COTTON BELT REGIONAL RAIL
VELOWEB HIKE AND BIKE TRAIL
27P MCKAMY BRANCH PEDESTRIAN BRIDGE

CONTRACT NO. C - 2033270 - 01

100% DESIGN
MARCH 13, 2023

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JACOBS	AWH	DALLAS AREA RAPID TRANSIT
RECOMMENDED:	RECOMMENDED:	RECOMMENDED:
TASK MANAGER DATE	TASK MANAGER DATE	PROJECT MANAGER DATE
APPROVED:	APPROVED:	APPROVED:
PROJECT MANAGER DATE	PROJECT MANAGER DATE	AVP FACILITIES ENGINEERING DATE

DWG No. GC1-8651

24-FEB-2023 06:25
CB05-GC1-8651.001
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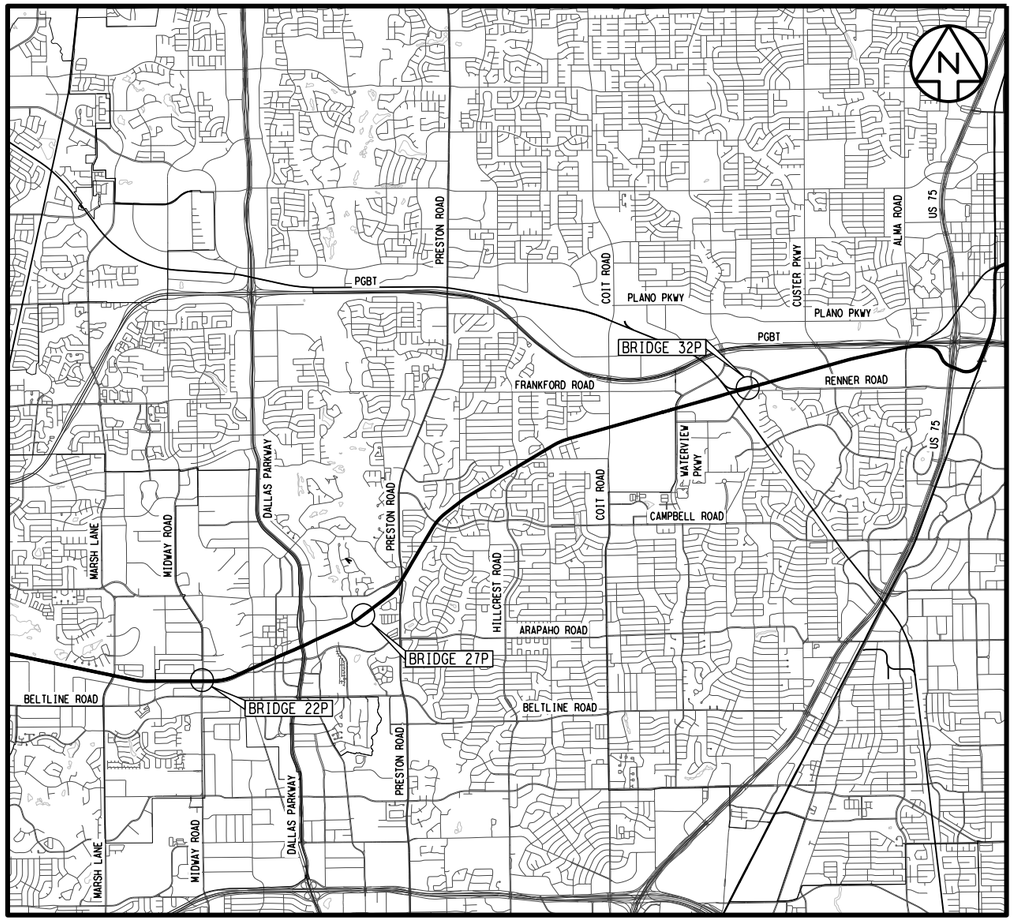
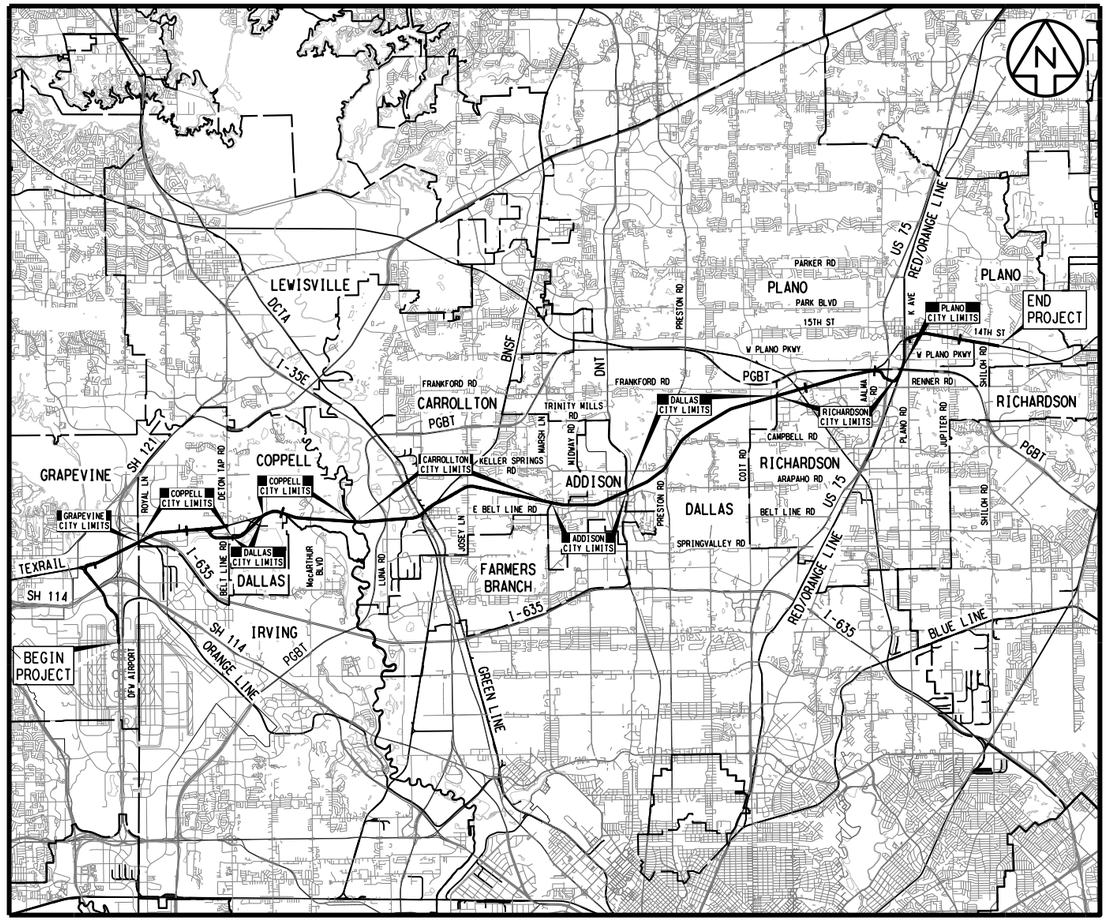
CB05-GC1-8651.001

DWG No. GC1-8654



VICINITY MAP
NO SCALE



KEY MAP
VELOWEB HIKE AND BIKE TRAIL
NO SCALE

COTTON BELT REGIONAL RAIL
VELOWEB HIKE AND BIKE TRAIL
22P MCKAMY BRANCH PEDESTRIAN BRIDGE

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CONTRACT SHEET No. 2 OF 81

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ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	AS NOTED
DRAWN	M. JAHN
DESIGNED	M. JAHN
CHECKED	B. ALLDREDGE
IN CHARGE	K. MOYNAHAN
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
TITLE SHEET

CONTRACT	DWG No.	REV
C-2033270-01	GC1-8654	D

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DWG No. GC2-8601

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6	D	GC3-8662	MCKAMY BRANCH CREEK ABBREVIATIONS SHEET
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ARCHER WESTERN HERZOG

DART PROJECT

DART

SCALE	NO SCALE
DRAWN	R. MOORE
DESIGNED	M. JAHN
CHECKED	B. ALLDREDGE
IN CHARGE	K. MOYNAHAN
DATE	06 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

INDEX OF DRAWINGS
SHEET 1 OF 2

CONTRACT	DWG No.	REV
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VELOWEB HIKE & BIKE TRAIL

INDEX OF DRAWINGS
SHEET 2 OF 2

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DWG No. GC3-8661

SYMBOLS

- PROFILE GRADE LINE / ELEVATION CONTROL POINT
- DIRECTION OF FLOW
- C OR B CENTERLINE OR BASELINE
- FUTURE OR NOT IN CONTRACT
- ℄ CENTERLINE
- ℄ BASELINE
- ℙ PROPERTY LINE
- DIMENSION LINE CONTINUES
- MATCH LINE
- 510 CONTOUR LINE
- TRACK (TRANSIT) CENTER LINE
- X X X EXISTING FENCE LINE
- PROPOSED FENCE LINE
- STRUCTURE OUTLINE
- RAILROAD TRACKS
- CO CLEANOUT
- MH MANHOLE
- SIDEWALK AND MISC. LINES
- DROP INLET, CATCH BASIN OR DRAIN
- CULVERT HEADWALLS
- + 543.5 SPOT ELEVATION
- CURB LINE
- EXISTING BARRIER/RETAINING WALL
- PROPOSED RETAINING WALL
- PROPOSED BALLAST WALL
- PROPOSED SIDEWALK WALL
- NOISE IMPACT AREA
- GUARD RAIL
- HAND RAIL
- UNPAVED ROAD
- CONCRETE GUARD FENCE
- VEGETATION LINE
- (T) TREE
- (S) SHRUB
- POLE

- UTILITY POLE
- SS SANITARY (DIRECTION OF FLOW) , PLUG
- GRID OF THE STATE PLANE COORDINATE SYSTEM
- BILLBOARD
- △ TOTAL CENTRAL ANGLE OF SPIRAL AND CIRCULAR CURVES
- △ C1 SUFFIX (1) AT THE SYMBOL DENOTES DATA FOR THE FIRST CIRCULAR CURVE OF A COMPOUND CURVE
- △ C2 SUFFIX (2) AT THE SYMBOL DENOTES DATA FOR THE SECOND CIRCULAR CURVE OF A COMPOUND CURVE
- ⊖S CENTRAL ANGLE OF SPIRAL OR SPIRAL ANGLE
- ⊖aAC CENTRAL ANGLE OF COMPOUND SPIRAL OR COMPOUND ANGLE (CS1 TO CS2)
- ⊖sAT TOTAL CENTRAL ANGLE OF COMPOUND SPIRAL OR TOTAL COMPOUND SPIRAL ANGLE (FROM SPO TO SC2)
- WWMH WASTEWATER MANHOLE
- SMH STORM SEWER MANHOLE
- EMH, TMH, WUMH ELECTRICAL, TELEPHONE, OR WESTERN UNION MANHOLE
- REDUCER
- WM WATER METER
- WV WATER VALVE
- FH FIRE HYDRANT
- CAP OR PLUG
- GV GAS VALVE
- GM GAS METER
- PB PULL BOX OR SPLICING CHAMBER
- LIGHT POLE
- FS FIRE SERVICE STAND PIPE
- EXISTING TRAFFIC SIGN
- PROPOSED TRAFFIC SIGN
- POLE GUY AND ANCHOR
- TRANSMISSION LINE TOWER
- TRAFFIC CONTROL GATE
- CANTILEVERED RAILROAD CROSSING SIGNAL
- TEST BORING LOCATION
- (O/H) OVERHEAD LINES
- (O/H) E OVERHEAD ELECTRIC LINES
- POINT NUMBER DART PRIMARY CONTROL POINT

- △ OTHER SURVEY MONUMENTS
- T (UG) UNDERGROUND TELEPHONE LINE
- UG(E) UNDERGROUND ELECTRIC LINE
- OH AERIAL UTILITY
- UTILITY FACILITY LESS THAN 24"
- MAJOR UTILITY FACILITY 24" OR LARGER IN PLAN VIEW
- FACILITY TO BE ABANDONED
- DOUBLE CROSSOVER
- POINT OF SWITCH
- EXISTING DITCH
- DITCH PROPOSED SPECIAL DITCH
- STM STORM DRAIN/CULVERT
- UD UNDERDRAIN
- WW WASTEWATER
- W WATER LINE
- G GAS LINE
- TS TRAFFIC SIGNALIZATION LINE
- E ELECTRIC POWER LINE
- ESL ELECTRIC LINE, STREET LIGHTING
- T TELEPHONE LINE
- TG TELEGRAPH LINE
- TV CABLEVISION LINE
- PROPOSED CASING
- PROPOSED STREET CLOSING
- PROPOSED STREET CONSTRUCTION
- EXISTING STREET/RAILROAD RIGHT-OF-WAY LINE
- EXISTING PROPERTY LINE
- DART PROPOSED RIGHT-OF-WAY LINE
- EXISTING EASEMENT LINE
- DART PROPOSED EASEMENT LINE
- EXIST ○ SET ● COPPER, IRON PIN, PIPE IRON ROD MARKERS OR ANY PROPERTY CORNER
- □ ■ RIGHT-OF-WAY, CONTROL MONUMENT OR MARKERS
- EXISTING INTERSECTION OF PROPERTY LINES
- INTERSECTION OF PROPOSED DART RIGHT-OF-WAY LINES

- PROPOSED DART RIGHT-OF-WAY MONUMENT
- DB SYSTEMS DUCTBANK
- POINT OF SWITCH
- LEFT HAND TURNOUT
- RIGHT HAND TURNOUT
- DERAIL SWITCH
- CENTERLINE
- GAUGE LINE
- LEFT HAND CURVE
- RIGHT HAND CURVE
- SINGLE CROSSOVER,LH SHOWN
- CONTINUOUS WELDED RAIL
- PI/PVI/PITO
- NON-INSULATED JOINT
- INSULATED RAIL JOINT-BOTH RAILS
- INSULATED RAIL JOINT - L RAIL
- INSULATED RAIL JOINT - R RAIL
- INSULATED RAIL JOINT
- RESTRAINING RAIL
- PRE-CURVED RAIL
- STANDARD RAIL,GIRDER RAIL
- PREMIUM RAIL
- (F) SWITCH NUMBERING "F" INDICATES FUTURE
- 136#/115# TRANSITION RAIL
- NE3-A CURVE NUMBER
- BLUE FLAG
- BUMPING POST
- EQUILATERAL TURNOUT
- POWER POINT POLE
- FH PROPOSED FIRE HYDRANT
- REMOVE AND REPLACE MANHOLE
- RAILROAD GATE/CANTILEVER LOCATION
- HW 100 HEADWATER ELEVATION
- TW 100 TAILWATER ELEVATION
- CORROSION CONTROL TEST STATION
- (235) CONDUIT RUN NUMBER

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VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
SYMBOLS SHEET

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DWG No. GC3-8662

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
AAR PLATE	ASSOCIATION OF AMERICAN RAILWAY PLATE
ABUT	ABUTMENT
ABV	ABOVE
ACI	AMERICAN CONCRETE INSTITUTE
AD	AREA DRAIN
ADD	ADDENDUM
ADJ	ADJACENT
A/E	ARCHITECT/ENGINEER
AFF	ABOVE FINISHED FLOOR
A/G	AT GRADE
AGG	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC
AISI	AMERICAN IRON AND STEEL INSTITUTE
AL	ALUMINUM
ALT	ALTERNATE
ANC	ANCHOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
APP	APPROACH
ARCH.	ARCHITECT, ARCHITECTURE
AREMA	AMERICAN RAILWAY ENGINEERING AND MAINTAINANCE OF WAY ASSOCIATION
ASA	AMERICAN STANDARDS ASSOCIATION
ASPH	ASPHALT
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATR	ABOVE TOP OF RAIL
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
AWS	AMERICAN WELDING SOCIETY
BAS	BRIDGE APPROACH SLAB
B/B	BACK TO BACK
B/C	BACK OF CURB
BD	BOARD, BALLAST DRAIN
BEG.	BEGINNING
BF	BOTH FACES
BH	BORED HOLE
BIT.	BITUMINOUS
BJF	BITUMINOUS JOINT FILLER
BK	BACK
BKF	BACKFILL
BKWL	BACKWALL
B/L	BUILDING LINE
BLDG	BUILDING
BLKG	BLOCKING
BLVD	BOULEVARD
BM	BEAM
BMCS	BRIDGE MOUNTED CLEARANCE SIGN
B.M.	BENCH MARK
BOT	BOTTOM
BNSF	BURLINGTON NORTHERN SANTA FE RAILWAY
BPA	BRIDGE PROTECTIVE ASSEMBLY
BRG	BEARING
BRKT	BRACKET
BS	BOTH SIDES
B/S	BOTTOM OF SLOPE
BTWN	BETWEEN
BVL	BEVELED
BW	BOTH WAYS, BOTTOM WIDTH
C_X_	AMERICAN STANDARD CHANNEL, X = SIZE BY WEIGHT
	RUNOFF COEFFICIENT
CAB.	CABINET
CALC	CALCULATED
CANT	CANTILEVER
CAT.	CATENARY
CATF	CATENARY FOUNDATION
CATP	CATENARY POLE
CB	CATCH BASIN
CC	CENTER OF CURVE
CDC	CORRIDOR DEVELOPMENT CERTIFICATE
C TO C	CENTER TO CENTER
CEM	CEMENT
CF	CUBIC FEET
CFA	CONTINUOUS FLIGHT AUGER
CFL	COUNTERFLASHING
CFS	CUBIC FEET PER SECOND
CG	CONCRETE GUTTER
C & G	CURB AND GUTTER
C/G	CORNER GUARD
CHAM	CHAMFER
CHD	CHORD
CI	CAST IRON, CURB INLET
CIH	CENTRAL INSTRUMENT HOUSE
CIP	CAST-IN-PLACE, CAST IRON PIPE
CJ	CONSTRUCTION JOINT
CL	CLASS, CURVE LENGTH, CENTERLINE
C/L	CURB LINE
CLF	CHAIN LINK FENCE
CLR	CLEARANCE, CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COD	CITY OF DALLAS
COI	CITY OF IRVING
COL	COLUMN
COMB	COMBINATION
COMM	COMMUNICATIONS
COMP	COMPRESSED, COMPRESSIVE
CON	CONSTRUCTION LINES
CONC	CONCRETE
CONN	CONNECT, CONNECTOR, CONNECTION
CONST	CONSTRUCTION, CONSTRUCT
CONT	CONTINUATION, CONTINUOUS
CORR	CORRUGATED
COV	COVER
CRS	COLD ROLLED STEEL
CS	CURVE TO SPIRAL POINT
CTB	CEMENT TREATED BASE, CONCRETE TRAFFIC BARRIER
CTR	CENTER
CULV	CULVERT
CWR	CONTINUOUS WELDED RAIL
CY	CUBIC YARD
D, DEG	DEGREE OF CURVE
DART	DALLAS AREA RAPID TRANSIT
DCURD	DALLAS COUNTY UTILITY & RECLAMATION DISTRICT
DEFL	DEFLECTION
DEG	DEGREE
DEP	DEPRESSED
DET	DETAIL
DFW	DALLAS/FORT WORTH
DF	DIRECT FIXATION
DG	DOWNGUY
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DIM.	DIMENSION
DIP	DUCTILE IRON PIPE
DIST	DISTANCE
DL	DEAD LOAD
DN	DOWN
DP	DAMPPROOFING
DPL	DALLAS POWER & LIGHT COMPANY
DR	DOOR, DRIVE, DERAILMENT LOAD
DRN	DRAIN, DRAINAGE
DRWY	DRIVEWAY
DS	DOWNSPOUT
D.S.	DRILLED SHAFT
DWG	DRAWING
DWU	DALLAS WATER UTILITY
E	EXPANSION BEAM END, EAST, ELECTRIC
Ea	SUPERELEVATION IN INCHES
EA	EACH
EB	EAST BOUND
EBFR	EAST BOUND FRONTAGE ROAD
EBML	EAST BOUND MAINLINE
EF	EACH FACE
EFC	EXPOSED FINISH CONCRETE
E.G.	FOR EXAMPLE
EL., ELEV	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
EMBED	EMBEDMENT
E/P	EDGE OF PAVEMENTS
EQ	EQUAL
EQUIV	EQUIVALENT
E/S	EDGE OF SHOULDER
ESMT	EASEMENT
EST	ESTIMATE
ETC	ET CETERA
EW	EACH WAY
EWEF	EACH WAY, EACH FACE
EXIST	EXISTING
EXP	EXPANSION
EXPJT	EXPANSION JOINT
EXPO	EXPOSED
EXT	EXTERIOR
EXPWY	EXPRESSWAY
F	FIXED BEAM END, FAHRENHEIT
F/C	FACE OF CURVE
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISH FLOOR, FAR FACE
FFBW	FRONT FACE BACKWALL
FG	FINISH GRADE
FH	FIRE HYDRANT
FIN.	FINISH
FL	FLOW LINE
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FO	FIBER OPTIC
FOC	FIBER OPTIC CABLE
FOF	FACE OF FINISH
FPU	PRESTRESSING STEEL TENSILE STRENGTH
FRWY	FREEWAY
FS	FAR SIDE
FT	FOOT OR FEET
FTG	FOOTING
FURN	FURNISH
FUT	FUTURE
FWD	FORWARD
FW	FORT WORTH
G	GAS (NATURAL)
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GEC	GENERAL ENGINEERING CONSULTANT
GEN	GENERAL
GI	GALVANIZED IRON, GRATE INLET
G/L	GROUND LINE
GM	GAS METER
GND	GROUND
GP	GAUGE PLATE, GRAND PRAIRIE
GR	GRADE
G/R	GUARD RAIL
GRAN	GRANITE, GRANULAR
G/R PL	GUARD RAIL PLATE
GRTG	GRATING
GV	GAS VALVE
GV	GATE VALVE
GVL	GRAVEL
H	HEIGHT
H/D	HEAVY DUTY
HDWL	HEADWALL
HEX	HEXAGONAL
HH	HAND HOLE
HMAC	HOT MIX ASPHALTIC CONCRETE
HORIZ	HORIZONTAL
HP_X_	BEARING PILE SHAPE, _X_ = SIZE BY WEIGHT
HPT	HIGH POINT
HSB	HIGH STRENGTH BOLT
HSS_X_X_	HOLLOW STRUCTURAL SHAPE X_(X_) = DIMENSION X DIMENSION X THICKNESS
HR	HOUR
HSS	HIGH STRENGTH STEEL
HWL	HIGH WATER LINE
HWY	HIGHWAY
ID	INSIDE DIAMETER
IF.	INSIDE FACE
IH	INTERSTATE HIGHWAY
IJ	INSULATED JOINT
IN.	INCH, INCHES
INC	INCORPORATED
INCL	INCLUDE
INT	INTERIOR
INV	INVERT
IRR.	IRRIGATION
JT	JOINT
K	KIP, RATE OF VERTICAL CURVATURE
L	TOTAL CURVE LENGTH, LENGTH, LEFT (DEFLECTION)
LB	POUND
LF	LINEAR FEET
LG	LENGTH, LONG
LIN	LINEAR, LINEAL
LL	LIVE LOAD
LN	LANE
LOC	LOCATION
LONG.	LONGITUDINAL
LPT	LOW POINT
LRT	LIGHT RAIL TRANSIT
LTD	LIMITED
LSG	LONE STAR GAS
LTL	LINTEL
LVC	LENGTH OF VERTICAL CURVE
LVL	LEVEL
LT	LEFT
M X	MISCELLANEOUS PILE SHAPE, _X_ = SIZE BY WEIGHT
MATL	MATERIAL
MAX	MAXIMUM
MBGF	METAL BEAM GUARD FENCE
MBR	MEMBER
MC_X_	MISCELLANEOUS CHANNEL, _X_ = SIZE BY WEIGHT
MCI	MCI TELECOMMUNICATIONS
MEAS	MEASURE
MEMB	MEMBRANE
MET.	METAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINUTES, MINIMUM
MISC	MISCELLANEOUS
MKT	MISSOURI-KANSAS-TEXAS RAILROAD COMPANY
ML	MAINLINE
MOD	MODULAR, MODIFIED
MON	MONUMENT
MSE	MECHANICALLY STABILIZED EARTH
MT	MOUNTED
MTG	MOUNTING
MULT	MULTIPLE
N	NORTH
N/A	NOT APPLICABLE
NAT	NATURAL
NB	NORTHBOUND
NBFR	NORTHBOUND FRONTAGE ROAD
NBML	NORTHBOUND MAINLINE
NCTCOG	NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS
NF	NEAR FACE
NIC	NOT IN CONTRACT
No.	NUMBER
Nos	NUMBERS
NOM	NOMINAL
NS	NEAR SIDE
N/S	NORTH/SOUTH
NTMWD	NORTH TEXAS MUNICIPAL WATER DISTRICT
NTS	NOT TO SCALE
NTTA	NORTH TEXAS TOLLWAY AUTHORITY
OC	ON CENTERS
OCEW	ON CENTER EACH WAY
OCS	OVERHEAD CATENARY SYSTEM
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OFF	OFFSET
OH	OVERHEAD
O TO O	OUT TO OUT
OPNG	OPENING
OPP	OPPOSITE
PC	POINT OF CURVE
PCC	POINT OF CURVE TO CURVE
P/C	PRECAST
PED	PEDESTRIAN
PEJ	PREFORMED EXPANSION JOINT
PERF	PERFORATED
PERM	PERMANENT
PERMISS	PERMISSIBLE
PERP	PERPENDICULAR
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PL	PLATE, PROPERTY LINE
PLAT.	PLATFORM
PMDF	PERMANENT METAL DECK FORMS
P/O	PART OF
POB	POINT OF BEGINNING
POC	POINT OF CURVE
POE	POINT OF ENDING
POLY	POLYETHYLENE
POS	POINT OF SPIRAL
POT	POINT OF TANGENT
PREM	PREMOLDED
PROJ.	PROJECTION
PROP	PROPOSED
PROT	PROTECTION
P/S	PRE-STRESSED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENT
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVC	POLY VINYL CHLORIDE, POINT OF VERTICAL CURVE
PVT	POINT OF VERTICAL TANGENT
Q	STORM WATER DISCHARGE
QTY	QUANTITY
R	RADIUS
R1	RIGHT (DEFLECTION)
RC	REINFORCED CONCRETE
RCB	REINFORCED CONCRETE BOX CULVERT
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REINF	REINFORCE, REINFORCED, REINFORCING, REINFORCEMENT
REQD	REQUIRED
REV	REVISE, REVISION
RH	RIGHT HAND
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RR	RAILROAD
RT	RIGHT
S	SOUTH, SLOPE
S_X_	I SHAPE, _X_ = SIZE BY WEIGHT
SB	SOUTHBOUND
SBFR	SOUTHBOUND FRONTAGE ROAD
SBML	SOUTHBOUND MAINLINE
SC	SPIRAL TO CURVE
SCHED	SCHEDULE
SCR	SCREW
SD	STORM DRAIN
SDWK	SIDEWALK
SEJ	SEALED EXPANSION JOINT
SEL	SELECT
SH	STATE HIGHWAY
S/H	STRUCTURAL HEIGHT
SHLD	SHOULDER
SHT	SHEET
SIM	SIMILAR
SL	STREET LIGHT, SLAB
SLV	SLEEVE
SM	SMOOTH
SMH	SEWER MANHOLE
SP	SOUTHERN PACIFIC TRANS. CORP.
SPA	SPACE
SPEC(S)	SPECIFICATION, SPECIFICATIONS
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SS	SANITARY SEWER
SST	STAINLESS STEEL
ST	STREET, SPIRAL TO TANGENT POINT
STA	STATION, STATIONING
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STM	STORM
STRGTH	STRENGTH
STRUCT	STRUCTURE, STRUCTURAL
SURF.	SURFACE
SWR	SEWER
SY	SQUARE YARD
SYM	SYMMETRICAL
SYS	SYSTEM
T/	TOP OF
T & B	TOP AND BOTTOM
TBM	TEMPORARY BENCH MARK
T/C	TOP OF CURB
T/D	TOP OF DITCH
TCP	TRAFFIC CONTROL PLAN
TEM	TEMPORARY
TEMP	TEMPERATURE
TEN	TENSION
TES	TRACTION ELECTRIFICATION SYSTEM
THRU	THROUGH
THK	THICK, THICKNESS
TL	TRAFFIC LIGHT
TMH	TELECOM MANHOLE
TO	TURNOUT
TOC	TOP OF CONCRETE
TP	TOP OF PAVEMENT
TPSS	TRACTION POWER SUBSTATION
T/R	TOP OF RAIL
TRA	TRINITY RIVER AUTHORITY
TRAF SIG	TRAFFIC SIGNAL
TRK	TRACK
T/S	TOP OF SLOPE
T/STL	TOP OF STEEL
T/W	TOP OF WALL
TxDOT	TEXAS DEPARTMENT OF TRANSPORTATION
TWC	TIME WARNER CABLE
TYP	TYPICAL
UD	UNDERDRAIN
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UP	UNION PACIFIC RAILWAY
US	UNITED STATES
USC&GS	U.S. COAST & GEODETIC SURVEY
USGS	UNITED STATES GEOLOGICAL SURVEY
UTIL	UTILITY
V	VELOCITY
VAR	VARIABLE, VARIES
VERT	VERTICAL
VOL	VOLUME
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WEST, WATER
W/	WITH
WB	WESTBOUND
WBFR	WESTBOUND FRONTAGE ROAD
WBML	WESTBOUND MAINLINE
W_X_	WIDE FLANGE SHAPE, X = SIZE BY WEIGHT
WI	WROUGHT IRON
W/O	WITHOUT
WP	WORK POINT
W/P	WEATHERPROOF
WS	WATER SURFACE
WT	WATERTIGHT, WEIGHT
WTR	WATER
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
WSEL	WATER SURFACE ELEVATION
X-ING	CROSSING
X-SECT	CROSS SECTION

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CONTRACT SHEET No. 6 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	M. JAHN
DESIGNED	M. JAHN
CHECKED	B. ALLDREDGE
IN CHARGE	K. MOYNAHAN
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
ABBREVIATIONS SHEET

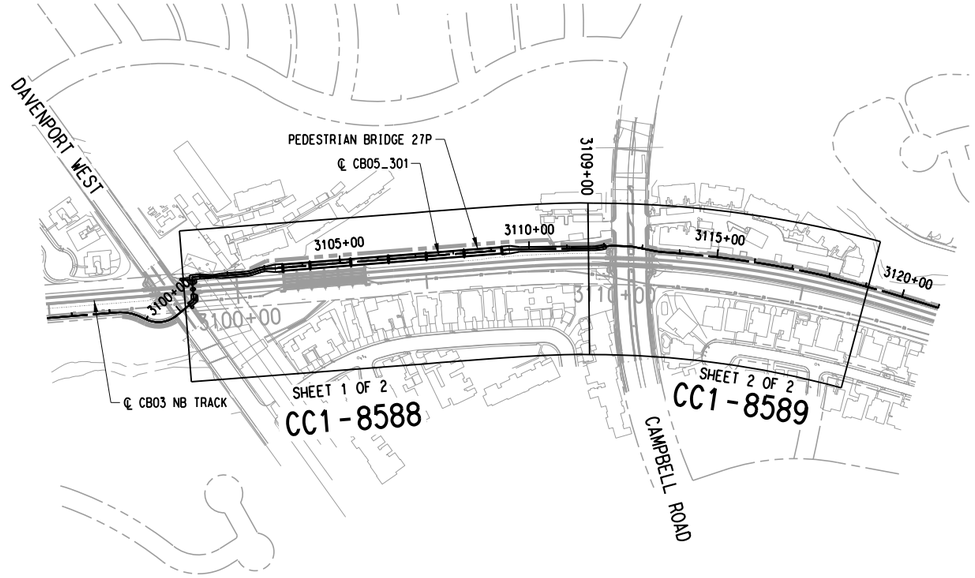
CONTRACT	DWG No.	REV
C-2033270-01	GC3-8662	D

CB05-GC3-8662.001

24-FEB-2023 06:25
CB05-GC3-8662.001

JEGSVCPW001
Default

DWG No. GC4-8670



SCALE (IN FEET)
0 100 200 400

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CONTRACT SHEET No. 7 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

CAES

SCALE	1"=200'
DRAWN	J. JAHN
DESIGNED	A. ENSOR
CHECKED	B. ALLDREDGE
IN CHARGE	J. HASLER
DATE	13 MAR 23

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
PEDESTRIAN TRAIL KEY MAP

CONTRACT	DWG No.	REV
C-2033270-01	GC4-8670	D

CB05-GC4-8670.200

24-FEB-2023 06:30
CB05-GC4-8670.200
JEGSVCPWU01
Default

DWG No. GC5-8671

SUMMARY OF STRUCTURAL ITEMS									
TxDOT ITEMS									
ITEM NUMBER	0400	0416	0416	0420	0420	0420	0422	0442	0442
DESC. CODE	6005	6004	6006	6013	6029	6037	6001	6007	6008
MCKAMY BRANCH CREEK PEDESTRIAN BRIDGE (#27P)	CEM STABIL BKFL	DRILL SHAFT (36 IN)	DRILL SHAFT (48 IN)	CL C CONC (ABUT)	CL C CONC (CAP)	CL C CONC (COLUMN)	REINF CONC SLAB	APPROACH SLAB	STR STEEL (MISC NON - BRIDGE)	STR STEEL (MISCELLANEOUS BRIDGE)
	CY	LF	LF	CY	CY	CY	SF	CY	LB	LB
2 - ABUTMENTS	33	129		21.1				40.2		
5 - PIERS			205		60.5	44.7				
580'-0" TRUSS BRIDGE (6 SPANS)							9,280		*	*
TOTAL	33	129	205	21.1	60.5	44.7	9,280	40.2		

* QUANTITIES ARE TO BE DETERMINED BY THE CONTRACTOR.

NOTES:

1. BID ITEMS LISTED ARE FOR INFORMATION ONLY.

SUMMARY OF RETAINING WALL ITEMS			
	TXDOT ITEMS		
ITEM NUMBER	423	432	556
DESC. CODE	6001	6045	6006
WALL NO.	RETAINING WALL (MSE)	RIPRAP (MOW STRIP) (4 IN)	*PIPE UNDERDRAINS (TY 6) (6")
	SF	CY	LF
RETAINING WALL LAYOUTS			
RW_T_L3110 1 OF 1	334	3	56
SUBTOTALS	334	3	56

*FOR CONTRACTOR INFORMATION ONLY

SUMMARY OF REMOVAL ITEMS				
			NCTCOG ITEMS	
ITEM NUMBER			702.2.1	702.2.1
DESC. CODE			0001	0002
SHEET NO.	LOCATION		REMOVING STRUCTURE (RCP)(30")	REMOVING CONC (RIPRAP)
	STA	STA	LF	SY
REMOVAL LAYOUTS				
1 OF 1	BEGIN	END	160	3
SUBTOTALS			160	3

SUMMARY OF CIVIL ITEMS							
TXDOT ITEMS							
ITEM NUMBER			100	360	432	450	802.2
DESC. CODE			6002	6002	6058	6103	0001
SHEET NO.	LOCATION		PREPARING ROW	CONC PVMT (CONT REINF CRCP) (8")	BEDDING MATERIAL (VARIABLE)	RAIL (TY PR11)	CONCRETE RETAINING WALLS
	STA	STA	STA LIMITS	SY	CY	LF	SF
CIVIL LAYOUTS							
1 of 2	3102+29	3103+48	1.19	310	9	453	799
2 of 2	3109+28	3112+04	2.76	397	11	229	596
SUBTOTALS			3.95	707	20	682	1,395

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CB05-GC5-8671.010

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CONTRACT SHEET No. 8 OF 81

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ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	M. JAHN
DESIGNED	M. JAHN
CHECKED	B. ALLDREDGE
IN CHARGE	K. MOYNAHAN
DATE	06 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
BID ITEMS SUMMARY
SHEET 1 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	GC5-8671	D

CB05-GC5-8671.010

DWG No. GC5-8672

SUMMARY OF DRAINAGE ITEMS

			NCTCOG ITEMS	TXDOT ITEMS							DART ITEMS					
ITEM NUMBER			502.12	420	432	462	464	466	466	467	2700	2140	2140	2700	2700	2700
DESC. CODE			1004	6002	6001	6019	6005	6152	6180	6388	1001	1001	1002	1004	1005	1006
SHEET NO.	LOCATION		PLA MANHOLE	CL A CONC (MISC)	RIPRAP (CONC) (4 IN)	CONC BOX CULV (8FT X 4FT)	RCP (CL III) (30 IN)	WINGWALL (FW-0) (HW=5FT)	WINGWALL (PW-0) (HW=5FT)	SET (TY II) (24 IN) (RCP)(3:1)(c)	DART PIPE UNDERDRAINS (8")	DART NON-PERFORATED PLASTIC PIPE (8")	DART NON-PERFORATED PLASTIC PIPE (10")	DART PIPE UNDERDRAINS (15")	DART PIPE CLEANOUT DRAINS	DART PIPE TERMINAL CLEANOUT DRAINS
	STA	STA	SF	CY	CY	LF	LF	EA	EA	EA	LF	LF	LF	LF	EA	EA
DRAINAGE LAYOUTS																
1 OF 2	BEGIN	3102+50									60	10			1	1
2 OF 2	3102+50	END			1		185					9	142		1	2
SUBTOTALS					1		185				60	19	142		2	3

NOTES:

1. BID ITEMS LISTED ARE FOR INFORMATION ONLY.

SUMMARY OF TRAFFIC CONTROL ITEMS

ITEM NUMBER							
DESC. CODE							
SHEET NO.	LOCATION						
	STA	STA					
TCP LAYOUTS							
SUBTOTALS			0	0	0	0	0

SUMMARY OF SW3P ITEMS

			NCTCOG ITEMS			
ITEM NUMBER			202.5	202.9	202.11	202.14
DESC. CODE			0001	0001	0001	0001
SHEET NO.	LOCATION		SILT FENCE	CHECK DAM (ROCK)	STABILIZED CONSTRUCTION EXIT	INLET PROTECTION
	STA	STA	LF	CY	SY	EA
SW3P LAYOUTS						
1 OF 2	3101+50	3018+50	627	18	156	2
2 OF 2	3018+50	3111+50	379		156	2
SUBTOTALS			1,006	18	312	4

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CONTRACT SHEET No. 9 OF 81

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DRAWN	M. JAHN
DESIGNED	M. JAHN
CHECKED	B. ALLDREDGE
IN CHARGE	K. MOYNAHAN
DATE	06 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
BID ITEMS SUMMARY
SHEET 2 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	GC5-8672	D

CB05-GC5-8672.010

07-MAR-2023 12:33
CB05-GC5-8672.010

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CHAIN CB05_301 (HIKE & BIKE TRAIL)

Chain CB05_301 contains:
CUR C1888 CUR C1889 - 2172 CUR C1890 CUR C1891 CUR C1892 CUR C1893

Beginning chain CB05_301 description
==========

Equation: Sta 3101+29.22 (BK) = Sta 3101+27.05 (AH)

End Region 2
Begin Region 3

Curve Data

Curve C1888
P.I. Station 3101+32.94 N 7,043,351.4084 E 2,490,089.1310
Delta = 6° 44' 48.50" (RT)
Degree = 57° 17' 44.82"
Tangent = 5.8945
Length = 11.7754
Radius = 100.0000
External = 0.1736
Long Chord = 11.7686
Mid. Ord. = 0.1733
P.C. Station 3101+27.05 N 7,043,346.3397 E 2,490,086.1220
P.T. Station 3101+38.82 N 7,043,356.0885 E 2,490,092.7146
C.C. N 7,043,295.2930 E 2,490,172.1117
Back = N 30° 41' 41.93" E
Ahead = N 37° 26' 30.43" E
Chord Bear = N 34° 04' 06.18" E

Course from PT C1888 to PC C1889 N 37° 26' 30.43" E Dist 8.6321

Curve Data

Curve C1889
P.I. Station 3101+53.25 N 7,043,367.5436 E 2,490,101.4859
Delta = 6° 38' 01.34" (LT)
Degree = 57° 17' 44.82"
Tangent = 5.7955
Length = 11.5780
Radius = 100.0000
External = 0.1678
Long Chord = 11.5715
Mid. Ord. = 0.1675
P.C. Station 3101+47.46 N 7,043,362.9422 E 2,490,097.9625
P.T. Station 3101+59.03 N 7,043,372.5213 E 2,490,104.4541
C.C. N 7,043,423.7377 E 2,490,018.5654
Back = N 37° 26' 30.43" E
Ahead = N 30° 48' 29.09" E
Chord Bear = N 34° 07' 29.76" E

Curve Data

Curve C1890
P.I. Station 3102+58.70 N 7,043,458.1264 E 2,490,155.5014
Delta = 14° 22' 50.69" (LT)
Degree = 76° 23' 39.74"
Tangent = 9.4619
Length = 18.8244
Radius = 75.0000
External = 0.5945
Long Chord = 18.7750
Mid. Ord. = 0.5898
P.C. Station 3102+49.24 N 7,043,449.9997 E 2,490,150.6554
P.T. Station 3102+68.07 N 7,043,467.2021 E 2,490,158.1772
C.C. N 7,043,488.4120 E 2,490,086.2388
Back = N 30° 48' 29.09" E
Ahead = N 16° 25' 38.40" E
Chord Bear = N 23° 37' 03.74" E

Course from PT C1890 to PC C1891 N 16° 25' 38.40" E Dist 16.3498

Curve Data

Curve C1891
P.I. Station 3102+93.80 N 7,043,491.8880 E 2,490,165.4555
Delta = 14° 16' 03.57" (RT)
Degree = 76° 23' 39.74"
Tangent = 9.3867
Length = 18.6763
Radius = 75.0000
External = 0.5851
Long Chord = 18.6281
Mid. Ord. = 0.5806
P.C. Station 3102+84.42 N 7,043,482.8845 E 2,490,162.8009
P.T. Station 3103+03.09 N 7,043,499.9596 E 2,490,170.2471
C.C. N 7,043,461.6745 E 2,490,234.7394
Back = N 16° 25' 38.40" E
Ahead = N 30° 41' 41.97" E
Chord Bear = N 23° 33' 40.18" E

Course from PT C1891 to PC C1892 N 30° 41' 41.97" E Dist 648.0384

Curve Data

Curve C1892
P.I. Station 3109+57.70 N 7,044,062.8541 E 2,490,504.4029
Delta = 3° 45' 43.82" (RT)
Degree = 28° 38' 52.40"
Tangent = 6.5686
Length = 13.1325
Radius = 200.0000
External = 0.1078
Long Chord = 13.1301
Mid. Ord. = 0.1078
P.C. Station 3109+51.13 N 7,044,057.2058 E 2,490,501.0498
P.T. Station 3109+64.26 N 7,044,068.2702 E 2,490,508.1193
C.C. N 7,043,955.1122 E 2,490,673.0292
Back = N 30° 41' 41.97" E
Ahead = N 34° 27' 25.79" E
Chord Bear = N 32° 34' 33.88" E

Course from PT C1892 to PC C1893 N 34° 27' 25.79" E Dist 202.3207

Curve Data

Curve C1893
P.I. Station 3111+83.31 N 7,044,248.8883 E 2,490,632.0560
Delta = 12° 43' 41.28" (LT)
Degree = 38° 11' 49.87"
Tangent = 16.7299
Length = 33.3222
Radius = 150.0000
External = 0.9301
Long Chord = 33.2537
Mid. Ord. = 0.9244
P.C. Station 3111+66.58 N 7,044,235.0937 E 2,490,622.5903
P.T. Station 3111+99.91 N 7,044,264.4295 E 2,490,638.2497
C.C. N 7,044,319.9621 E 2,490,498.9079
Back = N 34° 27' 25.79" E
Ahead = N 21° 43' 44.51" E
Chord Bear = N 28° 05' 35.15" E

Course from PT C1893 to PC C1894 N 21° 43' 44.49" E Dist 3.0965

Equation: Sta 3112+03.00 (BK) = Sta 3112+03.51 (AH)

End Region 3
Begin Region 4

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CONTRACT SHEET No. 10 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	J. JAHN
DESIGNED	A. ENSOR
CHECKED	B. ALLDREDGE
IN CHARGE	J. HASLER
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
HORIZONTAL ALIGNMENT DATA

CONTRACT	DWG No.	REV
C-2033270-01	CC1-8107	D

CB05-CC1-8107.001

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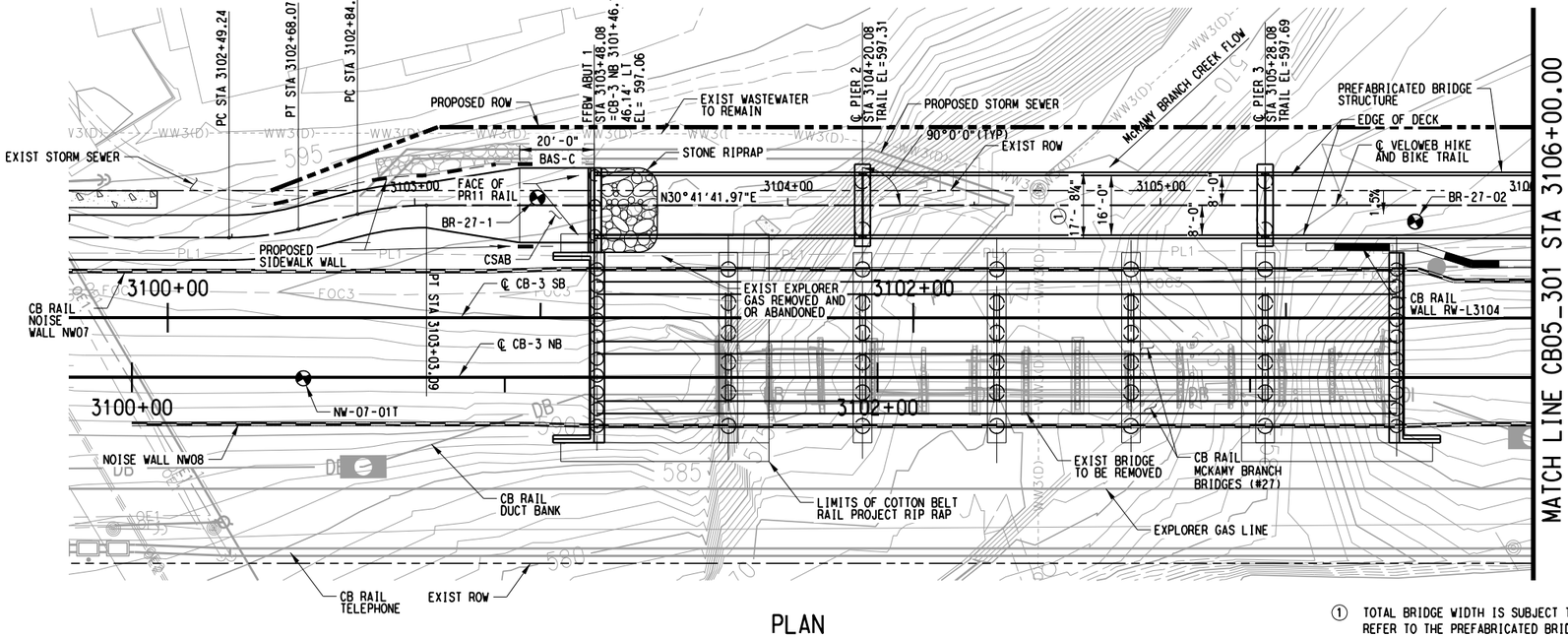
CB05-CC1-8107.001

JEGSVCPW001
Default

DWG No. SC2-2701



PLAN
SCALE: 1"=20'

HYDRAULIC DATA		
100-Yr YrFLOW (CFS)	WATER SURFACE ELEV.	VELOCITY (FPS)
16,625	591.65	5.90

① TOTAL BRIDGE WIDTH IS SUBJECT TO CHANGE. REFER TO THE PREFABRICATED BRIDGE VENDOR'S PLANS FOR FINAL BRIDGE DETAILS.

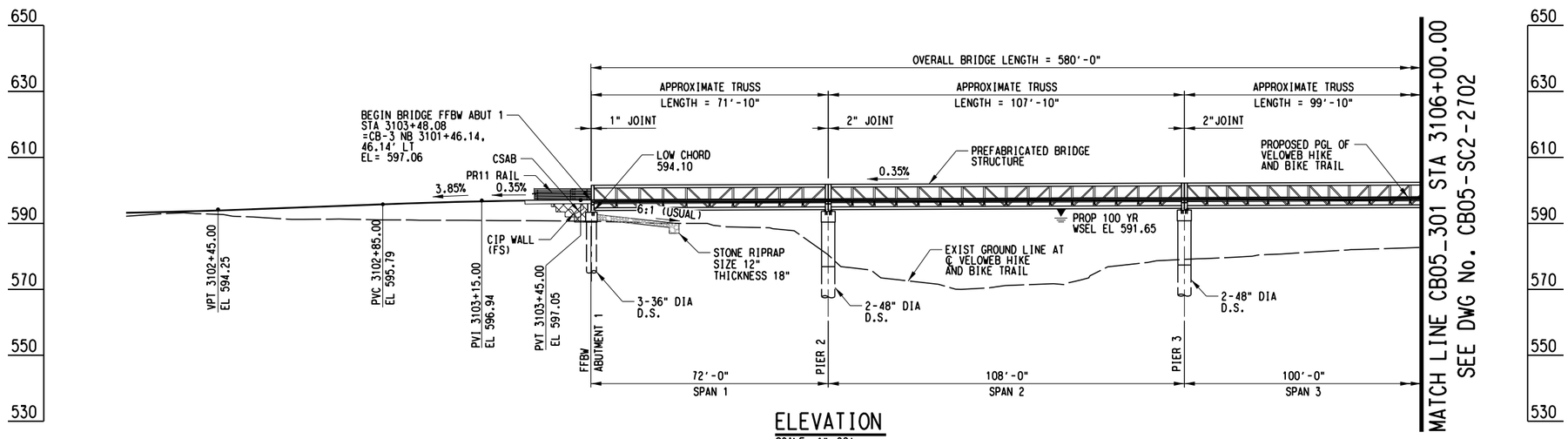
ALL ABUTMENTS AND PIERS ARE ALONG BEARING N59°18'18.03"W

SCALE (IN FEET)
0 10 20 40

NOTES:

1. DESIGNED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 8TH EDITION, 2017.
2. SPAN LENGTH STATIONING AND VERTICAL PROFILE ARE SHOWN ALONG THE CENTERLINE OF THE TRAIL. TOP OF DECK IS THE CONTROL AND PROFILE GRADE LINE.
3. FOR PEDESTRIAN TRAIL PLAN AND PROFILE, SEE VELOWEB HIKE AND BIKE PLAN AND PROFILE SHEETS.
4. FOR OTHER TRAIL DETAILS SEE CIVIL PLANS.
5. FOR UTILITY LOCATIONS AND RELOCATIONS SEE UTILITY DRAWINGS.
6. FOR DRAINAGE ELEMENTS, SEE DRAINAGE PLANS.
7. FOR EXACT LOCATIONS OF BORING LOGS AND SOIL PARAMETERS, SEE GEOTECHNICAL REPORT.
8. DESIGN PEDESTRIAN LIVE LOAD IS 90 PSF AND DESIGN VEHICULAR LIVE LOAD IS H-10.
9. TEMPORARY OR PERMANENT CASING MAY BE USED AT THE ABUTMENTS AND PIERS AS REQUIRED.
10. FOR SLOPE PROTECTION, SEE TXDOT SRR STANDARD.
11. FOR CEMENT STABILIZED ABUTMENT BACKFILL DETAILS, SEE TXDOT CSAB STANDARD.
12. FOR BRIDGE APPROACH SLAB DETAILS, SEE TXDOT BAS-C STANDARD.
13. FOR RAILING AT ENDS OF BRIDGE, SEE TXDOT TYPE PR11 STANDARD.
14. FOR PREFABRICATED BRIDGE TRUSS REQUIREMENTS AND NOTES, SEE DRAWING No. SC8-2791.
15. PREFABRICATED BRIDGE SUPERSTRUCTURE, DECK FORM, SIDE DAMS, BEARING ASSEMBLIES, EXPANSION JOINTS, AND EXPANSION JOINT COVER PLATES ARE TO BE PROVIDED BY THE PREFABRICATED BRIDGE VENDOR.

(NOTES CONTINUED ON SHEET 2 OF 2)



ELEVATION
SCALE: 1"=20'

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REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ARCHER WESTERN HERZOG

DART PROJECT

SCALE	1"=20'
DRAWN	F. KELLY
DESIGNED	F. KELLY
CHECKED	H. KIM
IN CHARGE	F. KELLY
DATE	06 MAR 23

CAES

CONTRACT SHEET No. 11 OF 81

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
PLAN AND ELEVATION
SHEET 1 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	SC2-2701	D

CB05-SC2-2701.020

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CB05-SC2-2701.020
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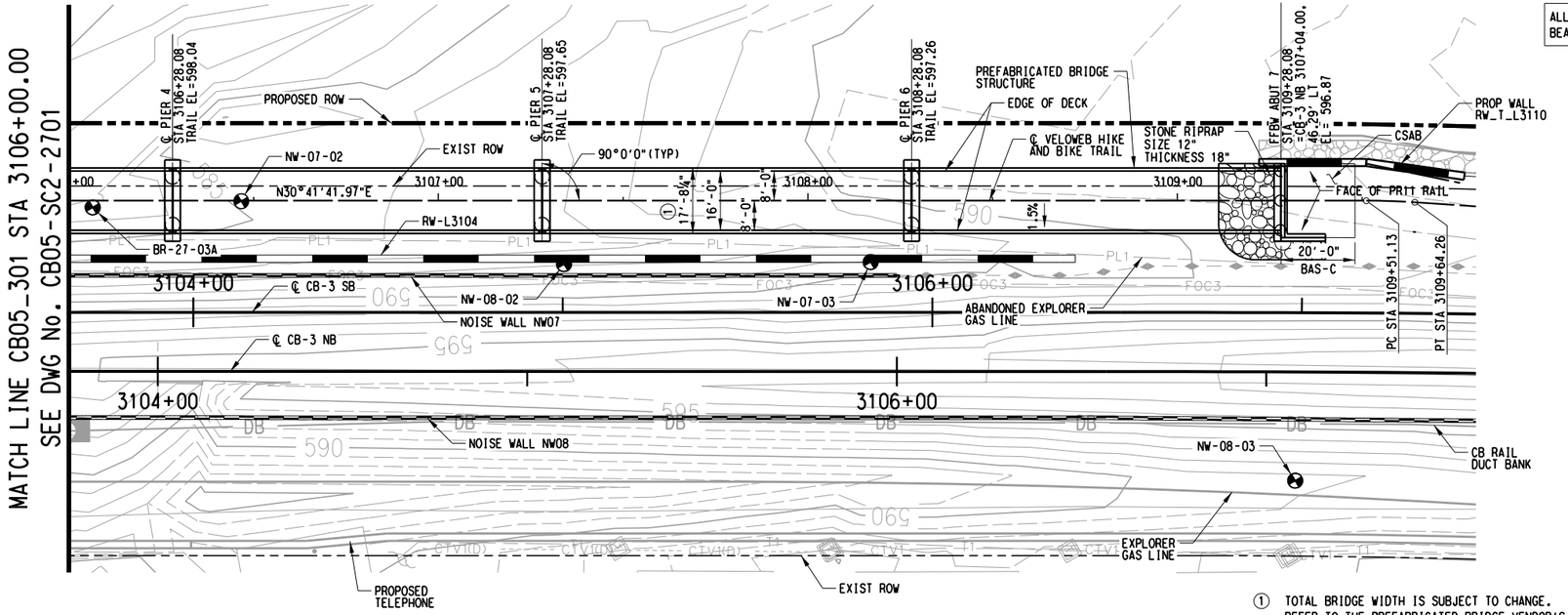
DWG No. SC2-2702



PLAN
SCALE: 1"=20'

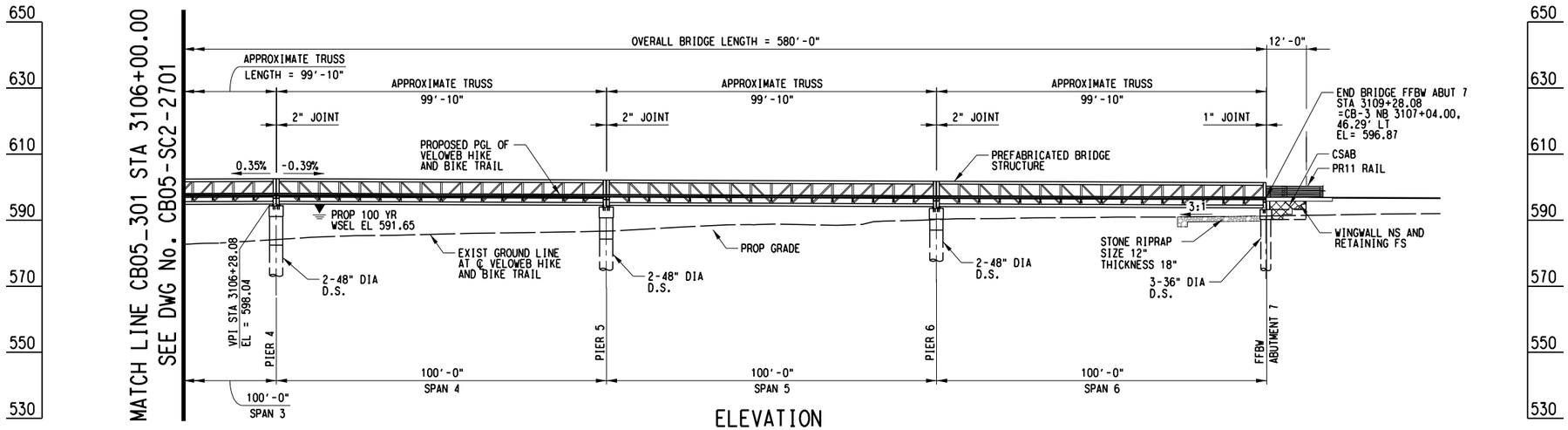
ALL ABUTMENTS AND PIERS ARE ALONG BEARING N 59°18'18.03" W

SCALE (IN FEET)
0 10 20 40

① TOTAL BRIDGE WIDTH IS SUBJECT TO CHANGE. REFER TO THE PREFABRICATED BRIDGE VENDOR'S PLANS FOR FINAL BRIDGE DETAILS.

NOTES: (CONTINUED)

16. AT CONTRACTOR'S OPTION, DRILLED SHAFTS FOR THE PIERS MAY BE FORMED TO BOTTOM OF THE CAP WITHOUT THE SHAFT/COLUMN CONSTRUCTION JOINT AND POURED MONOLITHICALLY.
17. PREFABRICATED BRIDGE STRUCTURES AND ESTIMATED DIMENSIONS ARE BASED ON THE PIONEER TRAILBLAZER BRIDGE. ALL SUPERSTURCTURE DIMENSIONS AND FINAL LOADINGS SHALL BE PROVIDED BY THE VENDOR.
18. JOINT OPENING SIZES ARE MINIMUMS. REFER TO PREFABRICATED BRIDGE VENDOR'S PLANS FOR OPENING SIZE.
19. THE PROPOSED STEEL TRUSSES SHALL BE WEATHERING STEEL.
20. THE DISTANCE FROM LOW SIDE OF DECK TO LOW CHORD IS ASSUMED TO BE 2'-10". THE DISTANCE FROM LOW SIDE OF DECK TO TOP OF BEARING SEAT IS ASSUMED TO BE 2'-11⅛".



ELEVATION
SCALE: 1"=20'

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CONTRACT SHEET No. 12 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ARCHER WESTERN HERZOG

DART PROJECT

SCALE	1"=20'
DRAWN	M. SHAO
DESIGNED	F. KELLY
CHECKED	H. KIM
IN CHARGE	F. KELLY
DATE	06 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
PLAN AND ELEVATION
SHEET 2 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	SC2-2702	D

CB05-SC2-2702.020

27-FEB-2023 16:56
CB05-SC2-2702.020
mshao
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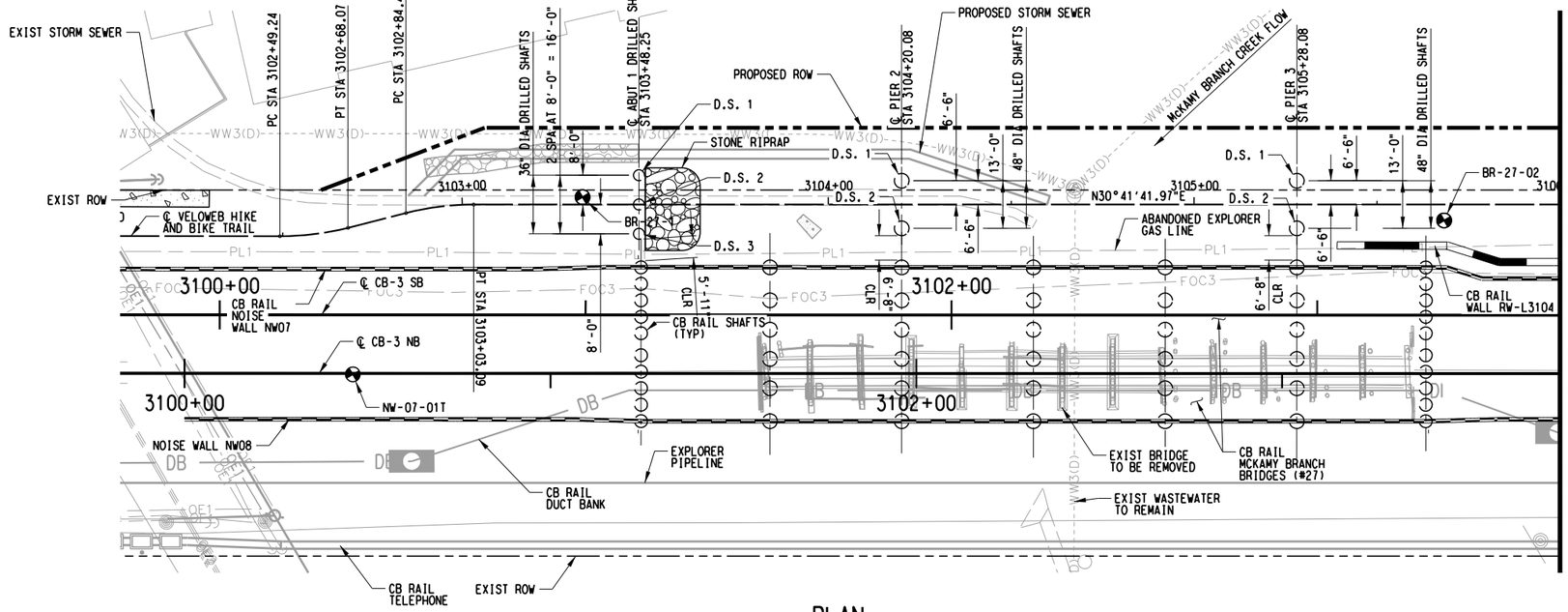
DWG No. SC2-2711



PLAN

SCALE: 1"=20'

ALL ABUTMENTS AND PIERS ARE ALONG BEARING N59°18'18.03"W

SCALE (IN FEET)
0 10 20 40

NOTES:

1. ALL DIMENSIONS ARE HORIZONTAL UNLESS NOTED OTHERWISE.
2. FOR GEOMETRY INFORMATION, SEE GEOMETRY CONTROL PLAN DWG Nos SC8-2746 & SC8-2747.
3. FOR BORING LOG INFORMATION, SEE GEOTECHNICAL DESIGN REPORT.
4. FOUNDATIONS SHALL BE FOUNDED AS SHOWN IN THE SUBSTRUCTURE SCHEDULE ON DWG No. SC8-2711.
5. FOR UTILITY LOCATIONS AND RELOCATIONS SEE UTILITY DRAWINGS.
6. AT CONTRACTOR'S OPTION, DRILLED SHAFTS FOR THE PIERS MAY BE FORMED TO BOTTOM OF THE CAP WITHOUT THE SHAFT/COLUMN CONSTRUCTION JOINT AND POURED MONOLITHICALLY.
7. DRILLED SHAFT SHALL BE CONSTRUCTED IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS. THE INSTALLATION OF ALL DRILLED PIERS SHOULD BE OBSERVED BY EXPERIENCED GEOTECHNICAL PERSONNEL DURING CONSTRUCTION.

27-FEB-2023 16:09
CB05-SC2-2711.020

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REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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ARCHER WESTERN HERZOG

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CONTRACT SHEET No. 13 OF 81

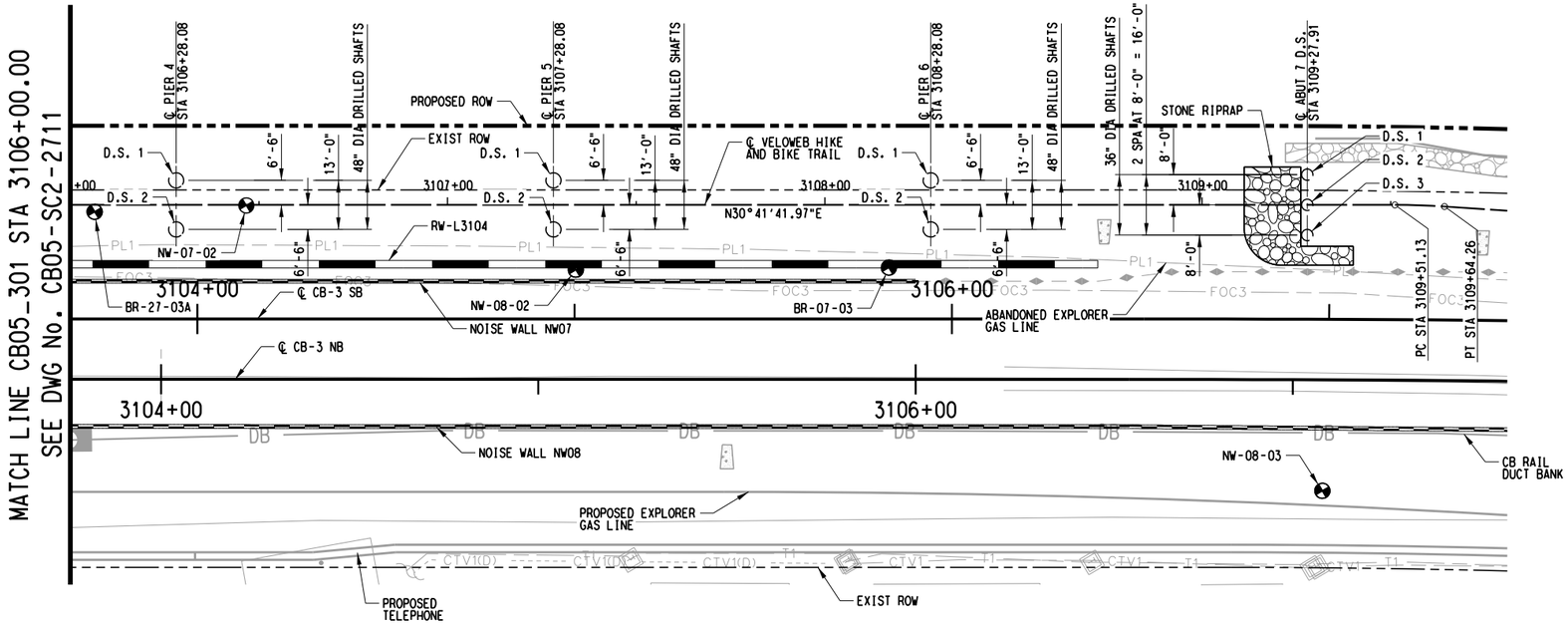
SCALE	1"=20'
DRAWN	F. KELLY
DESIGNED	F. KELLY
CHECKED	H. KIM
IN CHARGE	F. KELLY
DATE	06 MAR 23

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
MCKAMY BRANCH CREEK PEDESTRIAN BRIDGE (#27P)
FOUNDATION PLAN
SHEET 1 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	SC2-2711	D

CB05-SC2-2711.020

DWG No. SC2-2712



PLAN
SCALE: 1"=20'

ALL ABUTMENTS AND PIERS ARE ALONG BEARING N59°18'18.03"W

SCALE (IN FEET)
0 10 20 40

NOTES:

1. SEE DWG No. SC2-2711 FOR NOTES.

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CONTRACT SHEET No. 14 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

CAES

SCALE	1"=20'
DRAWN	F. KELLY
DESIGNED	F. KELLY
CHECKED	H. KIM
IN CHARGE	F. KELLY
DATE	06 MAR 23

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
FOUNDATION PLAN
SHEET 2 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	SC2-2712	D

CB05-SC2-2712.020

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CB05-SC2-2712.020
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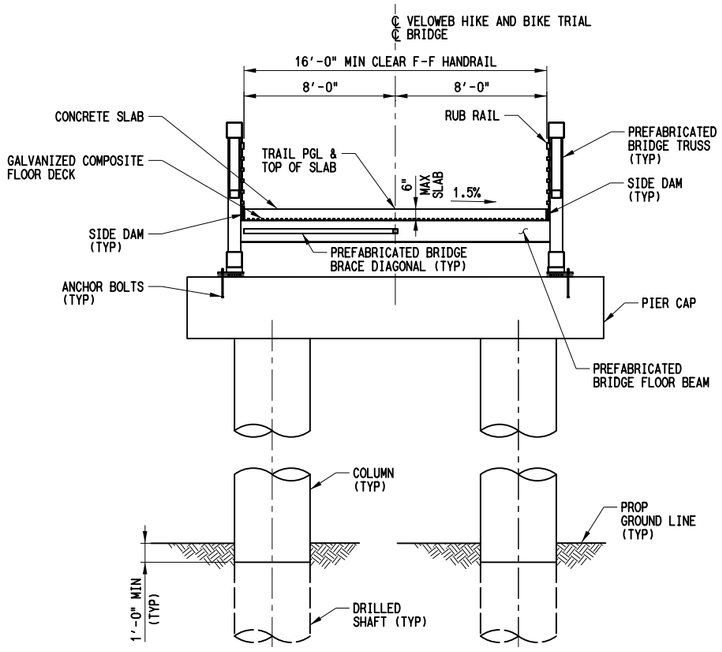
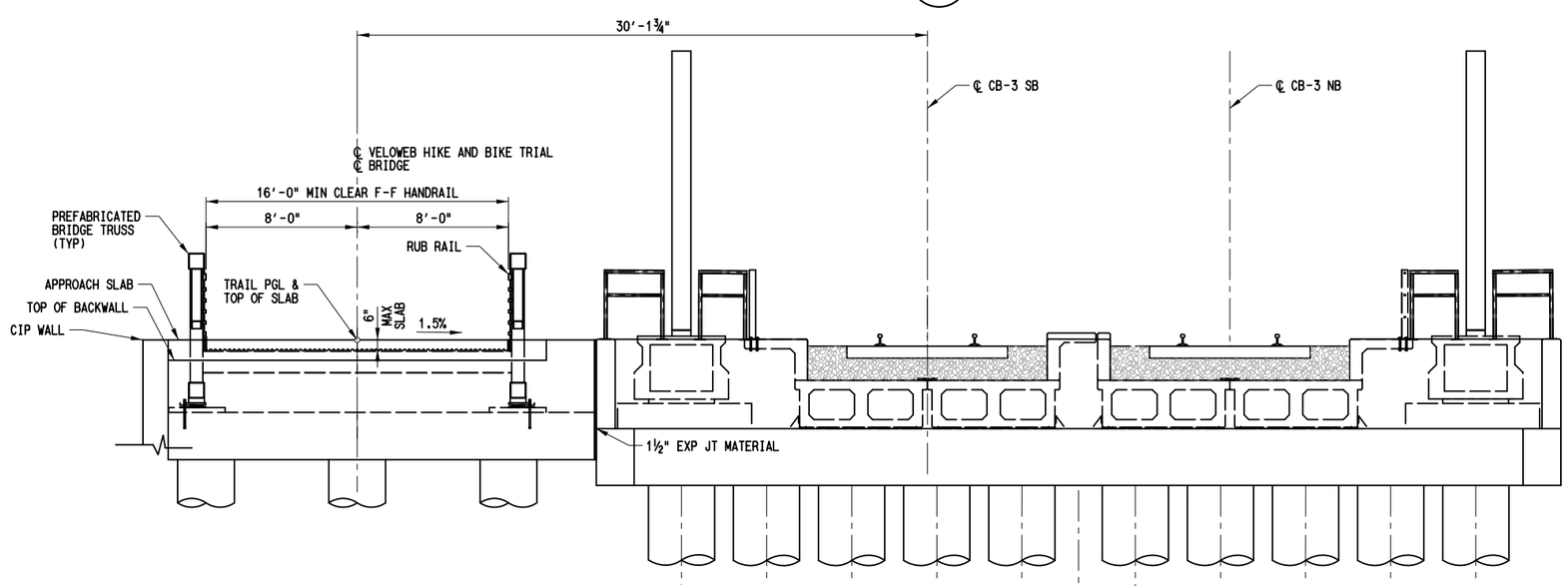
DWG No. SC8-2701



TYPICAL SECTIONS 1
NO SCALE



TYPICAL SECTIONS 2
NO SCALE

NOTES:

1. REFER TO DRAWINGS Nos SC2-2701 AND SC2-2702 FOR NOTES.
2. RUB RAIL AND HORIZONTAL PICKETS ARE FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO PREFABRICATED BRIDGE VENDOR DETAILS FOR DETAILS.

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CONTRACT SHEET No. 15 OF 81

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Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	M. SHAO
DESIGNED	F. KELLY
CHECKED	H. KIM
IN CHARGE	F. KELLY
DATE	27 FEB 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK PEDESTRIAN BRIDGE (#27P) TYPICAL SECTION

CONTRACT	DWG No.	REV
C-2033270-01	SC8-2701	D

CB05-SC8-2701.008

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DWG No. SC8-2711

NOTES:

1. FOR SUBSURFACE INFORMATION. SEE GENERAL NOTES AND GEOTECHNICAL REPORT.
2. FOUND DRILLED SHAFTS AT THE LENGTH SHOWN OR DEEPER TO OBTAIN MINIMUM EMBEDMENT INTO UNWEATHERED LIMESTONE.

* REFER TO THE PREFABRICATED BRIDGE VENDOR'S PLANS FOR BEARING SEAT ELEVATIONS.

ABUTMENT SUBSTRUCTURE SCHEDULE

ABUT No.	ABUT STATION WP	SURFACE COORDINATES AT WP		BEARING	PGL AT FF BKWL EL "A" (FT)	TOP OF BKWL EL "B" (FT)	TOP OF BKWL EL "C" (FT)	TOP OF CAP EL "D" (FT)	BOTT OF CAP\ TOP OF D.S. EL "E" (FT)	TOP OF BEARING SEAT EL "F" (FT)	TOP OF BEARING SEAT EL "G" (FT)	APPROXIMATE DRILLED SHAFT LENGTH (FEET)	SIZE OF D.S. (IN)	MINIMUM EMBEDMENT SEE NOTE 2 (FT)
		NORTHING	EASTING											
1	3103+48.08	7,043,538.6451	2,490,193.2123	N 59°18'18.03" W	597.06	596.13	595.83	593.86	591.36	*	*	22	36	4
7	3109+28.08	7,044,037.3815	2,490,489.2813	N 59°18'18.03" W	596.87	595.94	595.64	593.67	591.17	*	*	21	36	8

PIER SUBSTRUCTURE SCHEDULE

PIER No.	PIER STATION WP	SURFACE COORDINATES AT WP		BEARING	BEARING SEAT LOCATION BK\FWD	BEARING SEAT EL "A" (FT)	BEARING SEAT "B" (FT)	TOP OF CAP EL "C" (FT)	"BOTT OF CAP/ TOP OF COLUMN EL "D" (FT)	COLUMN	BOT OF COL EL "E" (FT)	COLUMN HEIGHT (FT)	APPROXIMATE DRILLED SHAFT LENGTH (FT)	SIZE OF D.S. (IN)	MINIMUM EMBEDMENT SEE NOTE 2 (FT)
		NORTHING	EASTING												
2	3104+20.08	7,043,600.5538	2,490,229.9637	N 59°18'18.03" W	BK	*	*	594.11	590.86	1	580.86	10	26	48	18
					FWD	*	*			2	573.86	17	19	48	18
3	3105+28.08	7,043,693.4227	2,490,285.0942	N 59°18'18.03" W	BK	*	*	594.49	591.24	1	577.24	14	20	48	14
					FWD	*	*			2	577.24	14	20	48	14
4	3106+28.08	7,043,779.4124	2,490,336.1410	N 59°18'18.03" W	BK	*	*	594.84	591.59	1	582.59	9	20	48	12
					FWD	*	*			2	582.59	9	20	48	12
5	3107+28.08	7,043,865.4021	2,490,387.1878	N 59°18'18.03" W	BK	*	*	594.45	591.20	1	584.20	7	20	48	14
					FWD	*	*			2	584.20	7	20	48	14
6	3108+28.08	7,043,951.3918	2,490,438.2345	N 59°18'18.03" W	BK	*	*	594.06	590.81	1	586.81	4	20	48	12
					FWD	*	*			2	586.81	4	20	48	12

SUMMARY OF ESTIMATED QUANTITIES

ITEM / DESCRIPTION	400 6005 CEM STABIL BKFL CY	416 6004 DRILL SHAFT (36 IN) LF	416 6006 DRILL SHAFT (48 IN) LF	420 6013 CL C CONC (ABUT) CY	420 6029 CL C CONC (CAP) CY	420 6037 CL C CONC (COLUMN) CY	422 6001 REINF CONC SLAB SF	422 6015 APPROACH SLAB CY	442 6007 STR STEEL (MISC NON-BRIDGE) LB	442 6008 STR STEEL (MISCELLANEOUS BRIDGE) LB
2 - ABUTMENTS	33	129		21.0				40.2		
5 - PIERS			205		60.5	44.7			**	**
580-0" TRUSS BRIDGE (6 SPANS)							9,280			
TOTAL	33	129	205	21.0	60.5	44.7	9,280	40.2	**	**

** QUANTITIES ARE TO BE DETERMINED BY THE CONTRACTOR.

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CB05-SC8-2711.008

cshao
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CONTRACT SHEET No. 16 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	F. KELLY
DESIGNED	F.KELLY
CHECKED	H. KIM
IN CHARGE	F. KELLY
DATE	27 FEB 23

CAES

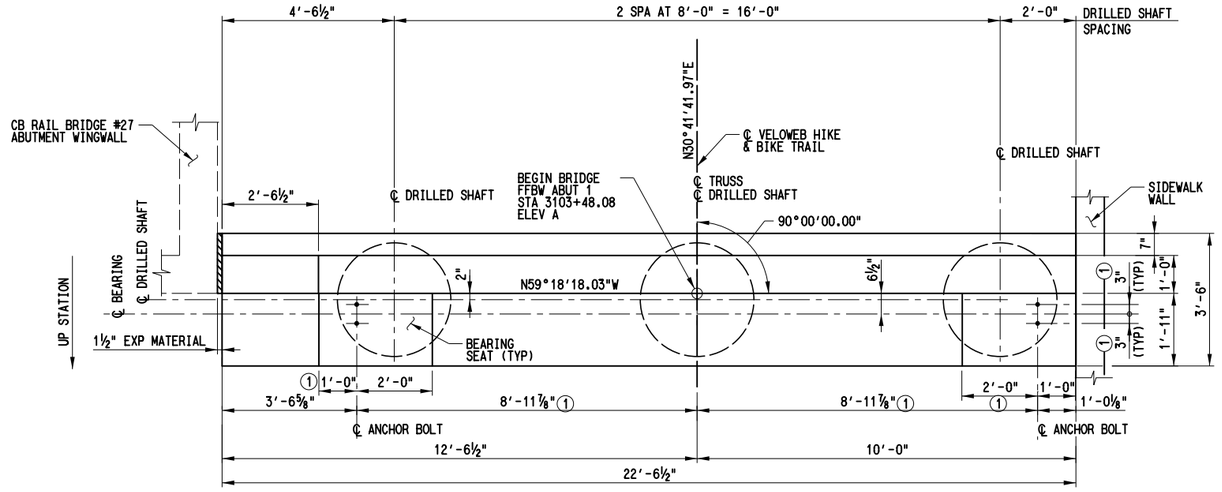
COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
SUBSTRUCTURE SCHEDULE

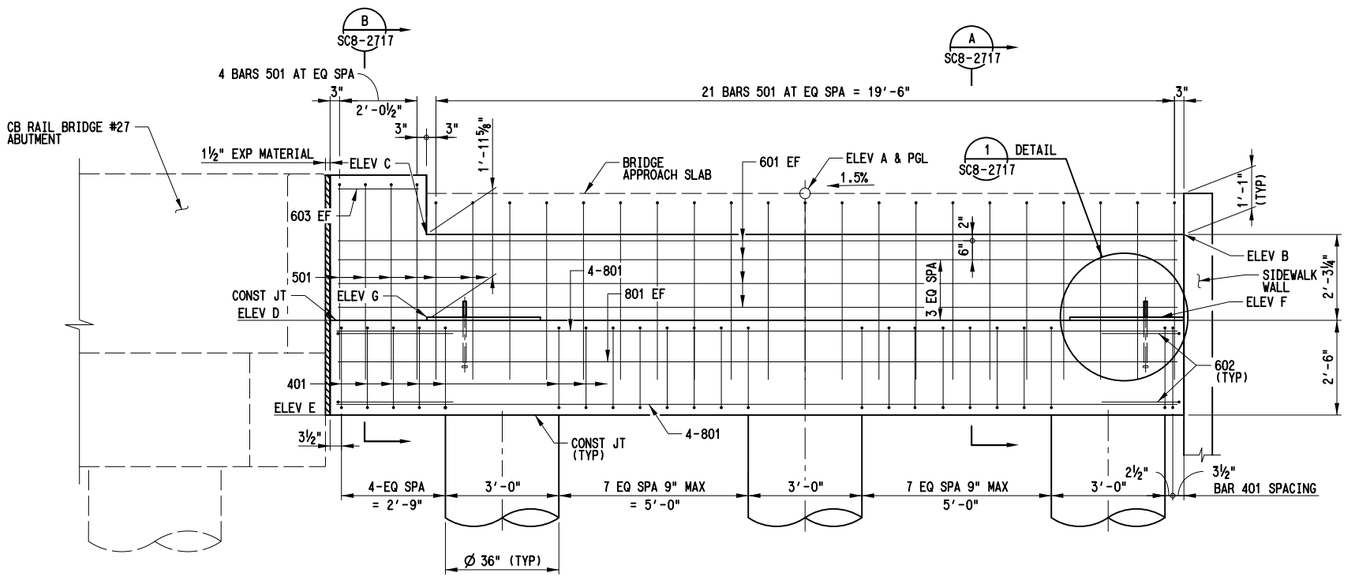
CONTRACT	DWG No.	REV
C-2033270-01	SC8-2711	D

CB05-SC8-2711.008

DWG No. SC8-2716



PLAN
SCALE: ½"=1'-0"



ELEVATION
SCALE: ½"=1'-0"

NOTES:

1. FOR FOUNDATION PLANS, SEE DRAWING Nos SC2-2711 AND SC2-2712.
2. FOR SCHEDULE OF ELEVATIONS AND DRILLED SHAFT LENGTHS, SEE SUBSTRUCTURE SCHEDULE DRAWING No. SC8-2711.
3. FOR GEOMETRY CONTROL PLANS, SEE DRAWING Nos SC8-2746 AND SC8-2747.
4. FOR BEARING SEAT AND ANCHOR BOLT LAYOUT AND INFORMATION, SEE DRAWING No. SC8-2736.
5. CONCRETE FOR ABUTMENT AND DRILLED SHAFTS SHALL BE CLASS "C" WITH A MINUMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH OF 3600 PSI.
6. ALL EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED ¾ INCH.
7. REINFORCEMENT SHALL MEET THE REQUIREMENTS OF THE CURRENT A.S.T.M. DESIGNATION: A615 OR A706, GRADE 60.
8. BAR DIMENSIONS ARE OUT-TO-OUT.
9. MINIMUM CONCRETE CLEAR COVER ON REINFORCEMENT SHALL BE TWO (2) INCHES UNLESS OTHERWISE NOTED.
10. FOR NOTES AND STANDARDS NOT SHOWN, SEE THE STANDARD DRAWINGS.
11. ALL DIMENSIONS ARE EITHER HORIZONTAL OR VERTICAL AND MUST BE CORRECTED FOR GRADE, CROSS-SLOPE, AND/OR SUPERELEVATION.
12. ANCHOR BOLTS SHALL BE HEX HEAD ASTM F 1554 GRADE 105. SEE SHEET SC8-2717 FOR MORE DETAILS.

① LOCATIONS OF ANCHOR BOLTS ARE SUBJECT TO CHANGE. REFER TO THE PREFABRICATED BRIDGE PLANS BY OTHERS FOR FINAL ANCHOR BOLT LOCATIONS.

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FINAL 100% DESIGN

CONTRACT SHEET No. 17 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	½"=1'-0
DRAWN	W. SHAO
DESIGNED	H. KIM
CHECKED	F. KELLY
IN CHARGE	H. KIM
DATE	27 FEB 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
ABUTMENT 1

CONTRACT	DWG No.	REV
C-2033270-01	SC8-2716	D

CB05-SC8-2716.008

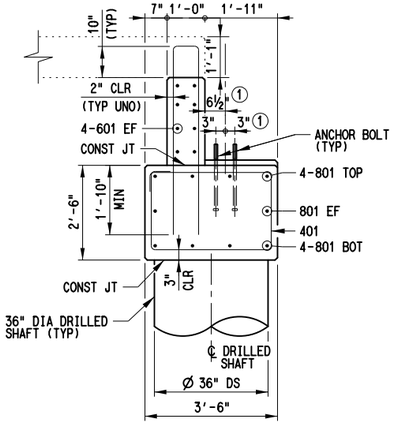
17-FEB-2023 13:05
CB05-SC8-2716.008
cshao
Default

NOTE:

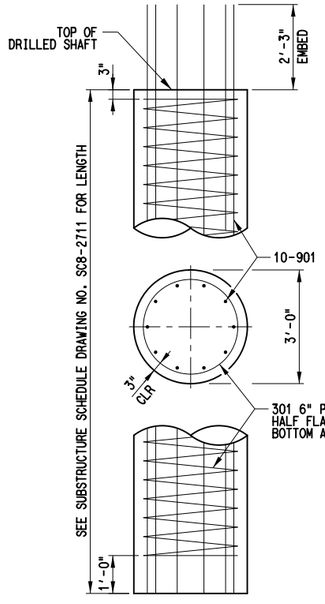
1. SEE DRAWING No. SC8-2716 FOR NOTES.

① LOCATIONS OF ANCHOR BOLTS ARE SUBJECT TO CHANGE. REFER TO THE PREFABRICATED BRIDGE PLANS BY OTHERS FOR FINAL ANCHOR BOLT LOCATIONS.

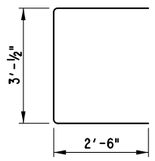
② SEE PLAN VIEW ON DRAWING No. SC8-2716 FOR DIMENSIONS



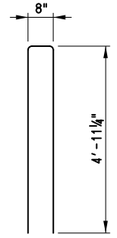
SECTION A
SCALE: ½"=1'-0" SC8-2716



36" DRILLED SHAFT DETAIL
SCALE: ½"=1'-0" -

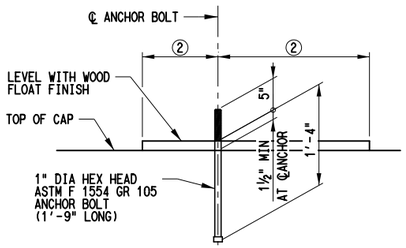


BAR 602



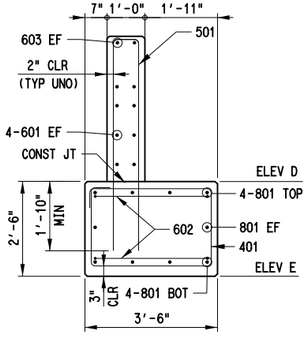
BAR 501

BARS 301

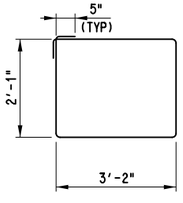


BEARING SEAT DETAIL 1
SCALE: 1"=1'-0" SC8-2716

(SEE DRAWING No. SC8-2716 FOR ORIENTATION)
(BEARING SURFACE SHALL BE CLEAN AND FREE OF ALL LOOSE MATERIAL BEFORE PLACING BEARING ASSEMBLY)



SECTION B
SCALE: ½"=1'-0" SC8-2716



BAR 401

NOT AN APPROVED DRAWING
FINAL 100% DESIGN

CONTRACT SHEET No. 18 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

CAES

SCALE	AS NOTED
DRAWN	W. SHAO
DESIGNED	H. KIM
CHECKED	F. KELLY
IN CHARGE	H. KIM
DATE	27 FEB 23

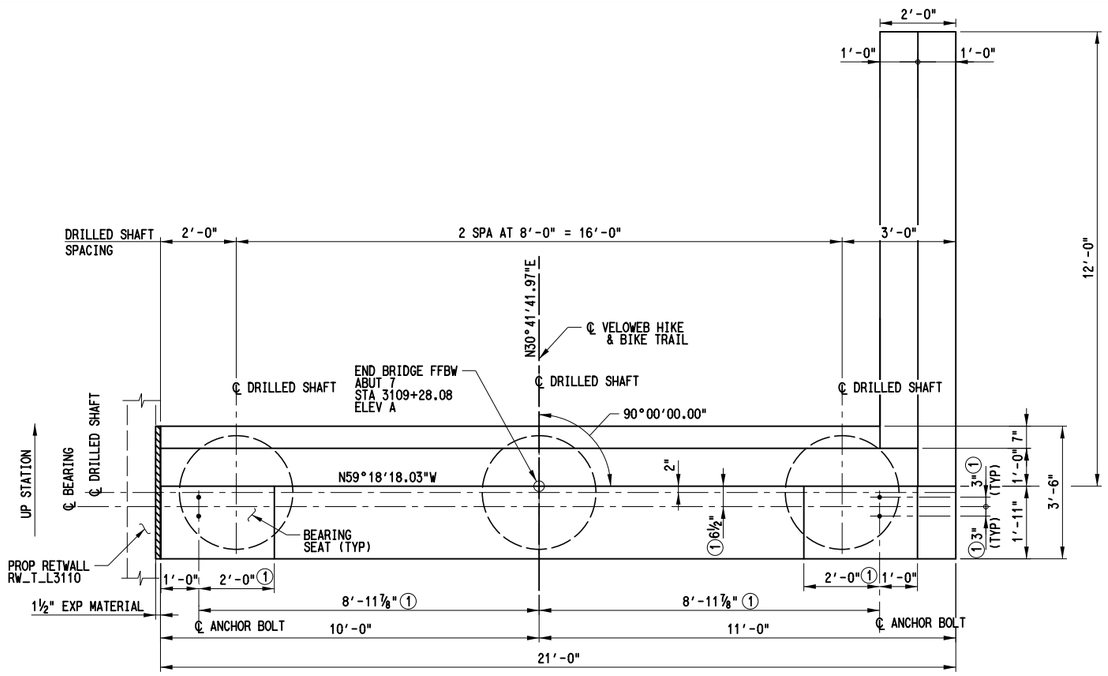
COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
ABUTMENT 1 DETAILS

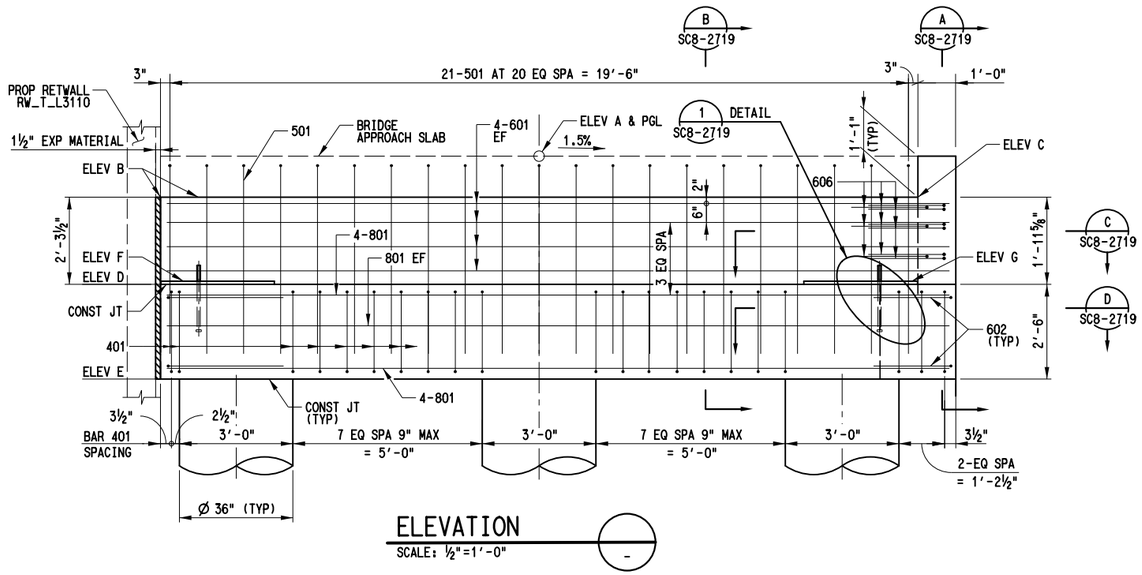
CONTRACT	DWG No.	REV
C-2033270-01	SC8-2717	D

CB05-SC8-2717.008

DWG No. SC8-2718



PLAN
SCALE: ½"=1'-0"



ELEVATION
SCALE: ½"=1'-0"

NOTES:

1. FOR FOUNDATION PLANS, SEE DRAWING Nos SC2-2711 AND SC2-2712.
2. FOR SCHEDULE OF ELEVATIONS AND DRILLED SHAFT LENGTHS, SEE SUBSTRUCTURE SCHEDULE DRAWING No. SC8-2711.
3. FOR GEOMETRY CONTROL PLANS, SEE DRAWING Nos SC8-2746 AND SC8-2747.
4. FOR BEARING SEAT AND ANCHOR BOLT LAYOUT AND INFORMATION, SEE DRAWING No. SC8-2736.
5. CONCRETE FOR ABUTMENT AND DRILLED SHAFTS SHALL BE CLASS "C" WITH A MINUMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH OF 3600 PSI.
6. ALL EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED ¾ INCH.
7. REINFORCEMENT SHALL MEET THE REQUIREMENTS OF THE CURRENT A.S.T.M. DESIGNATION: A615 OR A706, GRADE 60.
8. BAR DIMENSIONS ARE OUT-TO-OUT.
9. MINIMUM CONCRETE CLEAR COVER ON REINFORCEMENT SHALL BE TWO (2) INCHES UNLESS OTHERWISE NOTED.
10. FOR NOTES AND STANDARDS NOT SHOWN, SEE THE STANDARD DRAWINGS.
11. ALL DIMENSIONS ARE EITHER HORIZONTAL OR VERTICAL AND MUST BE CORRECTED FOR GRADE, CROSS-SLOPE, AND/OR SUPERELEVATION.
12. ANCHOR BOLTS SHALL BE HEX HEAD ASTM F 1554 GRADE 105. SEE SHEET SC8-2719 FOR MORE DETAILS.

(1) LOCATIONS OF ANCHOR BOLTS ARE SUBJECT TO CHANGE. REFER TO THE PREFABRICATED BRIDGE PLANS BY OTHERS FOR FINAL ANCHOR BOLT LOCATIONS.

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CONTRACT SHEET No. 19 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	½"=1'-0
DRAWN	W. SHAO
DESIGNED	H. KIM
CHECKED	F. KELLY
IN CHARGE	H. KIM
DATE	27 FEB 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
ABUTMENT 7

CONTRACT	DWG No.	REV
C-2033270-01	SC8-2718	D

CB05-SC8-2718.008

17-FEB-2023 13:05
CB05-SC8-2718.008
cshao
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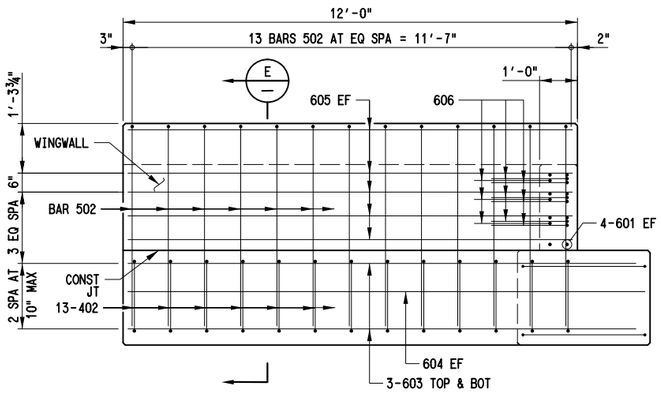
DWG No. SC8-2719



SECTION
SCALE: ½"=1'-0"
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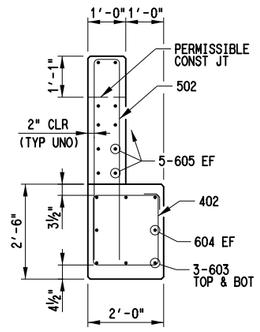
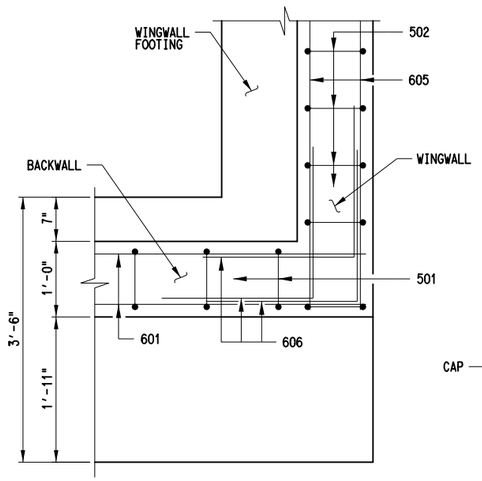
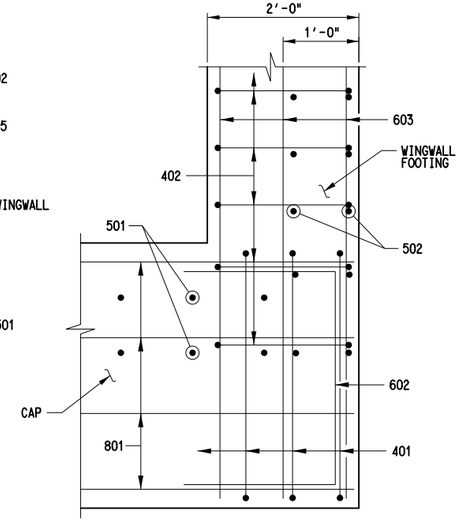
SC8-2718



SECTION
SCALE: ½"=1'-0"
E
-



SECTION
SCALE: 1"=1'-0"
C
SC8-2718



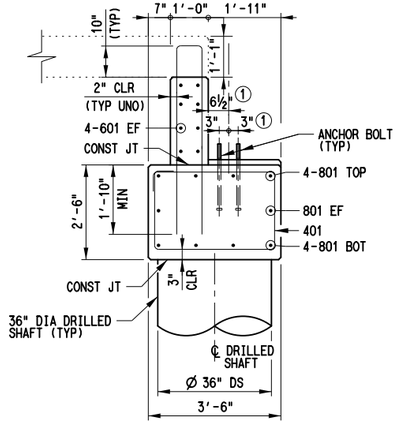
SECTION
SCALE: 1"=1'-0"
D
SC8-2718

NOTE:

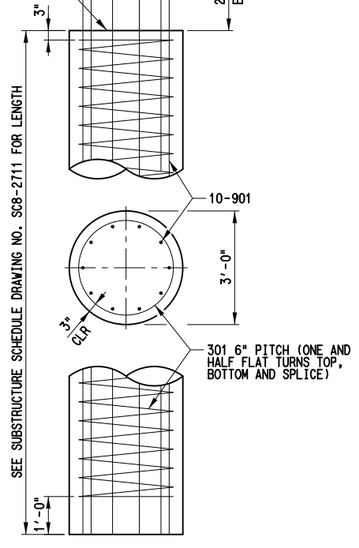
1. SEE DRAWING No. SC8-2718 FOR NOTES.

① LOCATIONS OF ANCHOR BOLTS ARE SUBJECT TO CHANGE. REFER TO THE PREFABRICATED BRIDGE PLANS BY OTHERS FOR FINAL ANCHOR BOLT LOCATIONS.

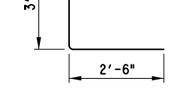
② SEE PLAN VIEW ON DRAWING No. SC8-2718 FOR DIMENSIONS.



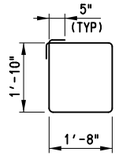
SECTION
SCALE: ½"=1'-0"
B
SC8-2718



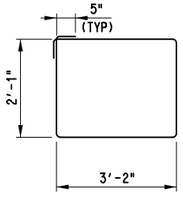
36" DRILLED SHAFT DETAIL
SCALE: ½"=1'-0"
-



BAR 602

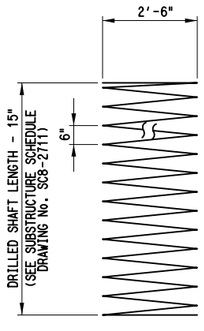


BAR 402

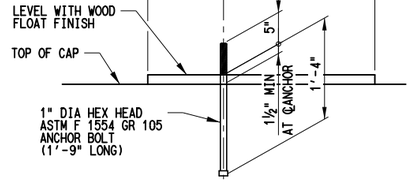


BAR 401

BAR 501, 502

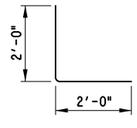


BARS 301



BEARING SEAT DETAIL
SCALE: 1"=1'-0"
1
SC8-2718

(SEE DRAWING No. SC8-2718 FOR ORIENTATION)
(BEARING SURFACE SHALL BE CLEAN AND FREE OF ALL LOOSE MATERIAL BEFORE PLACING BEARING ASSEMBLY)



BAR 606

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CONTRACT SHEET No. 20 OF 81

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REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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18383 PRESTON ROAD, SUITE 500
DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

CAES

SCALE	AS NOTED
DRAWN	M. SHAO
DESIGNED	H. KIM
CHECKED	F. KELLY
IN CHARGE	H. KIM
DATE	27 FEB 23

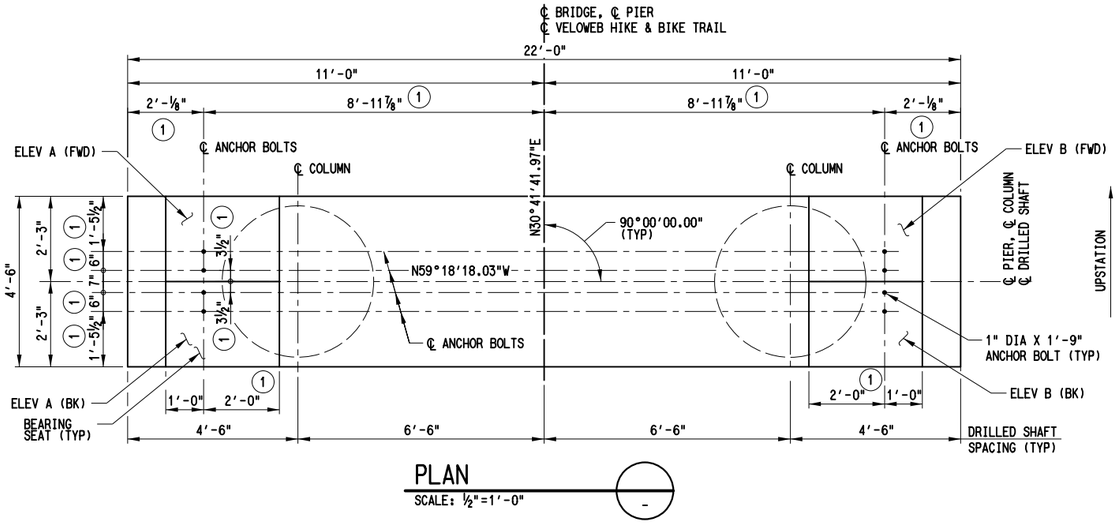
COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
ABUTMENT 7 DETAILS

CONTRACT	DWG No.	REV
C-2033270-01	SC8-2719	D

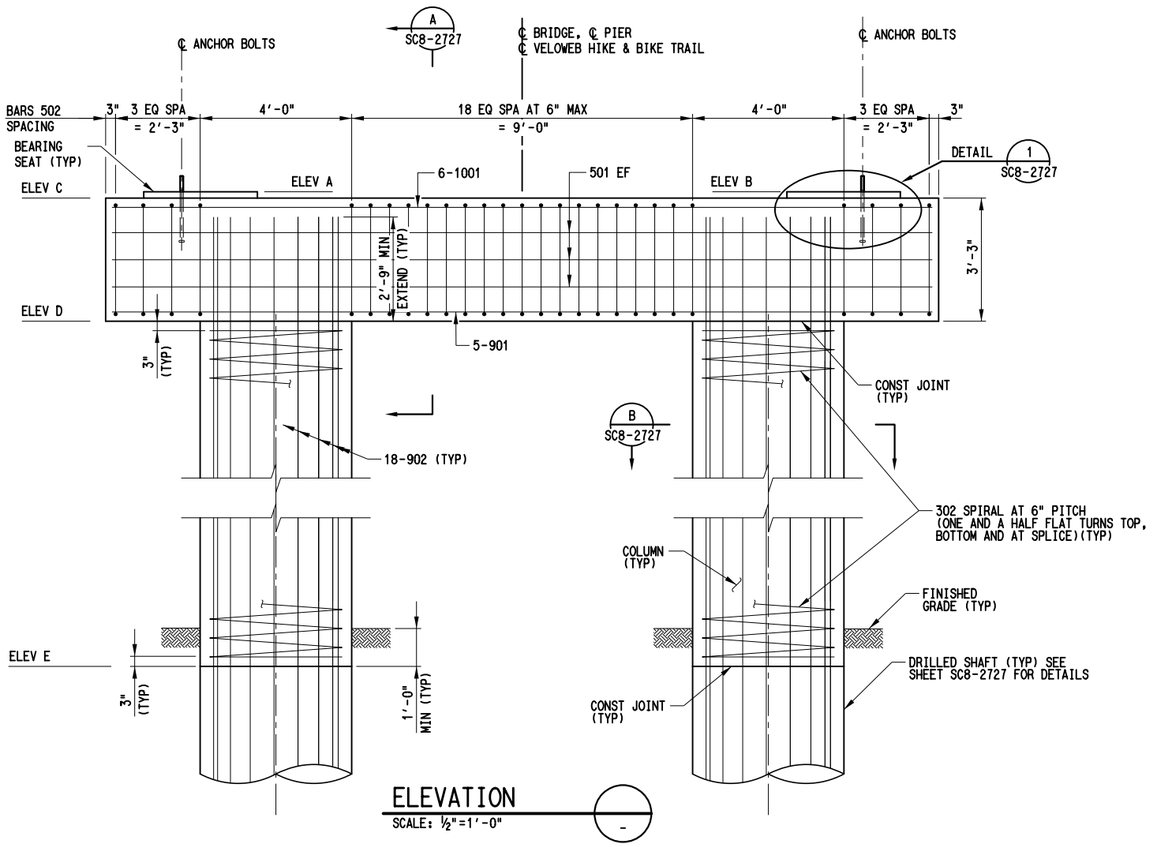
CB05-SC8-2719.008

DWG No. SC8-2726



PLAN

SCALE: ½"=1′-0"



ELEVATION

SCALE: ½"=1′-0"

NOTES:

1. FOR FOUNDATION PLAN, SEE DRAWING Nos SC2-2711 AND SC2-2712.
2. FOR SCHEDULE OF ELEVATIONS AND DRILLED SHAFT LENGTHS, SEE SUBSTRUCTURE SCHEDULE DRAWING No. SC8-2711.
3. FOR GEOMETRY CONTROL PLANS, SEE DRAWING Nos SC8-2746 AND SC8-2747.
4. FOR BEARING SEAT AND ANCHOR BOLT LAYOUT AND INFORMATION, SEE DRAWING No. SC8-2736.
5. CONCRETE FOR ABUTMENT AND DRILLED SHAFTS SHALL BE CLASS "C" WITH A MINUMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH OF 3600 PSI.
6. ALL EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED ¾ INCH.
7. REINFORCEMENT SHALL MEET THE REQUIREMENTS OF THE CURRENT A.S.T.M. DESIGNATION: A615 OR A706, GRADE 60.
8. BAR DIMENSIONS ARE OUT-TO-OUT.
9. MINIMUM CONCRETE CLEAR COVER ON REINFORCEMENT SHALL BE TWO (2) INCHES UNLESS OTHERWISE NOTED.
10. FOR NOTES AND STANDARDS NOT SHOWN, SEE THE STANDARD DRAWINGS.
11. ALL DIMENSIONS ARE EITHER HORIZONTAL OR VERTICAL AND MUST BE CORRECTED FOR GRADE, CROSS-SLOPE, AND/OR SUPERELEVATION.
12. AT CONTRACTOR'S OPTION, DRILLED SHAFTS MAY BE FORMED TO THE BOTTOM OF THE CAP WITHOUT THE SHAFT/COLUMN CONSTRUCTION JOINT AND POURED MONOLITHICALLY.
13. ANCHOR BOLTS SHALL BE HEX HEAD ASTM F 1554 GRADE 105. SEE SHEET No. SC8-2727 FOR MORE DETAILS.

① LOCATIONS OF ANCHOR BOLTS ARE SUBJECT TO CHANGE. REFER TO THE PREFABRICATED BRIDGE PLANS BY OTHERS FOR FINAL ANCHOR BOLT LOCATIONS.

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FINAL 100% DESIGN

CONTRACT SHEET No. 21 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DALLAS, TX 75252
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Firm Registration: F-10161
ARCHER WESTERN HERZOG

DART PROJECT

SCALE	½"=1′-0
DRAWN	M. SHAO
DESIGNED	H. KIM
CHECKED	F. KELLY
IN CHARGE	H. KIM
DATE	27 FEB 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
PIERS 2 THRU 6

CONTRACT	DWG No.	REV
C-2033270-01	SC8-2726	D

CB05-SC8-2726.008

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CB05-SC8-2726.008
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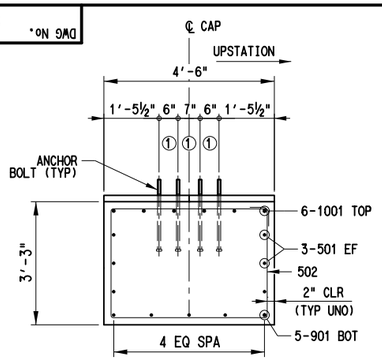
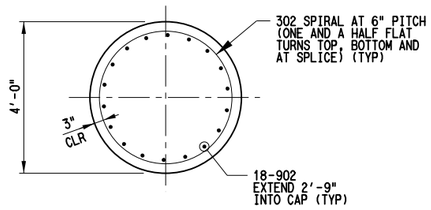
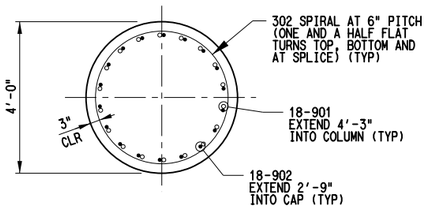
DWG No. SC8-2727



SECTION A
SCALE: ½"=1'-0"
SC8-2726



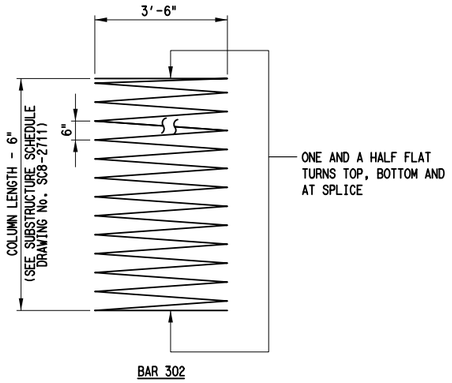
COLUMN SECTION B
SCALE: ½"=1'-0"
SC8-2726



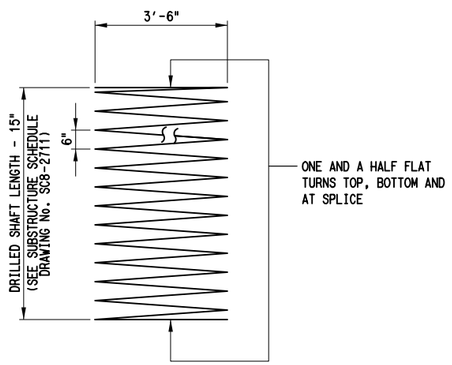
COLUMN AND DRILLED SHAFT INTERFACE
SCALE: ½"=1'-0"
C
-

NOTES:

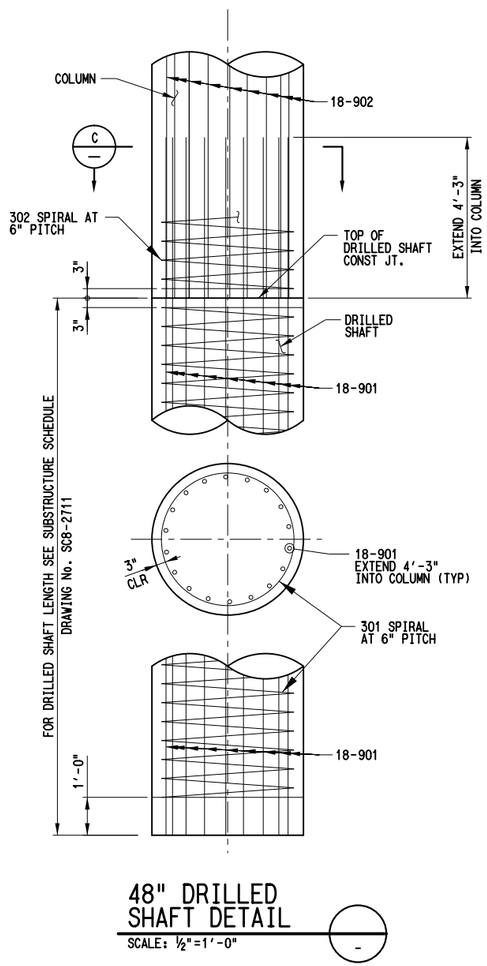
1. SEE DRAWING No. SC8-2726 FOR SHEET NOTES.
① LOCATIONS OF ANCHOR BOLTS ARE SUBJECT TO CHANGE. REFER TO THE PREFABRICATED BRIDGE PLANS BY OTHERS FOR FINAL ANCHOR BOLT LOCATIONS.
② SEE PLAN VIEW ON DRAWING No. SC8-2726 FOR DIMENSIONS.



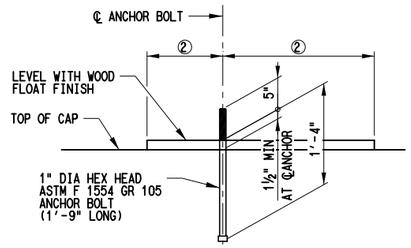
BAR 302



BAR 301

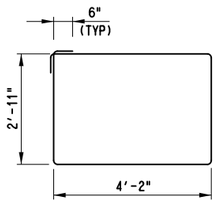


48" DRILLED SHAFT DETAIL
SCALE: ½"=1'-0"
-



BEARING SEAT DETAIL
SCALE: 1"=1'-0"
1
SC8-2726

(SEE DRAWING No. SC8-2726 FOR ORIENTATION)
(BEARING SURFACE SHALL BE CLEAN AND FREE OF ALL LOOSE MATERIAL BEFORE PLACING BEARING ASSEMBLY)



BAR 502

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ARCHER WESTERN HERZOG

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SCALE	AS NOTED
DRAWN	M. SHAO
DESIGNED	H. KIM
CHECKED	F. KELLY
IN CHARGE	H. KIM
DATE	27 FEB 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
PIERS 2 THRU 6 DETAILS

CONTRACT	DWG No.	REV
C-2033270-01	SC8-2727	D

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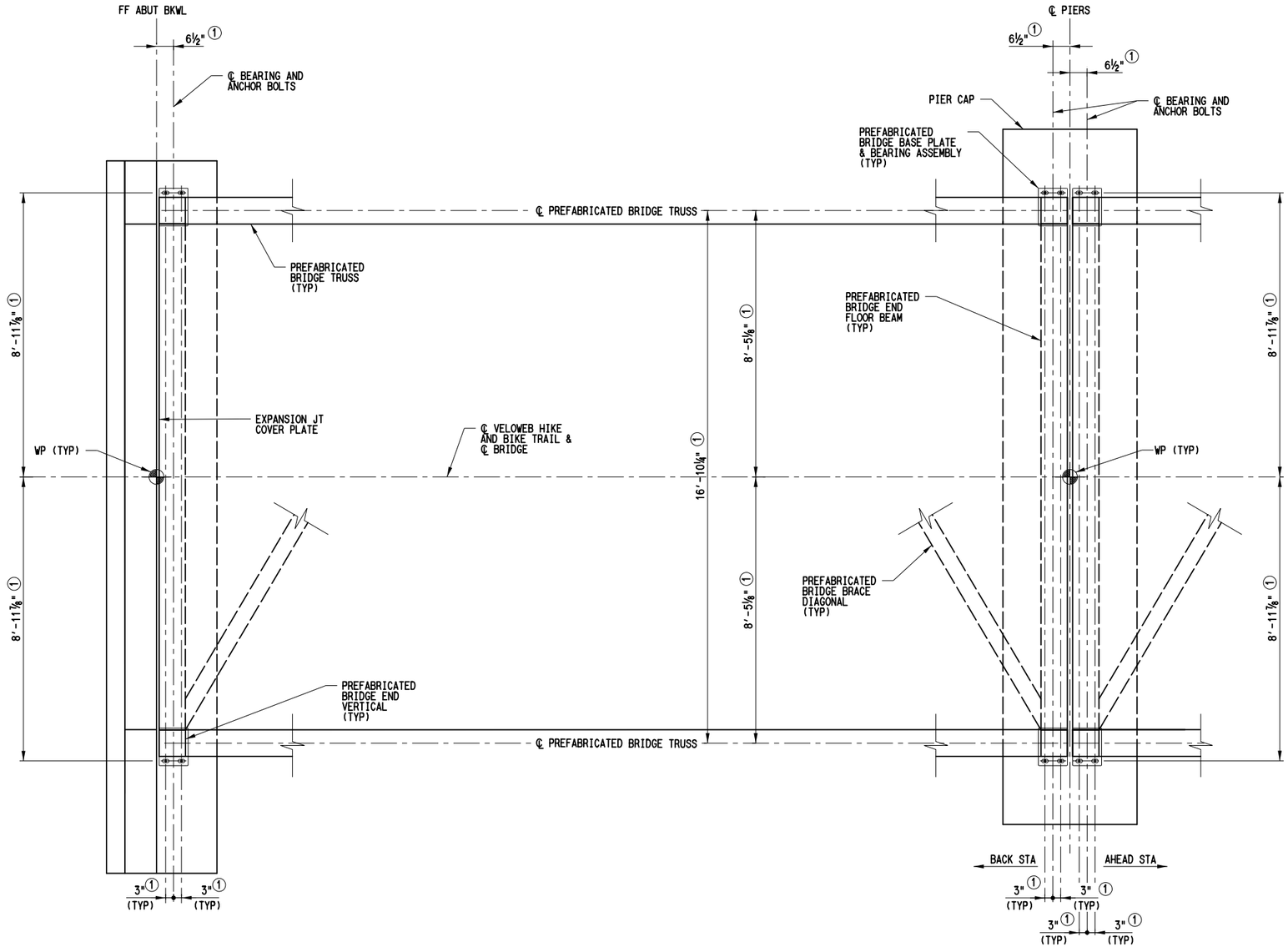
DWG No. SC8-2736



TYPICAL DETAIL OF TRUSS ENDS AT ABUTMENT 1 — 1 / -

NO SCALE

ABUTMENT 1 SHOWN, END ABUTMENT SIMILAR

TYPICAL DETAIL OF TRUSS ENDS AT PIERS — 2 / -

NO SCALE

NOTES:

1. SHOP DRAWINGS FOR APPROVAL ARE REQUIRED. SHOP DRAWINGS SHALL BE SUBMITTED BY THE OWNER TO THE CITY OF DALLAS FOR REVIEW.
2. A BEARING LAYOUT WHICH IDENTIFIES LOCATION AND ORIENTATION OF ALL BEARINGS MUST BE DEVELOPED BY THE BEARING FABRICATOR. PERMANENTLY MARK EACH BEARING IN ACCORDANCE WITH THE BEARING LAYOUT. A COPY OF THE BEARING LAYOUT IS TO BE PROVIDED TO THE ENGINEER.
3. TRUSS LAYOUT IS FOR ILLUSTRATION ONLY. SEE PREFABRICATED BRIDGE VENDOR'S PLANS FOR DETAILS.
4. PREFABRICATED SUPERSTRUCTURE, DECK FORM, SIDE DAMS, BEARING ASSEMBLIES, EXPANSION JOINTS, AND EXPANSION JOINT COVER PLATES ARE TO BE PROVIDED BY PREFABRICATED BRIDGE VENDOR.

① LOCATIONS OF BEARINGS AND ANCHOR BOLTS ARE SUBJECT TO CHANGE. REFER TO THE PREFABRICATED BRIDGE VENDOR'S PLANS FOR FINAL LOCATIONS.

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ARCHER WESTERN HERZOG

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SCALE	NO SCALE
DRAWN	F. KELLY
DESIGNED	F. KELLY
CHECKED	H. KIM
IN CHARGE	F. KELLY
DATE	27 FEB 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
MCKAMY BRANCH CREEK PEDESTRIAN BRIDGE (#27P) PREFABRICATED BRIDGE END AND BEARING DETAILS

CONTRACT C-2033270-01 | DWG No. SC8-2736 | REV D

CB05-SC8-2736.008

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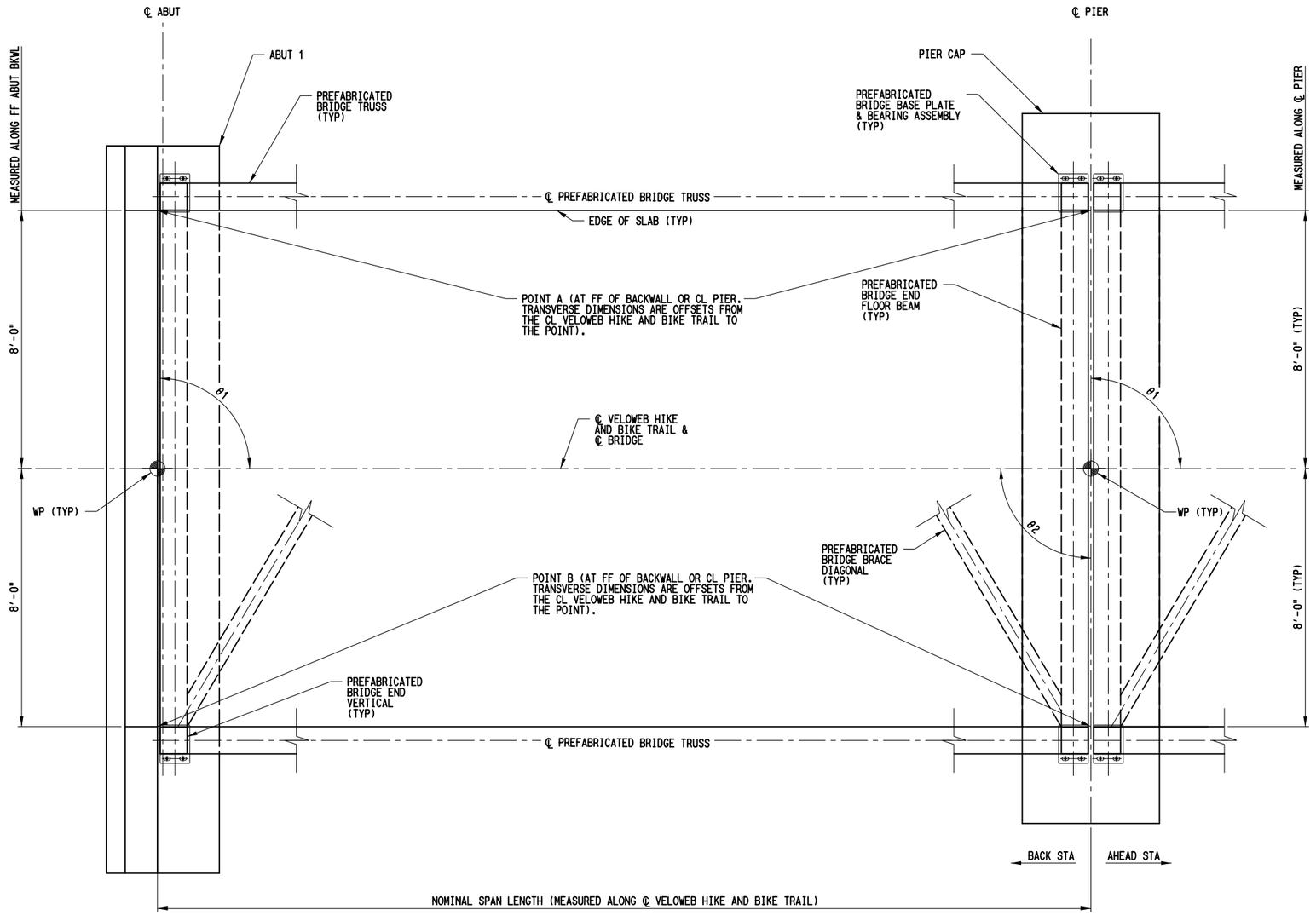
DWG No. SC8-2746

NOTES:

1. FOR PLAN AND ELEVATION, SEE DRAWING Nos SC2-2701, AND SC2-2702.
2. FOR TYPICAL SECTIONS, SEE DRAWING No. SC8-2701.
3. FOR PEDESTRIAN TRAIL PLAN AND PROFILE, SEE HIKE AND BIKE TRAIL SHEETS.
4. FOR WORKING POINT COORDINATES SEE DRAWING No. SC8-2711.
5. ALL DIMENSIONS SHOWN ARE HORIZONTALLY PROJECTED DIMENSIONS. THE LENGTHS SHALL BE ADJUSTED BY VERTICAL ELEVATION DIFFERENCE BETWEEN WORKING POINTS.
6. TRUSS LAYOUT IS FOR ILLUSTRATION ONLY. SEE PREFABRICATED BRIDGE VENDOR'S PLANS FOR DETAILS.



GEOMETRY CONTROL PLAN - SPANS 1-6

1 / -

NO SCALE

NOTE: SPAN 1 SHOWN. SPANS 2 THRU 6 SIMILAR.

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CONTRACT SHEET No. 24 OF 81

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CHECKED	H. KIM
IN CHARGE	F. KELLY
DATE	27 FEB 23

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COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
MCKAMY BRANCH CREEK PEDESTRIAN BRIDGE (#27P)
GEOMETRY CONTROL PLAN
SHEET 1 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	SC8-2746	D

CB05-SC8-2746.008

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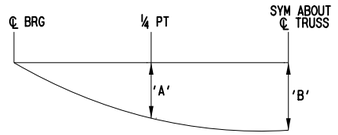
NOTES:

1. SEE NOTES ON DRAWING No. SC8-2746.

* ANTICIPATED DEAD LOAD DEFLECTIONS SHALL BE PROVIDED BY THE PREFABRICATED BRIDGE MANUFACTURER. DEFLECTIONS SHALL BE DUE TO PREFABRICATED BRIDGE SUPERSTRUCTURE, CAST-IN-PLACE CONCRETE SLAB AND ALL OTHER SUPERIMPOSED DEAD LOADS. DEFLECTIONS SHALL BE INSTANT DEFLECTIONS.

						ASSUMED TRUSS DIMENSIONS						
ABUT / PIER No.	ABUT / PIER STATION	WORKING POINT PGL EL AT CL	ABUT / PIER BEARING	SPAN No.	NOMINAL SPAN LENGTH (WP TO WP)	TRUSS LENGTH	CL BRG TO CL BRG	DEFL 'A' (INCH)	DEFL 'B' (INCH)	TRUSS BEARING	ANGLE FROM TRUSS TO BACK ABUT ∅1	ANGLE FROM AHEAD PIER TO ABUT ∅2
1	3103+48.08	597.06	N 59°18'18.03" W									
2	3104+20.08	597.31	N 59°18'18.03" W	1	72'-0"	71'-10"	70'-11"	*	*	N 30°41'41.97" E	90°0'00"	90°0'00"
3	3105+28.08	597.69	N 59°18'18.03" W	2	108'-0"	107'-10"	106'-11"	*	*	N 30°41'41.97" E	90°0'00"	90°0'00"
4	3106+28.08	598.04	N 59°18'18.03" W	3	100'-0"	99'-10"	98'-11"	*	*	N 30°41'41.97" E	90°0'00"	90°0'00"
5	3107+28.08	597.65	N 59°18'18.03" W	4	100'-0"	99'-10"	98'-11"	*	*	N 30°41'41.97" E	90°0'00"	90°0'00"
6	3108+28.08	597.26	N 59°18'18.03" W	5	100'-0"	99'-10"	98'-11"	*	*	N 30°41'41.97" E	90°0'00"	90°0'00"
7	3109+28.08	596.87	N 59°18'18.03" W	6	100'-0"	99'-10"	98'-11"	*	*	N 30°41'41.97" E	90°0'00"	90°0'00"



NOTES: DEFLECTIONS SHOWN ARE DUE TO PREFABRICATED BRIDGE SUPERSTRUCTURE, CAST-IN-PLACE CONCRETE SLAB AND ALL OTHER SUPERIMPOSED DEAD LOADS. DEFLECTIONS SHOWN ARE INSTANT DEFLECTIONS. ADJUST DEFLECTIONS BASED ON FIELD OBSERVATIONS AS NEEDED.

DEAD LOAD DEFLECTIONS DIAGRAM

NO SCALE

1 / -

TOP OF SIDEWALK ELEVATIONS						
ABUT / PIER No.	POINT	STATION	PGL EL (FT)	OFFSET (FT)	SLOPE %	TOP OF SIDEWALK EL (FT)
1	A	3103+48.08	597.06	-8.00	-1.50%	597.18
	B	3103+48.08	597.06	8.00	-1.50%	596.94
2	A	3104+20.08	597.31	-8.00	-1.50%	597.43
	B	3104+20.08	597.31	8.00	-1.50%	597.19
3	A	3105+28.08	597.69	-8.00	-1.50%	597.81
	B	3105+28.08	597.69	8.00	-1.50%	597.57
4	A	3106+28.08	598.04	-8.00	-1.50%	598.16
	B	3106+28.08	598.04	8.00	-1.50%	597.92
5	A	3107+28.08	597.65	-8.00	-1.50%	597.77
	B	3107+28.08	597.65	8.00	-1.50%	597.53
6	A	3108+28.08	597.26	-8.00	-1.50%	597.38
	B	3108+28.08	597.26	8.00	-1.50%	597.14
7	A	3109+28.08	596.87	-8.00	-1.50%	596.99
	B	3109+28.08	596.87	8.00	-1.50%	596.75

NOTES: TOP OF DECK/SIDEWALK ELEVATIONS SHOWN ARE MEASURED ALONG THE FRONT FACE OF ABUTMENT BACKWALLS AND ALONG THE CL OF PIERS. ELEVATIONS ARE TAKEN AT THE OFFSET FROM CL OF BRIDGE AS SHOWN.

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CONTRACT SHEET No. 25 OF 81

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DRAWN	F. KELLY
DESIGNED	F. KELLY
CHECKED	H. KIM
IN CHARGE	F. KELLY
DATE	27 FEB 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
GEOMETRY CONTROL PLAN
SHEET 2 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	SC8-2747	D

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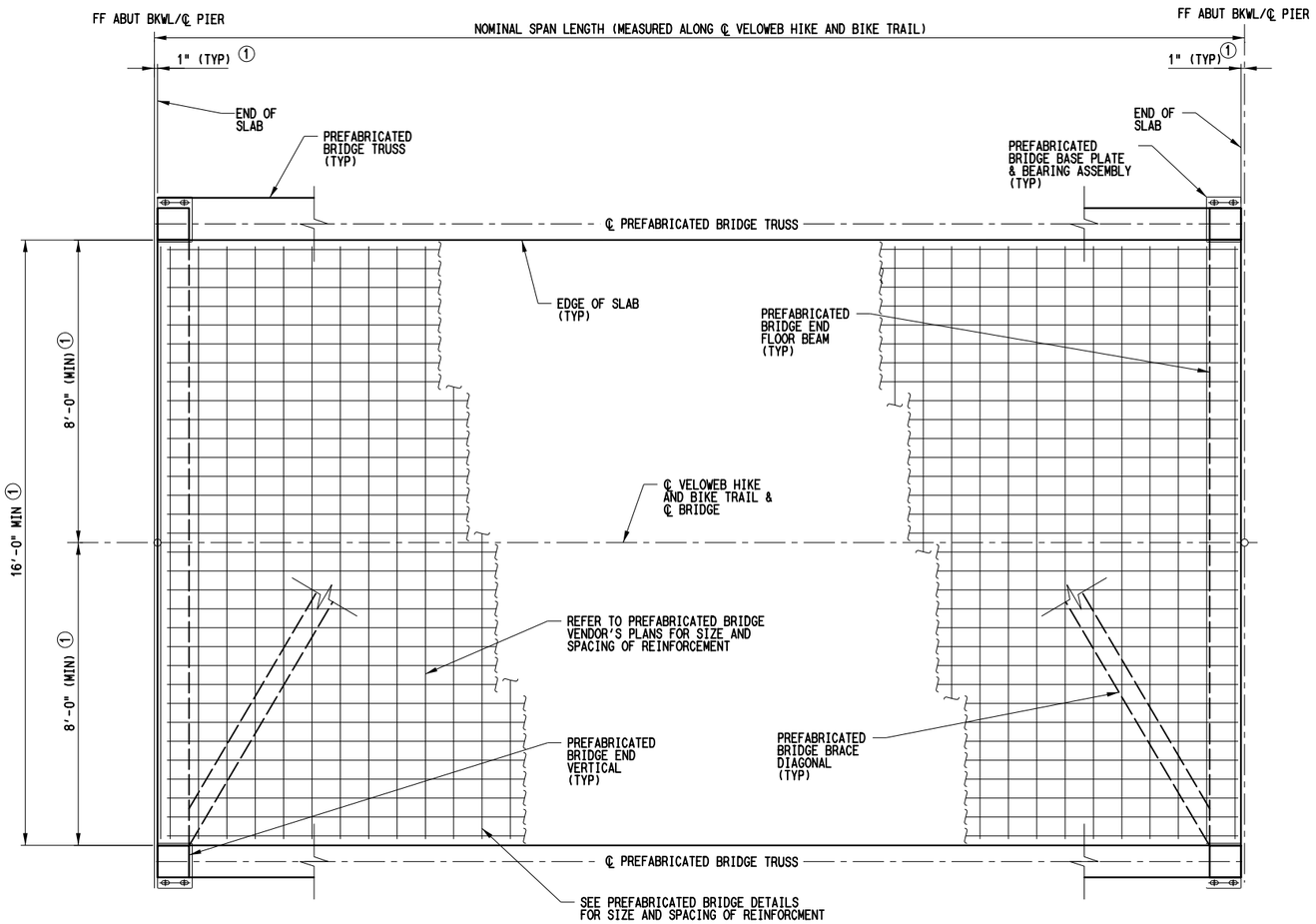
DWG No. SC3-2701



SLAB REINFORCING PLAN (1)

NO SCALE

NOTE: SPAN 1 SHOWN. SPANS 2 THRU 6 SIMILAR.

NOTES:

1. SLAB DESIGNED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
2. ALL CONCRETE SHALL BE TxDOT CLASS S CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 4,000 PSI.
3. ALL SLAB REINFORCING BARS SHALL BE ASTM A615, GRADE 60 AND EPOXY COATED.
4. FOR TYPICAL SLAB SECTION, SEE DRAWING No. SC8-2751.
5. PREFABRICATED BRIDGE SUPERSTRUCTURE, DECK FORM, SIDE DAMS, BEARING ASSEMBLIES, EXPANSION JOINTS, AND EXPANSION JOINT COVER PLATES ARE TO BE PROVIDED BY THE PREFABRICATED BRIDGE VENDOR.
6. FOR ADDITIONAL DETAILS, SEE GEOMETRY CONTROL PLANS, DRAWING Nos SC8-2746 AND SC8-2747.
7. FOR SECTION CONTROL LINE, SEE PLAN AND ELEVATION SHEETS, DRAWING Nos SC2-2701, SC2-2702, AND TYPICAL SECTIONS SHEET, DRAWING No. SC8-2701.
8. TRUSS LAYOUT IS FOR ILLUSTRATION ONLY. SEE PREFABRICATED BRIDGE VENDOR'S PLANS FOR DETAILS.
9. FOR THE FINAL SURFACE TEXTURE, A ROUGHENED BROOM FINISH SHALL BE PROVIDED AS A NON-SKID FINISH.
10. CONTROL JOINTS SHALL BE PROVIDED AT EVERY FLOOR BEAM. REFER TO THE PREFABRICATED BRIDGE VENDOR'S PLANS FOR FLOOR BEAM LOCATIONS.
11. EDGES OF SLAB ARE PARALLEL TO TRUSS BEARINGS UNLESS NOTED OTHERWISE.

① TRUSS DIMENSIONS ARE SUBJECT TO CHANGE. REFER TO THE PREFABRICATED BRIDGE VENDOR'S PLANS FOR FINAL TRUSS DIMENSIONS.

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COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
SLAB REINFORCING PLAN

CONTRACT	DWG No.	REV
C-2033270-01	SC3-2701	D

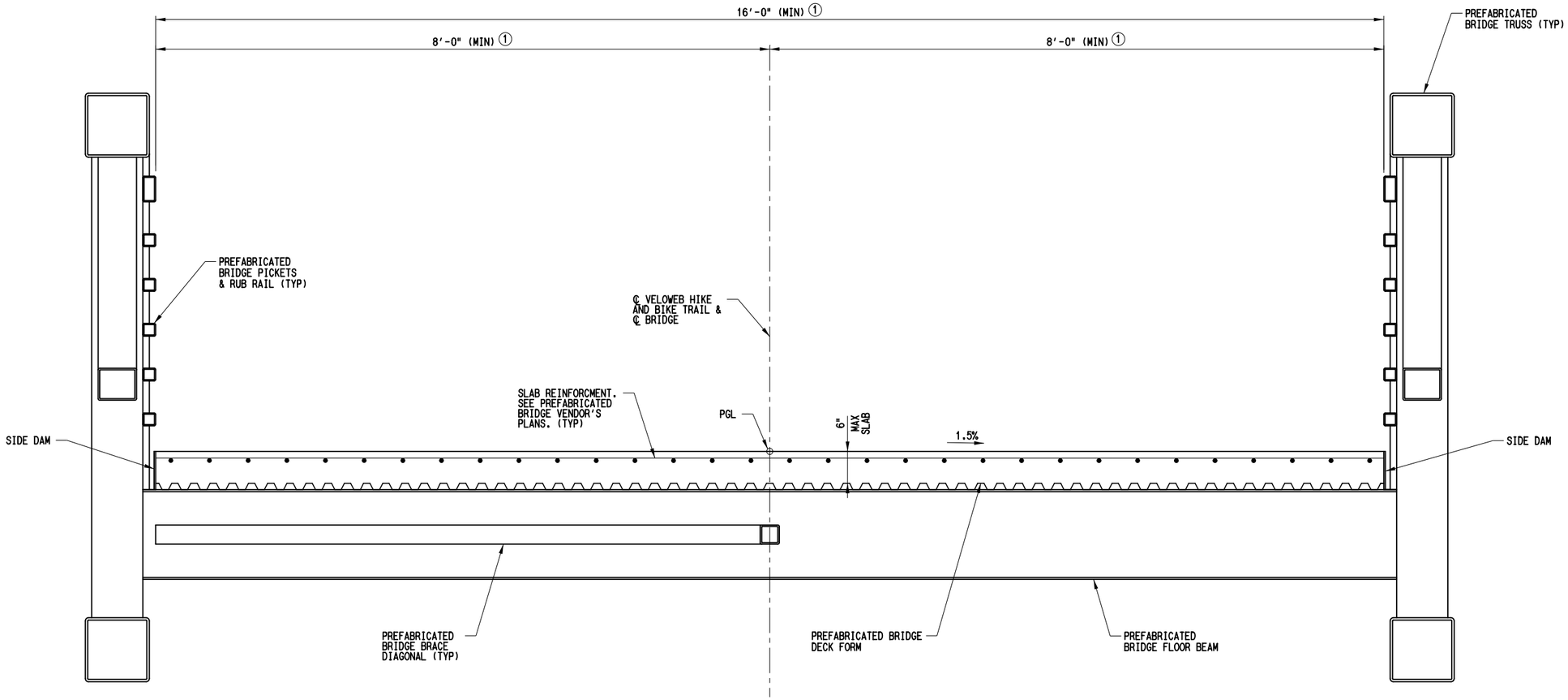
CB05-SC3-2701.008

DWG No. SC8-2751

NOTES:

1. FOR NOTES SEE DRAWING No. SC3-2701.
2. RUB RAIL AND HORIZONTAL PICKETS ARE FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO PREFABRICATED BRIDGE VENDOR DETAILS FOR DETAILS.

① TRUSS DIMENSIONS ARE SUBJECT TO CHANGE. REFER TO THE PREFABRICATED BRIDGE VENDOR'S PLANS FOR FINAL TRUSS DIMENSIONS.



TYPICAL TRANSVERSE SECTION 1
NO SCALE

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COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK PEDESTRIAN BRIDGE (#27P) TYPICAL SLAB SECTION

CONTRACT	DWG No.	REV
C-2033270-01	SC8-2751	D

DWG No. SC8-2791

PREFABRICATED BRIDGE REQUIREMENTS AND NOTES

BRIDGE GEOMETRY AND DESIGN REQUIREMENTS

1. THE PREFABRICATED STRUCTURE SPAN LENGTHS FROM CENTERLINE TO CENTERLINE OF PIER OR TO FRONT FACE OF BACKWALL SHALL BE AS AS SHOWN ON THE PLAN AND ELEVATIONS. SPAN LENGTHS SHOWN ARE HORIZONTAL AND MUST BE ADJUSTED FOR GRADE.
2. THE CLEAR WIDTH OF THE BRIDGE (INSIDE OF HANDRAIL TO INSIDE OF HANDRAIL) SHALL BE 16'-0".
3. THE ELEVATION DIFFERENCE BETWEEN PIERS IS NOTED ON THE INCLUDED PLAN AND ELEVATION SHEET.
4. LIVE LOAD DEFLECTION SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH. HORIZONTAL DEFLECTIONS UNDER UNFACTORED WIND LOADING SHALL NOT EXCEED 1/360 OF THE SPAN LENGTH.
5. VIBRATIONS SHALL BE INVESTIGATED AS A SERVICE LIMIT STATE USING LOAD COMBINATION SERVICE I IN TABLE 3.4.1-1 OF AASHTO LRFD AND SHALL MEET THE CRITERIA SPECIFIED IN SECTION 6 OF THE LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES. VIBRATION OF THE STRUCTURE SHALL NOT CAUSE DISCOMFORT OR CONCERN TO USERS OF THE BRIDGE.
6. PREFABRICATED BRIDGE SHALL BE CONSTRUCTED OF UNPAINTED WEATHERING STEEL.
7. THE PREFABRICATED STRUCTURE SHALL INCLUDE RAILING WITH RUB RAILS. RAILINGS SHALL MEET THE REQUIRMENTS AS SPECIFIED IN AASHTO "GUIDE FOR BICYCLE FACILITIES" 4TH EDITION, 2012. REFER TO AASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS" 8TH EDITION FOR LOADING AND DESIGN REQUIREMENTS.
8. REFER TO THE BRIDGE PLAN AND ELEVATION SHEET FOR ASSUMED DEPTH FOR LOW CHORD AD TOP OF CAP DEPTHS.
9. MAINTAIN A FLUSH DECK WITH THE APPROACH SLABS ON EITHER END.
10. THE PREFABRICATED STRUCTURE SHALL BE ADA COMPLIANT.
11. THE PREFABRICATED STRUCTURE SHALL INCLUDE DESIGN, DETAILS AND MATERIALS FOR THE PREFABRICATED SUPERSTRUCTURE, BEARING ASSEMBLIES, EXPANSION JOINTS, EXPANSION JOINT COVER PLATES, WIRE MESH, RAILINGS, CLEARANCE SIGN SUPPORT BRACKETS, DRIP PANS AND ANCHOR BOLT LOCATIONS.
12. FABRICATOR SHALL PROVIDE METAL RAILING AND METAL RUB RAILS. METAL SHALL BE WEATHERING STEEL.

DESIGN LOADS (UNFACTORED)

DEAD LOADS:

IN ADDITION TO THE SELF-WEIGHT OF THE PREFABRICATED STRUCTURE AND ANY OTHER MISC DEAD LOADS REQUIRED BY THE PRECEEDING SPECIFICATIONS AND STANDARDS, THE PREFABRICATED STRUCTURE SHALL ALSO BE DESIGNED FOR THE FOLLOWING DEAD LOADS:

1. 16'-0" WIDE BY 6" THICK (MINIMUM) CONCRETE DECK WITH A CROSS SLOPE AS IDENTIFIED IN THE LAYOUT SHEET. MINIMUM UNIT WEIGHT FOR CONCRETE SHALL BE 150 PCF

LIVE LOADS:

IN ACCORDANCE WITH THE PRECEEDING SPECIFICATIONS AND STANDARDS, THE PREFABRICATED STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LIVE LOADS:

1. PEDESTRIAN LIVE LOAD = 90 PSF
2. VEHICULAR LIVE LOAD = H10 LOADING

THE ABOVE LOADING IS NOT ALL-INCLUSIVE. THE PREFABRICATED STRUCTURE SHALL ALSO BE DESIGNED FOR ANY ADDITIONAL LOADS AS REQUIRED BY THE PRECEEDING SPECIFICATIONS (SUCH AS WIND LOAD, THERMAL, ETC.).

DESIGN SPECIFICATIONS AND STANDARDS

(IN ORDER OF PRECEDENCE)

1. TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES (2014) AND SPECIAL PROVISIONS THERETO.
2. TxDOT GEOTECHNICAL MANUAL (2020).
3. AWS D1.5 BRIDGE WELDING CODE (LATEST VERSION).
4. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) BRIDGE DESIGN SPECIFICATIONS 8TH EDITION (2017).
5. LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES (2009) WITH 2015 INTERIM REVISIONS.
6. AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS 1ST EDITION (2015) AND ALL INTERIM REVISIONS THERETO.
7. "ANNUAL BOOK OF ASTM STANDARDS" OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
8. "STANDARD SPECIFICATIONS FOR TRANSPORTATION MATERIALS AND METHODS OF SAMPLING AND TESTING" OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (2018).

17-FEB-2023 13:05
CB05-SC8-2791.001

cshao
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REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS REVIEW
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
FRANKLIN R. KELLY II, P.E., 86960
ON
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Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART

SCALE	NO SCALE
DRAWN	M. SHAO
DESIGNED	F. KELLY
CHECKED	H. KIN
IN CHARGE	F. KELLY
DATE	27 FEB 23

CAES

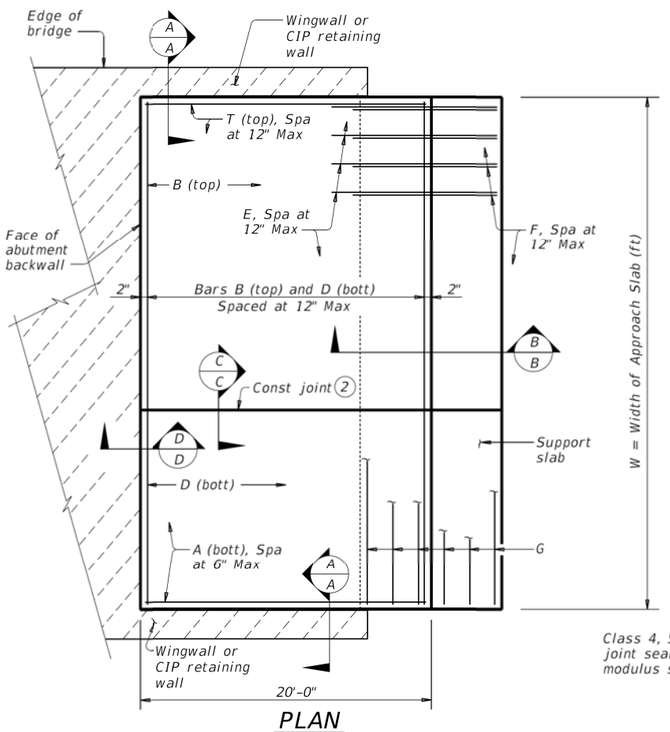
NOT AN APPROVED DRAWING
FINAL 100% DESIGN

CONTRACT SHEET No. 28 OF 81

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
MCKAMY BRANCH CREEK
PEDESTRIAN BRIDGE (#27P)
PREFABRICATED BRIDGE
REQUIREMENTS AND NOTES

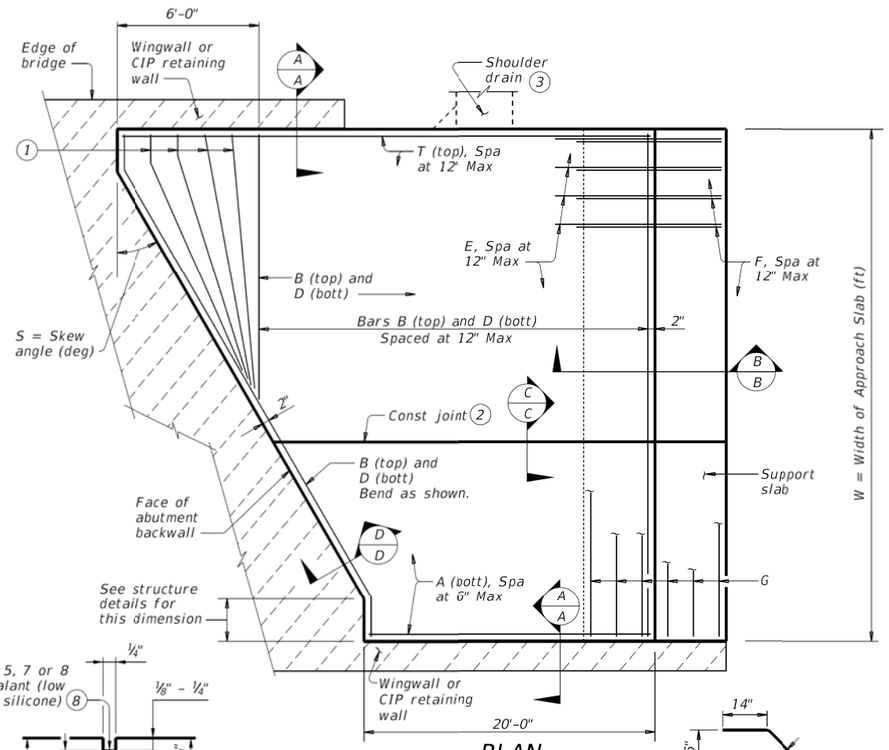
CONTRACT	DWG No.	REV
C-2033270-01	SC8-2791	D

CB05-SC8-2791.001



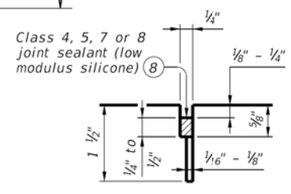
PLAN

(Showing non-skewed approach slab.)



PLAN

(Showing skewed approach slab.)



LONGITUDINAL SAW CUT JOINT DETAIL

BAR TABLE	
BAR	SIZE
A	#8
B	#5
D	#5
E	#5
F	#5
G	#5
T	#5

APPROXIMATE QUANTITIES (4)

Reinf steel weight = 8.5 Lbs/SF of Approach Slab
= 18.4 Lbs/LF of Support Slab

Vol of Appr Slab Conc (CY) = 1.057W – 0.008W x T + 0.02W² Tan S
(Includes Support Slab)

W = Width of Approach Slab (ft)

T = Conc Pavement Thickness (in)

S = Skew Angle (deg)

(1) Flare Bars B and D in this region (1'-6" Max Spa, 3" Min Spa). Minimum flared bar length = 2'-6". Bend bars as necessary.

(2) Provide longitudinal construction joints that align with longitudinal construction joints in the bridge slab with bridges built in stages. Other longitudinal construction joints must receive approval of the Engineer.

(3) See details elsewhere in plans for shoulder drain location and details.

(4) For Contractor's information only. Quantities shown are for one approach slab only.

(5) On portion of support slab that supports the concrete pavement, adjust top surface elevation, if required, to accommodate concrete pavement thickness. Smooth trowel finish. Oil top of support slab with 60 grade oil and apply heavy coat of powdered graphite. Press down one layer of 30# roofing felt.

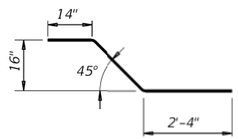
(6) Multiple piece tie bars are acceptable at longitudinal construction joints provided minimum laps shown are achieved.

(7) See details elsewhere in plans for required cross-slope.

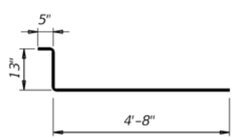
(8) Place in accordance with Item 438.

(9) Provide backer rod that is 25% larger than joint opening and compatible with the sealant.

(10) If bridge rail is present at the wingwall or CIP retaining wall, place ½" rebonded recycled tire rubber between concrete railing and top of approach slab as shown when concrete railing projects over the approach slab.



BARS E (#5)



BARS F (#5)

GENERAL NOTES:

Construct approach slab in accordance with Item 422.

Provide Class "S" concrete with a minimum compressive strength of 4,000 psi.

Provide Grade 60 reinforcing steel.

Provide longitudinal joints as shown on the Longitudinal Saw Cut Joint Detail at lane lines and shoulders when width between longitudinal construction joints or edges of approach slab exceeds 16 feet. Saw cut joints within 24 hours of concrete placement to a depth of 1 ½" and seal in accordance with Item 438. Alternately, provide a controlled joint consisting of 1 ½" vinyl or plastic joint former (Stress Cap, Zip Strip, Stress Lock, or equal as approved by the Engineer.)

Provide rebonded recycled tire rubber joint filler that meets the requirements of DMS-6310. "Joint Sealants and Fillers."

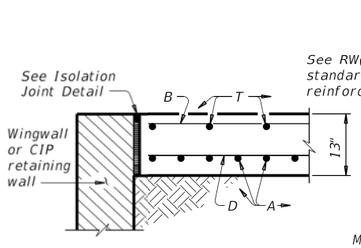
Construct the subgrade or subbase away from the bridge for a minimum distance of 100 feet prior to the approach slab, unless otherwise indicated on the plans.

Compact and finish the subgrade or foundation for the approach slab to the typical cross-section and to the lines and grades shown on the plans.

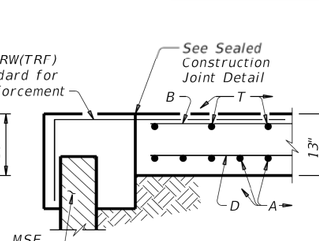
Cure for 4 days using water or membrane curing per Item 422.

All details shown herein are subsidiary to bridge approach slab.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

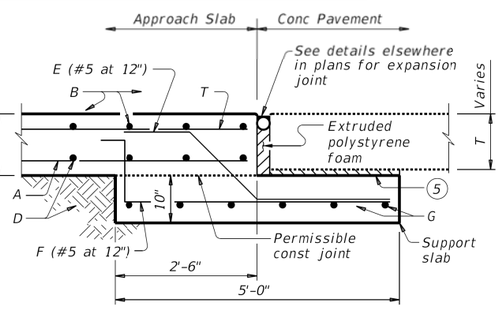


SHOWING WINGWALL OR CIP RETAINING WALL

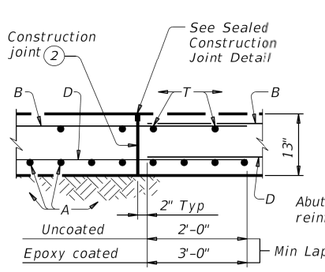


SHOWING MSE WALL

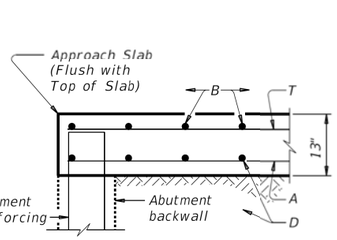
SECTION A-A



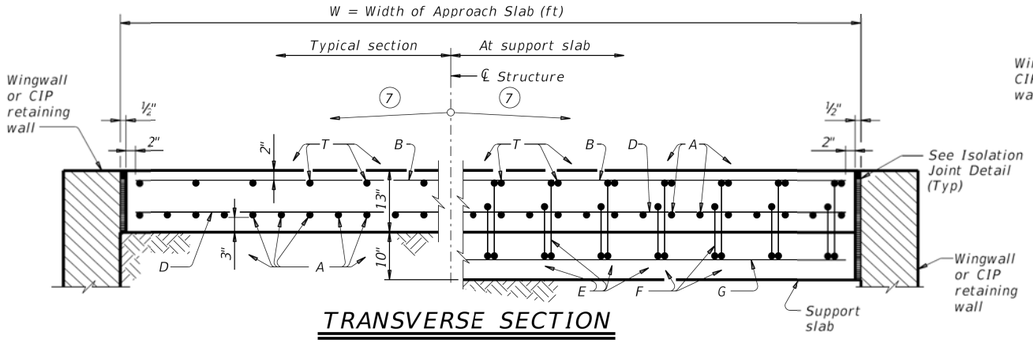
SECTION B-B



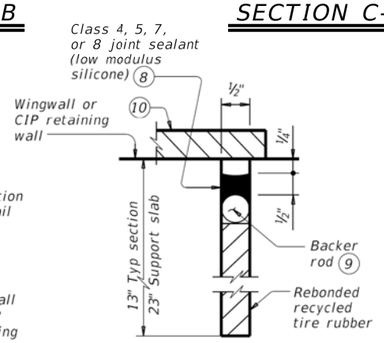
SECTION C-C (6)



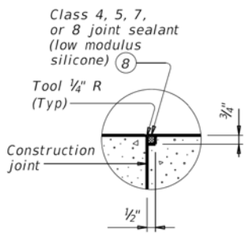
SECTION D-D



TRANSVERSE SECTION



ISOLATION JOINT DETAIL



SEALED CONSTRUCTION JOINT DETAIL

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 29 OF 81
DWG NO. SS9-8000
CONTRACT NO. C-2033270-01

Texas Department of Transportation

Bridge Division Standard

BRIDGE APPROACH SLAB

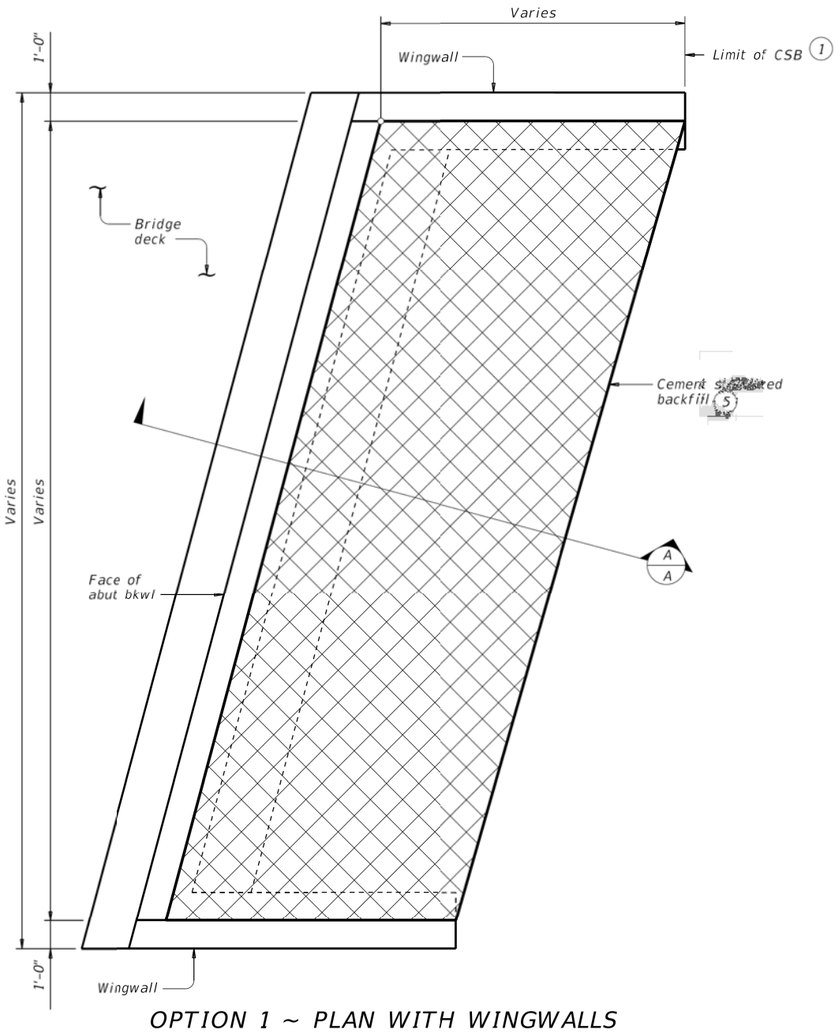
CONCRETE PAVEMENT

BAS-C

FILE: bascste1-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS				
02-20: Removed stress relieving pad.	DIST	COUNTY		SHEET NO.

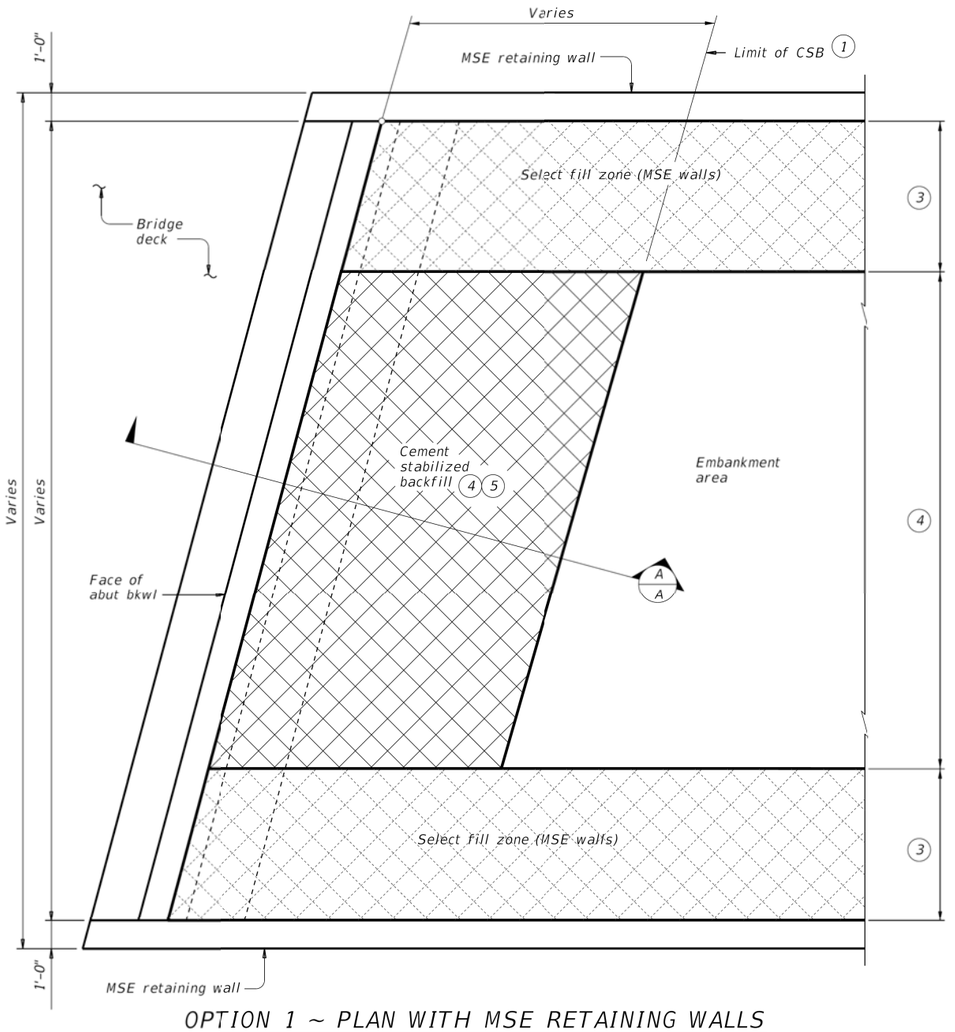
DATE: 24-FEB-2023 16:47
FILE: STD5-SS9-8000.001

STD5-SS9-8000.001



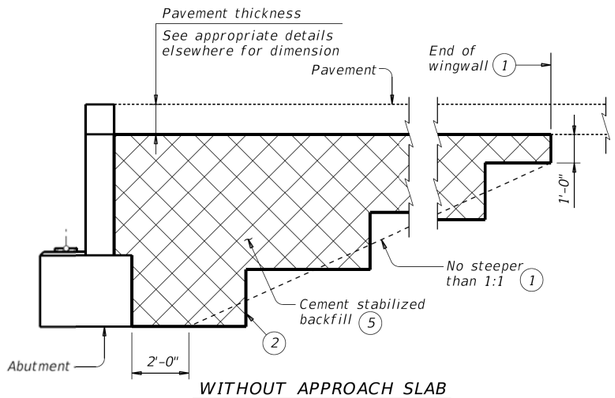
OPTION 1 ~ PLAN WITH WINGWALLS

Cast-in-place retaining walls similar.

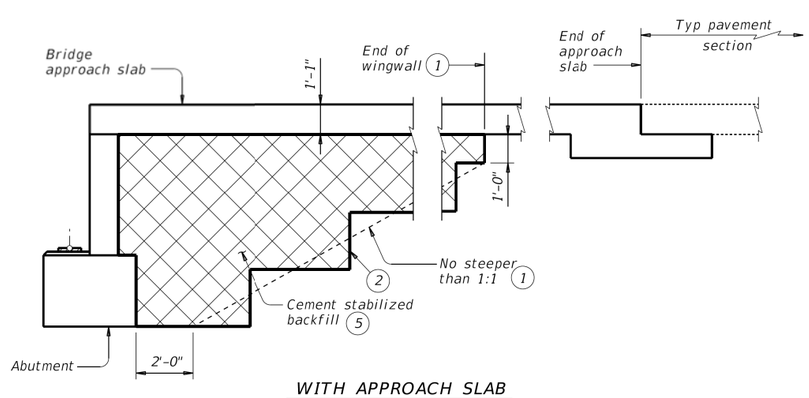


OPTION 1 ~ PLAN WITH MSE RETAINING WALLS

1. Usual limit of Cement Stabilized Backfill is at end of wingwall. Extend CSB limits as required to maintain a slope no steeper than 1:1 at bottom of backfill.
2. Bench backfill as shown with 12" (approximate) bench depths.
3. Where MSE retaining walls are present, adjust CSB limits to accommodate the select fill zone. See retaining wall details for additional information.
4. When distance between select fill zones is less than 5'-0", MSE select fill may be substituted for cement stabilized backfill with approval from the Engineer.
5. If shown in the plans flowable backfill can be used as a substitute for cement stabilized backfill with the following constraints:
   a). If flowable backfill is to be placed over MSE backfill then a filter fabric will be placed over the MSE backfill prior to placement of the flowable fill; and
   b). Place flowable fill in lifts not exceeding 2 feet in height, place each successive lift when the previous lift has stiffened/hardened (i.e. has lost its flowability).



WITHOUT APPROACH SLAB



WITH APPROACH SLAB

(Showing BAS-C, BAS-A similar.)

SECTION A-A

GENERAL NOTES:

See the Bridge Layout for selected Option. Option 2 is intended for new construction requiring high plasticity embankment fill with a plasticity index (PI) greater than 30 or pavement built in poor native soil. Poor soils are defined as high plasticity clays or expansive clays. Option 1 is intended for construction only requiring PI controlled embankment fill or excavation in competent soils/rocks in order to construct the abutment.

Provide Cement Stabilized Backfill (CSB) meeting the requirements of Item 400, "Excavation and Backfill for Structures", to the limits shown at bridge abutments.

If required elsewhere in the plans, provide Flowable Backfill meeting the requirements of Item 401, "Flowable Backfill", to the limits shown at bridge abutments.

Details are drawn showing left forward skew. See Bridge Layout for actual skew direction.

These details do not apply when Concrete Block retaining walls are used in lieu of wingwalls.

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Texas Department of Transportation

Bridge Division Standard

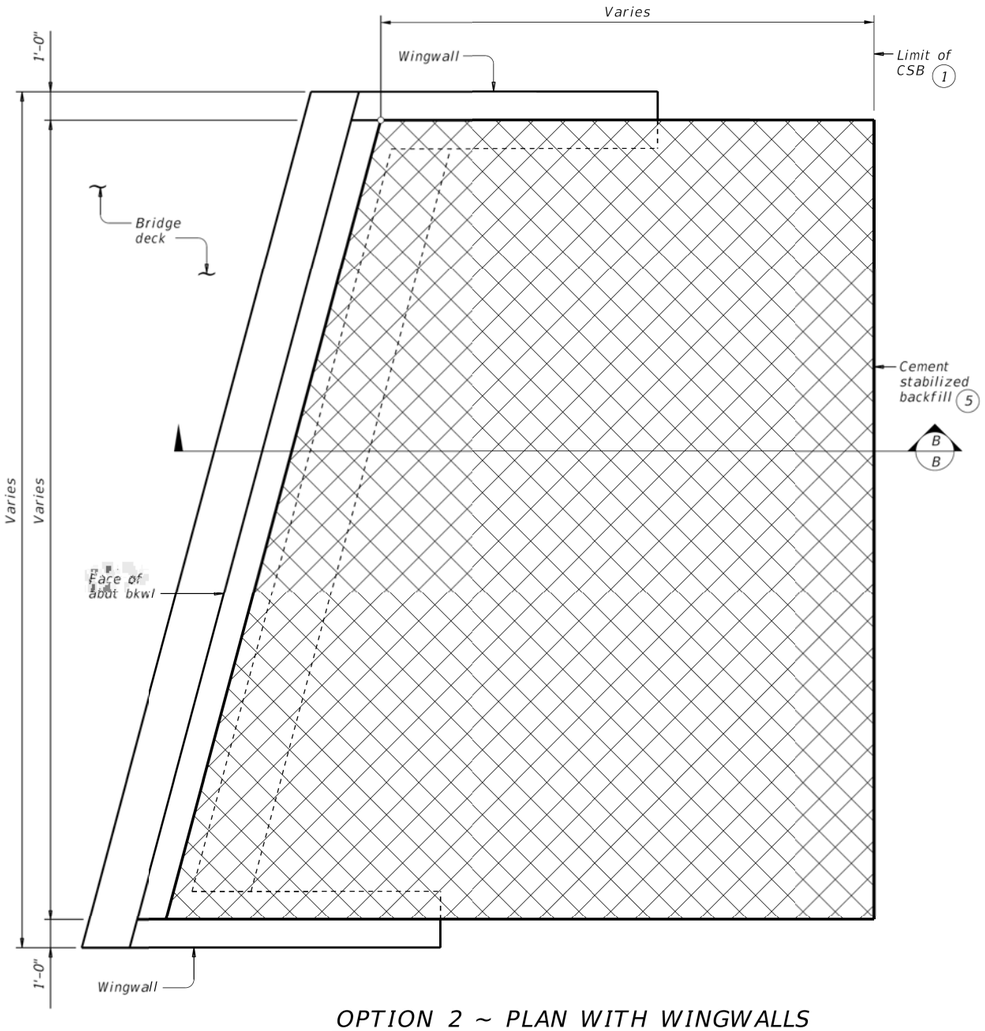
CEMENT STABILIZED ABUTMENT BACKFILL

BRIDGE ABUTMENT

CSAB

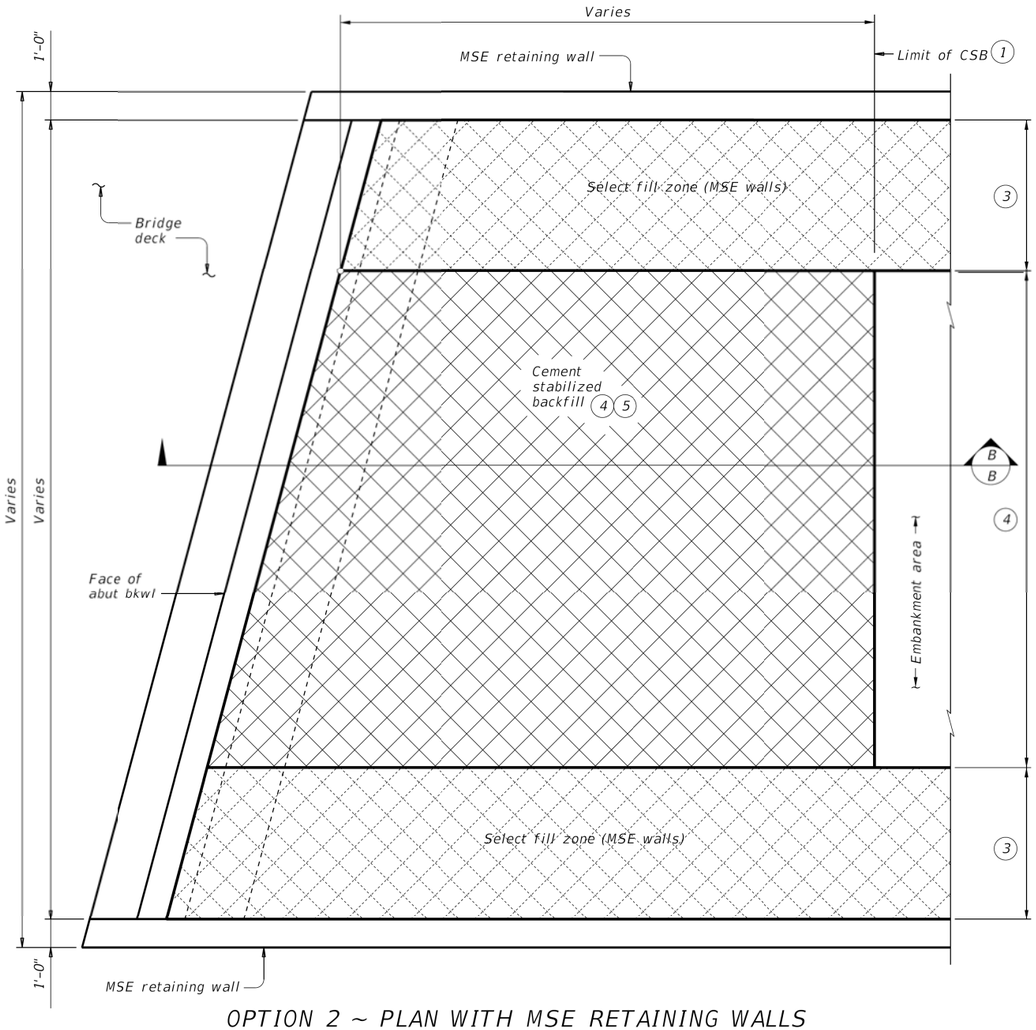
COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 30 OF 81
DWG NO. SS9-8011
CONTRACT NO. C-2033270-01

FILE: csabste1-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS				
02-20: Added Option 2.	DIST	COUNTY		SHEET NO.



OPTION 2 ~ PLAN WITH WINGWALLS

Cast-in-place retaining walls similar.



OPTION 2 ~ PLAN WITH MSE RETAINING WALLS

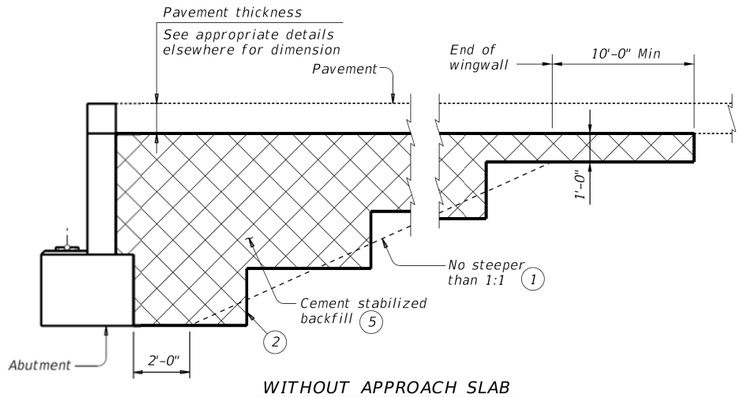
(1) Usual limit of Cement Stabilized Backfill is at end of wingwall. Extend CSB limits as required to maintain a slope no steeper than 1:1 at bottom of backfill.

(2) Bench backfill as shown with 12" (approximate) bench depths.

(3) Where MSE retaining walls are present, adjust CSB limits to accommodate the select fill zone. See retaining wall details for additional information.

(4) When distance between select fill zones is less than 5'-0", MSE select fill may be substituted for cement stabilized backfill with approval from the Engineer.

(5) If shown in the plans flowable backfill can be used as a substitute for cement stabilized backfill with the following constraints:
a). If flowable backfill is to be placed over MSE backfill then a filter fabric will be placed over the MSE backfill prior to placement of the flowable fill; and
b). Place flowable fill in lifts not exceeding 2 feet in height, place each successive lift when the previous lift has stiffened/hardened (i.e. has lost its flowability).



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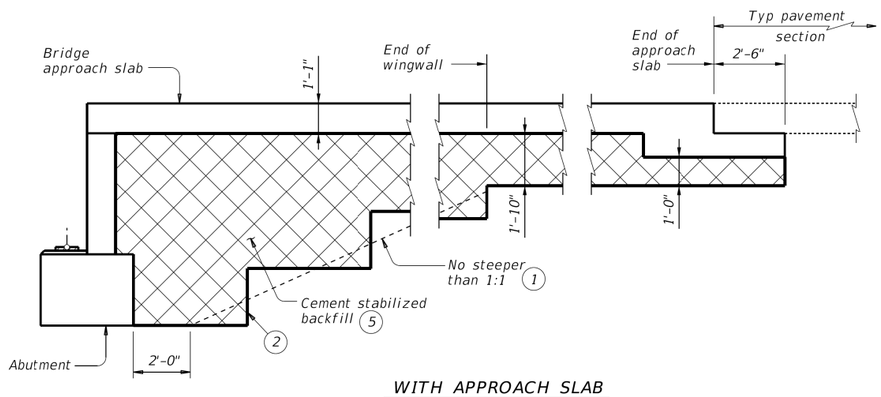

WITH APPROACH SLAB

(Showing BAS-C, BAS-A similar.)

SECTION B-B

SHEET 2 OF 2

Texas Department of Transportation

Bridge Division Standard

CEMENT STABILIZED ABUTMENT BACKFILL

BRIDGE ABUTMENT

CSAB

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 31 OF 81
DWG NO. SS9-8012
CONTRACT NO. C-2033270-01

FILE: csabste1-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS				
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DATE: 24-FEB-2023 16:48
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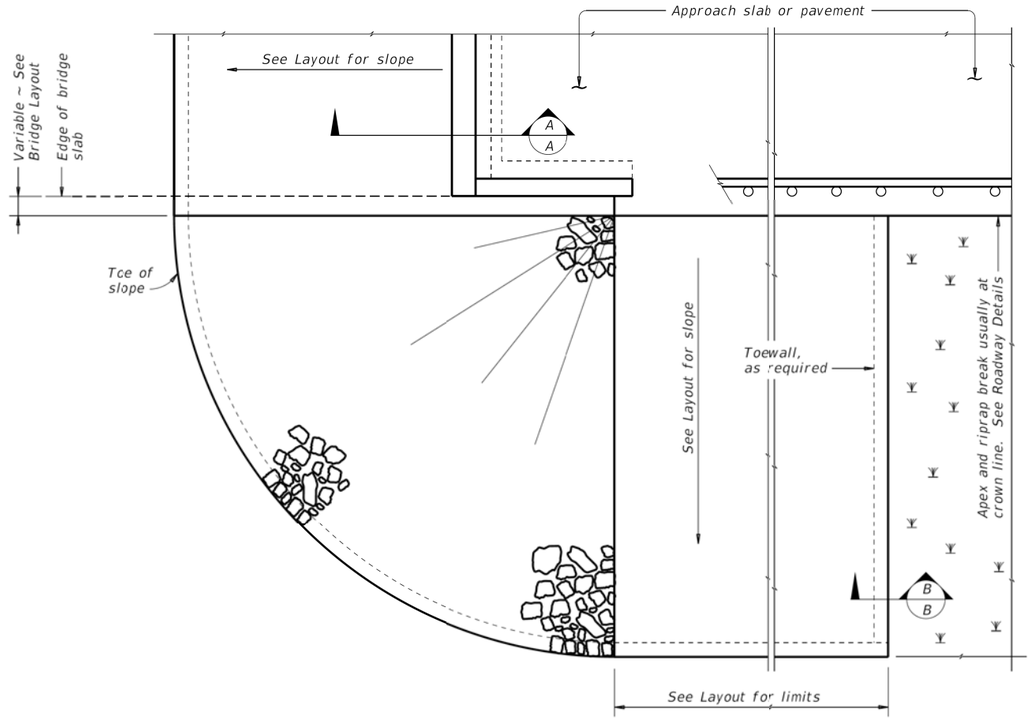
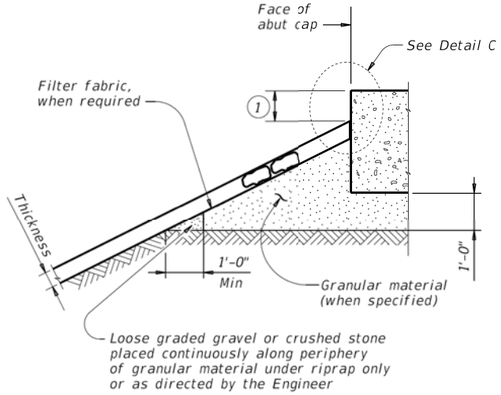
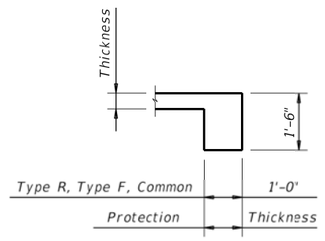


PLAN

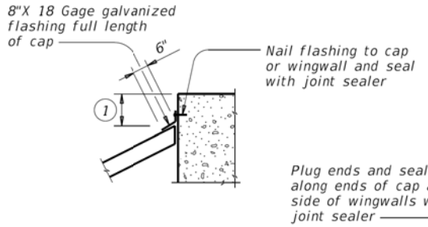


SECTION A-A AT CAP

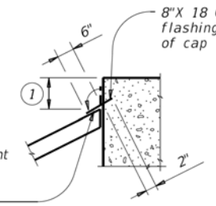


SECTION B-B

Provide toewall when shoulder drain is located adjacent to limits of stone riprap. Omit toewall when thickness of protection riprap is greater than 18".

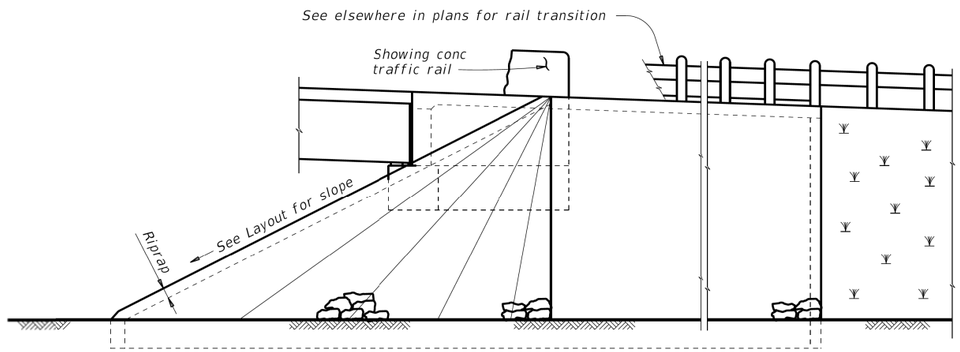


CAP OPTION A



CAP OPTION B

DETAIL C



ELEVATION

GENERAL NOTES:
Refer to Item 432, "Riprap" for stone size and gradation, and construction details. See Layout for limits and thickness of riprap specified.
See elsewhere in plans for locations and details of shoulder drains.

(1) Top of cap to top of riprap dimension varies as directed by the Engineer. Provide 9" Min for beam/slab type bridges and 1'-6" for slab span, box beam, or slab beam bridges.

SHEET 1 OF 2

Texas Department of Transportation | Bridge Division Standard

STONE RIPRAP

SRR

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 32 OF 81
DWG NO. SS9-8043
CONTRACT NO. C-2033270-01

FILE: srrstde1-19.dgn	DN: AES	CK: JGD	DW: BWH	CK: AES
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	DIST	COUNTY		SHEET NO.

DATE: 24-FEB-2023 16:48
FILE: STD5-SS9-8043.001

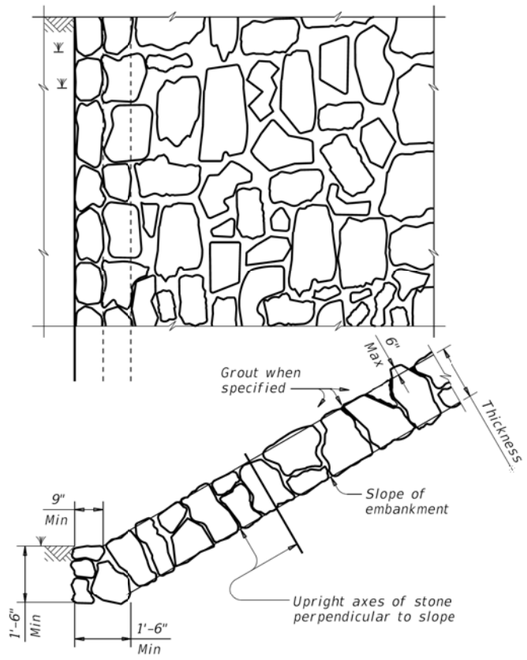


FIGURE 1 ~ TYPE R STONE RIPRAP

dry or grouted

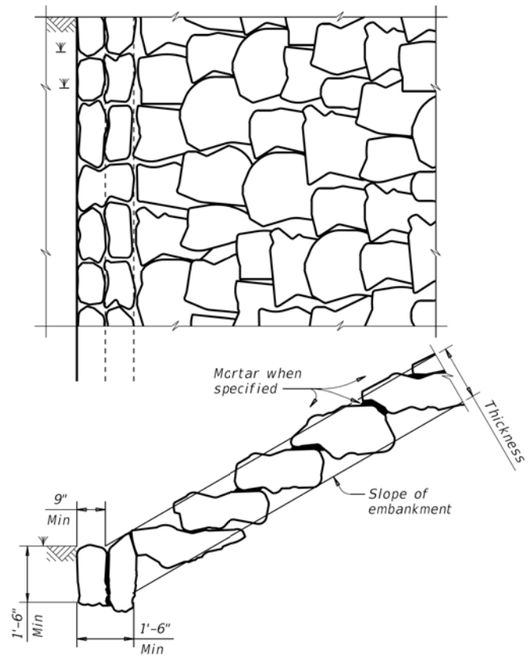


FIGURE 2 ~ TYPE F STONE RIPRAP

dry or mortared

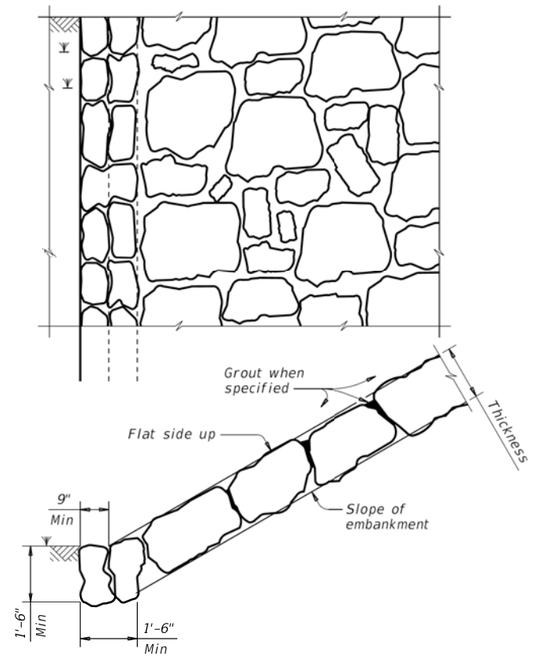


FIGURE 3 ~ TYPE F STONE RIPRAP

grouted

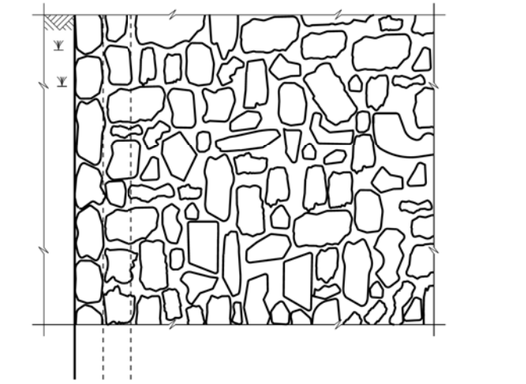


FIGURE 4 ~ COMMON STONE RIPRAP

dry or grouted

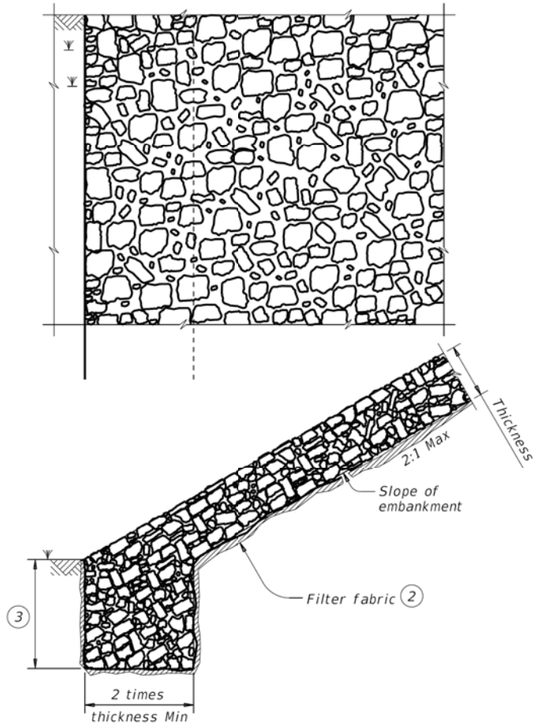


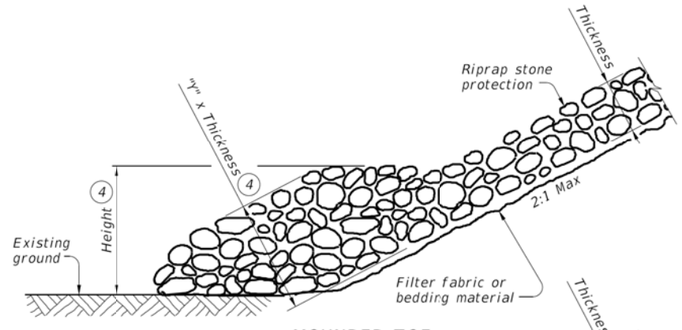
FIGURE 5 ~ PROTECTION STONE RIPRAP (5)

(2) Provide bedding material instead of filter fabric if shown elsewhere in plans. See Layout for thickness of bedding material.

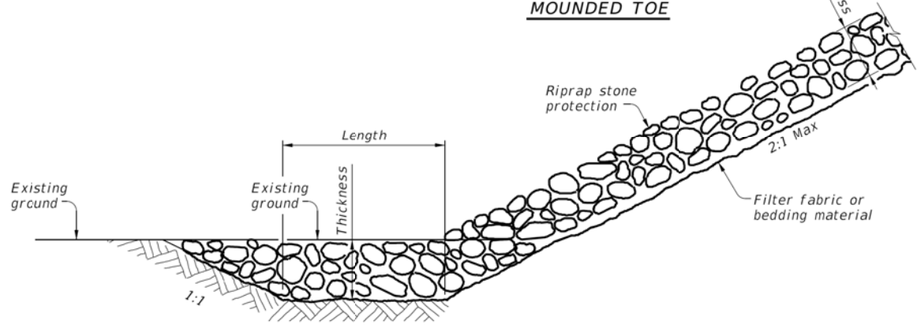
(3) Minimum toe depth is the larger of the maximum scour depth or 2 times the riprap thickness.

(4) "Y" and Height need to be defined. See layout or detail sheet for values if this option is used.

(5) List Stone Protection as size (XX inch) and thickness (YY inch) on the layout.
Example: Riprap (Stone Protection) XX inch, Thickness = YY inch.



MOUNDED TOE



EXTENDED ROCK FILLED TRENCH

PROTECTION STONE RIPRAP TOE OPTIONS (5)

SHEET 2 OF 2

Texas Department of Transportation

Bridge Division Standard

STONE RIPRAP

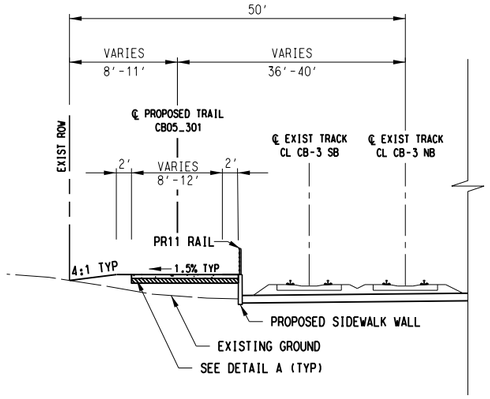
SRR

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 33 OF 81
DWG NO. SS9-8044
CONTRACT NO. C-2033270-01

FILE: srrstde1-19.dgn	DN: AES	CK: JGD	DW: BWH	CK: AES
©TxDOT April 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

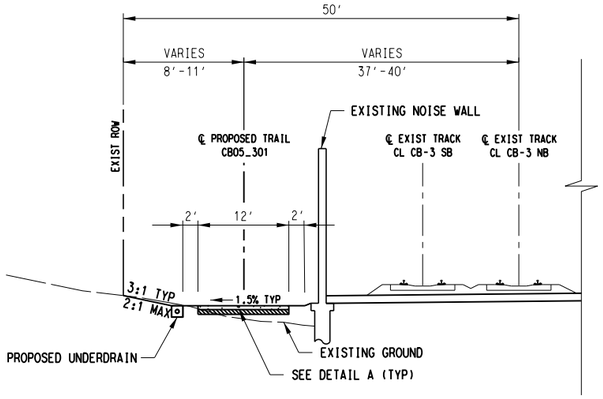
DATE: 24-FEB-2023 16:49
FILE: STD5-SS9-8044.001

DWG No. CC7-3478



TYPICAL SECTION - TRACK WITH TRAIL
CL CB05_301 STA. 3101+27.05 TO 3101+60.00

NO SCALE



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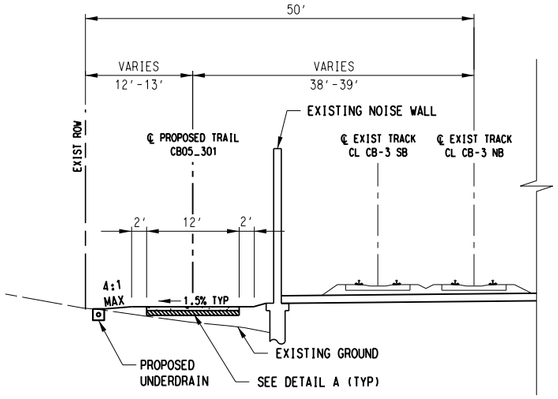
CL CB05_301 STA. 3101+60.00 TO 3102+45.11

NO SCALE



TYPICAL SECTION - TRACK WITH TRAIL
CL CB05_301 STA. 3102+45.11 TO 3102+60.00

NO SCALE

NOTES:

1. SEE TRAIL PLAN AND PROFILE SHEETS FOR FENCE LIMITS. FENCING IS REQUIRED WHERE TRAIL EDGE IS WITHIN 35' OF TRACK AND NO BARRIER STRUCTURE IS IN PLACE.
2. SEE HIKE AND BIKE TRAIL PLAN AND PROFILE SHEETS FOR SIDEWALK WALL LOCATIONS AND LIMITS.
3. SEE BRIDGE LAYOUT SHEETS FOR BRIDGE LOCATIONS AND LIMITS.
4. SEE RETAINING WALL LAYOUT SHEETS FOR RETAINING WALL LIMITS.

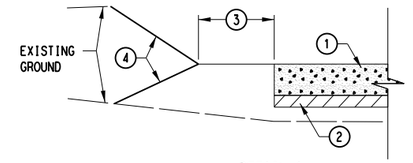
LEGEND

(1) 8" THICK REINFORCED CONCRETE TRAIL PAVEMENT; REFERENCE TXDOT STANDARD CRCP(1)-20.

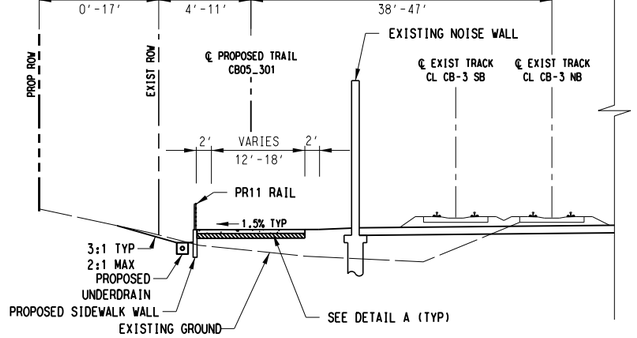
(2) 1" SAND CUSHION @ 95% STANDARD PROCTOR.

(3) DISTANCE = 2' TYPICAL @ 1.5% MAXIMUM

(4) MATCH EXISTING GROUND AT 4:1 TYPICAL OR 3:1 MAXIMUM

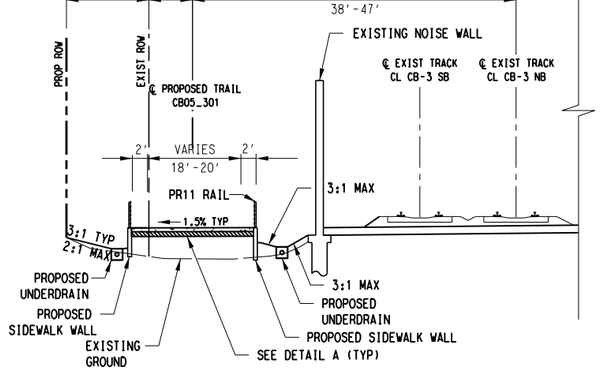


DETAIL A
NO SCALE



TYPICAL SECTION - TRACK WITH TRAIL
CL CB05_301 STA. 3102+60.00 + TO 3103+20.00

NO SCALE



TYPICAL SECTION - TRACK WITH TRAIL
CL CB05_301 STA. 3103+20.00 + TO 3103+48.08

NO SCALE

NOT AN APPROVED DRAWING
FINAL 100% DESIGN

CONTRACT SHEET No. 34 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	A. ENSOR
DESIGNED	J. HASLER
CHECKED	B. ALLDREDGE
IN CHARGE	J. HASLER
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

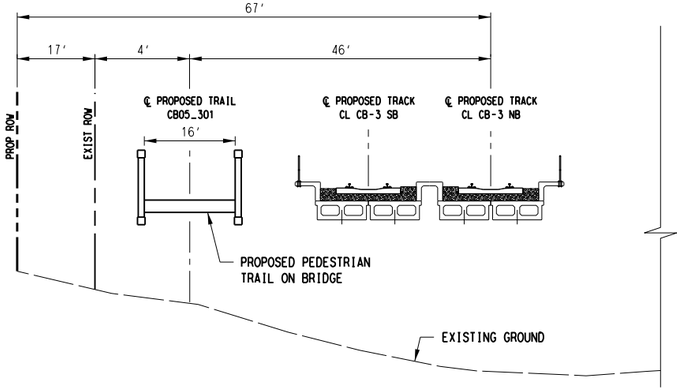
MCKAMY BRANCH CREEK
TYPICAL SECTIONS
SHEET 1 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	CC7-3478	D

CB05-CC7-3478.010

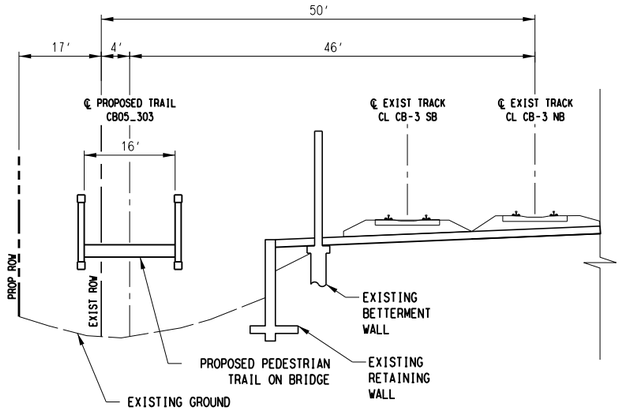
24-FEB-2023 06:32
CB05-CC7-3478.010

JEGSVCPW001
Default



TYPICAL SECTION - TRACK WITH TRAIL
CL CB05_301 STA. 3103+48.08 TO 3105+65.32

NO SCALE



TYPICAL SECTION - TRACK WITH TRAIL
CL CB05_301 STA. 3105+65.32 TO 3109+28.08

NO SCALE

NOTES:

1. SEE TRAIL PLAN AND PROFILE SHEETS FOR FENCE LIMITS. FENCING IS REQUIRED WHERE TRAIL EDGE IS WITHIN 35' OF TRACK AND NO BARRIER STRUCTURE IS IN PLACE.
2. SEE HIKE AND BIKE TRAIL PLAN AND PROFILE SHEETS FOR SIDEWALK WALL LOCATIONS AND LIMITS.
3. SEE BRIDGE LAYOUT SHEETS FOR BRIDGE LOCATIONS AND LIMITS.
4. SEE RETAINING WALL LAYOUT SHEETS FOR RETAINING WALL LIMITS.

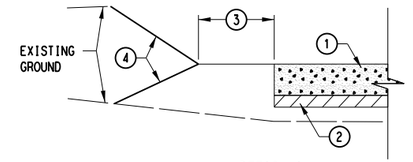
LEGEND

(1) 8" THICK REINFORCED CONCRETE TRAIL PAVEMENT; REFERENCE TXDOT STANDARD CRCP(1)-20.

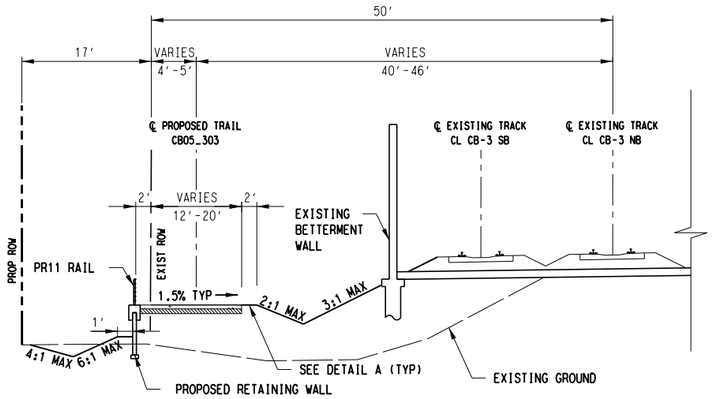
(2) 1" SAND CUSHION @ 95% STANDARD PROCTOR.

(3) DISTANCE = 2' TYPICAL @ 1.5% MAXIMUM

(4) MATCH EXISTING GROUND AT 4:1 TYPICAL OR 3:1 MAXIMUM

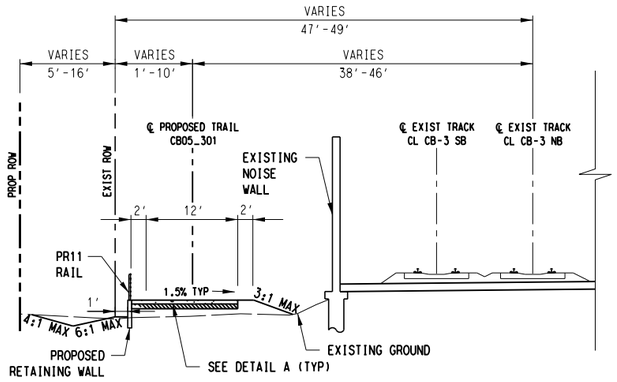


DETAIL A
NO SCALE



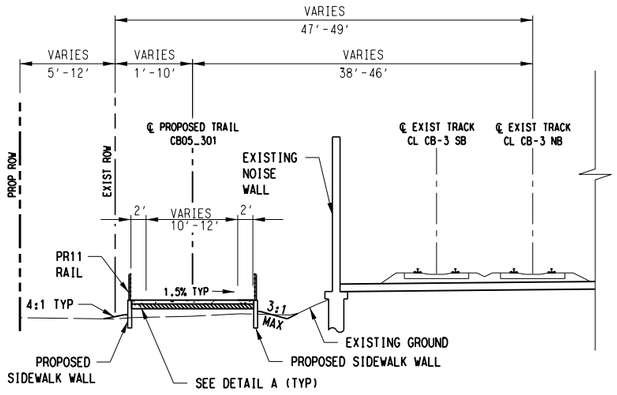
TYPICAL SECTION - TRACK WITH TRAIL
CL CB05_301 STA. 3109+28.08 TO 3109+77.18

NO SCALE



TYPICAL SECTION - TRACK WITH TRAIL
CL CB05_301 STA. 3110+23.58 TO 3111+09.86

NO SCALE



TYPICAL SECTION - TRACK WITH TRAIL
CL CB05_301 STA. 3110+23.58 TO 3112+03.51

NO SCALE

NOT AN APPROVED DRAWING
FINAL 100% DESIGN

CONTRACT SHEET No. 35 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DALLAS, TX 75252
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Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	A. ENSOR
DESIGNED	A.ENSOR
CHECKED	B. ALLDREDGE
IN CHARGE	J. HASLER
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

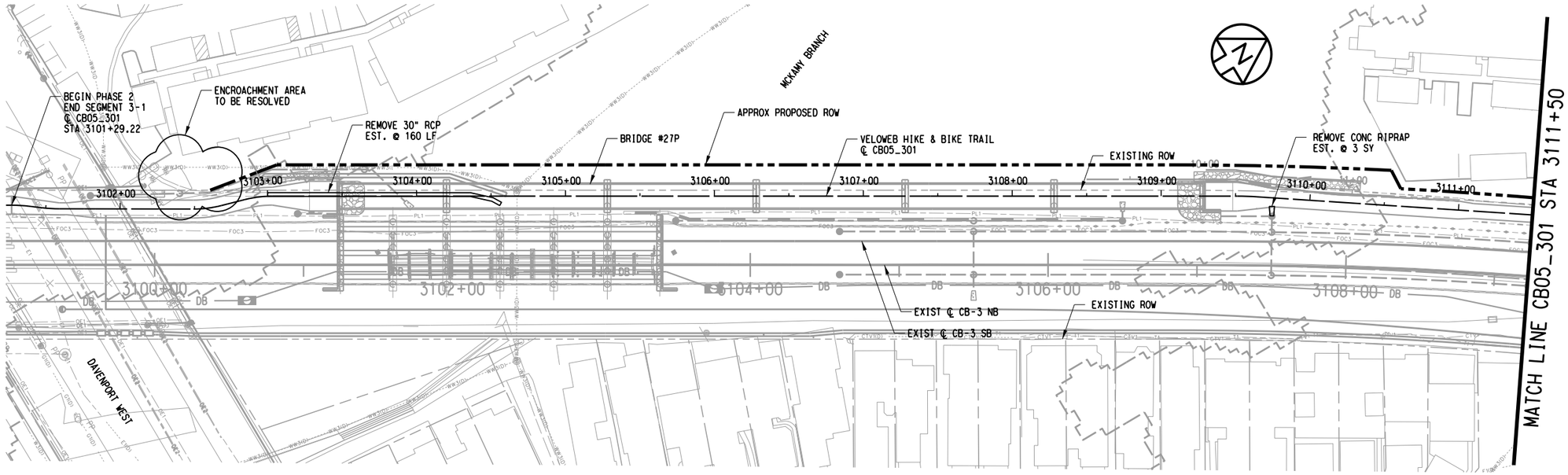
MCKAMY BRANCH CREEK
TYPICAL SECTIONS
SHEET 2 OF 2

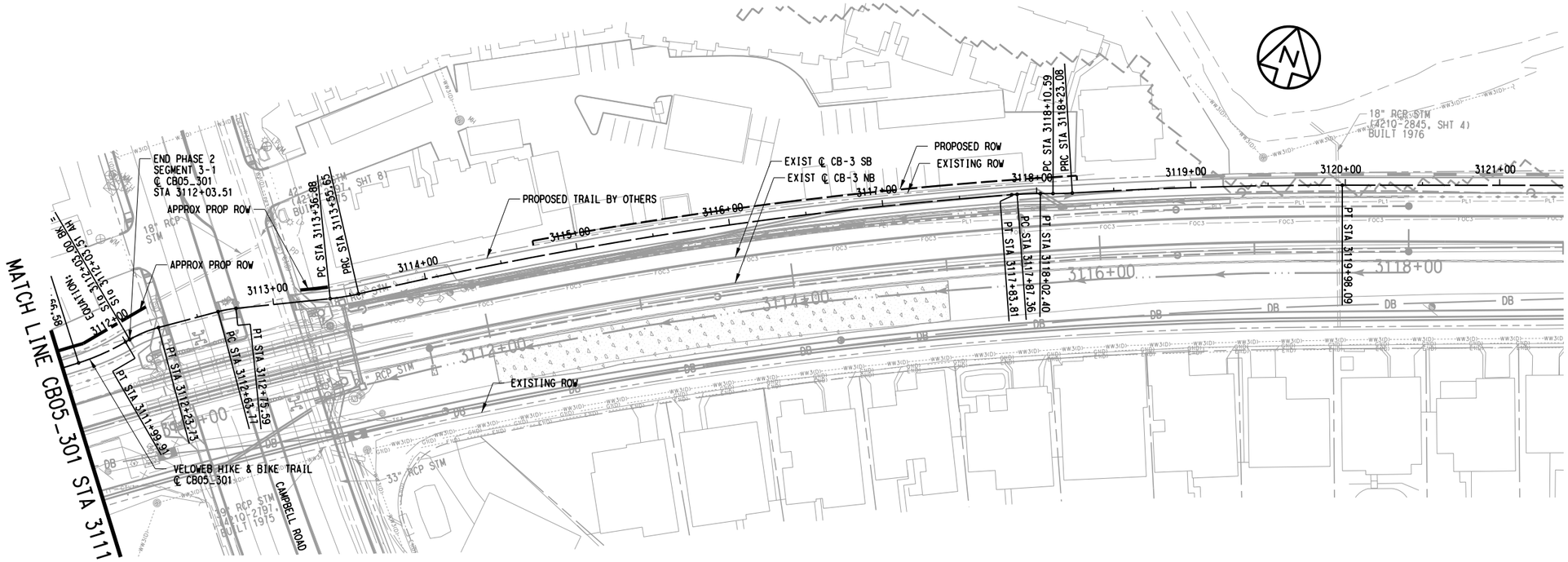
CONTRACT	DWG No.	REV
C-2033270-01	CC7-3479	D

CB05-CC7-3479.010

24-FEB-2023 06:35
CB05-CC7-3479.010
JEGSVCPW001
Default

DWG No. CCO-8588





SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

LEGEND:

REMOVE EXISTING PAVEMENT

REMOVE EXISTING ASPHALT

NOTES:

1. SEE UTLIITY RELOCATION PLANS FOR MORE INFORMATION.
2. PREP ROW INCLUDES ALL TREE & SHRUB REMOVAL.

NOT AN APPROVED DRAWING
FINAL 100% DESIGN

CONTRACT SHEET No. 36 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DESIGNED	J. HASLER
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COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

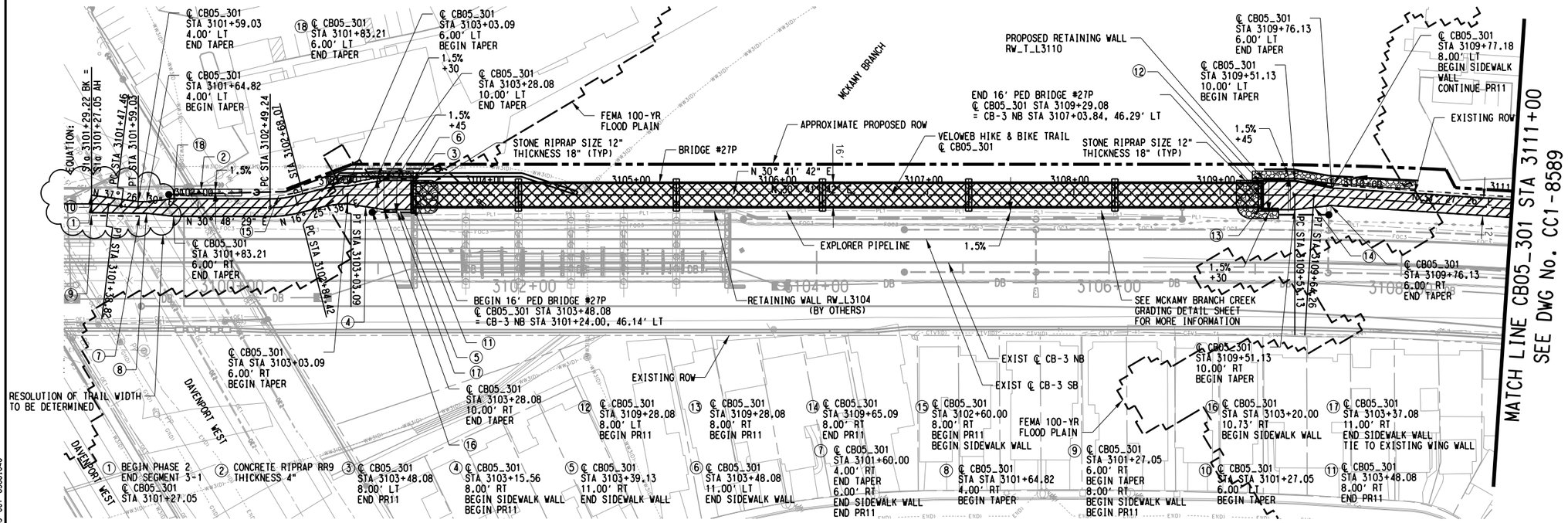
MCKAMY BRANCH CREEK REMOVAL PLAN

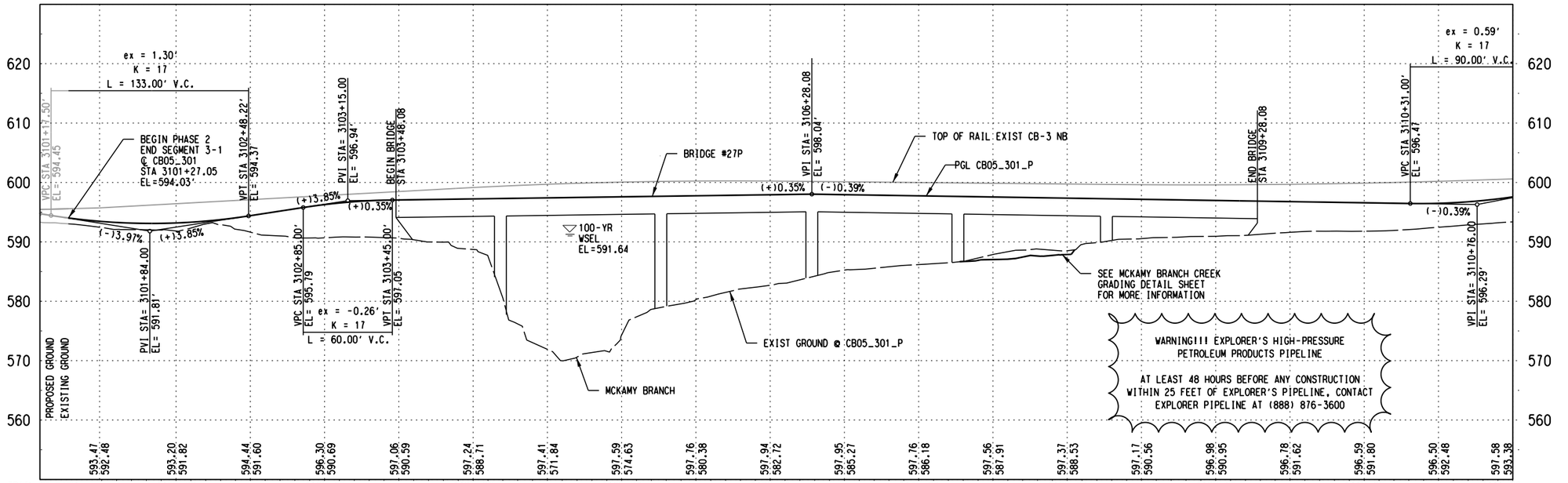
CONTRACT	DWG No.	REV
C-2033270-01	CCO-8588	D

CB05-CCO-8588.040

24-FEB-2023 06:32
CB05-CCO-8588.040
JEGSVCPW001
Plan 12

DWG No. CC1-8588





SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

LEGEND:

TRAIL PAVEMENT

TRAIL BRIDGE

NOTES:

1. PROPOSED ROW AND EASEMENTS ARE APPROXIMATE.
2. SEE SURVEY CONTROL SHEETS FOR BENCHMARK LOCATIONS.
3. SEE DRAINAGE PLAN AND PROFILE SHEETS FOR TRAIL DRAINAGE DESIGN.
4. SEE RETAINING WALL LAYOUT SHEETS FOR ADDITIONAL INFORMATION.
5. SEE BRIDGE LAYOUT SHEETS FOR ADDITIONAL PEDESTRIAN BRIDGE INFORMATION.
6. SEE TYPICAL SECTION SHEETS FOR ADDITIONAL INFORMATION.
7. CONSTRUCTION AND MAINTENANCE EASEMENTS TO BE DETERMINED PRIOR TO CONSTRUCTION.

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FINAL 100% DESIGN

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Firm Registration: F-10161
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DRAWN	A. ENSOR
DESIGNED	J. HASLER
CHECKED	B. ALLDREDGE
IN CHARGE	J. HASLER
DATE	13 MAR 23

CAES

CONTRACT SHEET No. 37 OF 81

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

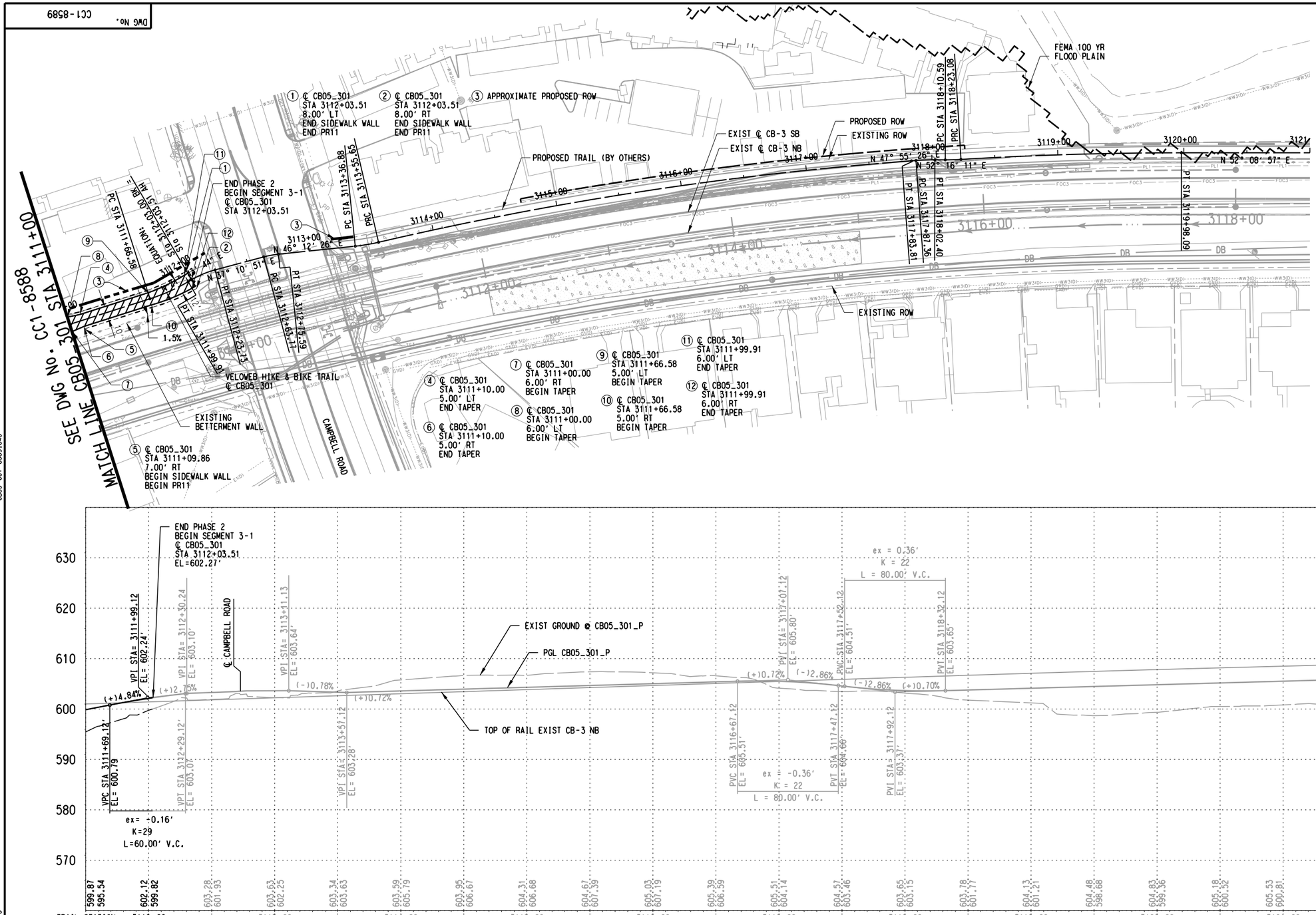
MCKAMY BRANCH CREEK
PLAN & PROFILE
SHEET 1 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	CC1-8588	D

CB05-CC1-8588.040

24-FEB-2023 06:33
CB05-CC1-8588.040
JEGSVCPW001
Plan 12

DWG No. CC1-8589



SCALE (IN FEET)
HORIZ 0 20 40 80
SCALE (IN FEET)
VERT 0 5 10 15 20

LEGEND:

TRAIL PAVEMENT

TRAIL BRIDGE

NOTES:

1. PROPOSED ROW AND EASEMENTS ARE APPROXIMATE.
2. SEE SURVEY CONTROL SHEETS FOR BENCHMARK LOCATIONS.
3. SEE DRAINAGE PLAN AND PROFILE SHEETS FOR TRAIL DRAINAGE DESIGN.
4. SEE RETAINING WALL LAYOUT SHEETS FOR ADDITIONAL INFORMATION.
5. SEE BRIDGE LAYOUT SHEETS FOR ADDITIONAL PEDESTRIAN BRIDGE INFORMATION.
6. SEE TYPICAL SECTION SHEETS FOR ADDITIONAL INFORMATION.
7. CONSTRUCTION AND MAINTENANCE EASEMENTS TO BE DETERMINED PRIOR TO CONSTRUCTION.

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CONTRACT SHEET No. 38 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	AS NOTED
DRAWN	A. ENSOR
DESIGNED	J. HASLER
CHECKED	B. ALLDREDGE
IN CHARGE	J. HASLER
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
PLAN & PROFILE
SHEET 2 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	CC1-8589	D

CB05-CC1-8589.040

24-FEB-2023 06:32
CB05-CC1-8589.040

JEGSVCPW001
Plan 13

DWG No. CC1-3720

SCALE (IN FEET)
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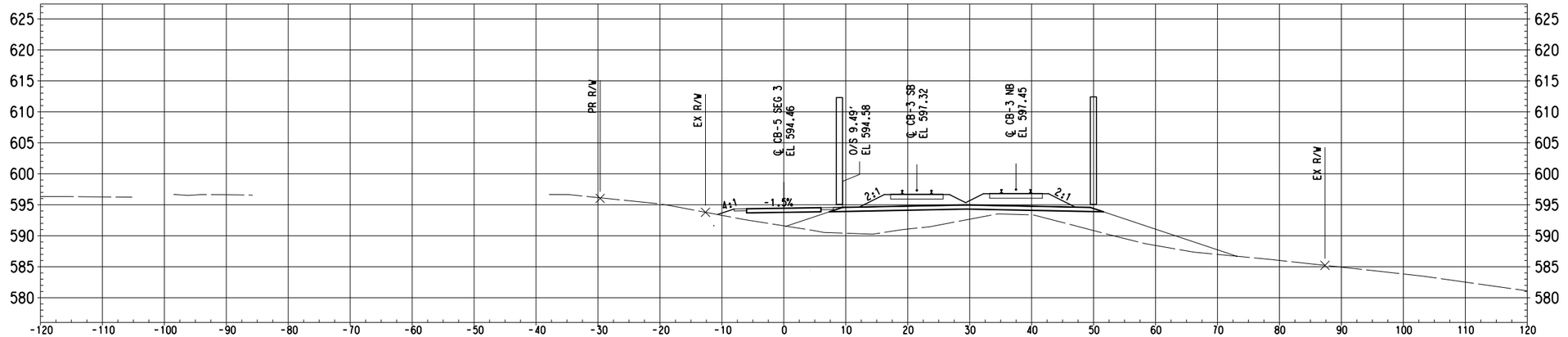
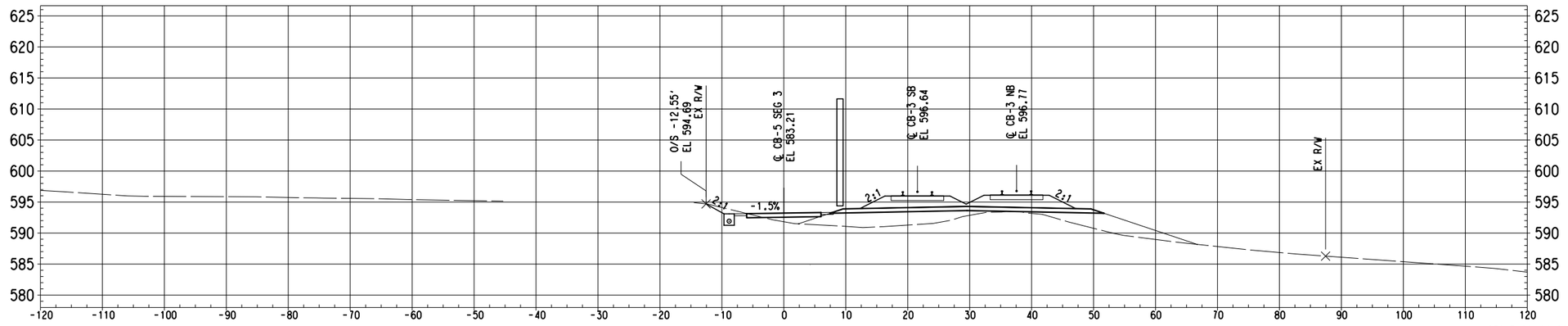
NOTE:
SEE PLAN AND PROFILE SHEETS FOR FENCE AND RIP RAP LOCATIONS AND LIMITS



STA 3102+50.00



STA 3102+00.00

24-FEB-2023 06:34
CB05-CC1-3720.010

JEGSVCPW001
301_PH2_MCK - 3102+00.00 R3

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

NOT AN APPROVED DRAWING
FINAL 100% DESIGN

CONTRACT SHEET No. 39 OF 81

SCALE	AS NOTED
DRAWN	A. ENSOR
DESIGNED	J. HASLER
CHECKED	B. ALLDREDGE
IN CHARGE	J. HASLER
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
CROSS SECTIONS
SHEET 1 OF 9

CONTRACT	DWG No.	REV
C-2033270-01	CC1-3720	D

CB05-CC1-3720.010

DWG No. CC1-3721

SCALE (IN FEET)
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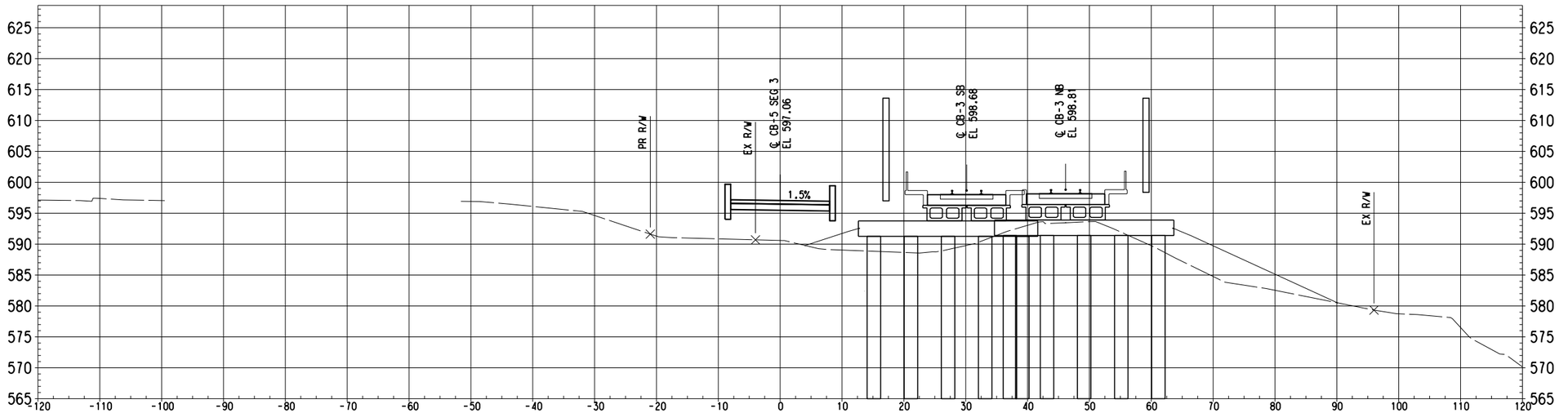

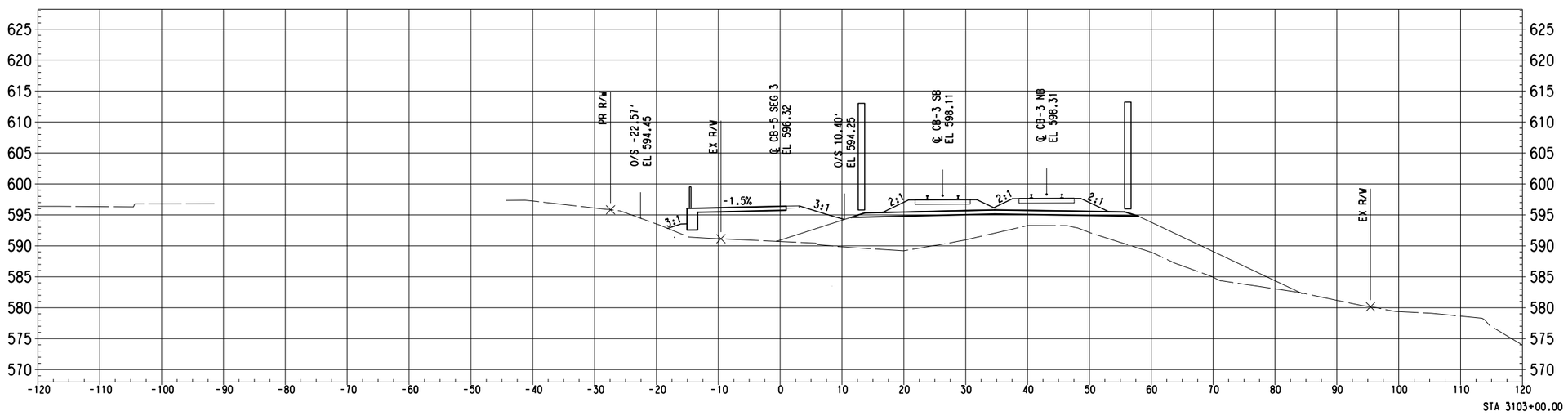

NOTE:
SEE PLAN AND PROFILE SHEETS FOR FENCE AND RIP RAP LOCATIONS AND LIMITS

NOT AN APPROVED DRAWING
FINAL 100% DESIGN

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DALLAS, TX 75201-3136
Phone: +1 (214) 638-0145
FIRM REGISTRATION No. F-2966

IEA
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DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	AS NOTED
DRAWN	A. ENSOR
DESIGNED	J. HASLER
CHECKED	B. ALLDREDGE
IN CHARGE	J. HASLER
DATE	13 MAR 23

CAES

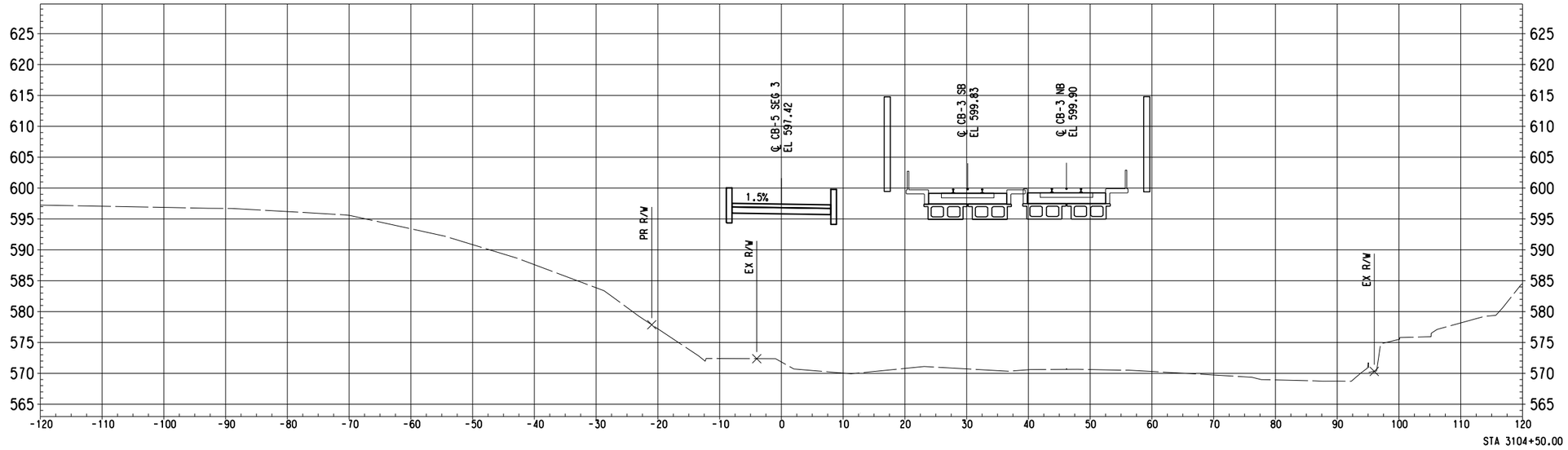
CONTRACT SHEET No. 40 OF 81

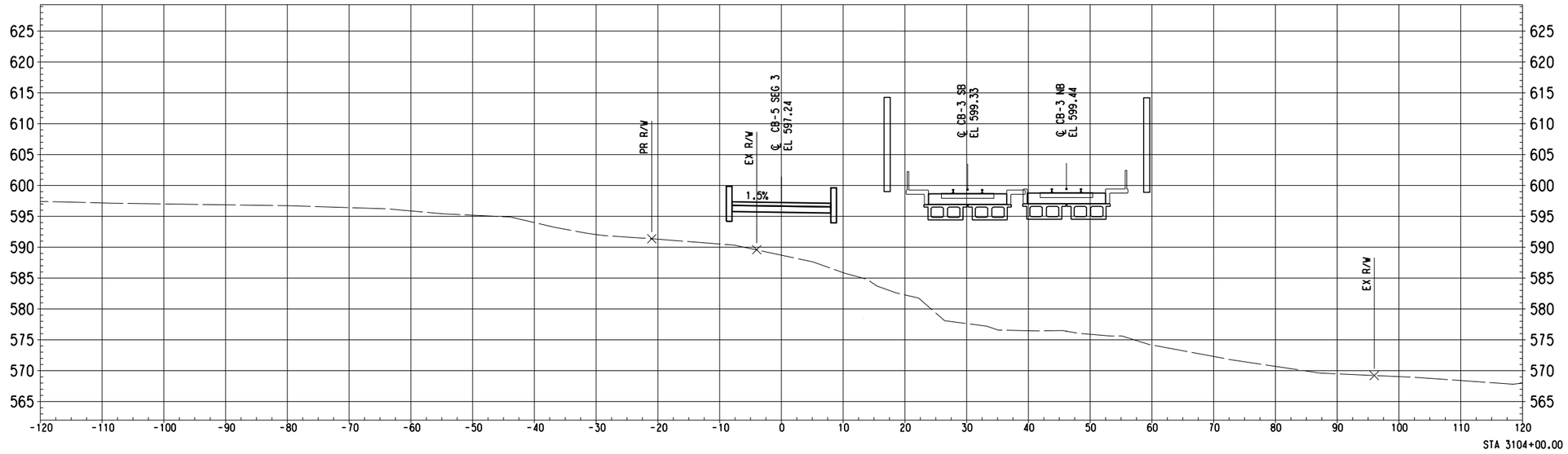
COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
CROSS SECTIONS
SHEET 2 OF 9

CONTRACT	DWG No.	REV
C-2033270-01	CC1-3721	D

DWG No. CC1-3722





SCALE (IN FEET)
0 5 10 20

NOTE:
SEE PLAN AND PROFILE SHEETS FOR FENCE AND RIP RAP LOCATIONS AND LIMITS

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CAES

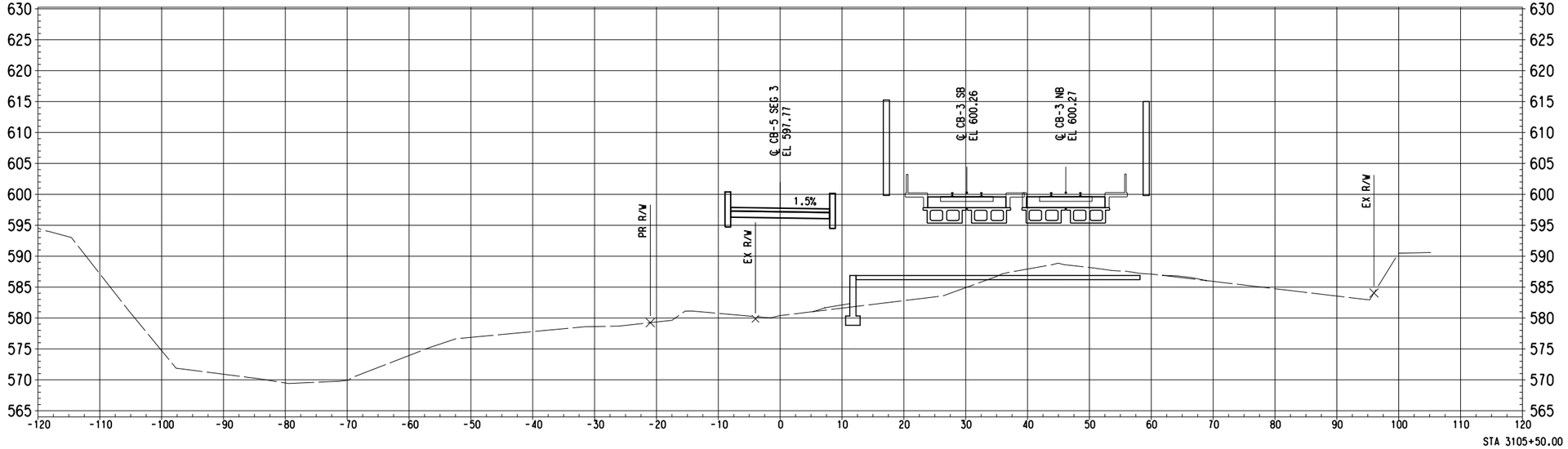
CONTRACT SHEET No. 41 OF 81

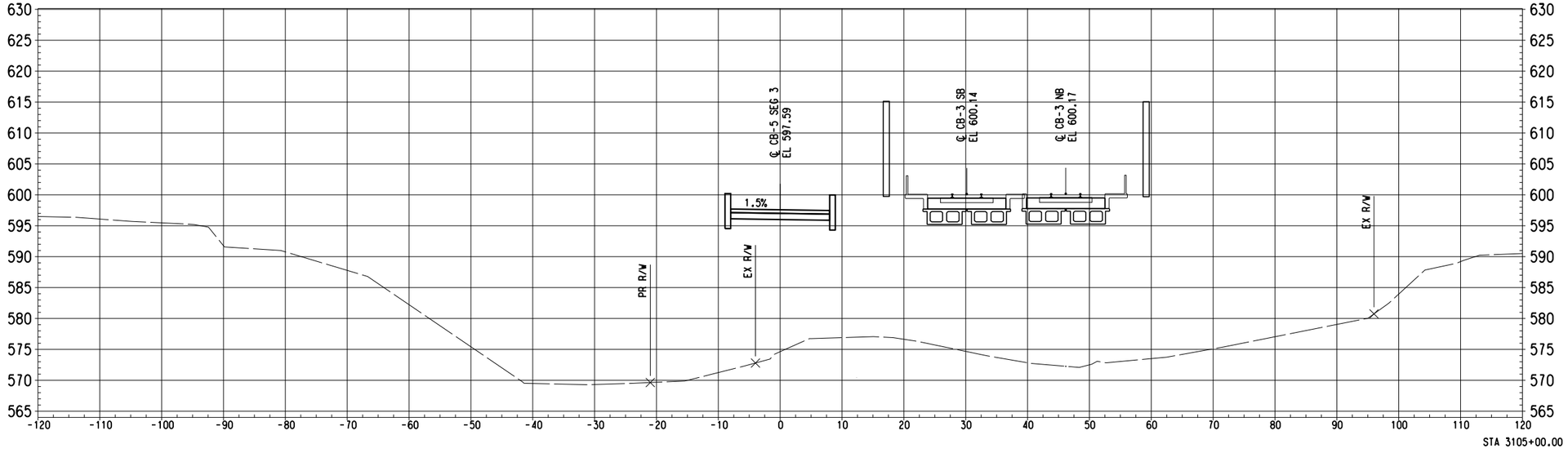
COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
CROSS SECTIONS
SHEET 3 OF 9

CONTRACT	DWG No.	REV
C-2033270-01	CC1-3722	D

DWG No. CC1-3723





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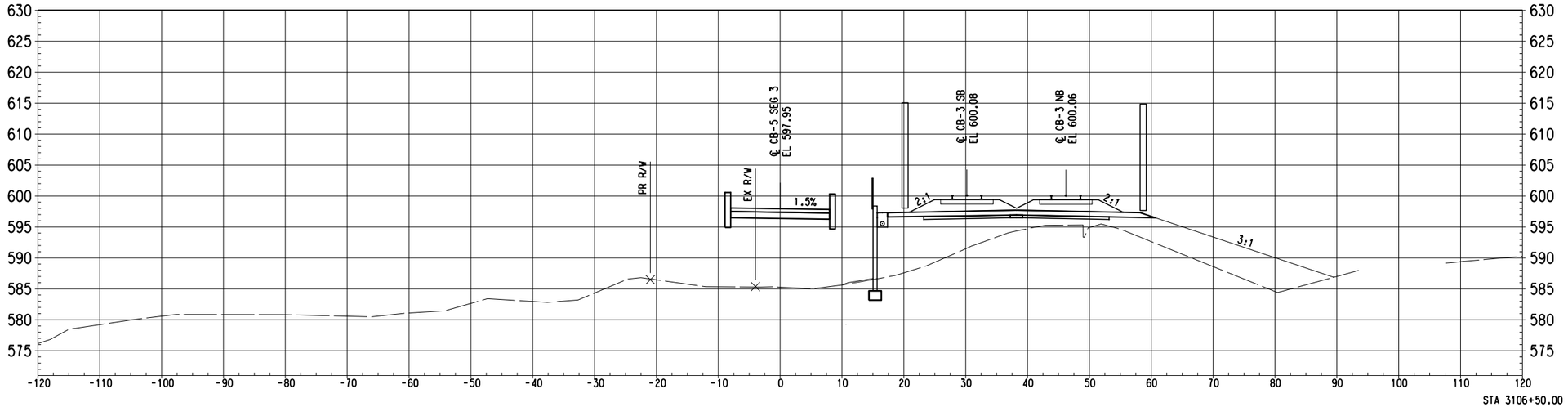
CONTRACT SHEET No. 42 OF 81

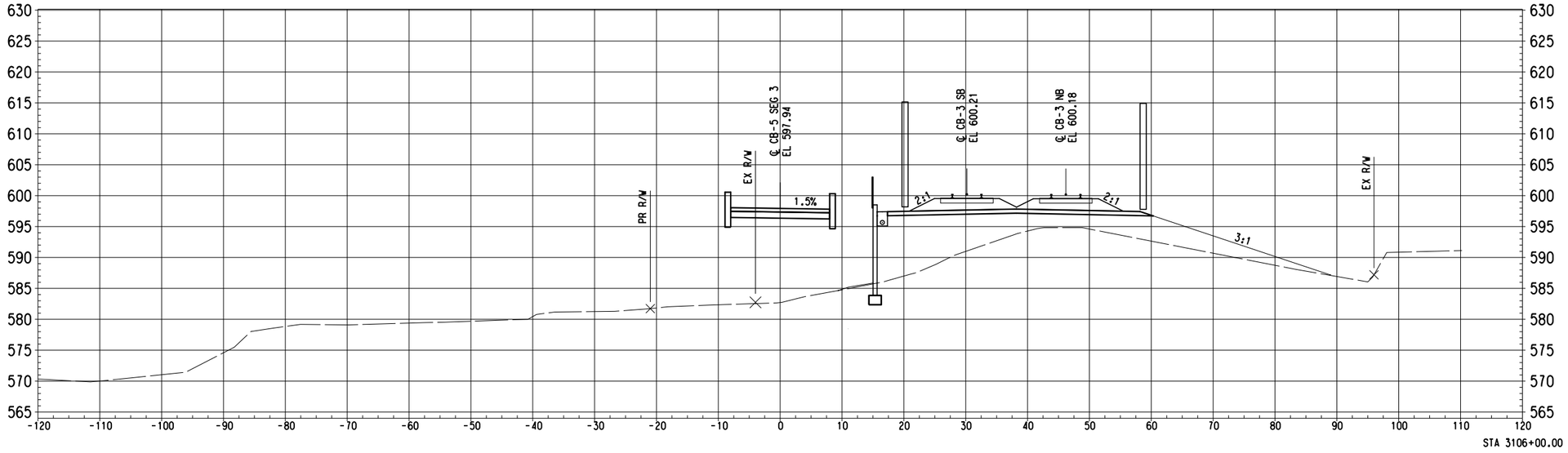
COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
CROSS SECTIONS
SHEET 4 OF 9

CONTRACT	DWG No.	REV
C-2033270-01	CC1-3723	D

DWG No. CC1-3724





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CONTRACT SHEET No. 43 OF 81

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
CROSS SECTIONS
SHEET 5 OF 9

CONTRACT	DWG No.	REV
C-2033270-01	CC1-3724	D

DWG No. CC1-3725

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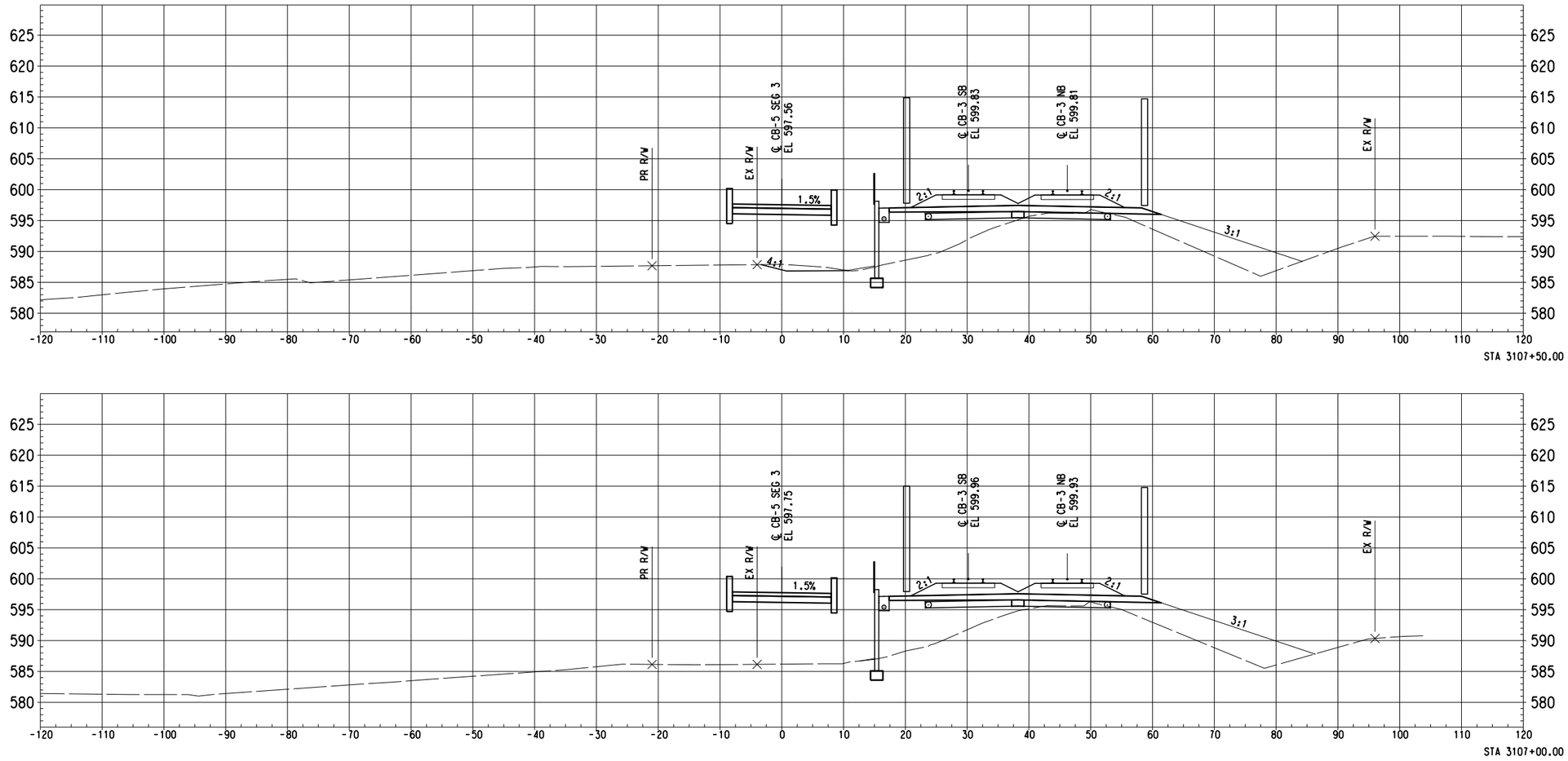

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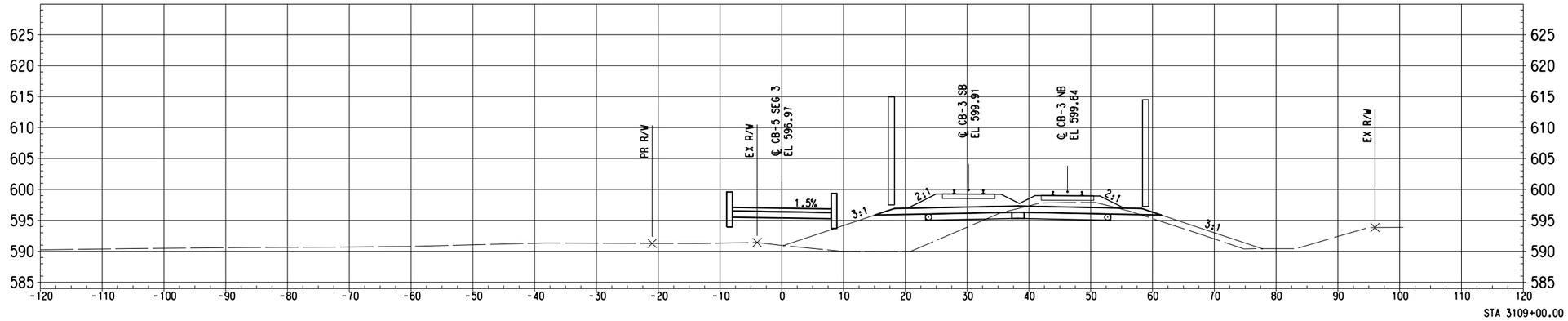
COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

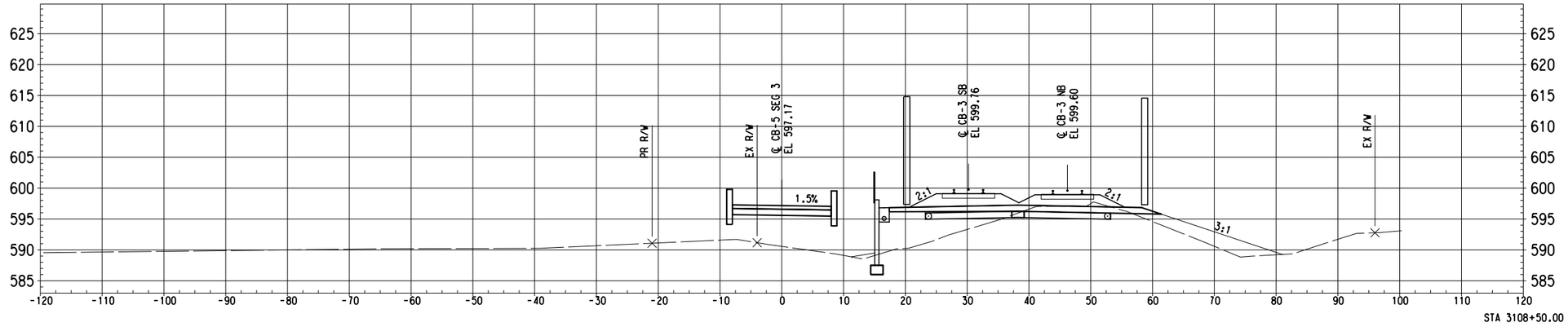
MCKAMY BRANCH CREEK
CROSS SECTIONS
SHEET 6 OF 9

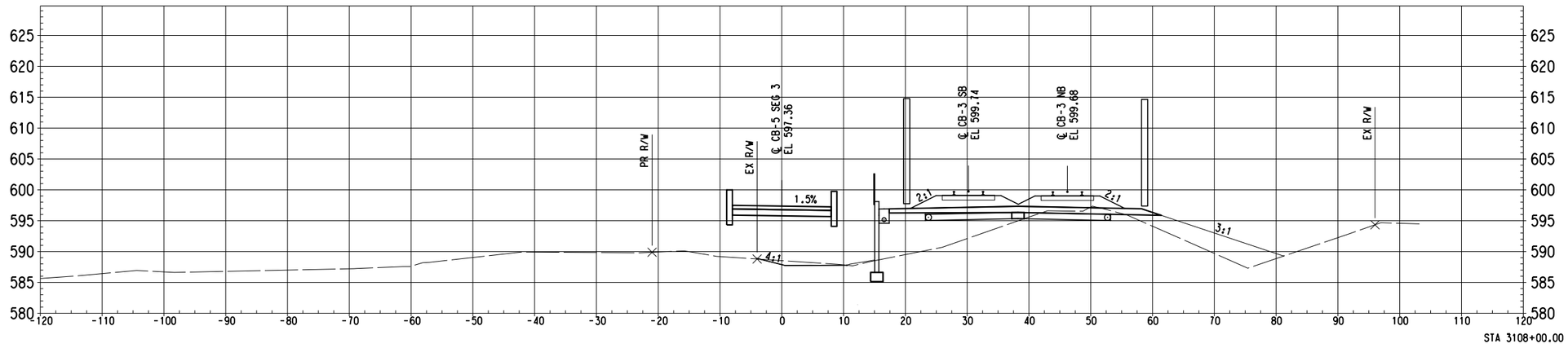
CONTRACT	DWG No.	REV
C-2033270-01	CC1-3725	D

CB05-CC1-3725.010

DWG No. CC1-3726







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CONTRACT SHEET No. 45 OF 81

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
CROSS SECTIONS
SHEET 7 OF 9

CONTRACT	DWG No.	REV
C-2033270-01	CC1-3726	D

CB05-CC1-3726.010

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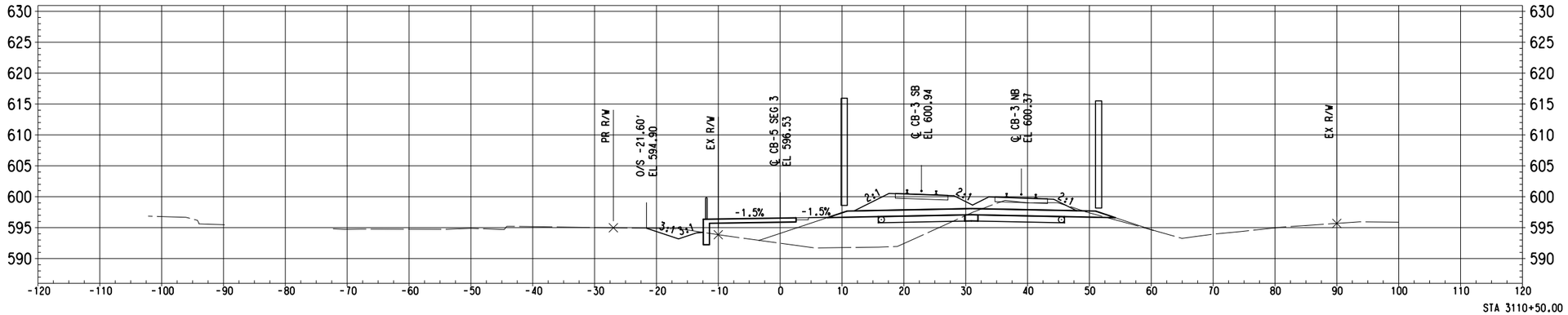
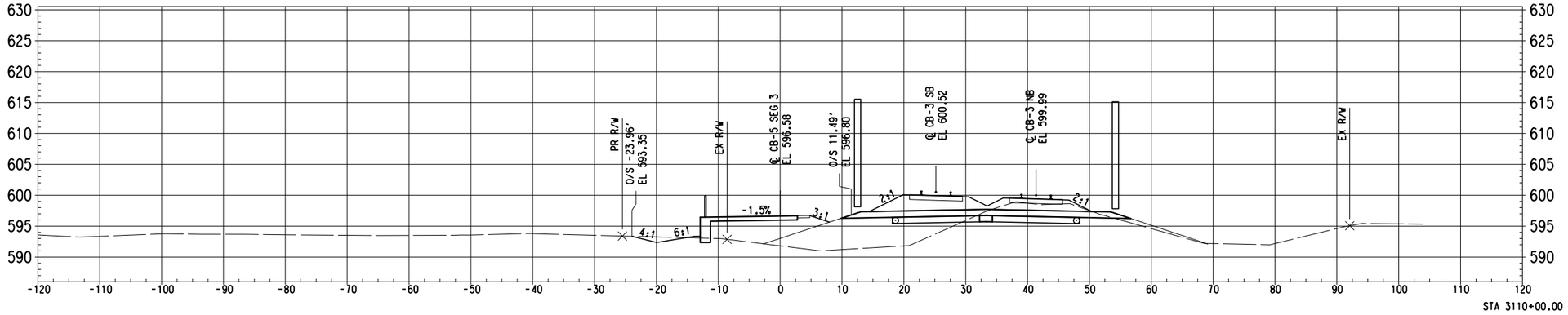
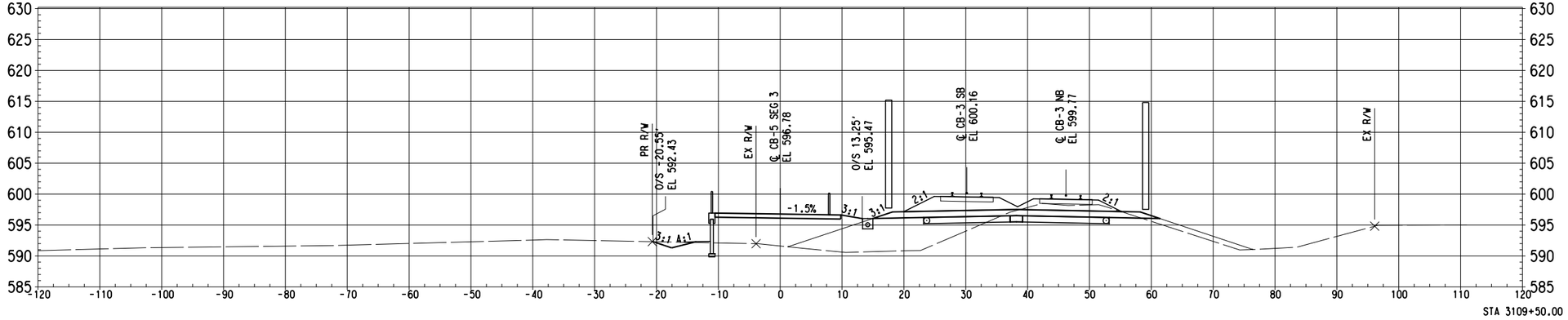
DWG No. CC1-3727







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CAES

CONTRACT SHEET No. 46 OF 81

COTTON BELT REGIONAL RAIL VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK CROSS SECTIONS SHEET 8 OF 9

CONTRACT	DWG No.	REV
C-2033270-01	CC1-3727	D

CB05-CC1-3727.010

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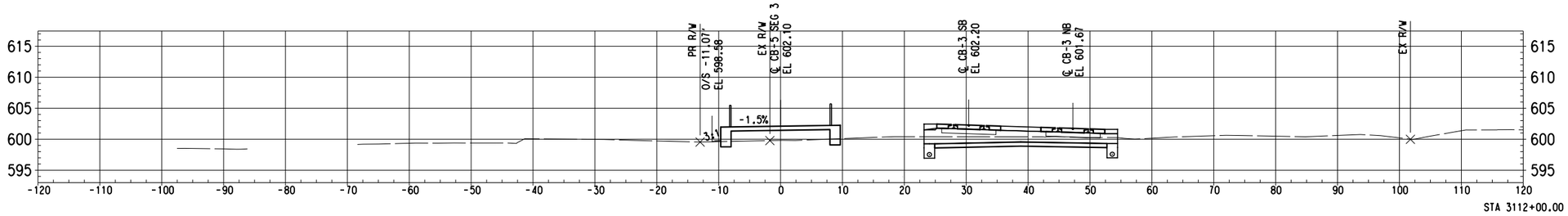
DWG No. CC1-3728



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NOTE:
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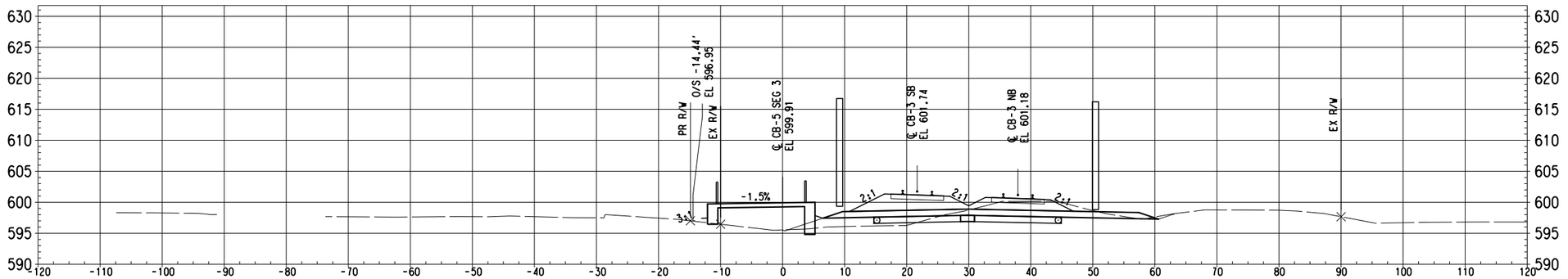

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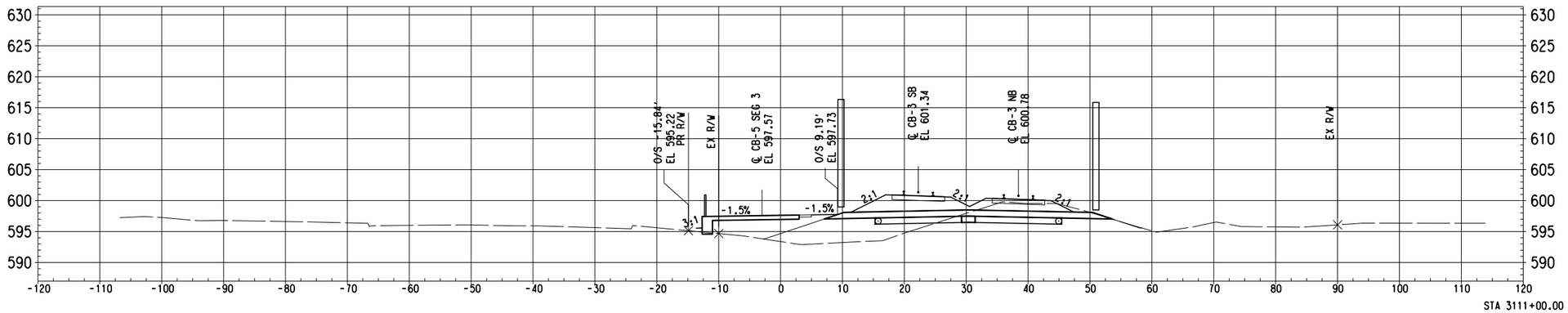

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CONTRACT SHEET No. 47 OF 81

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
CROSS SECTIONS
SHEET 9 OF 9

SCALE	AS NOTED
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CONTRACT	DWG No.	REV
C-2033270-01	CC1-3728	D

CB05-CC1-3728.010

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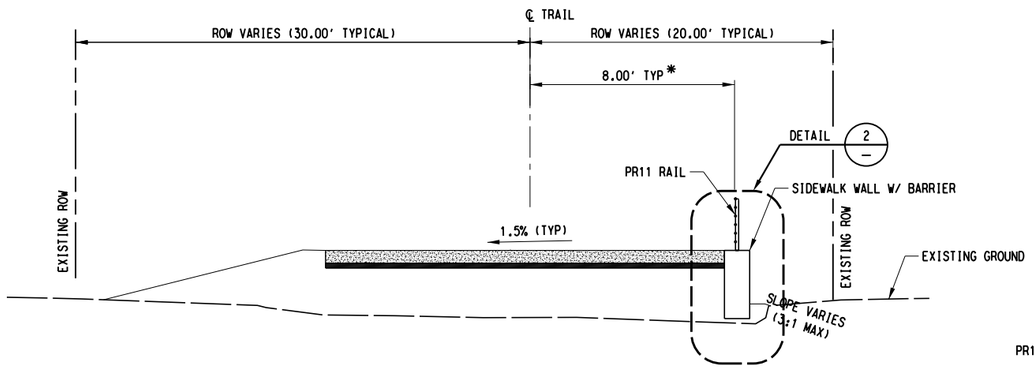
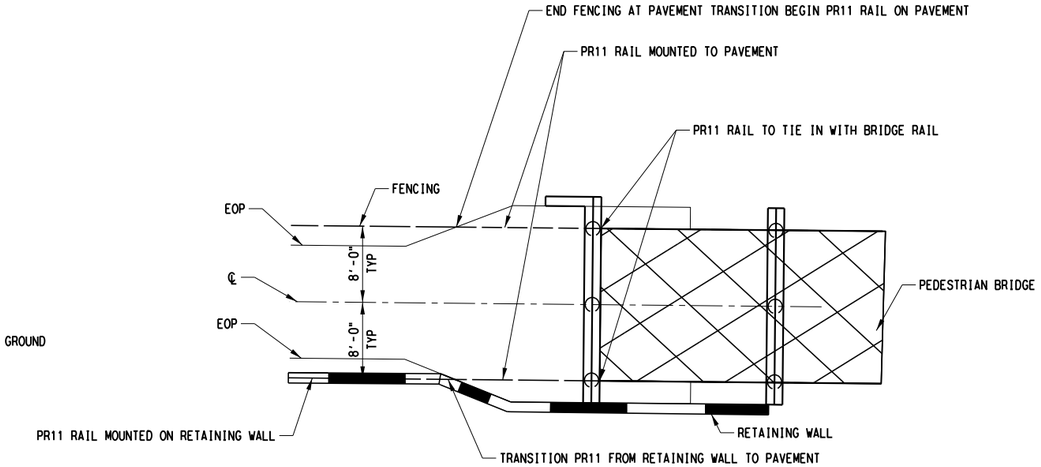


SIDEWALK WALL DETAIL 1
NO SCALE



TYPICAL RAIL TREATMENT AT BRIDGE APPROACH
NO SCALE

GENERAL NOTES:

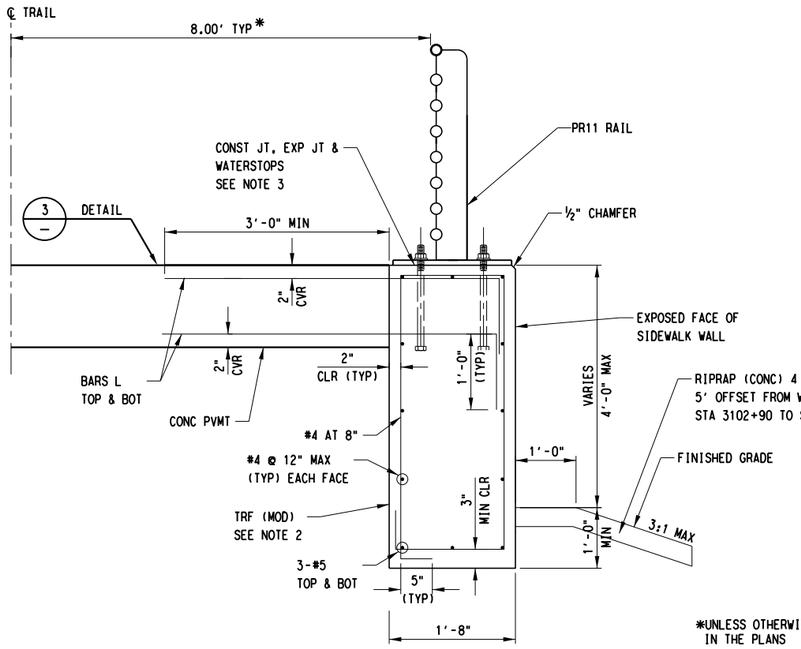
① PEDESTRIAN RAIL PR11 (TXDOT STANDARD PEDESTRIAN RAIL TYPE PR11).

② SEE TXDOT STD TRF FOR ADDITIONAL DETAILS.

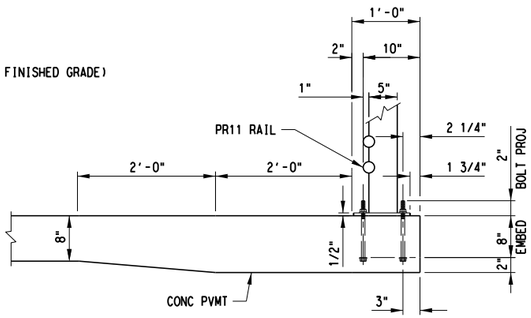
③ SEE TXDOT STD DWG RW 2 FOR CONSTRUCTION JOINT, EXPANSION JOINT AND WATERSTOP DETAILS. PROVIDE CONSTRUCTION JOINTS AT 32' SPACING AND EXPANSION JOINTS AT 96' SPACING.

④ CLASS "C" CONCRETE: MIN F'C = 3,600 PSI.

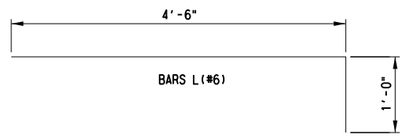
⑤ REINFORCING STEEL GRADE 60.



SIDEWALK WALL DETAIL 2
NO SCALE



PAVEMENT TRANSITION DETAIL
NO SCALE



SIDEWALK WALL DETAIL 3
NO SCALE

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CONTRACT SHEET No. 48 OF 81

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COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
CIVIL DETAILS

CONTRACT	DWG No.	REV
C-2033270-01	SC5-8403	D

CB05-SC5-8403.040

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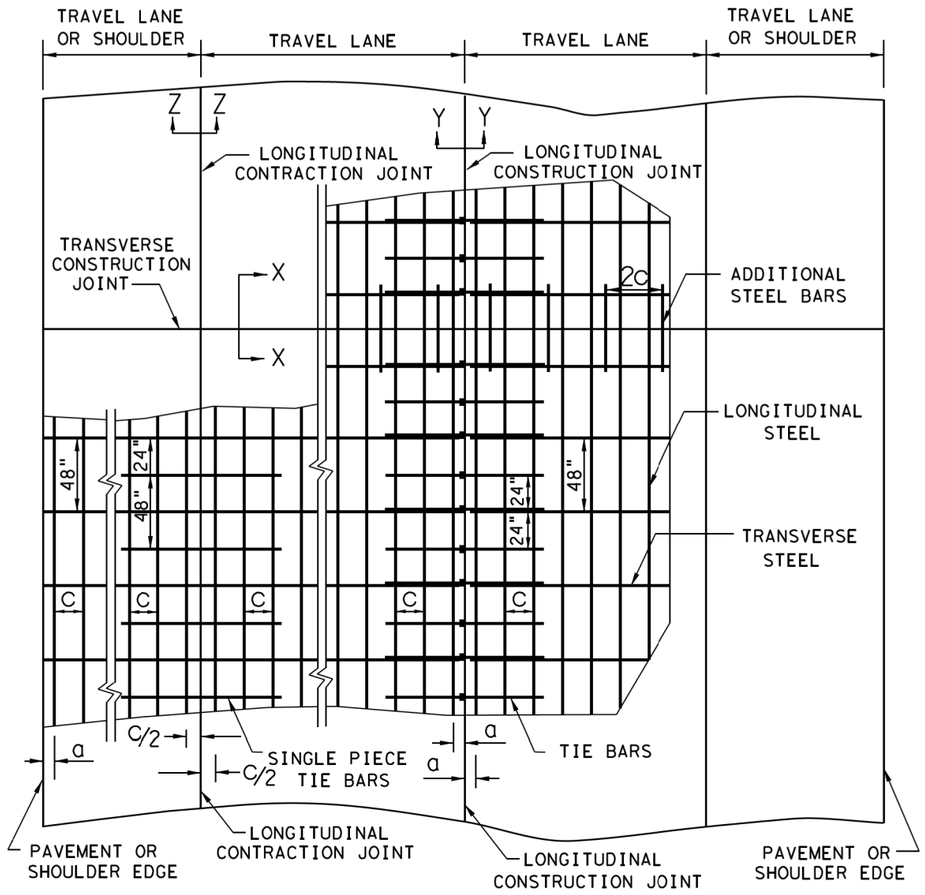
JEGSVCPW001
RW Plan 11

TABLE NO. 1 LONGITUDINAL STEEL

SLAB THICKNESS AND BAR SIZE		REGULAR STEEL BARS	FIRST SPACING AT EDGE OR JOINT	ADDITIONAL STEEL BARS AT TRANSVERSE CONSTRUCTION JOINT (SECTION X-X)	
T (IN.)	BAR SIZE	SPACING C (IN.)	SPACING a (IN.)	SPACING 2 X C (IN.)	LENGTH L (IN.)
7.0	#5	6.5	3 TO 4	13	50
7.5	#5	6.0	3 TO 4	12	50
8.0	#6	9.0	3 TO 4	18	50
8.5	#6	8.5	3 TO 4	17	50
9.0	#6	8.0	3 TO 4	16	50
9.5	#6	7.5	3 TO 4	15	50
10.0	#6	7.0	3 TO 4	14	50
10.5	#6	6.75	3 TO 4	13.5	50
11.0	#6	6.5	3 TO 4	13	50
11.5	#6	6.25	3 TO 4	12.5	50
12.0	#6	6.0	3 TO 4	12	50
12.5	#6	5.75	3 TO 4	11.5	50
13.0	#6	5.5	3 TO 4	11	50

TABLE NO. 2 TRANSVERSE STEEL AND TIE BARS

SLAB THICKNESS (IN.)	TRANSVERSE STEEL		TIE BARS AT LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z)		TIE BARS AT LONGITUDINAL CONSTRUCTION JOINT (SECTION Y-Y)	
	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
7.0 - 7.5	#5	48	#5	48	#5	24
8.0 - 13.0	#5	48	#6	48	#6	24

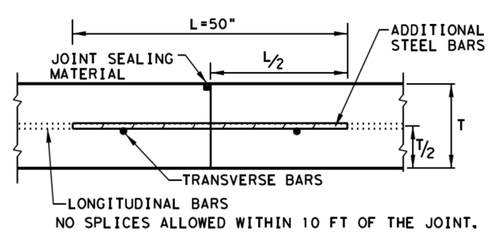


TYPICAL PAVEMENT LAYOUT

PLAN VIEW (NOT TO SCALE)

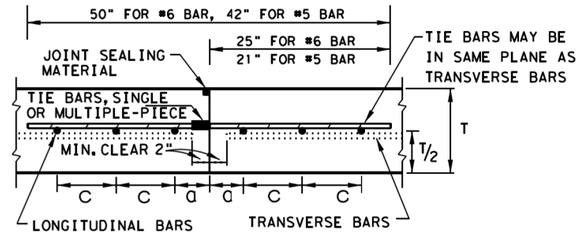
GENERAL NOTES

1. DETAILS FOR PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS-SLOPE SHALL BE SHOWN ELSEWHERE IN THE PLANS. PAVEMENTS WIDER THAN 100 FT. WITHOUT A FREE LONGITUDINAL JOINT ARE NOT COVERED BY THIS STANDARD.
2. USE COARSE AGGREGATES WITH A RATED COEFFICIENT OF THERMAL EXPANSION (CoTE) OF NOT MORE THAN 5.5 X 10^{-6} IN/IN/ °F AS LISTED IN THE CONCRETE RATED SOURCE QUALITY CATALOG (CRSQC).
3. ALL THE REINFORCING STEEL AND TIE BARS SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A 615 (GRADE 60) OR ASTM A 996 (GRADE 60) OR ABOVE. STEEL BAR SIZES AND SPACINGS SHALL CONFORM TO TABLE NO. 1 AND TABLE NO. 2.
4. STEEL BAR PLACEMENT TOLERANCE SHALL BE +/- 1 IN. HORIZONTALLY AND +/- 0.5 IN. VERTICALLY. CALCULATED AVERAGE BAR SPACING (CONCRETE PLACEMENT WIDTH / NUMBER OF LONGITUDINAL BARS) SHALL CONFORM TO TABLE NO. 1
5. PAVEMENT WIDTHS OF MORE THAN 15 FT. SHALL HAVE A LONGITUDINAL JOINT (SECTION Z-Z OR SECTION Y-Y). THESE JOINTS SHALL BE LOCATED WITHIN 6 IN. OF THE LANE LINE UNLESS THE JOINT LOCATION IS SHOWN ELSEWHERE ON THE PLANS.
6. THE SAW CUT DEPTH FOR THE LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z) SHALL BE ONE THIRD OF THE SLAB THICKNESS (T/3).
7. WHEN TYING CONCRETE GUTTER AT A LONGITUDINAL JOINT, THE TIE BAR LENGTH OR POSITION MAY BE ADJUSTED. PROVIDE 3 IN. OF CONCRETE COVER FROM THE BACK OF GUTTER TO THE END OF TIE BAR.
8. REPLACE MISSING OR DAMAGED TIE BARS WITHOUT ADDITIONAL COMPENSATION BY DRILLING MIN. 10 IN. DEEP AND GROUTING TIE BARS WITH TYPE III, CLASS C EPOXY. MEET THE PULL-OUT TEST REQUIREMENTS IN ITEM 361.
9. OMIT TIE BARS LOCATED WITHIN 18-IN. OF THE TRANSVERSE CONSTRUCTION JOINTS (SECTION X-X). USE HAND-OPERATED IMMERSION VIBRATORS TO CONSOLIDATE THE CONCRETE ADJACENT TO ALL FORMED JOINTS.
10. LONGITUDINAL REINFORCING STEEL SPLICES SHALL BE A MINIMUM OF 25 IN. STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT.
11. THE DETAIL FOR THE JOINT SEALANT AND RESERVOIR IS SHOWN ON STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."



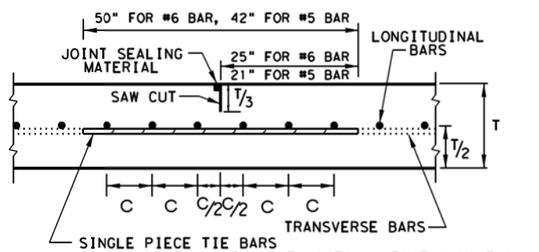
TRANSVERSE CONSTRUCTION JOINT

SECTION X - X



LONGITUDINAL CONSTRUCTION JOINT

SECTION Y - Y



LONGITUDINAL CONTRACTION JOINT

SECTION Z - Z

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 49 OF 81
DWG NO. CS9-1977
CONTRACT NO. C-2033270-01

SHEET 1 OF 2

Texas Department of Transportation | Design Division Standard

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

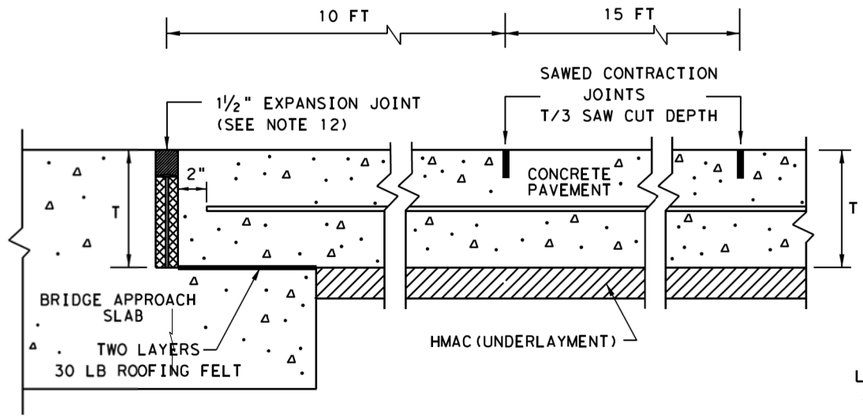
ONE LAYER STEEL BAR PLACEMENT T - 7 to 13 INCHES

CRCP(1)-20

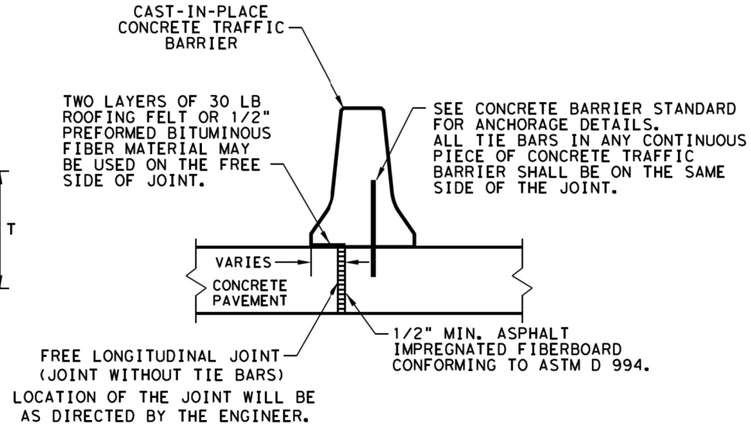
FILE: crcp120.dgn	DN: TxDOT	CK: KM	DW: AN	CK: VP
©TxDOT: APRIL 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
10/10/2011 ADD GN #12				
04/09/2013 REMOVE 6" AND 6.5" ADD CTE REQUIREMENTS	DIST	COUNTY		SHEET NO.
05/05/2017 CoTE AS RATED 4.3				

STD5-CS9-1977.001

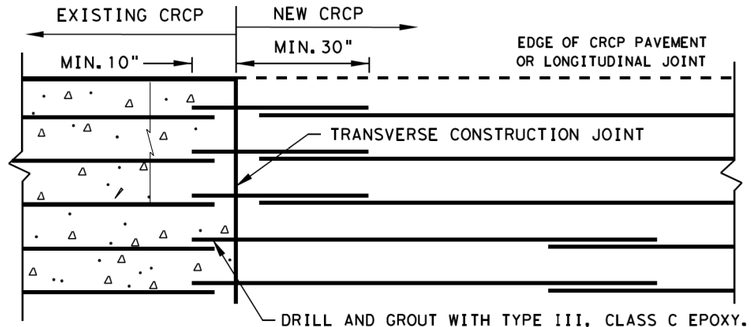
DATE: 24-FEB-2023 06:25
FILE: STD5-CS9-1977.001



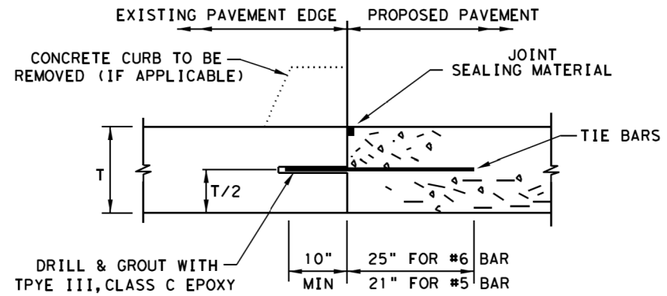
TRANSVERSE EXPANSION JOINT DETAIL
AT BRIDGE APPROACH



FREE LONGITUDINAL JOINT DETAIL

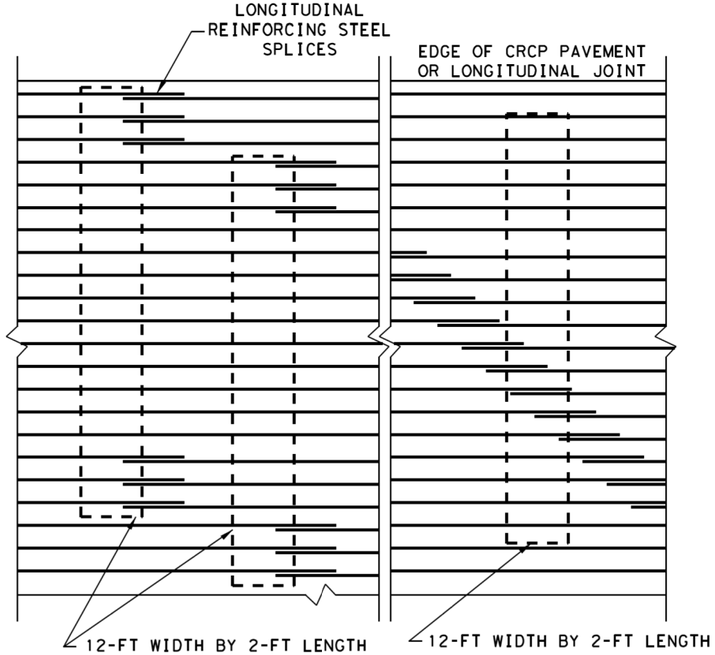


OPTION A: DRILL AND EPOXY
PLAN VIEW (NOT TO SCALE)



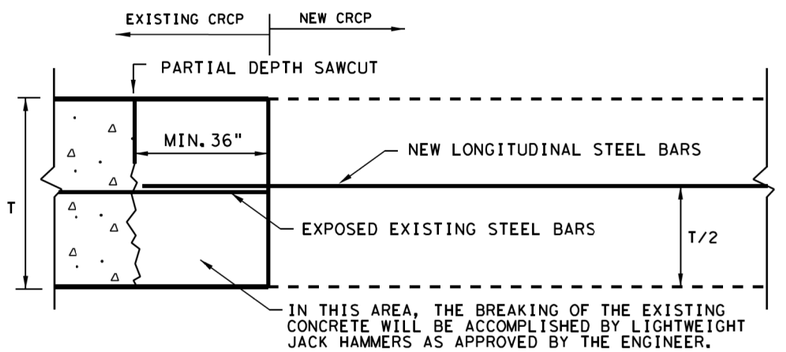
1. BEFORE WIDENING WORK, DEMONSTRATE THAT THE BOND STRENGTH OF THE EPOXY-GROUTED TIE BARS MEETS THE REQURIMENTS OF PULL-OUT TEST SPECIFIED IN ITEM 361.
2. SPACE TIE BARS AT 24" SPACING. USE #6 TIE BARS FOR 8" AND THICKER SLABS, USE #5 TIE BARS FOR LESS THAN 8" THICK SLABS.

LONGITUDINAL WIDENING JOINT DETAIL



STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT. ANY OTHER LAP CONFIGURATION MEETING THIS REQUIREMENT WILL BE ALLOWED.

EXAMPLES OF LAP CONFIGURATION
PLAN VIEW (NOT TO SCALE)



OPTION B: BREAKBACK AND LAP

TRANSVERSE TIE JOINT DETAIL
EXISTING CRCP TO NEW CRCP

SHEET 2 OF 2

Texas Department of Transportation

Design Division Standard

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

ONE LAYER STEEL BAR PLACEMENT
T - 7 to 13 INCHES

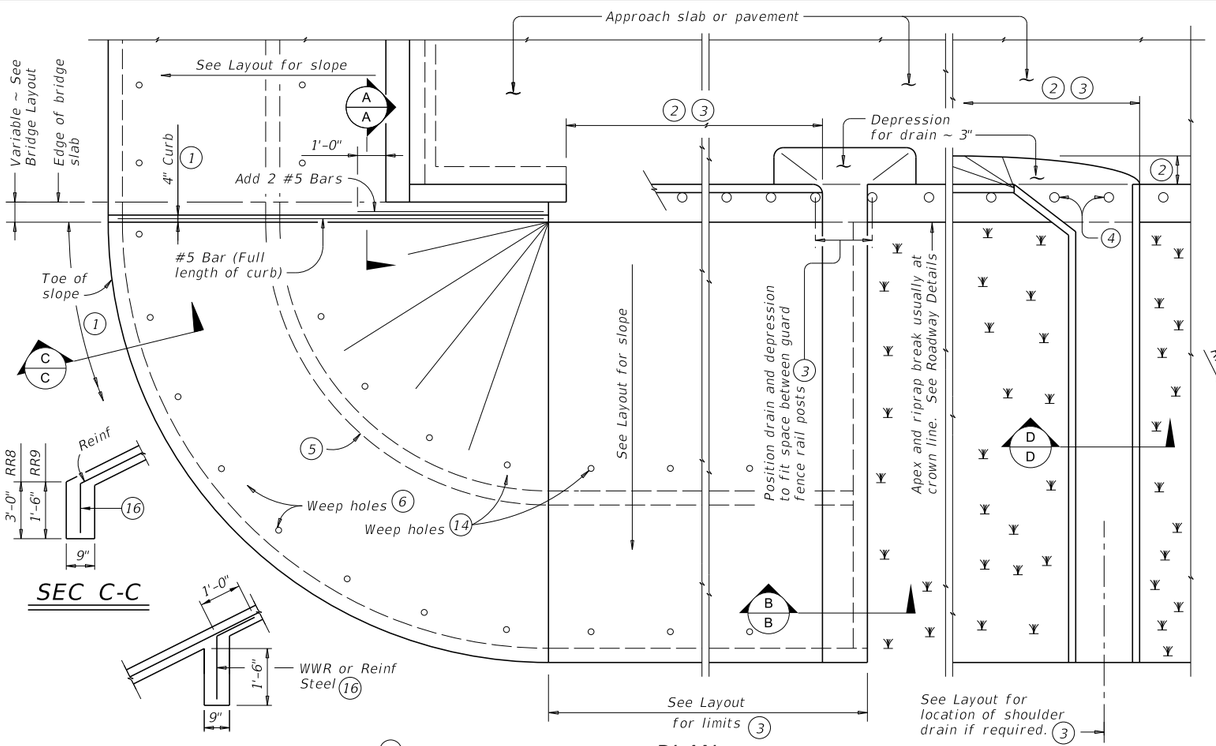
CRCP(1)-20

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 50 OF 81
DWG NO. CS9-1978
CONTRACT NO. C-2033270-01

FILE: crcp120.dgn	DN: TxDOT	CK: KM	DW: AN	CK: VP
©TxDOT: APRIL 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS 03/16/2020 REMOVED TABLE 1A				
	DIST	COUNTY		SHEET NO.

DATE: 24-FEB-2023 06:25
FILE: STD5-CS9-1978.001

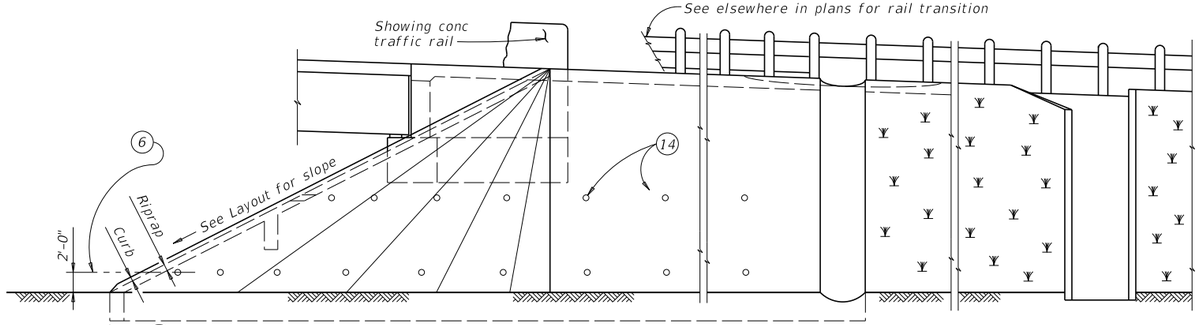
DATE: 24-FEB-2023 06:33
FILE: STD5-CS9-8601.001



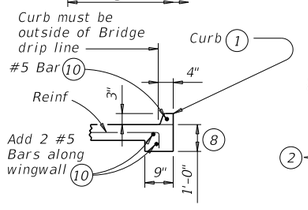
PLAN

SEC C-C

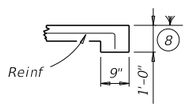
INTERMEDIATE TOEWALL (5)



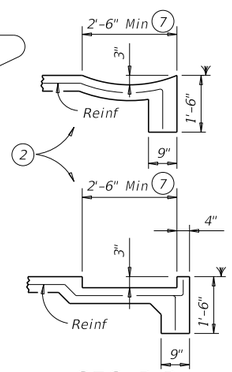
ELEVATION



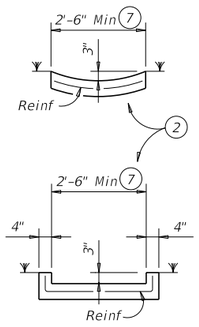
SEC A-A



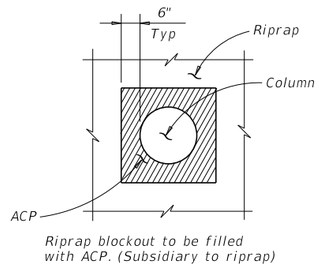
SEC B-B
(No drain)



SEC B-B
(Shoulder drain integral with riprap)

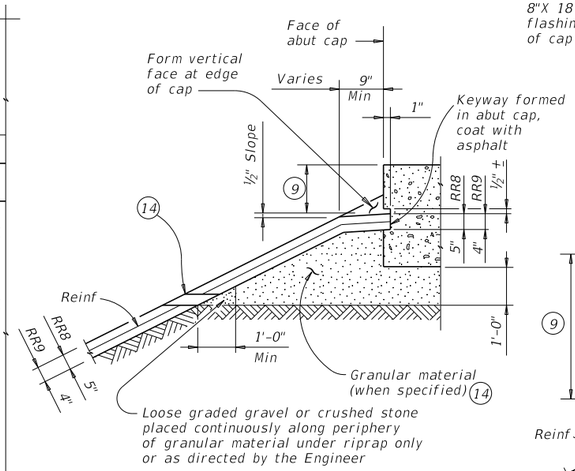


SEC D-D
(Shoulder drain)

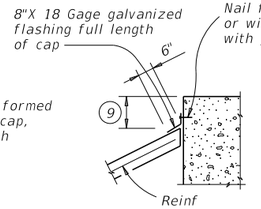


Riprap blockout to be filled with ACP. (Subsidiary to riprap)

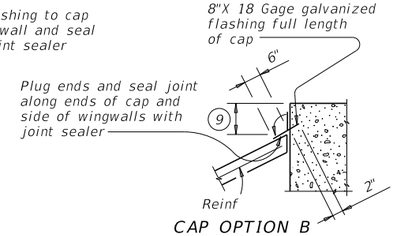
RIPRAP DETAIL AT COLUMNS
(As directed by the Engineer)



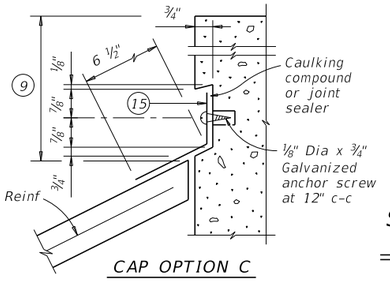
SHOWING KEYWAY OPTION



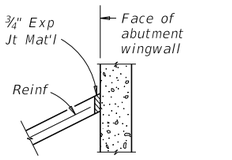
CAP OPTION A



CAP OPTION B

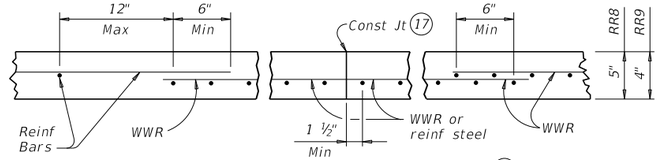


CAP OPTION C



SECT THRU RIPRAP AT WINGWALL (12)

SECTIONS THRU RIPRAP AT CAP (11)



REINFORCEMENT DETAILS (13)

See General Notes for optional synthetic fiber reinforcement.

(1) When riprap is shown extended around header on layout, extend slab and toewall as shown and eliminate 4" curb.

(2) Limits and configuration of drains and depressions are as shown elsewhere in plans or as directed by the Engineer.

(3) Location of shoulder drain must consider limitations imposed by rail transition. Do not locate shoulder drains at expansion joints between approach slab and concrete pavement.

(4) See details elsewhere in plans for installation of guard fence posts through concrete riprap.

(5) Provide intermediate toewall only when designated elsewhere in the plans or included in the specifications.

(6) Provide lower level of 2" Dia weep holes at 10' c-c backed by 1 CF packet of gravel and galvanized hardware cloth at all locations unless directed by the Engineer to eliminate.

(7) Use wider or other drain configurations if shown elsewhere in plans or if directed by the Engineer.

(8) Wall extension may be reduced or modified if approved by the Engineer. Increase wall extension to 1'-6" whenever the optional intermediate toewall is called for in the plans.

(9) Top of cap to top of riprap dimension varies as directed by the Engineer. Should be 9" Min for beam/slab type bridges and 1'-6" for slab span, box beam, or slab beam bridges.

(10) #5 bars shown are required even when synthetic fiber reinforcing option is selected.

(11) Provide sealing option for joint between the face of cap and riprap as designated by the Engineer or as shown elsewhere on plans.

(12) Flashing (shown in Cap Option A) may be used at wingwall in addition to Exp Jt Mat'l if shown on plans or directed by the Engineer.

(13) Provide #3 reinforcing bars at 18" Spa c-c. Provide Welded Wire Reinforcement (WWR) as 6x6-D2.9xD2.9 or D3xD3. Combinations of WWR and reinforcing bars may be used if both are permitted. Use lap splices of a minimum 6 inches, measured from the transverse wire of WWR, and the ends of reinforcing bars.

(14) If granular material is specified, provide upper level of 2" Dia weep holes at 10' c-c backed by galvanized hardware cloth.

(15) 8" x 18 Gage Galv Sheet Metal

(16) Provide WWR or #3 bars, with 1'-0" extension into slope.

(17) WWR or reinforcing steel is continuous through riprap construction joints. Provide WWR or reinforcing steel that extends 1'-1" minimum into adjacent riprap on each side of construction joint even if synthetic reinforcing fiber is utilized.

FOR CONTRACTOR'S INFORMATION ONLY:
5" of RR8 = 0.015 CY/SF
4" of RR9 = 0.012 CY/SF
#3 Reinf at 18" c-c = 0.501 Lbs/SF
6x6-D3xD3 = 0.408 Lbs/SF

GENERAL NOTES:

Provide Class "B" concrete (f'c = 2,000 psi) unless noted elsewhere in plans.

Provide Grade 60 reinforcing steel.

Provide deformed welded wire reinforcement (WWR) meeting ASTM A1064, unless otherwise shown.

Provide reinforcing bars, deformed WWR, or any suitable combination of both types for riprap reinforcing, unless specified elsewhere in the plans.

Optionally synthetic fibers may be used if approved by the Engineer. Provide synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) in lieu of steel reinforcing in riprap concrete.

Install construction joints or grooved joints extending the full slant slope height at intervals of approximately 20 feet unless otherwise directed by the Engineer.

Hardware cloth, loose grade stone behind weep holes, flashing, or other sealing material are subsidiary to the bid item "Riprap".

See Layout for limits of riprap.

RR8 is to be used on stream crossings.

RR9 is to be used on other embankments.

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 51 OF 81
DWG NO. CS9-8601
CONTRACT NO. C-2033270-05

Texas Department of Transportation

Bridge Division Standard

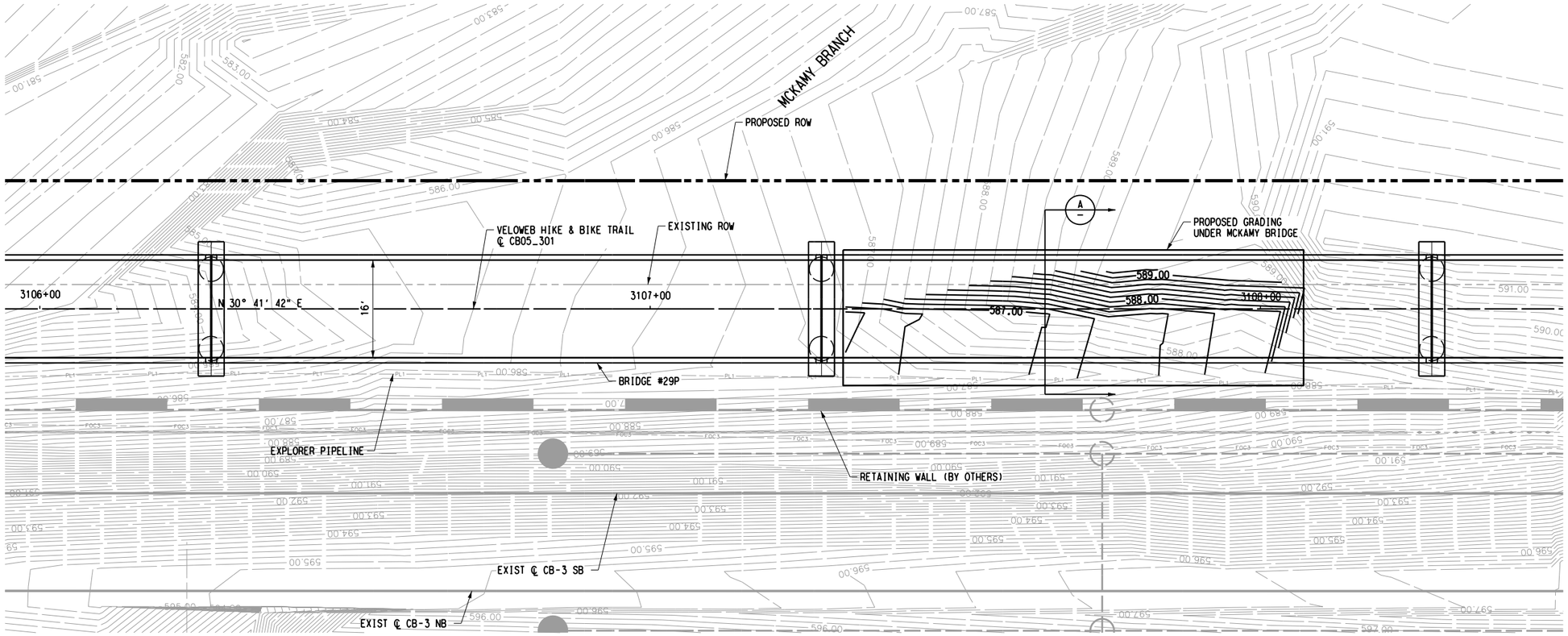
CONCRETE RIPRAP AND SHOULDER DRAINS
EMBANKMENTS AT BRIDGE ENDS (TYPES RR8 & RR9)

CRR

FILE: crrstde1-19.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

STD5-CS9-8601.001

DWG No. CC1-8590



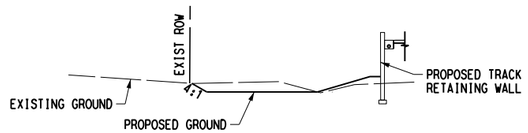
SCALE (IN FEET)
0 5 10 20

NOTES:

1. PROPOSED ROW AND EASEMENTS ARE APPROXIMATE.
2. SEE SURVEY CONTROL SHEETS FOR BENCHMARK LOCATIONS.
3. SEE DRAINAGE PLAN AND PROFILE SHEETS FOR TRAIL DRAINAGE DESIGN.
4. SEE TRACK PLAN AND PROFILE SHEETS FOR ADDITIONAL INFORMATION.
5. SEE RETAINING WALL LAYOUT SHEETS FOR ADDITIONAL INFORMATION.
6. SEE BRIDGE LAYOUT SHEETS FOR ADDITIONAL PEDESTRIAN BRIDGE INFORMATION.
7. SEE TYPICAL SECTION SHEETS FOR ADDITIONAL INFORMATION.
8. ALL CALLOUTS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

WARNING!!! EXPLORER'S HIGH-PRESSURE PETROLEUM PRODUCTS PIPELINE

AT LEAST 48 HOURS BEFORE ANY CONSTRUCTION WITHIN 25 FEET OF EXPLORER'S PIPELINE, CONTACT EXPLORER PIPELINE AT (888) 876-3600



TYPICAL SECTION A-A
NO SCALE

NOT AN APPROVED DRAWING
FINAL 100% DESIGN

CONTRACT SHEET No. 52 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS REVIEW
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
JORDAN F. HASLER P.E., 137316
ON
24-FEB-2023 06:33
IEA
TBPE FIRM NO. F-10161
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

Jacobs
1999 BRYAN ST, SUITE 1200
DALLAS, TX 75201-3136
Phone: +1 (214) 638-0145
FIRM REGISTRATION No. F-2966

IEA
18383 PRESTON ROAD, SUITE 500
DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	AS NOTED
DRAWN	A. ENSOR
DESIGNED	J. HASLER
CHECKED	B. ALLDREDGE
IN CHARGE	J. HASLER
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK GRADING DETAIL SHEET

CONTRACT	DWG No.	REV
C-2033270-01	CC1-8590	D

CB05-CC1-8590.010

24-FEB-2023 06:33
CB05-CC1-8590.010
JEGSVCPW001
Plan 1

DWG No. CC6-3010

DRAINAGE AREA CALCULATIONS

DRAINAGE AREA CALCULATIONS (LESS THAN 200 ACRES)												
AREA NUMBER	AREA BY ZONING				RATIONAL METHOD Q=CIA							COMMENTS
	GRASS (ACRES)	INDUSTRIAL (ACRES)	PAVEMENT (ACRES)	MULTI FAM (ACRES)	AREA (ACRES)	Tc (MIN)	RUNOFF "C"	INTENSITY_50_YR (IN/HR)	Q100 (CFS)	INTENSITY_100YR (IN/HR)	Q100 (CFS)	
	0.40	0.90	0.95	0.80								
A-9A	0.27	0.05	0.17	0.13	0.62	10.00	0.68	8.75	3.69	9.64	4.06	OUTFALLS EAST TO MCKAMY BRANCH CREEK
A-9B	0.04				0.04	10.00	0.40	8.75	0.14	9.64	0.15	PARTIAL DRAINAGE ARE BETWEEN TRAIL AND TRACK
TOTAL	0.31	0.05	0.17	0.13	0.66	20.00	1.08	8.75	3.83	9.64	4.21	TOTAL A-9A, A-9B
A-10A	0.06				0.06	10.00	0.40	8.75	0.21	9.64	0.23	DRAINAGE AREA BETWEEN TRAIL AND TRACK OUTFALLS WEST TO MCKAMY BRANCH CREEK,
A-10B	0.26		0.08		0.34	10.00	0.53	8.75	1.58	9.64	1.74	OUTFALLS WEST TO MCKAMY BRANCH CREEK
TOTAL	0.32		0.08		0.40	10.00	0.93	8.75	1.79	9.64	1.97	TOTAL A-10A, A-10B

DITCH CALCULATIONS

DITCH A-10									
HIKE AND BIKE STATION		SLOPE (FT/FT)	Q100 (CFS)	MANNINGS 'n'	DITCH SECTION (FS)	DITCH SECTION (BW)	DITCH SECTION (BS)	VELOCITY (FT/S)	DEPTH OF FLOW (FT)
FROM	TO								
STA 3110+35	STA 3109+30	0.024	1.72	0.035	4.00	0.00	3.00	1.77	0.29

UNDERDRAIN CALCULATIONS

UD3.1.001
STA 3101+80 TO STA 3103+92 LEFT

UNDERDRAIN PIPE							
FROM		TO		LENGTH (FEET)	SIZE (INCHES)	SLOPE (FT/FT)	Q (CFS)
STA	FL	STA	FL				
3101+80	591.68	3102+40	590.42	60	8	0.021	2.28
3102+40	590.42	3102+61	590.00	19	8	0.022	2.28
3102+61	590.00	3103+03	589.60	45	12	0.009	4.39
3103+03	589.60	3103+70	589.00	67	12	0.009	4.39
3103+70	589.00	3103+92	588.73	30	12	0.009	4.39

END TREATMENTS			
ITEM	STA	CONNECTION FL	COMMENTS
TERMINAL CLEAN OUT	3101+80	591.68	8" UNDERDRAIN
	3102+40	590.42	8" NON-PERFORATED PIPE
	3102+61	590.00	12" NON-PERFORATED PIPE
	3103+03	589.60	12" NON-PERFORATED PIPE
CLEAN OUT	3103+70	589.00	12" NON-PERFORATED PIPE
OUTFALL	3103+92	588.73	NON-PERFORATED PIPE OUTFALLS EAST TO MCKAMY BRANCH CREEK

UD3.1.002
STA 3103+20.00 TO STA 3103+50.00 RIGHT

UNDERDRAIN PIPE							
FROM		TO		LENGTH (FEET)	SIZE (INCHES)	SLOPE (FT/FT)	Q (CFS)
STA	FL	STA	FL				
3103+20.00	593.40	3103+50.00	593.16	30	8	0.008	0.15

END TREATMENTS			
ITEM	STA	CONNECTION FL	COMMENTS
TERMINAL CLEAN OUT	3103+20.00	593.40	
OUTFALL	3103+50.00	593.16	OUTFALLS EAST TO MCKAMY BRANCH CREEK

UD3.1.003
STA 3109+75.24 TO STA 3109+40.09 RIGHT

UNDERDRAIN PIPE							
FROM		TO		LENGTH (FEET)	SIZE (INCHES)	SLOPE (FT/FT)	Q (CFS)
STA	FL	STA	FL				
3109+75.24	594.08	3109+40.09	593.86	64.85	12	0.003	0.23

END TREATMENTS			
ITEM	STA	CONNECTION FL	COMMENTS
TERMINAL CLEAN OUT	3109+75.24	594.08	
OUTFALL	3109+40.09	593.86	OUTFALLS WEST TO MCKAMY BRANCH CREEK

NOTES:

1. RUNOFF COMPUTATIONS HAVE BEEN PERFORMED ACCORDING TO CITY OF DALLAS DRAINAGE DESIGN CRITERIA MANUAL, SECTION 2, HYDROLOGY, SEPTEMBER 2019.
2. THE DESING STORM FOR DRAINAGE SYSTEMS CONVEYING FLOWS FROM TRAIL AND TRACK IS 100-YEAR. THE DESIGN STORM FOR DRAINAGE SYSTEMS CONVEYING FLOWS FROM THE TRAIL ONLY IS 50-YEAR.

24-FEB-2023 06:32
CB05-CC6-3010.010

JEGSVCPW001
Default

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FINAL 100% DESIGN

CONTRACT SHEET No. 53 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS REVIEW
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
BRANDON J. OLIVER, P.E., 135838
ON
24-FEB-2023 06:32
IEA
TBPE FIRM NO. F-10161
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Jacobs
1999 BRYAN ST, SUITE 1200
DALLAS, TX 75201-3136
Phone: +1 (214) 638-0145
FIRM REGISTRATION No. F-2966

IEA
18383 PRESTON ROAD, SUITE 500
DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	D. ESCALANTE
DESIGNED	C. SEGURA
CHECKED	B. OLIVER
IN CHARGE	B. OLIVER
DATE	13 MAR 23

CAES

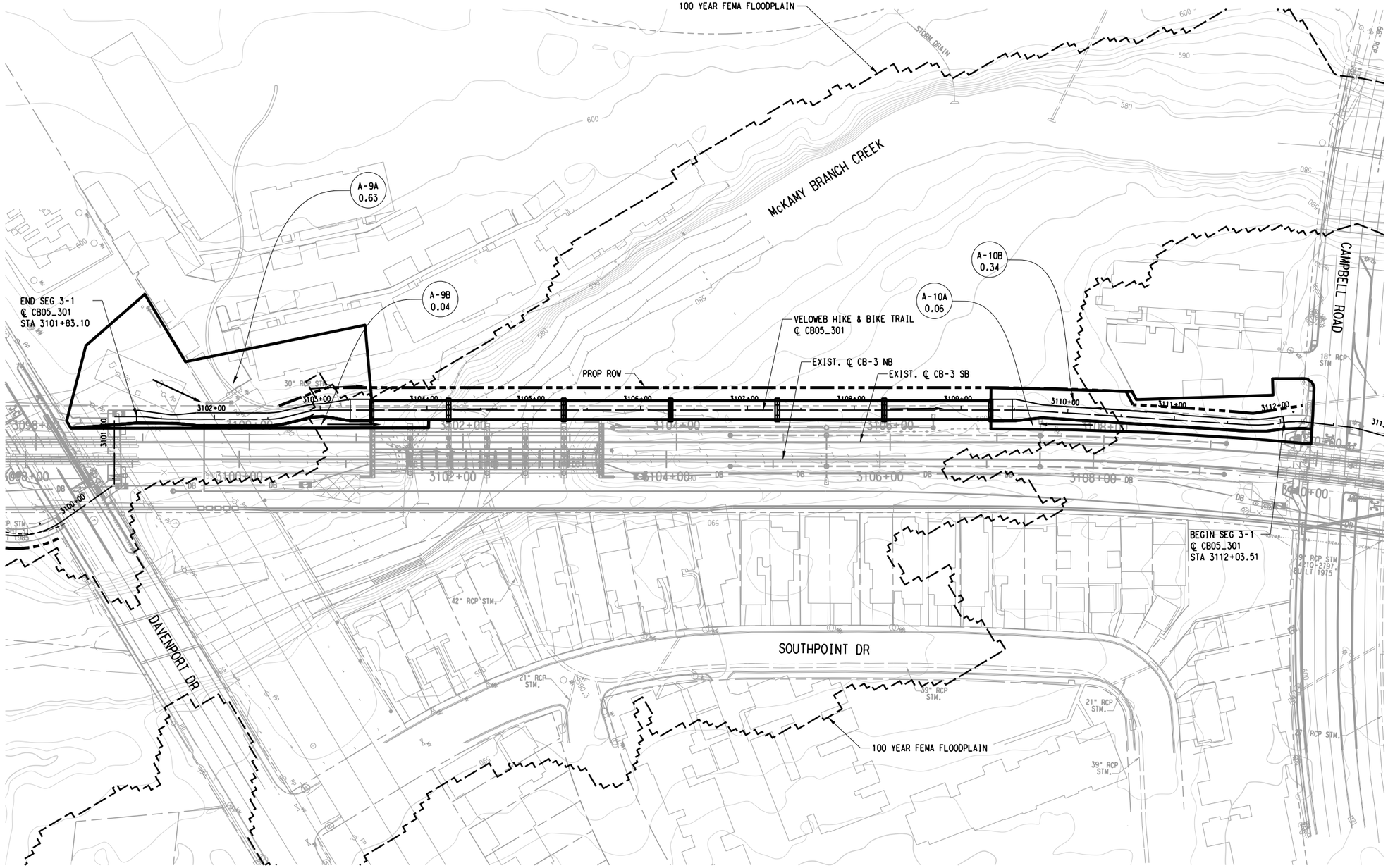
COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
DRAINAGE CALCULATIONS

CONTRACT C-2033270-01 | DWG No. CC6-3010 | REV D

CB05-CC6-3010.010

DWG No. CC6-3030



SCALE (IN FEET)
0 25 50 100

LEGEND

- DRAINAGE AREA BOUNDARY
- DRAINAGE FLOW
- XX — DRAINAGE AREA NUMBERS
- XXX — DRAINAGE AREA IN ACRES

NOTES:

1. CITY OF DALLAS DRAINAGE DESIGN CRITERIA MANUAL, SECTION 2, HYDROLOGY, SEPTEMBER 2019.
2. TOPOGRAPHIC DATA SOURCE: TNRIS STRATMAP 2009 1-M DEM
3. NO HYDRAULIC ANALYSIS WAS PERFORMED. PROPOSED CONDITIONS DO NOT IMPACT EXISTING CULVERT/STORM SYSTEM.

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CONTRACT SHEET No. 54 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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FIRM REGISTRATION No. F-2966

IEA
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DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

SCALE	1"=50'
DRAWN	D. ESCALANTE
DESIGNED	C. SEGURA
CHECKED	B. OLIVER
IN CHARGE	B. OLIVER
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

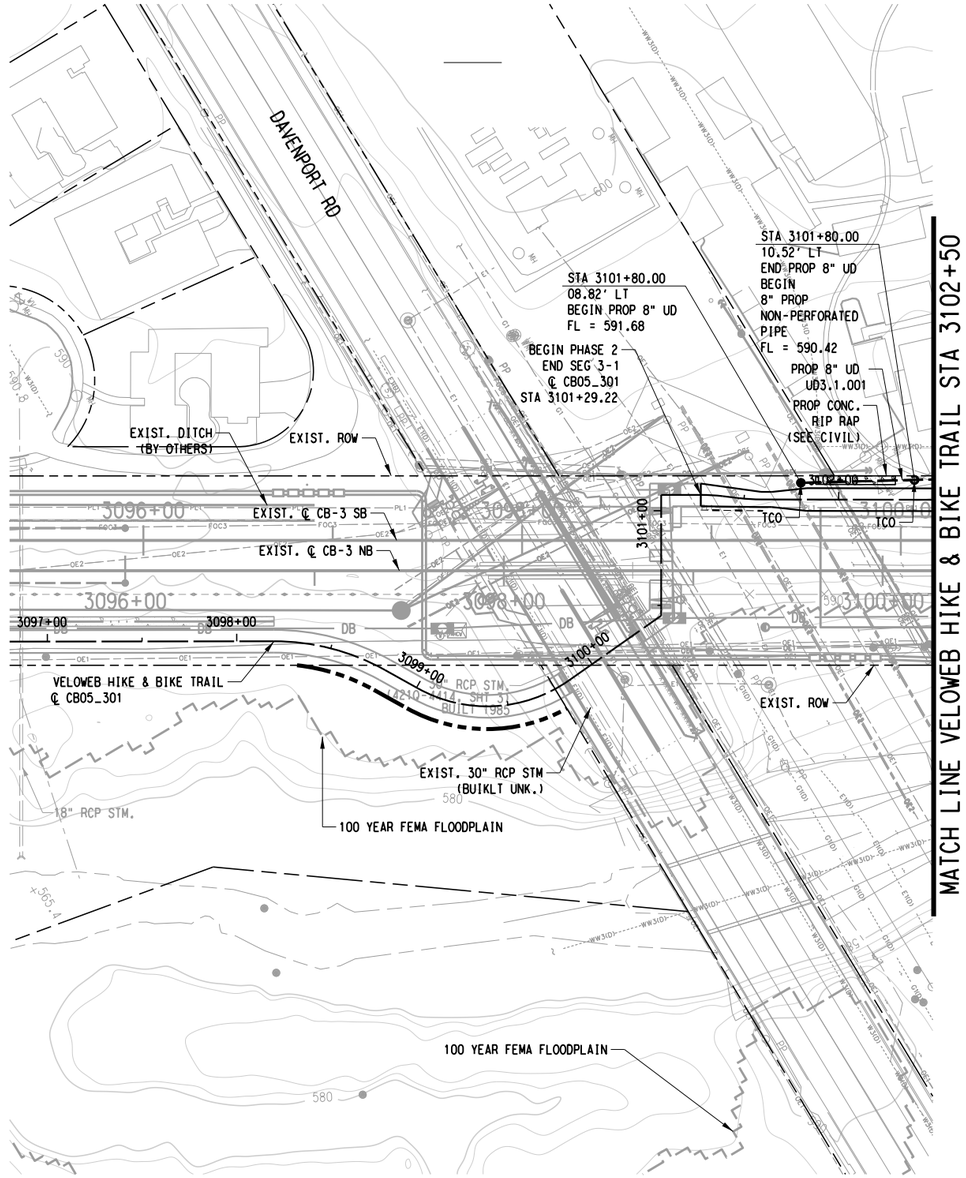
MCKAMY BRANCH CREEK
DRAINAGE AREA MAP
STA 3000+25 TO STA 3113+00

CONTRACT	DWG No.	REV
C-2033270-01	CC6-3030	D

CB05-CC6-3030.050

24-FEB-2023 06:33
CB05-CC6-3030.050
JEGSVCPW001
Default

DWG No. CC6-3070



SCALE (IN FEET)
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LEGEND

CENTERLINE OF SPECIAL DITCH

NOTES:

1. ALL STATION CALLOUTS ARE IN REFERENCE TO THE VELOWEB HIKE & BIKE TRAIL CENTERLINE, UNLESS NOTED OTHERWISE.
2. ALL STORM DRAIN PIPES AND CULVERT CROSSINGS NB AND SB TRACK SHALL BE CLASS V, UNLESS NOTED OTHERWISE.
3. DISTURBED AREAS REQUIRING GROUND COVER SHALL BE SEEDED BY HYDROMULCHING, UNLESS NOTED OTHERWISE.
4. ALL DITCH SIDE SLOPES SHALL BE 3:1 MAX, UNLESS NOTED OTHERWISE.
5. CONTOURS SHOWN IN PLAN VIEW ARE EXISTING, UNLESS NOTED OTHERWISE.

NOT AN APPROVED DRAWING
FINAL 100% DESIGN

CONTRACT SHEET No. 55 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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FIRM REGISTRATION No. F-2966

IEA
18383 PRESTON ROAD, SUITE 500
DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	1"=40'
DRAWN	D. ESCALANTE
DESIGNED	C. SEGURA
CHECKED	B. OLIVER
IN CHARGE	B. OLIVER
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
MCKAMY BRANCH CREEK
DRAINAGE PLAN
BEGIN TO STA 3102+50
SHEET 1 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	CC6-3070	D

CB05-CC6-3070.040

24-FEB-2023 06:30
CB05-CC6-3070.040

JEGSVCPWU01
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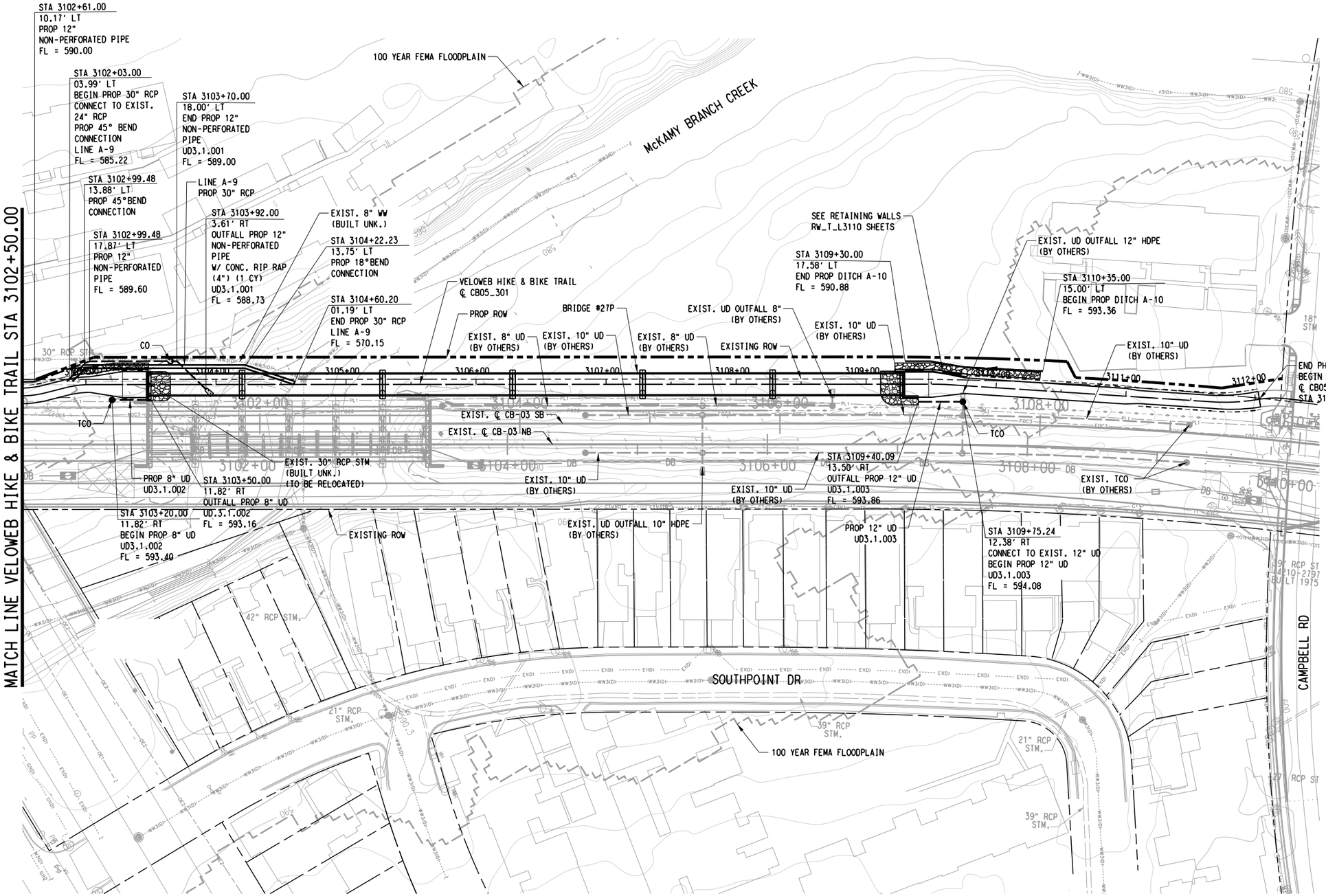
DWG No. CC6-3071

SEE DWG No. CC6-3070
MATCH LINE VELOWEB HIKE & BIKE TRAIL STA 3102+50.00



SCALE (IN FEET)
0 20 40 80

LEGEND

CENTERLINE OF SPECIAL DITCH

NOTES:

1. ALL STATION CALLOUTS ARE IN REFERENCE TO THE VELOWEB HIKE & BIKE TRAIL CENTERLINE, UNLESS NOTED OTHERWISE.
2. ALL STORM DRAIN PIPES AND CULVERT CROSSINGS NB AND SB TRACK SHALL BE CLASS V, UNLESS NOTED OTHERWISE.
3. DISTURBED AREAS REQUIRING GROUND COVER SHALL BE SEEDED BY HYDROMULCHING, UNLESS NOTED OTHERWISE.
4. ALL DITCH SIDE SLOPES SHALL BE 3:1 MAX, UNLESS NOTED OTHERWISE.
5. CONTOURS SHOWN IN PLAN VIEW ARE EXISTING, UNLESS NOTED OTHERWISE.

24-FEB-2023 06:30
CB05-CC6-3071.040

JEGSVCPW001
Default

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FINAL 100% DESIGN

CONTRACT SHEET No. 56 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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FIRM REGISTRATION No. F-2966

IEA
18383 PRESTON ROAD, SUITE 500
DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	1"=40'
DRAWN	D. ESCALANTE
DESIGNED	C. SEGURA
CHECKED	B. OLIVER
IN CHARGE	B. OLIVER
DATE	13 MAR 23

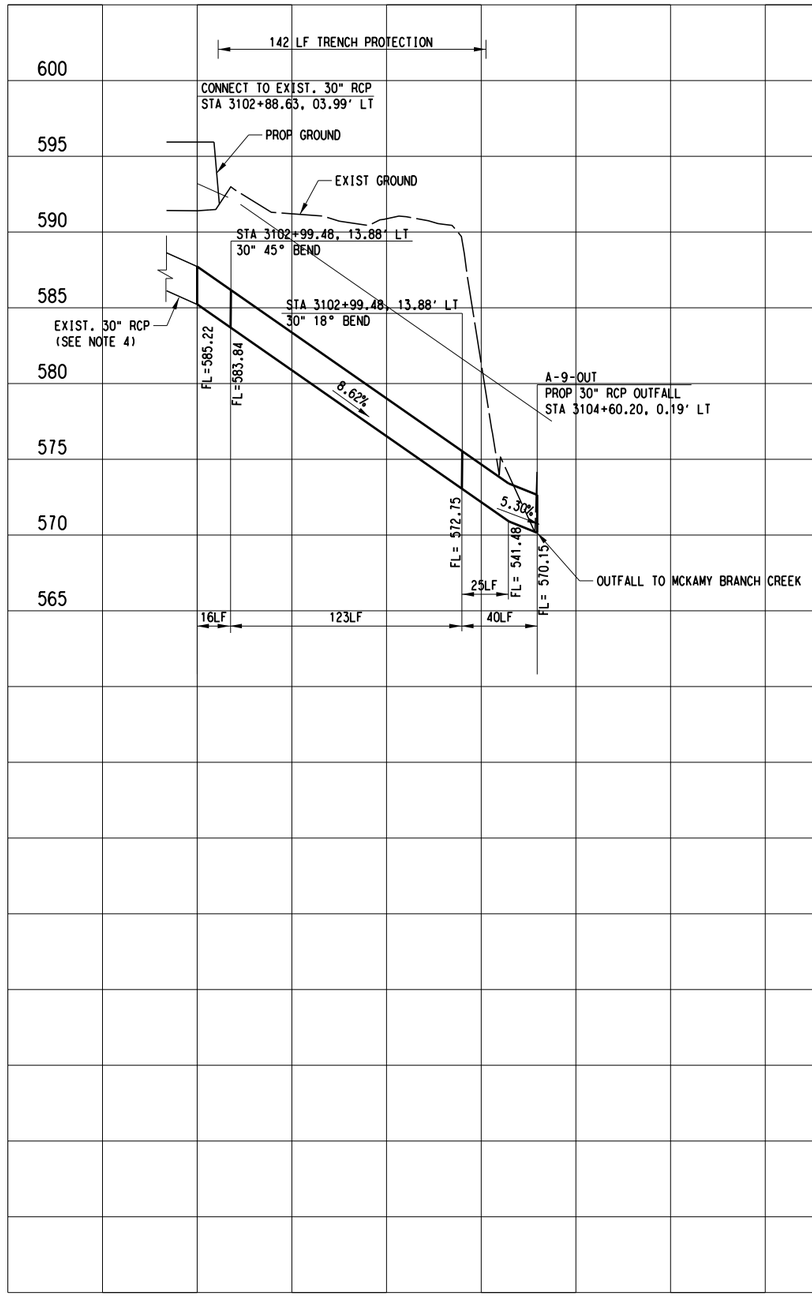
CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
MCKAMY BRANCH CREEK
DRAINAGE PLAN
STA 3102+50 TO END
SHEET 2 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	CC6-3071	D

CB05-CC6-3071.040

DWG No. CC6-2900



HORIZ SCALE (IN FEET) 0 20 40 80

VERT SCALE (IN FEET) 0 2.5 5 7.5 10

NOTES:

1. ALL STATION CALLOUTS ARE IN REFERENCE TO THE VELOWEB HIKE & BIKE TRAIL CENTERLINE, UNLESS NOTED OTHERWISE.
2. ALL STORM DRAIN PIPES AND CULVERT CROSSINGS NB AND SB TRACK SHALL BE CLASS III, UNLESS H&B DRAINAGE IMPROVEMENTS ARE SUBJECTED TO E80 LOADING ENVELOP.
3. DISTURBED AREAS REQUIRING GROUND COVER SHALL BE SEEDED BY HYDROMULCHING, UNLESS NOTED OTHERWISE.
4. CONTRACTOR TO VERIFY THE EXISTING PIPE FLOWLINE, SIZE, AND MATERIAL PRIOR TO CONSTRUCTION

24-FEB-2023 06:33
CB05-CC6-3110.040

JEGSVCPW001
Default

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DALLAS, TX 75201-3138
Phone: +1 (214) 638-0145
FIRM REGISTRATION No. F-2966

IEA
18383 PRESTON ROAD, SUITE 500
DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

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FINAL 100% DESIGN

CONTRACT SHEET No. 57 OF 81

SCALE	1"=40'
DRAWN	D. ESCALANTE
DESIGNED	C. SEGURA
CHECKED	B. OLIVER
IN CHARGE	B. OLIVER
DATE	13 MAR 23

CAES

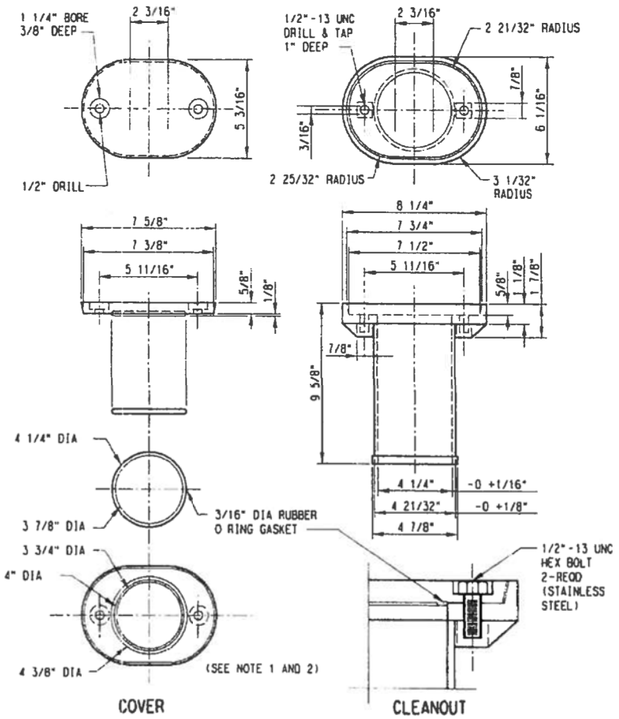
COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK DRAINAGE PROFILE

CONTRACT	DWG No.	REV
C-2033270-01	CC6-2900	D

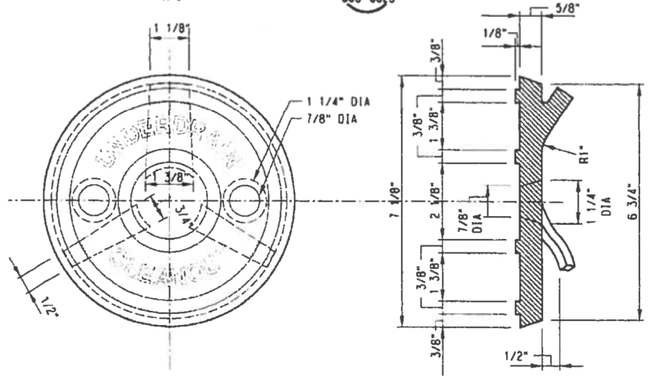
CB05-CC6-3110.040

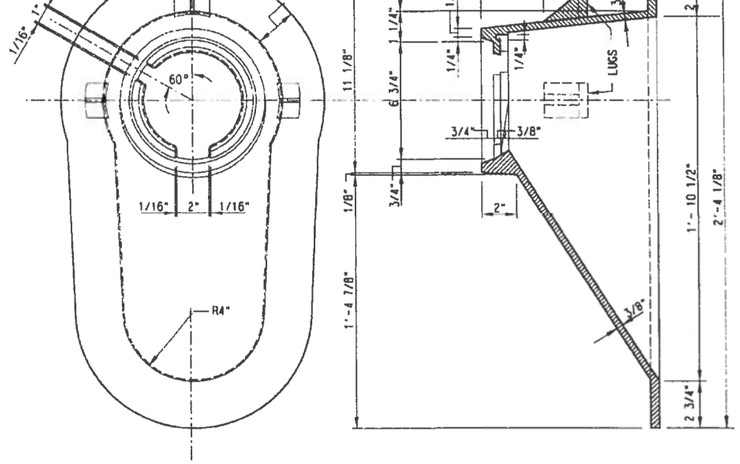
DWG No. CS6-0021



4" CLEANOUT CASTING DETAIL 1

NTS CS6-0023





CLEANOUT CASTING DETAIL 2

NTS CS6-0023

NOTES:

1. THE WORDS "UNDERDRAIN CLEANOUT" OR "CLEANOUT" SHALL BE CAST INTO TOP OF COVER ALONG WITH DART LOGO AS SHOWN ON DETAIL 4 SHEET CS6-0008. LOGO SHALL HAVE A DIAMETER OF 2".
2. PIPE MATERIAL TO BE PVC PLASTIC.
3. PIPE EMBEDMENT CLASSES FOR CLEANOUTS AND MIX M-1 CONCRETE SPECIFIED ON THIS SHEET ARE DESCRIBED IN THE STANDARD SPECIFICATIONS.

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 58 OF 81
DWG NO. CC6-8980
CONTRACT NO. C-2033270-01

REV	AMEND	BY	DATE	DESCRIPTION	BY	ENG	CHK	APP

STATE OF TEXAS
B. N. REDDY CHIDAMADA
58001
LICENSED
PROFESSIONAL ENGINEER
12/22/05

CARTER BURGESS
JACOBS CIVIL INC
STV INCORPORATED
KAI ALLIANCE

DART PROJECT

SCALE	NO SCALE
DRAWN	B. SKINNER
DESIGNED	T. WILLIAMS
CHECKED	G. CELERIER
IN CHARGE	B.N. REDDY CHIDAMADA
DATE	30 NOV 05

CAES

CONTRACT SHEET No. 35 OF 307

CIVIL STANDARD

UNDERDRAIN DETAILS
SHEET 1 OF 4

CONTRACT	DWG No.	REV
	CS6-0021	0

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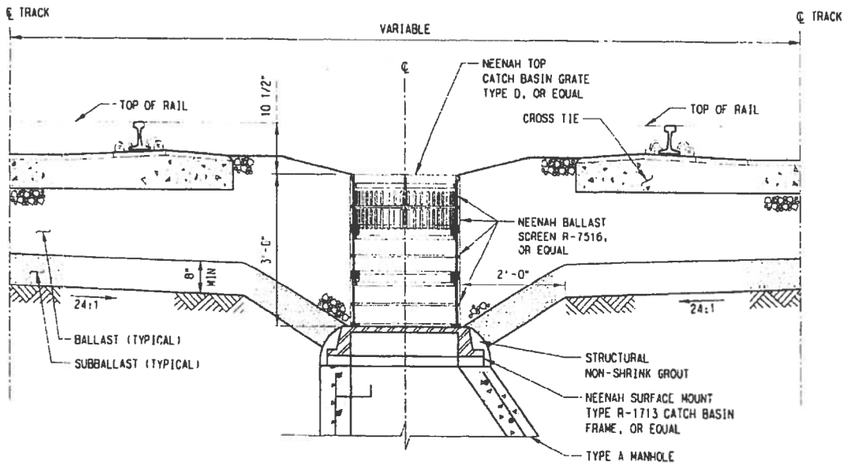
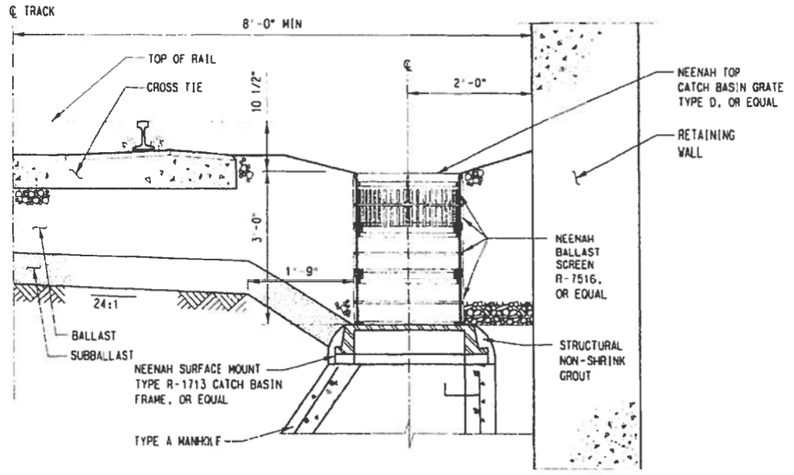


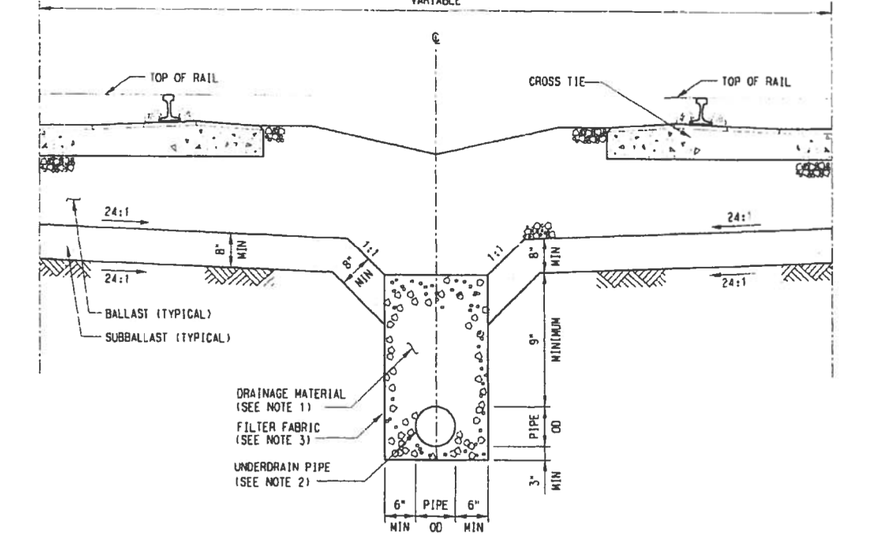
BETWEEN TRACK
BALLAST SCREEN DETAILS 1



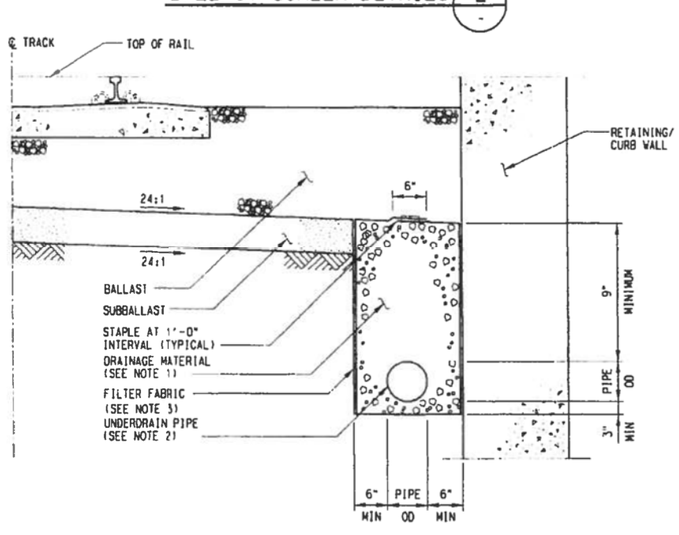
ADJACENT TO WALL
BALLAST SCREEN DETAILS 2

NOTES:

1. DRAINAGE MATERIAL SHALL CONSIST OF CLEAN, CRUSHED, ROCK, GRAVEL, WITH 1 1/2" MAXIMUM PARTICLE SIZE AND MAXIMUM 2 PERCENT BY WEIGHT PASSING SIZE 4 SIEVE.
2. UNDERDRAIN PIPE SHALL BE 8" MIN DIAMETER PERFORATED PIPE. SEE SECTION 02700 OF THE STANDARD SPECIFICATIONS. UNDERDRAIN PIPE SHALL BE INSTALLED WITH PERFORATIONS FACING DOWN. UNDERDRAIN SHALL BE WRAPPED IN GEOTEXTILE FABRIC.
3. NON-WOVEN FILTER FABRIC SEE SECTION 02700 OF THE STANDARD SPECIFICATIONS.



BETWEEN TRACK
UNDERDRAIN DETAILS 3



ADJACENT TO WALL
UNDERDRAIN DETAILS 4

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 59 OF 81
DWG NO. CC6-8981
CONTRACT NO. C-2033270-01

CONTRACT SHEET No. 36 OF 307

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

B. N. REDDY CHIDANANDA 58001 LICENSED PROFESSIONAL ENGINEER 12/23/05

CARTER BURGESS
JACOBS CIVIL INC
STV INCORPORATED
KAI ALLIANCE

DART PROJECT

SCALE	NO SCALE
DRAWN	G. SKINNER
DESIGNED	T. WILLIAMS
CHECKED	G. GELERIER
IN CHARGE	B.N. REDDY CHIDANANDA
DATE	30 NOV 05

CIVIL STANDARD

UNDERDRAIN DETAILS
SHEET 2 OF 4

CONTRACT	DWG No.	REV
	CS6-0022	0

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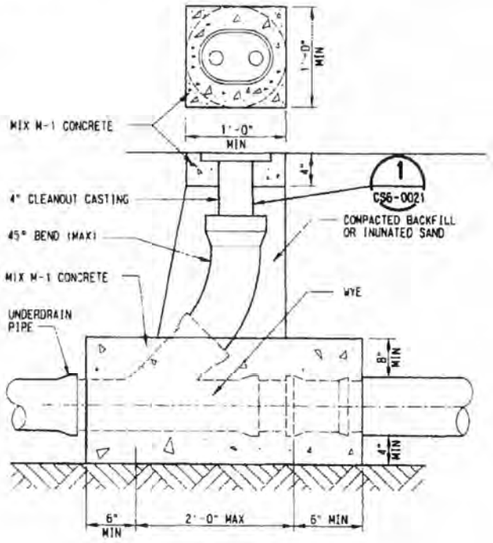
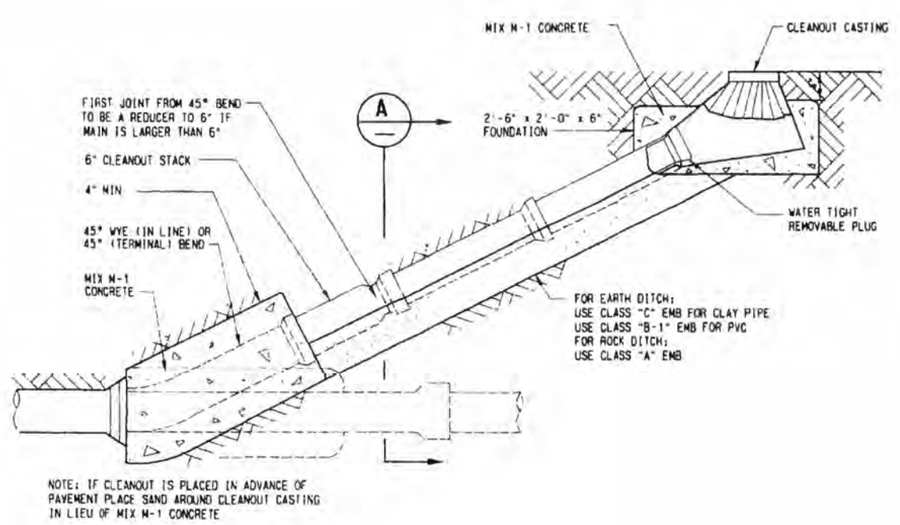
DWG No. CS6-0023



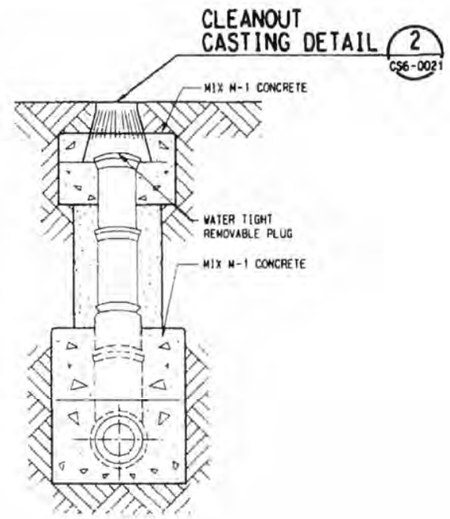
UNDERDRAIN CLEANOUT VERTICAL RISER DETAIL 1

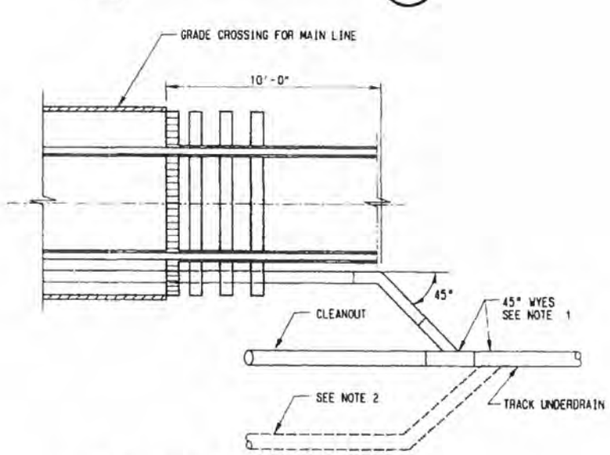
NTS



UNDERDRAIN CLEANOUT IN-LINE AND TERMINAL DETAIL 2

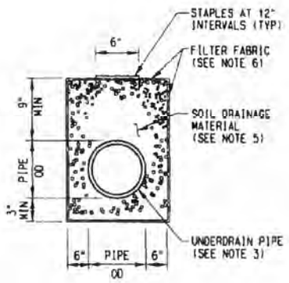
NTS





GRADE CROSING UNDERDRAIN TIE TO TRACK UNDERDRAIN 3

NTS



UNDERDRAIN DETAIL 4

NTS

(SEE NOTE 4)

SECTION A

NTS

NOTES:

1. CONTRACTOR TO CONNECT GRADE CROSSING UNDERDRAINS TO TRACK UNDERDRAINS AS SHOWN ON THIS SHEET.
2. WHEN THE TRACK UNDERDRAIN IS BETWEEN THE TRACKS, TWO 45° WYES WILL BE REQUIRED TO CONNECT THE GRADE CROSSING UNDERDRAINS. THEREFORE THE GRADE CROSSING UNDERDRAINS WILL BE DIFFERENT LENGTHS TO STAGGER THE CONNECTIONS.
3. UNDERDRAIN PIPE SHALL BE 8" MINIMUM DIAMETER PERFORATED PIPE. SEE SECTION 02700 OF THE STANDARD SPECIFICATIONS. PIPE SHALL BE WRAPPED IN FILTER FABRIC MATERIAL AND INSTALLED WITH PERFORATIONS DOWN.
4. THIS DETAIL TO BE USED FOR ALL UNDERDRAINS UNLESS NOTED OTHERWISE.
5. SOIL DRAINAGE MATERIAL SHALL CONSIST OF CLEAN, CRUSHED ROCK AND GRAVEL WITH 1 1/2" MAX PARTICLE SIZE AND MAX 2 PERCENT BY WEIGHT PASSING No.4 SIEVE. BALLAST DRAIN SHALL BE WRAPPED IN GEOTEXTILE FABRIC. OVERLAY FABRIC AT TOP AND PIN.
6. FILTER FABRIC SHALL BE NON-WOVEN GEOTEXTILE FABRIC AS DESCRIBED IN SPECIFICATION 02700.
7. SEE CASTING DETAILS SHEET CS6-0021.

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 60 OF 81
DWG NO. CC6-8982
CONTRACT NO. C-2033270-01

REV	AMEND	CR	DATE	DESCRIPTION	BY	CHG	CHK	APP
0								

STATE OF TEXAS
B. N. REDDY CHIDAMANDA
58001
LICENSED
PROFESSIONAL ENGINEER
12/23/05

CARTER BURGESS
JACOBS CIVIL INC
STV INCORPORATED
KAI ALLIANCE

DART PROJECT

SCALE	NO SCALE
DRAWN	B. SKINNER
DESIGNED	T. WILLIAMS
CHECKED	G. CELERIER
IN CHARGE	B.N. REDDY CHIDAMANDA
DATE	30 NOV 05

CAES

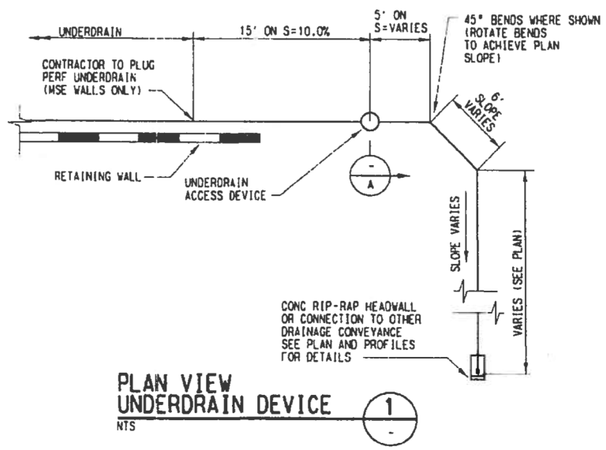
CONTRACT SHEET No. 37 OF 307

CIVIL STANDARD

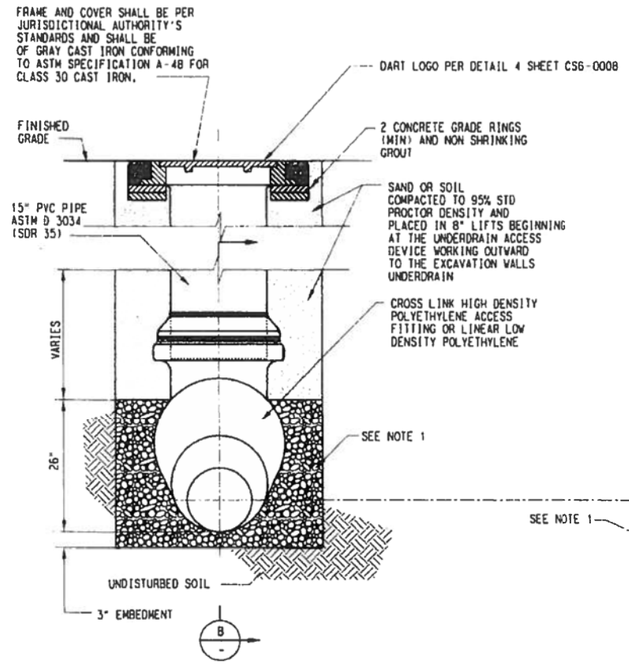
UNDERDRAIN DETAILS
SHEET 3 OF 4

CONTRACT	DWG No.	REV
	CS6-0023	0

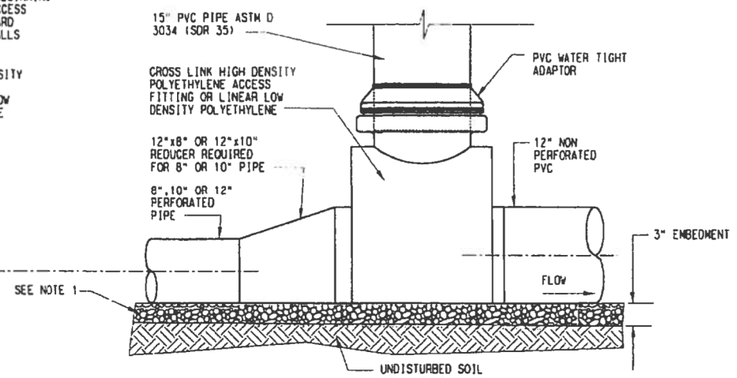
DWG NO. CS6-0024



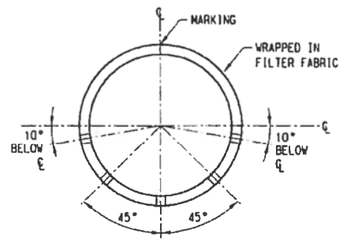
PLAN VIEW
UNDERDRAIN DEVICE 1
NTS



SECTION A
NTS



SECTION VIEW B
NTS



NOMINAL DIAMETER IN.	MINIMUM ROWS OF PERFORATIONS	HOLE SIZE IN.	HOLE SPACING IN.
8 & 10	4	3/8	3
12	6	3/8	3
15	6	3/8	3

UNDERDRAIN PERFORATION SCHEDULE 3
NTS

NOTE:
1. FREE DRAINING CLEAN & CRUSHED ROCK OR GRAVEL WITH 1½INCH MAXIMUM PARTICLE SIZE. NO MORE THAN FIVE PERCENT BY WEIGHT MAY PASS A⅜-INCH SIEVE. CRUSHED LIMESTONE SHALL NOT BE USED.

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 61 OF 81
DWG NO. CC6-8983
CONTRACT NO. C-2033270-01

CONTRACT SHEET No. 38 OF 307

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

STATE OF TEXAS
B. N. REDDY CHIDANANDA
58001
LICENSED PROFESSIONAL ENGINEER
12/23/05

ACT 21
CARTER BURGESS
JACOBS CIVIL INC
STV INCORPORATED
KAI ALLIANCE

DART PROJECT

SCALE	NO SCALE
DRAWN	B. SKINNER
DESIGNED	T. WILLIAMS
CHECKED	G. CELERIER
IN CHARGE	B.N. REDDY CHIDANANDA
DATE	30 NOV 05

CAES

CIVIL STANDARD

UNDERDRAIN DETAILS
SHEET 4 OF 4

CONTRACT	DWG No.	REV
	CS6-0024	0

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DWG No. OC1-2701

STORM WATER POLLUTION PREVENTION PLAN

COTTON BELT REGIONAL RAIL DESIGN BUILD VELOWEB HIKE AND BIKE TRAIL CITY OF DALLAS FLOODPLAIN LOCATIONS

I. SITE DESCRIPTION

PROJECT DESCRIPTION: Proposed 26-mile Cotton Belt Corridor that extends between DFW Airport in Tarrant County through Dallas County and Shiloh Road in Plano in Collin County. The alignment traverses seven cities: Grapevine, Coppell, Dallas, Carrollton, Addison, Richardson, and Plano.

PROJECT LIMITS: DFW Airport in Tarrant County to east of Shiloh Road in Plano in Collin County.

PHASE 2 – 27P LIMITS: McKamy Branch Creek Pedestrian Crossing.

LATITUDE: 32°58'56" LONGITUDE: 96°47'36"

The Standard industrial classification for this project is: 1629.

NATURE OF THE CONSTRUCTION ACTIVITY:
FOR SUB SEGEMENT: Construction of approximately 0.19 miles of 12-foot-wide concrete Hike & Bike Trail and associated structures, storm drainage systems and existing street modifications.

POTENTIAL POLLUTANTS AND SOURCES: Potential pollutants include slurries from concrete cutting and coring, sediments associated with earthwork, hydrocarbons (grease, oil, gasoline, etc.) from fuels, lubricants associated with construction equipment, waste concrete and other solid waste (including floatable) from daily contractor operations, paint, concrete curing compounds, and other common pollutants associated with construction activities of this scope and nature. Reference appendix 19 of the approved AWH NOI SW3P document for details related to Containment of Chemical Storage and Spill Response Plan.

INTENDED SEQUENCE OF MAJOR SITE ACTIVITIES: See approved AWH NOI SW3P document Section 1.3 for detailed sequence of activities.

NOTE: Contractor will attach its construction schedule if its activities differ in order or scope from those provided above.

PHASE 2 – 27P @ TOTAL PROJECT AREA:

Overall site: (McKamy Branch Creek Pedestrian Crossing) – 0.69 ACRES

SOILS LIKELY TO BE ENCOUNTERED DURING CONSTRUCTION: ERODIBILITY ("K") FACTORS

Eddy Clay Loam	0.20
Eddy-Stephen Complex	0.20

RUNOFF COEFFICIENT: Before Construction ~0.56 After Construction ~ 0.57

NAME OF RECEIVING WATERS: McKamy Branch Creek

NAME OF ADJACENT WETLANDS: McKamy Branch Creek

II. EROSION AND SEDIMENT CONTROLS

The erosion and sediment controls presented in the baseline SW3P have been designed to retain sediment on-site to the greatest extent practicable based on the anticipated type and sequence of construction activities, topography, soil type, and rainfall.

The Contractor is responsible for ensuring that controls are installed as depicted. A log indicating the date of BMP installation shall be included in the SW3P. If controls fail to perform as originally intended, it is the responsibility of the Contractor to develop, propose, and install alternate controls that will better limit the off-site transport of sediment. The Contractor is also responsible for ensuring that litter, construction debris, and construction materials are not transferred from the site.

Should any dewatering of site utility trenches become necessary during the duration of the project, it shall be the responsibility of the contractor to provide filtering devices for the prevention of downstream siltation in accordance with all North Central Texas Council of Governments (NCTCOG), TCEQ, EPA, and other applicable requirements.

The following temporary soil stabilization practices will be used on the project site. The Contractor may propose additional measures to improve stabilization:

- _X_ Seeding;
- _X_ Mulching;
- _X_ Sodding;
- _X_ Tree protection;
- _X_ Vegetative Buffer Strips;
- _X_ Erosion Control Matting;
- _X_ Wattles;
- _X_ Silt Fencing;
- _X_ Pavement sweeping;

Disturbed areas of the site where construction activities have either temporarily or permanently ceased will be stabilized within 14 days unless activities are scheduled to resume within 21 days. One of the "temporary soil stabilization practices" indicated above must be used.

The following permanent soil stabilization practices will be used on the project site. The Contractor may propose additional measures to improve stabilization:

- _X_ Seeding;
- _X_ Mulching of Hydromulching;
- _X_ Sodding;
- ___ Placement of Riprap;
- ___ Use of Gabions;
- _X_ Installation of Geotextile fabrics;
- _X_ Grass/native vegetation;
- ___ Asphalt/concrete parking lots, driveways, walkways, slab foundation, entrances, etc.;
- _X_ Concrete curbing;

The contractor must indicate the location and date of installation of any seeding, mulching, sodding, or erosion control matting on the site map.

The following structural best management practices (BMPs) will be used on the project site. The Contractor may propose additional measures to be used on site:

- _X_ Silt fence;
- _X_ Rock berms;
- _X_ Storm sewer inlet protection;
- _X_ Construction entrance stabilization;

NOTE: Sediment basins are not appropriate based on the size of this site.

III. SITE HOUSEKEEPING BEST MANAGEMENT PRACTICES

TEMPORARY STOCKPILES: The Contractor is responsible for all soil stockpiles. Stockpiles used for the temporary storage of topsoil, fill soils, or other material will be located in such a manner as to prevent erosion by storm water. In addition, silt fence or other filtration device will be placed downgradient to prevent storm water from transporting the material off-site. The contractor must include and update as needed the location of stockpiles, borrows, and fills material of both on-site and off-site material storage areas on the site map contained in the SW3P.

OFF-SITE VEHICLE TRACKING: Off-site tracking of construction site sediments or other substances will be minimized. Stabilized construction entrances and frequent sweeping of adjacent streets will be used to control and minimize off-site vehicle tracking of sediment and dust generation.

HAZARDOUS AND REGULATED MATERIALS: Any products or materials in the following categories will be considered as potentially hazardous or toxic: fuels, lubricants, solvents, paints, fertilizers, pesticides, herbicides, mortar mixes, concrete or cement mixes, asphaltic products, chemical additives for soil stabilization, concrete curing compounds and additives, and other unspecified chemicals. If any of these products, materials, or chemicals are maintained on-site, they will be stored in a manner that protects them from exposure to storm water and facilitates containment. Absorbent materials will be kept on-site for use in the event of a spill.

The contractor must maintain in the SW3P a list of hazardous and/or regulated material kept on-site. The location of all listed materials and spill clean-up supplies shall be shown on the site map. Per Appendix 18 of the approved AWH NOI SW3P document, the SDS database is maintained by AWH safety.

SPILLS: See appendix 19 of the approved AWH NOI SW3P document for Containment of Chemical Storage and Spill Response. The SW3P must contain a log of spills at the site as well as the contact information of appropriate personnel to be called in the event of a spill.

If a spill of hazardous and/or regulated products, materials, or chemicals does occur, the Contractor shall, after containment and cleanup of the spill, notify all proper regulatory authorities as required by the nature of the spill. The Contractor shall file in the SW3P a report that describes the nature, quantity, location, and cause of the spill, and the actions taken to prevent similar spills in the future. The Authority and DART's contracting officer shall be contacted immediately in the event of a spill.

STABILIZED CONSTRUCTION ENTRANCE: Construction traffic should enter and exit the site at a stabilized construction entrance.

CONSTRUCTION STORAGE: Construction staging areas, haul roads, jobsite office trailers location, and vehicle and/or equipment parking areas that have more than 25 vehicle trips per day will be graveled as well as monitored for vehicle tracking and fugitive dust generation.

ECS Revision Date: 05/22/2009

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CONTRACT SHEET No. 62 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	C. ALTAMERO
DESIGNED	F. CHARAKUPA
CHECKED	J. TOONE
IN CHARGE	J. TOONE
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
SWPPP NOTES AND NOI
SHEET 1 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	OC1-2701	D

CB05-OC1-2701.001

CONTROL OF DUST AND DEBRIS: Fugitive dust, including dust generated from soil stabilization operations or vehicle tracking, will be controlled by using water. Any excess or runoff water used to control dust will first be routed to a sediment trapping device before leaving the site. Concrete slurry resulting from concrete sawing shall be removed to reduce dust and contamination of runoff. Upon completion of construction activities, the site shall be stabilized to reduce dust.

CONTROL OF SEDIMENTS: Sediment that accumulates in sediment trapping devices, such as silt fence, inlet protection, and detention basins, shall be removed as necessary to prevent storm water from carrying it off-site.

EQUIPMENT MAINTENANCE AND REPAIR: Both on- and off-site equipment maintenance and repair areas must be described in the SW3P and depicted on the site map. On-site activities will be restricted to areas that either drain into a sump pit or other pollutant-trapping device, or are not exposed to storm water.

SOLID WASTE: The Contractor must develop controls to limit the off-site transport of litter, construction debris, and construction materials. All such materials shall be removed from the site at the completion of the project.

SANITARY WASTE: All sanitary waste will be collected on-site in portable units placed at locations convenient for construction site personnel. The location of portable units will be depicted on the site map. Portable units will be maintained and sanitary waste property disposed of by a licensed sanitary waste management contractor as required by local regulations.

IV. MAINTENANCE PROCEDURES

Reference section 6.1 of the approved AWH NOI SW3P document for BMP maintenance requirements. All erosion and sediment controls will be maintained in good working order. If repair, replacement, or cleaning of a structural practice or control is required, it will be addressed as soon as practicable before the next expected rainfall event, and no later than 7 days following the observation. The SW3P shall contain a log of all maintenance activities such as repair, replacement, cleaning of controls, and the execution of BMPs i.e., sweep of parking lots, etc.

Locations on the site adjacent to surface waterways, wetlands, or other environmentally sensitive areas, or off-site areas subject to vehicle tracking of sediments will receive the highest maintenance priority, followed by the protection of drainage ways and storm sewer inlets and outfalls.

Erosion and sediment controls that have been intentionally disabled, run-over, removed, or otherwise rendered ineffective must be replaced or corrected by the Contractor immediately upon discovery.

V. INSPECTION PROCEDURES

Refer to section 4.0, 7.6, and appendix 5 of the approved AWH NOI SW3P document for more info related to inspection procedures. The Contractor must conduct inspections at least once every seven (7) days. The inspection must occur on a specifically defined day, regardless of whether or not there has been a rainfall event since the previous inspection.

The Contractor's Environmental Compliance Manager must inspect all disturbed areas of the construction site that have not reached final stabilization. The inspection shall cover all areas where materials are stored and stockpiled, areas where vehicles enter or exit the site, and areas where temporary and permanent soil stabilization practices have been implemented, but have not yet reached final stabilization. All structural erosion and sediment control practices and Best Management Practices (BMP) shall be inspected to ensure that they have been installed correctly, are operating properly, and are sufficient in reducing sediments from traveling off-site.

Reference section 6.1 of the approved AWH NOI SW3P document for BMP maintenance requirements. The Contractor shall install all controls and conduct maintenance as is necessary to ensure compliance with the TPDES General Permit number TXR150000.

The Contractor, as the operator with day-to-day control of the site, shall be delegated the responsibility of making all modifications to the SW3P. Modifications will be based on the results of inspections and are intended to better prevent pollutants from being carried off-site by runoff. Revision of the SW3P must be completed within seven (7) calendar days following the inspection.

A report summarizing the scope of the inspection, names and qualifications of personnel making the inspection, the dates of the inspection, and major observations relating to the implementation of the SW3P will be made and retained as part of the SW3P. Major observations will include:

- The locations of discharges of sediment or other pollutants from the site;
- Locations of BMPs that need to be maintained;
- Locations of BMPs that failed to operate as designed or proved inadequate for a particular location; and
- The locations where additional BMPs are needed.

Action taken as a result of inspections must be described and retained as part of the SW3P. Reports must identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the site is in compliance with the SW3P and the TCEQ TPDES General Permit TXR150000. The inspection report must be signed by the Contractors Environmental Compliance Manager, who has been delegated signatory authority as required in 30 TAC §305.128 (relating to signatories to reports).

VI. NON-STORM WATER DISCHARGES

The following indicated non-storm water discharges might occur on this project. Care will be exercised to prevent sediment or other pollutants from being released off-site as part of these discharges.

- Uncontaminated water used to control dust;
- Water for removing dirt from vehicles or equipment to reduce off-site tracking;
- Potable water sources including waterline flushings (not including hyperchlorinated water);
- Irrigation system drainage.

The following non-storm water discharges will not be released from the construction site. They will be discharged on-site into a sump pit, sediment trap, or otherwise into an area with protected storm sewer inlets.

- Standing water from the sight
- Discharge of uncontaminated ground or spring water
- Concrete truck mixer and delivery chute washout;
- Concrete slurry from pavement sawing, cutting, or grinding;

VII. THREATENED AND ENDANGERED SPECIES INFORMATION

The proposed construction project would have a minimal to negligible effect on any of the endangered and threatened species listed for Dallas, Tarrant, and Collin Counties. The construction project is on current DART owned property and will have minimal disturbed area with the major scope of work involving building renovation.

HISTORIC PROPERTIES INFORMATION

The Texas Historical Commission has reviewed and approved the plans for this project.

VIII.BASELINE PLAN

See approved AWH NOI SW3P document for BMP for details related to the baseline plan

IX. CERTIFICATION STATEMENT

In accordance with the signatory requirements of the TPDES General Permit number TXR150000, which authorizes storm water discharges from construction activities, the following certification statement is executed by the individual whose name, title, and signature is affixed below. This certification is valid only for the baseline plan documents listed in PART IX above or as otherwise revised by DART.

TPDES Stormwater Construction General Permit Number: TXR15753W; Coverage Effective Date: April 15, 2019.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."

Deanna Leggett, CMQ/OE, AICP
Executive Vice President - Growth and Regional Development
Dallas Area Rapid Transit

Date

ECS Revision Date: 05/22/2009

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CONTRACT SHEET No. 63 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	C. ALTAMERO
DESIGNED	F. CHARAKUPA
CHECKED	J. TOONE
IN CHARGE	J. TOONE
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
SWPPP NOTES AND NOI
SHEET 2 OF 2

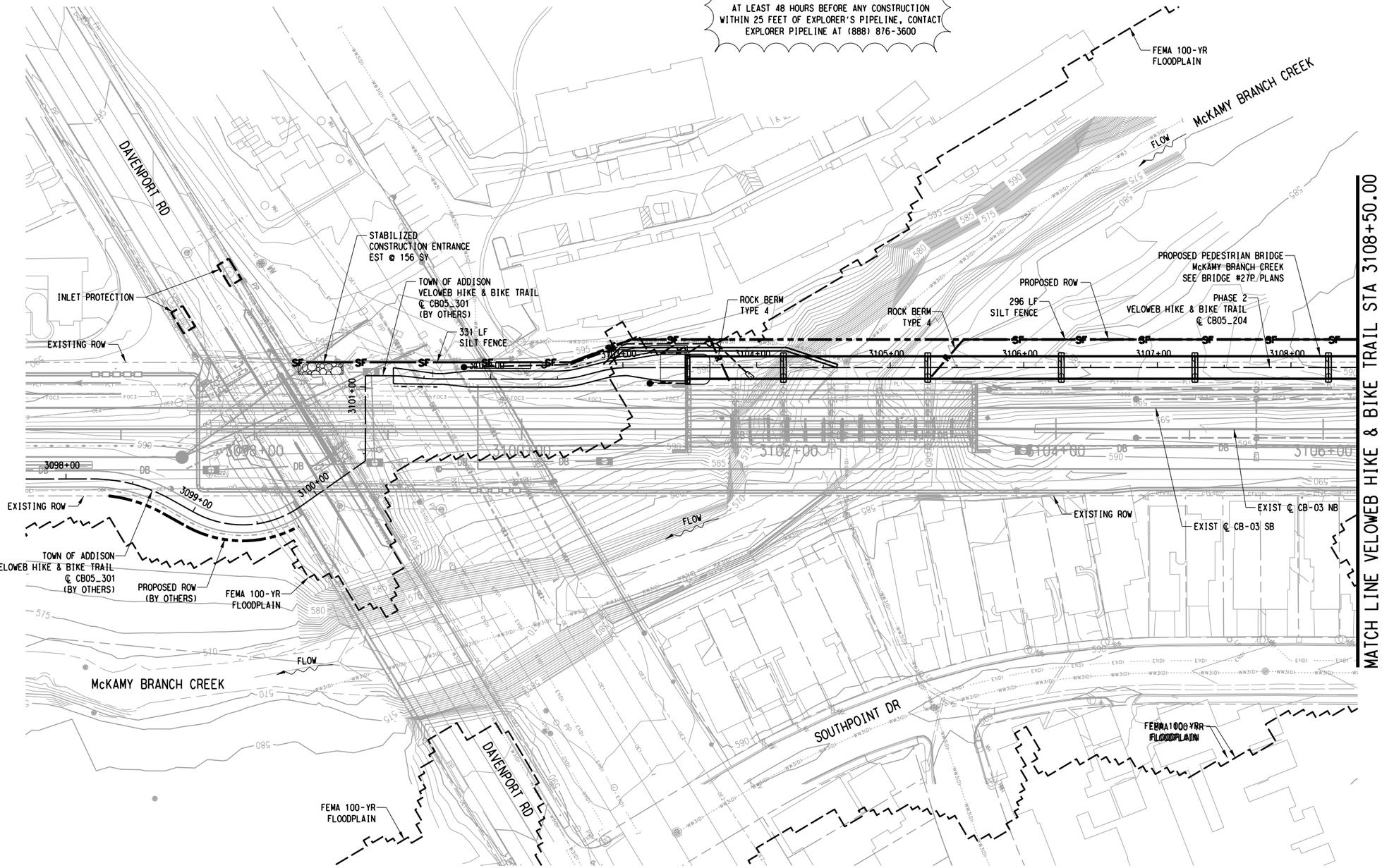
CONTRACT	DWG No.	REV
C-2033270-01	OC1-2702	D

CB05-OC1-2702.001

DWG No. OC2-3060

WARNING!!! EXPLORER'S HIGH-PRESSURE PETROLEUM PRODUCTS PIPELINE

AT LEAST 48 HOURS BEFORE ANY CONSTRUCTION WITHIN 25 FEET OF EXPLORER'S PIPELINE, CONTACT EXPLORER PIPELINE AT (888) 876-3600



SCALE (IN FEET)
0 20 40 80

LEGEND

- SF — SILT FENCE
- R — ROCK BERM
- DITCH CHECK
- SILT FENCE OR GRAVEL(STANDARD) INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDING OR RELOCATING TEMPORARY EROSION MEASURES WHEN NECESSARY. SEE TEMPORARY EROSION CONTROL TYPICAL INSTALLATION SHEETS IN THE NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS MANUAL FOR MORE INFORMATION.
2. A STORM WATER POLLUTION PREVENTION PLAN HAS BEEN PREPARED FOR THIS PROJECT. THE CONTRACTOR SHALL BE FAMILIAR WITH THE PROVISIONS AND REQUIREMENTS OF THIS PLAN AND KEEP A COPY ON THE JOBSITE AT ALL TIMES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL THE VARIOUS EROSION CONTROL MEASURES AND SHALL BE REQUIRED TO COMPLY WITH THE POLLUTION PREVENTION PLAN PROVISIONS AND REQUIREMENTS.
4. THE CONTRACTOR WILL BE RESPONSIBLE FOR DEVELOPING AN EROSION CONTROL PLAN FOR ANY ADDITIONAL ACTIVITIES OR AREAS WHICH ARE NOT SHOWN IN THE PLANS (SUCH AS A TEMPORARY CONSTRUCTION ROAD OR ECL'S). THE EROSION CONTROL PLAN SHALL BE APPROVED BY DART PRIOR TO BEGINNING THESE ACTIVITIES.
5. THE CONTRATOR WILL BE RESPONSIBLE FOR PROVIDING ENTRANCE RAMPS AND DRAINAGE PIPES AT CONSTRUCTION ENTRANCES TO PREVENT DAMAGE TO CURBS AND MAINTAIN STREET DRAINAGE.
6. REFERENCE EROSION AND SEDIMENT CONTROL DETAIL DRAWINGS INCLUDED IN THIS PACKAGE.

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CONTRACT SHEET No. 64 OF 81

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ARCHER WESTERN HERZOG

DART PROJECT

SCALE	1"=40'
DRAWN	C. ALTAMERO
DESIGNED	F. CHARAKUPA
CHECKED	J. TOONE
IN CHARGE	J. TOONE
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
TEMPORARY EROSION CONTROL
SHEET 1 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	OC2-3060	D

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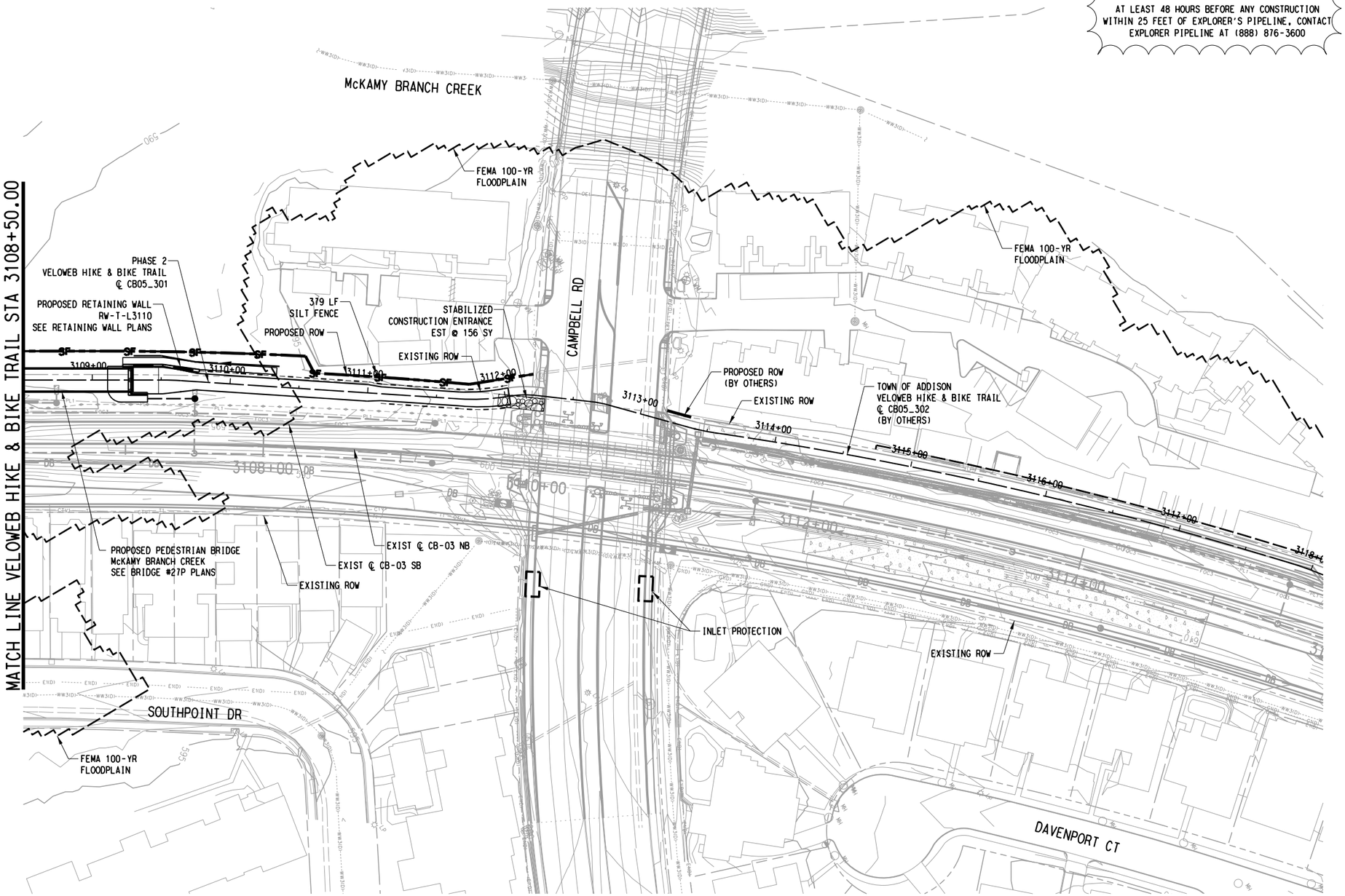

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ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	1"=40'
DRAWN	C. ALTAMERO
DESIGNED	F. CHARAKUPA
CHECKED	J. TOONE
IN CHARGE	J. TOONE
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
TEMPORARY EROSION CONTROL
SHEET 2 OF 2

CONTRACT	DWG No.	REV
C-2033270-01	OC2-3061	D

CB05-OC2-3061.040

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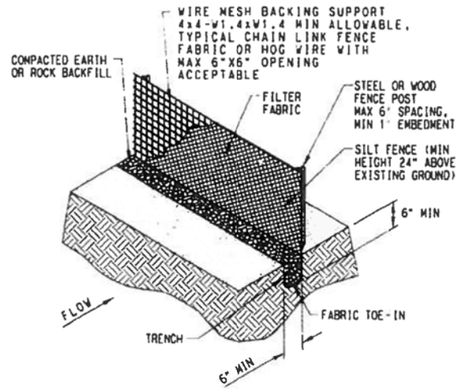
CB05-OC2-3061.040

JEGSVCPW01
Default

DWG NO. OS1-0001

SILT FENCE

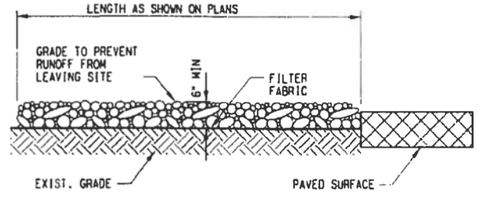


ISOMETRIC PLAN VIEW
NO SCALE

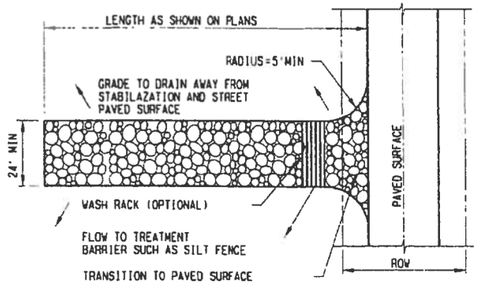
NOTES:

1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1 FOOT.
2. THE TOE OF THE SILT FENCE MUST BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G. PAVED SURFACES), WEIGHT FABRIC FLAP WITH WASHED FILTER STONE ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6" DEEP AND 6" WIDE TO ALLOW FOR THE SILT FENCE TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED WITH TIES SPACED EVERY 24" AT TOP AND MIDSECTION TO EACH STEEL SUPPORT OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED, WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE AT MAXIMUM 14-DAY INTERVALS AND AFTER EACH ½" RAINFALL EVENT. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY BY THE CONTRACTOR, AS NEEDED OR DIRECTED.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF ONE-HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
7. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR PERMANENT SITE DRAINAGE CONFIGURATION.
8. SILT FENCE CAN BE USED AS PERIMETER PROTECTION OR FOR STORM INLET PROTECTION.

STABILIZED CONSTRUCTION ENTRANCE



PROFILE VIEW
NO SCALE

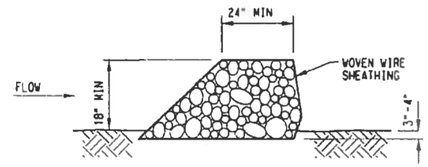


PLAN VIEW
NO SCALE

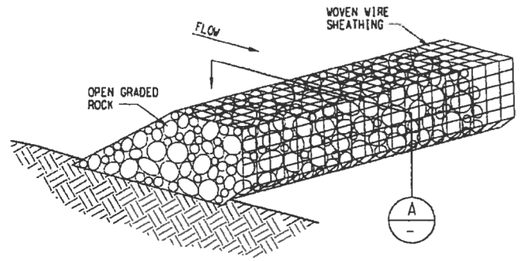
NOTES:

1. STONE SHALL BE 3" TO 5" DIAMETER CRUSHED ROCK OR SIMILARLY SIZED CRUSHED PORTLAND CEMENT CONCRETE.
2. LENGTH SHALL BE AS SHOWN ON PLANS, WITH A MINIMUM LENGTH OF 30 FEET FOR RESTRICTED RAIL CORRIDOR ACCESS AREAS. THE MINIMUM LENGTH IN ALL OTHER CASES SHALL BE 50 FEET.
3. THE WIDTH SHALL BE NO LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS AND SHALL BE 24' MINIMUM.
4. THE THICKNESS SHALL NOT BE LESS THAN 6".
5. WHEN NECESSARY, VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO A PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WITH DRAINAGE FLOWING AWAY FROM BOTH THE STREET AND THE STABILIZED ENTRANCE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED SURFACES. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, WASHED, DROPPED, OR TRACKED ONTO PAVED SURFACES MUST BE REMOVED DAILY.
7. THE ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
8. IF A WASH RACK IS INCORPORATED IN THE ENTRANCE, ITS RUNOFF MUST FLOW TO A FILTER BARRIER OR SEDIMENT TRAP.

ROCK BERM



SECTION A-A
NO SCALE

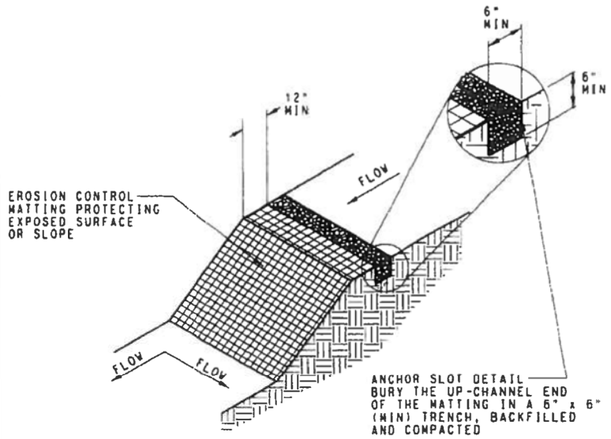


ISOMETRIC PLAN VIEW
NO SCALE

NOTES:

1. USE ONLY OPEN GRADED ROCK 4" TO 8" IN DIAMETER FOR STREAM FLOW CONDITION. USE OPEN GRADED ROCK 3" TO 5" IN DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING A MAXIMUM OPENING OF 1" AND A MINIMUM WIRE SIZE OF 20 GAUGE, AND SHALL BE BURIED IN A TRENCH APPROXIMATELY 3" TO 4" DEEP.
3. THE ROCK BERM SHALL BE INSPECTED AT MAXIMUM 14-DAY INTERVALS AND AFTER EACH ½" RAINFALL EVENT, AND SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO WASHOUT, CONSTRUCTION DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD OF THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF PROPERLY.
5. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.
6. ROCK BERMS SHOULD BE USED AS CHECK DAMS FOR CONCENTRATED FLOW AND ARE NOT INTENDED FOR USE IN PERIMETER PROTECTION.

EROSION CONTROL MATTING



ISOMETRIC PLAN VIEW
NO SCALE

NOTES:

1. STRIPS OF MATTING SHALL BE INSTALLED PARALLEL TO THE DIRECTION OF FLOW OVER THE SURFACE WHICH IS TO BE PROTECTED.
2. THE UP-CHANNEL END OF THE MATTING SHALL BE BURIED IN A TRENCH MEASURING 6" DEEP AND 6" WIDE FOR THE ENTIRE WIDTH OF THE END. THE SOIL SHALL BE BACKFILLED INTO THE TRENCH AND TAMPED FIRMLY. STAPLES SHALL BE PLACED EVERY 12" ALONG THE END OF THE MATTING. SAID TRENCH WILL BE POSITIONED A MINIMUM OF 12" BACK FROM THE TOP EDGE OF THE SLOPE.
3. EDGES OF ADJACENT STRIPS OF MATTING SHALL BE OVERLAPPED A MINIMUM OF 4" AND SHALL BE STAPLED EVERY 3 FEET ALONG THE OVERLAP.
4. WHEN JOINING STRIPS OF MATTING END TO END, A TRENCH SIMILAR TO THE ONE DUG AT THE BEGINNING OF THE ORIGINAL STRIP SHALL BE DUG WITH THE UP-CHANNEL END OF THE NEW STRIP PLACED IN THE TRENCH IN A LIKE MANNER AS WAS THE BEGINNING END OF THE ORIGINAL STRIP. THE END OF THE STRIP BEING FOLDED UNDER AT LEAST 12". STAPLES SHALL BE INSTALLED AT 12" INTERVALS ALONG THE WIDTH OF THE STRIP NOT MORE THAN 6" FROM THE TRENCH.
5. IN SITUATIONS WHERE ERODIBLE SOILS, STEEP SLOPES OR HIGH VELOCITY FLOWS ARE ENCOUNTERED, A FOLD OF THE MATTING SHALL BE INSERTED INTO A 6" TRENCH AND TAMPED FIRMLY. STAPLES SHALL BE INSTALLED AT 12" INTERVALS ALONG THE TRENCH.
6. STAPLES FOR ANCHORING SOIL STABILIZING MATERIALS SHALL BE MADE OF 10 GAUGE WIRE OR HEAVIER. THEY SHALL BE 6" TO 10" IN LENGTH, WITH THE LONGER STAPLES BEING USED IN LOOSE OR OR UNSTABLE SOILS. THERE SHALL BE ONE STAPLE FOR EACH FOUR (4) SQUARE FEET OF MATTING TO ASSURE PROPER BONDING BETWEEN THE SOIL AND THE MAT MATERIAL.
7. EROSION CONTROL MATTING SHOULD BE USED IN DITCH FLOWLINES TO HELP STABILIZE SOILS AND PROMOTE REVEGTATION. IT CAN ALSO BE USED IN BACK OF CURBS IN LIEU OF SOD STRIPS TO HELP PREVENT EROSION PRIOR TO PERMANENT STABILIZATION.

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 66 OF 81
DWG NO. OC9-8101
CONTRACT NO. C-2033270-01

CONTRACT SHEET No. 45 OF 307

REV	AMEND	CA	DATE	DESCRIPTION	BY	ENG	CHK	APP

B. N. REDDY CHIDANANDA
58001
LICENSED PROFESSIONAL ENGINEER
14-2-3-05

CARTER BURGESS
JACOBS CIVIL INC
STV INCORPORATED
KAI ALLIANCE

DART PROJECT

SCALE	AS NOTED
DRAWN	B. SKINNER
DESIGNED	T. WILLIAMS
CHECKED	G. GELERIER
IN CHARGE	B.N. REDDY CHIDANANDA
DATE	30 NOV 05

CAES

CIVIL STANDARD

EROSION AND SEDIMENT CONTROL DETAILS SHEET 1 OF 6

CONTRACT	DWG No.	REV
	OS1-0001	0

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24-FEB-2023 06:32
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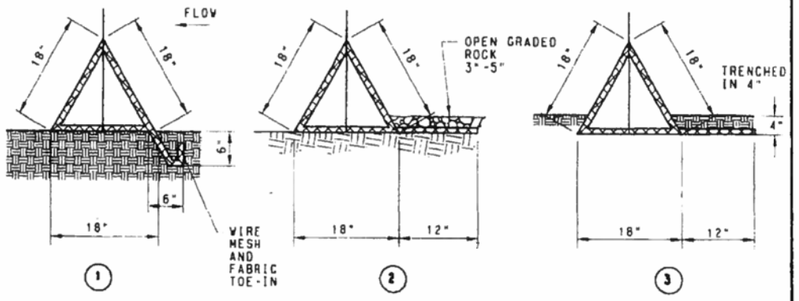
2000-ISO *ON DAO

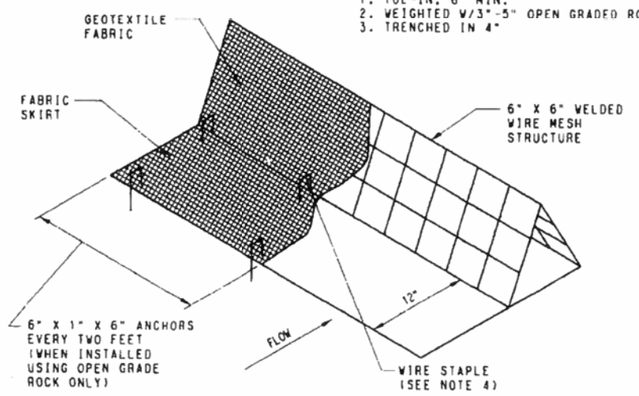
TRIANGULAR SEDIMENT FILTER DIKE



CROSS SECTIONS OF INSTALLATION OPTIONS

NO SCALE

1. TOE-IN, 6" MIN.
2. WEIGHTED W/3"-5" OPEN GRADED ROCK
3. TRENCHED IN 4"



ISOMETRIC PLAN VIEW

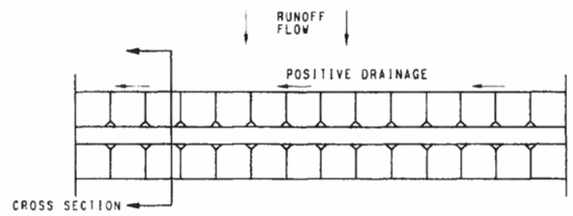
WIRE STAPLE (SEE NOTE 4)

NO SCALE

NOTES:

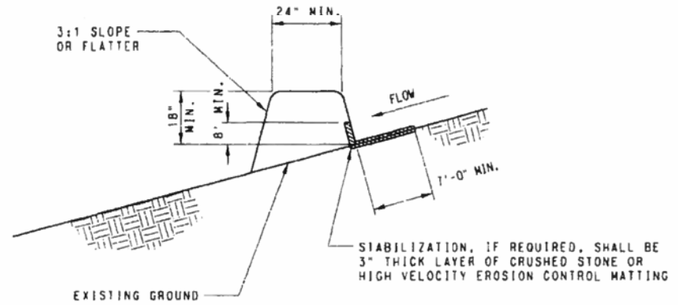
1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE, AND FABRIC SHALL BE OVERLAPPED A MINIMUM OF 12".
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 3" TO 5" DIAMETER OPEN GRADED ROCK, OR TOED IN 6" WITH MECHANICALLY COMPACTED MATERIAL, OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED TO A DEPTH OF 4".
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 6" WIRE STAPLES ON 2-FOOT CENTERS ON BOTH EDGES AND SKIRITS.
5. FILTER MATERIAL SHALL BE LAPPED OVER 6" TO COVER DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS OR WIRE TIES EVERY 2 FEET. TOP AND MIDSECTION.
6. THE DIKE STRUCTURE SHALL BE 6 GAUGE, 6" X 6" WIRE MESH, 18" LONG ON EACH SIDE.
7. INSPECTION SHALL BE MADE AT MAXIMUM 14-DAY INTERVALS AND AFTER EACH½" RAINFALL EVENT, AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE DIKE, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
9. AFTER THE DEVELOPMENT OF THE SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS STATED ABOVE.

DIVERSION DIKE



PLAN VIEW

NO SCALE



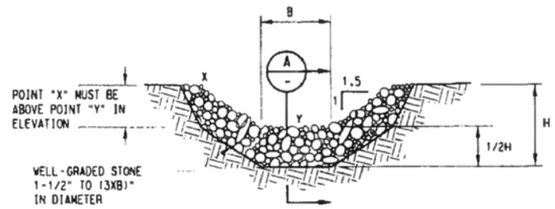
CROSS SECTION

NO SCALE

NOTES:

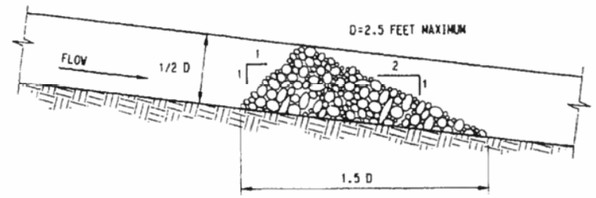
1. ALL DIKES SHALL BE PLACED IN 8" LIFTS OR LESS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
2. ALL DIVERSION DIKES SHALL HAVE POSITIVE DRAINAGE TO A CONTROLLED OUTLET.
3. DIVERTED RUNOFF FROM A PROTECTED OR STABILIZED AREA SHALL HAVE ITS OUTLET FLOW DIRECTED TO AN UNDISTURBED AREA OR INTO A LEVEL SPREADER OR GRADE STABILIZATION STRUCTURE.
4. DIVERTED RUNOFF FROM A DISTURBED OR EXPOSED AREA SHALL BE CONVEYED TO A ROCK BERM OR TEMPORARY SEDIMENT TRAP, OR TO AN AREA PROTECTED BY ANY OTHER SEDIMENT CONTAINMENT MEASURES.
5. STABILIZATION IS REQUIRED WHEN VELOCITIES EXCEED 6 FEET PER SECOND OR WHEN GRADES EXCEED 2%. STABILIZATION SHALL BE CRUSHED STONE PLACED IN A LAYER OF AT LEAST 3" THICKNESS OR HIGH VELOCITY EROSION CONTROL MATTING TOED IN 4 INCHES. VEGETATION MAY BE USED FOR VELOCITIES LESS THAN 6 FEET PER SECOND.
6. INSPECTION SHALL BE CONDUCTED AT MAXIMUM 14-DAY INTERVALS AND AFTER EACH½" RAINFALL EVENT.

STONE DITCH CHECK



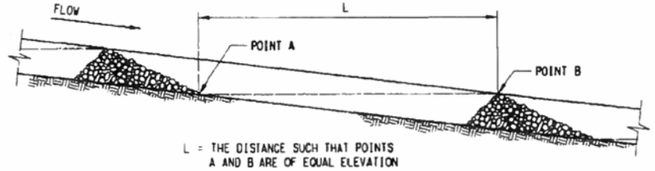
VIEW LOOKING UPSTREAM

NO SCALE



SECTION A-A

NO SCALE



L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION

SPACING BETWEEN DITCH CHECKS

NO SCALE

NOTES:

1. STONE DITCH CHECKS CAN BE USED IN MODERATELY SIZED LINEAR DRAINAGE CHANNELS THAT HAVE POTENTIALLY EROSIVE VELOCITIES. STONE DITCH CHECKS SHALL NOT BE USED IN LIVE STREAM CHANNELS.
2. STONE CAN BE CRUSHED ROCK OR RECYCLED CONCRETE AND SHALL BE WELL-GRADED. SIZE SHALL RANGE FROM 1-1/2" IN DIAMETER THROUGH A MAXIMUM IN INCHES EQUAL TO THREE TIMES THE WIDTH OF THE DRAINAGE CHANNEL BOTTOM IN FEET.
3. STONE DITCH CHECKS SHOULD BE INSPECTED AT MAXIMUM 14-DAY INTERVALS AND AFTER EACH RAINFALL EVENT OF½" OR GREATER. REMOVE SEDIMENT FROM THE UPSTREAM SIDE OF THE DITCH CHECK WHEN ITS DEPTH REACHES ONE-HALF OF THE HEIGHT. REPLACE MISSING OR DISLODGED STONE AS REQUIRED IN ORDER TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.
4. IF EROSION OCCURS IN THE CHANNEL WALL ADJACENT TO THE DITCH CHECK, EROSION CONTROL MATTING SHOULD BE USED TO HELP STABILIZE THE EMBANKMENT.

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 67 OF 81
DWG NO. 0C9-8102
CONTRACT NO. C-2033270-01

CONTRACT SHEET No. 46 OF 307

REV	AMEND	CD	DATE	DESCRIPTION	BY	ENG	CHK	APP

B. N. REDDY CHIDANANDA
58001
LICENSED PROFESSIONAL ENGINEER
12/23/05

CARTER BURGESS
JACOBS CIVIL INC
STV INCORPORATED
KAI ALLIANCE

DART PROJECT

SCALE	AS NOTED
DRAWN	B. SKINNER
DESIGNED	T. WILLIAMS
CHECKED	G. CELERIER
IN CHARGE	B.N. CHIDANANDA
DATE	30 NOV 05

DAES

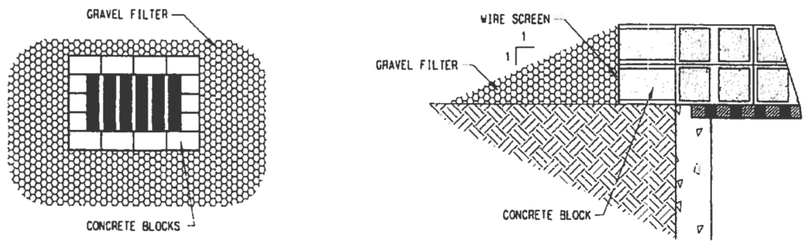
CIVIL STANDARD

EROSION AND SEDIMENT CONTROL DETAILS SHEET 2 OF 6

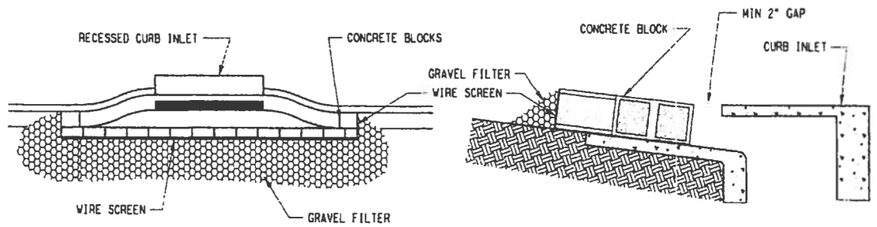
CONTRACT	DWG No.	REV
	0S1-0002	0

DWG NO. OS1-0003

BLOCK AND GRAVEL INLET PROTECTION



DROP INLET PROTECTION
NO SCALE



RECESSED CURB INLET PROTECTION
NO SCALE

NOTES:

1. BLOCK AND GRAVEL PROTECTION IS USED WHEN FLOWS EXCEED 0.5 CUBIC FEET PER SECOND AND IT IS NECESSARY TO ALLOW FOR OVERTOPPING TO PREVENT FLOODING. THIS FORM OF PROTECTION IS ALSO USEFUL FOR CURB TYPE INLETS AS IT WORKS WELL IN PAVED AREAS.

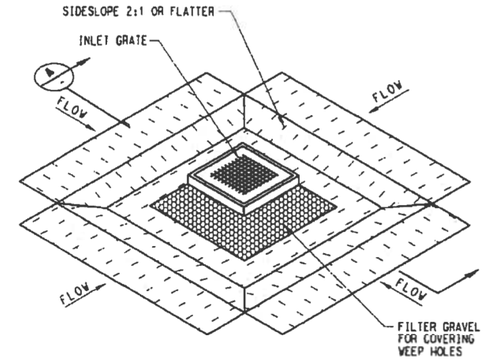
2. CONCRETE BLOCKS ARE TO BE PLACED ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, WITH ENDS ABUTTING. OPENINGS IN THE BLOCKS SHOULD FACE OUTWARD, NOT UPWARD. WIRE MESH SHALL THEN BE PLACED OVER THE OUTSIDE FACE OF THE BLOCKS COVERING THE HOLE.

3. FILTER STONE SHALL BE PILED AGAINST THE WIRE MESH TO THE TOP OF THE BLOCKS WITH THE BASE OF THE STONE BEING A MINIMUM OF 18" FROM THE BLOCKS.

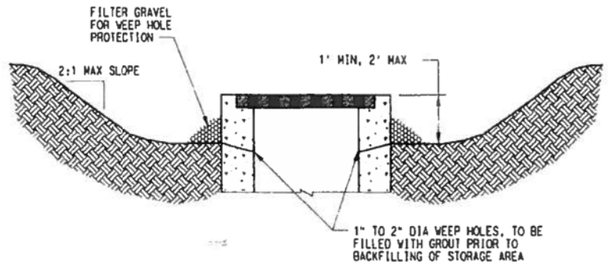
4. FILTER STONE SHALL CONSIST OF 1-1/2" OR 2" DIAMETER CLEAN CRUSHED ROCK.

5. WHEN FILTER STONE BECOMES CLOGGED, THE STONE MUST BE REMOVED AND CLEANED IN A PROPER MANNER OR REPLACED WITH NEW STONE AND PILED BACK AGAINST THE WIRE MESH.

EXCAVATED IMPOUNDMENT INLET PROTECTION



ISOMETRIC PLAN VIEW
NO SCALE



SECTION A
NO SCALE

NOTES:

1. EXCAVATED IMPOUNDMENT PROTECTION AROUND A DROP INLET MAY BE USED FOR PROTECTION AGAINST SEDIMENT ENTERING A STORM DRAIN INLET. WITH THIS METHOD, IT IS NECESSARY TO INSTALL WEEP HOLES TO ALLOW THE IMPOUNDMENT TO DRAIN COMPLETELY. THE IMPOUNDMENT SHALL BE SIZED TO PROVIDE A STORAGE VOLUME FOR RUNOFF FROM BETWEEN 1800 TO 3600 CUBIC FEET PER ACRE OF DISTURBED AREA ENTERING THE INLET.

2. THE IMPOUNDMENT SHALL HAVE A MINIMUM DEPTH OF ONE FOOT AND A MAXIMUM DEPTH OF 2 FEET AS MEASURED FROM THE TOP OF THE INLET, AND SHALL HAVE SIDESLOPES OF 2:1 OR FLATTER.

3. FILTER GRAVEL SHALL CONSIST OF 1-1/2" OR 2" DIAMETER CLEAN CRUSHED ROCK. 36 SQ IN. OF WIRE SCREEN SHALL PROTECT EACH WEEP HOLE.

4. FILTER GRAVEL COVERING WEEP HOLES MUST BE INSPECTED FREQUENTLY AND REPLACED WHEN IT BECOMES CLOGGED WITH SEDIMENT.

5. WHEN STORAGE CAPACITY OF IMPOUNDMENT HAS BEEN REDUCED BY ONE-HALF, THE SILT SHALL BE REMOVED AND DISPOSED OF IN A PROPER MANNER.

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 68 OF 81
DWG NO. 0C9-8103
CONTRACT NO. C-2033270-01

CONTRACT SHEET No. 47 OF 307

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP
0								

STATE OF TEXAS
B. N. REDDY CHIDANANDA
58001
LICENSED
PROFESSIONAL ENGINEER
12/23/05

CARTER BURGESS
JACOBS CIVIL INC
STV INCORPORATED
KAI ALLIANCE

DART PROJECT

SCALE	AS NOTED
DRAWN	B. SKINNER
DESIGNED	T. WILLIAMS
CHECKED	G. CELERIER
IN CHARGE	B.N. REDDY CHIDANANDA
DATE	30 NOV 05

CAES

CIVIL STANDARD

EROSION AND SEDIMENT CONTROL DETAILS SHEET 3 OF 6

CONTRACT	DWG No.	REV
	OS1-0003	0

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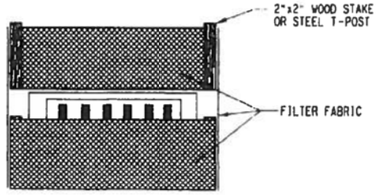
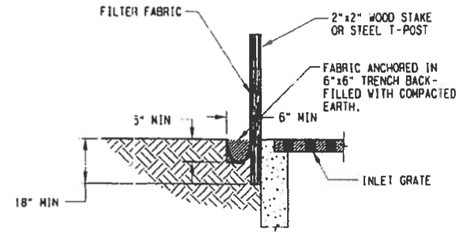
DWG NO. 0S1-0004

FILTER FABRIC BARRIER INLET PROTECTION

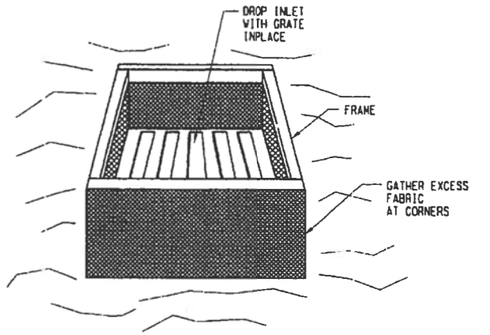


PERSPECTIVE VIEW

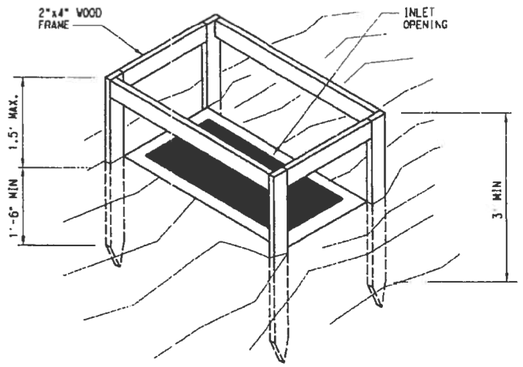


ELEVATION VIEW

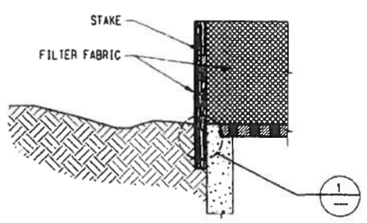
STANDARD INSTALLATION
NO SCALE



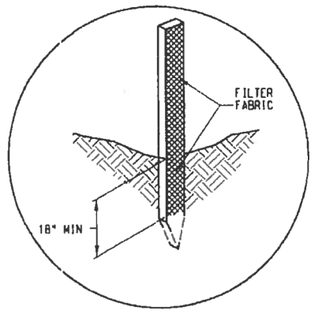
INSTALLED PERSPECTIVE VIEW



FABRICATION PERSPECTIVE VIEW



ELEVATION VIEW



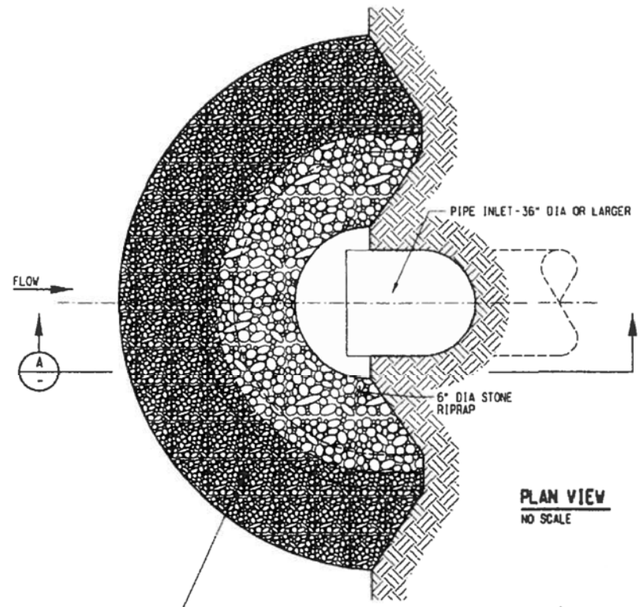
DETAIL 1
NO SCALE

ALTERNATE INSTALLATION
NO SCALE

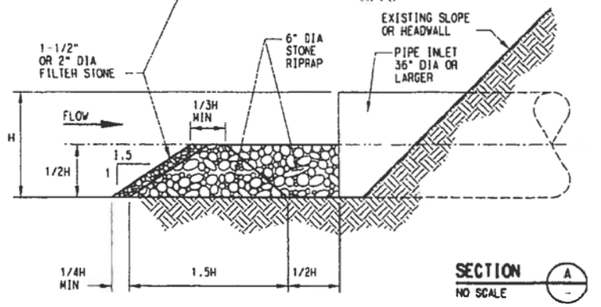
NOTES:

1. FILTER FABRIC BARRIER INLET PROTECTION IS APPROPRIATE WHEN THE DRAINAGE AREA IS LESS THAN ONE ACRE, THE BASIN SLOPE IS LESS THAN 5% AND SHEET FLOWS DO NOT EXCEED 1.0 CUBIC FOOT PER SECOND. THIS TYPE OF PROTECTION IS NOT APPLICABLE IN PAVED AREAS AND SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS FROM STREETS OR HIGHWAY MEDIANS.
2. FILTER FABRIC SHALL CONSIST OF NYLON REINFORCED POLYESTER NETTING SUPPORTED BY WOOD OR GALVANIZED STEEL POSTS SET A MINIMUM DEPTH OF 18 INCHES AND SPACED NOT MORE THAN 6 FEET ON CENTER.
3. A 6" WIDE TRENCH IS TO BE CUT 6" DEEP AT THE TOE OF THE FENCE TO ALLOW THE FABRIC TO BE LAID BELOW THE SURFACE AND BACKFILLED WITH COMPACTED EARTH OR GRAVEL. THIS ENTRENCHMENT PREVENTS ANY BYPASS OF RUNOFF UNDER THE FENCE.
4. ACCUMULATED SILT SHALL BE REMOVED WHEN IT ATTAINS A DEPTH OF ONE HALF THE HEIGHT OF THE FILTER FABRIC. THE SILT SHALL BE DISPOSED OF IN AN APPROVED MANNER.
5. FILTER FABRIC MAY BE REINFORCED BY INSTALLING BACKING SUPPORT OF WIRE MESH, CHAIN LINK FENCE FABRIC OR HOG WIRE - SEE SILT FENCE EROSION AND SEDIMENT CONTROL DETAIL, SHEET 1 OF 6.

PIPE INLET PROTECTION



PLAN VIEW
NO SCALE



SECTION A
NO SCALE

NOTES:

1. PIPE INLET PROTECTION CAN BE USED FOR EXISTING OR NEWLY CONSTRUCTED STORM DRAIN OR CULVERT PIPES THAT ARE SUBJECTED TO RELATIVELY HEAVY STORM WATER FLOWS AND WHERE AN OVERFLOW CAPABILITY IS REQUIRED.
2. FILTER STONE SHALL BE CLEAN 1-1/2" OR 2" DIAMETER CRUSHED ROCK OR RECYCLED CONCRETE. STONE RIPRAP CAN ALSO BE NATURAL OR RECYCLED MATERIAL AND SHALL BE 6" IN DIAMETER.
3. PIPE INLET PROTECTION DEVICES SHOULD BE INSPECTED AT MAXIMUM 14-DAY INTERVALS AND FOLLOWING EACH ½" RAIN EVENT. REMOVE SEDIMENT FROM THE UPSTREAM SIDE OF THE DEVICE WHEN ITS DEPTH REACHES A MAXIMUM OF ONE-HALF THE HEIGHT OF THE FILTER STONE.
4. FILTER STONE SURFACE CAN BE CLEANED BY RAKING, BUT REPEATED SEDIMENT BUILD-UP WILL REQUIRE REPLACEMENT OF THE FILTER STONE SURROUNDING THE PIPE INLET.

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 69 OF 81
DWG NO. 0C9-8104
CONTRACT NO. C-2033270-01

CONTRACT SHEET No. 48 OF 307

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

B. N. REDDY CHIDANANDA 58001 LICENSED PROFESSIONAL ENGINEER 12/23/05

CARTER BURGESS
JACOBS CIVIL INC
STV INCORPORATED
KAI ALLIANCE

DART PROJECT

SCALE	AS NOTED
DRAWN	B. SKINNER
DESIGNED	T. WILLIAMS
CHECKED	G. CELERIER
IN CHARGE	B.N. REDDY CHIDANANDA
DATE	30 NOV 05

CAES

CIVIL STANDARD

EROSION AND SEDIMENT CONTROL DETAILS SHEET 4 OF 6

CONTRACT	DWG No.	REV
	0S1-0004	0

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Thu Dec 22 10:58:50 2005
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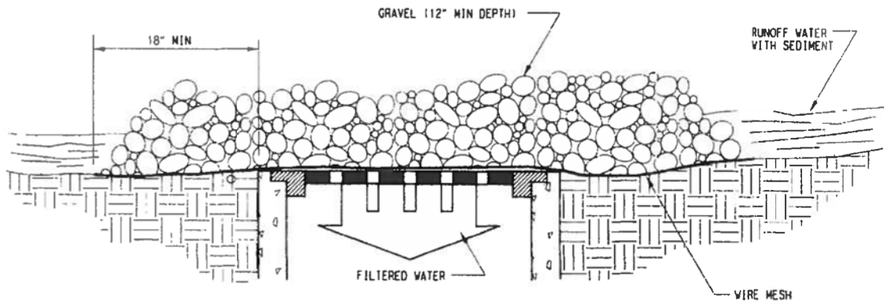
24-FEB-2023 06:30
STD5-0C9-8104.001

STD5-0C9-8104.001

OS1-0005 DWG NO.

WIRE MESH AND GRAVEL DROP INLET PROTECTION

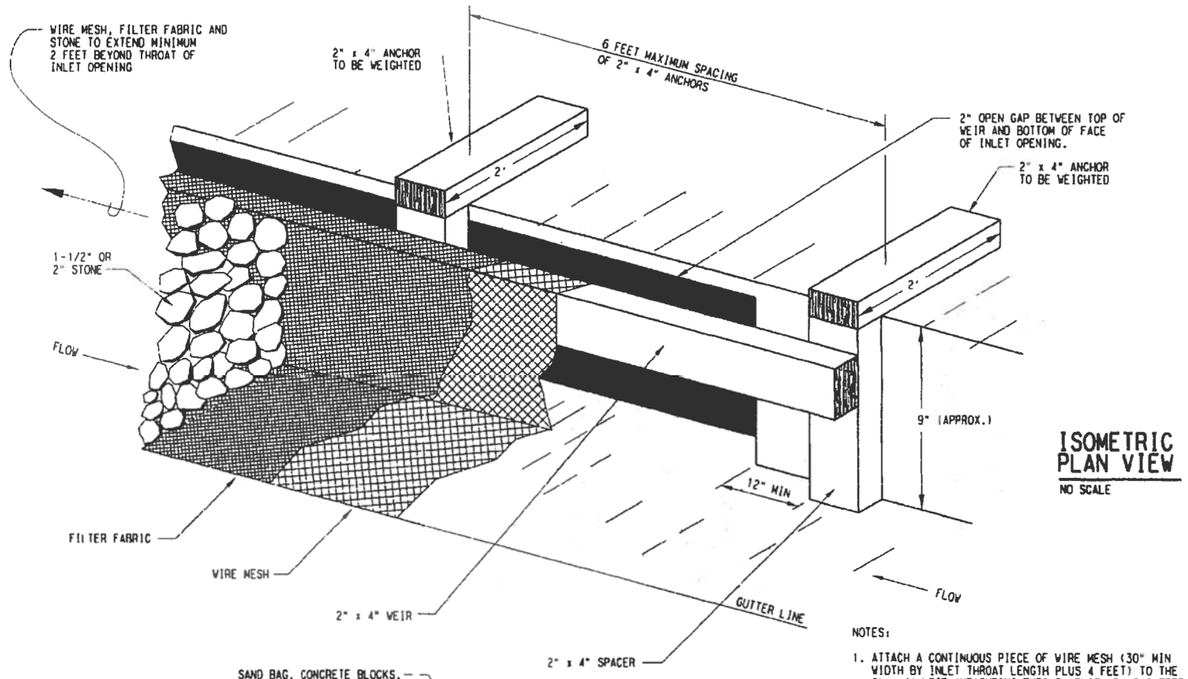


PROFILE VIEW
NO SCALE

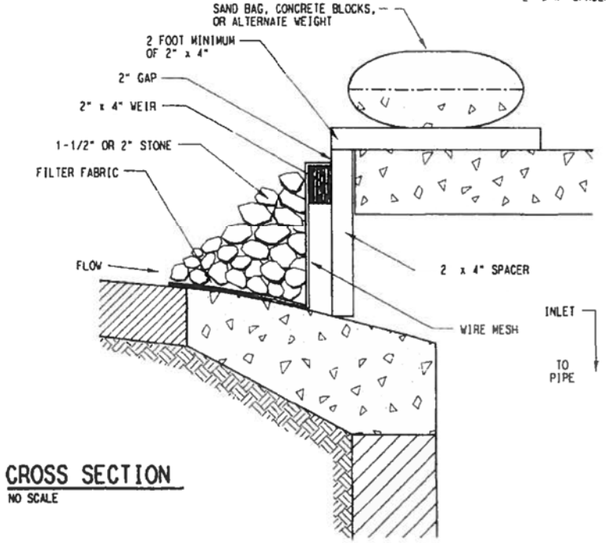
NOTES:

1. THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE TEMPRORARY PONDING AROUND THE DROP INLET STRUCTURE MIGHT CAUSE EXCESSIVE WATER DEPTH AND AFFECT UNPROTECTED AREAS.
2. WIRE MESH AND GRAVEL PROTECTION IS USED WHEN FLOWS EXCEED 0.5 CUBIC FEET PER SECOND AND CONSTRUCTION TRAFFIC MAY OCCUR OVER THE INLET.
3. WIRE MESH SHALL BE PLACED ACROSS THE OPENING OF THE INLET WITH AT LEAST AN 18" EXTENSION BEYOND THE OPENING OF THE INLET.
4. GRAVEL SHALL BE PLACED AROUND AND OVER THE INLET SUCH THAT A 12" LAYER OF STONE COVERS THE OPENING OF THE INLET AND EXTENDS AT LEAST 18" BEYOND THE INLET IN ALL DIRECTIONS.
5. GRAVEL SHALL CONSIST OF CLEAN 3" TO 5" DIAMETER CRUSHED ROCK.
6. FOR AREAS SUBJECTED TO HIGH FLOWS OR HIGH VELOCITIES, INSPECT THE PROTECTION ON A REGULAR BASIS TO ENSURE INTEGRITY OF THE GRAVEL FILTER.
7. WHEN GRAVEL FILTER BECOMES CLOGGED WITH SEDIMENT, THE GRAVEL MUST BE REMOVED AND CLEANED IN A PROPER MANNER OR REPLACED WITH NEW GRAVEL.

STORM SEWER INLET PROTECTION



ISOMETRIC PLAN VIEW
NO SCALE



CROSS SECTION
NO SCALE

NOTES:

1. ATTACH A CONTINUOUS PIECE OF WIRE MESH (30" MIN WIDTH BY INLET THROAT LENGTH PLUS 4 FEET) TO THE 2" x 4" WEIR (MEASURING THROAT LENGTH PLUS 2 FEET) AS SHOWN ON THE DETAIL DRAWING.
2. PLACE A PIECE OF APPROVED FILTER FABRIC OF THE SAME DIMENSIONS AS THE WIRE MESH OVER THE WIRE MESH AND SECURELY ATTACH TO THE 2" x 4" WEIR WITH WIRE TIES SPACED EVERY 6". ALL DIRECTIONS.
3. SECURELY NAIL THE 2" x 4" WEIR TO APPROXIMATELY 9" LONG VERTICAL SPACERS TO BE LOCATED BETWEEN THE WEIR AND INLET FACE (MAX 6 FEET APART), LEAVE A 2" GAP AT THE TOP OF THE WEIR FOR OVERFLOW.
4. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL 2 FOOT LENGTHS OF 2" x 4" TO THE TOP OF THE WEIR AT SPACER LOCATIONS. THESE 2" x 4" ANCHORS SHALL EXTEND ACROSS THE INLET TOP AND BE HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHT.
5. THE ASSEMBLY SHALL BE PLACED SO THAT THE END SPACERS ARE A MINIMUM 12" BEYOND BOTH ENDS OF THE THROAT OPENING.
6. FORM THE WIRE MESH AND FILTER FABRIC TO THE CONCRETE GUTTER AND AGAINST THE FACE OF CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 1-1/2" OR 2" STONE (CRUSHED AGGREGATE) OVER THE WIRE MESH AND FILTER FABRIC IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE FILTER FABRIC.
7. ASSURE THAT STORM FLOW DOES NOT BYPASS INLET BY INSTALLING TEMPORARY EARTH OR SANDBAG DIKES DIRECTING FLOW INTO INLET, IF NECESSARY.
8. THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE FILTER FABRIC AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 70 OF 81
DWG NO. 0C9-8105
CONTRACT NO. C-2033270-01

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

STATE OF TEXAS — B. N. REDDY CHIDAMANDI — 58001 — LICENSED PROFESSIONAL ENGINEER — 12/23/05

ACT 21
CARTER BURGESS
JACOBS CIVIL INC
STV INCORPORATED
KAI ALLIANCE

DART PROJECT

SCALE	AS NOTED
DRAWN	B. SKINNER
DESIGNED	T. WILLIAMS
CHECKED	G. CELERIER
IN CHARGE	B.N. REDDY CHIDAMAND
DATE	30 NOV 05

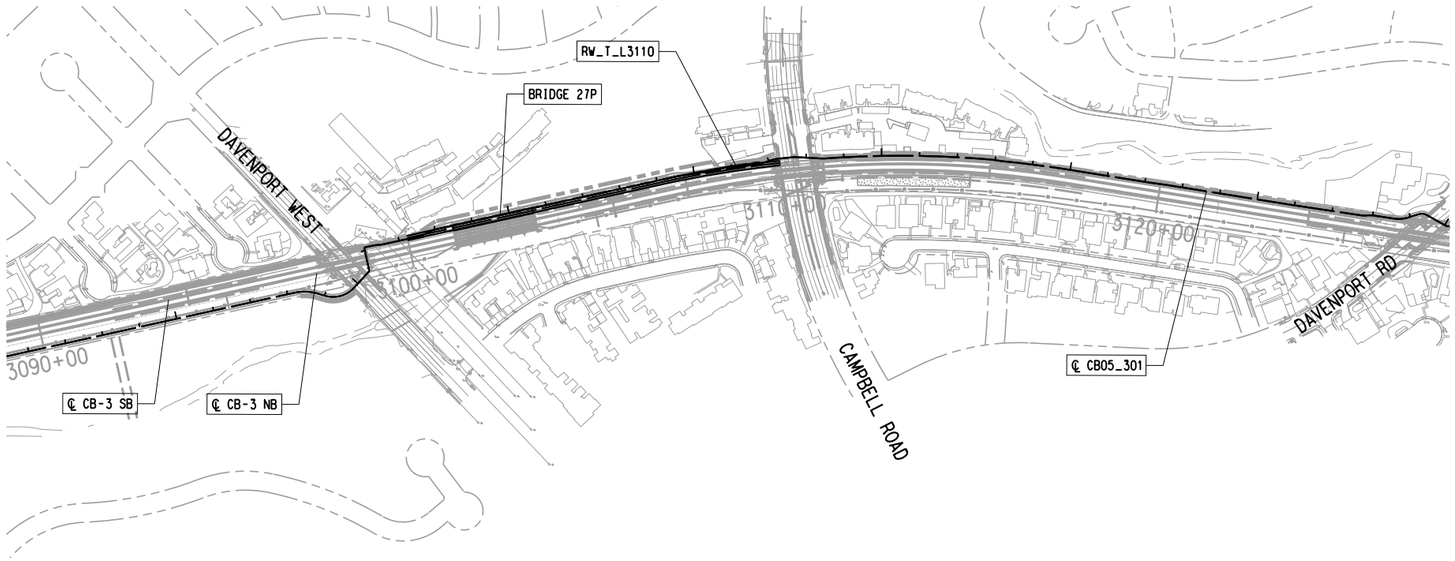
CONTRACT SHEET No. 49 OF 307

CIVIL STANDARD

EROSION AND SEDIMENT CONTROL DETAILS SHEET 5 OF 6

CONTRACT | DWG No. OS1-0005 | REV 0

DWG No. CC4-9630



SCALE (IN FEET)
0 100 200 400

NOT AN APPROVED DRAWING
FINAL 100% DESIGN

CONTRACT SHEET No. 71 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Jacobs
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FIRM REGISTRATION No. F-2966

IEA
18383 PRESTON ROAD, SUITE 500
DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

CAES

SCALE	1"=200'
DRAWN	J. RAPIER
DESIGNED	J. SHEPHERD
CHECKED	B. ALLDREDGE
IN CHARGE	J. SHEPHERD
DATE	13 MAR 23

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
RETAINING WALL
KEY MAP

CONTRACT C-2033270-01 | DWG No. CC4-9630 | REV D

24-FEB-2023 06:35
CB05-CC4-9630.200
JEGSVCPW001
Default

CB05-CC4-9630.200

DWG No. SC5-3129

CHAIN RW_T_L3110 (HIKE & BIKE TRAIL)

Chain RW_T_L3110 contains:
1844 1845 1846 CUR RW_T_L3110_7 CUR RW_T_L3110_8

Beginning chain RW_T_L3110 description
==========

Point 1844 X 2,490,439.6808 Y 7,043,976.0298 Sta
9+20.92

Course from 1844 to 1845 N 30° 41' 41.93" E Dist 102.8330

Point 1845 X 2,490,492.1737 Y 7,044,064.4556 Sta
10+23.75

Course from 1845 to 1846 N 42° 09' 53.39" E Dist 25.0308

Point 1846 X 2,490,508.9760 Y 7,044,083.0089 Sta
10+48.78

Course from 1846 to PC RW_T_L3110_7 N 38° 59' 19.05" E Dist 26.3659

Curve Data

Curve RW_T_L3110_7
P.I. Station 10+85.19 X 2,490,531.8833 Y
7,044,111.3085
Delta = 6° 01' 11.34" (LT)
Degree = 29° 59' 52.05"
Tangent = 10.0430
Length = 20.0675
Radius = 191.0000
External = 0.2639
Long Chord = 20.0583
Mid. Ord. = 0.2635
P.C. Station 10+75.15 X 2,490,525.5646 Y
7,044,103.5023
P.T. Station 10+95.22 X 2,490,537.3485 Y
7,044,119.7342
C.C. X 2,490,377.1058 Y
7,044,223.6731
Back = N 38° 59' 19.05" E
Ahead = N 32° 58' 07.70" E
Chord Bear = N 35° 58' 43.38" E

Curve Data

Curve RW_T_L3110_8
P.I. Station 11+33.55 X 2,490,558.2076 Y
7,044,151.8928
Delta = 1° 30' 26.15" (RT)
Degree = 1° 57' 58.41"
Tangent = 38.3311
Length = 76.6578
Radius = 2,914.0000
External = 0.2521
Long Chord = 76.6556
Mid. Ord. = 0.2521
P.C. Station 10+95.22 X 2,490,537.3485 Y
7,044,119.7342
P.T. Station 11+71.88 X 2,490,579.9054 Y
7,044,183.4915
C.C. X 2,492,982.0982 Y
7,042,533.9868
Back = N 32° 58' 07.70" E
Ahead = N 34° 28' 33.85" E
Chord Bear = N 33° 43' 20.78" E

==========
Ending chain RW_T_L3110 description

24-FEB-2023 06:32
CB05-SC5-3129.001

JEGSVCPW001
Default

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FINAL 100% DESIGN

CONTRACT SHEET No. 72 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	J. RAPIER
DESIGNED	J. SHEPHERD
CHECKED	B. ALLDREDGE
IN CHARGE	J. SHEPHERD
DATE	13 MAR 23

CAES

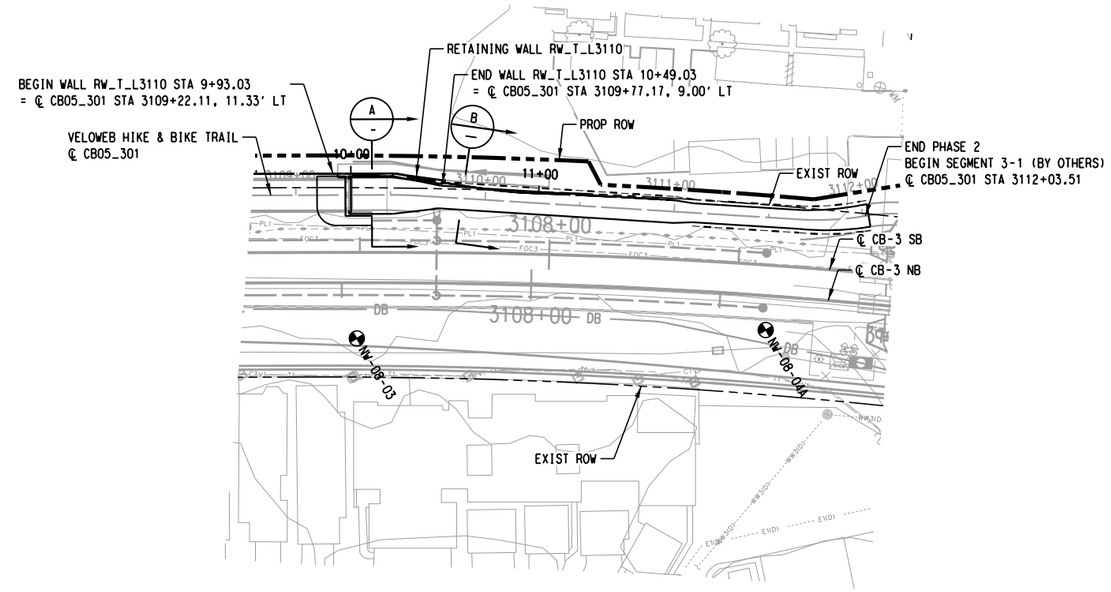
COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

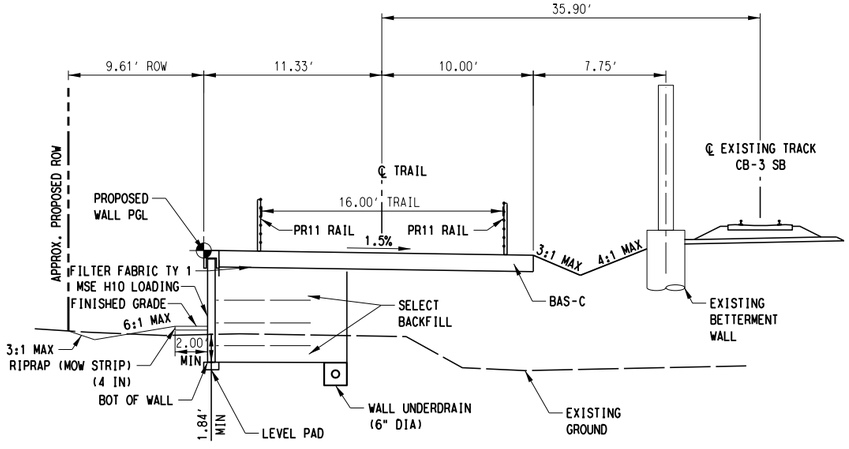
MCKAMY BRANCH CREEK
RETAINING WALL
HORIZONTAL ALIGNMENT DATA

CONTRACT	DWG No.	REV
C-2033270-01	SC5-3129	D

CB05-SC5-3129.001

DWG No. SC1-3128

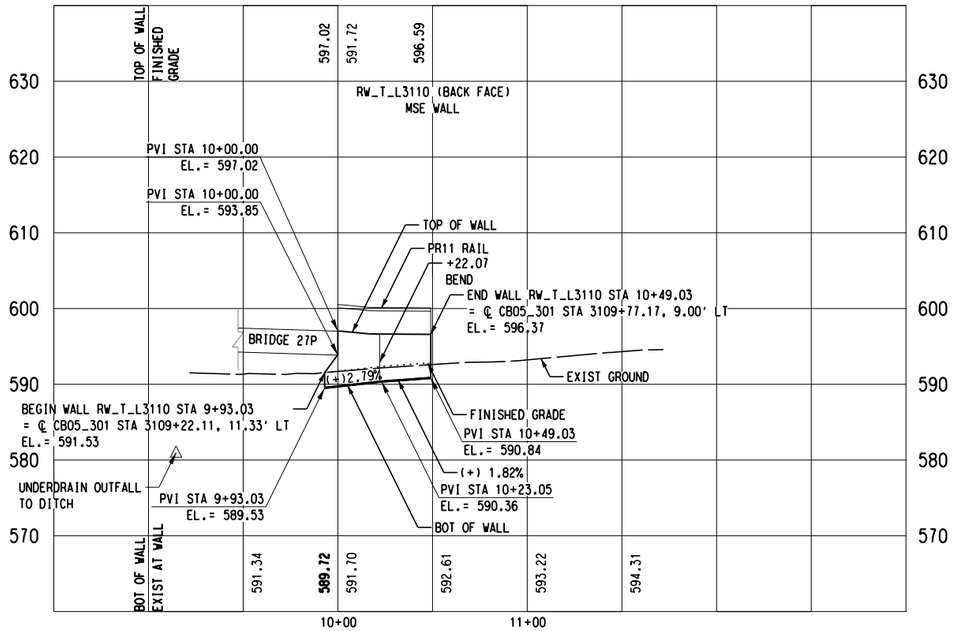




RW_T_L3110
SECTION A

RW_T_L3110 STA 10+10.00
NO SCALE

A



RW_T_L3110
SECTION B

RW_T_L3110 STA 11+10.00
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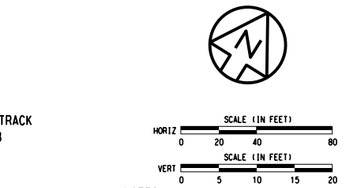
B



NOTES:

1. SEE TXDOT STANDARDS RW(MSE)DD,RW(MSE)(MOD) RW(MSE), RW(EM) AND RW(TRF) FOR MSE WALL REQUIREMENTS (CS9-8603, CS9-8621, CS9-8622, CS9-8602, CS9-8604).
2. SEE RETAINING WALL HORIZONTAL ALIGNMENT DATA SHEET (SC5-3129).
3. SEE RIGHT-OF-WAY PLANS FOR EASEMENT AND RIGHT-OF-WAY REQUIREMENTS.
4. SEE UTILITY MODIFICATION SHEETS FOR UTILITY MODIFICATIONS.
5. SEE SURVEY CONTROL SHEETS FOR BENCHMARK LOCATIONS.
6. SEE DRAINAGE PLAN AND PROFILE SHEETS FOR TRAIL DRAINAGE DESIGN.
7. MSE WALL LOADING = H10
8. FOR PED RAIL DETAIL SEE TXDOT STANDARD PR11.
9. FOR DUCT BANK DETAILS REFER TO SYSTEMS SHEETS.
10. FOR BORING LOG INFORMATION, BACKFILL AND DRAINAGE REQUIREMENTS SEE GEOTECHNICAL DESIGN MEMORANDUM (GDM) BRIDGE 27P - MCKAMY BRANCH.
11. SEE SC5-8412 FOR MISC RETAINING WALL DETAILS.
12. MATCH SILVERLINE WALL AESTHETIC PACKAGE UNLESS OTHERWISE INDICATED IN THE PLANS: RECO BUSH HAMMER FINISH TY 1607 PANELS, SMOOTH FINISH COPING.

NOT AN APPROVED DRAWING
FINAL 100% DESIGN

CONTRACT SHEET No. 73 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

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Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	AS NOTED
DRAWN	J. RAPIER
DESIGNED	J. SHEPHERD
CHECKED	B. ALLDREDGE
IN CHARGE	J. SHEPHERD
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
RETAINING WALL RW_T_L3110
LAYOUT

CONTRACT	DWG No.	REV
C-2033270-01	SC1-3128	D

CB05-SC1-3128.040

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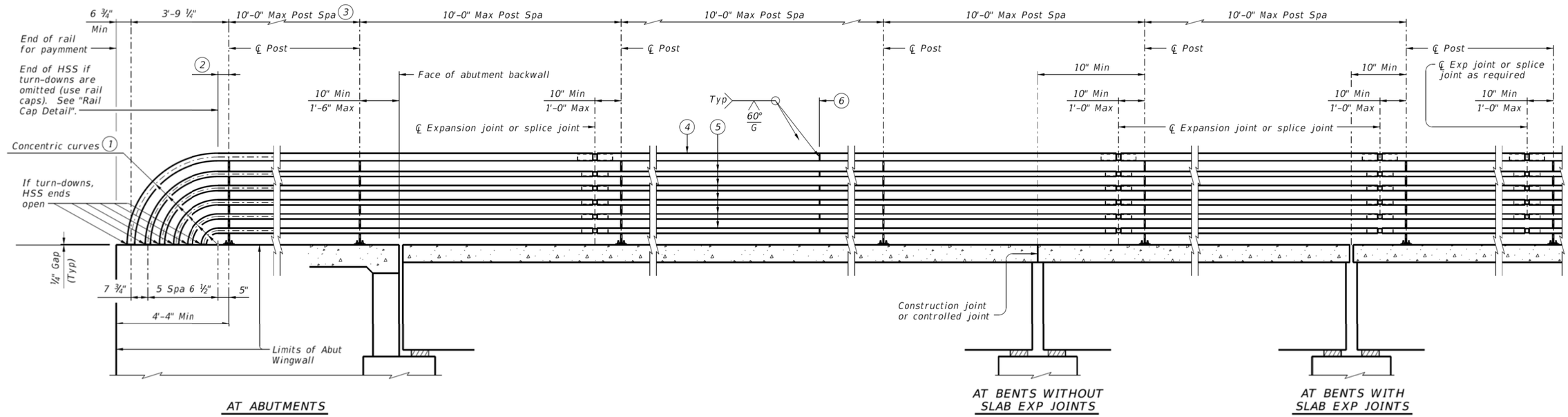
CB05-SC1-3128.040

JEGSVCPW001
RW Plan 6

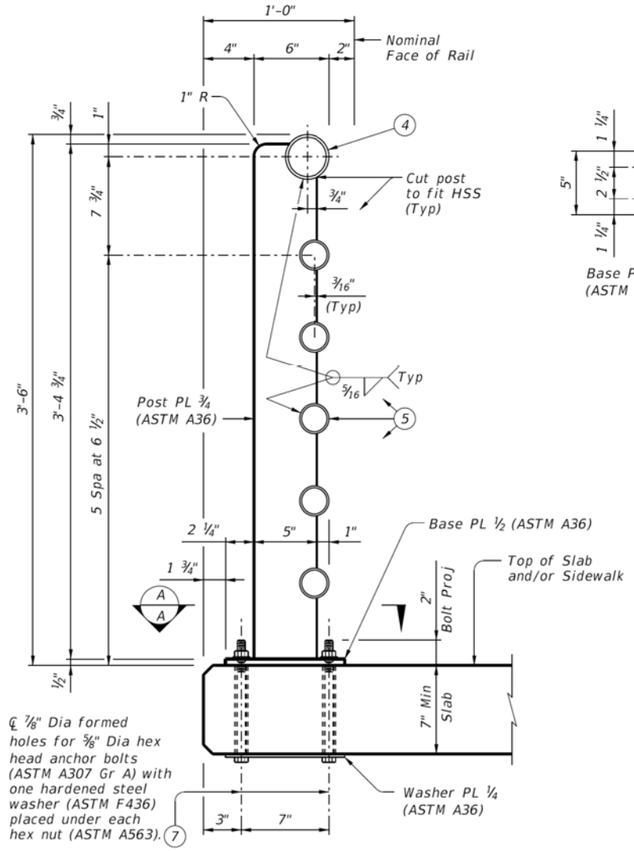


AT ABUTMENTS

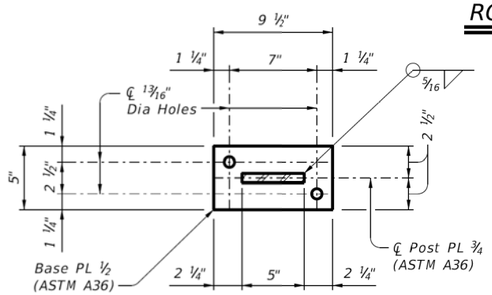
AT BENTS WITHOUT SLAB EXP JOINTS

AT BENTS WITH SLAB EXP JOINTS

ROADWAY ELEVATION OF RAIL

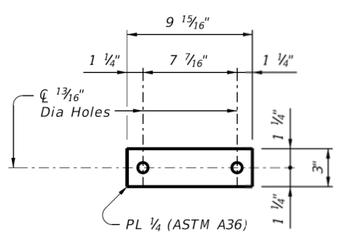


ON BRIDGE SLAB

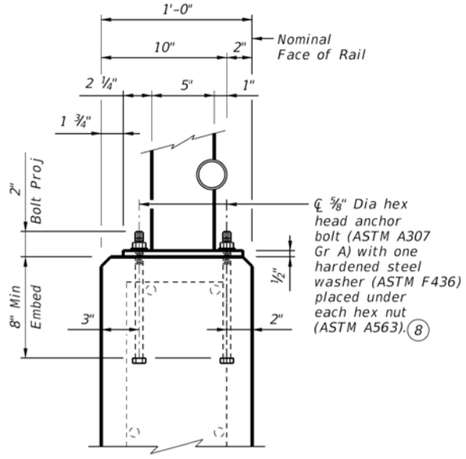


SECTION A-A

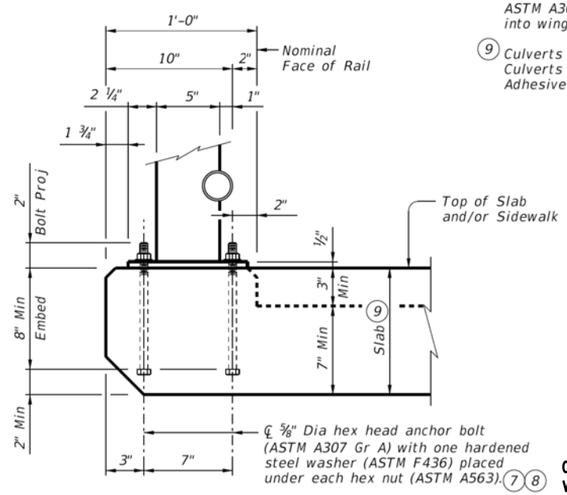
Showing base plate detail.



WASHER PLATE DETAIL



ON ABUTMENT WINGWALLS OR CIP RETAINING WALLS



ON CULVERTS WITH OR WITHOUT CURBS

Used with 1'-0" Min thick parallel wings on culverts.

SECTIONS THRU RAIL

1. Portion of railing with turn-downs to be used or omitted as indicated on Bridge Layout.
2. 10" Min ~ 1'-6" Max if turn-downs are omitted.
3. Min of 2 posts required on wingwall.
4. HSS 3.500 x 0.216 (Rail Member)
5. HSS 2.375 x 0.154 (Rail Member)
6. One shop splice per panel is permitted (with minimum 85 percent penetration). The weld may be square groove or single vee groove. Grind smooth.
7. At Contractor's option, adhesive anchors may be used. Adhesive anchors must be ⅝" Dia ASTM A307 Grade A fully threaded rods. Minimum adhesive anchor embedment depth is 5" into slabs or culverts without curbs. See "Material Notes" for adhesive anchor requirements.
8. At Contractor's option, adhesive anchors may be used. Adhesive anchors must be ⅝" Dia ASTM A307 Grade A fully threaded rods. Minimum adhesive anchor embedment depth is 7" into wingwalls or culverts with curbs. See "Material Notes" for adhesive anchor requirements.
9. Culverts without curbs for cast-in-place anchor bolts require a 10" Min slab thickness. Culverts with curbs for cast-in-place anchor bolts require a curb plus slab thickness of 10" Min. Adhesive anchors may be used with a 7" Min slab thickness or culverts with curbs.

Texas Department of Transportation

Bridge Division Standard

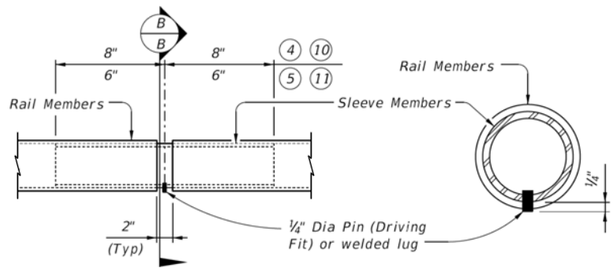
PEDESTRIAN RAIL

TYPE PR11

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 74 OF 81
DWG NO. CS9-8611
CONTRACT NO. C-2033270-01

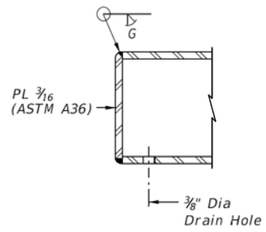
FILE:	rlstd028-19.dgn	DN: TAR	CK: TBE	DW: JTR	CK: TAR
©TxDOT	September 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS					
		DIST	COUNTY		SHEET NO.

DATE: 24-FEB-2023 06:32
FILE: STD5-CS9-8611.001

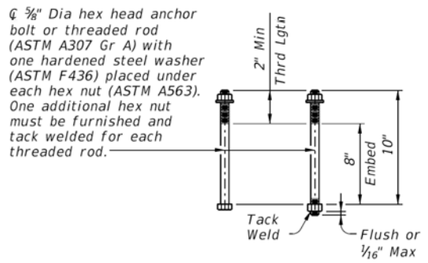


AT SPLICES OR EXP JTS SECTION B-B

PIPE SPLICE DETAIL



RAIL CAP DETAIL



CAST-IN-PLACE & FORMED HOLE ANCHOR BOLT OPTIONS

④ HSS 3.500 x 0.216 (Rail Member)

⑤ HSS 2.375 x 0.154 (Rail Member)

⑩ HSS 2.875 x 0.203 (Sleeve Member)

⑪ HSS 1.900 x 0.145 (Sleeve Member)

CONSTRUCTION NOTES:

Panel lengths of railing must be attached to a minimum of three posts except at abutment wingwalls.

At the Contractor's option anchor bolts may be an adhesive anchorage system. See "Material Notes".

Test adhesive anchors in accordance with Item 450.3.3, "Tests". Test 3 anchors per 100 anchors installed. Perform corrective measures to provide adequate capacity if any of the tests do not meet the required test load. Repair damage from testing as directed.

Face of rail and posts must be vertical transversely unless otherwise approved. Posts must be perpendicular to adjacent roadway grade. Use Type VIII epoxy mortar under post base plates if gaps larger than 1/16" exist.

For curved railing applications, fabricate the HSS rail to the radius when the radius is 600' or less. Submit shop drawings for approval when tubes are required to be fabricated to a radius. Shop drawings must be submitted to the Engineer for approval.

Round or chamfer all exposed edges of steel components 1/16" by grinding prior to galvanizing.

MATERIAL NOTES:

Provide ASTM A500 Gr B, A1085 or A53 Gr B for all HSS.

Galvanize all metal components of steel rail system. Apply additional coatings when shown elsewhere on the plans. When plans require paint over galvanizing, follow the requirements for painting galvanized steel in Item 445, "Galvanizing" and when field painting, Item 446, "Field Cleaning and Painting Steel". Sleeve members and anchor bolts must receive galvanization prior to installation and only field paint after installation unless directed otherwise by Engineer.

Anchor bolts must be ⅝" Dia ASTM A307 Gr A with one hardened steel washer (ASTM F436) placed under each hex nut or ASTM A307 Gr A threaded rods with one tack welded hex nut each and with one hex nut with one hardened steel washer (ASTM F436) each. Nuts must conform to ASTM A563 requirements.

Optional adhesive anchorage system must be ⅝" Dia ASTM A307 Gr A fully threaded rods with one hex nut and one hardened steel washer (ASTM F436). Nuts must conform to ASTM A563 requirements. Embed fully threaded rods into slab, wingwalls, or culvert curbs using a Type III, Class C, D, E, or F anchor adhesive. Anchor adhesive chosen must be able to achieve a nominal bond strength in tension, Na, of a single anchor of 10 kips (edge distance must be accounted for). Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use. Anchor installation, including hole size, drilling, and clean out, must be in accordance with Item 450, "Railing".

GENERAL NOTES:

Designed according to AASHTO LRFD Specifications.

Do not use this railing on bridges with expansion joints providing more than 5" movement.

Rail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

For all rails, submit erection drawings showing section lengths, splice locations, rail post spacing and anchor bolt setting for approval.

Average weight of railing is 30 plf.

Texas Department of Transportation | Bridge Division Standard

PEDESTRIAN RAIL

TYPE PR11

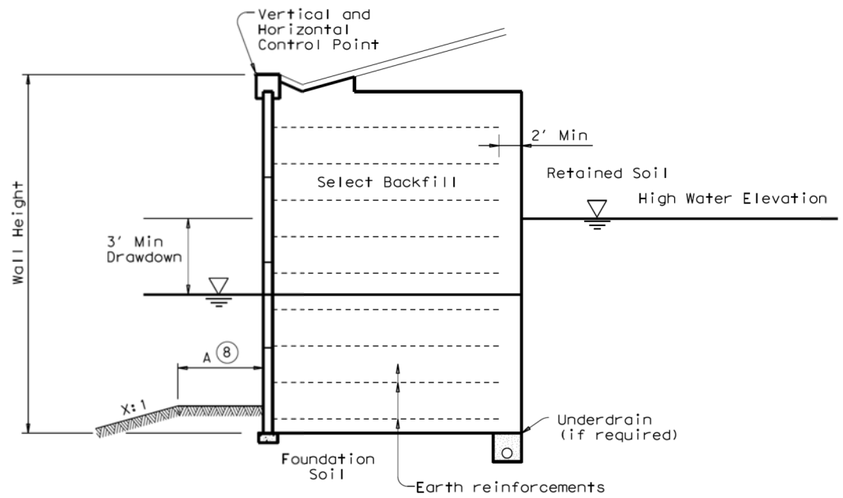
FILE:	rlstd028-19.dgn	DN: TAR	CK: TBE	DW: JTR	CK: TAR
©TxDOT	September 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS					
		DIST	COUNTY		SHEET NO.

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 75 OF 81
DWG NO. CS9-8612
CONTRACT NO. C-2033270-01

DATE: 24-FEB-2023 06:32
FILE: STD5-CS9-8612.001

WALL SUMMARY

MSE Retaining Wall	Begin Station (1)	End Station (1)	Retained Soil Friction Angle (2)	Foundation Soil Friction Angle (2)	Ground Improvement (3)	Min Earth Reinforcement Length (4)	Min Wall Embedment (7)	Underdrain Required (5)	Drawdown Analysis (6)	Bench Width (8)
RW_T_L3110	9+93.03	10+95.22	34	25	0	8.0 FT	2 FT	YES	NO	2



TYPICAL SECTION
(RAPID DRAWDOWN CONDITION)

(1) Indicate limits for which the stated soil design requirements/assumptions are applicable.

(2) Retained and Foundation friction angle listed should be based on local experience or measured/correlated long term strength values.

(3) Indicate if ground improvement is required or not required. If shown as required, refer to Ground Improvement Detail(s) for additional information.

(4) Indicate on table minimum length and length ratio required. The minimum default length of earth reinforcements shall be either 8'-0" or 70% of the wall height, whichever is greater. Wall height and design wall height may differ depending on project geometry and loading conditions. Note: Wall height at bridge abutments is equal to the distance between the top of leveling pad and finished grade at the bridge abutment backwall.

(5) Indicate if underdrain is required or not required.

(6) Indicate if rapid drawdown analysis is required.

(7) Guidance to wall designer of record for determination of minimum wall embedment: Unless noted elsewhere in the plans, the minimum embedment provided from the top of leveling pad to finish grade shall be 1' for level ground where there is no potential for erosion or future excavation or 2' for sloping ground (4.0H:1.0V or steeper) or where there is potential for removal of soil in front of the wall.

(8) Horizontal Bench width at base of wall varies. Use the following criteria to establish base width.
A = 2.0' Min for X $\geq$ 4. or
A = 4.0' Min for X $\leq$ 4.
Applicable to both drawdown and dry condition.

SPECIAL NOTES:
This sheet is to be filled out by the wall designer of record at time of plan preparation to provide soil strength parameters for the design of the specified walls.
The completed sheet shall be signed, sealed, and dated by a licensed Professional Engineer.

IN-PROGRESS REVIEW
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
IBRAHIM AMIN BAAYEH, P.E., 132175
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COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 76 OF 81
DWG NO. CS9-8603
CONTRACT NO. C-2033270-01

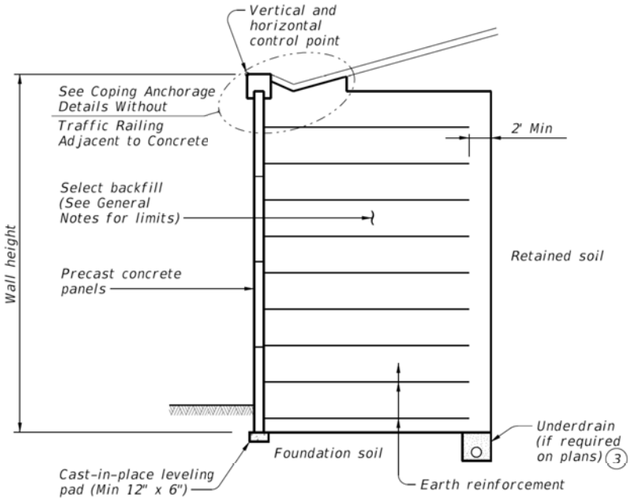
Texas Department of Transportation
Bridge Division Standard

MECHANICALLY STABILIZED EARTH RETAINING WALL DESIGN DATA

RW(MSE)DD

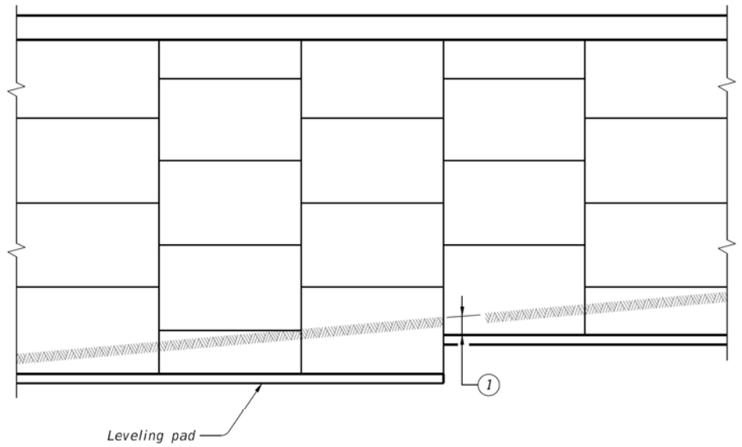
FILE: rwstde16.dgn	DN: TxDOT	CK: MJG	DW: JTR	CK: MJG
©TxDOT January 2013	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

DATE:
FILE:



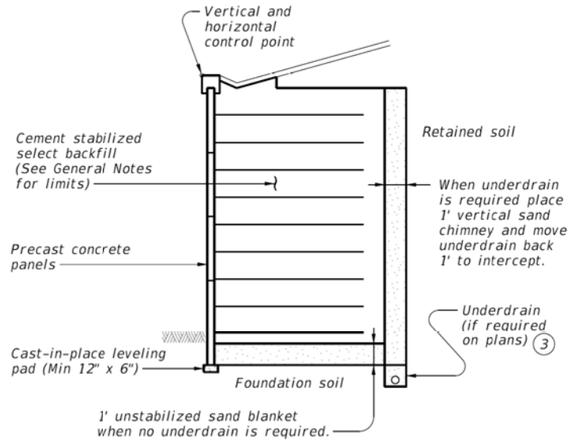
TYPICAL SECTION

(Wall at bottom of slope.)



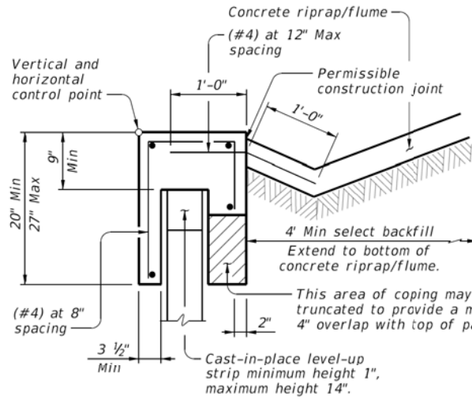
ELEVATION

1. Minimum embedment conforming to values given on the RW(MSE)DD standard.
2. ~~Form map of Texas emblem into a wall panel next to each bridge abutment. Submit the exact location of each emblem to the Engineer for approval. The cost of forming the emblems will not be paid for directly, but is subsidiary to Item 423, "Retaining Walls." Inset the map of Texas a minimum of ¾" into the face of the panel with a smooth finish. Finish the inset area in a contrasting color as approved by the Engineer.~~
3. Provide underdrain pipe and filter material in accordance with Item 556, "Pipe Underdrains."
4. Anchor precast coping to prevent rotation or displacement. Use these details to develop custom anchorage for precast copings. Provide details that include coping reinforcement. Concrete flume (if required) is paid for separately from Item 423, "Retaining Walls."



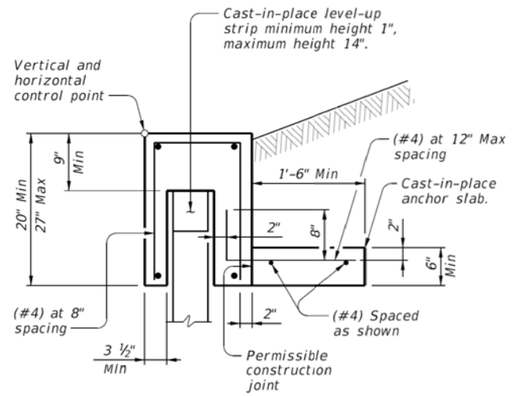
SPECIAL DRAINAGE PROVISIONS

(When cement stabilized backfill is used.)



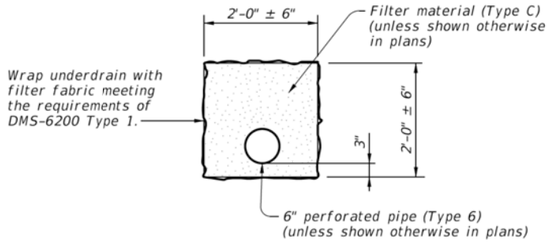
ADJACENT TO CONCRETE

(Excluding concrete pavement)

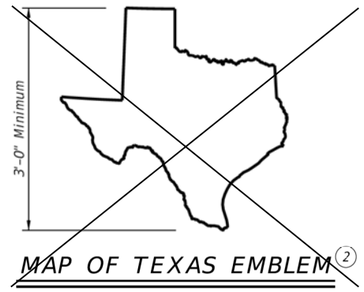


ADJACENT TO SOIL

COPING ANCHORAGE DETAILS WITHOUT TRAFFIC RAILING 4



UNDERDRAIN DETAIL 3



MAP OF TEXAS EMBLEM 2

IN-PROGRESS REVIEW
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
JOHN R. SHEPHERD, P.E., 116040
ON
24-FEB-2023 06:30
IEA
TBPE FIRM NO. F-10161
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COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 77 OF 81
DWG NO. CS9-8621
CONTRACT NO. C-2033270-01

SHEET 1 OF 2

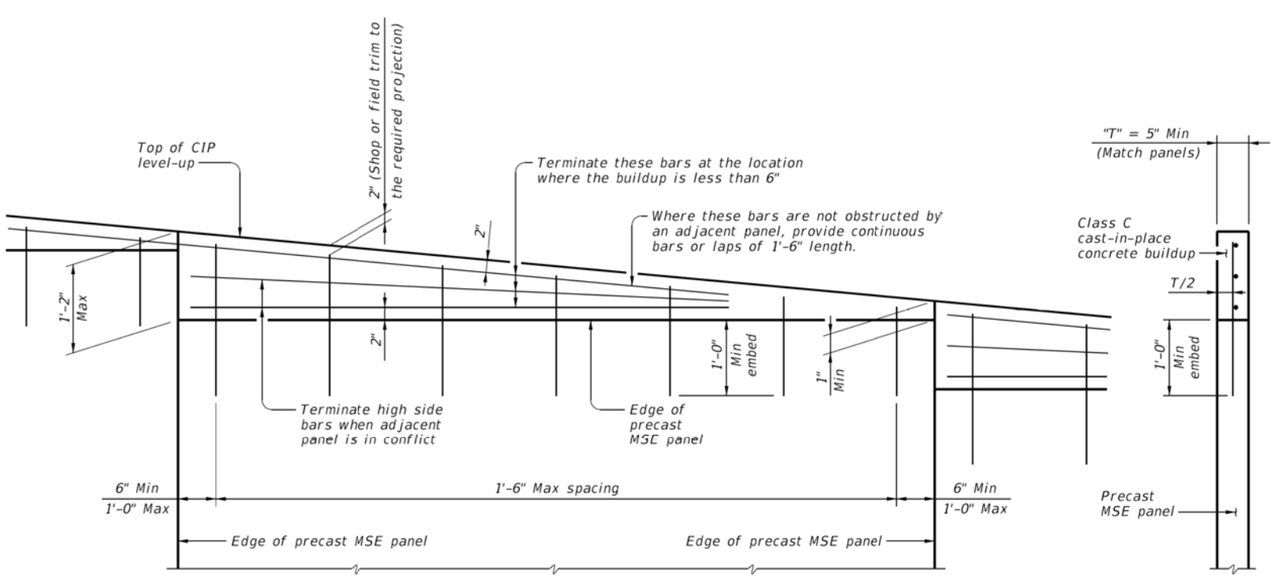
Texas Department of Transportation | Bridge Division Standard

MECHANICALLY STABILIZED EARTH RETAINING WALL

RW(MSE) (MOD)

FILE: RW-MSE-22.dgn	DN: TxDOT	CK: TxDOT	DW: JER	CK: RLE
©TxDOT June 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 07-22: Omitted 'Map of Texas' emblem detail and note.	DIST	COUNTY		SHEET NO.

DATE: 24-FEB-2023 06:30
FILE: STD5-CS9-8621.001



ELEVATION SECTION

LEVEL UP DETAIL (5)

DESIGN CRITERIA NOTES:

Design Parameters:

Base design of retaining walls on the following design parameters unless stated elsewhere in the plans:

Retained Soil	Unit Weight = 125 pcf ϕ = (6) C = 0 psf
Foundation Soil	ϕ = (6) C = 0 psf
Select Backfill	Unit Weight = See Table (7) ϕ = 34° C = 0 psf
Cement Stabilized Select Backfill	Unit Weight = 125 pcf ϕ = 45° C = 0 psf

Limit stress in steel and concrete in accordance with current AASHTO Standard Specifications for Highway Bridges and Interim Specifications.

The minimum length of earth reinforcement are as shown on the Mechanically Stabilized Earth Retaining Wall Design Data (RW[MSE]DD) standard.

Stability Criteria:

Stability criteria applies to both dry and drawdown analysis. Base design on the following factors of safety.

Sliding along the base of the structure	Factor of Safety ≥ 1.5
Overturning	Factor of Safety ≥ 2.0
Pullout of Earth Reinforcement at each level	Factor of Safety ≥ 1.5

Design the wall such that the base pressure resultant falls within the middle third of the retaining wall.

Determine pullout resistance from test data evaluated at ¾ inch strain.

Corrosion Criteria:

Design the earth reinforcement elements to have a minimum design life of 75 years, using current AASHTO corrosion rates.

Perform stress calculations (rupture) on the calculated earth reinforcement section remaining after 75 years. Pullout calculations may be based on non-corroded section.

(5) Cast vertical bars into the top of panels. At Contractor's option vertical bars may be embedded 4 inches with a Type III Class C epoxy anchorage system. Follow manufacturer's directions for installing the epoxy vertical bars.

(6) Soil design parameters must be based on long term soil strength. Design parameters must be listed on the RW(MSE)DD standard.

(7)

SELECT BACKFILL UNIT WEIGHT			
Type AS, BS & DS	Unit Weight	Internal Stability	External Stability
	105 PCF	Pullout	Sliding, Overturning, Eccentricity
	125 PCF	Rupture	Bearing

PRECAST COPINGS:

Wall supplier is to maximize lengths of precast coping. Provide precast coping in 10-foot minimum lengths (typical.) To optimize coping lengths at radiuses, ends of runs, or other wall geometric conditions favorable to shorter coping sections, shorter lengths may be used pending approval by the Engineer. This applies only to coping without railing.

JOINT SEALANT:

Seal joints between coping segments in accordance with Item 438, "Cleaning and Sealing Joints." Provide Class 4 joint seal. Place sealant flush with coping surface. The purpose of the joint sealing is to reduce surface drainage infiltration into the retaining wall backfill. Sealing coping joint is considered subsidiary to other items.

EARTH REINFORCEMENT:

Place the uppermost earth reinforcement no more than 3 feet below the top of wall.

Place the lowest level of earth reinforcement no more than 2 feet above the top of the leveling pad.

Provide earth reinforcement with a minimum wire size of W7.0. If different longitudinal and cross wires are used in an earth reinforcement mesh, the smaller wire must be at least 50% of the cross sectional area of the larger wire.

A maximum of four wire mesh configurations (wire sizes) will be allowed on a project. Provide unique transverse bar spacing for each mesh configuration, differing from other configurations by a minimum of 3 inches. Step earth reinforcement lengths in increments no finer than 12 inches.

PANELS:

Fabricate standard precast concrete panels to a maximum height of 6 feet and a maximum surface area of 50 sq ft. Top and bottom panels may exceed these limitations as necessary to achieve required wall grades. Maximum height of any panel must not exceed 7 ft.-6 in. Provide a minimum panel thickness of 5 inches. Arrange panels to provide offset horizontal joints.

Provide an open joint around the perimeter of the concrete panels. Configure joints such that 1) the filter fabric and/or pad materials are not exposed at the wall face and 2) the design opening is between ⅜" and ¾".

Provide a one-piece corner panel for wall angle changes of greater than 30 degrees. Butting of chamfered panels will be allowed for angle changes of 30 degrees or less.

MATERIAL NOTES:

Provide Class C concrete for reinforced concrete and precast coping.
Provide Class H concrete for precast concrete panels.
Provide Class A concrete for unreinforced concrete.
Provide Grade 60 reinforcing steel.

GENERAL NOTES:

Section and elevation shown is for informational purposes only. Determine specific geometry based on wall layouts and other plan information.

Extend select backfill specified for use within the mechanically stabilized earth volume horizontally from the back of the panels a minimum 2 feet beyond the end of the earth reinforcement. Extend select backfill vertically to the top of the panels from either the top of the leveling pad, or from 4 inches below the lowest earth reinforcement, whichever is lower.

Provide concrete coping along the top of wall, at the vertical steps at bridge backwalls, and at other vertical steps along the top of wall.

Provide details and calculations that establish support for panels that are affected when obstructions (inlets, drilled shafts, piling, etc.) prevent placement of soil reinforcement in their normal locations. Furnish the same earth reinforcement coverage as that required in the absence of the obstruction. For skewed (rotated) earth reinforcement, no adjustment in length is needed for skew angles less than or equal to 10 degrees. Adjust the length of earth reinforcement to provide a cosine length of the reinforcement equivalent to the stated design length for the section of wall when skew angles are greater than 10 degrees. Provide calculations that justify any alterations made to the soil reinforcement or modifications to their normal placement. Do not use panels without any soil reinforcement connected to them unless they are connected with galvanized hardware to adjacent panels which do have supporting soil reinforcement attached to them and as approved by the Engineer.

Coping and anchor slabs are considered subsidiary to the Item 423, "Retaining Walls."

Use these details in conjunction with the retaining wall layout, the Mechanically Stabilized Earth Retaining Wall Design Data (RW[MSE]DD) standard and other applicable standards.

Cover dimensions are clear dimensions, unless noted otherwise.

Texas Department of Transportation

Bridge Division Standard

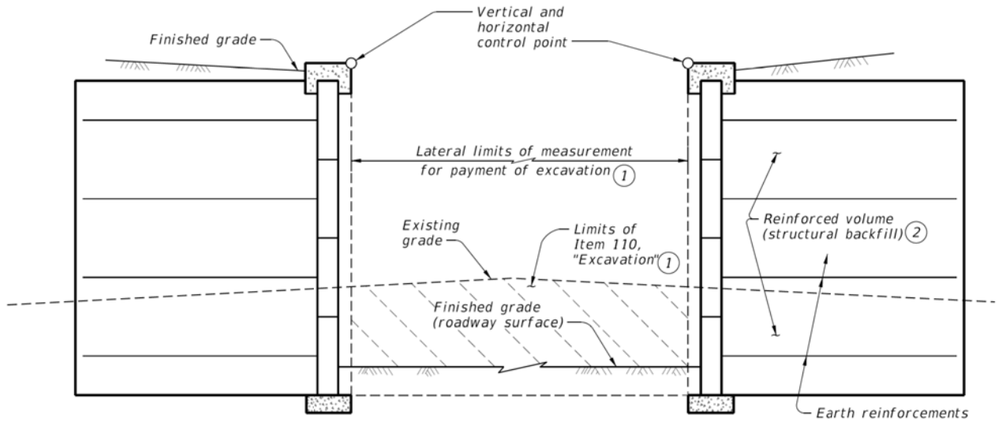
MECHANICALLY STABILIZED EARTH RETAINING WALL

RW(MSE)

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 78 OF 81
DWG NO. CS9-8622
CONTRACT NO. C-2033270-01

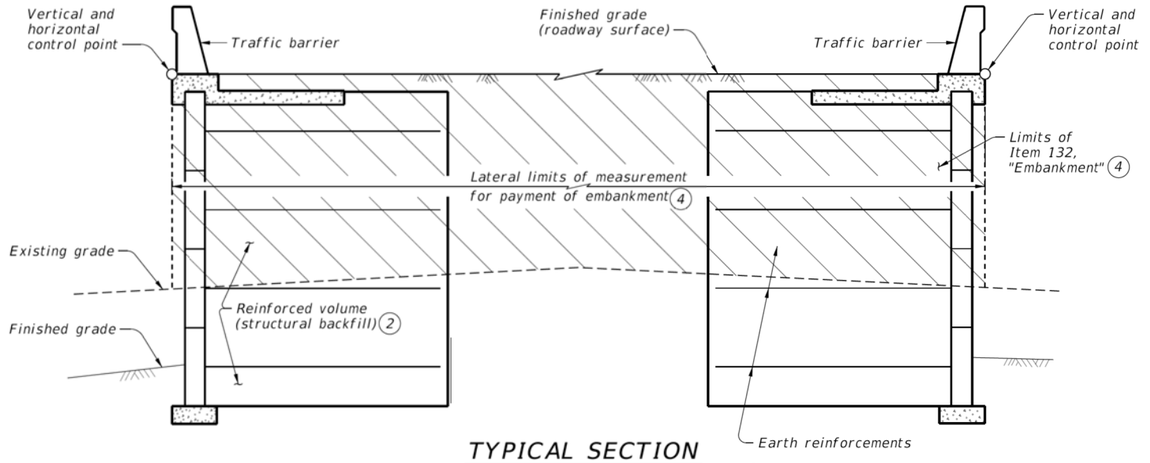
FILE: RW-MSE-22.dgn	DN: TxDOT	CK: TxDOT	DW: JER	CK: RLE
©TxDOT June 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

DATE: 24-FEB-2023 06:25
FILE: STD5-CS9-8622.001



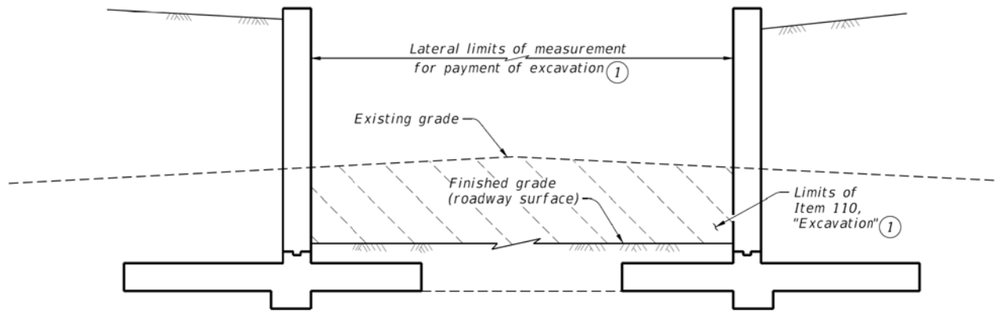
TYPICAL SECTION

(Excavation between MSE retaining walls.) (3)



TYPICAL SECTION

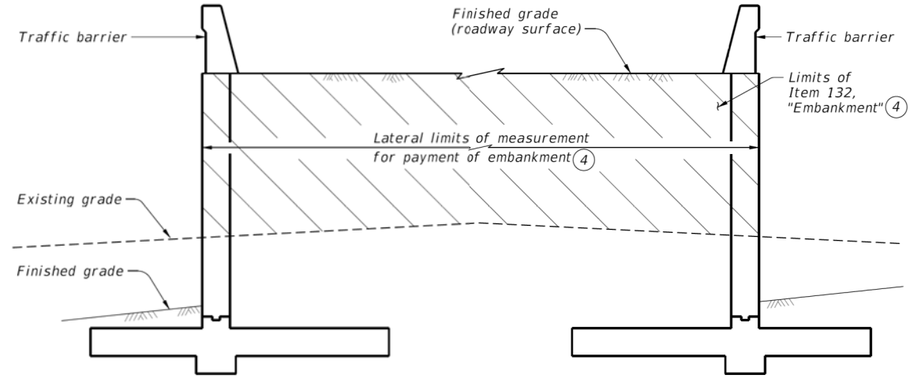
(Embankment between MSE retaining walls.) (3)



TYPICAL SECTION

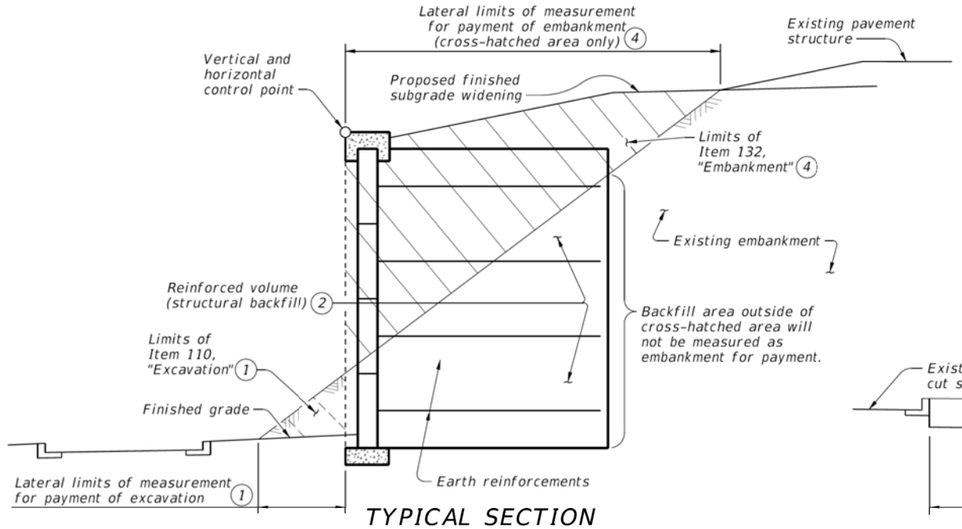
(Excavation between conventional retaining walls.)

1. Only the excavation above the proposed subgrade elevation will be measured for payment.
2. Meeting requirements for Item 423, "Retaining Walls."
3. Earthwork measurement with other retaining wall types will be made to the outside finished face in the same manner.
4. Only the embankment above the existing ground line will be measured for payment.



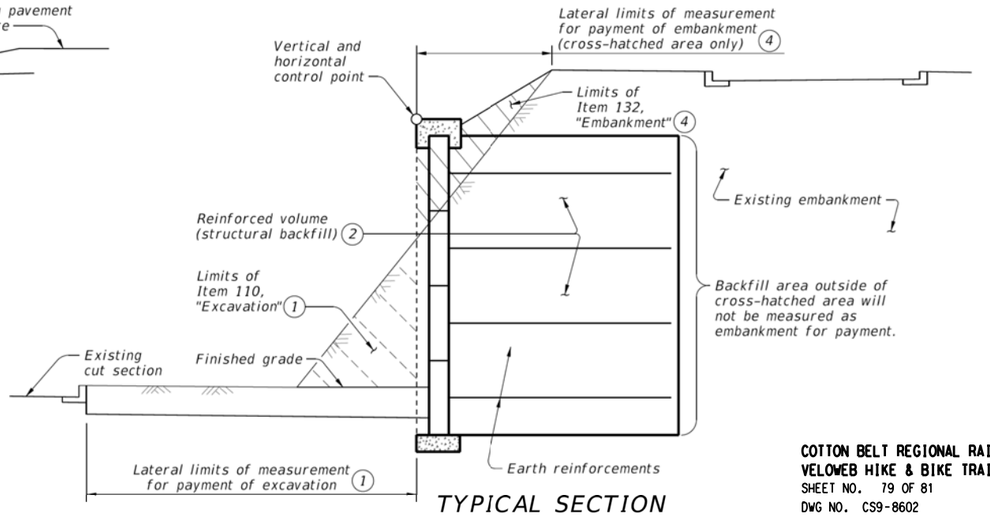
TYPICAL SECTION

(Embankment between conventional retaining walls.)



TYPICAL SECTION

(Widening embankment with MSE retaining walls.) (3)



TYPICAL SECTION

(Widening cut section with MSE retaining walls.) (3)

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 79 OF 81
DWG NO. CS9-8602
CONTRACT NO. C-2033270-01

Texas Department of Transportation

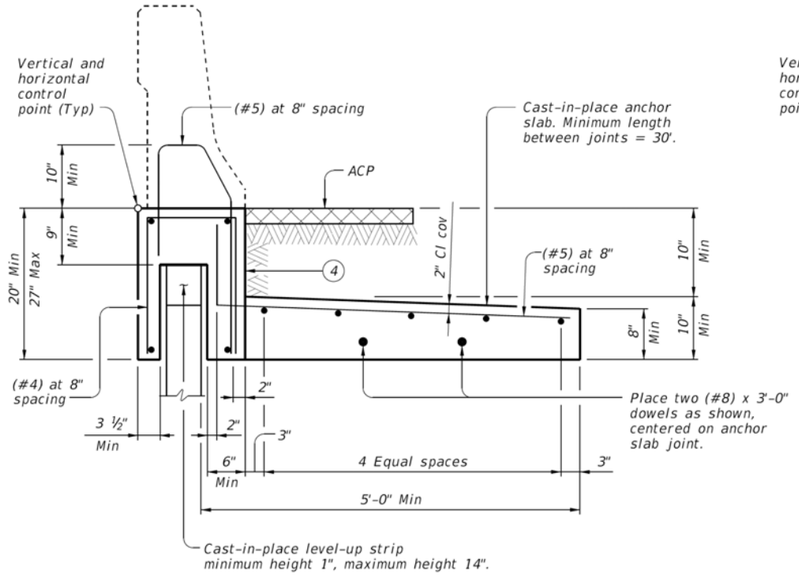
Bridge Division Standard

EARTHWORK MEASUREMENT AT RETAINING WALL

RW(EM)

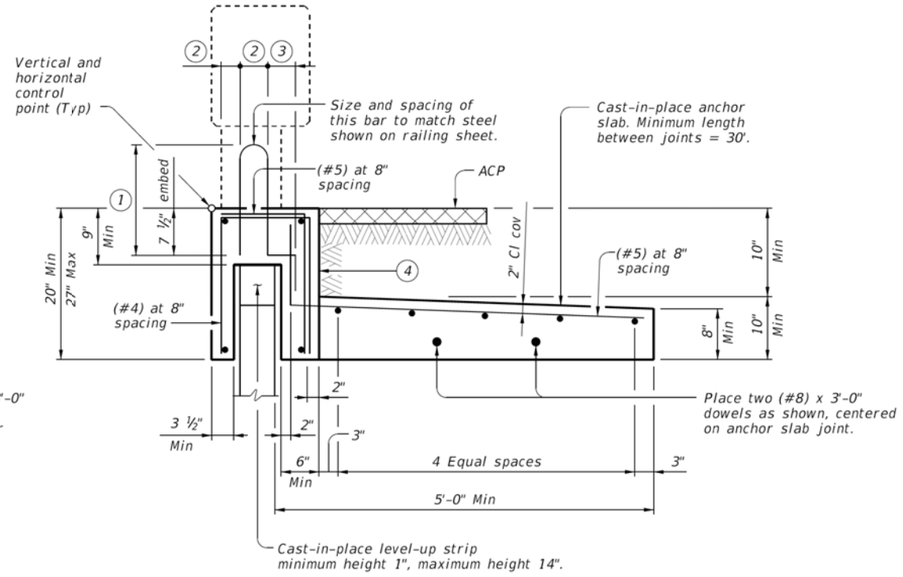
FILE: RW-EM-22.dgn	DN: TxDOT	CK: TxDOT	DW: JER	CK: RLE
©TxDOT June 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

DATE: 24-FEB-2023 06:25
FILE: STD5-CS9-8602.001



"WIDE BASED" ADJACENT TO ACP

(Showing T551 Rail, other rails listed similar.)



"NARROW BASED" ADJACENT TO ACP

(Showing T223 Rail, other rails listed similar.)

Rail Type	Detail	Precasting Rail with Coping Allowed
T1F/T1W/C1W/T2P/C2P	NARROW	NO
T221/C221/T222	NARROW	YES
T223/C223	NARROW	NO
T402/C402	NARROW	NO
T411/C411	NARROW	NO
T551/T552	WIDE	YES
T66	NARROW	NO
SSTR	WIDE	YES

CAST-IN-PLACE COPINGS:

Provide compressible material to isolate precast panel from cast-in-place coping to prevent cracking. Attach compressible material to both sides of precast panel prior to casting concrete for coping.

When cast-in-place coping is anchored to reinforced concrete pavement, provide a smooth level-up strip on the top of the precast panels. The purpose of the level-up is to allow the pavement and coping to move longitudinally relative to the wall without causing damage.

Align coping and railing joints with precast panel joints. Optional rail joints are allowed as approved by Engineer. Provide railing construction joints or expansion joints at 100-foot maximum spacing.

PRECAST COPINGS:

Provide a smooth level-up strip on top of the precast panels prior to installation of the coping. Shims may be used on top of level-up strips to facilitate alignment. Total shim thickness not to exceed 1 inch.

Provide precast coping in 10-foot minimum lengths.

JOINTED CONCRETE PAVEMENT:

When coping is adjacent to and anchored into jointed concrete pavement, align the coping joints with the pavement joints.

JOINT SEALANT:

Seal joints between coping segments in accordance with Item 438, "Cleaning and Sealing Joints." Provide Class 4 joint seal. Place sealant flush with coping surface. The purpose of the joint sealing is to reduce surface drainage infiltration into the retaining wall backfill. Sealing coping joint is considered subsidiary to other items.

MATERIAL NOTES:

Provide Class C concrete (f'c=3,600 psi.)
Provide Grade 60 reinforcing steel.
Provide #4 longitudinal bars, unless otherwise shown.

GENERAL NOTES:

Details on this sheet are to be used in development of specific details for mounting traffic railing on mechanically stabilized earth (MSE) walls.

The specific details proposed must have strengths equivalent to those shown on this sheet and must be submitted for approval. Areas of particular importance are the connection of the coping to the railing, the strength of the vertical coping leg connecting the railing to the anchor slab, and the connection of the coping to the anchor slab or concrete pavement.

Submit shop drawings for the traffic railing foundations to the Engineer in accordance with Item 423, "Retaining Walls." The shop drawings must include bar bending details.

Precasting of railing with the coping will be allowed as noted in the table on this sheet.

The Contractor's attention is directed to the fact that various configurations of precast coping/railing combinations are covered by patent. The Contractor must provide for use of these systems in accordance with Article 7.5.

Coping and anchor slabs are considered subsidiary to Item 423, "Retaining Walls." Payment for traffic railing is per the linear foot for the appropriate railing type.

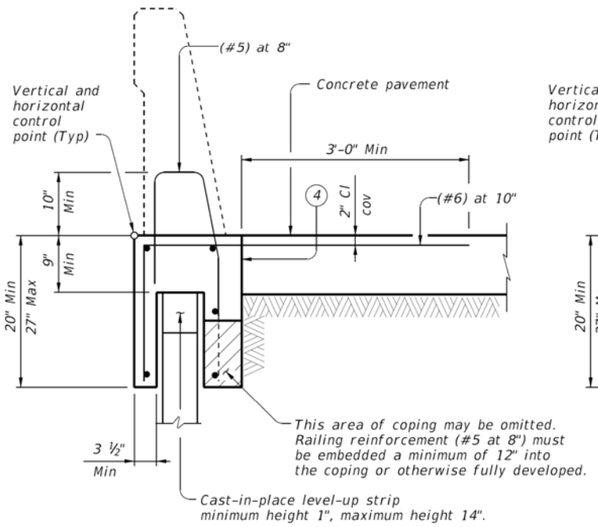
Cover dimensions are clear dimensions, unless noted otherwise.

(1) Reinforcement length equal to length shown on the appropriate rail standard plus 1 inch.

(2) Match dimension on the appropriate rail standard.

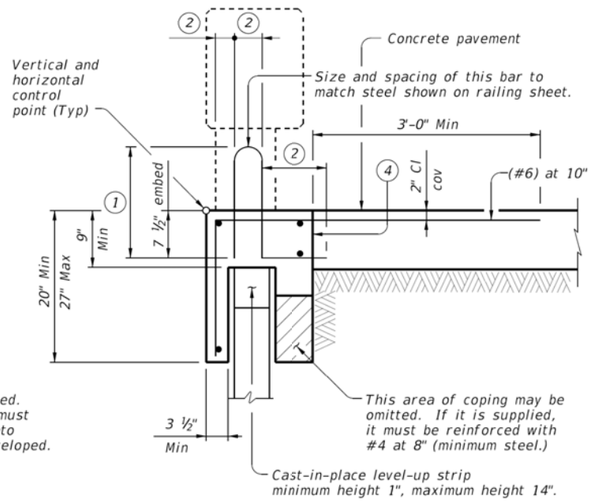
(3) Match dimension on the appropriate rail standard. Bend end of rail anchorage reinforcing as shown as required to maintain clear cover.

(4) See "Coping Joint Sealer Details."



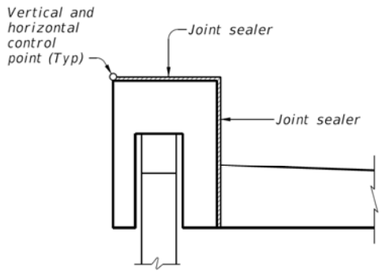
"WIDE BASED" ADJACENT TO CONCRETE PAVEMENT

(Showing SSTR Rail, other rails listed similar.)

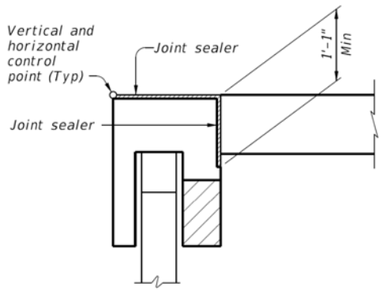


"NARROW BASED" ADJACENT TO CONCRETE PAVEMENT

(Showing T223 Rail, other rails listed similar.)



ADJACENT TO ACP



ADJACENT TO CONCRETE PAVEMENT

COPING JOINT SEALER DETAILS

(Reinforcing steel not shown for clarity.)

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL
SHEET NO. 80 OF 81
DWG NO. SS9-8013
CONTRACT NO. C-2033270-01

Texas Department of Transportation

Bridge Division Standard

RETAINING WALL TRAFFIC RAILING FOUNDATIONS

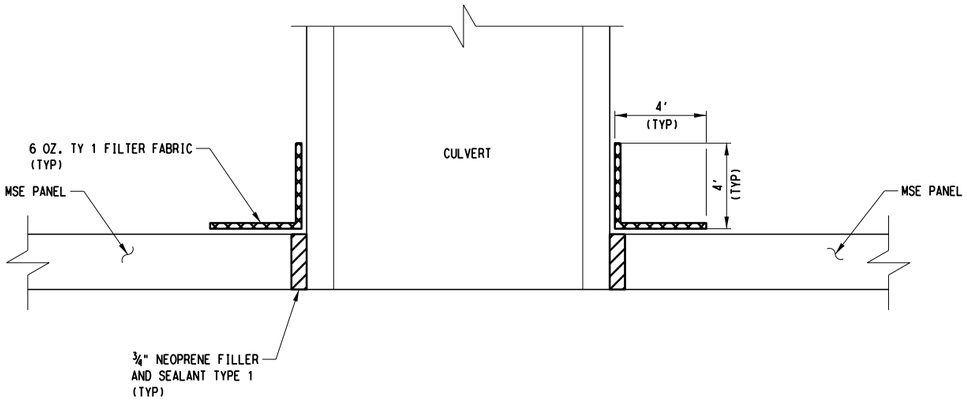
RW(TRF)

FILE: RW-TRF-22.dgn	DN: TxDOT	CK: TxDOT	DW: JTR	CK: TAR
©TxDOT June 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

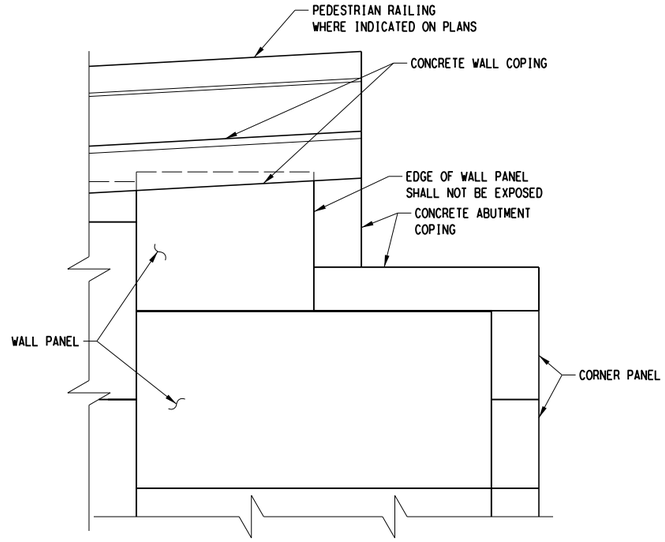
DATE: 14-MAR-2023 14:00
FILE: STD5-SS9-8013.001

STD5-SS9-8013.001

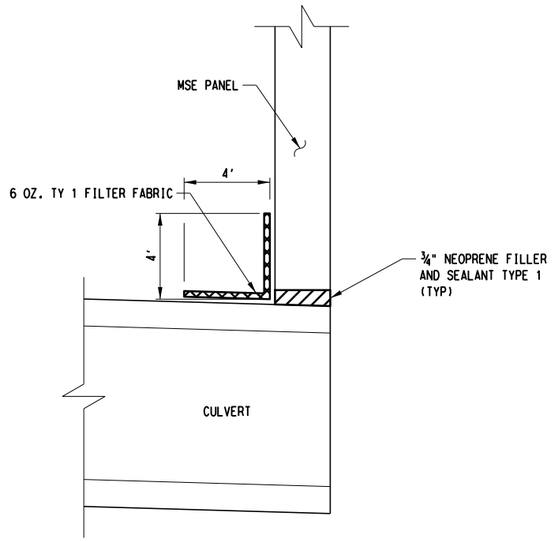
DWG No. SC5-8412



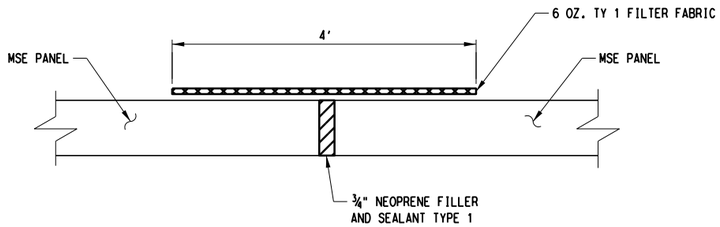
WALL / SIDES OF CULVERT JOINT DETAIL
NO SCALE



ABUTMENT COPING DETAIL
NO SCALE



WALL / TOP OF CULVERT JOINT DETAIL
NO SCALE



SLIP JOINT DETAIL
NO SCALE

NOT AN APPROVED DRAWING
FINAL 100% DESIGN

CONTRACT SHEET No. 81 OF 81

REV	AMEND	CR	DATE	DESCRIPTION	BY	ENG	CHK	APP

IN-PROGRESS REVIEW
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF:
JOHN R. SHEPHERD, P.E., 116040
ON
24-FEB-2023 06:34
IEA
TBPE FIRM NO. F-10161
IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

Jacobs
1999 BRYAN ST, SUITE 1200
DALLAS, TX 75201-3136
Phone: +1 (214) 638-0145
FIRM REGISTRATION No. F-2966

IEA
18383 PRESTON ROAD, SUITE 500
DALLAS, TX 75252
Phone: +1 (214) 884-4253
Firm Registration: F-10161

ARCHER WESTERN HERZOG

DART PROJECT

DART®

SCALE	NO SCALE
DRAWN	J. RAPIER
DESIGNED	J. SHEPHERD
CHECKED	B. ALLDREDGE
IN CHARGE	J. SHEPHERD
DATE	13 MAR 23

CAES

COTTON BELT REGIONAL RAIL
VELOWEB HIKE & BIKE TRAIL

MCKAMY BRANCH CREEK
RETAINING WALL
MISCELLANEOUS DETAILS

CONTRACT	DWG No.	REV
C-2033270-01	SC5-8412	D

CB05-SC5-8412.040

24-FEB-2023 06:34
CB05-SC5-8412.040

JEGSVCPW001
RW_D