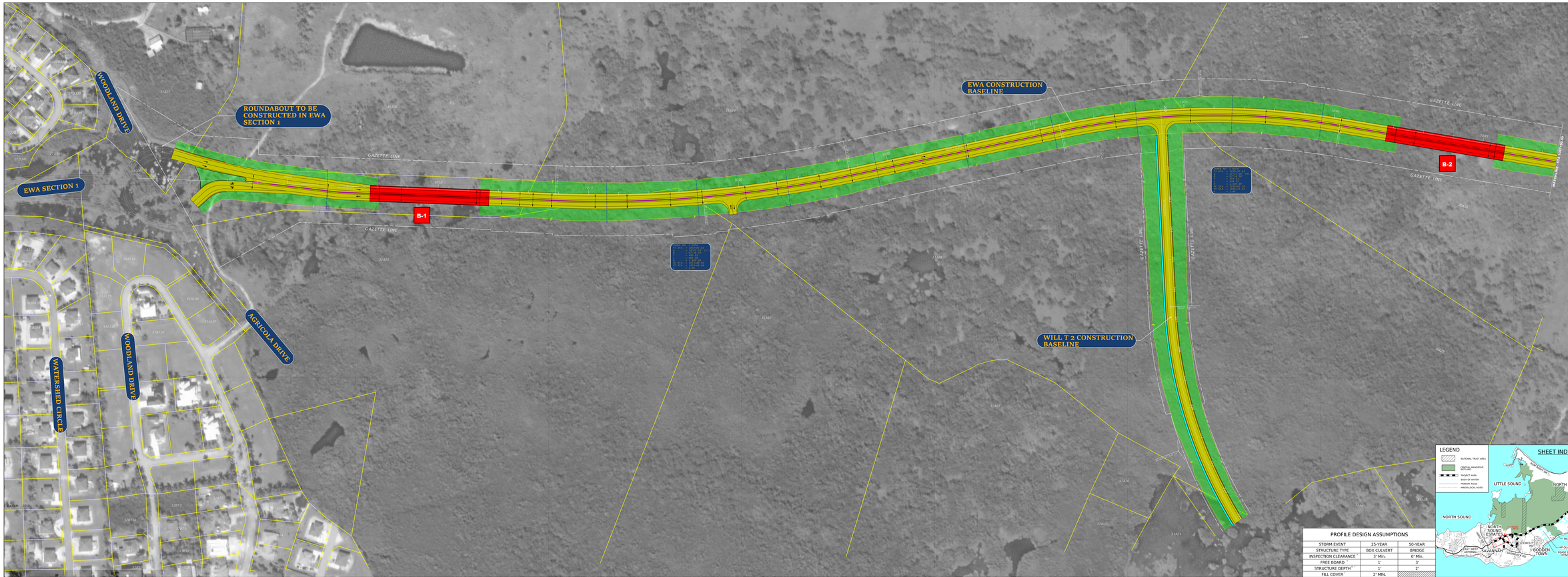
Appendix F - Engineering

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)

Appendix F.1 – Corridor Roll Maps



DRAWINGS	SHEET
CONCEPT PLANS	1 OF 10

GRAND CAYMAN ISLAND

EAST-WEST ARTERIAL ROAD EXTENSION SECTION 2

REVISION NUMBER	DATE	BY	REVISIONS

0 75 150 FEET

LEGEND

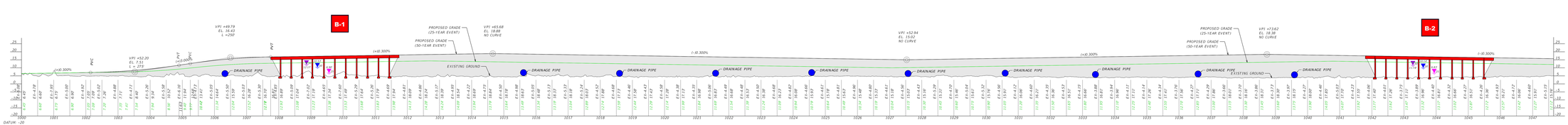
- ASPHALT TRAVEL LANE/ SHOULDER
- STRUCTURE
- CONCRETE BARRIER/ TRAFFIC SEPARATOR
- MEDIAN ISLAND/ CUT-FILL SLOPE
- SIDEWALK
- CURB
- CENTRAL MANGROVE WETLAND
- NATIONAL TRUST LAND
- B-#: STRUCTURE ID
- FILL LINE
- CUT LINE
- PARCEL BOUNDARY
- DRAINAGE PIPE
- EU: POWER CONDUIT
- HIGHWAY LIGHTING LUMINAIRE

PREPARED BY:

WRA
Whitman, Requardt & Associates, LLP

PROFILE DESIGN ASSUMPTIONS

STORM EVENT	25-YEAR	50-YEAR
STRUCTURE TYPE	BOX CULVERT	BRIDGE
INSPECTION CLEARANCE[1]	3' Min.	6' Min.
FREE BOARD[2]	1'	3'
STRUCTURE DEPTH[2,3]	1'	3'
FILL COVER[4]	2' MIN.	



EWA - PROFILE

LEGEND

- 25-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WITH ESTIMATED SEA LEVEL RISE WATER SURFACE ELEVATION

SCALE

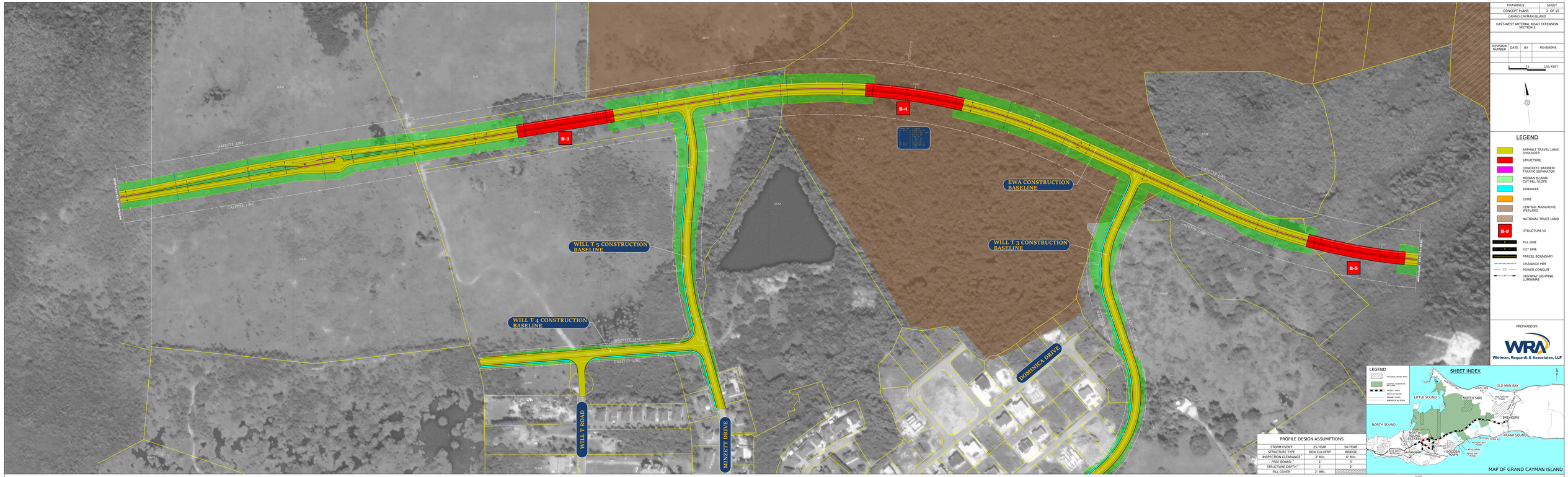
HORIZONTAL: 100 FEET
VERTICAL: 10 20 FEET

- 50-YEAR STORM EVENT ROADWAY PROFILE
- 25-YEAR STORM EVENT ROADWAY PROFILE

ALL UNITS SHOWN ARE IMPERIAL UNITS.

NOTE:

1. The profile shown is exaggerated in height by a factor of 5 for visual appearance purposes. This means that every 1' in elevation is stretched vertically by 5 and is shown as 5' in elevation.
2. The profile line represents the elevation of the roadway along the alignment baseline and is the highest point on the roadway section. The edges of the road, at the shoulders, are designed to be lower (1.4' min.) than the profile to direct rain water off of the road, ensuring proper drainage. The elevations at the edges of the roadway typically control the waterway openings at the bridges.
3. The profile for the 25-Year Storm Event is shown for informational purposes only.
4. Inspection clearance for the Bridge structures is to allow a person to have adequate room to inspect the structure for maintenance purposes. Inspection clearance for the Box Culvert structures is to allow for a robotic camera to inspect the structure for maintenance purposes.
5. The assumed Free Board refers to the available space between the Design Year Storm Event water surface and the bottom of the structure opening.
6. The Structure Depth for the Bridge structures is assumed to be 2'.
7. The Structure Depth for the Box Culvert structures (not shown) is assumed to be a 1' top slab depth with 2' minimum of fill cover over the top slab to the roadway surface.



DRAWINGS	SHEET
CONCEPT PLANS	2 OF 10

GRAND CAYMAN ISLAND

EAST-WEST ARTERIAL ROAD EXTENSION SECTION 2

REVISION NUMBER	DATE	BY	REVISIONS

0 75 150 FEET

LEGEND

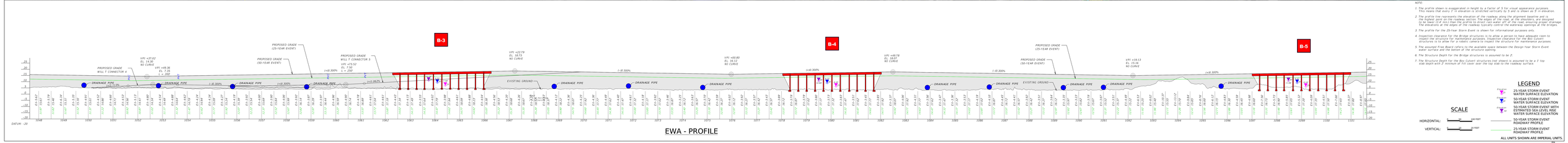
- ASPHALT TRAVEL LANE/ SHOULDER
- STRUCTURE
- CONCRETE BARRIER/ TRAFFIC SEPARATOR
- MEDIAN ISLAND/ CUT-FILL SLOPE
- SIDEWALK
- CURB
- CENTRAL MANGROVE WETLAND
- NATIONAL TRUST LAND
- B-# STRUCTURE ID
- FILL LINE
- CUT LINE
- PARCEL BOUNDARY
- DRAINAGE PIPE
- POWER CONDUIT
- HIGHWAY LIGHTING LUMINAIRE

PREPARED BY:

WRA
Whitman, Requardt & Associates, LLP

PROFILE DESIGN ASSUMPTIONS		
STORM EVENT	25-YEAR	50-YEAR
STRUCTURE TYPE	BOX CULVERT	BRIDGE
INSPECTION CLEARANCE	3' Min.	6' Min.
FREE BOARD	1'	3'
STRUCTURE DEPTH [1]	1'	2'
FILL COVER	2' MIN.	

MAP OF GRAND CAYMAN ISLAND



EWA - PROFILE

NOTE:

1. The profile shown is exaggerated in height by a factor of 5 for visual appearance purposes. This means that every 5' in elevation is stretched vertically by 5 and is shown as 5' in elevation.
2. The profile line represents the elevation of the roadway along the alignment baseline and is the highest point on the roadway section. The edges of the shoulders are designed to drain away from the centerline at a cross slope of 2% (1/2" per foot) for the majority of alignment. The elevations at the edges of the roadway typically control the waterway openings at the bridges.
3. The profile for the 25-Year Storm Event is shown for informational purposes only.
4. Inspection clearance for the Bridge structures is to allow a person to have adequate room to inspect the structure for maintenance purposes. Inspection clearance for the Box Culvert structures is to allow for a robotic camera to inspect the structure for maintenance purposes.
5. The assumed Free Board refers to the available space between the Design Year Storm Event water surface and the bottom of the structure opening.
6. The Structure Depth for the Bridge structures is assumed to be 2'.
7. The Structure Depth for the Box Culvert structures (not shown) is assumed to be a 1' top slab depth with 2' minimum of fill cover over the top slab to the roadway surface.

LEGEND

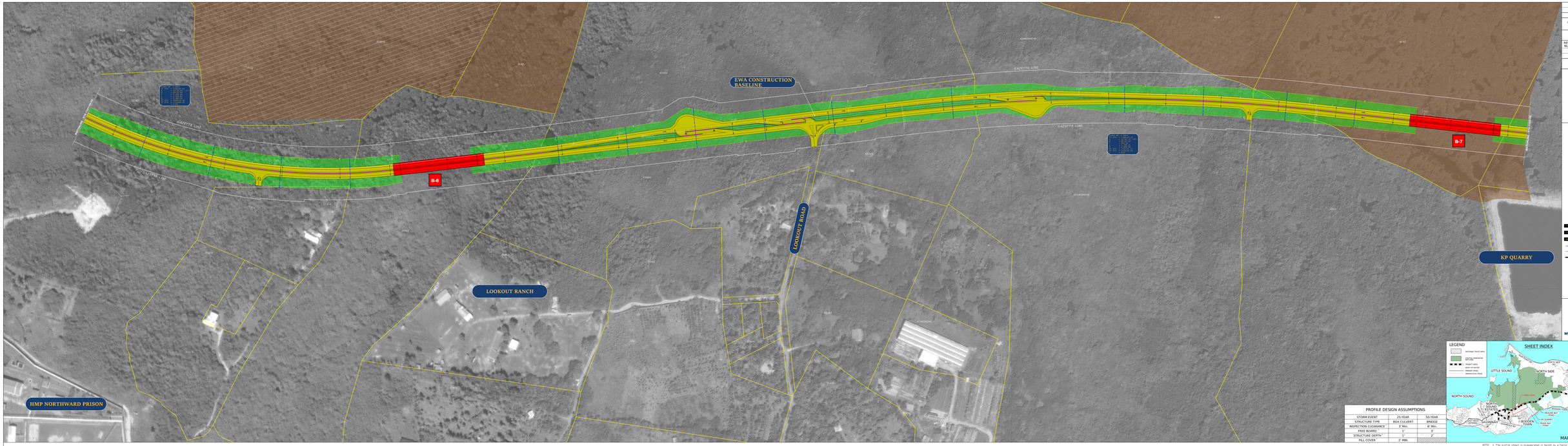
- 25-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WITH ESTIMATED SEA LEVEL RISE WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT ROADWAY PROFILE
- 25-YEAR STORM EVENT ROADWAY PROFILE

SCALE

HORIZONTAL: 0 50 100 FEET

VERTICAL: 0 5 10 FEET

ALL UNITS SHOWN ARE IMPERIAL UNITS.



DRAWINGS	SHEET
CONCEPT PLANS	3 OF 10

GRAND CAYMAN ISLAND

EAST-WEST ARTERIAL ROAD EXTENSION
SECTION 2 & SECTION 3

REVISION NUMBER	DATE	BY	REVISIONS

0 75 150 FEET

LEGEND

- ASPHALT TRAVEL LANE/ SHOULDER
- STRUCTURE
- CONCRETE BARRIER/ TRAFFIC SEPARATOR
- MEDIAN ISLAND/ CUT-FILL SLOPE
- SIDEWALK
- CURB
- CENTRAL MANGROVE WETLAND
- NATIONAL TRUST LAND
- B-# STRUCTURE ID
- FILL LINE
- CUT LINE
- PARCEL BOUNDARY
- DRAINAGE PIPE
- E/I POWER CONDUIT
- HIGHWAY LIGHTING LUMINAIRE

PREPARED BY:

WRA
Whitman, Requardt & Associates, LLP

LEGEND
NATIONAL TRUST AREA
CENTRAL MANGROVE WETLAND
PROJECT AREA
PROJECT ROAD
HIGHWAY ROAD
MUNICIPAL ROAD

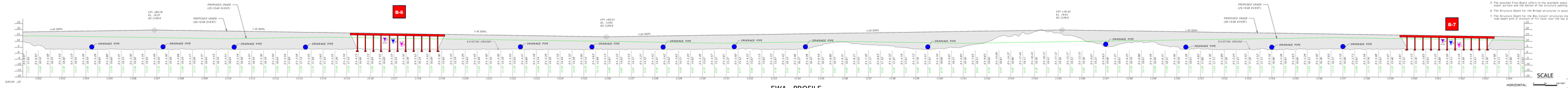
SHEET INDEX

MAP OF GRAND CAYMAN ISLAND

PROFILE DESIGN ASSUMPTIONS

STORM EVENT	25-YEAR	50-YEAR
STRUCTURE TYPE	BOX CULVERT	BRIDGE
INSPECTION CLEARANCE	3' MIN.	6' MIN.
FREE BOARD	1'	3'
STRUCTURE DEPTH*	5'	7'
FILL COVER	2' MIN.	

NOTE:
1. The profile shows a exaggerated in height by a factor of 5 for visual separation purposes. This means that every 1' in elevation is stretched vertically by 5 and is shown as 5' in elevation.
2. The profile line represents the elevation of the roadway along the alignment baseline and is the highest point on the roadway section. The edges of the road, at the shoulders, are designed with a 2% slope to the outside of the road to allow for drainage of the roadway surface drainage. The elevations at the edges of the roadway typically control the waterway openings at the bridges.
3. The profile for the 25-Year Storm Event is shown for informational purposes only.
4. Inspection clearance for the Bridge structures is to allow a person to have adequate room to inspect the structure for maintenance purposes. Inspection clearance for the Box Culvert structures is to allow a person to crawl through the structure for maintenance purposes.
5. The assumed Free Board refers to the available space between the Design Year Storm Event water surface and the bottom of the structure opening.
6. The Structure Depth for the Bridge structures is assumed to be 2.
7. The Structure Depth for the Box Culvert structures that shown is assumed to be a 5' top slab depth with 2' minimum of fill cover over the top slab to the roadway surface.



EWA - PROFILE

LEGEND

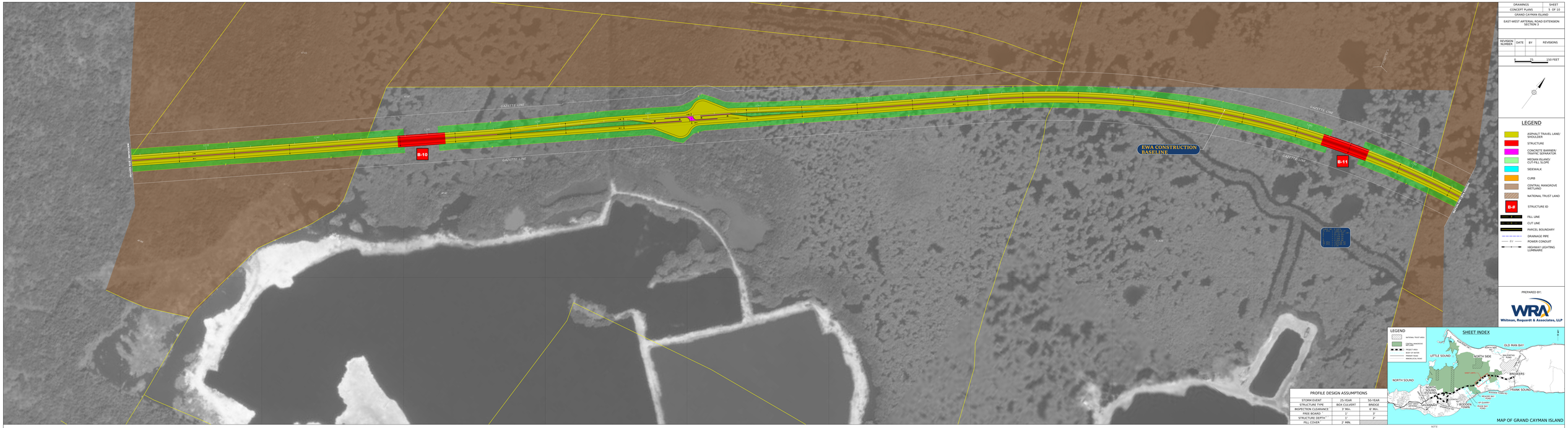
- 25-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WITH EXTRA SURFACE ELEVATION
- 50-YEAR STORM EVENT ROADWAY PROFILE
- 25-YEAR STORM EVENT ROADWAY PROFILE

SCALE

HORIZONTAL: 1" = 100'
VERTICAL: 1" = 20'

ALL UNITS SHOWN ARE IMPERIAL UNITS.

KP QUARRY
EWA CONSTRUCTION BASELINE
B-8
B-9
GAZETTE LINE
SOUTH SOUND ROAD
CENTRAL MANGROVE WETLAND
4243
4244
4234
4746
4742
4745
4744
4744
4744



DRAWINGS	SHEET
CONCEPT PLANS	5 OF 10

GRAND CAYMAN ISLAND

EAST-WEST ARTERIAL ROAD EXTENSION SECTION 3

REVISION NUMBER	DATE	BY	REVISIONS

0 75 150 FEET

LEGEND

- ASPHALT TRAVEL LANE/ SHOULDER
- STRUCTURE
- CONCRETE BARRIER/ TRAFFIC SEPARATOR
- MEDIAN ISLAND/ CUT-FILL SLOPE
- SIDEWALK
- CURB
- CENTRAL MANGROVE WETLAND
- NATIONAL TRUST LAND
- B-# STRUCTURE ID
- FILL LINE
- CUT LINE
- PARCEL BOUNDARY
- DRAINAGE PIPE
- E/I POWER CONDUIT
- HIGHWAY LIGHTING LUMINAIRE

PREPARED BY:

WRA
Whitman, Requardt & Associates, LLP

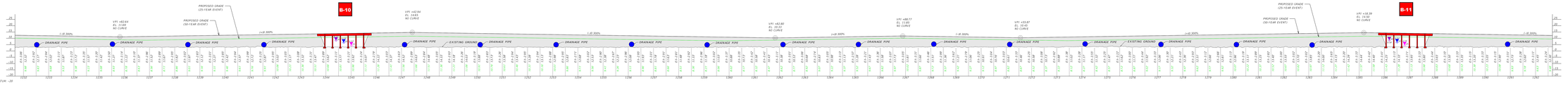
LEGEND
NATIONAL TRUST AREA
CENTRAL MANGROVE WETLAND
PROJECT AREA
EAST-WEST ARTERIAL ROAD
MUNICIPAL ROAD

SHEET INDEX

MAP OF GRAND CAYMAN ISLAND

PROFILE DESIGN ASSUMPTIONS

STORM EVENT	25-YEAR	50-YEAR
STRUCTURE TYPE	BOX CULVERT	BRIDGE
INSPECTION CLEARANCE	5' Min.	6' Min.
FREE BOARD	1'	1'
STRUCTURE DEPTH*	5'	7'
FILL COVER	2' MIN.	



EWA - PROFILE

NOTE:

1. The profile shown is exaggerated in height by a factor of 5 for visual appearance purposes. This means that every 5 ft elevation is stretched vertically by 5 and is shown as 5' in elevation.
2. The profile line represents the elevation of the roadway along the alignment baseline and is shown at the top of the proposed roadway surface. The bridge deck is shown at the bottom of the curb (1.0' min.) since the curb is the critical edge of the road elevation for drainage purposes. The elevations at the edges of the roadway typically control the waterway openings of the bridges.
3. The profile for the 25-Year Storm Event is shown for informational purposes only.
4. Insertion clearance for the Bridge structures is to allow a person to have adequate room to enter the structure for inspection and maintenance purposes. Insertion clearance for box structures is to allow for a robotic camera to inspect the structure for maintenance purposes.
5. The assumed Free Board refers to the available space between the Design Year Storm Event water surface and the bottom of the structure opening.
6. The Structure Depth for the Bridge structures is assumed to be 2'.
7. The Structure Depth for the Box Culvert structures that sheets is assumed to be a 3' top slab depth with 2' minimum of fill cover over the top slab to the roadway surface.

LEGEND

- 25-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WITH ESTIMATED SEA LEVEL RISE WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT HYDRAULIC GRADE LINE
- 25-YEAR STORM EVENT HYDRAULIC GRADE LINE

SCALE

HORIZONTAL: 1" = 100'

VERTICAL: 1" = 10'

ALL UNITS SHOWN ARE IMPERIAL UNITS.

DRAWINGS	SHEET
CONCEPT PLANS	6 OF 10

GRAND CAYMAN ISLAND

EAST-WEST ARTERIAL ROAD EXTENSION SECTION 3

REVISION NUMBER	DATE	BY	REVISIONS

0 75 150 FEET

LEGEND

- ASPHALT TRAVEL LANE/ SHOULDER
- STRUCTURE
- CONCRETE BARRIER/ TRAFFIC SEPARATOR
- MEDIAN ISLAND/ CUT-FILL SLOPE
- SIDEWALK
- CURB
- CENTRAL MANGROVE WETLAND
- NATIONAL TRUST LAND
- B-# STRUCTURE ID
- FILL LINE
- CUT LINE
- PARCEL BOUNDARY
- DRAINAGE PIPE
- EU POWER CONDUIT
- HIGHWAY LIGHTING LUMINAIRE

PREPARED BY:

WRA
Whitman, Requardt & Associates, LLP

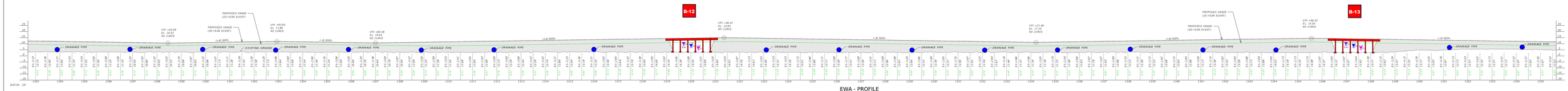
PROFILE DESIGN ASSUMPTIONS

STORM EVENT	25-YEAR	50-YEAR
STRUCTURE TYPE	BOX CULVERT	BRIDGE
INSPECTION CLEARANCE	3' Min.	6' Min.
FREE BOARD	1'	3'
STRUCTURE DEPTH*	3'	3'
FILL COVER	2' MIN.	

LEGEND
- NATIONAL TRUST AREA
- CENTRAL MANGROVE WETLAND
- PROJECT AREA
- EXISTING ROAD
- PROPOSED ROAD ALIGNMENT

SHEET INDEX

MAP OF GRAND CAYMAN ISLAND



EWA - PROFILE

LEGEND

- 25-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WITH ESTIMATED SEA LEVEL RISE WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT ROADWAY PROFILE
- 25-YEAR STORM EVENT ROADWAY PROFILE

SCALE

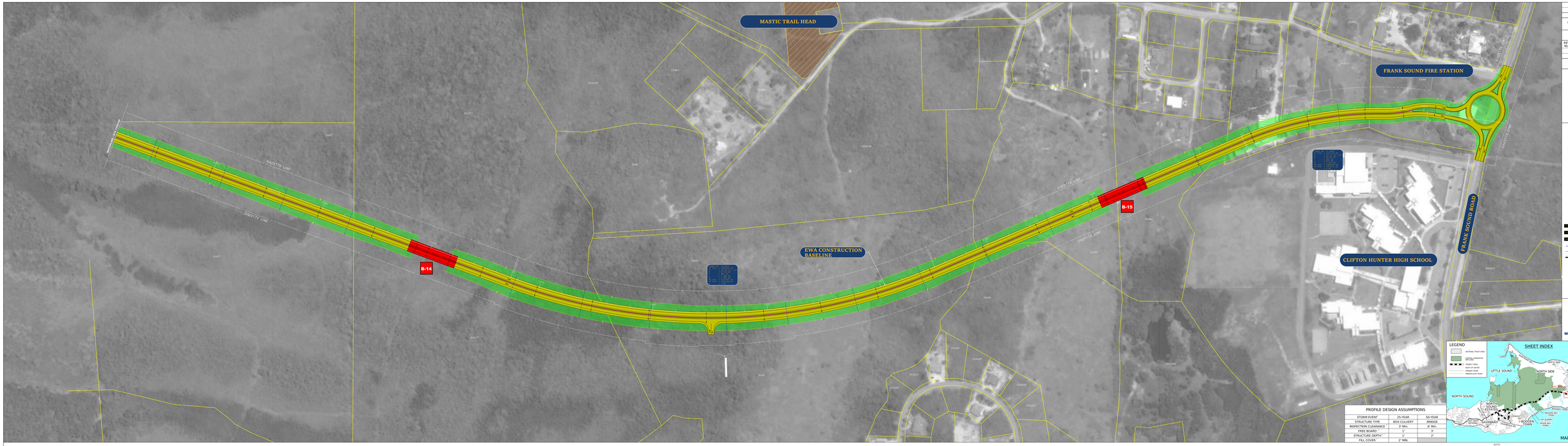
HORIZONTAL: 1" = 40 FEET

VERTICAL: 1" = 4 FEET

ALL UNITS SHOWN ARE IMPERIAL UNITS.

NOTE:

1. The profile shown is exaggerated in height by a factor of 5 for visual appearance purposes. This means that every 1" of elevation is stretched vertically by 5 and is shown as 5" of elevation.
2. The profile line represents the elevation of the roadway along the alignment baseline and is the highest point on the roadway section. The edges of the road, at the shoulders, are assumed to be 0.5' lower than the profile line. The edges of the road are used to set the Bridge elevation. The elevations at the edges of the roadway typically control the waterway openings at the bridges.
3. The profile for the 25-Year Storm Event is shown for informational purposes only.
4. Inspection clearance for the Bridge structures is to allow a person to have adequate room to inspect the structure for maintenance purposes. Inspection clearance for the Box Culvert structures is the distance between the bottom of the slab and the bottom of the waterway opening.
5. The assumed Free Board refers to the available space between the Design Year Storm Event water surface and the bottom of the structure opening.
6. The Structure Depth for the Bridge structures is assumed to be 3'.
7. The Structure Depth for the Box Culvert structures (as shown) is assumed to be a 3' top slab depth with 2' minimum of fill cover over the top slab to the roadway surface.



DRAWINGS	SHEET
CONCEPT PLANS	7 OF 10

GRAND CAYMAN ISLAND

EAST-WEST ARTERIAL ROAD EXTENSION SECTION 3

REVISION NUMBER	DATE	BY	REVISIONS

0 75 150 FEET

LEGEND

- ASPHALT TRAVEL LANE/ SHOULDER
- STRUCTURE
- CONCRETE BARRIER/ TRAFFIC SEPARATOR
- MEDIAN ISLAND/ CUT FILL SLOPE
- SIDEWALK
- CURB
- CENTRAL MANGROVE WETLAND
- NATIONAL TRUST LAND
- B-# STRUCTURE ID
- FILL LINE
- CUT LINE
- PARCEL BOUNDARY
- DRAINAGE PIPE
- E/U POWER CONDUIT
- HIGHWAY LIGHTING LUMINAIRE

PREPARED BY:

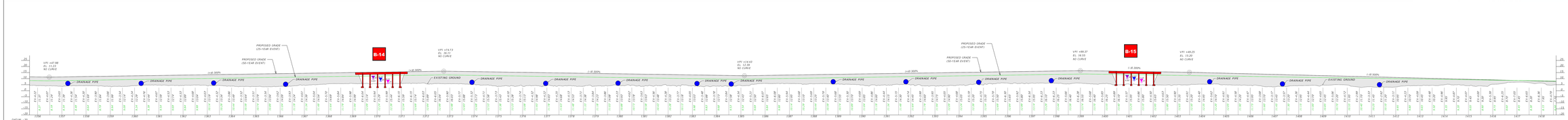
WRA
Whitman, Requardt & Associates, LLP

PROFILE DESIGN ASSUMPTIONS

STORM EVENT	25-YEAR	50-YEAR
STRUCTURE TYPE	BOX CULVERT	BRIDGE
INSPECTION CLEARANCE	3' MIN.	6' MIN.
FREE BOARD [1]	1'	3'
STRUCTURE DEPTH [2]	1'	3'
FILL COVER [3]	2' MIN.	

SHEET INDEX

MAP OF GRAND CAYMAN ISLAND



EWA - PROFILE

NOTE

1. The profile shown is exaggerated in height by a factor of 5 for visual appearance purposes. This means that every 1' in elevation is stretched vertically by 5 and is shown as 5' in elevation.
2. The profile line represents the elevation of the roadway along the alignment baseline and is shown at the crown of the roadway. Where the roadway is in cut, the profile line is shown at the bottom of the lip on the cut side. Where the roadway is in fill, the profile line is shown at the edge of the roadway shoulder. The elevations at the edges of the roadway typically control the waterway openings at the bridges.
3. The profile for the 25-Year Storm Event is shown for informational purposes only.
4. Inspection clearance for the Bridge structures is to allow a person to have adequate room to inspect the structure for maintenance purposes. Inspection clearance for the Box Culvert structures is to allow for a robotic camera to inspect the structure for maintenance purposes.
5. The assumed Free Board refers to the available space between the Design Year Storm Event water surface and the bottom of the structure opening.
6. The Structure Depth for the Bridge structures is assumed to be 2'.
7. The Structure Depth for the Box Culvert structures (as shown) is assumed to be a 1' top slab depth with 2' minimum of fill cover over the top slab to the roadway surface.

LEGEND

- 25-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT WITH ESTIMATED SEA LEVEL RISE WATER SURFACE ELEVATION
- 50-YEAR STORM EVENT ROADWAY PROFILE
- 25-YEAR STORM EVENT ROADWAY PROFILE

SCALE

HORIZONTAL: 0 50 100 FEET

VERTICAL: 0 5 10 FEET

ALL UNITS SHOWN ARE IMPERIAL UNITS.

DRAWINGS	SHEET
CONCEPT PLANS	8 OF 10
GRAND CAYMAN ISLAND	

EAST-WEST ARTERIAL ROAD EXTENSION
WILL T CONNECTOR 1

REVISION NUMBER	DATE	BY	REVISIONS

0 75 150 FEET

WILL T 1 CONSTRUCTION BASELINE

WILL T 2 CONSTRUCTION BASELINE

TRUMBACH DRIVE

SHAMROCK ROAD

DISCOVER DRIVE

GAZETTE LINE

LEGEND

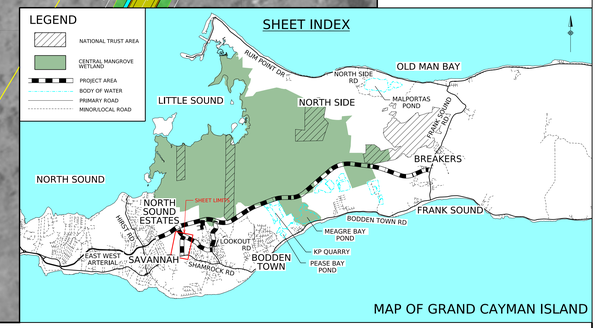
- ASPHALT TRAVEL LANE/ SHOULDER
- STRUCTURE
- CONCRETE BARRIER/ TRAFFIC SEPARATOR
- MEDIAN ISLAND/ CUT-FILL SLOPE
- SIDEWALK
- CURB
- CENTRAL MANGROVE WETLAND
- NATIONAL TRUST LAND
- B-# STRUCTURE ID
- F FILL LINE
- C CUT LINE
- PARCEL BOUNDARY
- DRAINAGE PIPE
- EU POWER CONDUIT
- HIGHWAY LIGHTING LUMINAIRE

PREPARED BY:

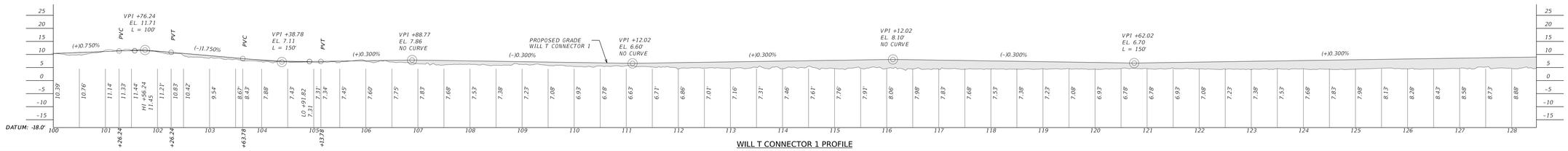
WRA
Whitman, Requardt & Associates, LLP

LEGEND
- NATIONAL TRUST AREA
- CENTRAL MANGROVE WETLAND
- PROJECT AREA
- BODY OF WATER
- PRIMARY ROAD
- MINOR/LOCAL ROAD

SHEET INDEX



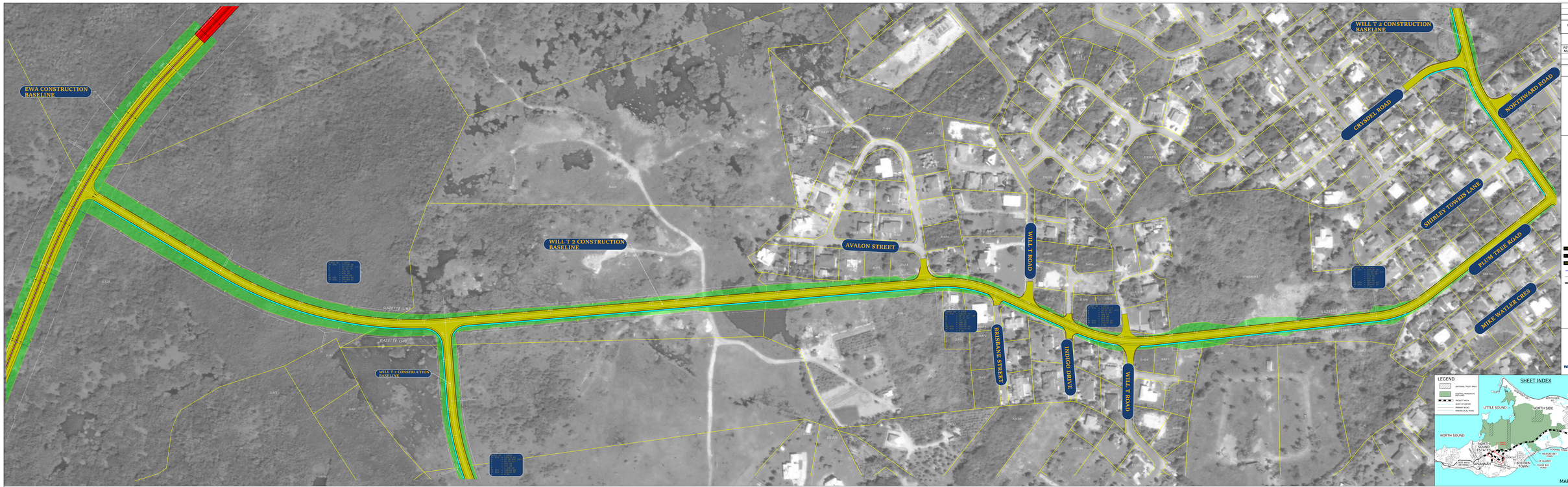
MAP OF GRAND CAYMAN ISLAND



WILL T CONNECTOR 1 PROFILE

SCALE
HORIZONTAL: 0 50 100 FEET
VERTICAL: 0 5 10 FEET

ALL UNITS SHOWN ARE IMPERIAL UNITS.



DRAWINGS	SHEET
CONCEPT PLANS	9 OF 10
GRAND CAYMAN ISLAND	
EAST-WEST ARTERIAL ROAD EXTENSION WILL T CONNECTOR 2	

REVISION NUMBER	DATE	BY	REVISIONS

0 75 150 FEET

LEGEND

- ASPHALT TRAVEL LANE/ SHOULDER
- STRUCTURE
- CONCRETE BARRIER/ TRAFFIC SEPARATOR
- MEDIAN ISLAND/ CUT-FILL SLOPE
- SIDEWALK
- CURB
- CENTRAL MANGROVE WETLAND
- NATIONAL TRUST LAND
- B-# STRUCTURE ID
- F FILL LINE
- C CUT LINE
- PARCEL BOUNDARY
- DRAINAGE PIPE
- EU POWER CONDUIT
- HIGHWAY LIGHTING LUMINAIRE

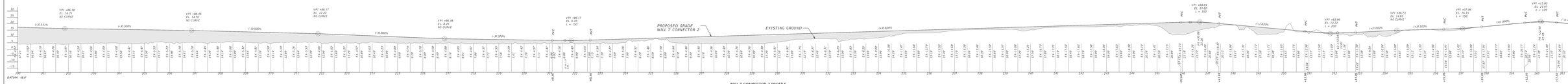
PREPARED BY:

WRA
Whitman, Requardt & Associates, LLP

LEGEND
- NATIONAL TRUST AREA
- CENTRAL MANGROVE WETLAND
- PROJECT AREA
- BODY OF WATER
- MAJOR ROADS
- PARCELS ALL ROAD

SHEET INDEX

MAP OF GRAND CAYMAN ISLAND



WILL T CONNECTOR 2 PROFILE

SCALE

HORIZONTAL: 0 200 400 FEET

VERTICAL: 0 20 40 FEET

ALL UNITS SHOWN ARE IMPERIAL UNITS.

DRAWINGS	SHEET
CONCEPT PLANS	10 OF 10
GRAND CAYMAN ISLAND	

EAST-WEST ARTERIAL ROAD EXTENSION
WILL T CONNECTOR 3

REVISION NUMBER	DATE	BY	REVISIONS

0 75 150 FEET

LEGEND

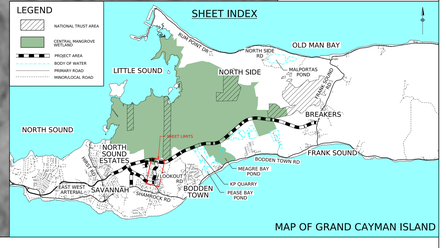
- ASPHALT TRAVEL LANE/ SHOULDER
- STRUCTURE
- CONCRETE BARRIER/ TRAFFIC SEPARATOR
- MEDIAN ISLAND/ CUT-FILL SLOPE
- SIDEWALK
- CURB
- CENTRAL MANGROVE WETLAND
- NATIONAL TRUST LAND
- B-# STRUCTURE ID
- F FILL LINE
- C CUT LINE
- PARCEL BOUNDARY
- DRAINAGE PIPE
- EU POWER CONDUIT
- HIGHWAY LIGHTING LUMINAIRE

PREPARED BY:

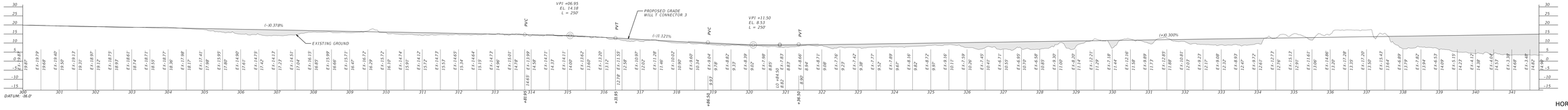
WRA
Whitman, Requardt & Associates, LLP

LEGEND
- NATIONAL TRUST AREA
- CENTRAL MANGROVE WETLAND
- PROJECT AREA
- BODY OF WATER
- PRIMARY ROAD
- MINOR/LOCAL ROAD

SHEET INDEX



MAP OF GRAND CAYMAN ISLAND



WILL T CONNECTOR 3 PROFILE

SCALE

HORIZONTAL: 0 50 100 FEET
VERTICAL: 0 10 20 FEET

ALL UNITS SHOWN ARE IMPERIAL UNITS.