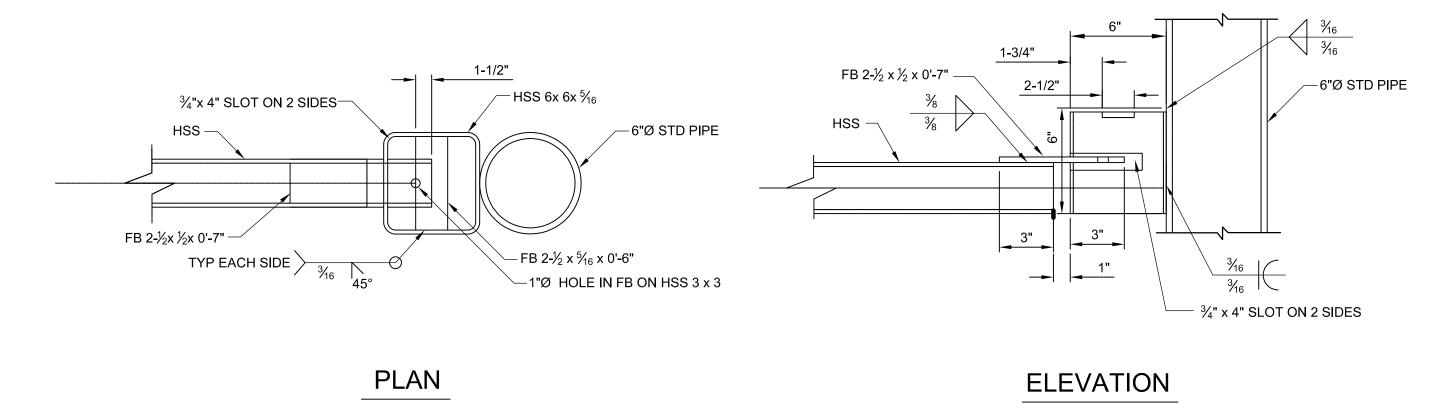
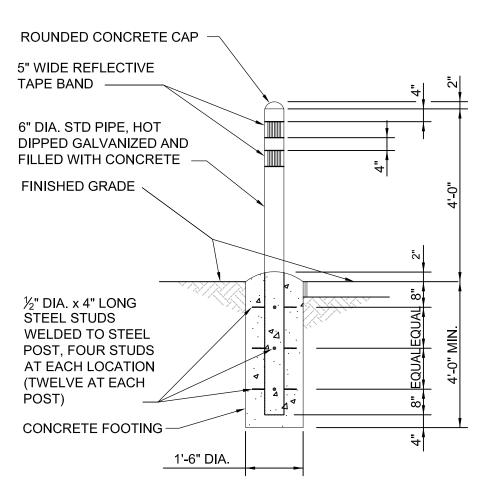


2 ROD PLATE DETAIL



SINGLE LOCK ASSEMBLY DETAIL FOR GATE TYPES A AND B



4 BOLLARD AND CONCRETE FOOTING DETAIL

NTS

- 1. FOR PLAN LAYOUTS OF PROPOSED ACCESS CONTROL GATE LOCATIONS, SEE SHEETS C-007, C-009 AND C-010.
- 2. INSTALL LOCK ASSEMBLY AND ROD PLATE AFTER GATE IS INSTALLED, FIELD MOUNT.
- 3. FOR ACCESS CONTROL GATE CORROSION PROTECTION COATING, USE COAL TAR EPOXY, 16 MILS DFT.



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PORT CONTRACT REPRESENTATIVE MANAGING DIRECTOR — ENGINEERING DESIGN & SUPPORT

PROJECT TITLE:

HOUSTON SHIP CHANNEL (HSC)

EXPANSION CHANNEL IMPROVEMENT PROJECT (ECIP)

PROJECT 11: PACKAGE #8

SHEET TITLE:
SEGMENT 4 **BOGGY BAYOU TO** SIMS BAYOU **TURNING BASIN** E2 CLINTON DMPA & BELTWAY 8 DMPA

ACCESS CONTROL GATE DETAILS SHEET 2 OF 2

REV	DATE		DESCRIPTION
Α	8/15/20	65%	SUBMITTAL
В	12/08/20	95%	SUBMITTAL
			T
DES	GIGNER:		G.PENNISON
CAE	DD:		J.DELEON
СНЕ	CKER:		N.McLELLAN
DAT	Œ:		12/08/2020

C90-D13-P11-002

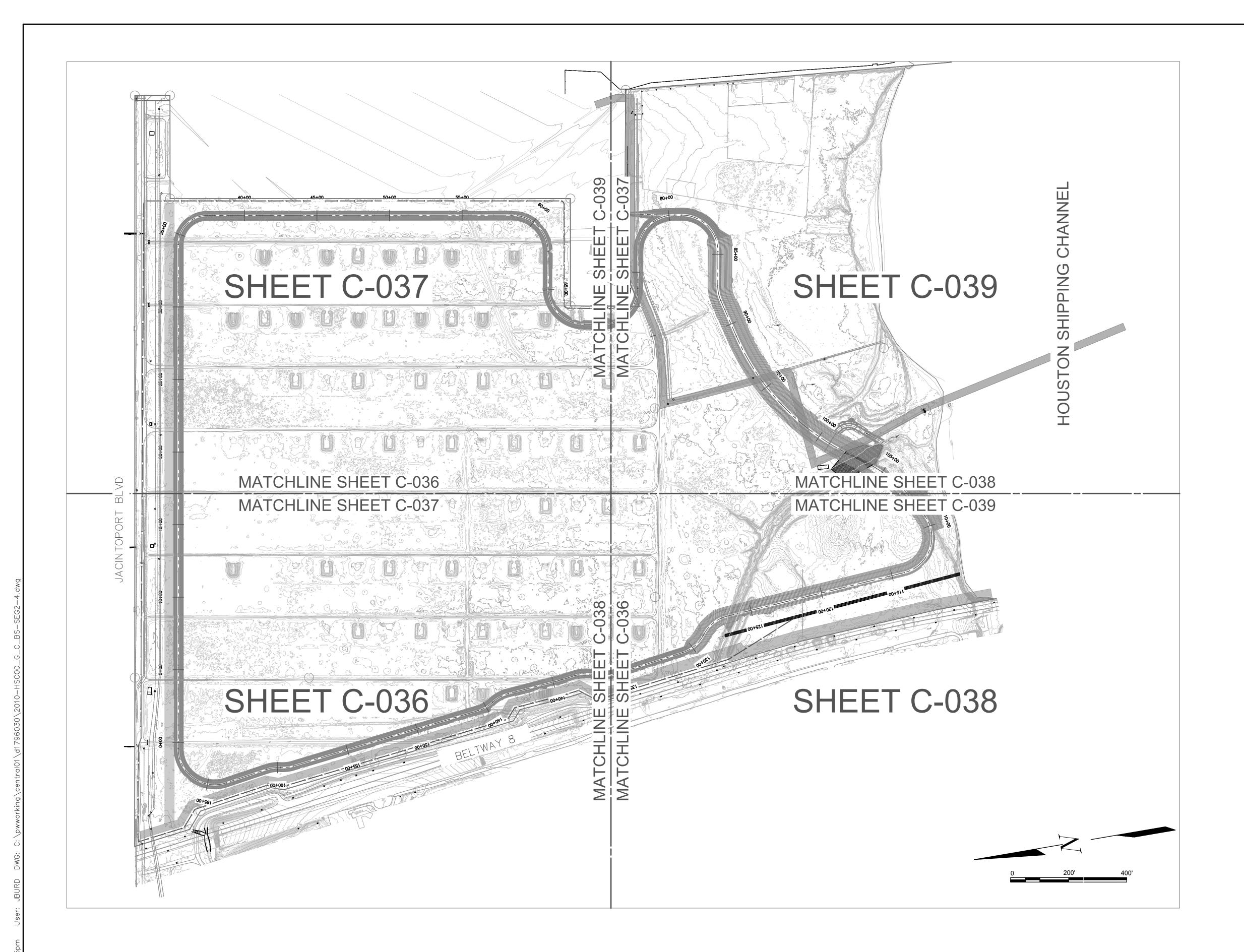
SHEET NO. C-034

E2 CLINTON DMPA

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AS NOTED

ACCESS CONTROL GATE DETAILS SHEET 2 OF 2 NOT TO SCALE





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HOUSTON SHIP CHANNEL (HSC)

EXPANSION
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IMPROVEMENT
PROJECT (ECIP)

PROJECT 11: PACKAGE 8

SHEET TITLE:
SEGMENT 4
BOGGY BAYOU TO
HUNTING BAYOU
TURNING BASIN
E2 CLINTON DMPA
& BELTWAY 8 DMPA

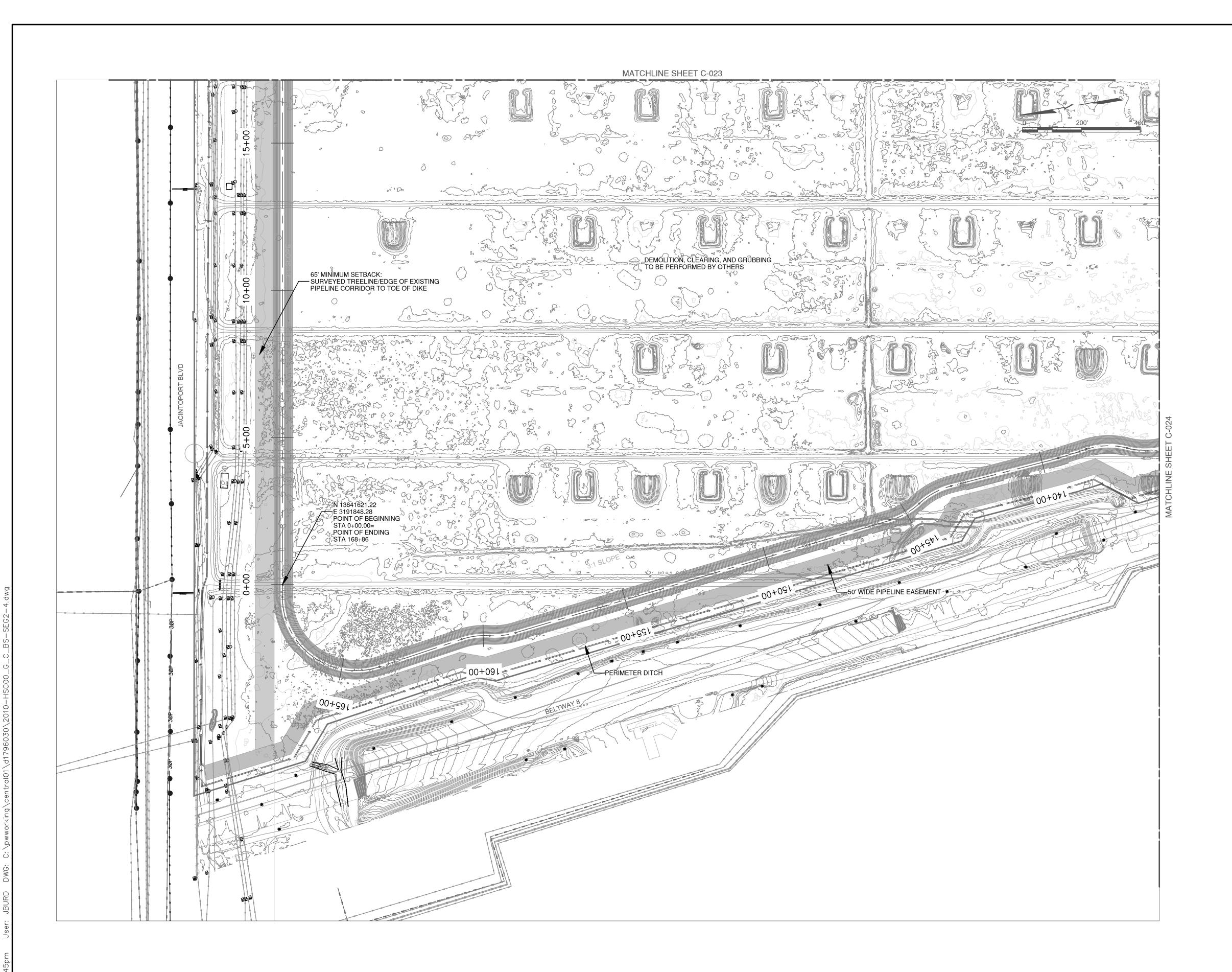
SITE PLAN KEY MAP

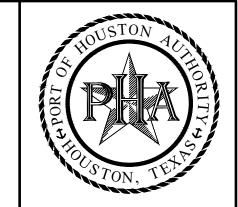
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Α	8/15/20	65% 9	SUBMITTAL
В	12/08/20	95% 9	SUBMITTAL
DES	IGNER:		C.LOWE
CAE	DD:		J.BURD
CHE	CKER:		A.COLWELL
DAT	ΓE:		12/08/2020

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C90-D13-P11-002

C-035 REV. NO.

BELTWAY 8 DMPA





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PROJECT TITLE:
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CHANNEL (HSC)

EXPANSION
CHANNEL
IMPROVEMENT
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PROJECT 11: PACKAGE 8

SHEET TITLE:
SEGMENT 4
BOGGY BAYOU TO
HUNTING BAYOU
TURNING BASIN
E2 CLINTON DMPA
& BELTWAY 8 DMPA

SITE PLAN 1 OF 4

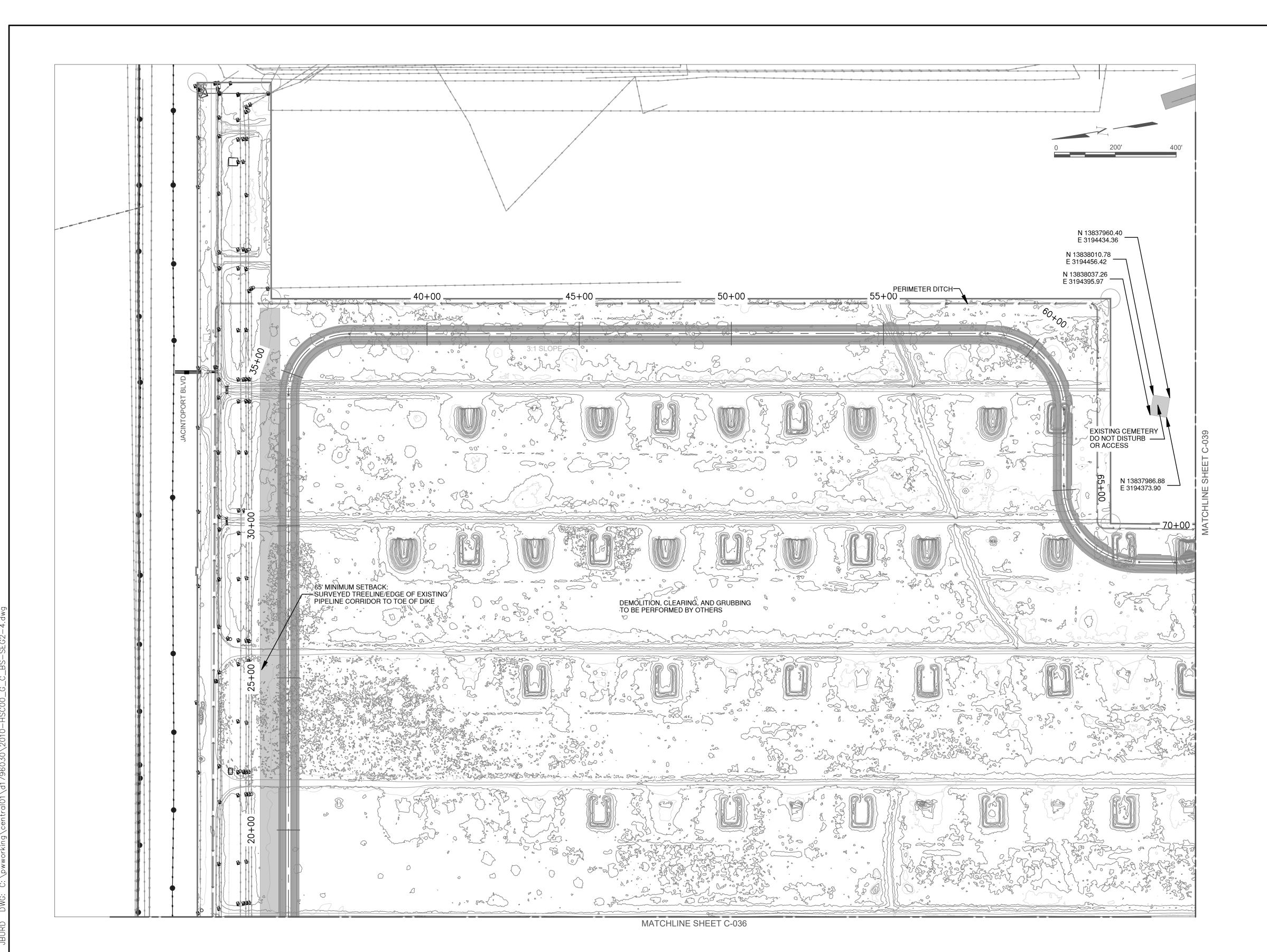
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В	12/08/20	95% 9	SUBMITTAL
DES	IGNER:		C.LOWE
CAE	D:		J.BURD
CHE	CKER:		A.COLWELL
DAT	E:		12/08/2020

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SHEET NO. REV. NO. B

BELTWAY 8 DMPA





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EXPANSION
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PROJECT (ECIP)

PROJECT 11: PACKAGE 8

SHEET TITLE:
SEGMENT 4
BOGGY BAYOU TO
HUNTING BAYOU
TURNING BASIN
E2 CLINTON DMPA
& BELTWAY 8 DMPA

SITE PLAN 2 OF 4

REV	DATE		DESCRIPTION
Α	8/15/20		SUBMITTAL
В	12/08/20	95%	SUBMITTAL
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DES	IGNER:		C.LOWE
CAD	D:		J.BURD
CHE	CKER:		A.COLWELL
DAT	E:		12/08/2020
SCA	LE:		AS NOTED

DRAWING NO. C90-D13-P11-002

SHEET NO. REV. NO. A

BELTWAY 8 DMPA



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DESIGN & SUPPORT

PROJECT TITLE: HOUSTON SHIP

CHANNEL (HSC)

EXPANSION CHANNEL **IMPROVEMENT** PROJECT (ECIP)

PROJECT 11: PACKAGE 8

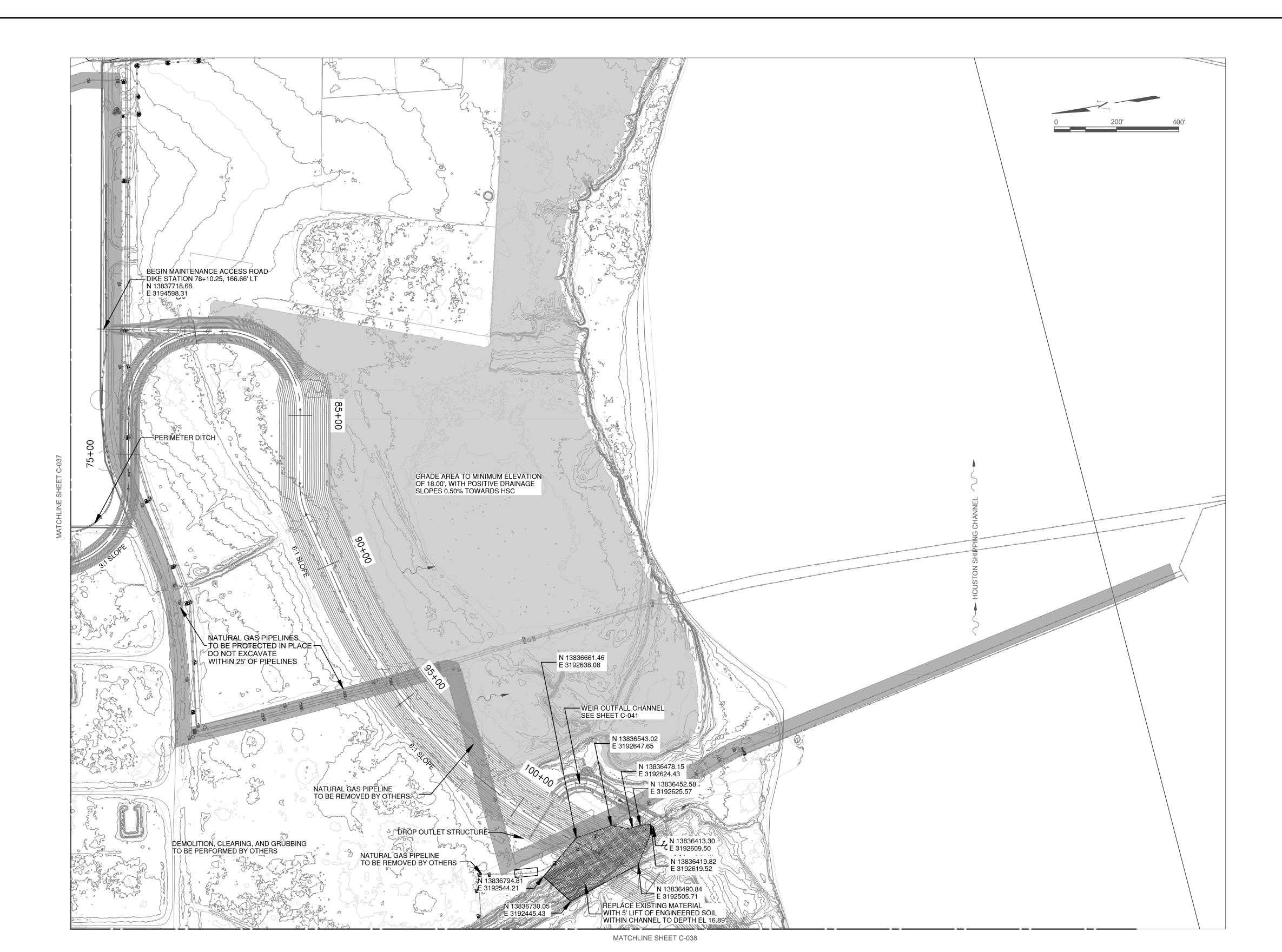
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SEGMENT 4 BOGGY BAYOU TO HUNTING BAYOU TURNING BASIN E2 CLINTON DMPA & BELTWAY 8 DMPA

SITE PLAN 3 OF 4

REV	DATE		DESCRIPTION
Α	8/15/20		SUBMITTAL
В	12/08/20	95%	SUBMITTAL
DES	SIGNER:		C.LOWE
CAE	D:		J.BURD
CHE	CKER:		A.COLWELL
DAT	Ē:		12/08/2020
SCA	ALE:		AS NOTED

DRAWING NO. C90-D13-P11-002

SHEET NO. REV. NO. C-038



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PROJECT TITLE: HOUSTON SHIP

CHANNEL (HSC)

EXPANSION CHANNEL IMPROVEMENT PROJECT (ECIP)

PROJECT 11: PACKAGE 8

SHEET TITLE:
SEGMENT 4 **BOGGY BAYOU TO HUNTING BAYOU TURNING BASIN** E2 CLINTON DMPA & BELTWAY 8 DMPA

SITE PLAN 4 OF 4

REV	DATE		DESCRIPTION
Α	8/15/20	65% 9	SUBMITTAL
В	12/08/20	95% 9	SUBMITTAL
DES	IGNER:		C.LOWE
CAE	D:		J.BURD

DRAWING NO. C90-D13-P11-002

CHECKER:

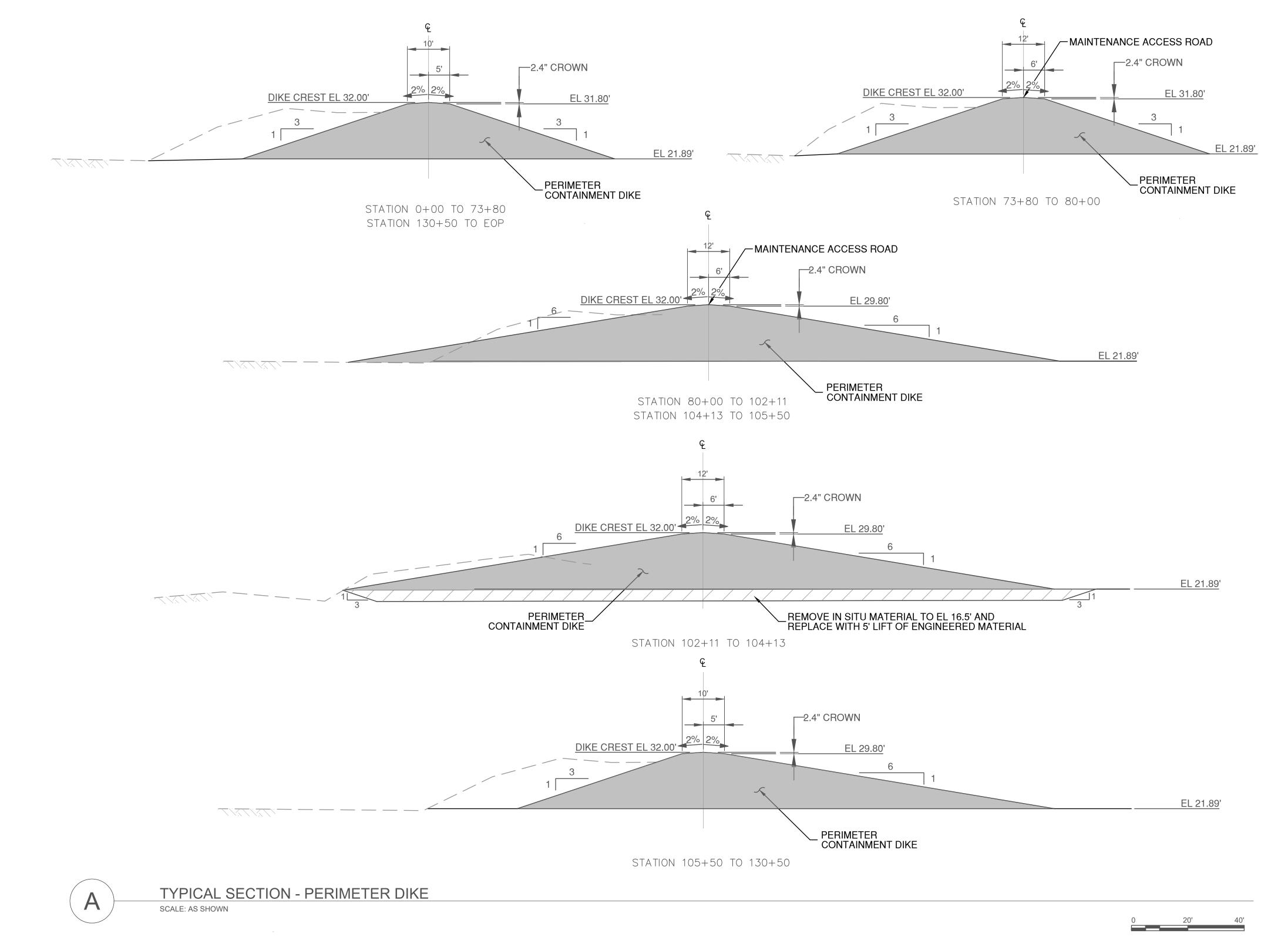
SCALE:

SHEET NO. REV. NO. C-039

BELTWAY 8 DMPA

A.COLWELL 12/08/2020

AS NOTED



GEOTECHNICAL NOTES

- 1. BORINGS ECP-2014 THROUGH ECP-2044 WERE DRILLED AT THE BELTWAY DMPA TO A DEPTH OF 40 FEET BELOW THE EXISTING GRADE. BORING LOCATIONS ARE MARKED ON SHEET B-007.
- 2. THE GEOTECHNICAL RECOMMENDATIONS WERE DEVELOPED BY HVJ ASSOCIATES, HVJ REPORT NO. HG1910092.2.1-DES.
- 3. THE INTERIOR AND EXTERIOR EMBANKMENT SLOPES SHALL BE NO STEEPER THAN 3H:1V EXCEPT WHERE NOTED.
- 4. THE INTERIOR EMBANKMENT SLOPE SHALL BE NO STEEPER THAN 6H:1V BETWEEN STATIONS 92+00 AND 110+00.
- 5. EMBANKMENT FOUNDATION PREPARATIONS SHALL INCLUDE EXCAVATING VERY LOOSE SILTY SAND OR SILT TO THE TOP OF FIRM TO STIFF CLAY AND REPLACEMENT WITH EMBANKMENT FILL. FOR PLANNING PURPOSES, THE EMBANKMENT FOUNDATIONS PREPARATION IS ANTICIPATED TO REQUIRE OVEREXCAVATION AND REPLACEMENT OF ROUGHLY 2 FEET OVER AT LEAST 20% OF THE EMBANKMENT; AROUND 6 FEET BETWEEN STATIONS 20+00 AND 30+00; AND IS NOT NECESSARY BETWEEN STATIONS 92+00 AND 110+00.
- 6. IT IS ASSUMED THAT A 1.5' STRIPPING DEPTH FROM LIDAR DERIVED EXISTING GROUND SURFACE WILL BE REQUIRED FOR ALL AREAS OF THE SITE WITHIN THE DMPA FOOTPRINT. UNDERNEATH THE CONTAINMENT DIKE FOOTPRINT, STRIPPING DEPTHS WERE INTERPOLATED FROM THE GEOTECHNICAL EXPLORATION BORING LOGS SHOWN ON SHEETS B-007 TO B-011.



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PROJECT TITLE:

DATE

PORT CONTRACT REPRESENTATIVE
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HOUSTON SHIP CHANNEL (HSC)

EXPANSION CHANNEL IMPROVEMENT PROJECT (ECIP)

PROJECT 11: PACKAGE 8

SEGMENT 4 BOGGY BAYOU TO **HUNTING BAYOU TURNING BASIN E2 CLINTON DMPA** & BELTWAY 8 DMPA

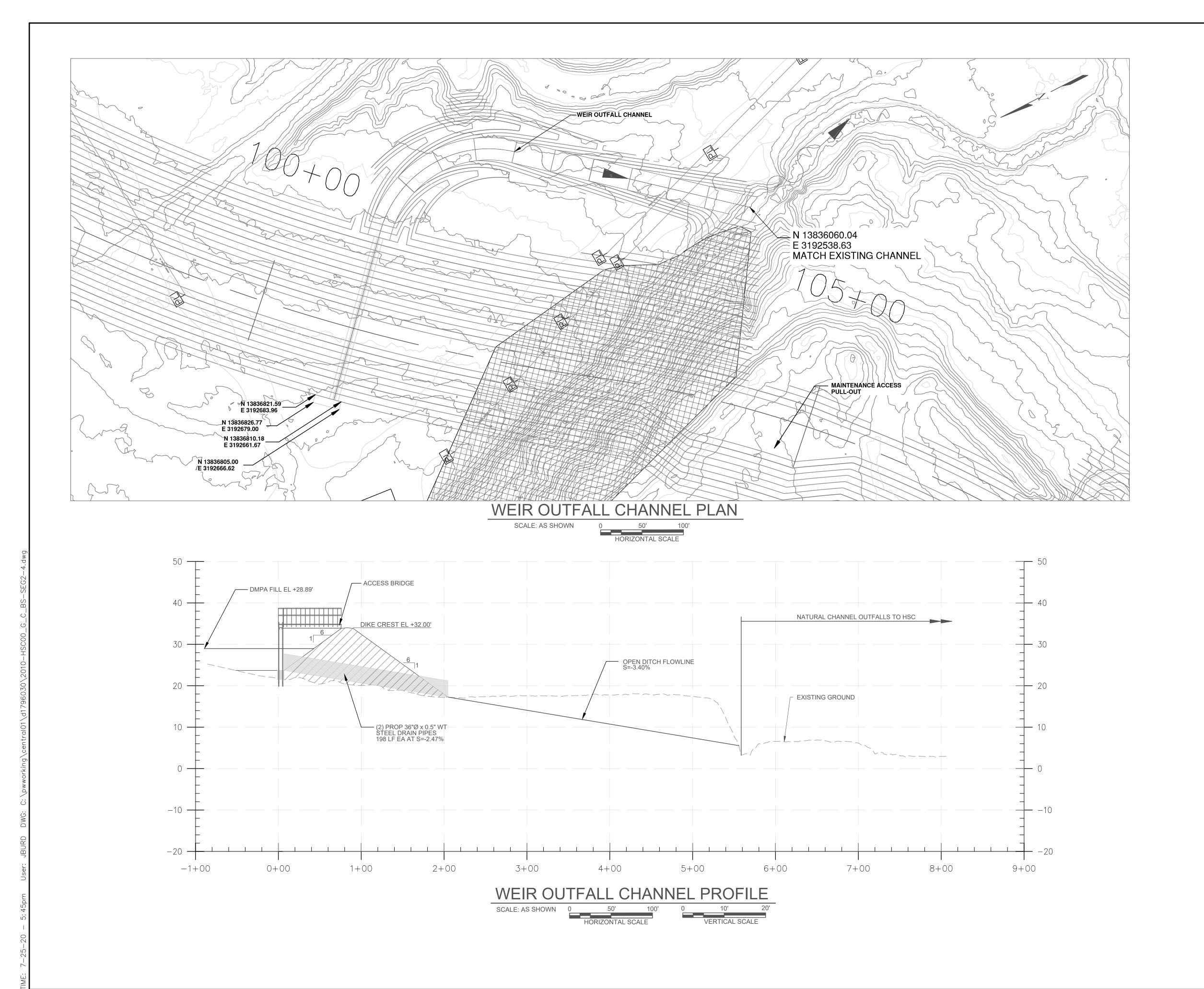
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REV	DATE		DESCRIPTION
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В	12/08/20	95%	SUBMITTAL
DES	IGNER:		C.LOWE
CAE	D:		J.BURD
CHE	CKER:		A.COLWELL
DAT	E:		12/08/2020
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BELTWAY 8 DMPA

C90-D13-P11-002

C-040





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PROJECT TITLE:

HOUSTON SHIP CHANNEL (HSC)

EXPANSION CHANNEL IMPROVEMENT PROJECT (ECIP)

PROJECT 11: PACKAGE 8

SHEET TITLE:
SEGMENT 4 **BOGGY BAYOU TO HUNTING BAYOU** TURNING BASIN E2 CLINTON DMPA & BELTWAY 8 DMPA

DROP OUTLET PLAN AND PROFILE

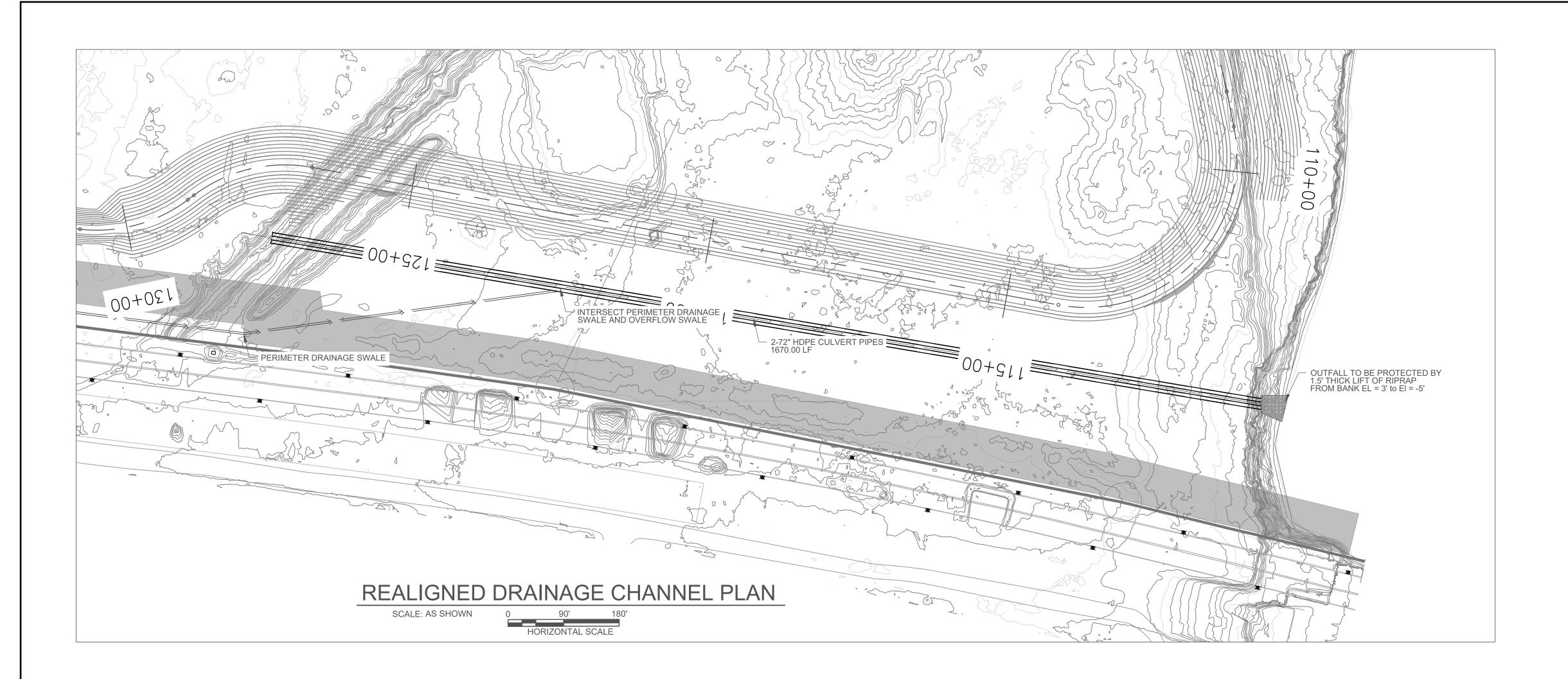
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CAE	D:		J. BURD
CHE	CKER:		A.COLWELL
DAT	E:		12/08/2020

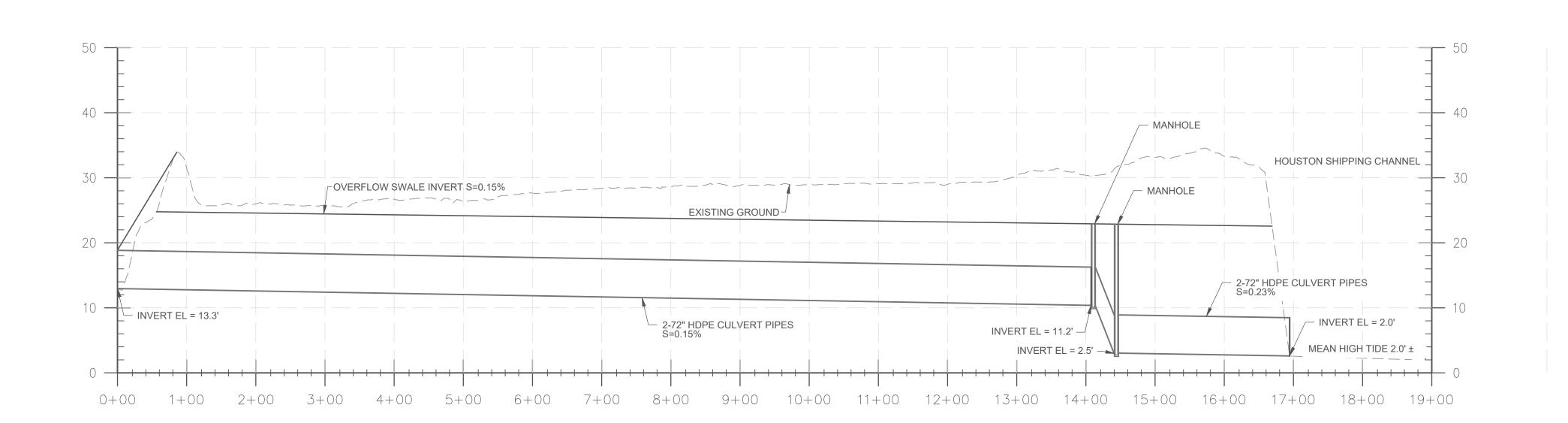
C90-D13-P11-002

SHEET NO. C-041

BELTWAY 8 DMPA

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REALIGNED DRAINAGE CHANNEL PROFILE



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PROJECT TITLE:

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PROJECT 11: PACKAGE 8

SHEET TITLE:
SEGMENT 4 **BOGGY BAYOU TO HUNTING BAYOU** TURNING BASIN E2 CLINTON DMPA & BELTWAY 8 DMPA

DRAINAGE DETAIL

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REV	DATE		DESCRIPTION	
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DES	IGNER:		C. LOWE	
CADD:		J. BURD		
CHECKER:		A.COLWELL		
DAT	E:		12/08/2020)

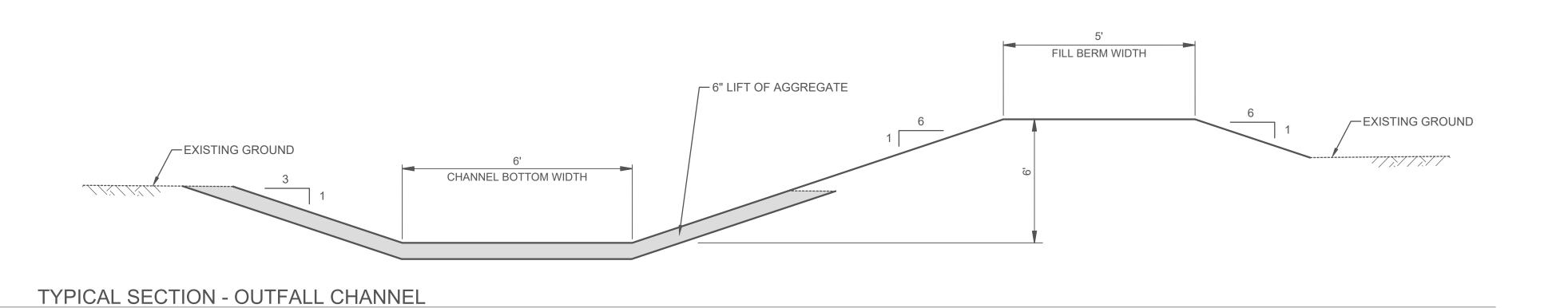
DRAWING NO. C90-D13-P11-002

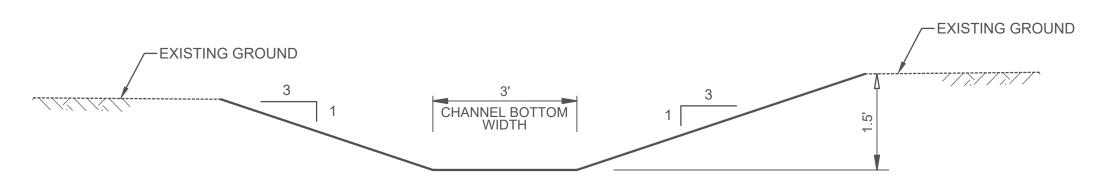
SHEET NO. REV. NO.

C-042

BELTWAY 8 DMPA

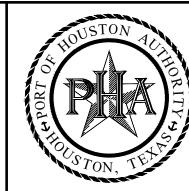
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C TYPICAL SECTION - PERIMETER DITCH
SCALE: AS SHOWN

2' 4'



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PROJECT TITLE:
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CHANNEL (HSC)

EXPANSION
CHANNEL
IMPROVEMENT
PROJECT (ECIP)

PROJECT 11: PACKAGE 8

SHEET TITLE:
SEGMENT 4
BOGGY BAYOU TO
HUNTING BAYOU
TURNING BASIN
E2 CLINTON DMPA
& BELTWAY 8 DMPA

TYPICAL DRAINAGE SECTIONS

REV	DATE		DESC	RIPTION	
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DES	IGNER:		C.L	OWE	
CAE	D:		J.B	URD	
CHECKER:			A.C	OLWELL	
DATE:			12/	08/2020	
SCALE:				NOTED	
DRAWING NO.					

BELTWAY 8 DMPA

C90-D13-P11-002

SHEET NO. REV. NO.

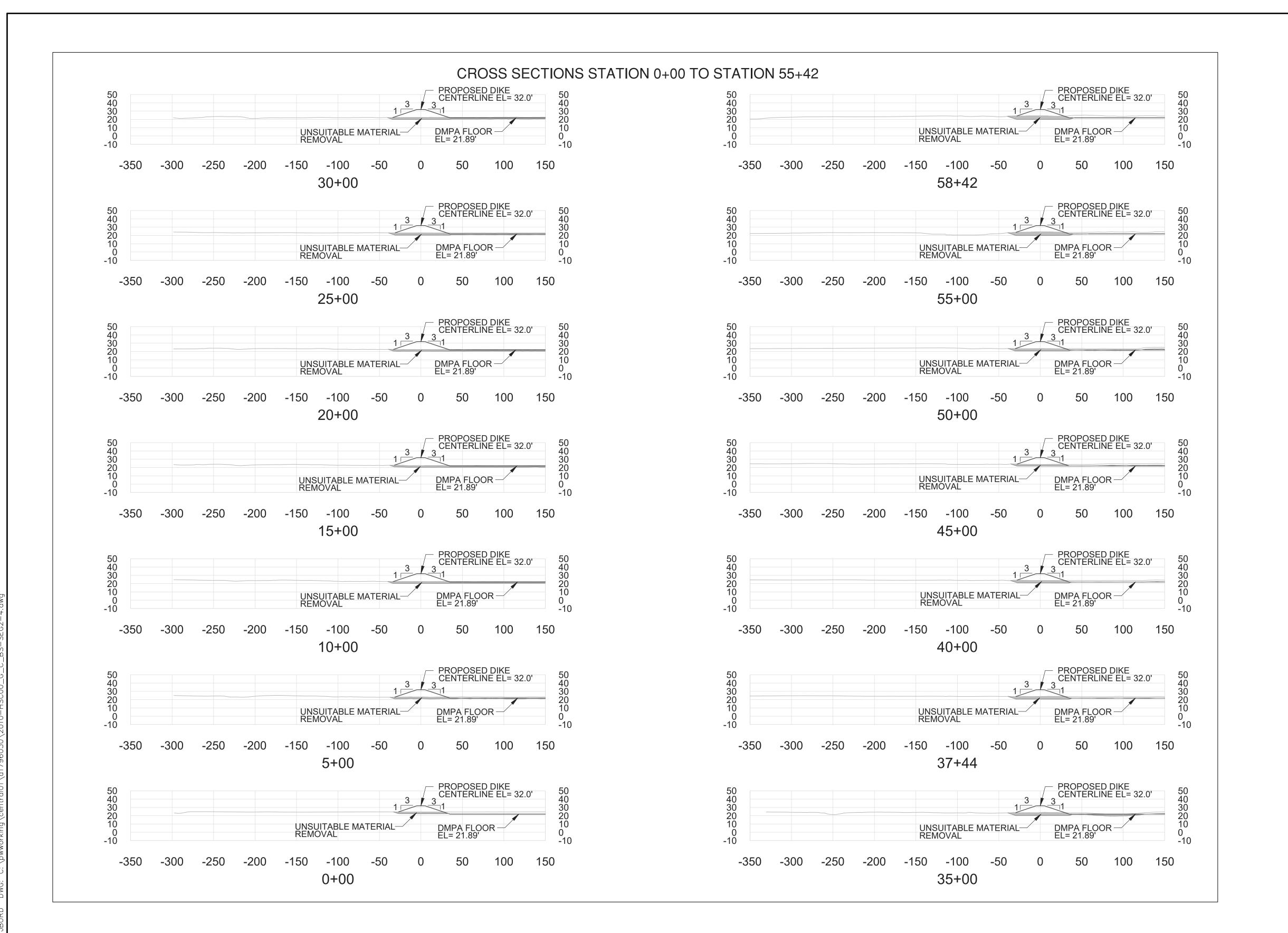
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В

SCALE: AS SHOWN





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SEGMENT 4
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TURNING BASIN
E2 CLINTON DMPA
& BELTWAY 8 DMPA

CROSS SECTIONS

REV DATE DESCRIPTION

A 8/15/20 65% SUBMITTAL

SHEET 1 OF 4

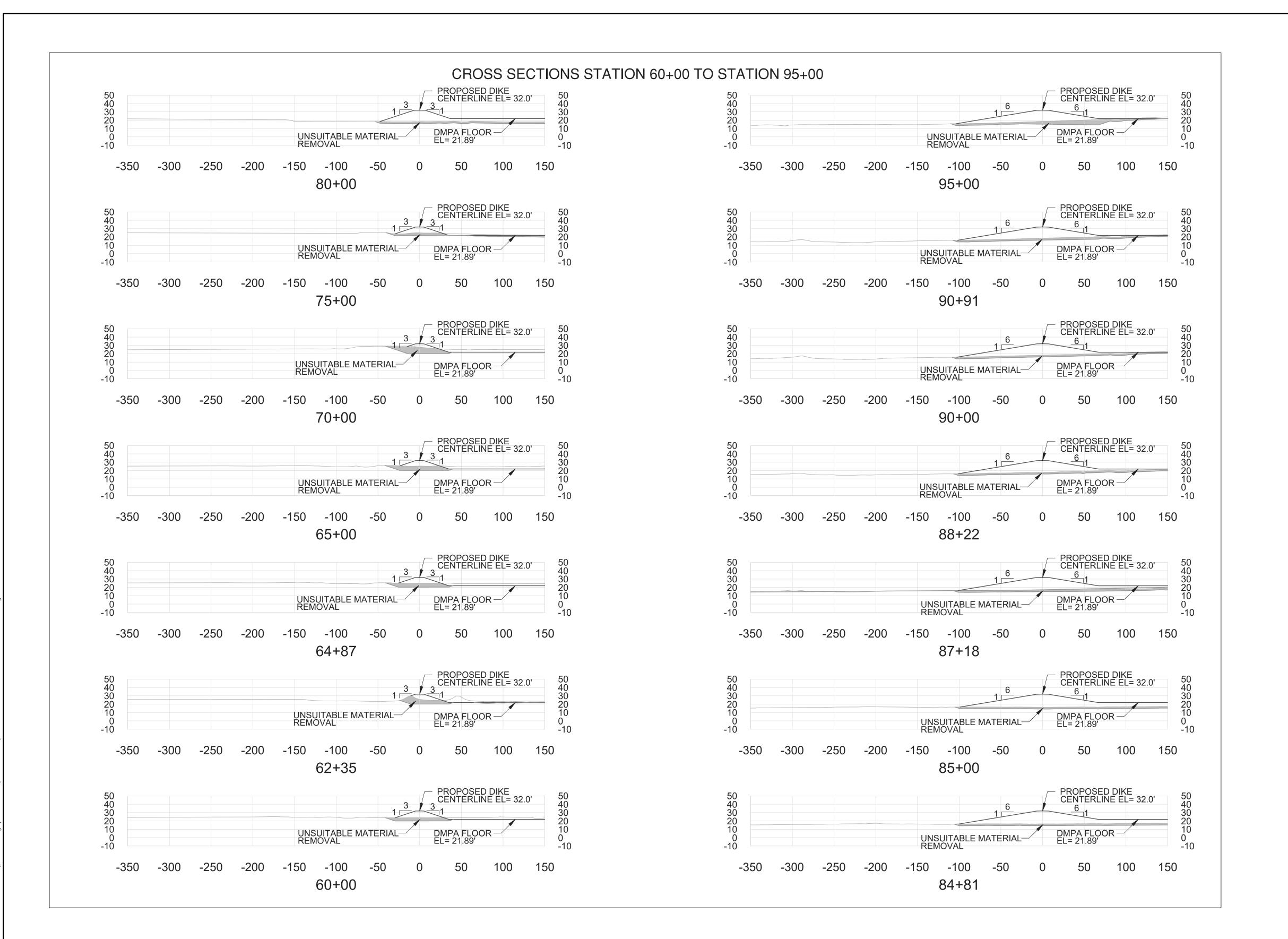
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DESIGNER:			C.LOWE
CADD:			J.BURD
CHECKER:			A.COLWELL

C90-D13-P11-008

SHEET NO. REV. NO. B

BELTWAY 8 DMPA

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SHEET TITLE:
SEGMENT 4
BOGGY BAYOU TO
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E2 CLINTON DMPA
& BELTWAY 8 DMPA

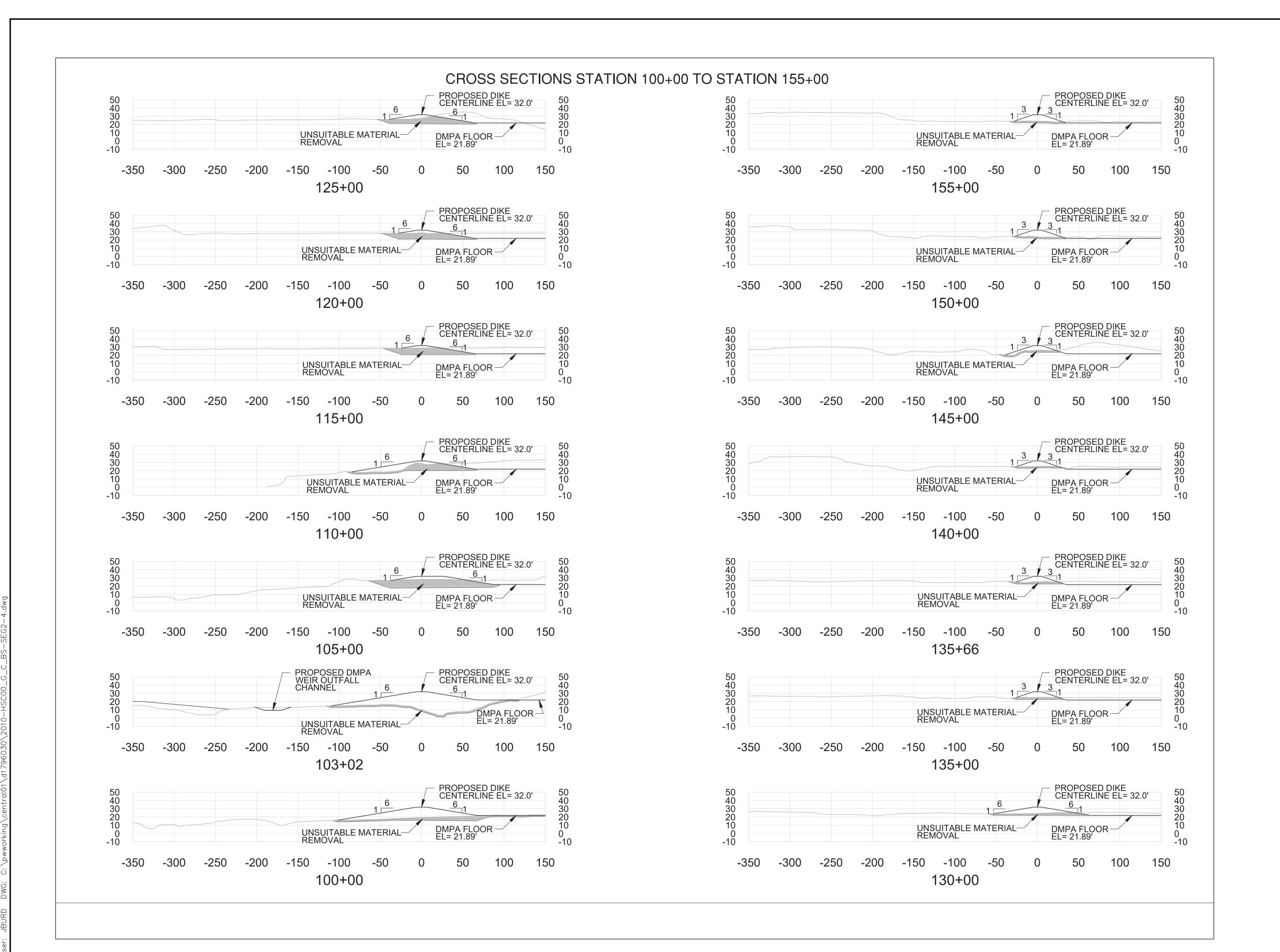
CROSS SECTIONS

SHEET 2 OF 4

REV	DATE		DESCRIPTION
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В	12/08/20	95%	SUBMITTAL
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CADD:			J.BURD
CHECKER:			A.COLWELL
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CROSS SECTIONS

SHEET 3 OF 4

REV	DATE		DESCRIPTION
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CADD:			J.BURD
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PROJECT 11: PACKAGE 8

SHEET TITLE:
SEGMENT 4 BOGGY BAYOU TO HUNTING BAYOU TURNING BASIN E2 CLINTON DMPA | & BELTWAY 8 DMPA

CROSS SECTIONS

SHEET 4 OF 4

REV DATE DESCRIPTION

A 8/15/20 65% SUBMITTAL

В	12/08/20	95% SUBMITTAL	
DESIGNER:		C.LOWE	
CADD:		J.BURD	

DESIGNER:		C.LOWE	
CADD:			J.BURD
CHECKER:			A.COLWELL
DATE:			12/08/2020

C90-D13-P11-008

SHEET NO. REV. NO. C-047

BELTWAY 8 DMPA



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PROJECT TITLE: HOUSTON SHIP

CHANNEL (HSC)

EXPANSION CHANNEL IMPROVEMENT PROJECT (ECIP)

PROJECT 11: PACKAGE # 8

SHEET TITLE:
SEGMENT 4 **BOGGY BAYOU TO** SIMS BAYOU TURNING BASIN E2 CLINTON DMPA & BELTWAY 8 DMPA

TRAFFIC CONTROL PLAN

V	DATE		DESCRIPTION
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<u>LEGEND</u>

_ SIGN

TYPE 3 BARRICADE

TRAFFIC FLOW

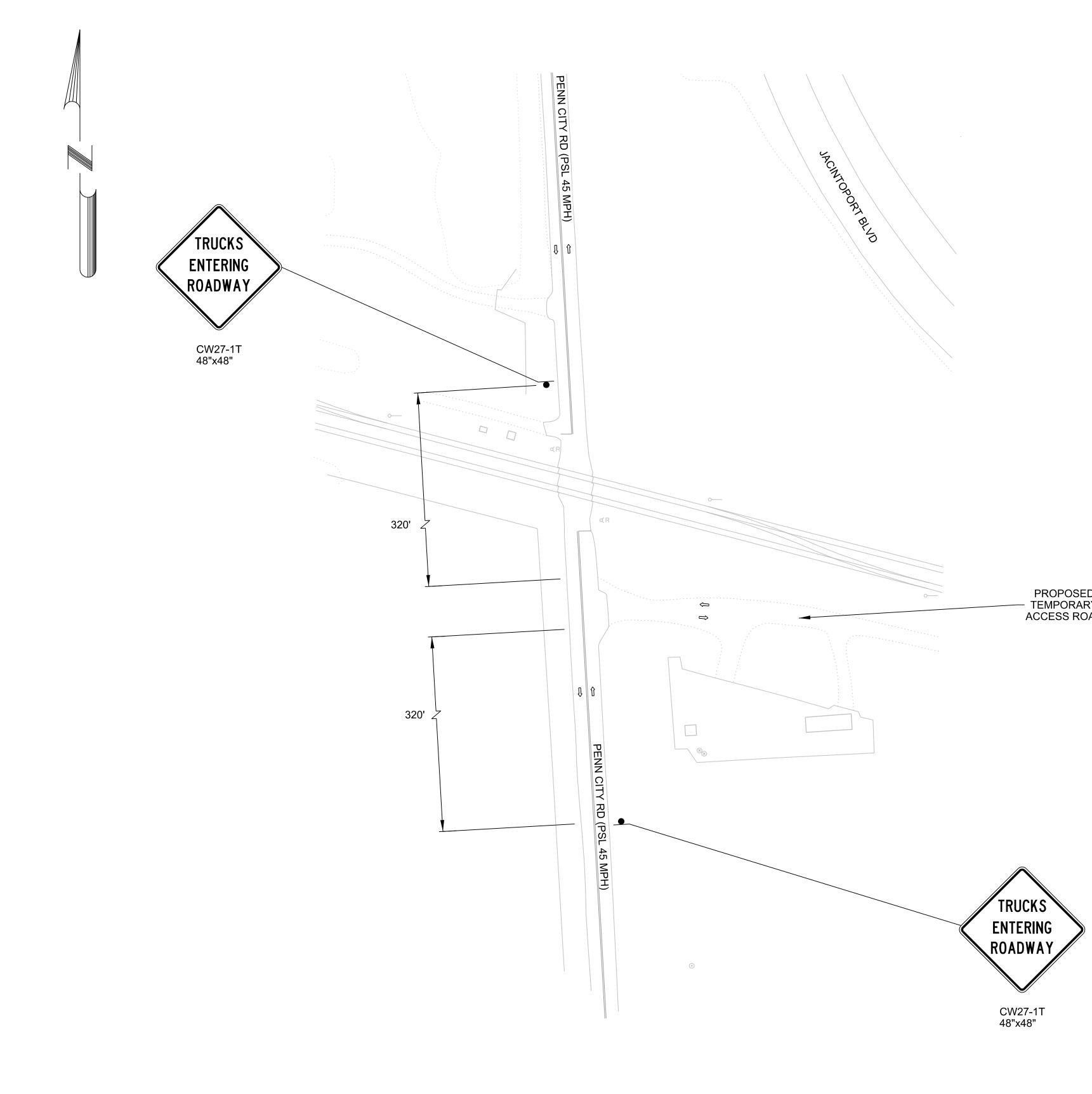
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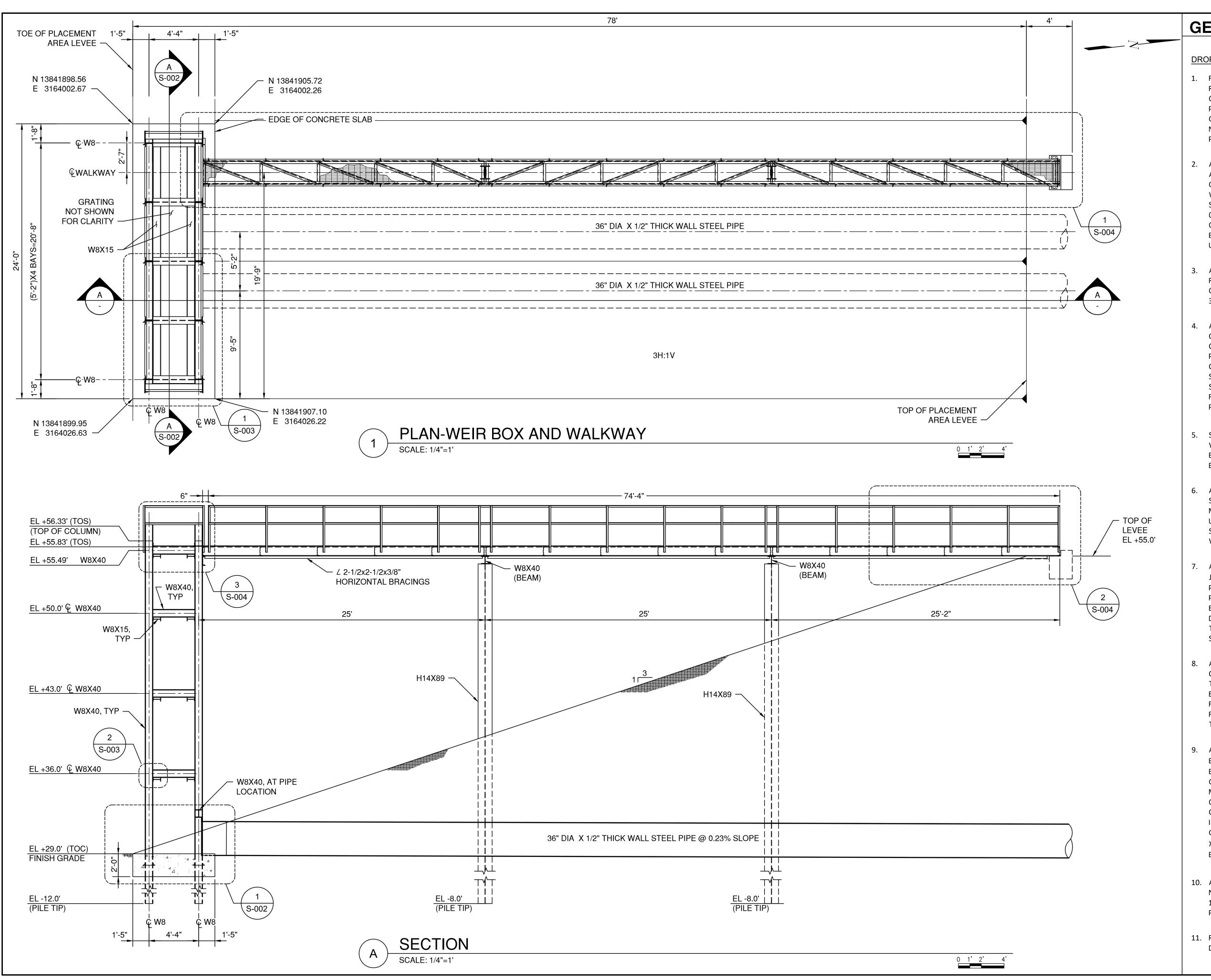
BELTWAY 8 DMPA

DRAWING NO. C90-D13-P11-002

C-048

95% REVIEW





GENERAL NOTES

DROP-O TLET STR CT RE NOTES:

- 1. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT TITLED, "GEOTECHNICAL STUDY, HOUSTON SHIP CHANNEL EXPANSION CHANNEL IMPROVEMENT PROJECT, HARRIS AND CHAMBERS COUNTIES, TEXAS", REPORT NO. HG1910092.2.1 DES, DATED SEPTEMBER 16, 2020, PREPARED BY HVJ ASSOCIATES, INC, HOUSTON, TEXAS.
- 2. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI WHEN TESTED AT 28-DAYS. THE MAXIMUM WATER TO CEMENTITIOUS MATERIAL RATIO, BY WEIGHT SHALL BE 0.45. REFER TO SPECIFICATION SECTION 03 31 00.00, STRUCTURAL CONCRETE FOR MIX DESIGN AND OTHER REQUIREMENTS. ALL EXPOSED CORNERS SHALL BE PROVIDED WITH MINIMUM ¾-INCH CHAMFER, UNLESS OTHERWISE NOTED.
- 3. ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60. CLEAR COVER ON REINFORCING STEEL SHALL BE A MINIMUM OF 3-INCH, UNLESS OTHERWISE NOTED.
- 4. ALL STRUCTURAL STEEL W-SHAPES AND C-SHAPES SHALL CONFORM TO ASTM A992. ALL HP-SHAPES SHALL CONFORM TO ASTM A572, GR. 50. ALL ANGLE AND PLATE SHALL CONFORM TO ASTM A36, UNLESS NOTED OTHERWISE. SUBMIT SHOP DRAWINGS AND OTHER SUBMITTALS IN ACCORDANCE WITH SPECIFICATIONS, SECTION 05 12 00.00, STRUCTURAL STEEL FRAMING. FIELD VERIFY ALL THE DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION.
- 5. STRUCTURAL STEEL BOLTED CONNECTIONS SHALL BE WITH BOLTS CONFORMING TO ASTM A307. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GR. 36. ALL BOLTS AND NUTS SHALL BE HOT DIPPED GALVANIZED.
- 6. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY CODE, D1.1, LATEST EDITION. PROVIDE MINIMUM ¼-INCH FILLET WELD AT ALL CONNECTIONS UNLESS SPECIFIED OTHERWISE. PROVIDE SEAL WELD AT STEEL CONTACT POINTS OF WELDED CONNECTIONS. ALL WELDING ELECTRODES SHALL BE E70XX.
- 7. ALL COMPLETE JOINT PENETRATION (CJP) AND PARTIAL JOINT PENETRATION (PJP) WELDS SHALL BE PRE-QUALIFIED WELDS PER AWS D1.1, LATEST EDITION. PROVIDE 100% RADIOGRAPHIC OR ULTRASONIC EXAMINATION OF WELDS IN ACCORDANCE WITH AWS D1.1, LATEST EDITION. ALL OTHER WELDS SHALL BE TESTED PER SPECIFICATIONS, SECTION 05 12 00.00, STRUCTURAL STEEL FRAMING.
- 8. ALL STRUCTURAL STEEL AND ITS CONNECTIONS SHALL BE COATED UPON FABRICATION WITH 16 MIL DFT COAL TAR EPOXY PER SPECIFICATIONS, SECTION 09 96 56.01, EPOXY COATINGS COAL TAR. ALL PILES WILL BE COATED FROM TOP OF PILE TO A MINIMUM OF 10 FEET BELOW FINISHED GROUND ELEVATION WITH 16 MIL DFT COAL TAR EPOXY.
- 9. ALL GRATING SHALL BE 3/16" THICK X 1 1/4" HIGH BEARING BARS @ 1 3/16" SPACING AND 1/4" CROSS BARS @ 2" SPACING. ALL GRATING SHALL BE HOT DIP GALVANIZED. GRATING SHALL BE ANCHORED WITH MANUFACTURER'S STANDARD FASTENERS, A MINIMUM OF 4 PER PANEL OR AT A MAXIMUM SPACING OF 4'-0" O.C. BAND ALL CUT EDGES OF GRATING INCLUDING EDGES OF ANY OPENINGS PRIOR TO GALVANIZING. BANDING SHALL BE MINIMUM 1/4-INCH X 1 1/2-INCH BAR WELDED TOP AND BOTTOM AT EACH BEARING BAR.
- 10. ALL LUMBER SHALL BE SOUTHERN YELLOW PINE ROUGH NO. 1, MINIMUM ALLOWABLE BENDING STRESS OF 1,350 PSI. LUMBER SHALL RECEIVE A TREATMENT OF 2.5 PCF OF CCA SOLUTION.
- 11. REFER TO SPECIFICATIONS SECTION 35 20 30.00 45,
 DROP-OUTLET STRUCTURE FOR OTHER REQUIREMENTS

E2 CLINTON DMPA



PORT OF HOUSTON AUTHORITY

CONSULTANT:



\L:

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95% REVIEW

APPROVED:	

PORT CONTRACT REPRESENTATIVE
MANAGING DIRECTOR — ENGINEERING
DESIGN & SUPPORT

PROJECT TITLE:

HOUSTON SHIP CHANNEL (HSC)

EXPANSION CHANNEL IMPROVEMENT PROJECT (ECIP)

PROJECT 11: PACKAGE # 8

SHEET TITLE:
SEGMENT 4
BOGGY BAYOU TO
SIMS BAYOU
TURNING BASIN
E2 CLINTON DMPA
& BELTWAY 8 DMPA
DROP-OUTLET
STRUCTURE PLAN

DESCRIPTION

AND DETAILS

A 8/15/20 65% SUBMITTAL

B 12/08/20 95% SUBMITTAL

DES	IGNER:	N. GALANI
CADD:		O. SALAS
CHECKER:		N.McLELLAN
DATE:		12/08/2020
SCA	LE:	NO SCALE

95% REVIEW

REV. NO.

C90-D13-P11-002

DRAWING NO.

SHEET NO.

S-001

GENERAL NOTES



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APPROVED:

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DATE

PORT CONTRACT REPRESENTATIVE
MANAGING DIRECTOR — ENGINEERING
DESIGN & SUPPORT

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EXPANSION
CHANNEL
IMPROVEMENT
PROJECT (ECIP)

PROJECT 11: PACKAGE # 8

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BOGGY BAYOU TO
SIMS BAYOU
TURNING BASIN
E2 CLINTON DMPA
& BELTWAY 8 DMPA
DROP-OUTLET
STRUCTURE

SECTIONS AND

DETAILS (1 OF 4)

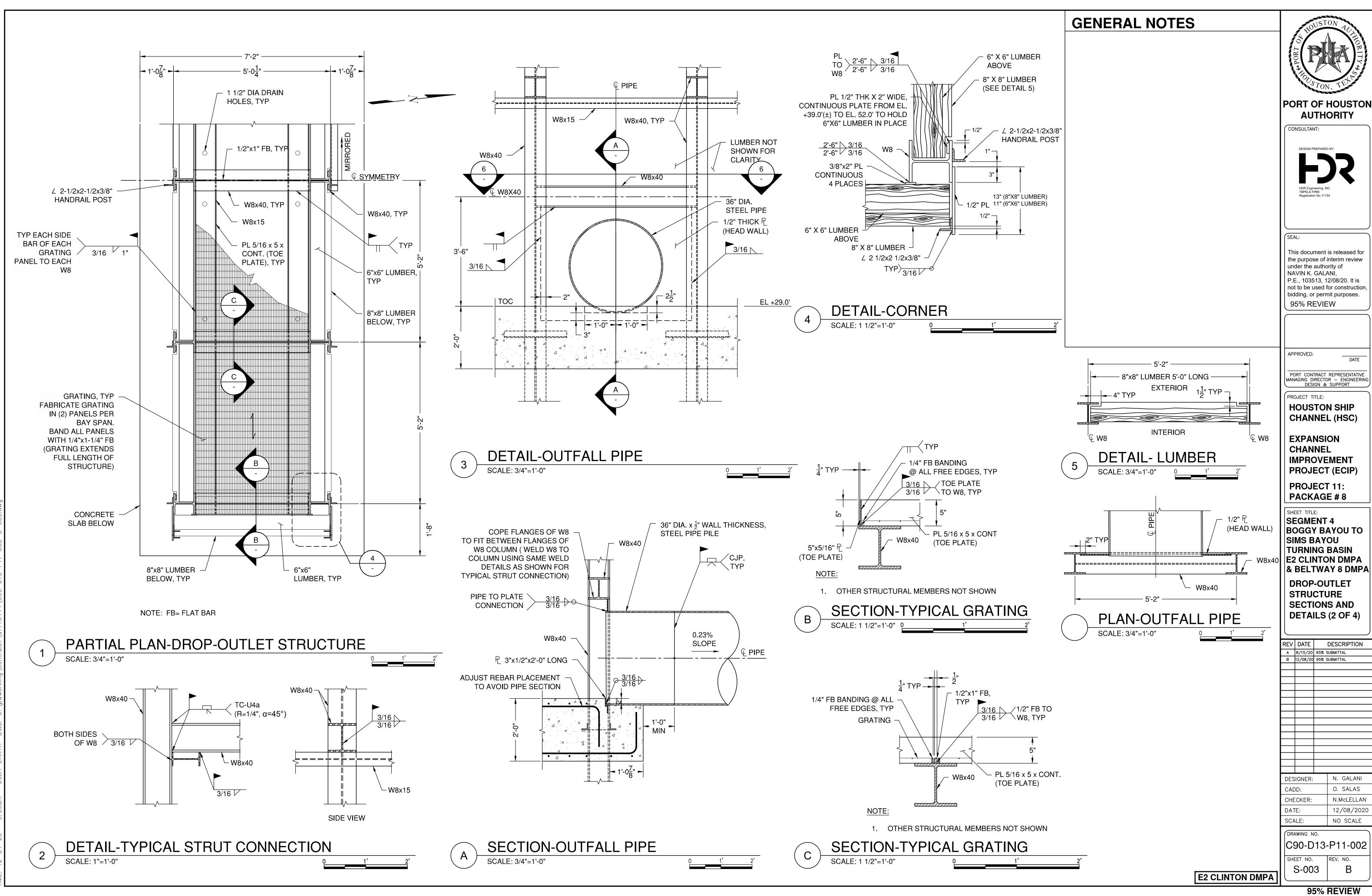
REV	DATE		DESC	RIPTION
Α	8/15/20	65%	SUBMIT	TAL
В	12/08/20	95%	SUBMIT	ΓAL
DESIGNER:			N.	GALANI
CADD:			0.	SALAS
CHECKER:			N.N	McLELLAN
DATE:			12,	/08/2020
SCALE:			NO	SCALE

C90-D13-P11-002

SHEET NO. REV. NO. B

E2 CLINTON DMPA

95% REVIEW



95% REVIEW

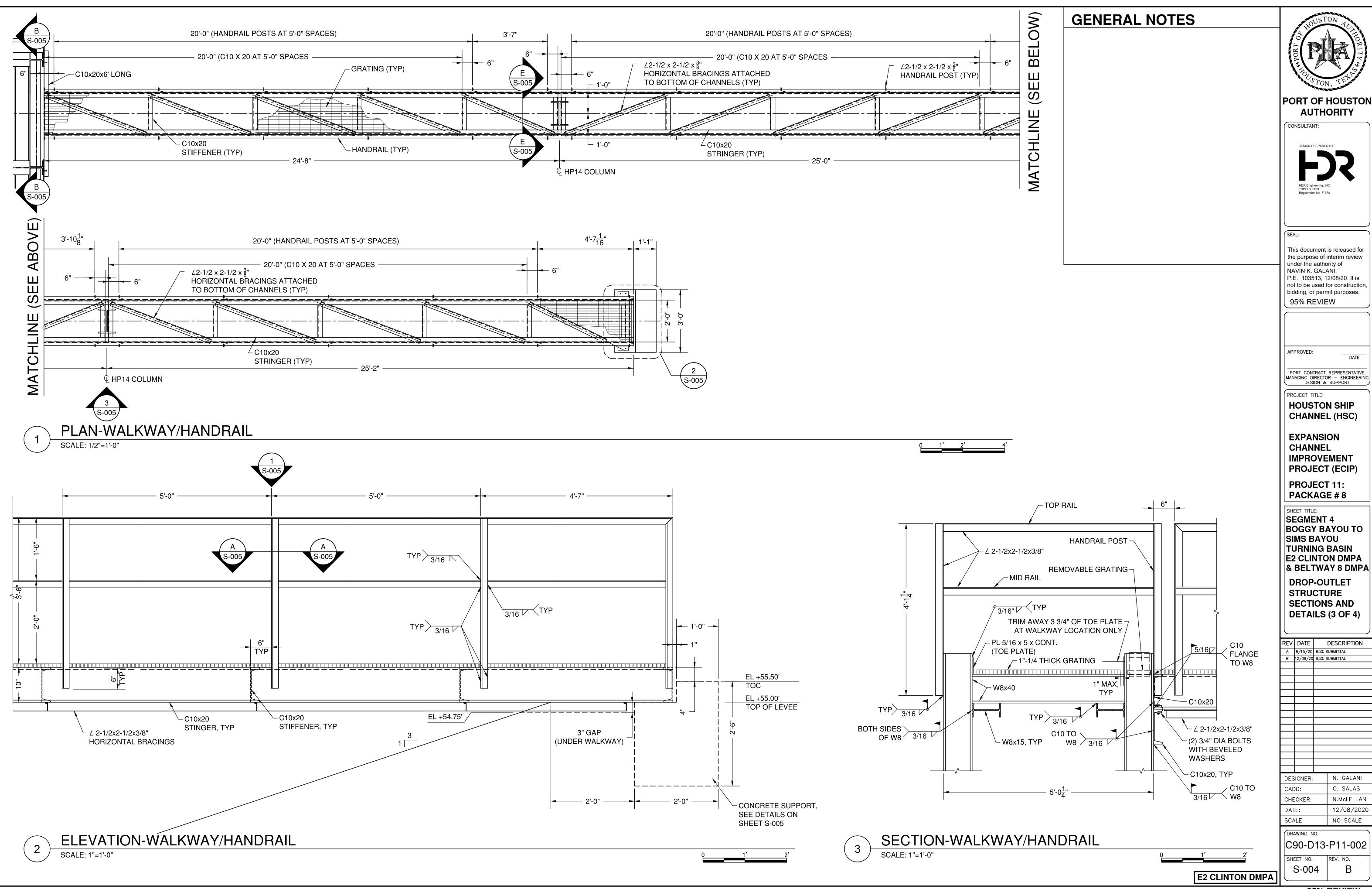
REV. NO.

N. GALANI

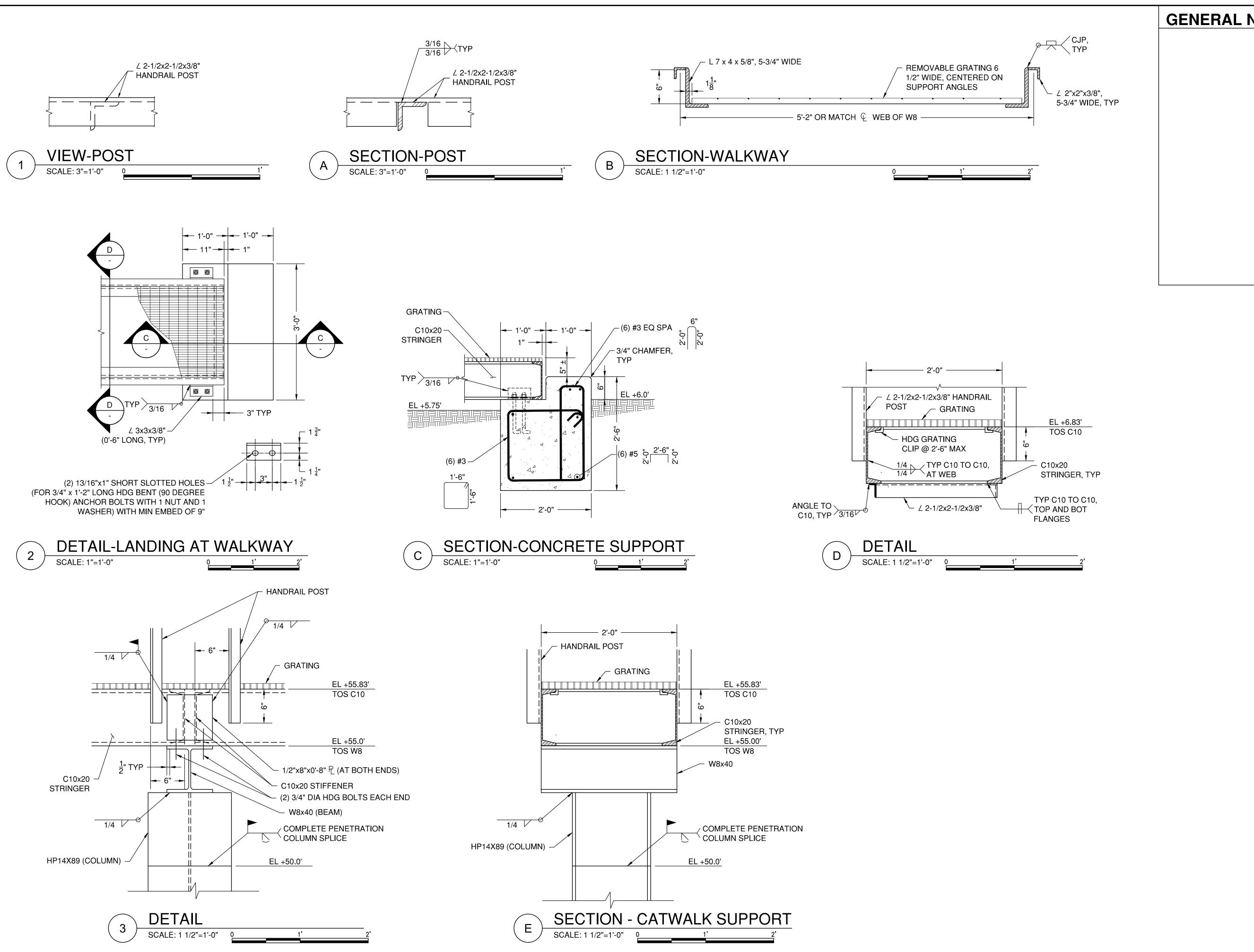
O. SALAS

N.McLELLAN

12/08/2020



95% REVIEW



GENERAL NOTES

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APPROVED: DATE

PORT CONTRACT REPRESENTATIVE
MANAGING DIRECTOR — ENGINEERING
DESIGN & SUPPORT

PROJECT TITLE:

HOUSTON SHIP CHANNEL (HSC)

EXPANSION CHANNEL **IMPROVEMENT** PROJECT (ECIP)

PROJECT 11: PACKAGE # 8

SHEET TITLE: **SEGMENT 4 BOGGY BAYOU TO** SIMS BAYOU TURNING BASIN **E2 CLINTON DMPA** & BELTWAY 8 DMPA

DROP-OUTLET STRUCTURE SECTIONS AND DETAILS (4 OF 4)

 REV
 DATE
 DESCRIP

 A
 8/15/20
 65% SUBMITTAL

 B
 12/08/20
 95% SUBMITTAL
 DESCRIPTION N. GALANI DESIGNER: O. SALAS CHECKER: N.McLELLAN 12/08/2020 SCALE: NO SCALE

C90-D13-P11-002 SHEET NO. REV. NO.

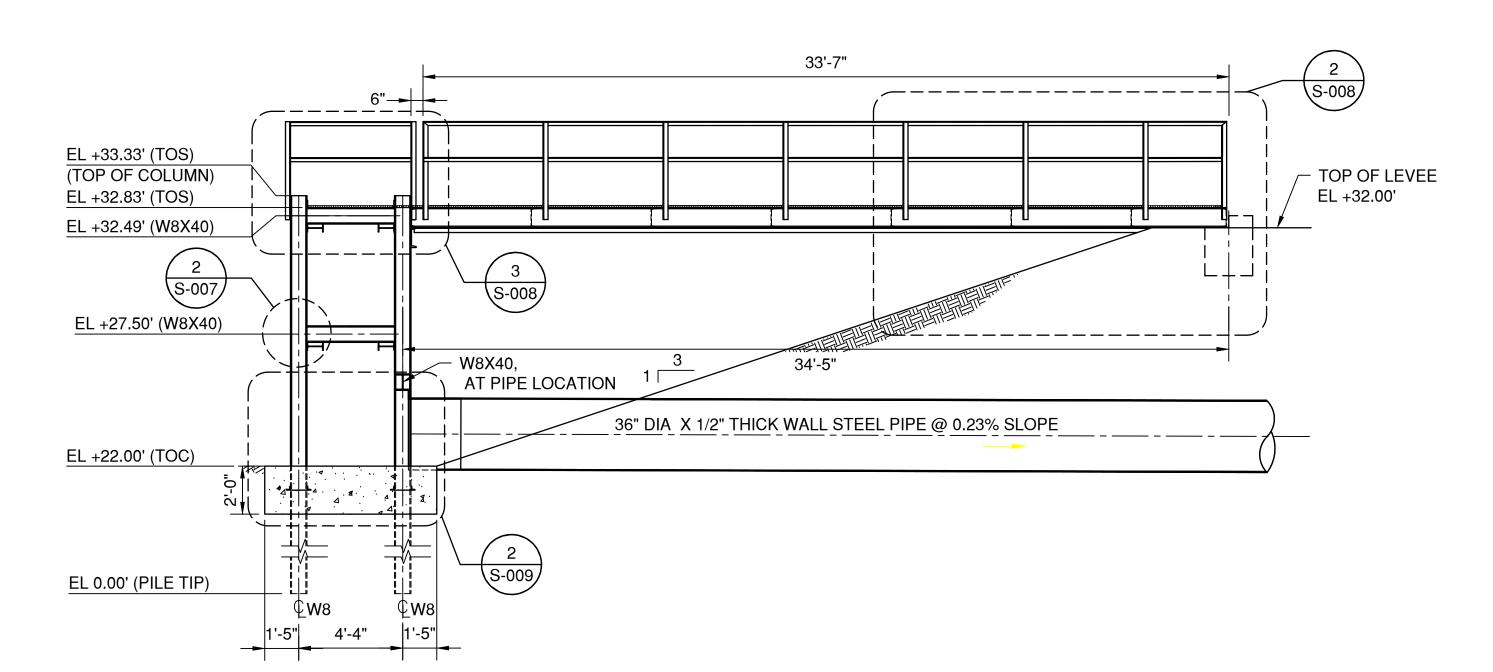
E2 CLINTON DMPA

DRAWING NO.

S-005

95% REVIEW

0 1' 2' 4'



SECTION-DROP-OUTLET STRUCTURE AND WALKWAY

SCALE: 1/4"=1'

GENERAL NOTES

DROP OUTLET STRUCTURE:

- 1. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT TITLED, "GEOTECHNICAL STUDY, HOUSTON SHIP CHANNEL EXPANSION CHANNEL IMPROVEMENT PROJECT, HARRIS AND CHAMBERS COUNTIES, TEXAS", REPORT NO. HG1910092.2.1 DES, DATED SEPTEMBER 16, 2020, PREPARED BY HVJ ASSOCIATES, INC, HOUSTON, TEXAS.
- 2. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI WHEN TESTED AT 28-DAYS. THE MAXIMUM WATER TO CEMENTITIOUS MATERIAL RATIO, BY WEIGHT SHALL BE 0.45. REFER TO SPECIFICATION SECTION 03 31 00.00, STRUCTURAL CONCRETE FOR MIX DESIGN AND OTHER REQUIREMENTS. ALL EXPOSED CORNERS SHALL BE PROVIDED WITH MINIMUM 34-INCH CHAMFER, UNLESS OTHERWISE NOTED.
- 3. ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60. CLEAR COVER ON REINFORCING STEEL SHALL BE A MINIMUM OF 3-INCH, UNLESS OTHERWISE NOTED.
- 4. ALL STRUCTURAL STEEL W-SHAPES AND C-SHAPES SHALL CONFORM TO ASTM A992. ALL ANGLE AND PLATE SHALL CONFORM TO ASTM A36, UNLESS NOTED OTHERWISE. SUBMIT SHOP DRAWINGS AND OTHER SUBMITTALS IN ACCORDANCE WITH SPECIFICATIONS, SECTION 05 12 00.00, STRUCTURAL STEEL FRAMING. FIELD VERIFY ALL THE DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION.
- 5. STRUCTURAL STEEL BOLTED CONNECTIONS SHALL BE WITH BOLTS CONFORMING TO ASTM A307. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GR. 36. ALL BOLTS AND NUTS SHALL BE HOT DIPPED GALVANIZED.
- 6. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY CODE, D1.1, LATEST EDITION. PROVIDE MINIMUM 1/4-INCH FILLET WELD AT ALL CONNECTIONS UNLESS SPECIFIED OTHERWISE. PROVIDE SEAL WELD AT STEEL CONTACT POINTS OF WELDED CONNECTIONS. ALL WELDING ELECTRODES SHALL BE E70XX.
- 7. ALL COMPLETE JOINT PENETRATION (CJP) AND PARTIAL JOINT PENETRATION (PJP) WELDS SHALL BE PRE-QUALIFIED WELDS PER AWS D1.1, LATEST EDITION. PROVIDE 100% RADIOGRAPHIC OR ULTRASONIC EXAMINATION OF WELDS IN ACCORDANCE WITH AWS D1.1, LATEST EDITION. ALL OTHER WELDS SHALL BE TESTED PER SPECIFICATIONS, SECTION 05 12 00.00, STRUCTURAL STEEL FRAMING.
- 8. ALL STRUCTURAL STEEL AND ITS CONNECTIONS SHALL BE COATED UPON FABRICATION WITH 16 MIL DFT COAL TAR EPOXY PER SPECIFICATIONS, SECTION 09 96 56.01, EPOXY COATINGS COAL TAR. ALL PILES WILL BE COATED FROM TOP OF PILE TO A MINIMUM OF 10 FEET BELOW FINISHED GROUND ELEVATION WITH 16 MIL DFT COAL TAR EPOXY.
- 9. ALL GRATING SHALL BE 3/16" THICK x 1 1/4" HIGH BEARING BARS @ 1 3/16" SPACING AND 1/4" CROSS BARS @ 2" SPACING. ALL GRATING SHALL BE HOT DIP GALVANIZED. GRATING SHALL BE ANCHORED WITH MANUFACTURER'S STANDARD FASTENERS, A MINIMUM OF 4 PER PANEL OR AT A MAXIMUM SPACING OF 4'-0" O.C. BAND ALL CUT EDGES OF GRATING INCLUDING EDGES OF ANY OPENINGS.
- ALL LUMBER SHALL BE SOUTHERN YELLOW PINE ROUGH NO.
 MINIMUM ALLOWABLE BENDING STRESS OF 1,350 PSI.
 LUMBER SHALL RECEIVE A TREATMENT OF 2.5 PCF OF CCA SOLUTION.
- 11. REFER TO SPECIFICATIONS SECTION 35 20 30.00 45, DROP-OUTLET STRUCTURE FOR OTHER REQUIREMENTS.



PORT OF HOUSTON AUTHORITY

CONSULTANT:



EAL:

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95% REVIEW

APPROVED:

APPROVED:

DATE

PORT CONTRACT REPRESENTATIVE

MANAGING DIRECTOR — ENGINEERING DESIGN & SUPPORT

PROJECT TITLE:

HOUSTON SHIP CHANNEL (HSC)

EXPANSION
CHANNEL
IMPROVEMENT
PROJECT (ECIP)

PROJECT 11: PACKAGE #8

SHEET TITLE:
SEGMENT 4
BOGGY BAYOU TO
SIMS BAYOU
TURNING BASIN
E2 CLINTON DMPA
& BELTWAY 8 DMPA

DROP-OUTLET STRUCTURE PLAN AND DETAILS

A 8/15/20 65% SUBMITTAL

DESCRIPTION

	12/08/20	95% 5	SORMITTAL
S	IGNER:		N. GALANI
DD:			O. SALAS
IECKER:			N.McLELLAN
TF·			12 /08 /2020

C90-D13-P11-002

SHEET NO.

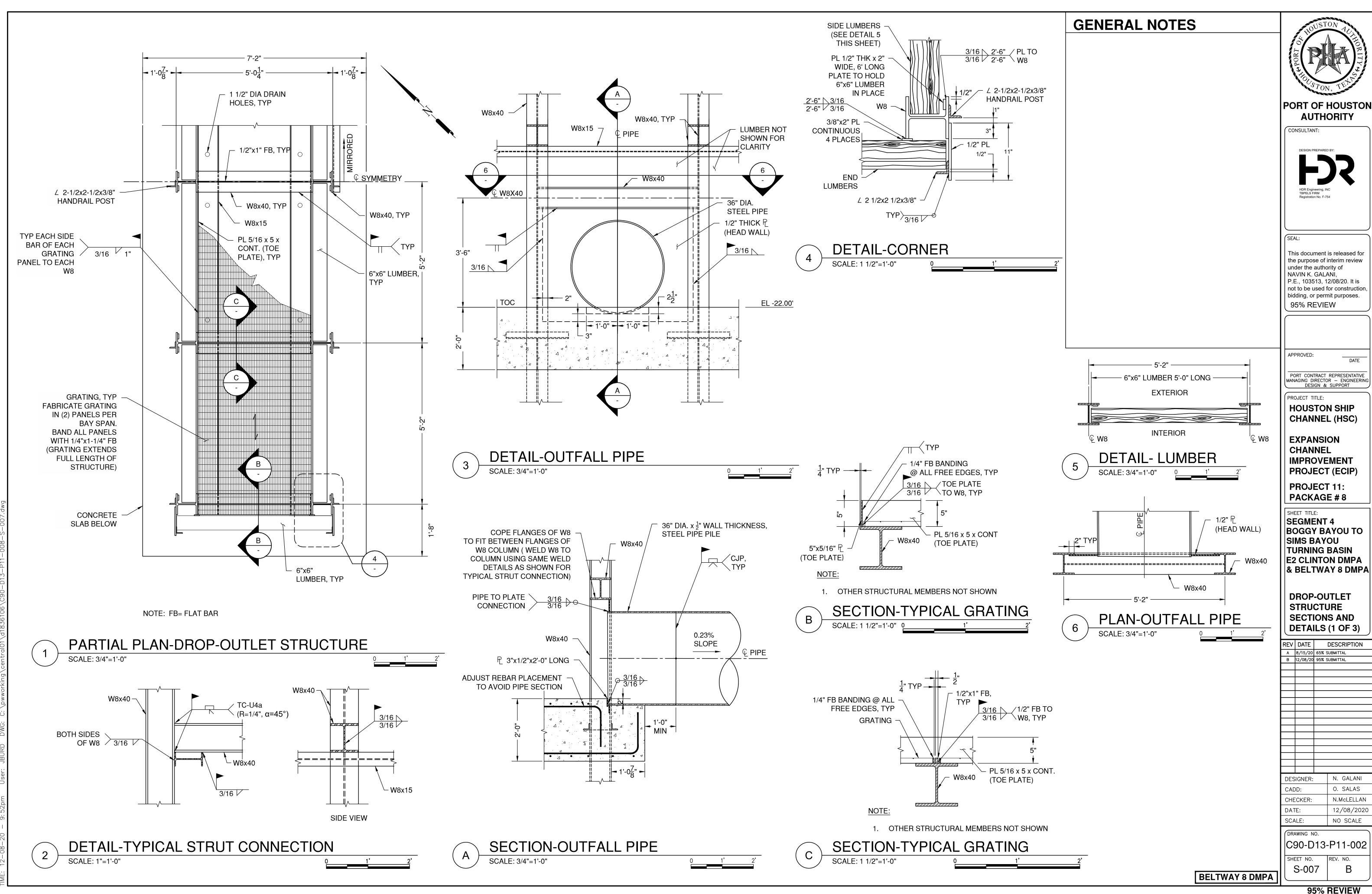
S-006

NO SCALE

BELTWAY 8 DMPA

95% REVIEW

REV. NO.



95% REVIEW

REV. NO.

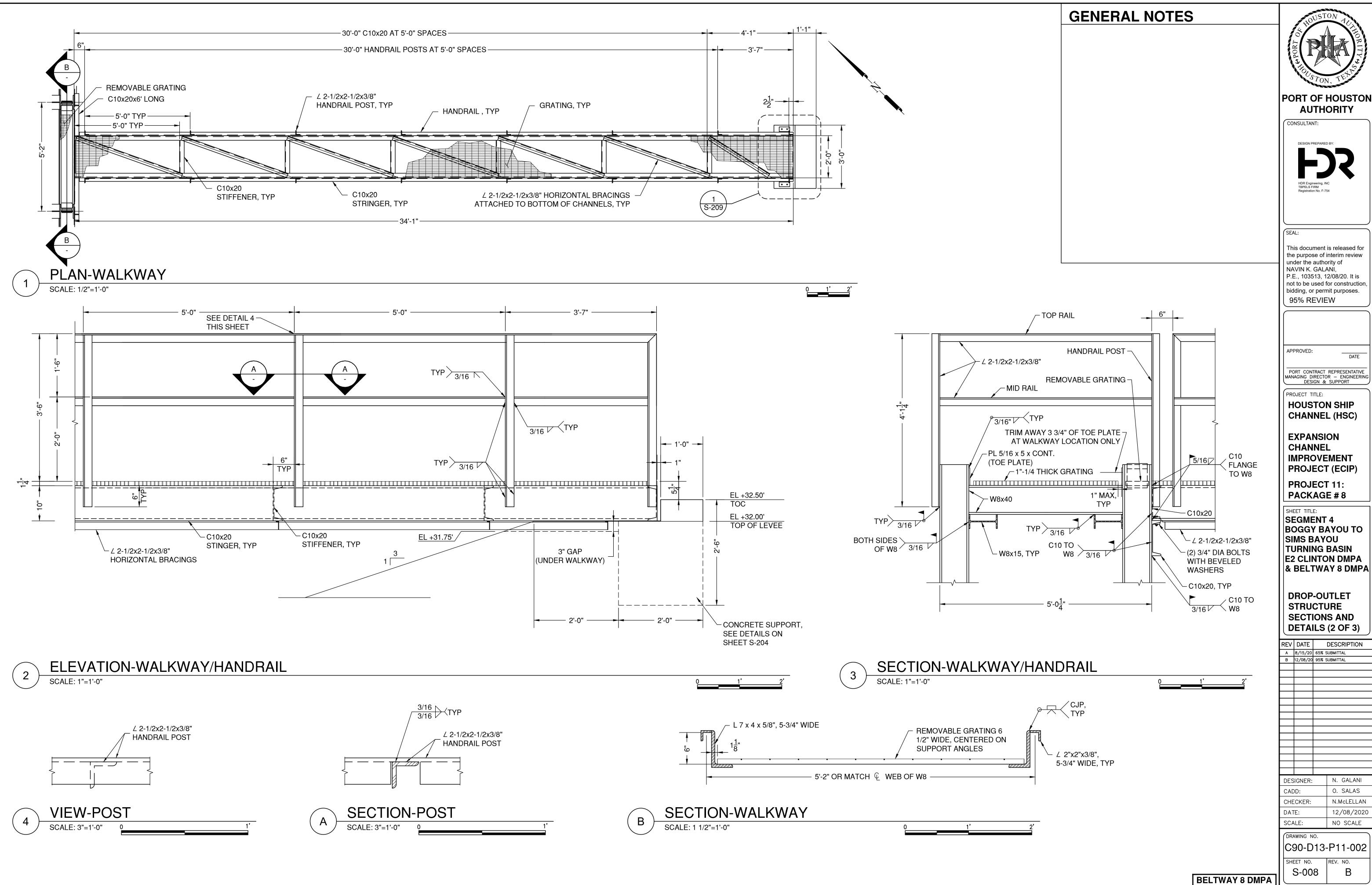
DESCRIPTION

N. GALANI

O. SALAS

N.McLELLAN

12/08/2020



95% REVIEW

REV. NO.

N. GALANI

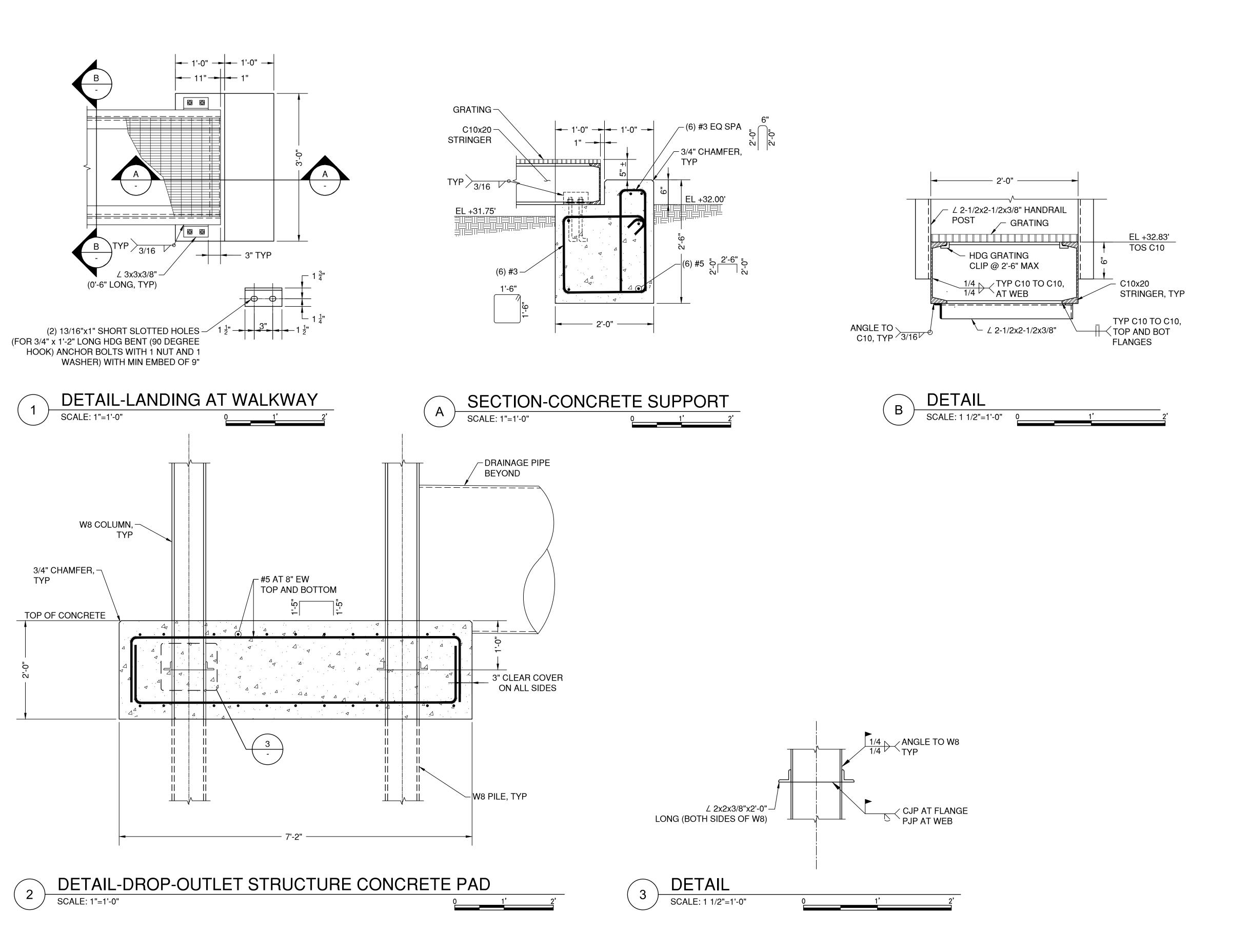
O. SALAS

N.McLELLAN

12/08/2020

NO SCALE

DESCRIPTION



GENERAL NOTES



PORT OF HOUSTON
AUTHORITY

CONSULTANT:

DESIGN PREPARED BY:

HDR Engineering, INC TBPELS FIRM Registration No. F-754

SEAL:

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APPROVED: ___

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MANAGING DIRECTOR — ENGINEERING
DESIGN & SUPPORT

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SIMS BAYOU
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E2 CLINTON DMPA
& BELTWAY 8 DMPA

DROP-OUTLET
STRUCTURE
SECTIONS AND
DETAILS (3 OF 3)

REV	DATE		DESCRIPTION
Α	8/15/20	65% 9	SUBMITTAL
В	12/08/20	95% 9	SUBMITTAL
DESIGNER:			N. GALANI
CADD:			O. SALAS
CHECKER:			N.McLELLAN
DATE:			12/08/2020

DRAWING NO. C90-D13-P11-002

SHEET NO.

S-009

NO SCALE

BELTWAY 8 DMPA

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REV. NO.