

# MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS (DPTW)

15% CONCEPT PLANS (VOLUME 2 OF 2)

BEACH CORRIDOR RAPID TRANSIT PD&E
MIAMI-DADE COUNTY

BEACH CORRIDOR RAPID TRANSIT PROJECT PD&E

ENEIDA MARTINEZ, P.E.
P.E. NO.: 80804
PARSONS
7600 CORPORATE CENTER DRIVE, SUITE 104
MIAMI, FL, 33126
CONTRACT NO.: CIP142-1-TPW16-PE1(1)
PROJECT NO.: CIP153
VENDOR NO.: 360982270 04
CERTIFICATE OF AUTHORIZATION NO.: 1838
MIAMI-DADE DTPW PM:

JIE BIAN, Ph. D.

CONSTRUCTION	FISCAL	SHEET
CONTRACT NO.	YEAR	NO.
T-0000	2020	100B

#### **GENERAL INFORMATION**

SHEET DWG NO. SHEET DESCRIPTION COVER (VOLUME 2) 100B GBS000

> SIGNATURE SHEET - VOLUME 2 (NOT INCLUDED) GSS002

GXB102 INDEX OF DRAWINGS (VOLUME 2)

# **GUIDEWAY STRUCTURES BAY CROSSING SEGMENT**

DWG NO. SHEET DESCRIPTION GENERAL NOTES (1 OF 2) W-001 W-002 GENERAL NOTES (2 OF 2) PLAN AND ELEVATION (1 OF 30) W-003 W-004 PLAN AND ELEVATION (2 OF 30) W-005 PLAN AND ELEVATION (3 OF 30) PLAN AND ELEVATION (4 OF 30) W-006 PLAN AND ELEVATION (5 OF 30) W-007 PLAN AND ELEVATION (6 OF 30) W-008 PLAN AND ELEVATION (7 OF 30) W-009 PLAN AND ELEVATION (8 OF 30) W-010 PLAN AND ELEVATION (9 OF 30) W-011 PLAN AND ELEVATION (10 OF 30) W-012 W-013 PLAN AND ELEVATION (11 OF 30) PLAN AND ELEVATION (12 OF 30) W-014 PLAN AND ELEVATION (13 OF 30) W-015 PLAN AND ELEVATION (14 OF 30) PLAN AND ELEVATION (15 OF 30) W-017 PLAN AND ELEVATION (16 OF 30) W-018 PLAN AND ELEVATION (17 OF 30) W-019 PLAN AND ELEVATION (18 OF 30) W-020 PLAN AND ELEVATION (19 OF 30) W-021 W-022 PLAN AND ELEVATION (20 OF 30) PLAN AND ELEVATION (21 OF 30) W-023 PLAN AND ELEVATION (22 OF 30) W-024 PLAN AND ELEVATION (23 OF 30) W-025 PLAN AND ELEVATION (24 OF 30) PLAN AND ELEVATION (25 OF 30) W-027 PLAN AND ELEVATION (26 OF 30) W-028

## **GUIDEWAY STRUCTURES BAY CROSSING SEGMENT**

DWG NO.

W-29 PLAN AND ELEVATION (27 OF 30) PLAN AND ELEVATION (28 OF 30) W-30 PLAN AND ELEVATION (29 OF 30) W-031 PLAN AND ELEVATION (30 OF 30) W-032 W-033 TYPICAL SECTION - WEST BRIDGE W-034 TYPICAL SECTION POMT WATSON ISLAND TYPICAL SECTION - CAUSEWAY (1 OF 2) W-035 TYPICAL SECTION - CAUSEWAY (2 OF 2) W-036 W-037 TYPICAL SECTION - EAST BRIDGE

SHEET DESCRIPTION

# **GUIDEWAY STRUCTURES** MIAMI SEGMENT (CON'T)

SHEET DESCRIPTION W-080 PROJECT KEY MAP - STRUCTURE W-081 PLAN AND ELEVATION (1 OF 2) PLAN AND ELEVATION (2 OF 2) W-082 W-083 TYPICAL SECTION

# **GUIDEWAY STRUCTURES** MIAMI BEACH SEGMENT (CON'T)

DWG NO. SHEET DESCRIPTION PLAN AND ELEVATION (1 OF 5) W-090 PLAN AND ELEVATION (2 OF 5) W-091 W-092 PLAN AND ELEVATION (3 OF 5) W-093 PLAN AND ELEVATION (4 OF 5) PLAN AND ELEVATION (5 OF 5) W-094 TYPICAL SECTION (1 OF 2) W-095 TYPICAL SECTION (2 OF 2) W-096

A.CH R.U. & JMR HECKED BY E.M. RAWING SCALE 5% CONCEPT PLAN SUBMITTAL AS SHOWN REVISIONS



	BEACH CORF	RIDOR RAPID	TRANSIT PD&E - CIP#	153
	PARSO	ONS		
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CERTIFICATE OF AUTHORIZATION No. 1838				
	ENEIDA MARTINEZ, P.E. LICENSE	No. 80804		
		0.475	400000150	DATE

DRAWING TITLE: GENERAL INDEX OF DRAWINGS VOLUME 2

GXB102

- ALL WORK SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS (DTPW) SPECIFICATIONS AND STANDARDS AS SPECIFIED HEREIN.
- FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (DIVISIONS II & III), WITH ALL APPLICABLE SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS.
- DRAWINGS SHALL NOT BE SCALED. ANY DISCREPANCIES BETWEEN THE DRAWINGS SHALL BE REFERRED TO THE OWNER OR HIS REPRESENTATIVE FOR CLARIFICATION PRIOR TO UNDERTAKING THE WORK.
- DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE STRUCTURE AND FOR ENSURING THAT NO PORTION OF THE STRUCTURE IS OVERSTRESSED AS A RESULT OF CONSTRUCTION ACTIVITIES.

#### DESIGN SPECIFICATIONS:

ALL DESIGNS UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH THE AERIAL GUDEWAY DESIGN CRITERIA (VOLUME III OF THE MIAMI-DADE COUNTY TRANSIT'S RAPID TRANSIT SYSTEM EXTENSIONS COMPENDIUM OF DESIGN CRITERIA, INTERIM RELEASE REV 1, OCTOBER 30, 2008) WITH THE FOLLOWING USED AS REFERENCE CODES:

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRED BRIDGE DESIGN SPECIFICATIONS (9TH EDITION 2020)

FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES MANUAL, CURRENT EDITION AND ALL APPLICABLE STRUCTURES DESIGN BULLETINS

FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN MANUAL, CURRENT MANUAL AND ALL APPLICABLE SUBSEQUENT ROADWAY DESIGN BULLETINS.

FLORIDA DEPARTMENT OF TRANSPORTATION SOILS AND FOUNDATION HANDBOOK. CURRENT EDITION.

AUTOMATED PEOPLE MOVER STANDARDS, ASCE 21-05

AMERICAN SOCIETY OF CIVIL ENGINEERS ASCE/SEI 7-10, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, CHAPTER 26 WIND LOADS.

B. IN CASE OF CONFLICT BETWEEN THE CODES, THE MORE STRINGENT CRITERIA SHALL APPLY UNLESS SHOWN OTHERWISE.

#### 2. DESIGN LOADS:

- DEAD LOADS (DC) UNIT WEIGHT OF REINFORCED CONCRETE: 150 PCF UNIT WEIGHT OF STEEL: 490 PCF
- SUPERIMPOSED DEAD LOADS (DW):
  - WALKWAY/WIREWAY: 0.14 KLF (INCLUDES CABLES PER ONE TRACK GUIDEWAY)
  - POWER AND SIGNAL CABLES: 0.015 KLF (PER ONE TRACK GUIDEWAY)
  - LOWER CABLE TRAYS: 0.07 KLF (PER ONE TRACK GUIDEWAY)
  - MISCELLANEOUS: 0.035 KLF (PER ONE TRACK GUIDEWAY)

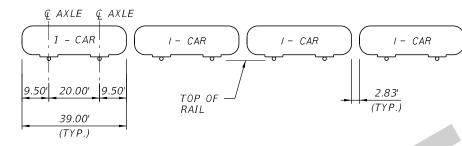
FOR STEEL FRAMING (TWO TRACK GUIDEWAY):

- DIAPHRAGMS: APM GUIDEWAY: 0.38 K/FT
  - MONORAIL GUIDEWAY: 0.12 K/FT
- BRACINGS:
- APM GUIDEWAY: 0.04 K/FT
- - MONORAIL GUIDEWAY: 0.04 K/FT
- CONCRETE PADS FOR APM (PLINTH): 0.45 KLF (PER ONE TRACK GUIDEWAY AS REQUIRED)

C. LIVE LOAD (LL):

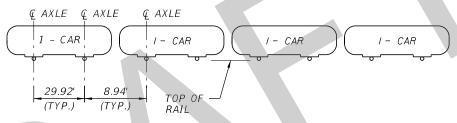
DESIGN TRANSIT VEHICLES CONSIST OF FOUR CARS WITH A TOTAL OF 8 AXLES

OPTION 1 - ASSUMED APM VEHICLE LOADING DIAGRAM:



LOADING	AXLE LOAD (KIPS)
EMPTY VEHICLE (AWO)	16.30 (2 AXLES/CAR)
MAXIMUM LOAD (AW2)	28.3 PER AXLE (8 AXLES)

OPTION 2 - ASSUMED MONORAIL VEHICLE LOADING DIAGRAM:



LOADING	AXLE LOAD (KIPS)		
EMPTY VEHICLE (AWO)	16.50 (2 AXLES/CAR)		
MAXIMUM LOAD (AW2)	23.95 PER AXLE (8 AXLES)		

VERTICAL IMPACT OF LIVE LOAD (IM):

- VERTICAL IMPACT OF TRANSIT VEHICLE LIVE LOAD SHALL BE TAKEN AS 20% OF THE LIVE LOAD.
- NO IMPACT ON PILE CAPS, PILES, OR DRILLED SHAFTS.

PEDESTRIAN LIVE LOAD (PL):

- EMERGENCY EVACUATION AND MAINTENANCE WALKWAY SUPPORTING ELEMENT SHALL BE DESIGNED FOR A LIVE LOAD OF 100 PSF.
- FOR THE DESIGN OF THE GUIDEWAY STRUCTURE, THE PEDESTRIAN LIVE LOAD SHALL BE 85 PSF.
- D. WIND LOADS (W):
  - THE DESIGN WIND VELOCITY SHALL BE 170 MPH.
  - DESIGNED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND AS MODIFIED BY STRUCTURES DESIGN GUIDELINES (SDG) SECTION 2.4.
- E. VEHICLE COLLISION FORCE:
  - NEW PIER COLUMNS SHALL BE DESIGNED TO WITHSTAND THE 600 KIP VEHICULAR COLLISION FORCE PER AASHTO LRFD SPECIFICATIONS.

#### 3. ENVIRONMENT:

SUPERSTRUCTURE - EXTREMELY AGGRESSIVE

SUBSTRUCTURE

- EXTREMELY AGGRESSIVE (RESISTIVITY: 110-180 OHM-CM)

BEACH CORRIDOR RAPID TRANSIT PD & E - CIP # 153

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# 4. CONCRETE:

CLASS	MINIMUM 28-DAY COMPRESSIVE STRENGTH (PSI)	LOCATION
IV (DRILLED SHAFTS)	F'c = 4000	DRILLED SHAFTS
IV	F'c = 5500	CONCRETE PAD, FOOTING, COLUMNS, PIER CAPS, END BENTS

ALL CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 346 OF THE FDOT SPECIFICATIONS.

# REINFORCED CONCRETE DESIGN:

- ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.
- ALL REINFORCING STEEL SHALL BE DEFORMED AND UNCOATED.
- ALL DIMENSIONS PERTAINING TO LOCATION OF REINFORCING STEEL ARE TO CENTERLINE OF BARS EXCEPT WHERE CLEAR DIMENSION IS NOTED TO FACE OF CONCRETE.
- REINFORCING STEEL DETAIL DIMENSIONS ARE OUT-TO-OUT OF BARS.
- E. COVER ON REINFORCING STEEL AS FOLLOWS, UNLESS NOTED OTHERWISE:

SUPERSTRUCTURE 2 IN. INTERNAL AND EXTERNAL SURFACES SUBSTRUCTURE 4-1/2 IN. EXTERNAL SURFACES CAST AGAINST EARTH AND SURFACES IN WATER

SUBSTRUCTURE 4 IN.

EXTERNAL FORMED SURFACES, COLUMNS, AND TOPS OF FOOTING NOT IN CONTACT

WITH WATER

SUBSTRUCTURE 6 IN. DRILLED SHAFTS

CONCRETE COVER SHOWN IN THE PLANS DOES NOT INCLUDE REINFORCEMENT PLACEMENT AND FABRICATION TOLERANCES UNLESS SHOWN AS "MINIMUM COVER".

# STRUCTURAL STEEL:

- ALL STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50 UNLESS NOTED OTHERWISE
- DIAPHRAGMS, WEB STIFFENERS, LATERAL BRACINGS, AND PLATES SHALL CONFORM TO ASTM A-36, GRADE 36 UNLESS NOTED OTHERWISE
- BOLTS CONNECTING STEEL MEMBERS SHALL CONFORM TO ASTM A325 UNLESS NOTED OTHERWISE
- STRUCTURAL STEEL FOR INTEGRAL PIER CAPS AND STRADDLE BENTS SHALL BE IN ACCORDANCE WITH ASTM A709, GRADE HPS 50W
- E. ALL STRUCTURAL STEEL SHALL BE PAINTED WITH HIGH PERFORMANCE COATING SYSTEM IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTON 975. THE COLOR OF THE FINISHED COATING SHALL CONFORM TO FEDERAL STANDARD NO. 595B, COLOR NO. (TBD BY OWNER).

ILDD 01/20 FLDD 01/20 hecked by STP 01/20 RAWING SCALE



**PARSONS** 7600 CORPORATE CENTER DRIVE, SUITE 104, MIAMI, FL 33126 PHONE: (786) 464-1000 FAX: (786) 845-7119 CERTIFICATE OF AUTHORIZATION NO. 1838 SAM T. PHAN . P.E. P.E. LICENSE No. 54072

APPROVED

GENERAL NOTES (1 OF 2) W-001

BEACH CORRIDOR GUIDEWAY

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#### 7. DIMENSIONS:

- A. ALL PLAN DIMENSIONS ARE MEASURED IN LEVEL PLANE
- B. ALL VERTICAL DIMENSIONS ARE MEASURED IN PLUMB PLANE
- C. ALL VERTICAL CONTROLS AND ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988.

#### 8. CONCRETE DETAILS:

- A. ALL EMBEDDED ITEMS AND BLOCKOUTS REQUIRED FOR CIVIL, ELECTRICAL AND MECHANICAL SERVICES SHALL BE INCORPORATED INTO THE STRUCTURE WHETHER OR NOT THEY ARE DETAILED OR INDICATED ON THE STRUCTURAL DRAWINGS. REFER TO CIVIL, ELECTRICAL AND MECHANICAL DRAWINGS FOR EMBEDDED ITEMS AND BLOCKOUTS.
- B. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED  $\frac{3}{4}$ " x  $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

#### 9. CONSTRUCTION NOTES:

- A. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING ANY WORK. ANY VARIATIONS IN ACTUAL FIELD CONDITIONS / DIMENSIONS FROM THOSE SHOWN ON THE CONTRACT DRAWINGS SHALL BE REPORTED TO THE ENGINEER FOR DETERMINING THE NEED OF REDESIGN PRIOR TO CONTRACTOR'S SUBMITTAL OF SHOP OR WORKING DRAWINGS FOR APPROVAL.
- B. REFER TO CONSTRUCTION STAGING PLANS, SHEET NOS. 376 THRU 388 FOR DETAILS AND NOTES.

#### 10. UTILITIES:

- A. THE CONTRACTOR SHALL NOTIFY ALL INVOLVED COMPANIES AND HAVE LOCATIONS OF ALL UTILITIES VERIFIED PRIOR TO EXCAVATION, DRILLING, OR CONSTRUCTION AND SHALL BE RESPONSIBLE FOR MAKING HIS OWN DETERMINATIONS AS MAY BE NECESSARY TO AVOID DAMAGE DURING ANY REQUIRED RELOCATION BY EITHER PARTY. CONTRACTOR SHALL ASSURE THAT ANY ACTIVE UTILITIES WITHIN THE PROJECT LIMITS ARE PROPERLY MAINTAINED DURING CONSTRUCTION. FOR ADDITIONAL INFORMATION. SEE UTILITY PLANS.
- B. THE EXISTING 36" WATER MAIN AT THE BEGINNING OF THE GUIDEWAY AT WEST BRIDGE WILL BE RELOCATED BY OTHERS PRIOR TO START OF CONSTRUCTION OF TRANSIT BRIDGE AND ABANDEONED IN PLACE.
- C. THE CONTRACTOR SHALL ENSURE THAT ANY EXISTING UTILITIES ARE NOT ENDANGERED OR DISTURBED DURING BARGE SPUDS OPERATION.

#### 13. POST TENSIONED CONCRETE BEAM VALUES:

- A. ALLOWABLE STRESSES BEFORE LOSSES :
  - TENSILE STRESS (WITHOUT BONDED REINFORCEMENT) =  $0.0948\sqrt{F}$ 'ci (MAX 0.2 KSI)
  - TENSILE STRESS (WITH BONDED REINFORCEMENT) =  $0.24\sqrt{F'}$ ci
  - COMPRESSIVE STRESS BEFORE LOSSES = 0.65 F'ci
- B. ALLOWABLE STRESSES AFTER LOSSES :
  - COMPRESSIVE STRESS OF EFFECTIVE PRESTRESS AND PERMANENT LOADS = 0.45 F'c
  - COMPRESSIVE STRESS OF EFFECTIVE PRESTRESS, PERMANENT LOADS, AND TRANSIENT LOAD = 0.6 F'c
  - TENSILE STRESS (CORROSIVE) =  $0.0948\sqrt{F'}$ ci (MAX 0.3 KSI)
- C. LOSSES :
  - FRICTION LOSS = 0.25
  - WOBBLE LOSS = 0.0002
  - ANCHOR SET LOSS = 0.25

#### 14. SCOUR:

100 YEAR STORM EVENT SCOUR SHALL BE CONSIDERED IN THE DESIGN AND SCOUR ELEVATIONS SHALL BE SHOWN IN THE DRILLED SHAFT INSTALLATION TABLES. THE DRILLED SHAFTS MAY BE INSTALLED TO TIP ELEVATIONS ABOVE THE MINIMUM TIP ELEVATION AS SHOWN IN THE INSTALLATION TABLES, AS DETERMINED BY THE LOAD TEST PROGRAM. MINIMUM TIP ELEVATION REVISION MUST CONSIDER LATERAL STABILITY REQUIREMENTS.

#### 15. VESSEL COLLISION WITH SCOUR:

- A. WEST BRIDGE: USDOT DADE COUNTY PAST POINT 14 DATA
  - 510 FT DISTANCE FROM CENTERLINE OF CHANNEL: VESSEL COLLISION LOAD 1300 KIPS
  - 365 FT DISTANCE FROM CENTERLINE OF CHANNEL: VESSEL COLLISION LOAD 1550 KIPS
  - 220 FT DISTANCE FROM CENTERLINE OF CHANNEL: VESSEL COLLISION LOAD 1850 KIPS
  - CHANNEL PIERS: VESSEL COLLISION LOAD 2100 KIPS
  - CASE I VESSEL COLLISION LOAD WITH 1/2 LONG TERM SCOUR
  - CASE II MINIMUM VESSEL COLLISION LOAD OF 69 KIPS (200-TON EMPTY BARGE) WITH 1/2 100-YEAR SCOUR
- B. EAST BRIDGE: USDOT NO PAST POINT DATA
  - NAVIGABLE WATERWAY WITH 2 FT PLUS WATER DEPTH
  - MINIMUM VESSEL COLLISION LOAD OF 69 KIPS (200-TON EMPTY BARGE) WITH ½ 100-YEAR SCOUR
- C. CAUSEWAY BRIDGE: NOT APPLICABLE AS THE ELEVATED GUIDEWAY IS WITHIN THE RIPRAP EDGE APPROXIMATELY 100FT OUTSIDE OF THE MIAMI HARBOR NAVIGATION CHANNEL. FOR ADDITIONAL INFORMATION, REFER TO THE BEACH CORRIDOR RAPID TRANSIT PROJECT NAVIGATION IMPACT REPORT BY BERMELLO AJAMIL & PARTNERS, JANUARY 2020.

APPROVED

#### 16. U.S. COAST GUARD (USCG) CONSTRUCTION NOTES:

- A. NAVIGATION CONSIDERATIONS/NAVIGABLE WATERWAY:
  - AT NO TIME DURING CONSTRUCTION WILL THE WATERWAY BE CLOSED OR RESTRICTED TO NAVIGATION WITHOUT PRIOR NOTIFICATION AND APPROVAL FROM U.S. COAST GUARD. ALL CONSTRUCTION EQUIPMENT SHALL BE MARKED IN ACCORDANCE WITH U.S. COAST GUARD "NAVIGATION RULES" AND BE WELL REMOVED FROM THE NAVIGATIONAL CHANNEL WHEN NOT ENGAGED IN CONSTRUCTION ACTIVITIES. THE PLACEMENT OF BARGES AND/OR FLOATING EQUIPMENT IN THE NAVIGATIONAL CHANNEL AND ANY CHANNEL RESTRICTIONS AND/OR CLOSURES WILL REQUIRE PRIOR APPROVAL FROM THE U.S. COAST GUARD, PROVIDE AT LEAST 60 DAYS' NOTICE TO THE FOLLOWING CONTACTS:
  - COAST GUARD DISTRICT SEVEN BRIDGE ADMINISTRATION BRANCH:
  - MS. JENNIFER ZERCHER, (305)415-6740, JENNIFER.N.ZERCHER@USCG.MIL
  - MR. EDDIE LAWRENCE, (305)415-6946, EDDIE.H.LAWRENCE@USCG.MIL
  - COAST GUARD SECTOR MIAMI WATERWAYS MANAGEMENT DIVISION:
  - LT SAMUEL RODRIGUEZ-GONZALEZ, (305)535-4307, SAMUEL.RODRIGUEZ-GONZALEZ@USCG.MIL
  - MR. OMAR BECEIRO, (305)535-4317, OMAR.BECEIRO@USCG.MIL
- B. MAINTAINANCE OF NAVIGABLE CHANNEL TRAFFIC AND WATERWAY WITHIN PROJECT LIMITS:
  - ANY CHANNEL RESTRICTION (HORIZONTAL OR VERTICAL) SHALL BE APPROVED BY THE U.S. COAST GUARD.
  - SUBMIT TO THE ENGINEER A PLAN AND SCHEDULE THAT WILL PROVIDE THE LEAST INTERRUPTION TO THE NORMAL OPERATION OF TRAFFIC. THIS MAINTAINANCE OF CHANNEL TRAFFIC SHALL BE PRESENTED TO AND APPROVED BY THE ENGINEER PRIOR TO BEGINNING OF ANY WORK. ALSO SEND APPROVAL PLAN TO COAST GUARD.
  - NOTIFY USCG DISTRICT SEVEN AND USCG SECTOR MIAMI WATERWAYS MANAGEMENT DIVISION AT LEAST 60 DAYS PRIOR TO THE START OF PROJECT AND AT LEAST 30 DAYS PRIOR TO ANY ANTICIPATED CHANNEL RESTRICTION. ALL REQUESTS ARE TO BE REVIEWED WITH THE ENGINEER PRIOR TO COAST GUARD SUBMITTAL. (SEE USCG CONTACT INFORMATION ABOVE IN SECTION A)
  - MAINTAIN NAVIGATION LIGHTING DURING CONSTRUCTION.
  - PERFORM WORK ON ONE SIDE OF CHANNEL AT A TIME.
  - MAINTAIN HAZARD LIGHTING ON ALL WATER ZONE CONSTRUCTION EQUIPMENT WITHIN THE PROJECT LIMITS.
  - ALL VESSELS IN THE WATER SHALL BE MARKED IN ACCORDANCE WITH USCG RULES.

#### 17. BRIDGE FENDER:

A. MATERIAL AND INSTALLATION OF THE NEW FENDER SHALL BE IN ACCORDANCE WITH 2019 FDOT SPECIFICATIONS SECTION 471.

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- B. PROVIDE FIBER REINFORCED POLYMER (FRP) COMPOSITE MATERIAL FOR ALL MEMBERS (WALES, PILES, SPACER BLOCKS, AND CATWALK COMPONENTS) IN ACCORDANCE WITH 2019 FDOT SPECIFICATIONS SECTION 973.
- C. U.S. COAST GUARD NOTIFICATION: NOTIFY THE LOCAL OFFICE OF THE U.S. COAST GUARD AT LEAST 30 DAYS PRIOR TO BEGINNING OF CONSTRUCTION OF THE FENDER SYSTEM.

### 11. TEMPORARY WORKS:

DESIGN AND PROVIDE TEMPORARY WORKS REQUIRED FOR THE CONSTRUCTION OF THE GUIDEWAY STRUCTURE. THE DESIGN SHALL BE DONE IN ACCORDANCE WITH THE AASHTO GUIDE DESIGN SPECIFICATIONS FOR BRIDGE TEMPORARY WORK, 1995.

## 12. PRESTRESSING AND POST TENSIONING:

PRETENSIONING STRANDS SHALL MEET THE REQUIREMENTS OF ASTM A416, 0.6" DIAMETER 7-WIRE, LOW-RELAXATION, GRADE 270.

#### NOTES TO REVIEWER:

- 1. THE BEACH CORRIDOR GUIDEWAY STRUCTURES PLANS HEREIN ARE PRELIMINARY CONCEPTUAL LEVEL PLANS DEVELOPED TO OBTAIN PERMITS FROM THE FOLLOWING AGENCIES:
  - U.S. COAST GUARD (USCG)

- SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD)
- U.S. ARMY CORPS OF ENGINEERS (USACE)
- MIAMI-DADE COUNTY ENVIRONMENTAL RESOURCES MANAGEMENT (DERM)
- THE PROPOSED STEEL SUPERSTRUCTURE SPANS OF TYPICAL 145FT AT THE WEST BRIDGE AND 130FT AT THE EAST BRIDGE ARE TO MATCH THOSE OF ADJACENT EXISTING MACARTHUR CAUSEWAY BRIDGE AS DIRECTED BY THE U.S. COAST GUARD. FOR THESE SPAN ARRANGEMENTS, STEEL PLATE GIRDERS ARE PROPOSED TO SUPPORT THE APM TRANSIT VEHICLE AND STEEL BOX GIRDERS ARE PROPOSED TO SUPPORT THE ALTERNATE MONORAIL TRANSIT VEHICLE.
- 3. TO MITIGATE AGAINST THE RISK OF EXCESSIVE VIBRATION AND SETTLEMENT CONCERNS TO THE PORT OF MIAMI TUNNELS (POMT) DURING DRILLED SHAFT CASING INSTALLATION AND EXTRACTION; AUGER CAST-IN-PLACE PILE (ACIP) FOUNDATIONS ARE PROPOSED FOR PIERS 33 THRU 35. THESE CONCEPT LEVEL SPAN ARRANGEMENTS, FOUNDATION TYPES, AND CLEARANCES TO THE TUNNELS ARE PENDING THE PORT AUTHORITY'S APPROVAL. REFER TO FOUNDATION LAYOUT SHEET 8 OF 22 FOR PLAN VIEW.

BEACH CORRIDOR RAPID TRANSIT PD & E - CIP # 153

				Designed by #LDD 01/20
				Drawn by
				FLDD 01/20
				Checked by
				STP 01/20
				DRAWING SCALE:
No.	Date	App.	Revisions	N/A



PARSONS

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SAMT. PHAN. P.E. . P.E. LICENSE NO. 54072

104, MIAMI, FL 33126 6) 845-7119 10 NO. 1838 5E No. 54072 DATE APPROVED DATE

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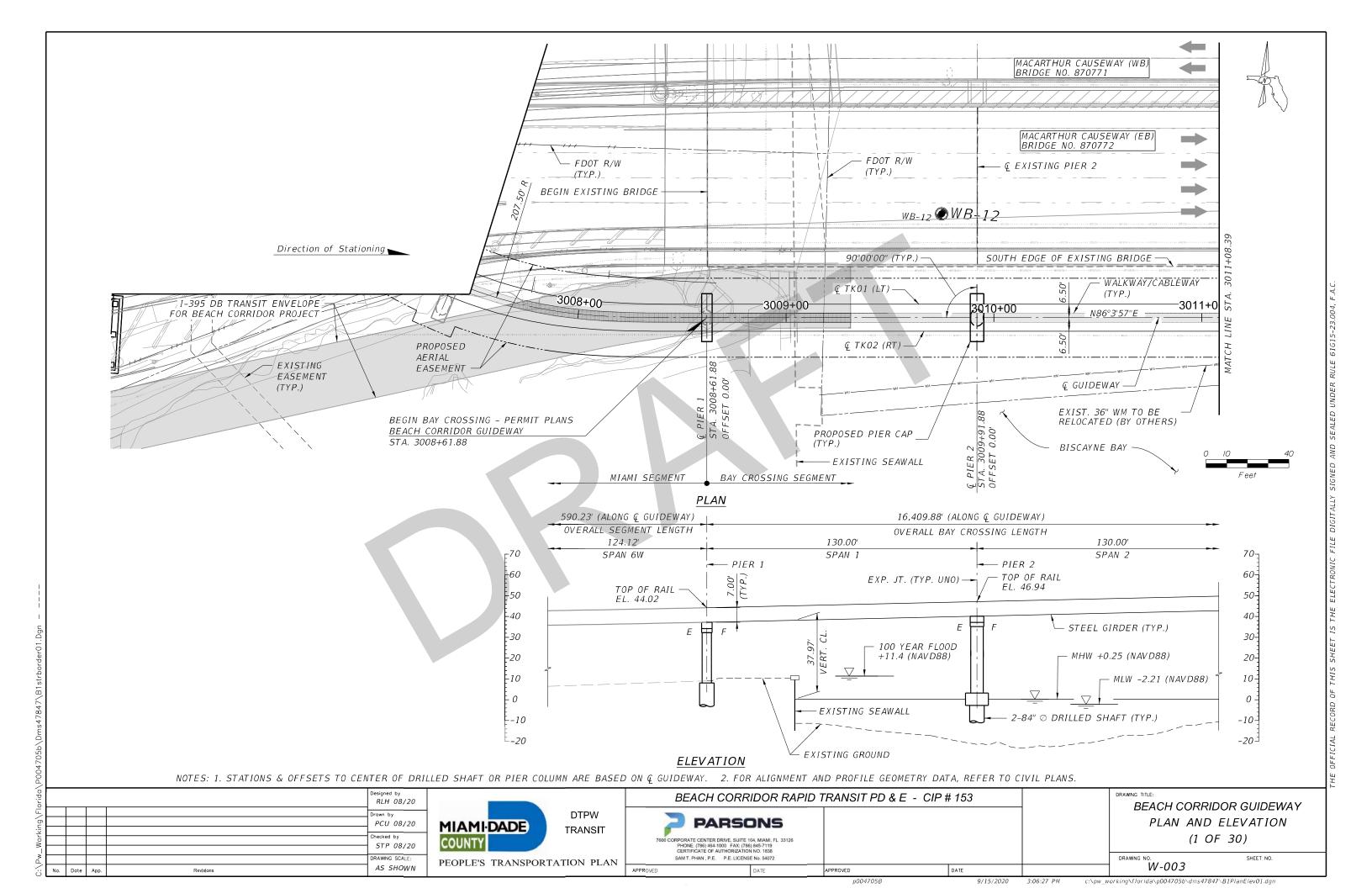
BEACH CORRIDOR GUIDEWAY GENERAL NOTES (2 OF 2)

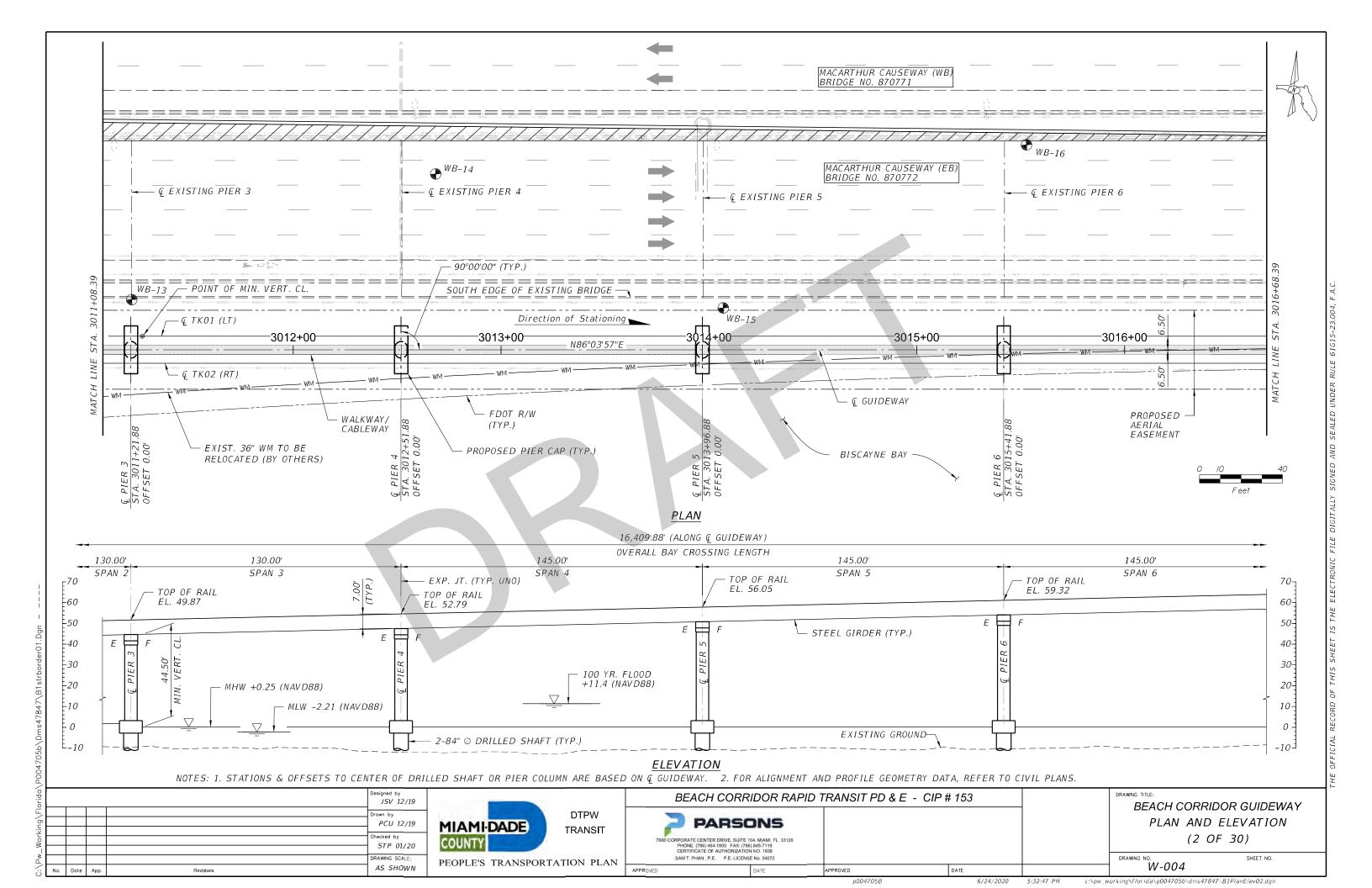
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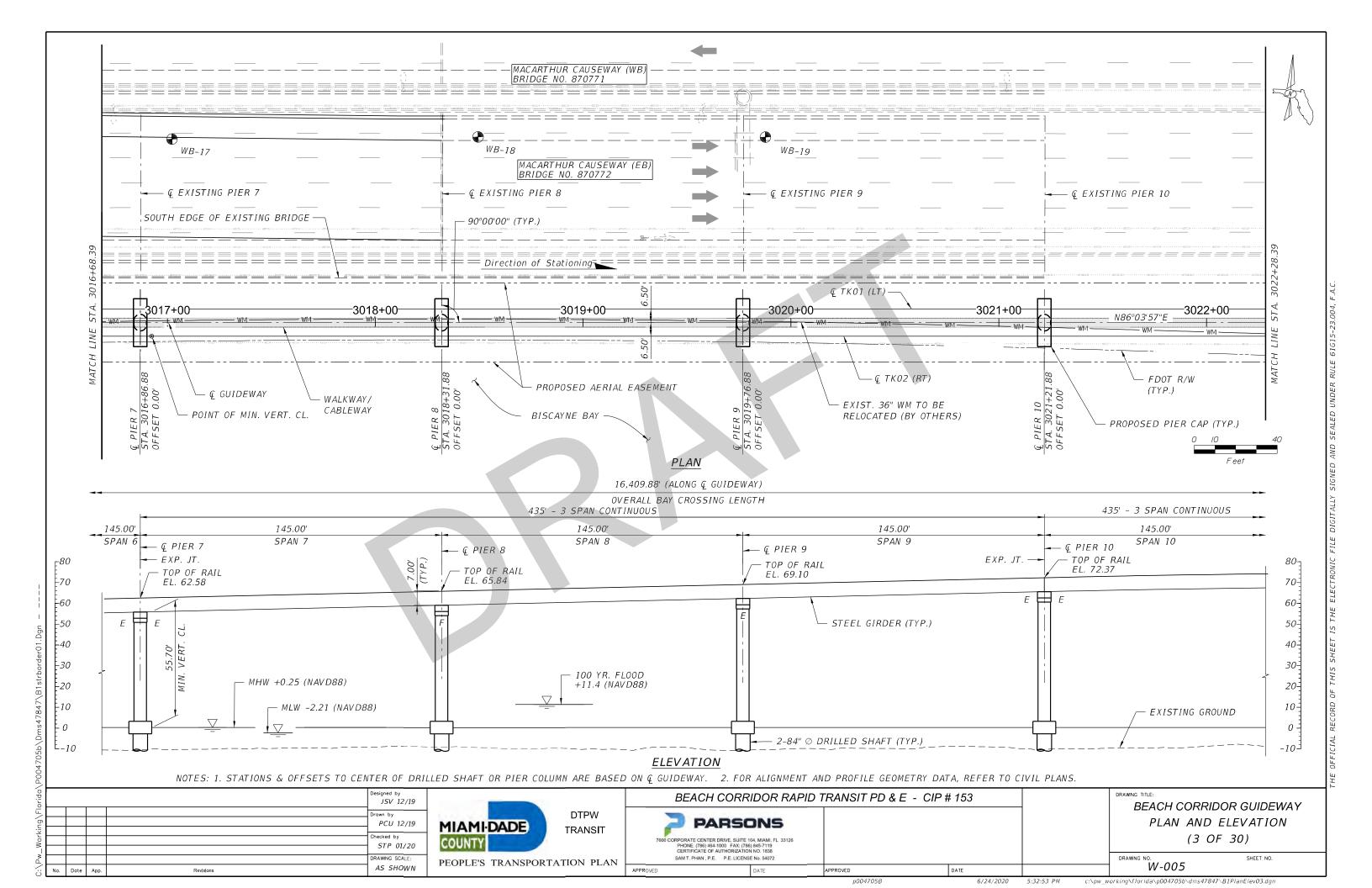
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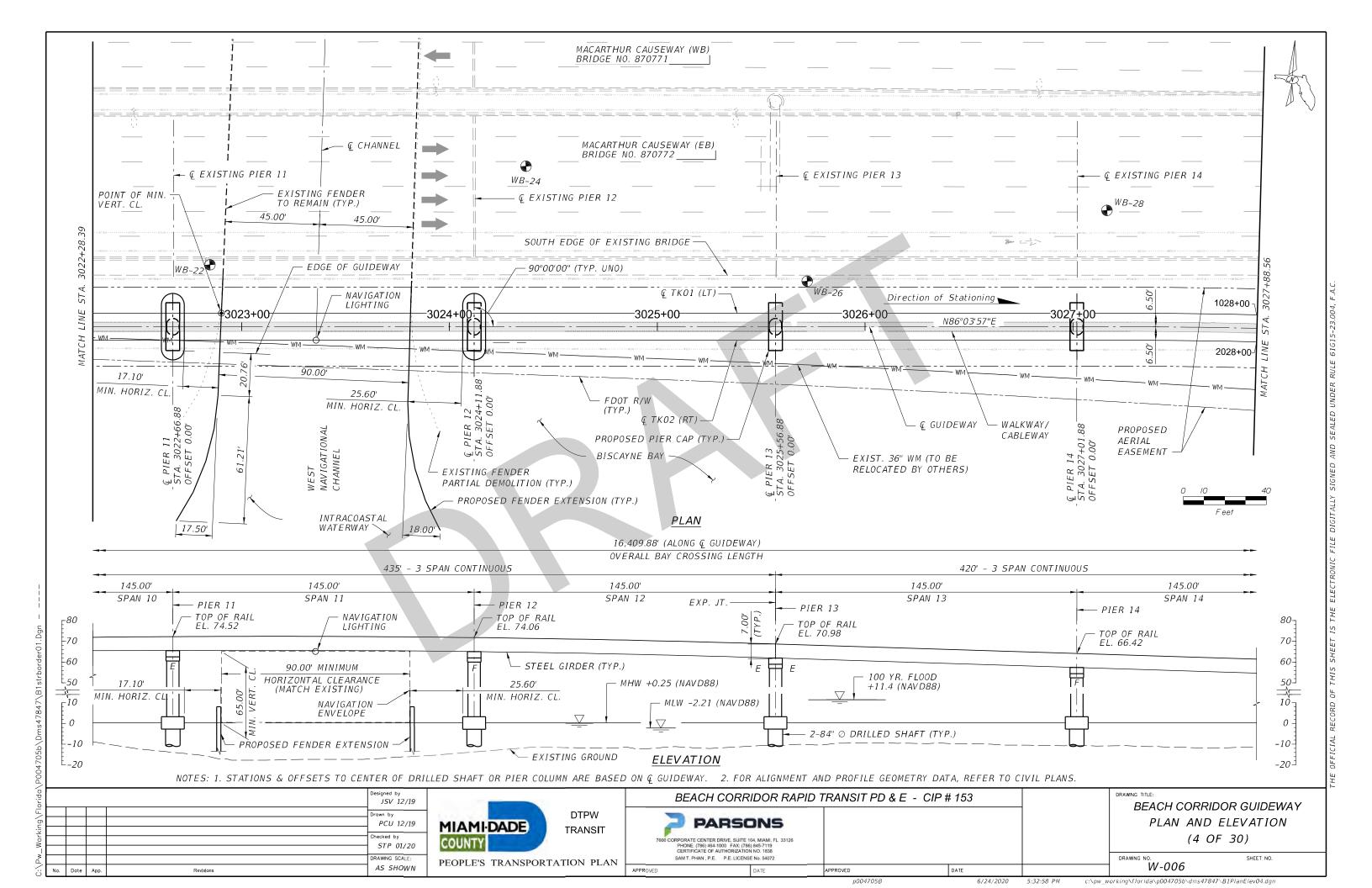
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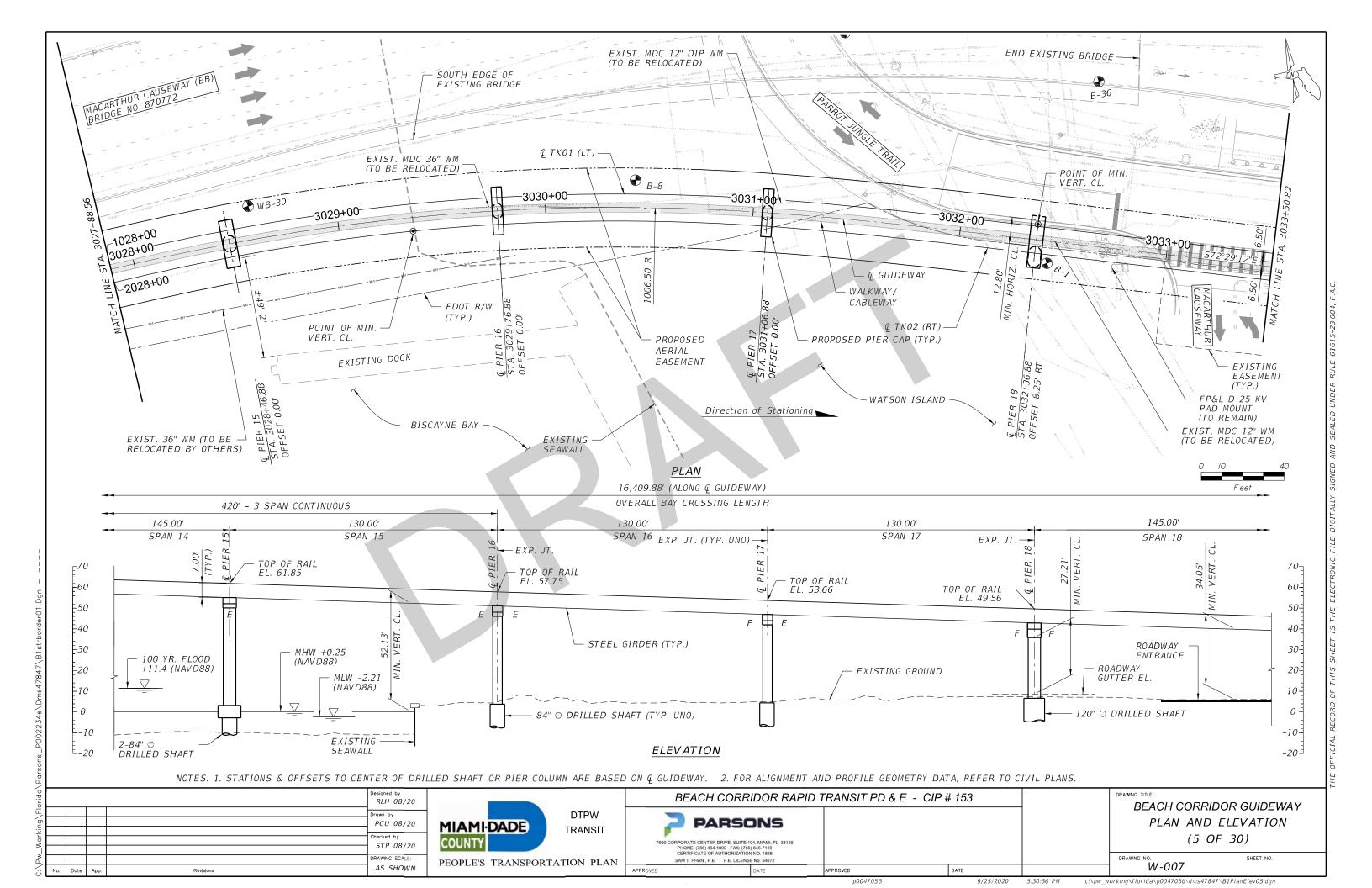
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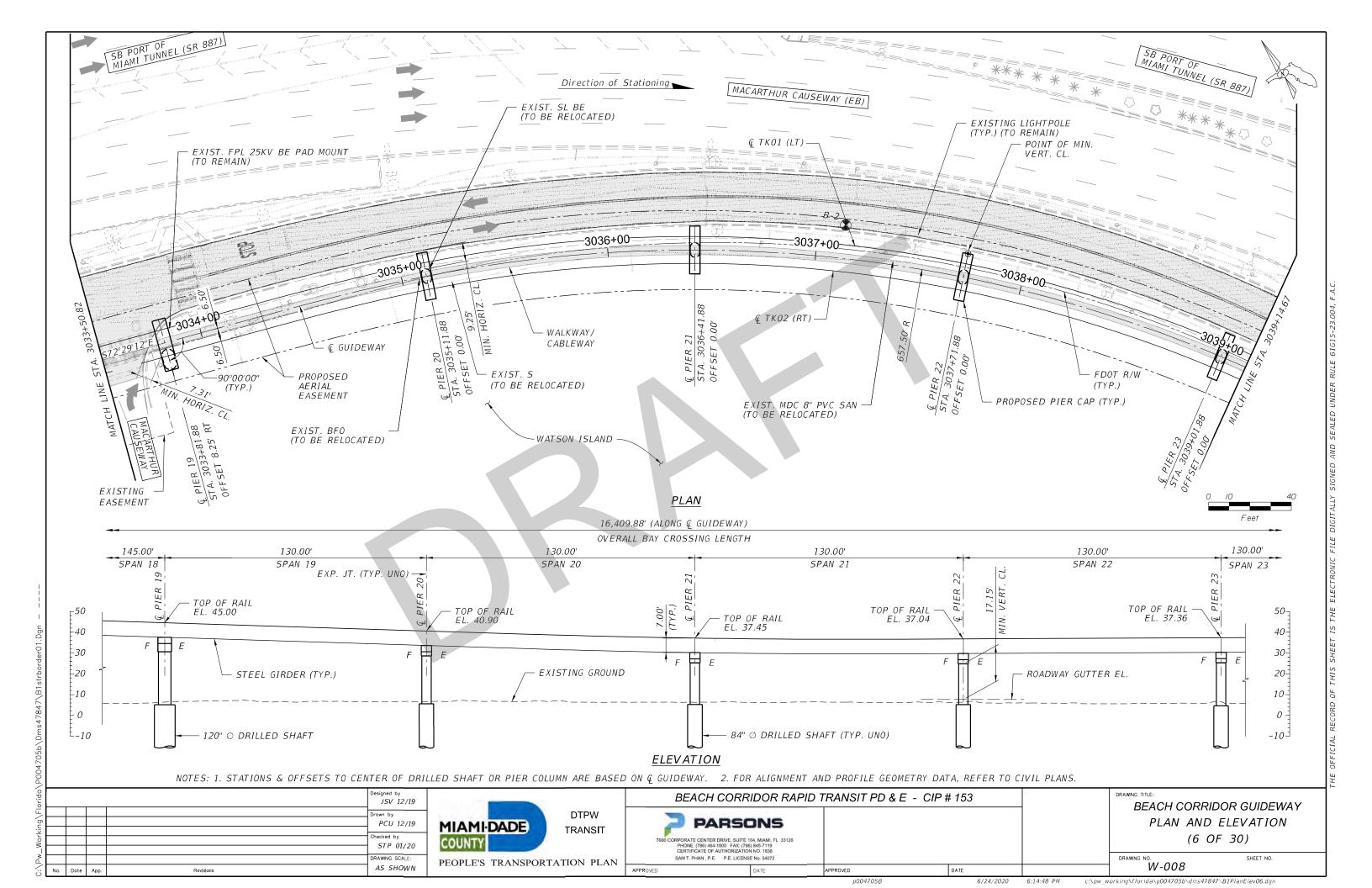


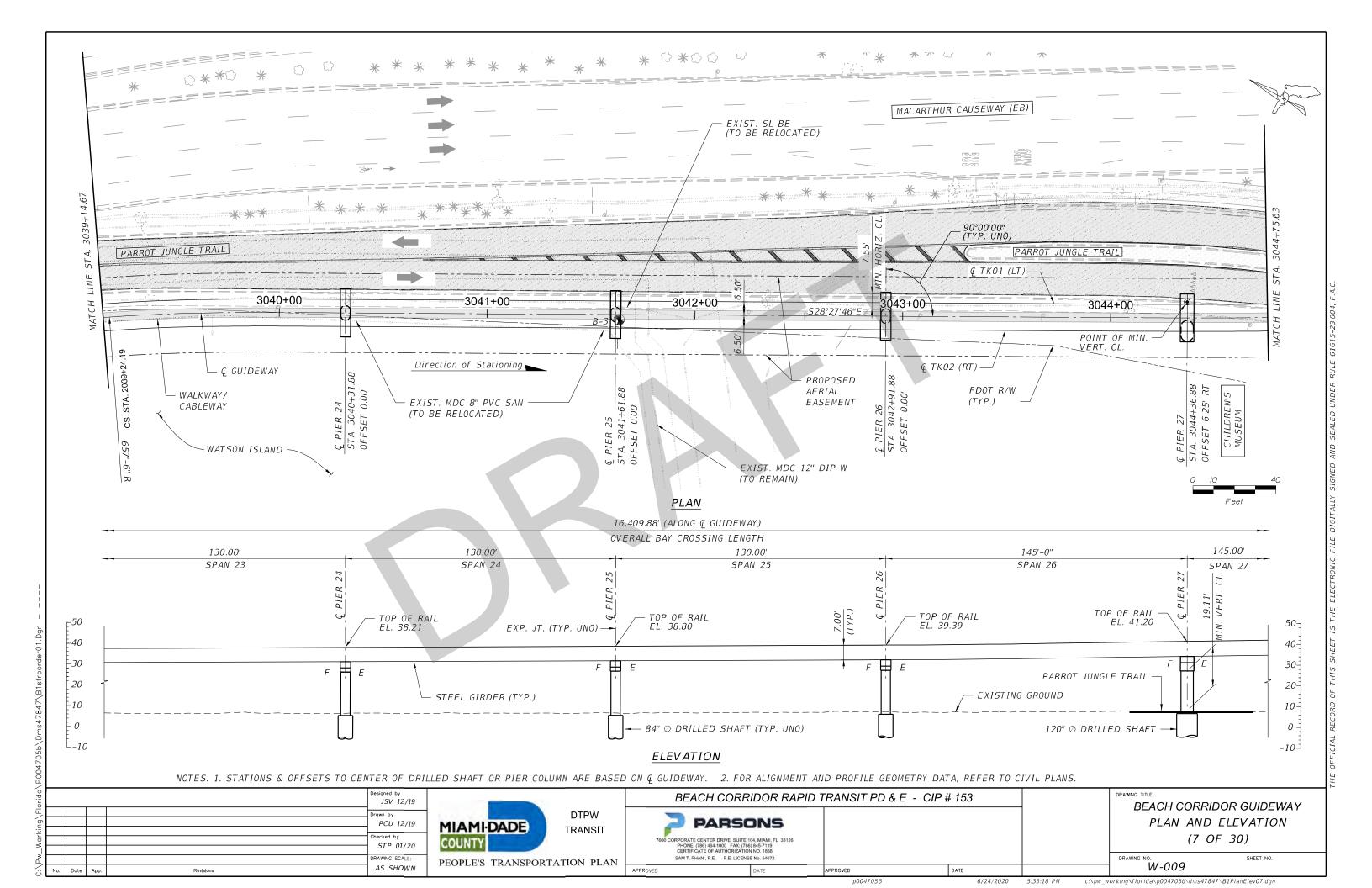


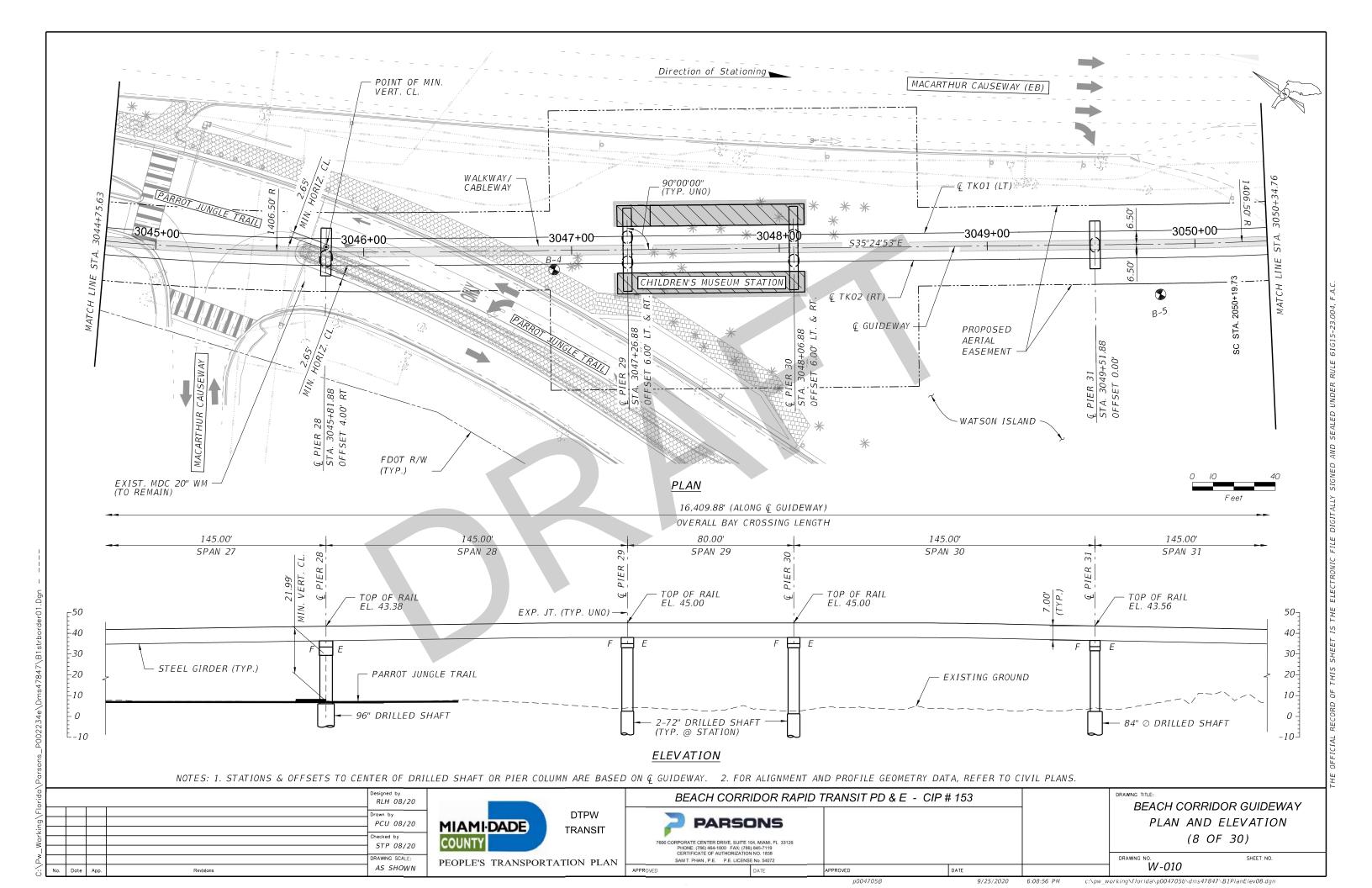


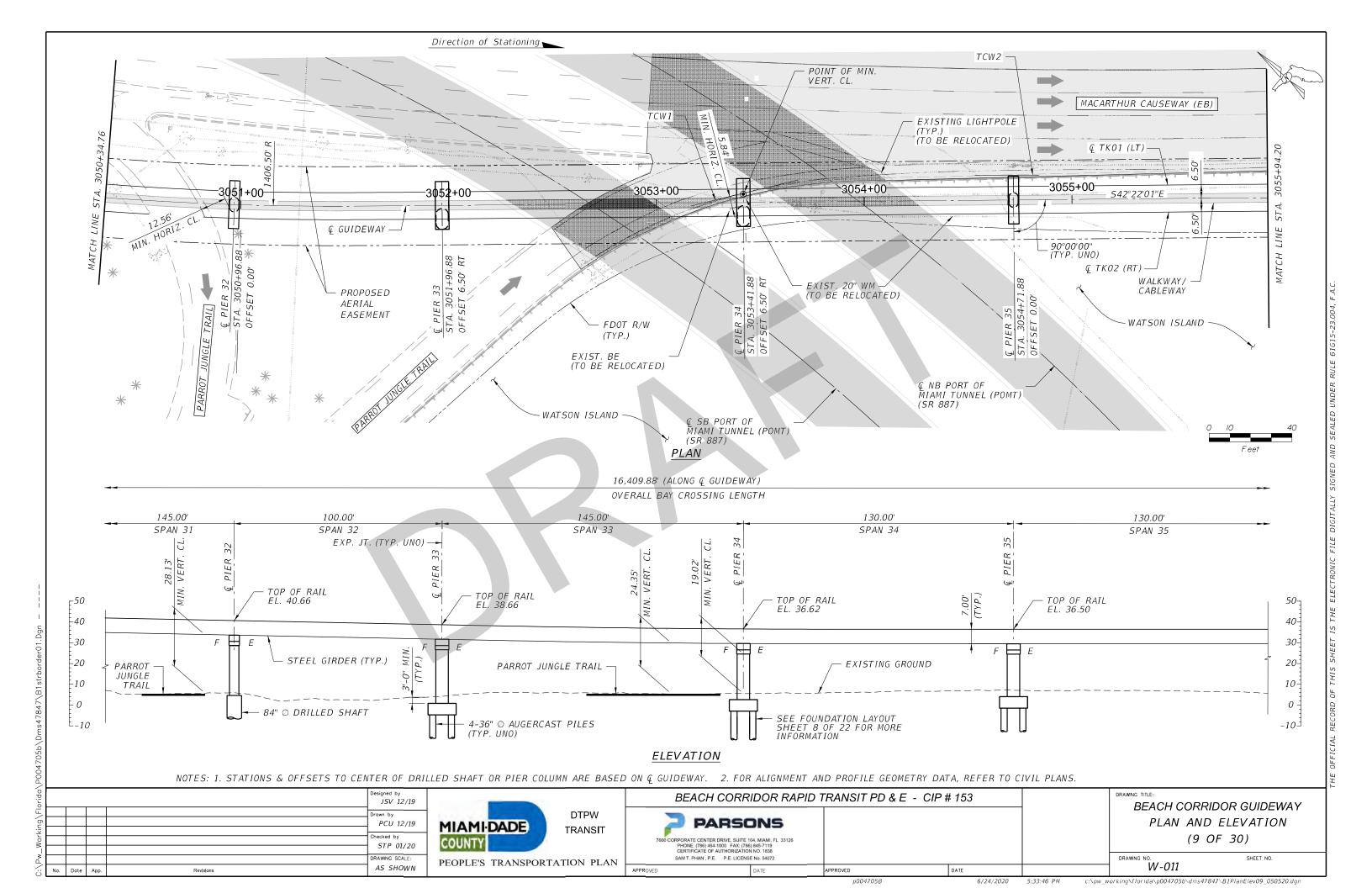


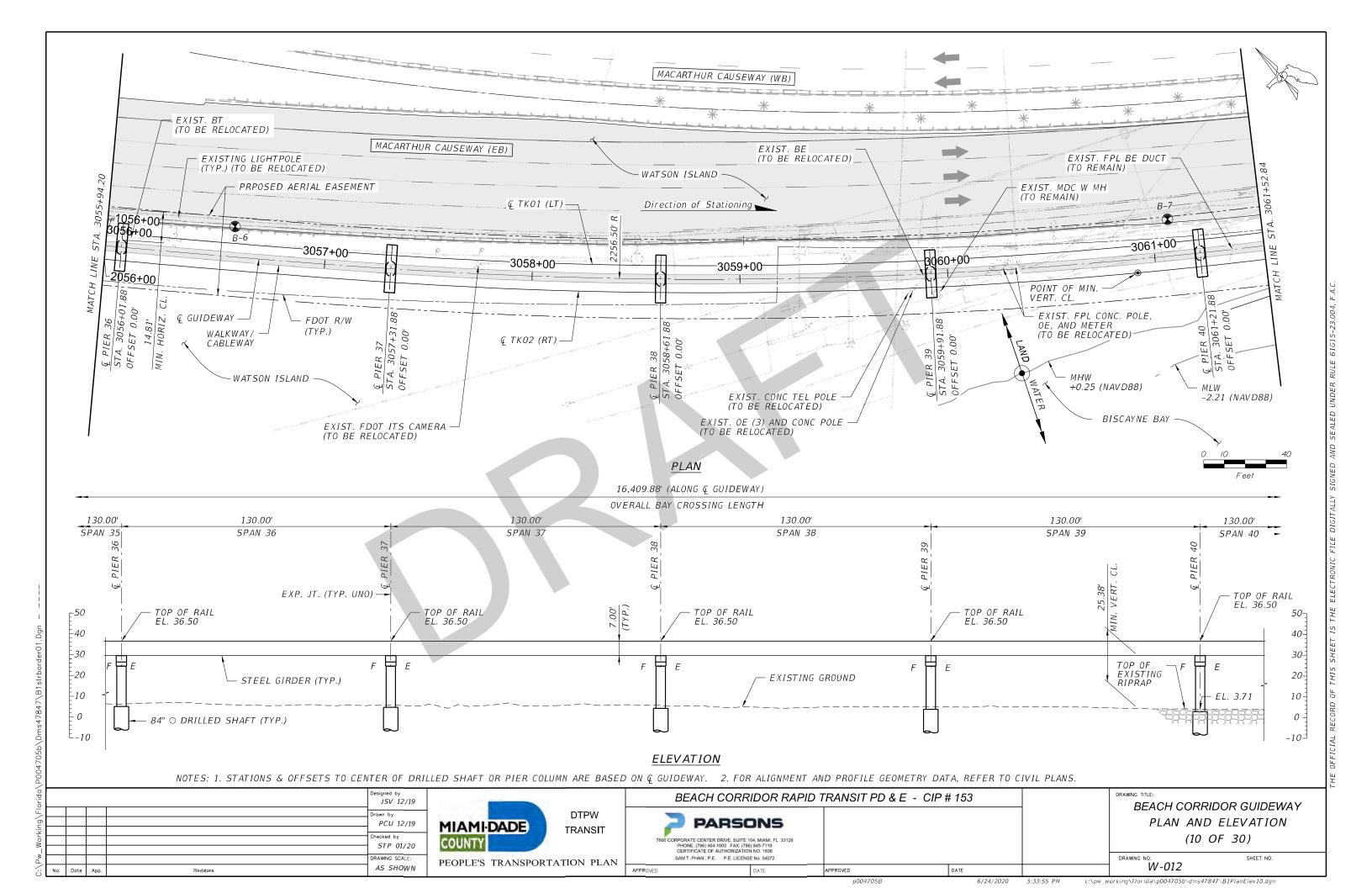


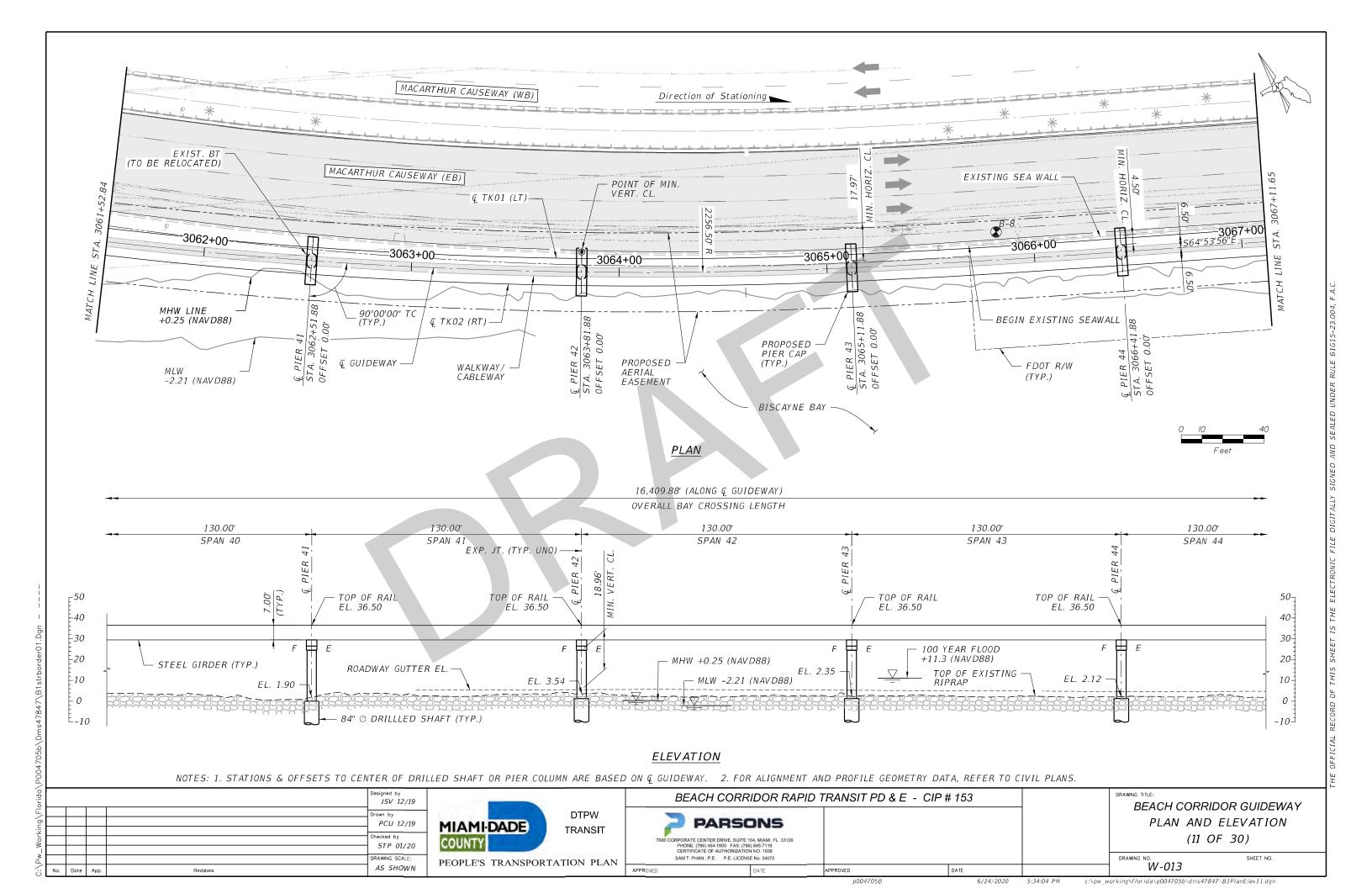


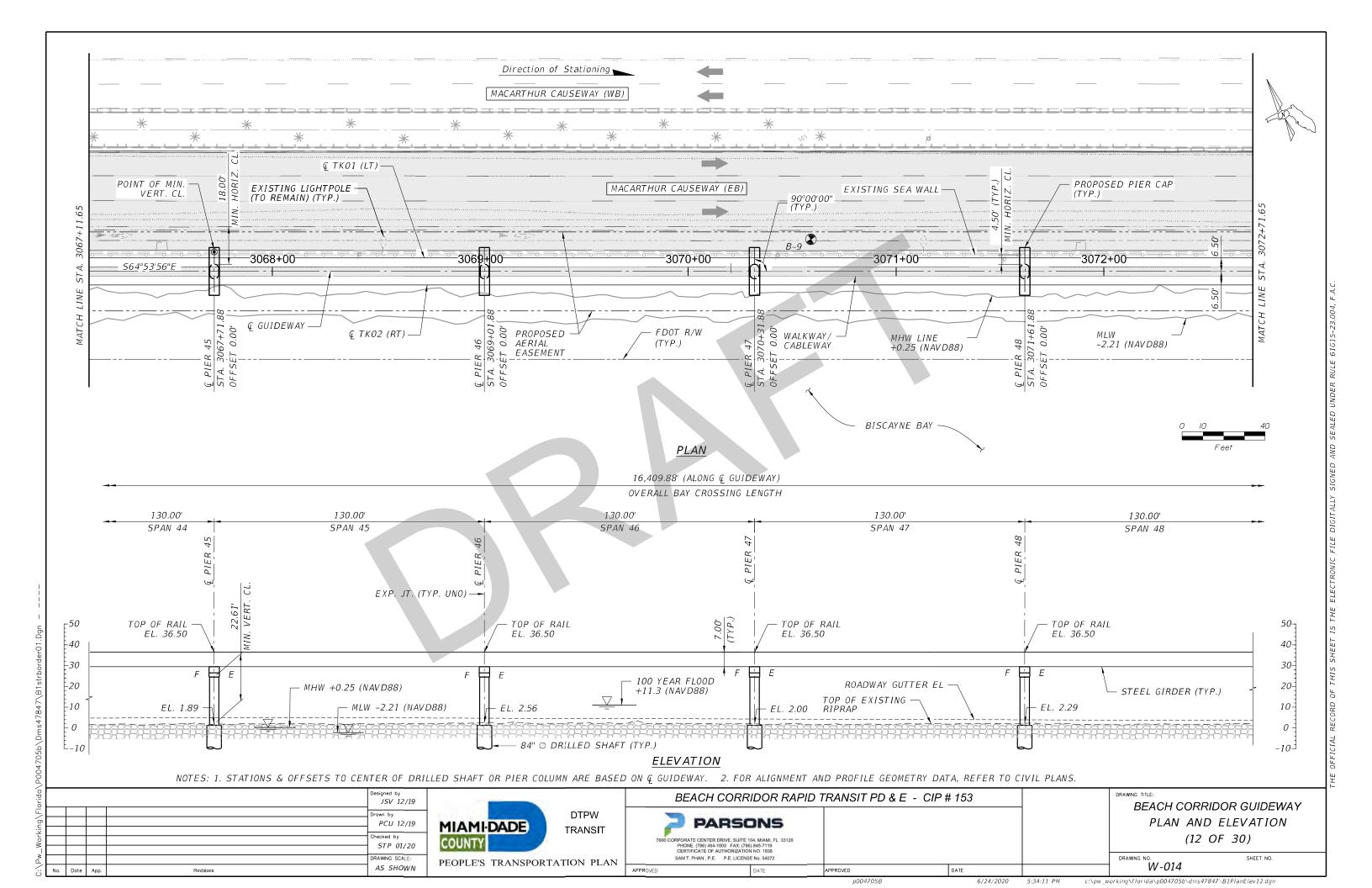


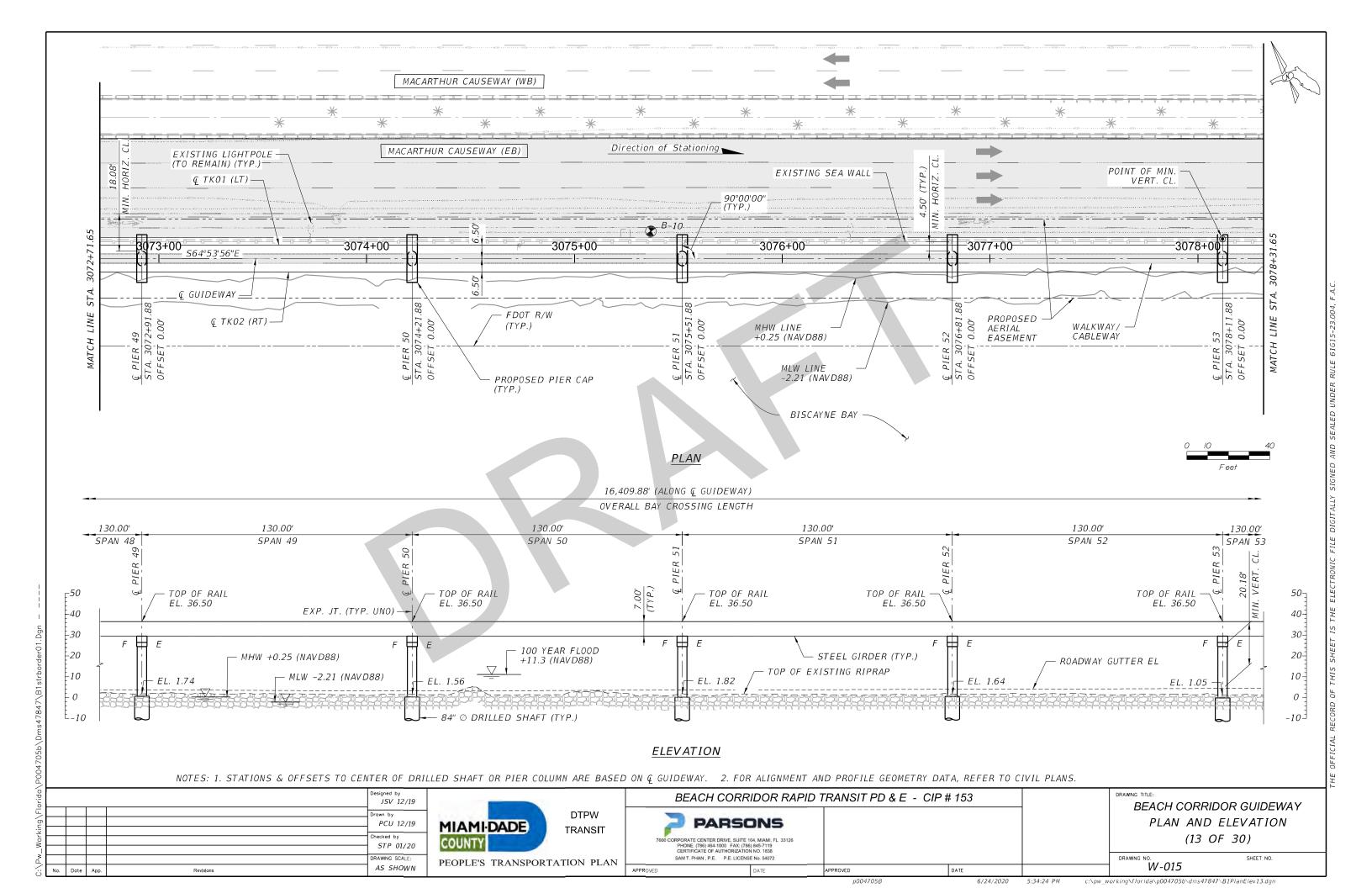


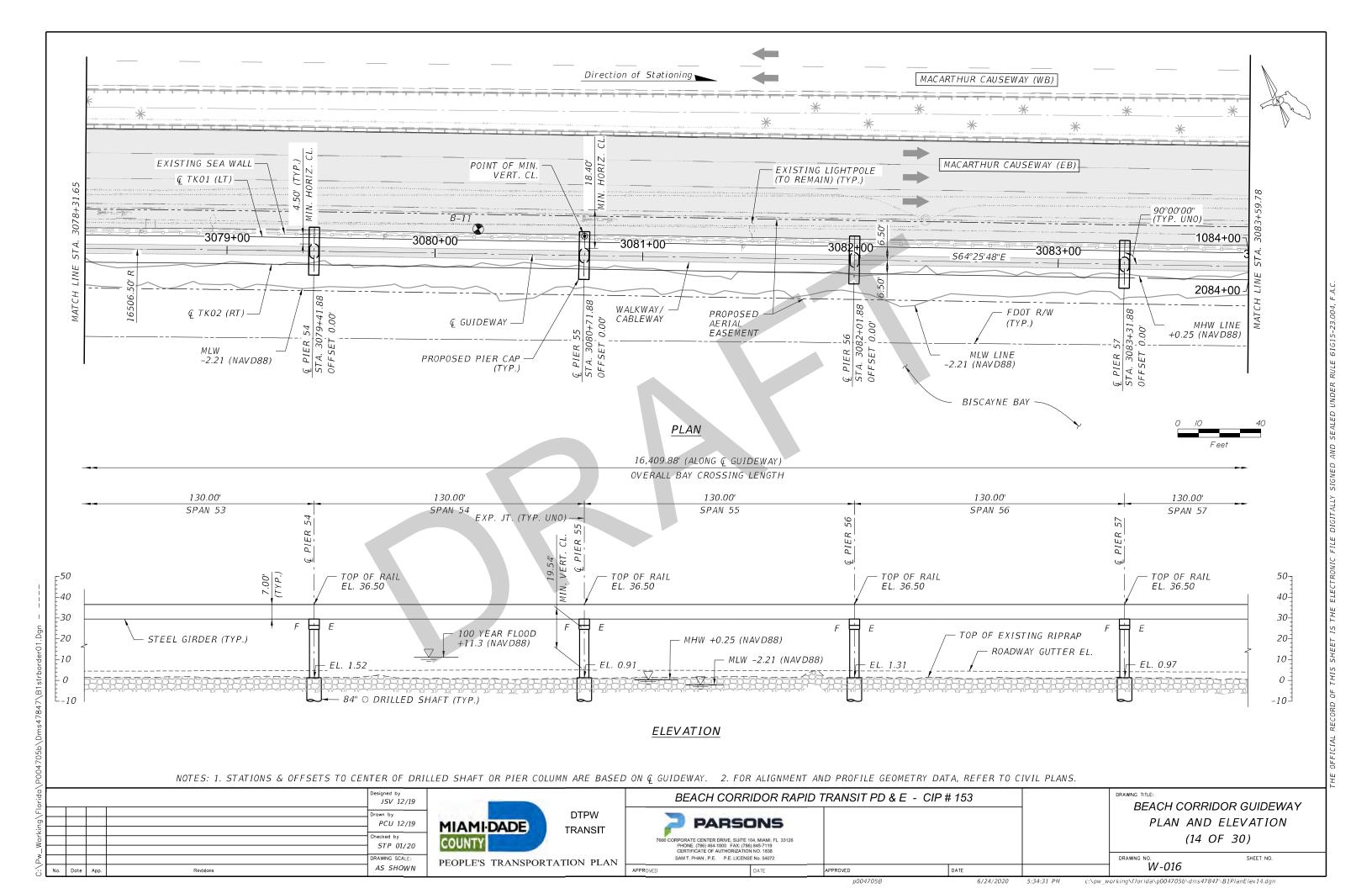


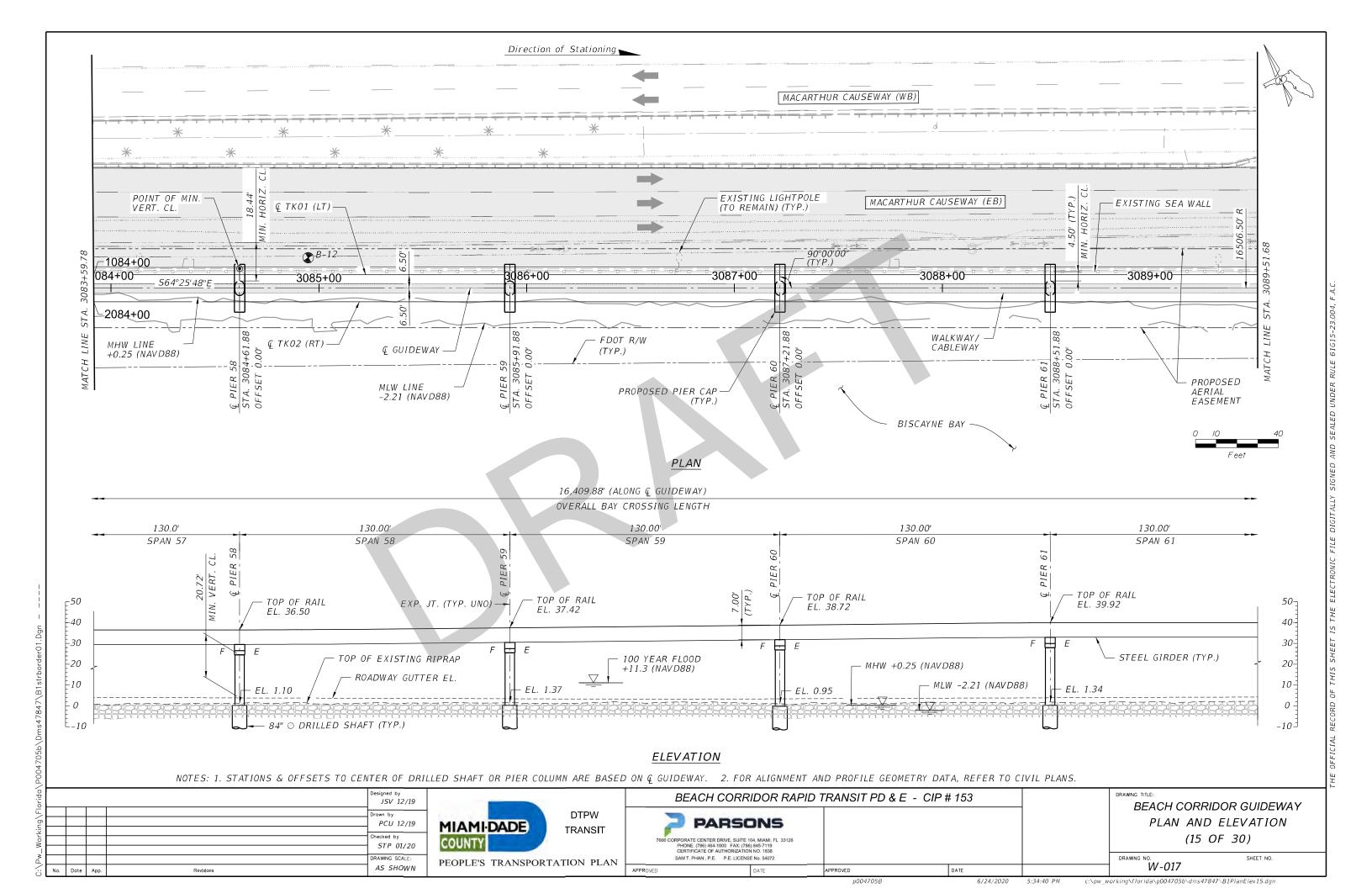


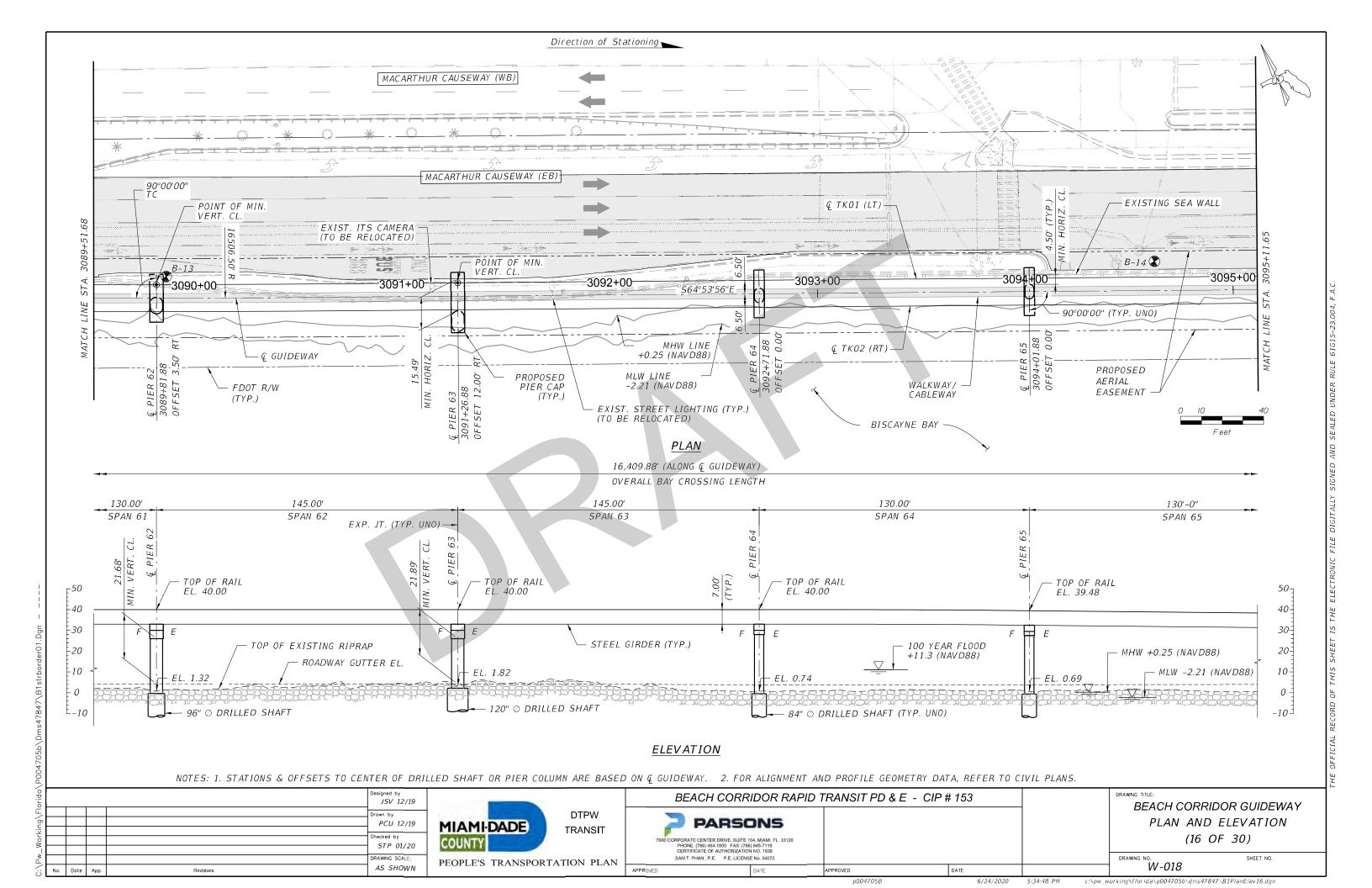


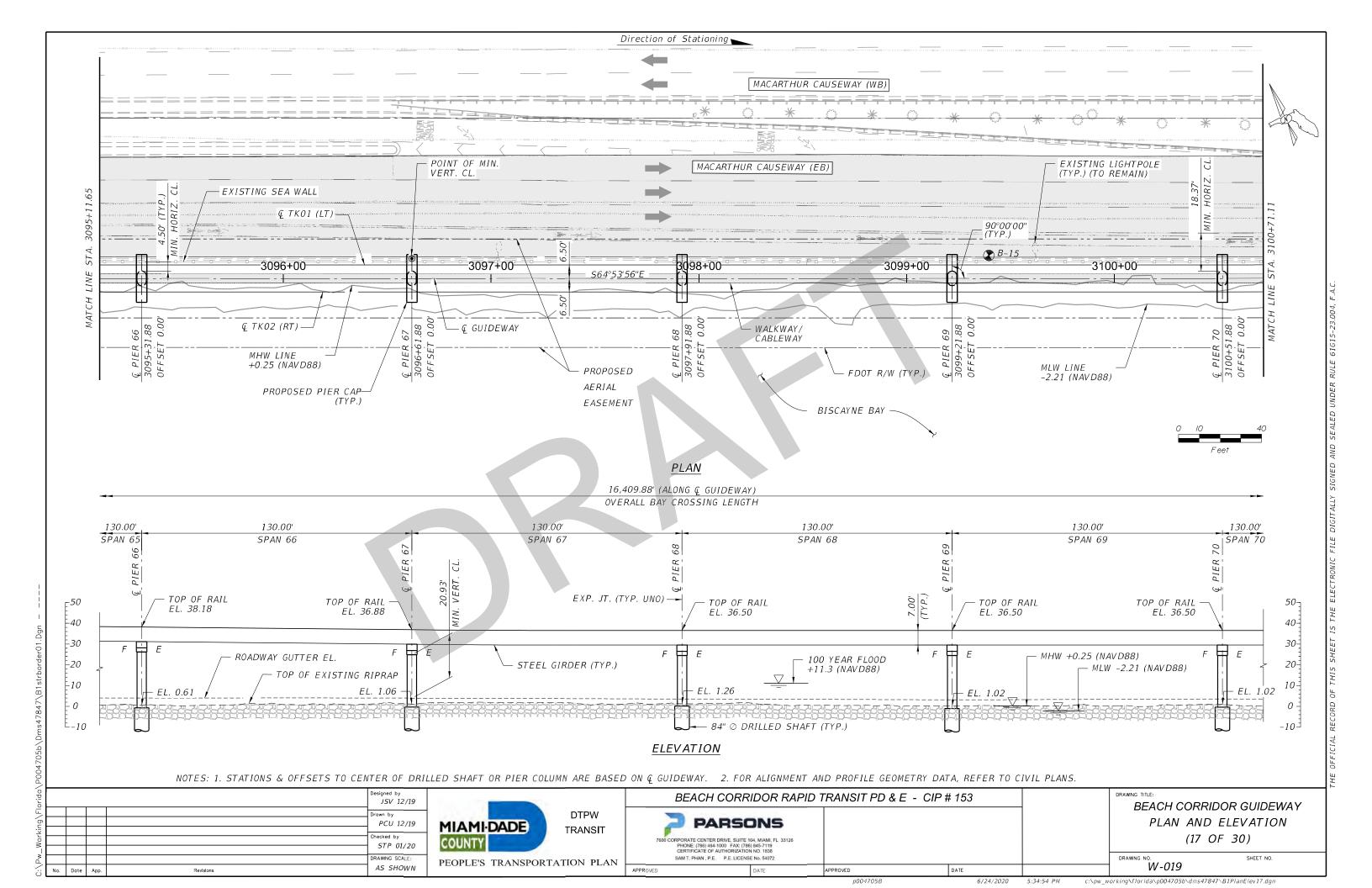


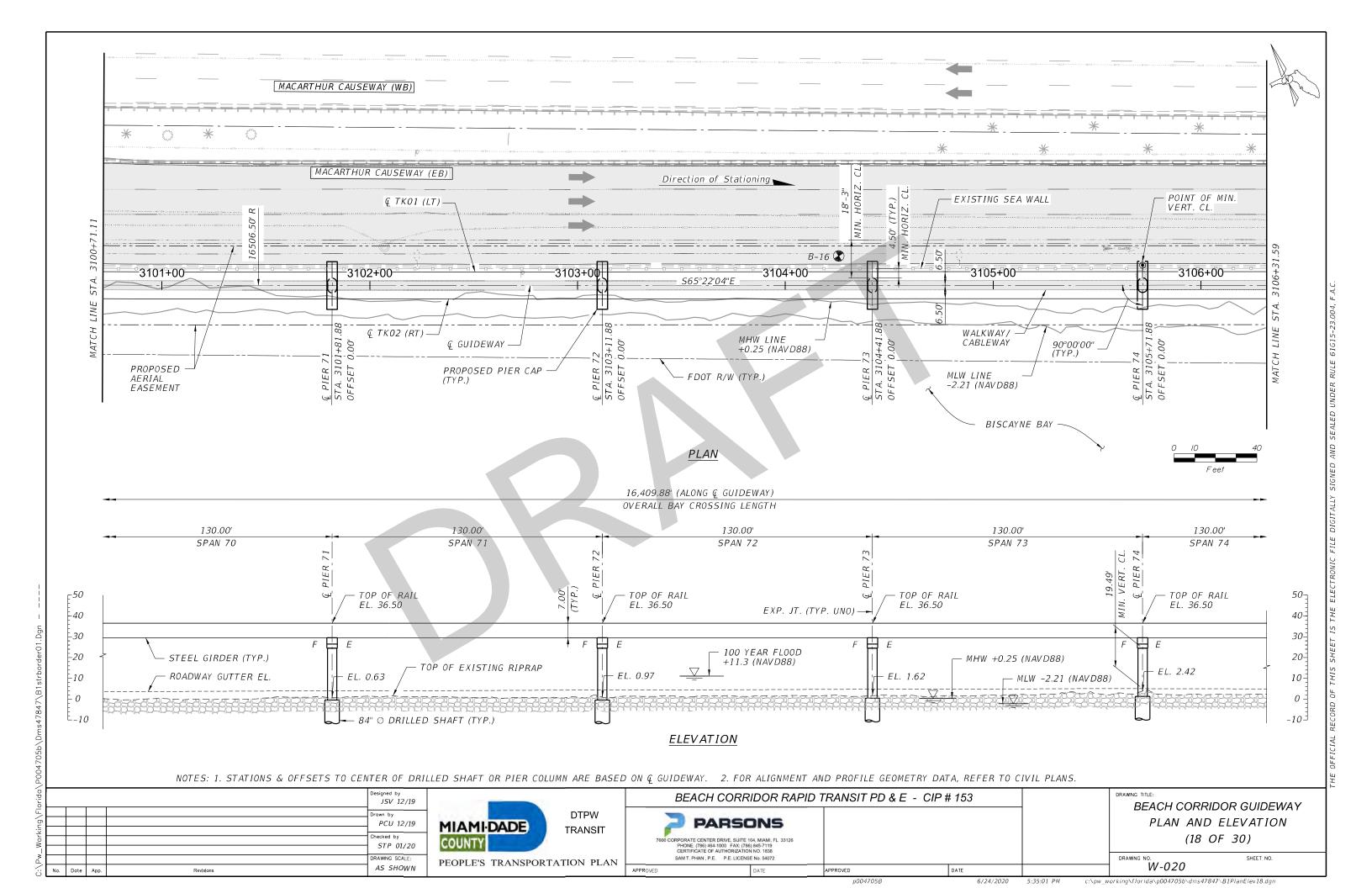


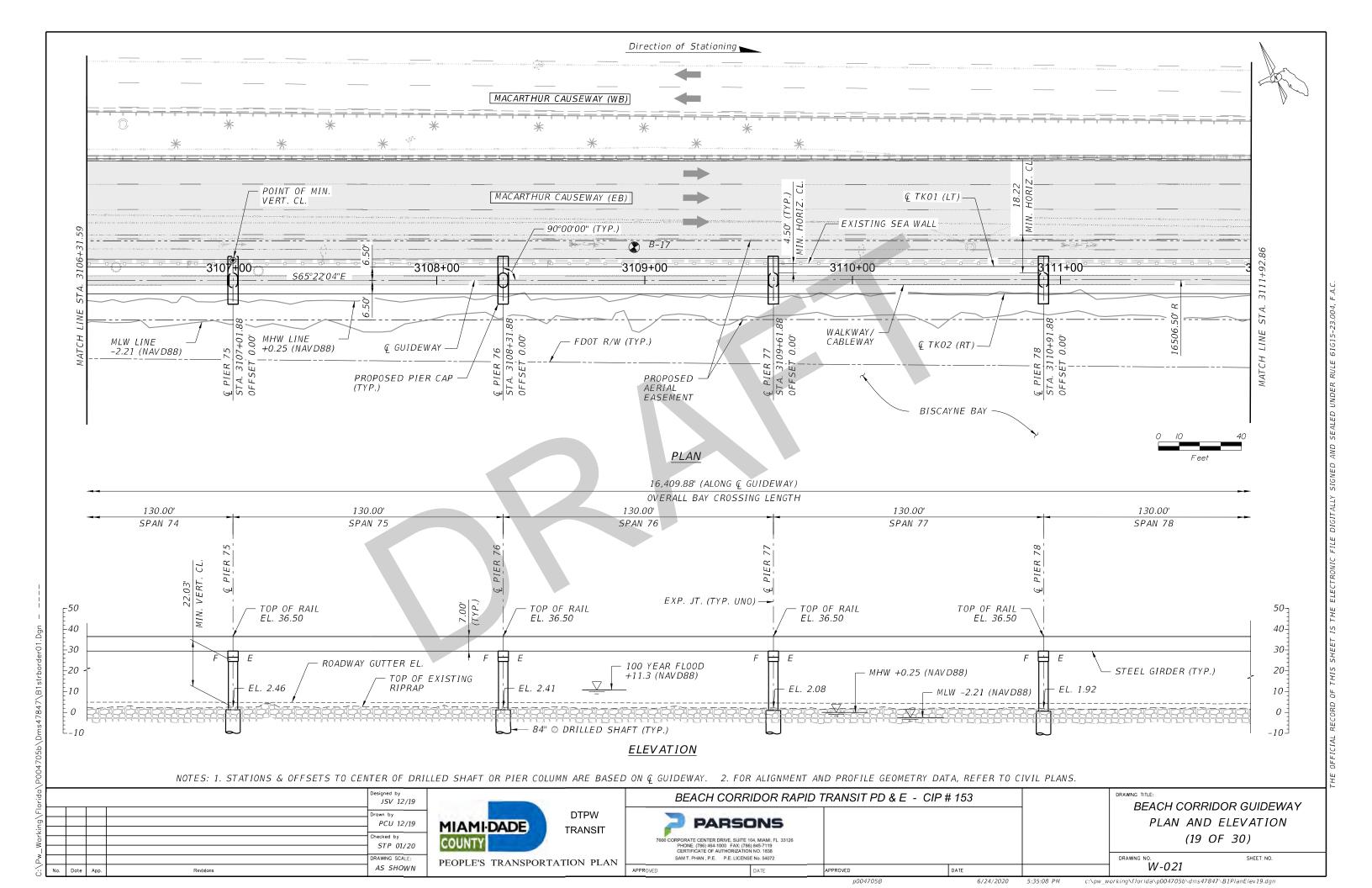


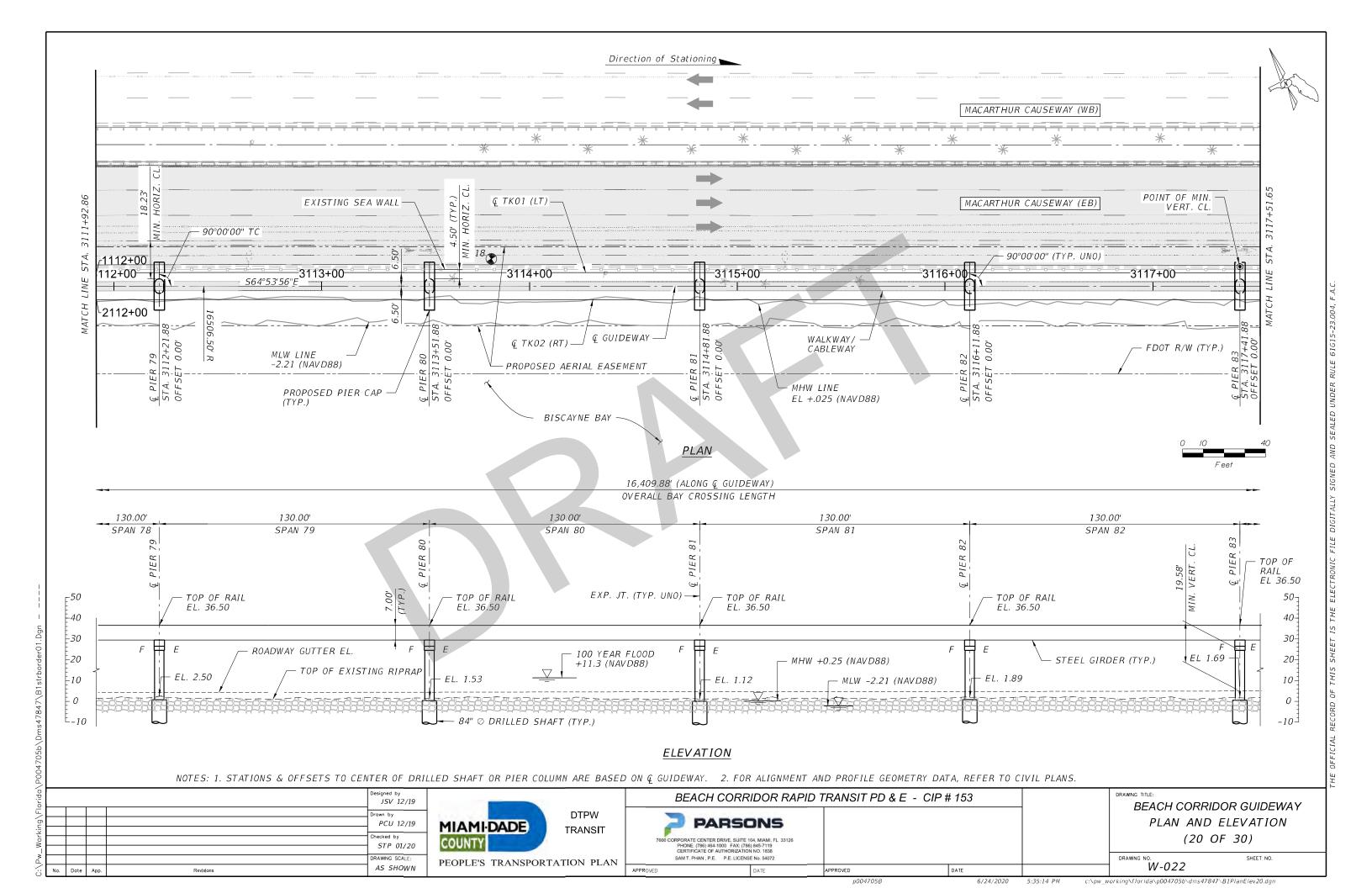


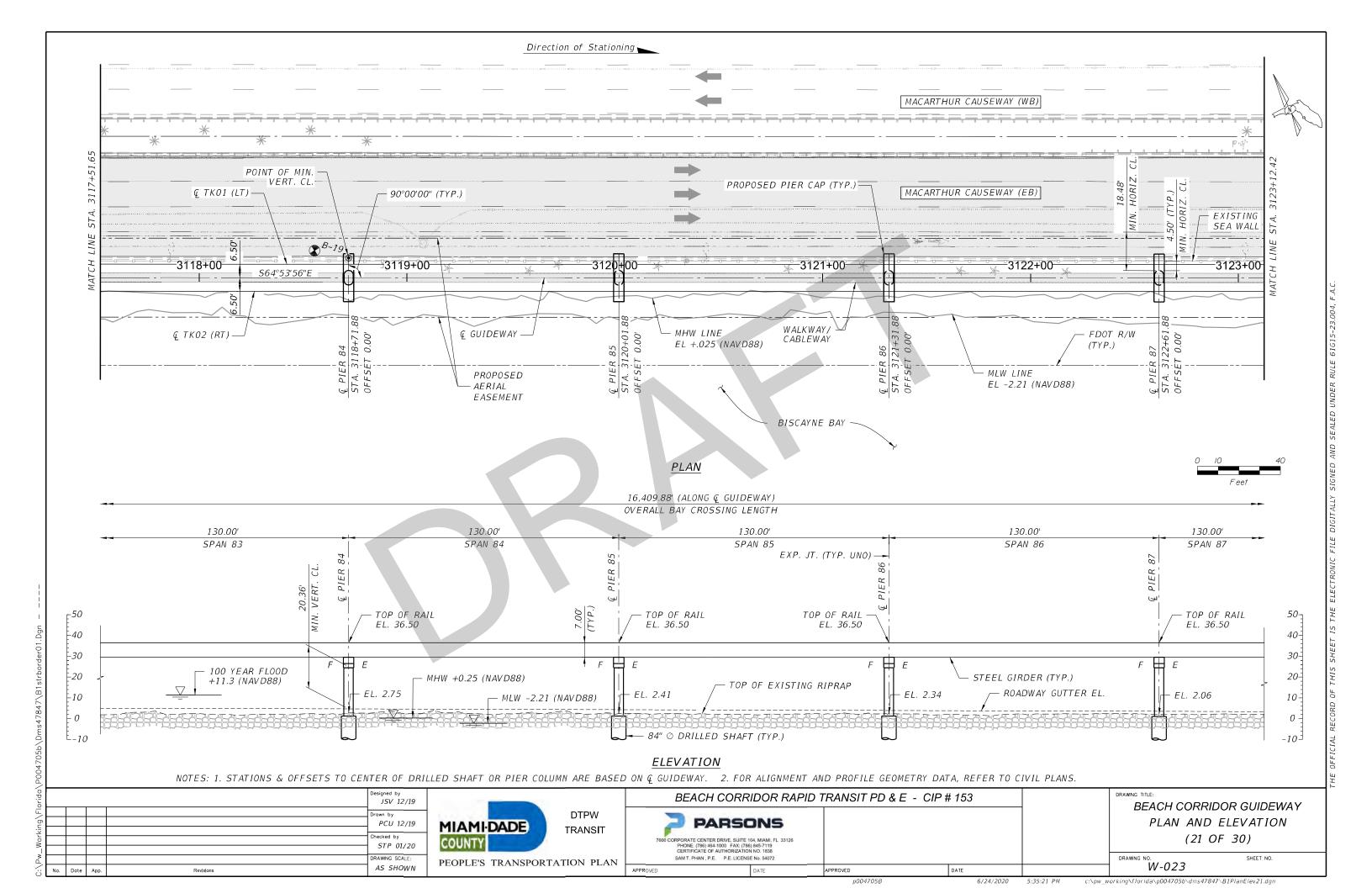


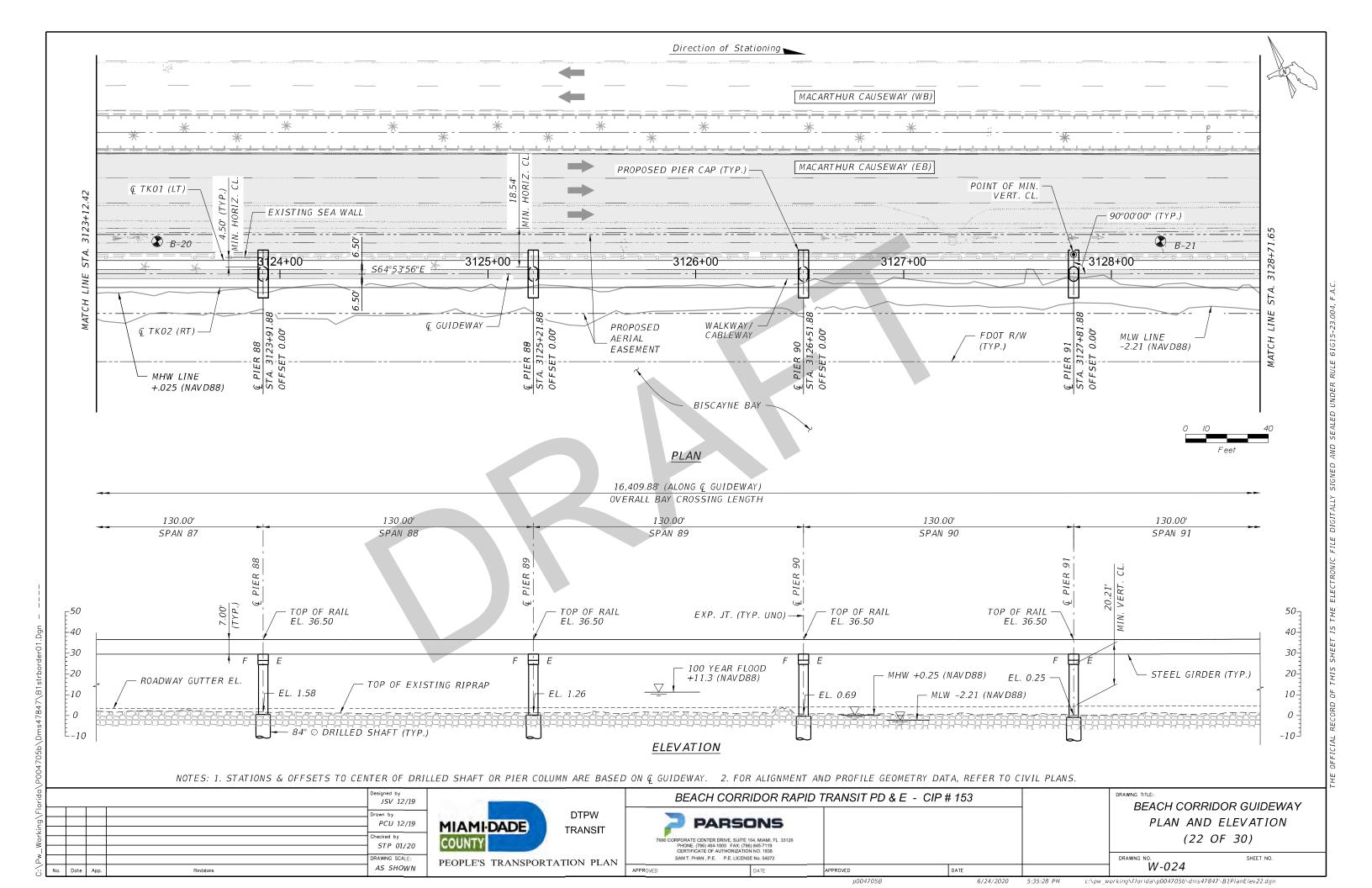


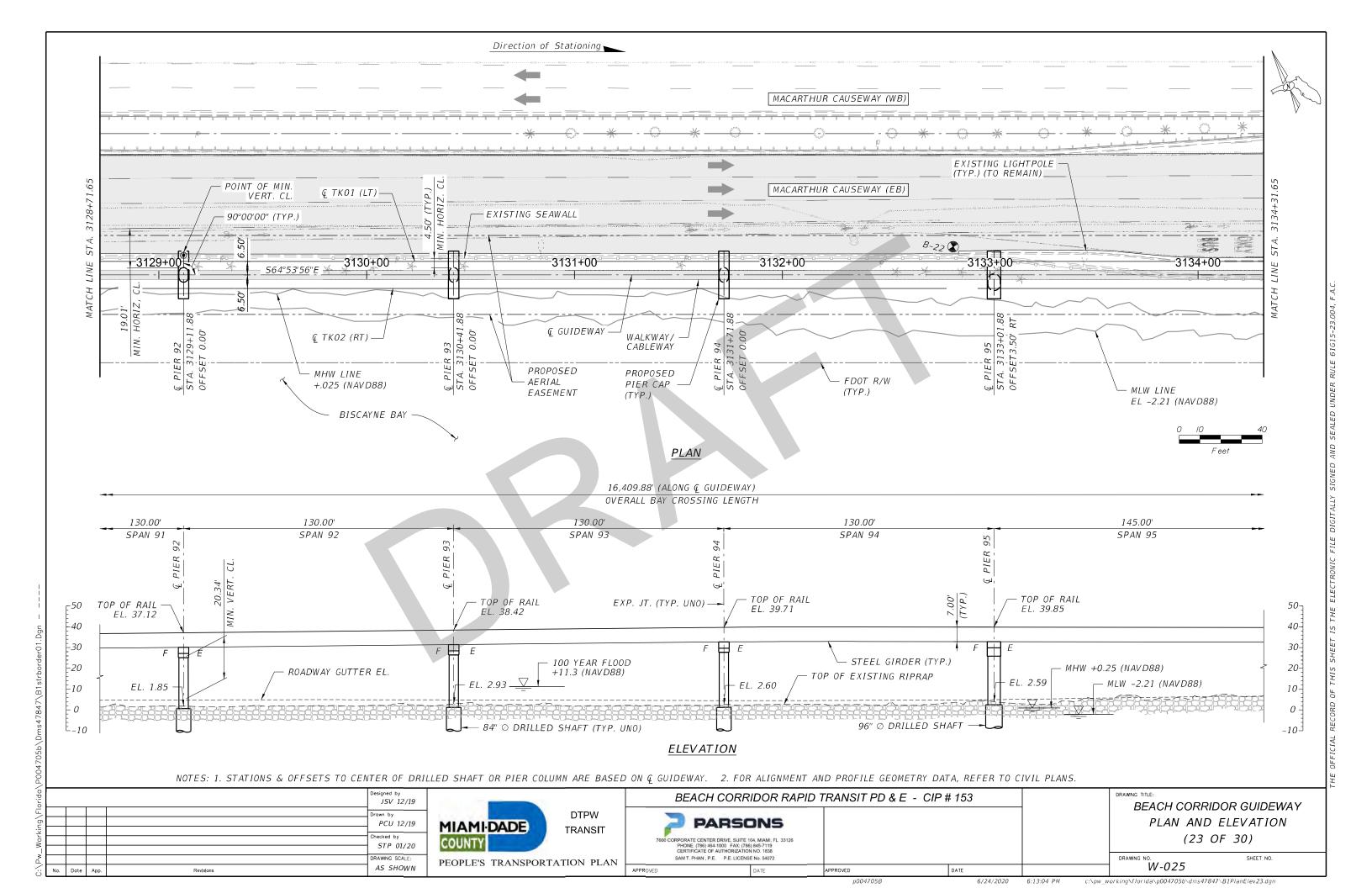


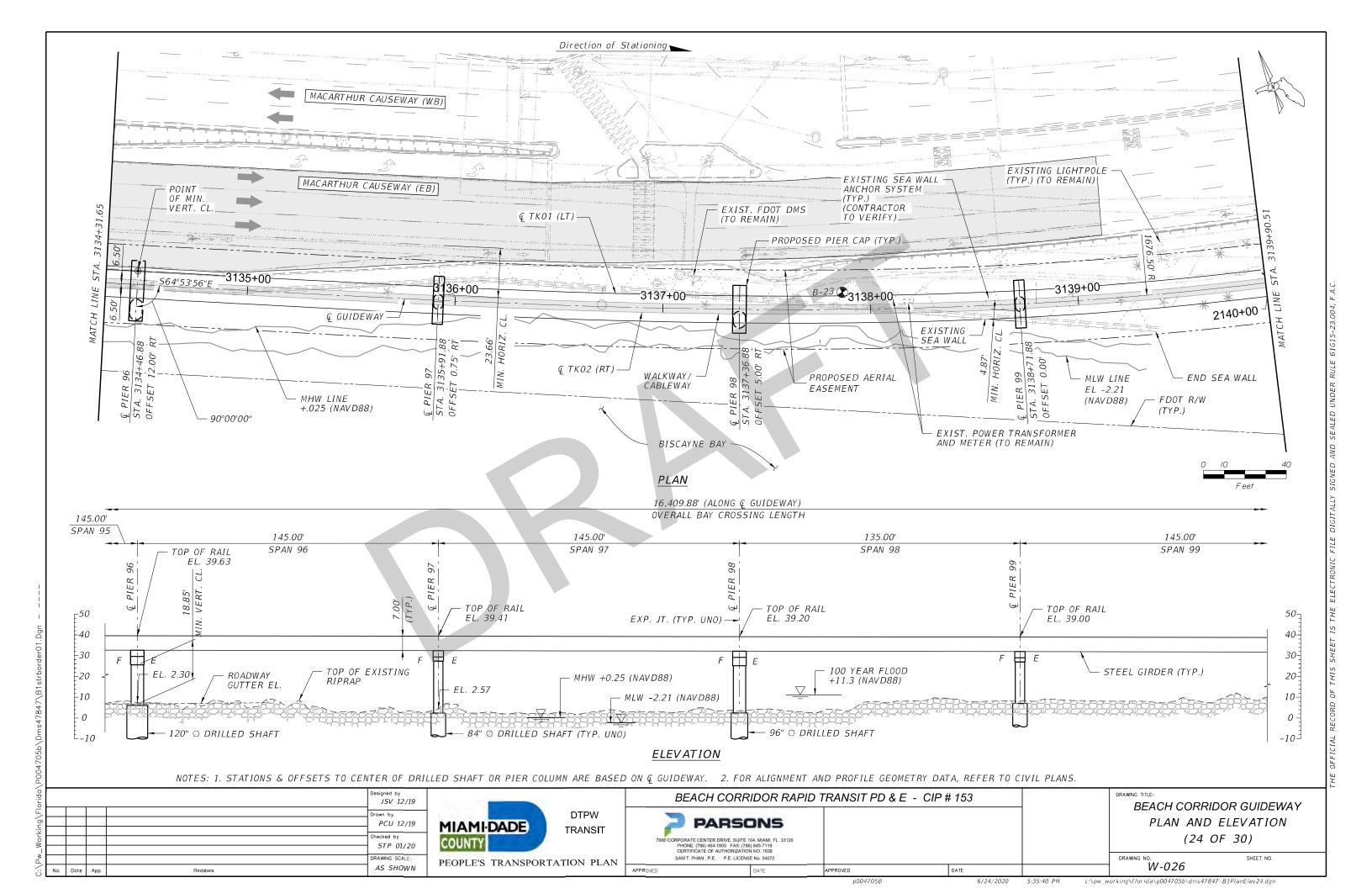


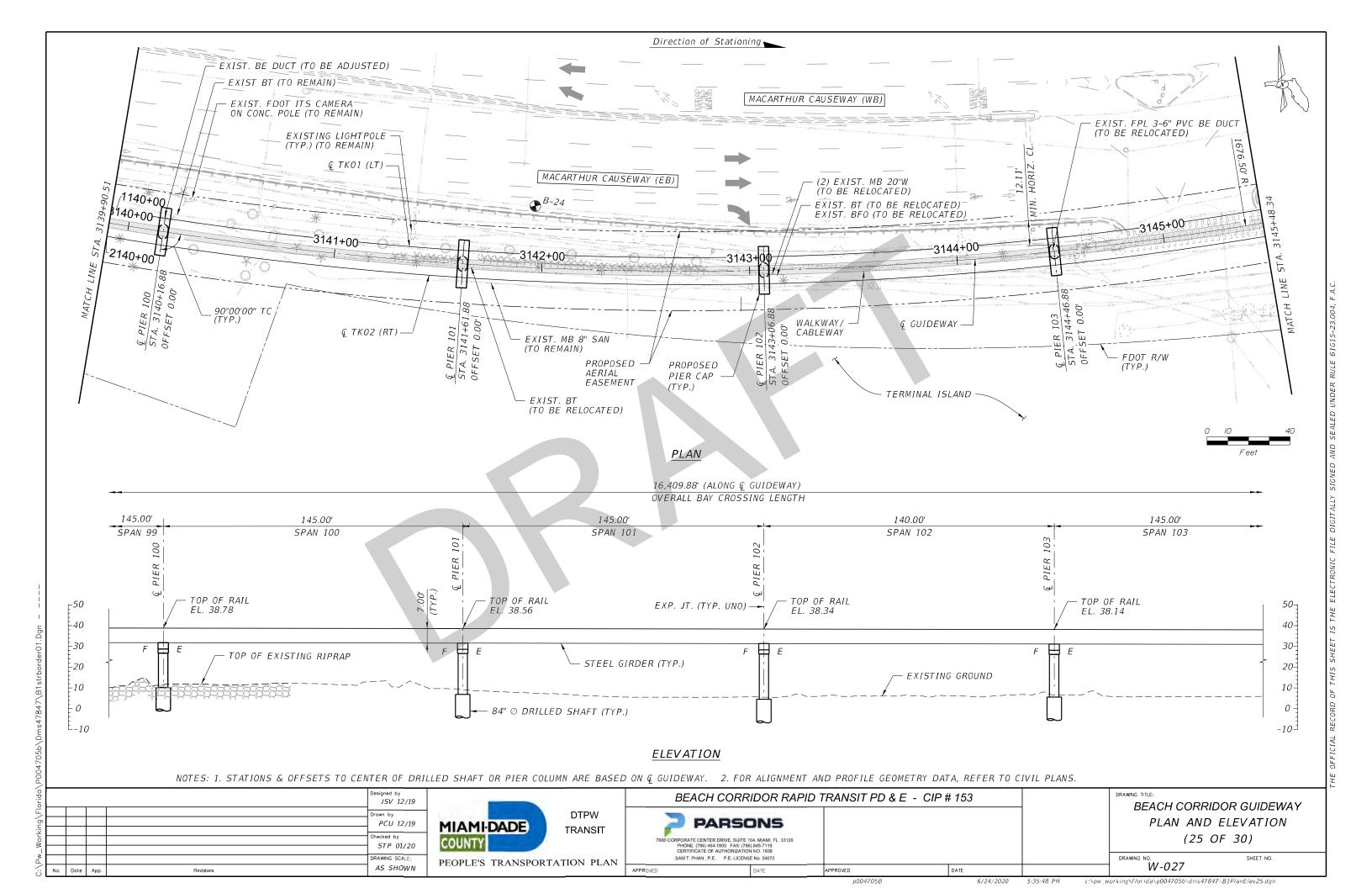


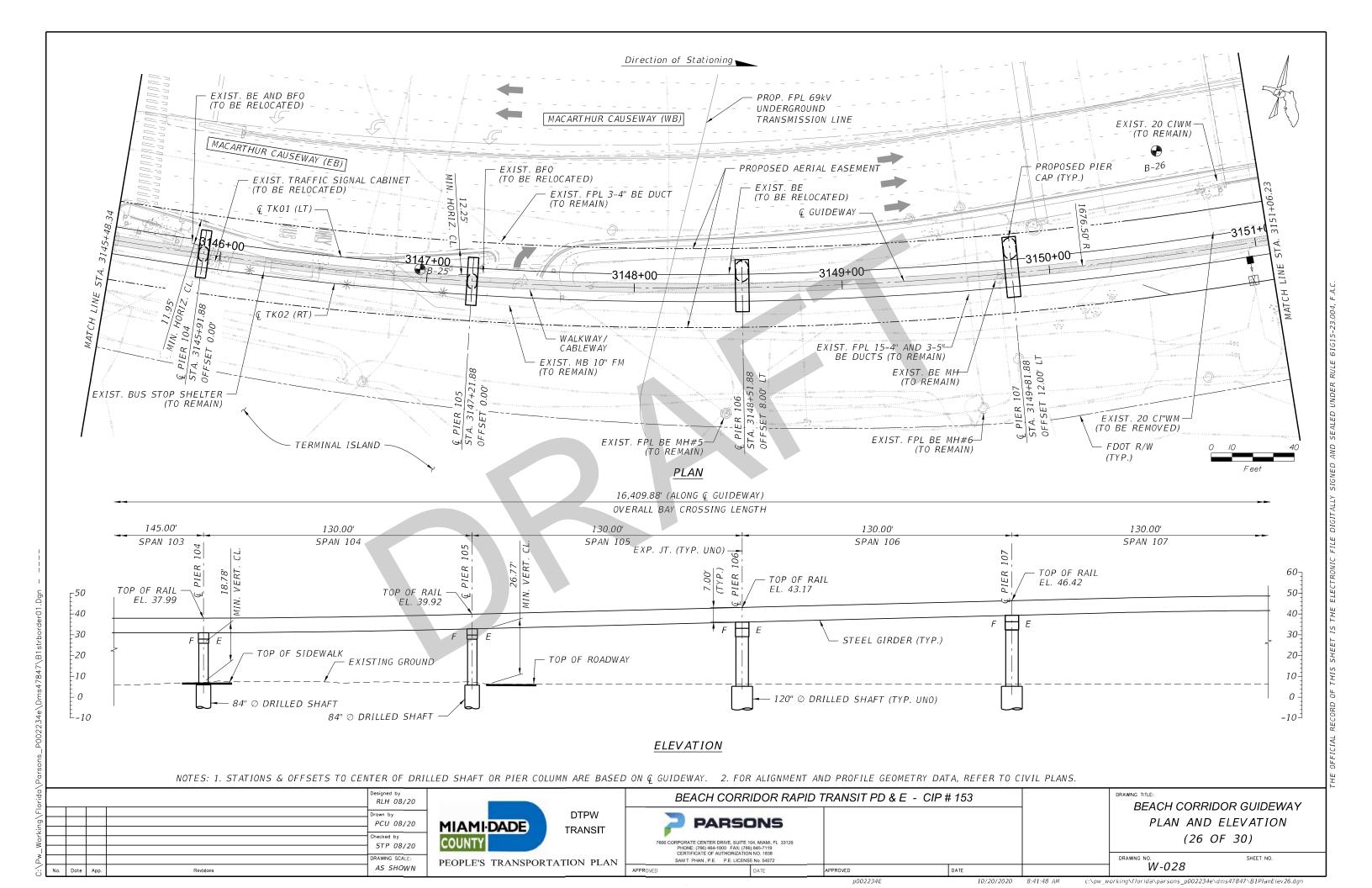


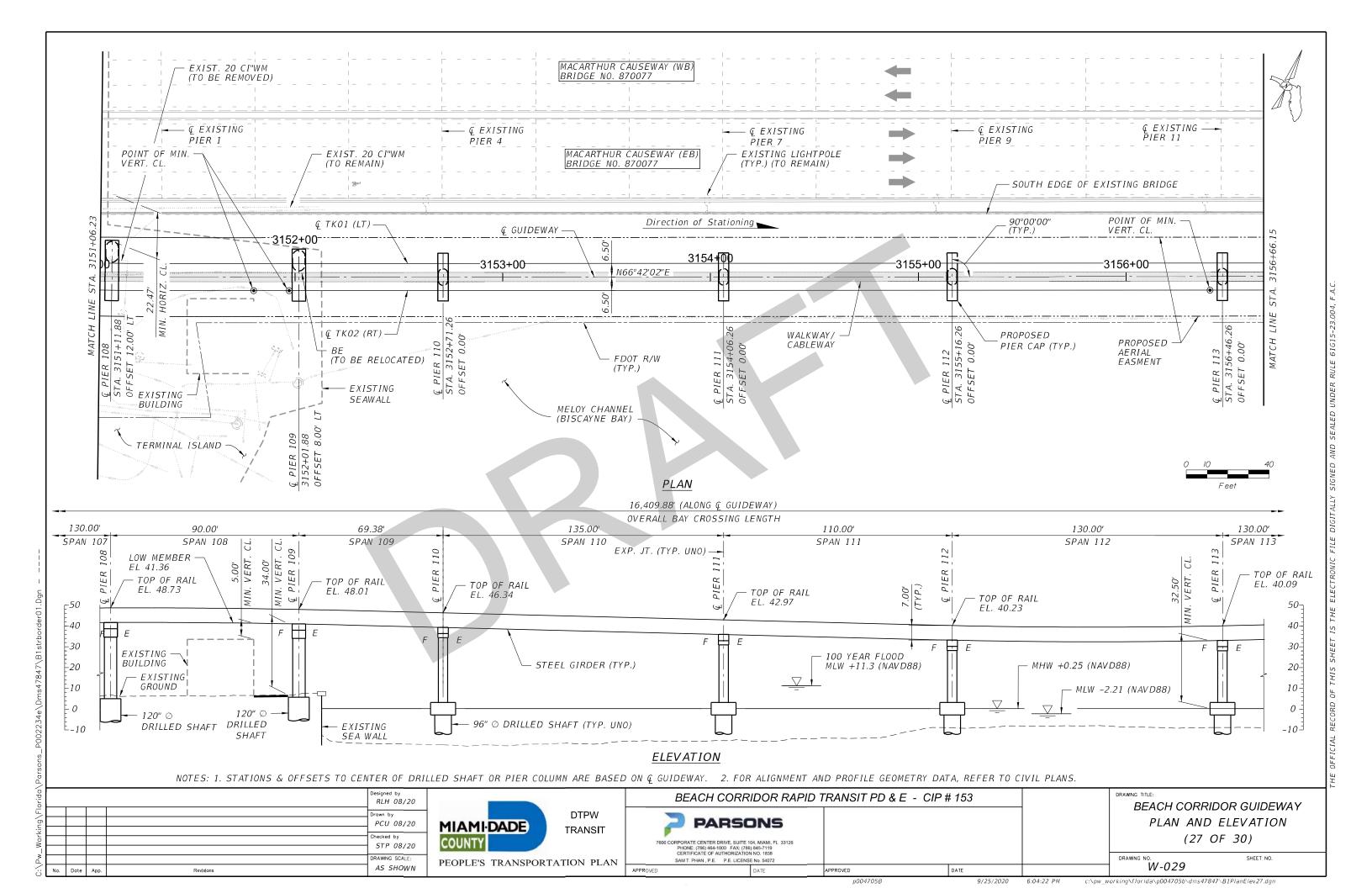


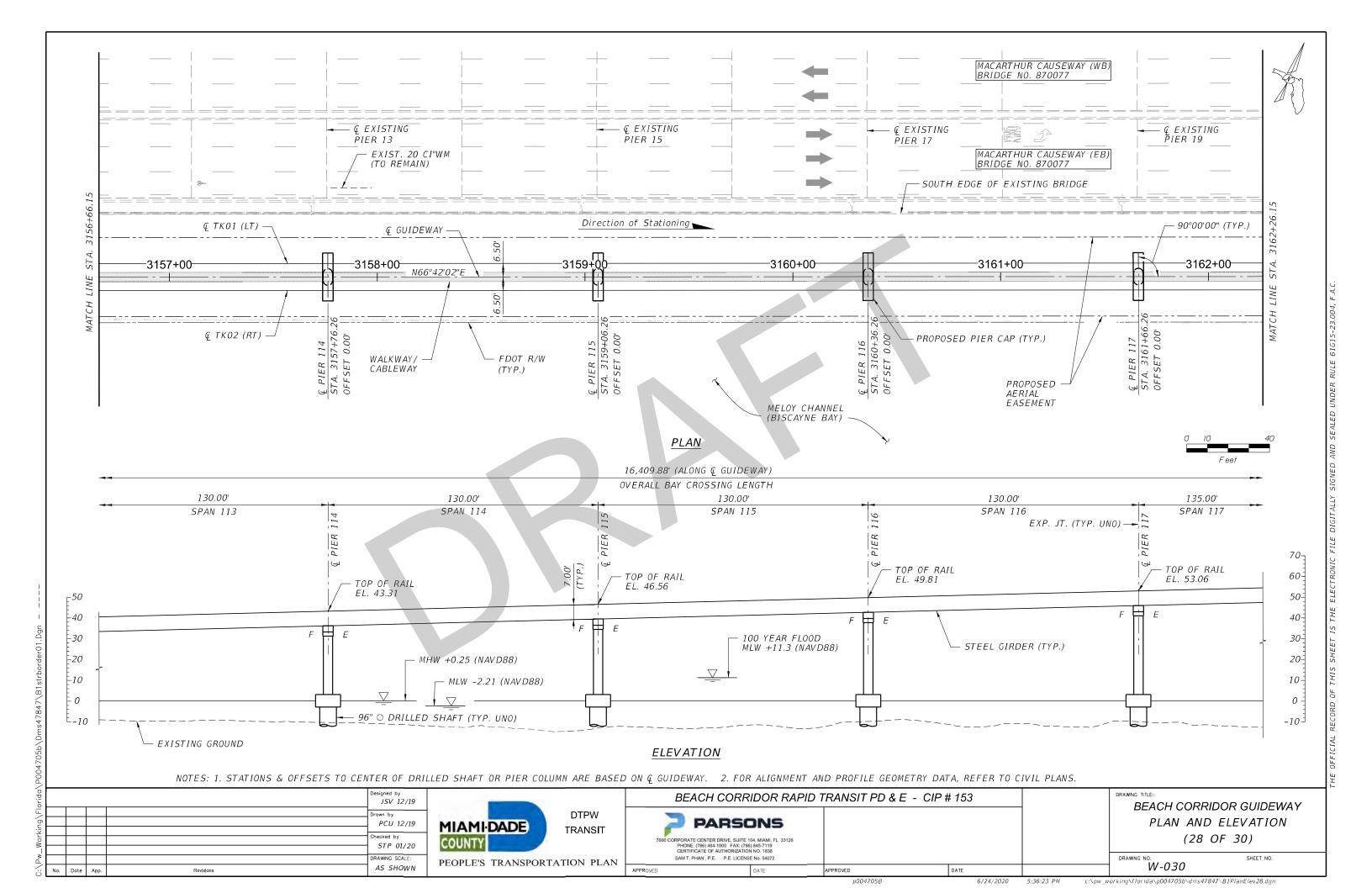


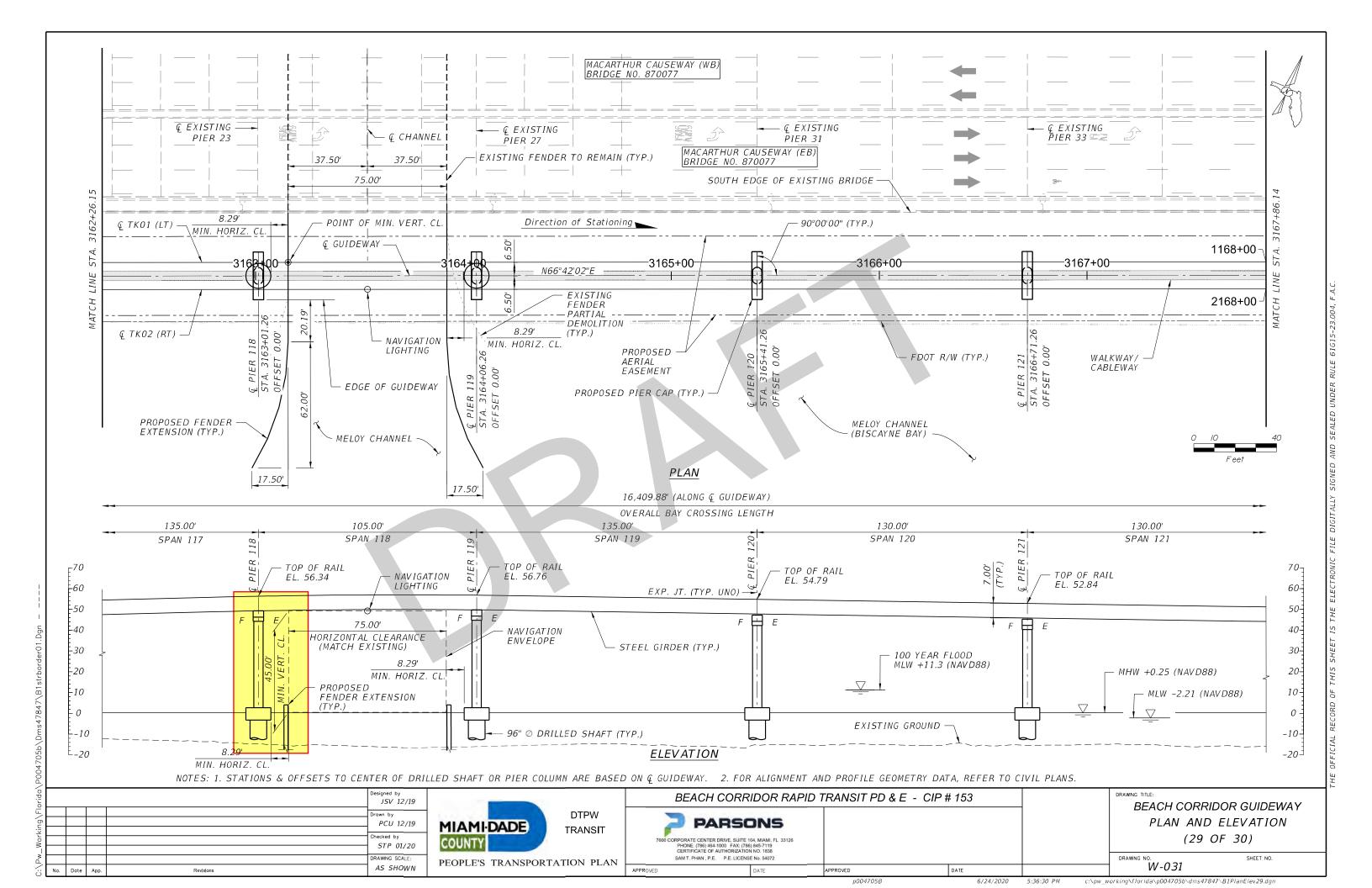


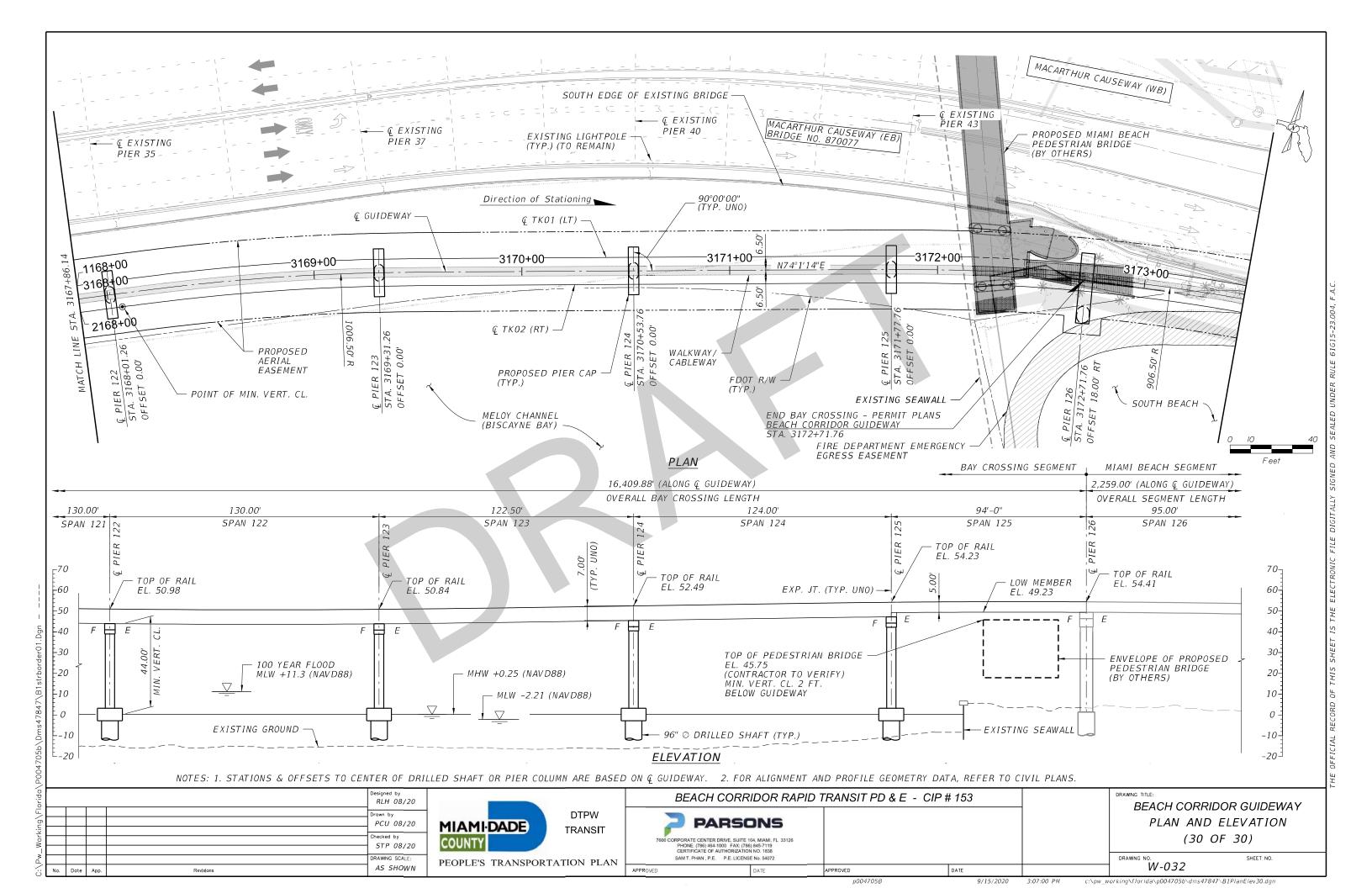


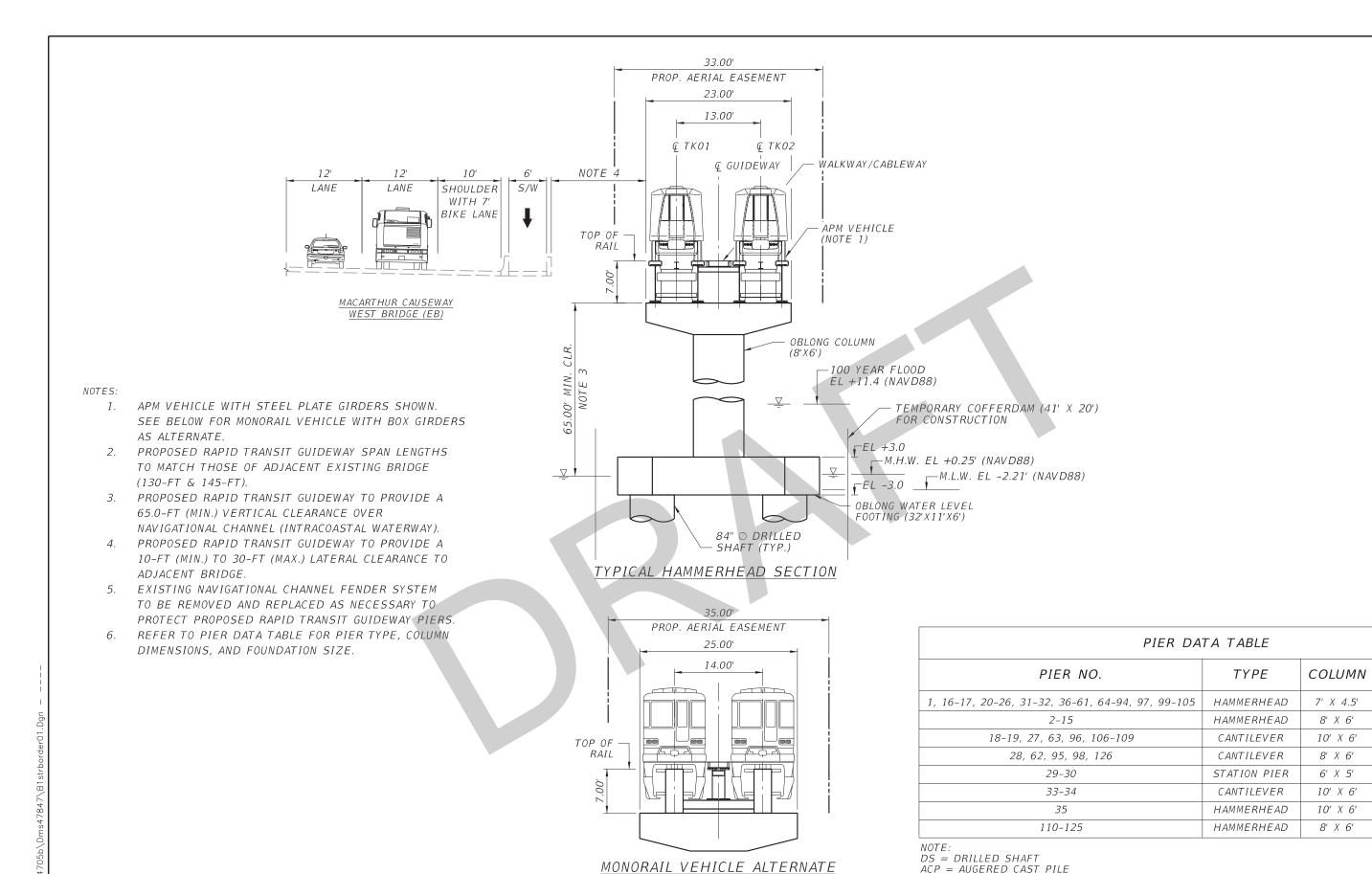












JSV 12/19 PCU 12/19 hecked by STP 01/20 RAWING SCALE: AS SHOWN

DTPW MIAMI-DADE **TRANSIT** PEOPLE'S TRANSPORTATION PLAN

**PARSONS** PHONE: (786) 464-1000 FAX: (786) 845-7119 CERTIFICATE OF AUTHORIZATION NO. 1838 SAM T. PHAN . P.E. P.E. LICENSE No. 5407:

BEACH CORRIDOR RAPID TRANSIT PD & E - CIP # 153

BEACH CORRIDOR GUIDEWAY TYPICAL SECTION WEST BRIDGE

**FOUNDATION** 

1-84" DS

2-84" DS

1-120" DS

1-96" DS 2-72" DS

4-36" ACP

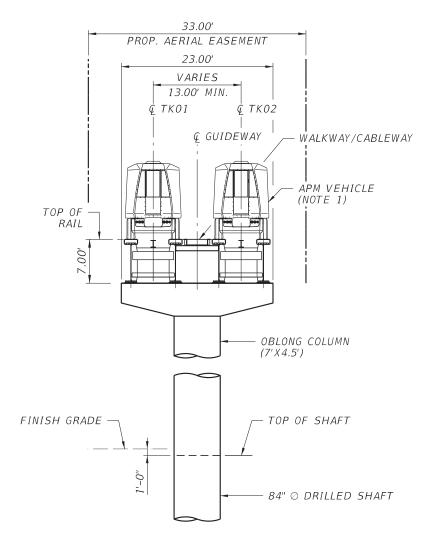
4-36" ACP

1-96" DS

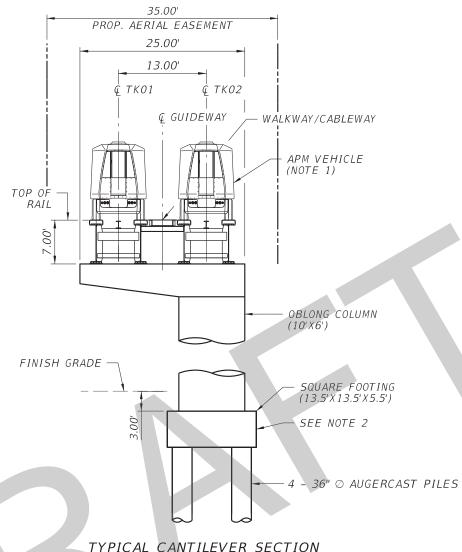
W-033

6/24/2020

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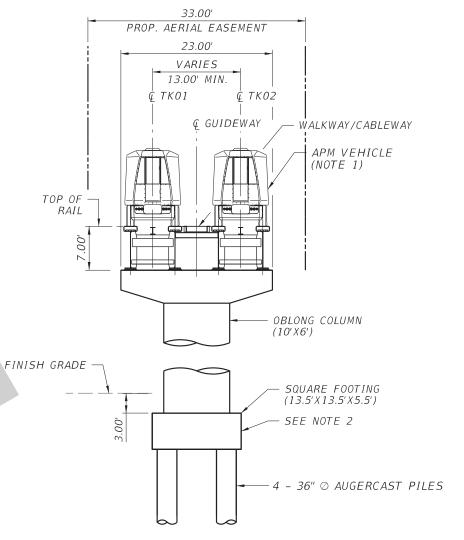
TYPICAL HAMMERHEAD SECTION



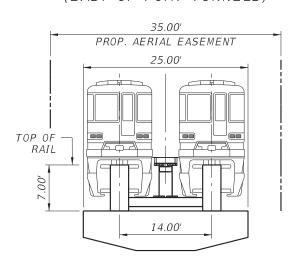
TYPICAL CANTILEVER SECTION (WEST AND BETWEEN POMT TUNNELS)

# NOTES:

- 1. APM VEHICLE WITH STEEL PLATE GIRDERS SHOWN. SEE BELOW FOR MONORAIL VEHICLE WITH BOX GIRDERS AS ALTERNATE.
- REFER TO FOUNDATION LAYOUT SHEET 8 OF 22 FOR FOOTING PLAN VIEW AND HORIZONTAL CLEARANCES.
- REFER TO PIER DATA TABLE ON SHEET W-033 FOR PIER TYPE, COLUMN DIMENSIONS, AND FOUNDATION SIZE.



# TYPICAL HAMMERHEAD SECTION (EAST OF POMT TUNNELS)



MONORAIL VEHICLE ALTERNATE

JSV 12/19 PCU 12/19 hecked by STP 01/20 RAWING SCALE: AS SHOWN

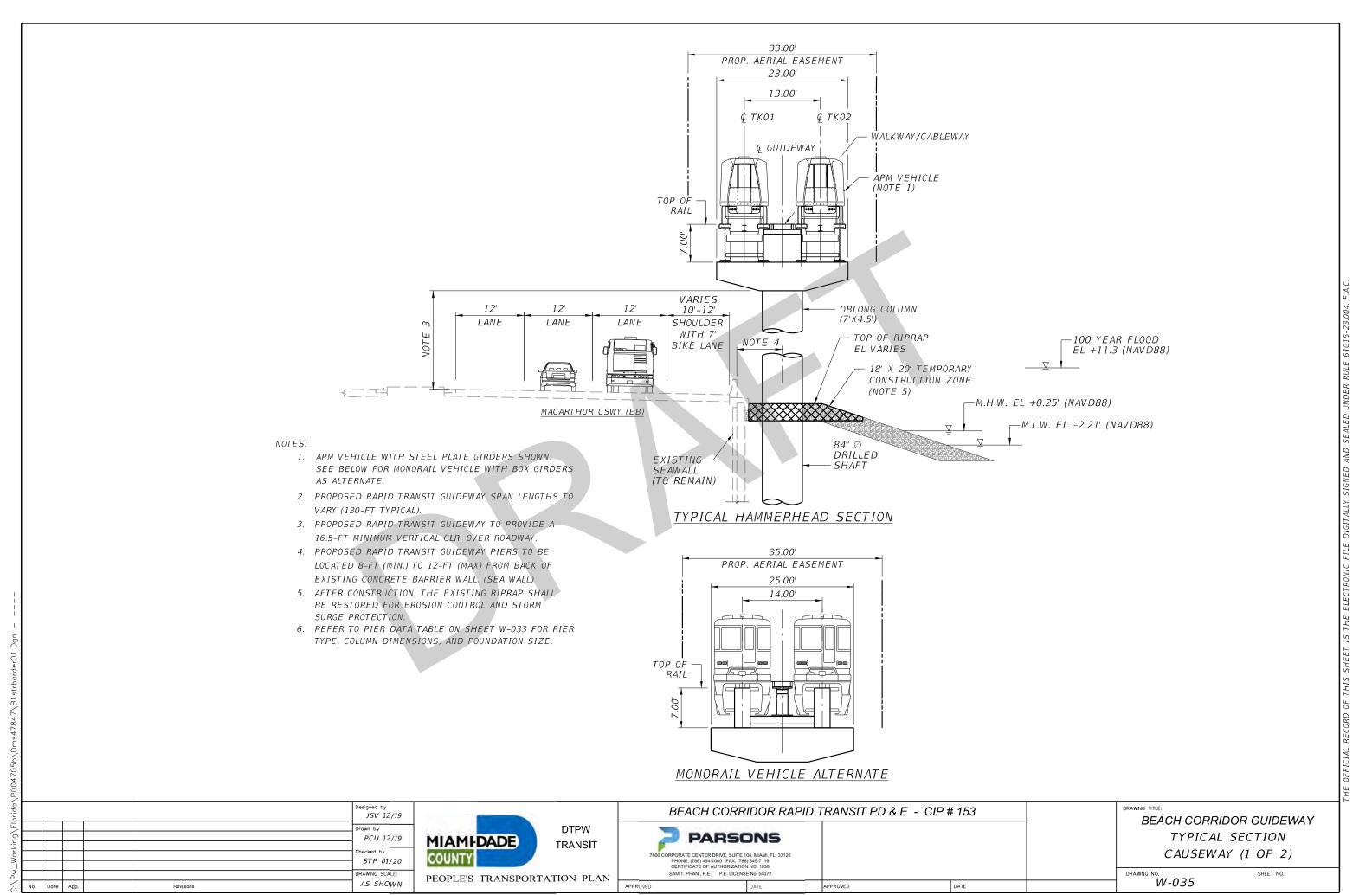
DTPW MIAMIDADE TRANSIT PEOPLE'S TRANSPORTATION PLAN

BEACH CORRIDOR RAPID TRANSIT PD & E - CIP # 153 **PARSONS** PHONE: (786) 464-1000 FAX: (786) 845-7119 CERTIFICATE OF AUTHORIZATION NO. 1838 SAM T. PHAN . P.E. P.E. LICENSE No. 54072

BEACH CORRIDOR GUIDEWAY TYPICAL SECTION POMT AND AT WATSON ISLAND

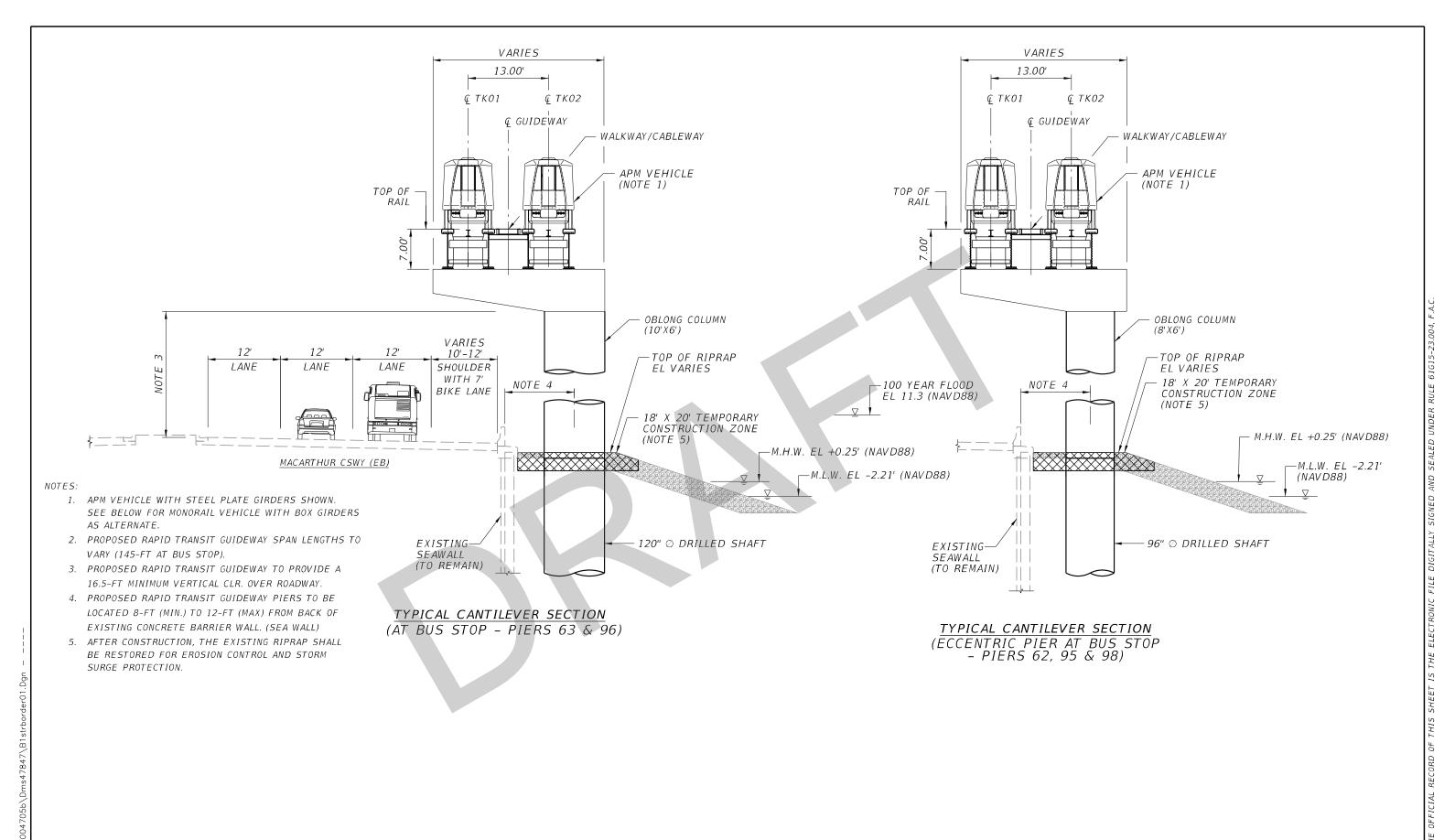
W-034

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6/24/2020

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				Designed by JSV 12/19	
				Drawn by	
				PCU 12/19	
				Checked by	
				STP 01/20	
				DRAWING SCALE:	
No.	Date	App.	Revisions	AS SHOWN	



BEACH CORRIDOR RAPID TRANSIT PD & E - CIP # 153					
PARSONS  7600 CORPORATE CENTER DRIVE, SUITE 104, MIAMI, FL 33126 PHONE: (786) 464-1000 FAX: (786) 848-7119 CERTIFICATE OF AUTHORIZATION NO, 1838 SAM T. PHAN , P.E. P.E. LICENSE No. 54072					
PPROVED	DATE	APPROVED	DATE		

p004705B

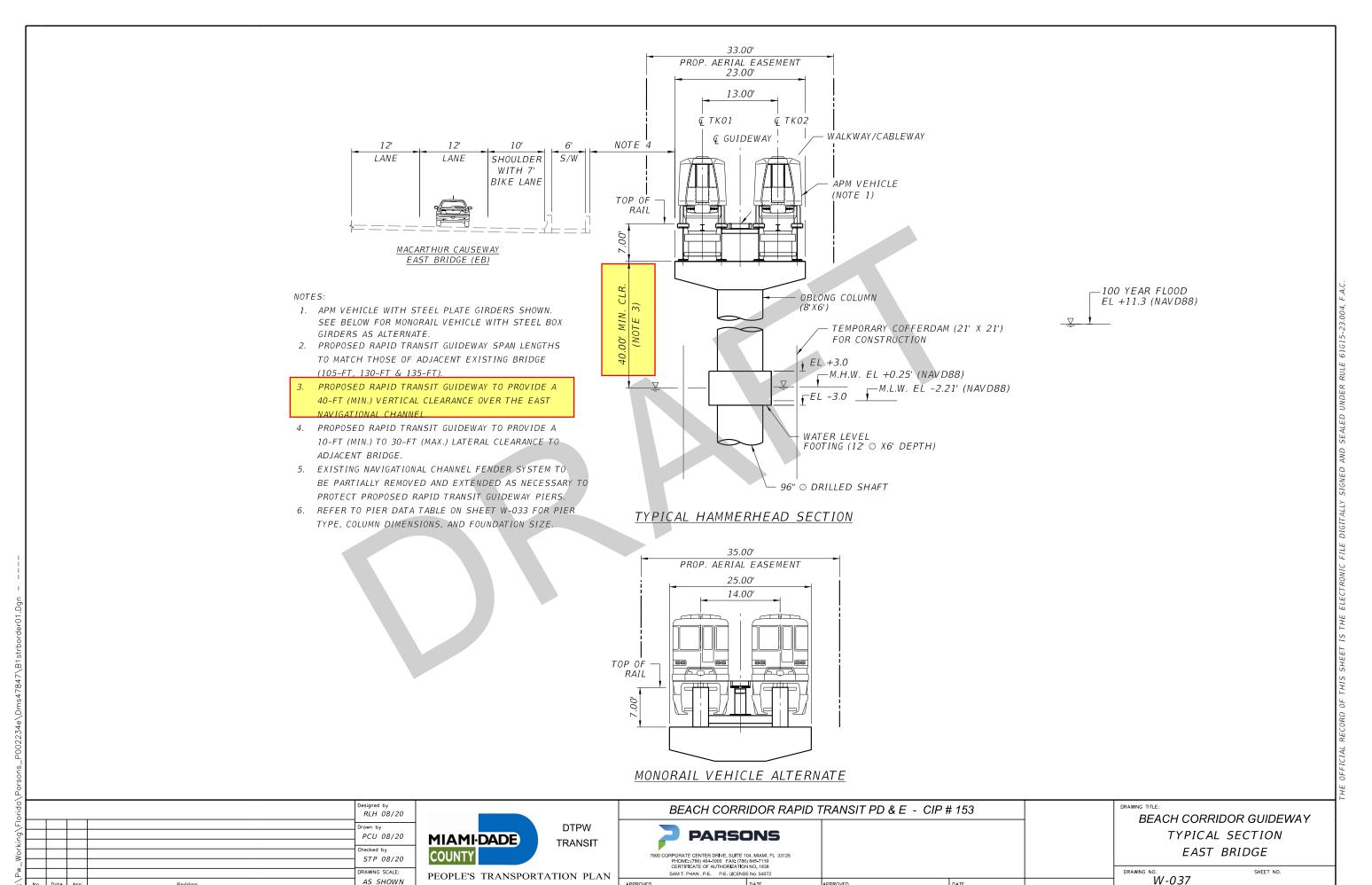
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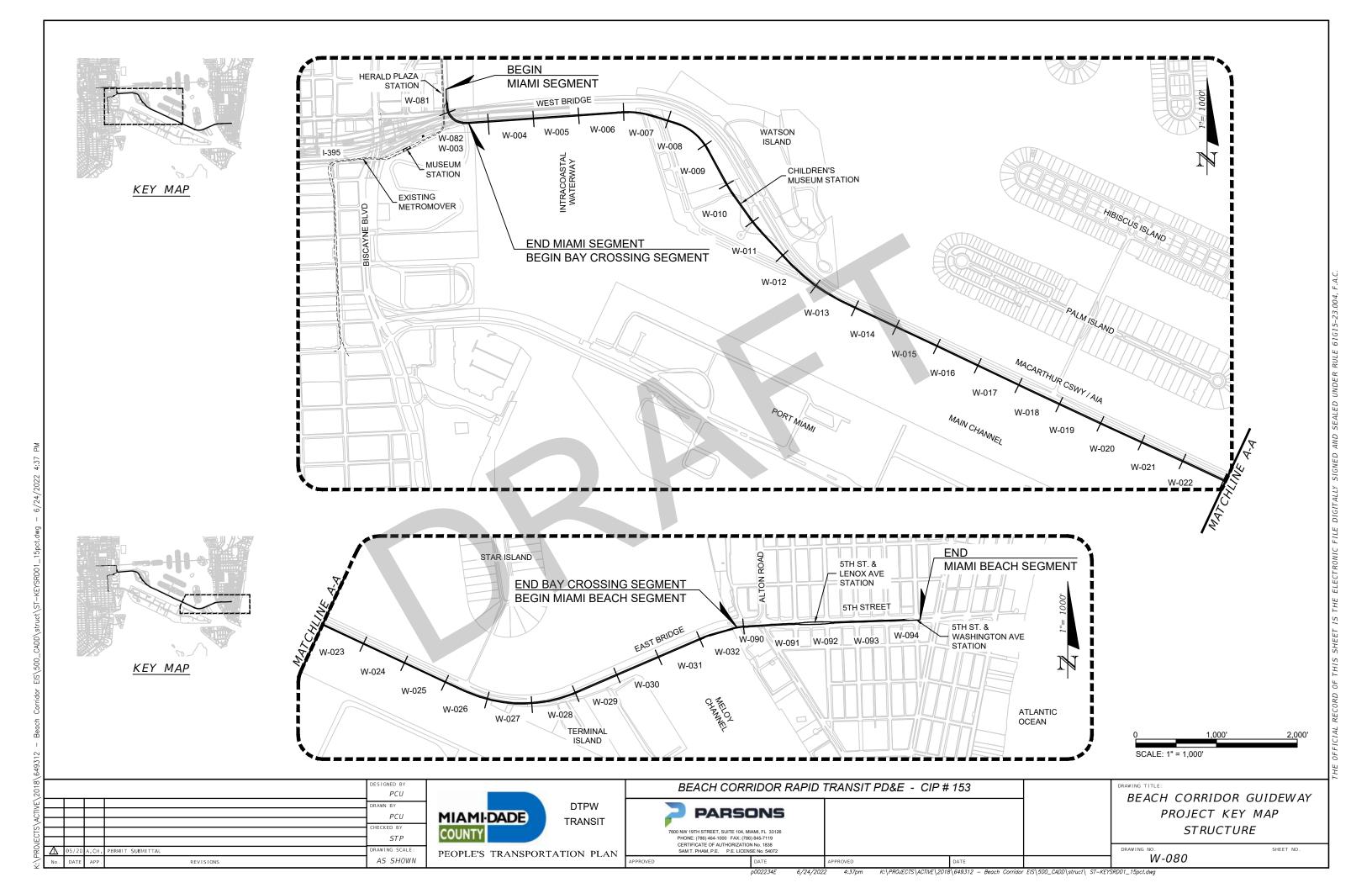
BEACH CORRIDOR GUIDEWAY

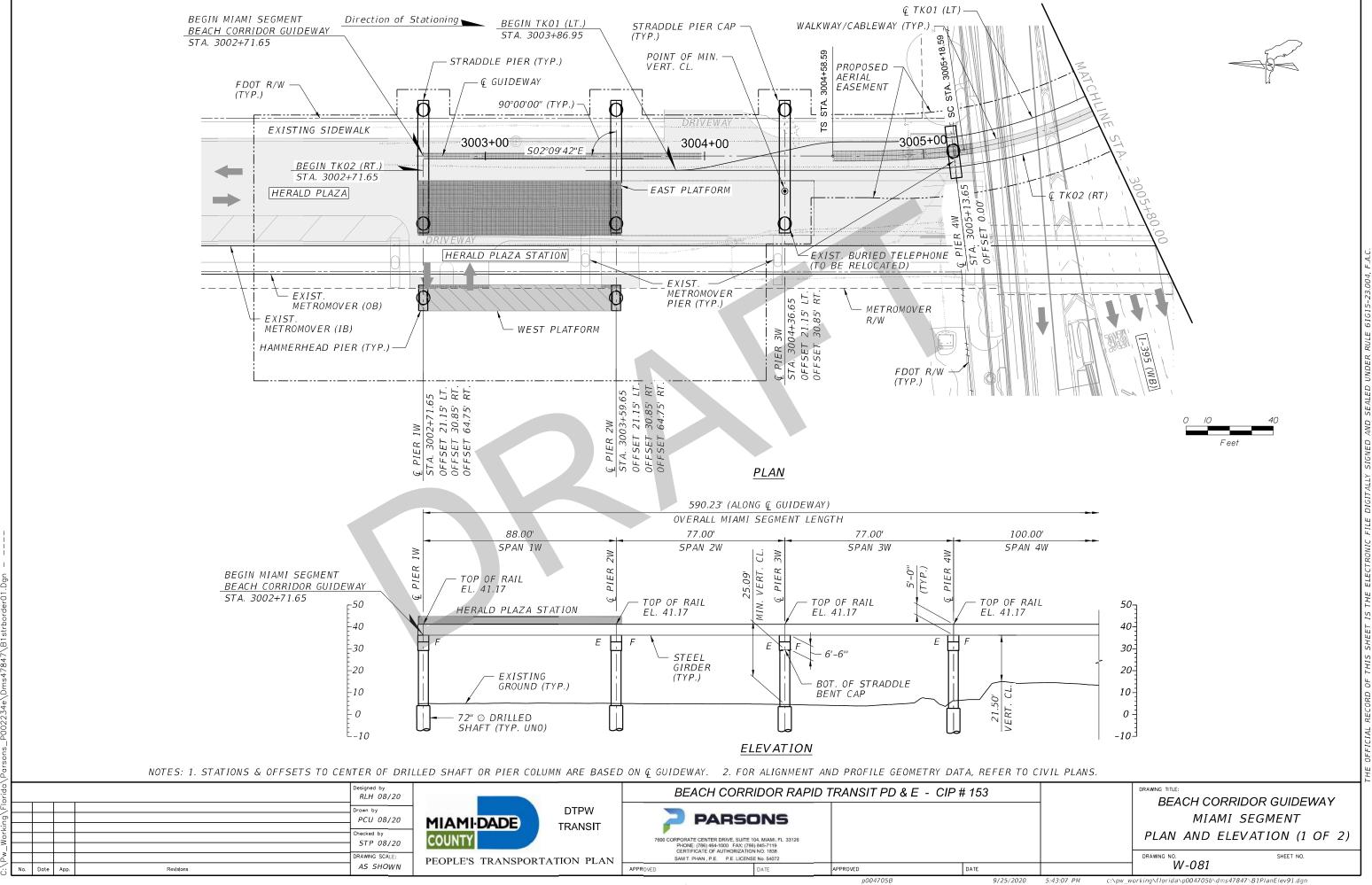
TYPICAL SECTION

CAUSEWAY (2 OF 2)

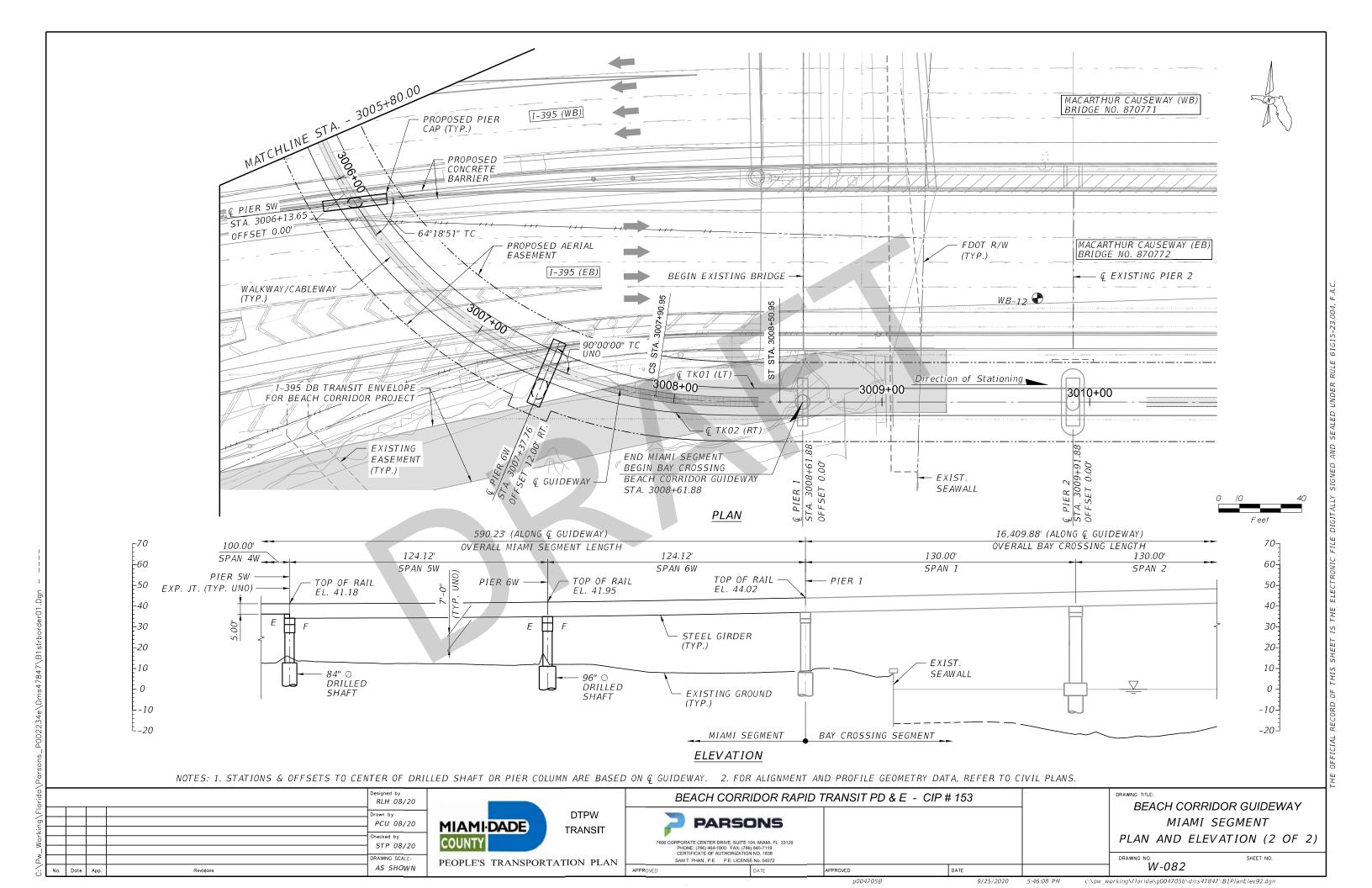
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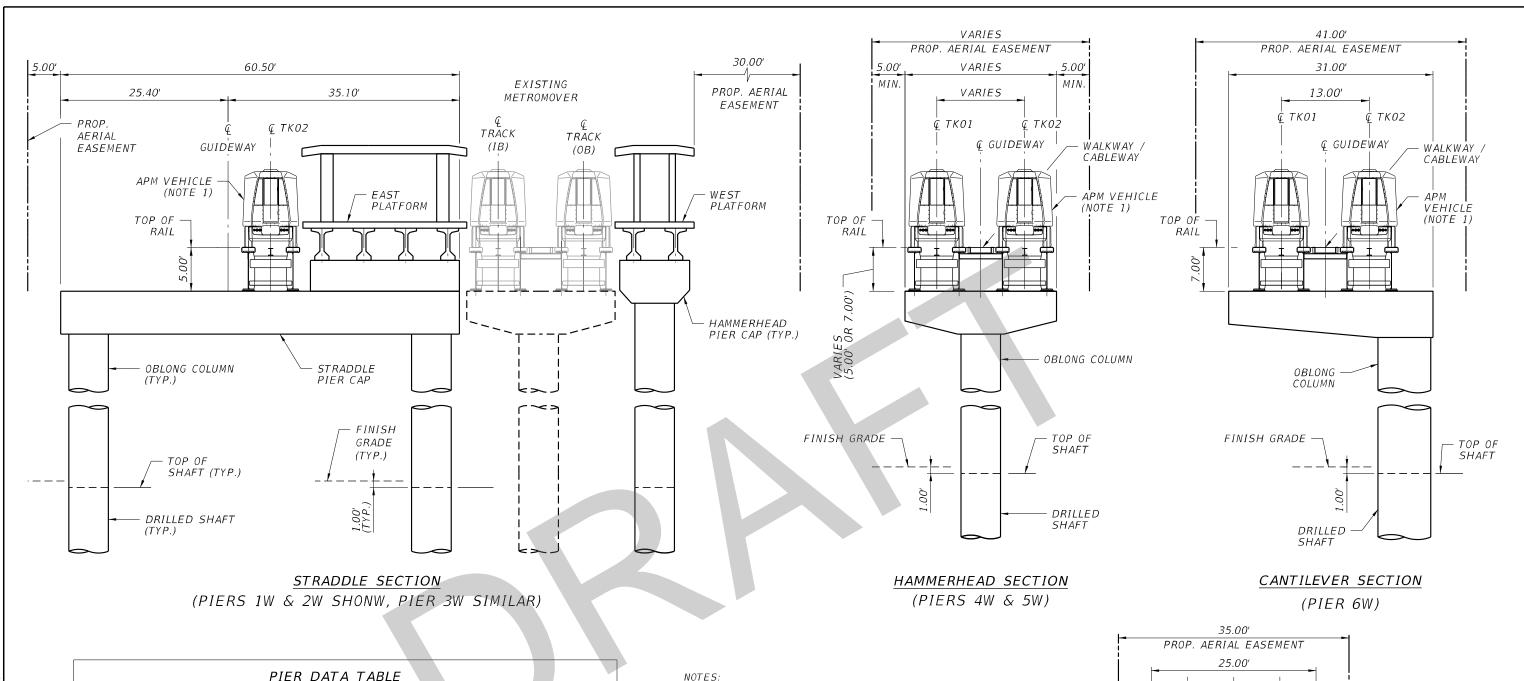






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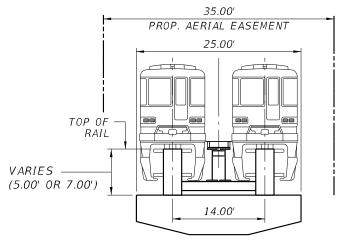




PIER DATA TABLE						
PIER NO.	TYPE	COLUMN(S)	FOUNDATION(S)			
1W - 3W	STRADDLE	6' X 4.5'	2~72" DS			
4W	HAMMERHEAD	6' X 4.5'	1~72" DS			
5W	HAMMERHEAD	7' X 4.5'	1~84" DS			
6W	CANTILEVER	8' X 6'	1~96" DS			

DS = DRILLED SHAFT

- 1. APM VEHICLE WITH STEEL PLATE GIRDERS SHOWN. SEE THIS SHEET FOR MONORAIL VEHICLE WITH BOX GIRDERS AS ALTERNATE.
- 2. REFER TO PLAN & ELEVATION SHEETS FOR PLAN VIEW, STRUCTURE DEPTH, HORIZONTAL AND VERTICAL CLEARANCES.



MONORAIL VEHICLE ALTERNATE

Designed by RLH 08/20 PCU 08/20 hecked by STP 08/20 RAWING SCALE: AS SHOWN

DTPW MIAMIDADE **TRANSIT** PEOPLE'S TRANSPORTATION PLAN

BEACH CORRIDOR RAPID TRANSIT PD & E - CIP # 153 **PARSONS** 7600 CORPORATE CENTER DRIVE, SUITE 104, MIAMI, FL 33126 PHONE: (786) 464-1000 FAX: (786) 845-7119 CERTIFICATE OF AUTHORIZATION NO. 1838 SAM T. PHAN , P.E. P.E. LICENSE No. 54072

BEACH CORRIDOR GUIDEWAY MIAMI SEGMENT TYPICAL SECTION

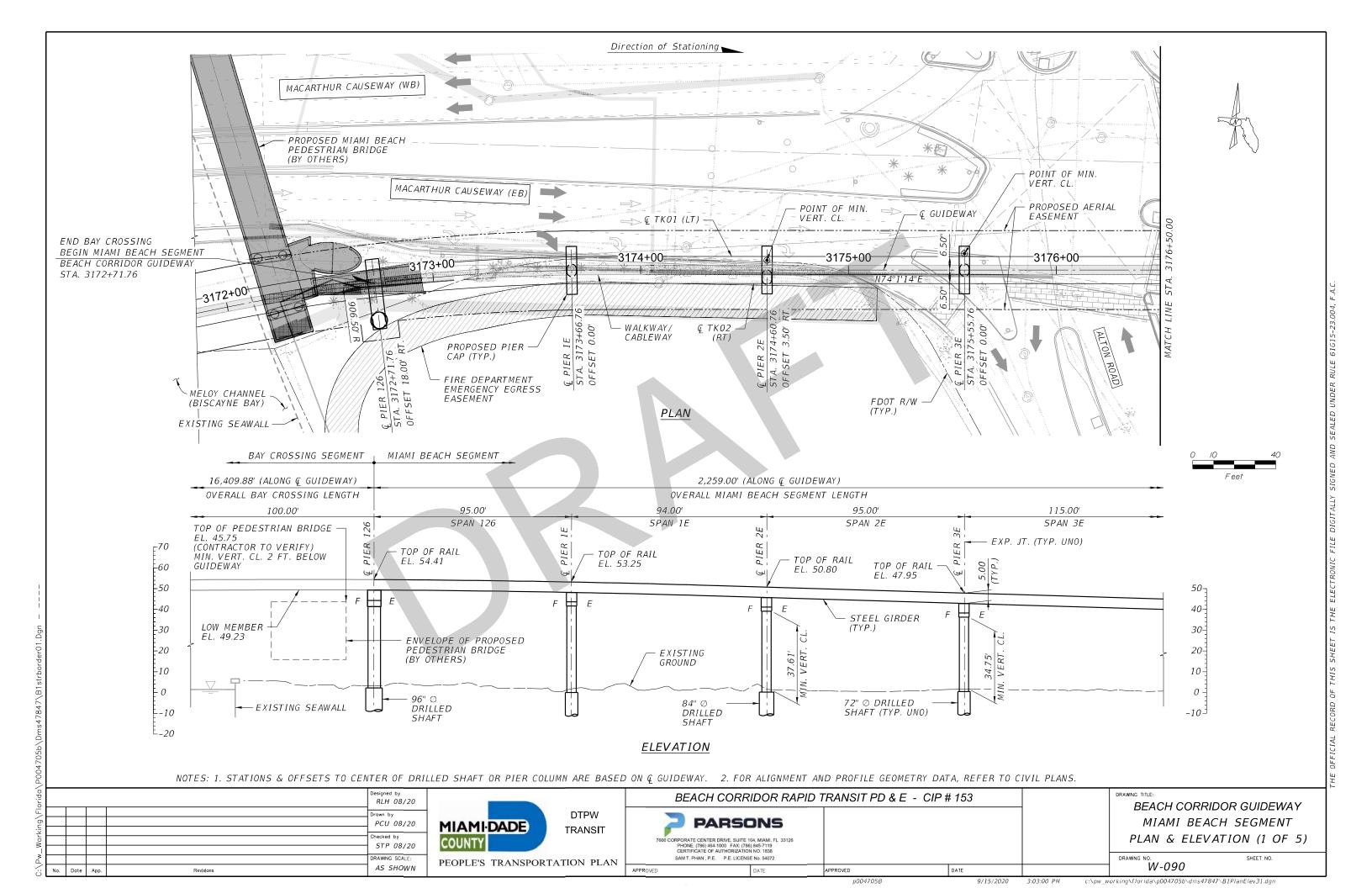
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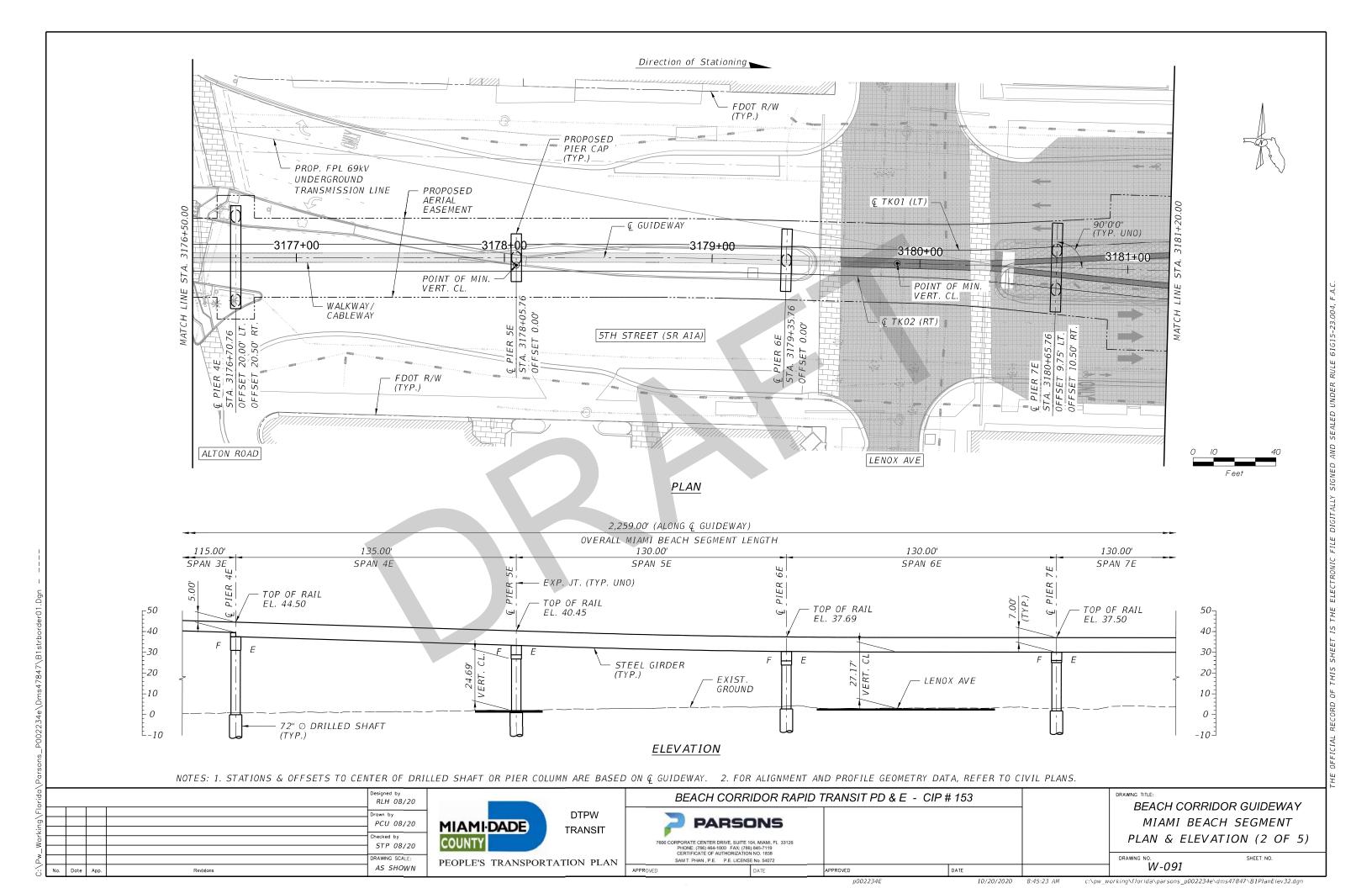
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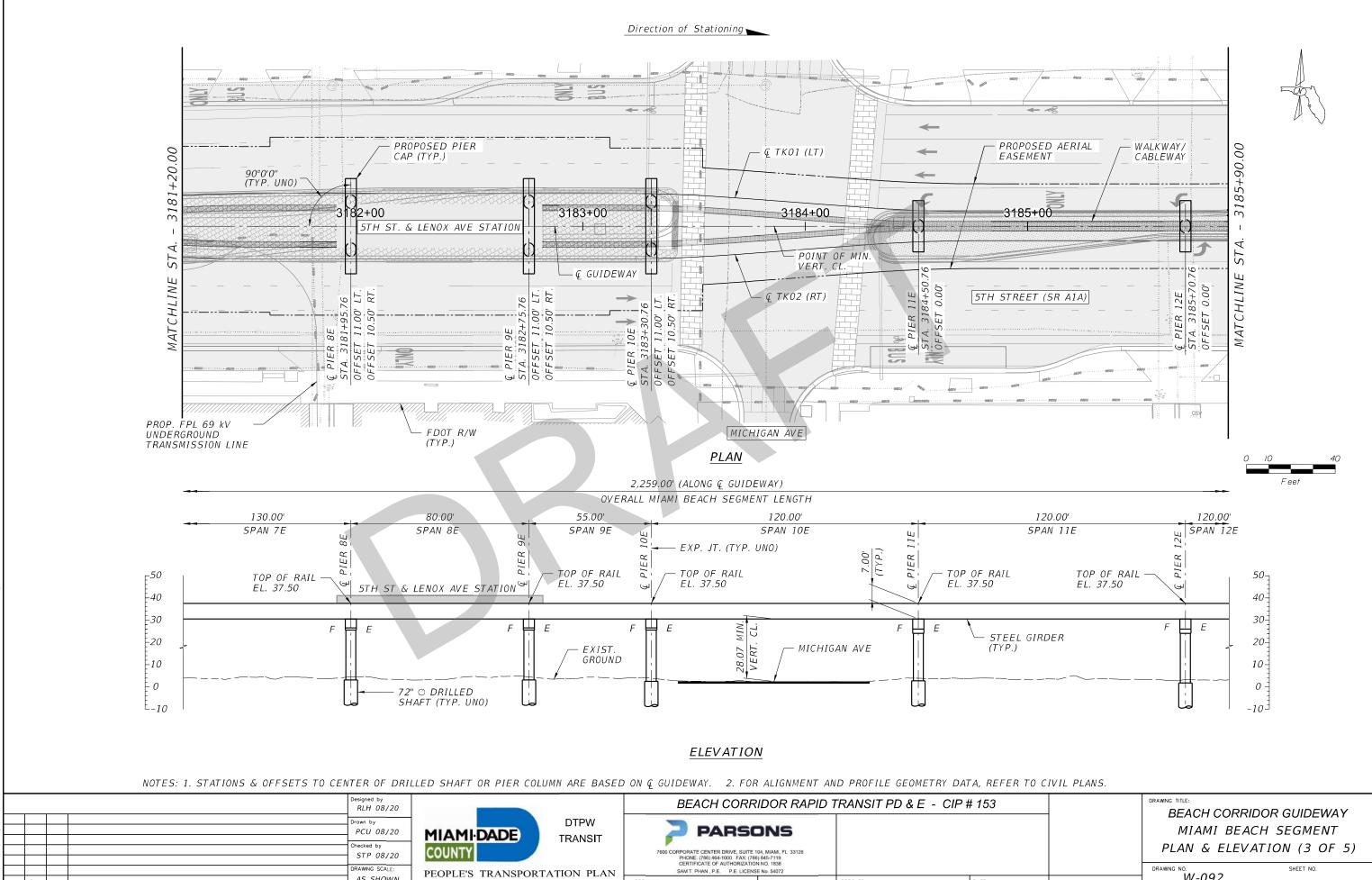
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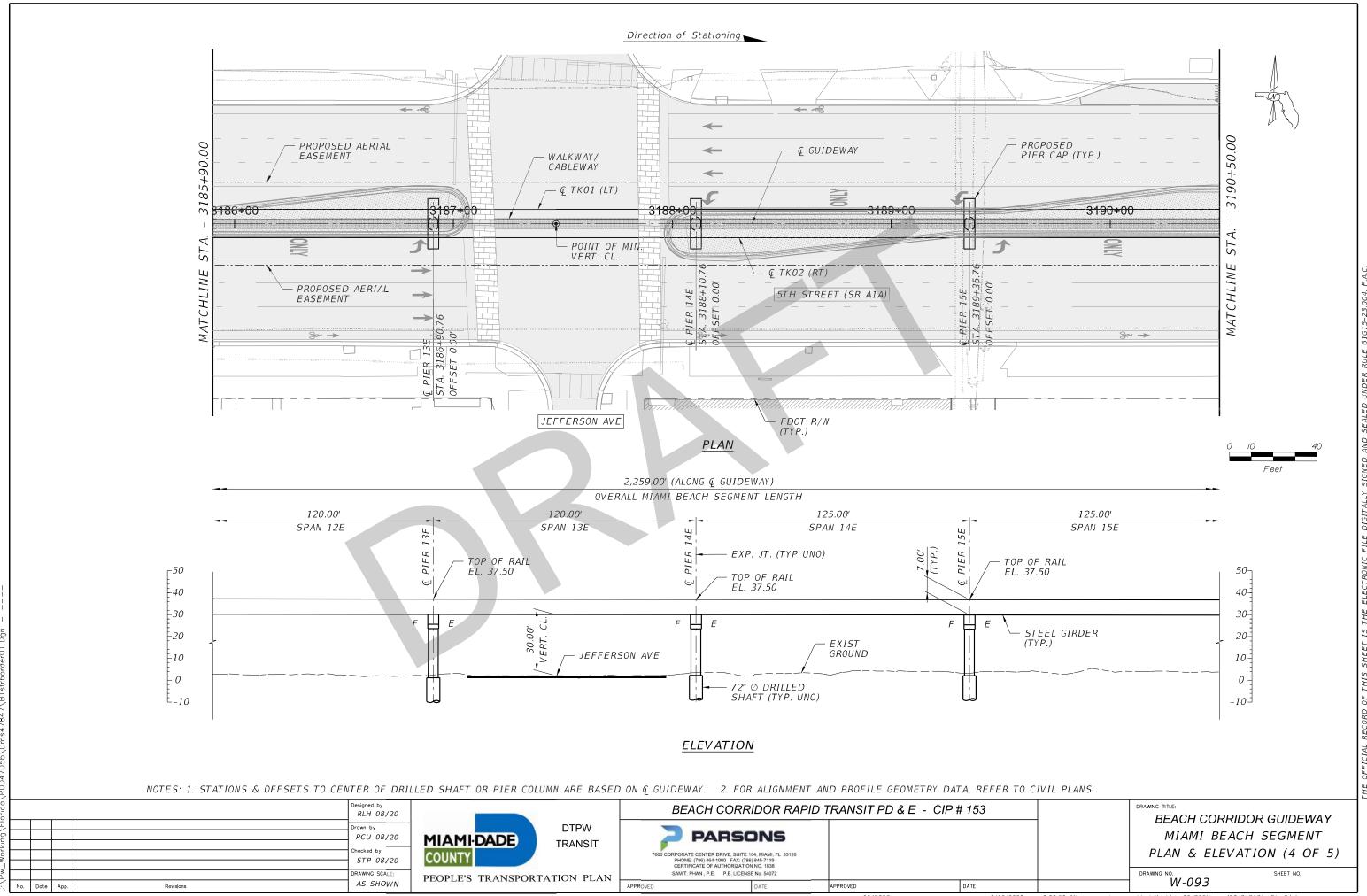
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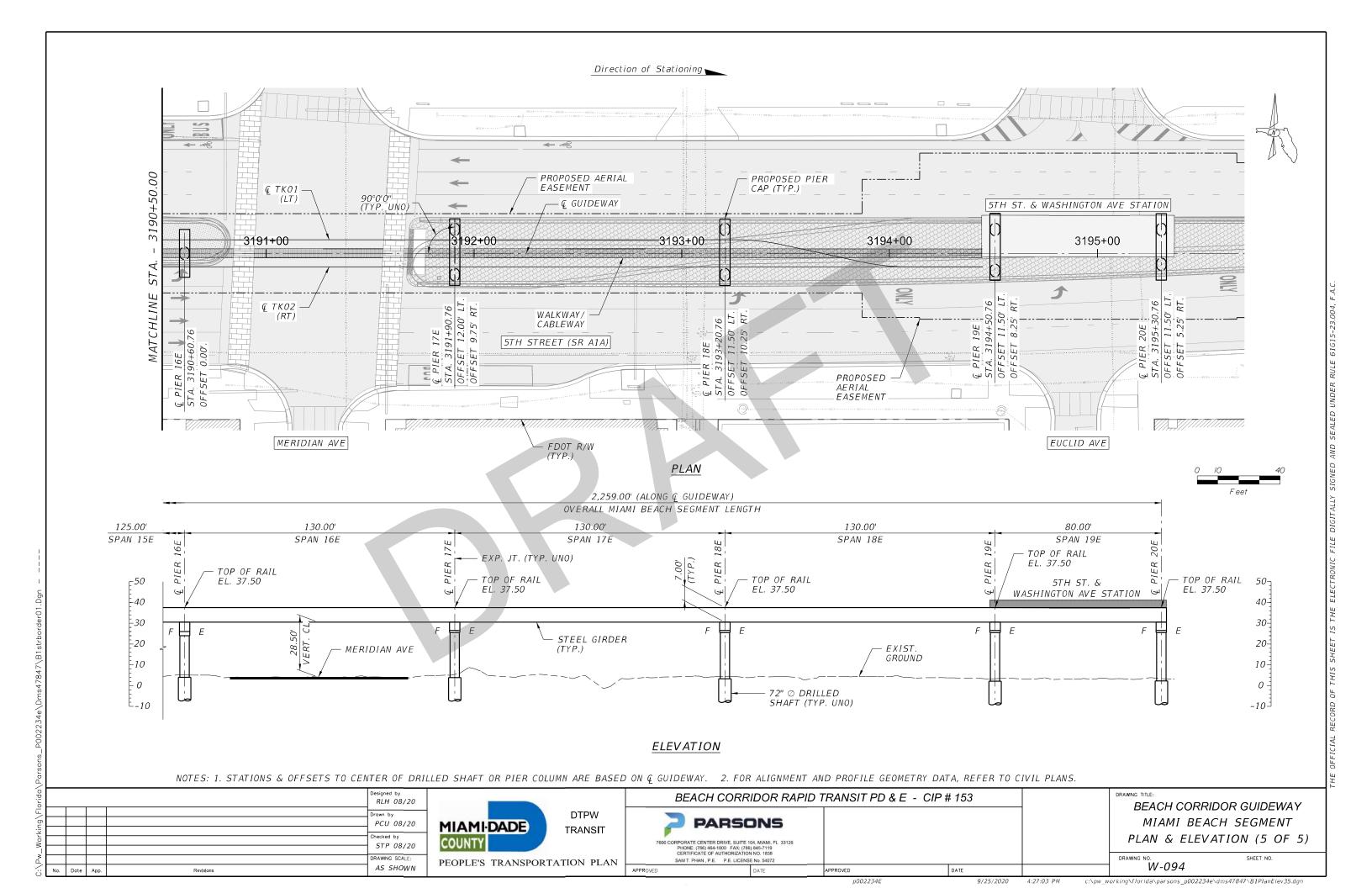


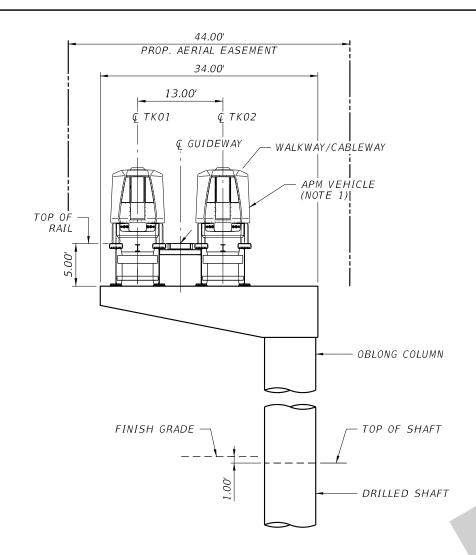


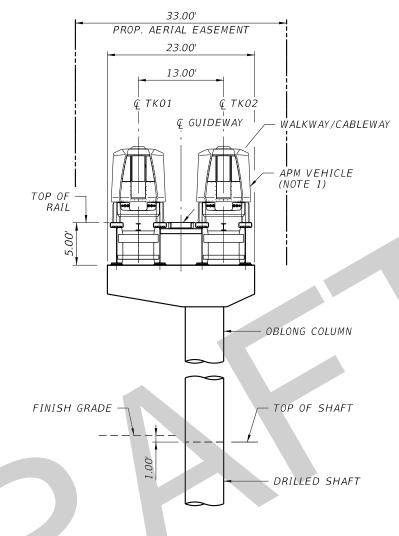
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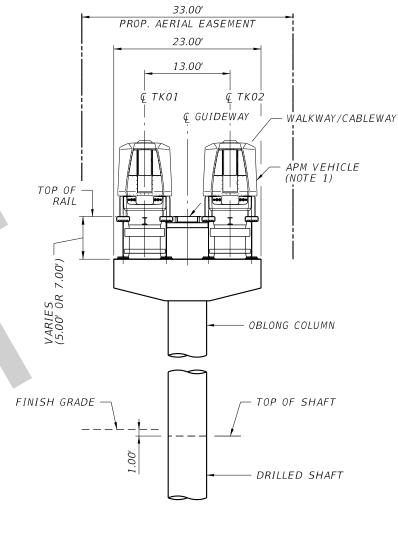


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## CANTILEVER SECTION (PIER 126)

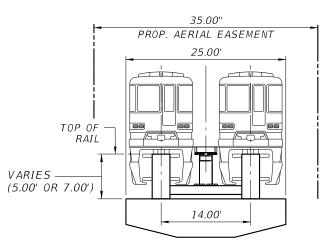
## CANTILEVER SECTION (PIER 2E)

## TYPICAL HAMMERHEAD SECTION

PIER DATA TABLE						
PIER NO.	TYPE	COLUMN(S)	FOUNDATION(S)			
126	CANTILEVER	8' X 6'	1~96" DS			
2E	CANTILEVER	7' X 4.5'	1~84" DS			
4E	STRADDLE	6' X 4.5'	2~72" DS			
1E, 3E, 5E, 6E, 11E - 16E	HAMMERHEAD	6' X 4.5'	1~72" DS			
7E - 10E & 17E - 20E	MULTI-COLUMN	6' X 4.5'	2~72" DS			

NOTES: 1. AP

- 1. APM VEHICLE WITH STEEL PLATE GIRDERS SHOWN. SEE THIS SHEET FOR MONORAIL VEHICLE WITH BOX GIRDERS AS ALTERNATE.
- 2. REFER TO PLAN & ELEVATION SHEETS
  FOR PLAN VIEW, STRUCTURE DEPTH,
  HORIZONTAL AND VERTICAL CLEARANCES.



MONORAIL VEHICLE ALTERNATE

NOTE: DS = DRILLED SHAFT

DTPW
TRANSIT
COUNTY
PEOPLE'S TRANSPORTATION PLAN

BEACH CORRIDOR RAPID TRANSIT PD & E - CIP # 153

PARSONS

7600 CORPORATE CENTER DRIVE, SUITE 104, MIAM, FL 33126
PHONE; (786) 464-1000 FAX; (786) 465-7119
CERTIFICATE OF AUTHORIZATION NO. 1838
SAM T. PHAN , P.E. P.E. LICENSE NO. 54072

APPROVED DATE APPROVED DATE

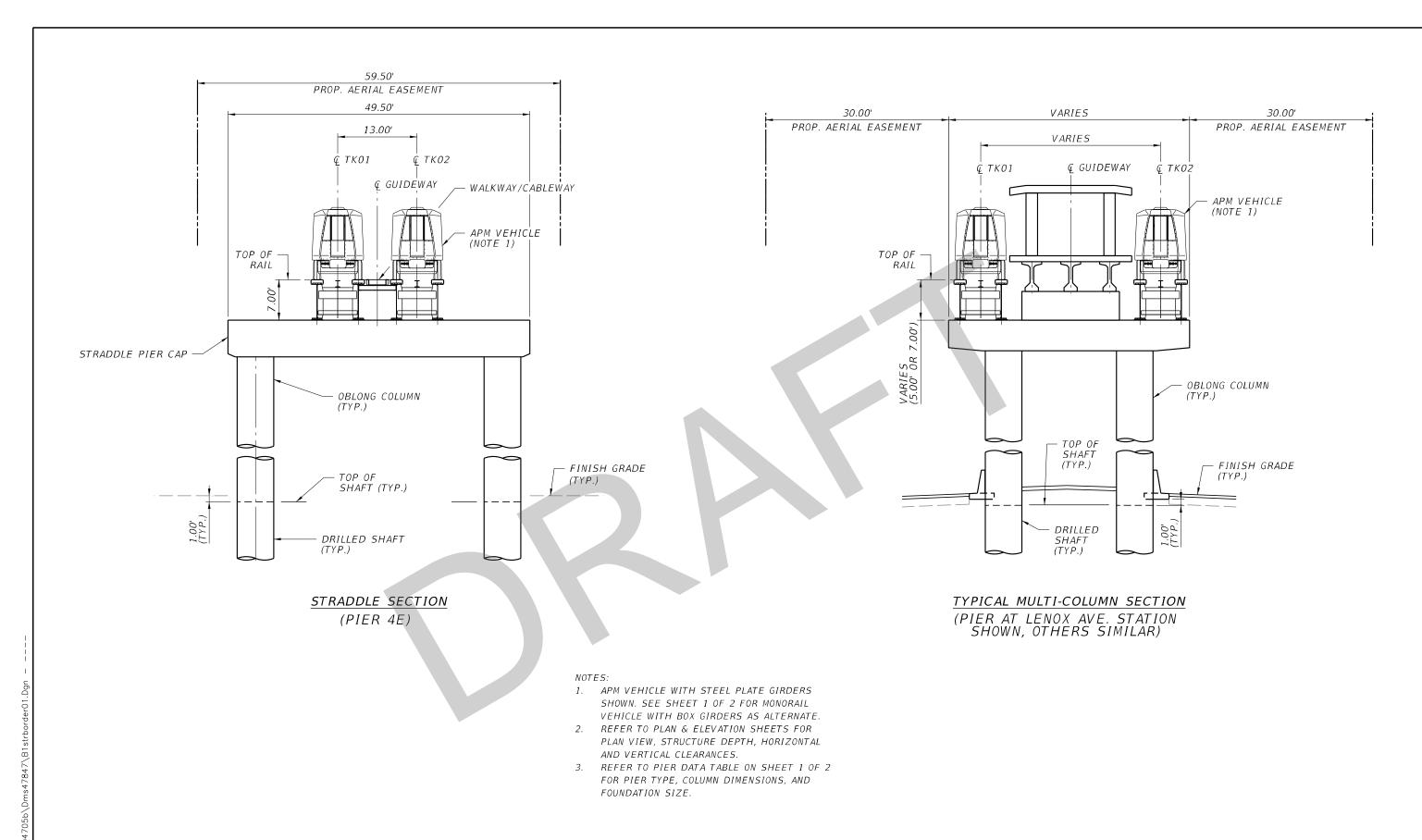
BEACH CORRIDOR GUIDEWAY MIAMI BEACH SEGMENT TYPICAL SECTION (1 OF 2)

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Designed by RLH 08/20 PCU 08/20 hecked by STP 08/20 RAWING SCALE: AS SHOWN

DTPW MIAMI-DADE) TRANSIT PEOPLE'S TRANSPORTATION PLAN

BEACH CORRIDOR RAPID TRANSIT PD & E - CIP # 153 **PARSONS** PHONE: (786) 464-1000 FAX: (786) 845-7119 CERTIFICATE OF AUTHORIZATION NO. 1838 SAM T. PHAN , P.E. P.E. LICENSE No. 54072

BEACH CORRIDOR GUIDEWAY MIAMI BEACH SEGMENT TYPICAL SECTION (2 OF 2)

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