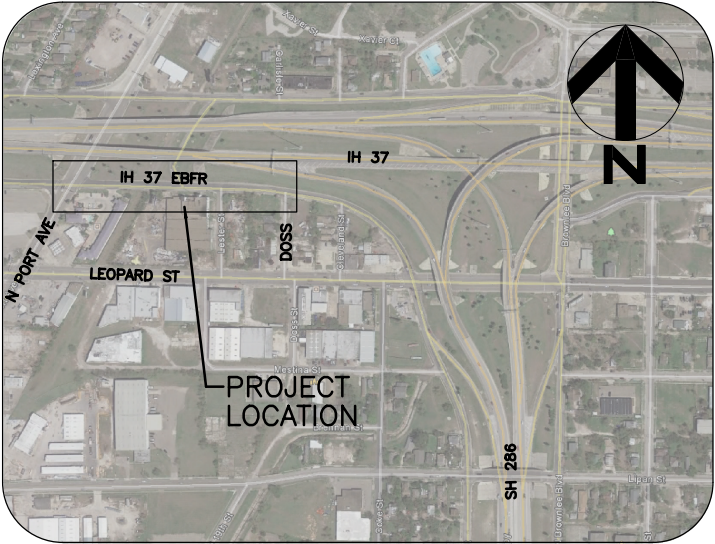


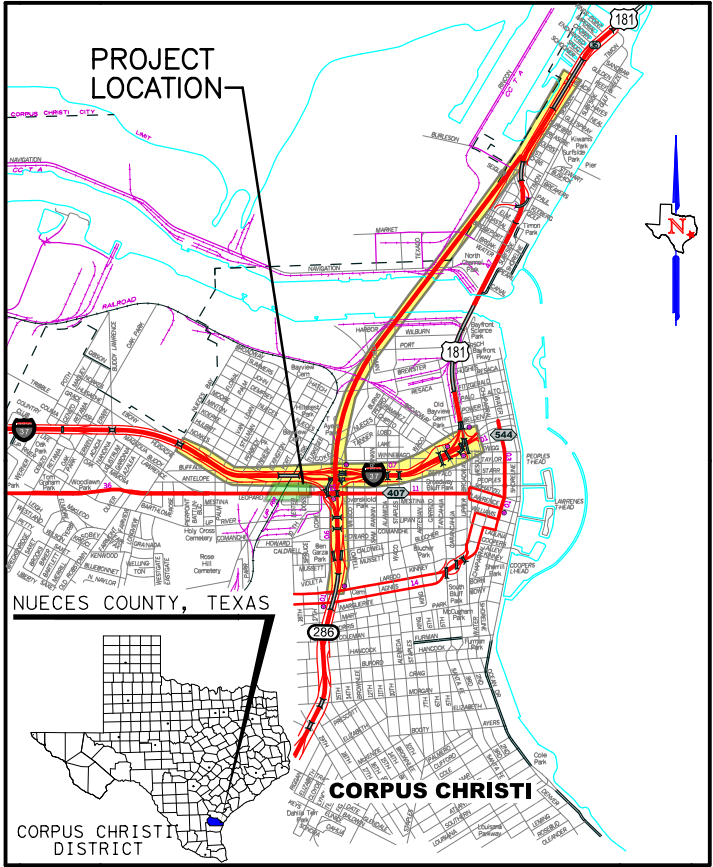
U.S. 181 HARBOR BRIDGE  
IH 37 EBFR N PORT AVE TO DOSS ST  
WASTEWATER PACKAGE WW16



RELOCATION TYPE: WASTEWATER INFRASTRUCTURE  
LOCATION: IH 37 EBFR N PORT AVE TO DOSS ST  
CONFLICT ID'S: 207, 223, 223.1, 223.3, 223.4



VICINITY MAP (NTS)



VICINITY MAP (NTS)

SHEET NO.	DESCRIPTION
WW16-1	COVER SHEET AND INDEX
WW16-2	LEGEND AND GENERAL NOTES
WW16-3	SUMMARY OF QUANTITIES
WW16-4	LAYOUT
WW16-5	ABANDONMENT PLAN
WW16-6	PLAN AND PROFILE IH 37 EBFR STA 148+15 TO STA 143+45
WW16-7	PLAN AND PROFILE IH 37 EBFR STA 143+45 TO STA 139+15
WW16-8	PLAN AND PROFILE IH 37 EBFR STA 139+15 TO END
WW16-9	SANITARY SEWER STANDARD DETAILS SHEET 1 OF 4
WW16-10	SANITARY SEWER STANDARD DETAILS SHEET 2 OF 4
WW16-11	SANITARY SEWER STANDARD DETAILS SHEET 3 OF 4
WW16-12	SANITARY SEWER STANDARD DETAILS SHEET 4 OF 4

RELEASED FOR  
CONSTRUCTION

PROJECT	
US 181 HARBOR BRIDGE	
Checked by:	Date:
Back-Checked by:	Date:
Corrected by:	Date:
Verified by:	Date:
REVIEW PHASE	
RFC SUBMITTAL CHECK PRINT	

<input type="checkbox"/> Detail Check	<input type="checkbox"/> Internal Review	<input type="checkbox"/> Design Review	<input type="checkbox"/> TxDOT
<input type="checkbox"/> Drawing	<input type="checkbox"/> Report	<input type="checkbox"/> Other:	
Prepared By:	Date:	Calculations Check Confirmed	
<input type="checkbox"/> Drawing Checked Against Calculations			

REVIEWED AND APPROVED FOR CONSTRUCTION BY:

UTILITY OWNER

NAME/TITLE, COCC DEPT. OF ENG. SERVICES DATE

UTILITY DESIGN COORDINATOR

MEHMET BOZ, P.E. KCI 08/06/2019

UTILITY MANAGER

SCOTT STOCKBURGER, P.E. VP KCI 08/06/2019

DEVELOPER

ROB BOYCE, DEPUTY PM FDLLC 07/29/2020

RECORD DRAWING NO.

TBD

CITY PROJECT # TBD

NO.	REVISIONS	BY	DATE
-----	-----------	----	------



US 181 HARBOR BRIDGE  
CITY OF CORPUS CHRISTI  
IH 37 EBFR  
N PORT AVE TO DOSS ST  
WASTEWATER PACKAGE WW16  
WASTEWATER RELOCATION PLAN  
COVER SHEET AND INDEX



SHEET 1 OF 12

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	HP X597 (1)	WW16-1
STATE	STATE DIST. NO.	COUNTY
TEXAS	CRP	NUECES
CONT.	SECT	JOB
0101	06	095
		HIGHWAY NO.
		US181

PROJECT

US 181 HARBOR BRIDGE

Checked by:

Back-Checked by:

Corrected by:

Verified by:

Date:

Date:

Date:

Date:

☐ Detail Check

☐ Internal Review

☐ Design Review

☐ TxDOT

☐ Report

☐ Drawing

Prepared By:

Date:

☐ Drawing Checked Against Calculations

☐ Calculations Check Confirmed

REVIEW PHASE

RFC SUBMITTAL  
CHECK PRINT

ROADWAY LEGEND

RETWALL REMOVAL

CTB REMOVAL

EX OTHER UTILITY OWNERS

UG TELE

UG FOC

UG CATV

UG ELEC

OH ELEC

OH TELE

WTR

GAS

PL

WW

FM

PROP OTHER UTILITY OWNERS

UG TELE

UG FOC

UG CATV

UG ELEC

OH ELEC

OH TELE

WTR

GAS

PL

WW

FM

EX CITY OF CORPUS CHRISTI

WTR

GAS

WW

FM

PROP CITY OF CORPUS CHRISTI

WTR

GAS

WW

FM

ABAN/REMO

---XXXX---

---XXXX---

---XXXX---

TT

TRANSMISSION TOWER

ET

ELECTRICAL TRANSFORMER BOX

EP

ELECTRICAL POWER BOX

EM

ELECTRIC MANHOLE

ETP

TRAFFIC SIGNAL POWER BOX

P

POWER POLE

PO

POWER POLE

TP

TRANSFORMER POLE

LP

LIGHT POLE

TM

TELEPHONE MANHOLE

TV

TELEPHONE VAULT

TPD

TELEPHONE PEDESTAL

TH

TELEPHONE HAND HOLE

H

HYDRANT

WM

WATER MANHOLE

WV

WATER VALVE

WMT

WATER METER

WV

WATER VAULT

MW

MONITOR WELLS

WWM

WASTE WATER MANHOLE

WWM

WASTE WATER MANHOLE W/ DROP CONNECTION

CO

CLEAN OUT

LS

LIFT STATION

WWM

WASTE WATER VAULT

GV

GAS VENT

GM

GAS METER

GS

GAS TEST STATION

FOV

FIBER OPTIC VAULT

FO

FIBER OPTIC MANHOLE

FH

FIBER OPTIC HANDHOLE

~

LINE CONTINUOUS

—

END OF LINE

PH

RFP TEST HOLE

PH

KCI TEST HOLE

DET

DETENTION POND OR BOX CULVERT

W

WETLANDS

R

ROADWAY REMOVAL

- GENERAL CONSTRUCTION NOTES:
- ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF CORPUS CHRISTI STANDARD DETAILS.
  - ALL EXISTING FACILITIES CURRENTLY IN SERVICE MUST REMAIN IN SERVICE, UNLESS OTHERWISE NOTED IN THE DRAWINGS.
  - ALL EFFORTS HAVE BEEN MADE TO INDICATE ALL EXISTING UTILITIES ON PLANS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE AND PROTECT ALL SAID UTILITIES AS WELL AS SERVICE CONNECTIONS (WHETHER OR NOT INDICATED ON PLANS). PRIOR TO CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES TO VERIFY LOCATION OF EXISTING UTILITIES.
  - CALL TEXAS ONE CALL (811) FOR UTILITY LOCATES PRIOR TO CONSTRUCTION.
  - CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH GAS, OIL, ELECTRIC, TELEPHONE, FIBER OPTIC, CABLE TV, SEWER AND WATER UTILITIES OWNERS, ETC. FOR ANY RELOCATIONS AND/OR PROTECTION OF EXISTING LINES OR CABLES REQUIRED, DUE TO CONSTRUCTION ACTIVITIES.
  - CONTRACTOR TO PROVIDE A MINIMUM OF 1-FT CLEARANCE AT ALL CROSSINGS OF SANITARY SEWERS, STORM SEWERS, ELECTRIC WATER LINES AND LEADS EXCEPT AS OTHERWISE NOTED ON THE PLANS.
  - CONTRACTOR MUS COMPLY WITH OSHA SPECIFICATIONS, TXDOT STD. SPEC ITEM NO. 400 (DIVISION IV. STRUCTURES), AND CITY OF CORPUS CHRISTI STANDARD DETAILS AND SPECIFICATIONS ON TRENCH, BACKFILLING, EXCAVATION AND SHORING REQUIREMENTS.
  - THE CONSTRUCTION CONTRACTOR SHALL ALSO BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, SEQUENCE, PROCEDURES, TECHNIQUES, OR SCHEDULING OF ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONSTRUCTION CONTRACTOR SHALL ALSO BE SOLELY RESPONSIBLE FOR SAFETY IN OR ABOUT THE JOB SITE IN ACCORDANCE WITH ANY HEALTH OR SAFETY PRECAUTIONS, REGULATIONS, STANDARDS, OR CODES REQUIRED BY OSHA OR ANY OTHER REGULATORY AGENCY.
  - EXISTING PAVEMENT, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED IN CONFORMANCE WITH TXDOT STANDARDS. WHEELCHAIR RAMPS SHALL BE CONSTRUCTED AT ALL PEDESTRIAN CROSSINGS WHERE CURB REMOVAL IS REQUIRED FOR INSTALLATION OF THE UNDERGROUND CONDUIT SYSTEM. ALL PAVEMENT REMOVED WILL BE FULL DEPTH SAW CUT PRIOR TO REMOVAL.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING BORE PIT LOCATIONS AND DIMENSIONS. INFORMATION SHOWN ON PLANS ARE FOR REFERENCE PURPOSE ONLY. ANY DEVIATIONS SHALL BE APPROVED BY TXDOT AND CITY OF CORPUS CHRISTI. SITE SHALL BE RESTORED TO EXISTING CONDITIONS WITH MATERIAL COMPACTED TO DESIGN DOCUMENT REQUIREMENTS.
  - IF IT BECOMES NECESSARY TO OPERATE MACHINERY ON A PORTION OF THE PAVEMENT, PRECAUTIONS MUST BE TAKEN TO PREVENT ANY DAMAGE WHATSOEVER TO THE PAVEMENT. DAMAGED PAVEMENT WILL BE REPLACED TO TXDOT STANDARDS.
  - CONTRACTOR SHALL INSTALL ALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION) DURING CONSTRUCTION TO PROVIDE COMPLETE SAFETY TO THE GENERAL PUBLIC.
  - LANE CLOSURES WILL COMPLY WITH THE DESIGN BUILD AGREEMENT AND THE TRAFFIC MANAGEMENT PLAN.
  - BORE PITS CLOSER THAN 30-FT FROM THE EDGE OF PAVEMENT MUST BE PROTECTED. OPEN PITS MUST BE SEALED OFF BY ORANGE PLASTIC MESH FENCING AND CONES OR DRUMS. OPEN PITS LEFT OVERNIGHT MUST BE COVERED BY STEEL PLATES.
  - CONSTRUCTION EQUIPMENT LEFT OVERNIGHT IN STATE RIGHT-OF-WAY SHALL BE PLACED AT LEAST 30-FT FROM THE EDGE OF PAVEMENT. EQUIPMENT LOCATED CLOSER THAN 30-FT MUST BE PROTECTED BY CTB'S.
  - CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING AND MAINTAINING TRAFFIC SIGNS AND PAVEMENT MARKINGS, INCLUDING CENTERLINES, BARRIER LINES, LANE LINES, RAISED PAVEMENT MARKINGS, ETC.

- CONTRACTOR IS REQUIRED TO PREPARE AND IMPLEMENT AN APPROVED STORM WATER POLLUTION PREVENTION PLAN (SW3P) IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS AND CONTRACT DOCUMENTS, CONTRACTOR SHALL KEEP DEBRIS & SPOILS OUT OF DRAINS, CULVERTS, AND DROP INLETS AND ENSURE THAT THEY DO NOT BECOME CLOGGED AS A RESULT OF CONSTRUCTION ACTIVITIES.
  - ANY DISCREPANCIES IN THE FIELD DURING CONSTRUCTION FROM WHAT IS SHOWN ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE UTILITY DESIGN ENGINEER. ALL CHANGES SHALL FOLLOW DESIGN BUILD REQUIREMENTS. AS-BUILTS DRAWINGS SHALL BE COMPLETED BY THE UTILITY OWNER/REPRESENTATIVE UPON COMPLETION OF ALL RELOCATIONS AND/OR NEW INSTALLATIONS. DRAWINGS SHALL BE SUBMITTED ON 11X17 SHEETS ALONG WITH ELECTRONIC FILES PRIOR TO FINAL PAYMENT AND ACCEPTANCE.
  - ALL PIPES, FITTINGS, AND APPURTENANCES, SHALL BE INSPECTED UPON DELIVERY AND DURING THE PROGRESS OF THE WORK. ANY MATERIAL FOUND TO BE DEFECTIVE WILL BE REJECTED BY THE OWNERS REPRESENTATIVE AND THE CONTRACTOR SHALL REMOVE SUCH DEFECTIVE MATERIAL FROM THE SITE OF WORK.
  - CONTRACTOR IS TO PLUG ALL EXISTING LINES TO REMAIN IN PLACE.
  - TEMPORARY CONSTRUCTION EASEMENTS TO BE SECURED BY THE CONTRACTOR IF NECESSARY. IF APPLICABLE, THE CONTRACTOR IS TO CONFIRM ACQUISITION PRIOR TO SCHEDULING WORK. REFER TO SPECIAL PROVISIONS FOR EASEMENT DETAILS.
  - UTILITY CONTRACTOR TO CONTACT UTILITY OWNER A MINIMUM OF 48 HOURS PRIOR TO CONNECTION TO EXISTING FACILITIES TO COORDINATE ON-SITE INSPECTION BY UTILITY PERSONNEL.
  - CONTRACTOR TO PROVIDE SUBMITTALS FOR ALL MATERIALS FURNISHED PRIOR TO CONSTRUCTION FOR DESIGN BUILD APPROVAL.
  - CONTRACTOR WILL COORDINATE WITH ATTENDANCE OF FDLLC ENVIRONMENTAL AND SAFETY TRAINING FOR ALL EMPLOYEES WORKING ON THE PROJECT.
  - ALL PIPE AND FITTING JOINTS MUS BE RESTRAINED USING APPROVED MECHANICAL RESTRAINT DEVICE.
  - CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF TXDOT TECHNICAL PROVISION T.P. 6.3.4.5 AND OF CITY OF CORPUS CHRISTI STANDARD CONSTRUCTION SPECIFICATION SECTION 026214 "GROUTING ABANDONED UTILITY LINES" FOR EXISTING WASTEWATER MAINS INDICATED TO BE ABANDONED.
  - FOR MANHOLES INDICATED TO BE REMOVED, CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE PARAGRAPH ENTITLED "BACKFILL" IN THE CITY OF CORPUS CHRISTI STANDARD CONSTRUCTION SPECIFICATION SECTION 021080 "REMOVING ABANDONED STRUCTURES" SALVAGE RING AND COVER AND RETURN TO CITY OF CORPUS CHRISTI.
  - FOR MANHOLES INDICATED TO BE ABANDONED, CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF CITY OF CORPUS CHRISTI STANDARD CONSTRUCTION SPECIFICATION SECTION 021080 "REMOVING ABANDONED STRUCTURES" SALVAGE RING AND COVER AND RETURN TO CITY OF CORPUS CHRISTI.
  - PRECONSTRUCTION MEETING MUST TAKE PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES.
- TEXAS DEPARTMENT OF TRANSPORTATION GENERAL UTILITY NOTES:
- ALL EXCAVATIONS WITHIN THE RIGHT-OF-WAY AND NOT UNDER SURFACING SHALL BE BACKFILLED BY TAMPING IN 8-IN HORIZONTAL LAYERS AND/OR AS DIRECTED TO TXDOT SPEC ITEM 400. THE EXCAVATION WILL BE FINISHED FLUSH WITH THE SURROUNDING NATURAL GROUND.
  - ALL VEGETATED DISTURBED AREAS SHALL BE REPLACED BY SEEDING. SLOPES 4:1 OR STEEPER SHALL BE REPLACED BY BLOCK SOD. THIS WORK SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS FOR SEEDING AND SODDING.
  - HIGHWAY CROSSINGS UNDER SURFACE ROADS AND SURFACED CROSS-ROADS WITHIN THE RIGHT-OF-WAY SHALL BE PLACED BY BORING. BORING SHALL EXTEND A MINIMUM 5-FT FROM BACK OF CURB. ALL LINES CARRYING PRESSURE SHALL BE ENCASED IN SATISFACTORY CASING.

- USE OF WATER AND OTHER FLUIDS IN CONNECTION WITH BORING OPERATIONS WILL BE PERMITTED ONLY IN SUFFICIENT QUANTITY TO LUBRICATE BORING PIT AND FOR EASE OF REMOVING CUTTINGS. JETTING WILL NOT BE PERMITTED. CARE WILL BE TAKEN TO PREVENT POUR FLUIDS FROM ENTERING STORM WATER SYSTEM.
  - OPERATIONS ON THE HIGHWAYS SHALL BE PERFORMED IN SUCH A MANNER THAT OPERATING EQUIPMENT AND EXCAVATED MATERIAL ARE OFF THE PAVEMENT AT ALL TIMES
  - BARRICADES AND WARNING SIGNS, AND FLAGMEN WHEN NECESSARY, SHALL BE PROVIDED BY THE CONTRACTOR OR OWNER. ONE-HALF THE TRAVELED PORTION OF THE ROADWAY MUST BE OPEN TO TRAFFIC AT ALL TIMES.
  - WORK PERFORMED ON RAILROAD RIGHT-OF-WAY IS SUBJECT TO THE CONCURRENCE OF THE RAILROAD COMPANY. WORK PERFORMED WITH THE WATERWAYS, SUCH AS RIVERS, CREEKS, BAYOUS, AND DRAINAGE DITCHES, IS SUBJECT TO RULES AND REQUIREMENTS OF THAT APPROPRIATE GOVERNMENTAL AGENCY.
  - ALL MANHOLE COVERS SHALL BE INSTALLED FLUSH WITH FINISHED GROUND.
  - ALL TRAFFIC CONTROL MUST CONFORM TO TMUTCD.
  - TRENCH BACKFILL SHALL COMPLY WITH TXDOT STANDARD SPECIFICATION ITEM 400.
  - UTILITY INSTALLATION SHALL COMPLY WITH THE TXDOT UTILITY ACCOMMODATION RULES (UAR).
- UTILITY OWNER CONTACTS:
- CONTRACTOR TO CONTACT UTILITY OWNER A MINIMUM 2-WEEKS PRIOR TO CONSTRUCTION.
  - A PRECONSTRUCTION MEETING SHALL BE SCHEDULED A MINIMUM OF ONE WEEK PRIOR TO CONSTRUCTION.
- CITY OF CORPUS CHRISTI WATER UTILITIES  
CONTACT:  
GABRIEL HINOJOSA  
1201 LEOPARD STREET  
CORPUS CHRISTI, TX 78401  
361-826-3500



RECORD DRAWING NO.

TBD

CITY PROJECT # TBD

NO.	REVISIONS	BY	DATE

STATE OF TEXAS

DAVID J. RUSSELL II

123318

LICENSED PROFESSIONAL ENGINEER

12/09/2018

US 181 HARBOR BRIDGE  
CITY OF CORPUS CHRISTI  
1H 37 EBF  
N PORT AVE TO DOSS ST  
WASTEWATER PACKAGE WW16  
WASTEWATER RELOCATION PLAN  
LEGEND AND GENERAL NOTES

CITY OF CORPUS CHRISTI TEXAS

1852

FLATIRON DRAGADOS

FLATIRON/DRAGADOS LLC

KCI TECHNOLOGIES, INC.  
13750 SAN PEDRO AVENUE - SUITE 640  
SAN ANTONIO, TX 78232 - 210.544.5751  
TEXAS REGISTERED ENGINEERING FIRM  
TBPE FIRM No. F-10573  
www.kci.com

SHEET 2 OF 12

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	HP X597 (1)	WW16-2
STATE	STATE DIST. NO.	COUNTY
TEXAS	CRP	NUECES
CONT.	SECT	JOB
0101	06	095
		HIGHWAY NO.
		US181

**\*\*NOTE:**  
PLEASE REFER TO ABANDONMENT LAYOUT FOR FULL SCOPE OF REMOVAL/ABANDONMENT OF WASTEWATER MAINS

Plotted: 5/1/2020  
Pen Table: HBR-GenPen.tbl

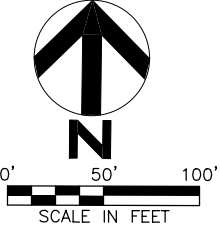
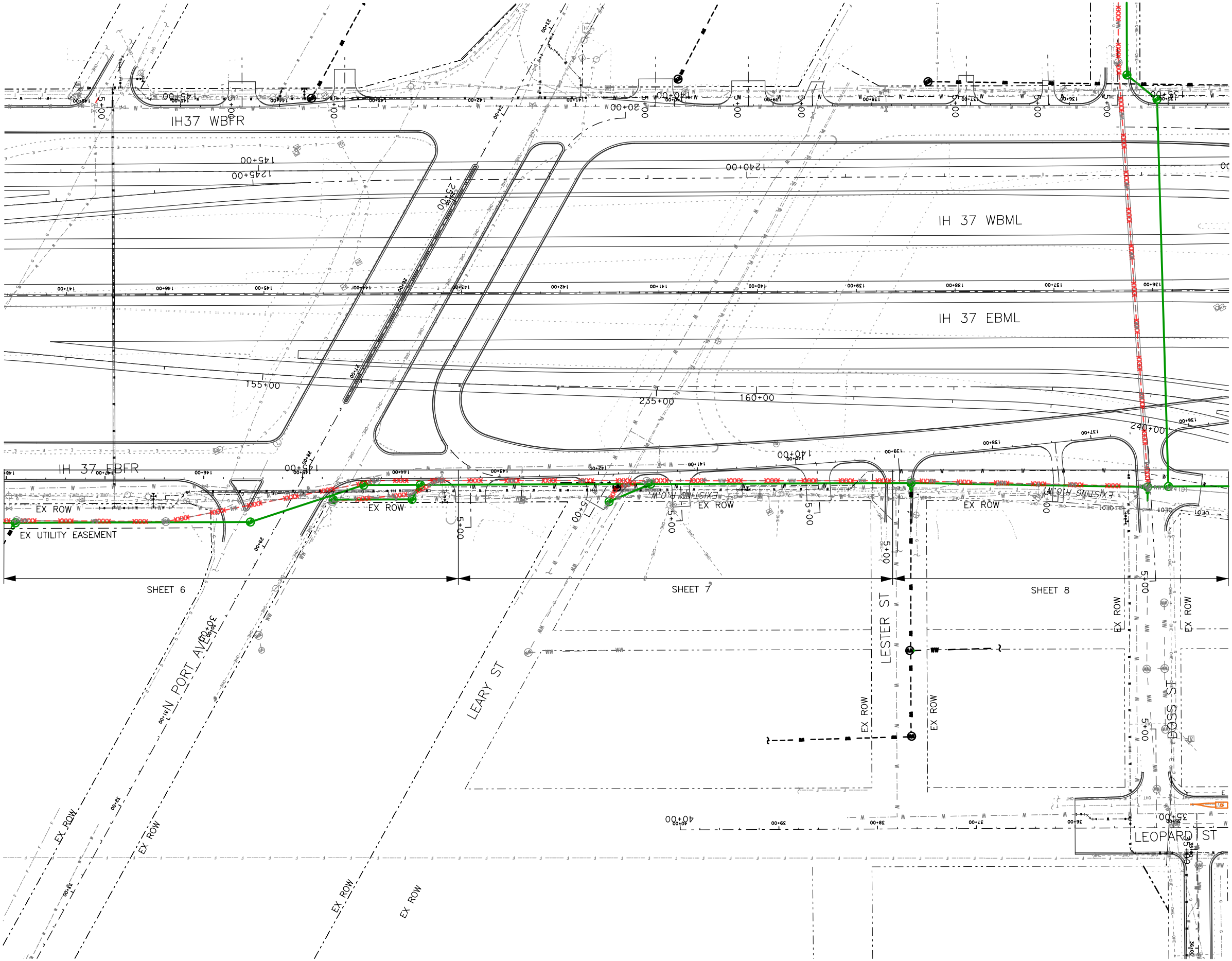
No.	REVISIONS			By	Date
<div style="text-align: right;">05/01/2020</div>					
<b>US 181 HARBOR BRIDGE</b>					
<b>CITY OF CORPUS CHRISTI</b>					
IH 37 EBFR					
N PORT AVE TO DOSS ST					
WASTEWATER PACKAGE WW16					
WASTEWATER RELOCATION PLAN					
SUMMARY OF QUANTITIES					
 <b>FLATIRON/DragADOS LLC</b>					
 KCI TECHNOLOGIES, INC. 13750 SAN PEDRO AVENUE - SUITE 640 SAN ANTONIO, TX 78232 • 210.544-5751 TEXAS REGISTERED ENGINEERING FIRM TBPE FIRM NO. E-10573 <a href="http://www.kci.com">www.kci.com</a>					
<b>SHEET 3 OF 12</b>					
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.			SHEET NO.	
6	HP X597(1)			WW16-	
STATE	STATE DIST. NO.			3	
TEXAS	CRP	NUECES			
CONT.	SECT	JOB	HIGHWAY NO.		
0101	06	095	US181		



PROJECT	
US 181 HARBOR BRIDGE	
Checked by:	Date:
Back-Checked by:	Date:
Corrected by:	Date:
Verified by:	Date:
REVIEW PHASE	
RFC SUBMITTAL	
CHECK PRINT	

<input type="checkbox"/> Detail Check	<input type="checkbox"/> Internal Review	<input type="checkbox"/> Design Review	<input type="checkbox"/> TxDOT
<input type="checkbox"/> Drawing	<input type="checkbox"/> Report	<input type="checkbox"/> Other:	
Prepared By:	Date:		
<input type="checkbox"/> Drawing Checked Against Calculations			
<input type="checkbox"/> Calculations Check Confirmed			

Plotted: 5/1/2020  
Pen Tab: HBR-GenPen.tbl



RECORD DRAWING NO.  
TBD  
CITY PROJECT # TBD

NO.	REVISIONS	BY	DATE
-----	-----------	----	------



US 181 HARBOR BRIDGE  
CITY OF CORPUS CHRISTI  
IH 37 EBFR  
N PORT AVE TO DOSS ST  
WASTEWATER PACKAGE WW16  
WASTEWATER RELOCATION PLAN  
LAYOUT

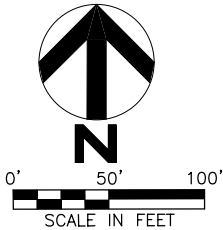
SCALE: 1" = 100'



SHEET 4 OF 12			
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	HP X597(1)		WW16-4
STATE	STATE DIST. NO.	COUNTY	
TEXAS	CRP	NUECES	
CONT.	SECT	JOB	HIGHWAY NO.
0101	06	095	US181



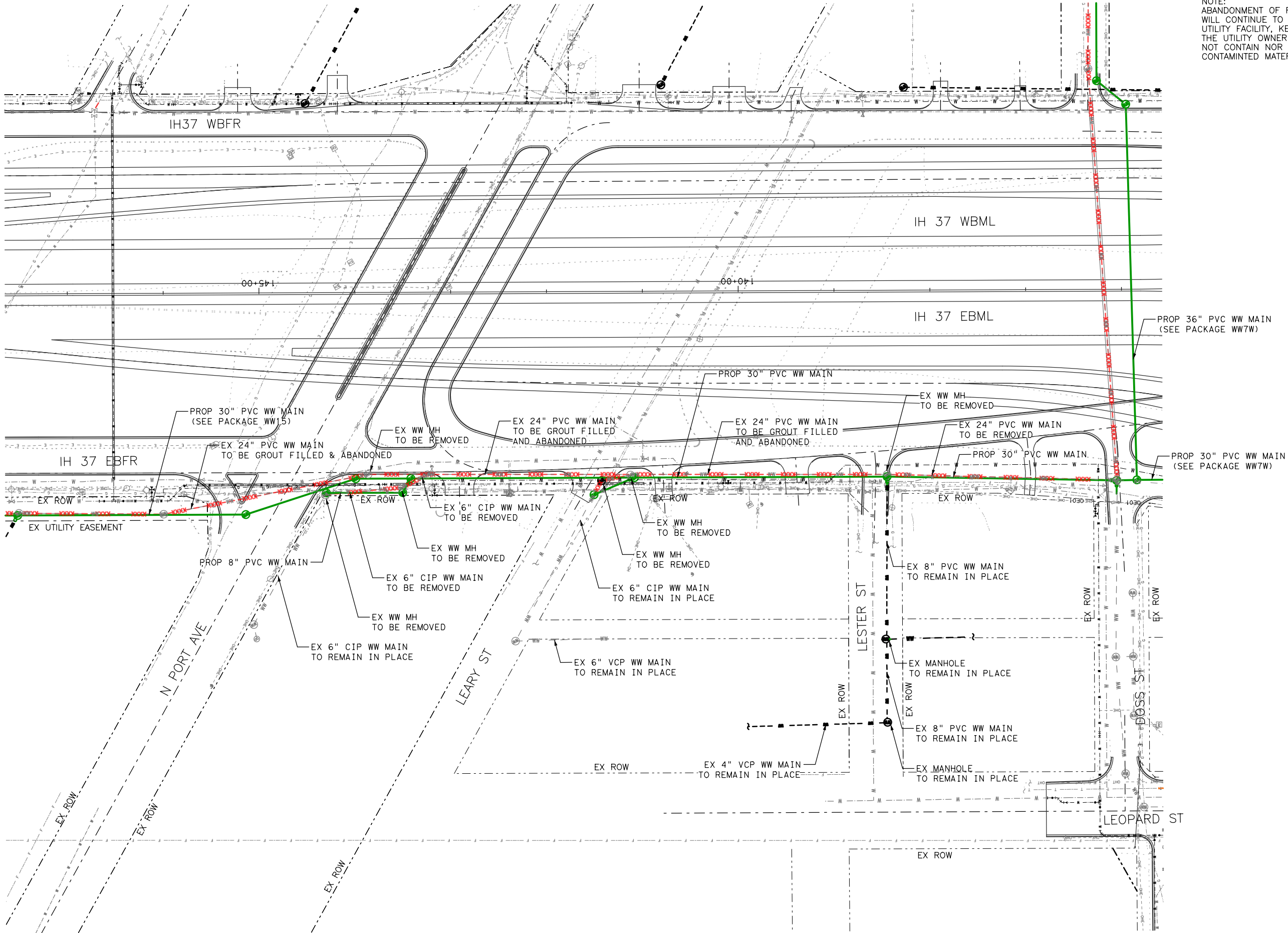
NOTE:  
ABANDONMENT OF FACILITIES; CITY OF CORPUS CHRISTI  
WILL CONTINUE TO OWN/MAINTAIN THE ABANDONED  
UTILITY FACILITY, KEEP RECORDS OF IT'S LOCATION AND  
THE UTILITY OWNER CERTIFIES THAT THE FACILITY DOES  
NOT CONTAIN NOR IS COMPOSED OF HAZARDOUS/  
CONTAMINATED MATERIALS.



PROJECT	
US 181 HARBOR BRIDGE	
Checked by:	Date:
Back-Checked by:	Date:
Corrected by:	Date:
Verified by:	Date:
REVIEW PHASE	
RFC SUBMITTAL	
CHECK PRINT	

<input type="checkbox"/> Detail Check	<input type="checkbox"/> Internal Review	<input type="checkbox"/> Design Review	<input type="checkbox"/> TxDOT
<input type="checkbox"/> Drawing	<input type="checkbox"/> Report	<input type="checkbox"/> Other:	
Prepared By:	Date:		
<input type="checkbox"/> Drawing Checked Against Calculations			
<input type="checkbox"/> Calculations Check Confirmed			

Plotted: 5/1/2020  
Pen Tab: HBR-GenPen.tbl

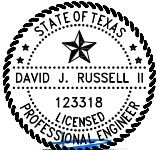


RECORD DRAWING NO.

TBD

CITY PROJECT # TBD

NO.	REVISIONS	BY	DATE



US 181 HARBOR BRIDGE  
CITY OF CORPUS CHRISTI  
IH 37 EBF  
N PORT AVE TO DOSS ST  
WASTEWATER PACKAGE WW16  
WASTEWATER RELOCATION PLAN  
ABANDONMENT PLAN

SCALE: 1" = 100'



**FLATIRON/Dragados LLC**  
KCI TECHNOLOGIES, INC.  
13750 SAN PEDRO AVENUE - SUITE 640  
SAN ANTONIO, TX 78232 - 210.544.5751  
TEXAS REGISTERED ENGINEERING FIRM  
TBPE FIRM No. E-10573  
www.kci.com

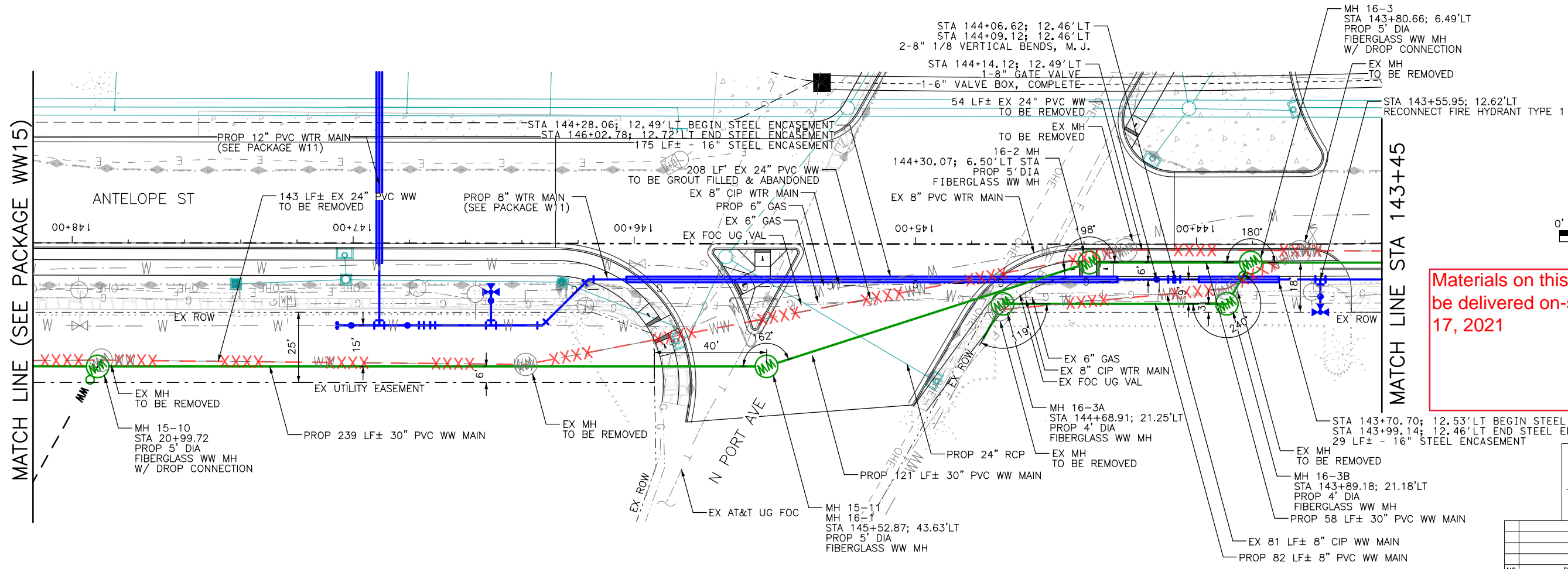
SHEET 5 OF 12

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	HP X597(1)	WW16-5
STATE	STATE DIST. NO.	COUNTY
TEXAS	CRP	NUECES
CONT.	SECT	JOB
0101	06	095
		HIGHWAY NO.
		US181

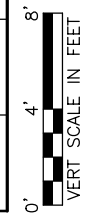
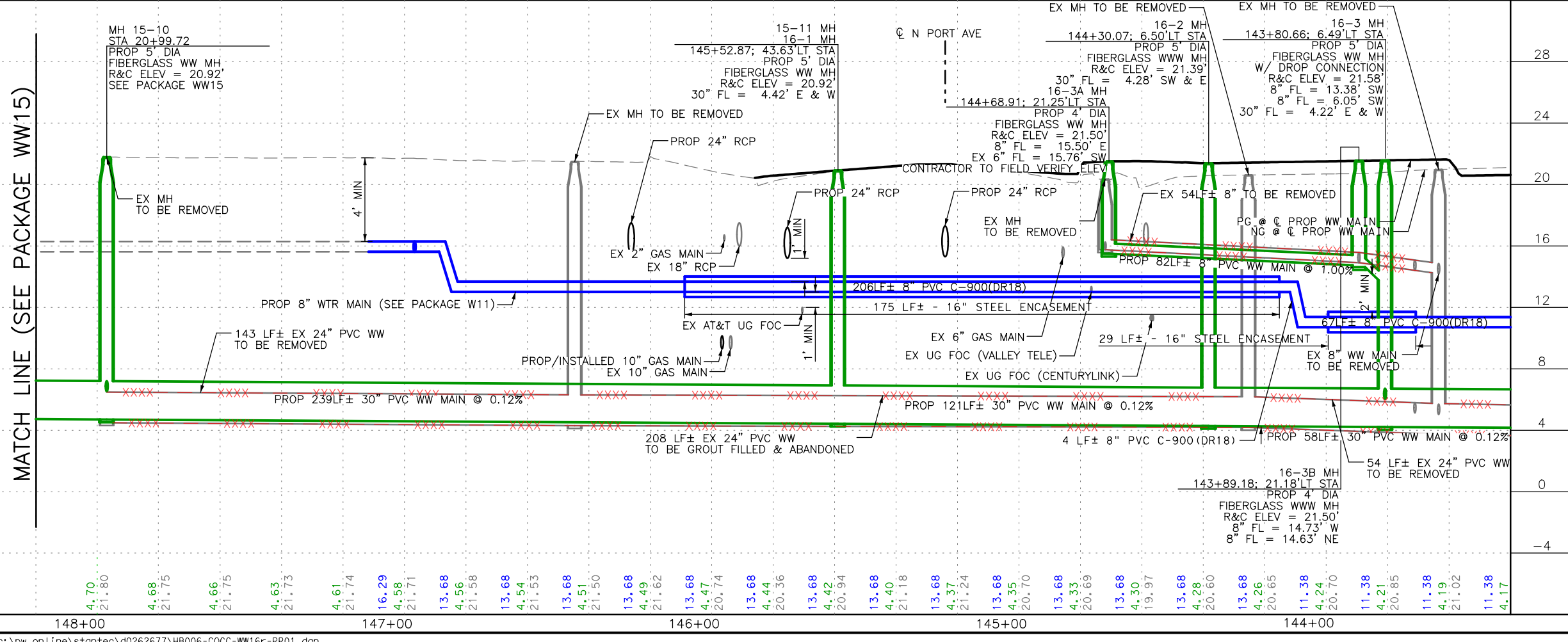
PROJECT			
US 181 HARBOR BRIDGE			
Checked by:	Date:	Back-Checked by:	Date:
Corrected by:	Date:	Verified by:	Date:

REVIEW PHASE			
<input type="checkbox"/> Detail Check	<input type="checkbox"/> Internal Review	<input type="checkbox"/> Design Review	<input type="checkbox"/> TxDOT
<input type="checkbox"/> Drawing	<input type="checkbox"/> Report	<input type="checkbox"/> Other: _____	
Prepared By: _____	Date: _____	Calculations Check Confirmed	
<input type="checkbox"/> Drawing Checked Against Calculations			
RFC SUBMITTAL CHECK PRINT			

P: 5/1/2020  
Pen Tab: HBR-GenPen.tbl  
Design File: c:\pw\_online\stancet\0262677\HBO06-COCC-WW16r-PP01.dgn



Materials on this sheet shall be delivered on-site by May 17, 2021



RECORD DRAWING NO.
TBD
CITY PROJECT #
TBD

NO.	REVISIONS	BY	DATE

US 181 HARBOR BRIDGE  
CITY OF CORPUS CHRISTI  
1H 37 EBRF  
N PORT AVE  
WASTEWATER PACKAGE WW16  
WASTEWATER RELOCATION PLAN  
PLAN AND PROFILE  
BEGIN TO STA 143+45  
SCALE: 1" = 40' (H) 1" = 8' (V)

FLATRION/DAGADOS LLC  
KCI TECHNOLOGIES, INC.  
13750 SAN PEDRO AVENUE - SUITE 640  
SAN ANTONIO, TX 78232 - 210.544.5751  
TEXAS REGISTERED ENGINEERING FIRM  
TBPE FIRM No. F-10573  
www.kci.com

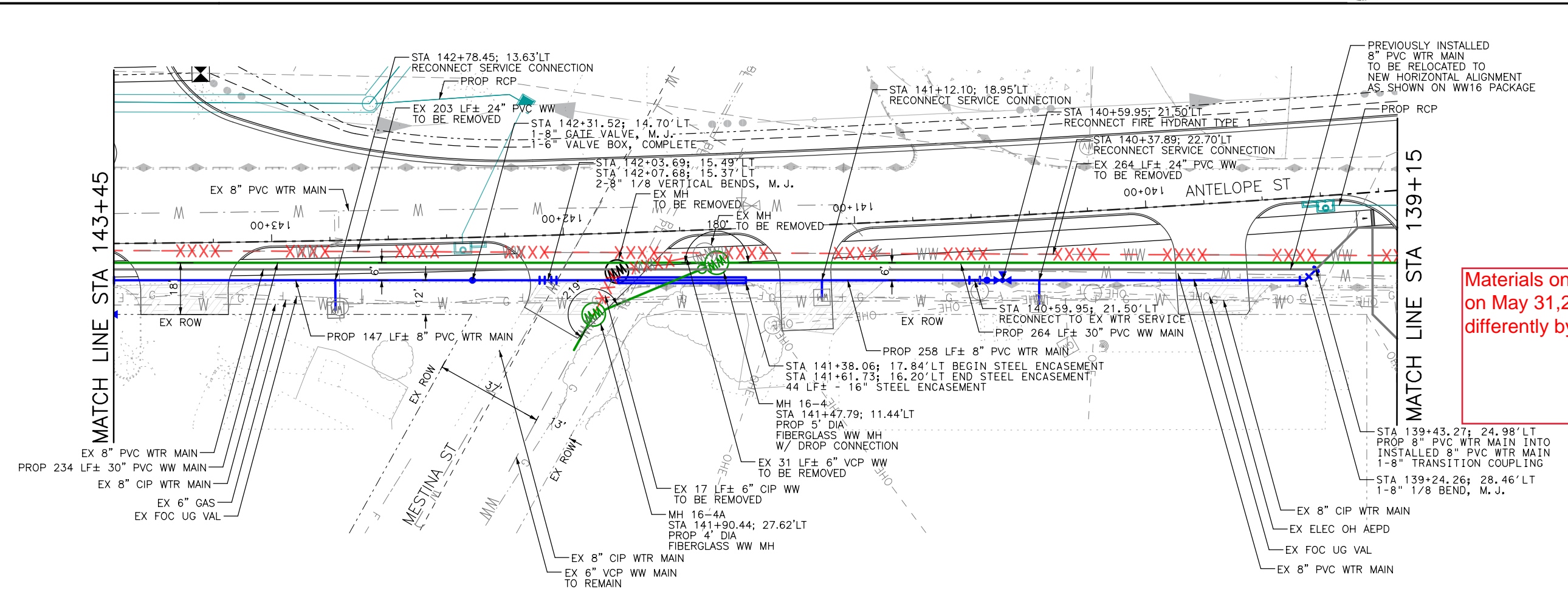
SHEET 6 OF 12			
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.	
6	HP X597 (1)	WW16-6	
STATE	STATE DIST. NO.	COUNTY	
TEXAS	CRP	NUECES	
CONT.	SECT	JOB	HIGHWAY NO.
0101	06	095	US181



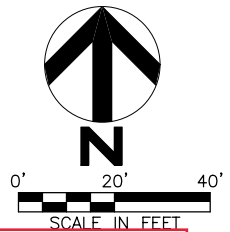
PROJECT			
US 181 HARBOR BRIDGE			
Checked by:	Date:	Back-Checked by:	Date:
Corrected by:	Date:	Verified by:	Date:

<input type="checkbox"/> Detail Check				<input type="checkbox"/> Internal Review	<input type="checkbox"/> Design Review	<input type="checkbox"/> TxDOT	
<input type="checkbox"/> Drawing				<input type="checkbox"/> Report	<input type="checkbox"/> Other: _____		
Prepared By: _____				Date: _____			
<input type="checkbox"/> Drawing Checked Against Calculations							<input type="checkbox"/> Calculations Check Confirmed
REVIEW PHASE							
RFC SUBMITTAL CHECK PRINT							

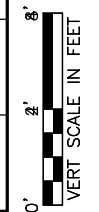
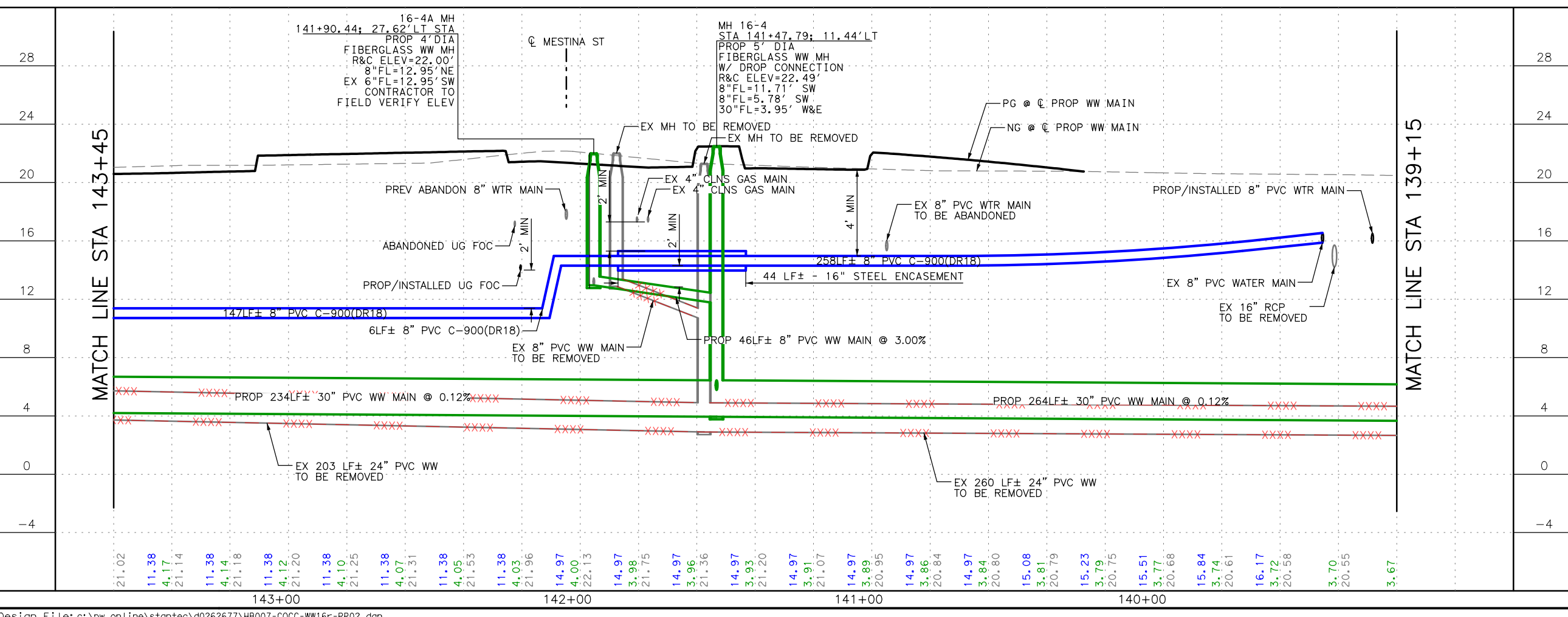
P: 5/1/2020  
Pen Tab: HBR-GenPen.tbl



Materials on this sheet to be delivered on May 31, 2021 unless agreed differently by FDLLC and Supplier



RECORD DRAWING NO.
TBD
CITY PROJECT #
TBD



NO.	REVISIONS	BY	DATE

05/01/2020

US 181 HARBOR BRIDGE  
CITY OF CORPUS CHRISTI  
1H 37 EBFR  
N PORT AVE  
WASTEWATER PACKAGE WW16  
WASTEWATER RELOCATION PLAN  
PLAN AND PROFILE  
STA 143+45 TO STA 139+14  
SCALE: 1" = 40' (H) 1" = 8' (V)

CITY OF CORPUS CHRISTI TEXAS  
1852

FLATIRON/DRAGADOS LLC

KCI TECHNOLOGIES, INC.  
13750 SAN PEDRO AVENUE - SUITE 640  
SAN ANTONIO, TX 78232 - 210.544.5751  
TEXAS REGISTERED ENGINEERING FIRM  
TBPE FIRM No. F-10573  
www.kci.com

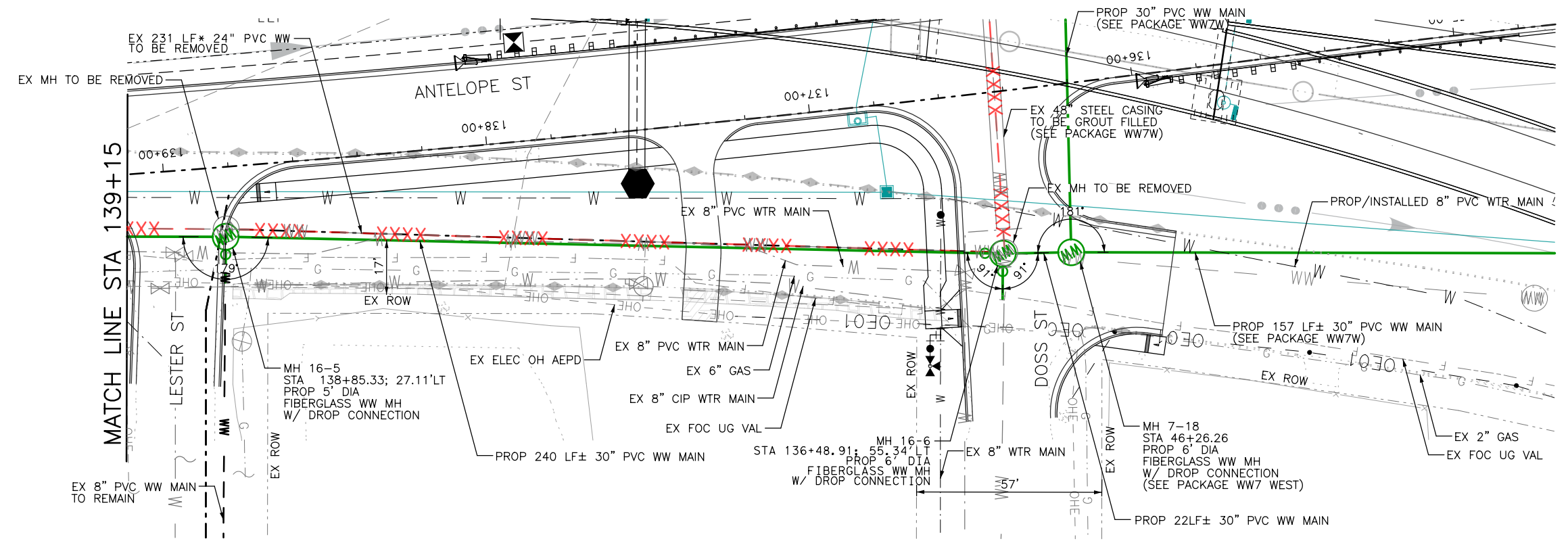
SHEET 7 OF 12		
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	HP X597(1)	WW16-7
STATE	STATE DIST. NO.	COUNTY
TEXAS	CRP	NUECES
CONT.	SECT	JOB
0101	06	095
HIGHWAY NO.		
US181		



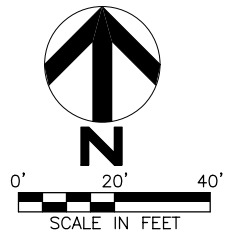
PROJECT				
US 181 HARBOR BRIDGE				
Checked by:	Date:	Back-Checked by:	Date:	Verified by:

<input type="checkbox"/> Detail Check	<input type="checkbox"/> Internal Review	<input type="checkbox"/> Design Review	<input type="checkbox"/> TxDOT
<input type="checkbox"/> Drawing	<input type="checkbox"/> Report	<input type="checkbox"/> Other:	
Prepared By:	Date:		
<input type="checkbox"/> Drawing Checked Against Calculations	<input type="checkbox"/> Calculations Check Confirmed		
REVIEW PHASE			
RFC SUBMITTAL CHECK PRINT			

P: 5/1/2020  
Pen Tab: HBR-GenPen.tbl



Materials on this sheet to be delivered on-site by June 17, 2021 unless agreed differently between FDLIC and Supplier



RECORD DRAWING NO. TBD  
CITY PROJECT # TBD

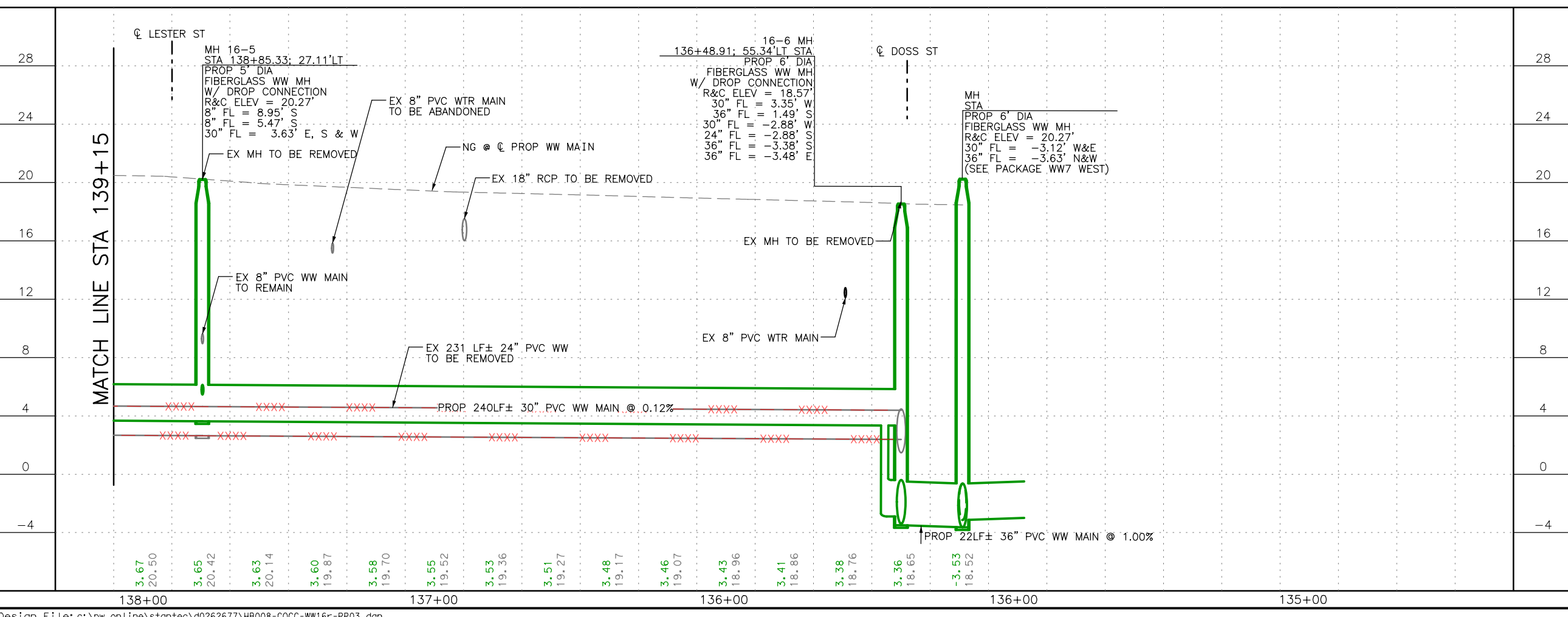
NO.	REVISIONS	BY	DATE

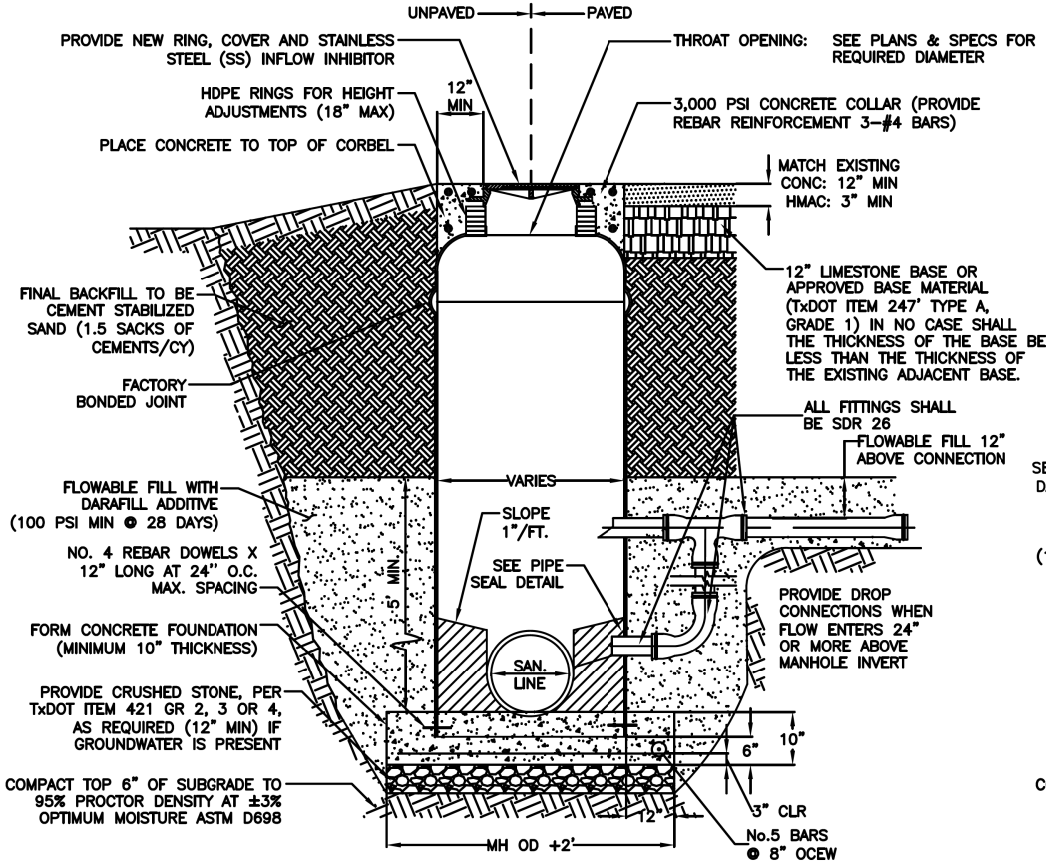
US 181 HARBOR BRIDGE  
CITY OF CORPUS CHRISTI  
1H 37 EBF  
N PORT AVE  
WASTEWATER PACKAGE WW16  
WASTEWATER RELOCATION PLAN  
PLAN AND PROFILE  
STA 139+14 TO END  
SCALE: 1" = 40' (H) 1" = 8' (V)

**FLATIRON/DAGADOS LLC**  
KCI TECHNOLOGIES, INC.  
13750 SAN PEDRO AVENUE - SUITE 640  
SAN ANTONIO, TX 78232 - 210.544.5751  
TEXAS REGISTERED ENGINEERING FIRM  
TBP# FIRM No. F-10573  
www.kci.com

SHEET 8 OF 12

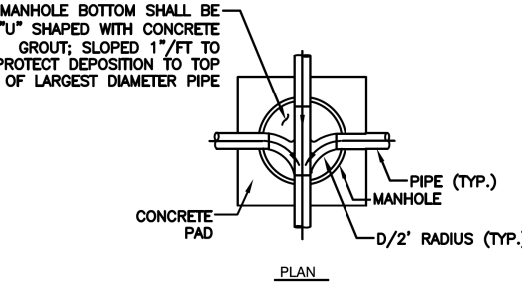
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	HP X597 (1)	WW16-8
STATE	STATE DIST. NO.	COUNTY
TEXAS	CRP	NUECES
CONT.	SECT	JOB
0101	06	095
HIGHWAY NO.		
US181		





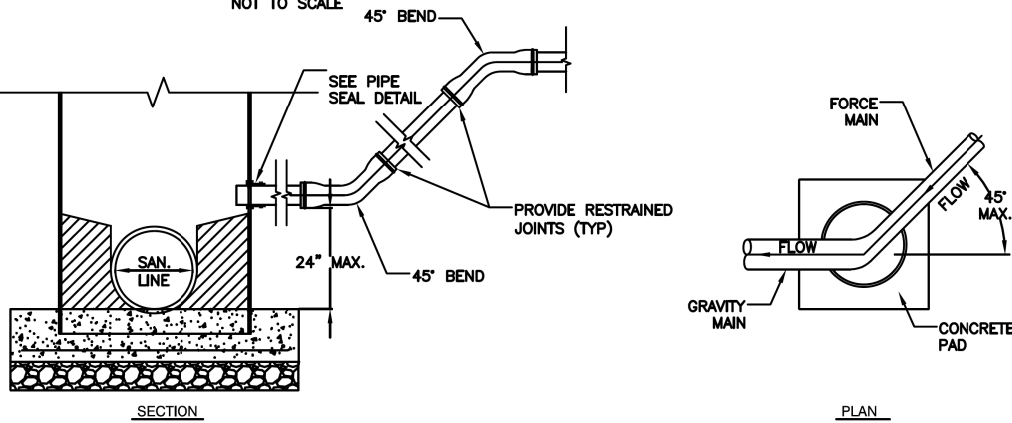
FIBERGLASS MANHOLE

NOT TO SCALE



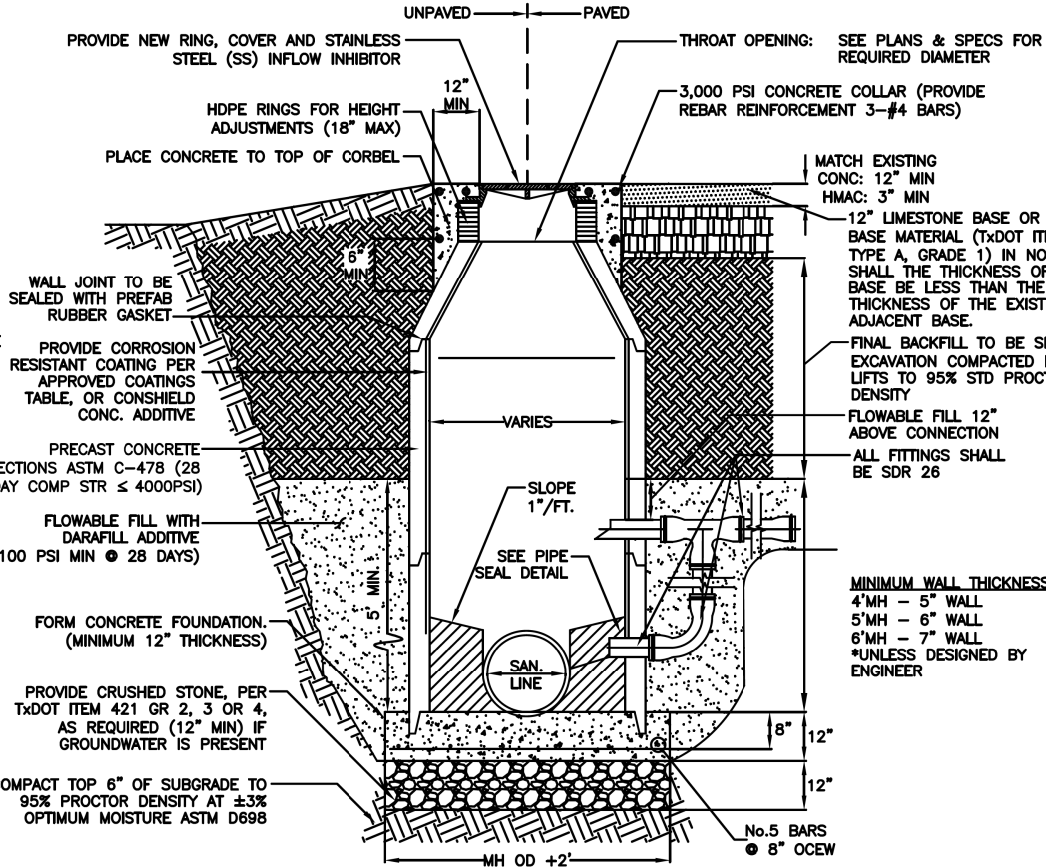
WASTEWATER MANHOLE (BOTTOM)

NOT TO SCALE



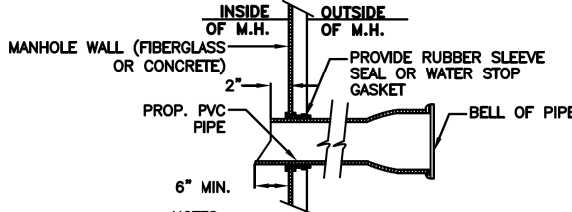
FORCE MAIN DISCHARGE MANHOLE DETAIL

NOT TO SCALE



CONCRETE MANHOLE

NOT TO SCALE



PIPE SEAL DETAIL

NOT TO SCALE

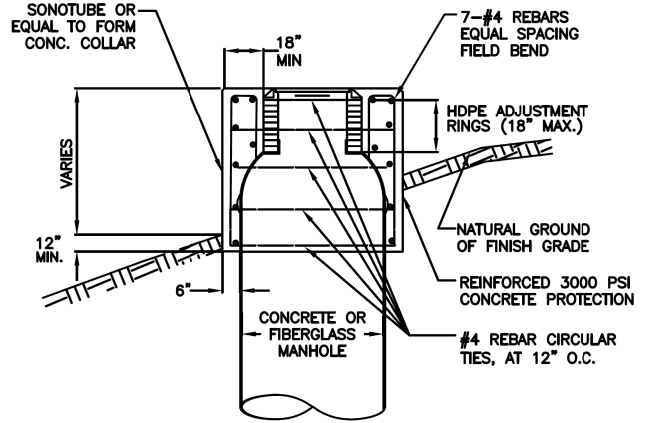
GENERAL WASTEWATER CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND EXAMINE LOCAL CONDITIONS TO BE ENCOUNTERED, IMPROVEMENTS TO BE PROTECTED, AND PERMITS AND FEES TO BE REQUIRED, ALONG WITH OTHER RESEARCH THAT IS NECESSARY TO ENSURE THAT THE CONTRACTOR THOROUGHLY UNDERSTANDS THE PROJECT AND IS FULLY AWARE OF ALL THE CONDITIONS AND CONSTRAINTS THAT MAY BE ENCOUNTERED DURING THE COURSE OF CONSTRUCTION.
2. THE CONTRACTOR SHALL ADHERE TO ALL TCEQ REGULATIONS PER 30 TAC CHAPTER 217 AND TRENCH SAFETY FOR EXCAVATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL AND MUST ADHERE TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. ALL FIBERGLASS MANHOLES SHALL BE MONOLITHIC WITH 0.50" MINIMUM WALL THICKNESS. IF PROVIDED OR REQUIRED, FIBERGLASS BOTTOM SHALL BE DESIGNED TO WITHSTAND HYDROSTATIC HEAD PRESSURE UNDER ALL CONDITIONS.
5. THE MANHOLE WALL PENETRATIONS FOR PIPE (8"-15" DIAMETER PIPE) ABOVE THE FLOWLINE OF THE MANHOLE SHALL BE CORED AND SEALED WITH APPROVED SEAL GASKET WATER STOP ASSEMBLY.
6. FOR FIBERGLASS MANHOLES, THE MANHOLE FOUNDATION MAY BE PRECAST ON GROUND SURFACE. (PROCEDURE MUST BE SUBMITTED TO THE ENGINEERING SERVICES CONSTRUCTION ENGINEER FOR APPROVAL.)
7. THE CONTRACTOR SHALL PROVIDE PROTECTIVE COATING ON ALL EXPOSED CONCRETE SURFACES, INCLUDING CORBEL AREA, MANHOLE WALLS AND MANHOLE BENCH.
8. FOR FIBERGLASS MANHOLES WITH WATERTIGHT BOTTOM, ADHERE TO ALL MANUFACTURER REQUIREMENTS. FIBERGLASS BOTTOM AND BENCH MUST ALSO BE FACTORY INSTALLED.

MANHOLE REQUIREMENTS	
PIPE DIAMETER	MANHOLE DIAMETER
≤18"	4'
18"< TO ≤36"	5'
36"< TO ≤42"	6'

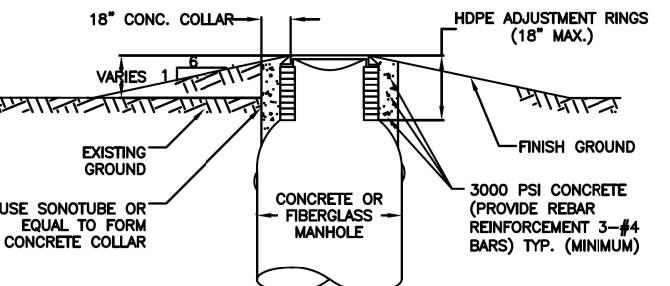
APPROVED COATINGS TABLE	
MANUFACTURER	MODEL NAME
JEFFCOAT	JEFFCOAT 326
RAVEN LINING SYSTEM	RAVEN 405
SHERWIN WILLIAMS	DURAPLATE 5800
CARBOLINE	PHENOLINE 309

NOTE:  
COAT ALL CONCRETE SURFACES INCLUDING BENCH & WALLS.



MANHOLE PROTECTION IN UNPAVED AREAS (CULTIVATED/SPECIAL)

NOT TO SCALE



MANHOLE PROTECTION IN UNPAVED AREAS (RESIDENTIAL)

NOT TO SCALE

RECORD DRAWING NO.  
TBD  
CITY PROJECT # TBD

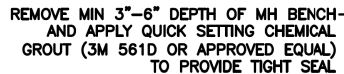
NO.	REVISIONS	BY	DATE
-----	-----------	----	------

STATE OF TEXAS  
DAVID J. RUSSELL II  
123318  
LICENSED PROFESSIONAL ENGINEER  
12/09/2018  
US 181 HARBOR BRIDGE  
CITY OF CORPUS CHRISTI  
1H 37 EBFH  
N PORT AVE TO DOSS ST  
WASTEWATER PACKAGE WW16  
WASTEWATER RELOCATION PLAN  
STANDARD DETAILS  
SHEET 1 OF 4

CITY OF CORPUS CHRISTI  
1852  
FLATRION/DAGADOS LLC  
KCI TECHNOLOGIES, INC.  
13750 SAN PEDRO AVENUE - SUITE 640  
SAN ANTONIO, TX 78232 - 210.544.5751  
TEXAS REGISTERED ENGINEERING FIRM  
TBPE FIRM No. F-10573  
www.kci.com

SHEET 9 OF 12	
FED. RD. DIV. NO. 6	FEDERAL AID PROJECT NO. HP X597 (1)
STATE TEXAS	STATE DIST. NO. CRP
COUNTY NUECES	JOB 095
CONTRACT 0101	SECT 06
HIGHWAY NO. US181	SHEET NO. WW16-9





**NOT TO SCALE**



**NOT TO SCALE**

- NOT TO SCALE

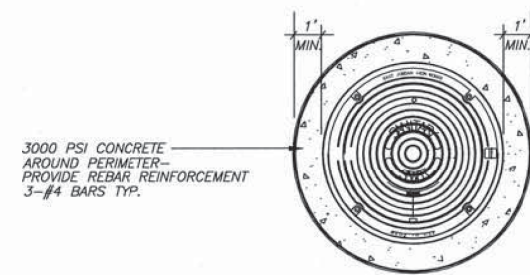
## RING & COVER APPROVED LIST

12/09/2018



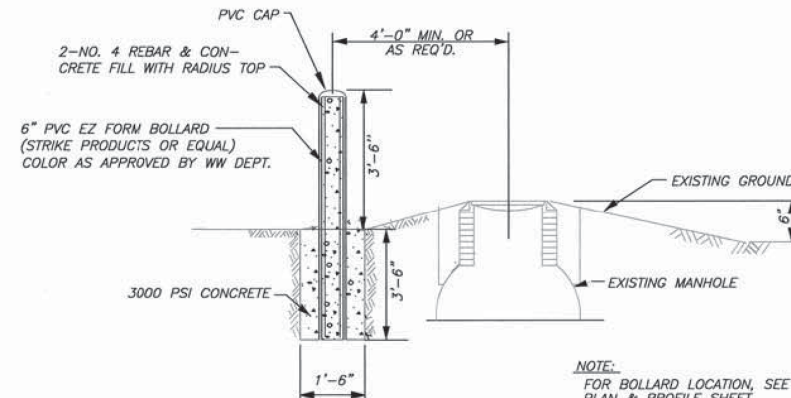
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	HP X597(1)		WW16- 10
STATE	STATE DIST. NO.	COUNTY	
TEXAS	CRP	NUECES	
CONT.	SECT	JOB	
0101	06	095	HIGHWAY NO. US181





### **30" MANHOLE RING & COVER COLLAR DETAIL**

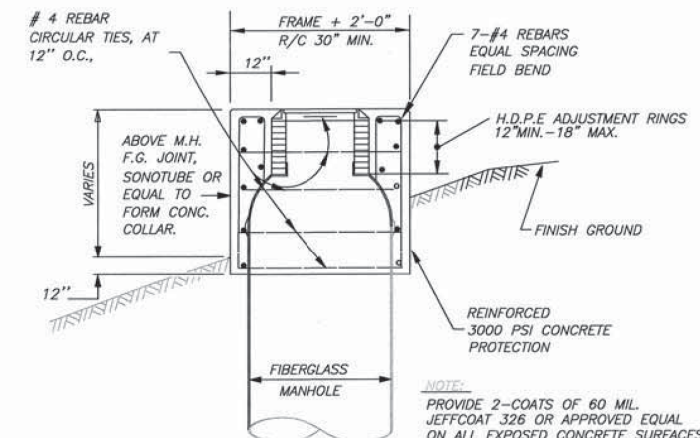
N.T.S.



### ***EZ FORM BOLLARD DETAIL***

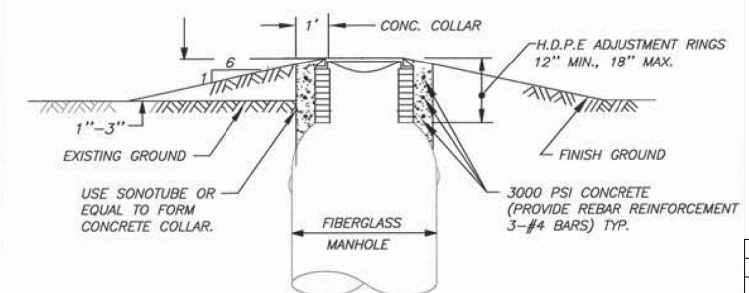
NOT TO SCALE

NOTE:  
FOR BOLLARD LOCATION, SEE  
PLAN & PROFILE SHEET.



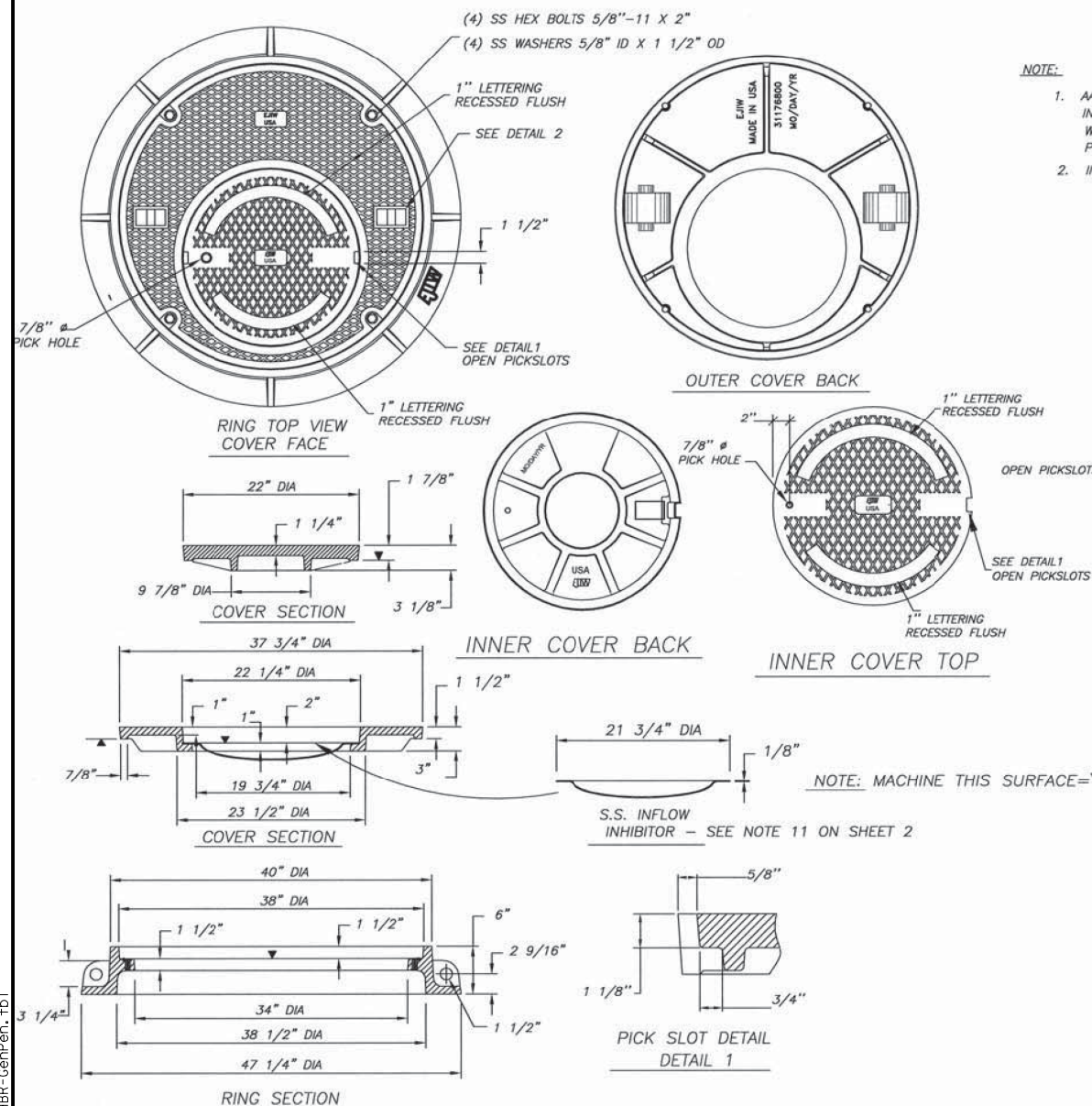
**PROTECTION FOR FIBERGLASS MANHOLE  
IN UNPAVED AREAS ( CULTIVATED/SPECIAL )**

NOT TO SCALE



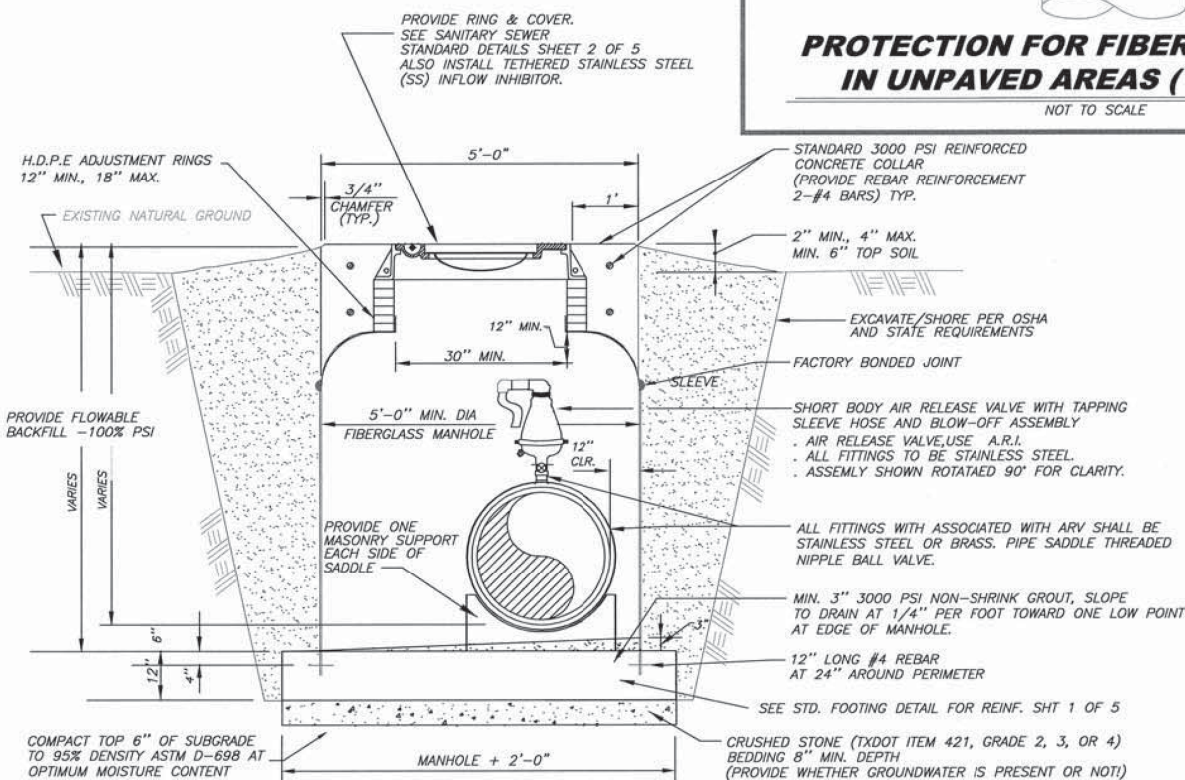
### **PROTECTION FOR FIBERGLASS MANHOLE IN UNPAVED AREAS ( RESIDENTIAL )**

NOT TO SCALE



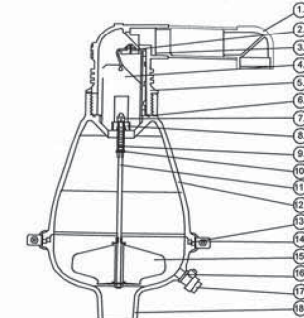
**3'-0" DIA. ROADWAY MANHOLE  
RING & COVER DETAIL (650-36)**

NOT TO SCALE



**AIR RELEASE VALVE ON 5' FIBERGLASS MANHOLE**

NOT TO SCALE



NO.	PART	MATERIAL
1.	DRAINAGE ELBOW	POLYPROPYLENE
2.	SEAL PLUG ASSEMBLY	REINFORCED NYLON + EPDM Gasket
3.	CLAMPING STEM	REINFORCED NYLON
4.	FLOAT	FOAMED POLYPROPYLENE
5.	BODY	REINFORCED NYLON
6.	O-RING	BUNA-N
7.	CROWN NUT	STAINLESS STEEL SAE 316
8.	STOPPER	ACETAL
9.	SPRING	STAINLESS STEEL SAE 316
10.	WASHER	STAINLESS STEEL SAE 316
11.	STEM	STAINLESS STEEL SAE 316
12.	BODY	REINFORCED NYLON /STAINLESS STEEL SAE 316
13.	O-RING	BUNA-N
14.	CLAMP	STAINLESS STEEL SAE 316
15.	FLOAT	FOAMED POLYPROPYLENE
16.	SEAL	FIBER
17.	VALVE	BRASS ASTM A124
18.	BASE	REINFORCED NYLON /STAINLESS

RECORD DRAWING NO.  
TBD  
CITY PROJECT # TBD

NO.	REVISIONS	BY	DATE
-----	-----------	----	------



12/09/2018

US 181 HARBOR BRIDGE  
CITY OF CORPUS CHRISTI  
1H 37 EBFR  
N PORT AVE TO DOSS ST  
WASTEWATER PACKAGE WW16  
WASTEWATER RELOCATION PLAN  
STANDARD DETAILS  
SHEET 3 OF 4



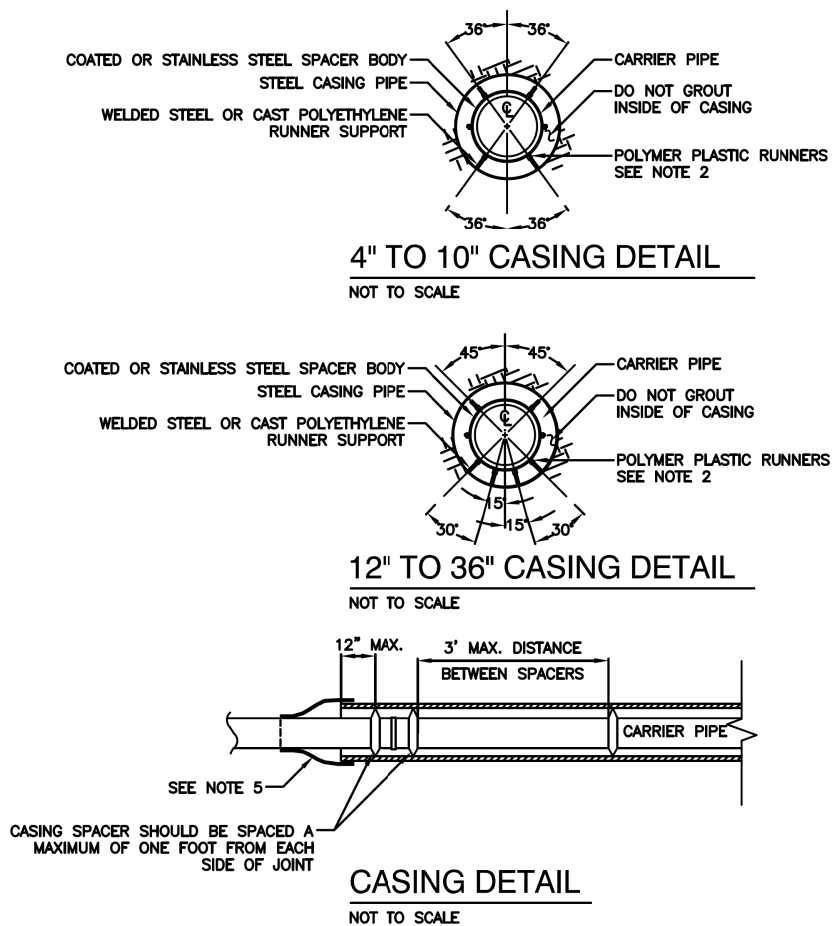
**FLATIRON/DRAAGADOS LLC**



SHEET 11 OF 12

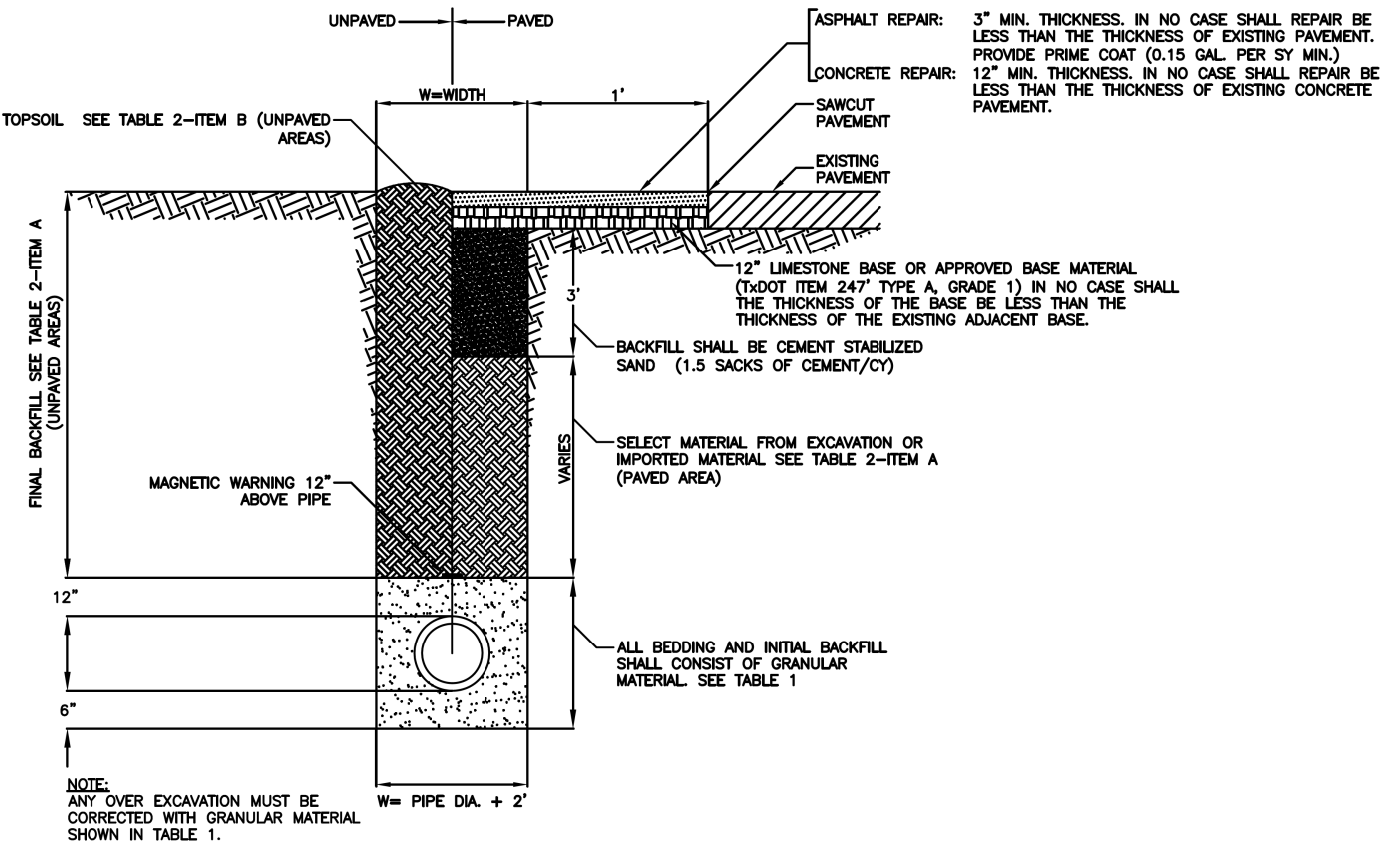
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.			SHEET NO.
6	HP X597 (1)			WW16- 12
STATE	STATE DIST. NO.	COUNTY		
TEXAS	CRP	NUECES		
CONT.	SECT	JOB		
0101	06	095		HIGHWAY NO. US181





CASING NOTES:

- CASING DIAMETER, LENGTH, LOCATION, AND WALL THICKNESS SHALL BE PER PROJECT SPECIFIC REQUIREMENTS. (MINIMUM SCHEDULE 40)
- ALL CARRIER PIPES IN INSTALLED CASINGS SHALL BE SUPPORTED BY BOLT-ON STYLE CASING SPACERS ("ADVANCED PRODUCTS" OR APPROVED EQUAL).
- THE CONTRACTOR SHALL PROVIDE MECHANICALLY RESTRAINED JOINTS FOR FORCE MAINS ONLY ON CARRIER PIPES. "MEGALUG" TYPE JOINT RESTRAINTS OR APPROVED EQUAL SHALL BE USED.
- CASING SPACERS SHALL BE SIZED TO SECURELY FASTEN TO THE CARRIER PIPE O.D. AND SHALL BE FURNISHED WITH A MINIMUM RUNNER HEIGHT TO MAINTAIN SEPARATION BETWEEN THE MAXIMUM O.D. OF THE CARRIER PIPE AND THE CASING WALL.
  - POSITIONING OF THE SPACERS SHALL ENSURE THAT THE CARRIER PIPE IS ADEQUATELY SUPPORTED THROUGHOUT ITS LENGTH.
  - SPACERS AT EACH END SHALL NOT BE FURTHER THAN 12" FROM THE END OF THE CASING.
  - CASING SPACERS SHALL BE INSTALLED IN THE CENTER OF THE PIPE SECTION. THE MAXIMUM SPACING OF THE CASING SPACERS SHALL BE 3 FEET.
- THE TWO ENDS OF THE CASING PIPE SHALL BE SEALED WATERTIGHT WITH AN ADVANCED PRODUCTS SYSTEM, INC. MODEL AZ - ZIPPER, PSI MODEL C END SEAL, OR AN APPROVED EQUAL.



GENERAL NOTES FOR BACKFILL

TABLE 1 BEDDING AND INITIAL BACKFILL (BELOW PIPE TO 12" ABOVE PIPE)		TABLE 2 FINAL BACKFILL (GREATER THAN 12" ABOVE PIPE)	
UNPAVED AREAS		UNPAVED AREAS	PAVED AREAS
ALL BEDDING AND INITIAL BACKFILL SHALL CONSIST OF THE FOLLOWING OR REFER TO DESIGN ENGINEER REQUIREMENTS: GRANULAR BACKFILL CONSISTING OF EITHER NATURAL SAND OR SANDY GRAVEL, OR MATERIAL PRODUCED BY CRUSHING OF NATURAL STONE OR GRAVEL:		A. FROM 12" ABOVE PIPE TO BOTTOM OF TOPSOIL BACKFILL SHALL BE APPROVED SELECT MATERIAL FROM THE EXCAVATION; OR IMPORTED MATERIAL; ALL TO BE FREE OF ROCKS, DEBRIS, OR ANY CLUMPS GREATER THAN 2" IN DIAMETER; LOOSE LIFTS TO BE PLACED 10" MAX.	
① EXCAVATIONS <20 FT. DEEP AND ABOVE WATER TABLE, USE MATERIAL MEETING THE FOLLOWING CRITERIA:		A. FROM 12" ABOVE PIPE TO 3' BELOW BOTTOM OF ROAD BASE: BACKFILL SHALL BE SELECT MATERIAL FROM EXCAVATION OR IMPORTED MATERIAL. IN EITHER CASE, ALL MATERIAL SHALL MEET THE FOLLOWING:  LL<35 PI 8-20 NO CLUMPS > 2" DIA. MOISTURE - 1 TO +3% COMPACT 95% D698 STD PROCTOR	
MEETING REQUIREMENTS OF ASTM D2487 FOR:  SP GP SW GW SP-SM GP-GM SW-SM GW-GM		LOOSE LIFTS OF 12" MAX OR IF SELECT MATERIAL FROM EXCAVATION DOES NOT MEET REQUIREMENTS, THEN USE CEMENT STABILIZED SAND. SEE TABLE 2-ITEM B BELOW.	
AND IN ADDITION: PASSING 1/2" SIEVE - 100% PASSING #4 SIEVE - 30% MINIMUM PLASTICITY INDEX (PI) - NP TO 10 MAX.		BACKFILL SHALL BE CEMENT STABILIZED SAND (1.5 SK/CY.) AND SHALL MEET THE FOLLOWING REQUIREMENTS:  SAND GRADATION: % PASSING #4 55-100 #10 40-100 #40 25-100 #200 10-20 PI NP-10	
② IN DEEP EXCAVATIONS (>20') OR BELOW WATER TABLE, USE CRUSHED STONE OR CRUSHED GRAVEL MEETING GRADATION OF:		B. TOPSOIL TO BE PROVIDED EQUAL OR BETTER THAN EXISTING; AND MATCH EXISTING TOPSOIL DEPTH. COMPACT TO EXISTING ADJACENT TOP-SOIL THICKNESS. (CONSTRUCTION TO BE PERFORMED BY "DOUBLE DITCH" METHOD-TOP SOIL SALVAGED TO BE PLACED ON TOP)	
A. CONCRETE COARSE AGGREGATE; TXDOT ITEM 421; GRADE 2, 3, OR 4.		COMPACT TO 95% OF D588. MOISTURE TO BE ADJUSTED TO TO (+/-2%) OF OPTIMUM.	
OR			
B. CRUSHED LIMESTONE PER TXDOT ITEM 421' GRADE 2, 3, OR 4.			

RECORD DRAWING NO.

TBD

CITY PROJECT # TBD

NO.	REVISIONS	BY	DATE



12/09/2018

US 181 HARBOR BRIDGE  
CITY OF CORPUS CHRISTI  
1H 37 EBRF  
N PORT AVE TO DOSS ST  
WASTEWATER PACKAGE WW16  
WASTEWATER RELOCATION PLAN  
STANDARD DETAILS  
SHEET 4 OF 4



FLATIRON/Dragados LLC

KCI TECHNOLOGIES, INC.  
13750 SAN PEDRO AVENUE - SUITE 640  
SAN ANTONIO, TX 78232 - 210.544.5751  
TEXAS REGISTERED ENGINEERING FIRM  
TBPE FIRM No. F-10573  
www.kci.com

SHEET 12 OF 12

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	HP X597 (1)	WW16-12
STATE	STATE DIST. NO.	COUNTY
TEXAS	CRP	NUECES
CONT.	SECT	JOB
0101	06	095
		HIGHWAY NO.
		US181