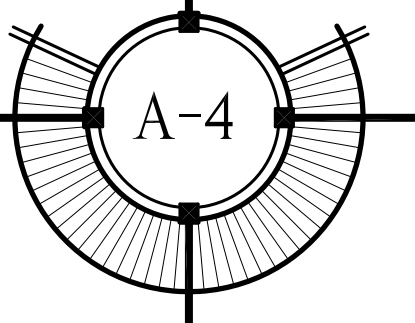
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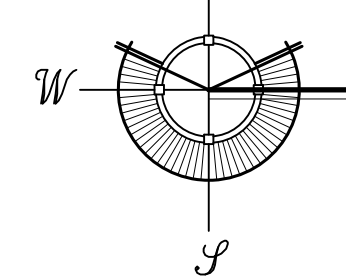
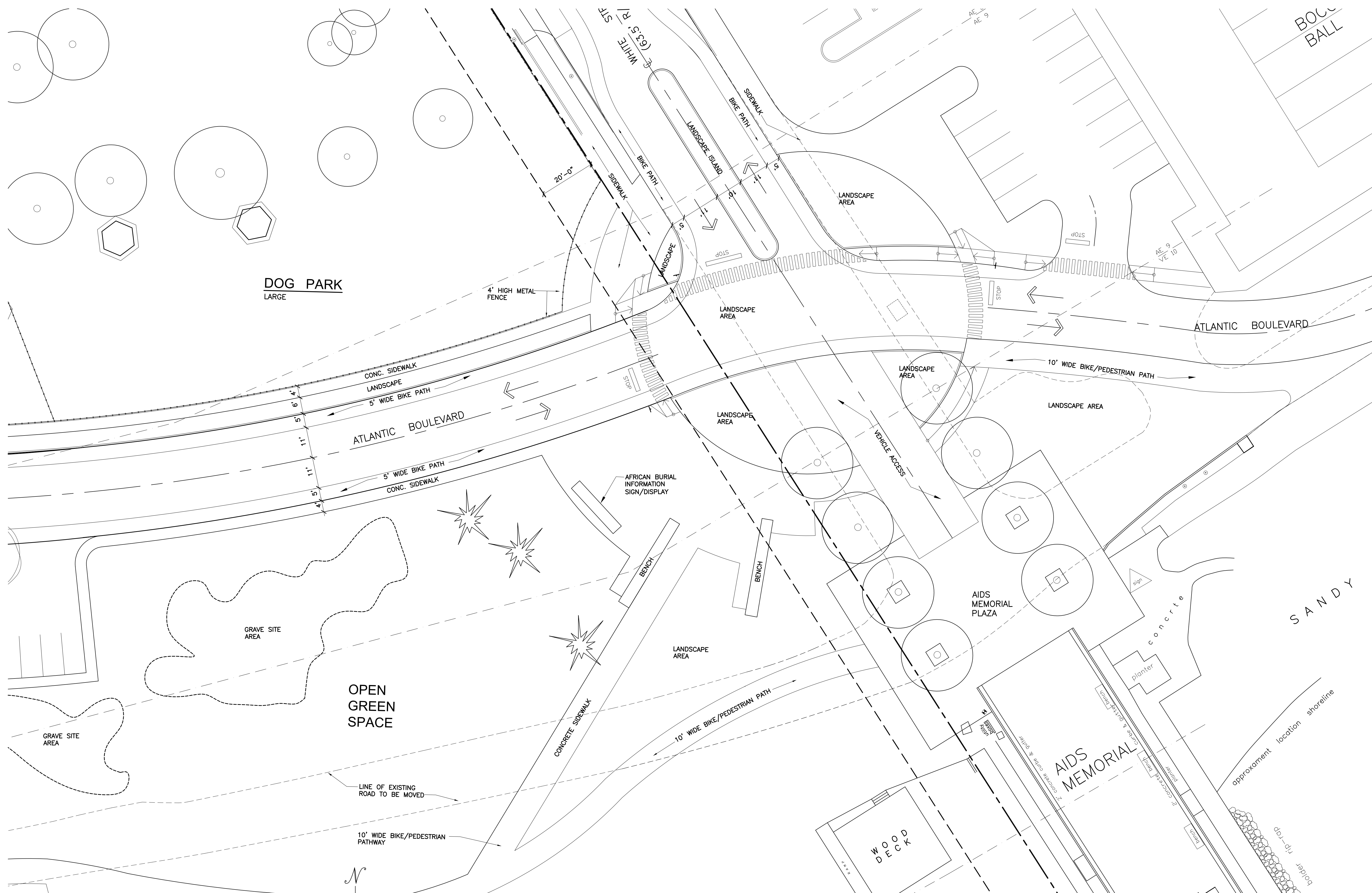
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**PROPOSED PARTIAL SITE PLAN - OPTION F**

SCALE: 1/16" = 1'-0"

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED BY FREDERICK H. HILDEBRANDT, SURVEYOR DATED ON 04-23-10

**CLARENCE HIGGS BEACH - MASTER PLAN**

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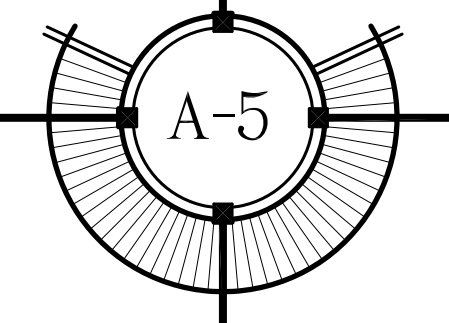
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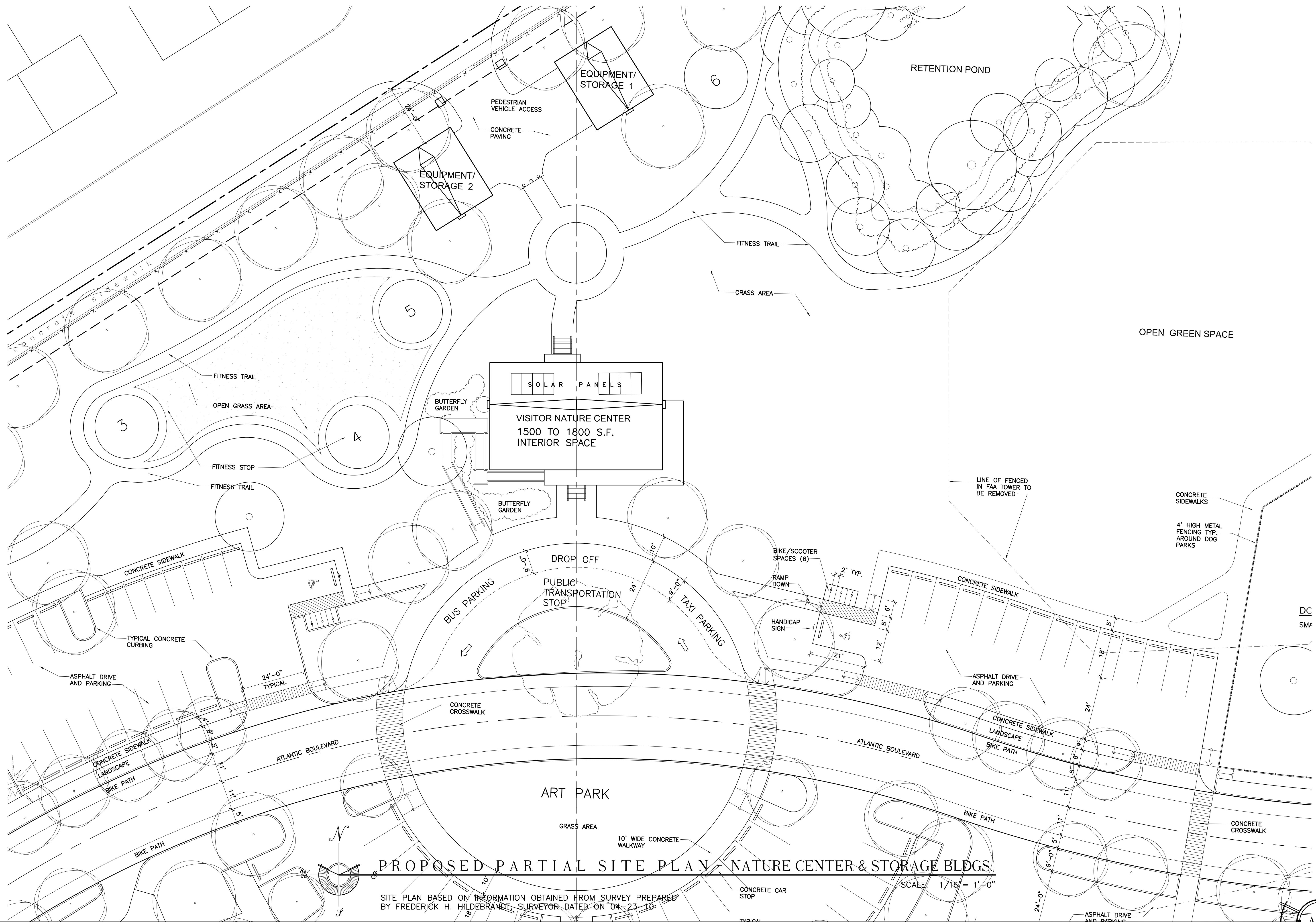
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PROPOSED PARTIAL SITE PLAN - NATURE CENTER & STORAGE BLDGS.

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED BY FREDERICK H. HILDEBRANDT, SURVEYOR DATED ON 04-23-10

SCALE: 1/16" = 1'-0"

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KEY WEST, FLORIDA

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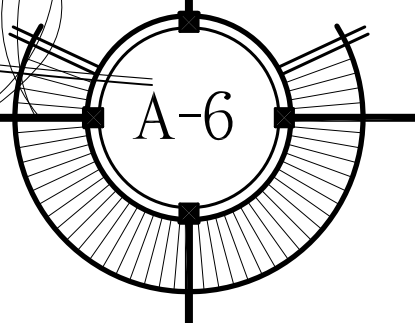
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PERSPECTIVE 3 - NORTHEAST



PERSPECTIVE 4 - SOUTHEAST



NORTH ELEVATION - REAR

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



EAST ELEVATION

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

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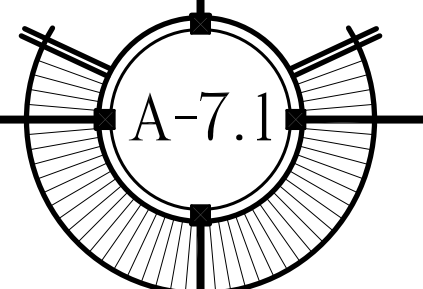
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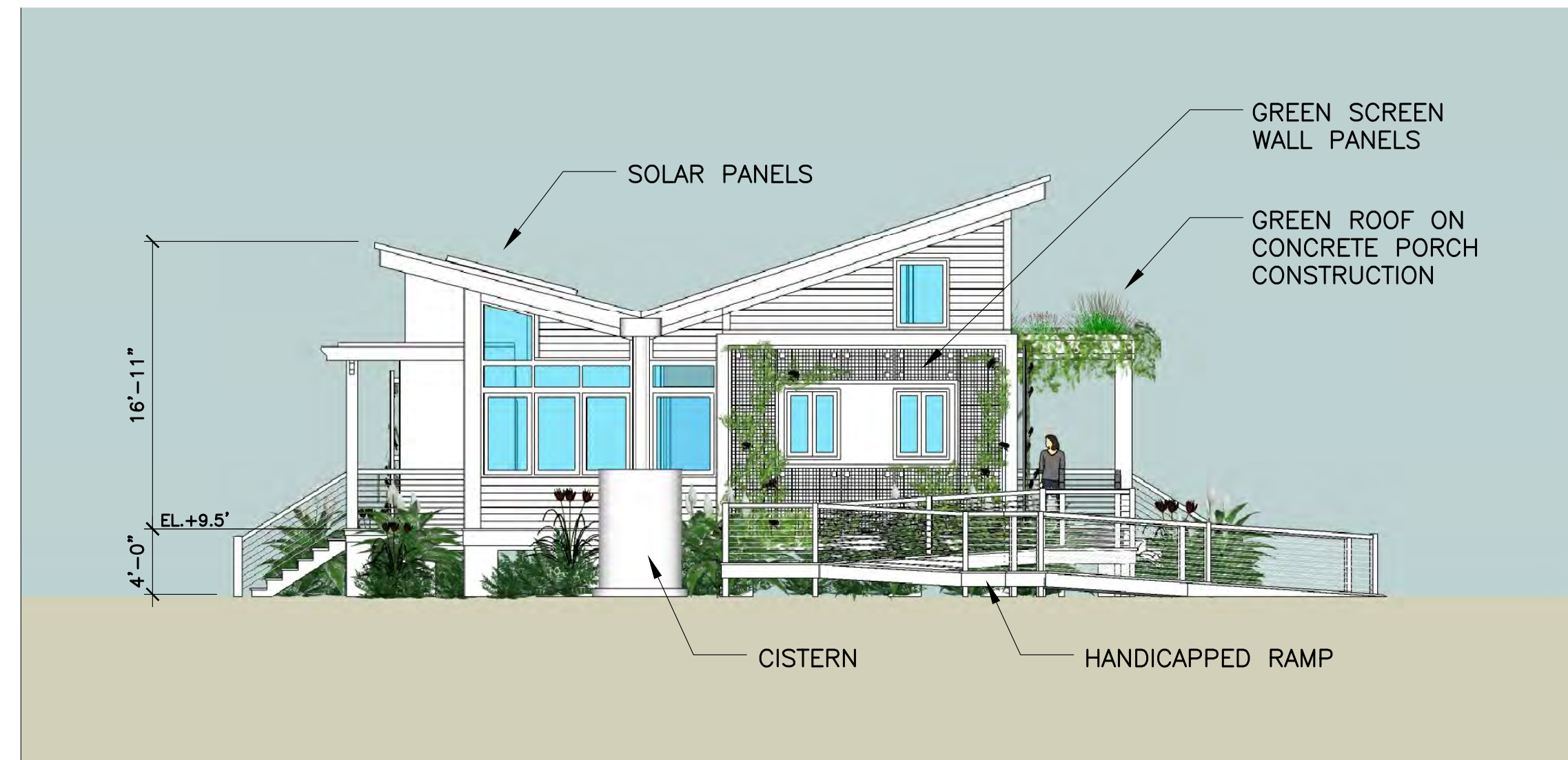




PERSPECTIVE 1 - SOUTHWEST

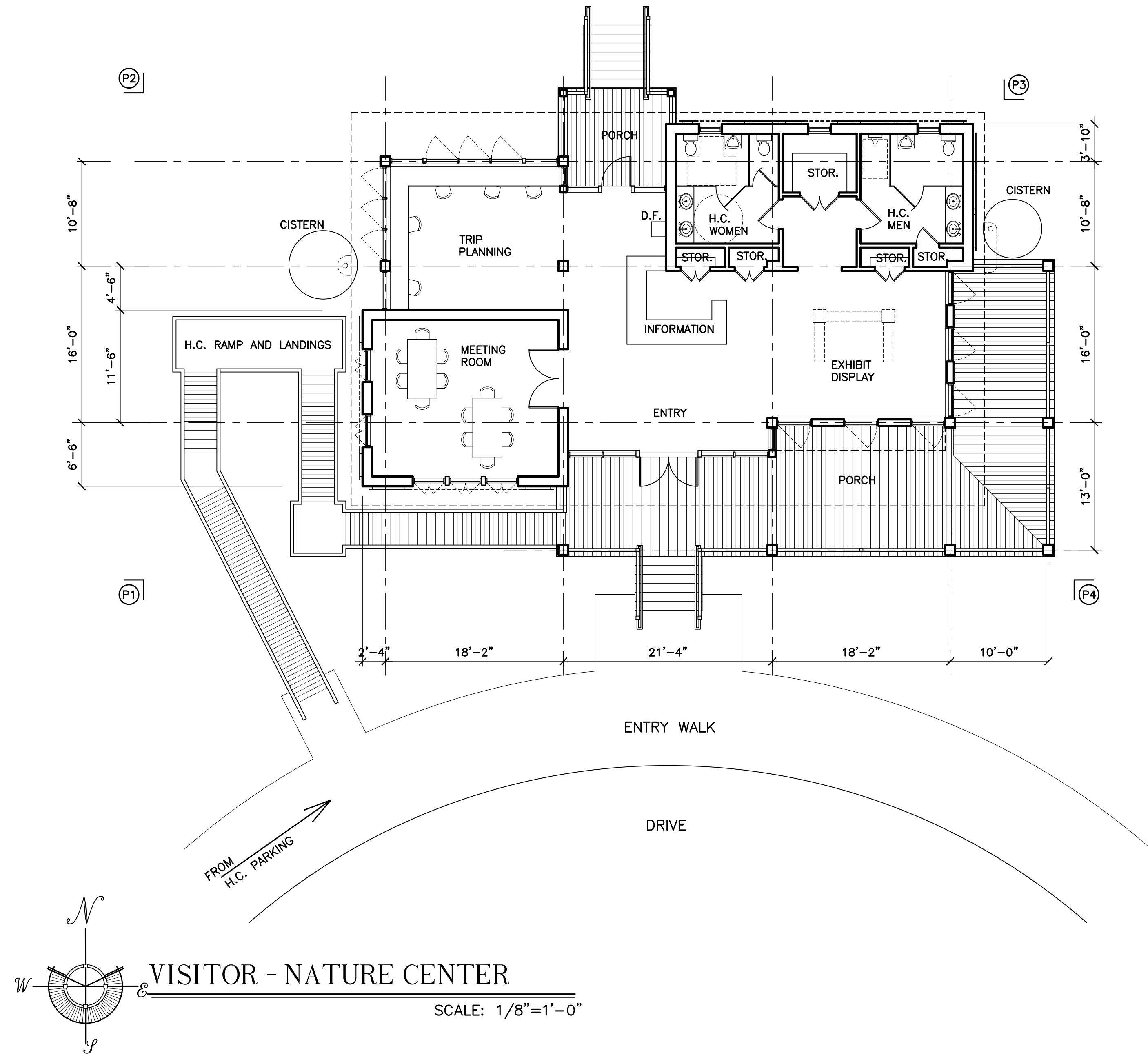


PERSPECTIVE 2 - NORTHWEST



WEST ELEVATION

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



VISITOR - NATURE CENTER

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



SOUTH ELEVATION - FRONT

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

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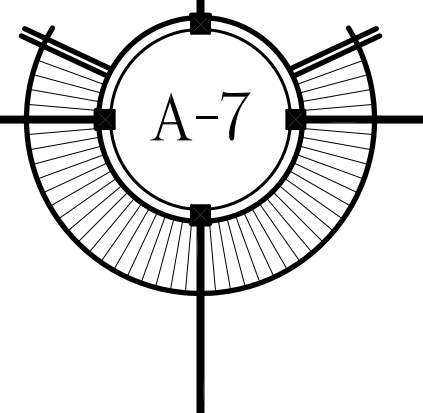
KEY WEST, FLORIDA

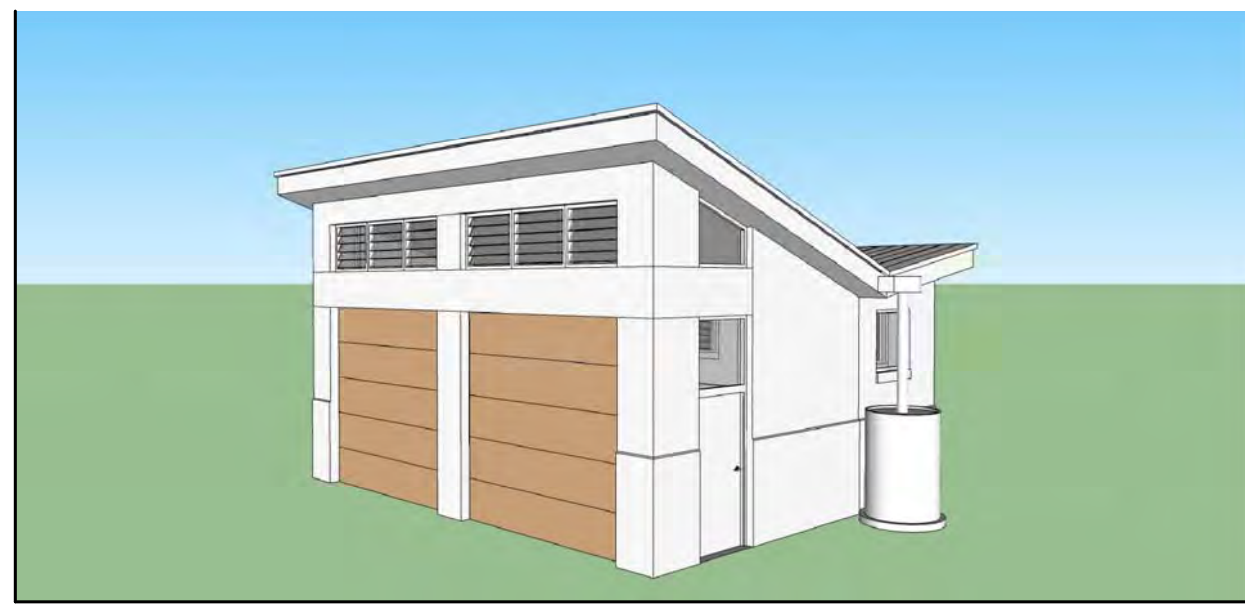


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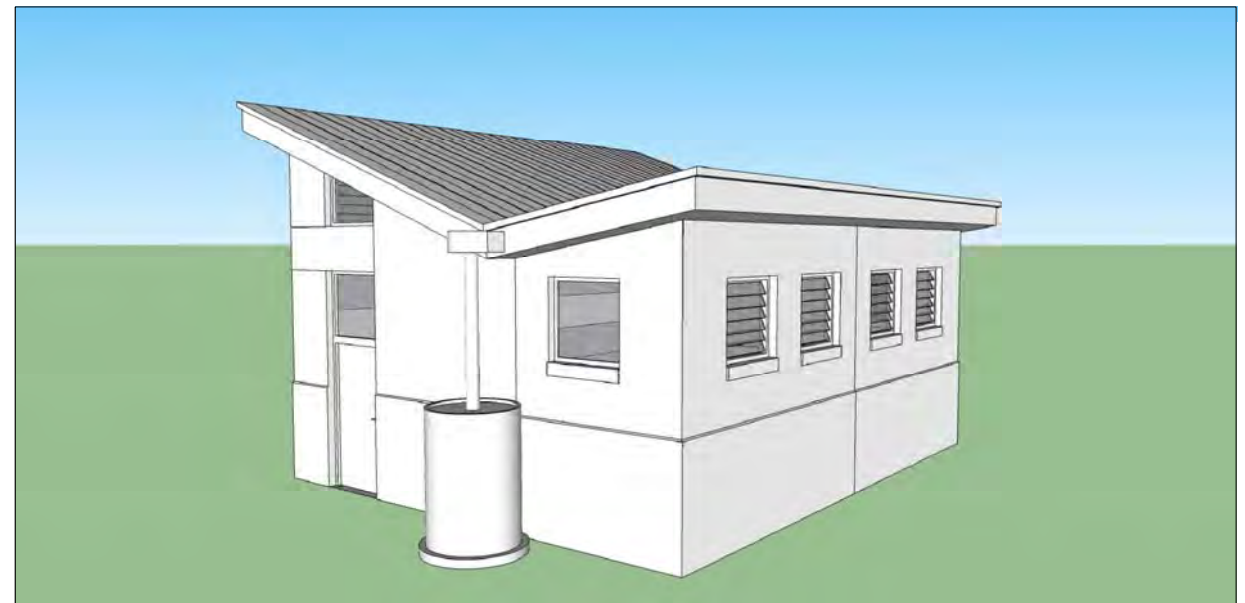
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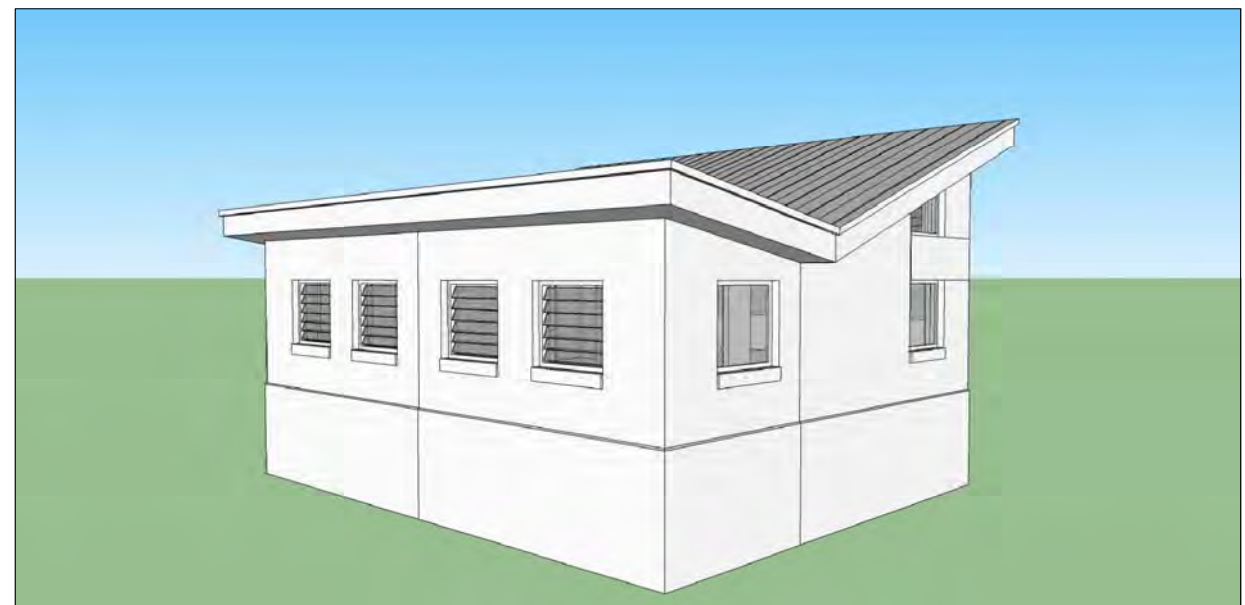




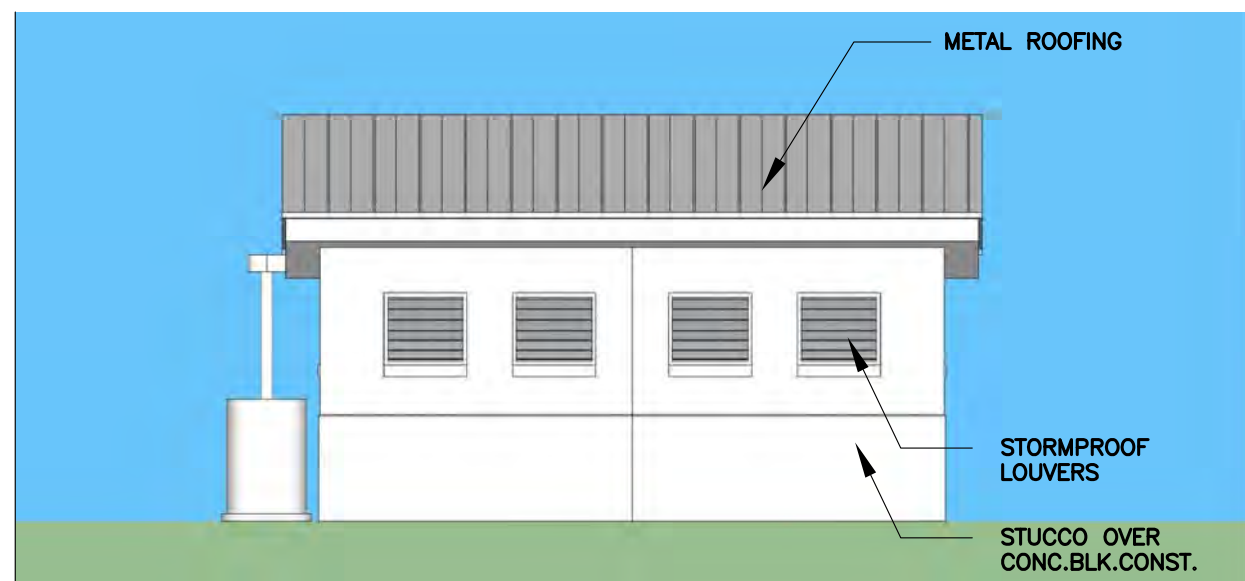
2 PERSPECTIVE - SOUTH  
A-8



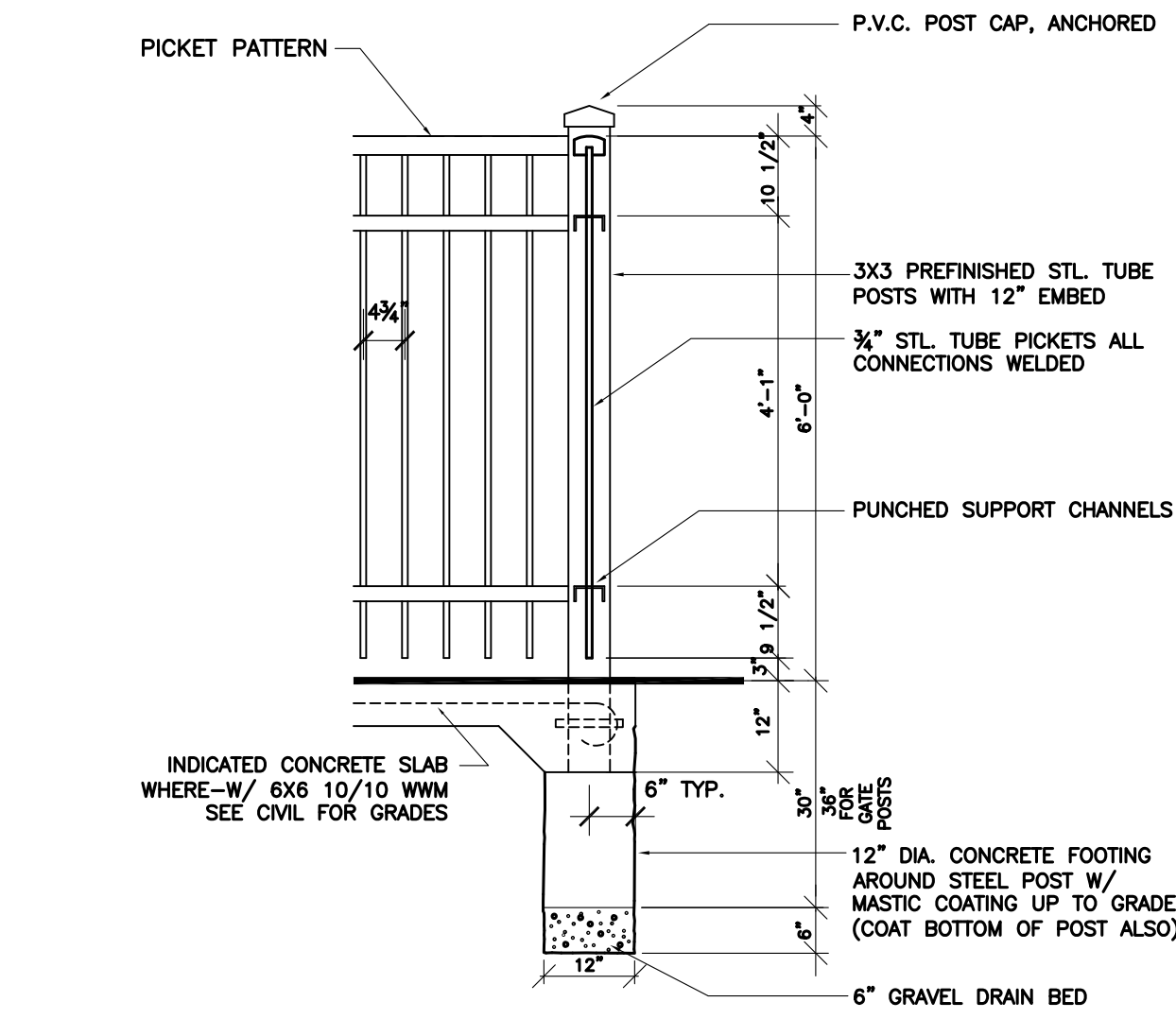
3 PERSPECTIVE - EAST  
A-8



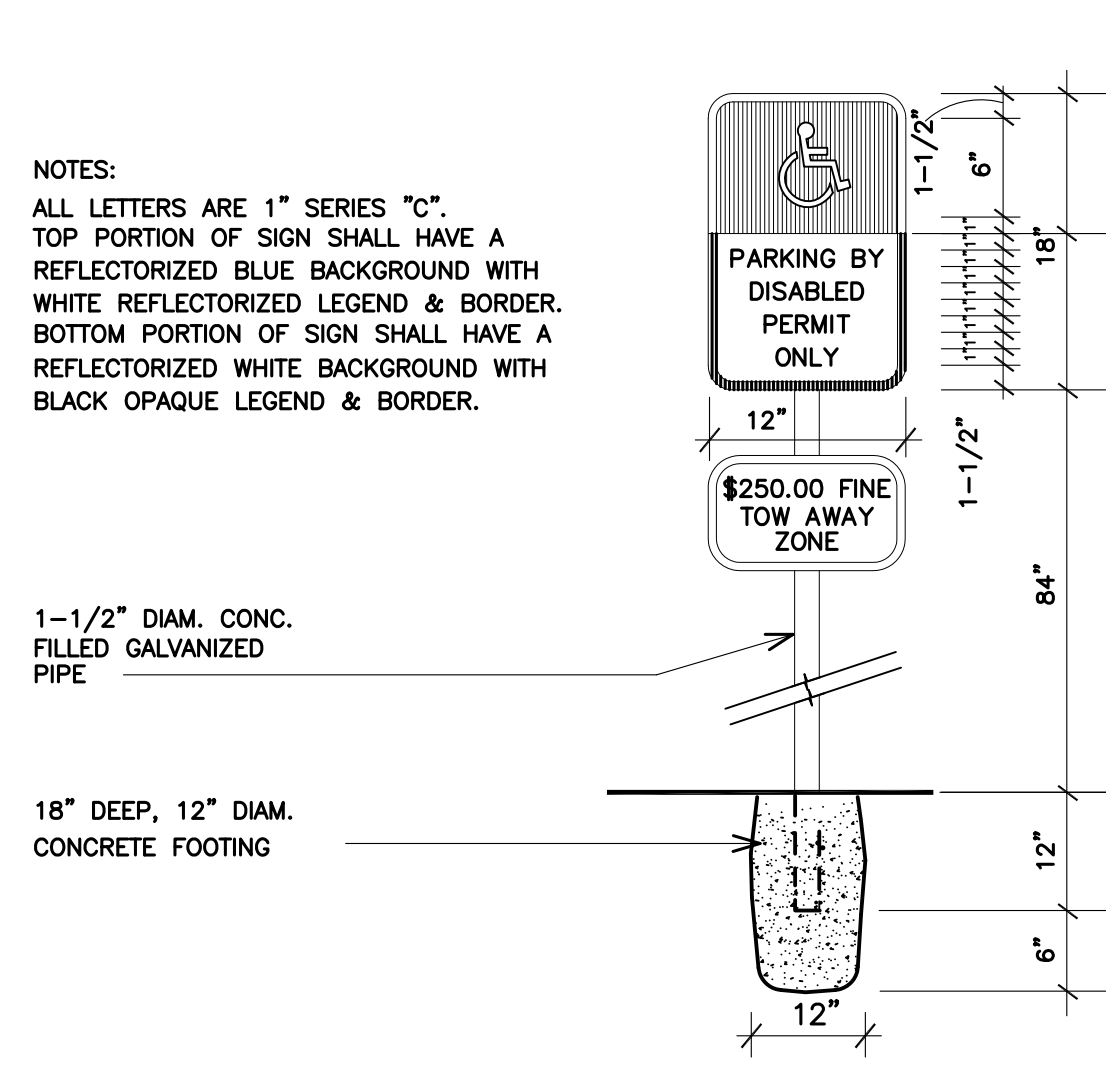
4 PERSPECTIVE - NORTH  
A-8



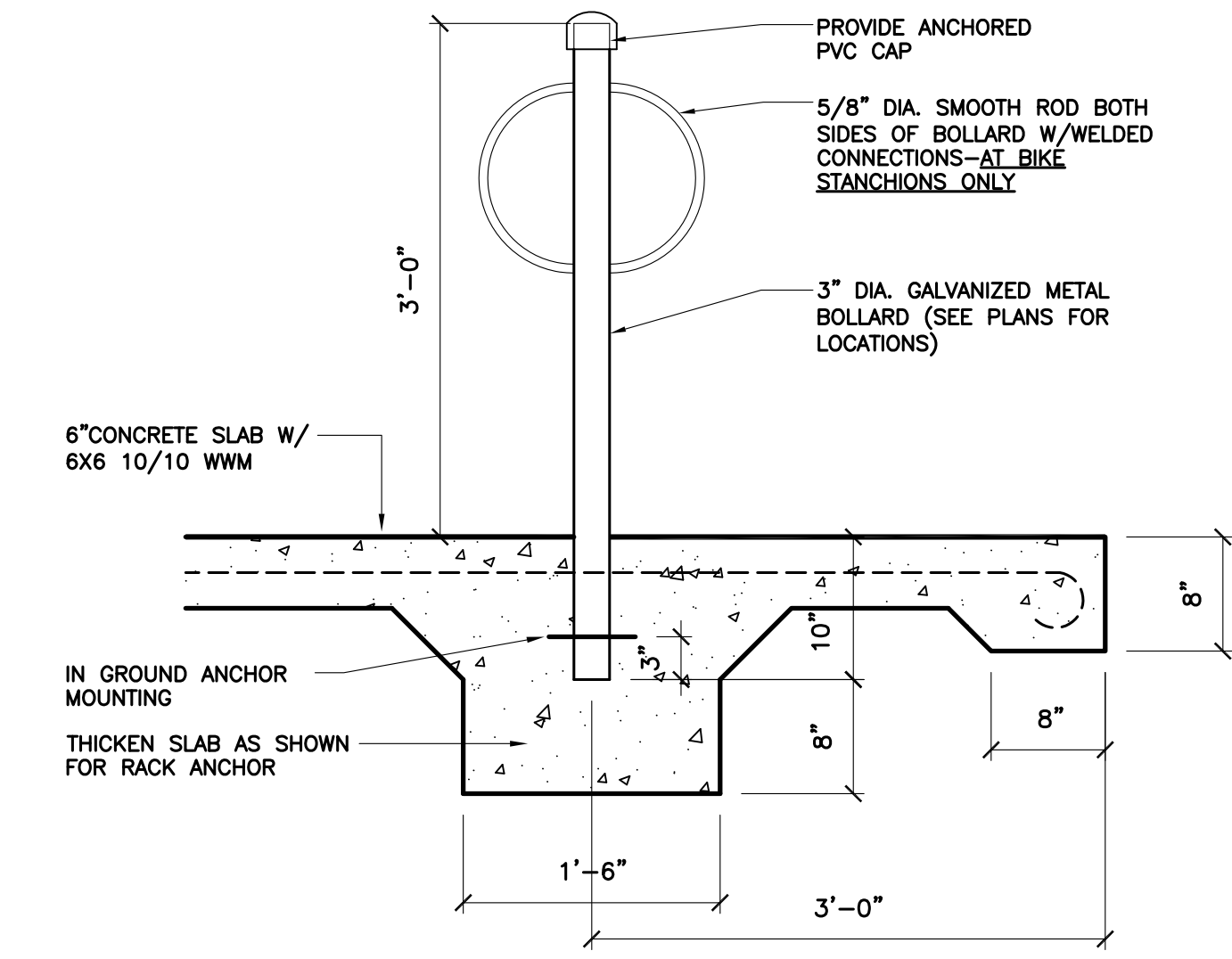
5 REAR  
A-8 SCALE: 1/8"=1'-0"



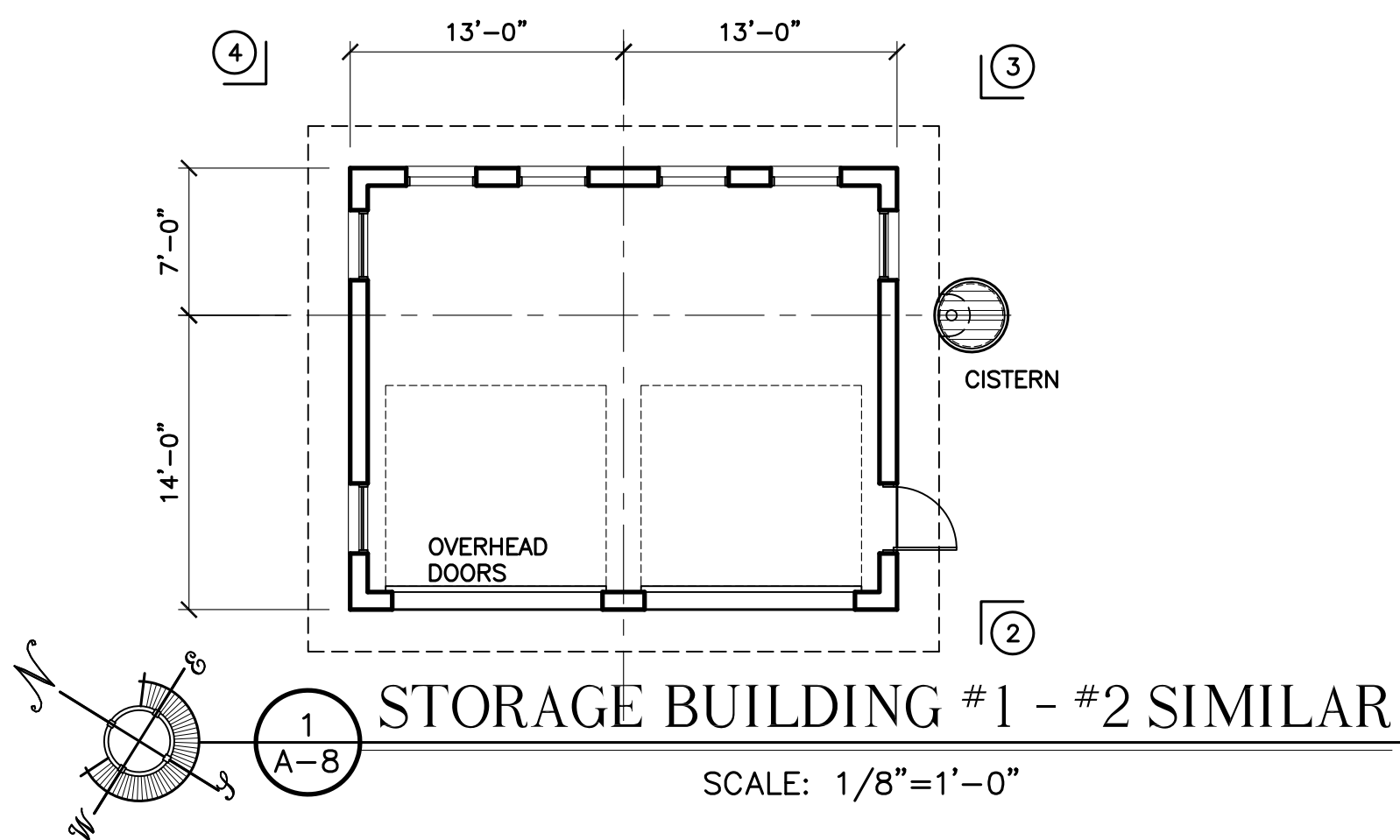
9 FENCE DETAIL  
A-8 SCALE: 1/2"=1'-0"



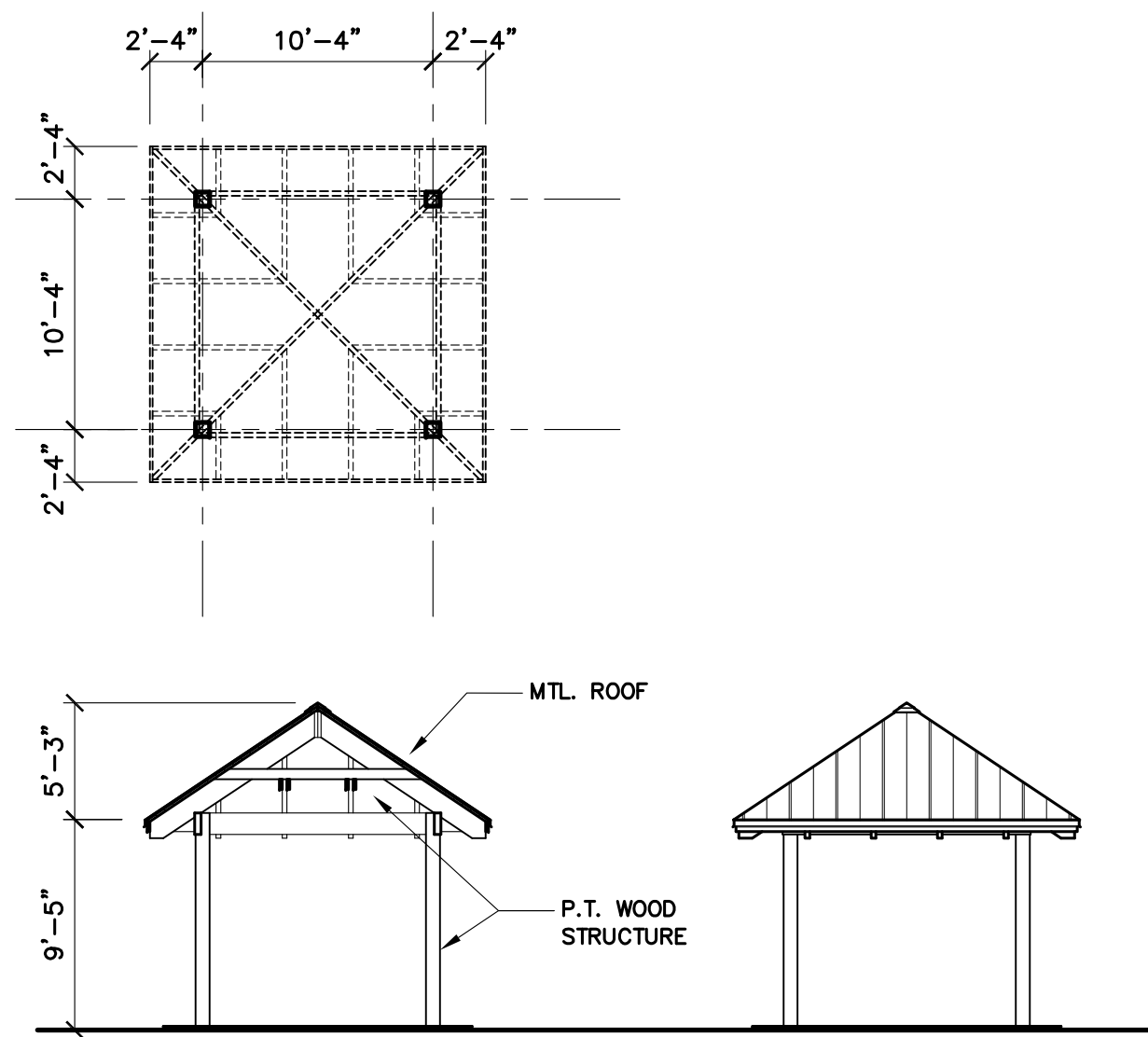
10 H.C. PARKING SIGN  
A-8 SCALE: 1"=1'-0"



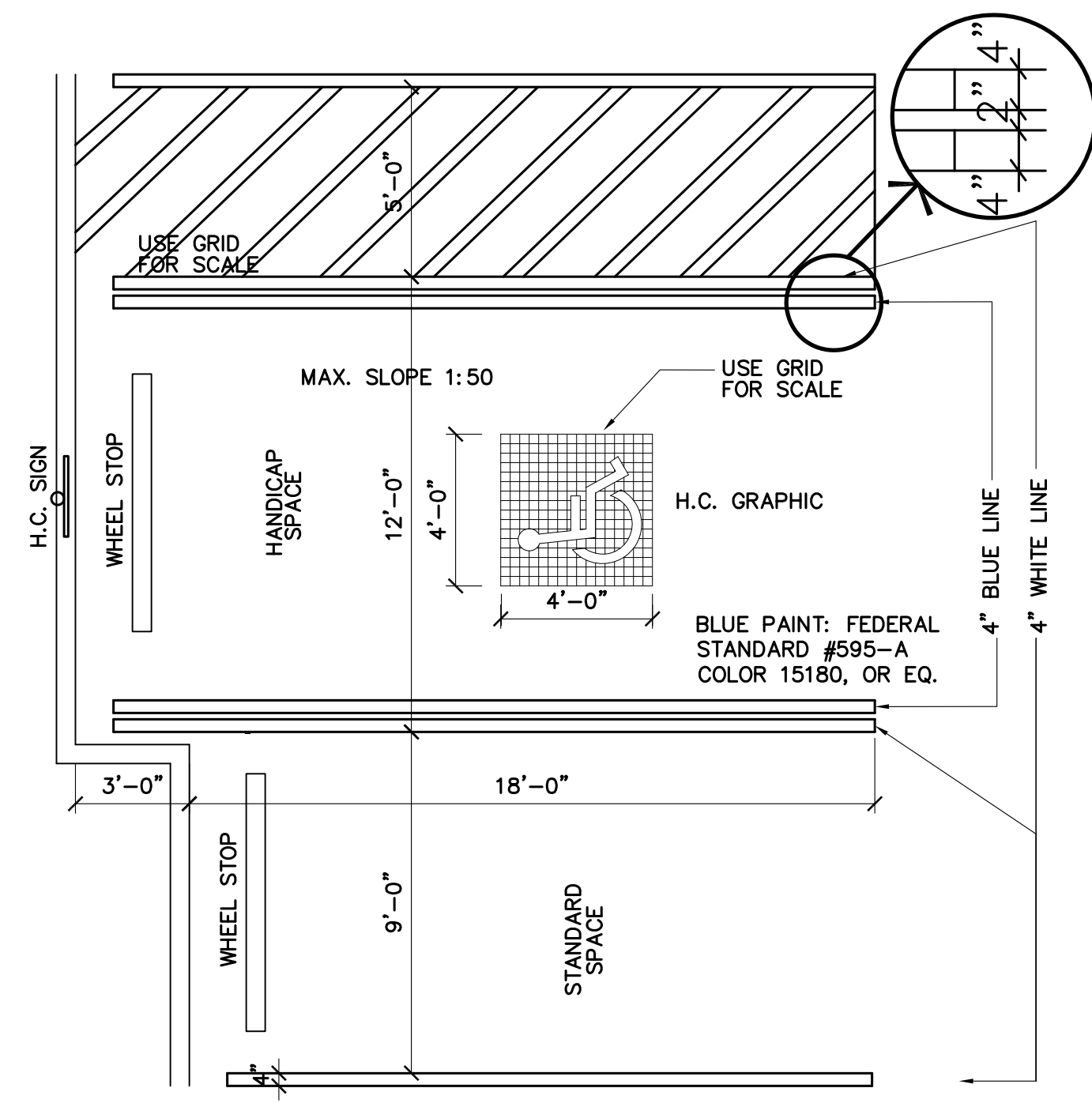
11 BIKE RACK DETAIL AND BOLLARD SIM.  
A-8 SCALE: 1"=1'-0"



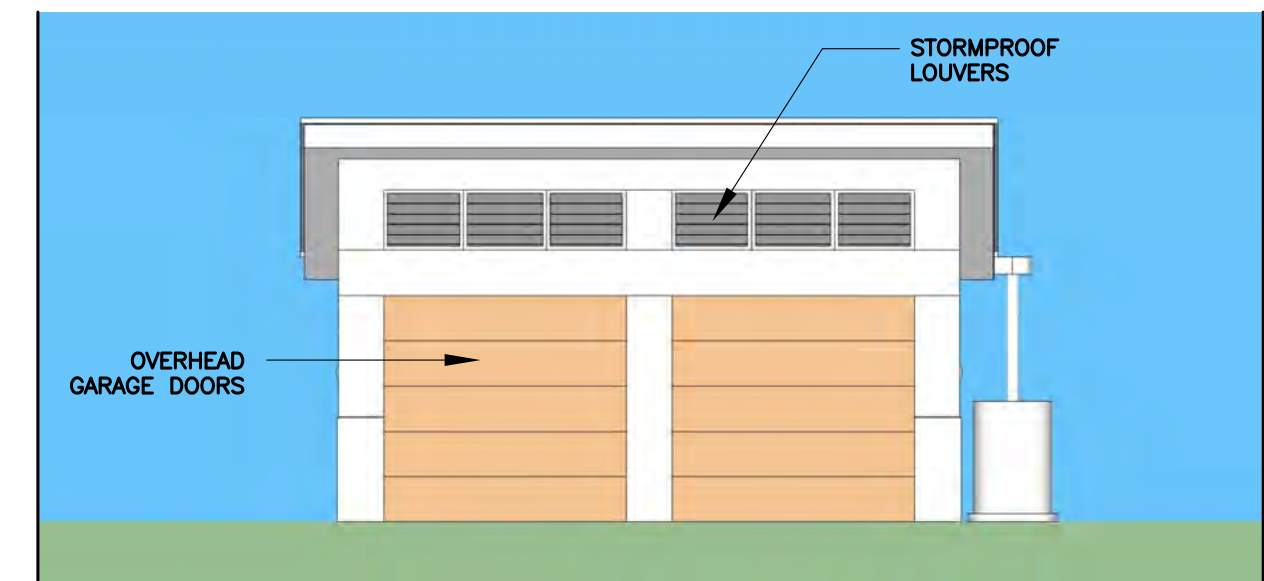
1 STORAGE BUILDING #1 - #2 SIMILAR  
A-8 SCALE: 1/8"=1'-0"



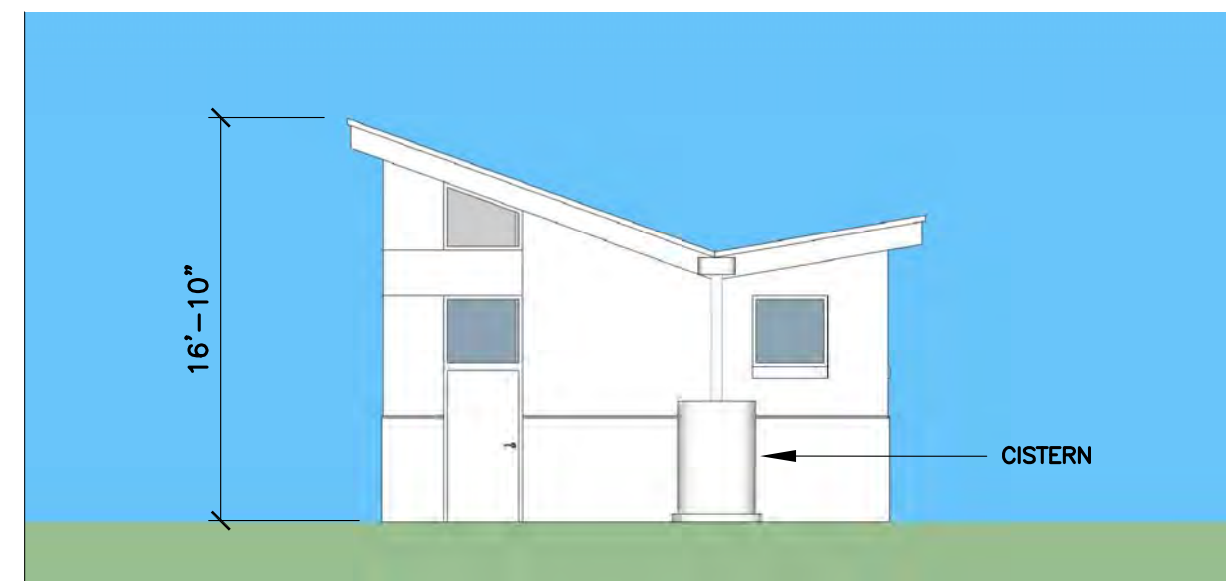
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A-8 SCALE: 1/4"=1'-0"



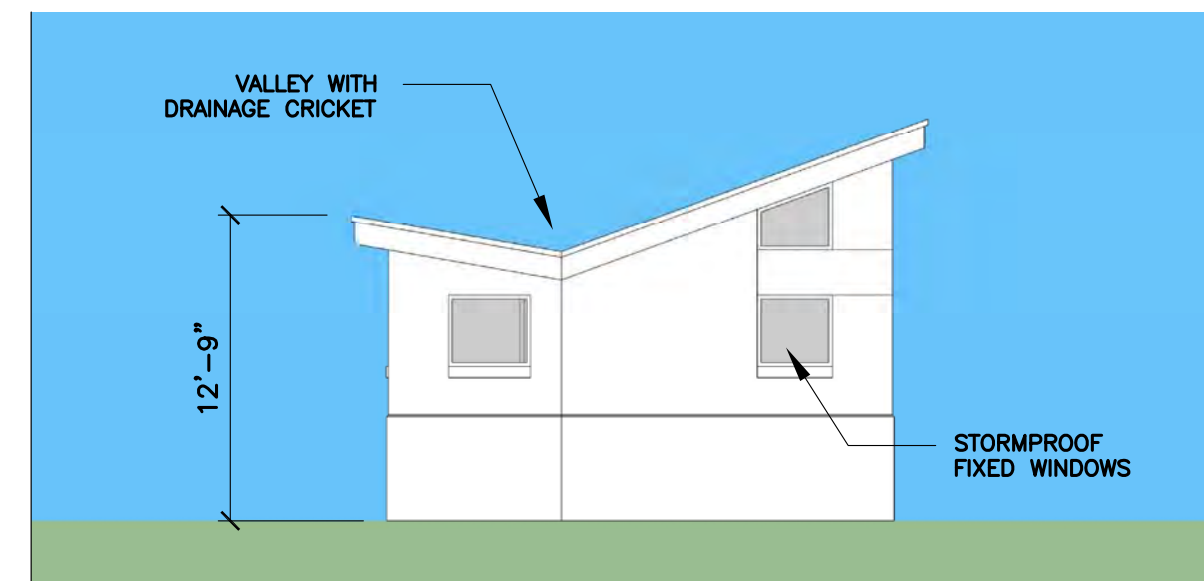
13 H.C. PARKING DETAIL  
A-8 SCALE: 1/4"=1'-0"



6 FRONT  
A-8 SCALE: 1/8"=1'-0"



7 RIGHT SIDE  
A-8 SCALE: 1/8"=1'-0"



8 LEFT SIDE  
A-8 SCALE: 1/8"=1'-0"



**EXISTING TREES TO REMAIN**

- = butonwood tree
- = austroian pine trees 6" to 52"
- = coconut trees 4" to 12"
- = palm trees 2" to 10"
- = miscellaneous trees
- = gumbo limbo

**TREE LEGEND**

- TREE ID # - SEE SHEET L-1 FOR TREE IDENTITY
- = RELOCATED TREE (14 TOTAL TREES)
- = RELOCATED COCONUT (115 TOTAL COCONUTS)
- = Canopy Tree - Parking Areas
- = Understory Tree - Parking Areas
- = Native Palm - Parking Areas
- = Canopy Tree - Buffer Areas
- = Understory Tree - Buffer Areas

**GENERAL INFORMATION**

DISTRICT: PS - PUBLIC SERVICES  
 GROSS ACRES: 762,891 S.F. or 17.51 ACRES  
 MAXIMUM IMPERVIOUS AREA: see Civil Plans  
 PROPOSED IMPERVIOUS AREA: see Civil Plans  
 REQUIRED OPEN SPACE: 20% or 152,578 s.f.  
 OPEN SPACE PROVIDED: 20%+ or 152,578+ s.f.

**BLDG. SETBACKS REQ.**

FRONT: 20' (White St.)  
 REAR: 20' (Reynolds St.)  
 SIDEYARD: 15'  
 SHORELINE: 50'

**LANDSCAPE DATA/CALCULATIONS**

**MINIMUM LANDSCAPE AREA**

MINIMUM REQUIRED 20% OF BLDG. SITE AREA: 152,578 s.f. or 3.5 acres  
 LANDSCAPE AREA PROVIDED: 152,578+ s.f. or 3.5+ acres

**STREET FRONTAGE REQUIREMENT**

NOTE: 17.51 ACRES REQUIRES 40 L.F. WIDE STRIP BETWEEN VEHICLE USE AREA AND ROW.  
 Per the County approved Site Plan a 40' strip cannot be met. Required Plant Units: 160 / per 100'  
 Below are the provisions provided:

**PARKING AREA 'A': 6' STRIP PROVIDED**

120 L.F. = 192 PLANT UNITS		
48 Shrubs = 48 p.u.	48 Shrubs Provided	
8 Trees = 24 p.u.	6 Trees Provided	
12 Shade Tree = 120 p.u.	6 Shade Trees Provided	
<b>Total = 192 p.u.</b>	<b>126 p.u. provided</b>	

**PARKING AREA 'B': 5.5' STRIP BETWEEN ROAD CURB AND SIDEWALK PROVIDED**

185 L.F. = 296 PLANT UNITS		
0 Shrubs = 0 p.u.	3 Shrubs Provided	
16 Trees = 48 p.u.	5 Trees Provided	
25 Shade Tree = 250 p.u.	6 Shade Trees Provided	
<b>Total = 296 p.u.</b>	<b>78 p.u. provided</b>	

**PARKING AREA 'C': 10'+/- STRIP PROVIDED**

160 L.F. = 256 PLANT UNITS		
60 Shrubs = 60 p.u.	44 Shrubs Provided	
12 Trees = 36 p.u.	4 Trees Provided	
16 Shade Tree = 160 p.u.	8 Shade Trees Provided	
<b>Total = 256 p.u.</b>	<b>136 p.u. provided</b>	

**PARKING AREA 'D': 5.5' STRIP PROVIDED**

100 L.F. = 160 PLANT UNITS		
30 Shrubs = 30 p.u.	7 Shrubs Provided	
10 Trees = 30 p.u.	5 Trees Provided	
10 Shade Tree = 100 p.u.	6 Shade Trees Provided	
<b>Total = 160 p.u.</b>	<b>82 p.u. provided</b>	

**PARKING AREA 'E': 8'+/- STRIP PROVIDED**

180 L.F. = 288 PLANT UNITS		
86 Shrubs = 86 p.u.	55 Shrubs Provided	
14 Trees = 42 p.u.	4 Trees Provided	
16 Shade Tree = 160 p.u.	8 Shade Trees Provided	
<b>Total = 288 p.u.</b>	<b>147 p.u. provided</b>	

**BUFFERYARD/LANDSCAPE SCREENING**

WEST ADJACENCY 'Reynolds Street' (Casa Marina): No Bufferyard Required

240 L.F. = 0 PLANT UNITS		
0 Shrubs = 0 p.u.	0 Shrubs Provided	
0 Trees = 0 p.u.	0 Trees Provided	
0 Shade Tree = 0 p.u.	0 Shade Trees Provided	
<b>Total = 0 p.u.</b>	<b>0 p.u. Provided</b>	

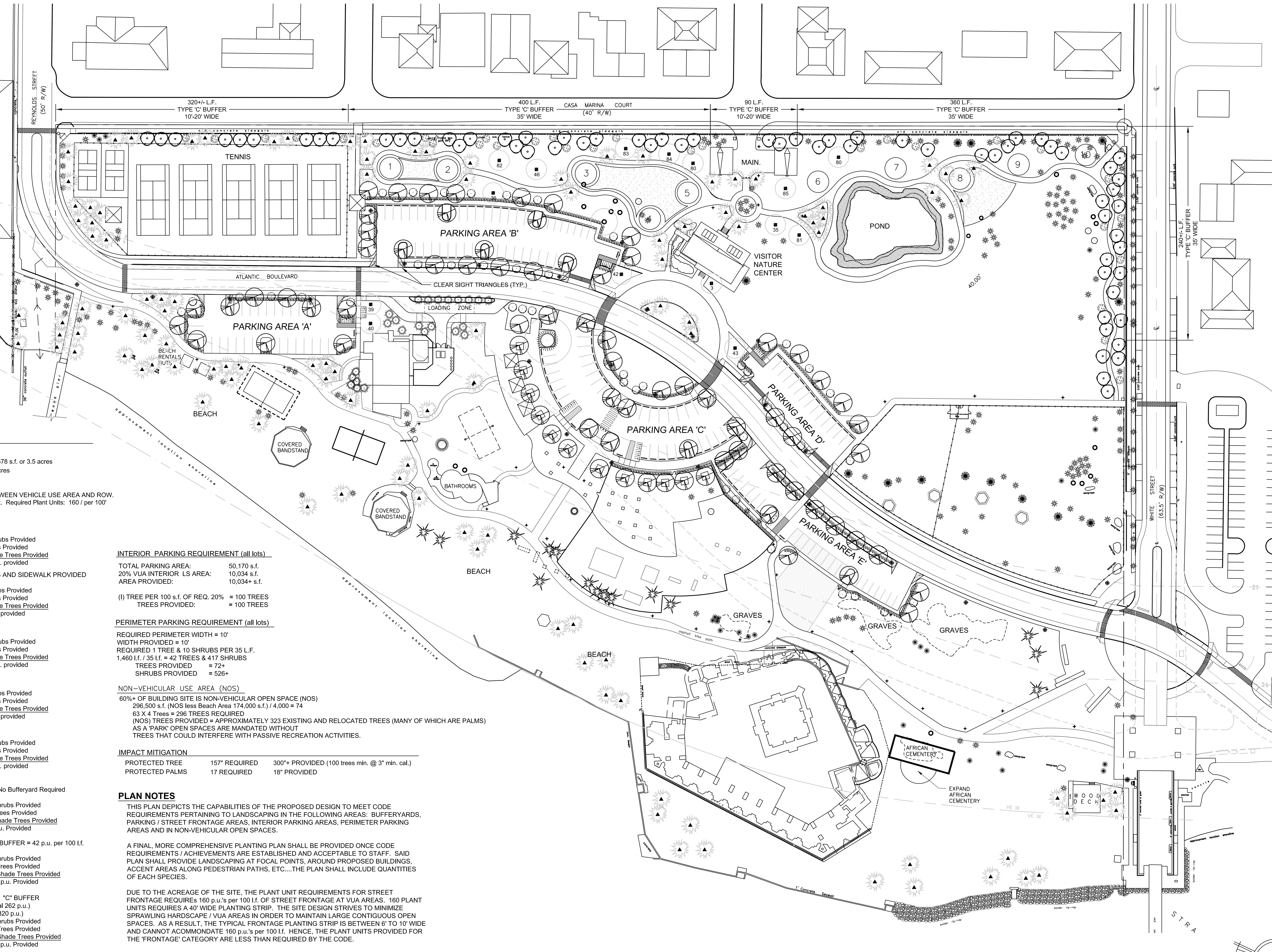
EAST ADJACENCY 'White Street' (residential): 35" "C" BUFFER = 42 p.u. per 100 L.F.

250 L.F. = 105 PLANT UNITS		
0 Shrubs = 0 p.u.	0 Shrubs Provided	
5 Trees = 25 p.u.	10 Trees Provided	
8 Shade Tree = 80 p.u.	18 Shade Trees Provided	
<b>Total = 105 p.u.</b>	<b>230 p.u. Provided</b>	

NORTH ADJACENCY 'Casa Marina Court' (residential): "C" BUFFER

1,170 L.F. = (410 L.F. @ 10'-20" = 84 p.u./100' Total 262 p.u.)		
(760 L.F. @ 35" = 42 p.u./100' Total 320 p.u.)		
0 Shrubs = 0 p.u.	0 Shrubs Provided	
37 Trees = 185 p.u.	57 Trees Provided	
40 Shade Tree = 400 p.u.	46 Shade Trees Provided	
<b>Total = 585 p.u.</b>	<b>745 p.u. Provided</b>	

<b>PLANT UNIT TOTALS:</b>	
TOTAL PLANT UNITS REQUIRED:	1,884
TOTAL PLANT UNITS PROVIDED:	1,541



**INTERIOR PARKING REQUIREMENT (all lots)**

TOTAL PARKING AREA:	50,170 s.f.
20% VUA INTERIOR LS AREA:	10,034 s.f.
AREA PROVIDED:	10,034+ s.f.

(I) TREE PER 100 s.f. OF REQ. 20% = 100 TREES  
 TREES PROVIDED = 100 TREES

**PERIMETER PARKING REQUIREMENT (all lots)**

REQUIRED PERIMETER WIDTH = 10'  
 WIDTH PROVIDED = 10'  
 REQUIRED 1 TREE & 10 SHRUBS PER 35 L.F.  
 1,460 L.F. / 35 L.F. = 42 TREES & 417 SHRUBS  
 TREES PROVIDED = 72+  
 SHRUBS PROVIDED = 526+

**NON-VEHICULAR USE AREA (NOS)**

60%+ OF BUILDING SITE IS NON-VEHICULAR OPEN SPACE (NOS)  
 296,500 s.f. (NOS less Beach Area 174,000 s.f.) / 4,000 = 74  
 63 X 4 Trees = 296 TREES REQUIRED  
 (NOS) TREES PROVIDED = APPROXIMATELY 323 EXISTING AND RELOCATED TREES (MANY OF WHICH ARE PALMS)  
 AS A PARK OPEN SPACES ARE MANDATED WITHOUT TREES THAT COULD INTERFERE WITH PASSIVE RECREATION ACTIVITIES.

**IMPACT MITIGATION**

PROTECTED TREE	157" REQUIRED	300"+ PROVIDED (100 trees min. @ 3" min. cal.)
PROTECTED PALMS	17 REQUIRED	18" PROVIDED

**PLAN NOTES**

THIS PLAN DEPICTS THE CAPABILITIES OF THE PROPOSED DESIGN TO MEET CODE REQUIREMENTS PERTAINING TO LANDSCAPING IN THE FOLLOWING AREAS: BUFFERYARDS, PARKING / STREET FRONTAGE AREAS, INTERIOR PARKING AREAS, PERIMETER PARKING AREAS AND IN NON-VEHICULAR OPEN SPACES.

A FINAL MORE COMPREHENSIVE PLANTING PLAN SHALL BE PROVIDED ONCE CODE REQUIREMENTS / ACHIEVEMENTS ARE ESTABLISHED AND ACCEPTABLE TO STAFF. SAID PLAN SHALL PROVIDE LANDSCAPING AT FOCAL POINTS, AROUND PROPOSED BUILDINGS, ACCENT AREAS ALONG PEDESTRIAN PATHS, ETC....THE PLAN SHALL INCLUDE QUANTITIES OF EACH SPECIES.

DUE TO THE ACREAGE OF THE SITE, THE PLANT UNIT REQUIREMENTS FOR STREET FRONTAGE REQUIRES 160 p.u.'s per 100 L.F. OF STREET FRONTAGE AT VUA AREAS. 160 PLANT UNITS REQUIRES A 40' WIDE PLANTING STRIP. THE SITE DESIGN STRIVES TO MINIMIZE SPRAWLING HARDSCAPE / VUA AREAS IN ORDER TO MAINTAIN LARGE CONTIGUOUS OPEN SPACES. AS A RESULT, THE TYPICAL FRONTAGE PLANTING STRIP IS BETWEEN 6' TO 10' WIDE AND CANNOT ACCOMMODATE 160 p.u.'s per 100 L.F. HENCE, THE PLANT UNITS PROVIDED FOR THE 'FRONTAGE' CATEGORY ARE LESS THAN REQUIRED BY THE CODE.

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 07-1-10

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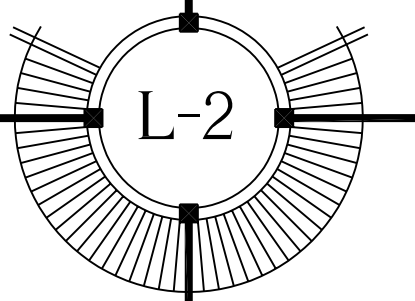
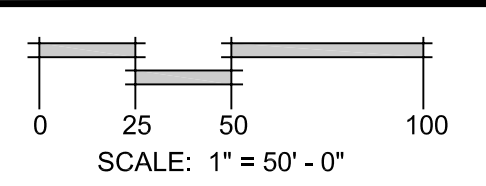
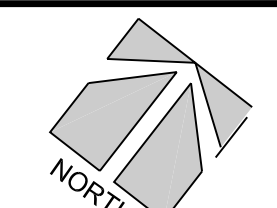
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CLARENCE HIGGS BEACH - CODE PLANTING & TREE RELOCATIONS

KEY WEST, FLORIDA



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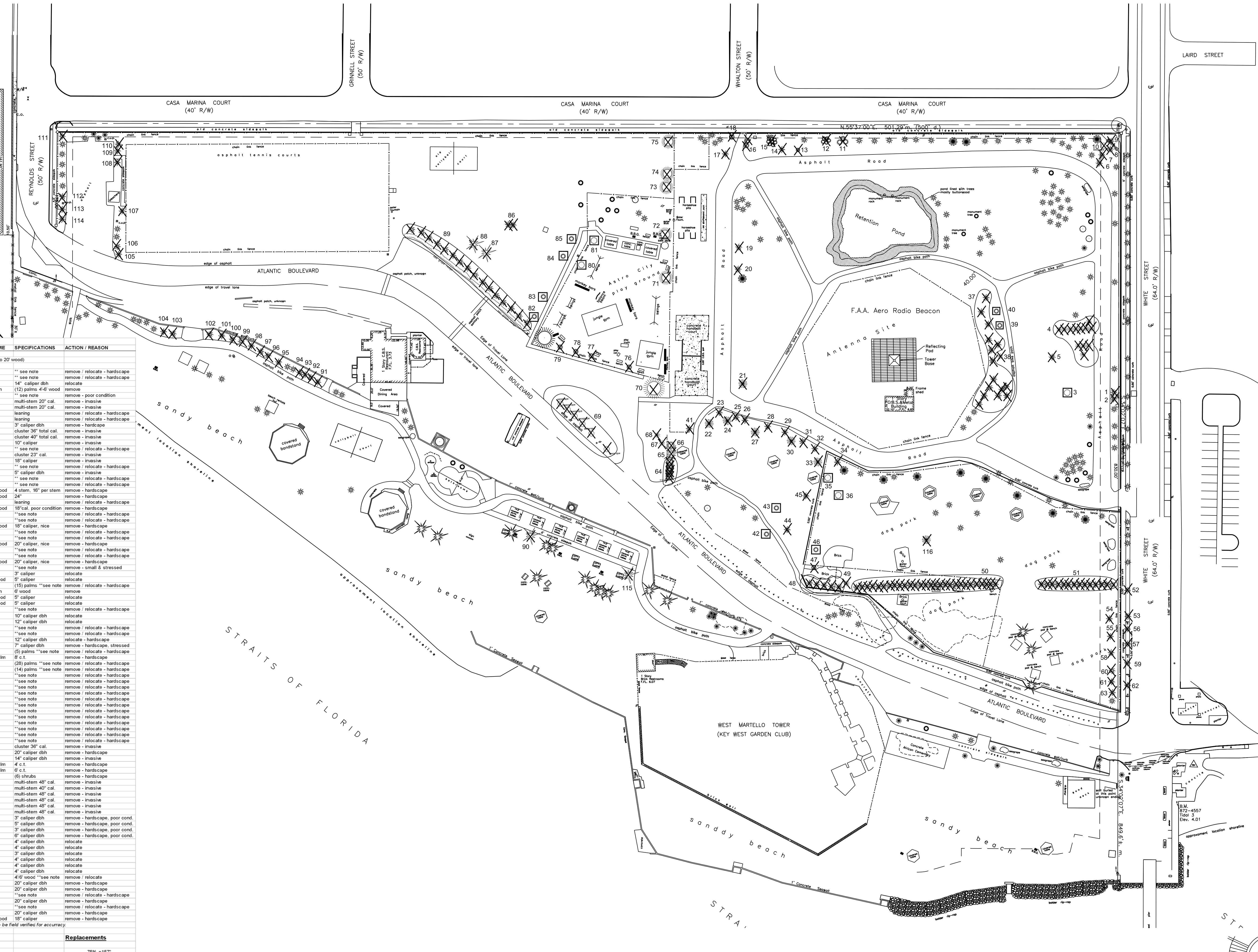


GENERAL TREE LEGEND

- = buttonwood tree
- = australian pine trees 6" to 52"
- = coconut trees 4" to 12"
- = palm trees 2" to 10"
- = miscellaneous trees
- = gumbo limbo
- = TO BE REMOVED
- = TO BE RELOCATED
- = IMPACTED TREE ID # (TYPICAL)

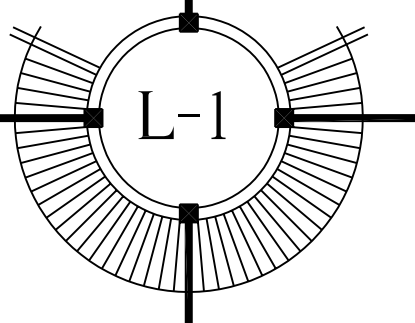
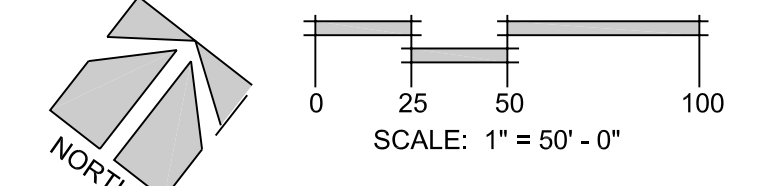
TREE #	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS	ACTION / REASON
<b>Palms and Trees - (Coconut Palms range from 6" wood to 20" wood)</b>				
1	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
2	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
3	<i>Bursera simaruba</i>	Gumbo Limbo	14" caliper dbh	relocate
4	<i>Adonia manillii</i>	Christmas Palm	(12) palms 4-6' wood	remove
5	<i>Cocos nucifera</i>	Coconut	** see note	remove - poor condition
6	<i>Hibiscus tiliaceus</i>	Mahoe	multi-stem 20" cal	remove - invasive
7	<i>Hibiscus tiliaceus</i>	Mahoe	multi-stem 20" cal	remove - invasive
8	<i>Cocos nucifera</i>	Coconut	leaning	remove / relocate - hardscape
9	<i>Cocos nucifera</i>	Coconut	leaning	remove / relocate - hardscape
10	<i>Coccoloba uifera</i>	Seagrape	3" caliper dbh	remove - hardscape
11	<i>Hibiscus tiliaceus</i>	Mahoe	cluster 36" total cal.	remove - invasive
12	<i>Hibiscus tiliaceus</i>	Mahoe	cluster 40" total cal.	remove - invasive
13	<i>Hibiscus tiliaceus</i>	Mahoe	10" caliper	remove - invasive
14	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
15	<i>Hibiscus tiliaceus</i>	Mahoe	cluster 23" cal.	remove - invasive
16	<i>Hibiscus tiliaceus</i>	Mahoe	18" caliper	remove - invasive
17	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
18	<i>Calliophyllum</i>	Beautyleaf	5" caliper dbh	remove - invasive
19	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
20	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
21	<i>Conocarpus erectus</i>	Green Buttonwood	4 stem, 16" per stem	remove - hardscape
22	<i>Conocarpus erectus</i>	Green Buttonwood	24"	remove - hardscape
23	<i>Cocos nucifera</i>	Coconut	leaning	remove / relocate - hardscape
24	<i>Conocarpus erectus</i>	Green Buttonwood	18" cal. poor condition	remove - hardscape
25	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
26	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
27	<i>Conocarpus erectus</i>	Green Buttonwood	18" caliper, nice	remove - hardscape
28	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
29	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
30	<i>Conocarpus erectus</i>	Green Buttonwood	20" caliper, nice	remove - hardscape
31	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
32	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
33	<i>Conocarpus erectus</i>	Green Buttonwood	20" caliper, nice	remove - hardscape
34	<i>Cocos nucifera</i>	Coconut	** see note	remove - small & stressed
35	<i>Bursera simaruba</i>	Gumbo Limbo	3" caliper	relocate
36	<i>Conocarpus erectus</i>	Green Buttonwood	5" caliper	relocate
37	<i>Cocos nucifera</i>	Coconut	(15) palms **see note	remove / relocate - hardscape
38	<i>Adonia manillii</i>	Christmas Palm	6' wood	remove
39	<i>Conocarpus erectus</i>	Silver Buttonwood	5" caliper	relocate
40	<i>Conocarpus erectus</i>	Silver Buttonwood	5" caliper	relocate
41	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
42	<i>Swetania mahogany</i>	Mahogany	10" caliper dbh	relocate
43	<i>Swetania mahogany</i>	Mahogany	12" caliper dbh	relocate
44	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
45	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
46	<i>Swetania mahogany</i>	Mahogany	12" caliper dbh	relocate - hardscape
47	<i>Swetania mahogany</i>	Mahogany	7" caliper dbh	remove - hardscape, stressed
48	<i>Cocos nucifera</i>	Coconut	(5) palms **see note	remove / relocate - hardscape
49	<i>Washingtonia robusta</i>	Washington Palm	6' c.t.	remove - hardscape
50	<i>Cocos nucifera</i>	Coconut	(28) palms **see note	remove / relocate - hardscape
51	<i>Cocos nucifera</i>	Coconut	(14) palms **see note	remove / relocate - hardscape
52	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
53	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
54	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
55	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
56	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
57	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
58	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
59	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
60	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
61	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
62	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
63	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
64	<i>Hibiscus tiliaceus</i>	Mahoe	cluster 36" cal.	remove - invasive
65	<i>Casuarina equisetifolia</i>	Australian Pine	20" caliper dbh	remove - hardscape
66	<i>Hibiscus tiliaceus</i>	Mahoe	14" caliper dbh	remove - invasive
67	<i>Washingtonia robusta</i>	Washington Palm	4' c.t.	remove - hardscape
68	<i>Washingtonia robusta</i>	Washington Palm	6' c.t.	remove - hardscape
69	<i>Coccoloba uifera</i>	Seagrape	(6) shrubs	remove - hardscape
70	<i>Hibiscus tiliaceus</i>	Mahoe	multi-stem 48" cal.	remove - invasive
71	<i>Hibiscus tiliaceus</i>	Mahoe	multi-stem 40" cal.	remove - invasive
72	<i>Hibiscus tiliaceus</i>	Mahoe	multi-stem 48" cal.	remove - invasive
73	<i>Hibiscus tiliaceus</i>	Mahoe	multi-stem 48" cal.	remove - invasive
74	<i>Hibiscus tiliaceus</i>	Mahoe	multi-stem 48" cal.	remove - invasive
75	<i>Hibiscus tiliaceus</i>	Mahoe	multi-stem 48" cal.	remove - invasive
76	<i>Bursera simaruba</i>	Gumbo Limbo	3" caliper dbh	remove - hardscape, poor cond.
77	<i>Bursera simaruba</i>	Gumbo Limbo	5" caliper dbh	remove - hardscape, poor cond.
78	<i>Bursera simaruba</i>	Gumbo Limbo	3" caliper dbh	remove - hardscape, poor cond.
79	<i>Bursera simaruba</i>	Gumbo Limbo	6" caliper dbh	remove - hardscape, poor cond.
80	<i>Bursera simaruba</i>	Gumbo Limbo	4" caliper dbh	relocate
81	<i>Bursera simaruba</i>	Gumbo Limbo	4" caliper dbh	relocate
82	<i>Swetania mahogany</i>	Mahogany	3" caliper dbh	relocate
83	<i>Swetania mahogany</i>	Mahogany	4" caliper dbh	relocate
84	<i>Swetania mahogany</i>	Mahogany	4" caliper dbh	relocate
85	<i>Swetania mahogany</i>	Mahogany	4" caliper dbh	relocate
86	<i>Cocos nucifera</i>	Coconut	4'6" wood **see note	remove / relocate
87	<i>Casuarina equisetifolia</i>	Australian Pine	20" caliper dbh	remove - hardscape
88	<i>Casuarina equisetifolia</i>	Australian Pine	20" caliper dbh	remove - hardscape
89	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
90	<i>Casuarina equisetifolia</i>	Australian Pine	20" caliper dbh	remove - hardscape
91-114	<i>Cocos nucifera</i>	Coconut	** see note	remove / relocate - hardscape
115	<i>Casuarina equisetifolia</i>	Australian Pine	20" caliper dbh	remove - hardscape
116	<i>Conocarpus erectus</i>	Green Buttonwood	18" caliper	remove - hardscape

Trees	Totals	Replacements
Relocated	14	
Removed (Protected Trees)	209	75% = 157
Removed (Exotic / Invasive)	592	0
Palms	Totals	Replacements
Relocated	115	Coconuts
Removed	17	Including non-native
For each Removed Coconut and NOT relocated, Replace with 4" Thinnor Radiata.		



CLARENCE HIGGS BEACH - TREE IMPACT PLAN  
KEY WEST, FLORIDA

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HIGGS BEACH  
KEY WEST, FL.

LANDWISE  
DESIGN

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PROJECT NUMBER  
1004



# SHEET C-2 CONCEPTUAL DRAINAGE PLAN "A"

# SHEET C-3 CONCEPTUAL DRAINAGE PLAN "B"

# SHEET C-4 CONCEPTUAL DRAINAGE PLAN "C"

Water Quantity and Water Quality Calculations			
<b>Water Quantity - Predevelopment</b>			
Basin	A =	12.825	ac
Pervious Area		8.452	ac
Impervious Area		4.373	ac
% Impervious		34.10%	
Rainfall for 25yr/24hr event	$P_{24}$ =	9	in
Rainfall for 25yr/3day event	$P_{72}$ =	12.23	in
Depth to Water Table		2	ft
Predeveloped Available Storage		1.88	in
Soil Storage	$S$ =	1.24	in
$Q_{pre} = \frac{(P_{24} - 0.25)^2}{(P_{24} + 0.85)}$	$Q_{pre}$ =	10.86	in
Runoff Volume from 25 year/ 3 day storm	$V_{25yr/24h}$ =	139.29	ac-in
<b>Water Quantity - Postdevelopment</b>			
Basin	A =	12.825	ac
Pervious Area		7.519	ac
Impervious Area		5.306	ac
% Impervious		41.4%	
Rainfall for 25yr/24hr event	$P_{24}$ =	9	in
Rainfall for 25yr/3day event	$P_{72}$ =	12.23	in
Depth to Water Table		2	ft
Developed Available Storage		1.88	in
Soil Storage	$S$ =	1.10	in
$Q_{post} = \frac{(P_{24} - 0.25)^2}{(P_{24} + 0.85)}$	$Q_{post}$ =	11.00	in
Runoff Volume from 25 year/ 3 day storm	$V_{25yr/24h}$ =	141.09	ac-in
<b>Postdevelopment - Predevelopment</b>			
$Q_{pre/post} = Q_{post} - Q_{pre}$	$Q_{pre/post}$ =	0.14	in
Pre/Post Volume = $Q_{pre/post} \times A$	$V_{pre/post}$ =	1.80	ac-in
<b>Water Quality</b>			
Basin A		12.825	ac
Surface Water		0.154	ac
Roof Area		0.264	ac
Pavement/Walkways		5.042	ac
Pervious area		7.519	ac
Site area for Water Quality (Total area - (water surface + roof area))		12.408	ac
Impervious area for water Quality (Site area for Water Quality - Pervious area)		4.889	ac
% Impervious		39%	
A) One inch of runoff from project area		12.825	ac-in
B) 2.5 inches times percent impervious (2.5 x percent impervious x (site area - surface water))		12.373	ac-in
<b>Comparison of Water Quality Methods</b>			
		12.825	>
		12.373	ac-in
Pretreatment Volume Required(50% Credit)		6.413	ac-in
Pretreatment Volume provided by Dry Retention		6.619	ac-in
		23.278	of
		24.028	of

**LEGEND**

- PROJECT LIMITS
- DRY RETENTION AREA
- EXISTING GRADE
- STORMWATER PIPE
- STORMWATER INLET (FDOT CURB INLET)
- STORMWATER INLET (FDOT DITCH BOTTOM INLET)
- STORMWATER INLET (NYLOPLAST YARD BASIN)
- STORMWATER FLOW
- ⊙ STORMWATER MANHOLE

NOTE: SYMBOLS IN LEGEND ARE NOT TO SCALE

SCALE 1"=40'

BAR IS TWO INCHES ON ORIGINAL DRAWINGS IF NOT TWO INCHES ON THIS SHEET ADJUST SCALES ACCORDINGLY

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CERTIFICATE OF AUTHORIZATION NO. 8579

ALLEN E. PEREZ, P.E.  
Florida P.E. NO. 51468  
June 30, 2011

ORIGINAL: JUNE 2011 6/29/11

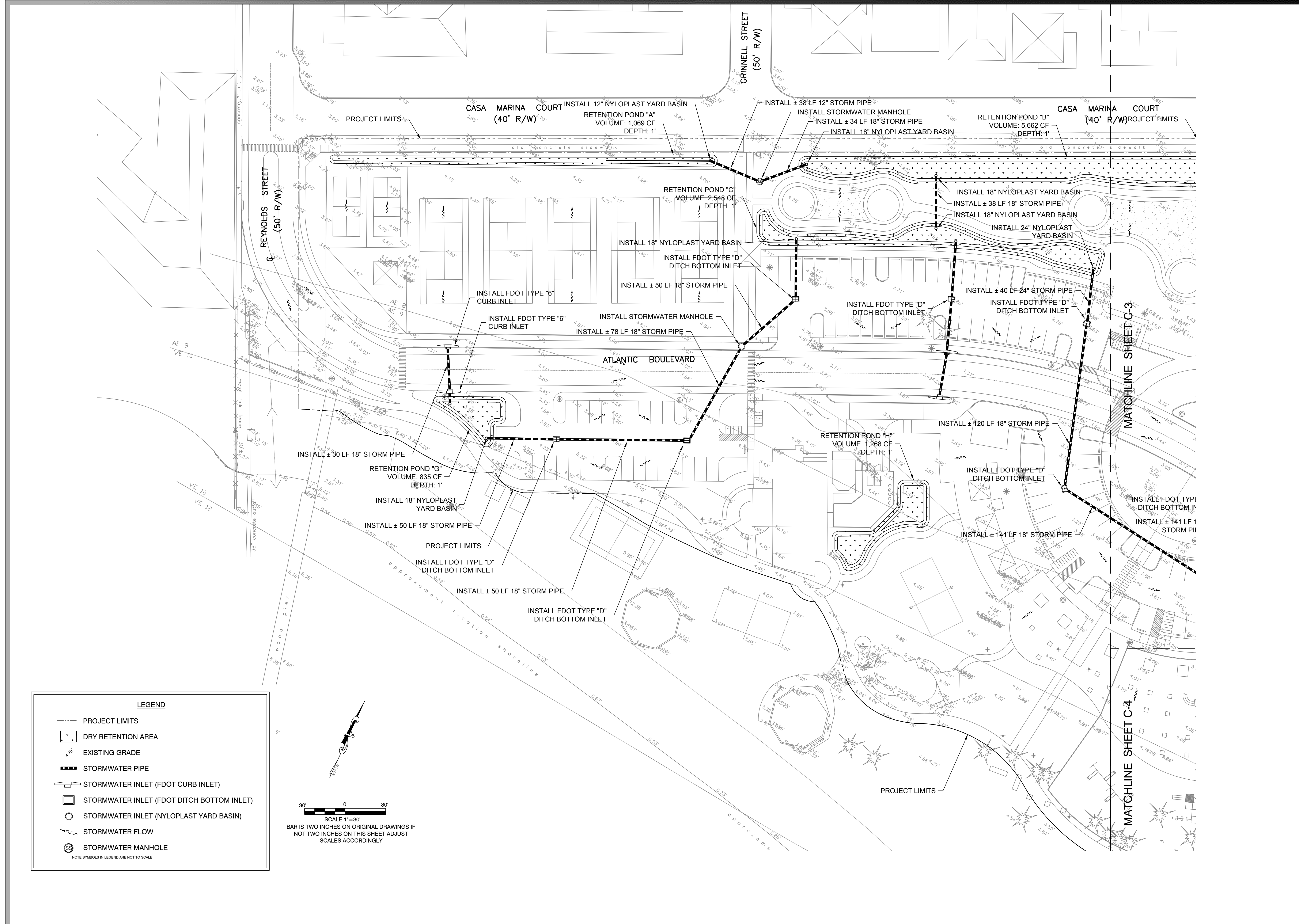
REVISIONS:	1	PRELIMINARY
	2	
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CLARENCE HIGGS BEACH  
KEY WEST, FL 33040

CONCEPTUAL DRAINAGE PLAN

JOB NO.	111009
DRAWN	RTM
DESIGNED	AEP
CHECKED	AEP
QC SHEET	C-1





CIVIL ENGINEERING • REGULATORY PERMITTING • CONSTRUCTION MANAGEMENT

**KEY WEST OFFICE**  
 1010 EAST KENNEDY DRIVE, SUITE 400  
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**TAMPA OFFICE**  
 3507 EAST FRONTAGE ROAD, SUITE 140  
 TAMPA, FLORIDA 33607  
 TEL: (813) 575-1616 FAX: (813) 288-0710

**PEREZ ENGINEERING**  
 & DEVELOPMENT, INC.  
 CERTIFICATE OF AUTHORIZATION NO. 8579

ALLEN E. PEREZ, P.E.  
 Florida P.E. NO. 51468  
 June 30, 2011

ORIGINAL: JUNE 2011 #120/1

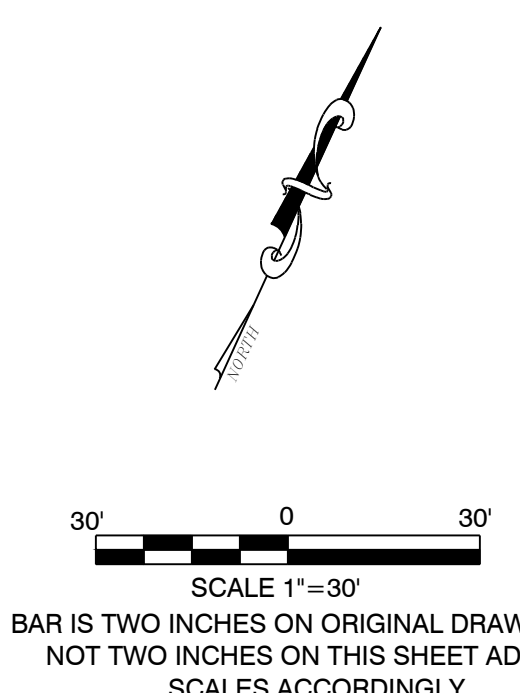
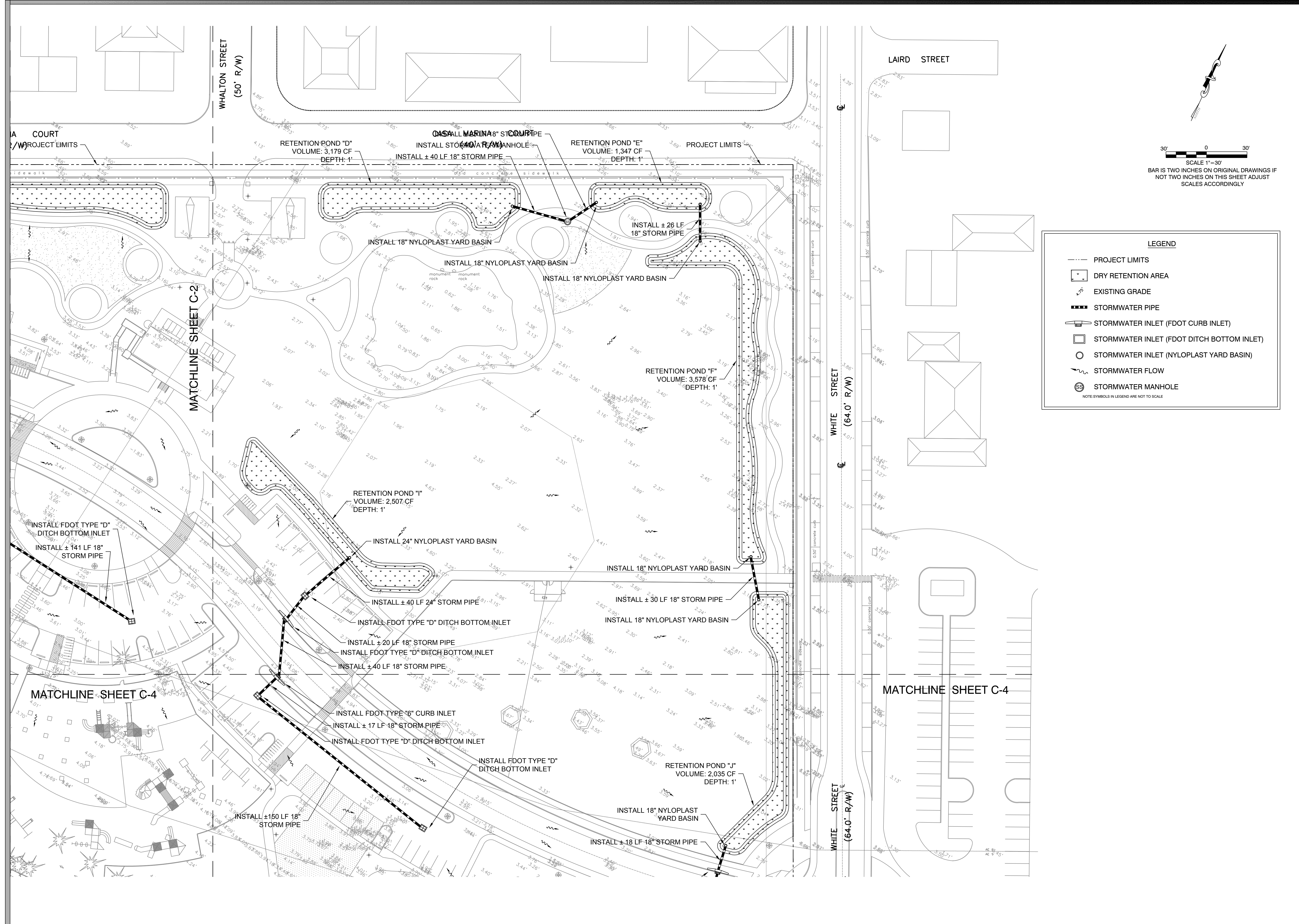
REVISIONS:	DATE	DESCRIPTION
1	PC	SUBMITTAL
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CLARENCE HIGGS BEACH

KEY WEST, FL 33040

**CONCEPTUAL DRAINAGE PLAN A**

JOB NO.	111009
DRAWN	RTM
DESIGNED	AEP
CHECKED	AEP
QC	
SHEET	C-2



**LEGEND**

- PROJECT LIMITS
- DRY RETENTION AREA
- EXISTING GRADE
- STORMWATER PIPE
- STORMWATER INLET (FDOT CURB INLET)
- STORMWATER INLET (FDOT DITCH BOTTOM INLET)
- STORMWATER INLET (NYLOPLAST YARD BASIN)
- STORMWATER FLOW
- STORMWATER MANHOLE

NOTE: SYMBOLS IN LEGEND ARE NOT TO SCALE

KEY WEST OFFICE  
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KEY WEST, FLORIDA 34631  
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TEL: (813) 575-1616 FAX: (813) 288-0710

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& DEVELOPMENT, INC.  
CERTIFICATE OF AUTHORIZATION NO. BE79

ALLEN E. PEREZ, P.E.  
Florida P.E. NO. 51468  
June 30, 2011

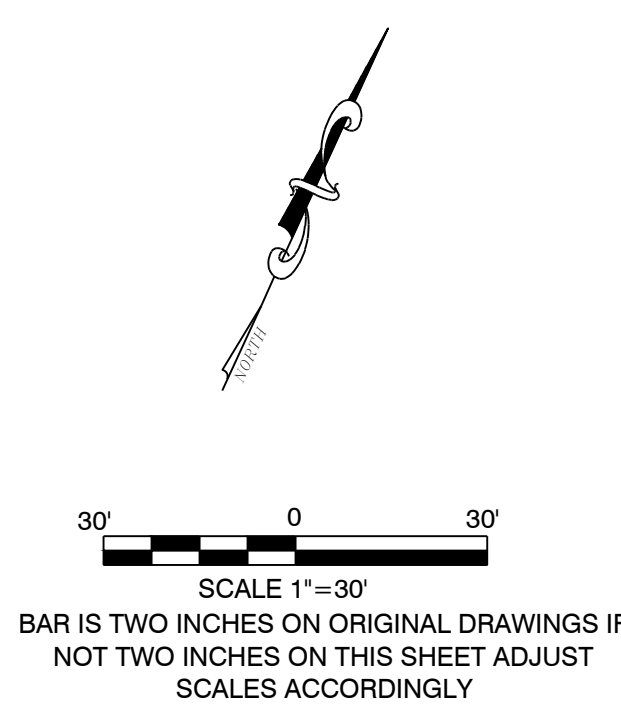
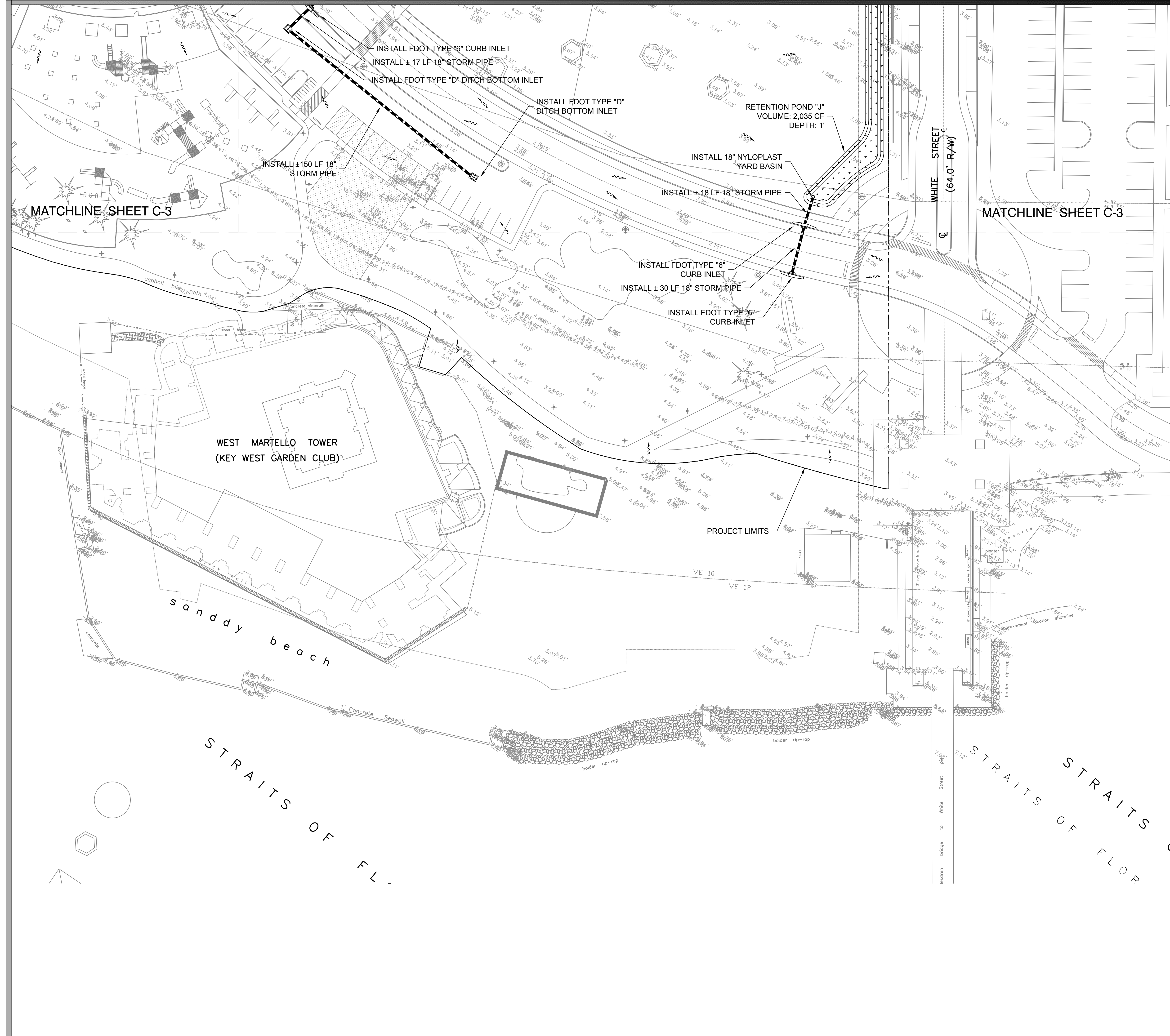
REVISIONS:

1	PRC - SUBMITTAL	6/29/11
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ORIGINAL: JUNE 2011 6/29/11

CLARENCE HIGGS BEACH  
KEY WEST, FL 33040  
**CONCEPTUAL DRAINAGE PLAN B**

JOB NO.	111009
DRAWN	RTM
DESIGNED	AEP
CHECKED	AEP
QC	
SHEET	C-3



**LEGEND**

	PROJECT LIMITS
	DRY RETENTION AREA
	EXISTING GRADE
	STORMWATER PIPE
	STORMWATER INLET (FDOT CURB INLET)
	STORMWATER INLET (FDOT DITCH BOTTOM INLET)
	STORMWATER INLET (NYLOPLAST YARD BASIN)
	STORMWATER FLOW
	STORMWATER MANHOLE

NOTE: SYMBOLS IN LEGEND ARE NOT TO SCALE

CIVIL ENGINEERING • REGULATORY PERMITTING • CONSTRUCTION MANAGEMENT  
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**PEREZ ENGINEERING & DEVELOPMENT, INC.**  
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ALLEN E. PEREZ, P.E.  
 Florida P.E. NO. 51468  
 June 30, 2011

REVISIONS:	ORIGINAL:	DATE:	BY:
1 PRC - SUBMITTAL	ORIGINAL:	JUNE 2011	AP/2011
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4			
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CLARENCE HIGGS BEACH  
 KEY WEST, FL 33040  
**CONCEPTUAL DRAINAGE PLAN C**

JOB NO.	111009
DRAWN	RTM
DESIGNED	AEP
CHECKED	AEP
QC	
SHEET	C-4