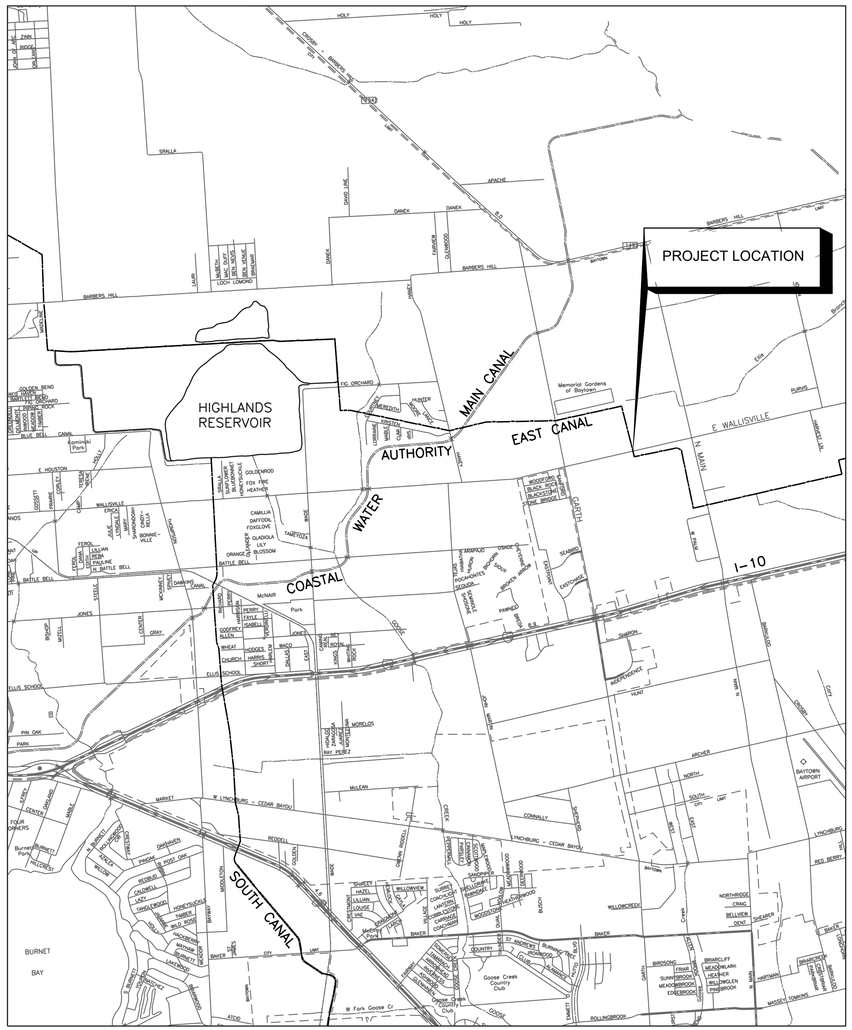
SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION
WALLISVILLE ROAD SIPHON IMPROVEMENTS
CSP NO. 18-0111
CONTRACT NO. 18-0111



N

LOCATION MAP
KEY MAP #461Q
SCALE: 1"=3000'
GRAPHIC SCALE IN FEET
0 3000 6000

RELEASED FOR PROPOSALS
SEPTEMBER 2018

DIRECTORS

LLOYD B. TISDALE	PRESIDENT
RONNIE ANDERSON	VICE PRESIDENT
JIM ALEXANDER	SECRETARY
ED BOULWARE	ASSISTANT SECRETARY
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GENERAL MANAGER: JACE A. HOUSTON

ONE-CALL NOTIFICATION SYSTEM
CALL BEFORE YOU DIG!!!
(713) 223-4567
(New Statewide Number Outside Houston)
1-800-545-6005

48 HOUR NOTICE:
CONTRACTOR SHALL NOTIFY HARRIS COUNTY PRIOR TO COMMENCING CONSTRUCTION AND/OR BACKFILLING ANY UTILITIES. CONTRACTOR(S) TO CONTACT PUBLIC REVIEW DEPARTMENT @ (713-274-3931) (public.review@hcpid.org)

TEXAS WATER ENGINEERING, PLLC.
Texas Registered Engineering Firm F-8482

STATE OF TEXAS
ABIGAIL L. CROCKETT
115591
LICENSED
PROFESSIONAL ENGINEER
9/21/2018

COVER

SHEET
SEQ. 1 OF 21

INDEX OF SHEETS

PROJECT DESCRIPTION

1. THE WORK OF THIS CONTRACT IS BASED UPON AN IDENTIFIED NEED TO REPLACE THE EXISTING SIPHON PIPE AND STRUCTURES TO ACCOMMODATE THE WIDENING OF WALLISVILLE ROAD BY HARRIS COUNTY. THE COUNTY ROAD AT THIS LOCATION WILL INCORPORATE A PROPOSED UNDERGROUND STORM SEWER THAT IS IN CONFLICT WITH THE EXISTING SIPHON. IN PREPARATION OF THE ROAD CONSTRUCTION, THE WORK DESCRIBED IN THIS CONTRACT INCLUDES THE FOLLOWING:
   - 1.1. INSTALLATION OF TEMPORARY COFFERDAM AROUND WORK AREA AND MAINTENANCE OF FULL CANAL FLOW CAPACITY THROUGH EXISTING 48-INCH SIPHON PIPE; PERFORM CANAL GRADING WITHIN SJRA EASEMENT LIMITS AS NECESSARY FOR BYPASS OF CANAL FLOW.
   - 1.2. INSTALLATION OF TWO (2) NEW CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR (CCFRPM) PIPES USING TRENCHLESS CONSTRUCTION METHODS WITHIN THE EXISTING ROAD RIGHT-OF-WAY LIMITS AND OPEN EXCAVATION METHODS BEYOND THE EXISTING ROAD RIGHT-OF-WAY LIMITS.
   - 1.3. CONSTRUCTION OF REINFORCED CONCRETE INTAKE (INCLUDING WATER CONTROL GATES) AND DISCHARGE STRUCTURES WITH STOP LOG RAILS AND STAFF GAUGES.
   - 1.4. LEAK TESTING OF WATER CONTROL GATES.
   - 1.5. DRY FITTING AND LEAK TESTING OF STOP LOG RAILS USING STOP LOGS PROVIDED BY OWNER. CONTRACTOR SHALL NOTIFY OWNER A MINIMUM OF 48 HOURS IN ADVANCE OF FITTING AND TESTING OPERATIONS.
   - 1.6. INSTALLATION OF TRAFFIC-RATED PULL BOXES, CONDUIT, AND REINFORCED CONCRETE SLAB FOR FUTURE SCADA EQUIPMENT.
   - 1.7. ASSOCIATED CANAL GRADING WORK, GEOTEXTILE/RIPRAP PLACEMENT, AND HYDRO-MULCHING OF DISTURBED AREAS.
   - 1.8. INSTALLATION OF 8" THICK CRUSHED CONCRETE BASE COURSE AND GEOTEXTILE FABRIC AROUND INTAKE AND DISCHARGE STRUCTURES.

SURVEY/CONTROL NOTES

1. THE SURVEY WAS PROVIDED BY S&V SURVEYING, INC. ON FEBRUARY 21, 2018.
2. SHOWN ELEVATIONS ARE BASED ON HARRIS COUNTY FLOOD CONTROL MONUMENT RM 160275, WITH A PUBLISHED ELEVATION OF 33.25 FEET, NAVD 88 (2001 ADJUSTMENT).
3. HORIZONTAL COORDINATES SHOWN ARE BASED ON STATE PLANE COORDINATES, TEXAS SOUTH-CENTRAL (ZONE 4204), GROUND COORDINATES AND MAY BE BROUGHT TO GRID USING A SCALE FACTOR OF 0.99990166.
4. THE FOLLOWING SURVEY CONTROL POINTS WERE USED:
   - 4.1. SURVEY CONTROL POINT #101: ⅝" IRON ROD SET ON NORTH SIDE OF WALLISVILLE RD: NORTHING:13870005.97, EASTING: 3244487.87, ELEVATION: 33.97
   - 4.2. SURVEY CONTROL POINT #102: ⅝" IRON ROD SET ON SOUTH SIDE OF WALLISVILLE RD: NORTHING: 13869774.31, EASTING: 3243721.54, ELEVATION: 34.29
5. ONE CALL TICKETS FOR UTILITY LOCATION FOR THIS PROJECT WERE DONE THROUGH LONE STAR 811 WITH TICKET NUMBERS 571684371, 571684411, 571684446, AND 571684239.
6. THE SHOWN LOCATIONS OF UNDERGROUND UTILITY LINES ARE BASED ON BEST AVAILABLE INFORMATION; SEE SHEET C-1 FOR POTHOLING DATA. CONTRACTOR SHALL VERIFY UTILITY LOCATIONS BEFORE COMMENCING WITH WORK.
7. CONTRACTOR IS RESPONSIBLE FOR PROVIDING CONSTRUCTION STAKING. CONTRACTOR WILL VERIFY ACTUAL CONDITIONS WITH STAKING INCLUDING THE LIMITS OF ROAD RIGHT-OF-WAY AND EASEMENTS/LIMITS OF CONSTRUCTION.

DEMOLITION NOTES

1. CONTRACTOR SHALL COMPLETELY REMOVE AND PROPERLY DISPOSE OF ALL STRUCTURES DESIGNATED FOR DEMOLITION AS INDICATED ON THE DEMOLITION PLAN.
2. ALL DEMOLISHED STRUCTURES AND NON-SALVAGED EQUIPMENT AS WELL AS EXCESS EXCAVATED SOILS SHALL BE REMOVED AND DISPOSED OF OFF SITE IMMEDIATELY IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS, REGULATIONS AND OTHER ORDINANCES AT NO ADDITIONAL COST TO SJRA. FURNISH WRITTEN VERIFICATION FROM THE DISPOSAL SITE OWNER AUTHORIZING THE CONTRACTOR TO DISPOSE OF MATERIALS AT THAT LOCATION BEFORE AND AFTER PLACEMENT.

UTILITY/SIPHON PROJECT NOTES

1. CONTRACTOR SHALL PROVIDE ANY/ALL PIPE, EQUIPMENT, FITTINGS, ADAPTERS, SUPPORTS AND APPURTENANCES REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM, AS PROPOSED IN THE CONSTRUCTION DRAWINGS.
2. DO NOT EXCEED 75 PERCENT OF MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION FOR PIPE JOINTS, UNLESS NOTED OTHERWISE.
3. PIPES DESIGNATED TO BE DEMOLISHED SHALL BE COMPLETELY REMOVED, UNLESS OTHERWISE SHOWN IN DRAWINGS OR APPROVED BY SJRA AND THE PRINCIPAL ARCHITECT/ENGINEER.

CARE OF WATER NOTES

1. WATER, IN RELATION TO THESE CONTRACT DOCUMENTS, INCLUDES: GROUNDWATER, SURFACE WATER, CANAL WATER, AND WATER IN CONDUIT SYSTEMS (WHETHER IT BE A NEW, TEMPORARY, OR EXISTING SYSTEM).
2. DUE TO THE DAILY WATER DEMAND OF SJRA'S INDUSTRIAL CUSTOMERS, ALL CONSTRUCTION SHALL TAKE PLACE WHILE THE RESPECTIVE HIGHLANDS DIVISION CANAL SEGMENT IS IN FULL OPERATION. CONSEQUENTLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A TEMPORARY BYPASS SYSTEM THAT IS CAPABLE OF CONVEYING CANAL FLOW UP TO 19.5 MGD WITH A WATER SURFACE ELEVATION NOT TO EXCEED 35 FT IMMEDIATELY UPSTREAM OF THE SIPHON THROUGHOUT THE DURATION OF CONSTRUCTION. THE CONTRACTOR CANNOT RELY ON ANY REDUCTION OR SHUT DOWN OF CANAL FLOW IN ORDER TO INSTALL CARE OF WATER SYSTEM OR TO PERFORM ANY PORTION OF THE CONTRACTED WORK. THE CONTRACTOR'S TEMPORARY BYPASS SYSTEM WILL LIKELY BE DEVELOPED IN CONJUNCTION WITH MEASURES TO PROTECT WORK FROM SURFACE WATER AND GROUNDWATER. THE CONTRACTOR SHALL DEVELOP A COMPREHENSIVE CARE OF WATER PLAN IN ACCORDANCE WITH SPECIFICATION SECTION 01 57 23.02 – CONTROL OF GROUND AND SURFACE WATER TO BE PREPARED BY A STATE OF TEXAS REGISTERED PROFESSIONAL ENGINEER AND REVIEWED BY SJRA AND THE PRINCIPAL ARCHITECT/ENGINEER PRIOR TO THE COMMENCEMENT OF ANY FIELD WORK.
3. THE CONTRACTOR SHOULD CONSIDER THE CONDITION OF THE EXISTING PIPE WHEN DEVELOPING HIS CARE OF WATER PLAN AND SHOULD AVOID SUBJECTING THE PIPE TO HIGHER PRESSURES THAN NORMAL OPERATING CONDITIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE EFFECTIVENESS OF HIS CARE OF WATER PLAN. THE EXISTING PIPE MAY CONTAIN SILT AND DEBRIS; CONTRACTOR IS RESPONSIBLE FOR KEEPING SIPHON CLEAR OF DEBRIS DURING CONSTRUCTION.
4. A GEOTECHNICAL INVESTIGATION WAS PERFORMED BY AVILES ENGINEERING CORP. IN 2018; THE REPORT (DATED AUGUST 2018) ASSOCIATED WITH THESE EFFORTS IS AVAILABLE FOR THE CONTRACTOR'S INFORMATION.
5. GEOTECHNICAL INVESTIGATIONS IN THE PROJECT AREA SUGGEST THAT A SILT LAYER (2 TO 4 FT THICK) MAY BE PRESENT APPROXIMATELY 14 TO 18 FT BELOW TOP OF BANK. CONTRACTOR'S CONSTRUCTION MEANS AND METHODS SHALL CONSIDER AND ADDRESS PRESENCE OF POTENTIAL SILT LAYER.
6. GEOTECHNICAL INVESTIGATIONS IN THE PROJECT AREA SUGGEST THAT THE CONTRACTOR MAY ENCOUNTER PRESSURIZED GROUNDWATER DURING CONSTRUCTION. AS PART OF THE CARE OF WATER PLAN, THE CONTRACTOR SHALL MINIMALLY DRAW THE GROUNDWATER LEVEL DOWN TO AN ELEVATION EQUAL TO 5 FEET BELOW THE LOWEST POINT OF EXCAVATION (FOR THE ENTIRE EXCAVATION AREA). THE CONTRACTOR SHALL DEMONSTRATE THAT SUFFICIENT GROUNDWATER CONTROL HAS BEEN ESTABLISHED AND THAT THE CONTROLLED CONDITIONS CAN BE MAINTAINED PRIOR TO THE START OF ANY WORK WITHIN THE EXCAVATION. ANY WATER PUMPED OUT OF WELL POINTS SHALL BE DISCHARGED BACK INTO SJRA CANAL.
7. THE CONTRACTOR SHALL INSTALL PIEZOMETERS TO VERIFY THAT THE GROUNDWATER LEVEL HAS BEEN DRAWN DOWN TO AN APPROPRIATE ELEVATION SO THAT THE OWNER'S REPRESENTATIVE MAY PROVIDE A NOTICE TO PROCEED. ALTERNATIVELY, FIELD LABORATORY TESTS INDICATING AN ACCEPTABLE SATURATION OF THE UNDISTURBED SOILS (I.E., NO HEAVING HAS OCCURRED FOR 7-10 DAYS) WILL SUFFICE FOR THE OWNER'S REPRESENTATIVE TO PROVIDE A NOTICE TO PROCEED.
8. CONTRACTOR SHALL DEVELOP AND EXECUTE A SOUND METHODOLOGY TO ENSURE A "DRY" AND LEAK PROOF SYSTEM AT THE INTERFACE OF THE CONTRACTOR'S COFFERDAM SYSTEM AND EMBANKMENTS, STRUCTURES, ETC. CONTRACTOR SHALL PROVE THAT HIS METHODOLOGY WILL WORK PRIOR TO PROCEEDING WITH SUBSEQUENT CONSTRUCTION STEPS INVOLVING THE POSITIVE SEAL OF THIS INTERFACE.
9. THE SJRA MAY REQUIRE THE CONTRACTOR TO MONITOR THE TURBIDITY OF THE CANAL WATER BEFORE, DURING, AND/OR AFTER THE PERFORMANCE OF ANY EARTHWORK ASSOCIATED WITH THE PROJECT (I.E. INSTALLATION/REMOVAL OF EARTHEN COFFERDAMS, REGRADING CANAL EMBANKMENTS, ETC.). THE CONTRACTOR SHOULD COORDINATE WITH SJRA FOR THE ACCEPTABLE THRESHOLD OF TOTAL SUSPENDED SOLIDS IN THE SJRA CANAL.

EARTHWORK NOTES

1. EXISTING CONTOURS IN PLANS ARE SHOWN FOR TERRAIN RELIEF ONLY; ALL ELEVATIONS SHOULD BE VERIFIED BY CONTRACTOR.
2. PROPOSED CONTOUR LINES, SPOT ELEVATIONS AND SLOPE INDICATORS REPRESENT FINISHED GRADES AS INDICATED ON THE PLANS.
3. CONTRACTOR SHALL PROVIDE ANY/ALL TEMPORARY SLOPE PROTECTION (INCLUDING SHEET PILING) NECESSARY TO PREVENT EMBANKMENTS FROM SLOUGHING DURING CONSTRUCTION. TEMPORARY MEASURES ARE TO BE REMOVED WHEN CONSTRUCTION IS COMPLETED. CONTRACTOR'S FAILURE TO ADEQUATELY PROTECT/MAINTAIN SLOPES WHICH RESULTS IN SLOUGHING SHALL BE REPAIRED BY THE CONTRACTOR UNDER SJRA'S DIRECTION AT NO COST TO SJRA.
4. CONTRACTOR MAY USE TEMPORARY ALL-WEATHER SURFACE TREATMENT ON THE CREST OF THE CANAL EMBANKMENTS WITHIN THE CONSTRUCTION LIMITS. MATERIALS TO BE USED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY PRINCIPAL ARCHITECT/ENGINEER PRIOR TO INSTALLATION. ALL MEASURES USED TO STABILIZE THE CANAL EMBANKMENTS SHALL BE REMOVED UPON PROJECT COMPLETION, AND THE CANAL EMBANKMENTS SHALL BE RETURNED TO EQUAL OR BETTER CONDITION THAN FOUND BEFORE CONSTRUCTION AND AS SHOWN ON DRAWINGS. . ALL DISTURBED AREAS SHALL BE SEEDED, HYDROMULCHED, ETC. PER THE CONTRACT DOCUMENTS.
5. THE CONTRACTOR SHALL NOT DISPOSE OF ANY EXCAVATED MATERIALS WITHIN AN AREA DESIGNATED AS BEING WITHIN THE 100-YEAR FLOOD PLAIN. THE CONTRACTOR SHOULD VERIFY THE FLOOD PLAIN STATUS OF ANY PROPOSED DISPOSAL SITE.

RFP SUBMITTAL

TEXAS WATER ENGINEERING, PLLC.
Texas Registered Engineering Firm F-8482

STATE OF TEXAS
ABIGAIL L. CROCKETT
115591
LICENSED
PROFESSIONAL ENGINEER
9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

SJRA PROJECT NO:	
FILE NAME: SJRA-WALLISVILLE-SHTINDEX.dwg	
DRAWN BY: AC	AC
CHECKED BY: VF	VF
SCALE:	AS SHOWN

GENERAL
SHEET INDEX & PROJECT NOTES

SHEET G-1
SEQ. 2 OF 21

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-SHTINDEX.dwg LAYOUT: Layout1 DATE: 9/21/18 BY: ABBY CROCKETT

Date: Sep 21, 2018 - 12:25pm User: Abby Crockett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-SHTINDEX.dwg

1. PAVING

(FOR H.C. PUBLIC R.O.W. ONLY)

DESIGN THICKNESS OF PAVING	STABILIZED SUBGRADE DEPTH	DESIGN STRENGTH OF CONCRETE	STEEL SPACING		REINFORCE STEEL SIZE
			LONG.	TRANS.	
(IN.)	(IN.)	(PSI)	(IN.)	(IN.)	(#4 MIN.)

DRIVEWAYS (in H.C. ROW only)

I. NUMBER OF DRIVEWAY APPROACHES PROPOSED INCLUDE WIDENING OR REPAVING EXISTING DRIVEWAYS AS WELL AS NEW DRIVEWAYS

DRWY	WIDTH	MATERIAL	CULVERT?	CULVERT LENGTH	NEAREST X-STREET	DIST. TO X-STREET
1						
2						
3						
4						
5						

II. HARRIS COUNTY STANDARD DRIVEWAY DETAIL APPEARS ON SHEET ____

FIRE APPARATUS ACCESS ROAD

☐ REQUIRED AND SHOWN ON SHEET(S) _____
☐ NOT REQUIRED DUE TO _____

CURBING

I. ISLANDS AND MEDIANS REQUIRE STANDARD 6" CURBING

II. ☐ STANDARD 6" CURBING PROPOSED
☐ 4" / 12" CURBING PROPOSED EXCEPT AT MEDIANS AND ISLANDS

TRAFFIC CONSIDERATIONS

I. MEDIAN CUTS
☒ NO MEDIAN CUT OR RELOCATION IS PROPOSED
☐ MEDIAN MODIFICATIONS ARE SHOWN ON SHEET _____

II. LEFT / RIGHT TURN LANE
☒ NO LEFT / RIGHT TURN LANE IS PROPOSED
☐ LEFT / RIGHT TURN LANE IS SHOWN ON SHEET _____

III. TRAFFIC CONTROL PLAN
☐ NO WORK IN THE RIGHT OF WAY IS PROPOSED THAT WOULD INTERFERE WITH TRAFFIC FLOW
☒ TRAFFIC CONTROL SHOWN ON SHEET TCP-1

IV. TRAFFIC SIGNAL
☒ NO TRAFFIC SIGNAL IS EXISTING / PROPOSED
☐ EXISTING TRAFFIC SIGNAL DEVICES (T.C. BOXES AND LOOPS) SHOWN ON SHEET _____
☐ PROPOSED TRAFFIC SIGNAL (BY OTHERS)

V. TRAFFIC IMPACT ANALYSIS
☒ NO TRAFFIC IMPACT ANALYSIS IS REQUIRED
☐ TRAFFIC IMPACT ANALYSIS HAS BEEN APPROVED ON DATE:_____
PLAN TITLE: _____
HCPID PROJECT NO.: _____

2. RESIDENTIAL / SUBDIVISION DRAINAGE

I. PROPOSED DRAINAGE SYSTEM TYPE
☐ STORM SEWER
☐ ROADSIDE DITCH
☐ LOW IMPACT DEVELOPMENT (LID)

II. DESIGN METHOD USED
☐ CITY OF HOUSTON ____ YEAR FREQUENCY
☐ OTHER: _____

III. DRAINAGE SYSTEM OUTFALLS DIRECTLY TO EXISTING
☐ DETENTION POND (APPROVED H.C. PRJ NO.): _____
DETENTION POND MAINTAINED BY: _____
☐ HCFCD DRAINAGE DITCH UNIT NO.: _____
☐ H.C. ROADSIDE DITCH (ROAD NAME): _____
☐ H.C. STORM SEWER (APPROVED H.C. PRJ NO.): _____

IV. H.C. OUTFALL CALCULATIONS
☐ ROADSIDE DITCH OUTFALL:
ALLOWABLE OUTFALL RATE: 0.0027 x _____ LF Frontage = _____ (CFS)
PROPOSED OUTFALL RATE: _____ (CFS), CALCULATIONS PROVIDED ON SHEET ___
☐ STORM SEWER OUTFALL
CAPACITY ALLOCATED TO TRACT FROM D. A. MAP: _____ (CFS)
FROM DRAINAGE AREA MAP DATED: _____
PREPARED BY: _____
APPROVED H.C. PROJECT NO.: _____
ACTUAL OUTFALL RATE: _____ (CFS), CALCULATIONS PROVIDED ON SHEET ___

V. DETENTION PROVIDED BY
☐ DETENTION BASIN IS PART THIS PLAN SET. SERVICE AREA MAP IS ON SHEET ___
☐ REGIONAL DETENTION BASIN SYSTEM (APPROVED H.C. PRJ NO.): _____

PROPOSED STORM SEWER IS SUBMERGED (AGREEMENT MUST BE PROVIDED).
STATIC W.S.E. @ OUTFALL IS _____

OFFSITE SHEET FLOW: (100 YEAR)

OFFSITE SHEET FLOW MAPPING, TOTAL DISCHARGE CALCULATIONS, AND DESIGN ACCOMODATIONS ARE SHOWN ON SHEET ____ OR, AS PRESENTED IN THE APPROVED DRAINAGE STUDY ENTITLED _____.

TOTAL ACREAGE = ____
TOTAL DISCHARGE = ____

NOTE: ALL OFFSITE SHEET FLOW FROM ADJACENT PROPERTIES MUST BE IDENTIFIED AND PROPERLY ACCOUNTED FOR IN THE PROJECT. THE SIGNING ENGINEER HEREBY CERTIFIES THAT THESE AREAS HAVE BEEN ADDRESSED.

3. COMMERCIAL / OTHER SITE DRAINAGE

I. PROPOSED DRAINAGE AREA
☐ NEW DEVELOPMENT AREA: _____
☐ RE-DEVELOPMENT AREA (AMOUNT INCREASED IMPERVIOUS AREA): _____
☐ LOW IMPACT DEVELOPMENT (LID)

II. DETENTION VOLUME
NEW AREA ____ X ____ * = _____ ACRE FEET
DETENTION REQUIRED
* ☐ .55 (CHANNEL)
* ☐ .65 (STM SWR)
* ☐ 1.00 (RD. DITCH)
* ☐ OTHER: ____
PROPOSED DETENTION VOLUME = _____ ACRE FEET
PROPOSED DETENTION VOLUME CALCULATIONS ARE SHOWN ON SHEET _____
DETENTION VOLUME PROVIDED BY EXISTING DETENTION POND
APPROVED H.C. PROJECT NO.: _____
DETENTION POND SERVICE AREA MAP IS PROVIDED ON SHEET ____

III. OUTFALL
OUTFALL TO ☐ H.C. ROADSIDE DITCH
☐ EXISTING H.C. STORM SEWER
☐ OTHER _____
☐ ROADSIDE DITCH OUTFALL:
ALLOWABLE OUTFALL RATE: 0.0027 x ____ LF Frontage = _____ (CFS)
PROPOSED OUTFALL RATE: _____ (CFS), CALCULATIONS PROVIDED ON SHEET ___
☐ STORM SEWER OUTFALL
CAPACITY ALLOCATED TO TRACT FROM D. A. MAP: _____ (CFS)
FROM DRAINAGE AREA MAP DATED: _____
PREPARED BY: _____
APPROVED H.C. PROJECT NO.: _____
ACTUAL OUTFALL RATE: _____ (CFS), CALCULATIONS PROVIDED ON SHEET ___

IV. PUMPED DETENTION FACILITIES
VOLUME THAT GRAVITY FLOWS: _____ ACRE FEET
VOLUME THAT IS PUMPED: _____ ACRE FEET
ENTRANCE VELOCITY INTO ROADSIDE DITCH OR STORM SEWER: _____
PUMP SPECIFICATIONS AND AUTOMATIC SHUTOFF PLAN FOR ROADSIDE DITCH & STORM SEWER OUTFALLS APPEAR ON SHEET _____

V. FLOW RESTRICTOR SIZE
OUTFALL PIPE SIZE: _____
RESTRICTOR PIPE SIZE: _____

NOTE: ALL ROADSIDE DITCH OUTFALLS REQUIRE EROSION CONTROL MEASURES. RIPRAP IS NOT ALLOWED AS AN EROSION CONTROL MEASURE IN HARRIS COUNTY ROW. ALL PUMPED DETENTION OUTFALLS TO ROADSIDE DITCHES REQUIRE MANHOLE W/ LEADS.

4. WATER AND WASTEWATER

I. COMMERCIAL PROJECTS

DOES PROPERTY HAVE EXISTING AND/OR PROPOSED UTILITIES?
☐ YES ☐ NO

IF YES, CHECK THE BOX THAT APPLIES TO THIS PROJECT
☐ PUBLIC WATER & SANITARY
☐ PRIVATE WATER WELL & SEPTIC SYSTEM
☐ PUBLIC WATER & PRIVATE SEPTIC SYSTEM
☐ PRIVATE WATER WELL & PUBLIC SANITARY

NOTE: PUBLIC UTILITIES REQUIRE A LETTER FROM THE DISTRICT / MUNICIPALITY AUTHORIZING SERVICE & CONNECTION. THIS IS REQUIRED FOR PLAN APPROVAL.

UTILITY DISTRICT/MUNICIPALITY NAME: _____

NOTE: SEPTIC SYSTEMS REQUIRE H.C. WASTE WATER REVIEW
H.C. SEPTIC PERMIT/REQUEST NO. _____

H.C. WASTE WATER REVIEWER APPROVAL
NAME & DATE: _____
REVIEWER COMMENTS: _____

NOTE: ALL EXISTING AND PROPOSED UTILITIES MUST BE ACCURATELY SHOWN & LABELED ON THE SITE PLANS.

II. SUBDIVISION PROJECTS

☐ UTILITY DISTRICT/MUNICIPALITY NAME: _____
☐ PRIVATE WATER & WASTE WATER SYSTEMS
☐ PRIVATE WATER & INDIVIDUAL OSSF
☐ INDIVIDUAL WATER WELL & OSSF

NOTE: A COPY OF TCEQ APPROVAL FOR PRIVATE WATER & WASTEWATER SYSTEMS IS REQUIRED FOR PLAN APPROVAL.

NOTE: DEDICATED UNDERGROUND FIRE LINES MUST BE SUBMITTED TO THE HARRIS COUNTY FIRE PROTECTION GROUP FOR REVIEW AND PERMITTING BY THE UNDERGROUND FIRE LINE CONTRACTOR. CIVIL REFIEWE DOES *NOT* REVIEW OR APPROVE UNDERGROUND FIRE LINES FOR THE FIRE PROTECTION SYSTEMS.

5. DESCRIPTION OF PROPERTY

I. LEGAL DESCRIPTION
A. ACREAGE: 11.87 ACRES NORTH OF WALLISVILLE AND 14.18 ACRES SOUTH OF WALLISVILLE RD.
B. ☐ SUBDIVISION: _____
☒ SURVEY & ABSTRACT: 11.87 AC TRACT: 955321002 VOL 6412, PG 112 HCDR
14.18 AC TRACT: 551151011 VOL 765418, PG 71 HCDR
C. ADJACENT ROADS: WALLISVILLE RD.

II. PLATTING
A. SUBDIVISION PLAT
☐ PROPOSED PLAT / REPLAT
☐ RECORDED PLAT / REPLAT
PLAT NAME: _____
B. STREETS PROPOSED
☐ PUBLIC
☐ PRIVATE
☐ PUBLIC & PRIVATE
☐ NONE

III. JURISDICTIONS
☐ CITY OF _____
☐ ETJ, CITY OF HOUSTON
☐ ETJ, CITY OF _____
☐ NO ETJ

IV. HCAD ACCOUNT NO.: (ALL) KEY MAP PAGE _____

V. UNOBSTRUCTED VISIBILITY EASEMENT (U.V.E.)
☐ REQUIRED AND SHOWN ON SHEET(S) _____
☐ NOT REQUIRED

NOTE: ALL APPROVED, FINAL PLATS AND ASSOCIATED CPC101 FORMS MUST BE INCLUDED WITH PLAT SUBMITTAL.

☐ CONFORMING SUBDIVISION
☐ NON-CONFORMING SUBDIVISION
☐ PARTIALLY NON-CONFORMING SUBDIVISION

6. STORMWATER QUALITY

I. SWPPP: CONSTRUCTION MEASURES. (Complete for ALL projects)
☒ DISTURBS >1AC. SITE PLAN & DETAILS ON SHEET(S) SW-1
☐ DISTURBS <1AC. N/A

II. APPLICABILITY FOR PERMANENT FEATURES. (must be completed on all projects)
EXEMPT NEW DEVELOPMENT:
☐ PROJECT IS ON A PARCEL (A COMMON PLAN OF DEVELOPMENT) LESS THAN 5 ACRES. (must be verified with plat)
EXEMPT REDEVELOPMENT:
☒ PROJECT DOES NOT MEET THE DEFINITION OF SIGNIFICANT REDEVELOPMENT (Part A, Sec. 2.39 of Regulations of Harris County, Texas for Stormwater Quality Management)
EXEMPT GRANDFATHERED:
☐ PROJECT'S DRAINAGE TIES DIRECTLY INTO AN EXISTING DRAINAGE SYSTEM PRIOR TO OCTOBER 1, 2001.
(FOR VERIFICATION: PROVIDE ORIGINAL DRAINAGE AREA MAP INCLUDING CALCULATIONS)
GENERAL:
☐ PROJECT'S SWQ REQUIREMENTS FALL WITHIN THE JURISDICTION OF: _____
☐ STORMWATER QUALITY PERMIT REQUIREMENT IS COVERED BY AN EXISTING SWQMP WITHIN PROJECT TITLE: _____
HARRIS COUNTY PROJECT NO. _____ & SWQ PERMIT NO. _____
STORMWATER QUALITY MANAGEMENT PLAN:
☐ SITE PLAN ON SHEET(S) _____

III. PERMANENT SWQ FEATURES. (COMPLETE IF NOT EXEMPT)
☐ VEGETATIVE CONTROLS USED (FILTER STRIP, GRASSY SWALE, URBAN FORESTRY) DETAILS AND CALCULATIONS APPEAR ON SHEET(S) _____
☐ POND STRUCTURE USED (WET, DRY, WETLANDS) DETAILS AND CALCULATIONS APPEAR ON SHEET(S) _____
☐ HYDRODYNAMIC TYPE SEPARATOR MODEL: _____
☐ OTHER(S): _____

7. FLOOD CONTROL DISTRICT CRITERIA

I. DETENTION SUMMARY

STORMWATER DETENTION BASIN ROUTING TABLE
DETENTION BASIN DRAINAGE AREA = _____ ACRES MAX BASIN DRAIN TIME (100-YR EVENT) = _____ HOURS

RAINFALL EVENT PROBABILITY	PRE-DEVELOPED PEAK RUNOFF (CFS)	POST-DEVELOPED PEAK RUNOFF (CFS)	DETENTION BASIN PEAK OUTFLOW (CFS)	MAXIMUM WATER SURFACE ELEVATION	PEAK STORAGE VOLUME (AC-FT)	STORAGE RATE (AC-FT PER AC)
10% EXCEEDANCE (10-YEAR)						
1% EXCEEDANCE (100-YEAR)						

ADDITIONAL CRITERIA FOR PURPOSED DETENTION BASINS:
VOLUME OF PUMPED 1% EXCEEDANCE STORAGE VOLUME = _____AC-FT _____% OF TOTAL VOLUME
MAXIMUM DESIGN OUTFLOW VELOCITY INTO HCFCD CHANNEL = _____FT./SEC.
DRAIN TIME FOR BASIN = _____ HOURS BASED ON _____ HEAD CONDITIONS.

STORMWATER DRAINAGE DESIGN REPORT

REPORT TITLE _____
REPORT DATE _____ ENGINEERING FIRM _____
DATE OF ACCEPTANCE BY HCFCD OR FLOODPLAIN ADMINISTRATOR: _____ HCFCD PROJECT #_____

STORMWATER DETENTION FOR THE PROPOSED WORK CONTAINED IN THESE PLANS IS PROVIDED BY OTHER PLANS:
PLAN TITLE _____
ENGINEERING FIRM _____ DATE SIGNED BY HCFCD _____ HCFCD PROJECT # _____

II. HCFCD STANDARD NOTES: SEE SHEET _____ OF THESE PLANS.

III. HCFCD STANDARD DETAILS: SEE SHEET _____ OF THESE PLANS.

IV. REFER TO PLAN SHEETS: _____ FOR EXISTING AND PROPOSED RIGHT OF WAY DELINEATION AND COMPLETE RECORDING INFORMATION TO INCLUDE CLERK'S FILE NUMBERS, TYPE OF ESTATE (e.g., DRAINAGE EASEMENT, FEE STRIP, ETC.) AND GRANTEE (e.g. COH, HCFCD, PUBLIC, TXDOT, ETC.)

NOTES:
I. COMPLETE ONLY IF HCFCD OR HARRIS COUNTY IS REQUIRING DETENTION.
II. COMPLETE ONLY IF PROJECT HAS WITHIN IT OR IS IMMEDIATELY ADJACENT TO AN EXISTING OR PROPOSED HCFCD MAINTAINED CHANNEL OR DETENTION BASIN.
III. COMPLETE ONLY IF PROJECT INCLUDES NEW OUTFALL, BACKSLOPE, INTERCEPTOR OR OTHER RELATED WORK WITHIN AN EXISTING OR PROPOSED HCFCD MAINTAINED CHANNEL OR DETENTION BASIN.
IV. COMPLETE ONLY IF PROJECT HAS WITHIN OR IMMEDIATELY ADJACENT TO IT AN EXISTING OR PROPOSED PUBLIC DRAINAGE CHANNEL OR DETENTION BASIN.

8. FLOOD PLAIN STATUS

I. GENERAL INFORMATION
FIRM PANEL(S) FOR PROPERTY: Panel 755; Map 48201C0755M
FIRM PANEL(S) DATE: JANUARY 6, 2017
STATUS OF PROPERTY ON MAP
☒ ENTIRELY LOCATED IN UNSHADED ZONE "X"
☐ LOCATED PARTIALLY OR ENTIRELY IN ANY "A" ZONE OR SHADED ZONE "X", DELINEATE FLOODPLAIN BOUNDARY ON CONSTRUCTION DRAWINGS (DRAINAGE LAYOUT PG. NO._____) (BASE FLOOD LEVEL_____)
☐ SITE REMOVED FROM FLOODPLAIN BY LOMR, LOMR-F, LOMA CASE NO._____ REVISED FLOODPLAIN IS SHOWN ON SHEET____
ELEVATION INFORMATION
BENCHMARK USED
☒ HARRIS COUNTY FLOODPLAIN REFERENCE MARK
☐ HARRIS-GALVESTON COASTAL SUBSIDENCE DISTRICT BENCHMARK (FOR COASTAL AREAS)
DESCRIPTION OF BENCHMARK INCLUDING ELEVATION, DATUM AND YEAR OF ADJUSTMENT (2001 ADJ.)
HARRIS COUNTY FLOODPLAIN REFERENCE MARK # 140075, 160270

II. FLOOD PLAIN DETERMINATION BASED ON GROUND ELEVATION
☒ PROPERTY LIES ENTIRELY ABOVE THE BASE FLOOD LEVEL AND IN SHADED ZONE "X"
☐ PROPERTY LIES PARTIALLY OR ENTIRELY BELOW THE BASE FLOOD LEVEL

III. FLOODPLAIN STORAGE SUMMARY (APPLIES ONLY TO PORTION OF LAND LOCATED WITHIN FLOODPLAIN AS DELINEATED BY FIRM PANEL).
A. TOTAL VOLUME OF MATERIAL PROPOSED TO BE MOVED OR PLACED WITHIN THE FIRM DELINEATED FLOODPLAIN (FILL, BASE, CONCRETE, ASPHALT, ETC.): i.e., BELOW ELEVATION _____ (2001 ADJ.) _____ CUBIC YARDS
B. TOTAL VOLUME OF MATERIAL PROPOSED TO BE REMOVED FROM THE FIRM DELINEATED FLOODPLAIN: i.e., BELOW ELEVATION _____ (2001 ADJ.) _____ CUBIC YARDS
C. FILL AREA & VOLUME CALCULATIONS ARE SHOWN ON SHEET _____

IV. ☐ LOMR REQUIRED ☐ CLOMR REQUIRED VERIFIED BY: _____

FOR PROJECTS LOCATED IN ANY FLOODPLAIN

Development constructed or placed in accordance with these plans will comply with all provisions of the Regulations of Harris County, Texas for Floodplain Management.

No net fill is allowed in the flood plain and no fill is allowed in the floodway.

FOUNDATION NOTES: (applies to only buildings or building additions requiring a class 3 permit)

All water heaters, furnaces, air conditioning units, electrical distribution panels, and any other mechanical or electrical equipment must be elevated in accordance with Section 4.05 of Harris County Floodplain regulations.

Any electrical circuit serving a light switch or outlet located below the base (100-year) flood elevation shall be dropped from above and be on a separate breaker.

All materials used below the (100-year) base flood elevation are on approved FEMA Technical Bulletin 2-08 as Class 5 water-resistant, and approved in accordance with FEMA Technical Bulletin 1-08 for foundation openings.

Critical facilities located in the 0.2% or 500yr floodplain or 1% or 100yr floodplain shall have the lowest floor elevated to 3 feet or more above the 0.2% flood elevation, or 24 inches above the crown of the adjacent road, which ever results in a higher elevation.

Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters.

Access routes elevated to or above the level of the base flood shall be provided to all critical facilities to the extent possible.

A completed as-built certificate must be submitted after the structure is complete and before it is occupied.

The County Engineer's Office will post a final inspection notice on the structure once all requirements have been met.

No fill may be used to elevate structures in the 1% or 100yr flood plain. Structures may be constructed on an open foundation, such as piers, or on continuous foundation walls with properly sized and located openings. All foundations are required to be designed by a registered professional engineer.

All structures shall be designed to withstand a three second gust basic wind speed of 120mph.

*Completed "**Elevation Certificates** to be submitted: one at permitting, a second after the slab is poured or sub-floor is installed and before the framing starts, and a third is required once construction is finished. "(PER CURRENT FIRM PANEL) to the Harris County Engineering Department, 10555 Northwest Freeway, Suite 120, Houston, TX 77092*

9. WORK IN HCFCD RIGHT-OF-WAY

I. TYPE OF WORK TO BE PERFORMED IN CHANNEL
☐ OUTFALL
☐ UTILITY CROSSING
☐ ROADWAY BRIDGE / CULVERT CROSSING
☐ FILL ACTIVITY
☐ REHABILITATION OF CHANNEL
☐ MAINTENANCE
☐ TEMPORARY CROSSING
☐ OTHER

II. USACE ENVIRONMENTAL PERMIT
☐ US ARMY CORPS ENGINEERS NATIONWIDE PERMIT NUMBER(S) _____
☐ US ARMY CORPS OF ENGINEERS INDIVIDUAL PERMITS
☐ OTHER
☐ NO PERMITS REQUIRED
EXPLAIN: _____

III. REFERENCE / BASIS OF DETERMINATION
☐ ENVIRONMENTAL CONSULTANT REPORT
BY _____
REPORT TITLE _____
REPORT DATE _____
☐ OTHER _____

NOTES:
I. – III. REQUIRED ON PROJECTS WITH WORK IN A HCFCD CHANNEL. PLEASE REFERENCE SECTION 17 OF THE FLOOD CONTROL DISTRICT POLICY, CRITERIA, AND PROCEDURE MANUAL FOR MORE INFORMATION.

10. PERMITS REQUIRED

DOES THE PROPERTY HAVE ANY VIOLATIONS? IF SO PLEASE PROVIDE ALL VIOLATION NUMBERS.

TO BE FILLED OUT BY HARRIS COUNTY
☐ STORM WATER QUALITY
☐ SEPTIC (EXISTING) ☐ SEPTIC (PROPOSED)
☐ CIVIL SITE WORK (PHASE II PERMIT CLASS I (non-floodplain))
☐ CIVIL SITE WORK (PHASE II PERMIT CLASS II (floodplain))
☐ DRIVEWAY WITH CULVERT _____ CURB AND GUTTER _____
☐ BUILDING PERMITS (NO. OF BUILDINGS = _____) ☐ CRITICAL FACILITY
☐ SUBDIVISION INFRASTRUCTURE PHASE II (NO. OF LOTS = _____)
☐ NOTICE OF DETENTION AFFIDAVIT REQUIRED
☐ MUD MAINTENANCE AGREEMENT REQUIRED
☐ HCFCD ROW NOTIFICATION PERMIT REQUIRED
NOTES: _____

WORK IN HARRIS COUNTY R.O.W.

☐ UTILITY WORK _____
☐ LEFT TURN LANE _____
☒ OTHER CONSTRUCTION SIPHON INSTALLATION BENEATH HARRIS COUNTY ROAD

NOTES:
A PERMIT IS REQUIRED FOR EACH SCOPE OF WORK ON SITE.
A NOTIFICATION IS REQUIRED FOR EACH SCOPE OF WORK IN HC OR HCFCD ROW.
REFER TO www.eng.hctx.net/permits FOR EACH SCOPE OF WORK IN HC OR IN HCFCD ROW.

11. CURB RAMPS

A. ARE CURB RAMPS THAT CONNECT TO PUBLIC STREETS PROPOSED IN THIS SET OF PLANS? [ ] YES [X] NO

12. LANDSCAPING

☐ REQUIRED AND SHOWN ON SHEET(S) _____
☒ NOT REQUIRED

BENCHMARK REQUIREMENTS FOR PROPOSED BRIDGES AND OR NEW RESIDENTIAL SUBIDIVSIONS

When the County Engineer has determined that a new benchmark will be required to be established for the proposed project, the developer shall be required to install a benchmark per section 8.0, part 2 of the Harris County Infrastructure Regulations.

Is a new Benchmark required for this project? (*to be determined by Harris County*) [__] yes [__] no

If a new Benchmark is required, the proposed benchmark information is shown on sheets ____

HARRIS COUNTY
ENGINEERING DEPARTMENT
REVIEW SHEET

VERSION 16.0 JANUARY 1, 2018

DATE	SHEET NO.	DESCRIPTION	P.E. INITIAL	H.C. APPROVED DATE

HARRIS COUNTY PROJECT NO.

SHEET NUMBER 3 OF 21

HCED SIGNATURE BLOCK

PROJECT NAME: WALLISVILLE ROAD SIPHON IMPROVEMENTS
ADDRESS: INTERSECTION OF SJRA CANAL AND WALLISVILLE ROAD. (SITE IS LOCATED BETWEEN GARTH RD. AND N. MAIN ST. IN BAYTOWN TEXAS)
WAS ACCEPTED BY THE FOLLOWING GROUPS FOR THE PURPOSES LISTED BELOW:

ENGINEERING DIVISION

BY _____ INTERPOSE NO OBJECTION DATE _____
BY _____ AS TO LOCATION OF ITEMS IN COUNTY RIGHT OF WAY DATE _____
BY _____ AS TO PAVING AND/OR DRAINAGE ONLY DATE _____
BY _____ AS TO STORM WATER QUALITY DATE _____
ADDITIONAL COMMENTS: _____

HARRIS COUNTY FLOOD CONTROL DISTRICT

INTERPOSE NO OBJECTION
BY _____ FOR ITEMS LOCATED OUTSIDE OF HCFCD RIGHT-OF-WAY DATE _____
APPROVED:
BY _____ FOR ITEMS LOCATED WITHIN EXISTING HCFCD RIGHT-OF-WAY DATE _____
APPROVED:
BY _____ FOR ITEMS LOCATED WITHIN PROPOSED HCFCD RIGHT-OF-WAY DATE _____
ADDITIONAL COMMENTS: _____

THE PROJECT WAS REVIEWED, HOWEVER, THIS DOES NOT MEAN THE ENTIRE PROJECT, INCLUDING ALL SUPPORTING DATA AND CALCULATIONS HAVE BEEN COMPLETELY CHECKED AND VERIFIED. THESE DRAWINGS ARE SIGNED, DATED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS, WHICH THEREFORE CONVEYS THE ENGINEER'S RESPONSIBILITY AND ACCOUNTABILITY. THIS DOES NOT RELIEVE ANY PARTY FROM COMPLYING WITH APPROPRIATE FEDERAL, STATE AND LOCAL ENVIRONMENTAL RULES, LAWS, AND REGULATIONS AND ANY OTHER LEGALLY ADOPTED REGULATION OR ORDINANCE RELATED TO LAND DEVELOPMENT. IF THE CITY SIGNATURES ARE REQUIRED BY ORDINANCE, COUNTY PERMITS WILL NOT BE ISSUED UNTIL SUCH SIGNATURES ARE OBTAINED. THESE SIGNATURES ARE VALID FOR A MAXIMUM OF TWO YEARS.

ENGINEER'S CERTIFICATION

I, ABIGAIL CROCKETT, A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THE INFORMATION PRESENTED ON THIS SHEET IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND THAT I AM NOT VIOLATING ANY PROVISION OF THE CURRENT TEXAS ENGINEERING PRACTICE ACT AND RULES CONCERNING THE PRACTICE OF ENGINEERING AND PROFESSIONAL ENGINEERING LICENSURE.

ANY VIOLATIONS WILL BE FORWARDED TO THE HARRIS COUNTY DISTRICT ATTORNEY'S OFFICE FOR PROSECUTION.

THE COMPLETED PROJECT CONSISTS OF DRAWING SHEETS 1 THRU 21.

SEAL

SIGNATURE _____ 9/21/2018 DATE

REVISIONS

NOTE: REVISION BLOCK IS TO BE USED ONLY FOR CHANGES MADE AFTER PLANS HAVE BEEN APPROVED BY HARRIS COUNTY.

ISSUE	DATE	DESCRIPTION

TEXAS WATER ENGINEERING, PLLC.
Texas Registered Engineering Firm F-8482

STATE OF TEXAS
ABIGAIL L. CROCKETT
115591
LICENSED
PROFESSIONAL ENGINEER
9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

SJRA PROJECT NO:		
FILE NAME: SJRA-WALLISVILLE-HCREVIEWSHT.dwg		
DRAWN BY: AC	AC	
CHECKED BY: VF	VF	
SCALE:	AS SHOWN	

GENERAL
HARRIS COUNTY EXPRESS REVIEW SHEET

SHEET G-2
SEQ. 3 OF 21

RFP SUBMITTAL

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-HCREVIEWSHT.dwg LAYOUT: Layout1 DATE: 9/21/18 BY: ABBY CROCKETT

Date: Sep 21, 2018 - 12:28pm User: Abby CroEkett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-HCREVIEWSHT.dwg

GENERAL NOTES

1. THE FOLLOWING NOTES ARE GENERAL AND APPLY TO ALL SHEETS OF THESE CONSTRUCTION DRAWINGS AS IF THEY WERE WRITTEN ENTIRELY ON EACH SHEET.
2. SCALES NOTED ON DRAWINGS ARE ASSOCIATED WITH FULL SIZE DRAWINGS (22-IN X 34-IN).
3. CONTRACTOR SHALL COORDINATE ALL WORK, RFIs, AND FIELD CHANGES WITH THE CONSTRUCTION MANAGER.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, INCLUDING COUNTY RIGHT OF WAY PERMIT, AND BONDS PRIOR TO START OF CONSTRUCTION WORK.
5. THE CONTRACTOR SHALL PROVIDE ALL SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES, WHETHER OR NOT INDICATED ON THE DRAWINGS.
6. CLEARING PROJECT SITE WITH FIRE IS NOT ALLOWED.
7. NO FIREARMS SHALL BE PERMITTED ON SITE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING REQUIRED SECURITY TO PROTECT HIS/HER PROPERTY, EQUIPMENT, WORK IN PROGRESS AND COMPLETED WORK.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING HIS/HER PROPERTY, EQUIPMENT, WORK IN PROGRESS AND COMPLETED WORK FROM ALL WEATHER CONDITIONS AT NO ADDITIONAL COST TO SJRA.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE SAFETY OF HIS/HER LABORERS (INCLUSIVE OF ALL SUB-CONTRACTORS) FOR THE ENTIRE DURATION OF THE PROJECT.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE DETERRENTS TO PREVENT THE PUBLIC FROM ACCESSING THE PROJECT SITE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN-UP OF THE SITE AND ADJOINING ACCESS ROADS DURING ALL ASPECTS OF THE CONSTRUCTION. SITE AND IMPACTED ACCESS ROADS SHALL BE CLEAR OF TRASH AT THE END OF CONSTRUCTION EVERY DAY. ALL ACCESS ROADS TO BE RESTORED TO ORIGINAL OR BETTER CONDITION AT NO COST TO SJRA UPON COMPLETION OF THE PROJECT.
13. IRON AND STEEL PRODUCTS AND MANUFACTURED GOODS USED FOR THE CONSTRUCTION OF THIS PROJECT MUST BE PRODUCED IN THE UNITED STATES, UNLESS:
    - 13.1. THE PRODUCTS/GOODS ARE NOT AVAILABLE IN SUFFICIENT QUANTITIES, ARE NOT READILY AVAILABLE, OR ARE NOT OF SATISFACTORY QUALITY, OR
    - 13.2. THE USE OF THE PRODUCTS/GOODS WILL INCREASE THE TOTAL COST OF THE PROJECT BY MORE THAN 20 PERCENT.

    THE CONTRACTOR SHALL COMPLY WITH THE U.S. IRON AND STEEL REQUIREMENTS PROVIDED IN TWDB-1105 OF THE PROJECT SPECIFICATIONS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING STRUCTURES, UTILITIES, TREES, SHRUBS, FENCES, AND OTHER ADJOINING FACILITIES, AND SHALL REPAIR OR REPLACE TO ORIGINAL OR BETTER CONDITION IF DAMAGE IS CAUSED BY CONTRACTOR AT NO COST TO OWNER. THIS ALSO INCLUDES SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES. WHETHER OR NOT INDICATED ON THE DRAWINGS, SOME DIMENSIONS AND ELEVATIONS RELATED TO EXISTING STRUCTURES WERE OBTAINED FROM PREVIOUS SURVEYS AND CONSTRUCTION/RECORD DRAWINGS. ALL EXISTING DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE AND PRINCIPAL ARCHITECT/ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS BEFORE PROCEEDING WITH WORK.
15. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE TO ENSURE A DRY WORK AREA AT ALL TIMES DURING CONSTRUCTION.
16. CONTRACTOR SHALL PREVENT RUTS OR DAMAGE TO ANY AREA WITHIN THE LIMITS OF CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO ANY PORTION OF THE CANAL SLOPES, LEVEES (CREST AND SLOPES), AND OUTSIDE LEVEE TOES. ALL INCIDENTAL DAMAGE SHALL BE REPAIRED IMMEDIATELY AT NO COST TO OWNER.
17. CONTRACTOR SHALL SEED AND FERTILIZE ALL AREAS TO ESTABLISH GRASS TO OWNER STANDARDS FOR AREAS NOT COVERED BY A STRUCTURE THAT HAVE BEEN DISTURBED BY CONSTRUCTION ACTIVITIES EXCEPT THE CHANNEL BOTTOM AND WHERE PERMANENT STRUCTURAL EROSION MEASURES ARE USED. SEE SPECIFICATION SECTION 32 92 13 - HYDRO-MULCHING.
18. EXISTING PAVEMENTS, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO CURRENT HARRIS COUNTY STANDARDS, AT NO COST TO OWNER.
19. NOTIFICATIONS ISSUED BY HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT ARCHITECTURE AND ENGINEERING DIVISION PERMIT OFFICE REQUIRED PRIOR TO CONSTRUCTION WITHIN HARRIS COUNTY AND HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHTS-OF-WAY. CONTACT HARRIS COUNTY PERMIT OFFICE (713) 316-3562.
20. OBTAIN AND COMPLY WITH ALL APPLICABLE CITY, COUNTY, STATE, AND FEDERAL PERMITS AND APPROVALS, WITH ASSISTANCE FROM PRINCIPAL ARCHITECT/ENGINEER AND OWNER'S REPRESENTATIVE, IF NECESSARY.
21. IMMEDIATELY RECONSTRUCT ALL DRAINAGE CHANNELS DISTURBED BY CONSTRUCTION TO ORIGINAL OR BETTER CONDITION AND UTILIZING SAME FLOWLINES AND HYDRAULIC CAPACITY FOR STORM WATER SYSTEMS.

UTILITY AND PIPELINE COMPANY COORDINATION NOTES

1. EXISTING STRUCTURES, UTILITIES AND PIPELINES (PRIVATE AND PUBLIC) ARE SHOWN FROM AVAILABLE RECORDS AT THE TIME THESE CONSTRUCTION DRAWINGS WERE PREPARED; SEE SHEET C-1 FOR MORE INFORMATON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND VERIFYING THE LOCATION AND DEPTH OF ALL EXISTING STRUCTURES, UTILITIES AND PIPELINES WITHIN THE CONSTRUCTION AREA PRIOR TO THE BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHOULD CONTACT THE HOUSTON AREA UTILITY COORDINATION COMMITTEE 48 HOURS IN ADVANCE OF BEGINNING WORK (713-223-4567). THE CONTRACTOR SHALL INCLUDE COST IN HIS/HER PROPOSAL FOR TEMPORARILY RELOCATING AND REINSTALLING EXISTING STRUCTURES, UTILITIES AND PIPELINES AS REQUIRED FOR CONSTRUCTION OF THE PROPOSED WORK. COST CONSIDERATIONS MUST BE GIVEN FOR BACKFILL, ENCASEMENT, SUPPORTS, RESTRAINTS, FITTINGS, VALVES, HEAT TRACINGS, INSULATION AND ANY TYPICAL OR SPECIAL COATINGS THAT ARE APPLIED TO THE INTERIOR AND/OR EXTERIOR OF THE PIPING AND ITS APPURTENANCES. ANY DAMAGE TO EXISTING STRUCTURES, UTILITIES AND PIPELINES SHALL BE RESTORED AT NO ADDITIONAL COST TO SJRA. IN ADDITION, CONTRACTOR SHOULD NOTIFY OWNER'S REPRESENTATIVE IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONSTRUCTION BEFORE PROCEEDING WITH WORK.
2. CONTRACTOR SHOULD OBSERVE ANY/ALL ELECTRIC LINES WITHIN THE PROJECT LIMITS. CONTRACTOR SHOULD COORDINATE WITH THE APPROPRIATE UTILITY COMPANY FOR A TEMPORARY POWER SHUTDOWN (SHOULD THE CONTRACTOR'S MEANS AND METHODS NECESSITATE POTENTIAL CONSTRUCTION CONFLICTS OR SAFETY CONCERNS, I.E. ELECTRICAL ARCINGS).
3. EXCAVATION TO TAKE PLACE ADJACENT (WITHIN 5 FEET) TO AND/OR ACROSS EXISTING UTILITIES OR PIPELINES (REMAINING IN PLACE) SHALL BE EXCAVATED BY HAND AND IN SUCH A MANNER AS TO AVOID DAMAGE TO THE EXISTING FACILITIES.
4. EXISTING CONCRETE THRUST BLOCKING THAT CONFLICTS WITH NEW CONSTRUCTION OR MODIFICATION SHALL BE REMOVED BY THE CONTRACTOR. WHEN REMOVED, THE CONTRACTOR SHALL PROVIDE TEMPORARY THRUST RESTRAINT TO THE EXISTING PIPING SYSTEM, FITTINGS, AND/OR STRUCTURES TO MAINTAIN CONTINUOUS OPERATION. ONCE CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL RESTORE THE PREVIOUSLY EXISTING THRUST BLOCKING TO ITS ORIGINAL CONDITION (UNDISTURBED EARTH). THE ORIGINAL CONDITION SHALL INCLUDE PROPER THRUST RESTRAINT AND COMPACTED BACKFILL AS DESCRIBED IN THE CONTRACT DOCUMENTS.
5. IN LIEU OF CONTRACTOR PROVIDING SUPPORT FOR EXISTING UTILITIES OR PIPELINES, CONTRACTOR MAY REQUEST TO TEMPORARILY RELOCATE THEM AWAY FROM THE WORK AREA AND THEN REINSTALL THEM ONCE NEW CONSTRUCTION IS COMPLETE. CONTRACTOR SHALL SUBMIT A PLAN TO OWNER'S REPRESENTATIVE AND PRINCIPAL ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL FOR ANY PROPOSED TEMPORARY UTILITY OR PIPELINE RELOCATION. THE CONTRACTOR SHALL ADDITIONALLY SECURE THE APPROVAL OF THE APPLICABLE UTILITY OR PIPELINE COMPANY. TEMPORARY UTILITY OR PIPELINE RELOCATIONS SHALL BE ACCOMPLISHED AT NO ADDITIONAL COST TO OWNER AND ASSOCIATED REQUIRED SHUTDOWNS SHALL ADHERE TO SPECIFIED MAXIMUM ALLOWABLE DURATIONS ACCORDING TO UTILITY OWNERS.

ENVIRONMENTAL NOTES

1. AS PER AN AGREEMENT WITH THE HARRIS COUNTY FLOOD CONTROL DISTRICT, THE AUTHORITY AGREES TO SUBMIT PLANS FOR REVIEW AND OBTAIN ALL NECESSARY PERMITS OR WAIVERS PRIOR TO CONSTRUCTION WITHIN THE 100-YEAR FLOODPLAIN;
2. PRIOR TO CONSTRUCTION OR CLEARING ACTIVITIES WITHIN ANY 100-YEAR FLOODPLAIN, A PERMIT OR WAIVER FROM THE LOCAL FLOODPLAIN ADMINISTRATOR (NATIONAL FLOODPLAIN INSURANCE POLICY) MUST BE OBTAINED;
3. AS PER AN AGREEMENT WITH THE TEXAS PARKS AND WILDLIFE DEPARTMENT (TPWD PROJECT NO. 40191):
    - 3.1. TO ENSURE COMPLIANCE WITH THE MIGRATORY BIRD TREATY ACT, VEGETATION CLEARING WILL OCCUR OUTSIDE THE GENERAL BIRD NESTING SEASON (MARCH TO AUGUST) OR A SURVEY WILL BE CONDUCTED, PRIOR TO CLEARING, FOR ACTIVE NESTS. ANY VEGETATION OR BARE GROUND WITHIN AT LEAST 25 FEET OF OCCUPIED NESTS SHOULD NOT BE DISTURBED UNTIL THE EGGS HAVE HATCHED AND THE YOUNG HAVE FLEDGED. CONSTRUCTION ACTIVITIES SHOULD BE EXCLUDED FROM A MINIMUM ZONE OF 100 METERS SURROUNDING ANY RAPTOR NESTS FROM FEBRUARY 1 THROUGH JULY 15 IN ORDER TO AVOID DISTURBANCE TO RAPTOR NESTS;
    - 3.2. TO ENSURE COMPLIANCE WITH THE BALD AND GOLDEN EAGLE PROTECTION ACT (BGEPA), REFER TO THE UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) NATIONAL BALD EAGLE MANAGEMENT GUIDELINES. WHEN POTENTIAL IMPACTS TO THE BALD EAGLE ARE ANTICIPATED, TPWD RECOMMENDS CONSULTATION WITH USFWS - HOUSTON ECOLOGICAL SERVICES REGARDING COMPLIANCE WITH THE BGEPA AND CONSULTATION WITH TPWD BECAUSE THE BALD EAGLE IS STATE-LISTED AS THREATENED;
    - 3.3. TO ENSURE COMPLIANCE WITH THE TEXAS PARKS AND WILDLIFE CODE, THE AUTHORITY WILL INCORPORATE ACTIONS INTO THE PROJECT TO AVOID IMPACTS TO ALLIGATOR SNAPPING TURTLES. THE AUTHORITY WILL INFORM EMPLOYEES AND CONTRACTORS OF THE POTENTIAL FOR ALLIGATOR SNAPPING TURTLES TO OCCUR WITHIN OR NEAR THE PROJECT CANALS AND HIGHLANDS RESERVOIR;
4. STANDARD EMERGENCY CONDITIONS APPLY FOR THE DISCOVERY OF CULTURAL RESOURCES; AND
5. STANDARD EMERGENCY CONDITIONS APPLY FOR THE DISCOVERY OF THREATENED AND ENDANGERED SPECIES.

STANDARD HCFCD NOTES

1. OBTAIN AND COMPLY WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL PERMITS AND APPROVALS, WITH ASSISTANCE FROM PRINCIPAL ARCHITECT/ENGINEER, IF NECESSARY. OBTAIN PERMIT (CERTIFICATION) FROM HARRIS COUNTY PRINCIPAL ARCHITECT/ENGINEER TO ENTER HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHT-OF-WAY.
2. NOTIFY THE HARRIS COUNTY FLOOD CONTROL DISTRICT'S PROPERTY MANAGER IN WRITING AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. SUBMIT THE HCFCD 48 HOUR PRE-CONSTRUCTION NOTIFICATION FORM, A COPY OF THE APPROVED CONSTRUCTION DRAWINGS, AND A COPY OF THE CORPS OF ENGINEERS INDIVIDUAL SECTION 404 PERMIT, IF APPLICABLE, TO HCFCD, 9900 NORTHWEST FREEWAY, HOUSTON, TEXAS 77092, ATTN: PROPERTY MANAGEMENT DEPT. BY HAND DELIVERY, OR FAX TO 713-684-4129 (FAX NUMBER).
3. PRINCIPAL ARCHITECT/ENGINEER SHALL SUBMIT CERTIFICATION LETTER AND RECORD DRAWINGS TO THE HARRIS COUNTY FLOOD CONTROL DISTRICT'S PROPERTY MANAGEMENT DEPARTMENT REQUESTING INSPECTION OF ITEMS CONSTRUCTED IN HARRIS COUNTY FLOOD CONTROL DISTRICT'S RIGHT-OF-WAY. PRIOR TO REQUESTING INSPECTION, THE DRAINAGE RIGHT-OF-WAY AND/OR EASEMENTS SHALL BE STAKED AND FLAGGED BY CONTRACTOR.
4. PROTECT, MAINTAIN, AND RESTORE EXISTING BACKSLOPE DRAINAGE SYSTEMS.
5. BACKSLOPE SWALE AND INTERCEPTOR STRUCTURE ELEVATIONS AND LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. FINAL ELEVATIONS AND LOCATIONS SHALL BE FIELD VERIFIED BY THE PRINCIPAL ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
6. ESTABLISH TURF GRASS ON ALL DISTURBED AREAS WITHIN THE CHANNEL OR DETENTION RIGHT-OF-WAY, EXCEPT THE CHANNEL BOTTOM AND WHERE STRUCTURAL EROSION MEASURES ARE USED. MINIMUM ACCEPTANCE CRITERIA ARE 75% COVERAGE OF LIVE BERMUDA GRASS AND NO EROSION OR RILLS DEEPER THAN 4".
7. BACKFILL IN ACCORDANCE WITH HARRIS COUNTY FLOOD CONTROL DISTRICT STANDARD SPECIFICATION, SECTION 02315 - EXCAVATING AND BACKFILLING, OR EQUIVALENT.
8. EXCAVATE CHANNEL FLOWLINE TO DESIGN ELEVATION AS SHOWN ON PLANS AND DOWNSTREAM, AS NECESSARY, TO ENSURE NO WATER REMAINS IN THE FACILITY (STORM SEWER, LATERAL CHANNEL, OR DRY BOTTOM DETENTION BASIN) DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL, SO THE FACILITY WILL FUNCTION AS INTENDED. FOR WET BOTTOM DETENTION BASINS, ENSURE NO WATER IS ABOVE THE DESIGN LEVEL IN THE WET BOTTOM DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL.
9. MAINTAIN FLOW IN CHANNEL DURING CONSTRUCTION AND RESTORE CHANNEL TO ORIGINAL CONDITION.
10. REMOVE ALL EXCAVATED MATERIAL FROM THE HARRIS COUNTY FLOOD CONTROL DISTRICT OR DRAINAGE RIGHT-OF-WAY. NO FILL IS TO BE PLACED WITHIN A DESIGNATED FLOOD AREA WITHOUT FIRST OBTAINING A FILL PERMIT FROM THE APPROPRIATE JURISDICTIONAL AUTHORITY.
11. HARRIS COUNTY SPECIFICATIONS REFERENCED IN PREVIOUS NOTES ARE AVAILABLE AT http://www.hcfcd.org/media/1311/hcfcd_2005_specifications.pdf.

CENTERPOINT NOTES

WARNING: OVERHEAD ELECTRICAL LINES

OVERHEAD LINES EXIST ON THE PROPERTY. THE APPROXIMATE LOCATION OF OVERHEAD LINES IS SHOWN ON THESE DRAWINGS, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:

- ANY ACTIVITY WHERE PERSON OR THINGS MAY COME WITHIN SIX(6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES; AND
- OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL (713) 207-2222.

ACTIVITY ON OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY: NO APPROVAL TO USE, CROSS OR OCCUPY CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY IS GIVEN. IF YOU NEED TO USE CENTERPOINT PROPERTY, PLEASE CONTACT OUR SURVEYING & RIGHT OF WAY DIVISION AT (713) 207-6248 OR (713) 207-5769.

CAUTION: UNDERGROUND GAS FACILITIES

LOCATION OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE, LLC WHERE APPLICABLE) ARE SHOWN IN APPROPRIATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. THE FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-545-6005 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

- WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713) 945-8036 OR (713) 945-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
- WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
- FOR EMERGENCIES REGARDING GAS LINES CALL (713) 656-3552 OR (713) 207-4200.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

TO ARRANGE FOR LINE TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT (713) 207-2222 NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

RFP SUBMITTAL

TEXAS WATER ENGINEERING, PLLC.
Texas Registered Engineering Firm F-8482

STATE OF TEXAS
ABIGAIL L. CROCKETT
115591
LICENSED
PROFESSIONAL ENGINEER
9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

SJRA PROJECT NO:
FILE NAME: SJRA-WALLISVILLE-GENERALNOTES.dwg
DRAWN BY: AC AC
CHECKED BY: VF VF
SCALE: AS SHOWN

GENERAL
GENERAL NOTES

SHEET G-3
SEQ. 4 OF 21

SCHEDULE OF TYPICAL ABBREVIATIONS
(NOT ALL ABBREVIATIONS MAY BE USED)

A	
AB	ANCHOR BOLT
APPROX	APPROXIMATELY
ASPH	ASPHALT
AC	ACRE
AL	ALUMINUM
B	
BGEPA	BALD & GOLDEN EAGLE PROTECTION ACT
B/L	BASELINE
BM	BENCH MARK
BOT	BOTTOM
BOC	BOTTOM OF CONCRETE
BOW	BOTTOM OF WALL
BEL	BELOW
BET	BETWEEN
BIT	BITUMEN
BKWL	BACKWALL
BW	BOTH WAYS
BAS	BASIN
BLD	BUILDING
BOS	BOTTOM OF SLAB
C	
C	CHANNEL
C/C	CENTER TO CENTER
CCFRPMP	CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR PIPE
CCF	COUNTY CLERK'S FILE NUMBER
CFS	CUBIC FEET PER SECOND
CIP	CAST IN PLACE
CJ	CONTROL JOINT
C/L	CENTERLINE
CLR	CLEAR
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CAM	CAMERA
CLO	CLEANOUT
CMP	CORRUGATED METAL PIPE
COH	CITY OF HOUSTON
D	
DBL	DOUBLE
DET/DTL	DETAIL
DIA	DIAMETER
DUC	DUCT
DVB	DIVERSION BOX
DS	DOWNSTREAM
E	
EA	EACH
E	EAST
EF	EACH FACE
ELEV/EL	ELEVATION
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EW	EACH WAY
EXIST	EXISTING
EXP	EXPOSED
EXP JT	EXPANSION JOINT (OR EJ)
F	
FF	FINISH FLOOR
FC	FILM CODE NUMBER
FFE	FINISH FLOOR ELEVATION
FH	FIRE HYDRANT
FIN	FINISH
FL	FLOW LINE
FND	FOUND
FT	FEET

G	
GA	GAUGE
GALV	GALVANIZED
GND	GROUND
GS	GROUND SURFACE
GR	GRADE
H	
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HC	HARRIS COUNTY
HCDR	HARRIS COUNTY DEED RECORDS HARRIS
HCFCD	HARRIS COUNTY FLOOD CONTROL DISTRICT
HCMR	HARRIS COUNTY MAP RECORDS
HDPE	HIGH DENSITY POLYETHYLENE
I	
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCH
IP	IRON PIPE
IR	IRON ROD
J	
J	JUNCTION
JS	JUNCTION STRUCTURE
JT	JOINT
K	
KCJ	KEYED CONSTRUCTION JOINT
L	
L	LENGTH
LF	LINEAR FEET
LT	LEFT
LVL	LEVEL
LOU	LOUVER
M	
MAINT	MAINTENANCE/MAINTAINED
MAT	MATERIAL
MAX	MAXIMUM
MET	METAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MGD	MILLION GALLONS PER DAY
N	
NOM	NOMINAL
N	NORTH
NO	NUMBER
NTS	NOT TO SCALE
NWSE	NORMAL WATER SURFACE ELEVATION
O	
OC	ON CENTER
OCEW	ON CENTER, EACH WAY
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
O	OVERHEAD
OH	OVERHEAD ELECTRIC
OT	OVERHEAD TELEPHONE
OHL	OVERHEAD ELECTRIC TRANSMISSION LINES
OHWM	ORDINARY HIGH WATER MARK
OPNG	OPENING
OPRRPHC	OFFICIAL PUBLIC RECORDS OF REAL PROPERTY HARRIS COUNTY

P	
PL	PROPERTY LINE
PVC	POLYVINYL CHLORIDE PIPE
PVMT	PAVEMENT
PG	PAGE
PROP	PROPOSED
PP	POLYPROPYLENE
R	
RAD	RADIUS
RE	REFER TO
REF	REFERENCE
REINF	REINFORCING (REINFORCED)
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
RET	RETAINING
REV	REVERSE
RO	ROUGH OPENING
RT	RIGHT
ROW	RIGHT OF WAY
S	
SAN	SANITARY
SECT	SECTION
SB	SLAB BEAM
SCH	SCHEDULE
SHT	SHEET
SIM	SIMILAR
SJ	SAWCUT JOINT
S	SOUTH
SPEC	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
SM	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
STL	STEEL
STR	STRUCTURAL
SJRA	SAN JACINTO RIVER AUTHORITY
T	
T	TREAD OR THICKNESS
TBD	TO BE DETERMINED
T&B	TOP AND BOTTOM
TC	TOP OF CURB
TEMP	TEMPERATURE
TPWD	TEXAS PARKS AND WILDLIFE DEPARTMENT
TOB	TOP OF BANK
TOC	TOP OF CONCRETE
TOJ	TOP OF JOIST
TOS	TOP OF SLAB
TOW	TOP OF WALL
TOP	TOP OF PIPE
TWDB	TEXAS WATER DEVELOPMENT BOARD
TWE	TEXAS WATER ENGINEERING, PLLC
TWSE	TEMPORARY WATER SURFACE ELEVATION
TYP	TYPICAL SLAB
TxDOT	TEXAS DEPARTMENT OF TRANSPORTATION
U	
UHMWPE	ULTRA-HIGH-MOLECULAR-WEIGHT POLYETHYLENE
US	UPSTREAM
UG	UNDERGROUND
UE	UNDERGROUND ELECTRIC
USFWS	UNITED STATES FISH AND WILDLIFE SERVICE
UT	UNDERGROUND TELEPHONE
V	
VERT	VERTICAL
VOL	VOLUME
W	
W	WEST
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF OR WORKING POINT
WPFG	WATERPROOFING
WS	WATER STOP
WSE	WATER SURFACE ELEVATION

SYMBOLS

100+00	PROJECT BASELINE
	EXISTING STRUCTURE AND PIPE
	NEW STRUCTURE AND PIPE
	ITEMS TO BE DEMOLISHED OR ABANDONED IN PLACE
	CENTERLINE
40	FINISH GRADE CONTOUR MAJOR
41	FINISH GRADE CONTOUR MINOR
3H:1V	SLOPE (3 HORIZONTAL TO 1 VERTICAL)
LOC	LIMITS OF CONSTRUCTION
SF	TEMPORARY SILT FENCE
	BREAK LINE
	WOODEN FENCE
	WOODEN FENCE
x	CHAIN LINK FENCE
GAS	GASLINE
E_x	ELECTRICAL POWER
OE	OVERHEAD ELECTRIC
UC	UNDERGROUND COMMUNICATION
T	TELEPHONE
	TOP OF BANK
W	WATER
SD	STORMDRAIN
	GUARD RAIL/HAND RAIL
	EDGE OF ASPHALT
	TREE LINE/BRUSH LINE
	R.O.W. LINE
	TOP OF BANK
	TOE
40	EXISTING CONTOUR MAJOR
41	EXISTING CONTOUR MINOR

Ø	DIAMETER
PL	PLATE
B-1	BENCHMARK
B-1	BORE HOLE
	TREE
	SIGN
	MAIL BOX
LP	LIGHT POLE
CP	SJRA MONU.
D	STORM MANHOLE
E	ELECTRIC MANHOLE
WV	WATER VALVE
	FIRE HYDRANT
	WATER METER
	GAS METER
	GAS VALVE
PP	POWER POLE
	GUY WIRE
FLOW	DIRECTION OF FLOW
	SIGNAL POLE
EB	ELECTRIC BOX
	CONCRETE – SECTION
	SAND OR GROUT – SECTION
	FINISH OR NATURAL GRADE
	EXISTING CONCRETE
	GRAVEL – SECTION
OR	REINFORCEMENT IN SECTION
	RIPRAP
	GRADED SIDE SLOPE-INFILL
	GRADED SIDE SLOPE-INCUT

NOTE:
DISCIPLINE SPECIFIC ABBREVIATIONS MAY NOT BE INCLUDED ON THIS LIST. THE INDIVIDUAL DISCIPLINE ABBREVIATIONS SUPERCEDE THIS LIST IN THE EVENT OF AN OMISSION OR CONFLICT.

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STATE OF TEXAS
ABIGAIL L. CROCKETT
115591
LICENSED
PROFESSIONAL ENGINEER
9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

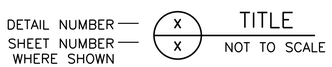
SJRA PROJECT NO:		
FILE NAME: SJRA-WALLISVILLE-GN-LEGEND.dwg		
DRAWN BY: AC		AC
CHECKED BY: VF		VF
SCALE:		AS SHOWN

GENERAL
LEGEND AND ABBREVIATIONS

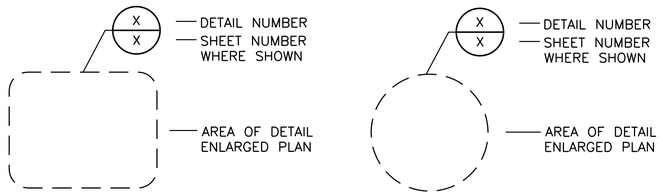
SHEET G-4
SEQ. 5 OF 21

RFP SUBMITTAL

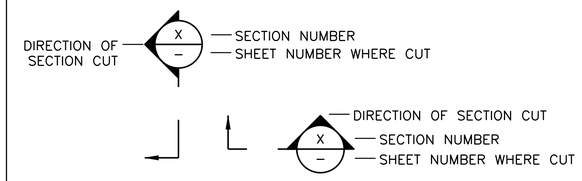
TYPICAL TITLE

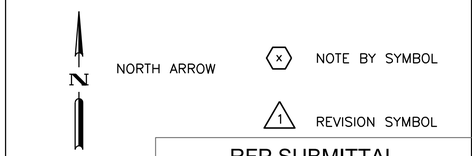


TYPICAL DETAIL MARKS

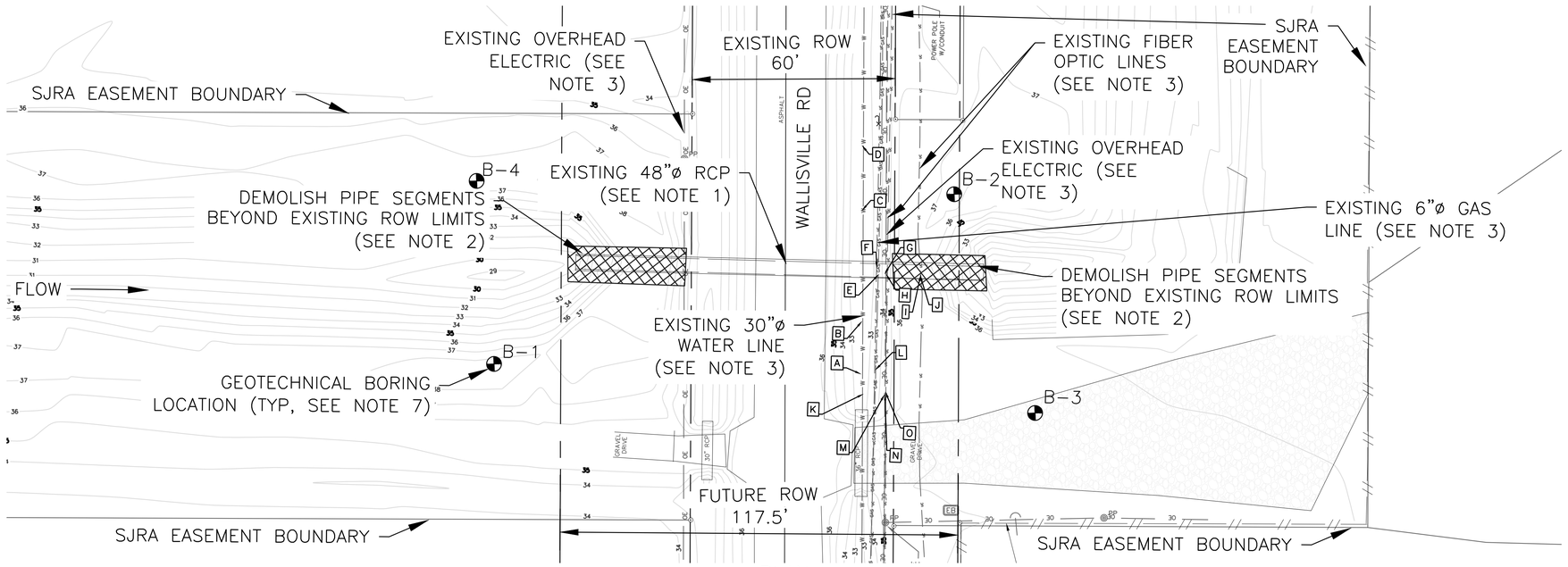


TYPICAL SECTION MARKS





FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-GN-LEGEND.dwg LAYOUT: LEGEND DATE: 9/21/18 BY: ABBY CROCKETT



PLAN

TO BE DEMOLISHED

NOTES:

1. SEE SHEET R-1 FOR AVAILABLE RECORD DRAWING OF EXISTING SIPHON.

2. CONTRACTOR SHALL DEMOLISH SIPHON INTAKE/DISCHARGE STRUCTURES IF THEY EXIST. CONTRACTOR SHALL SAW CUT ENDS OF EXISTING 48" RCP AS NECESSARY TO ENSURE THAT THE EXPOSED ENDS ARE FREE OF DEFECTS (SPALLS, CRACKS, ETC.). CONTRACTOR SHALL ONLY REMOVE PORTIONS OF 48" RCP OUTSIDE THE EXISTING 60' ROAD RIGHT-OF-WAY LIMITS.

3. UTILITY LOCATION INFORMATION BASED ON BEST AVAILABLE SURVEY INFORMATION. POTHOLING WAS PERFORMED JUNE 2013 AND AUGUST 2018. POTHOLING LOCATIONS ARE SHOWN IN PLAN VIEW AND ARE SUMMARIZED IN THE TABLE BELOW. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS IN PROJECT VICINITY PRIOR TO COMMENCING WORK. CONTRACTOR SHALL STABILIZE EXISTING LINES AND PREVENT DAMAGE TO LINES. SEE UTILITY NOTES ON SHEET G-3.

POTHOLING DATA

LOCATION	UTILITY	TOP OF PIPE ELEV.	NATURAL GROUND ELEV.	COVER DEPTH	DATE
A	30" PVC WATERLINE	24.22'	32.5'	8.3'	6/2013
B	30" PVC WATERLINE	20.48'	32.4'	11.9'	6/2013
C	30" PVC WATERLINE	20.78'	32.3'	11.5'	6/2013
D	30" PVC WATERLINE	24.71'	32.1'	7.4'	6/2013
E	6" PVC GAS LINE	31.70'	34.9'	3.2'	6/2013
F	6" FIBER OPTIC LINE	30.47'	35.1'	4.6'	6/2013
G	6" FIBER OPTIC LINE	30.52'	35.1'	4.6'	6/2013
H	2" FIBER OPTIC LINE	30.41'	35.1'	4.7'	6/2013
I	6" FIBER OPTIC LINE	31.22'	36.5'	5.3'	6/2013
J	2" FIBER OPTIC LINE	31.12'	36.5'	5.4'	6/2013
K	30" PVC WATERLINE	25.00'	32.6'	7.6'	8/2018
L	6" STEEL GAS LINE	30.29'	34.5'	4.2'	8/2018
M	4" FIBER OPTIC LINE	30.55'	34.9'	4.3'	8/2018
N	4" FIBER OPTIC LINE	30.56'	34.9'	4.3'	8/2018
O	1" ELECTRICAL LINE	30.33'	34.8'	4.5'	8/2018

4. SEE SPECIFICATION SECTION 02 41 13.13 – REMOVING EXISTING PAVEMENTS AND STRUCTURES.

5. CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS (INCLUDING DRIVEWAYS) TO ORIGINAL OR BETTER CONDITION UPON COMPLETION OF PROJECT AT NO ADDITIONAL COST TO OWNER.

6. SEE SHEET C-2 FOR PROPOSED WORK. SEQUENCING OF DEMOLITION AND PROPOSED WORK WILL DEPEND ON CONTRACTOR'S CARE OF WATER PLAN.

7. GEOTECHNICAL BORING LOCATIONS ARE APPROXIMATE BASED ON BEST AVAILABLE SURVEY INFORMATION AND INFORMATION FROM AVILES GEOTECHNICAL REPORT G108-18.

8. EXISTING CONDITION OF HARRIS COUNTY ROADSIDE DITCHES TO BE MAINTAINED THROUGHOUT CONSTRUCTION TO ALLOW STORMWATER DRAINAGE. DISTURBANCE OR DAMAGE TO DITCHES SHALL BE REPAIRED IMMEDIATELY PER COUNTY STANDARDS AT NO ADDITIONAL COST TO THE SJRA.

RFP SUBMITTAL

SCALE: 1"=20'

GRAPHIC SCALE IN FEET
0 10 20 30 40

TEXAS WATER ENGINEERING, PLLC.
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STATE OF TEXAS
ABIGAIL L. CROCKETT
115591
LICENSED
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9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

SJRA PROJECT NO:
FILE NAME: SJRA-WALLISVILLE-EXIST COND.dwg
DRAWN BY: AC AC
CHECKED BY: VF VF
SCALE: AS SHOWN

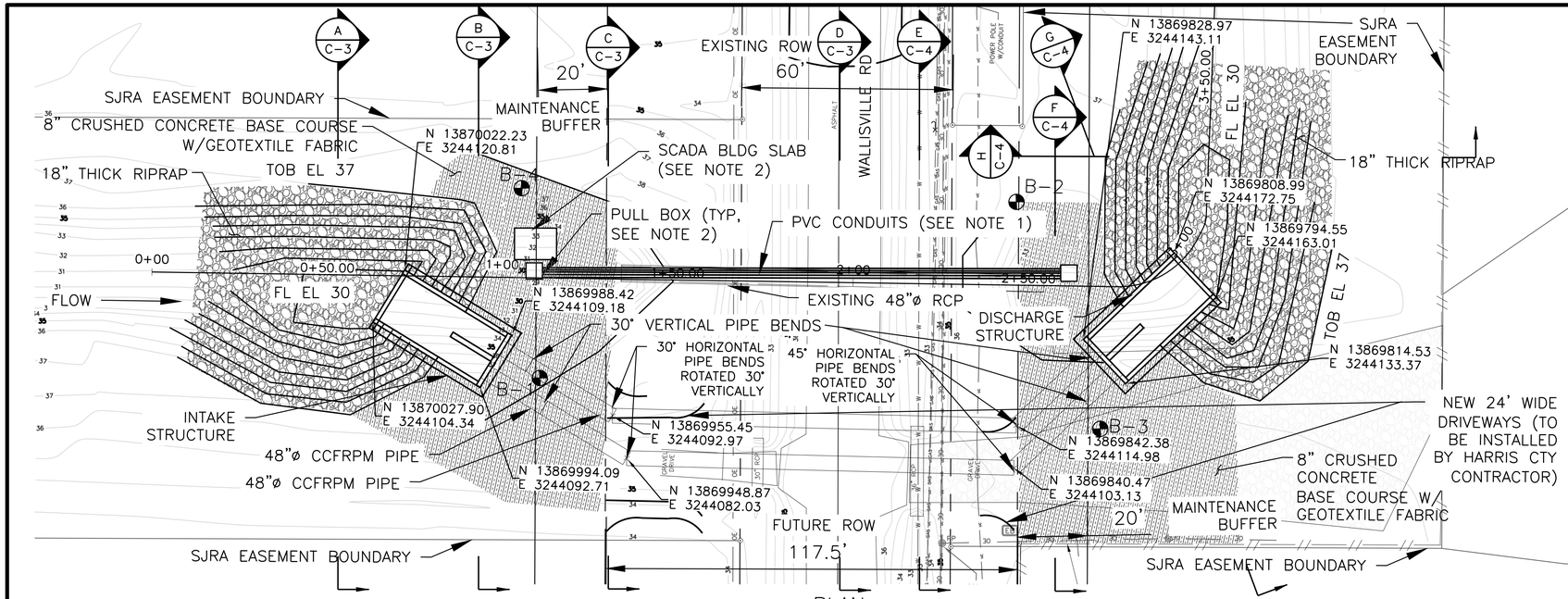
CIVIL

EXISTING CONDITIONS & DEMOLITION PLAN

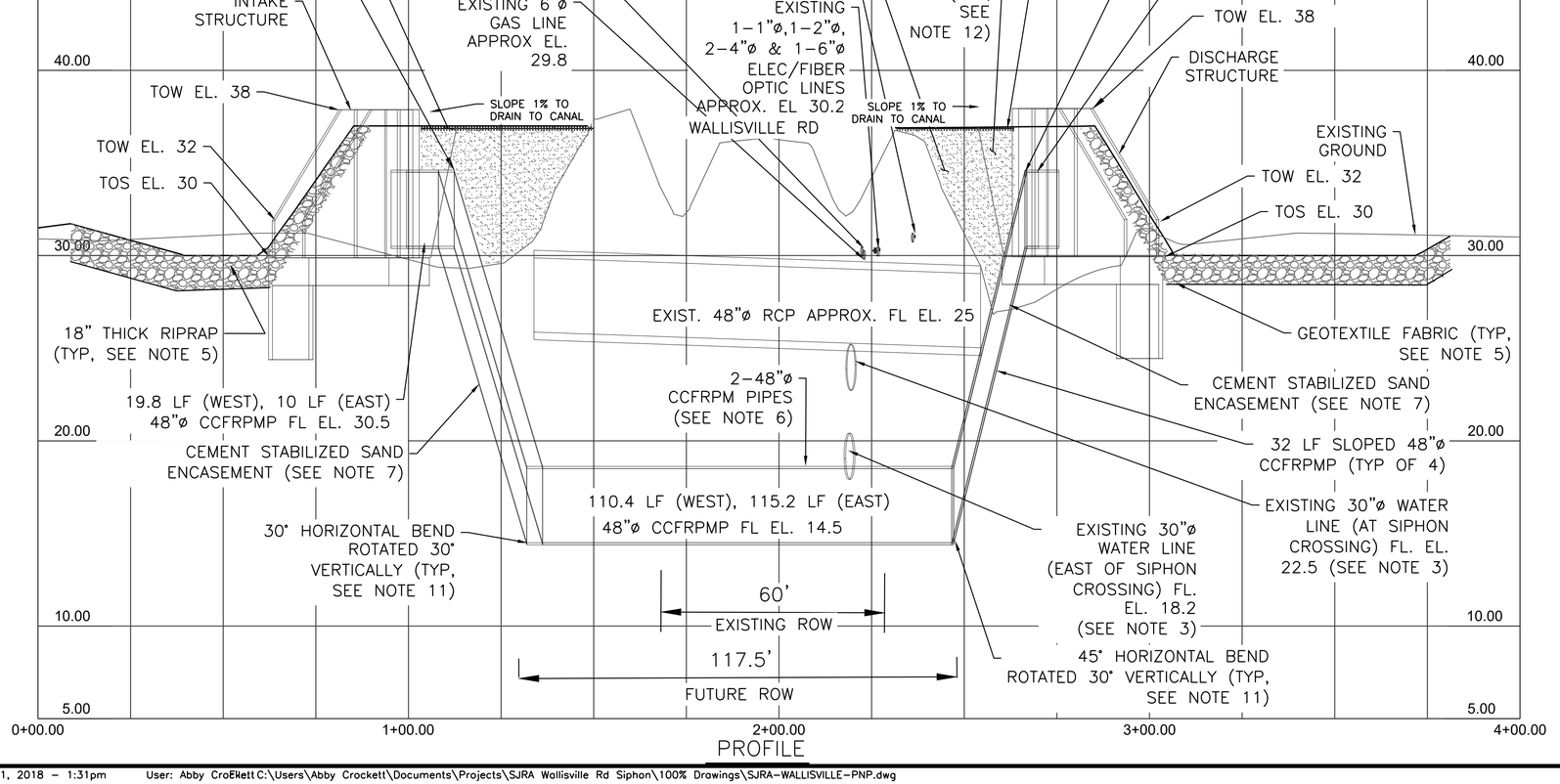
SHEET C-1
SEQ. 6 OF 21

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-EXIST COND.dwg LAYOUT: Layout1 DATE: 9/21/18 BY: ABBY CROCKETT

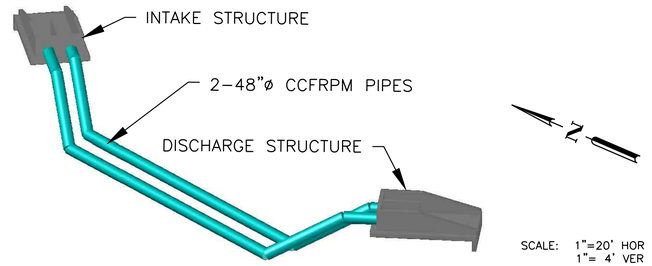
Date: Sep 21, 2018 - 1:07pm User: Abby CroEkett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-EXIST COND.dwg



PLAN



PROFILE



3D RENDERING

GRAPHIC SCALE IN FEET
0 10 20 30 40

NOTES:

1. 1-1"ø, 2-2"ø AND 2-4"ø SCHEDULE 40 PVC CONDUITS TO BE INSTALLED BY HARRIS COUNTY CONTRACTOR TO TIE INTO PULL BOXES INSTALLED BY SJRA CONTRACTOR. CONDUITS NOT SHOWN IN PROFILE VIEW.
2. PULL BOXES AND SCADA SLAB NOT SHOWN IN PROFILE VIEW. CONDUITS FROM PULL BOXES TO STRUCTURES NOT SHOWN ON THIS SHEET. SEE SHEET C-5 FOR DETAILS.
3. UTILITY LOCATION INFORMATION BASED ON BEST AVAILABLE SURVEY INFORMATION; SEE SHEET C-1 FOR ADDITIONAL INFORMATION. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS IN PROJECT VICINITY PRIOR TO COMMENCING WORK. WATER LINE SHOWN IN PROFILE SHOWS SECTIONS AT AND BEYOND SIPHON, AND IS SAME WATER LINE (1 WATER LINE WITH BENDS).
4. SEE SPECIFICATION SECTIONS 31 21 33 – TRENCHING, BACKFILLING AND COMPACTING FOR UTILITES, 31 23 00 – EARTHWORK, 31 23 16.16 – STRUCTURAL EXCAVATION FOR MINOR STRUCTURES, AND 31 24 00.01 – BORROW FOR EARTHWORK REQUIREMENTS. SEE SPECIFICATION SECTION 32 11 00.01 – RECYCLED CRUSHED CONCRETE BASE COURSE FOR CONCRETE BASE COURSE REQUIREMENTS.
5. SEE SPECIFICATION SECTIONS 31 37 01 – CONCRETE RIPRAP AND 31 38 25 – GEOTEXTILES FOR RIRPAP AND GEOTEXTILE REQUIREMENTS.
6. SEE SPECIFICATION SECTION 33 31 13.13 – CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR PIPE FOR PIPE REQUIREMENTS.
7. CEMENT STABILIZED SAND TO BE PLACED AROUND PIPE SECTIONS INSTALLED VIA OPEN EXCAVATION METHODS NOT SHOWN IN PLAN/PROFILE. SEE SHEET SD-1 FOR EARTHWORK, PIPE, AND PIPE TRENCH DETAILS.
8. MUD SLABS AND FLOWABLE FILL NOT SHOWN IN PLAN/PROFILE FOR CLARITY. SEE SHEET S-3.
9. GUARDRAIL NOT SHOWN IN PLAN/PROFILE FOR CLARITY. SEE SHEETS S-2, S-3, AND SD-1.
10. SLIDE GATES NOT SHOWN IN PLAN/PROFILE FOR CLARITY. SEE SHEETS S-2 AND SD-4 AND SPECIFICATION SECTION 40 60 05 – WATER CONTROL GATES.
11. PIPES SHALL INCLUDE VERTICAL AND HORIZONTAL BENDS AS SHOWN TO TRANSITION PIPE ELEVATION UP TO SLAB ELEVATIONS OF STUCTURES. HORIZONTAL PIPE BENDS SHALL BE ROTATED AT 30° TO SLOPE PIPE FROM FLOWLINE ELEVATION 14.5 TO STRUCTURE SLAB ELEVATION 30. SEE SHEET SD-1 FOR ELBOW DETAILS.
12. SELECT BACKFILL SHALL BE PLACED AROUND STRUCTURES AS SHOWN ON SHEET S-3. CONTRACTOR SHALL PROVIDE ATTERBERG LIMIT TEST RESULTS FOR SELECT BACKFILL IN ACCORDANCE WITH SPECIFICATION SECTION 31 21 33 – TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES PRIOR TO PLACEMENT OF MATERIALS. MATERIALS SHALL BE COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.

RFP SUBMITTAL

TEXAS WATER ENGINEERING, PLLC.
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STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER
9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

SJRA PROJECT NO:	
FILE NAME: SJRA-WALLISVILLE-PNP.dwg	
DRAWN BY: AC	AC
CHECKED BY: VF	VF
SCALE:	AS SHOWN

CIVIL

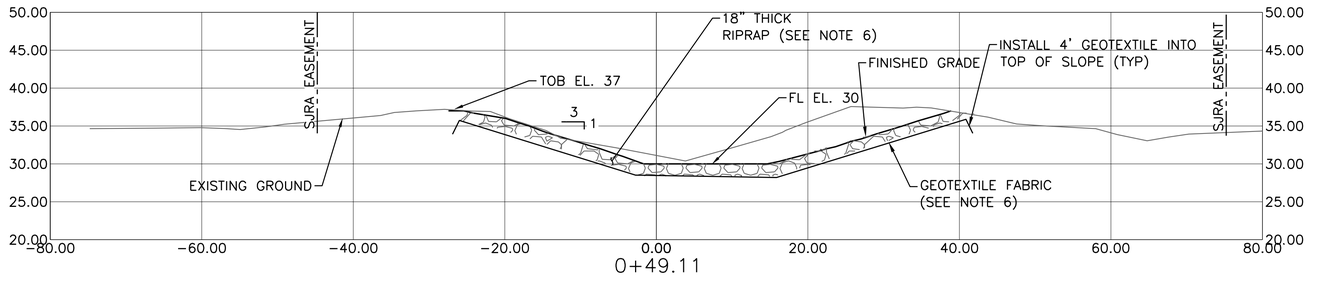
PLAN AND PROFILE

SHEET C-2
SEQ. 7 OF 21

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-PNP.dwg LAYOUT: Layout1 DATE: 9/21/18 BY: ABBY CROCKETT

Date: Sep 21, 2018 - 1:31pm User: Abby CroEkett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-PNP.dwg

A C-2 CROSS SECTION
1"=10'



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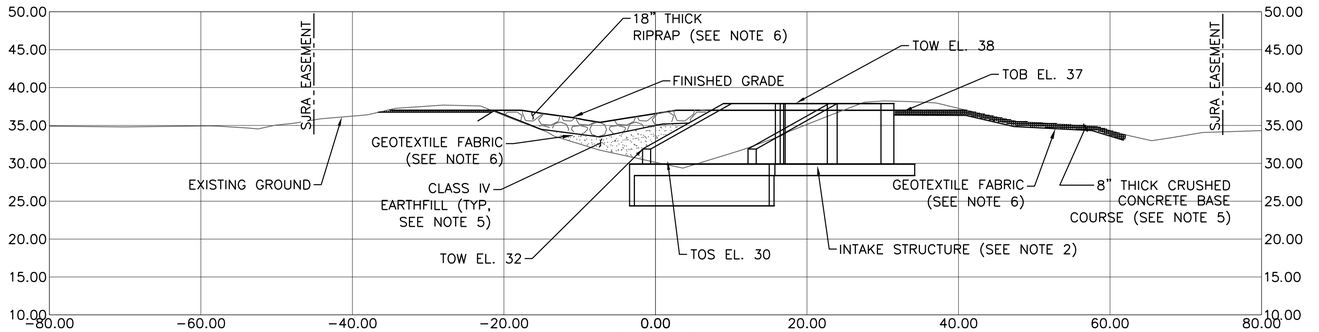
B C-2 CROSS SECTION
1"=10'



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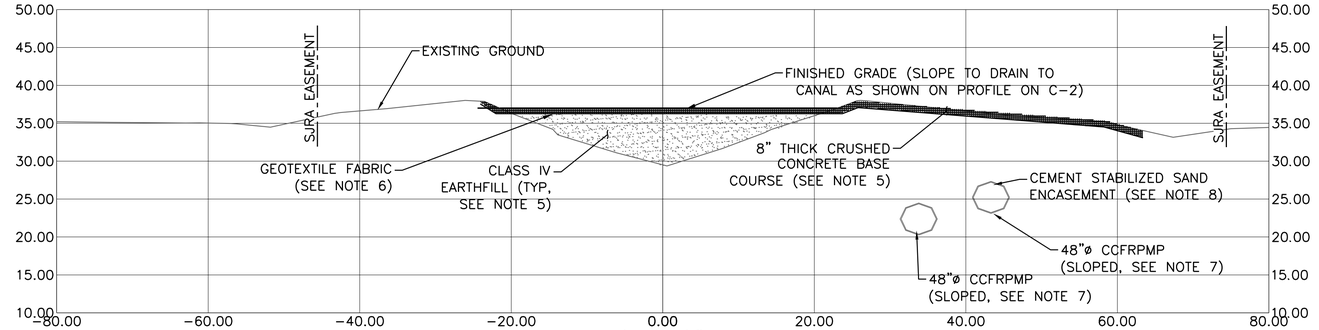
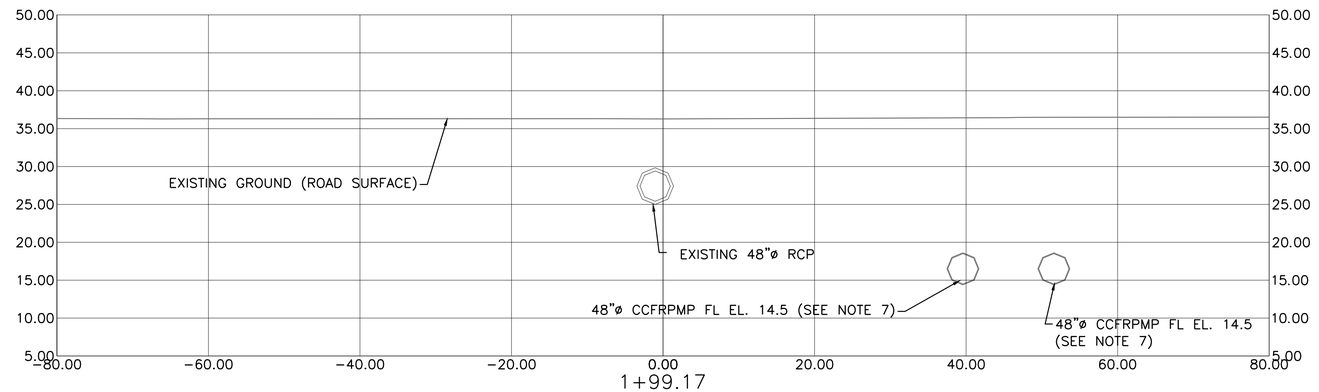
C C-2 CROSS SECTION
1"=10'



1+23.19

D C-2 CROSS SECTION
1"=10'



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NOTES:

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2. ENTIRE INTAKE/DISCHARGE STRUCTURES SHOWN IN CROSS SECTION VIEWS FOR CLARITY. SELECT BACKFILL SHALL BE PLACED AROUND STRUCTURES AS SHOWN ON SHEET S-3. CONTRACTOR SHALL PROVIDE ATTERBERG LIMIT TEST RESULTS FOR SELECT BACKFILL IN ACCORDANCE WITH SPECIFICATION SECTION 31 21 33 – TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES PRIOR TO PLACEMENT OF MATERIALS. MATERIALS SHALL BE COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.
3. SCADA INFRASTRUCTURE NOT SHOWN. SEE SHEET C-5.
4. UTILITY LOCATION INFORMATION BASED ON BEST AVAILABLE SURVEY INFORMATION; SEE SHEET C-1 FOR MORE INFORMATION. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS IN PROJECT VICINITY PRIOR TO COMMENCING WORK.
5. SEE SPECIFICATION SECTIONS 31 21 33 – TRENCHING, BACKFILLING AND COMPACTING FOR UTILITES, 31 23 00 – EARTHWORK, 31 23 16.16 – STRUCTURAL EXCAVATION FOR MINOR STRUCTURES, AND 31 24 00.01 – BORROW FOR EARTHWORK REQUIREMENTS. SEE SPECIFICATION SECTION 32 11 00.01 – RECYCLED CRUSHED CONCRETE BASE COURSE FOR CONCRETE BASE COURSE REQUIREMENTS.
6. SEE SPECIFICATION SECTIONS 31 37 01 – CONCRETE RIPRAP AND 31 38 25 – GEOTEXTILES FOR RIRPAP AND GEOTEXTILE REQUIREMENTS.
7. SEE SPECIFICATION SECTION 33 31 13.13 – CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR PIPE FOR PIPE REQUIREMENTS.
8. CEMENT STABILIZED SAND TO BE PLACED AROUND PIPE SECTIONS INSTALLED VIA OPEN EXCAVATION NOT SHOWN IN CROSS SECTIONS. SEE SHEET SD-1 FOR EARTHWORK, PIPE, AND PIPE TRENCH DETAILS.
9. MUD SLABS AND FLOWABLE FILL NOT SHOWN IN CROSS SECTIONS FOR CLARITY. SEE SHEET S-3.
10. GUARDRAIL NOT SHOWN IN CROSS SECTIONS FOR CLARITY. SEE SHEETS S-2, S-3, AND SD-1.
11. SLIDE GATES NOT SHOWN ON INTAKE STRUCTURE IN CROSS SECTION FOR CLARITY. SEE SHEETS S-2 AND SD-4 AND SPECIFICATION SECTION 40 60 05 – WATER CONTROL GATES.

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SCALE: 1"=10'
GRAPHIC SCALE IN FEET
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Texas Registered Engineering Firm F-8482

STATE OF TEXAS
ABIGAIL L. CROCKETT
115591
LICENSED PROFESSIONAL ENGINEER
9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS WALLISVILLE RD SIPHON IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

SJRA PROJECT NO:
FILE NAME: SJRA-WALLISVILLE-XS.dwg
DRAWN BY: AC AC
CHECKED BY: VF VF
SCALE: AS SHOWN

CIVIL

CROSS SECTIONS 1

SHEET C-3
SEQ. 8 OF 21

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-XS.dwg LAYOUT: C-3 DATE: 9/21/18 BY: ABBY CROCKETT

Date: Sep 21, 2018 - 1:52pm User: Abby CroEkett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-XS.dwg

E / C-2 CROSS SECTION
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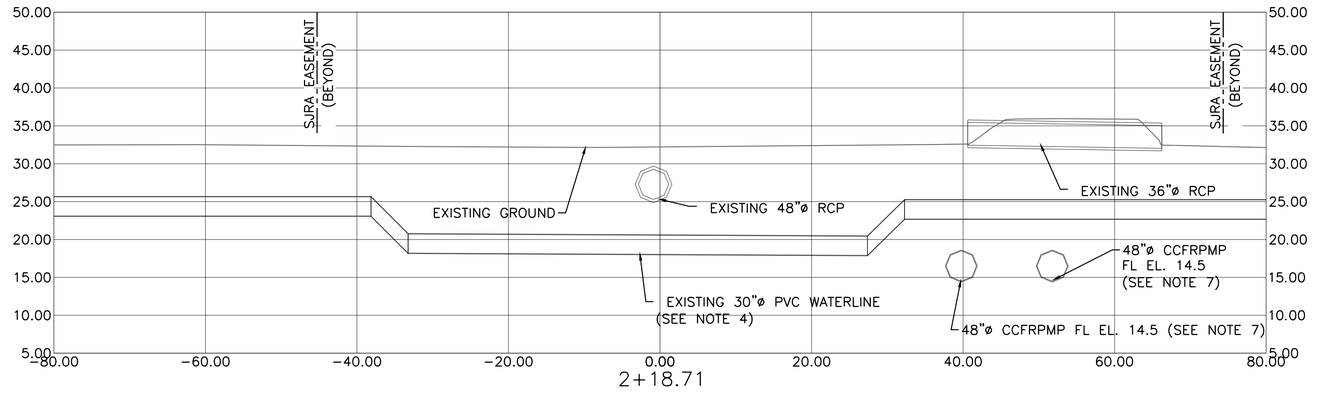

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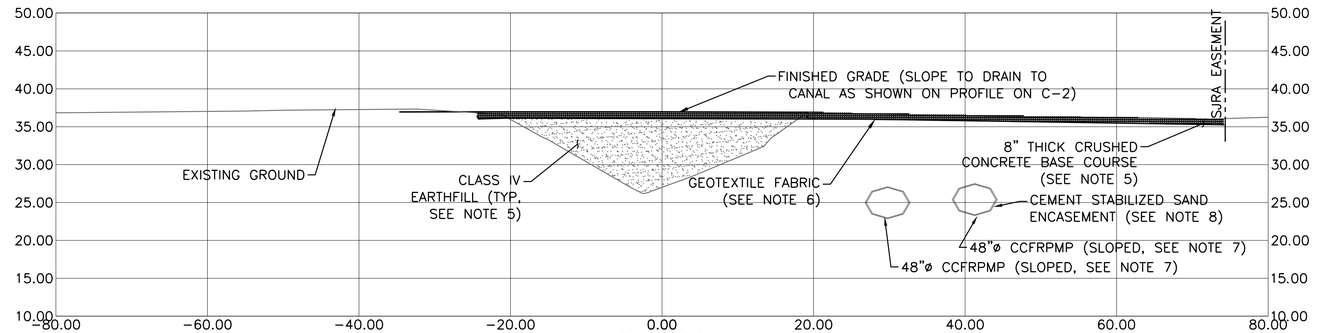

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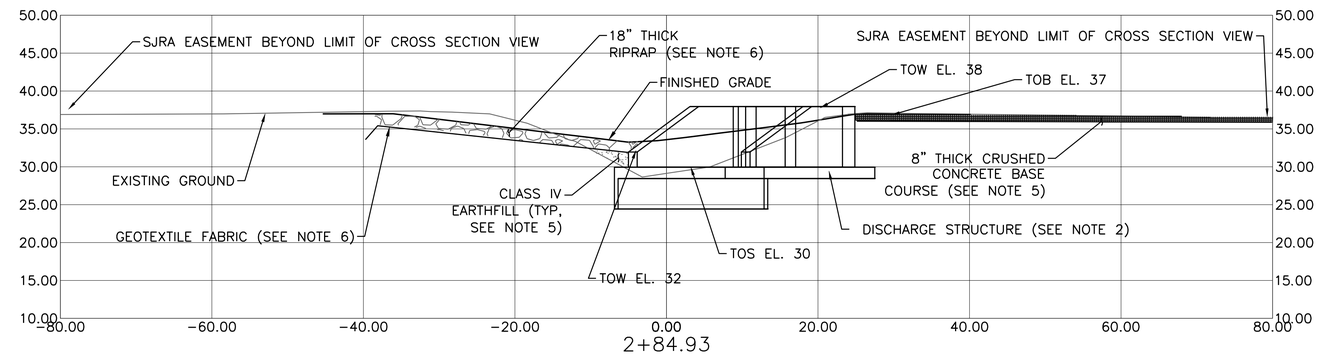

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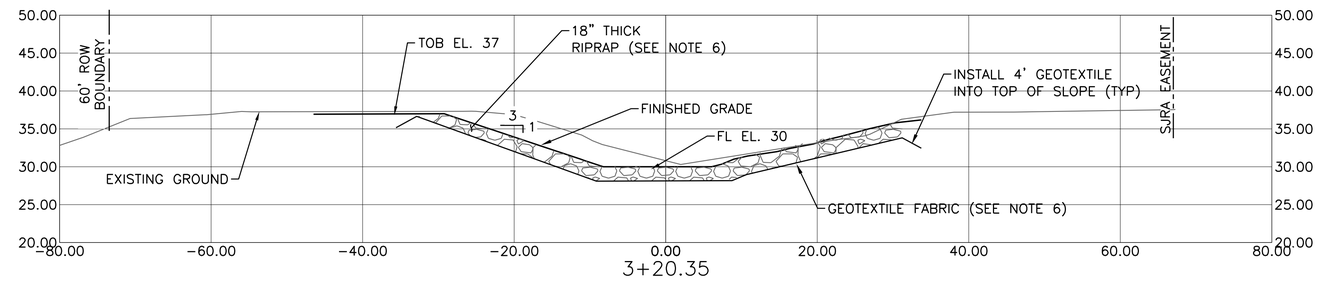

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10. GUARDRAIL NOT SHOWN IN CROSS SECTIONS FOR CLARITY. SEE SHEETS S-2, S-3, AND SD-1.

SCALE: 1"=10'
GRAPHIC SCALE IN FEET
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9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

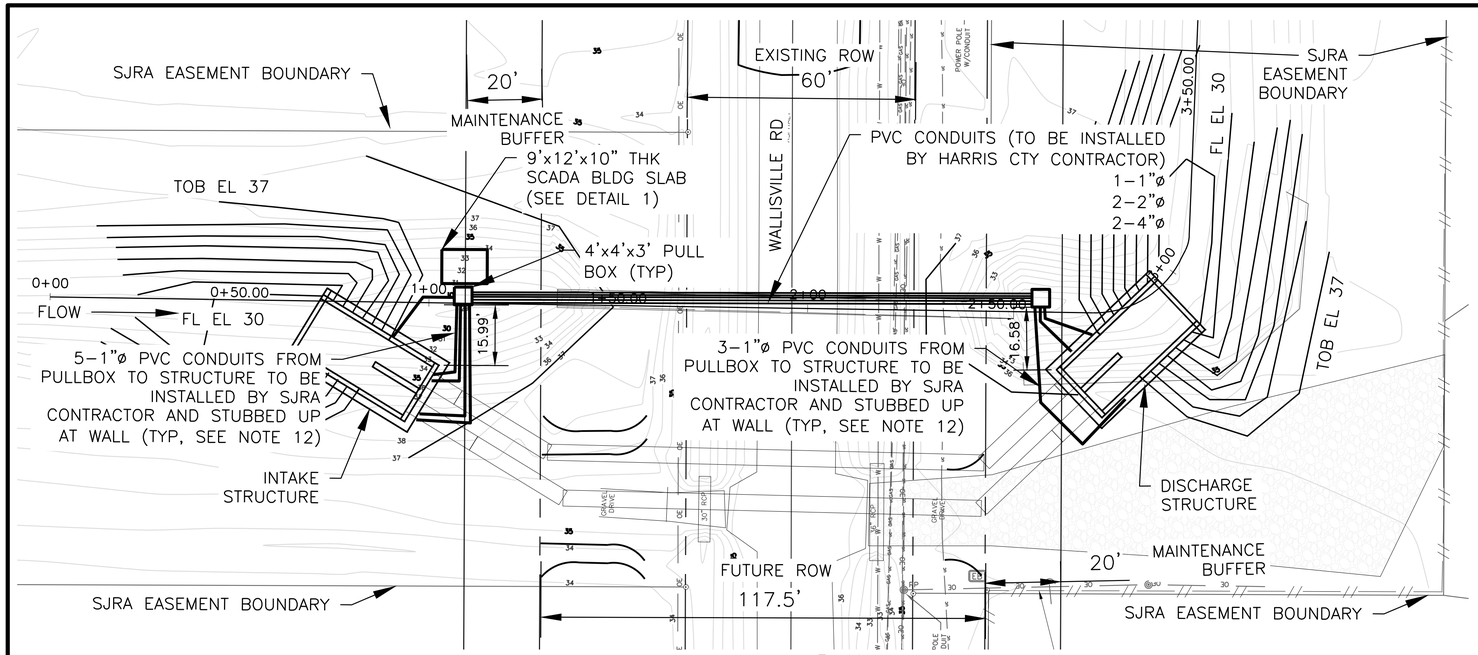
SJRA PROJECT NO:	
FILE NAME: SJRA-WALLISVILLE-XS.dwg	
DRAWN BY: AC	AC
CHECKED BY: VF	VF
SCALE:	AS SHOWN

CIVIL

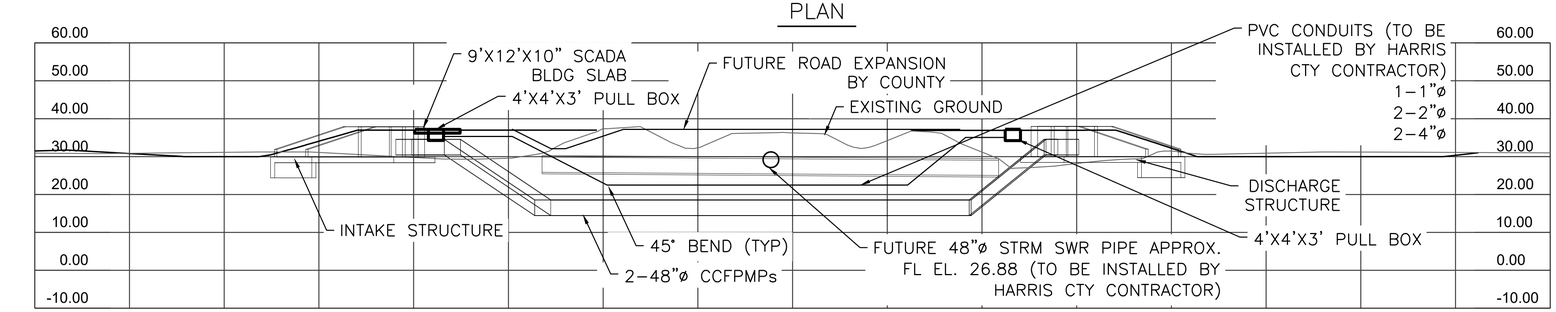
CROSS SECTIONS 2

SHEET C-4
SEQ. 9 OF 21

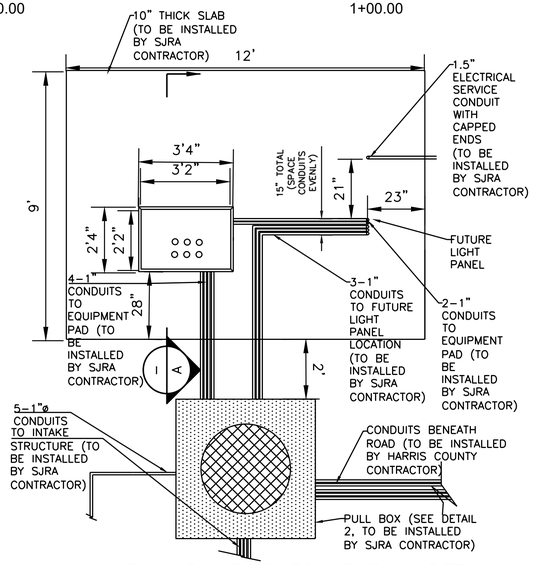
RFP SUBMITTAL



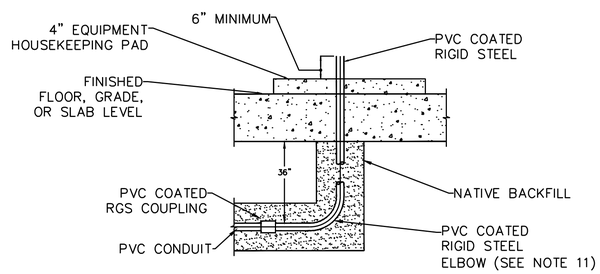
PLAN



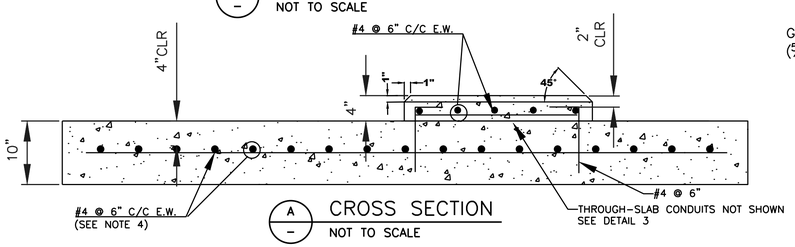
PROFILE



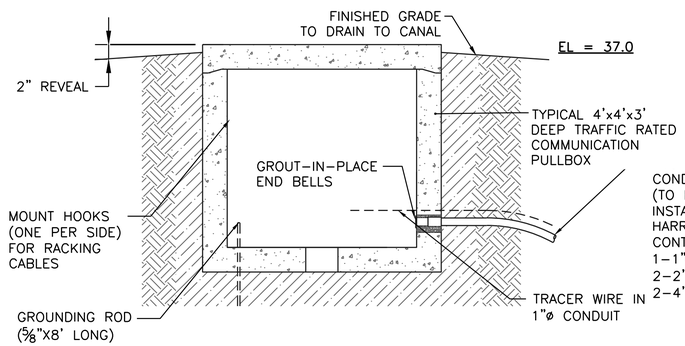
1 — BUILDING FOUNDATION DETAIL
NOT TO SCALE



3 — THROUGH-SLAB CONDUIT DETAIL
NOT TO SCALE



A — CROSS SECTION
NOT TO SCALE



NOTE: CONDUITS FROM PULL BOX TO STRUCTURES NOT SHOWN IN THIS DETAIL.

2 — PRECAST PULLBOX ELEVATION
NOT TO SCALE

NOTES

1. SCADA BUILDING SLAB WITH THROUGH-SLAB CONDUITS, CONDUITS FROM PULL BOXES TO STRUCTURES, AND PULL BOXES TO BE INSTALLED BY SJRA CONTRACTOR. PVC CONDUITS BETWEEN PULL BOXES TO BE INSTALLED BY HARRIS COUNTY CONTRACTOR. LAYOUT OF PVC CONDUITS BENEATH ROAD IN PROFILE VIEW SHOWN FOR REFERENCE ONLY; ACTUAL LAYOUT TBD BY HARRIS COUNTY CONTRACTOR.
2. ALL THROUGH-SLAB CONDUITS SHALL BE INSTALLED AND STUBBED UP PRIOR TO FORMWORK, INSTALLATION OF REINFORCEMENT, AND POURING OF CONCRETE.
3. COMPACTION OF GROUND BENEATH PAD SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 31 21 33- TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES AND SHALL BE APPROVED BY ONSITE OWNER'S REPRESENTATIVE PRIOR TO FORMWORK, INSTALLATION OF REINFORCEMENT, AND POURING OF CONCRETE.
4. ALL REINFORCEMENT SHALL BE PLACED AT LOCATION SHOWN ON DETAIL A AND SUPPORTED WITH BLOCKS OR CHAIRS. REINFORCEMENT SHALL BE INSTALLED PRIOR TO CONCRETE POUR.
5. CONCRETE SHALL BE HIGH-STRENGTH, 4000 PSI CONCRETE.
6. ALL THROUGH SLAB CONDUITS SHALL REMAIN TAPED OR CAPPED OFF THROUGHOUT DURATION OF POUR AND REMAIN CAPPED THEREAFTER SO AS TO PREVENT CONCRETE OR WATER/DEBRIS FROM ENTERING CONDUITS.
7. FORMS SHALL NOT BE REMOVED UNTIL CONCRETE HAS HARDENED SUFFICIENTLY TO RESIST DAMAGE FROM REMOVAL OPERATIONS OR LACK OF SUPPORT.
8. CONCRETE FINISH SHALL BE A BROOM FINISH.
9. ALL ELECTRICAL EQUIPMENT AND APPURTENANCES SHALL BE INSTALLED TO STANDARDS OF LOCAL ENERGY PROVIDER (CENTERPOINT ENERGY), THE NATIONAL ELECTRIC CODE, AND ALL OTHER APPLICABLE STANDARDS.
10. ALL CONDUITS SHALL BE INSTALLED TO A MINIMUM COVER DEPTH OF THIRTY-SIX (36) INCHES.
11. ALL 90 DEGREE CONDUIT BENDS SHALL BE INSTALLED TO HAVE A RADIUS NO LESS THAN 36 INCHES.
12. CONDUITS FROM PULL BOXES TO STRUCTURES SHALL BE STUBBED UP 6 INCHES ABOVE GROUND AND CAPPED. ALL CONDUITS, ELBOWS, JOINTS, FITTINGS, ETC. THAT SERVE AS A TRANSITION FROM UNDERGROUND TO ABOVE GROUND SHALL BE PVC COATED RIGID STEEL.
13. PULL STRINGS SHALL BE INSTALLED IN ALL CONDUITS. TRACER WIRE SHALL BE INSTALLED IN AT LEAST ONE CONDUIT FOR EACH CONDUIT PATH TYPE.
14. CONDUIT SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 27 05 34 – CONDUITS FOR FUTURE SCADA USE.
15. PULL BOXES SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 27 04 10 – GROUND BOXES.
16. SLAB REINFORCEMENT SHALL BE #4 BARS (60KSI) AT 6" C/C E.W.
17. CONCRETE SHALL BE PLACED SUCH THAT 4" OF SLAB IS ABOVE GROUND AND 6" IS BELOW GROUND.

SCALE: 1"=20'

GRAPHIC SCALE IN FEET
0 10 20 30 40

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9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS WALLISVILLE RD SIPHON IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

SJRA PROJECT NO:	
FILE NAME:	SJRA-WALLISVILLE-SCADA PNP.dwg
DRAWN BY:	AC
CHECKED BY:	VF
SCALE:	AS SHOWN

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SCADA INFRASTRUCTURE PLAN & PROFILE

SHEET C-5
SEQ. 10 OF 21

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GENERAL NOTES

1. VERIFY ALL DIMENSIONS, ELEVATIONS, AND OPENING SIZES PRIOR TO STARTING WORK.
2. REMOVE ALL ABANDONED FOUNDATIONS, UTILITIES, PIPELINES, ETC. THAT INTERFERE WITH NEW CONSTRUCTION.
3. FIELD VERIFY ALL EXISTING CONDITIONS, INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES. NOTIFY SJRA CONSTRUCTION MANAGER AND PRINCIPAL ARCHITECT/ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS BEFORE PROCEEDING WITH WORK. PROVIDE EXCAVATION SHORING TO PROTECT AND SUPPORT FOUNDATION SOILS UNDER AND ADJACENT TO EXISTING STRUCTURES.
4. THE STRUCTURES ARE DESIGNED FOR STABILITY IN THE FINAL CONDITION ONLY. PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY DURING CONSTRUCTION.
5. PLANS, SECTIONS, AND DETAILS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
6. THE GENERAL NOTES AND TYPICAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.
7. EXCAVATION SLOPES SHOWN ON DRAWINGS ARE MAXIMUMS. CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATION SAFETY.

CONCRETE

1. CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST EDITIONS OF ACI 318 AND ACI 350.
2. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS NOTED OTHERWISE, SHALL BE IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315), LATEST EDITION.
3. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI, UNLESS OTHERWISE NOTED.
4. ALL REINFORCING SHALL BE IN ACCORDANCE WITH ASTM A 615, GRADE 60, DEFORMED. SEE NOTE 13 ON SHEET G-3 FOR TWDB U.S. STEEL REQUIREMENTS.
5. CONCRETE CLEAR COVER OVER REINFORCING SHALL BE 3".
6. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" INSIDE FORMS OR TOOLED TO 3/4" RADIUS ON SLABS UNLESS OTHERWISE NOTED.
7. ADDITIONAL CONSTRUCTION JOINTS SHALL HAVE PRIOR APPROVAL OF THE PRINCIPAL ARCHITECT/ENGINEER.
8. PENETRATIONS OTHER THAN SHOWN SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE PRINCIPAL ARCHITECT/ENGINEER.
9. IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED DUE TO THE LIMITED EXTENT OF THE ADJACENT CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL FORMING, TEMPORARY BRACING AND SHORING.
11. UNLESS NOTED OTHERWISE, HOOKS SHOWN ON DRAWINGS SHALL BE ASSUMED TO BE STANDARD HOOKS PER ACI 318.
12. UNLESS INDICATED OTHERWISE, LAP SPLICES IN BEAMS AND WALLS SHALL BE STAGGERED.
13. ALL REINFORCING SHALL BE CONTINUOUS. CONTINUOUS BARS SHALL LAP IN ACCORDANCE WITH THE FOLLOWING TABLE, UNLESS NOTED OTHERWISE. ALL REBAR EMBEDMENT LENGTHS SHALL BE 75% OF THE LAP SPLICE LENGTH OR AT LEAST 12", UNLESS NOTED OTHERWISE. "TOP BARS" ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BARS (INCLUDING WALLS). "OTHER BARS" ARE ALL BARS OTHER THAN TOP BARS.

REBAR LAP SPLICE LENGTHS (INCHES)

BAR SIZE	MIN. CONCRETE CLEAR COVER	4,000 PSI	
		TOP BARS	OTHER BARS
#3	1.0"	16	16
#4	1.0"	20	16
#5	1.0"	30	23
	1.5"	25	20
#6	1.0"	41	32
	1.5"	30	24
#7	1.5"	49	38
	2.0"	43	33
#8	1.5"	62	47
	2.0"	49	38
#9	1.5"	76	58
	2.0"	60	47
	2.5"	55	43
#10	1.5"	91	71
	2.0"	75	58
	2.5"	65	51
#11	1.5"	110	85
	2.0"	89	69
	2.5"	81	63

FOUNDATION

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH "GEOTECHNICAL INVESTIGATION SAN JACINTO RIVER AUTHORITY WALLISVILLE SIPHON REPLACEMENT PROJECT" DATED AUGUST 2018, PREPARED BY AVILES ENGINEERING CORPORATION (REPORT G108-18).
2. EXCAVATION, SUBGRADE PREPARATION, AND BACKFILL FOR STRUCTURES SHALL BE AS NOTED BELOW.
   A. MAT FOUNDATIONS SHALL BE FOUNDED ON FIRM CLAY. AFTER REMOVAL OF EXISTING STRUCTURES AND PRIOR TO CONSTRUCTION OF NEW FOUNDATIONS, OVER-EXCAVATE BELOW THE PROPOSED SUBGRADE A MINIMUM OF 3 INCHES TO ALLOW PLACEMENT OF A LEAN CONCRETE MUD SLAB. EXCAVATION TO FINAL SUBGRADE DEPTH AND PLACEMENT OF THE MUD SLAB SHALL BE PERFORMED WITHIN THE SAME DAY TO PROTECT THE CLAY FROM WEATHERING.
   B. BACKFILL BEHIND THE WALLS WITH COMPACTED SELECT FILL. ALL BACKFILL SHALL BE FREE OF ORGANIC MATERIAL AND ROCKS LARGER THAN 3".
   C. FOUNDATION EXCAVATIONS SHALL BE OBSERVED BY A QUALIFIED LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER. EXCAVATIONS SHALL BE OBSERVED TO CONFIRM THAT LOOSE, SOFT, OR UNDESIRABLE MATERIALS ARE REMOVED, AND THAT THE FOUNDATIONS AND LEAN CONCRETE MUD SLAB FOR THE STRUCTURES WILL BEAR ON SATISFACTORY MATERIAL. IF SILT OR SAND IS ENCOUNTERED AT PROPOSED SLAB BEARING ELEVATION, CONTRACTOR MAY BE REQUIRED TO OVER-EXCAVATE 18 INCHES BENEATH SLAB BEARING ELEVATION AND REPLACE SILT/SAND MATERIAL WITH COMPACTED GRAVEL WRAPPED WITH GEOTEXTILE FABRIC.
   D. EXTEND THE LATERAL LIMITS OF THE EXCAVATION A MINIMUM OF 2 FEET BEYOND THE PERIMETER OF THE STRUCTURE FOUNDATION, UNLESS NOTED OTHERWISE.
   E. AT STRUCTURES WHERE COMPACTED FILL MAY BE USED TO RAISE EXISTING GRADE ELEVATION BENEATH STRUCTURES, PRIOR TO PLACEMENT OF FILL, SCARIFY THE EXPOSED SUBGRADE TO A DEPTH OF 6 INCHES, ADJUST THE MOISTURE CONTENT AS NECESSARY, AND MAINTAIN IT TO WITHIN THE OPTIMUM MOISTURE CONTENT TO 3 PERCENT ABOVE OPTIMUM AND RECOMPACT THE SOIL TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698 (STANDARD PROCTOR).
   F. BACKFILL MATERIALS SHALL CONSIST OF THE FOLLOWING:
      i. SELECT FILL: CLASS IV EARTH FILL AS SPECIFIED. PLACE IN MAXIMUM 8 INCH LOOSE LIFTS AND COMPACT TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698, AND AT A MOISTURE CONTENT WITHIN 1 PERCENT BELOW AND 3 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT.
      iii. LEAN CONCRETE: AS SPECIFIED.
      iv. FLOWABLE FILL: AS SPECIFIED:
   G. DESIGN BEARING PRESSURE (NET) IS 1200 PSF FOR MAT FOUNDATIONS BEARING ON UNDISTURBED FIRM SOIL OR APPROVED ENGINEERED FILL MATERIAL. SUITABLE BEARING MATERIALS SHALL BE VERIFIED BY A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER.
   H. THE SUBGRADE MOISTURE CONTENT AND DENSITY SHALL BE MAINTAINED DURING CONSTRUCTION.
3. ALL BELOW GRADE ELEMENTS ARE DESIGNED WITH FORMED SIDES. ALL CONCRETE EXPOSED TO VIEW IN THE FINAL CONDITION SHALL BE FORMED.
4. DO NOT BACKFILL FOUNDATION WALLS UNTIL THE RESTRAINING SLABS OR ADEQUATE BRACING ARE IN PLACE.
5. GRADING AROUND STRUCTURES SHALL BE SUCH AS TO DRAIN ALL WATER AWAY FROM STRUCTURES.

STRUCTURAL STEEL

1. SEE NOTE 13 ON SHEET G-3 FOR TWDB U.S. STEEL REQUIREMENTS.
2. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", ANSI/AISC 360-05.
3. STEEL MATERIAL SHALL BE IN ACCORDANCE WITH THE FOLLOWING UNLESS NOTED OTHERWISE:
   A. WIDE FLANGES: ASTM A992
   B. CHANNELS: ASTM A36
   C. PIPES: ASTM A53, TYPE E OR S, GRADE B
   D. PLATES: ASTM A36
   E. MISC: ASTM A36
   F. ANCHORS RODS: ASTM F1554, GRADE 36.
3. WELDING SHALL BE DONE IN ACCORDANCE WITH "STRUCTURAL WELDING CODE-STEEL", AMERICAN WELDING SOCIETY (AWS D1.1-2000)
4. WELDING SHALL BE PERFORMED WITH E70XX LOW-HYDROGEN ELECTRODES.
5. NO HOLES SHALL BE CUT THROUGH STEEL FRAMING IN FIELD UNLESS APPROVED BY THE ENGINEER.
6. ALL STRUCTURAL STEEL SHALL BE HOT-DIPPED GALVANIZED UNLESS NOTED OTHERWISE.

POST-INSTALLED ANCHORS (EXPANSION OR ADHESIVE)

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII), BUT NOT LESS THAN THAT INDICATED BELOW.
2. ADHESIVE ANCHORS SHALL ONLY BE INSTALLED BY CONSTRUCTION PERSONNEL CERTIFIED UNDER ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM. SUBMIT CERTIFICATIONS AS RECORD DATA.
3. ANCHOR DIAMETER AND EMBEDMENT SHALL BE AS INDICATED.
4. HOLES SHALL BE DRILLED USING ROTARY HAMMER DRILLS WITH ANSI MATCHED TOLERANCE CARBIDE-TIPPED DRILL BITS. DRILL BIT DIAMETER SHALL MATCH DIAMETER RECOMMENDED BY MANUFACTURER.
5. USE CARE AND CAUTION WHEN INSTALLING TO AVOID CUTTING OR DAMAGING EXISTING REINFORCING STEEL.
6. AS INDICATED BLOW HOLES CLEAN WITH COMPRESSED AIR, 80 PSI MINIMUM. START BLOWING WITH NOZZLE AT BACK OF HOLE AND SLOWLY EXTRACT NOZZLE.
7. EXPANSION ANCHORS SHALL BE A STUD BOLT TYPE WITH HEX HEAD NUT AND SHALL BE GALVANIZED STAINLESS STEEL 316 UNLESS OTHERWISE NOTED, AND AS NOTED BELOW:
   A. ANCHORS SHALL BE HILTI KWIK BOLT TZ, OR AN APPROVED EQUAL.
   B. BLOW HOLES CLEAN. REPEAT 3 TIMES.
   C. DRIVE ANCHOR INTO HOLE WITH A HAMMER AND THEN TIGHTEN TO SPECIFIED TORQUE.
8. ADHESIVE ANCHORS SHALL BE DEFORMED REINFORCING BARS (ASTM A615, GR 60) OR STAINLESS STEEL 316, UNLESS OTHERWISE AS NOTED, AND AS NOTED BELOW:
   A. ADHESIVE SHALL BE HILTI HIT-RE 500-V3 OR AN APPROVED EQUAL.
   B. PRIOR TO INSTALLATION: ALL DEFORMED BARS AND THREADED ROD SHALL BE CLEAN, FREE OF OIL, GREASE, OR OTHER RESIDUE, IN ACCORDANCE WITH MPII.
   C. CLEAN HOLES BEFORE INSTALLING ANCHOR PER MPII, BUT NOT LESS THAN THE FOLLOWING:
      i. BLOW HOLE CLEAN. REPEAT 3 TIMES.
      ii. BRUSH HOLE WITH SPECIFIED BRUSH. REPEAT 3 TIMES.
      iii. BLOW HOLE CLEAN. REPEAT 3 TIMES.
      NOTE: THIS PROCEDURE NOT REQUIRED IF HILTI SAFESET OR EQUIVALENT SYSTEM IS USED FOR INSTALLATION.
   D. INSTALL EPOXY STARTING AT BACK OF HOLE. AS REQUIRED BY MPII, USE MANUFACTURER SUPPLIED PISTON PLUG INJECTION SYSTEM FOR ALL HORIZONTAL AND VERTICALLY INCLINED HOLES.
   E. INSTALL ANCHOR SIMULTANEOUSLY TWISTING AND INSERTING INTO HOLE.
   F. ALLOW ANCHOR TO SET REQUIRED TIME. DO NOT DISTURB.
   G. TIGHTEN NUT. DO NOT OVER-TORQUE.
   H. MINIMUM CONCRETE AGE AT TIME OF INSTALLATION: 28 DAYS
   I. CONCRETE TEMPERATURE RANGE AT TIME OF INSTALLATION SHALL BE: 41DEG F TO 104DEG F.
   J. CONCRETE MOISTURE CONDITION AT TIME OF INSTALLATION: DRY.

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Texas Registered Engineering Firm F-8482

STATE OF TEXAS
ABIGAIL L. CROCKETT
115591
LICENSED
PROFESSIONAL ENGINEER
9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

SJRA PROJECT NO:
FILE NAME: ST-WALLISVILLE-GN-NOTE.dwg
DRAWN BY: AC AC
CHECKED BY: VF VF
SCALE: AS SHOWN

STRUCTURAL
GENERAL NOTES

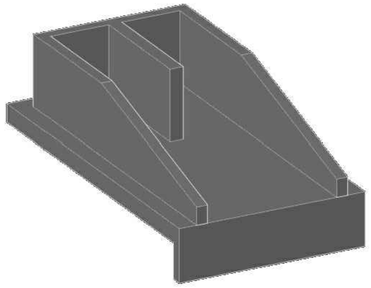
SHEET S-1
SEQ. 11 OF 21

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\ST-WALLISVILLE-GN-NOTE.dwg LAYOUT: NOTES DATE: 9/21/18 BY: ABBY CROCKETT

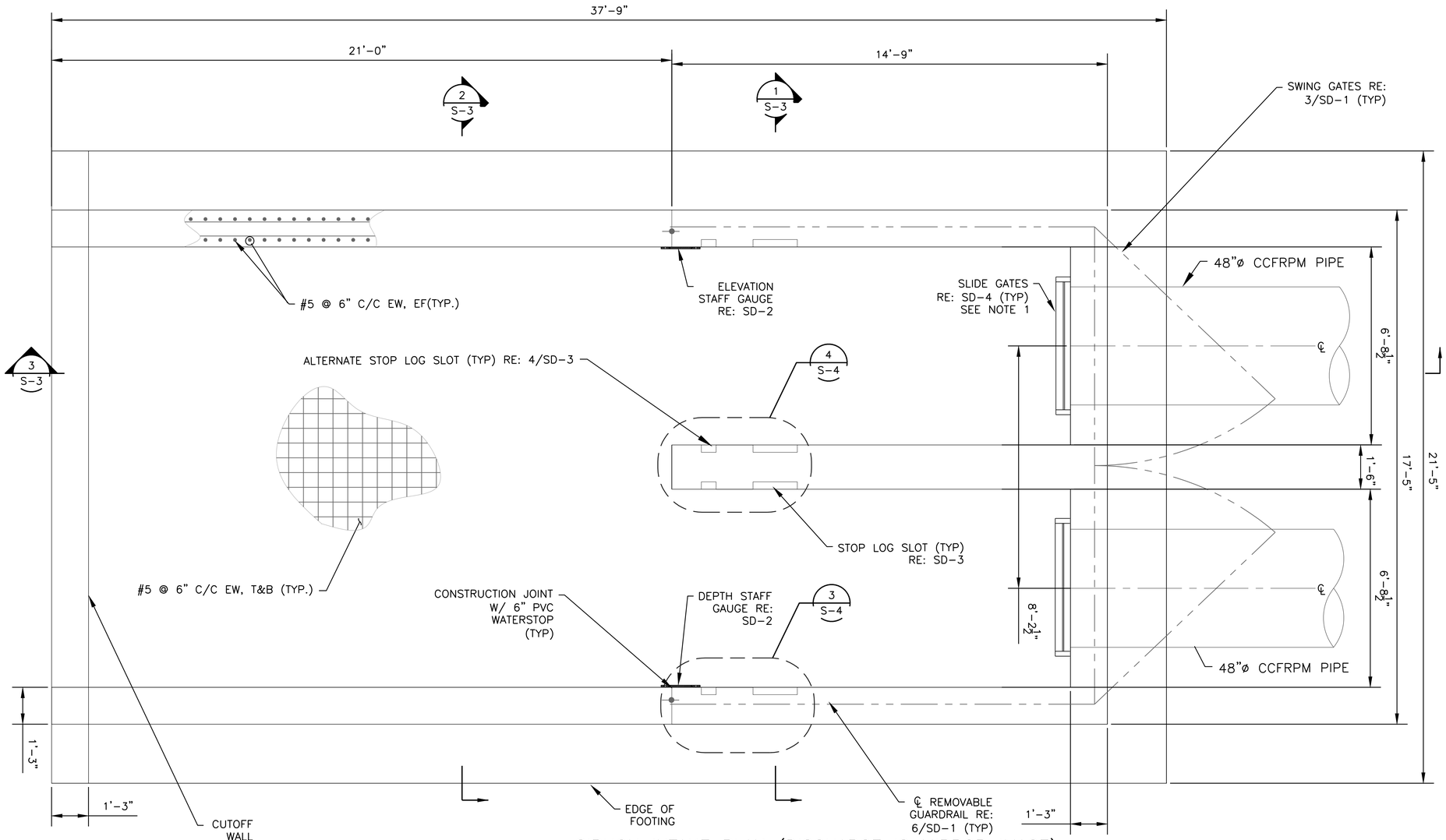
Date: Sep 21, 2018 - 2:17pm User: Abby Crockett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\ST-WALLISVILLE-GN-NOTE.dwg

NOTES:

1. SLIDE GATES TO BE INSTALLED ON INTAKE STRUCTURE (UPSTREAM) ONLY; SEE SHEET SD-4
2. STOP LOG RAILS NOT SHOWN; SEE SHEET SD-3.



3D RENDERING



SIPHON INTAKE PLAN (DISCHARGE IS MIRROR IMAGE)

SCALE: 1/2"=1'

0 1' 2' 4'

1/2"=1'-0"

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SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

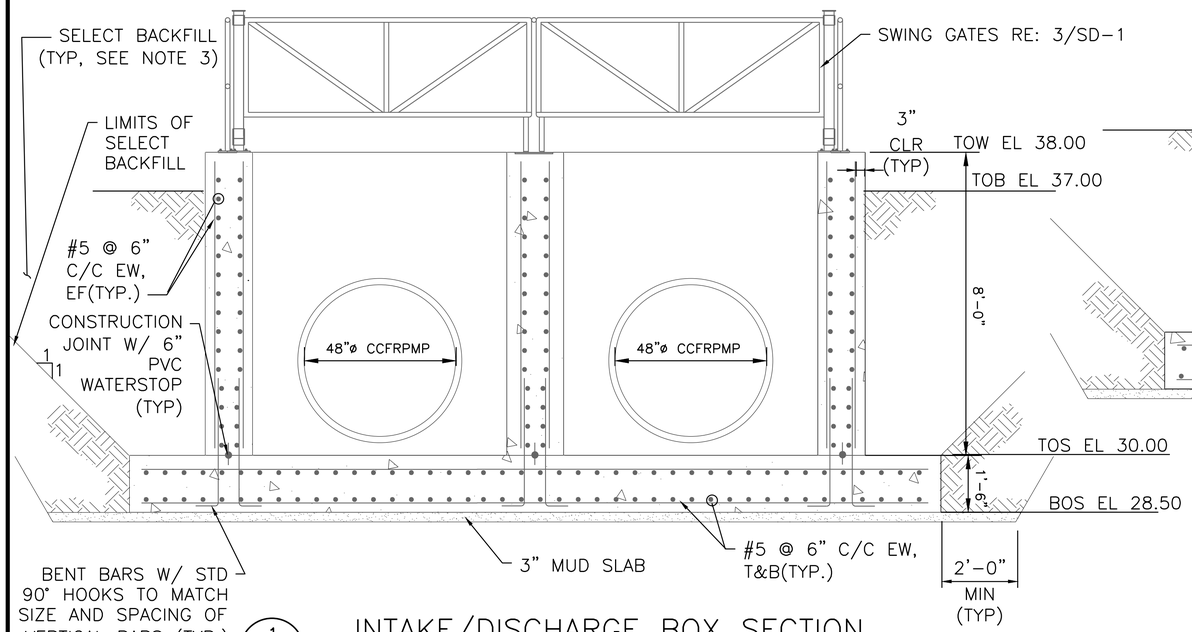
SJRA PROJECT NO:	
FILE NAME: SJRA-WALLISVILLE-ST PLAN.dwg	
DRAWN BY: AC	AC
CHECKED BY: VF	VF
SCALE:	AS SHOWN

STRUCTURAL
STRUCTURAL RENDERING & PLAN

SHEET S-2
SEQ. 12 OF 21

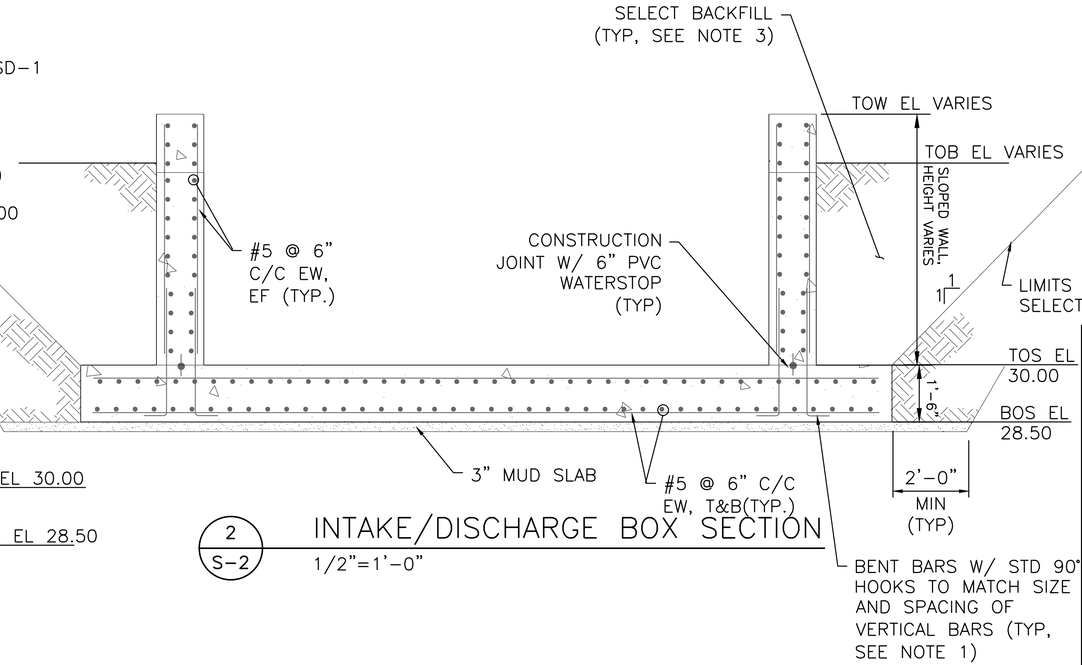
FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-ST PLAN.dwg LAYOUT: plan DATE: 9/21/18 BY: ABBY CROCKETT

Date: Sep 21, 2018 - 2:19pm User: Abby CroEkett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-ST PLAN.dwg



1 / S-2 INTAKE/DISCHARGE BOX SECTION

1/2"=1'-0"



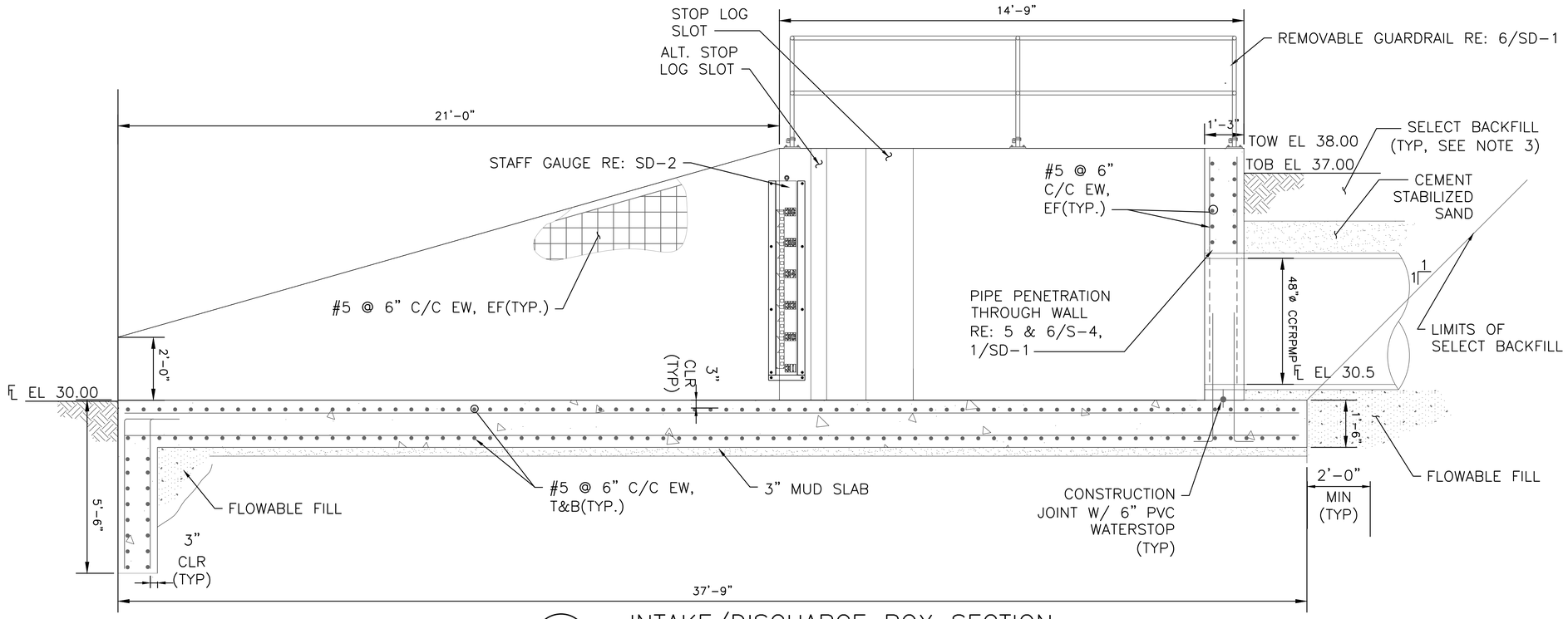
2 / S-2 INTAKE/DISCHARGE BOX SECTION

1/2"=1'-0"

SCALE: 1/2"=1'
0 1' 2' 4'
1/2"=1'-0"

NOTES:

1. SLIDE GATES NOT SHOWN FOR CLARITY. SLIDE GATES TO BE INSTALLED ON INTAKE STRUCTURE (UPSTREAM) ONLY. SEE SHEET SD-4.
2. STOP LOG RAILS NOT SHOWN; SEE SHEETS SD-3.
3. SELECT BACKFILL SHALL BE PLACED AROUND STRUCTURES AT 1H:1V SLOPE FROM TOP OF CONCRETE SLAB TO NATURAL GRADE. CONTRACTOR SHALL PROVIDE ATTERBERG LIMIT TEST RESULTS FOR SELECT BACKFILL IN ACCORDANCE WITH SPECIFICATION SECTION 31 21 33 – TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES PRIOR TO PLACEMENT OF BACKFILL. BACKFILL SHALL BE COMPACTED ACCORDING TO SPECIFICATION REQUIREMENTS.



3 / S-2 INTAKE/DISCHARGE BOX SECTION

1/2"=1'-0"

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9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS WALLISVILLE RD SIPHON IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

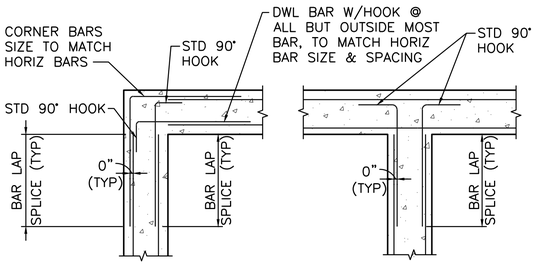
SJRA PROJECT NO:	
FILE NAME: SJRA-WALLISVILLE-ST PLAN.dwg	
DRAWN BY: AC	AC
CHECKED BY: VF	VF
SCALE:	AS SHOWN

STRUCTURAL
STRUCTURAL SECTIONS

SHEET S-3
SEQ. 13 OF 21

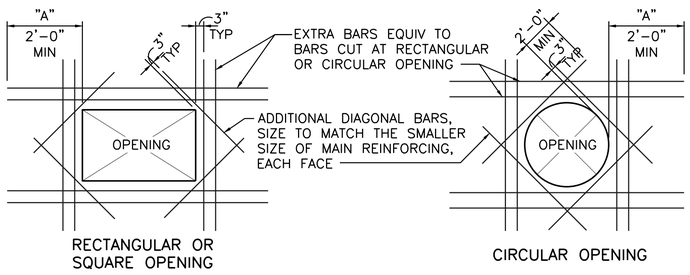
FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-ST PLAN.dwg LAYOUT: Section DATE: 9/21/18 BY: ABBY CROCKETT

Date: Sep 21, 2018 - 2:31pm User: Abby Crockett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-ST PLAN.dwg



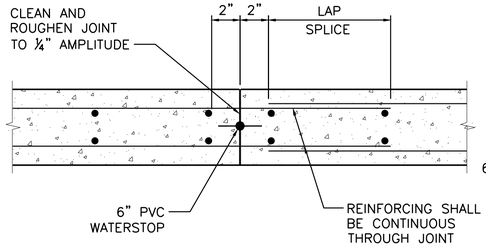
DETAIL NOTES:
1. REINFORCING SHOWN APPLIES TO ALL TOP, BOTTOM AND SIDE BARS. ALL REQUIRED BARS ARE NOT SHOWN IN DETAIL.
2. AT CONTRACTOR'S OPTION, UNLESS NOTED OTHERWISE, ELIMINATE DOWELS AND CORNER BAR AND TERMINATE HORIZONTAL BARS WITH STANDARD HOOKS.

1 / – CORNER AND INTERSECTION REINFORCEMENT
NOT TO SCALE

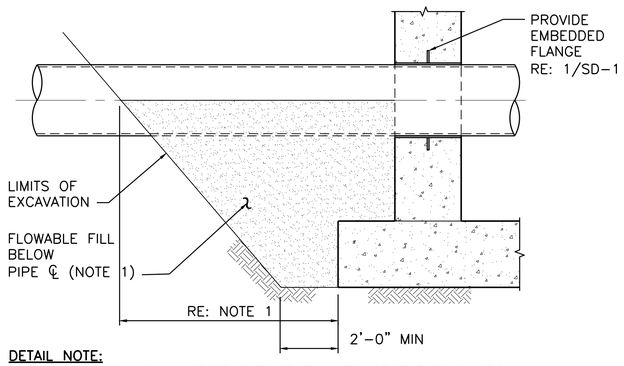


NOTES:
1. DISCONTINUE TYPICAL REINFORCING AT OPENING.
2. PLACE ADDITIONAL BARS IN SAME ORIENTATION AS BARS CUT BY OPENING. PROVIDE ONE SET (2) OF BARS FOR EACH LAYER OF REINFORCING CUT.
3. "A" = TOP BAR EMBEDMENT LENGTH (24" MINIMUM). PROVIDE STANDARD HOOK IF FULL EMBEDMENT LENGTH IS NOT POSSIBLE.
4. REINFORCING STEEL IS TO BE CARRIED ACROSS ALL CONSTRUCTION JOINTS.
5. ADDITIONAL REINFORCING MAY BE OMITTED ONLY WHERE OPENING IS FRAMED BY BEAMS OR WALLS.
6. ADDITIONAL REINFORCING NOT REQUIRED WHEN SPECIFIED REINFORCING IS NOT CUT.
7. ALL REINFORCING SPACING SHALL BE GREATER THAN 3" CENTER TO CENTER.

5 / – TYPICAL WALL OR SLAB OPENING ADDITIONAL REINFORCEMENT
NOT TO SCALE

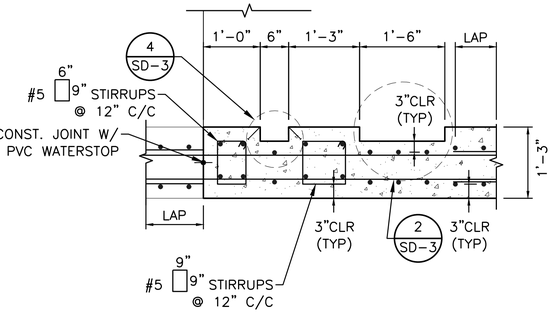


2 / – CONSTRUCTION JOINT
NOT TO SCALE

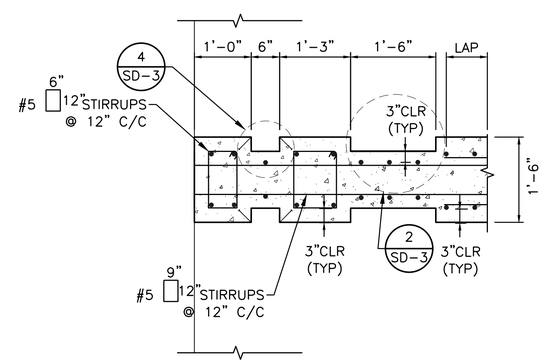


DETAIL NOTE:
1. FLOWABLE FILL SHALL EXTEND TO THE LIMITS OF THE EXCAVATION, BUT NOT LESS THAN 2' BEYOND THE EDGE OF THE SLAB FOOTING. THE WIDTH OF FILL BELOW PIPE SHALL NOT BE LESS THAN 2'-0" PLUS THE WIDTH OF PIPE OUTSIDE DIAMETER.
2. DO NOT ENCASE RESTRAINED OR UNRESTRAINED COUPLINGS.

6 / – TYPICAL PIPE PENETRATION DETAIL
NOT TO SCALE



3 / S-2 STOP LOG SLOT DETAIL OUTER WALL
3/4"=1'-0"



4 / S-2 STOP LOG SLOT DETAIL SPLITTER WALL
3/4"=1'-0"

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9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

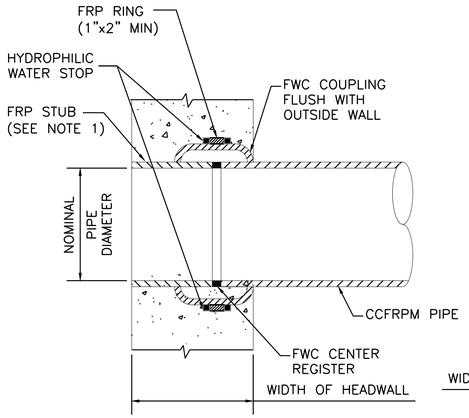
SJRA PROJECT NO:	
FILE NAME: ST-WALLISVILLE-DET.dwg	
DRAWN BY: AC	AC
CHECKED BY: VF	VF
SCALE:	AS SHOWN

STRUCTURAL
MISCELLANEOUS STRUCTURAL DETAILS

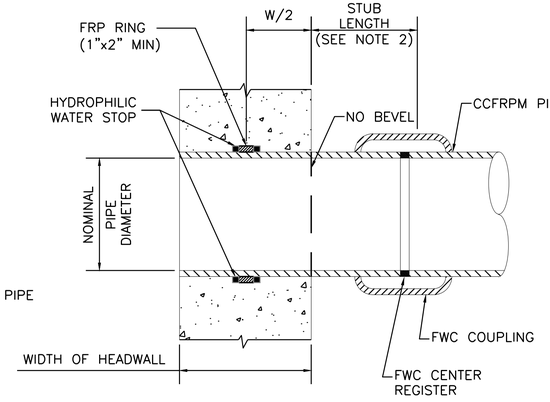
SHEET S-4
SEQ. 14 OF 21

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\ST-WALLISVILLE-DET.dwg LAYOUT: Layout1 DATE: 9/21/18 BY: ABBY CROCKETT

Date: Sep 21, 2018 - 2:38pm User: Abby Crockett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\ST-WALLISVILLE-DET.dwg



TYPE A FOR NEW WALLS
WITH FRP STUB PIPE



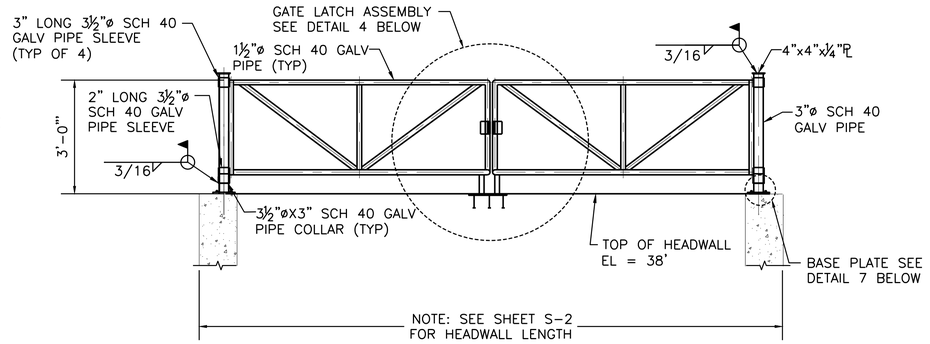
TYPE B FOR NEW WALLS
(FREE DISCHARGE)

NOTES:

1 FOR TYPE A PENETRATIONS, STUB LENGTH IS TO BE DETERMINED BASED ON WALL THICKNESS AND FWC COUPLING DIMENSIONS PROVIDED BY MANUFACTURER.

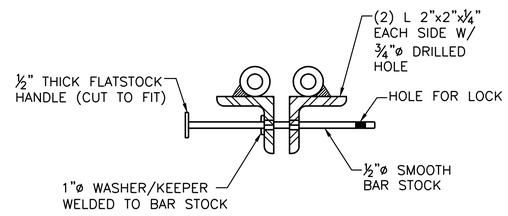
2. DISTANCE TO FIRST COUPLING SHALL BE TWO PIPE DIAMETERS OR 10 FEET, WHICHEVER IS LESS.

1 – STANDARD PIPE PENETRATION
NOT TO SCALE

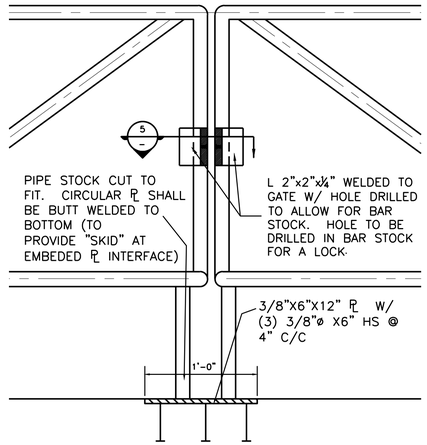


3 – DOUBLE SWING GATE DETAIL
1/2"=1'-0"

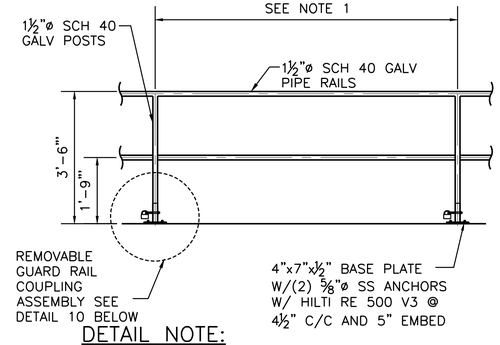
NOTE:
USE ZRC GALVILITE GALVANIZING REPAIR COMPOUND, 2 COATS, TOTAL 3 MIL DFT FOR WELD REPAIRS.



5 – LOCKING ASSEMBLY
NOT TO SCALE



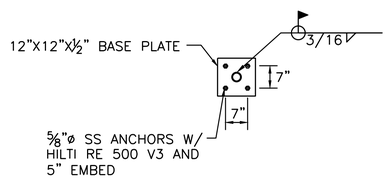
4 – GATE LATCH ASSEMBLY
NOT TO SCALE



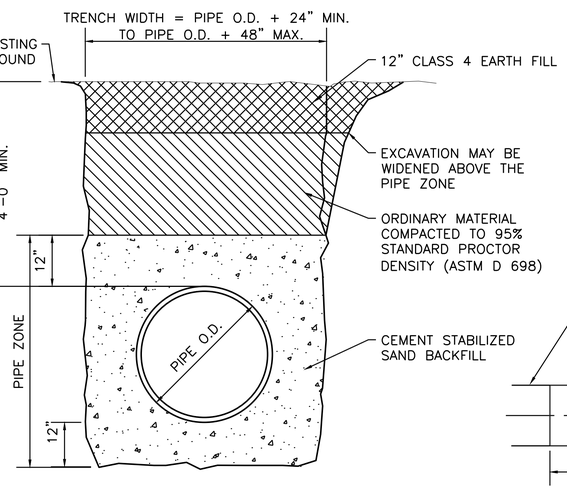
DETAIL NOTE:

1. POST SPACING SHALL NOT EXCEED A MAXIMUM OF 8'-0" CENTERS. GUARDRAIL POSTS SHALL BE SPACED SO AS TO PRODUCE UNIFORM SPACING.

6 – GUARDRAIL DETAIL
1/2"=1'-0"



7 – SWING GATE BASE PLATE
NOT TO SCALE

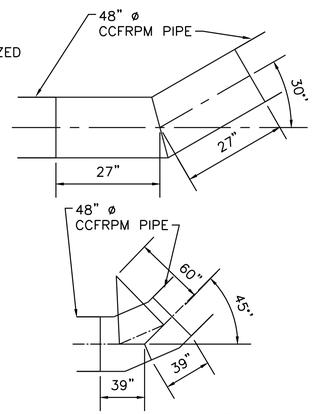


2 – TYPICAL TRENCH SECTION DETAIL
NOT TO SCALE

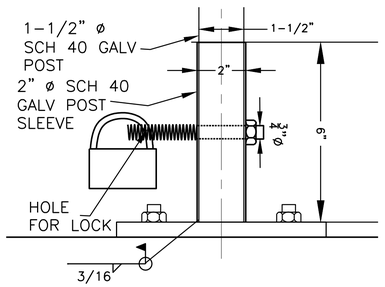
GENERAL NOTE:

1. THIS DETAIL APPLIES TO SECTIONS OF CCFRPM PIPE INSTALLED BY OPEN CUT METHOD. SEE SPECIFICATION SECTION 31 21 33 – TRENCHING, BACKFILLING AND COMPACTING FOR UTILITIES.

2. IF TRENCH BOX IS USED, TRENCH WIDTH DIMENSION IS THE DISTANCE FROM THE INSIDE WALL OF TRENCH BOX TO INSIDE WALL OF TRENCH BOX.

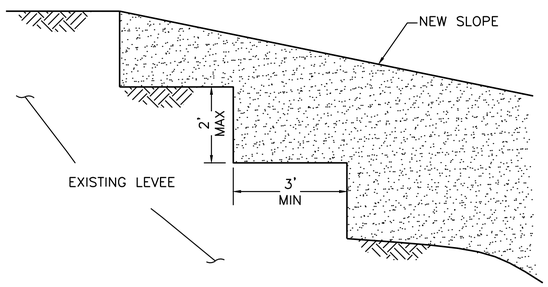


9 – CCFRPMP ELBOW DETAILS
NOT TO SCALE



10 – REMOVABLE GUARD RAIL COUPLING
NOT TO SCALE

NOTE:
COUPLING TO BE PROVIDED AT ALL GUARD RAIL BASE PLATE LOCATIONS.



8 – LEVEE EARTHWORK BENCHING DETAIL
NOT TO SCALE

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9/21/2018

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HIGHLANDS DIVISION

SJRA HIGHLANDS
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IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

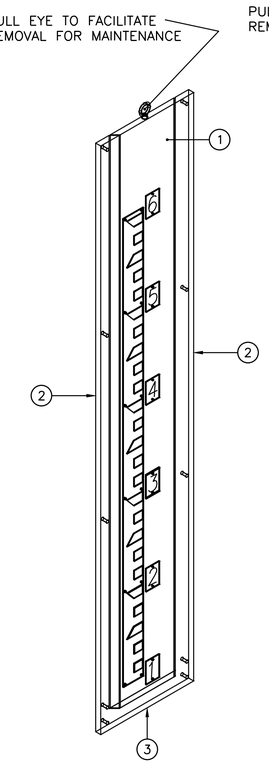
SJRA PROJECT NO:	
FILE NAME: SJRA-WALLISVILLE-MISCDET.dwg	
DRAWN BY: AC	AC
CHECKED BY: VF	VF
SCALE:	AS SHOWN

DETAIL
MISCELLANEOUS DETAILS

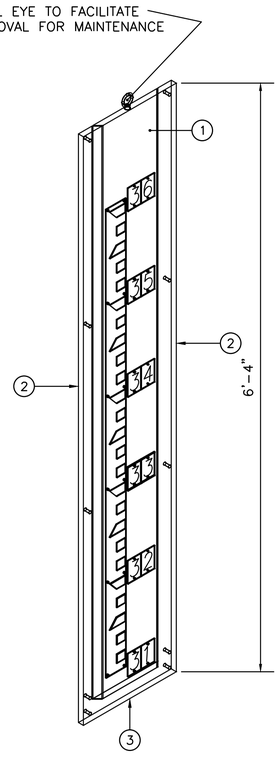
SHEET SD-1
SEQ. 15 OF 21

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-MISCDET.dwg LAYOUT: MISCELLANEOUS DETAILS DATE: 9/21/18 BY: ABBY CROCKETT

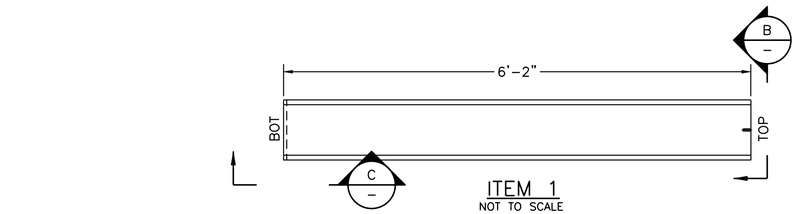
Date: Sep 21, 2018 - 2:50pm User: Abby Crockett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-MISCDET.dwg



DEPTH GAUGE
NOT TO SCALE



ELEVATION GAUGE
NOT TO SCALE



ITEM 1
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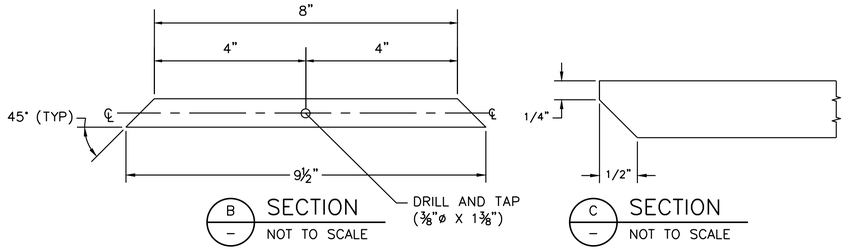
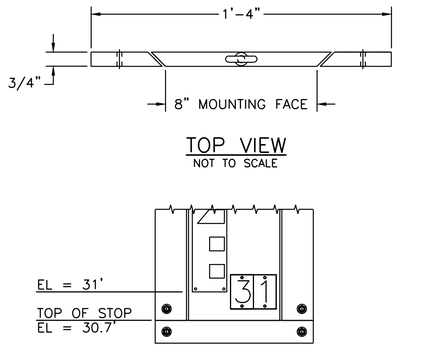


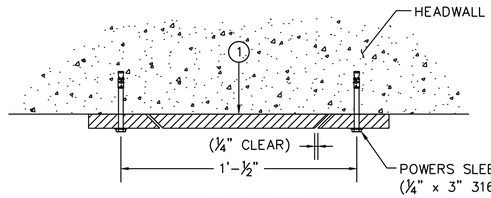
SECTION
NOT TO SCALE

SECTION
NOT TO SCALE



TOP VIEW
NOT TO SCALE

GAUGE BOTTOM
NOT TO SCALE



MOUNTING DETAIL
NOT TO SCALE

GENERAL NOTES:

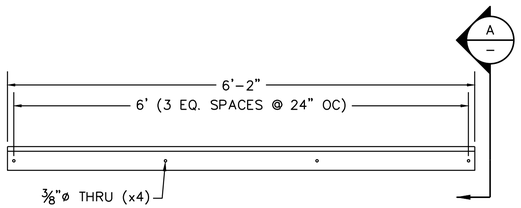
1. QUANTITIES SHOWN ARE FOR 2 ELEVATION AND 2 DEPTH (EACH) STAFF GAUGE ASSEMBLIES
2. STAFF GAUGE AND FIGURE PLATES TO BE FASTENED TO HDPE SHEETS USING 316 S.S. SELF-TAPPING PAN HEAD SCREWS W/ RUBBER WASHERS
3. DEPTH AND ELEVATION STAFF GAUGES SHALL BE INSTALLED ON OPPOSITE SIDE WALLS OF INTAKE AND DISCHARGE STRUCTURES. SEE SHEET S-2 FOR DETAILS.

BILL OF MATERIALS – DEPTH GAUGE

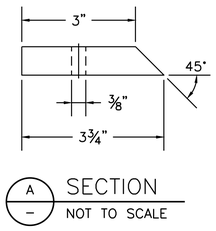
ITEM	DESCRIPTION	MATERIAL	QTY
1	¾" x 9 ½" x 6'-2" SHEET (BLACK)	HDPE	2
2	¾" x 3 ¾" x 6'-2" SHEET (BLACK)	HDPE	4
3	¾" x 2" x 1'-4" SHEET (BLACK)	HDPE	2
4	STYLE E STAFF GAUGE (SW-PN: 15422)	–	2
5	2 x 3 FIGURE PLATE (#1 SW-PN: 15425)	–	2
6	2 x 3 FIGURE PLATE (#2 SW-PN: 15426)	–	2
7	2 x 3 FIGURE PLATE (#3 SW-PN: 15427)	–	2
8	2 x 3 FIGURE PLATE (#4 SW-PN: 15428)	–	2
9	2 x 3 FIGURE PLATE (#5 SW-PN: 15429)	–	2
10	2 x 3 FIGURE PLATE (#6 SW-PN: 15430)		2
11	LIFTING EYE BOLT (MM-PN: 8891T88)	316 S.S.	2
12	¼" x 3" POWERS SLEEVE ANCHOR	316 S.S.	20

BILL OF MATERIALS – ELEVATION GAUGE

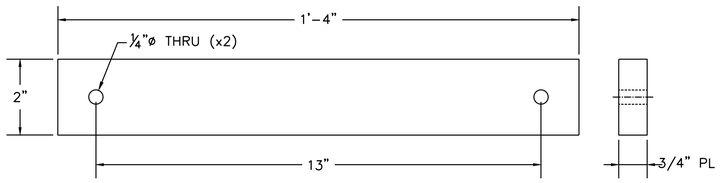
ITEM	DESCRIPTION	MATERIAL	QTY
1	¾" x 9 ½" x 6'-2" SHEET (BLACK)	HDPE	2
2	¾" x 3 ¾" x 6'-2" SHEET (BLACK)	HDPE	4
3	¾" x 2" x 1'-4" SHEET (BLACK)	HDPE	2
4	STYLE E STAFF GAUGE (SW-PN: 15422)	–	2
5	2 x 3 FIGURE PLATE (#1 SW-PN: 15425)	–	2
6	2 x 3 FIGURE PLATE (#2 SW-PN: 15426)	–	2
7	2 x 3 FIGURE PLATE (#3 SW-PN: 15427)	–	14
8	2 x 3 FIGURE PLATE (#4 SW-PN: 15428)	–	2
9	2 x 3 FIGURE PLATE (#5 SW-PN: 15429)	–	2
10	2 x 3 FIGURE PLATE (#6 SW-PN: 15430)		2
11	LIFTING EYE BOLT (MM-PN: 8891T88)	316 S.S.	2
12	¼" x 3" POWERS SLEEVE ANCHOR	316 S.S.	20



ITEM 2
NOT TO SCALE



SECTION
NOT TO SCALE



ITEM 3
NOT TO SCALE

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PROFESSIONAL ENGINEER
9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

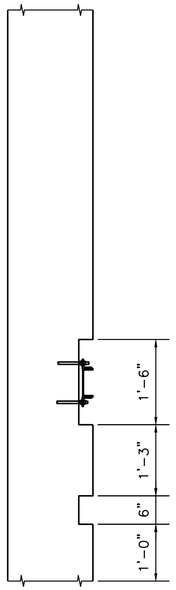
SJRA PROJECT NO:
FILE NAME: SJRA-WALLISVILLE-STAFFDET.dwg
DRAWN BY: AC AC
CHECKED BY: VF VF
SCALE: AS SHOWN

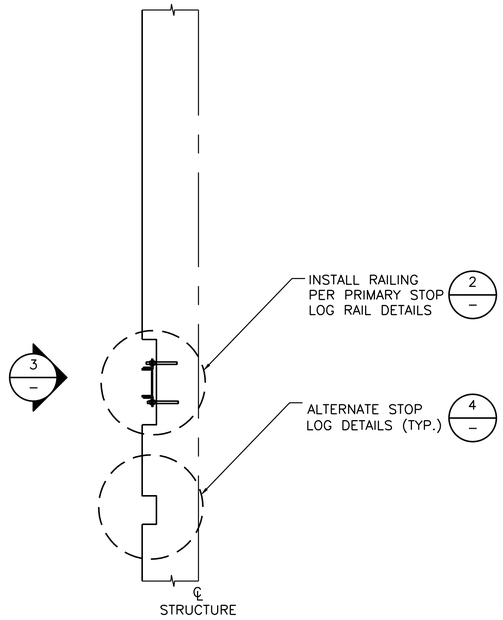
DETAIL
STAFF GAUGE DETAILS

SHEET SD-2
SEQ. 16 OF 21

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-STAFFDET.dwg LAYOUT: STAFF GAGE DETAIL DATE: 9/21/18 BY: ABBY CROCKETT

Date: Sep 21, 2018 - 2:53pm User: Abby Crockett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-STAFFDET.dwg





STOP LOG NOTES:

1. PRIMARY STOP LOG RAILINGS ARE TO BE PROVIDED BY GOLDEN HARVEST OR APPROVED EQUAL PER SPECIFICATIONS ON THIS PAGE. SIMILAR RAILS HAVE BEEN PREVIOUSLY USED BY SJRA ON SIPHON PROJECTS. RAILINGS ARE INTENDED TO FIT SJRA STOP LOGS PREVIOUSLY ACQUIRED FROM GOLDEN HARVEST.
2. PRIMARY STOP LOG RAILS ARE TO BE ATTACHED WITHIN BLOCKOUTS LEFT IN WALLS AFTER CONCRETE CONSTRUCTION.
3. ALTERNATE STOP LOG SLOTS ARE TO BE FORMED INTO WALLS AS INDICATED ON THE PLANS.
4. PRIMARY AND ALTERNATE STOP SLOTS AND RAILS SHALL EXTEND TO THE TOP OF WALLS.
5. STOP LOG SLOTS SHALL BE TESTED FOR FIT USING STOP LOGS PROVIDED BY OWNER.
6. SEE NOTE 13 ON SHEET G-3 FOR TWDB U.S. STEEL REQUIREMENTS.

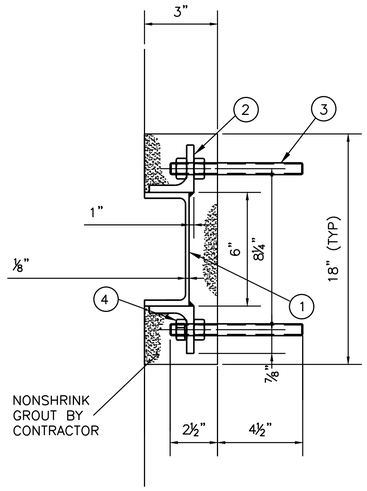
GENERAL NOTES:

1. ALL HARDWARE AND FASTENERS TO BE TYPE 304 SS ASTM-F593 / F594.
2. ALL ALUMINUM EXTRUSIONS, SHAPES, FORMS AND PLATES TO BE 6061-T6.
3. ENTIRE ALUMINUM WELDMENT SURFACE TO BE COATED WITH CARBOLINE CARBOGUARD® 890 OR APPROVED EQUAL PER HIGH PERFORMACE COATING SUBMITTAL.
4. WELDMENT QUANTITIES ADJUSTED FOR (8) WELDMENTS.

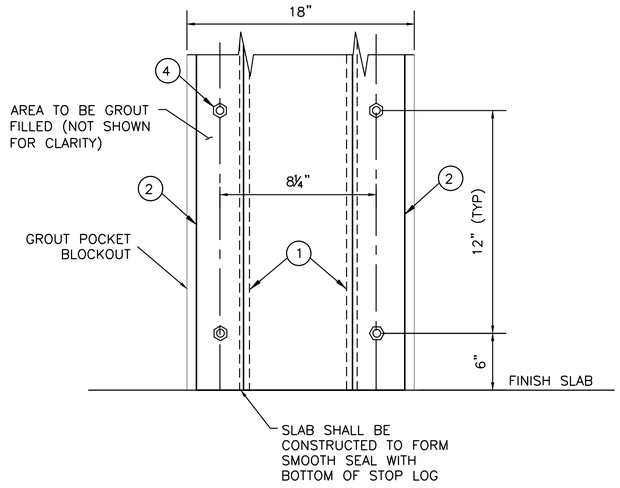
PRIMARY STOP LOG RAIL BILL OF MATERIALS

ITEM	DESCRIPTION	MATERIAL	QTY
1	C6 X 2.5" X 2.83# X 8'-0" CHANNEL	AL	8
2	2" X 2" X ¼" X 8'-0" ANGLE	AL	16
3	ø½" X 7" ANCHOR ROD	304 SS	128
4	ø½" NUTS/W WASHERS	304 SS	256

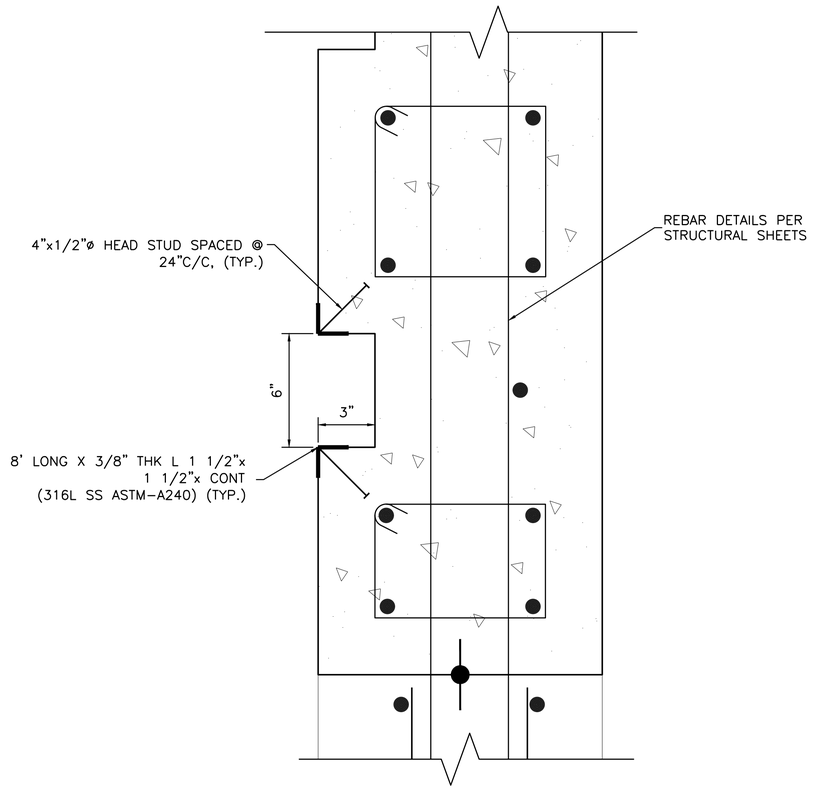
1 — STOP LOG
NOT TO SCALE



2 — PRIMARY STOP LOG WALL RAIL DETAIL
NOT TO SCALE



3 — PRIMARY STOP LOG FLOOR RAIL DETAIL
NOT TO SCALE



4 — ALTERNATE STOP LOG SLOT DETAIL
NOT TO SCALE

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9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

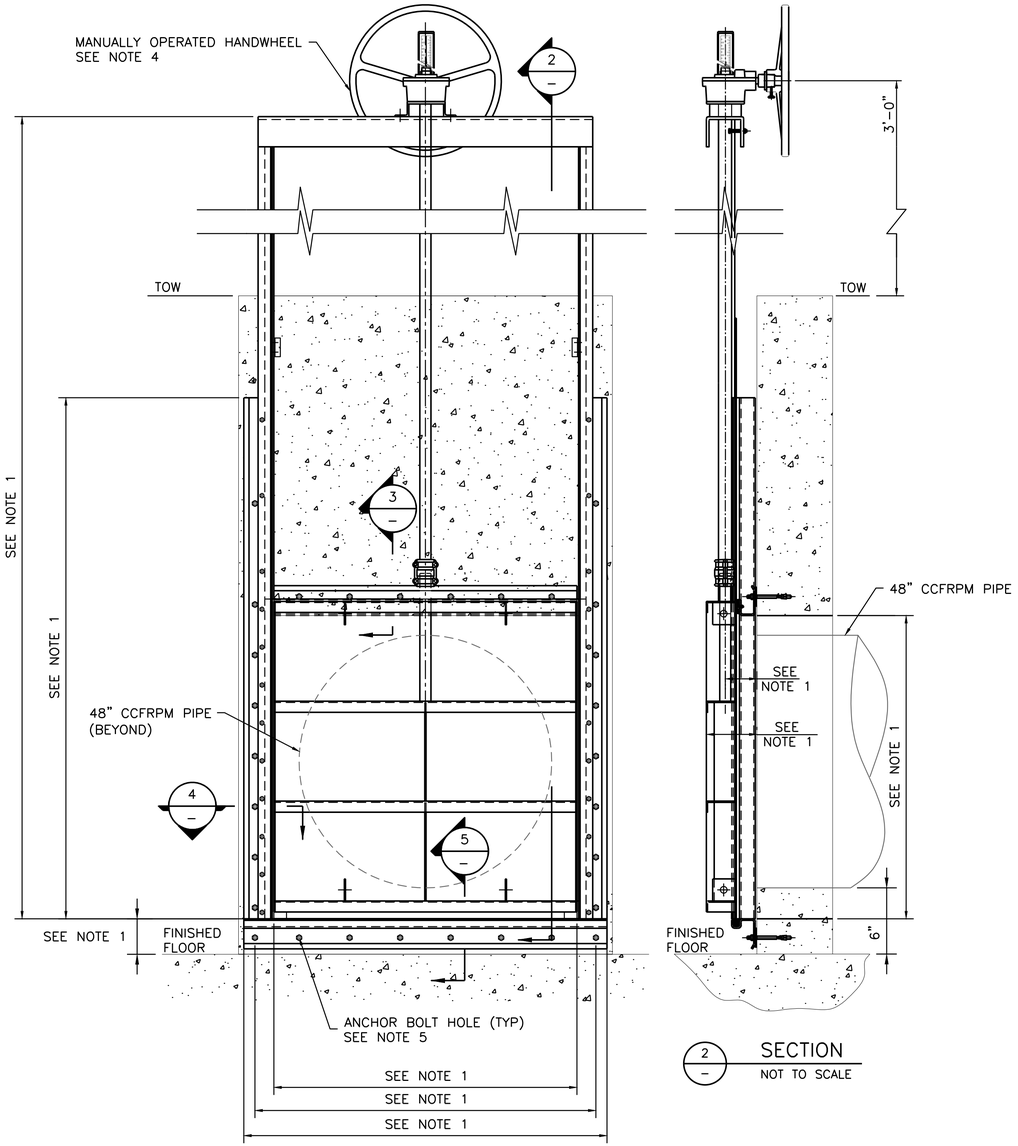
SJRA PROJECT NO:
FILE NAME: SJRA-WALLISVILLE-STOPLOGDET.dwg
DRAWN BY: AC AC
CHECKED BY: VF VF
SCALE: AS SHOWN

DETAIL
STOP LOG RAIL DETAILS

SHEET SD-3
SEQ. 17 OF 21

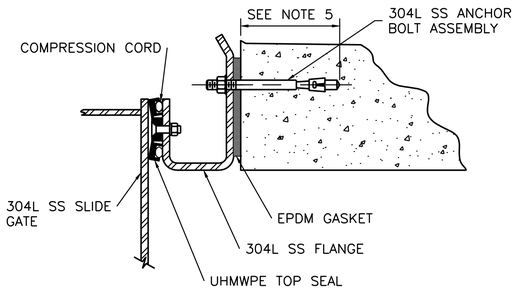
FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-STOPLOGDET.dwg LAYOUT: STOP LOG RAIL DETAILS DATE: 9/21/18 BY: ABBY CROCKETT

Date: Sep 21, 2018 - 2:57pm User: Abby Crockett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-STOPLOGDET.dwg

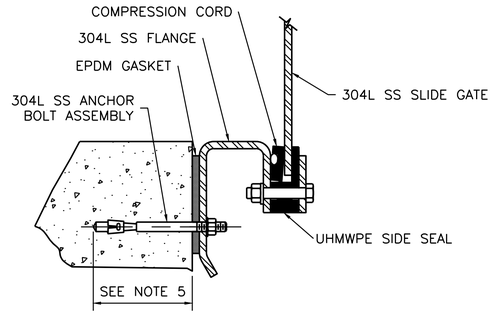


2 SECTION
NOT TO SCALE

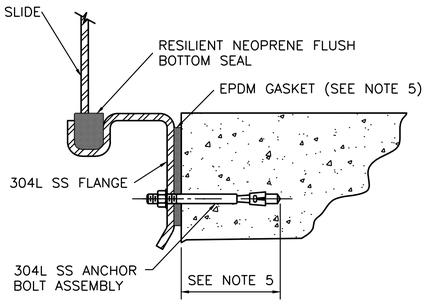
1 304L SS SLIDE GATE
NOT TO SCALE



3 SECTION
TOP SEAL DETAIL
NOT TO SCALE



4 SECTION
SIDE SEAL DETAIL
NOT TO SCALE



5 SECTION
BOTTOM SEAL DETAIL
NOT TO SCALE

GATE NOTES:

1. CONTRACTOR TO COORDINATE SLIDE GATE DIMENSIONS WITH GATE MANUFACTURER. ALLOWABLE DIMENSIONS ARE DICTATED BY THE DIMENSIONS OF PROPOSED HEADWALL. SEE SHEETS S-2 AND S-3.
2. ALL APPLICABLE SLIDE GATE COMPONENTS SHALL BE 304L STAINLESS STEEL. SEE NOTE 13 ON SHEET G-3 FOR TWDB U.S STEEL REQUIREMENTS.
3. PIPES SHALL BE 48"ø CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR PIPES.
4. SLIDE GATES SHALL BE FABRICATED TO ALLOW FOR FUTURE ADDITION OF ACTUATORS.
5. ANCHOR BOLT TYPE, DIMENSIONS, AND EMBEDMENT DEPTH INFORMATION WILL BE DETERMINED BY THE SIZE OF THE GATES. CONTRACTOR TO COORDINATE THIS INFORMATION AND GASKET REQUIREMENTS WITH THE GATE MANUFACTURER.
6. SEE SPECIFICATION SECTION 40 60 05 – WATER CONTROL GATES FOR SLIDE GATE REQUIREMENTS. CONTRACTOR SHALL PERFORM LEAK TESTING IN PRESENCE OF OWNERS REPRESENTATIVE TO ENSURE GATE IS IN CONFORMANCE WITH SPECIFICATION.

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9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

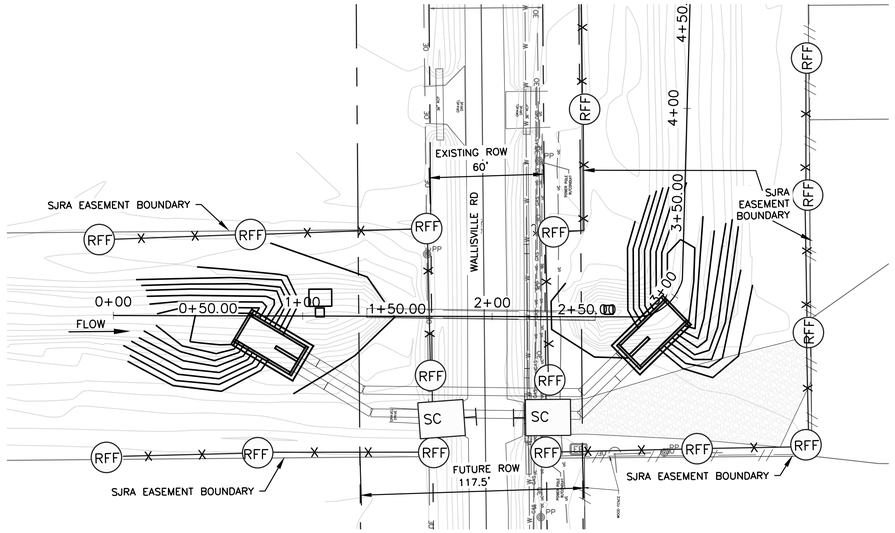
SJRA PROJECT NO:
FILE NAME: SJRA-WALLISVILLE-SLGATEDET.dwg
DRAWN BY: AC AC
CHECKED BY: VF VF
SCALE: AS SHOWN

DETAIL
SLIDE GATE DETAILS

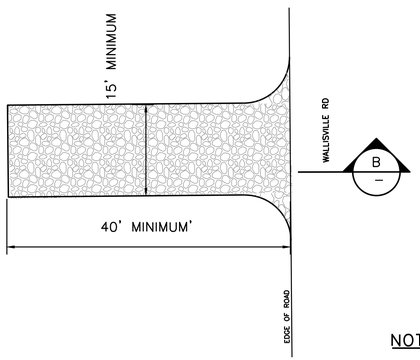
SHEET SD-4
SEQ. 18 OF 21

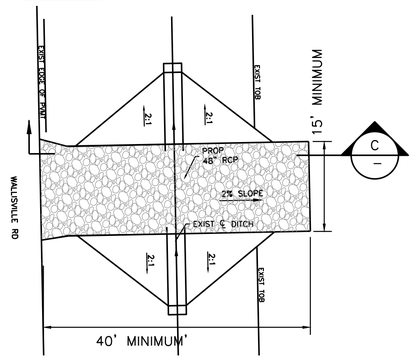
RFP SUBMITTAL

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-SLGATEDET.dwg LAYOUT: SLIDE GATE DETAILS DATE: 9/21/18 BY: ABBY CROCKETT
Date: Sep 21, 2018 - 3:25pm User: Abby Crockett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA-WALLISVILLE-SLGATEDET.dwg



PLAN



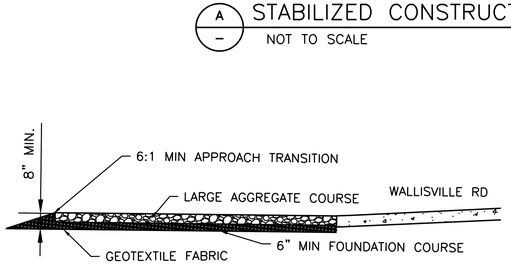


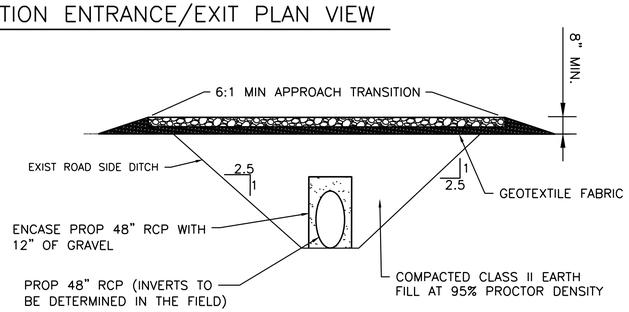
NOTES:

1. DETAIL ABOVE (ALSO SHOWN IN SECTION C) TO BE USED ONLY IF CONTRACTOR ELECTS TO INSTALL STABILIZED ACCESS IN LOCATIONS OTHER THAN THOSE SHOWN IN PLAN VIEW. OTHER LOCATIONS SHALL BE COORDINATED WITH HARRIS COUNTY FOR APPROVAL.

A – STABILIZED CONSTRUCTION ENTRANCE/EXIT PLAN VIEW

NOT TO SCALE





B – STABILIZED CONSTRUCTION ENTRANCE/EXIT TYPICAL CROSS SECTION

NOT TO SCALE

C – STABILIZED CONSTRUCTION ENTRANCE/EXIT TYPICAL CROSS SECTION

NOT TO SCALE

NOTES:

1. SEE SPECIFICATION SECTION 01 57 23 – TEMPORARY STORM WATER POLLUTION CONTROL.
2. REINFORCED FILTER FABRIC FENCE TO BE PLACED ALONG LIMITS OF CONSTRUCTION FOR ENTIRE LENGTH OF PROJECT.
3. ALL SWPPP MEASURES ARE TO BE MAINTAINED PER HARRIS COUNTY STANDARDS.
4. CONSTRUCT AND MAINTAIN EACH CONSTRUCTION ENTRANCE/EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
5. PROVIDE PERIODIC TOP DRESSING OF STABILIZED ACCESS WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
6. PERIODICALLY TURN AGGREGATE OF STABILIZED ACCESS TO EXPOSE A CLEAN DRIVING SURFACE.
7. CONTRACTOR TO RESTORE DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER UPON COMPLETION OF WORK.

LEGEND

RFF – x – x – RFF REINFORCED FILTER FABRIC FENCE SEE DETAIL D, THIS SHEET

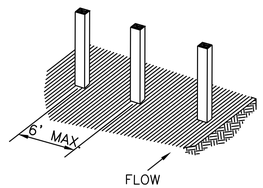
SC STABILIZED CONSTRUCTION ENTRANCE/EXIT LOCATION TO BE PROPOSED BY CONTRACTOR AND APPROVED BY SJRA AND PRINCIPAL ARCHITECT/ENGINEER PRIOR TO INSTALLATION, SEE DETAILS A, B AND C.

N

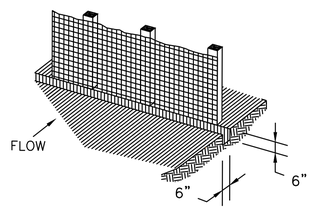
SCALE: 1"=40'

GRAPHIC SCALE IN FEET
0 20 40 60 80

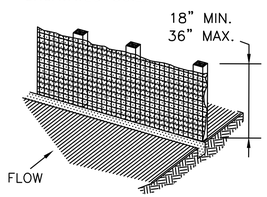
1. SET POSTS AT REQUIRED SPACING

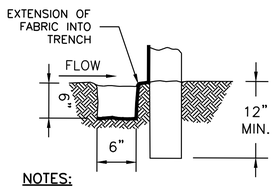


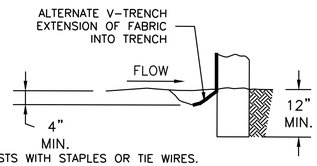
2. EXCAVATE A 6"x6" TRENCH UPSLOPE ALONG THE LINE OF POSTS AND SECURE WIRE FENCE TO POSTS.



3. ATTACH FILTER FABRIC TO POSTS AND EXTEND IT INTO THE TRENCH. BACKFILL AND COMPACT THE EXCAVATED SOIL.







NOTES:

1. SECURELY FASTEN MESH FENCING TO POSTS WITH STAPLES OR TIE WIRES.
2. SECURELY FASTEN FILTER FABRIC TO MESH FENCING.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT A POST, FOLD TOGETHER, AND ATTACH TO A POST.
4. REMOVE SEDIMENT DEPOSITS WHEN SILT REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE IN DEPTH.

D – REINFORCED FILTER FABRIC FENCE

NOT TO SCALE

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PROFESSIONAL ENGINEER
9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

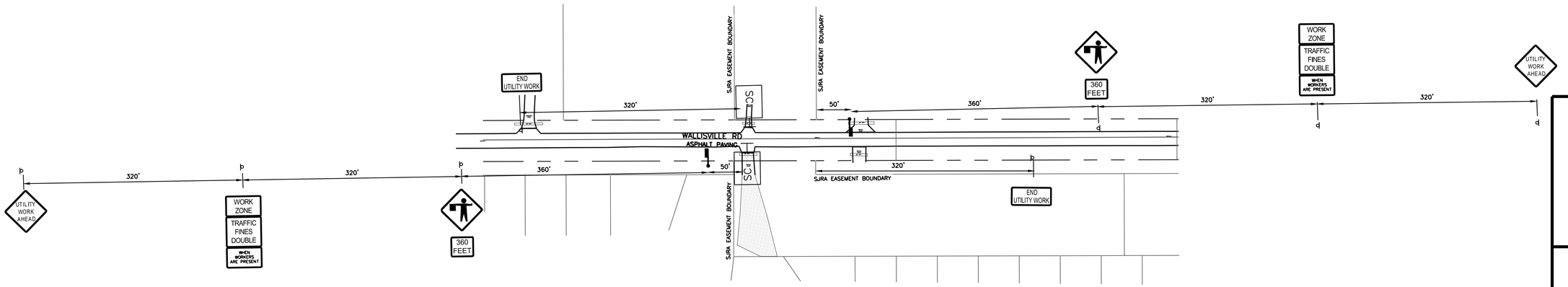
SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

SJRA PROJECT NO:	
FILE NAME: SJRA-WALLISVILLE-SWPPP.dwg	
DRAWN BY: AC	AC
CHECKED BY: VF	VF
SCALE:	AS SHOWN

STORM WATER
POLLUTION PREVENTION PLAN (SWPPP) & DETAILS

SHEET SW-1
SEQ. 19 of 21



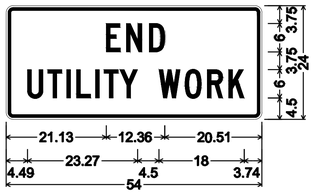
TRAFFIC CONTROL PLAN

1"=80'

WALLISVILLE RD POSTED SPEED LIMIT = 45 MPH

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OCTOBER 2014 (REVISION 2), AND SPECIFICATION SECTION 10 14 53–TRAFFIC SIGNAGE.
2. NO LANES SHALL BE BLOCKED DURING CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE ON–SITE CERTIFIED FLAGMEN WHEN CONSTRUCTION VEHICLES ARE ENTERING AND EXITING THE PROJECT SITE.
4. CONTRACTOR SHALL NOT SCHEDULE MATERIAL DELIVERIES DURING PEAK TRAFFIC VOLUME TIMES (7:00AM TO 9:00AM AND 2:00PM TO 4:00PM, MONDAY THROUGH FRIDAY).



G20–2bU;
1.50" Radius, 0.63" Border, 0.38" Indent, Black on Orange;
"END" C 123% spacing;
"UTILITY WORK" C 98% spacing;

LEGEND

UTILITY WORK AHEAD	CW21–7D
END UTILITY WORK	G20–2bU
	CW20–7
360 FEET	CW16–2P
WORK ZONE	G20–5aP
TRAFFIC FINES DOUBLE	R20–5T
WHEN WORKERS ARE PRESENT	R20–5aTP
SC	STABILIZED CONSTRUCTION ENTRANCE/EXIT. LOCATION TO BE PROPOSED BY CONTRACTOR AND APPROVED BY THE PRINCIPAL ARCHITECT/ENGINEER.
	SIGN POST
	FLAGGER

RFP SUBMITTAL

SCALE: 1"=80'

GRAPHIC SCALE IN FEET
0 40 80 120 160

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9/21/2018

SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

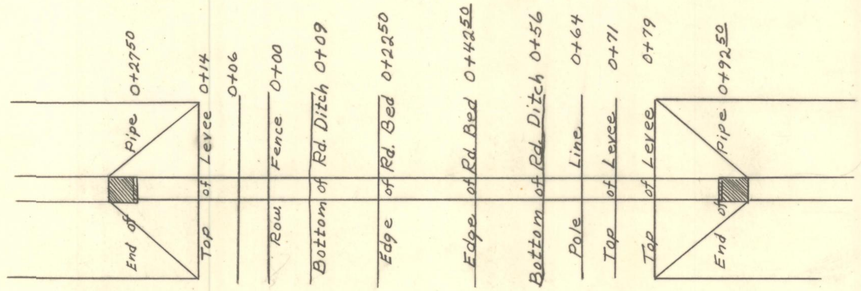
SJRA PROJECT NO:
FILE NAME: SJRA–WALLISVILLE–TCP.dwg
DRAWN BY: AC AC
CHECKED BY: VF VF
SCALE: AS SHOWN

TRAFFIC CONTROL
TRAFFIC CONTROL PLAN

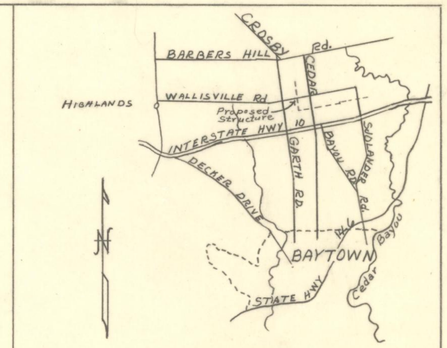
SHEET TCP–1
SEQ. 20 OF 21

FILE: C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA–WALLISVILLE–TCP.dwg LAYOUT: Layout1 DATE: 9/21/18 BY: ABBY CROCKETT

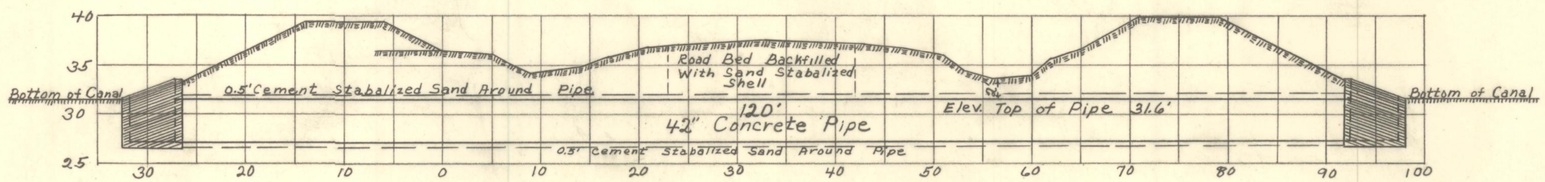
Date: Sep 21, 2018 – 3:38pm User: Abby Crockett C:\Users\Abby Crockett\Documents\Projects\SJRA Wallisville Rd Siphon\100% Drawings\SJRA–WALLISVILLE–TCP.dwg



PLAN
Scale 1"=20'



VICINITY MAP
Scale 1"=3.5 Miles



PROFILE
Scale 1"=10'

SAN JACINTO RIVER AUTH.
CONROE TEXAS
PROPOSED EAST CANAL
CROSSING OF WALLISVILLE RD.
GEO. ELLIS SURVEY
HARRIS COUNTY-TEXAS
DATE:

NOTES:

1. NOT TO SCALE.
2. DRAWING INTENDED FOR REFERENCE ONLY. CONTRACTOR TO CONFIRM EXISTING CONDITIONS.
3. SURVEY DATA INDICATES THAT THE EXISTING PIPE IS 48" DIAMETER.

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SAN JACINTO RIVER AUTHORITY
HIGHLANDS DIVISION

SJRA HIGHLANDS
WALLISVILLE RD
SIPHON
IMPROVEMENTS

ISSUE	DATE	DESCRIPTION

SJRA PROJECT NO:	
FILE NAME: SJRA-WALLISVILLE-RECORD.dwg	
DRAWN BY: AC	AC
CHECKED BY: VF	VF
SCALE:	AS SHOWN

RECORD

EXISTING SIPHON RECORD DRAWING

SHEET R-1
SEQ. 21 OF 21

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