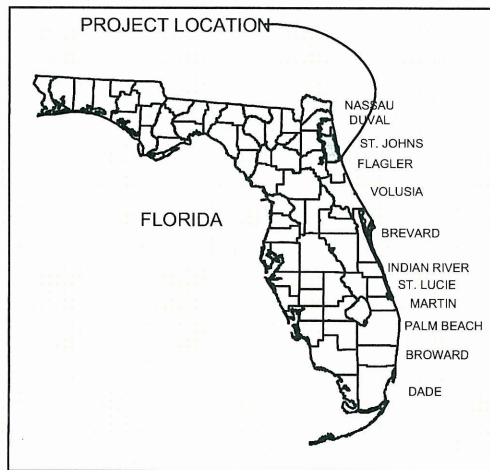


Attachment B

Revised Permit Drawings
Summer Haven FEMA Dune Restoration
Response to RAI#1

SUMMER HAVEN FEMA DUNE RESTORATION

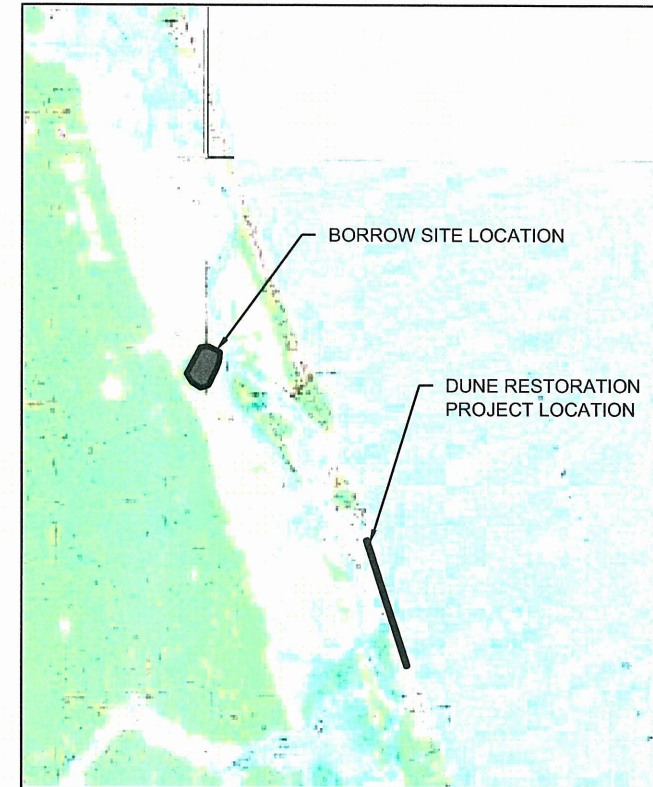
ST. JOHNS COUNTY, FLORIDA



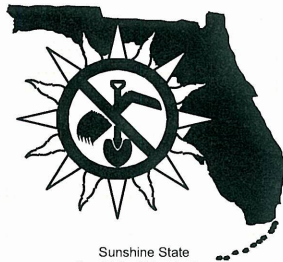
LOCATION MAP
N.T.S.

DRAWING INDEX

SHEET	FIGURE TITLE
C-1	TITLE
C-2	KEY MAP AND GENERAL NOTES
C-3	OVERVIEW
C-4	BORROW SITE PLAN
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C-6	BORROW SITE SECTIONS
C-7	BORROW SITE SECTIONS
C-8	BEACH PLAN
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C-10	BEACH PLAN
C-11	BEACH PLAN
C-12	DUNE CONSTRUCTION SECTIONS



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FIGURE C-1
TITLE

SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2009-072
DRAWN BY	AF
SHEET	1 of 12
DATE	MAR 2010

SEAL

MICHAEL E. TRUDNAK P.E. # 58,200

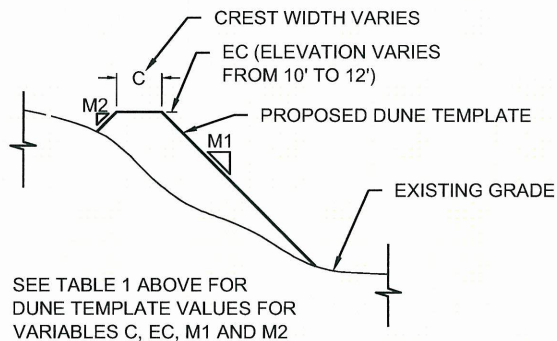
DATE

GENERAL NOTES:

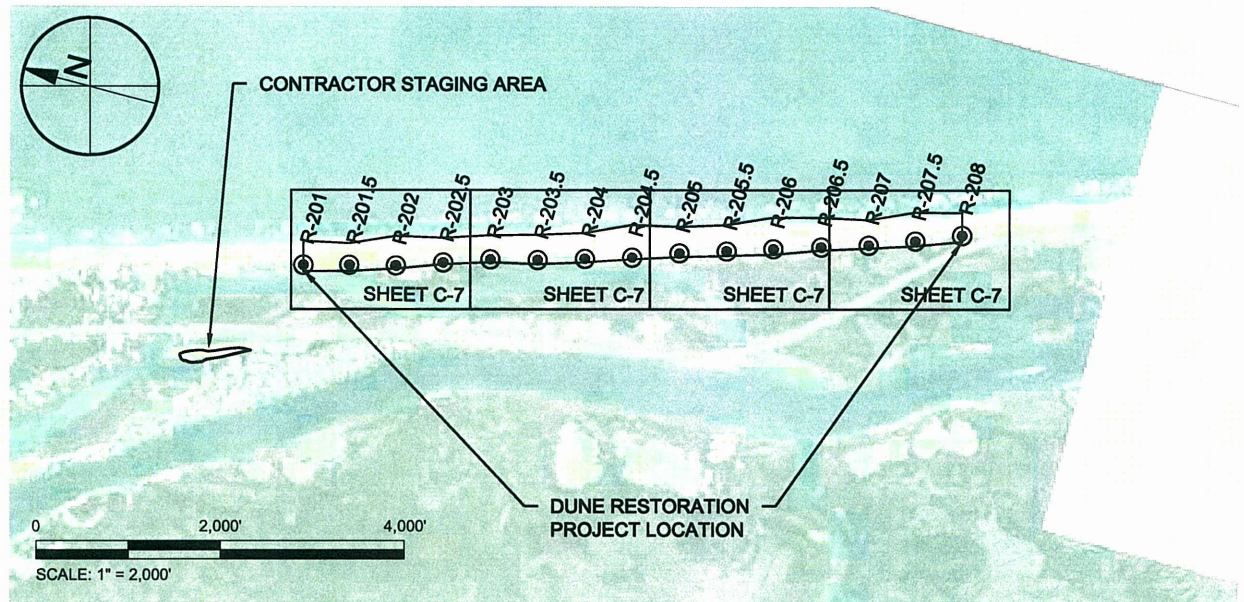
1. ALL ELEVATIONS REFERENCE THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD 88).
2. ALL COORDINATES REFERENCE STATE PLANE FLORIDA EAST NAD 83.
3. BORROW AREA BATHYMETRY SURVEYED ON NOVEMBER 17, 2009 BY MORGAN & EKLUND, INC.
4. EXISTING BEACH GRADE SURVEYED ON NOVEMBER 25, 2009 BY MORGAN & EKLUND, INC.
5. CONSTRUCTION TEMPLATE DESIGNED WITH THE FOLLOWING FEATURES:
5.1. A DUNE WITH A VARIABLE WIDTH DUNE CREST EXTENDING FROM THE EXISTING 12 FT NAVD CONTOUR AND A VARIABLE SLOPING DUNE FACE EXTENDING FROM THE SEAWARD EDGE OF THE DUNE CREST TO THE EXISTING BERM. IN AREAS WHERE THE LANDWARD EDGE OF THE DUNE CREST DOESN'T TIE INTO THE EXISTING DUNE, THE LANDWARD DUNE FACE WILL SLOPE 1V:4H DOWN TO THE EXISTING TOPOGRAPHY
6. IF STRUCTURES PROHIBIT TYING THE DUNE INTO THE EXISTING GRADE, THE DUNE TEMPLATE SHALL BE MODIFIED AS REQUIRED AS PER THE ENGINEER. THE ENGINEER MAY ALTER PLANS BASED ON FIELD OBSERVATIONS.
7. DUNE RESTORATION INCLUDES ONE REACH EXTENDING FROM FDEP REFERENCE MONUMENT R-201 TO R-208

MONUMENT TABLE		
MONUMENT	EASTING	NORTHING

TABLE 1: TYPICAL DUNE SECTION DATA AT EACH RANGE MONUMENT				
R-MONUMENT	C (CREST WIDTH) (FT)	EC (CREST ELEVATION) (FT NAVD)	M1 (SEAWARD SLOPE)	M2 (LANDWARD SLOPE)
R-201	9	10	2H:1V	4H:1V
R-202	12	12	4H:1V	N/A
R-203 NORTH	9	12	4H:1V	N/A
R-203 SOUTH	17	12	4H:1V	N/A
R-204	17	12	4H:1V	4H:1V
R-205	14	12	4H:1V	N/A
R-206	11	12	4H:1V	N/A
R-207 NORTH	15	12	4H:1V	4H:1V
R-207 SOUTH	4	12	4H:1V	4H:1V
R-208	10	12	4H:1V	N/A



TYPICAL DUNE SECTION
NOT TO SCALE



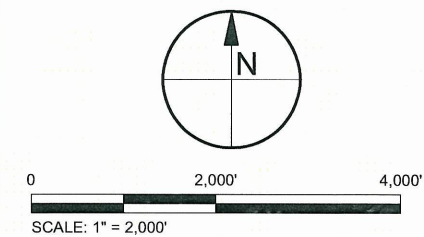
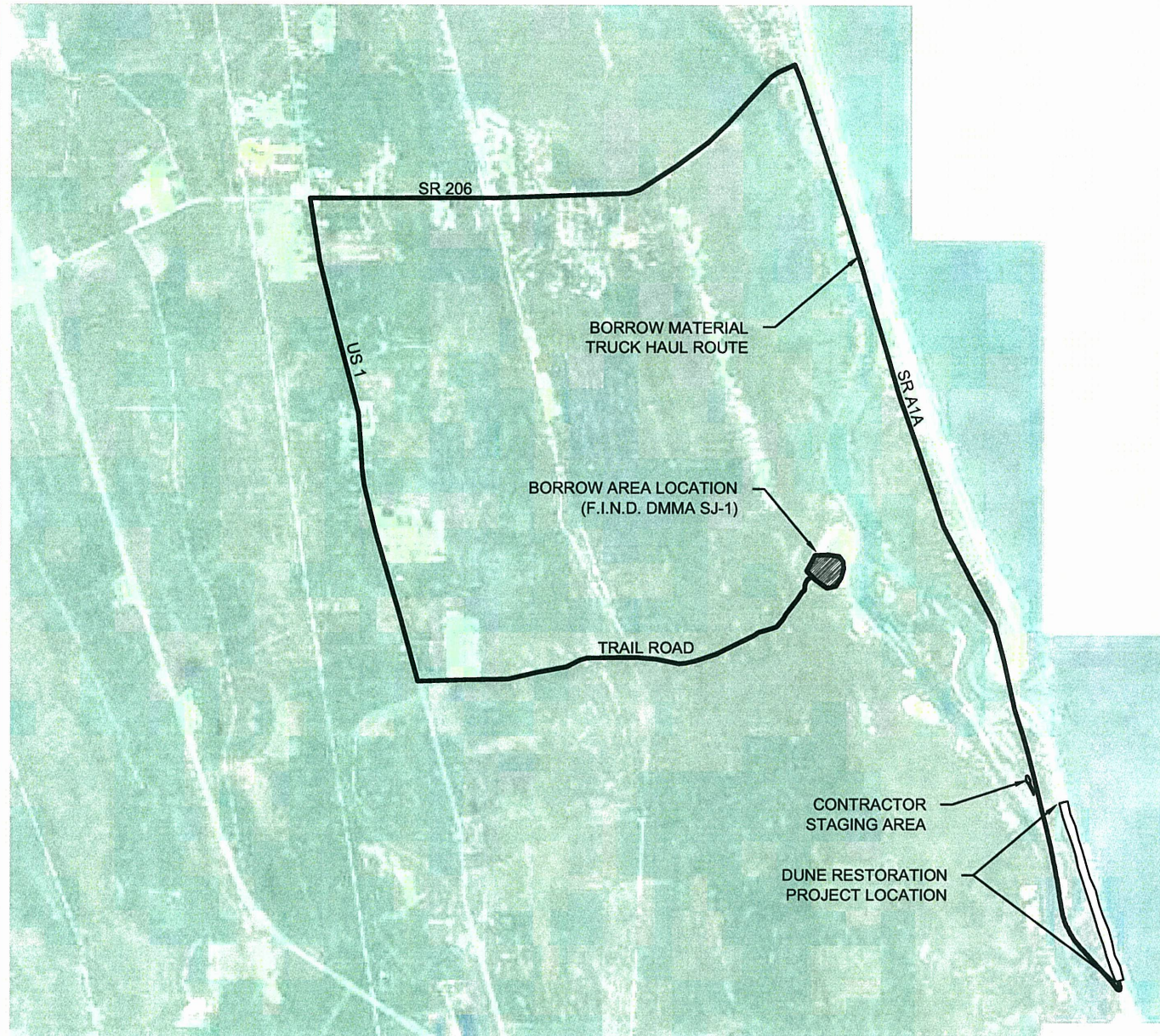
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FIGURE C-2
KEY MAP AND GENERAL NOTES
SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2009-072
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MICHAEL E. TRUDNAK P.E. # 58200	DATE



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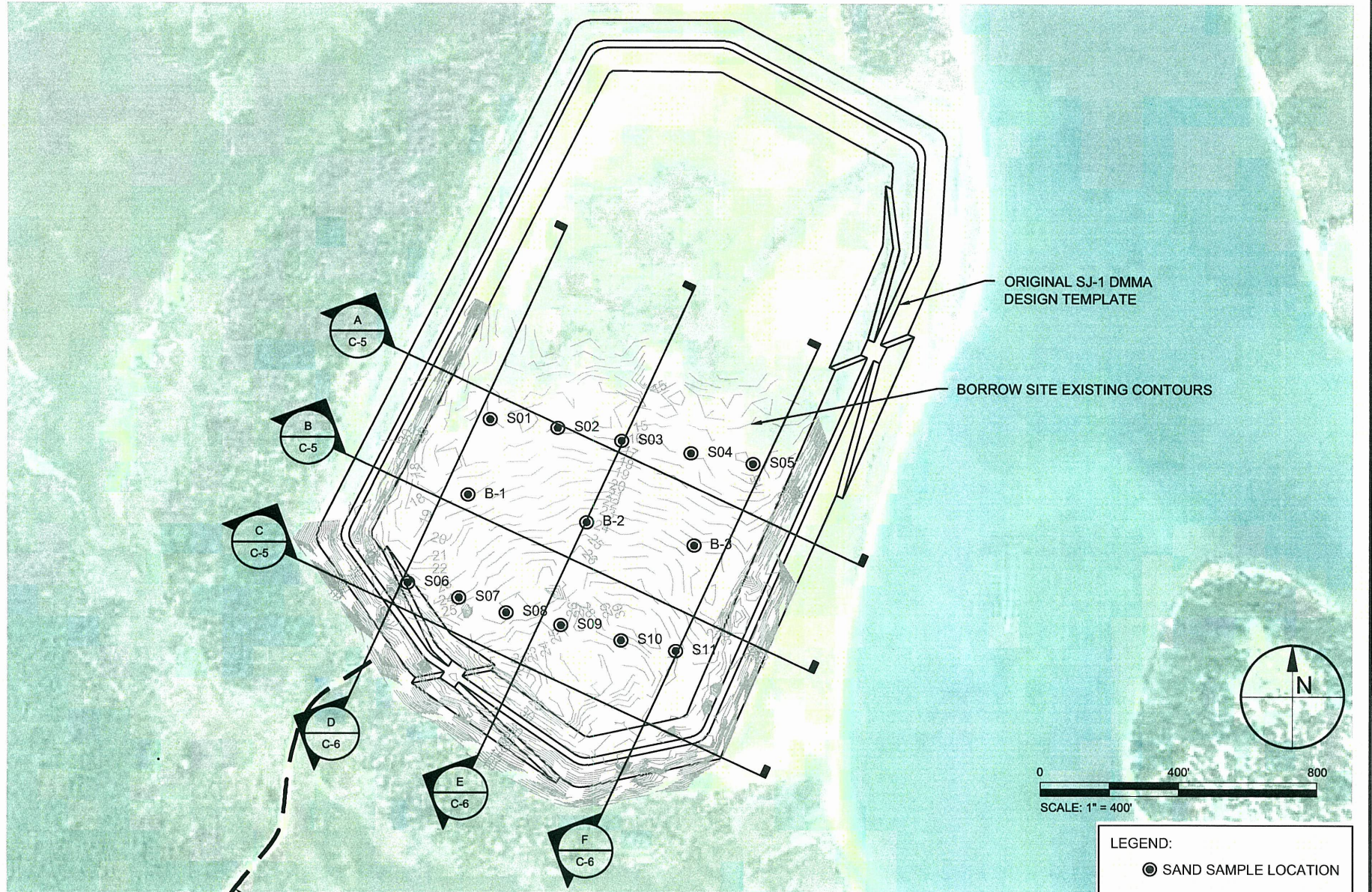
FIGURE C-3
OVERVIEW
SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2009-072
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SHEET	3 of 12
DATE	MAR 2010

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ANTON FLEVELING X:\S\PROJECTS\C2009-072 SUMMERHAVEN DUNE RENOURISHMENT\PERMIT\LETTERS\SIZE C2009-072-F LETTER-BORROW\LANDWG 3/19/2010 12:22:33 PM



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FIGURE C-4
BORROW SITE PLAN
SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

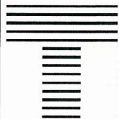
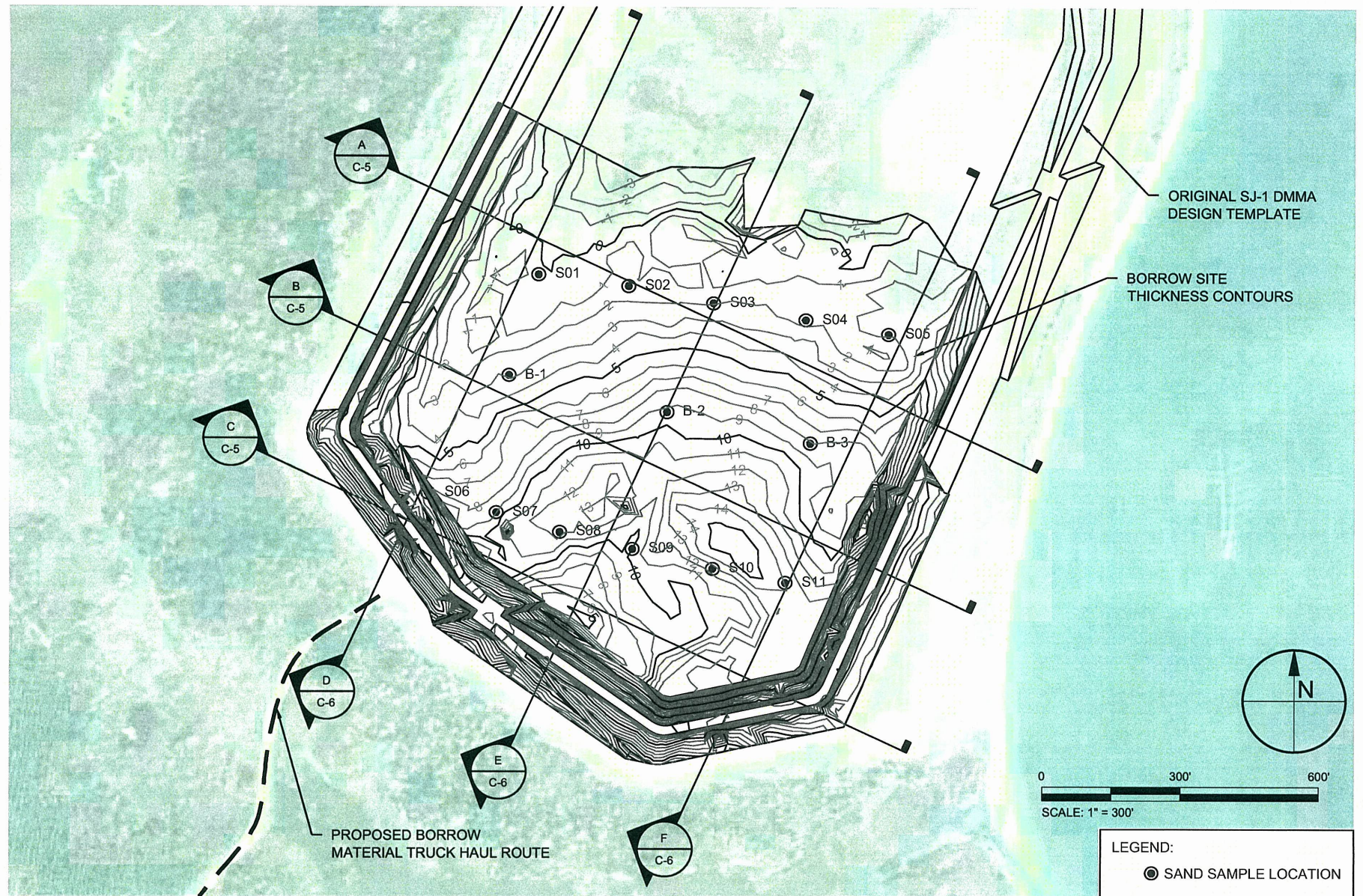
PROJECT	C2009-072
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MICHAEL E. TRUDNAK P.E. # 56200 DATE

3/19/2010 12:22:45 PM

ANTON FLEWELLING X:\SYS\PROJECTS\C2009-072 SUMMERHAVEN DUNE RESTORATION\PERMIT\LETTERS\DEC2009-072 P-LETTER-BORROWTHICKNESS.DWG



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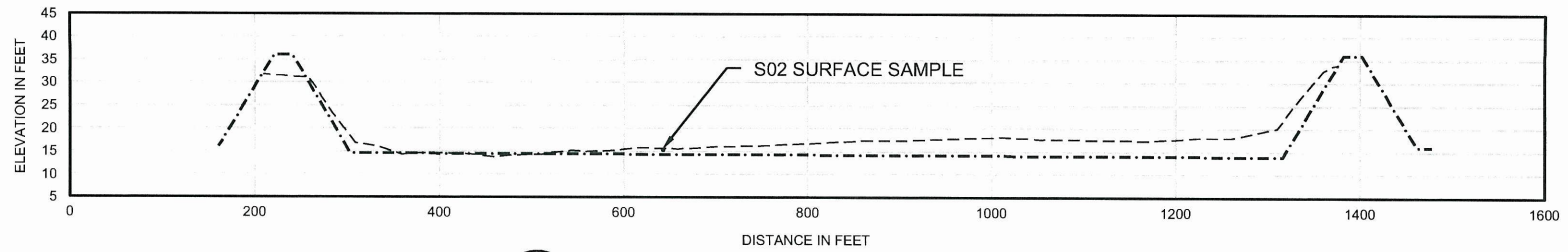
10151 DEERWOOD PARK BLVD.
BLDG. 300, SUITE 300
JACKSONVILLE, FL 32256
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FIGURE C-5
BORROW SITE THICKNESS CONTOURS
SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2009-072
DRAWN BY	AF
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DATE	MAR 2010

SEAL	DATE
 MICHAEL E. TRUDNAK P.E. # 58300	

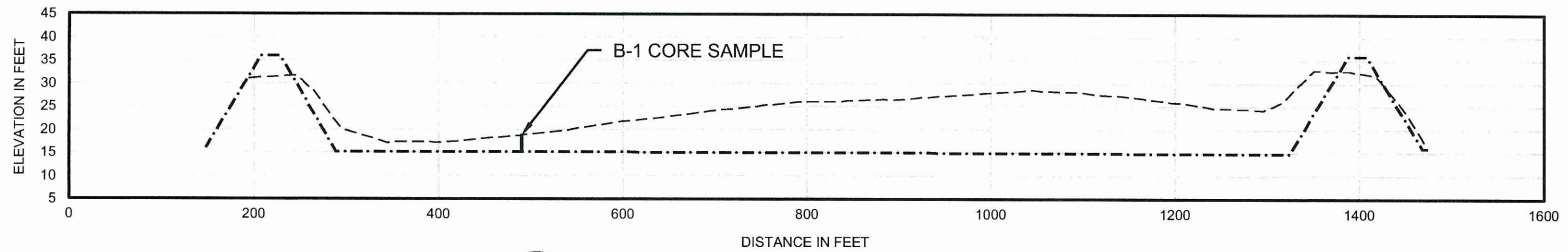
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BORROW SITE SECTION A

SCALE: 1" = 200'

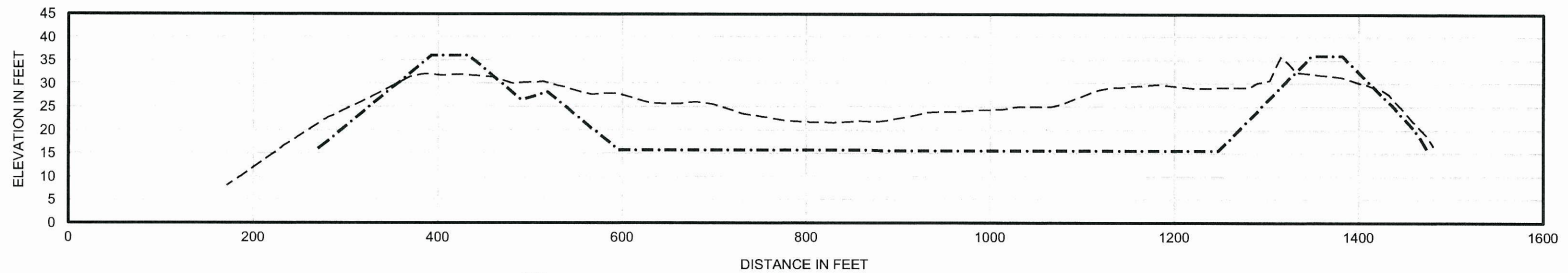
VERTICAL EXAGGERATION: X5



BORROW SITE SECTION B

SCALE: 1" = 200'

VERTICAL EXAGGERATION: X5



BORROW SITE SECTION C

SCALE: 1" = 200'

VERTICAL EXAGGERATION: X5



LEGEND:	
---	EXISTING TOPOGRAPHY
-.-.-	SJ-1 DMMA DESIGN TEMPLATE



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FIGURE C-6
BORROW SITE SECTIONS
SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

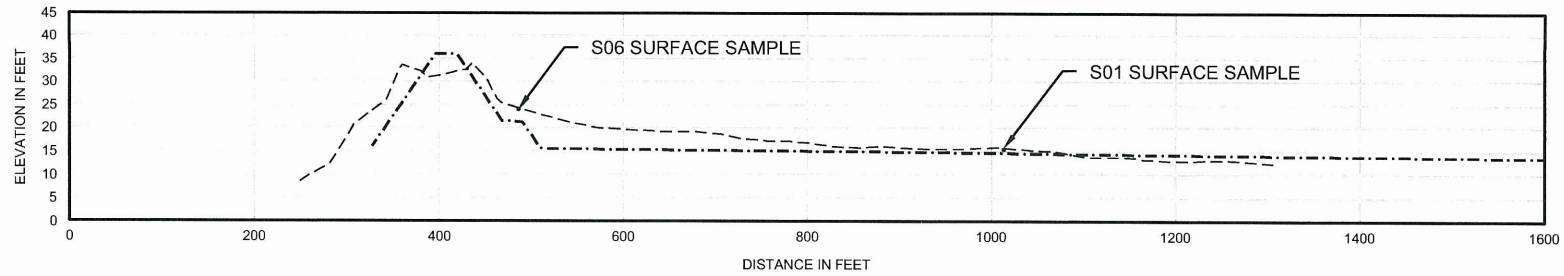
PROJECT	C2009-072
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ANTON FLEVELING X:\S\PROJECTS\C2009-072 SUMMERHAVEN DUNE RESTORATION\PERMIT\LETTERS\SIZE C2009-072 P 7 LETTER-BORROWPLAN.DWG 3/19/2010 12:24:36 PM

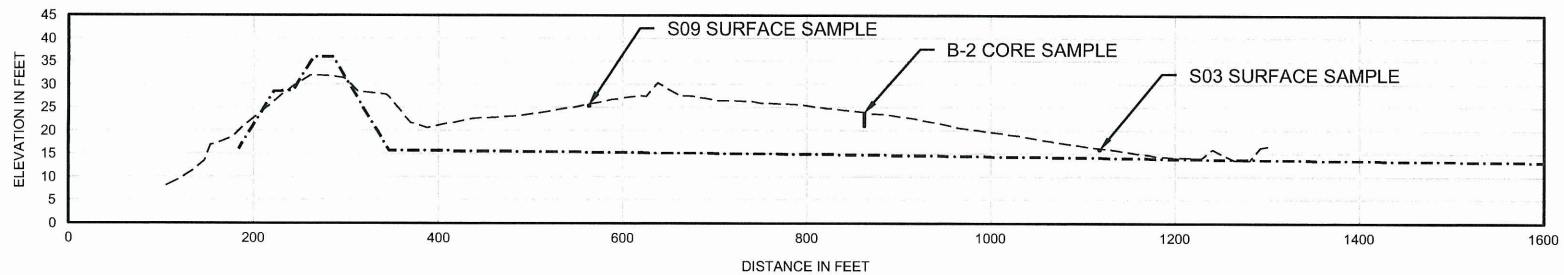


BORROW SITE SECTION D

SCALE: 1" = 200'

0 200'

VERTICAL EXAGGERATION: X5

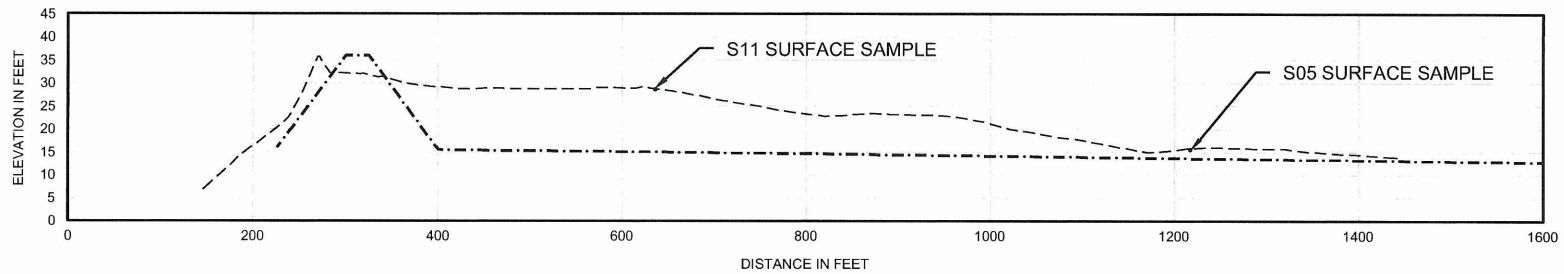


BORROW SITE SECTION E

SCALE: 1" = 200'

0 200'

VERTICAL EXAGGERATION: X5



BORROW SITE SECTION F

SCALE: 1" = 200'

0 200'

VERTICAL EXAGGERATION: X5

LEGEND:

--- EXISTING TOPOGRAPHY

-.-.- SJ-1 DMMA DESIGN TEMPLATE



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FIGURE C-7
BORROW SITE SECTIONS
SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2009-072
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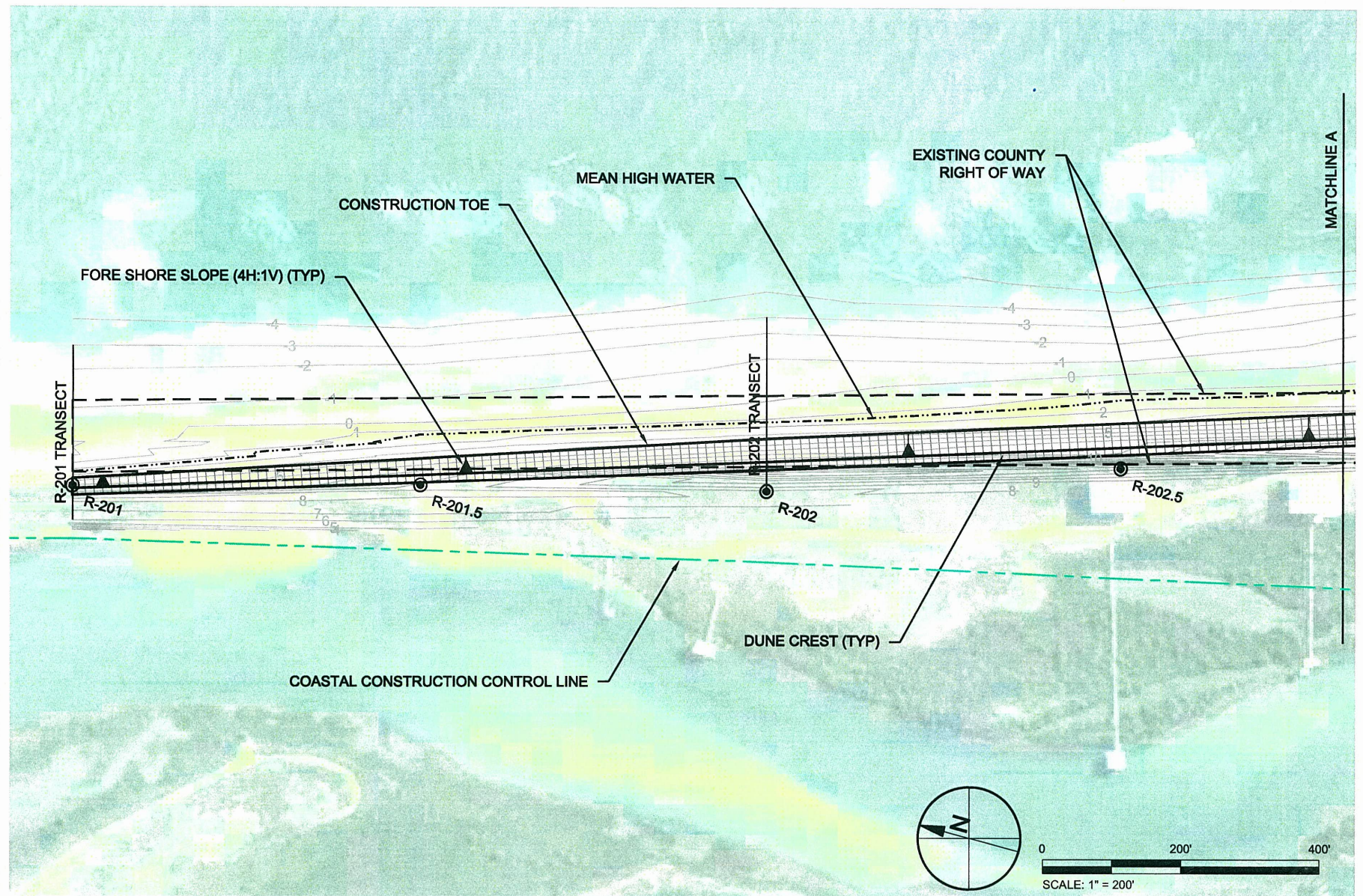
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FIGURE C-8
BEACH PLAN
SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2009-072
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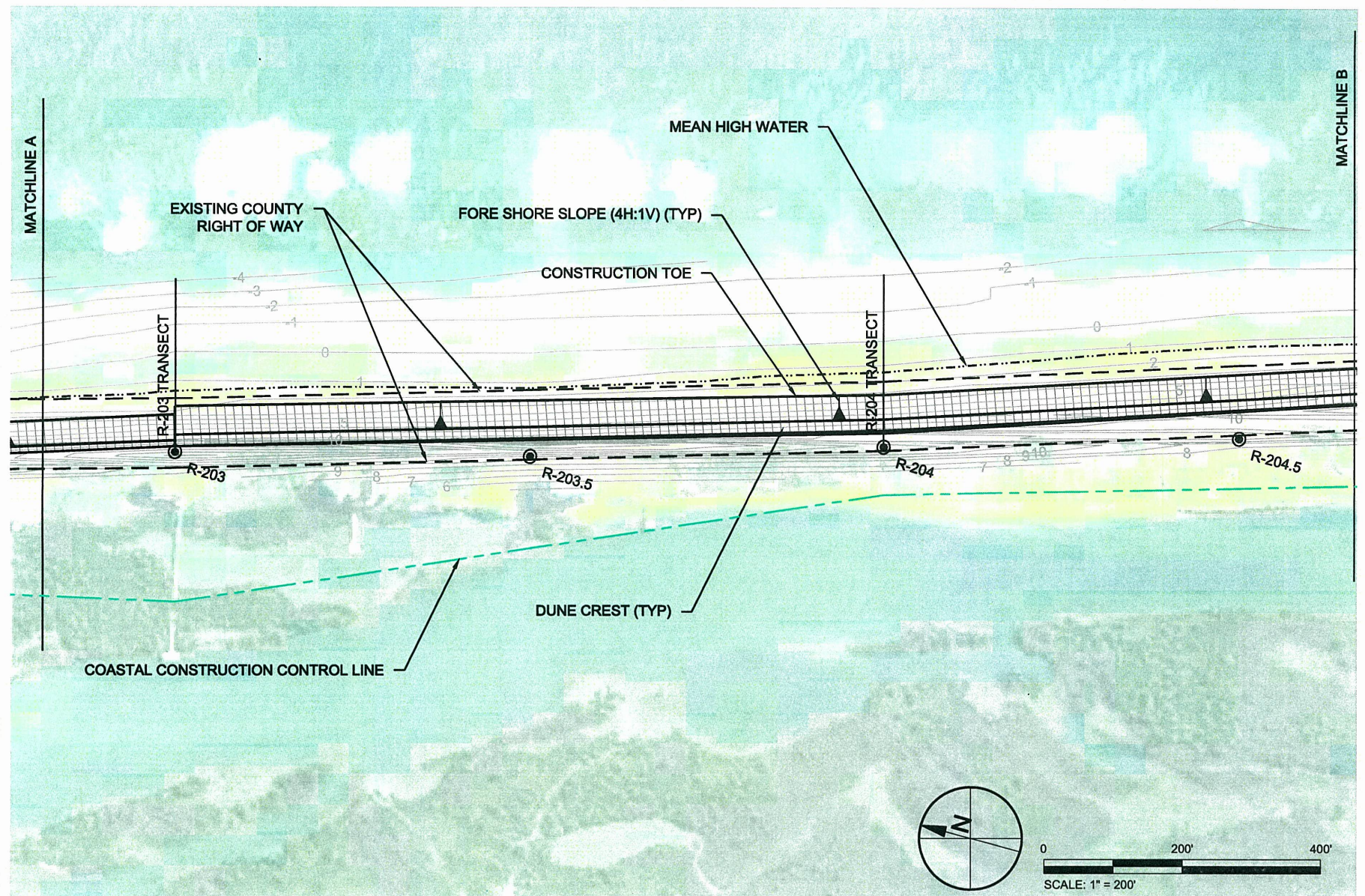
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ANTON FLEWELLING X:\S\PROJECTS\C2009-072 SUMMERHAVEN DUNE RESTORATION\PERMIT\LETTERS\FIG C-9 BEACH PLAN.DWG 3/19/2010 12:25:00 PM



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FIGURE C-9
BEACH PLAN
SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

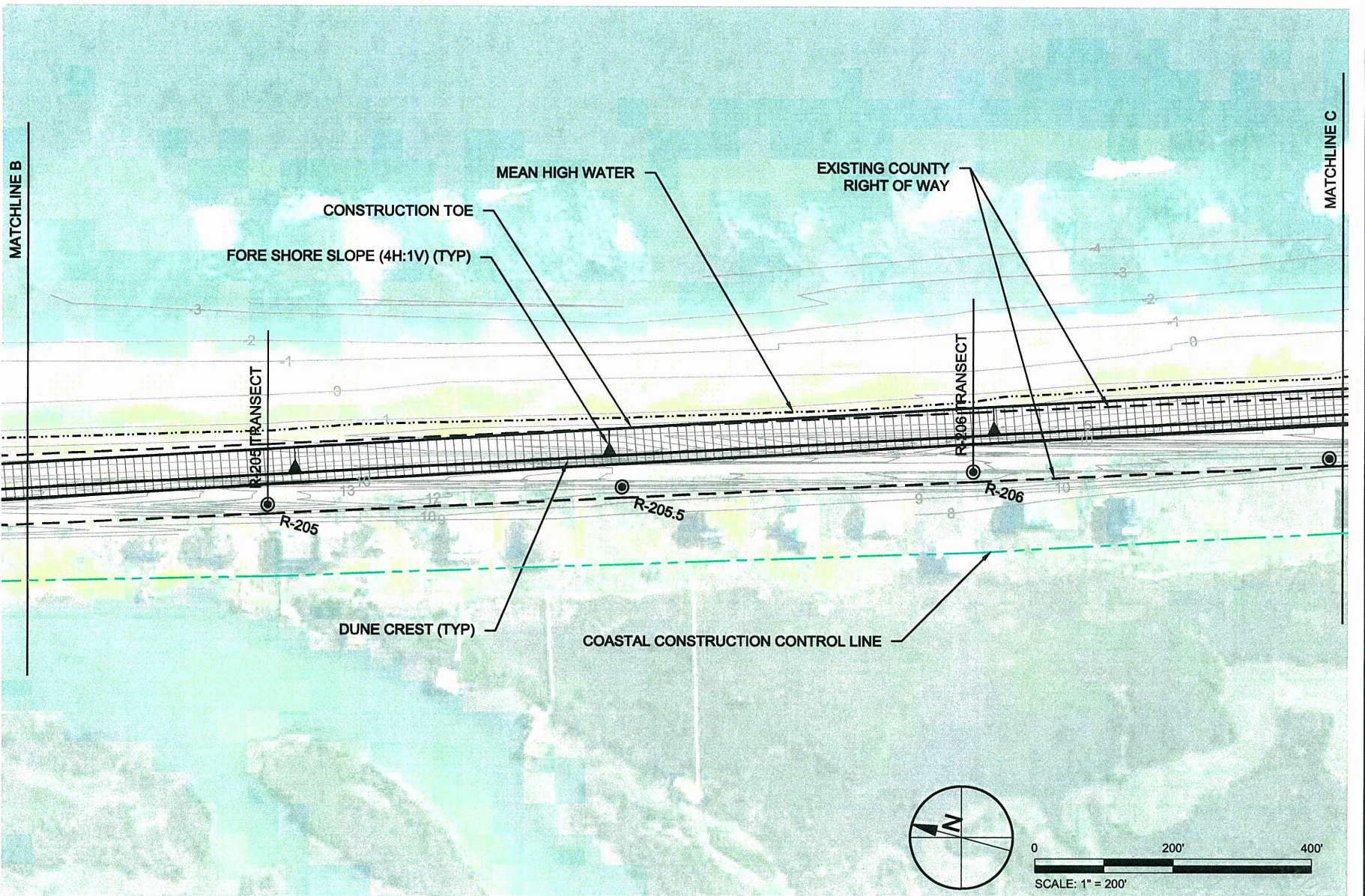
PROJECT	C2009-072
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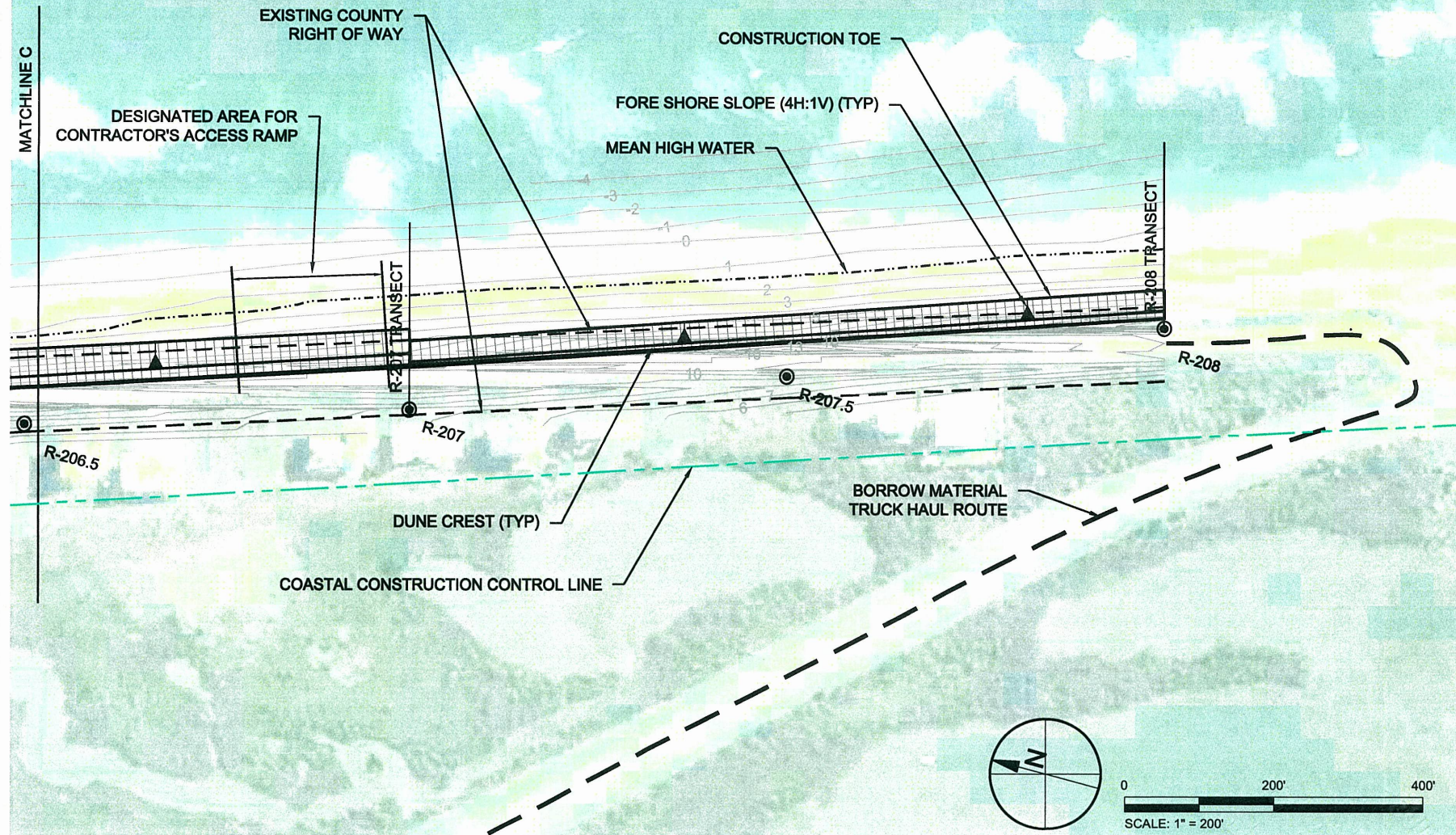
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FIGURE C-10
BEACH PLAN
SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

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X:\S\PROJECTS\C2009-072 SUMMERHAVEN DUNE RESTORATION\PERMIT\LETTERS\FIGURE C-11 LETTER BEACH PLAN.DWG
ANTON FLEWELLING X:\S\PROJECTS\C2009-072 SUMMERHAVEN DUNE RESTORATION\PERMIT\LETTERS\FIGURE C-11 LETTER BEACH PLAN.DWG



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FIGURE C-11
BEACH PLAN
SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

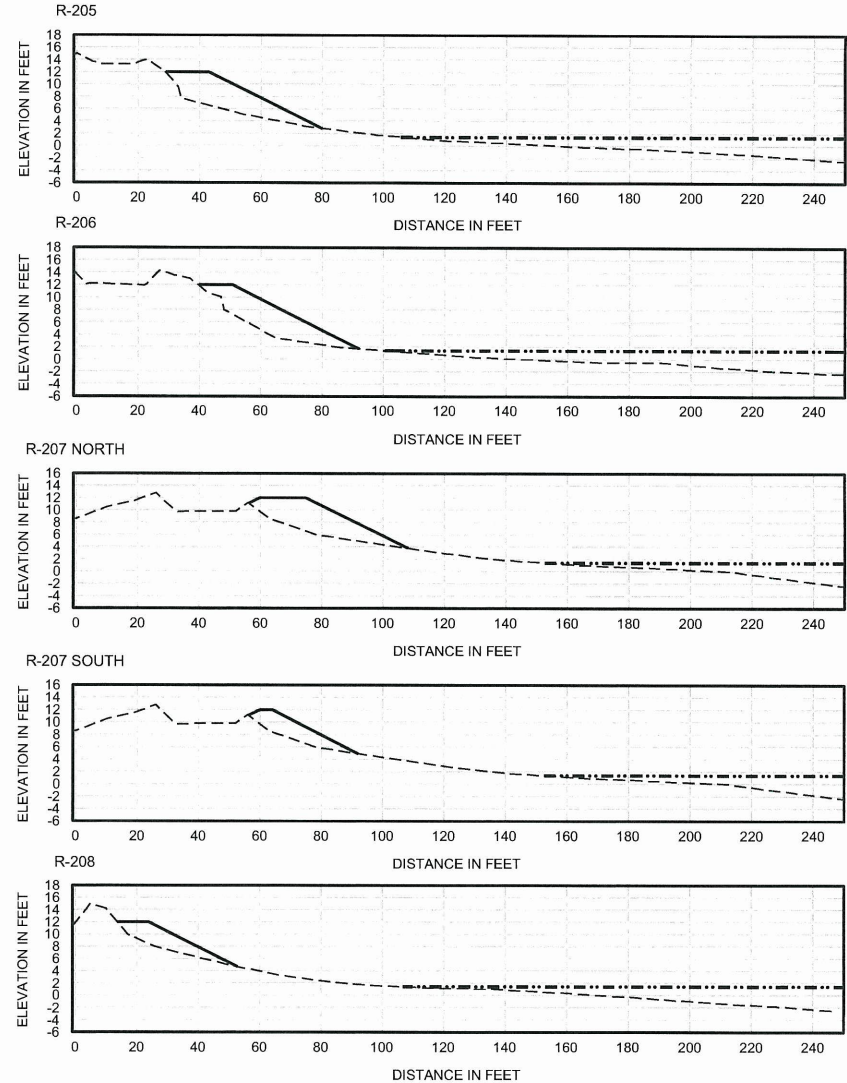
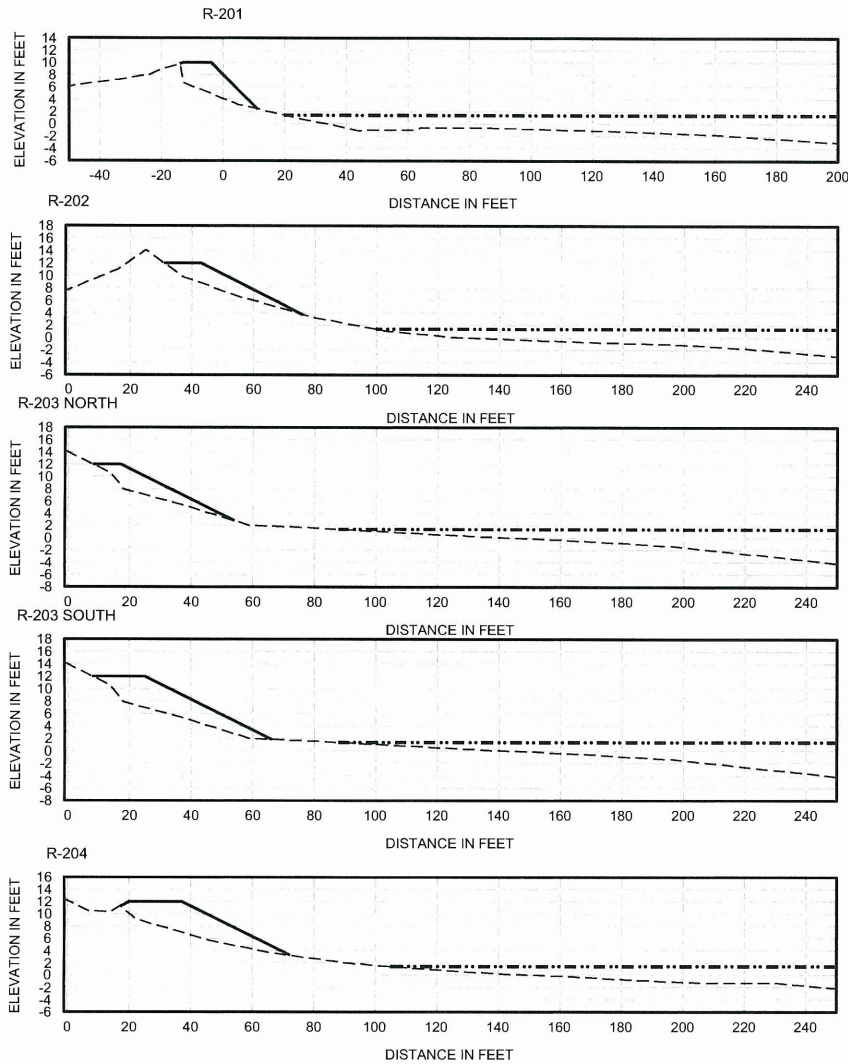
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DATE	MAR 2010

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Michael E. Trudnak

MICHAEL E. TRUDNAK P.E. # 58270

DATE



DUNE CONSTRUCTION SECTIONS

SCALE: 1" = 60'

VERTICAL EXAGGERATION: X2



LEGEND:

- EXISTING BEACH SURVEY
- DUNE CONSTRUCTION TEMPLATE
- · - · - MEAN HIGH WATER (+1.4' NAVD 88)



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FIGURE C-12
DUNE CONSTRUCTION SECTIONS
SUMMER HAVEN FEMA DUNE RESTORATION
ST. JOHNS COUNTY, FLORIDA

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