TABULATION OF LENGTH

STATION	LINEAR FEET CIVIL	LINEAR FEET MAJOR STRUCTURE
HAPPY CANYON CREEK 105+00.00 BEGIN CHANNEL 128+00.00 END CHANNEL	2,300.00	
HAPPY CANYON CREEK BOX CULVERT 107+74.75 BEGIN BOX CULVERT 108+21.13 END BOX CULVERT		46.38
MAINTENANCE ACCESS 70+00.00 BEGIN ACCESS 88+51.74 END ACCESS	1,851.74	
REGIONAL TRAIL 23+00.00 BEGIN TRAIL 27+28.51 END TRAIL	428.51	
CHEROKEE TRAIL 51+50.00 BEGIN TRAIL 53+90.00 END TRAIL	240.00	
BELFORD AVENUE BRIDGE 93+64.92 BEGIN BRIDGE 95+63.15 END BRIDGE		198.23
TOTALS	4,820.25	244.61
SUMMARY	LIN. FT.	MILES
Channel	2,300.00	0.44
Trail & Access	2,520.25	0.48
Major Structures	244.61	0.05
GROSS AND NET LENGTH	5,064.86	0.97

BELFORD AVENUE DESIGN DATA

Minimum Curve Radius (Feet)	762
Maximum Grade	5.0%
Minimum S.S.D. Horizontal (Feet)	305
Minimum S.S.D. Vertical (Feet)	305
Minimum Design Speed (MPH)	40
Posted Speed Limit (MPH)	35
Superelevation e(Max.)	NC
2035 Design Traffic	N/A
DHV Trucks %	N/A

TOWN OF PARKER APPROVALS

THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWNS STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATION. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.

THIS REVIEW DOES NOT CONSTITUTE APPROVAL OF ANY PRIVATE ON-SITE IMPROVEMENTS WHICH MAY BE SHOWN. CONSTRUCTION CANNOT COMMENCE UNTIL ALL REQUIRED DRAINAGE/TRAFFIC REPORT(S), FINAL DEVELOPMENT PLAN(S), SPECIAL REVIEW(S), GRADING PERMIT, AND/OR OTHER PERMITS ARE COMPLETE, APPROVED AND ON FILE WITH THE TOWN OF PARKER.

TOM WILLIAMS, P.E., DIRECTOR OF ENGINEERING & PUBLIC WORKS — DATE

CHRIS HUDSON, P.E., PUBLIC WORKS MANAGER — DATE

JACOB JAMES, P.E., STORMWATER MANAGER — DATE

PARKER COLORADO

CONSTRUCTION PLANS

PLAN AND PROFILE OF PROPOSED
BELFORD AVENUE BRIDGE AND HAPPY CANYON CREEK
TOWN OF PARKER, COUNTY OF DOUGLAS, STATE OF COLORADO

SCALE OF ORIGINAL DRAWINGS

ON PLAN 1" = 40'

ON PROFILE 1" = 40' HORIZONTAL
1" = 4' VERTICAL

INDEX OF SHEETS

BASIS OF BEARING:

THE WEST LINE OF THE SOUTHWEST QUARTER OF SECTION 6, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN BEING MONUMENTED AS SHOWN HEREON HAVING A BEARING OF NORTH 00°29'49" WEST, AS DETERMINED BY GPS OBSERVATION FROM NGS CONTROL POINTS IN THE COLORADO CENTRAL ZONE, STATE PLAN COORDINATE SYSTEM, TOWN OF PARKER, COUNTY OF DOUGLAS, STATE OF COLORADO.

BENCHMARKS: (COMPARK SOUTH)

SOURCE BENCHMARKS:
DOUGLAS COUNTY BM 1.115010
A DOUGLAS COUNTY GIS MONUMENT SET IN CONCRETE LOCATED APPROXIMATELY 130 FEET SOUTHWESTERLY OF THE CENTERLINE OF CHAMBERS ROAD AND 95 FEET NORTHWESTERLY OF THE CENTERLINE OF COMPARK BOULEVARD.
ELEVATION = 5752.84 (NAVD 88)

SITE BENCHMARKS:
A NO. 5 REBAR WITH 2" ALUMINUM CAP STAMPED "LS 28286, 2001" FOUND AT THE SOUTHWEST CORNER OF SECTION 6, T6S, R66W LOCATED ON THE WEST LINE OF FIRST STREET APPROXIMATELY 1000 FEET NORTH OF ELM AVENUE.
ELEVATION = 5845.51

A 2.5" IRON PIPE WITH 3.25" ALUMINUM CAP STAMPED "PLS 12405, 1997" FOUND AT THE SOUTHEAST CORNER OF SECTION 6, T6S, R66W LOCATED APPROXIMATELY 960 FEET NORTH OF THE CENTERLINE OF AVENTERRA PARKWAY AND APPROXIMATELY 1050 FEET WEST OF THE CENTERLINE OF CHAMBERS ROAD.
ELEVATION = 5808.06

811 Know what's below. Call before you dig.

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BELFORD-HAPPY CANYON CREEK
TITLE SHEET

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Title	Sheets:	T-1 of 1

Project No./Code

Sheet Number 1

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COLORADO
DEPARTMENT OF TRANSPORTATION

M&S STANDARDS PLANS LIST

July 31, 2019

Revised on February 16, 2021

ALL OF THE M&S STANDARD PLANS, AS SUPPLEMENTED AND REVISED, APPLY TO THIS PROJECT WHEN USED BY DESIGNATED PAY ITEM OR SUBSIDIARY ITEM.

THE M&S STANDARD PLANS USED TO DESIGN THIS PROJECT ARE INDICATED BY A MARKED BOX ■ , AND WILL BE ATTACHED TO THE PLANS. ALL THE OTHER M&S STANDARD PLANS ARE STILL ELIGIBLE FOR CONSTRUCTION IF APPROVED BY AN APPROPRIATE CDOT ENGINEER.

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BELFORD-HAPPY CANYON CREEK STANDARD PLANS LIST

Designer:	SED	Structure Numbers	
Detailer:	SED		
Subset:	General	Sheets:	SP-1 of 1

Project No./Code

Sheet Number 2

GENERAL NOTES

ALL WORK TO BE CONDUCTED WITHIN THE PROJECT LIMITS SHALL BE COMPLETED IN ACCORDANCE WITH THE TOWN OF PARKER DESIGN AND CONSTRUCTION STANDARDS, LATEST EDITION, CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, AND ITS SUPPLEMENTS, CDOT STANDARD PLANS (M&S STANDARDS), LATEST EDITION, AND THE APPROVED PLANS AND SPECIFICATIONS.

ALL WORK ZONE TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, THE CURRENT COLORADO SUPPLEMENTS, AND THE APPROVED PLANS AND SPECIFICATIONS.

UTILITIES

UTILITY INFORMATION AS SHOWN ON THE PLAN SHEETS ARE PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR'S ATTENTION IS DIRECTED TO PARAGRAPH 105.11 OF THE STANDARD SPECIFICATIONS CONCERNING UTILITIES. THE CONTRACTOR SHALL CALL 811 FOR UTILITY LOCATIONS AT LEAST 2 WORKING DAYS PRIOR TO ANY DIGGING, NOT INCLUDING THE DAY OF ACTUAL CONTACT.

811 Know what's below. Call before you dig.

IT IS ESTIMATED THAT EIGHT (20) HOURS WILL BE REQUIRED FOR UTILITY POTHOLING.

EARTHWORK

WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS ORDERED BY THE ENGINEER AND WILL NOT BE PAID FOR SEPARATELY.

DEPTH OF MOISTURE – DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:

FULL DEPTH OF ALL EMBANKMENTS
BASES OF CUTS AND FILLS = 8 INCHES

EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

THE TYPE OF COMPACTION FOR EARTHWORK ON THIS PROJECT SHALL BE ASTM D698 FOR COHESIVE SOILS OR ASTM D 1557 FOR GRANULAR SOILS. THE FOLLOWING COMPACTION SPECIFICATIONS SHOULD BE FOLLOWED FOR EACH AREA:

BENEATH STRUCTURAL AREAS: 95% OF MAXIMUM DRY DENSITY
BENEATH NON–STRUCTURAL AREAS: 90% OF MAXIMUM DRY DENSITY

THE CONTRACTOR SHALL REFER TO THE FINAL GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION ON MOISTURE CONTROL AND COMPACTION.

A TYPICAL 1.5% CROSS SLOPE (2% MAX.) ON ALL SIDEWALKS SHALL BE USED.

RIGHT OF WAY

EXISTING RIGHT OF WAY INFORMATION AS SHOWN ON THE PLAN SHEETS ARE PLOTTED FROM THE BEST AVAILABLE INFORMATION.

CONSTRUCTION

REMOVAL OF CONCRETE PAVEMENT REQUIRED ON THIS PROJECT SHALL BE SAW CUT TO A VERTICAL EDGE. COST TO BE INCLUDED IN THE WORK.

ANY CONCRETE PAVEMENT, WHICH IS TO REMAIN AND IS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION, SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.

SHORING MAY BE REQUIRED TO CONSTRUCT THE IMPROVEMENTS IDENTIFIED FOR THIS PROJECT INCLUDING UTILITY RELOCATIONS, STORM SEWER PIPES, DRAINAGE STRUCTURES AND OTHER PROPOSED IMPROVEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY REQUIRED SHORING AREAS. ALL REQUIRED SHORING FOR THIS PROJECT WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.

THE CONCENTRATION OF WATER–SOLUBLE SULFATES OF THE ONSITE SOILS INDICATED CONCENTRATIONS OF LESS THAN 100 PPM (PARTS PER MILLION) TO 100 PPM. THIS IS CONSIDERED TO BE A NEGLIGIBLE CONCENTRATION RELATIVE TO POTENTIAL CORROSIVE ATTACK ON CONCRETE. THEREFORE, ALL CONCRETE IN CONTACT WITH THE SOILS ON THE SITE MAY BE DESIGNED FOR NEGLIGIBLE SULFATE EXPOSURE (SØ) IN ACCORDANCE WITH THE CURRENT AMERICAN CONCRETE INSTITUTE (ACI) MANUAL.

WATER MAY BE PURCHASED FROM THE STONEGATE WATER AND SANITATION DISTRICT.

THE END POSTS AND CORNER POSTS ARE NOT PAID FOR SEPARATELY BUT ARE INCLUDED IN THE FENCE BID ITEM.

THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT WILL CONDUCT SITE VISITS DURING THE PROJECT CONSTRUCTION WITHIN OR NEAR THE CHANNEL TO OBSERVE CONSTRUCTION FOR CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. PLEASE CONTACT MIKE SARMENTO, UDFCD CONSTRUCTION MANAGER (303–455–6277), MSARMENTO@UDFCD.ORG TO SCHEDULE A PRECONSTRUCTION MEETING. ALL STRUCTURAL AND GROUTED BOULDER WORK REQUIRE 48–HOURS PRIOR NOTICE TO ANY CONSTRUCTION OR CONCRETE PLACEMENT. STANDARDS AND SPECIFICATIONS FOR ALL OUTFALL AND CHANNEL WORK CAN BE ACCESSED AT WWW.UDFCD.ORG UNDER THE REFERENCES SECTION. FAILURE TO NOTIFY MAY RESULT IN PROJECT INELIGIBILITY.

FOR THE REGIONAL TRAIL AND CHEROKEE TRAIL, CONTROL (CONTRACTION) JOINTS SHALL BE SAWCUT (OR OTHER APPROVED METHODS) TO A DEPTH OF 1½" AND SHALL BE ⅛" WIDE. TOOLING OF CONTROL JOINTS WILL NOT BE ACCEPTED.

This project is subject to a permit with the Colorado Department of Health for Stormwater Discharges Associated with Construction Activities. The permit shall be obtained by the Contractor. The Contractor shall prepare all applications required and submit to the Colorado Department of Health. The Contractor shall submit a copy of the permit to the Engineer prior to the start of Construction. The Contractor is Responsible for all permit application fees.

UTILITY LIST

THE FOLLOWING IS A LIST OF KNOWN UTILITIES WITH SERVICES WITHIN THE PROJECT LIMITS:

IREA
BROOKS KAUFMAN (303) 688–3100 PHONE

CenturyLink
WILLIAM BENSON (303) 792–6069 PHONE

CDPHE
COLORADO DEPARTMENT OF HEALTH (303) 320–8333 PHONE

comcast
KEVIN YOUNG (720) 490–3867 PHONE

Xcel Energy
MICHELLE O'NAN (303) 329–1618 PHONE

PARKER COLORADO
PUBLIC WORKS (303) 840–9546 PHONE
STREETS – ALEX MESTDAGH
STORM WATER – JACOB JAMES
EROSION CONTROL – ADAM NELSON

STONEGATE VILLAGE METRO DISTRICT
DISTRICT ENGINEER:
SCOTT BARNETT (303) 858–9909 PHONE
DISTRICT MANAGER:
KURT SCHLIEGER (303) 381–4968 PHONE

COMPARK VILLAGE CAMPUS METRO DISTRICT
CLIFFTON LARSON ALLEN (303) 779–4525 PHONE

STANDARD ABBREVIATION/DEFINITIONS

THE FOLLOWING IS A LIST OF ABBREVIATIONS USED IN THE CONTRACT DOCUMENTS:

HCL	–	HORIZONTAL CONTROL LINE
PGL	–	PROFILE GRADE LINE
HMA	–	HOT MIX ASPHALT
NTS	–	NOT TO SCALE
ROW	–	RIGHT OF WAY
RCP	–	REINFORCED CONCRETE PIPE
PVC	–	POLYVINYL CHLORIDE PIPE
PI	–	POINT OF INTERSECTION
PC	–	POINT OF CURVATURE
PRC	–	POINT OF REVERSE CURVATURE
PT	–	POINT OF TANGENT
VPI	–	VERTICAL POINT OF INTERSECTION
VPC	–	VERTICAL POINT OF CURVATURE
VPT	–	VERTICAL POINT OF TANGENT
NC	–	NORMAL CROWN
NIC	–	NOT IN CONTRACT
NA	–	NOT APPLICABLE
POSS	–	POINT OF SLOPE SELECTION
℄	–	PROPERTY LINE

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BELFORD–HAPPY CANYON CREEK
GENERAL NOTES

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	General	Sheets:	GN–1 of 1

Project No./Code

Sheet Number 3

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Book	Page	Sheet				Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.
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			202	REMOVAL OF PIPE	EACH			3												3	
			202	REMOVAL OF SIDEWALK	SY			274												274	
			202	REMOVAL OF FENCE	LF			2012												2012	
			203	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	CY			2995												2995	
			203	POTHOLING	HOUR	20														20	
			206	STRUCTURE EXCAVATION	CY					261		130								391	
			206	STRUCTURE BACKFILL (CLASS 1)	CY					1475		118								1593	
			206	MECHANICAL REINFORCEMENT OF SOIL	CY					1144										1144	
			206	FILTER MATERIAL (CLASS A)	CY					397		1690								2087	
			206	FILTER MATERIAL (CLASS C)	CY							61								61	
			207	TOPSOIL	CY							832								832	
			208	INLET PROTECTION	EACH									1						1	
			208	AGGREGATE BAG	LF									480						480	
			208	CONCRETE WASHOUT STRUCTURE	EACH									2						2	
			208	VEHICLE TRACKING CONTROL	EACH									2						2	
			208	STABILIZED STAGING AREA	SY									2300						2300	
			208	SILT FENCE	LF									1361						1361	
			208	CULVERT PROTECTION	LF									100						100	
			208	CHECK DAM	LF									275						275	
			208	SEDIMENT CONTROL LOG (12 INCH)	LF									3683						3683	
			208	SEDIMENT REMOVAL AND DISPOSAL	HR									40						40	
			208	EROSION CONTROL MANAGEMENT	DAY									30						30	
			208	DIVERSION DITCH	LF									312						312	
			208	TEMPORARY STREAM CROSSING	EACH									4						4	
			208	TEMPORARY SEDIMENT BASIN	EACH									2						2	
			208	PORTABLE TOILET PROTECTION	EACH									1						1	
			211	DEWATERING	LS									1						1	
			212	SEEDING (NATIVE)	ACRE									6.3						6.3	
			213	MULCHING (WEED FREE STRAW)	ACRE									6.3						6.3	
			216	EROSION CONTROL BLANKET (STRAW/COCONUT)	SY									6180						6180	
			304	AGGREGATE BASE COURSE (CLASS 6)	CY			376												376	
			403	HOT MIX ASPHALT	TON					270										270	
			501	STEEL SHEET PILING (TYPE II)	SF							11710								11710	
			503	DRILLED CAISSON (24 INCH)	LF					753										753	
			503	DRILLED CAISSON (48 INCH)	LF					240										240	
			506	RIPRAP (12 INCH)	CY							76								76	
			506	RIPRAP (18 INCH)	CY					1184										1184	
			506	SOIL RIPRAP (12 INCH)	CY							2884								2884	
			506	SOIL RIPRAP (18 INCH)	CY							977								977	
			506	24 INCH GROUTED BOULDERS	CY							602								602	
			514	PEDESTRIAN RAILING (STEEL)	LF					386										386	
			515	WATERPROOFING (MEMBRANE)	SY					1631										1631	
			515	CONCRETE SEALER	SY					402										402	

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BELFORD – HAPPY CANYON CREEK
SUMMARY OF APPROXIMATE QUANTITIES

Designer: SED
Detailer: SED
Subset: General
Structure Numbers:
Sheets: SM-1 of 2

Project No./Code

Sheet Number 4

Index			Contract Item No.	Contract Item	Unit	General		Roadway		Bridge		Drainage		Erosion						Project Totals	
Book	Page	Sheet				Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.
			601	CONCRETE CLASS D (BOX CULVERT)	CY							47								47	
			601	CONCRETE CLASS D (BRIDGE)	CY					1074										1074	
			601	STRUCTURAL CONCRETE COATING	SY					1228										1228	
			601	HAND STAINED STONE FORMLINER	SF					2200										2200	
			602	REINFORCING STEEL	LB					17634		2352								19986	
			602	REINFORCING STEEL (EPOXY COATED)	LB					241455		740								242195	
			603	18 INCH REINFORCED CONRETE PIPE (CIP)	LF					40										40	
			603	48 INCH REINFORCED CONRETE PIPE (CIP)	LF							187								187	
			603	48 INCH REINFORCED CONRETE END SECTION	EACH							1								1	
			603	10X3 FOOT CONCRETE BOX CULVERT (PRECAST)	LF							90								90	
			604	INLET TYPE D (10 FOOT)	EACH							1								1	
			604	INLET SPECIAL	EACH							1								1	
			604	VANE GRATE INLET (SPECIAL)	EACH					2										2	
			606	BRIDGE RAIL (SPECIAL)	LF					388										388	
			607	CONSTRUCTION FENCE	LF									8838						8838	
			608	CONCRETE SIDEWALK (6 INCH)	SY			505												505	
			608	CONCRETE SIDEWALK (SPECIAL)	SY			433												433	
			613	1 INCH ELECTRICAL CONDUIT	LF					62										62	
			613	2 INCH ELECTRICAL CONDUIT	LF					958										958	
			613	LUMINAIRE (SPECIAL)	LF					6										6	
			614	SIGN PANEL (CLASS II)	SF			17												17	
			614	STEEL SIGN SUPPORT (2–INCH ROUND)(POST & SOCKET)	EACH			6												6	
			618	PRESTRESSED CONCRETE I (BT42)	LF					1852										1852	
			619	8 INCH PLASTIC PIPE	LF							268								268	
			620	FIELD OFFICE (CLASS 2)	EACH	1														1	
			620	FIELD LAB (CLASS 2)	EACH	1														1	
			620	SANITARY FACILITY	EACH	1														1	
			625	CONSTRUCTION SURVEYING	LS	1														1	
			626	MOBILIZATION	LS	1														1	
			630	CONSTRUCTION TRAFFIC CONTROL	LS	1														1	
			700	F/A MINOR CONTRACT REVISIONS	FA	1														1	
			700	F/A EROSION CONTROL	FA									1						1	

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BELFORD – HAPPY CANYON CREEK
SUMMARY OF APPROXIMATE QUANTITIES

Designer:	SED	Structure Numbers	
Detailer:	SED		
Subset:	General	Sheets:	SM–2 of 2

Project No./Code

Sheet Number 5

TABULATION OF REMOVAL AND RESET QUANTITIES

STATION/LOCATION	REMOVAL OF PIPE	REMOVAL OF SIDEWALK	REMOVAL OF FENCE
	EACH	SY	LF
SHEET RM-1	3	274	1228
SHEET RM-2			784
PROJECT TOTALS	3	274	2012

TABULATION OF TRAIL QUANTITIES

STATION/LOCATION	AGGREGATE BASE COURSE (CLASS 6)	CONCRETE SIDEWALK (6 INCH)	CONCRETE SIDEWALK (SPECIAL)
	CY	SY	SY
MAINTENANCE ACCESS	376		
REGIONAL TRAIL		205	433
CHEROKEE TRAIL		300	
PROJECT TOTALS	376	505	433

TABULATION OF EARTHWORK

INDEX BOOK	INDEX PAGE	INDEX SHEET	ITEM	PROJECT TOTALS	
			EMBANKMENT MATERIAL (FOR INFO. ONLY)	CU. YDS.	
			ROADWAY (FROM SURFACE COMPARISON)		
			HAPPY CANYON CREEK	0	
			MAINTENANCE ACCESS	493	
			REGIONAL TRAIL	73	
			CHEROKEE TRAIL	408	
			HAPPY CANYON CREEK FLOODPLAIN GRADING	2,021	
			TOTAL FOR PAY QUANTITY	2,995	
			UNCLASSIFIED EXCAVATION (FOR INFO. ONLY)	CU. YDS.	
			ROADWAY (FROM SURFACE COMPARISON)		
			HAPPY CANYON CREEK	611	
			MAINTENANCE ACCESS	493	
			REGIONAL TRAIL	476	
			CHEROKEE TRAIL	1	
			HAPPY CANYON CREEK FLOODPLAIN GRADING	376	
			TOTAL	1,957	
			COMPACTION	CU. YDS.	
			(MOISTURE & DENSITY CONTROL)		
			EMBANKMENT (NET)	2,995	
			BASES OF CUTS & FILLS (8 INCHES)	0	
			TOTAL	2,995	
			WETTING QUANTITIES	M. GAL.	
			COMPACTION		
			(2995 x 0.040 M. GAL./yd)	120	
			TOTAL	120	
			ROADWAY QUANTITIES BALANCE	CU. YDS.	
			EMBANKMENT (NET)	2,995	
			EMBANKMENT X FACTOR (1.15)	3,444	
			EMBANKMENT REQUIRED FOR SHRINKAGE BASES OF CUTS & FILLS	0	
			BALANCE TOTAL (EMBANKMENT)	3,444	
			UNCLASSIFIED EXCAVATION	1,957	
			TO BE IMPORTED BY CONTRACTOR	1,487	
			BALANCE TOTAL	3,444	

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BELFORD – HAPPY CANYON CREEK
TABULATION OF TRAIL QUANTITIES

Designer:	SED	Structure Numbers	
Detailer:	SED		
Subset:	Roadway	Sheets:	TB-1 of 1

Project No./Code

Sheet Number 6

PROPERTY OF
470 COMPARK LLC
C/O MPV COMPARK MANAGEMENT LLC
DENVER, CO 80206

PROPERTY OF
470 COMPARK LLC
C/O MPV COMPARK MANAGEMENT LLC
DENVER, CO 80206

EXISTING CHEROKEE TRAIL

PROPERTY OF
PLATTE VALLEY COMMERCIAL GROUP
4900 MAIN STREET
KANSAS CITY, MO
64112-2630

105+00

EB E-470

HAPPY CANYON CREEK HCL

106+00

E-470 PUBLIC HIGHWAY AUTHORITY
22470 E 6TH PKWY
SUITE 100
AURORA, CO 80018

HAPPY CANYON CREEK

MATCHLINE STA. 117+00

116+00

115+00

114+00

113+00

112+00

111+00

110+00

1228 LF OF REMOVAL OF FENCE

107+00

108+00

109+00

3 EACH OF REMOVAL OF PIPE

274 SY OF REMOVAL OF SIDEWALK

EXISTING CHEROKEE TRAIL

PROPERTY OF
COMPARK 190 LLC
4600 S ULSTER ST SUITE 1400
DENVER, CO 80237-2850

PROPERTY OF
COMPARK 190 LLC
4600 S ULSTER ST SUITE 1400
DENVER, CO 80237-2850

BELFORD AVENUE

N

HORIZONTAL SCALE: 1"=80'

0 40 80 160

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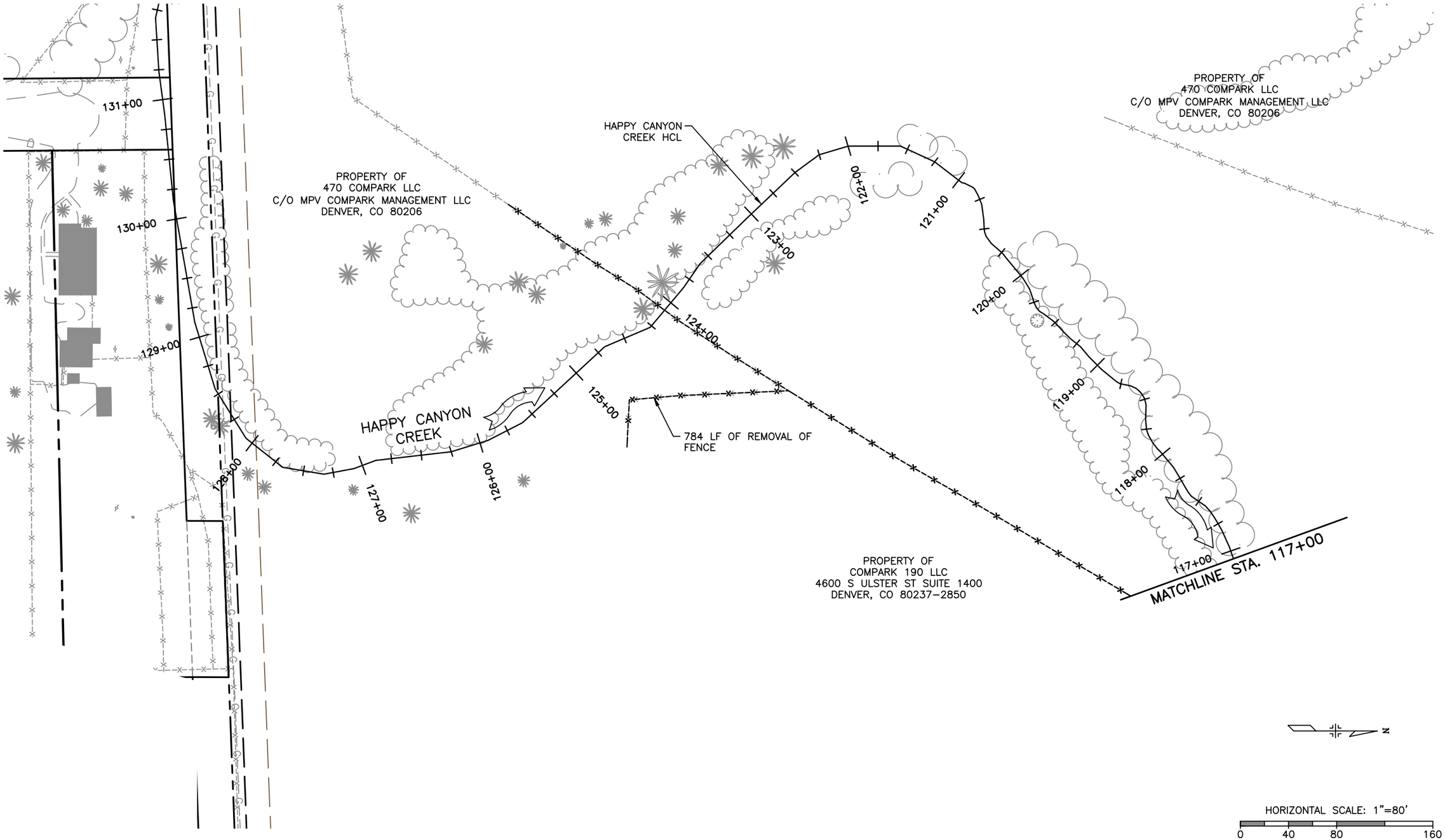
BELFORD-HAPPY CANYON CREEK REMOVAL AND RESET PLANS

Designer:	SED	Structure Numbers	
Detailer:	SED		
Subset:	Trail	Sheets:	RM-1 of 2

Project No./Code

Sheet Number 7



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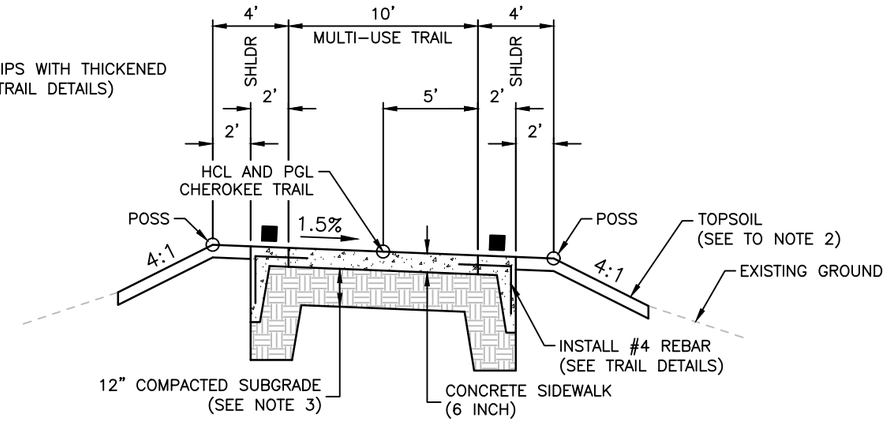
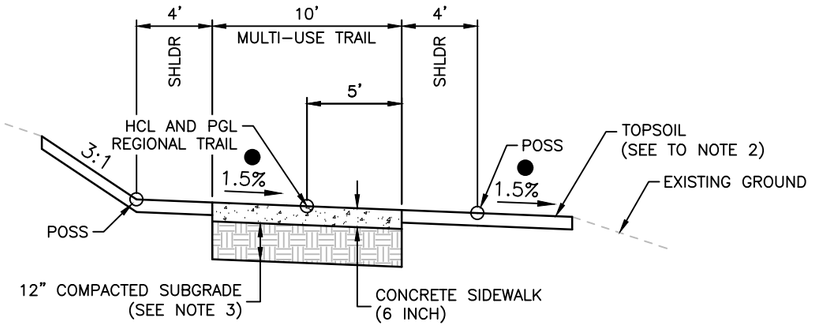
								Subset: Trail	Sheets: RM–2 of 2		

■ RUMBLE STRIPS WITH THICKENED EDGE (SEE TRAIL DETAILS)



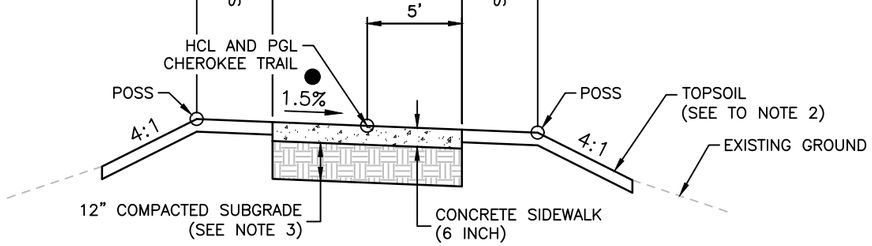
CHEROKEE TRAIL
STA 52+20.00 TO STA 52+97.00



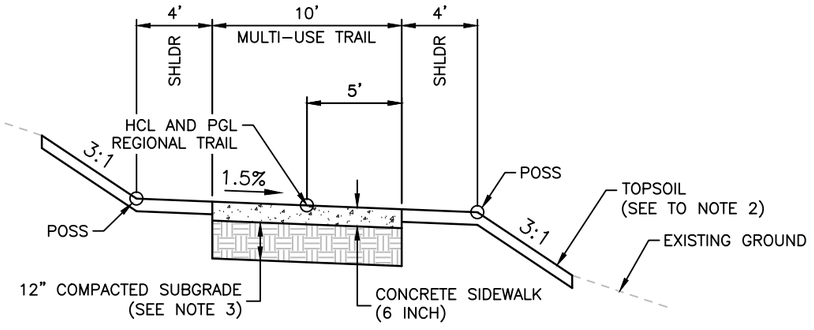
REGIONAL TRAIL
STA 26+26.94 TO STA 27+13.41

● TRANSITION CROSS SLOPE AT TIE TO EXISTING TRAIL (SEE TRAIL PLANS)

REGIONAL TRAIL
STA 23+66.96 TO STA 26+26.94
SEE TRAIL DETAILS FOR
CONCRETE SIDEWALK (SPECIAL)



CHEROKEE TRAIL
STA 51+50.00 TO STA 52+20.00
STA 52+97.00 TO STA 53+90.00



REGIONAL TRAIL
STA 23+00.00 TO STA 23+66.96

NOTES:

1. BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE. SEE STANDARDS FOR DETAILS OF CUT SLOPE TREATMENT, FLARING AND WIDENING.
2. THE TOPSOIL SHALL BE PLACED AT A MINIMUM DEPTH OF 4 INCHES. DUE TO THE ANTICIPATED EXCESS AMOUNT OF TOPSOIL, SOME SURFACES WILL CONTAIN TOPSOIL EXCEEDING 4 INCHES IN DEPTH.
3. THE SUBGRADE SHALL BE THOROUGHLY COMPACTED TO NINETY–FIVE PERCENT (95%) MODIFIED PROCTER DENSITY AT ± TWO PERCENT (2%) OF OPTIMUM MOISTURE.

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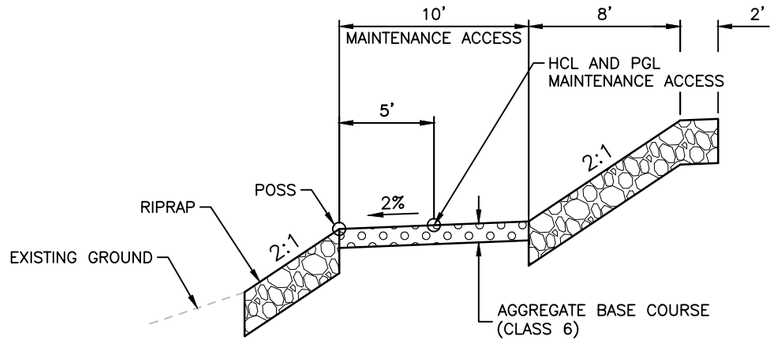
BELFORD–HAPPY CANYON CREEK TRAIL
TYPICAL SECTIONS

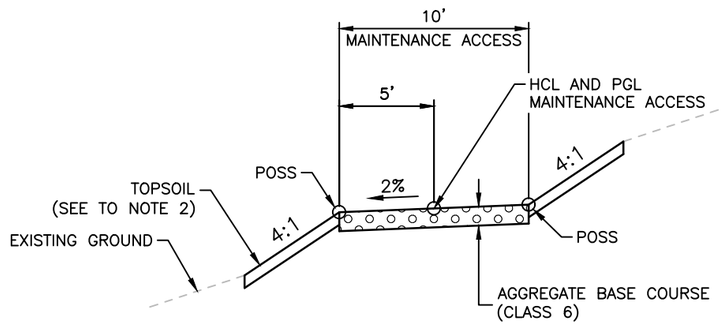
Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TY–1 of 2

Project No./Code

Sheet Number 9



MAINTENANCE ACCESS
STA 84+39.41 TO STA 85+39.63



MAINTENANCE ACCESS
STA 70+00.00 TO STA 84+39.41
STA. 85+39.63 TO STA. 88+51.74

NOTES:

1. BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE. SEE STANDARDS FOR DETAILS OF CUT SLOPE TREATMENT, FLARING AND WIDENING.
2. THE TOPSOIL SHALL BE PLACED AT A MINIMUM DEPTH OF 4 INCHES. DUE TO THE ANTICIPATED EXCESS AMOUNT OF TOPSOIL, SOME SURFACES WILL CONTAIN TOPSOIL EXCEEDING 4 INCHES IN DEPTH.
3. THE SUBGRADE SHALL BE THOROUGHLY COMPACTED TO NINETY–FIVE PERCENT (95%) MODIFIED PROCTER DENSITY AT ± TWO PERCENT (2%) OF OPTIMUM MOISTURE.

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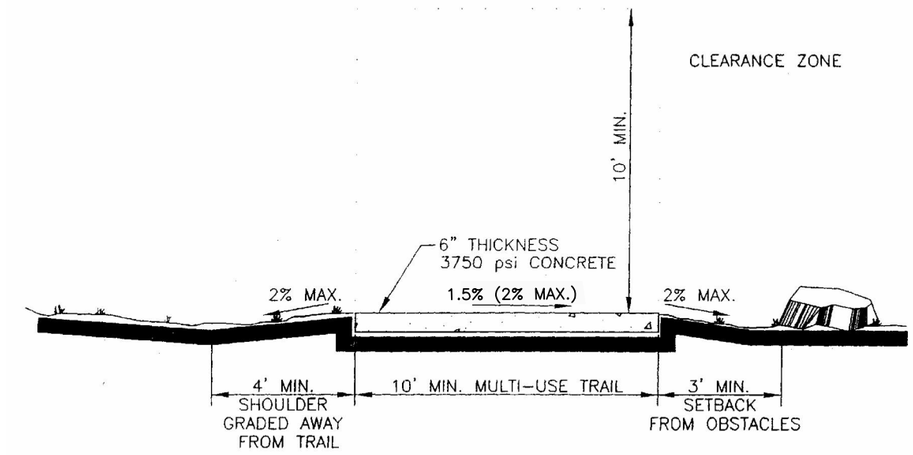
BELFORD–HAPPY CANYON CREEK TRAIL
T115360–01TYP02 – TY–2

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TY–2 of 2

Project No./Code

Sheet Number 10

REGIONAL TRAIL



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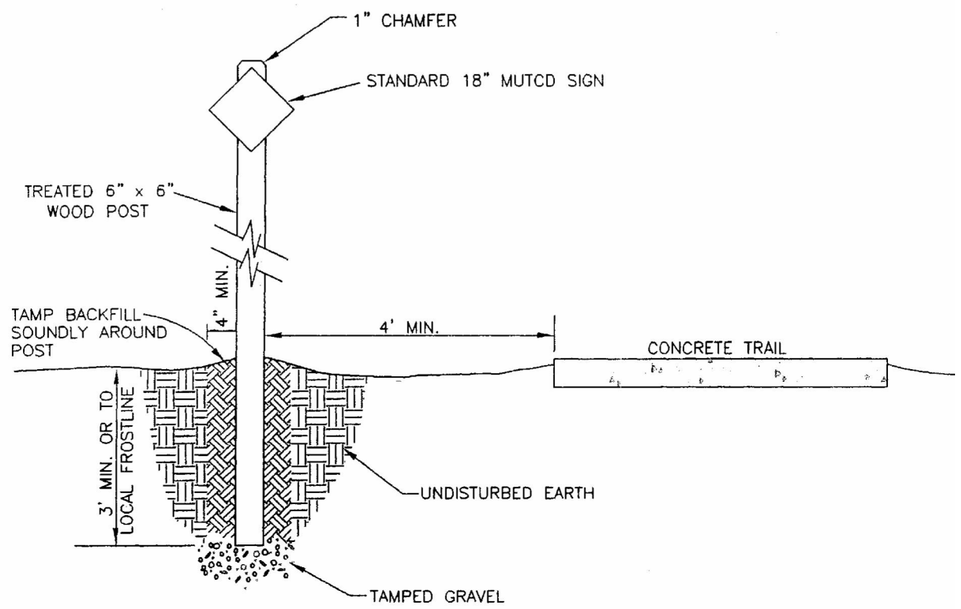

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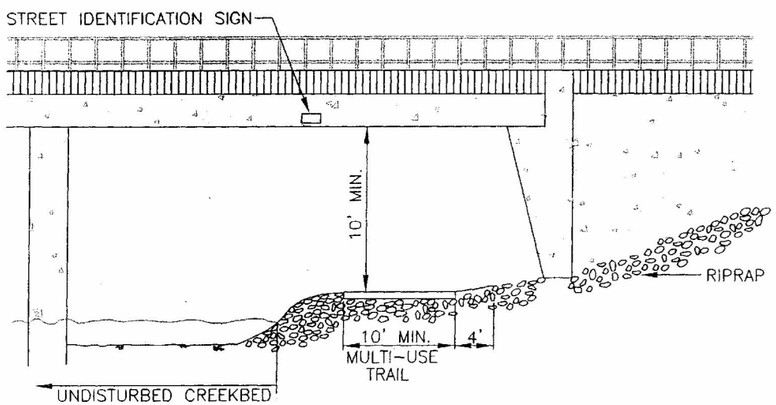

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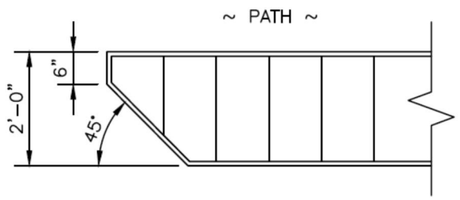
BELFORD-HAPPY CANYON CREEK TRAIL DETAILS

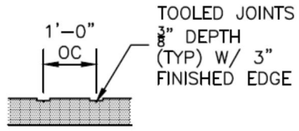
Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TD-1 of 3

Project No./Code

Sheet Number 11



TYPICAL RETURN PLAN



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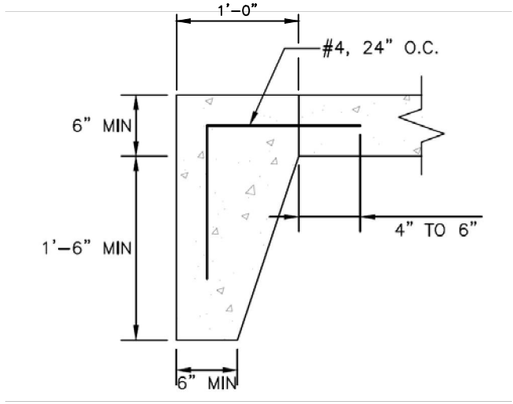
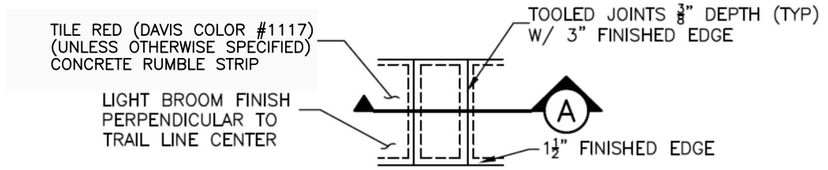


THICKENED EDGE



TYPICAL SCORING PLAN

RUMBLE STRIPS WITH THICKENED EDGE DETAILS

NOTES:

1. CONCRETE SHALL BE CLASS B.
2. REINFORCING SHALL BE GRADE 60.
3. COST OF CONCRETE, REINFORCING, STAIN, AND ALL MISCELLANEOUS MATERIALS AND LABOR SHALL BE INCLUDED IN ITEM 608, CONCRETE SIDEWALK (6 INCH).

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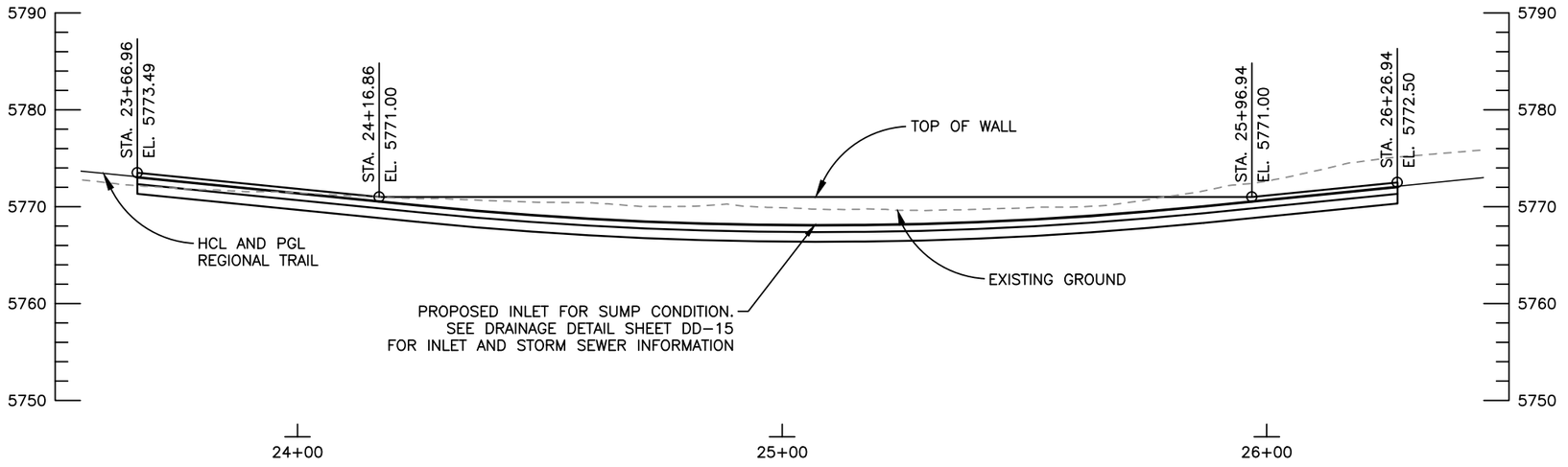
As Constructed
No Revisions:
Revised:
Void:

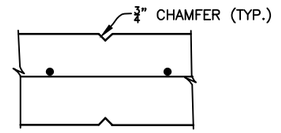
BELFORD-HAPPY CANYON CREEK TRAIL DETAILS

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TD-2 of 3

Project No./Code

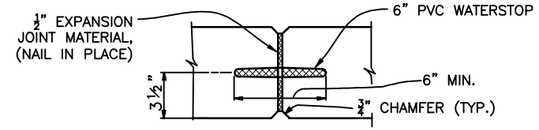
Sheet Number 12





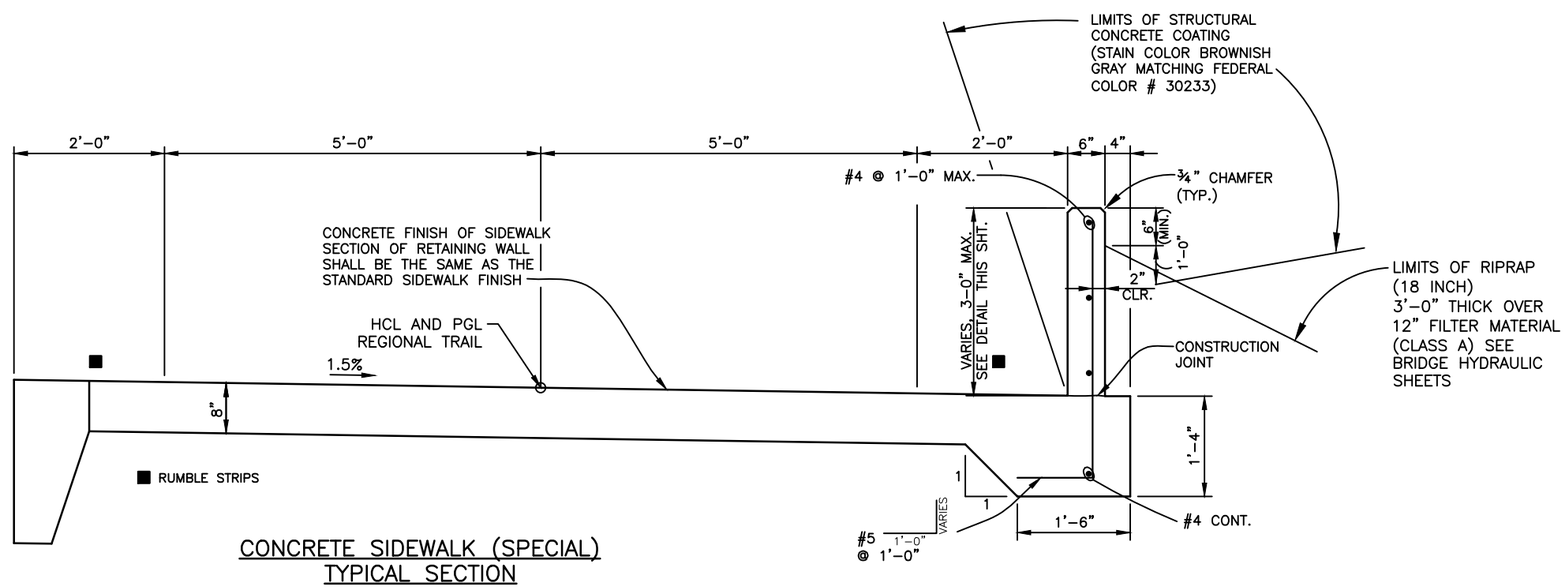
WALL STEM CONTROL JOINT

(CONTROL JOINTS SHALL BE SPACED @ 10'-0" ON CENTER)



WALL STEM EXPANSION JOINT

(PLACE MAXIMUM 60'-0" O.C.)



CONCRETE SIDEWALK (SPECIAL)
TYPICAL SECTION

NOTES:

1. CONCRETE SHALL BE CLASS B.
2. REINFORCING SHALL BE GRADE 60.
3. COST OF CONCRETE, REINFORCING, STAIN, AND ALL MISCELLANEOUS MATERIALS AND LABOR SHALL BE INCLUDED IN ITEM 608, CONCRETE SIDEWALK SPECIAL.

STA. 24+39.74 TO STA. 25+80.93

STA. 23+66.96 TO STA. 24+39.74 (OMITS THE 2' RUMBLE STRIPS ON THE LEFT SIDE OF THE REGIONAL TRAIL
STA. 25+80.93 TO STA. 26+26.94

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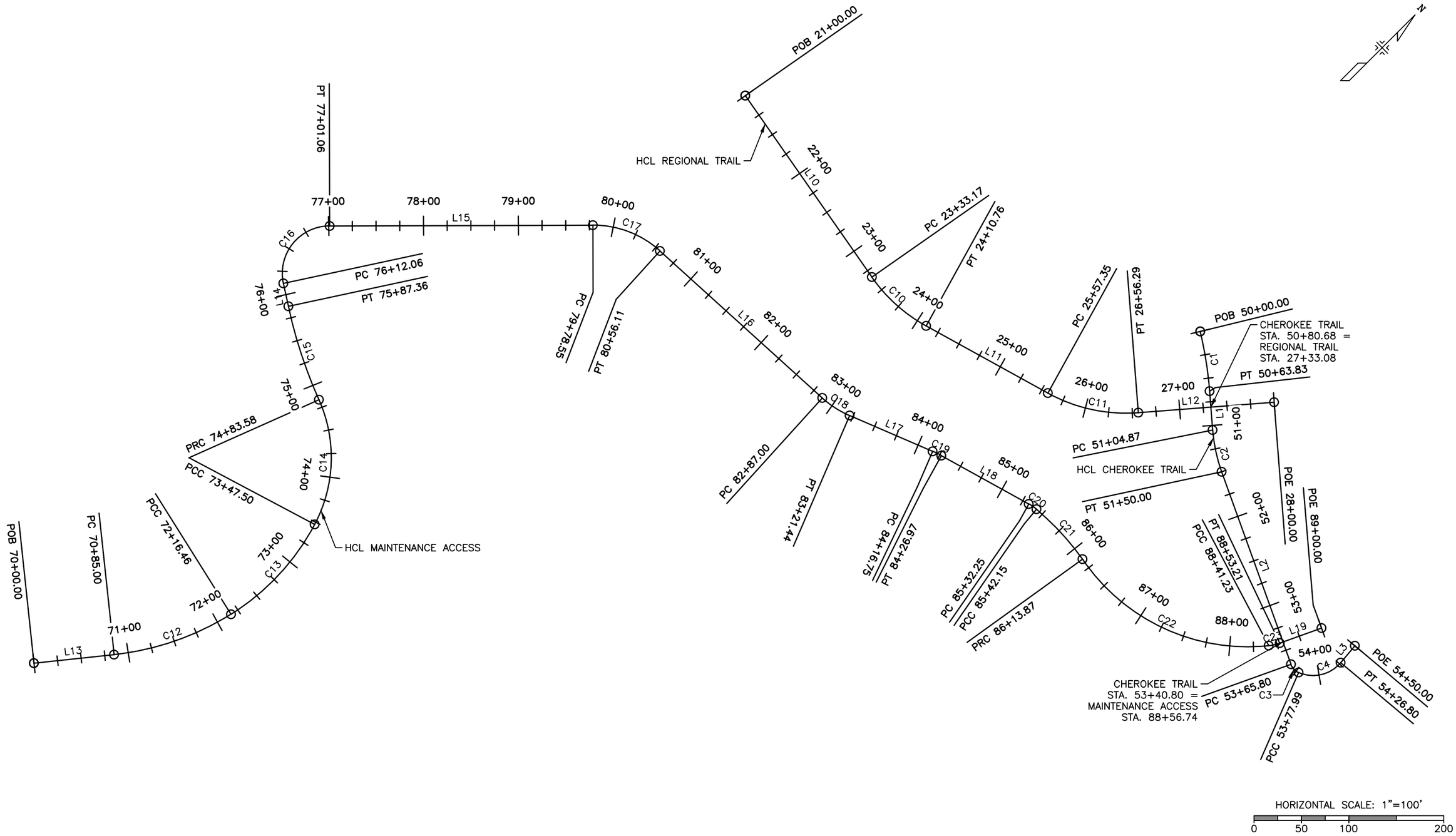
No Revisions:
Revised:
Void:

BELFORD-HAPPY CANYON CREEK TRAIL DETAILS

Designer:	SED	Structure Numbers	
Detailer:	SED		
Subset:	Trail	Sheets:	TD-3 of 3

Project No./Code

Sheet Number 13



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BELFORD-HAPPY CANYON CREEK TRAIL GEOMETRIC LAYOUT

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TG-1 of 2

Project No./Code

Sheet Number 14

HCL – MAINTENANCE ACCESS

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L13		70+00.00 70+85.00	26922.9890 26989.1109	93954.9049 94008.3174	85.00'	N38°55'51.17"E			
C12	PC= PI= PT=	70+85.00 71+51.88 72+16.46	26989.1109 27041.1372 27106.3141	94008.3174 94050.3436 94065.3404	131.46'	N25°56'39.65"E	025°58'23.04"	66.88'	290.00'
C13	PC= PI= PT=	72+16.46 72+83.52 73+47.50	27106.3141 27171.6693 27235.7763	94065.3404 94080.3781 94060.6874	131.04'	N02°03'30.08"W	030°01'56.41"	67.06'	250.00'
C14	PC= PI= PT=	73+47.50 74+20.62 74+83.58	27235.7763 27305.6744 27331.8184	94060.6874 94039.2180 93970.9305	136.07'	N43°03'45.13"W	051°58'33.70"	73.12'	150.00'
C15	PC= PI= PT=	74+83.58 75+35.65 75+87.36	27331.8184 27350.4384 27378.6811	93970.9305 93922.2956 93878.5416	103.78'	N63°06'15.69"W	011°53'32.59"	52.08'	500.00'
L14		75+87.36 76+12.06	27378.6811 27392.0795	93878.5416 93857.7847	24.71'	N57°09'29.39"W			
C16	PC= PI= PT=	76+12.06 76+73.79 77+01.06	27392.0795 27425.5586 27469.3389	93857.7847 93805.9186 93849.4413	89.00'	N06°09'49.02"W	101°59'20.74"	61.73'	50.00'
L15		77+01.06 79+78.55	27469.3389 27666.1304	93849.4413 94045.0747	277.49'	N44°49'51.35"E			
C17	PC= PI= PT=	79+78.55 80+19.20 80+56.11	27666.1304 27694.9549 27696.9739	94045.0747 94073.7296 94114.3237	77.56'	N65°59'30.30"E	042°19'17.90"	40.64'	105.00'
L16		80+56.11 82+87.00	27696.9739 27708.4437	94114.3237 94344.9273	230.89'	N87°09'09.25"E			
C18	PC= PI= PT=	82+87.00 83+04.38 83+21.44	27708.4437 27709.3070 27715.7163	94344.9273 94362.2840 94378.4370	34.44'	N77°45'17.89"E	018°47'42.71"	17.38'	105.00'
L17		83+21.44 84+16.75	27715.7163 27750.8672	94378.4370 94467.0254	95.31'	N68°21'26.54"E			
C19	PC= PI= PT=	84+16.75 84+21.86 84+26.97	27750.8672 27752.7535 27754.1689	94467.0254 94471.7794 94476.6941	10.22'	N71°08'45.70"E	005°34'38.33"	5.11'	105.00'
L18		84+26.97 85+32.25	27754.1689 27783.3026	94476.6941 94577.8602	105.28'	N73°56'04.87"E			
C20	PC= PI= PT=	85+32.25 85+37.22 85+42.15	27783.3026 27784.6778 27785.0862	94577.8602 94582.6354 94587.5878	9.91'	N79°36'37.39"E	011°21'05.04"	4.97'	50.00'
C21	PC= PI= PT=	85+42.15 85+78.19 86+13.87	27785.0862 27788.0475 27782.2772	94587.5878 94623.5004 94659.0698	71.71'	S87°44'58.92"E	013°55'42.35"	36.03'	295.00'
C22	PC= PI= PT=	86+13.87 87+40.13 88+41.23	27782.2772 27758.2863 27856.5176	94659.0698 94783.0299 94862.3537	227.36'	N69°56'15.11"E	062°01'54.83"	126.26'	210.00'
C23	PC= PI= PT=	88+41.23 88+47.24 88+53.21	27856.5176 27861.2000 27866.6458	94862.3537 94866.1348 94868.6967	11.98'	N32°03'28.98"E	013°43'37.43"	6.02'	50.00'
L19		88+53.21 89+00.00	27866.6458 27908.9885	94868.6967 94888.6167	46.79'	N25°11'40.26"E			

HCL – CHEROKEE TRAIL

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
C1	PC= PI= PT=	50+00.00 50+31.98 50+63.83	28039.6943 28023.0114 28002.2052	94577.0255 94604.3105 94628.5981	63.83'	S53°59'09.26"E	009°08'32.78"	31.98'	400.00'
L1		50+63.83 51+04.87	28002.2052 27975.5018	94628.5981 94659.7697	41.05'	S49°24'52.87"E			
C2	PC= PI= PT=	51+04.87 51+27.57 51+50.00	27975.5018 27960.7331 27951.0696	94659.7697 94677.0095 94697.5507	45.13'	S57°06'36.30"E	015°23'26.87"	22.70'	168.00'
L2		51+50.00 53+65.80	27951.0696 27859.2038	94697.5507 94892.8240	215.80'	S64°48'19.74"E			
C3	PC= PI= PT=	53+65.80 53+72.26 53+77.99	27859.2038 27856.4559 27858.8084	94892.8240 94898.6649 94904.6759	12.19'	S88°05'21.16"E	046°34'02.84"	6.45'	15.00'
C4	PC= PI= PT=	53+77.99 54+06.42 54+26.80	27858.8084 27869.1674 27897.4855	94904.6759 94931.1459 94928.6846	48.81'	N31°49'47.19"E	073°35'40.47"	28.42'	38.00'
L3		54+26.80 54+50.00	27897.4855 27920.5941	94928.6846 94926.6761	23.20'	N04°58'03.05"W			

HCL – REGIONAL TRAIL

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L10		21+00.00 23+33.17	27876.4111 27835.5854	94062.1387 94291.7046	233.17'	S79°54'57.64"E			
C10	PC= PI= PT=	23+33.17 23+72.65 24+10.76	27835.5854 27828.6723 27839.5991	94291.7046 94330.5772 94368.5177	77.59'	N87°00'31.78"E	026°09'01.16"	39.48'	170.00'
L11		24+10.76 25+57.35	27839.5991 27880.1678	94368.5177 94509.3818	146.59'	N73°56'01.20"E			
C11	PC= PI= PT=	25+57.35 26+08.27 26+56.29	27880.1678 27894.2596 27932.9294	94509.3818 94558.3119 94591.4387	98.95'	N57°15'34.17"E	033°20'54.07"	50.92'	170.00'
L12		26+56.29 28+00.00	27932.9294 28042.0655	94591.4387 94684.9312	143.71'	N40°35'07.13"E			

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BELFORD–HAPPY CANYON CREEK
T115360–01GEM01 – TG–2

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TG–2 of 2

Project No./Code

Sheet Number 15

PROPERTY OF
470 COMPARK LLC
C/O MPV COMPARK MANAGEMENT LLC
DENVER, CO 80206

PROPOSED R.O.W.
BELFORD AVENUE

PERMANENT SLOPE AND
DRAINAGE EASEMENT
BELFORD AVENUE

BEGIN CONSTRUCTION
REGIONAL TRAIL
STA 23+00.00

23+00

PC 23+33.17

PT 24+10.76

24+00

10'

5'

HCL REGIONAL TRAIL

25+00

PC 25+57.35

PROPOSED INLET FOR SUMP CONDITION
SEE DRAINAGE DETAIL SHEET DD-15
FOR INLET AND STORM SEWER INFORMATION

PROPOSED R.O.W.
BELFORD AVENUE

PERMANENT SLOPE AND
DRAINAGE EASEMENT
BELFORD AVENUE

PROPOSED WATER LINE
(BY OTHERS)

PROPOSED SANITARY SEWER LINE
(BY OTHERS)

PROPERTY OF
470 COMPARK LLC
C/O MPV COMPARK MANAGEMENT LLC
DENVER, CO 80206

50+00

PT 26+56.29

PT 50+63.83

27+00

END CONSTRUCTION
REGIONAL TRAIL
STA 27+28.51

MATCH EXISTING
TRAIL SLOPE

28+00

R=15'

PC 51+04.87

51+00

PT 51+50.00

26+00

10'

5'

R=15'

2'
(TYP.)

STA 26+31.00
BEGIN TRAIL CROSS
SLOPE TRANSITON

CONCRETE SIDEWALK
(SPECIAL)
(SEE TD-3)

HCL CHEROKEE TRAIL

82+00

DROP STRUCTURE (TYP)
(SEE CHANNEL PLANS)

PC 82+87.00

PT 83+21.44

83+00

RIPRAP
(SEE BRIDGE AND CHANNEL PLANS)

PROPOSED BELFORD
AVENUE BRIDGE
(SEE BRIDGE PLANS)

MAINTENANCE ACCESS
(SEE TP-5, TP-7,
TP-9, TP-11)

84+00

HAPPY CANYON CREEK

CHEROKEE TRAIL
(SEE TP-3)

52+00

PROPERTY OF
COMPARK 190 LLC
4600 S ULSTER ST SUITE 1400
DENVER, CO 80237-2850

85+00

FOR HYDRAULIC INFORMATION
(SEE CHANNEL PLANS)

PC 84+16.75

PT 84+26.97

BELFORD AVE

PC 85+32.25

PCC 85+42.15

86+00

PROPOSED BELFORD AVENUE
(BY OTHERS)

PROPERTY OF
COMPARK 190 LLC
4600 S ULSTER ST SUITE 1400
DENVER, CO 80237-2850

NOTES:

1. UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.
2. EASEMENTS SHALL NOT BE CLEARED AND GRUBBED UNLESS IT IS REQUIRED IN ORDER TO CONSTRUCT THE PROJECT. THE CONTRACTOF SHALL USE PARTICULAR CARE TO MINIMIZE DAMAGE TO PLANTINGS WITHIN THE PROPERTY.

LEGEND

- TOP OF CUT
- TOE OF FILL
- LIMITS OF CONCRETE SIDEWALK (6 INCH)

N

HORIZONTAL SCALE: 1"=40'

0 20 40 80

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No Revisions:
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Void:

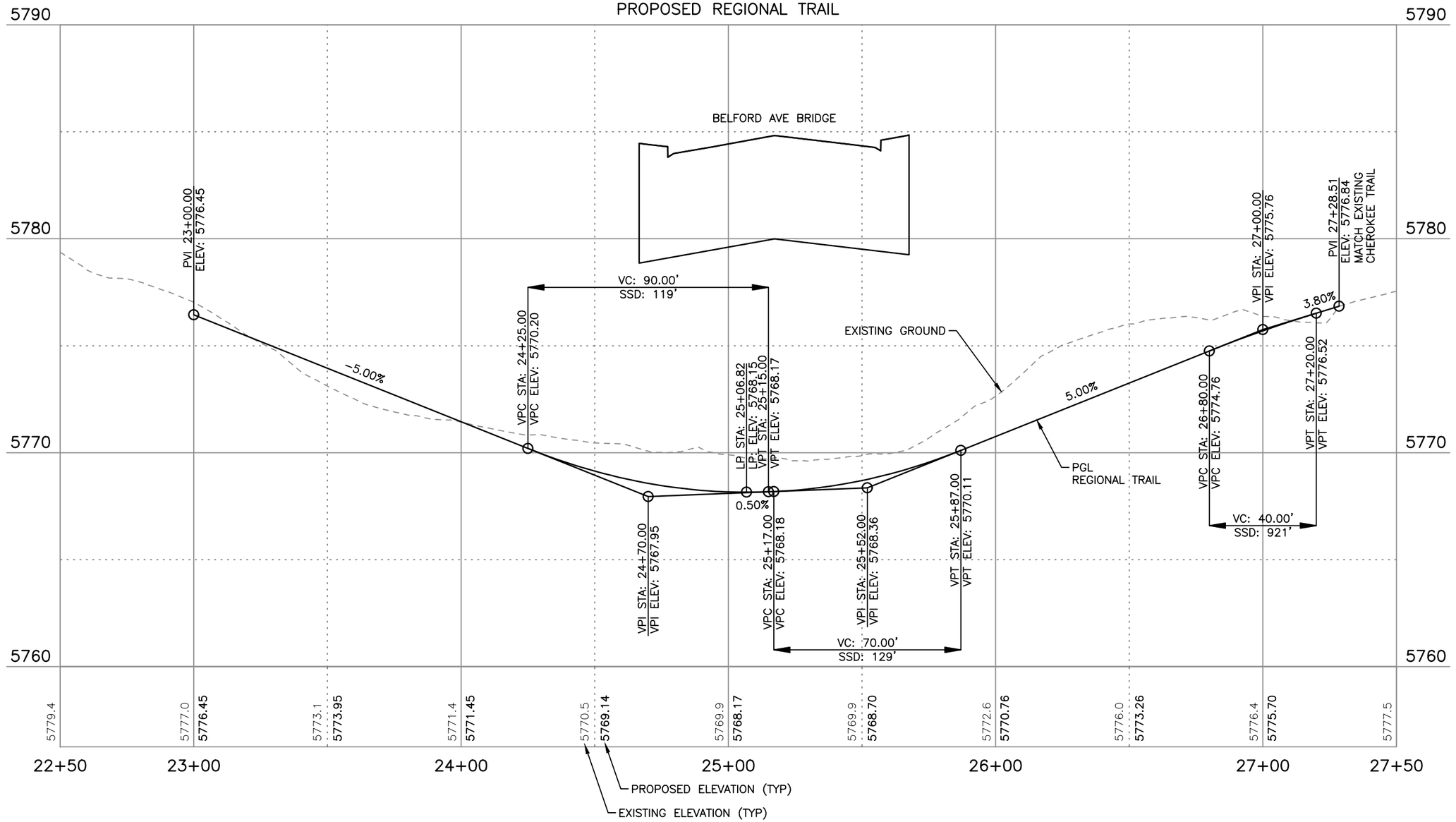
BELFORD-HAPPY CANYON CREEK
REGIONAL TRAIL PLAN

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TP-1 of 12

Project No./Code

Sheet Number 16

PROPOSED REGIONAL TRAIL



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HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=5'
0 20 40 80

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As Constructed
No Revisions:
Revised:
Void:

BELFORD-HAPPY CANYON CREEK REGIONAL TRAIL PROFILE

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TP-2 of 12

Project No./Code

Sheet Number 17

PROPERTY OF
470 COMPARK LLC
C/O MPV COMPARK MANAGEMENT LLC
DENVER, CO 80206

PROPOSED WATER LINE
(BY OTHERS)

BEGIN CONSTRUCTION
CHEROKEE TRAIL
STA 51+50.00

HCL CHEROKEE TRAIL

50+00

PC 51+04.87

PT 51+50.00

RUMBLE STRIPS WITH
THICKENED EDGE
STA 52+20 TO STA 52+97
(SEE TRAIL TYPICAL
SECTIONS AND DETAILS)

51+00

52+00

53+00

89+00

54+00

54+50

PT 54+26.80

PROPERTY OF
PLATTE VALLEY COMMERCIAL GROUP
4900 MAIN STREET
KANSAS CITY, MO 64112–2630

PROPERTY OF
COMPARK 190 LLC
4600 S ULSTER ST SUITE 1400
DENVER, CO 80237–2850

END CONSTRUCTION
CHEROKEE TRAIL
STA 53+90.00

MATCH EXISTING
TRAIL SLOPE

FOR HYDRAULIC INFORMATION
(SEE CHANNEL PLANS)

PT 88+53.21

PCC 88+41.23

PCC 53+77.99

10'

5'

PROPERTY OF
470 COMPARK LLC
C/O MPV COMPARK MANAGEMENT LLC
DENVER, CO 80206

PT 50+63.83

27+00

MATCH EXISTING
TRAIL SLOPE

STA 53+35.00
BEGIN TRAIL CROSS
SLOPE TRANSITION

PT 26+56.29

STA 52+00.00
END TRAIL CROSS
SLOPE TRANSITON

88+00

PC 53+65.80

PROPOSED BELFORD AVENUE
(BY OTHERS)

PROPOSED REGIONAL TRAIL
(SEE TP–1)

PC 25+57.35

26+00

RIPRAP
(SEE BRIDGE AND CHANNEL PLANS)

PROPOSED BELFORD
AVENUE BRIDGE
(SEE BRIDGE PLANS)

BELFORD AVE

HAPPY CANYON CREEK

MAINTENANCE ACCESS
(SEE TP–5, TP–7,
TP–9, TP–11)

HCL MAINTENANCE ACCESS

87+00

PROPERTY OF
COMPARK 190 LLC
4600 S ULSTER ST SUITE 1400
DENVER, CO 80237–2850

86+00

PROPOSED SANITARY SEWER LINE
(BY OTHERS)

PROPOSED R.O.W.
BELFORD AVENUE

PERMANENT SLOPE AND
DRAINAGE EASEMENT
BELFORD AVENUE

PROPERTY OF
COMPARK 190 LLC
4600 S ULSTER ST SUITE 1400
DENVER, CO 80237–2850

N

LEGEND

- TOP OF CUT
- TOE OF FILL
- LIMITS OF CONCRETE SIDEWALK (6 INCH)

HORIZONTAL SCALE: 1"=40'

0 20 40 80

NOTES:

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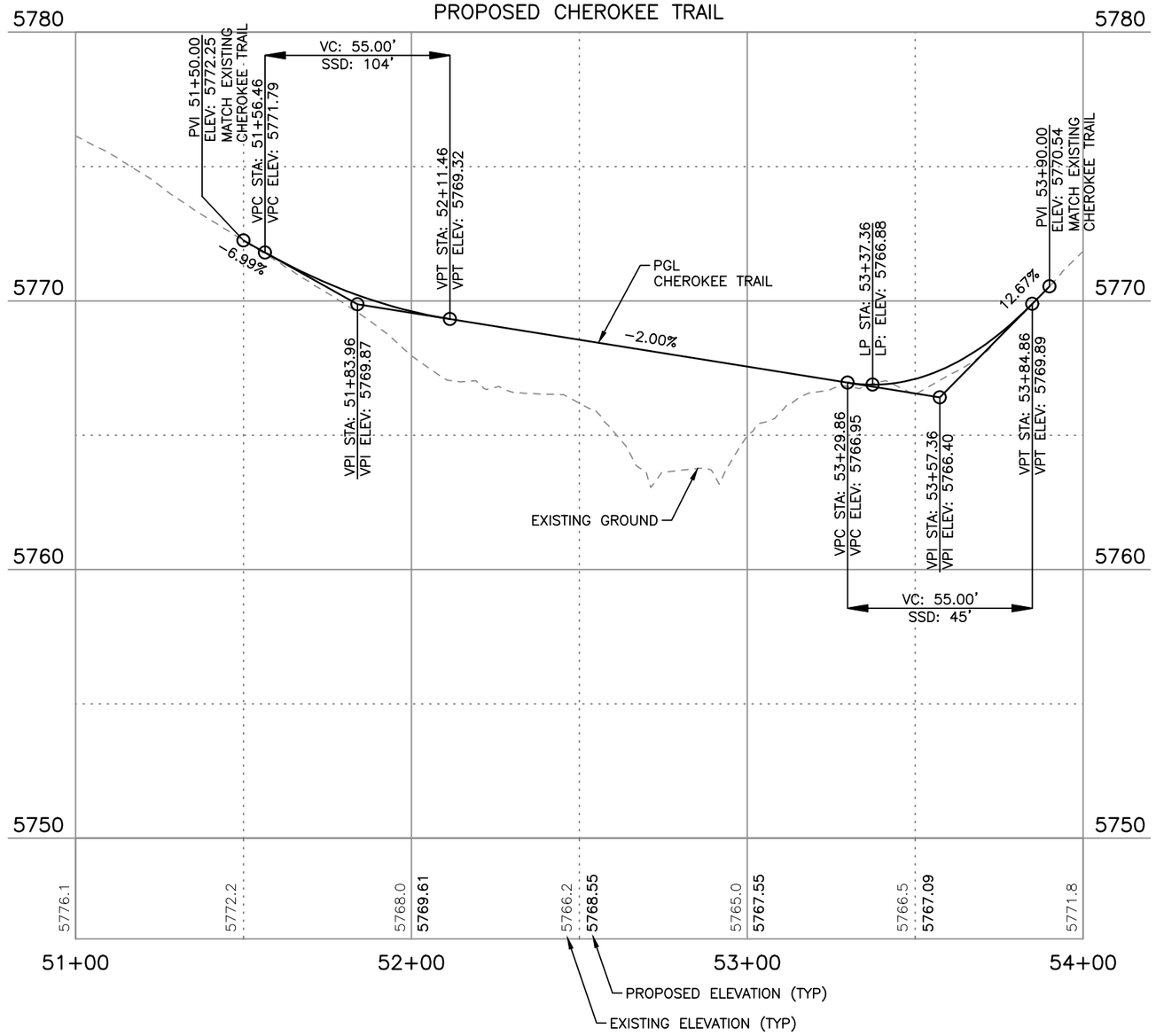
BELFORD–HAPPY CANYON CREEK
CHEROKEE TRAIL PLAN

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TP–3 of 12

Project No./Code

Sheet Number 18



2.5
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HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=5'
0 20 40 80

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	Date	Comments	Initials

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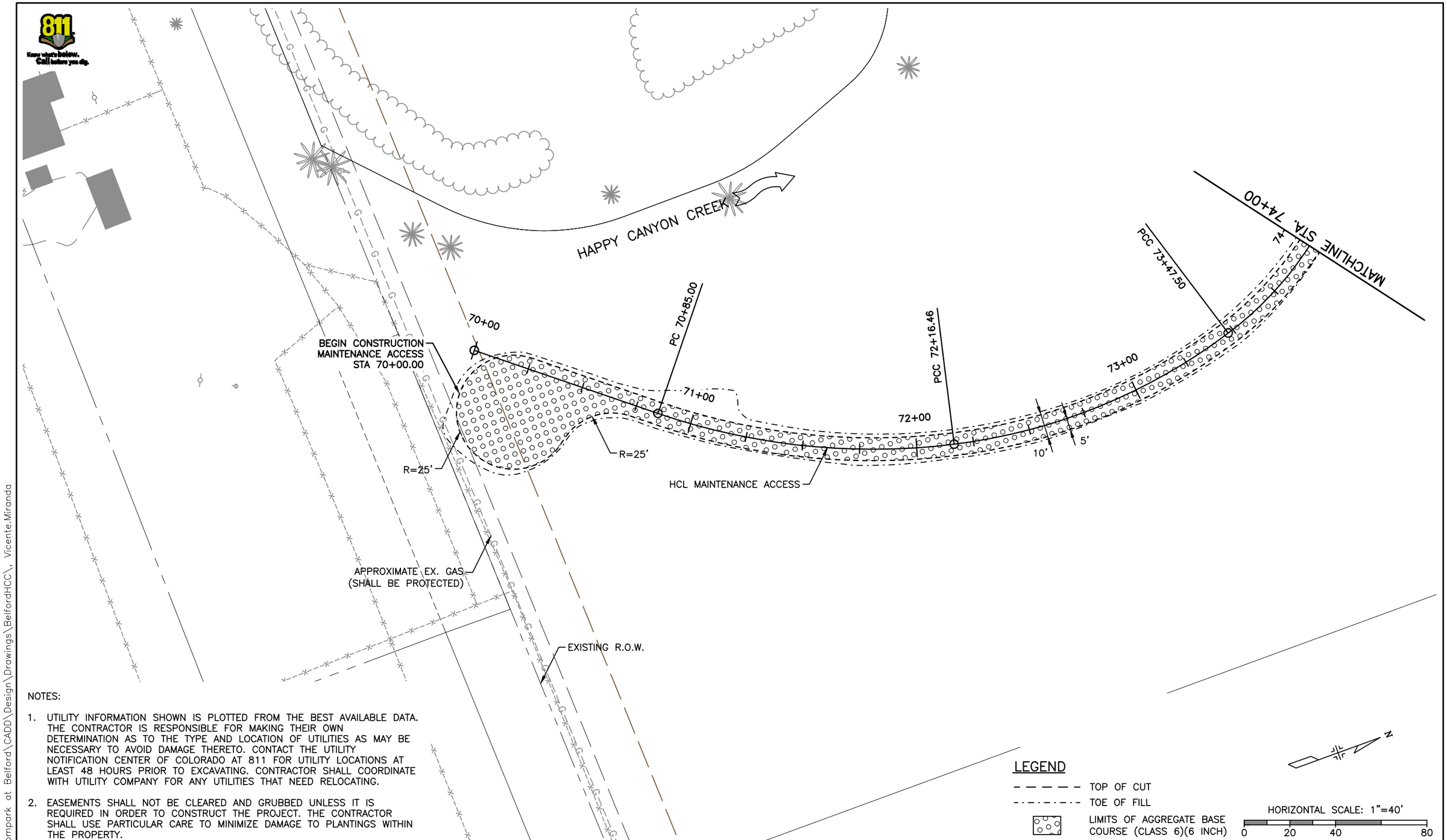
No Revisions:
Revised:
Void:

BELFORD-HAPPY CANYON CREEK
CHEROKEE TRAIL PROFILE

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TP-4 of 12

Project No./Code

Sheet Number 19



NOTES:

1. UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.

2. EASEMENTS SHALL NOT BE CLEARED AND GRUBBED UNLESS IT IS REQUIRED IN ORDER TO CONSTRUCT THE PROJECT. THE CONTRACTOR SHALL USE PARTICULAR CARE TO MINIMIZE DAMAGE TO PLANTINGS WITHIN THE PROPERTY.

LEGEND

- TOP OF CUT
- TOE OF FILL
- LIMITS OF AGGREGATE BASE COURSE (CLASS 6)(6 INCH)

HORIZONTAL SCALE: 1"=40'
0 20 40 80

N

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Revised:
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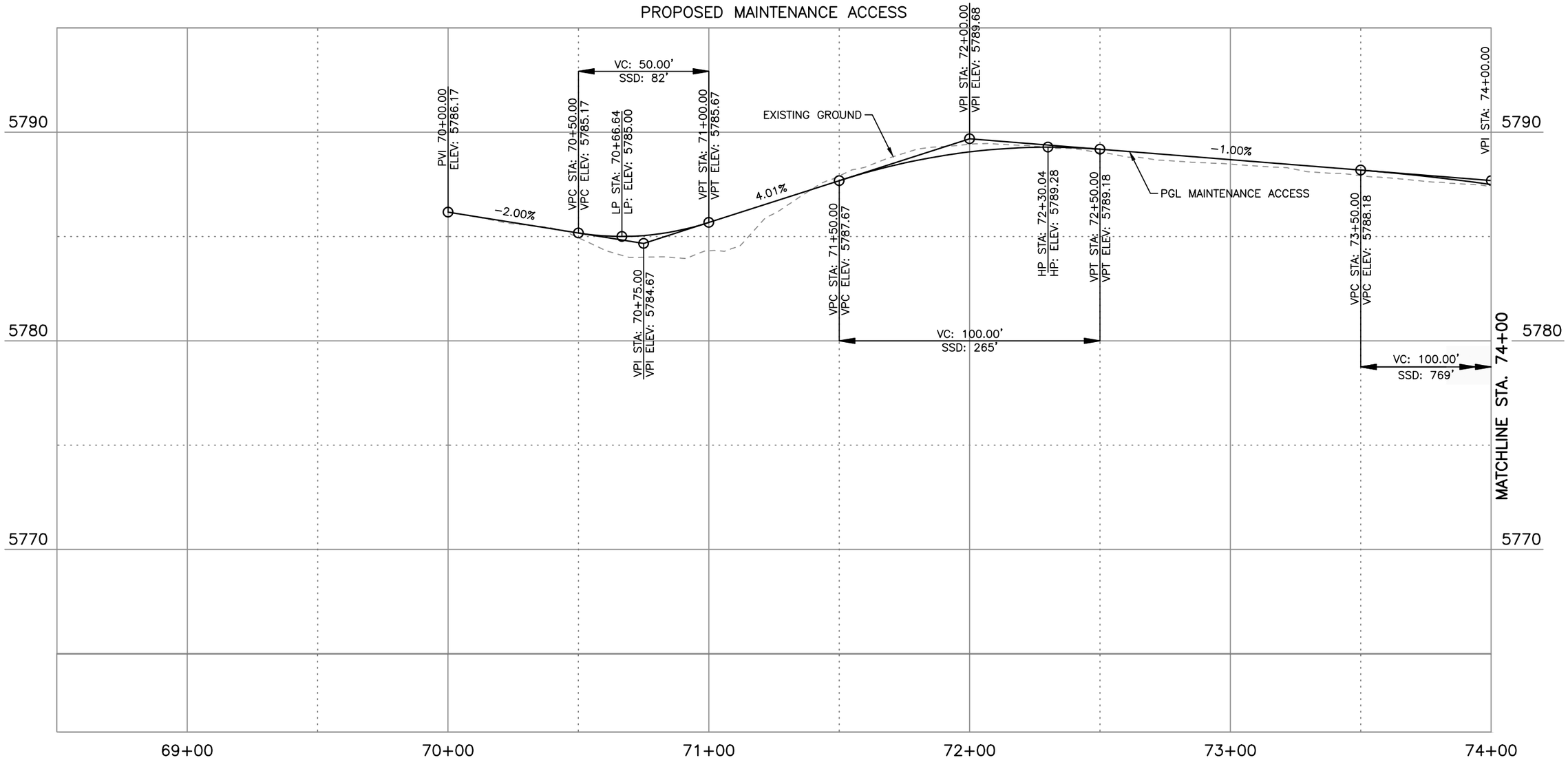
BELFORD-HAPPY CANYON CREEK MAINTENANCE ACCESS PLAN

Designer: DCS
Detailer: DCS
Subset: Trail
Structure Numbers:
Sheets: TP-5 of 12

Project No./Code

Sheet Number 20



HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=5'

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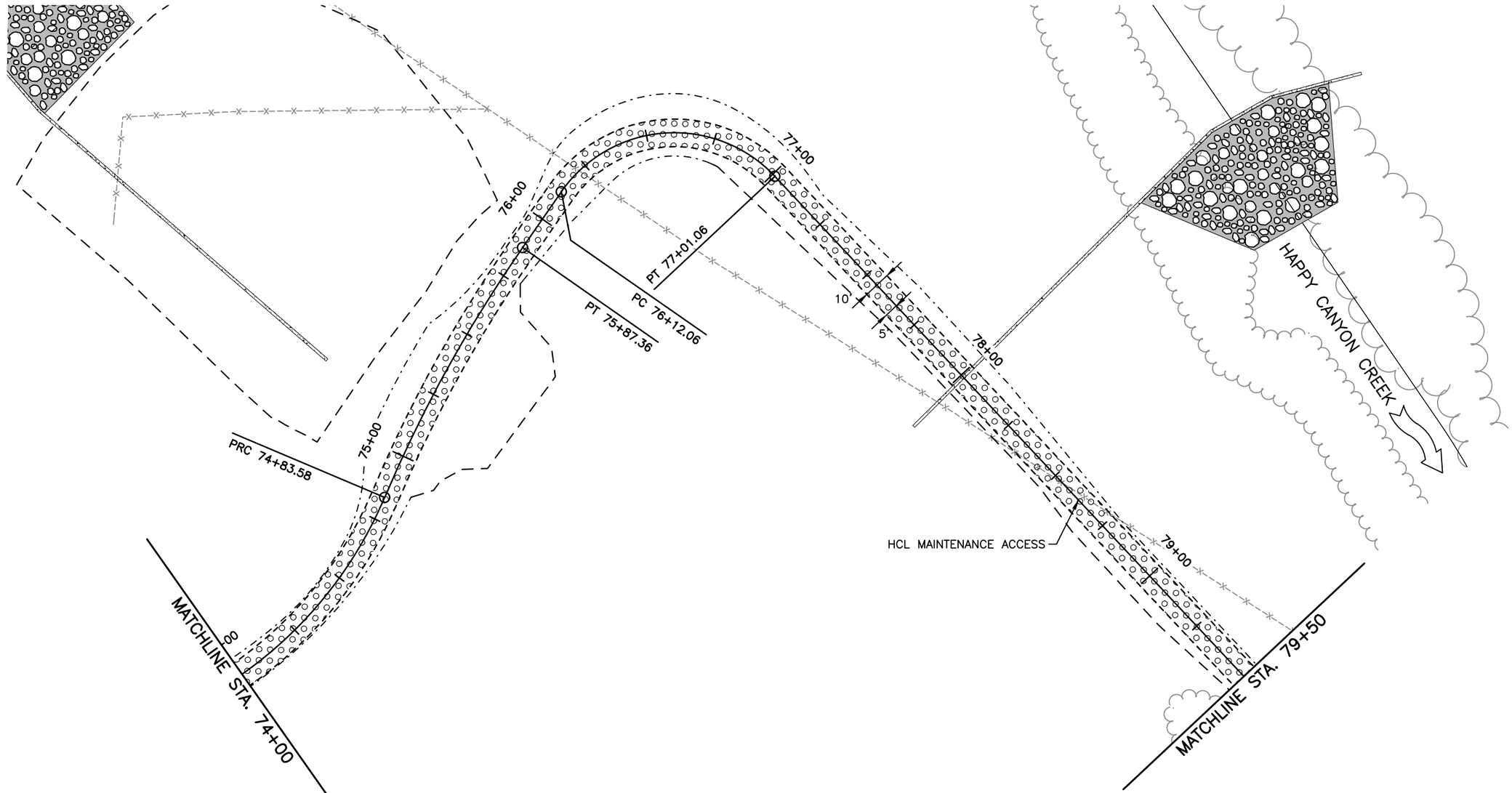
Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TP-6 of 12

Project No./Code

Sheet Number 21



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LEGEND

- – – – – TOP OF CUT
- -·-·-·-·- TOE OF FILL
- LIMITS OF AGGREGATE BASE COURSE (CLASS 6)(6 INCH)

N

HORIZONTAL SCALE: 1"=40'
0 20 40 80

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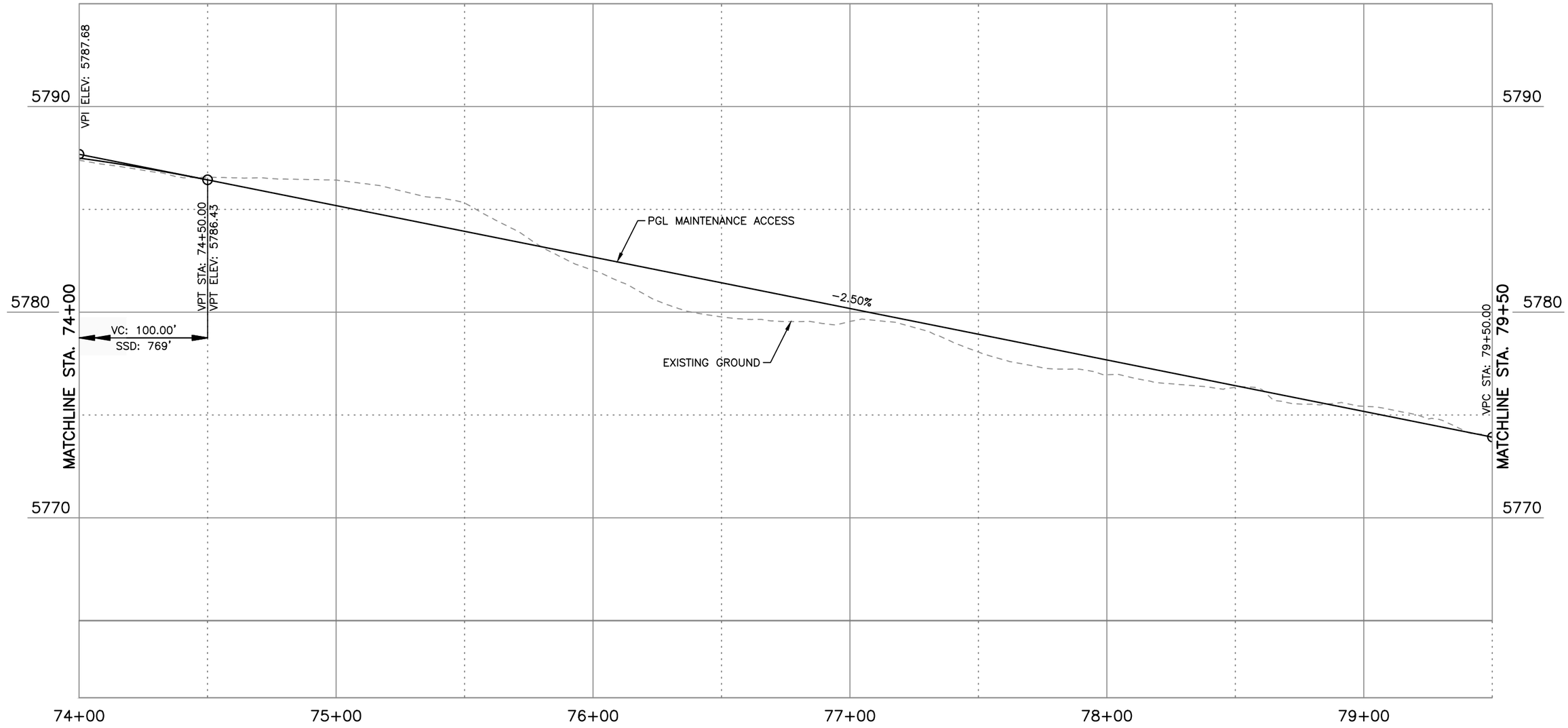
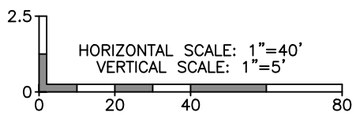
Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TP–7 of 12

Project No./Code

Sheet Number 22

PROPOSED MAINTENANCE ACCESS





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File Name: T115360-01PRO10.dwg
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BELFORD-HAPPY CANYON CREEK MAINTENANCE TRAIL PROFILE

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TP-8 of 12

Project No./Code

Sheet Number 23

NOTES:

1. UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.
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LEGEND

- TOP OF CUT
- TOE OF FILL
- LIMITS OF AGGREGATE BASE COURSE (CLASS 6)(6 INCH)

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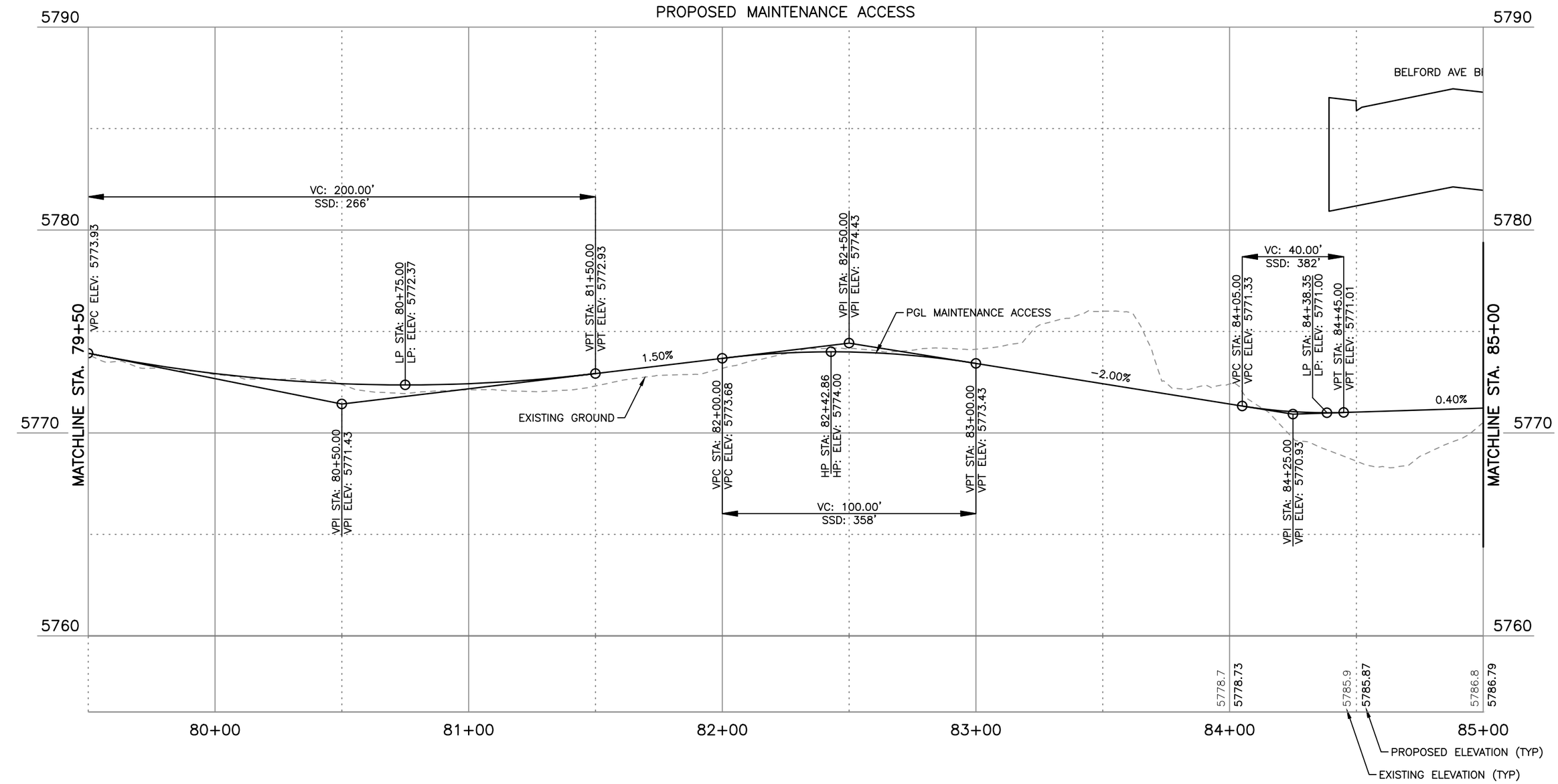
BELFORD–HAPPY CANYON CREEK MAINTENANCE ACCESS PLAN

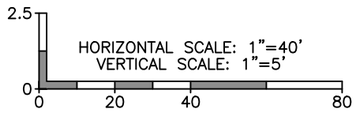
Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TP–9 of 12

Project No./Code

Sheet Number 24

PROPOSED MAINTENANCE ACCESS





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File Name: T115360-01PRO10.dwg		Date	Comments	Initials	No Revisions:
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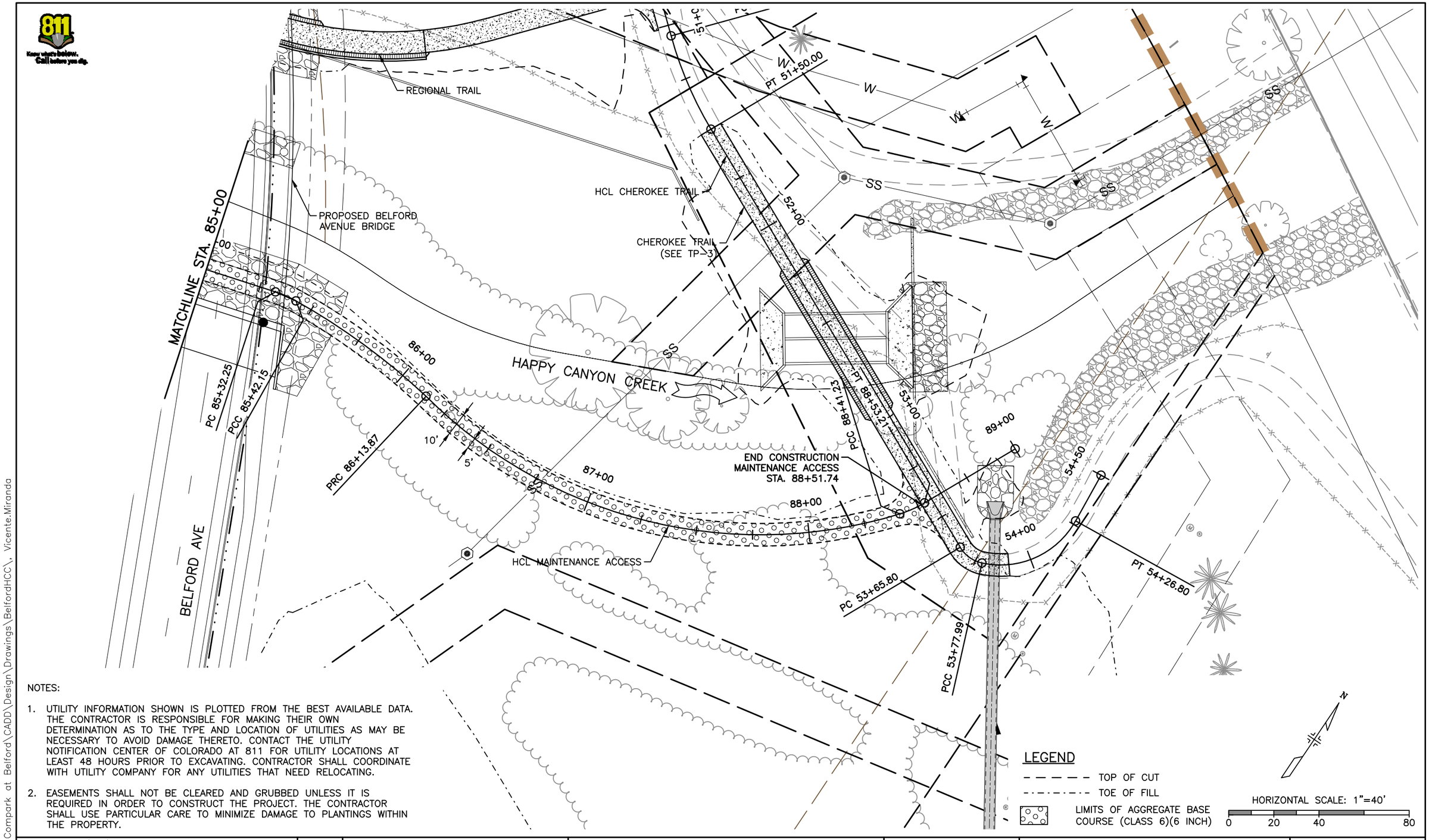
BELFORD–HAPPY CANYON CREEK MAINTENANCE TRAIL PROFILE

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TP–10 of 12

Project No./Code

Sheet Number 25



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Void:

BELFORD–HAPPY CANYON CREEK MAINTENANCE ACCESS PLAN

Designer:	DCS	Structure Numbers	
Detailer:	DCS		
Subset:	Trail	Sheets:	TP–11 of 12

Project No./Code

Sheet Number 26

PROPOSED MAINTENANCE ACCESS

RIDGE

MATCHLINE STA. 85+00

PGL MAINTENANCE ACCESS

−0.50%

EXISTING GROUND

VPC STA: 85+30.00
VPC ELEV: 5771.35

HP STA: 85+47.76
HP: ELEV: 5771.38

VPT STA: 85+70.00
VPT ELEV: 5771.33

VC: 40.00'
SSD: 1220'

VPI STA: 85+50.00
VPI ELEV: 5771.43

VPC STA: 87+55.00
VPC ELEV: 5770.40

VPT STA: 87+95.00
VPT ELEV: 5768.75

VC: 40.00'
SSD: 168'

VPI STA: 87+75.00
VPI ELEV: 5770.30

VPI STA: 88+24.61
VPI ELEV: 5766.46

VPC STA: 88+04.61
VPC ELEV: 5768.01

LP STA: 88+38.63
LP: ELEV: 5766.69

VPT STA: 88+44.61
VPT ELEV: 5766.73

VC: 40.00'
SSD: 51'

PVI 88+51.74
ELEV: 5766.83

5786.8 5786.79

5786.1 5786.14

5775.8 5775.79

PROPOSED ELEVATION (TYP)

EXISTING ELEVATION (TYP)

5790 5780 5770 5760

85+00 86+00 87+00 88+00 89+00 90+00

HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=5'

2.5 0 0 20 40 80

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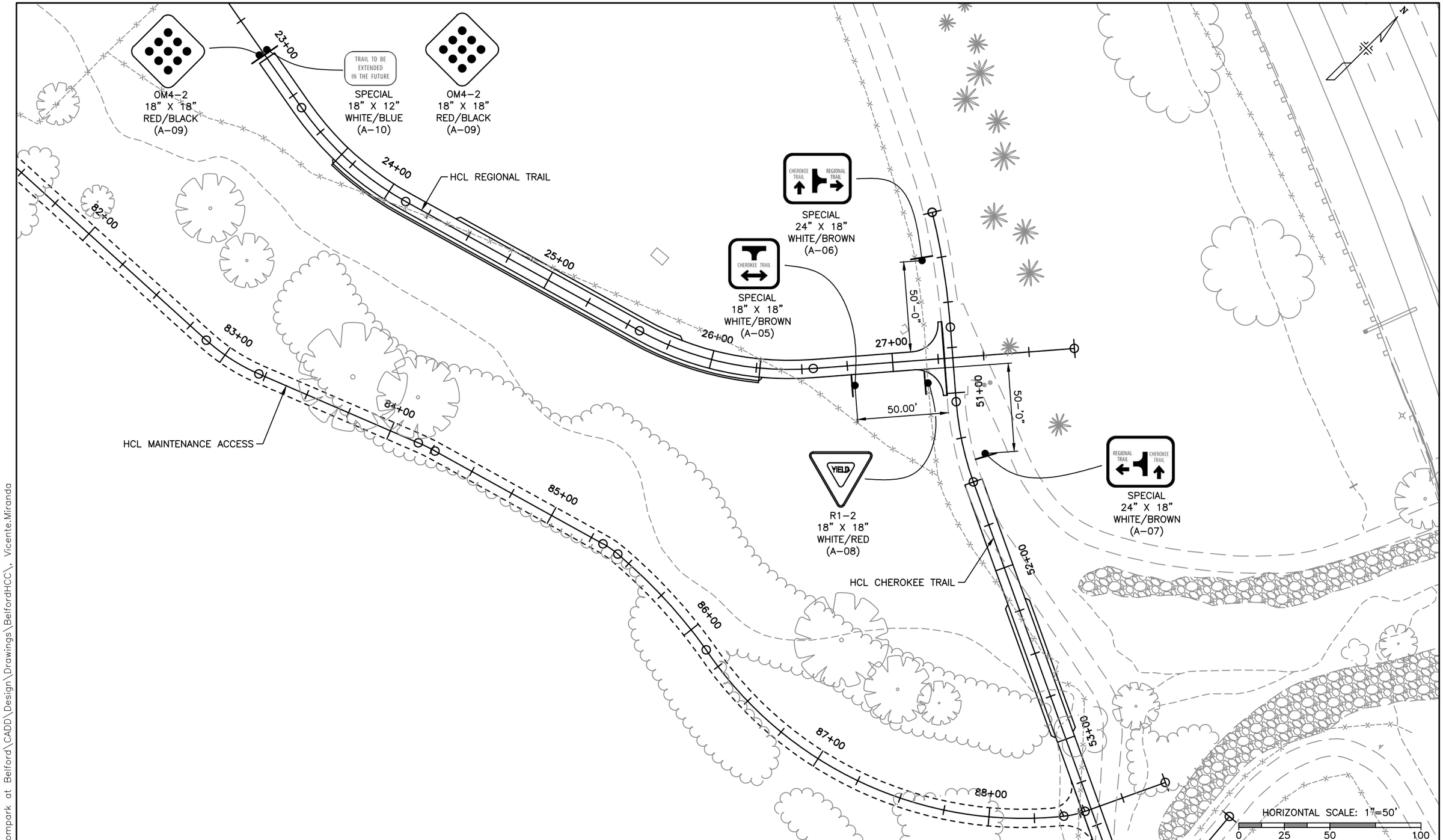
Void:

BELFORD-HAPPY CANYON CREEK MAINTENANCED TRAIL PROFILE

Designer: DCS
Detailer: DCS
Subset: Trail
Structure Numbers:
Sheets: TP-12 of 12

Project No./Code:

Sheet Number 27



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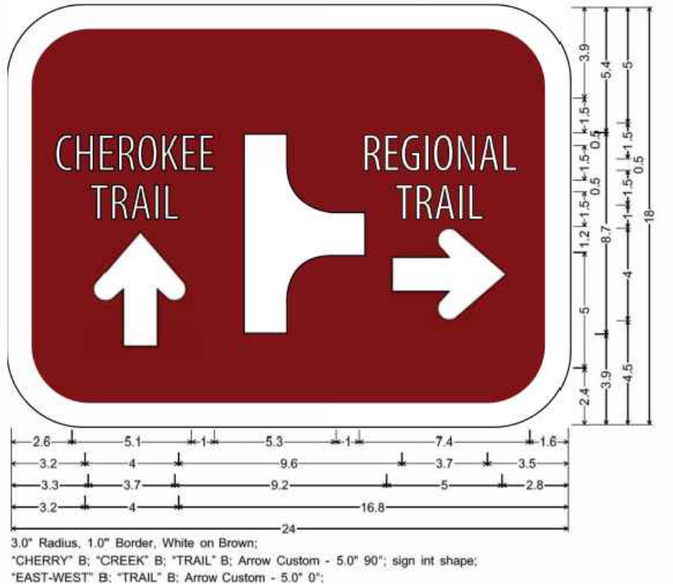
Revised:
Void:

BELFORD-HAPPY CANYON CREEK
SIGNING AND STRIPING PLAN

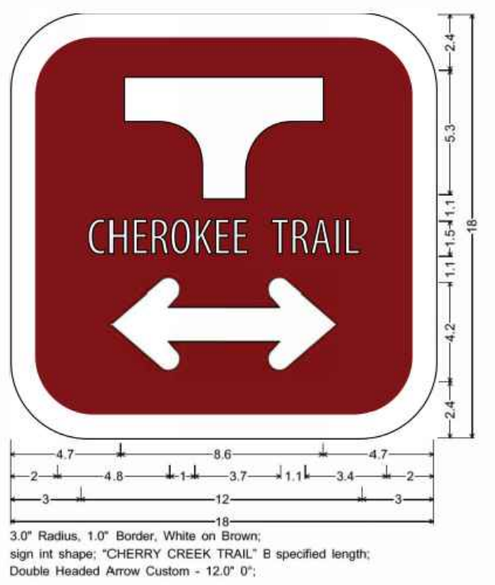
Designer: AJP
Detailer: VM
Subset: Trail
Structure Numbers:
Sheets: TS-1 of 2

Project No./Code:

Sheet Number 28



3.0" Radius, 1.0" Border, White on Brown;
"CHERRY" B; "CREEK" B; "TRAIL" B; Arrow Custom - 5.0" 90°; sign int shape;
"EAST-WEST" B; "TRAIL" B; Arrow Custom - 5.0" 0°;



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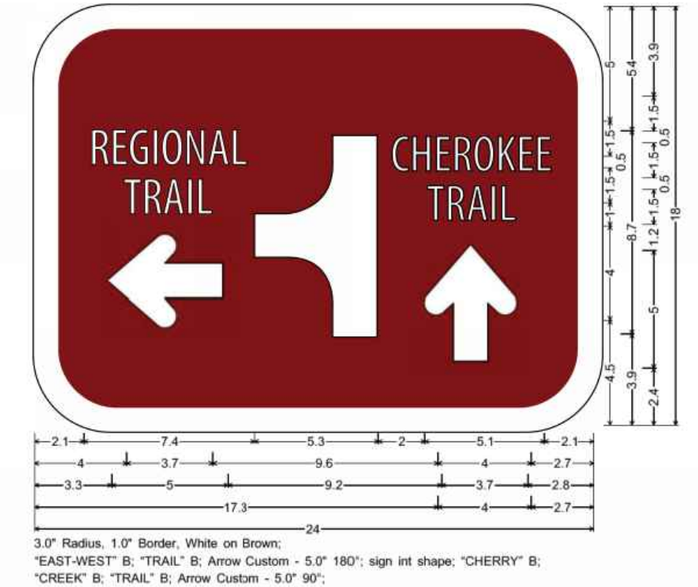
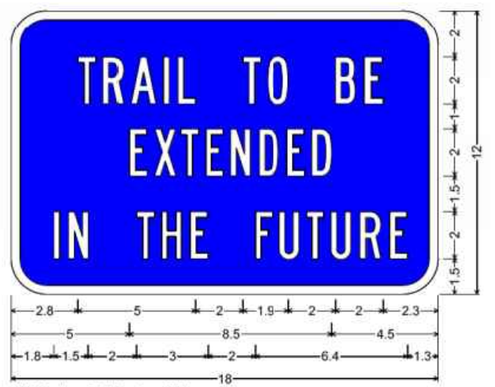
sign int shape; "CHERRY CREEK TRAIL" B specified length;
Double Headed Arrow Custom - 12.0" 0°;



3.0" Radius, 1.0" Border, White on Brown;
"EAST-WEST" B; "TRAIL" B; Arrow Custom - 5.0" 180°; sign int shape; "CHERRY" B;
"CREEK" B; "TRAIL" B; Arrow Custom - 5.0" 90°;



1.5" Radius, 0.4" Border, White on Blue;
"TRAIL TO BE" B; "EXTENDED" B; "IN THE FUTURE" B;

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BELFORD–HAPPY CANYON CREEK BRIDGE
SIGN LAYOUT DETAILS

Designer:	AJP	Structure Numbers	
Detailer:	VM		
Subset:	Trail	Sheets:	TS–2 of 2

Project No./Code

Sheet Number 29

GENERAL NOTES

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2019 EDITION, APPLICABLE TO THE PROJECT.

EXCEPT AS SHOWN IN THE PLANS, STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH M–206–2.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M–213.

STRUCTURAL CONCRETE EXPOSED TO SOIL SHALL CONFORM TO CEMENTITIOUS MATERIALS REQUIREMENTS CLASS 0, CORRESPONDING TO SULFATE EXPOSURE CLASS 0.

ALL ELECTRICAL CONDUIT IN BRIDGE CONCRETE LESS THAN 2" IN DIAMETER SHALL BE SEMIRIGID PLASTIC ELECTRICAL CONDUIT, SCHEDULE 80. CONDUIT THAT RUNS IN BRIDGE RAIL SHALL INCLUDE A PULL WIRE FOR WIRING INSTALLATION. PULL WIRE SHALL BE INCIDENTAL TO COST OF CONDUIT.

COMPRESSED JOINT MATERIAL SHALL BE PRE–COMPRESSED, CHEMICALLY RESISTANT, OPEN CELL POLYURETHANE FOAM SEALANT, IMPREGNATED WITH A WATER–REPELLENT MATERIAL, WITH ADHESIVE BACKING ON BOTH SIDES. THE JOINT MATERIAL SHALL BE EPOXIED IN PLACE, AND ALL SPLICES SEALED, AS RECOMMENDED BY THE SUPPLIER OF THE JOINT MATERIAL. THE COST SHALL BE INCLUDED IN THE COST OF ITEM 601, CLASS D CONCRETE.

ACCEPTABLE COMPRESSED JOINT MATERIAL ALTERNATIVES:

WILL–SEAL
SEAL–MATE #517
POLY–TITE "N"

A COLORED STRUCTURAL CONCRETE COATING WILL BE REQUIRED ON EXPOSED CONCRETE SURFACES TO 1'–0" BELOW FINISHED GRADE, AS SHOWN ON THE PLANS. THE COLOR SHALL BE DAVIS COLOR "SEQUOIA SAND" (NO. 641)

THE FINAL FINISH FOR ALL EXPOSED CONCRETE SURFACES SHALL BE CLASS 2 TO 1'–0" BELOW FINISHED GRADE.

ALL EXTERIOR CONCRETE CORNERS SHALL BE CONSTRUCTED WITH ¾" CHAMFERS, UNLESS OTHERWISE NOTED

ALL STRUCTURAL STEEL, UNLESS NOTED OTHERWISE, SHALL BE AASHTO M270 GRADE 36 (ASTM A–36).

LEVELING PADS ARE UNLAMINATED BEARINGS. THEY SHALL BE CUT OR MOLDED FROM AASHTO ELASTOMER GRADE 3, 4, OR 5 AS DESCRIBED IN TABLES 705–1 AND 705–2 WITH A DUROMETER (SHORE "A") HARDNESS OF 60.

GRADE 60 REINFORCING STEEL IS REQUIRED.

ALL REINFORCING STEEL SHALL HAVE 2" CONCRETE COVER UNLESS NOTED OTHERWISE.

ALL REINFORCING STEEL SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED.

Ⓝ DENOTES NON–COATED REINFORCING STEEL.

ALL THE PROVISIONS FOR BRIDGE DECK CONCRETE SHALL ALSO APPLY TO APPROACH SLAB CONCRETE.

AN EMERGENCY DECK CONSTRUCTION JOINT MAY BE LOCATED AT THE ONE QUARTER SPAN POINT BACK FROM A PIER OR ABUTMENT WITH RESPECT TO THE DIRECTION OF THE DECK PLACEMENT.

PERMANENT DECK FORMS ARE ALLOWED AND SHALL BE EITHER PRECAST CONCRETE DECK FORMS OR STEEL DECK FORMS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

B.F. = BACK FACE
E.F. = EACH FACE
HCL = HORIZONTAL CONTROL LINE
HMA = HOT MIX ASPHALT
I.D. = INSIDE DIAMETER
I.F. = INSIDE FACE
O.F. = OUTSIDE FACE
PGL = PROFILE GRADE LINE

FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG
CALL 811
(or 1–800–922–1987)
UTILITY NOTIFICATION
CENTER OF COLORADO (UNCC)
www.uncc.org

NO EXISTING UTILITIES ARE KNOWN TO BE LOCATED IN THE LIMITS OF THE BRIDGE WORK. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES WHICH ARE LOCATED OUTSIDE THE BRIDGE LIMITS, AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 OR 1–800–922–1987 AT LEAST 3 DAYS (2 DAYS NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.

STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE BASED UPON A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL. IF THERE IS A DISCREPANCY, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING WITHIN 48 HOURS.

DESIGN DATA

AASHTO, NINTH EDITION LRFD

DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN (LRFD)

SEISMIC PERFORMANCE ZONE 1

LIVE LOAD: HL–93 (DESIGN TRUCK OR TANDEM, AND DESIGN LANE LOAD)
DEAD LOAD: ASSUMES 36 LBS. PER SQ. FT. FOR 3" HMA BRIDGE DECK OVERLAY
ASSUMES 5 LBS. PER SQ. FT. FOR FUTURE UTILITIES
ASSUMES 5 LBS. PER SQ. FT. FOR PERMANENT STEEL DECK FORMS
ASSUMES 500 LBS FOR EACH LUMINAIRE

REINFORCED CONCRETE:

CDOT CLASS D CONCRETE: f'_c = 4,500 psi
REINFORCING STEEL: f_y = 60,000 psi

CAISSON CONCRETE:

CLASS BZ CONCRETE: f'_c = 4,000 psi
REINFORCING STEEL: f_y = 60,000 psi

DIAPHRAGM STEEL: AASHTO M270 (ASTM A709) GRADE 36 Fy = 36,000 psi

PRESTRESSED CONCRETE: CLASS PS CONCRETE f'c = (SEE DETAILS)
f's = 270,000 psi

SEISMIC DESIGN DATA

EARTHQUAKE DESIGN METHOD: FORCE BASED (GENERAL PROCEDURE PER LRFD 3.10.2.1)
LATITUDE N 39° 33' 12"
LONGITUDE W 104° 48' 49"

AASHTO SPECTRUM FOR 7% FOR PE IN 75 YEARS (1000 YEAR RETURN PERIOD)

PERIOD (sec)	SA (g)	
0	0.056	PGA – SITE CLASS E
0.2	0.120	S_S – SITE CLASS E
1.0	0.033	S_1 – SITE CLASS E

SPECTURAL RESPONSE ACCELERATIONS:
$A_S = F_{PGA} \times PGA$, $S_{DS} = F_A S_S$ AND $S_{D1} = F_V S$
F_{PGA} = 2.5, F_A = 2.5, F_V = 3.5

PERIOD (sec)	SA (g)	
0	0.140	A_S – SITE CLASS E
0.2	0.300	S_{DS} – SITE CLASS E
1.0	0.116	S_{D1} – SITE CLASS E

OPERATIONAL CLASS:

SEISMIC ZONE: ZONE 1

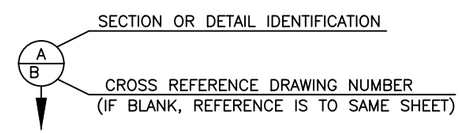
RESPONSE MODIFICATION FACTORS:
R–FACTOR: 1.5 (RC PILE BENTS)
R–FACTOR: 1.0 (PILE BENTS TO CAP BEAM, COLUMNS TO CAP BEAM & FOUNDATION)
R–FACTOR: 0.8 (SUPERSTRUCTURE TO FOUNDATION)

INDEX OF DRAWINGS

BRIDGE DESCRIPTION

TWO SPAN (77'–2 ½" / 77'–2 ½") BRIDGE COMPOSITE CONCRETE SLAB AND PRECAST/PRESTRESSED CONCRETE I GIRDERS (BT42)

BELFORD AVENUE OVER HAPPY CANYON CREEK
72°30'00" SKEW (TO LAYOUT LINE)
74'–0" ROADWAY WIDTH, CURB TO CURB
8'–6" SIDEWALKS, 1'–6" BRIDGE RAILS



		Shear LLDF		Positive Momenet LLDF		Negative Moment LLDF	
		1 Lane	2+ Lanes	1 Lane	2+ Lanes	1 Lane	2+ Lanes
Span 1	G1	0.912	0.749	0.856	0.711	0.856	0.711
	G2–G3; G10–G11	0.718	0.855	0.476	0.663	0.476	0.663
	G4–G5; G8–G9	0.673	0.803	0.476	0.663	0.476	0.663
	G6–G7	0.675	0.806	0.477	0.664	0.477	0.664
	G12	0.791	0.685	0.742	0.656	0.742	0.656
Span 2	G1	0.871	0.723	0.832	0.701	0.832	0.701
	G2–G3; G10–G11	0.842	0.706	0.477	0.665	0.477	0.665
	G4–G5; G8–G9	0.675	0.805	0.477	0.665	0.477	0.665
	G6–G7	0.675	0.806	0.478	0.665	0.478	0.665
	G12	0.802	0.685	0.767	0.666	0.767	0.666

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BELFORD–HAPPY CANYON CREEK BRIDGE
GENERAL INFORMATION

Designer: J. LYNCH
Detailer: C. MIYAMOTO
Subset: BRIDGE
Structure Numbers:
Sheets: B1 of 33

Project No./Code

Sheet Number 30

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	SUPERSTRUCTURE	ABUTMENT 1	PIER 2	ABUTMENT 3	APPROACH SLABS	TOTALS
206	STRUCTURE EXCAVATION	CY		64	183	14		261
206	STRUCTURE BACKFILL (CLASS 1)	CY		623	116	736		1,475
206	MECHANICAL REINFORCEMENT OF SOIL	CY		532		612		1,144
206	FILTER MATERIAL (CLASS A)	CY		189	42	166		397
403	HOT MIX ASPHALT (GRADING SX)(75)(PG 64-22)	TON	214				56	270
503	DRILLED CAISSON (24 INCH)	LF		360		393		753
503	DRILLED CAISSON (48 INCH)	LF			240			240
506	RIPRAP (18 INCH)	CY		564	124	496		1,184
514	PEDESTRIAN RAILING (STEEL)	LF	306				80	386
515	WATERPROOFING (MEMBRANE)	SY	1,296				335	1,631
515	CONCRETE SEALER	SY	321				81	402
601	CONCRETE CLASS D (BRIDGE)	CY	1074	156	212	167	167	1,776
601	STRUCTURAL CONCRETE COATING	SY	745	141	152	141	49	1,228
601	HAND STAINED STONE FORMLINER	SF	1,942				278	2,220
602	REINFORCING STEEL	LB		3,040	1,470	3,040	10,084	17,634
602	REINFORCING STEEL (EPOXY COATED)	LB	169,020	22,605	10,920	32,445	6,465	241,455
603	18 INCH REINFORCED CONCRETE PIPE	LF		40				40
604	VANE GRATE INLET (SPECIAL)	EA		2				2
606	BRIDGE RAIL (SPECIAL)	LF	306				82	388
613	1 INCH ELECTRICAL CONDUIT	LF	62					62
613	2 INCH ELECTRICAL CONDUIT	LF	794				164	958
613	LUMINAIRE (SPECIAL)	EA	2				4	6
618	PRESTRESSSED CONCRETE I (BT42)	LF	1,852					1,852

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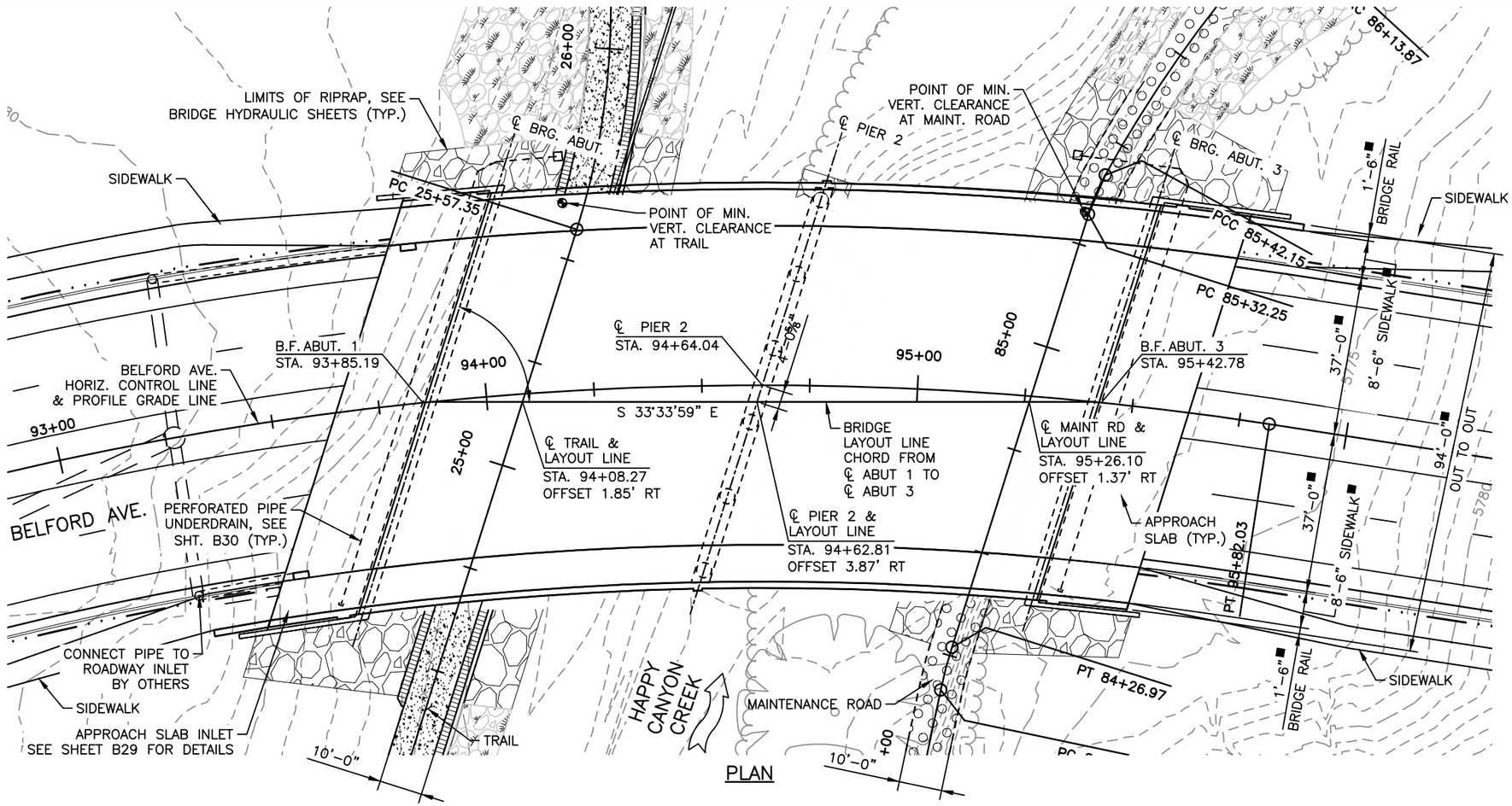
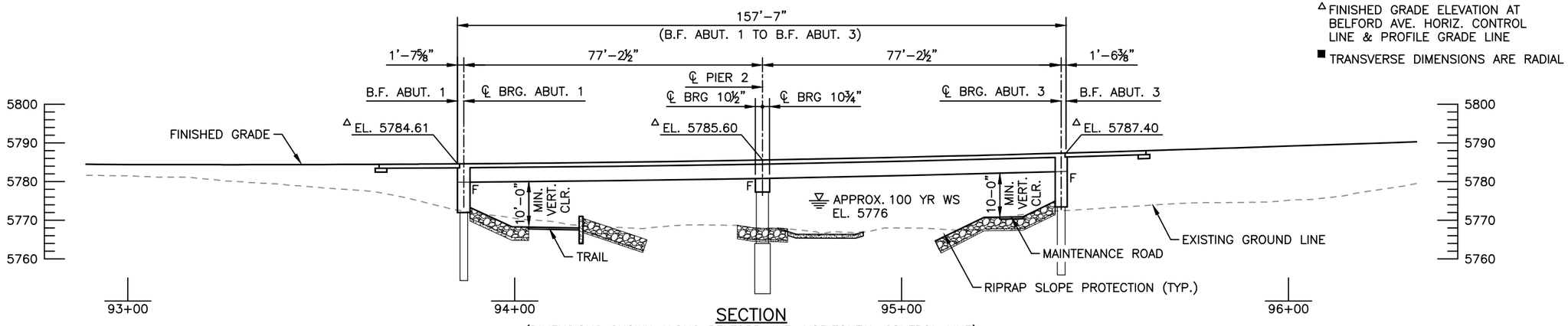
BELFORD-HAPPY CANYON CREEK BRIDGE
SUMMARY OF QUANTITIES

Designer: J. LYNCH
Detailer: R. DILLON
Subset: BRIDGE
Structure Numbers:
Sheets: B2 of 34

Project No./Code

Sheet Number 31





SECTION

(DIMENSIONS SHOWN ALONG BELFORD AVE. HORIZONTAL CONTROL LINE)

BELFORD AVE. HCL CURVE DATA
△ = 105°24'14"
D_C = 07°26'28"
R = 770.00'
L = 1416.53'
T = 1010.84'
PI STA. = 91+76.34

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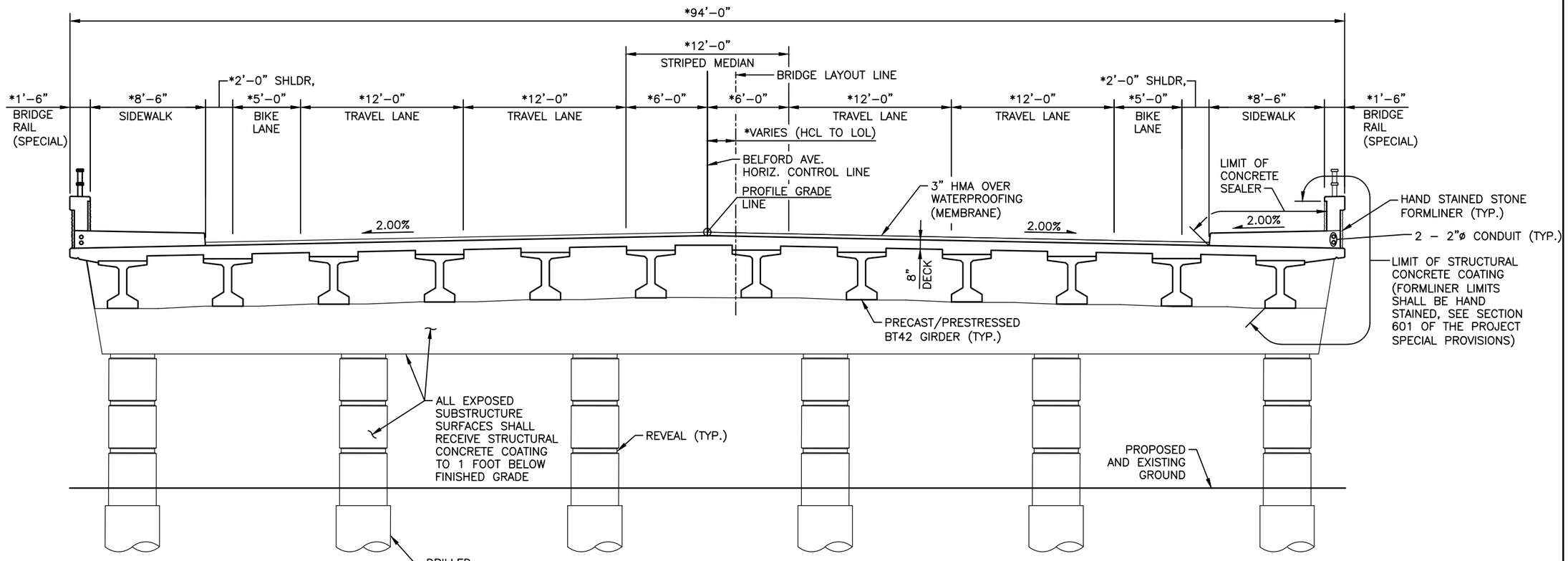
BELFORD–HAPPY CANYON CREEK BRIDGE
GENERAL LAYOUT

Designer:	J. LYNCH	Structure Numbers	
Detailer:	R. DILLON		
Subset:	BRIDGE	Sheets:	B3 of 33

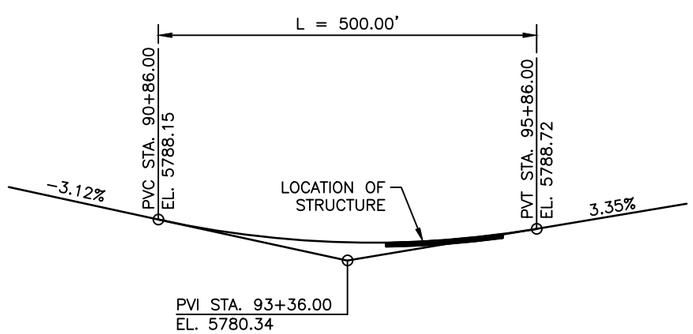
Project No./Code

Sheet Number 32

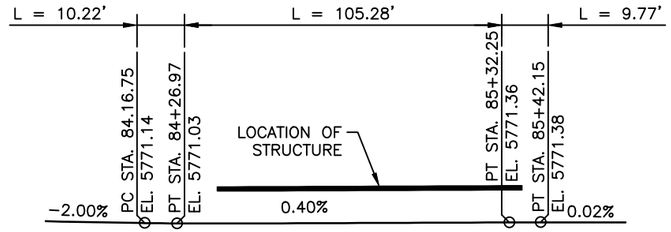


TYPICAL SECTION
(LOOKING UPSTATION)

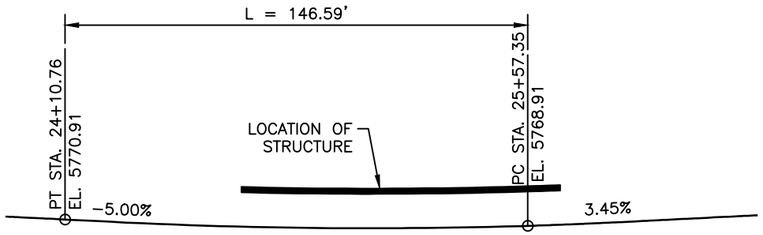
* TRANSVERSE DIMENSIONS ARE RADIAL.



BELFORD AVE. PROFILE GRADE



MAINTENANCE ROAD PROFILE GRADE



PARKER TRAIL PROFILE GRADE

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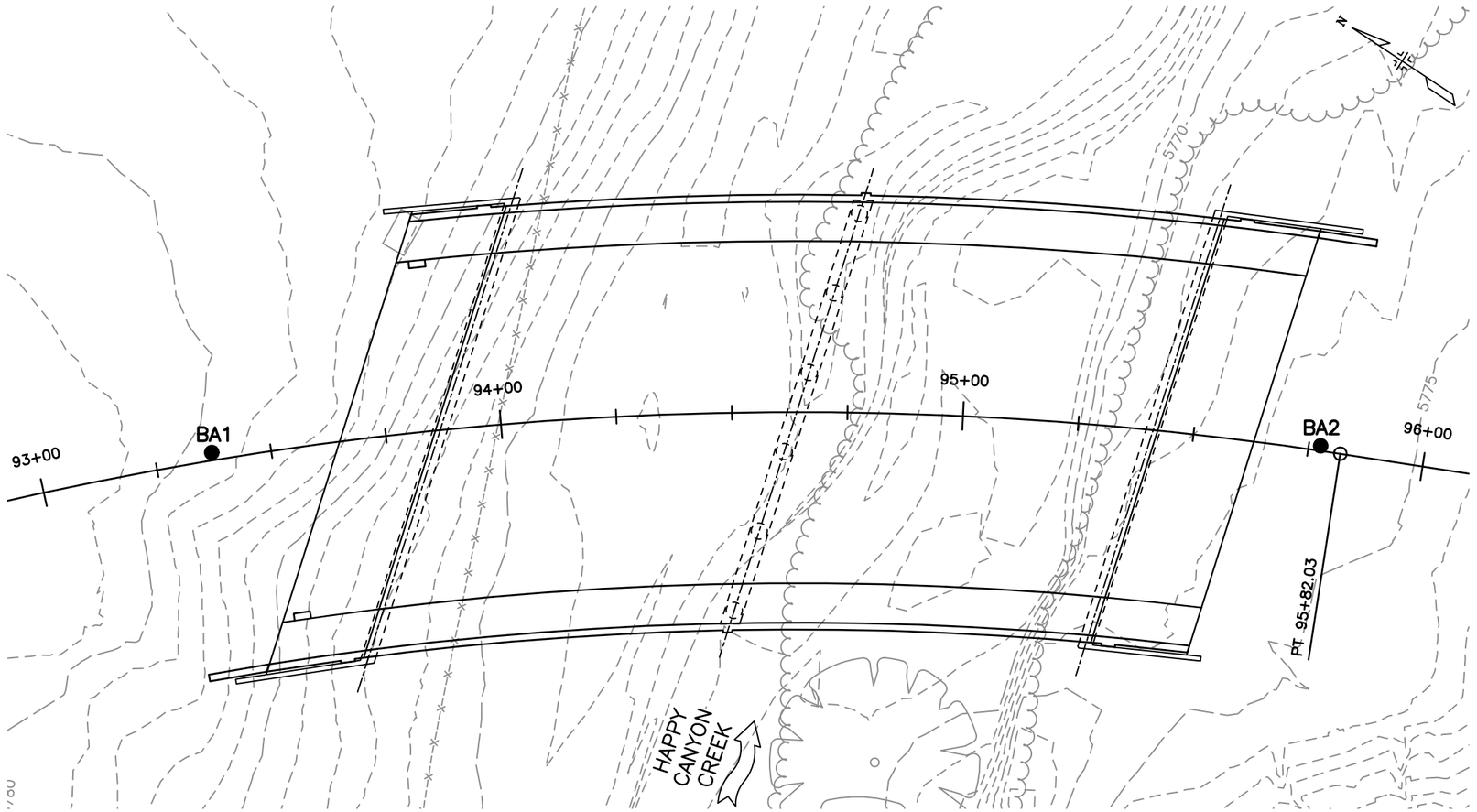
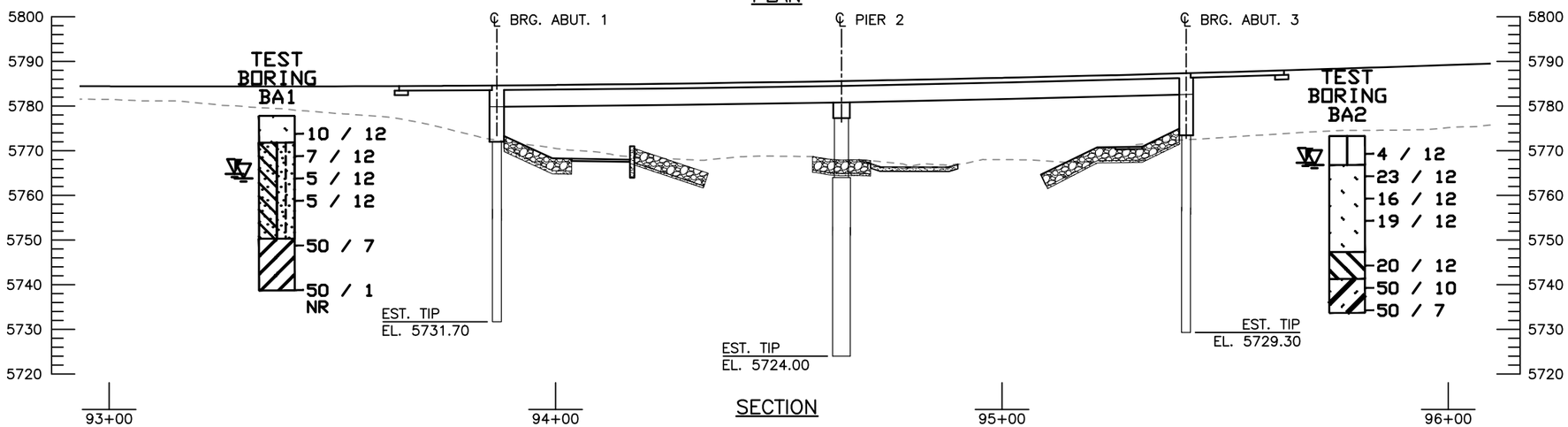


PLAN



SECTION

SOIL DESCRIPTIONS

- Clay, soft
- Sand, medium dense, silty
- Clay/sand, interbedded, medium stiff/loose to medium dense
- Claystone (Bedrock), firm to medium hard
- Claystone (Bedrock), hard to very hard
- Sandstone (Bedrock), hard to very hard
- Water level at time of drilling
- Water level 4 to 71 days after drilling

Notes:

1. Test borings were drilled December 1, 2015 with a 4-inch diameter, continuous flight power auger.
2. Location of the test borings were staked by others at locations chosen by this firm, unless noted otherwise.
3. The horizontal lines shown on the logs are to differentiate materials and represent the approximate boundaries between materials. The transitions between materials may be gradual.
4. Elevations were obtained from staking provided by others and have been rounded to the nearest foot, unless noted otherwise.
5. Boring logs shown in this report are subject to the limitations, explanations, and conclusions of this report.

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants

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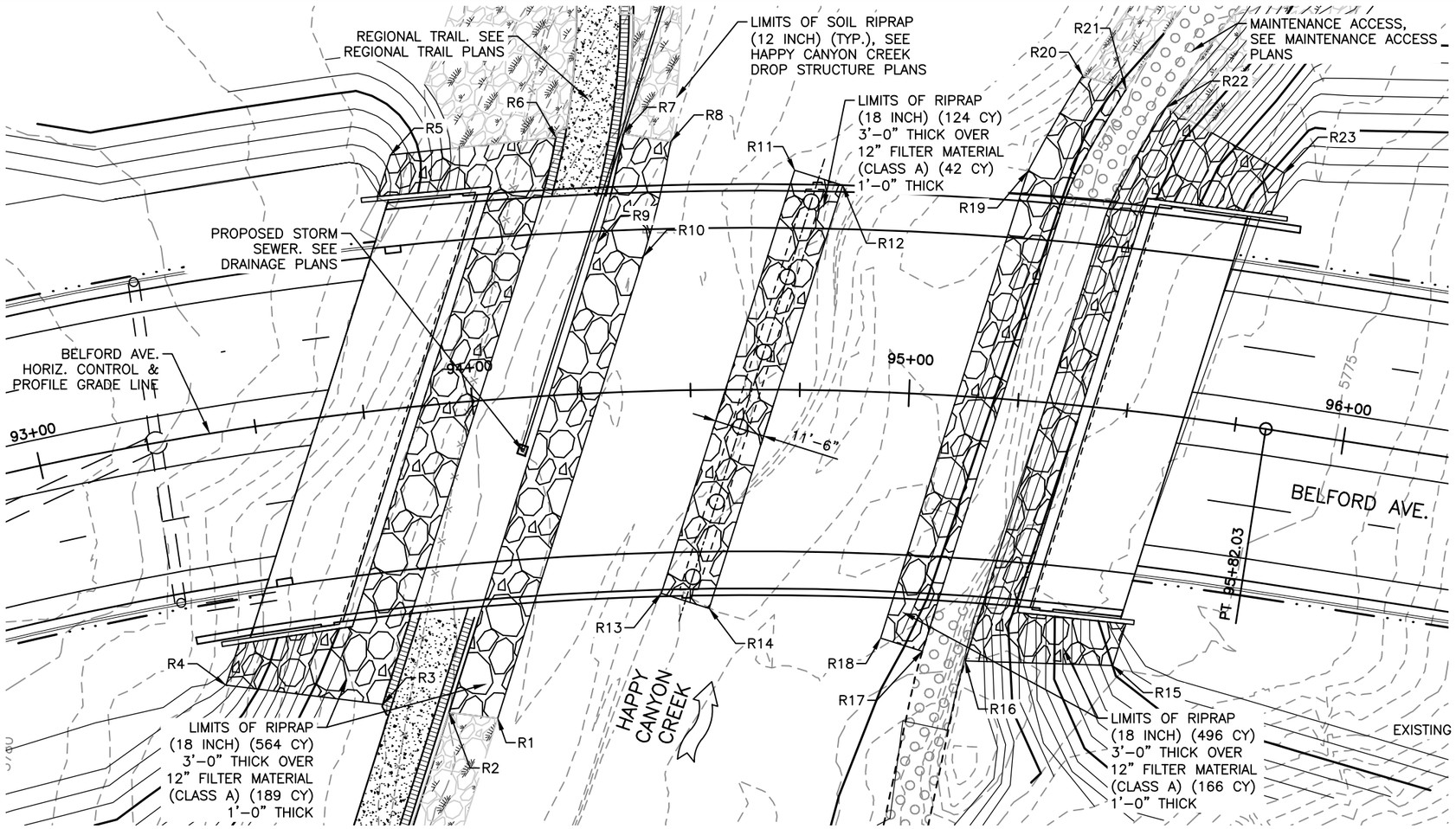
BELFORD-HAPPY CANYON CREEK BRIDGE
ENGINEERING GEOLOGY

Designer:	A.McDaniels	Structure Numbers	
Detailer:	V.Miranda		
Subset:	BRIDGE	Sheets:	B5 of 33

Project No./Code

Sheet Number 34



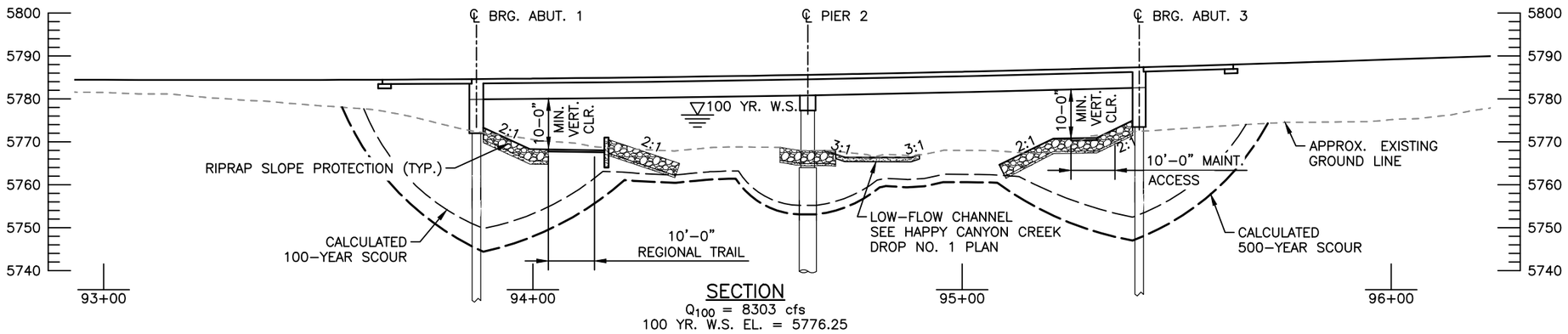
PLAN

HORIZONTAL SCALE: 1"=30'

0' 15' 30' 60'

RIPRAP (18 INCH) POINT DATA

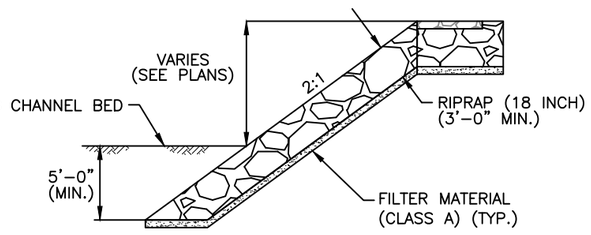
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
R1	27831.26	94408.21	5769.24	FINISHED GRADE
R2	27841.26	94403.19	5769.22	FINISHED GRADE
R3	27854.90	94396.36	5769.55	FINISHED GRADE
R4	27887.20	94380.16	5782.92	FINISHED GRADE
R5	27922.95	94502.06	5781.50	FINISHED GRADE
R6	27893.61	94526.31	5769.80	FINISHED GRADE
R7	27881.26	94535.51	5769.73	FINISHED GRADE
R8	27871.26	94540.03	5768.10	FINISHED GRADE
R9	27872.48	94511.60	5768.79	FINISHED GRADE
R10	27861.91	94514.64	5768.02	FINISHED GRADE
R11	27843.96	94550.26	5768.19	FINISHED GRADE
R12	27832.91	94553.44	5767.38	FINISHED GRADE
R13	27815.87	94452.72	5767.63	FINISHED GRADE
R14	27804.82	94455.90	5768.01	FINISHED GRADE
R15	27720.69	94496.05	5785.18	FINISHED GRADE
R16	27749.41	94478.25	5771.13	FINISHED GRADE
R17	27758.80	94474.71	5770.94	FINISHED GRADE
R18	27768.40	94471.94	5768.80	FINISHED GRADE
R19	27799.40	94579.55	5768.14	FINISHED GRADE
R20	27801.00	94604.71	5766.27	FINISHED GRADE
R21	27791.05	94607.58	5771.26	FINISHED GRADE
R22	27781.07	94609.21	5771.45	FINISHED GRADE
R23	27750.27	94611.63	5786.40	FINISHED GRADE



SECTION

Q_{100} = 8303 cfs

100 YR. W.S. EL. = 5776.25



RIPRAP (18 INCH)

TYPICAL SLOPE SECTION @ BRIDGE

N.T.S.

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100–YEAR RECURRENCE INTERVAL

FLOW UPSTREAM OF BRIDGE = 8303 CFS (FHAD)

DRAINAGE AREA = 17.5± SQ. MI.

CHANNEL DESCRIPTION

BOTTOM MATERIAL: COHESIVE ☐ NONCOHESIVE ☒

BOTTOM MAT. SIZE: CLAY ☐ SILT ☐ SAND ☒ GRAVEL ☐ COBBLES ☐ OTHERS ____

STREAM FORM: STRAIGHT ☐ MEANDERING ☒ BRAIDED ☐

MANNING'S "n" FOR DESIGN: CHANNEL 0.030 OVERBANK 0.035

DEBRIS -- BRUSH ☒ TREES/LOGS ☒ ICE ☐ OTHER ____

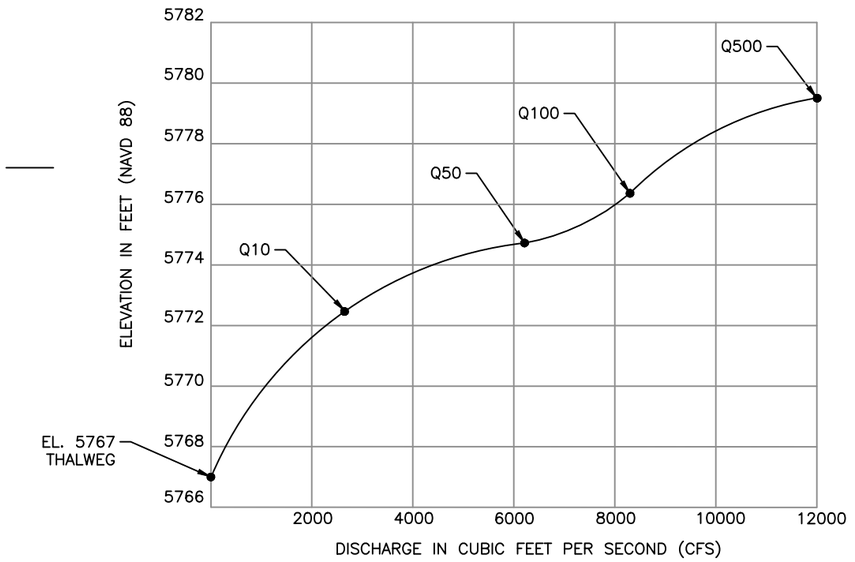
COMPARISON HYDRAULICS (100 YEAR EVENT)

(AT SECTION LOCATED 32 FEET UPSTREAM OF BRIDGE)

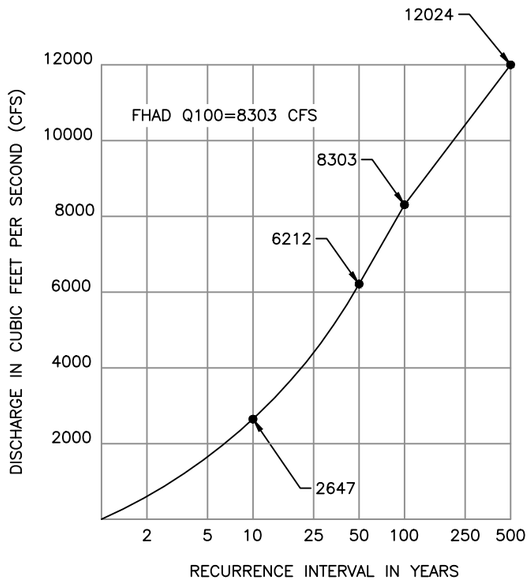
	VELOCITY (FT./SEC)		WS EL. (FT.)	MAX. BACKWATER (FT.)	FROUDE NO.
	AVERAGE	CHANNEL			
EXISTING CONDITIONS	9.90	13.70	5775.53	–	0.90
PROPOSED CONDITIONS	8.19	10.21	5776.35	–	0.63

HYDRAULIC DATA

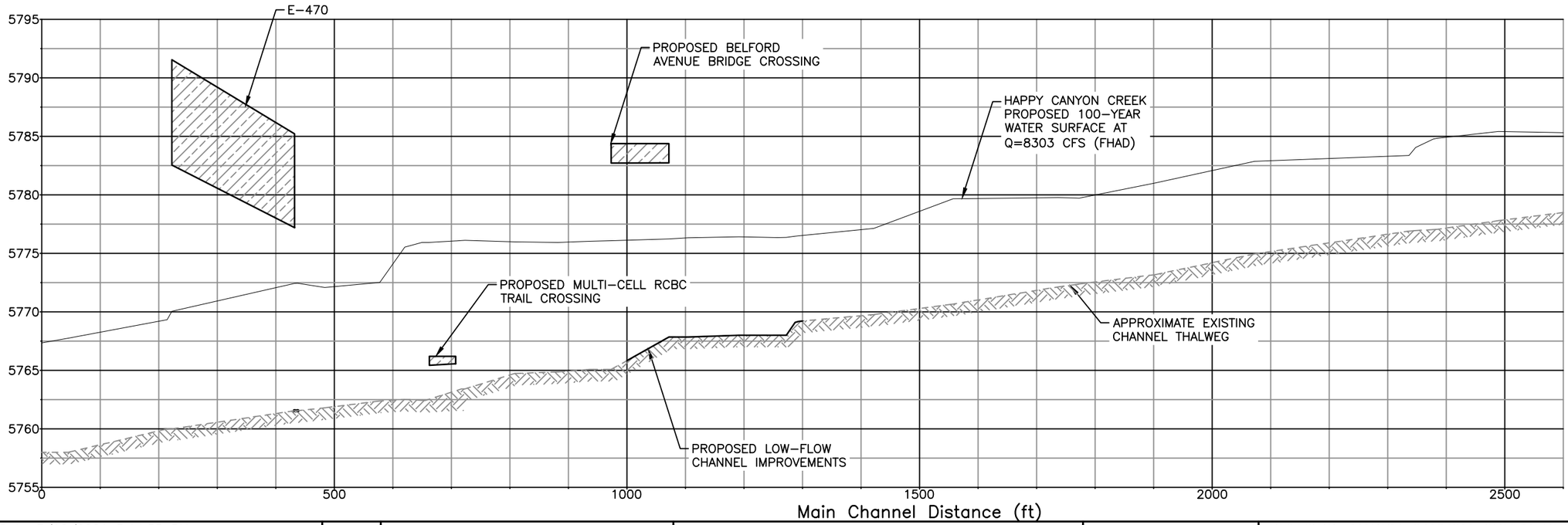
LOCATION	LOW CHORD ELEVATION AT ABUT. FRONT FACE		100–YEAR WATER SURFACE ELEVATION
	ABUT. 1	ABUT. 2	
S. SIDE (UPSTREAM)	5780.07	5782.73	5776.25
N. SIDE (DOWNSTREAM)	5780.07	5782.73	5776.10



STAGE–DISCHARGE CURVE AT UPSTREAM FACE OF BELFORD AVENUE



DISCHARGE–FREQUENCY CURVE



HORIZ. SCALE: 1"=200'
VERT. SCALE: 1"=10'

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BELFORD–HAPPY CANYON CREEK BRIDGE
BRIDGE HYDRAULIC INFORMATION
(2 OF 2)

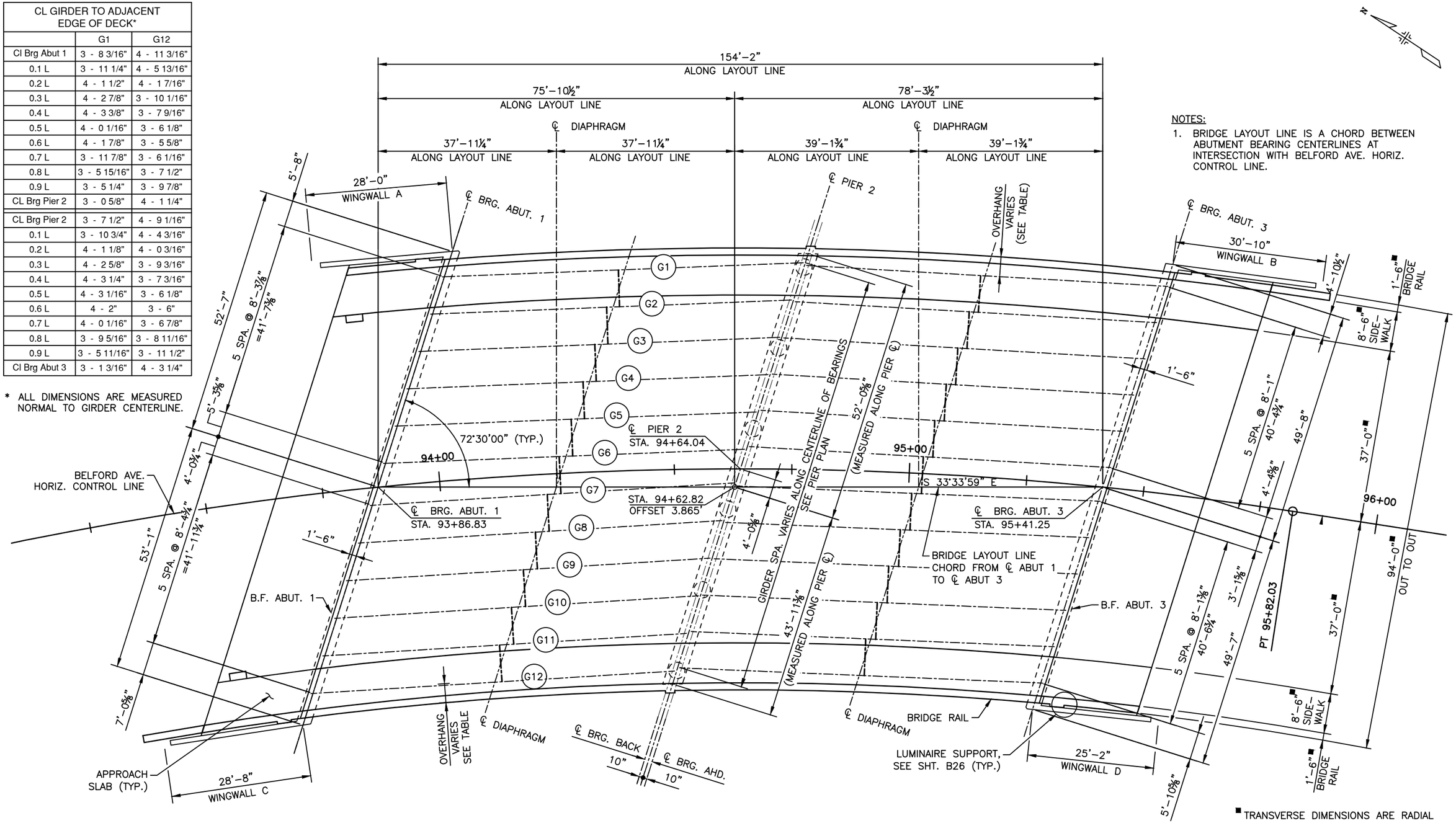
Designer:	C. TWISS	Structure Numbers	
Detailer:	K. TURNER		
Subset:	BRIDGE	Sheets:	B7 of 33

Project No./Code

Sheet Number 36

CL GIRDER TO ADJACENT EDGE OF DECK*		
	G1	G12
Cl Brg Abut 1	3 - 8 3/16"	4 - 11 3/16"
0.1 L	3 - 11 1/4"	4 - 5 13/16"
0.2 L	4 - 1 1/2"	4 - 1 7/16"
0.3 L	4 - 2 7/8"	3 - 10 1/16"
0.4 L	4 - 3 3/8"	3 - 7 9/16"
0.5 L	4 - 0 1/16"	3 - 6 1/8"
0.6 L	4 - 1 7/8"	3 - 5 5/8"
0.7 L	3 - 11 7/8"	3 - 6 1/16"
0.8 L	3 - 5 15/16"	3 - 7 1/2"
0.9 L	3 - 5 1/4"	3 - 9 7/8"
CL Brg Pier 2	3 - 0 5/8"	4 - 1 1/4"
CL Brg Pier 2	3 - 7 1/2"	4 - 9 1/16"
0.1 L	3 - 10 3/4"	4 - 4 3/16"
0.2 L	4 - 1 1/8"	4 - 0 3/16"
0.3 L	4 - 2 5/8"	3 - 9 3/16"
0.4 L	4 - 3 1/4"	3 - 7 3/16"
0.5 L	4 - 3 1/16"	3 - 6 1/8"
0.6 L	4 - 2"	3 - 6"
0.7 L	4 - 0 1/16"	3 - 6 7/8"
0.8 L	3 - 9 5/16"	3 - 8 11/16"
0.9 L	3 - 5 11/16"	3 - 11 1/2"
Cl Brg Abut 3	3 - 1 3/16"	4 - 3 1/4"

* ALL DIMENSIONS ARE MEASURED NORMAL TO GIRDER CENTERLINE.



NOTES:

1. BRIDGE LAYOUT LINE IS A CHORD BETWEEN ABUTMENT BEARING CENTERLINES AT INTERSECTION WITH BELFORD AVE. HORIZ. CONTROL LINE.

■ TRANSVERSE DIMENSIONS ARE RADIAL

CONSTRUCTION LAYOUT

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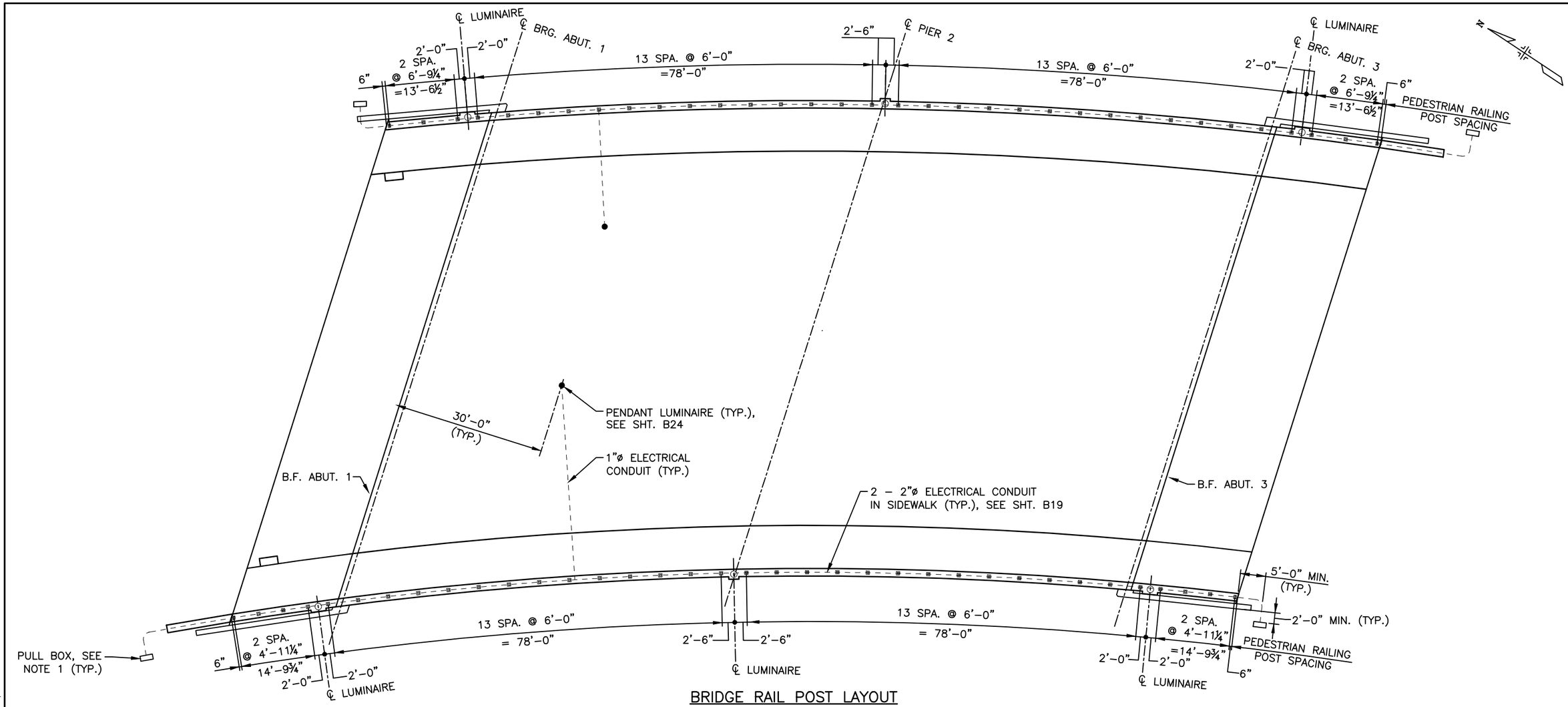
As Constructed	BELFORD–HAPPY CANYON CREEK BRIDGE CONSTRUCTION LAYOUT (1 OF 2)			Project No./Code
No Revisions:				
Revised:	Designer: J. LYNCH	Structure Numbers		
Void:	Detailer: C. MIYAMOTO			
	Subset: BRIDGE	Sheets:	B8 of 33	Sheet Number 37



BRIDGE RAIL POST LAYOUT

NOTES:

1. PULL BOXES WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF ITEM 613 – 2 INCH ELECTRICAL CONDUIT. SEE CDOT S–613–1, SHT. NO. 4 OF 6 FOR TYPICAL DETAIL AND NOTES.

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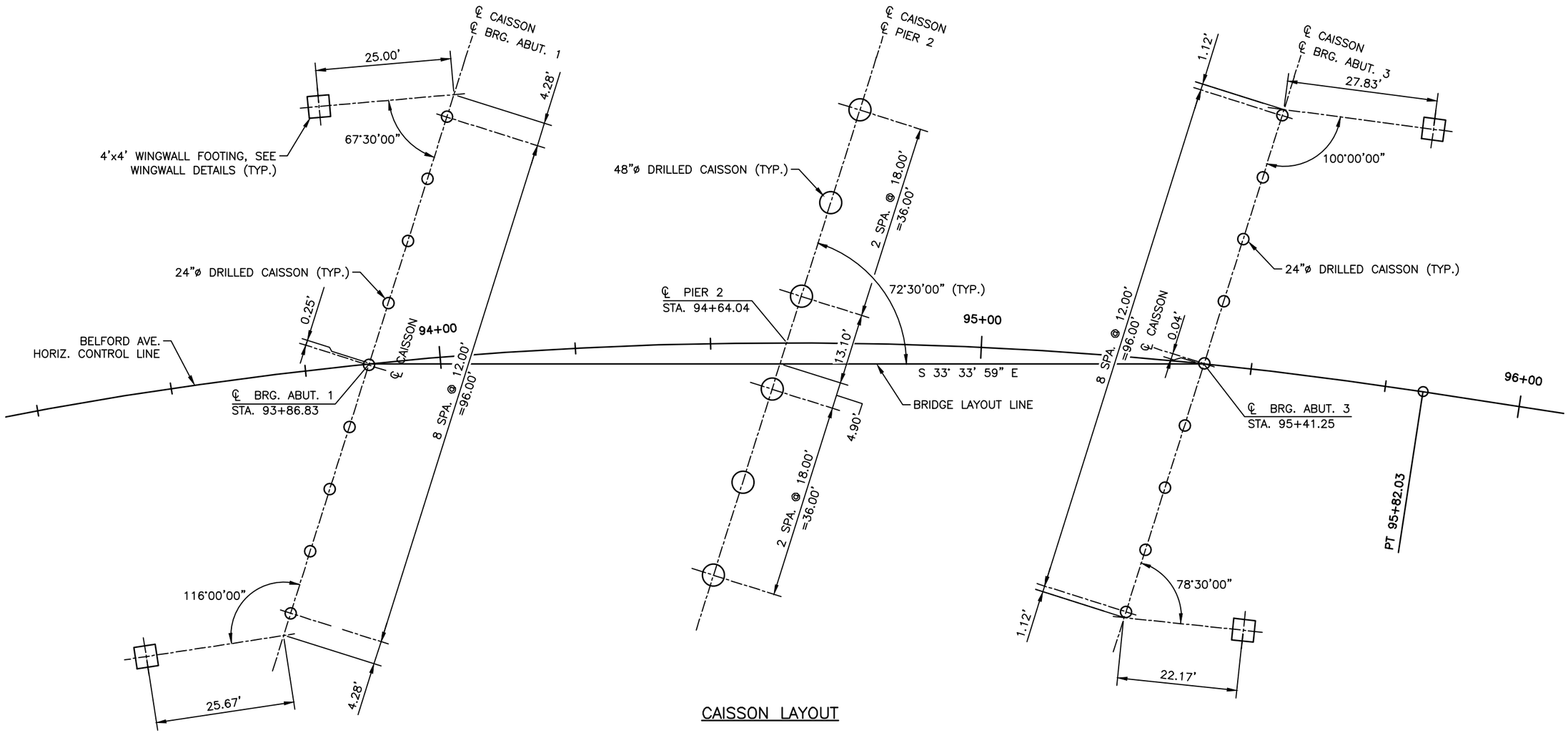
BELFORD–HAPPY CANYON CREEK BRIDGE
CONSTRUCTION LAYOUT (2 OF 2)

Designer:	J. LYNCH	Structure Numbers	
Detailer:	C. MIYAMOTO		
Subset:	BRIDGE	Sheets:	B9 of 33

Project No./Code

Sheet Number 38



CAISSON LAYOUT

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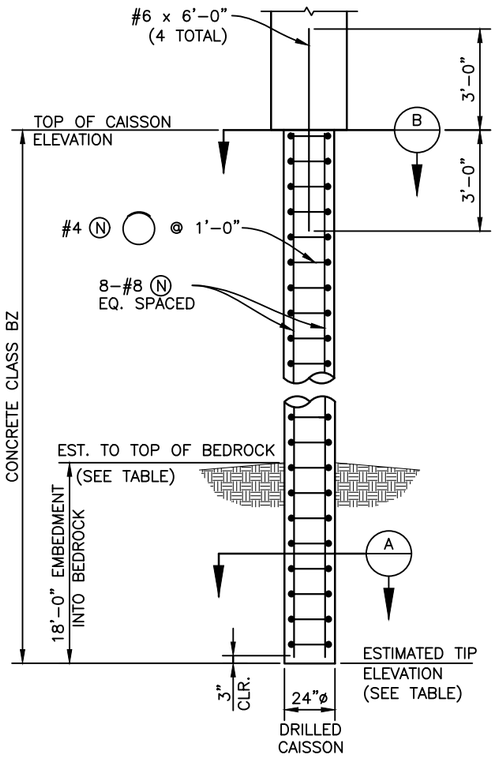
BELFORD–HAPPY CANYON CREEK BRIDGE
CAISSON LAYOUT

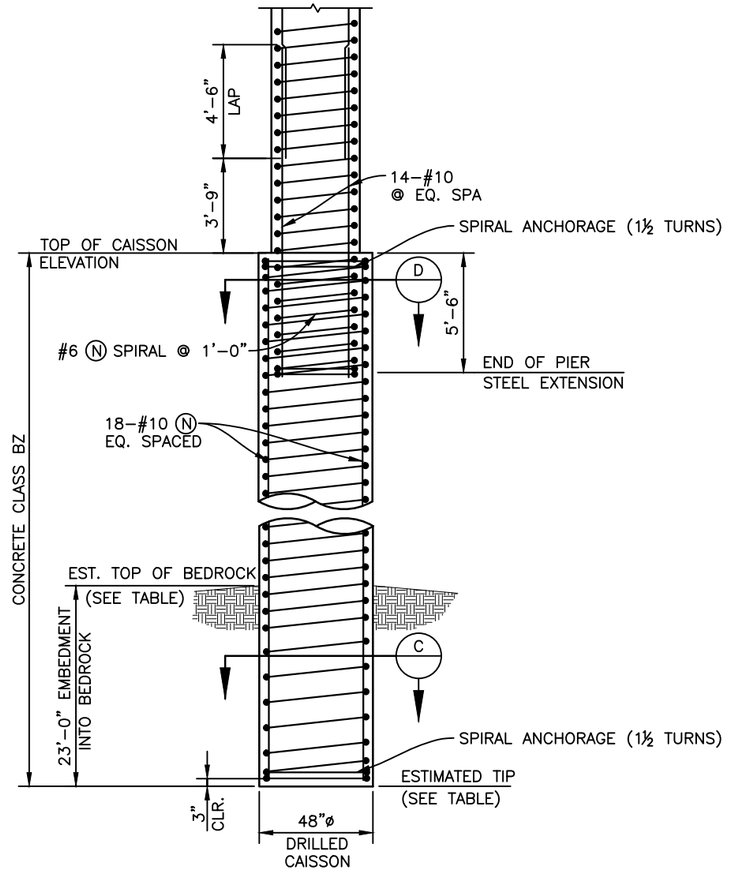
Designer:	J. LYNCH	Structure Numbers	
Detailer:	R. DILLON		
Subset:	BRIDGE	Sheets:	B10 of 33

Project No./Code

Sheet Number 39



24" CAISSON DETAIL



48" CAISSON DETAIL

	MAX. LOAD (service) (kips)	MAX. LOAD (factored) (kips)	TOP OF CAISSON ELEVATION	EST. TOP OF BEDROCK ELEVATION	EST. TIP ELEVATION
ABUTMENT 1	316	437	5771.64	5749.80	5731.70
PIER 2	729	1008	5764.00	5747.00	5724.00
ABUTMENT 3	321	442	5772.94	5747.30	5729.30

CAISSON NOTES:

1. CAISSONS SHALL EXTEND AT LEAST TO THE ESTIMATED TIP ELEVATION. CAISSONS SHALL BE FURTHER ADVANCED INTO THE HARD BEDROCK IF NECESSARY TO OBTAIN THE SPECIFIED MINIMUM EMBEDMENT BELOW THE ESTIMATED TOP OF HARD BEDROCK AS DETERMINED IN THE FIELD BY THE ENGINEER.
2. TOP OF HARD BEDROCK ELEVATION SHALL BE VERIFIED AT TIME OF CONSTRUCTION BY THE GEOTECHNICAL ENGINEER.
3. THE USE OF TEMPORARY CASING & DEWATERING DURING DRILLING CAISSONS WILL BE REQUIRED. THE COST OF TEMPORARY CASING & DEWATERING SHALL BE INCLUDED IN THE COST OF ITEM 503 – DRILLED CAISSON (24 INCH) AND ITEM 503 – DRILLED CASISSON (48 INCH).
4. EXPANSION JOINT MATERIAL SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN ITEM 503 – DRILLED CAISSON (24 INCH).
5. INSIDE "HINGE REGIONS", AS DEFINED ON BA18, SPIRAL REINFORCEMENT SHALL ONLY BE SPLICED WITH WELDED OR MECHANICAL CONNECTIONS THAT ARE CAPABLE OF DEVELOPING 125% OF REINFORCING STEEL TENSILE STRENGTH. OTHERWISE, SPIRALS MAY BE LAP SPLICED WITH THE FOLLOWING LAP LENGTHS:
   #4 SPIRALS: 3'–0" LAP LENGTH
   #6 SPIRALS: 4'–6" LAP LENGTH

DESIGN DATA:

CAISSONS AND PILES ARE DESIGNED PER AASHTO LRFD

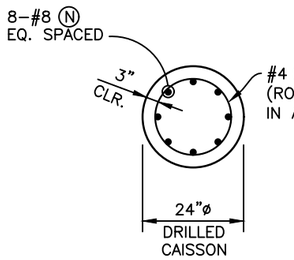
CAISSONS:

NOMINAL TIP RESISTANCE IN BEDROCK = 78.2 KSF

NOMINAL SIDE RESISTANCE IN BEDROCK = 6.37 KSF

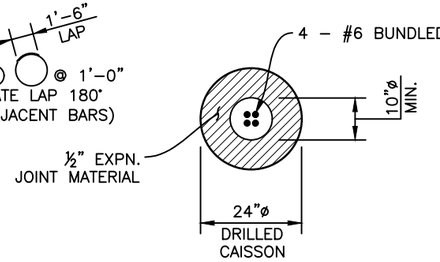
NOMINAL UPLIFT RESISTANCE IN BEDROCK = 6.37 KSF

RESISTANCE FACTORS FOR TIP, SIDE AND UPLIFT RESISTANCE ARE 0.55, 0.60, 0.40, RESPECTIVELY.



TYPICAL SECTION

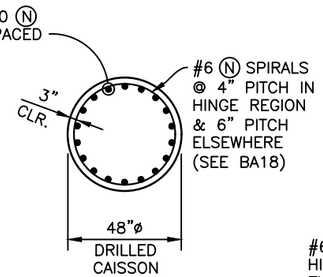
SECTION (A)



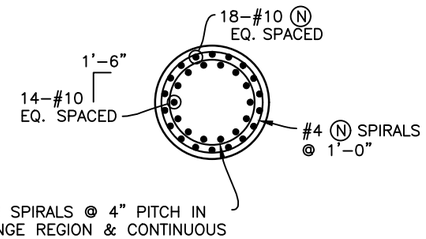
TOP CAISSON

SECTION (B)

ABUTMENT CAISSON DETAILS



SECTION (C)



SECTION (D)

PIER CAISSON SECTION
(SEE NOTES REGARDING SPIRAL LAP SPLICES)

LAP SPLICE TABLE	
BAR SIZE	SPLICE LENGTH
#8	3'–2"
#10	4'–10"

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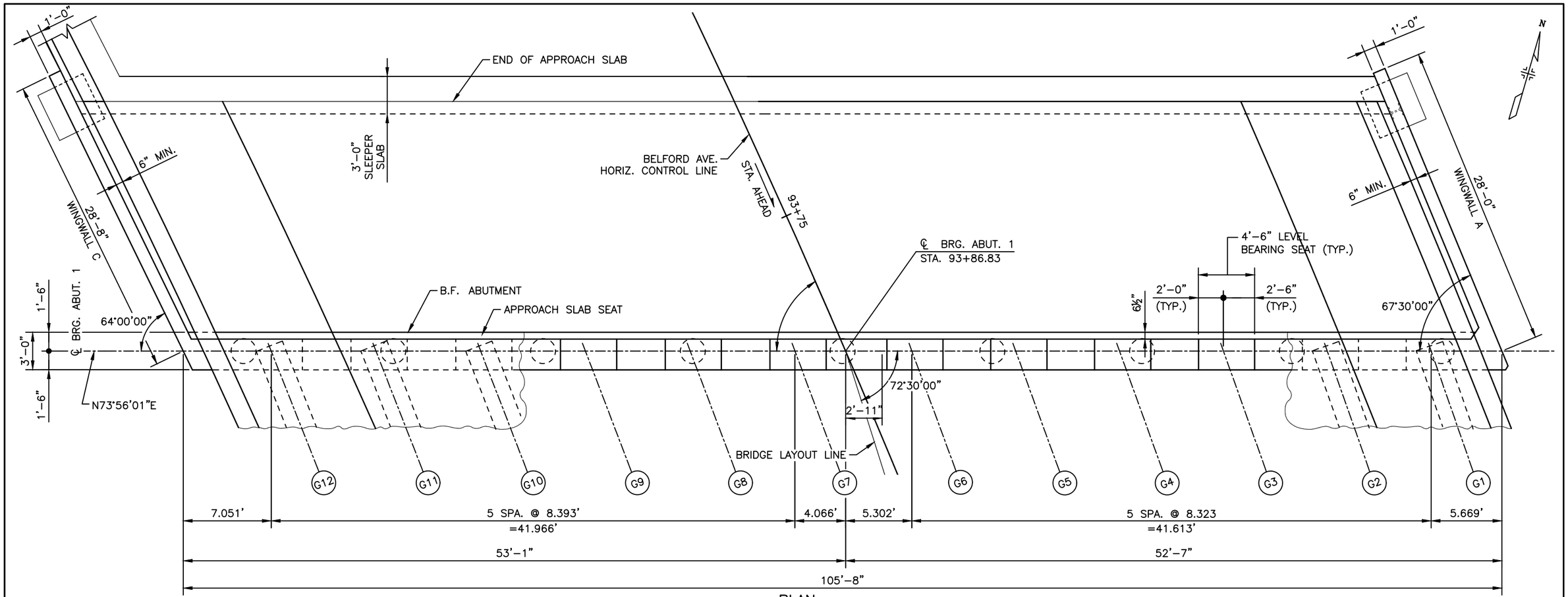
BELFORD–HAPPY CANYON CREEK BRIDGE
CAISSON DETAILS

Designer: J. LYNCH
Detailer: C. MIYAMOTO
Subset: BRIDGE
Structure Numbers:
Sheets: B11 of 33

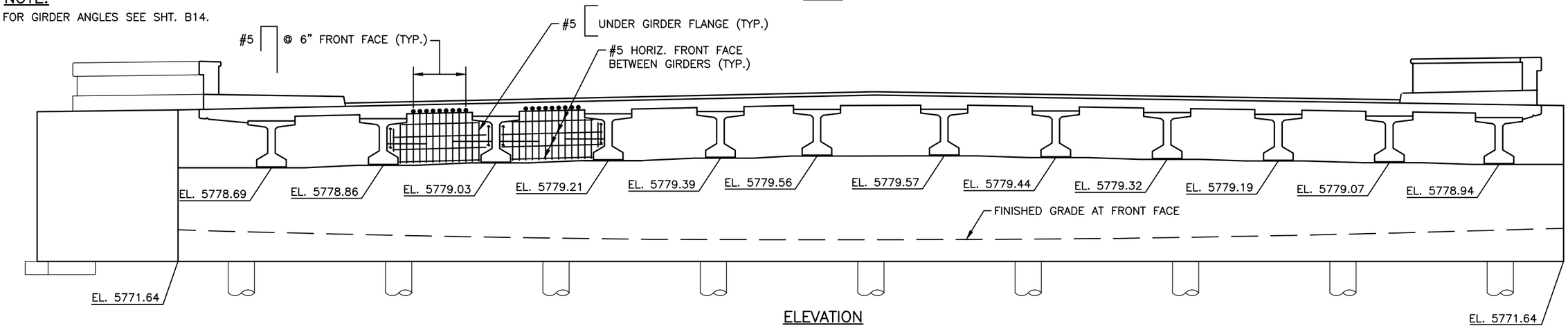
Project No./Code:
Sheet Number 40



PLAN

NOTE:

FOR GIRDER ANGLES SEE SHT. B14.



ELEVATION

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BELFORD–HAPPY CANYON CREEK BRIDGE
ABUTMENT 1
PLAN & ELEVATION

Designer:	J. LYNCH	Structure Numbers	
Detailer:	R. DILLON		
Subset:	BRIDGE	Sheets:	B12 of 33

Project No./Code

Sheet Number 41

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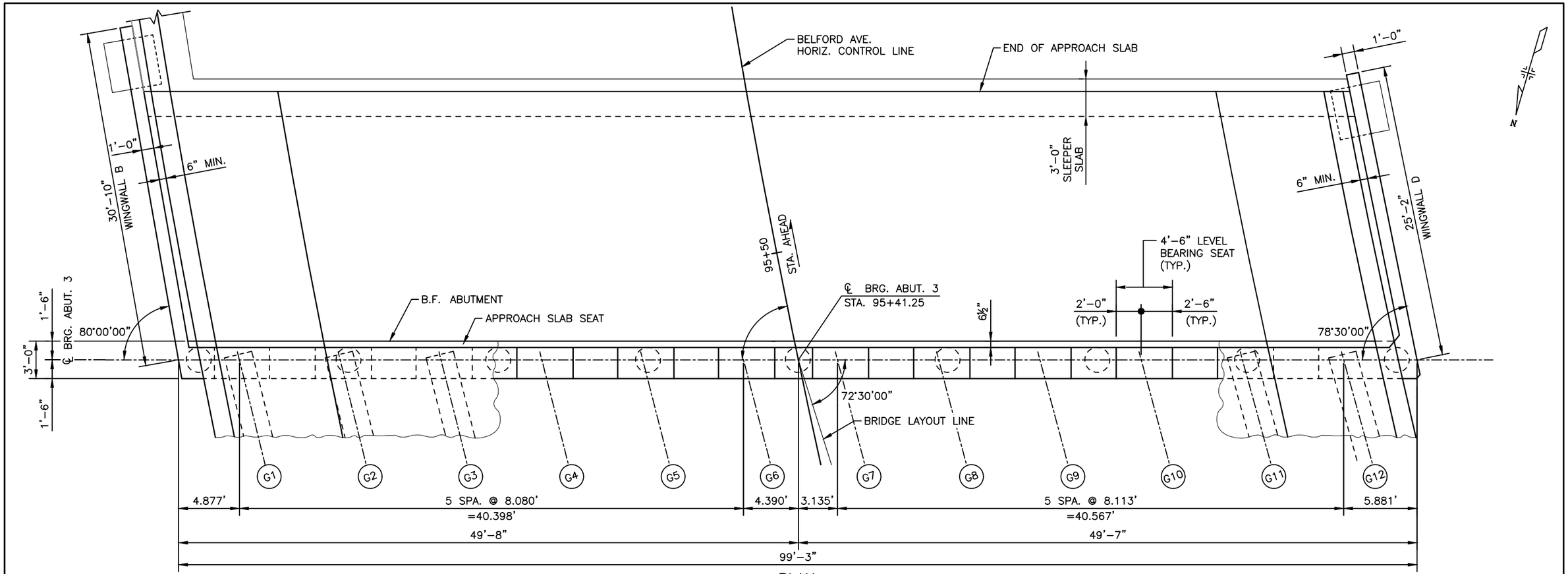
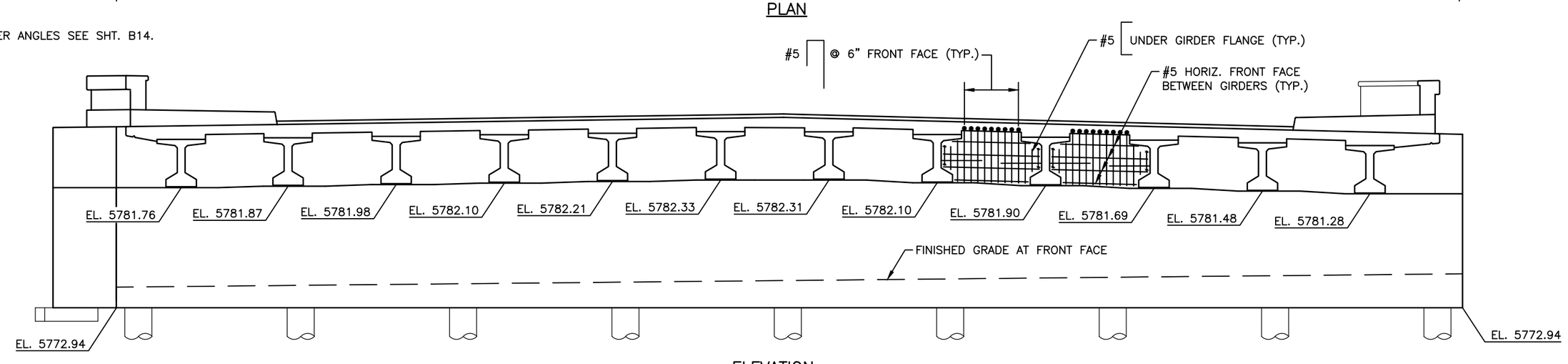


PLAN

NOTE:

FOR GIRDER ANGLES SEE SHT. B14.



ELEVATION

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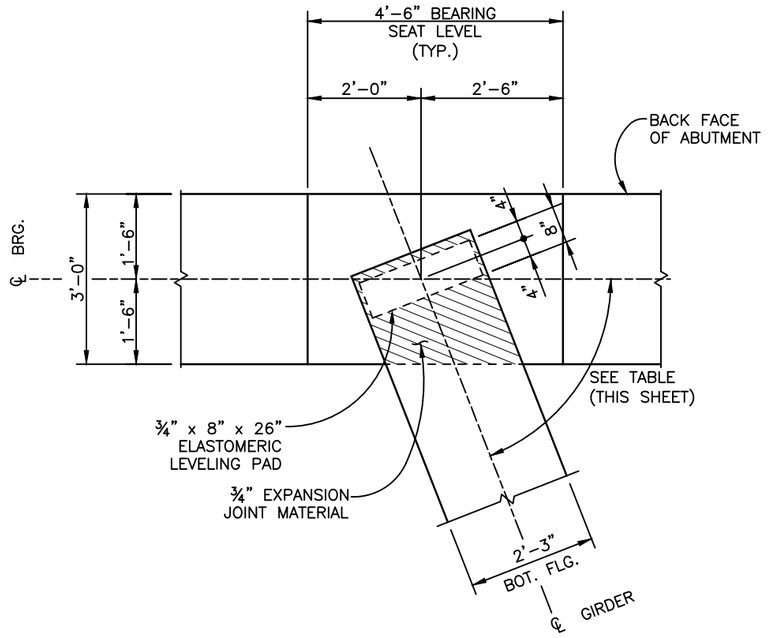
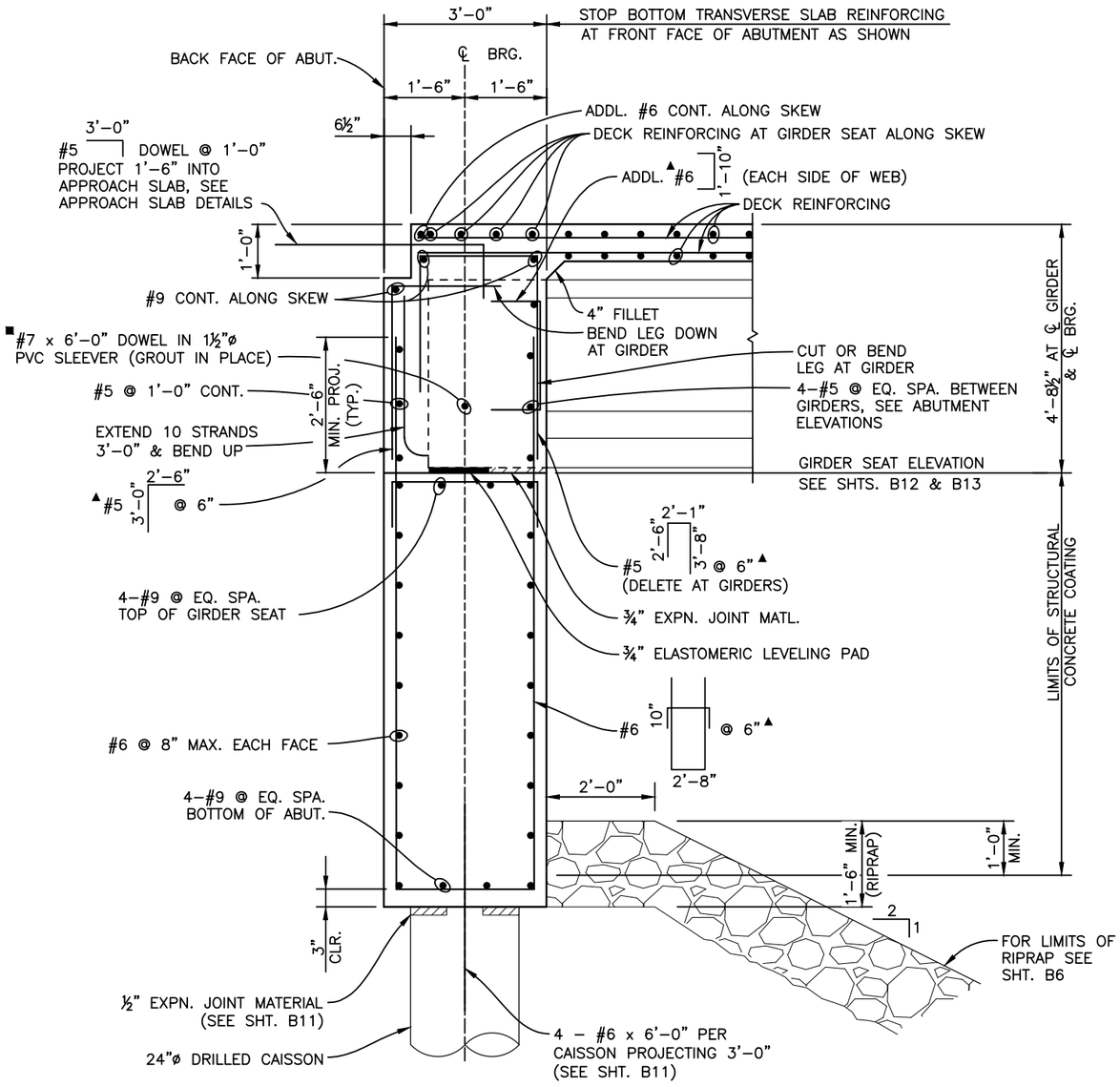


BEARING DETAIL



TYPICAL ABUTMENT SECTION

GIRDER ANGLES

℄ GIRDER TO ℄ ABUT ANGLES		
GIRDER No.	ABUT. 1	ABUT. 3
G1–G6	70°15'28.35"	75°48'58.53"
G7–G12	68°57'14.35"	74°54'00.43"

LAP SPLICE TABLE	
BAR SIZE	SPLICE LENGTH
#5	2'–11"
#6	3'–6"
#9	6'–3"

NOTES:

1. SLAB AND PORTION OF ABUTMENT ABOVE BEARING SEAT TO BE POURED MONOLITHICALLY.
2. ELASTOMERIC LEVELING PAD AND EXPANSION JOINT MATERIAL SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN ITEM 618 – PRESTRESSED I (BT42)

■ DOWEL SHALL BE BENT IN FIELD, IF NECESSARY, TO MAINTAIN REQUIRED COVER

▲ TRANSVERSE STEEL SHALL BE ALIGNED WITH GIRDER CENTERLINE

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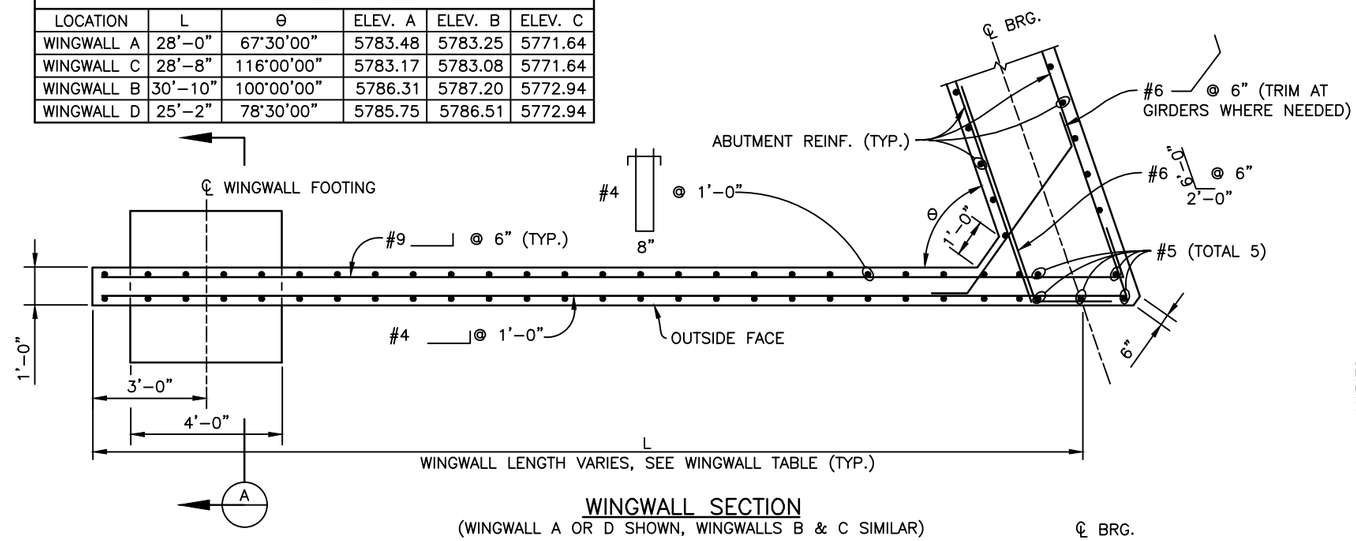
BELFORD–HAPPY CANYON CREEK BRIDGE
ABUTMENT SECTIONS & DETAILS

Designer: J. LYNCH
Detailer: C. MIYAMOTO
Subset: BRIDGE
Structure Numbers:
Sheets: B14 of 33

Project No./Code:

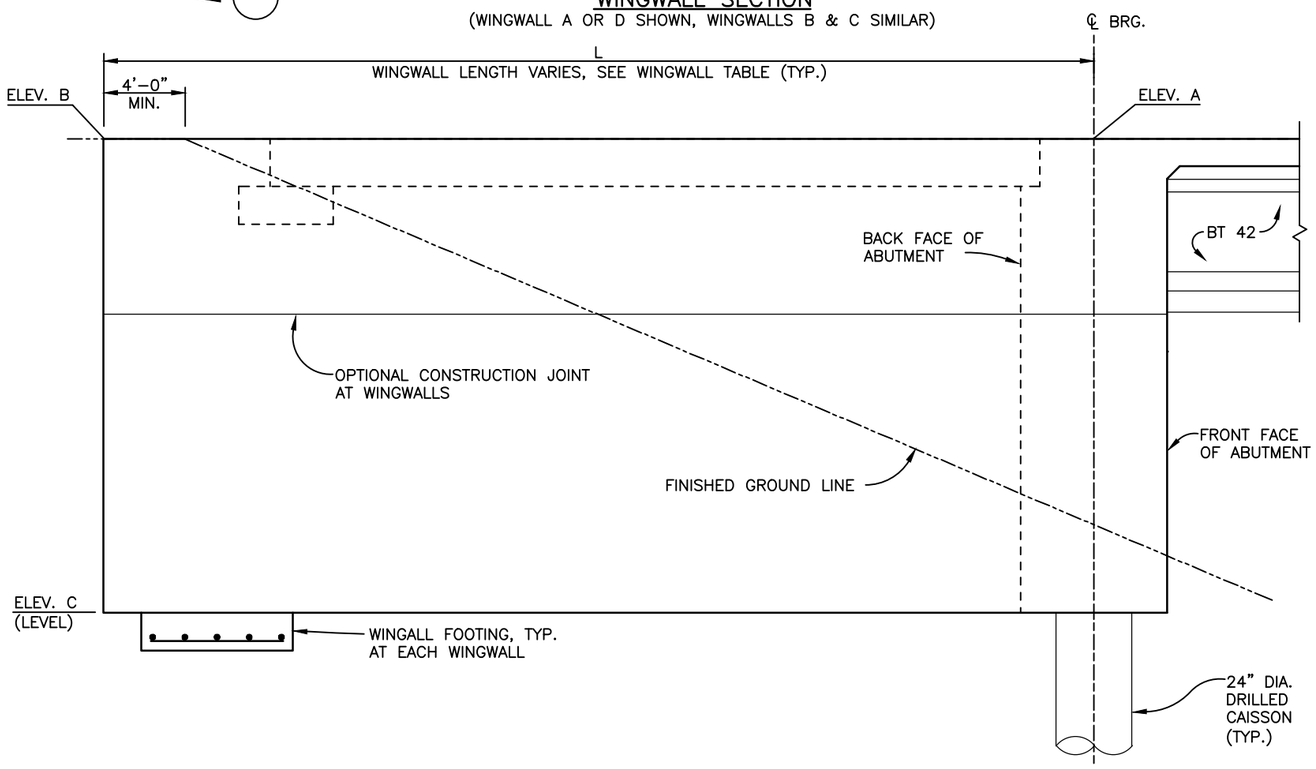
Sheet Number 43

WINGWALL TABLE					
LOCATION	L	Θ	ELEV. A	ELEV. B	ELEV. C
WINGWALL A	28'–0"	67°30'00"	5783.48	5783.25	5771.64
WINGWALL C	28'–8"	116°00'00"	5783.17	5783.08	5771.64
WINGWALL B	30'–10"	100°00'00"	5786.31	5787.20	5772.94
WINGWALL D	25'–2"	78°30'00"	5785.75	5786.51	5772.94

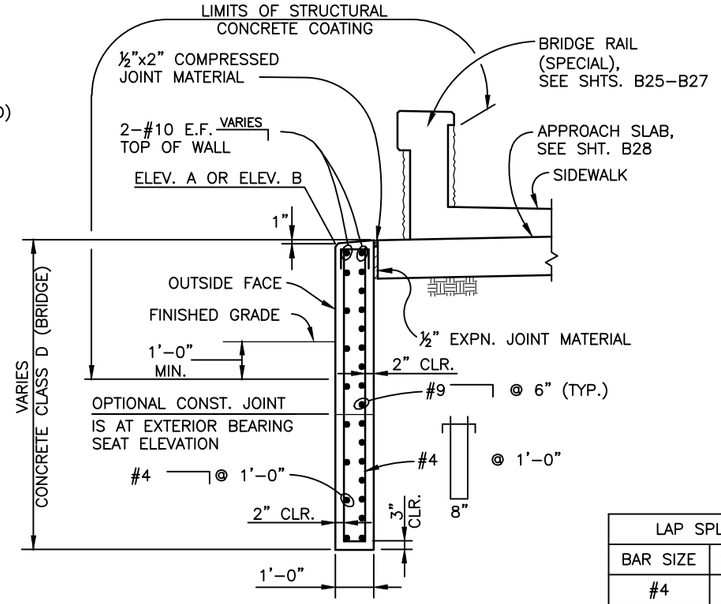


WINGWALL SECTION

(WINGWALL A OR D SHOWN, WINGWALLS B & C SIMILAR)

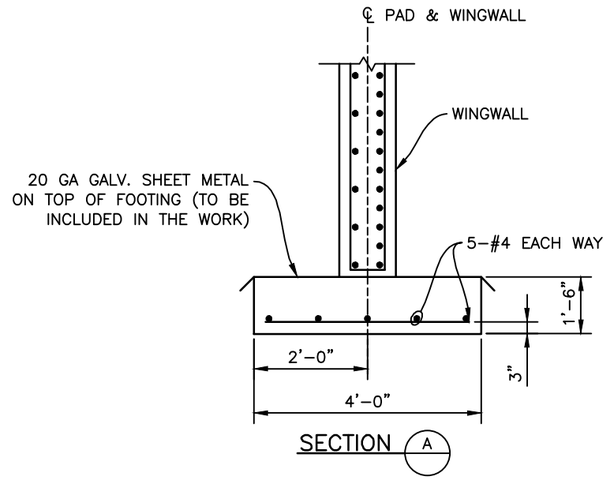


ELEVATION



TYPICAL WINGWALL SECTION

LAP SPLICE TABLE	
BAR SIZE	SPLICE LENGTH
#4	1'–10"
#9	5'–6"
#10	7'–8"



NOTES:

1. ELEVATIONS A & B ARE AT THE OUTSIDE FACE OF THE WINGWALL AS SHOWN IN TYPICAL WINGWALL SECTION.
2. BACKFILL AT THE OUTSIDE FACE OF WINGWALLS SHALL BE PLACED CONCURRENTLY WITH BACKFILL BEHIND THE WALLS.

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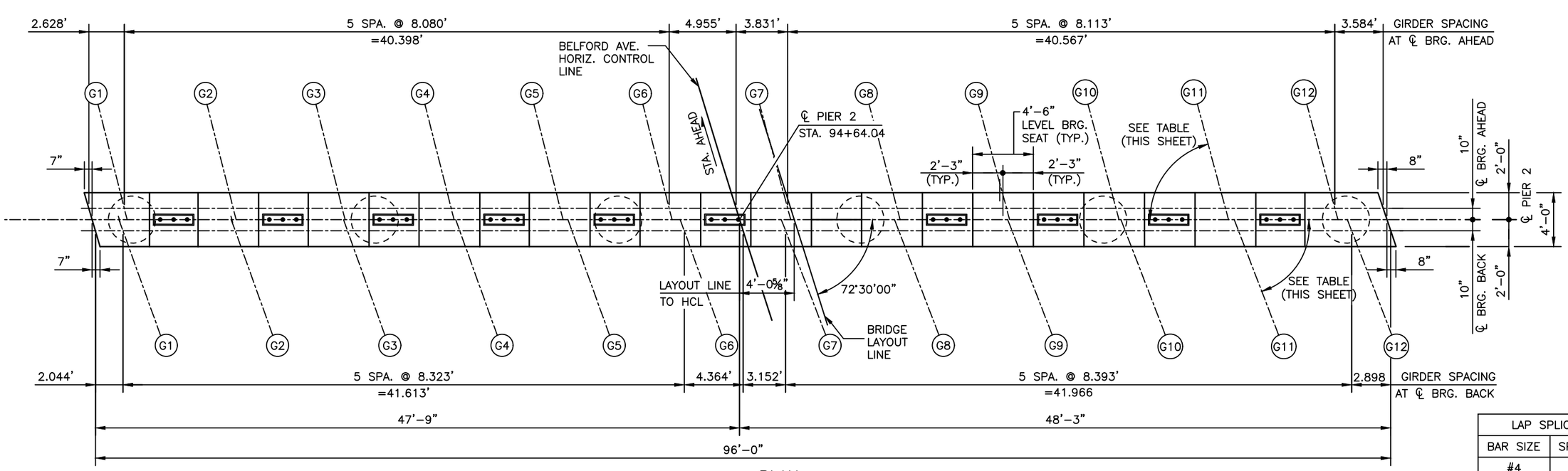
BELFORD–HAPPY CANYON CREEK BRIDGE
WINGWALL DETAILS

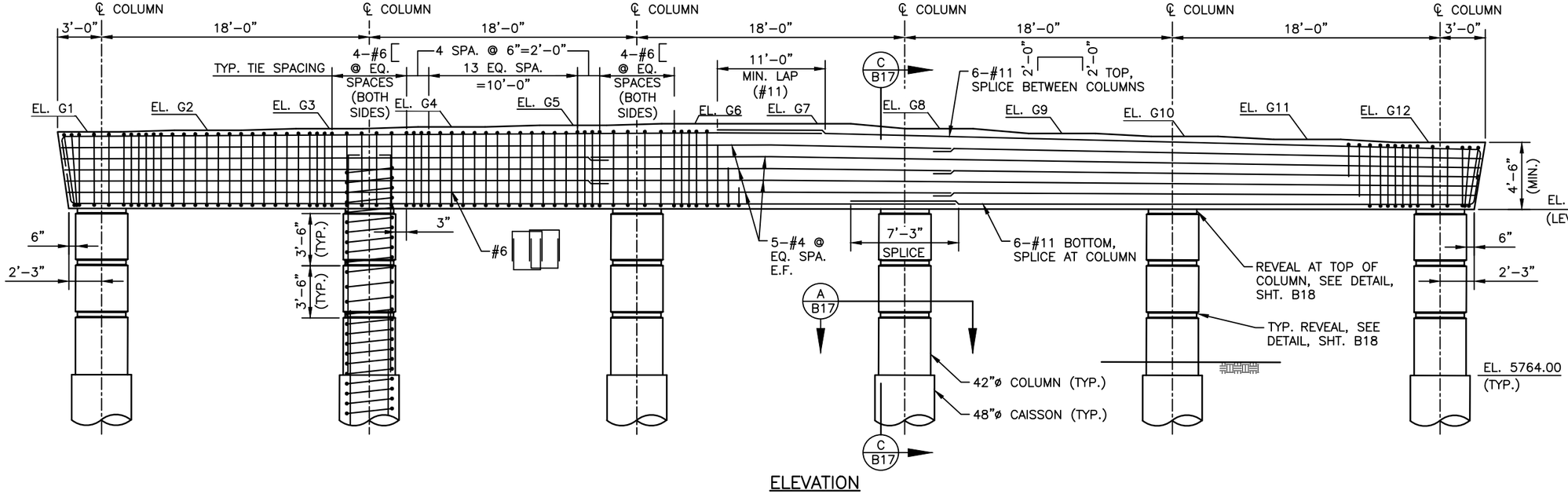
Designer: J. LYNCH
Detailer: C. MIYAMOTO
Subset: BRIDGE
Structure Numbers:
Sheets: B15 of 33

Project No./Code

Sheet Number 44



PLAN



ELEVATION

LAP SPLICE TABLE	
BAR SIZE	SPLICE LENGTH
#4	1'-10"
#9	5'-6"
#11	8'-2"

℄ GIRDER TO ℄ PIER ANGLES		
G1-G6	S	75°48'58.53"
	N	70°15'28.35"
G7-G12	S	74°54'00.43"
	N	68°57'14.35"

BEARING SEAT ELEVATIONS	
EL. G1	5780.00
EL. G2	5780.12
EL. G3	5780.23
EL. G4	5780.34
EL. G5	5780.46
EL. G6	5780.57
EL. G7	5780.55
EL. G8	5780.35
EL. G9	5780.15
EL. G10	5779.94
EL. G11	5779.74
EL. G12	5779.54

(ELEVATIONS TO TOC)

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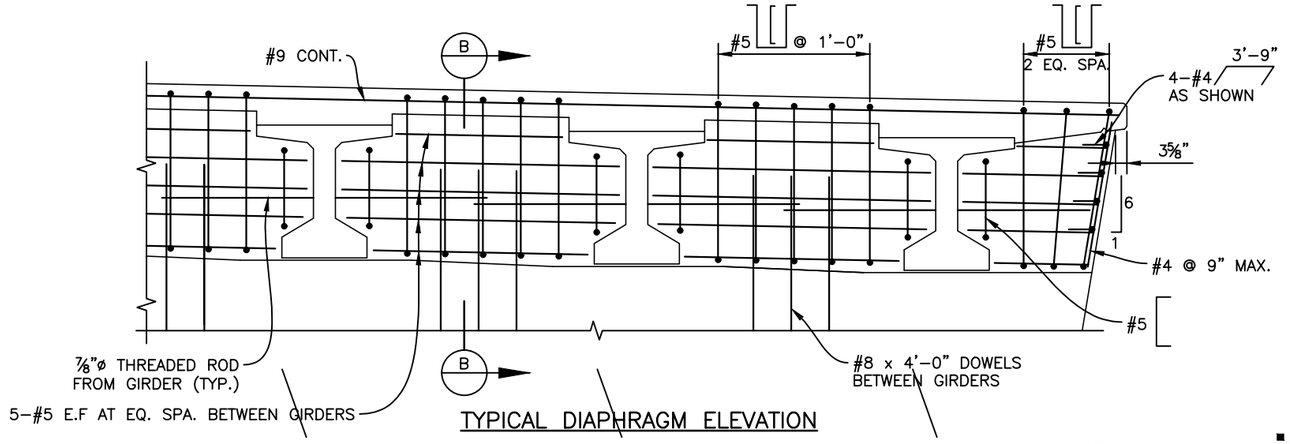
BELFORD-HAPPY CANYON CREEK BRIDGE
PIER 2
PLAN & ELEVATION

Designer: J. LYNCH
Detailer: R. DILLON
Subset: BRIDGE
Structure Numbers:
Sheets: B16 of 33

Project No./Code:

Sheet Number 45

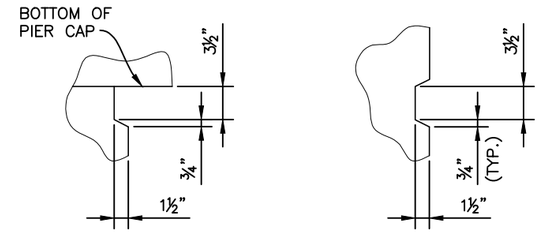


TYPICAL DIAPHRAGM ELEVATION

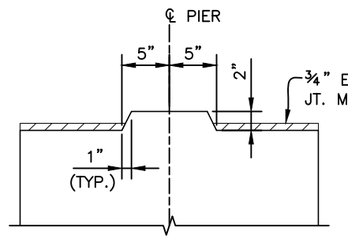
NOTES:

1. WITHIN "HINGE REGIONS", SPLICES IN SPIRAL REINFORCEMENT SHALL BE MADE WITH FULL-WELDED SPLICES OR FULL-MECHANICAL CONNECTIONS THAT DEVELOP 125% OF REINFORCING STEEL TENSILE STRENGTH.
2. SPIRALS MUST COMPLETE TWO ROTATIONS BEYOND "HINGE REGION" BOUNDARY BEFORE PITCH CAN INCREASE.
3. SEE B11 FOR LIMITS OF PIER STEEL INTO CAISSON.
4. ALL SPIRALS SHALL BE ANCHORED BY 1½ EXTRA TURNS OF SPIRAL BAR AT EACH END.

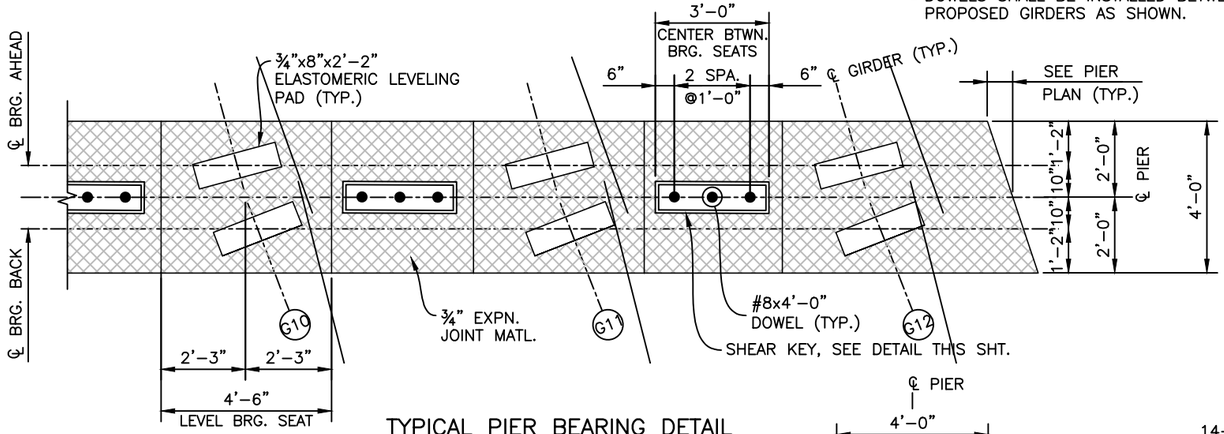
■ DOWELS SHALL BE INSTALLED BETWEEN PROPOSED GIRDERS AS SHOWN.



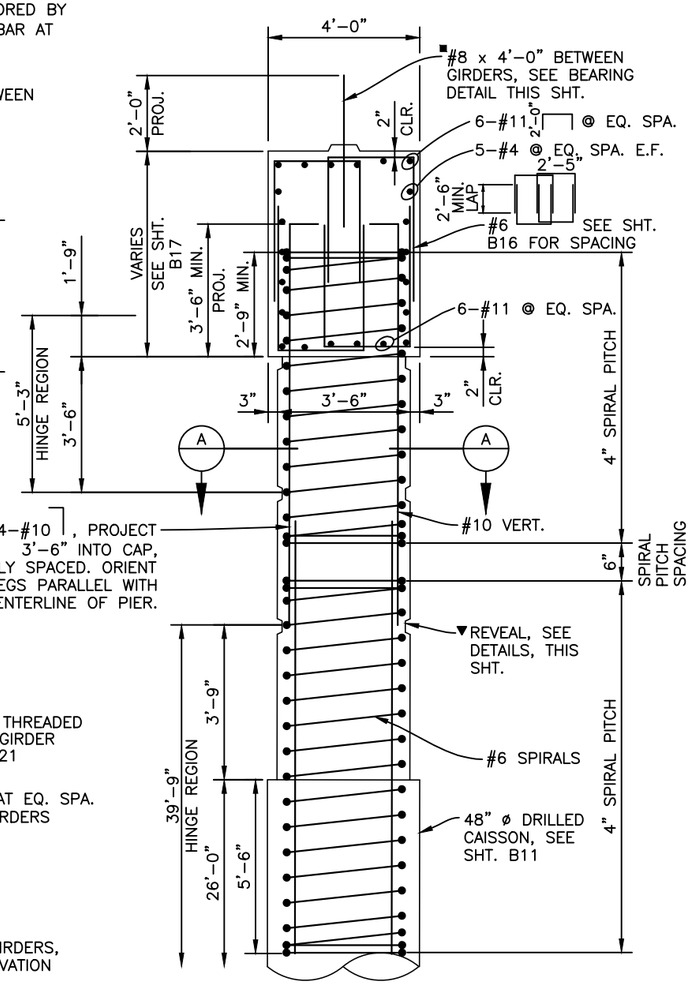
REVEAL DETAILS



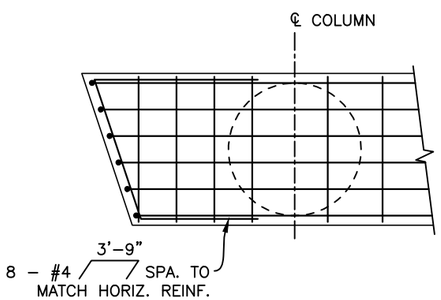
PIER CAP SHEAR KEY DETAIL
(REINFORCING NOT SHOWN FOR CLARITY)



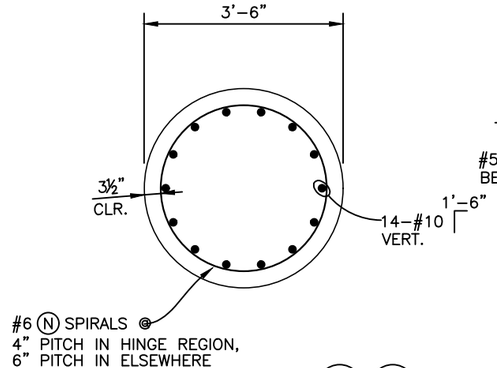
TYPICAL PIER BEARING DETAIL



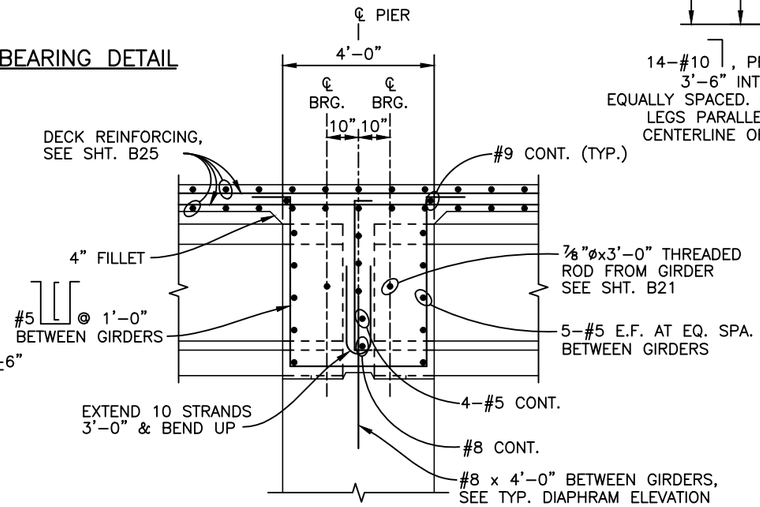
SECTION (C, B16)



END CAP DETAIL



COLUMN SECTION (A, A B16)



SECTION (B)

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File Name: B115360-01PIR02.dwg		No Revisions:	Designer: J. LYNCH
Horizontal Scale: VARIES Vertical Scale:		Revised:	Detailer: DILLON/MIYAMOTO
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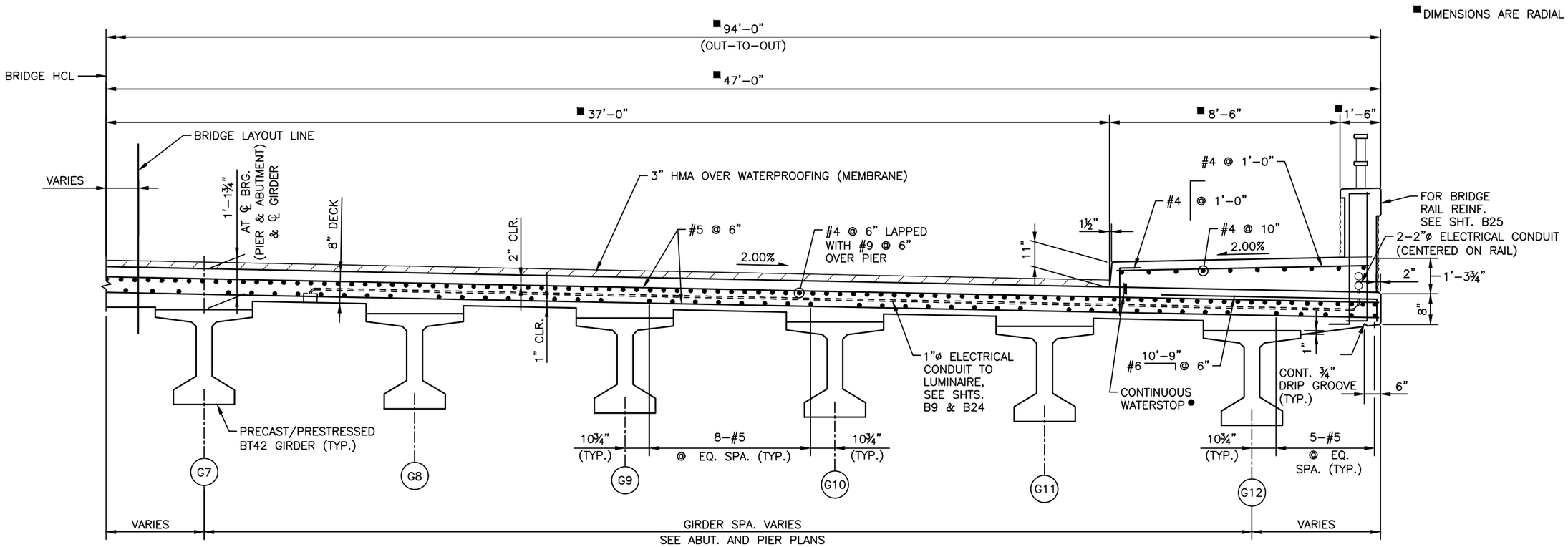
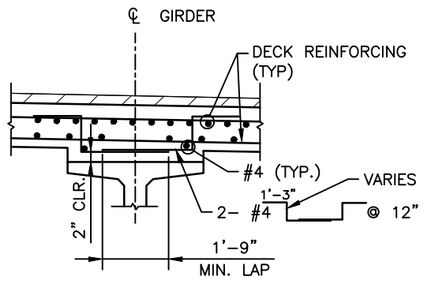
Structure Numbers	
Sheets:	B17 of 33
Project No./Code	
Sheet Number	46



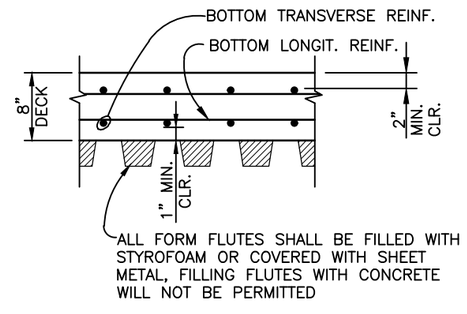
PARTIAL TYPICAL SECTION

(LOOKING SOUTH)
(RIGHT SIDE SHOWN, LEFT SIMILAR)



HAUNCH REINFORCEMENT DETAIL

(PROVIDE WHEN HAUNCH DEPTH EXCEEDS 4 INCHES AT ℄ GIRDER)



PERMANENT STEEL DECK FORM DETAIL

(DETAILS FOR CONCRETE DECK FORMS FOUND ON B22–B23)

NOTES:

1. DECK & SIDEWALK CONCRETE SHALL BE CLASS D (BRIDGE).
2. PROVIDE TRANSVERSE RAKE FINISH (¼"± AMPLITUDE) ON THE BRIDGE DECK IN THE AREAS WHERE SIDEWALK IS TO BE PLACED, CLEAN PRIOR TO PLACING SIDEWALK CONCRETE.

▲ BAR MAY BE STABBED INTO WET CONCRETE WITH 6" MIN. EMBEDMENT, OR DRILLED & EPOXIED INTO DECK AFTER SLAB HAS CURED. USE HILTI HIT HY–150 EPOXY ADHESIVE, OR APPROVED EQUAL, 6" MIN. EMBEDMENT DEPTH. IF DRILL AND EPOXY OPTION IS USED, THE COST OF DRILLING & EPOXY WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN ITEM 601, CONCRETE CLASS D (BRIDGE).

● PROVIDE CONTINUOUS BENTONITE/BUTYL RUBBER BASED WATERSTOP (CARLISLE MIRASTOP OR APPROVED EQUAL). THE COST OF THE WATERSTOP WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN ITEM 601, CONCRETE CLASS D (BRIDGE).

3. CONCRETE SEALER SHALL BE APPLIED TO CONCRETE SIDEWALK AND CURBS. SEALER SHALL AVOID AREAS REQUIRING STONE VENEER.
4. STAGGER ALL LONGITUDINAL REINFORCING BAR SPLICES.

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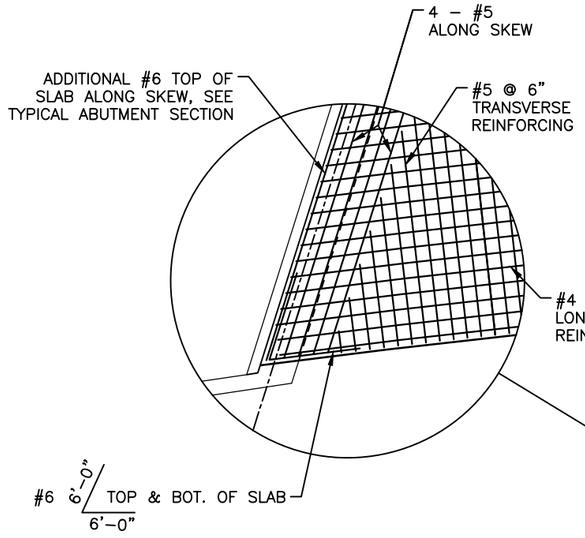
BELFORD–HAPPY CANYON CREEK BRIDGE
SUPERSTRUCTURE SECTION

Designer:	J. LYNCH	Structure Numbers	
Detailer:	C. MIYAMOTO		
Subset:	BRIDGE	Sheets:	B18 of 33

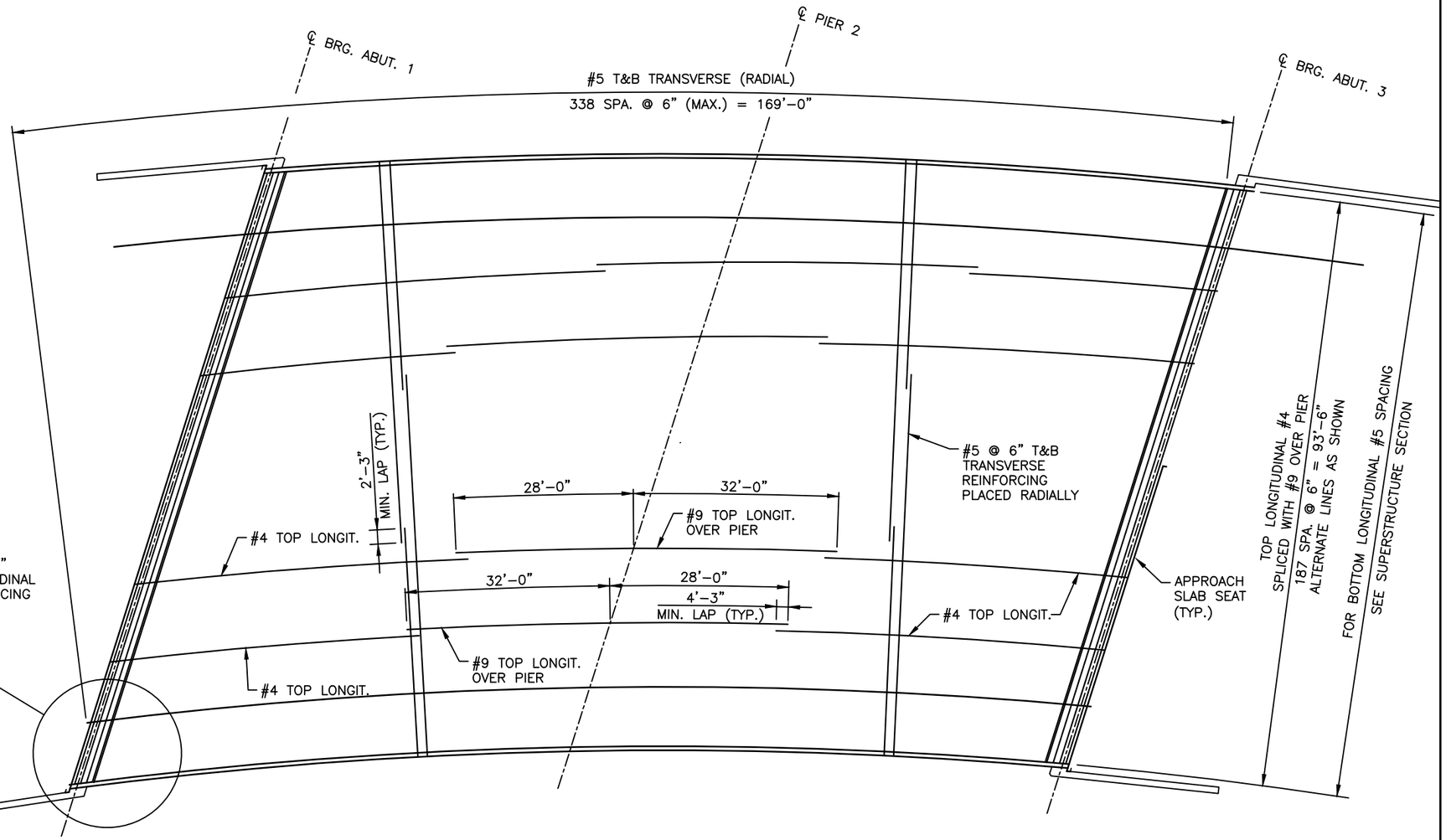
Project No./Code

Sheet Number 47

LAP SPLICE TABLE	
BAR SIZE	SPLICE LENGTH
#5	1'–10"
#6	2'–3"
#9	5'–6"
#4 WITH #9	4'–3"



TYPICAL ACUTE DECK CORNER



REINFORCING PLAN

(SIDEWALK REINFORCING NOT SHOWN FOR CLARITY)

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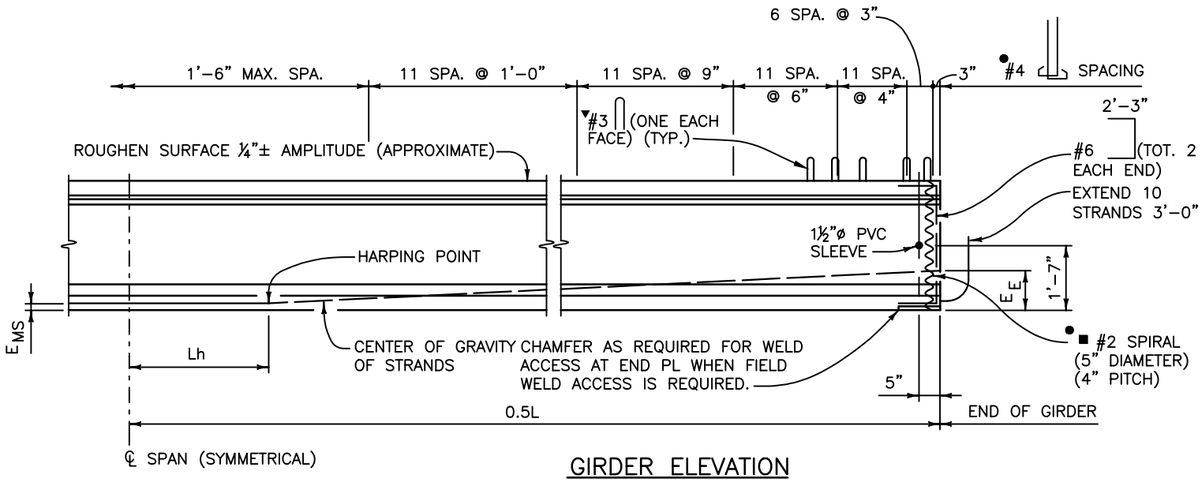
BELFORD–HAPPY CANYON CREEK BRIDGE
DECK REINFORCING PLAN

Designer: J. LYNCH
Detailer: MIYAMOTO/DILLON
Subset: BRIDGE
Structure Numbers:
Sheets: B19 of 33

Project No./Code

Sheet Number 48

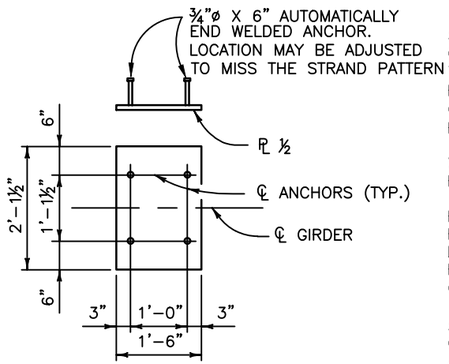


GIRDER ELEVATION

■ THE CONTRACTOR MAY SUBMIT AN ALTERNATE CROSS TIE ARRANGEMENT, AT THE END OF THE WEB, FOR APPROVAL BY THE ENGINEER.

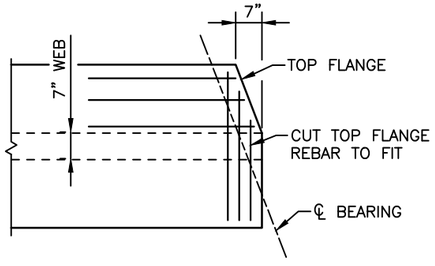
▼ SPACE WITH #4 ● FOR STIRRUP SPACINGS OF 9" OR MORE. SPACE AT 1'–0" FOR STIRRUP SPACINGS LESS THAN 9".

● D20 WIRES MAY BE USED IN LIEU OF #4.
2 – D20 WIRES MAY BE USED IN LIEU OF #6.
D11 OR W10.9 WIRES MAY BE USED IN LIEU OF #3.
W5 WIRES MY BE USED IN LIEU OF #2.



END PLATE DETAIL

GALVANIZE AFTER FABRICATION

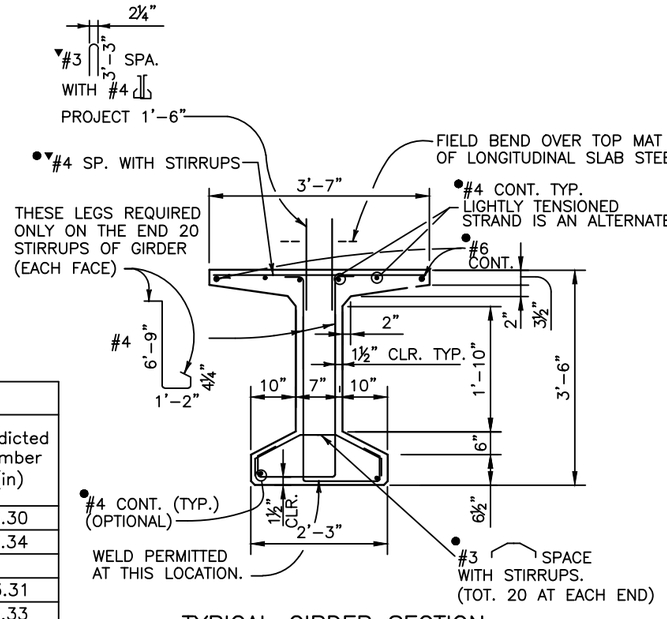


CLIPPED TOP FLANGE DETAIL

(TYPICAL AT BOTH GIRDER ENDS)
(SEE CONSTRUCTION LAYOUT FOR ORIENTATION)

GIRDER SCHEDULE

Girder Type	Span No.	Girder No.	L (ft)	Lh (ft)	As (in2)	EMS (in)	EE (in)	Fj (kips)	Ff (kips)	f'ci (psi)	f'c (psi)	Δ (in)	Predicted Release Camber (in)	Predicted Camber (in)
BT42	1	G1–G6	76.82	7.68	6.08	4.14	14.14	1230	985	6000	8000	1.10	1.69	3.30
BT42	1	G7–G12	77.47	7.74	6.08	4.14	14.14	1230	985	6000	8000	1.10	1.70	3.34
BT42	2	G1–G6	77.00	7.70	6.08	4.14	14.14	1230	985	6000	8000	1.10	1.69	3.31
BT42	2	G7–G12	77.32	7.73	6.08	4.14	14.14	1230	985	6000	8000	1.10	1.70	3.33



TYPICAL GIRDER SECTION

NOTES:

ALL WORK NECESSARY TO FABRICATE AND INSTALL THE INTEGRAL PARTS OF THE GIRDER (INCLUDING THE INTERMEDIATE DIAPHRAGMS, ⅞"ø THREADED RODS, AND LEVELING PADS), AS SHOWN ON THE PLANS, SHALL BE INCLUDED IN THE BID PRICE FOR ITEM NO. 618, PRESTRESSED CONCRETE I (BT42), WITH A PAY UNIT OF LF WHICH SHALL BE MEASURED BY DIMENSION L.

WHEN APPROVED BY THE ENGINEER, A MINIMUM OF TACK WELDING WILL BE PERMITTED ON ASTM A706 UNCOATED REINFORCING STEEL.

REINFORCING PROJECTING FROM THE TOP OF THE GIRDER AND REINFORCING WITHIN EIGHT FEET OF AN EXPANSION DEVICE IN THE BRIDGE DECK SHALL BE EPOXY COATED. DAMAGED COATING ON GIRDER REINFORCING WITHIN THE GIRDER NEED NOT BE REPAIRED. THE MINIMUM COVER FOR REINFORCING STEEL IS 1".

AT GIRDER ENDS NOT EMBEDDED IN CONCRETE DIAPHRAGMS, CUT STRANDS OFF 1" BELOW THE SURFACE OF THE CONCRETE AND FINISH WITH AN APPROVED EPOXY GROUT. AT GIRDER ENDS EMBEDDED IN CONCRETE DIAPHRAGMS, CUT STRANDS TO PROJECT 3", EXCEPT AS SHOWN. DO NOT MAKE COSMETIC REPAIRS (DAMAGE LESS THAN 1½" DEEP) TO THE PARTS OF THE GIRDERS EMBEDDED IN CONCRETE.

USE LOW RELAXATION STRANDS MEETING THE REQUIREMENTS OF ASTM A–416 GRADE 270. THE MINIMUM CLEAR DISTANCE BETWEEN GROUPS OR INDIVIDUAL STRANDS SHALL BE $2.3(D_S)$ BUT NOT LESS THAN 1¼". THE MINIMUM COVER FOR PRESTRESSING STEEL IS 1½".

A MINIMUM OF TWO HARPING POINTS SHALL BE USED PER GIRDER. HARPED STRANDS SHALL BE WELL DISTRIBUTED AT THE GIRDER ENDS, STARTING WITHIN 4" OF THE TOP OF THE GIRDER AND DISTRIBUTED SUCH THAT THERE IS NO SPACE BETWEEN STRANDS GREATER THAN 1'–0" AT THE END OF THE GIRDER. AS AN ALTERNATE THE CONTRACTOR MAY PLACE #4 ● X 10'–0" IN THE SIDES OF THE END OF THE WEB PARALLEL TO THE HARPED STRANDS SUCH THAT THERE IS NO SPACE GREATER THAN 1'–0".

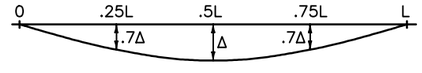
A_s* = MINIMUM AREA OF THE PRESTRESSING STEEL.
d_s = NOMINAL STRAND DIAMETER.
f'_s = ULTIMATE STRENGTH OF PRESTRESSING STEEL.
F_j = JACKING FORCE PER GIRDER.
F_f = FINAL FORCE PER GIRDER AFTER ALL LOSSES.
f'_{ci} = REQUIRED CONCRETE STRENGTH AT RELEASE OF PRESTRESS FORCE.
f'_c = REQUIRED CONCRETE STRENGTH AT 28 DAYS OF AGE.
L = LENGTH OF GIRDER ALONG THE GRADE OF THE GIRDER.
Δ = DEFLECTION AT CENTERLINE OF SPAN DUE TO CAST–IN–PLACE SLAB, DIAPHRAGMS, ASPHALT, CURBS, RAILS, AND WALKS.

CONCRETE SHALL BE CLASS PS.

ENTRAINED AIR IS NOT REQUIRED FOR GIRDER CONCRETE.

USE ½" CHAMFER ON ALL CORNERS, EXCEPT AS NOTED.

PREDICTED CAMBER IS THE CAMBER FOR THE GIRDER ALONE AT 60 DAYS. ACCEPTABLE CAMBER VARIABILITY IS LIMITED TO 20% OVER THE PREDICTED CAMBER AND 50% UNDER THE PREDICTED CAMBER OR ± 1 INCH, WHICHEVER IS GREATER. THE CONTRACTOR SHALL REPORT TO THE ENGINEER VALUES OF CAMBER WHICH REQUIRE REMEDIAL MEASURES. THE REMEDIAL MEASURES SHALL BE REVIEWED AND APPROVED BY THE ENGINEER. THE COSTS ASSOCIATED WITH ALL REMEDIAL MEASURES SHALL BE BORNE BY THE CONTRACTOR.



DEAD LOAD DEFLECTION DIAGRAM

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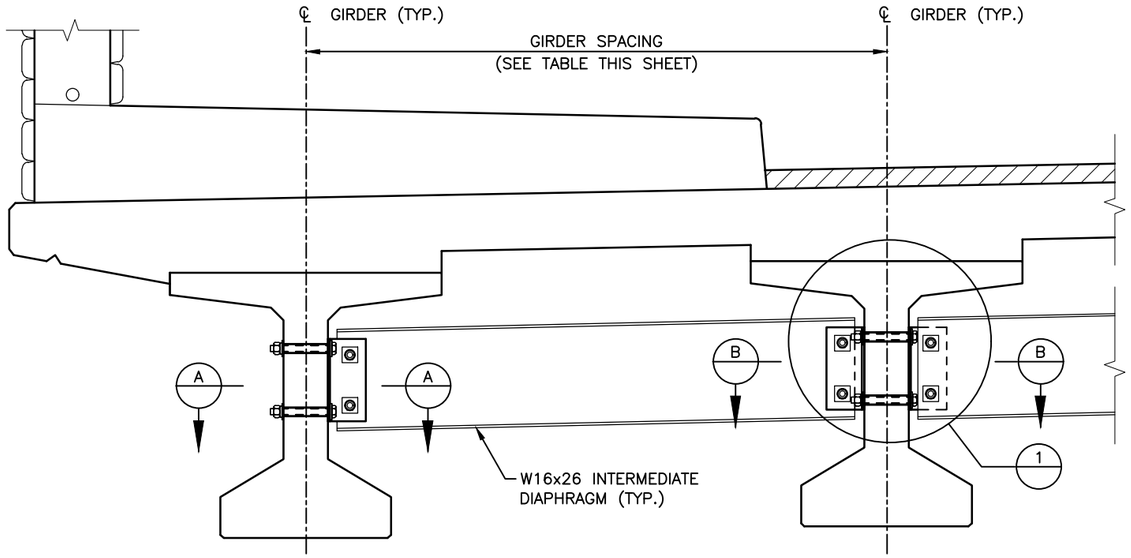
BELFORD–HAPPY CANYON CREEK BRIDGE
PRECAST CONCRETE I GIRDER

Designer:	J. LYNCH	Structure Numbers	
Detailer:	C. MIYAMOTO		
Subset:	BRIDGE	Sheets:	B20 of 33

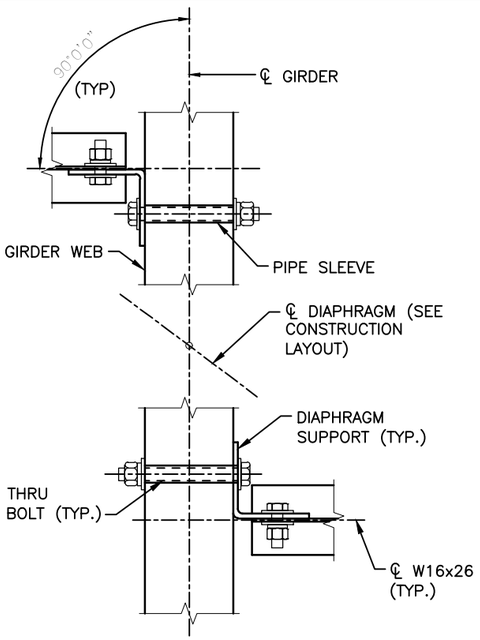
Project No./Code

Sheet Number 49

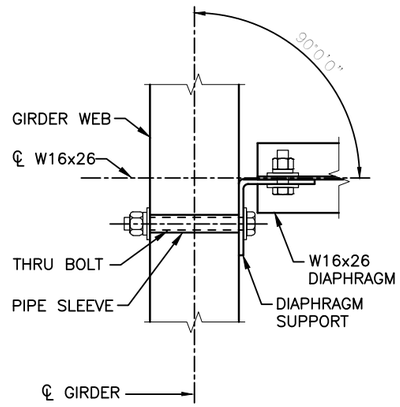


PARTIAL ELEVATION AT DIAPHRAGM
(TAKEN NORMAL TO GIRDER)

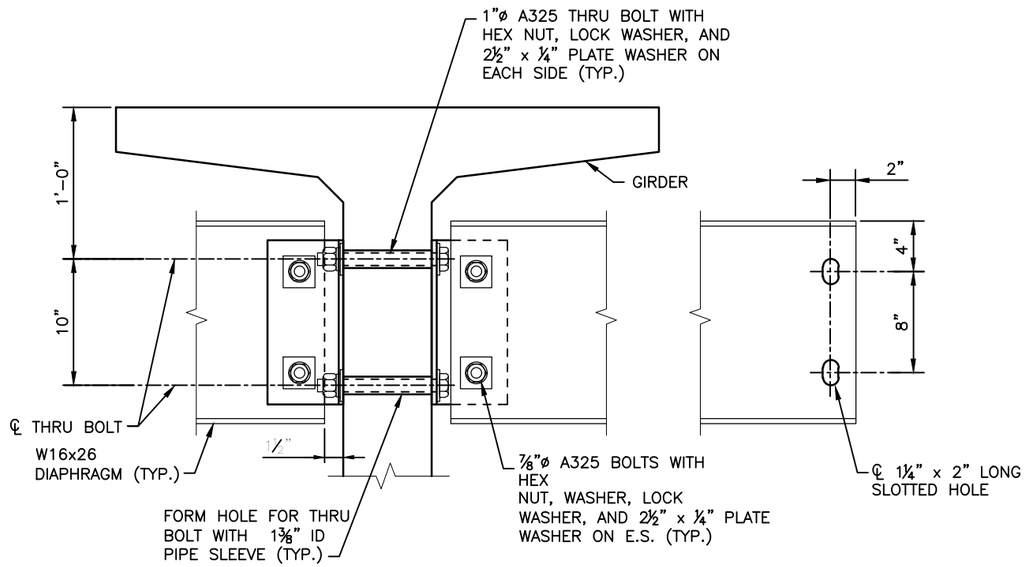
GIRDER SPACING MEASURED ALONG DIAPHRAGM CENTERLINE		
BETWEEN GIRDER CENTERLINES	SPAN 1	SPAN 2
G1–G6	8.32'	8.08'
G7–G12	8.40'	8.11'
G6–G7	8.43'	8.16'



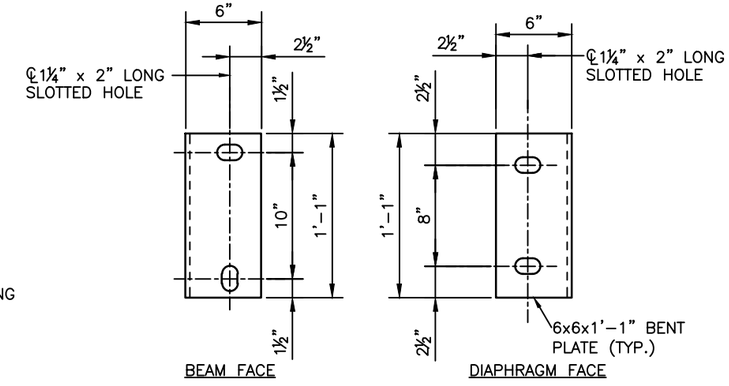
SECTION B



SECTION A



DETAIL 1



DIAPHRAGM SUPPORT DETAIL

NOTES:

1. SEE CONSTRUCTION LAYOUT FOR INTERMEDIATE DIAPHRAGM LOCATIONS.
2. ALL DIAPHRAGM MATERIALS, INCLUDING BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. GALVANIZE AFTER FABRICATION.
3. BOLTS, NUTS AND LOCK WASHERS MAY BE ZINC PLATED IN LIEU OF BEING GALVANIZED.
4. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING NECESSARY BRACING REQUIREMENTS AND FOR PROVIDING ADEQUATE BRACING FOR THE SPECIFIC WIND AND WEATHER CONDITIONS TO BE ENCOUNTERED FOR EACH SPECIFIC PROJECT.
5. WHEN BRACING OR DIAPHRAGMS ARE REQUIRED, NO GIRDERS SHALL BE ERECTED AND LEFT UNBRACED. THE INTERMEDIATE DIAPHRAGMS (WHEN USED) SHALL BE CONNECTED TO THE ADJACENT GIRDERS SIMULTANEOUSLY WITH THE ERECTION OF THE GIRDERS.
6. USE AND INSTALLATION OF THE INTERMEDIATE DIAPHRAGMS SHALL NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY TO CONSTRUCT THE WORK IN A MANNER WHICH PROVIDES ALL NECESSARY RIGIDITY, SUPPORTS ALL LOADS IMPOSED, AND PROVIDES IN THE FINISHED STRUCTURE THE LINES AND GRADES INDICATED ON THE PLANS.
7. THE COST OF THE DIAPHRAMS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE GIRDER.

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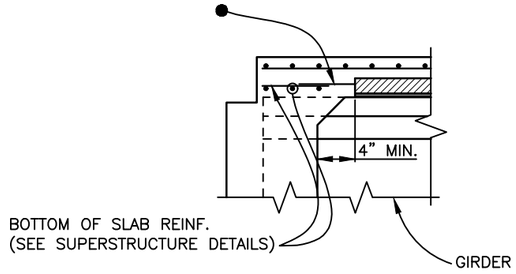
BELFORD–HAPPY CANYON CREEK BRIDGE
GIRDER DIAPHRAGM
DETAILS

Designer:	J. LYNCH	Structure Numbers	
Detailer:	R. DILLON		
Subset:	BRIDGE	Sheets:	B21 of 33

Project No./Code

Sheet Number 50



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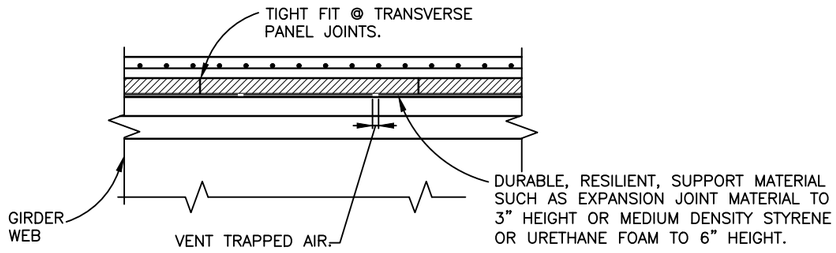
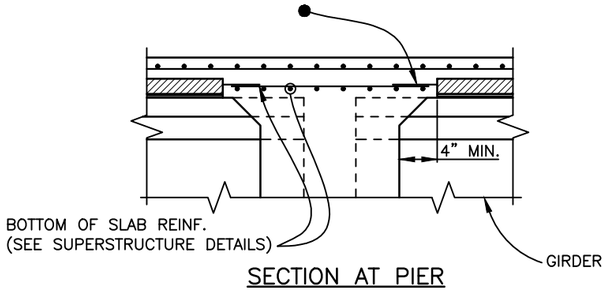
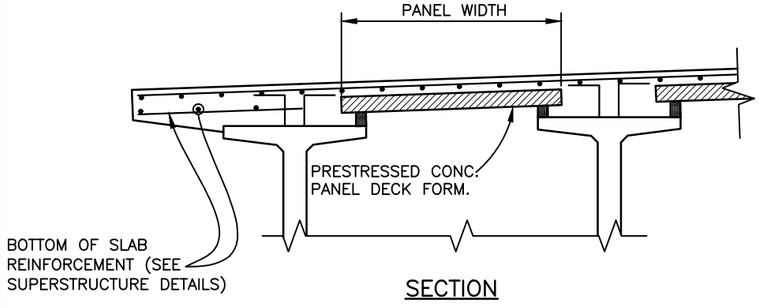


SECTION THRU TRANSVERSE
PANEL JOINTS



SECTION AT PIER



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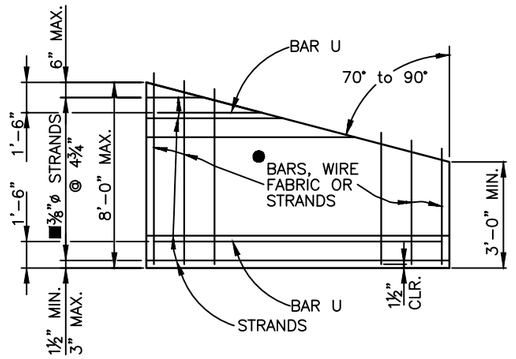
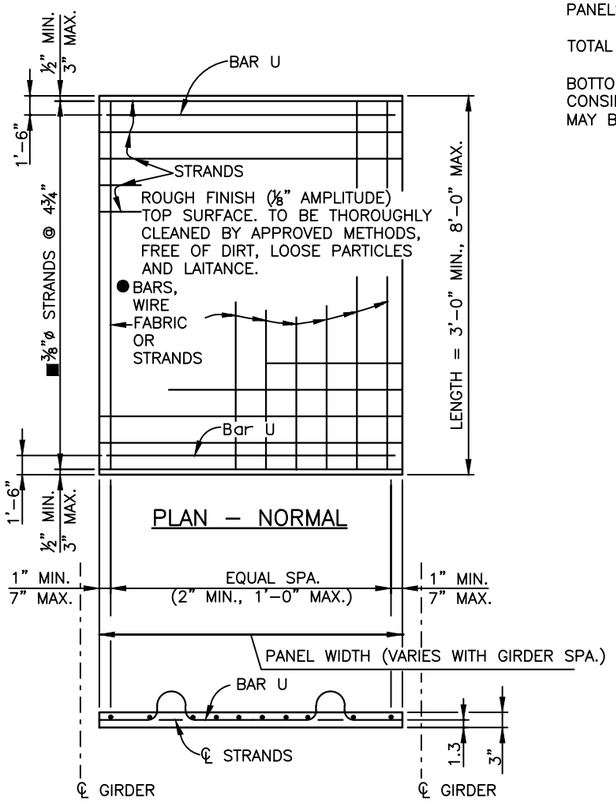


PLAN – SKEWS 70°TO 90°
OPTIONAL END PANEL



PRESTRESSED PANEL DETAILS

NOTES:

SAWING OF PANELS IS ACCEPTABLE IN AREAS WHERE PROJECTING REINFORCEMENT IS NOT REQUIRED. IT IS DESIRABLE TO HAVE THE PRESTRESSING STRANDS PROJECT FROM THE PANELS AS LONG AS THE PROJECTING STRANDS DO NOT INTERFERE WITH OTHER BRIDGE COMPONENTS.

● REINFORCING PERPENDICULAR TO STRANDS MAY BE DEFORMED REINF. BARS, WELDED WIRE FABRIC, OR WELDED DEFORMED BAR MATS, AND SHALL BE PLACED DIRECTLY ABOVE THE STRANDS. MINIMUM AREA OF REINFORCING PERPENDICULAR TO STRANDS SHALL BE 0.11 SQ. IN. PER FT. TENSIONED OR UNTENSIONED STRANDS MAY ALSO BE USED. THESE INDIVIDUAL BARS OR WIRES SHALL BE NO LARGER THAN .375" DIAMETER. FOR LOCATION OF LONGITUDINAL BAR EXTENSIONS, SEE PRECAST PANEL DECK FORM SHEET (2 OF 2).

■ MAY BE REDUCED TO ⅜"ø STRANDS AT 9½" WHEN THE PANEL WIDTH IS LESS THAN 5'–7" AND THE DESIGN SPAN IS LESS THAN 7'–7".

THE LONGITUDINAL REINFORCING STEEL IN THE CAST–IN–PLACE PORTION OF THE DECK MAY REST DIRECTLY ON THE PANELS AS NECESSARY TO OBTAIN CLEARANCES AT THE TOP OF DECK, UNLESS OTHERWISE NOTED.

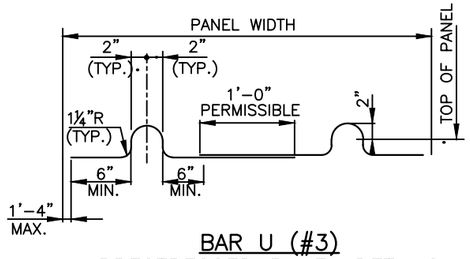
THE TOLERANCE ON STRAND PLACEMENT SHALL NOT EXCEED ± ¼".

THE TOLERANCE ON PANEL THICKNESS SHALL NOT EXCEED ± ¼".

CONCENTRATED CONSTRUCTION LOADS SHALL NOT EXCEED 500 LB FOR 3" PANELS, 700 LB FOR 3.5" PANELS, NOR 1100 LB FOR 4" PANELS UNLESS THE LOAD IS DISTRIBUTED TO LESS THAN 117 PSF.

TOTAL LOADS APPLIED TO ANY PANEL DURING CONSTRUCTION SHALL NOT EXCEED 117 PSF.

BOTTOM FLEXURAL CRACKS, SAGS GREATER THAN ½", OR CAMBERS GREATER THAN ½",WILL BE CONSIDERED EVIDENCE OF MISHANDLING, OVERLOADING, OR EXCEEDING ALLOWABLE TOLERANCES, AND MAY BE CAUSE FOR REJECTING PANELS AT THE ENGINEER'S DISCRETION.



BAR U (#3)
PRESTRESSED PANEL DETAILS

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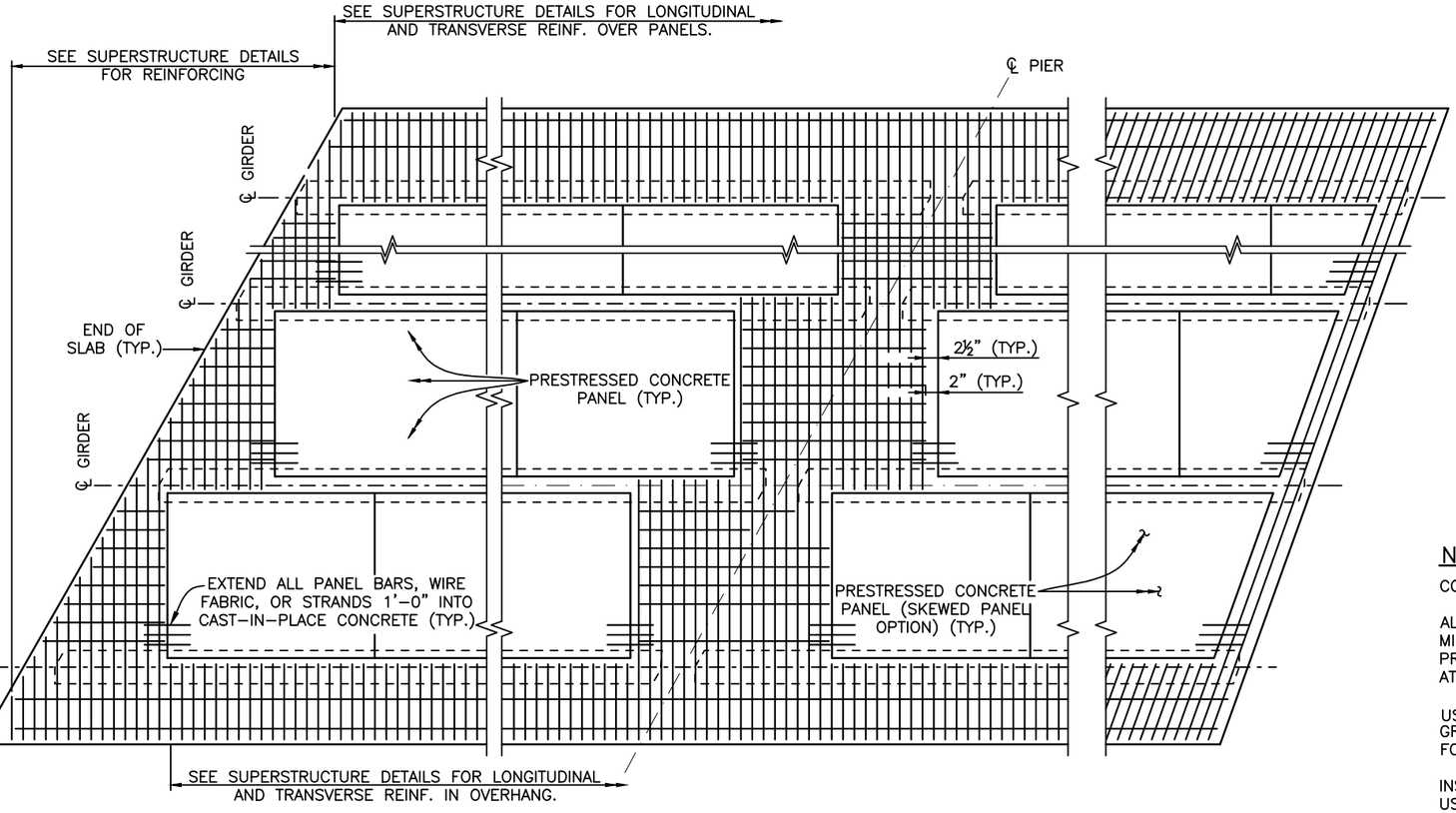
Void:

BELFORD–HAPPY CANYON CREEK BRIDGE
OPTIONAL PRECAST PANEL
DECK FORM (1 OF 2)

Designer: J. LYNCH
Detailer: C. MIYAMOTO
Subset: BRIDGE
Structure Numbers:
Sheets: B22 of 33

Project No./Code:

Sheet Number 51



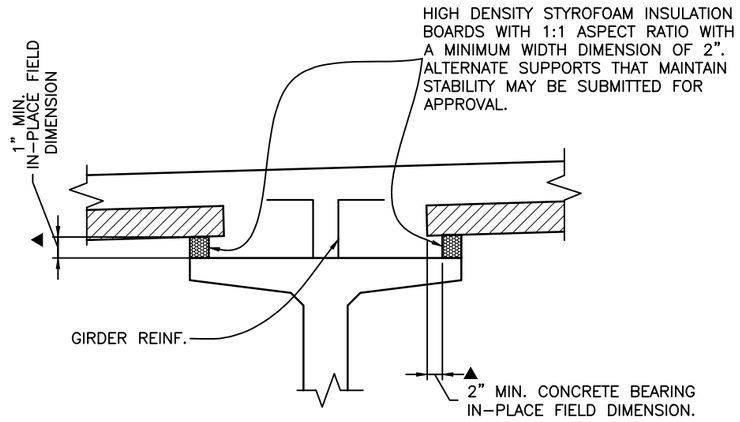
END OF SLAB
RECTANGULAR PANEL OPTION AND
SKEWS LESS THAN 70°

RECTANGULAR PANEL OPTION SHALL BE USED FOR SKEWS LESS THAN 70°.

CONTINUOUS SLAB
OVER PIER

END OF SLAB
SKEWED PANEL OPTION FOR
SKEWS 70° to 90°

PART PLAN



SUPPORT DETAIL

NOTES:

COMPOSITE TOTAL SLAB DESIGNED FOR HS 25–44 AND ALTERNATE MILITARY LOADING.

ALL CONCRETE SHALL BE CLASS PS WITH RELEASE STRENGTH f'_{ci} = 4500 PSI AND MINIMUM 28 DAY STRENGTH f'_c = 6000 PSI. ENTRAINED AIR IS NOT REQUIRED FOR PRECAST PANEL DECK FORM CONCRETE. THE STRENGTH SHALL BE AT LEAST 5000 PSI AT THE TIME OF THE DECK POUR.

USE ⅜"ø LOW RELAXATION STRANDS MEETING THE REQUIREMENTS OF ASTM A416 GRADE 270. JACKING FORCE PER STRAND (f'_i) SHALL BE AT LEAST 17.2 KIPS. FINAL FORCE PER STRAND (F_f) IS ESTIMATED TO BE 14.2 KIPS.

INSTALLATION OF BAR U (#3) IS MANDATORY. ALL FOUR BAR U (#3) LOOPS SHALL BE USED SIMULTANEOUSLY FOR LIFTING THE PANELS.

CARE MUST BE TAKEN TO ENSURE PROPER CLEANING OF CONSTRUCTION DEBRIS OFF THE TOPS OF THE PANELS AND CONSOLIDATION OF CONCRETE MORTAR UNDER THE EDGES OF THE PANELS. WATER, DIRT OR OTHER DEBRIS ON TOP OF THE PANELS WILL INHIBIT THE BOND OF THE CAST–IN–PLACE CONCRETE. IT IS ALSO IMPORTANT THAT ADEQUATE SPACE (▲ MIN. 1" X 2") IS PROVIDED FOR THE CONCRETE TO FILL THE SPACE UNDER THE PANEL AS THE SLAB CONCRETE IS PLACED. PANEL LENGTHS AND WIDTH SHALL BE DETERMINED BY THE CONTRACTOR AND SHOWN ON THE SHOP PLANS.

THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE PANELS ON THE GIRDERS. ERECTED PANELS SHALL BE UNIFORMLY SUPPORTED ALONG THE LENGTH OF THE PANEL. THE CONTRACTOR IS RESPONSIBLE FOR MEETING THE TOTAL SLAB THICKNESS SHOWN ON THE SUPERSTRUCTURE DETAILS.

ALL PLANES OF REINFORCING STEEL SHOWN IN THE SUPERSTRUCTURE DETAILS ARE REQUIRED FOR AREAS NOT FORMED WITH PRECAST PANELS.

SEE LUMINAIRE DETAILS FOR REQUIRED GAP IN PANELS.

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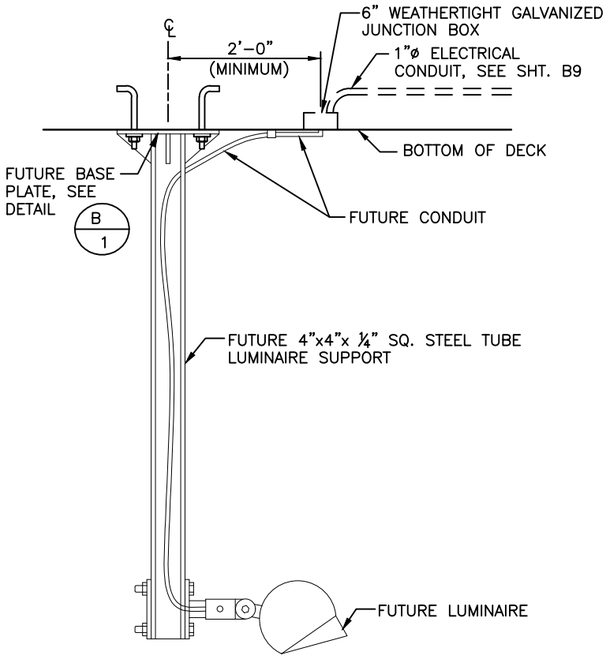
BELFORD–HAPPY CANYON CREEK BRIDGE
OPTIONAL PRECAST PANEL
DECK FORM (2 OF 2)

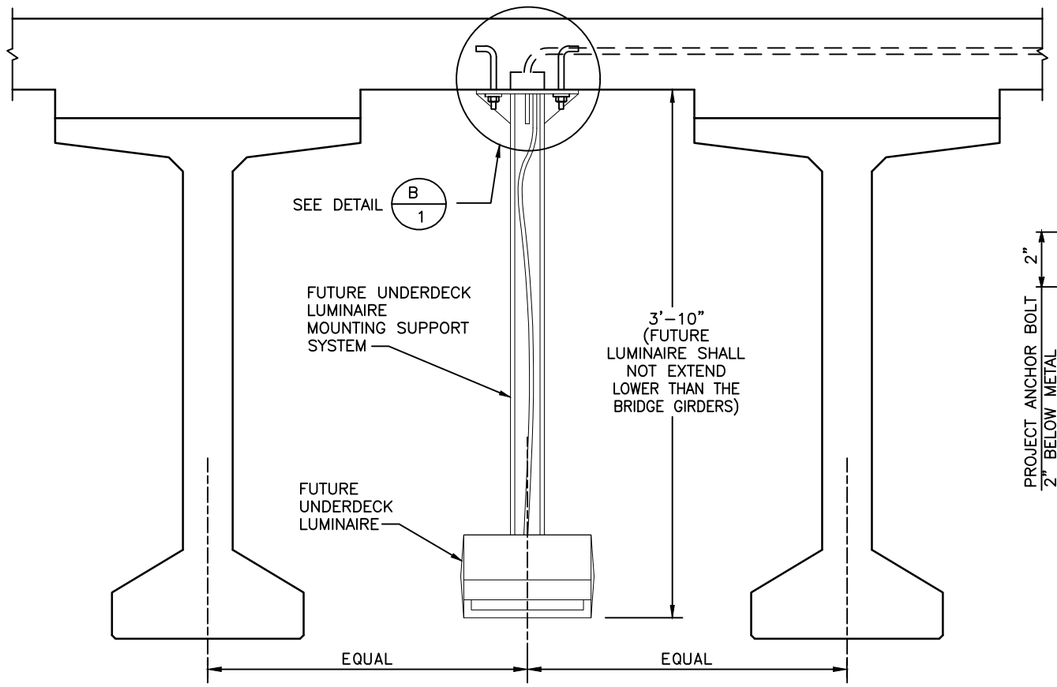
Designer:	J. LYNCH	Structure Numbers	
Detailer:	C. MIYAMOTO		
Subset:	BRIDGE	Sheets:	B23 of 33

Project No./Code

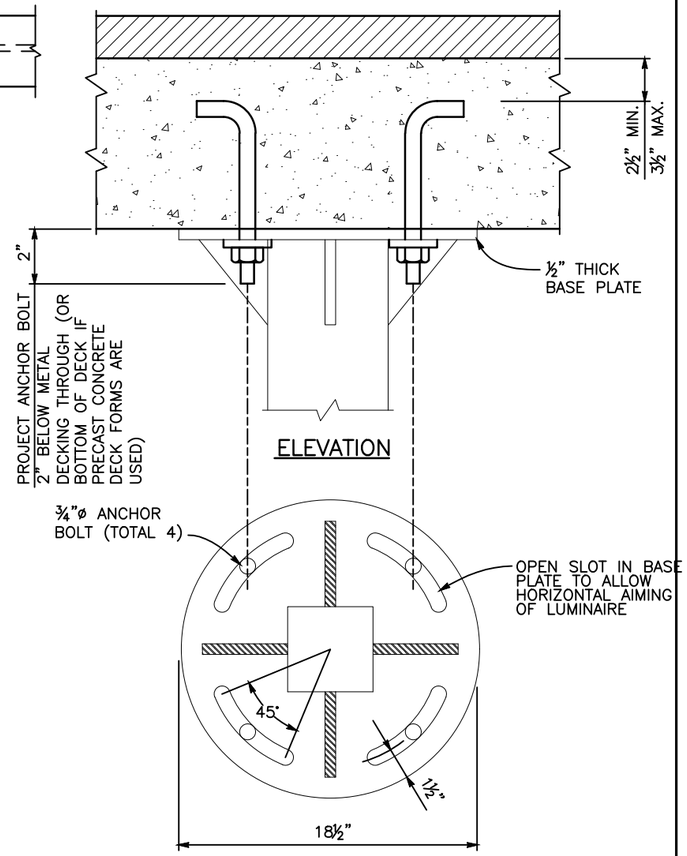
Sheet Number 52



SECTION VIEW
FUTURE UNDERDECK LUMINAIRE SUPPORT

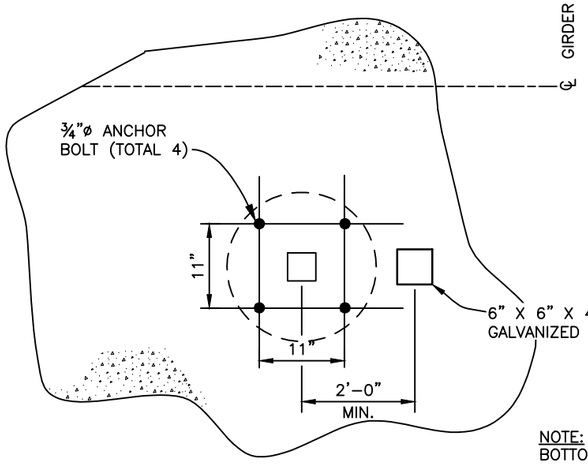


FRONT VIEW



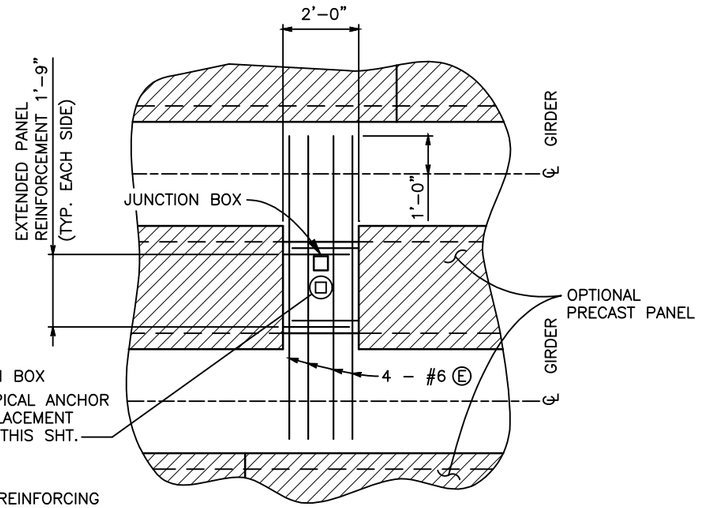
ELEVATION

PLAN
FUTURE BASE PLATE
DETAIL B/1

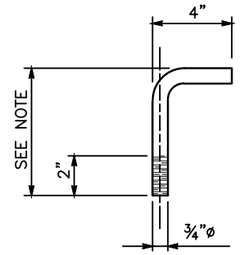


TYPICAL ANCHOR BOLT
PLACEMENT DIAGRAM

NOTE:
BOTTOM SLAB REINFORCING SHOWN. SEE SLAB DETAILS SHEET FOR REQUIRED TOP SLAB REINFORCING.



JUNCTION BOX DETAIL
(OPTIONAL PRECAST CONCRETE DECK FORMS SHOWN)



ANCHOR BOLT DETAIL

ANCHOR BOLT LENGTH SHALL BE DETERMINED BY CONTRACTOR BASED ON DECK THICKNESS & METAL DECKING DEPTH. (OR ON DECK THICKNESS ONLY IF OPTIONAL PRECAST CONCRETE DECK FORMS ARE USED)

NOTE:

CONTRACTOR SHALL PROVIDE AND INSTALL ONLY THE ANCHOR BOLTS, JUNCTION BOXES, AND CONDUIT WITHIN THE CONCRETE BRIDGE DECK AS PART OF THIS CONTRACT. CONTRACTOR SHALL PROVIDE COVER PLATE AT JUNCTION BOX. ALL OTHER ITEMS SHOWN ON THIS SHEET (STEEL PENDANTS AND LUMINAIRES) ARE FUTURE WORK AND NOT PART OF THIS CONTRACT. COST FOR JUNCTION BOXES AND ANCHOR BOLTS WILL NOT BE PAID FOR SEPERATELY, BUT SHALL BE INCLUDED IN THE COST OF ITEM 613, 1 INCH ELECTRICAL CONDUIT.

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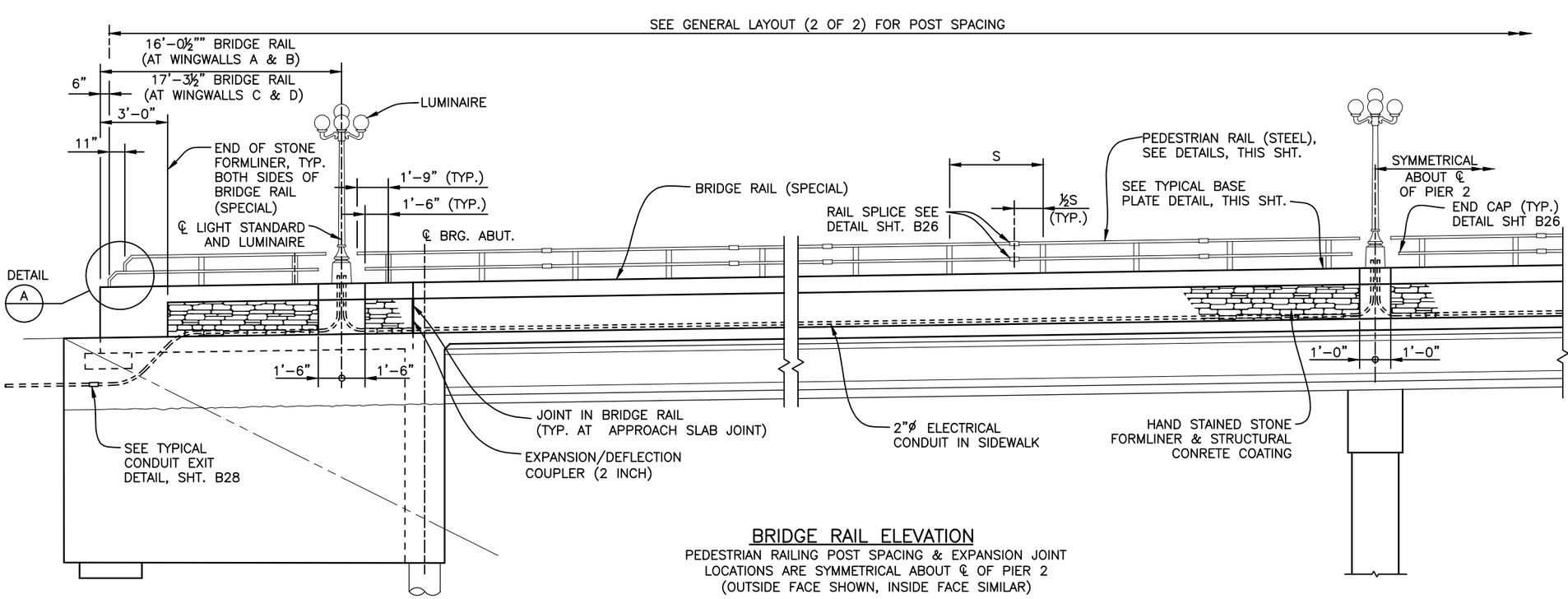
BELFORD–HAPPY CANYON CREEK BRIDGE
PENDANT LUMINAIRE DETAILS

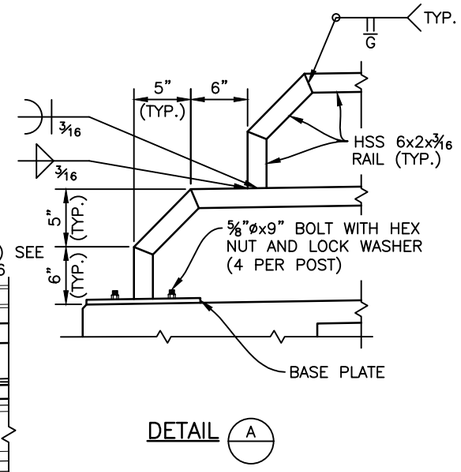
Designer: J. LYNCH
Detailer: R. DILLON
Subset: BRIDGE
Structure Numbers:
Sheets: B24 of 33

Project No./Code:
Sheet Number 53



BRIDGE RAIL ELEVATION

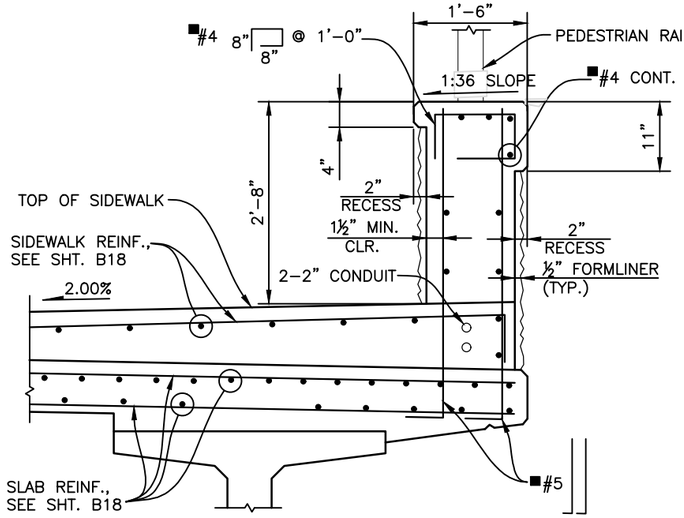
PEDESTRIAN RAILING POST SPACING & EXPANSION JOINT LOCATIONS ARE SYMMETRICAL ABOUT ℄ OF PIER 2
(OUTSIDE FACE SHOWN, INSIDE FACE SHOWN)



DETAIL A

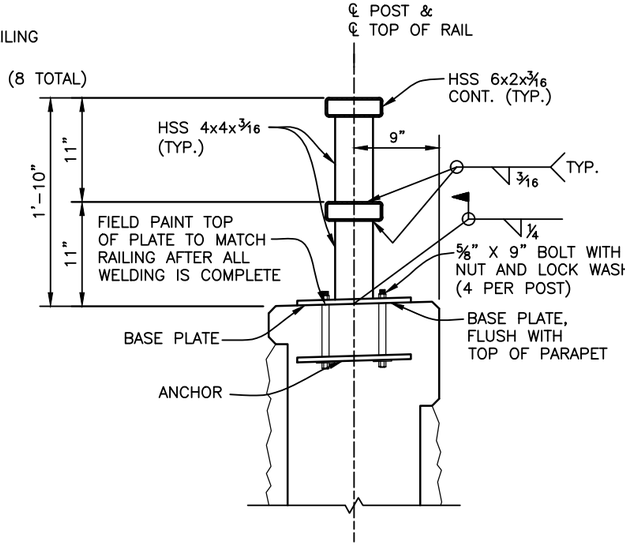
NOTE

SEE SHEET B26 AND B27 FOR ADDITIONAL NOTES

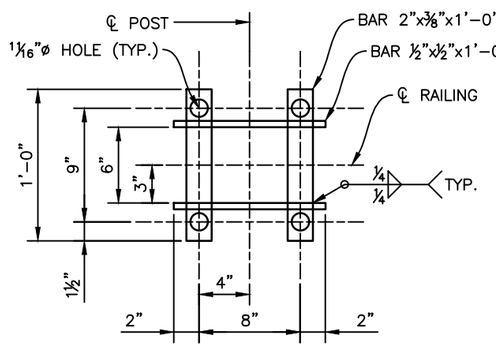


TYPICAL SECTION

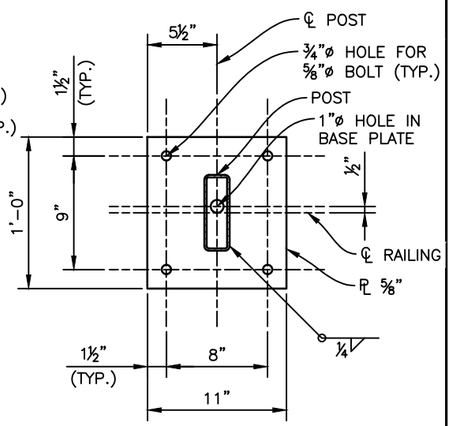
■REINFORCEMENT SHALL BE INCLUDED IN ITEM 606, BRIDGE RAIL (SPECIAL)



TYPICAL PEDESTRIAN RAILING SECTION



ANCHOR DETAIL



BASE PLATE DETAIL

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No Revisions:			
Revised:	Designer: J. LYNCH	Structure Numbers	
Detailer: R. DILLON			
Void:	Subset: BRIDGE	Sheets: B25 of 33	Sheet Number 54

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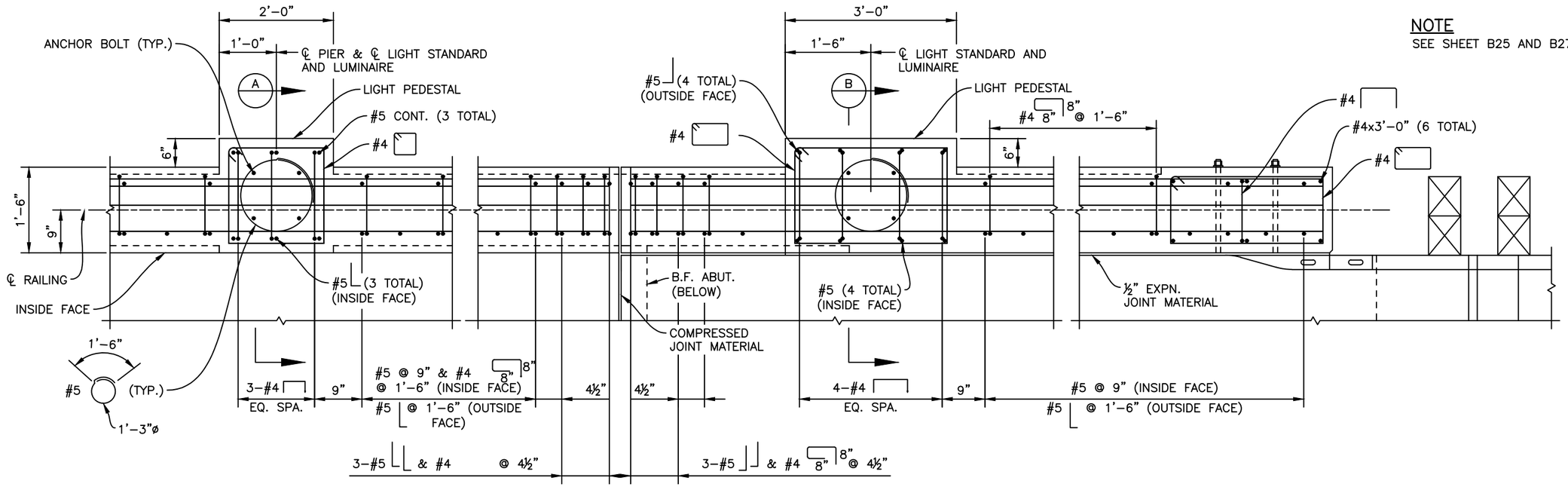
NOTE
SEE SHEET B25 AND B27 FOR ADDITIONAL NOTES

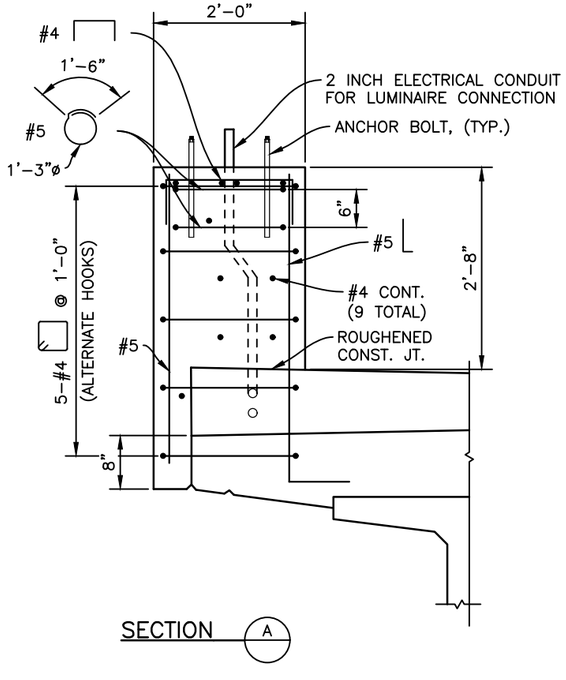


AT PIER

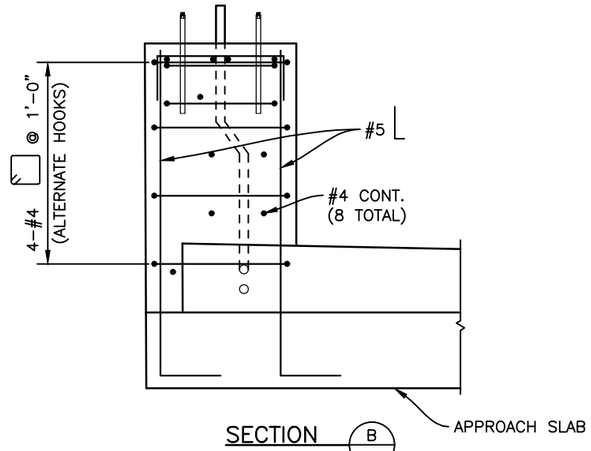
AT ABUTMENT

AT END OF APPROACH SLAB

PARTIAL RAILING PLAN

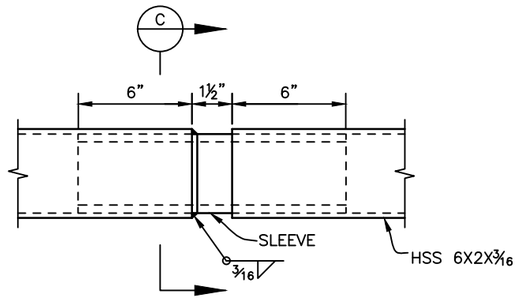


SECTION A

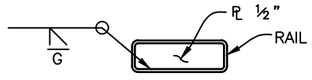


SECTION B

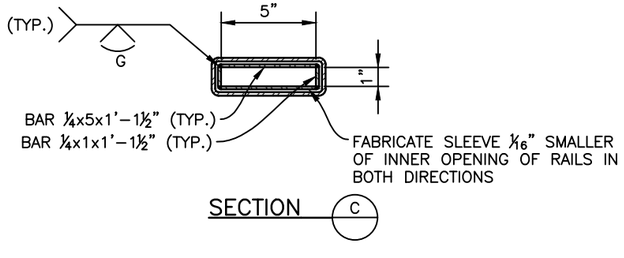
(SIMILAR TO SECTION "A", EXCEPT AS SHOWN)



RAIL SPLICE DETAIL



END CAP DETAIL



SECTION C

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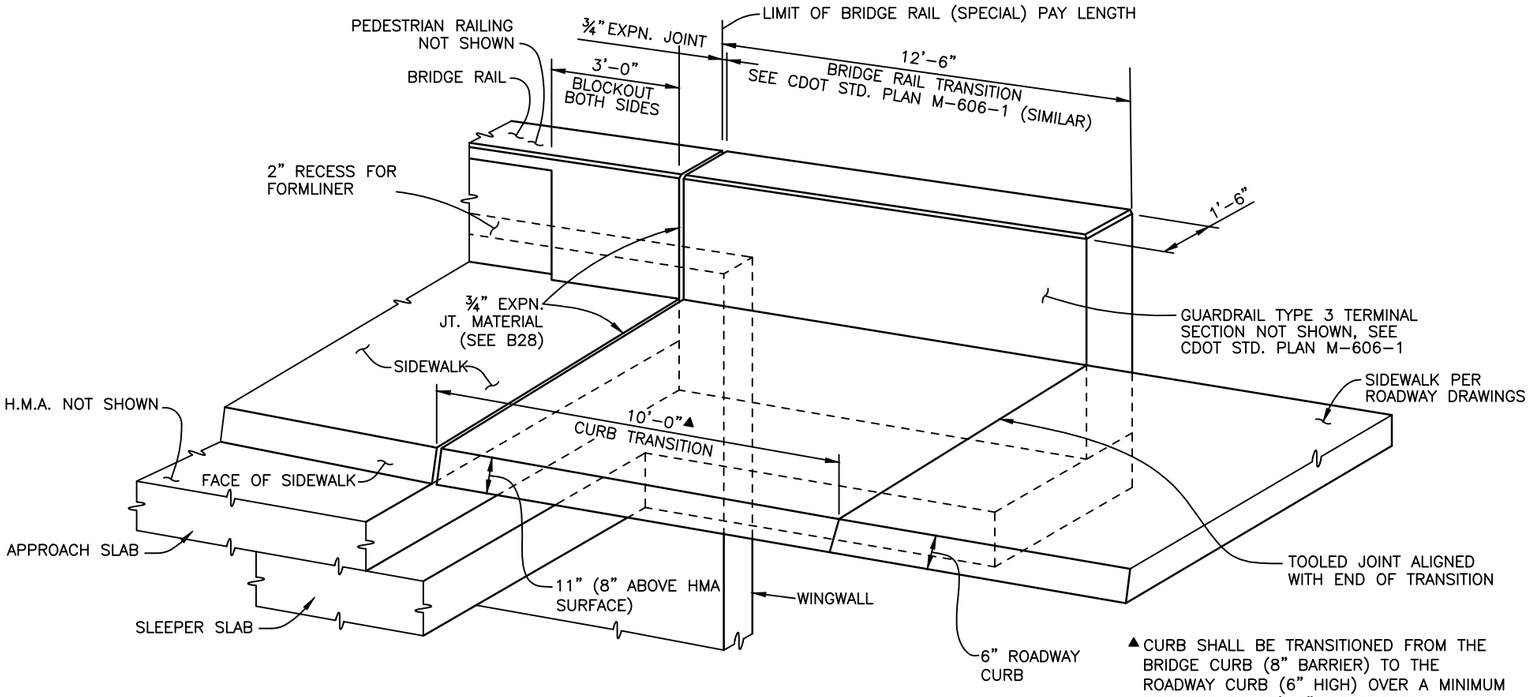
BELFORD–HAPPY CANYON CREEK BRIDGE
BRIDGE RAIL PLAN & SECTIONS

Designer: J. LYNCH
Detailer: R. DILLON
Subset: BRIDGE
Structure Numbers:
Sheets: B26 of 33

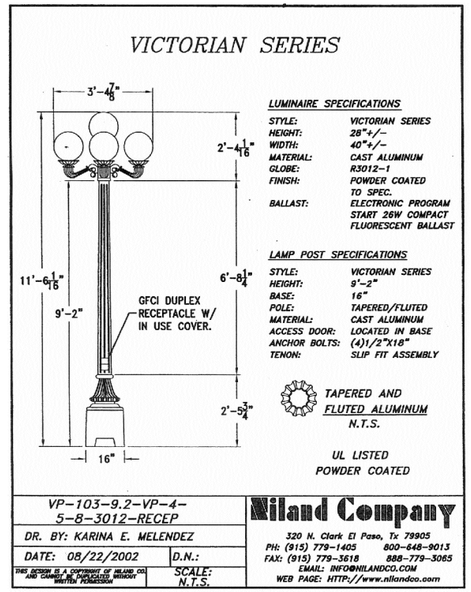
Project No./Code:

Sheet Number 55



RAIL ISOMETRIC

▲CURB SHALL BE TRANSITIONED FROM THE BRIDGE CURB (8" BARRIER) TO THE ROADWAY CURB (6" HIGH) OVER A MINIMUM DISTANCE OF 10'-0", AS SHOWN.



LUMINAIRE DETAIL

NOTES

1. ALL BRIDGE RAIL CONCRETE SHALL BE CLASS D.
2. BRIDG RAIL SHALL BE CONSTRUCTED PLUMB.
3. RAIL TUBES SHALL BE CONTINUOUS OVER NOT LESS THAN TWO POSTS. MAXIMUM SPLICE SPACING SHALL BE 24'-0". NO WELDED BUTT SPLICES WILL BE ALLOWED IN THE RAIL SECTIONS.
4. TUBES SHALL BE SHOP BENT OR FABRICATED TO FIT HORIZONTAL CURVES.
5. CONCRETE AND REINFORCING STEEL SHALL CONFORM TO THE CONSTRUCTION, MEASUREMENT AND PAYMENT REQUIREMENTS OF SECTIONS 601 AND 602.
6. STEEL ELEMENTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 509.
7. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1. EXPOSED WELDS SHALL BE GROUND SMOOTH.
8. ALL TUBE STEEL SHALL BE ASTM A500 GRADE B. BASE PLATES SHALL BE ASTM A572 GRADE 50. ALL OTHER STEEL SHALL BE ASTM A36.
9. ANCHOR BOLTS SHALL BE A325 OR ASTM A449.
10. ALL RAILING STEEL, EXCEPT ANCHOR BOLTS, SHALL BE GALVANIZED AND POWDER COATED AFTER FABRICATION IN ACCORDANCE WITH SECTION 522 OF THE PROJECT SPECIAL PROVISIONS. COLOR SHALL BE "PARKER BROWN" EQUIVALENT TO TNEMEC ENDURA SHIELD COLOR F073D3884A.
11. ALL MATERIALS AND LABOR NECESSARY FOR FABRICATION AND ERECTION OF THE STEEL RAILING SHALL BE INCLUDED IN ITEM 514, PEDESTRIAN RAILING (STEEL).
12. PRIOR TO FABRICATION OF THIS ITEM, THREE SETS OF SHOP DRAWINGS WHICH COMPLY WITH THE REQUIREMENTS OF SECTION 105, SHALL BE SUBMITTED TO THE ENGINEER, FOR APPROVAL.
13. ALL MATERIALS AND WORKMANSHIP NECESSARY FOR CONSTRUCTION OF STONE FORMLINER SHALL BE INCLUDED IN ITEM 601, HAND STAINED FORMLINER.

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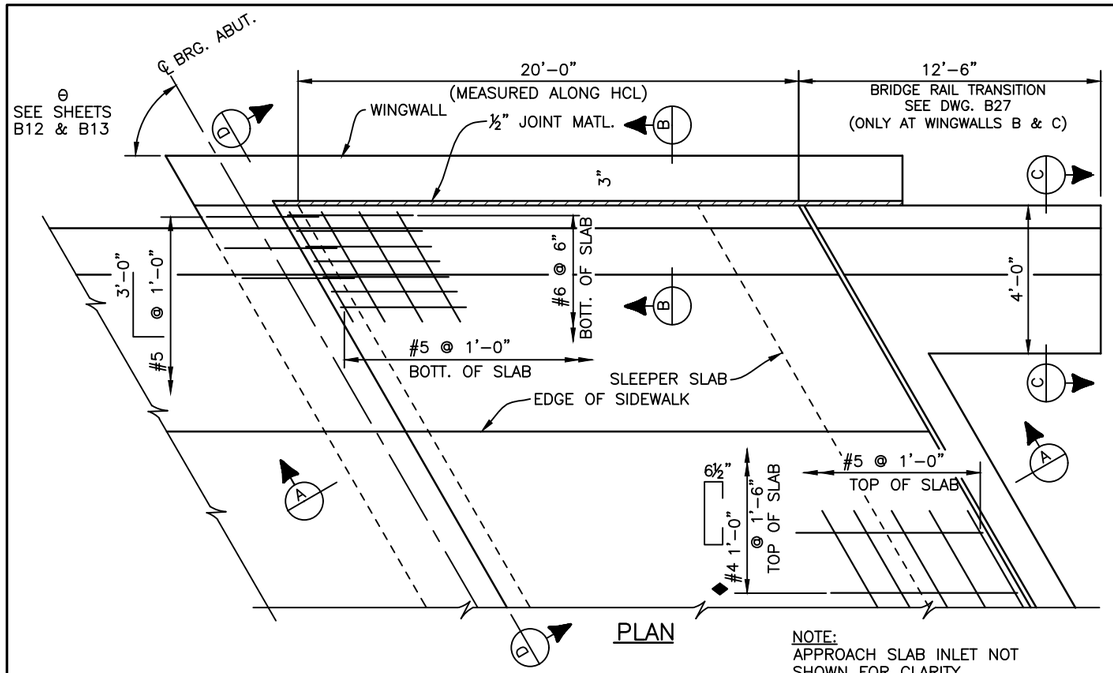
BELFORD-HAPPY CANYON CREEK BRIDGE
BRIDGE RAIL (SPECIAL) DETAILS

Designer:	J. LYNCH	Structure Numbers	
Detailer:	R. DILLON		
Subset:	BRIDGE	Sheets:	B27 of 33

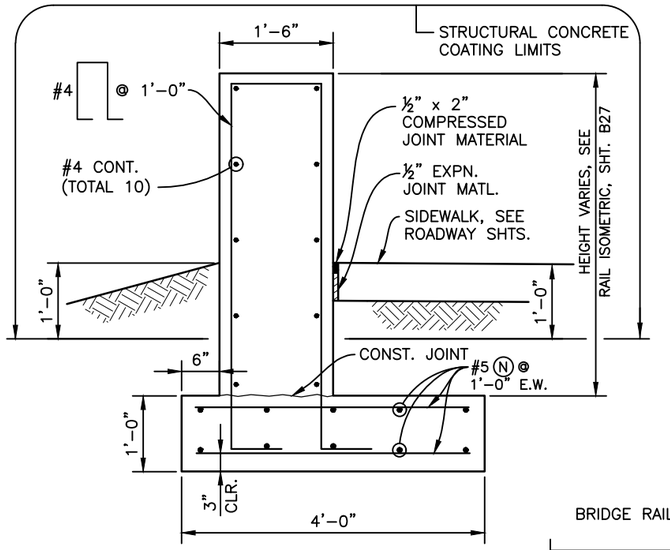
Project No./Code

Sheet Number 56



PLAN

NOTE:
APPROACH SLAB INLET NOT SHOWN FOR CLARITY.



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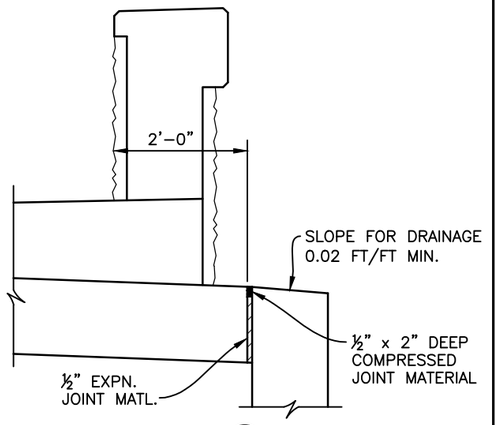

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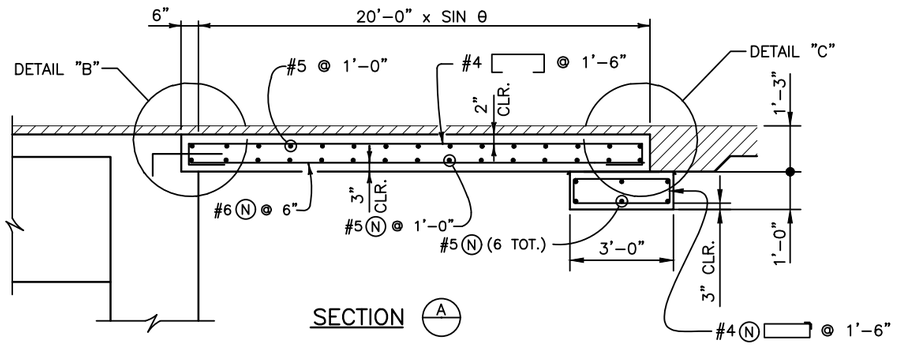
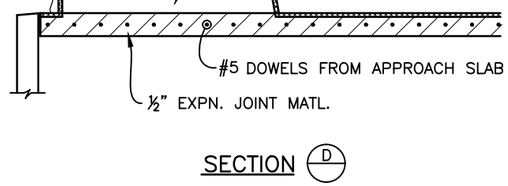


SECTION (A)



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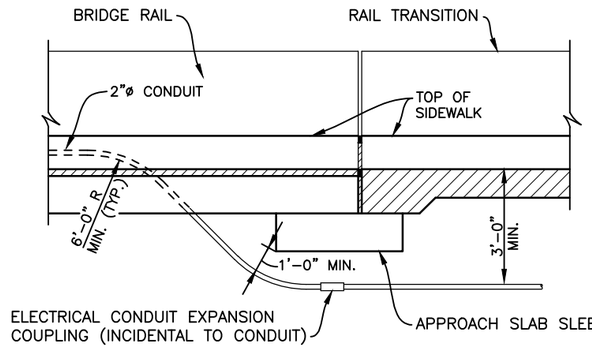
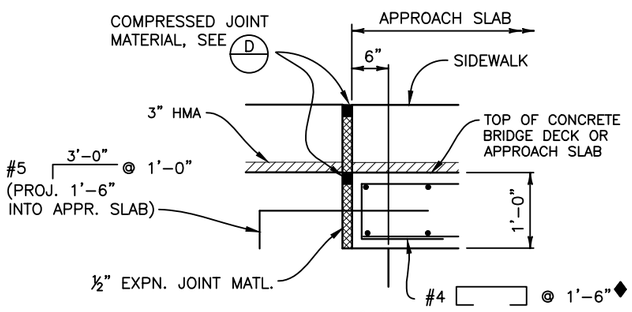
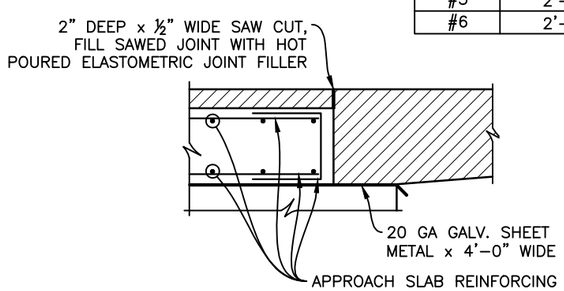


TYPICAL CONDUIT EXIT DETAIL



DETAIL "B"



DETAIL "C"

LAP SPLICE TABLE	
BAR SIZE	SPLICE LENGTH
#5	2'–3"
#6	2'–8"

NOTES:

CONCRETE CLASS D (BRIDGE) SHALL BE USED FOR APPROACH SLABS.

APPROACH SLAB CONCRETE SHALL BE PLACED IN ACCDORDANCE WITH THE SPECIFICATIONS FOR BRIDGE DECK CONCRETE IN SUBSECTION 601.

½" EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPEC. M213.

FOR BRIDGE RAIL DETAILS SEE SHTS. B25–B27.

COMPRESSED JOINT MATERIAL

COMPRESSED JOINT MATERIAL SHALL BE PRE–COMPRESSED, CHEMICALLY RESISTANT, OPEN CELL POLYURETHANE FOAM SEALANT, IMPREGNATED WITH A WATER–REPELLANT MATERIAL, WITH ADHESIVE BACKING ON BOTH SIDES. THE JOINT MATERIAL SHALL BE EPOXIED IN PLACE, AND ALL SPLICES SEALED, AS RECOMMENDED BY THE SUPPLIER OF THE COMPRESSED JOINT MATERIAL. THE COST SHALL BE INCLUDED IN THE COST OF ITEM 601 CLASS D CONCRETE.

ACCEPABLE COMPRESSED JOINT MATERIAL ALTERNATES

WILL–SEAL
SEAL–MATE #517
POLY–TITE "N"

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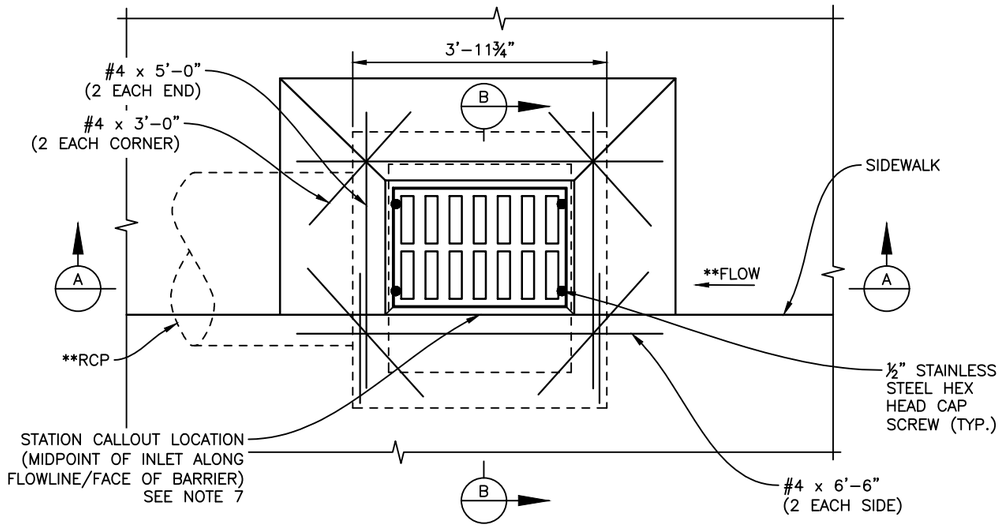
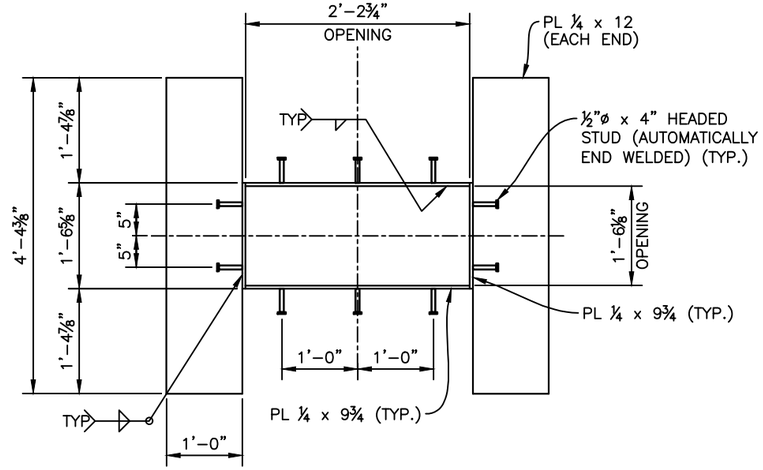
As Constructed	BELFORD–HAPPY CANYON CREEK BRIDGE APPROACH SLAB DETAILS	Project No./Code
No Revisions:		
Revised:	Designer: J. LYNCH; Structure Numbers	
Void:	Detailer: C. MIYAMOTO	
	Subset: BRIDGE; Sheets: B28 of 33	Sheet Number 57

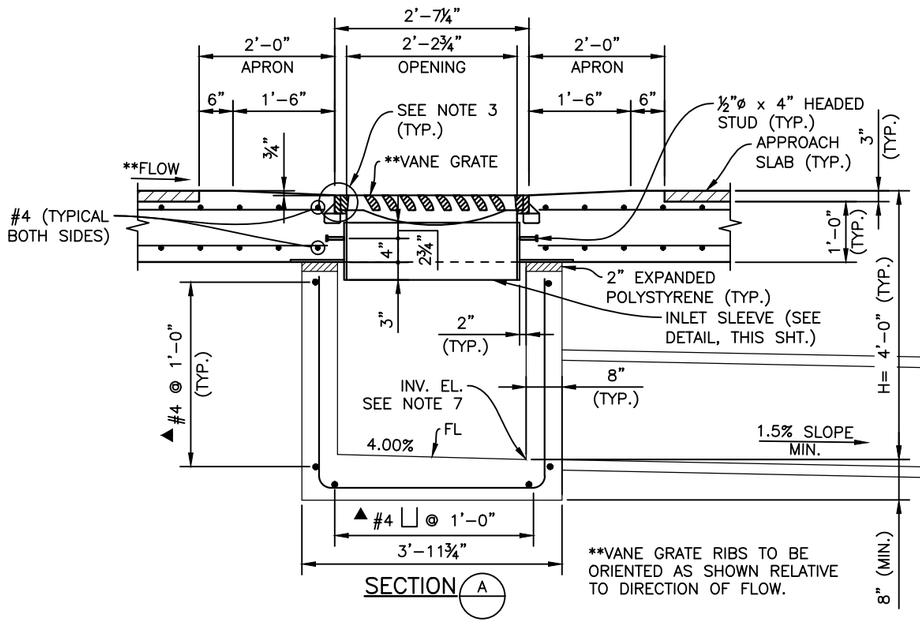
I:\115360–01 – Compark at Belford\CADD\Bridge\Drawings\, Vicente.Miranda



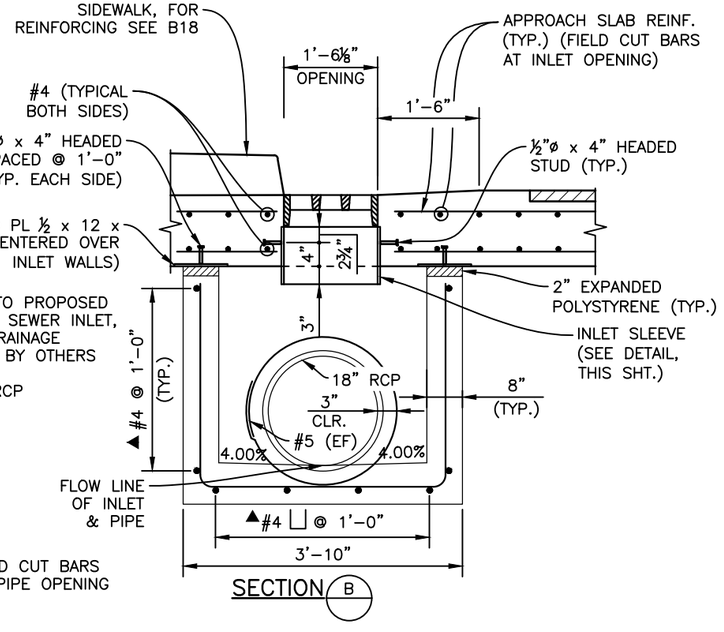
APPROACH SLAB
INLET PLAN



PLAN – INLET SLEEVE



SECTION A



SECTION B

▲ FIELD CUT BARS
AT PIPE OPENING

NOTES:

1. CONCRETE SHALL BE CLASS D.
2. FOR VANE GRATE AND FRAME DETAILS, SEE STANDARD PLAN No. M–604–25 SHEET 4 OF 5.
3. GRATE SHALL BE INSTALLED DURING CONSTRUCTION WITH THE GRATE BOLTED IN PLACE TO THE FRAME.
4. THE COST FOR INLET, INCLUDING VANE GRATE, INLET SLEEVE, EMBEDDED PLATE, FRAME, AND ALL WORK NECESSARY TO INSTALL THESE ITEMS SHALL BE INCLUDED IN THE COST OF ITEM 604, VANE GRATE INLET SPECIAL.
5. INLET SLEEVE AND EMBEDDED PLATE SHALL BE GALVANIZED FOLLOWING FABRICATION. CONTRACTOR SHALL COORDINATE SLEEVE DIMENSIONS RELATIVE TO GRATE AND FRAME.
6. SEE DRAINAGE PLANS BY OTHERS FOR ADDITIONAL INFORMATION.
7. LOCATIONS FOR SIDEWALK APPROACH SLAB INLETS ARE AS FOLLOWS:

– ABUTMENT 1: 93+51.49, 37.00' RT INV. EL. = 5779.69
93+85.47, 37.00' LT INV. EL. = 5779.86

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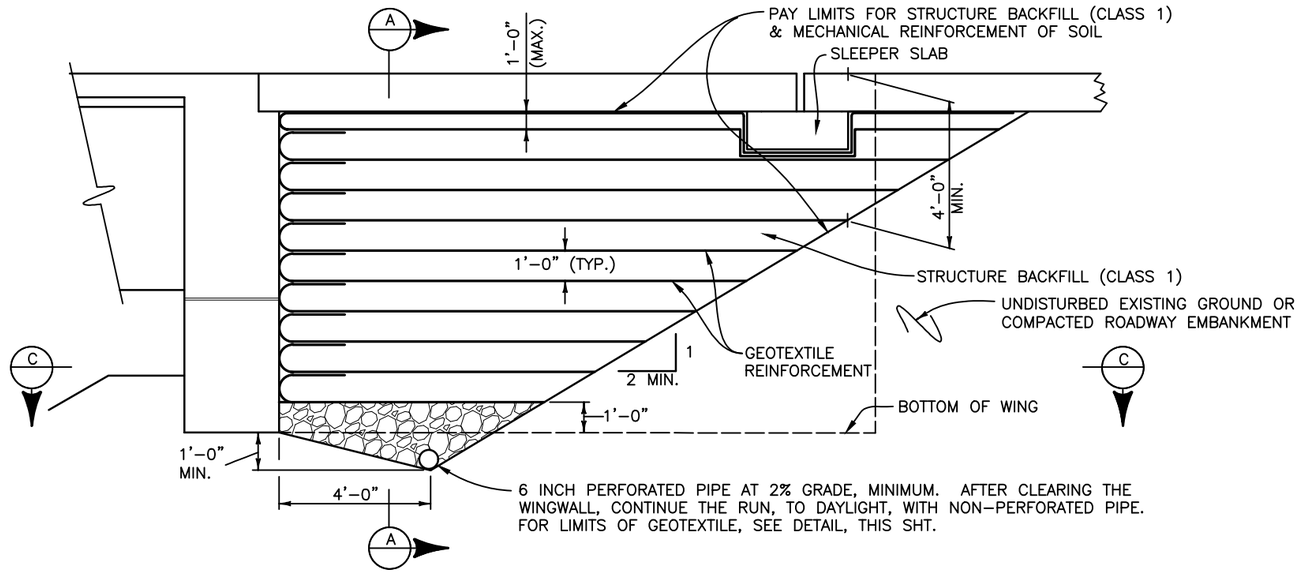
Void:

BELFORD–HAPPY CANYON CREEK
APPROACH SLAB INLET DETAILS

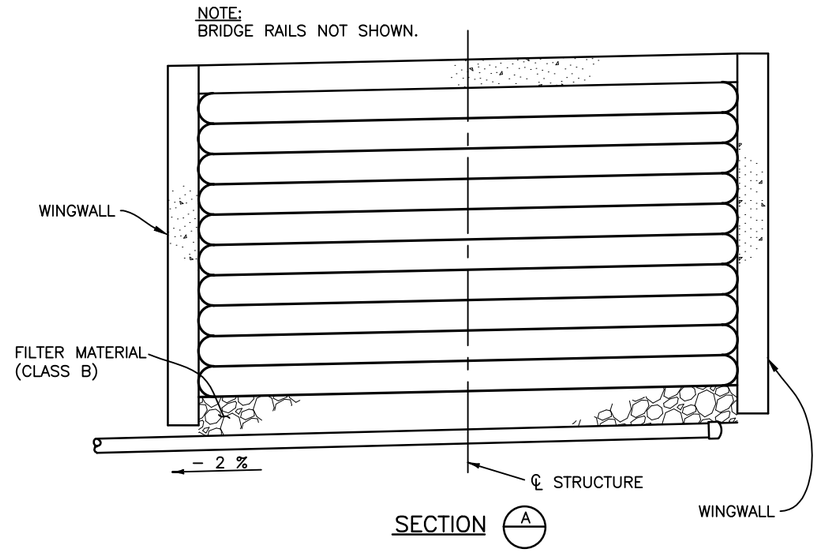
Designer:	J. LYNCH	Structure Numbers	
Detailer:	C.MIYAMOTO		
Subset:	BRIDGE	Sheets:	B29 of 33

Project No./Code

Sheet Number 58



SECTION PERPENDICULAR TO ABUTMENT
(PROPOSED SECTION)



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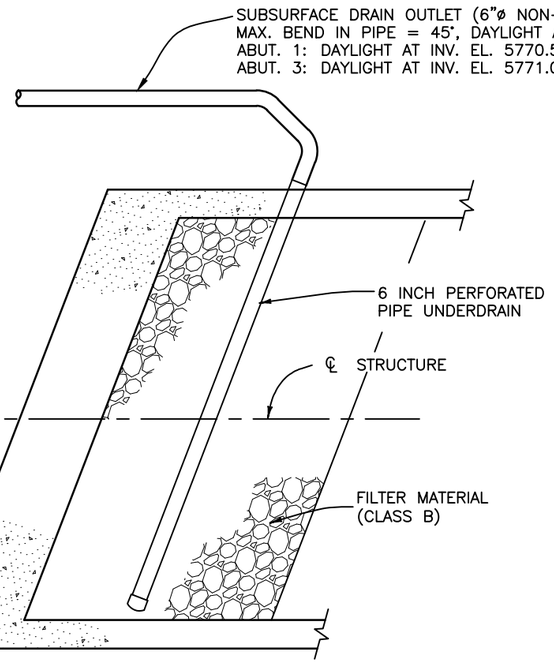

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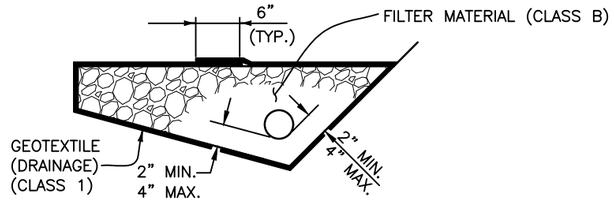
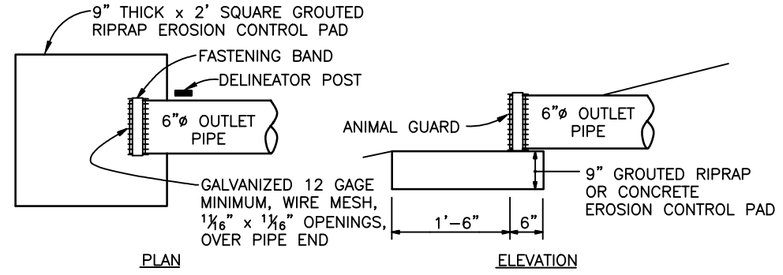


6 INCH PERFORATED PIPE UNDERDRAIN

6 INCH PERFORATED PIPE UNDERDRAIN INCLUDES ALL FILTER MATERIAL (CLASS B) AND GEOTEXTILE (DRAINAGE) (CLASS 1) SURROUNDING THE FILTER MATERIAL (CLASS B)



OUTLET PIPE END TREATMENT

NOTES:

GEOTEXTILE REINFORCEMENT SHALL BE WOVEN FABRIC WITH A MINIMUM AVERAGE ROLL VALUE OF 4800 LB/FT FOR INSTALLATIONS WITH A GAP AND 2400 LB/FT FOR INSTALLATIONS WITHOUT A GAP BASED ON ASTM D4595.

GEOTEXTILE REINFORCEMENT SHALL BE PLACED BY ALTERNATING MACHINE DIRECTION (MD) WITH CROSS MACHINE DIRECTION (XD) FROM LAYER TO LAYER.

THE GEOTEXTILE REINFORCEMENT WRAP AT BACK FACE OF ABUTMENT SHALL BE PULLED BACK SLACK FREE WITH ITS END ANCHORED TO SOIL UNDERNEATH WITH STAPLES OR PINS.

MINIMUM SPLICE OF ALL GEOFABRIC SHALL CONSIST OF 12" OF OVERLAP.

COST OF 6 INCH PERFORATED PIPE UNDERDRAIN, SUBSURFACE DRAIN OUTLET (6"ø NON–PERFORATED PIPE) AND OUTLET PIPE END TREATMENT PAYMENT SHALL BE INCLUDED IN THE COST OF ITEM 206 STRUCTURE BACKFILL (CLASS 1).

INSTALLATION OF PIPE UNDERDRAIN AND SUBSURFACE DRAIN OUTLET WILL CONFORM TO THE CONSTRUCTION REQUIREMENTS OF SECTION 605.03 AND 605.06, RESPECTIVELY.

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BELFORD–HAPPY CANYON CREEK BRIDGE
STRUCTURE BACKFILL

Designer: J. LYNCH
Detailer: R. DILLON
Subset: BRIDGE
Structure Numbers:
Sheets: B30 of 33

Project No./Code

Sheet Number 59

LT EDGE OF DECK BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+85.29	−47.0000	5783.4111		27917.5060	94492.5209
BF ABUT 1	94+04.18	−47.0000	5783.5763		27901.8728	94505.0561
CL BRG AB1	94+05.70	−47.0000	5783.5916	5783.5916	27900.5988	94506.0502
F−1	94+12.84	−47.0000	5783.6675	5783.6980	27894.6006	94510.6766
F−2	94+19.98	−47.0000	5783.7500	5783.8075	27888.5597	94515.2471
F−3	94+27.12	−47.0000	5783.8391	5783.9175	27882.4768	94519.7614
F−4	94+34.26	−47.0000	5783.9348	5784.0261	27876.3522	94524.2191
F−5	94+41.40	−47.0000	5784.0371	5784.1322	27870.1865	94528.6198
F−6	94+48.54	−47.0000	5784.1460	5784.2356	27863.9803	94532.9632
F−7	94+55.68	−47.0000	5784.2615	5784.3370	27857.7342	94537.2489
F−8	94+62.82	−47.0000	5784.3836	5784.4379	27851.4485	94541.4764
F−9	94+69.96	−47.0000	5784.5123	5784.5403	27845.1239	94545.6455
P2 BRG BK	94+77.10	−47.0000	5784.6476	5784.6476	27838.7609	94549.7558
CL PIER 2	94+77.92	−47.0000	5784.6636		27838.0284	94550.2237
P2 BRG AHD	94+78.74	−47.0000	5784.6796	5784.6796	27837.2953	94550.6908
F−1	94+85.90	−47.0000	5784.8236	5784.8520	27830.8608	94554.7439
F−2	94+93.07	−47.0000	5784.9742	5785.0292	27824.3889	94558.7369
F−3	95+00.24	−47.0000	5785.1316	5785.2080	27817.8801	94562.6696
F−4	95+07.40	−47.0000	5785.2955	5785.3861	27811.3349	94566.5415
F−5	95+14.57	−47.0000	5785.4661	5785.5621	27804.7540	94570.3523
F−6	95+21.74	−47.0000	5785.6434	5785.7355	27798.1379	94574.1016
F−7	95+28.91	−47.0000	5785.8273	5785.9063	27791.4872	94577.7893
F−8	95+36.07	−47.0000	5786.0179	5786.0758	27784.8025	94581.4148
F−9	95+43.24	−47.0000	5786.2151	5786.2458	27778.0843	94584.9780
CL BRG AB3	95+50.41	−47.0000	5786.4190	5786.4190	27771.3332	94588.4785
BF ABUT 3	95+51.85	−47.0000	5786.4607		27769.9730	94589.1742
END APPR	95+69.57	−47.0000	5786.9966		27753.1300	94597.5257

GIRDER 1

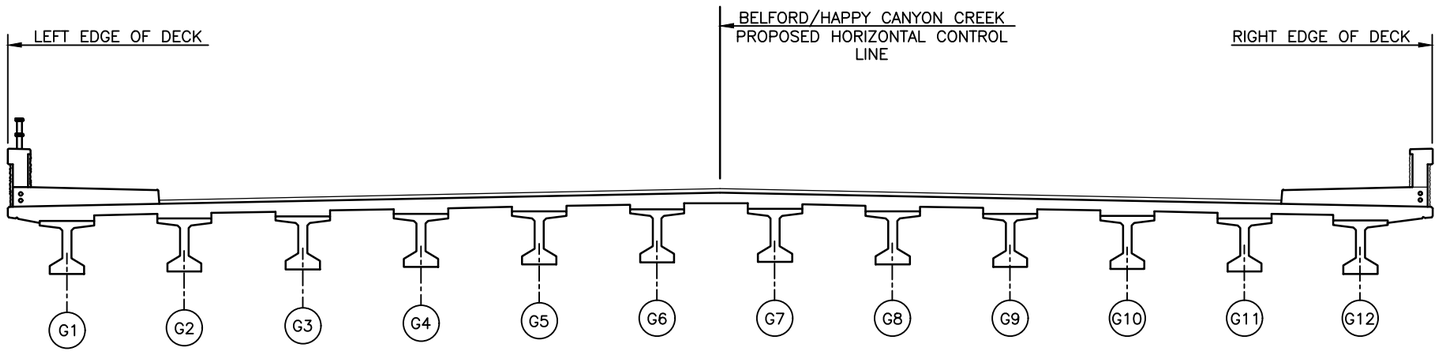
BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+84.25	−44.4309	5783.4546		27916.7287	94489.8330
BF ABUT 1	94+02.81	−43.3990	5783.6347		27900.7944	94501.3267
CL BRG AB1	94+04.32	−43.3361	5783.6509	5783.6509	27899.5024	94502.2586
F−1	94+11.51	−43.0788	5783.7312	5783.7617	27893.3401	94506.7035
F−2	94+18.70	−42.8925	5783.8169	5783.8744	27887.1779	94511.1485
F−3	94+25.90	−42.7772	5783.9078	5783.9862	27881.0156	94515.5934
F−4	94+33.10	−42.7329	5784.0041	5784.0954	27874.8533	94520.0383
F−5	94+40.30	−42.7596	5784.1056	5784.2007	27868.6910	94524.4833
F−6	94+47.49	−42.8574	5784.2125	5784.3020	27862.5287	94528.9282
F−7	94+54.69	−43.0261	5784.3245	5784.4000	27856.3664	94533.3731
F−8	94+61.88	−43.2659	5784.4418	5784.4961	27850.2042	94537.8181
F−9	94+69.07	−43.5765	5784.5643	5784.5923	27844.0419	94542.2630
P2 BRG BK	94+76.25	−43.9579	5784.6920	5784.6920	27837.8796	94546.7079
CL PIER 2	94+76.99	−43.6721	5784.7121		27837.0644	94546.8905
P2 BRG AHD	94+77.73	−43.3870	5784.7322	5784.7322	27836.2492	94547.0731
F−1	94+84.94	−43.1200	5784.8815	5784.9099	27829.6706	94550.9129
F−2	94+92.15	−42.9243	5785.0361	5785.0911	27823.0921	94554.7527
F−3	94+99.37	−42.7999	5785.1961	5785.2725	27816.5135	94558.5925
F−4	95+06.58	−42.7470	5785.3614	5785.4520	27809.9350	94562.4323
F−5	95+13.80	−42.7654	5785.5321	5785.6281	27803.3564	94566.2722
F−6	95+21.01	−42.8552	5785.7081	5785.8002	27796.7779	94570.1120
F−7	95+28.23	−43.0163	5785.8893	5785.9683	27790.1993	94573.9518
F−8	95+35.44	−43.2488	5786.0757	5786.1336	27783.6207	94577.7916
F−9	95+42.64	−43.5525	5786.2673	5786.2980	27777.0422	94581.6314
CL BRG AB3	95+49.84	−43.9274	5786.4641	5786.4641	27770.4636	94585.4713
BF ABUT 3	95+51.30	−44.0122	5786.5047		27769.1277	94586.2510
END APPR	95+69.29	−45.2990	5787.0221		27752.6508	94595.8684

LT EDGE OF SIDEWALK

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+81.18	−37.0000	5783.5812		27914.4780	94482.0495
BF ABUT 1	94+00.34	−37.0000	5783.7390		27898.8761	94494.6927
CL BRG AB1	94+01.89	−37.0000	5783.7537	5783.7537	27897.6045	94495.6951
F−1	94+09.13	−37.0000	5783.8272	5783.8577	27891.6199	94500.3578
F−2	94+16.37	−37.0000	5783.9074	5783.9649	27885.5917	94504.9640
F−3	94+23.60	−37.0000	5783.9944	5784.0728	27879.5205	94509.5133
F−4	94+30.84	−37.0000	5784.0881	5784.1795	27873.4068	94514.0054
F−5	94+38.08	−37.0000	5784.1887	5784.2838	27867.2512	94518.4398
F−6	94+45.32	−37.0000	5784.2961	5784.3856	27861.0541	94522.8161
F−7	94+52.56	−37.0000	5784.4102	5784.4857	27854.8162	94527.1340
F−8	94+59.80	−37.0000	5784.5311	5784.5854	27848.5379	94531.3930
F−9	94+67.04	−37.0000	5784.6588	5784.6868	27842.2199	94535.5928
P2 BRG BK	94+74.28	−37.0000	5784.7933	5784.7933	27835.8627	94539.7331
CL PIER 2	94+75.11	−37.0000	5784.8092		27835.1311	94540.2041
P2 BRG AHD	94+75.94	−37.0000	5784.8252	5784.8252	27834.3989	94540.6744
F−1	94+83.20	−37.0000	5784.9685	5784.9969	27827.9741	94544.7535
F−2	94+90.46	−37.0000	5785.1186	5785.1736	27821.5112	94548.7719
F−3	94+97.72	−37.0000	5785.2755	5785.3520	27815.0106	94552.7292
F−4	95+04.98	−37.0000	5785.4393	5785.5299	27808.4730	94556.6250
F−5	95+12.24	−37.0000	5785.6100	5785.7060	27801.8990	94560.4589
F−6	95+19.50	−37.0000	5785.7874	5785.8795	27795.2890	94564.2307
F−7	95+26.77	−37.0000	5785.9717	5786.0507	27788.6439	94567.9400
F−8	95+34.03	−37.0000	5786.1628	5786.2207	27781.9640	94571.5865
F−9	95+41.29	−37.0000	5786.3607	5786.3914	27775.2500	94575.1698
CL BRG AB3	95+48.55	−37.0000	5786.5655	5786.5655	27768.5026	94578.6896
BF ABUT 3	95+50.01	−37.0000	5786.6075		27767.1433	94579.3889
END APPR	95+67.95	−37.0000	5787.1462		27750.3123	94587.7815

GIRDER 2

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+81.10	−36.7978	5783.5847		27914.4167	94481.8376
BF ABUT 1	93+99.83	−35.6878	5783.7604		27898.4824	94493.3312
CL BRG AB1	94+01.35	−35.6187	5783.7762	5783.7762	27897.1904	94494.2632
F−1	94+08.61	−35.3326	5783.8551	5783.8856	27891.0281	94498.7081
F−2	94+15.87	−35.1180	5783.9393	5783.9968	27884.8658	94503.1530
F−3	94+23.14	−34.9752	5784.0291	5784.1075	27878.7036	94507.5980
F−4	94+30.41	−34.9040	5784.1242	5784.2156	27872.5413	94512.0429
F−5	94+37.68	−34.9045	5784.2248	5784.3199	27866.3790	94516.4878
F−6	94+44.94	−34.9768	5784.3308	5784.4204	27860.2167	94520.9328
F−7	94+52.21	−35.1208	5784.4421	5784.5176	27854.0544	94525.3777
F−8	94+59.47	−35.3364	5784.5588	5784.6131	27847.8921	94529.8226
F−9	94+66.73	−35.6236	5784.6809	5784.7089	27841.7299	94534.2676
P2 BRG BK	94+73.98	−35.9824	5784.8082	5784.8082	27835.5676	94538.7125
CL PIER 2	94+74.77	−35.8107	5784.8265		27834.7861	94539.0118
P2 BRG AHD	94+75.55	−35.6398	5784.8449	5784.8449	27834.0047	94539.3111
F−1	94+82.83	−35.3512	5784.9939	5785.0223	27827.4260	94543.1506
F−2	94+90.11	−35.1347	5785.1485	5785.2035	27820.8474	94546.9901
F−3	94+97.39	−34.9902	5785.3085	5785.3849	27814.2688	94550.8297
F−4	95+04.68	−34.9177	5785.4740	5785.5646	27807.6901	94554.6692
F−5	95+11.96	−34.9173	5785.6449	5785.7409	27801.1115	94558.5087
F−6	95+19.25	−34.9890	5785.8213	5785.9134	27794.5328	94562.3483
F−7	95+26.53	−35.1327	5786.0030	5786.0820	27787.9542	94566.1878
F−8	95+33.81	−35.3485	5786.1901	5786.2480	27781.3756	94570.0273
F−9	95+41.09	−35.6362	5786.3825	5786.4132	27774.7969	94573.8669
CL BRG AB3	95+48.36	−35.9959	5786.5802	5786.5802	27768.2183	94577.7064
BF ABUT 3	95+49.84	−36.0777	5786.6209		27766.8823	94578.4861
END APPR	95+68.01	−37.3296	5787.1413		27750.4052	94588.1027



NOTE: ELEVATIONS ARE AT TOP OF CONCRETE DECK 3 INCHES BELOW FINISHED GRADE.

ROADWAY CROSS SLOPE IS UPWARDS FROM THE PROFILE GRADE LINE.

THESE STATIONS, COODINATES, OFFSETS AND LENGTHS DEFINE THE LAYOUT OF THE STRUCTURE IN A TWO DIMENSIONAL HORIZONTAL PLANE. ELEVATIONS DEFINE THE FINAL GRADE OF THE FINISHED CONCRETE DECK. FABRICATION OF THE STRUCTURAL COMPONENTS THROUGH THE DIRECT USE OF THIS INFORMATION IS NOT INTENDED OR ADVISABLE.

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Sheet Revisions

Date	Comments	Initials

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Revised:
Void:

BELFORD−HAPPY CANYON CREEK BRIDGE
STRUCTURE PLANS
DECK GEOMETRY (1 OF 3)

Designer: J. LYNCH
Detailer: C. MIYAMOTO
Subset: BRIDGE
Structure Numbers:
Sheets: B31 of 33

Project No./Code:
Sheet Number 60

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GIRDER 3

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+77.89	-29.1785	5783.7153		27912.1047	94473.8422
BF ABUT 1	93+96.79	-27.9889	5783.8864		27896.1703	94485.3358
CL BRG AB1	93+98.33	-27.9136	5783.9019	5783.9019	27894.8784	94486.2677
F-1	94+05.66	-27.5980	5783.9792	5784.0097	27888.7161	94490.7127
F-2	94+12.99	-27.3546	5784.0620	5784.1195	27882.5538	94495.1576
F-3	94+20.33	-27.1837	5784.1505	5784.2289	27876.3915	94499.6025
F-4	94+27.67	-27.0851	5784.2444	5784.3358	27870.2292	94504.0475
F-5	94+35.01	-27.0589	5784.3440	5784.4391	27864.0670	94508.4924
F-6	94+42.35	-27.1052	5784.4490	5784.5386	27857.9047	94512.9373
F-7	94+49.68	-27.2239	5784.5596	5784.6351	27851.7424	94517.3823
F-8	94+57.02	-27.4149	5784.6756	5784.7299	27845.5801	94521.8272
F-9	94+64.35	-27.6783	5784.7971	5784.8251	27839.4178	94526.2721
P2 BRG BK	94+71.68	-28.0140	5784.9240	5784.9240	27833.2556	94530.7171
CL PIER 2	94+72.50	-27.9561	5784.9406		27832.5079	94531.1331
P2 BRG AHD	94+73.32	-27.8991	5784.9573	5784.9573	27831.7602	94531.5491
F-1	94+80.67	-27.5887	5785.1060	5785.1345	27825.1814	94535.3883
F-2	94+88.02	-27.3509	5785.2604	5785.3154	27818.6027	94539.2276
F-3	94+95.38	-27.1858	5785.4204	5785.4968	27812.0240	94543.0668
F-4	95+02.73	-27.0935	5785.5860	5785.6766	27805.4453	94546.9061
F-5	95+10.09	-27.0739	5785.7572	5785.8532	27798.8665	94550.7453
F-6	95+17.45	-27.1271	5785.9340	5786.0260	27792.2878	94554.5845
F-7	95+24.81	-27.2531	5786.1162	5786.1952	27785.7091	94558.4238
F-8	95+32.16	-27.4519	5786.3039	5786.3618	27779.1304	94562.2630
F-9	95+39.51	-27.7233	5786.4971	5786.5278	27772.5516	94566.1023
CL BRG AB3	95+46.85	-28.0674	5786.6956	5786.6956	27765.9729	94569.9415
BF ABUT 3	95+48.34	-28.1461	5786.7366		27764.6369	94570.7212
END APPR	95+66.70	-29.3626	5787.2598		27748.1596	94580.3371

GIRDER 4

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+74.61	-21.5734	5783.8466		27909.7927	94465.8467
BF ABUT 1	93+93.70	-20.3027	5784.0128		27893.8583	94477.3404
CL BRG AB1	93+95.25	-20.2210	5784.0280	5784.0280	27892.5664	94478.2723
F-1	94+02.65	-19.8753	5784.1036	5784.1341	27886.4041	94482.7172
F-2	94+10.05	-19.6026	5784.1850	5784.2425	27880.2418	94487.1622
F-3	94+17.46	-19.4030	5784.2720	5784.3504	27874.0795	94491.6071
F-4	94+24.87	-19.2765	5784.3647	5784.4561	27867.9172	94496.0520
F-5	94+32.28	-19.2231	5784.4631	5784.5582	27861.7549	94500.4970
F-6	94+39.69	-19.2428	5784.5672	5784.6568	27855.5927	94504.9419
F-7	94+47.11	-19.3357	5784.6769	5784.7524	27849.4304	94509.3868
F-8	94+54.52	-19.5017	5784.7922	5784.8464	27843.2681	94513.8318
F-9	94+61.92	-19.7408	5784.9131	5784.9411	27837.1058	94518.2767
P2 BRG BK	94+69.32	-20.0529	5785.0395	5785.0395	27830.9435	94522.7217
CL PIER 2	94+70.19	-20.1086	5785.0544		27830.2296	94523.2544
P2 BRG AHD	94+71.05	-20.1653	5785.0694	5785.0694	27829.5156	94523.7871
F-1	94+78.47	-19.8325	5785.2178	5785.2462	27822.9368	94527.6260
F-2	94+85.89	-19.5730	5785.3720	5785.4270	27816.3580	94531.4650
F-3	94+93.32	-19.3870	5785.5319	5785.6083	27809.7792	94535.3040
F-4	95+00.75	-19.2744	5785.6976	5785.7882	27803.2004	94539.1429
F-5	95+08.18	-19.2353	5785.8690	5785.9650	27796.6216	94542.9819
F-6	95+15.61	-19.2697	5786.0461	5786.1382	27790.0428	94546.8208
F-7	95+23.04	-19.3776	5786.2288	5786.3078	27783.4640	94550.6598
F-8	95+30.47	-19.5590	5786.4171	5786.4751	27776.8852	94554.4987
F-9	95+37.89	-19.8138	5786.6110	5786.6417	27770.3064	94558.3377
CL BRG AB3	95+45.31	-20.1420	5786.8105	5786.8105	27763.7276	94562.1766
BF ABUT 3	95+46.82	-20.2176	5786.8516		27762.3915	94562.9562
END APPR	95+65.36	-21.3980	5787.3777		27745.9140	94572.5714

GIRDER 5

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+71.27	-13.9828	5783.9786		27907.4806	94457.8513
BF ABUT 1	93+90.54	-12.6295	5784.1397		27891.5463	94469.3449
CL BRG AB1	93+92.11	-12.5412	5784.1545	5784.1545	27890.2543	94470.2769
F-1	93+99.58	-12.1650	5784.2284	5784.2589	27884.0920	94474.7218
F-2	94+07.05	-11.8624	5784.3082	5784.3657	27877.9298	94479.1667
F-3	94+14.53	-11.6335	5784.3938	5784.4722	27871.7675	94483.6117
F-4	94+22.02	-11.4785	5784.4851	5784.5765	27865.6052	94488.0566
F-5	94+29.50	-11.3973	5784.5823	5784.6774	27859.4429	94492.5015
F-6	94+36.99	-11.3900	5784.6853	5784.7749	27853.2806	94496.9465
F-7	94+44.48	-11.4566	5784.7941	5784.8696	27847.1184	94501.3914
F-8	94+51.96	-11.5970	5784.9086	5784.9628	27840.9561	94505.8364
F-9	94+59.44	-11.8113	5785.0288	5785.0568	27834.7938	94510.2813
P2 BRG BK	94+66.92	-12.0993	5785.1548	5785.1548	27828.6315	94514.7262
CL PIER 2	94+67.83	-12.2684	5785.1679		27827.9513	94515.3757
P2 BRG AHD	94+68.74	-12.4385	5785.1811	5785.1811	27827.2711	94516.0251
F-1	94+76.23	-12.0829	5785.3292	5785.3576	27820.6922	94519.8638
F-2	94+83.73	-11.8013	5785.4831	5785.5381	27814.1133	94523.7024
F-3	94+91.23	-11.5939	5785.6430	5785.7194	27807.5344	94527.5411
F-4	94+98.73	-11.4607	5785.8087	5785.8993	27800.9556	94531.3798
F-5	95+06.23	-11.4017	5785.9803	5786.0763	27794.3767	94535.2184
F-6	95+13.74	-11.4169	5786.1577	5786.2497	27787.7978	94539.0571
F-7	95+21.25	-11.5064	5786.3408	5786.4198	27781.2189	94542.8958
F-8	95+28.75	-11.6701	5786.5298	5786.5877	27774.6400	94546.7344
F-9	95+36.25	-11.9079	5786.7244	5786.7551	27768.0611	94550.5731
CL BRG AB3	95+43.74	-12.2199	5786.9247	5786.9247	27761.4822	94554.4118
BF ABUT 3	95+45.26	-12.2923	5786.9660		27760.1462	94555.1913
END APPR	95+63.99	-13.4358	5787.4949		27743.6684	94564.8058

GIRDER 6

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+67.87	-6.4073	5784.1115		27905.1686	94449.8559
BF ABUT 1	93+87.32	-4.9697	5784.2672		27889.2343	94461.3495
CL BRG AB1	93+88.90	-4.8748	5784.2816	5784.2816	27887.9423	94462.2814
F-1	93+96.44	-4.4673	5784.3537	5784.3842	27881.7800	94466.7264
F-2	94+03.99	-4.1342	5784.4317	5784.4892	27875.6177	94471.1713
F-3	94+11.55	-3.8756	5784.5157	5784.5941	27869.4555	94475.6162
F-4	94+19.11	-3.6915	5784.6057	5784.6970	27863.2932	94480.0612
F-5	94+26.67	-3.5819	5784.7016	5784.7967	27857.1309	94484.5061
F-6	94+34.23	-3.5470	5784.8034	5784.8930	27850.9686	94488.9511
F-7	94+41.79	-3.5868	5784.9112	5784.9867	27844.8063	94493.3960
F-8	94+49.36	-3.7011	5785.0248	5785.0791	27838.6440	94497.8409
F-9	94+56.91	-3.8900	5785.1444	5785.1724	27832.4818	94502.2859
P2 BRG BK	94+64.47	-4.1535	5785.2697	5785.2697	27826.3195	94506.7308
CL PIER 2	94+65.43	-4.4356	5785.2811		27825.6730	94507.4970
P2 BRG AHD	94+66.38	-4.7189	5785.2926	5785.2926	27825.0266	94508.2631
F-1	94+73.94	-4.3400	5785.4402	5785.4687	27818.4476	94512.1015
F-2	94+81.51	-4.0360	5785.5939	5785.6489	27811.8686	94515.9399
F-3	94+89.09	-3.8067	5785.7536	5785.8300	27805.2897	94519.7782
F-4	94+96.67	-3.6524	5785.9193	5786.0099	27798.7107	94523.6166
F-5	95+04.25	-3.5731	5786.0910	5786.1870	27792.1317	94527.4550
F-6	95+11.83	-3.5688	5786.2687	5786.3608	27785.5528	94531.2934
F-7	95+19.41	-3.6394	5786.4523	5786.5313	27778.9738	94535.1318
F-8	95+26.99	-3.7851	5786.6418	5786.6997	27772.3948	94538.9701
F-9	95+34.56	-4.0056	5786.8371	5786.8678	27765.8158	94542.8085
CL BRG AB3	95+42.14	-4.3011	5787.0382	5787.0382	27759.2369	94546.6469
BF ABUT 3	95+43.67	-4.3702	5787.0798		27757.9008	94547.4264
END APPR	95+62.60	-5.4761	5787.6115		27741.4229	94557.0401

HCL

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+64.94	0.0000	5784.2247		27903.2095	94443.0807
BF ABUT 1	93+85.20	0.0000	5784.3503		27887.7320	94456.1544
CL BRG AB1	93+86.83	0.0000	5784.3628	5784.3628	27886.4700	94457.1900
F-1	93+94.46	0.0000	5784.4255	5784.4560	27880.5400	94461.9969
F-2	94+02.10	0.0000	5784.4958	5784.5533	27874.5626	94466.7448
F-3	94+09.73	0.0000	5784.5736	5784.6520	27868.5385	94471.4332
F-4	94+17.36	0.0000	5784.6590	5784.7503	27862.4681	94476.0616
F-5	94+25.00	0.0000	5784.7519	5784.8470	27856.3522	94480.6296
F-6	94+32.63	0.0000	5784.8524	5784.9420	27850.1913	94485.1368
F-7	94+40.27	0.0000	5784.9604	5785.0359	27843.9860	94489.5827
F-8	94+47.90	0.0000	5785.0759	5785.1302	27837.7370	94493.9668
F-9	94+55.53	0.0000	5785.1991	5785.2271	27831.4447	94498.2888
P2 BRG BK	94+63.17	0.0000	5785.3297	5785.3297	27825.1100	94502.5482
CL PIER 2	94+64.04	0.0000	5785.3452		27824.3820	94503.0318
P2 BRG AHD	94+64.91	0.0000	5785.3607	5785.3607	27823.6535	94503.5147
F-1	94+72.55	0.0000	5785.5006	5785.5290	27817.2673	94507.6965
F-2	94+80.18	0.0000	5785.6481	5785.7031	27810.8400	94511.8149
F-3	94+87.81	0.0000	5785.8031	5785.8796	27804.3722	94515.8693
F-4	94+95.45	0.0000	5785.9657	5786.0563	27797.8645	94519.8595
F-5	95+03.08	0.0000	5786.1358	5786.2318	27791.3175	94523.7849
F-6	95+10.72	0.0000	5786.3135	5786.4056	27784.7320	94527.6452
F-7	95+18.35	0.0000	5786.4987	5786.5777	27778.1085	94531.4401
F-8	95+25.98	0.0000	5786.6915	5786.7494	27771.4477	94535.1690
F-9	95+33.62	0.0000	5786.8918	5786.9225	27764.7503	94538.8318
CL BRG AB3	95+41.25	0.0000	5787.0997	5787.0997	27758.0169	94542.4280
BF ABUT 3	95+42.78	0.0000	5787.1423		27756.6617	94543.1415
END APPR	95+61.62	0.0000	5787.6913		27739.8775	94551.6961

GIRDER 7

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+63.74	2.5688	5784.1676		27902.4230	94440.3610
BF ABUT 1	93+83.61	3.6700	5784.2652		27886.6215	94452.3139
CL BRG AB1	93+85.22	3.7369	5784.2758	5784.2758	27885.3403	94453.2831
F-1	93+92.92	4.0097	5784.3320	5784.3617	27879.2294	94457.9057
F-2	94+00.62	4.2059	5784.3975	5784.4535	27873.1184	94462.5282
F-3	94+08.32	4.3255	5784.4722	5784.5485	27867.0075	94467.1508
F-4	94+16.03	4.3685	5784.5561	5784.6448	27860.8966	94471.7733
F-5	94+23.73	4.3347	5784.6493	5784.7416	27854.7857	94476.3959
F-6	94+31.44	4.2243	5784.7517	5784.8386	27848.6748	94481.0184
F-7	94+39.14	4.0372	5784.8632	5784.9364	27842.5638	94485.6410
F-8	94+46.84	3.7736	5784.9839	5785.0364	27836.4529	94490.2636
F-9	94+54.53	3.4334	5785.1137	5785.1409	27830.3420	94494.8861
P2 BRG BK	94+62.21	3.0169	5785.2526	5785.2526	27824.2311	94499.5087
CL PIER 2	94+62.99	3.3413	5785.2597		27823.4088	94499.6668
P2 BRG AHD	94+63.76	3.6649	5785.2669	5785.2669	27822.5865	94499.8248
F-1	94+71.44	3.9491	5785.4009	5785.4280	27816.0424	94503.7838
F-2	94+79.13	4.1570	5785.5442	5785.5965	27809.4983	94507.7428
F-3	94+86.82	4.2886	5785.6967	5785.7695	27802.9542	94511.7017
F-4	94+94.51	4.3438	5785.8584	5785.9448	27796.4101	94515.6607
F-5	95+02.20	4.3226	5786.0294	5786.1209	27789.8660	94519.6197
F-6	95+09.89	4.2250	5786.2095	5786.2973	27783.3219	94523.5786
F-7	95+17.58	4.0511	5786.3987	5786.4741	27776.7778	94527.5376
F-8	95+25.26	3.8008	5786.5970	5786.6523	27770.2337	94531.4966
F-9	95+32.94	3.4743	5786.8043	5786.8336	27763.6896	94535.4555
CL BRG AB3	95+40.61	3.0716	5787.0206	5787.0206	27757.1455	94539.4145
BF ABUT 3	95+42.17	2.9806	5787.0656		27755.8165	94540.2185
END APPR	95+61.33	1.6002	5787.6506		27739.4259	94550.1343

GIRDER 8

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+60.16	10.1733	5783.9994		27900.0915	94432.2983
BF ABUT 1	93+80.22	11.3640	5784.0873		27884.2900	94444.2513
CL BRG AB1	93+81.85	11.4379	5784.0972	5784.0972	27883.0088	94445.2204
F-1	93+89.62	11.7439	5784.1500	5784.1797	27876.8979	94449.8430
F-2	93+97.40	11.9725	5784.2122	5784.2683	27870.7870	94454.4655
F-3	94+05.19	12.1237	5784.2839	5784.3602	27864.6760	94459.0881
F-4	94+12.97	12.1974	5784.3650	5784.4536	27858.5651	94463.7107
F-5	94+20.76	12.1937	5784.4555	5784.5478	27852.4542	94468.3332
F-6	94+28.54	12.1125	5784.5553	5784.6423	27846.3433	94472.9558
F-7	94+36.32	11.9539	5784.6646	5784.7377	27840.2324	94477.5783
F-8	94+44.10	11.7178	5784.7832	5784.8357	27834.1214	94482.2009
F-9	94+51.87	11.4045	5784.9110	5784.9382	27828.0105	94486.8235
P2 BRG BK	94+59.64	11.0139	5785.0481	5785.0481	27821.8996	94491.4460
CL PIER 2	94+60.46	11.2075	5785.0585		27821.1162	94491.7386
P2 BRG AHD	94+61.29	11.4002	5785.0689	5785.0689	27820.3328	94492.0311
F-1	94+69.05	11.7086	5785.2014	5785.2285	27813.7887	94495.9901
F-2	94+76.81	11.9399	5785.3433	5785.3957	27807.2446	94499.9491
F-3	94+84.58	12.0941	5785.4947	5785.5675	27800.7005	94503.9080
F-4	94+92.35	12.1711	5785.6554	5785.7418	27794.1564	94507.8670
F-5	95+00.12	12.1709	5785.8256	5785.9171	27787.6123	94511.8260
F-6	95+07.89	12.0936	5786.0051	5786.0929	27781.0682	94515.7849
F-7	95+15.66	11.9390	5786.1939	5786.2693	27774.5241	94519.7439
F-8	95+23.43	11.7074	5786.3920	5786.4473	27767.9800	94523.7029
F-9	95+31.19	11.3987	5786.5992	5786.6285	27761.4359	94527.6618
CL BRG AB3	95+38.94	11.0131	5786.8156	5786.8156	27754.8918	94531.6208
BF ABUT 3	95+40.51	10.9254	5786.8607		27753.5628	94532.4248
END APPR	95+59.88	9.5836	5787.4469		27737.1722	94542.3406

GIRDER 9

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+56.51	17.7610	5783.8329		27897.7601	94424.2356
BF ABUT 1	93+76.77	19.0430	5783.9107		27881.9585	94436.1886
CL BRG AB1	93+78.41	19.1241	5783.9199	5783.9199	27880.6773	94437.1578
F-1	93+86.26	19.4639	5783.9691	5783.9989	27874.5664	94441.7803
F-2	93+94.12	19.7255	5784.0280	5784.0841	27868.4555	94446.4029
F-3	94+01.98	19.9090	5784.0965	5784.1728	27862.3446	94451.0254
F-4	94+09.85	20.0142	5784.1746	5784.2632	27856.2337	94455.6480
F-5	94+17.72	20.0411	5784.2623	5784.3546	27850.1227	94460.2705
F-6	94+25.58	19.9898	5784.3595	5784.4464	27844.0118	94464.8931
F-7	94+33.45	19.8602	5784.4663	5784.5395	27837.9009	94469.5157
F-8	94+41.31	19.6523	5784.5827	5784.6352	27831.7900	94474.1382
F-9	94+49.16	19.3663	5784.7085	5784.7357	27825.6791	94478.7608
P2 BRG BK	94+57.01	19.0023	5784.8438	5784.8438	27819.5681	94483.3833
CL PIER 2	94+57.89	19.0654	5784.8573		27818.8236	94483.8104
P2 BRG AHD	94+58.77	19.1276	5784.8710	5784.8710	27818.0791	94484.2374
F-1	94+66.61	19.4605	5785.0019	5785.0289	27811.5350	94488.1964
F-2	94+74.45	19.7157	5785.1424	5785.1947	27804.9909	94492.1554
F-3	94+82.30	19.8930	5785.2925	5785.3653	27798.4468	94496.1143
F-4	94+90.15	19.9923	5785.4522	5785.5386	27791.9027	94500.0733
F-5	94+98.00	20.0136	5785.6215	5785.7130	27785.3586	94504.0323
F-6	95+05.85	19.9569	5785.8004	5785.8882	27778.8145	94507.9912
F-7	95+13.70	19.8222	5785.9887	5786.0641	27772.2704	94511.9502
F-8	95+21.55	19.6096	5786.1865	5786.2418	27765.7263	94515.9092
F-9	95+29.39	19.3191	5786.3936	5786.4230	27759.1822	94519.8681
CL BRG AB3	95+37.23	18.9509	5786.6101	5786.6101	27752.6381	94523.8271
BF ABUT 3	95+38.82	18.8666	5786.6552		27751.3091	94524.6311
END APPR	95+58.39	17.5643	5787.2427		27734.9185	94534.5469

NOTE: ELEVATIONS ARE AT TOP OF CONCRETE DECK 3 INCHES BELOW FINISHED GRADE.

ROADWAY CROSS SLOPE IS UPWARDS FROM THE PROFILE GRADE LINE.

THESE STATIONS, COODINATES, OFFSETS AND LENGTHS DEFINE THE LAYOUT OF THE STRUCTURE IN A TWO DIMENSIONAL HORIZONTAL PLANE. ELEVATIONS DEFINE THE FINAL GRADE OF THE FINISHED CONCRETE DECK. FABRICATION OF THE STRUCTURAL COMPONENTS THROUGH THE DIRECT USE OF THIS INFORMATION IS NOT INTENDED OR ADVISABLE.

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Sheet Revisions

Date	Comments	Initials

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As Constructed
No Revisions:
Revised:
Void:

BELFORD-HAPPY CANYON CREEK BRIDGE
STRUCTURE PLANS
DECK GEOMETRY (2 OF 3)

Designer: J. LYNCH
Detailer: C. MIYAMOTO
Subset: BRIDGE
Structure Numbers:
Sheets: B32 of 33

Project No./Code

Sheet Number 61

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GIRDER 10

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+52.78	25.3315	5783.6682		27895.4286	94416.1730
BF ABUT 1	93+73.24	26.7066	5783.7356		27879.6271	94428.1259
CL BRG AB1	93+74.90	26.7950	5783.7439	5783.7439	27878.3459	94429.0951
F-1	93+82.83	27.1693	5783.7895	5783.8193	27872.2349	94433.7176
F-2	93+90.77	27.4646	5783.8449	5783.9010	27866.1240	94438.3402
F-3	93+98.71	27.6810	5783.9101	5783.9864	27860.0131	94442.9628
F-4	94+06.66	27.8184	5783.9850	5784.0737	27853.9022	94447.5853
F-5	94+14.61	27.8766	5784.0698	5784.1621	27847.7913	94452.2079
F-6	94+22.56	27.8557	5784.1643	5784.2512	27841.6803	94456.8304
F-7	94+30.51	27.7558	5784.2686	5784.3417	27835.5694	94461.4530
F-8	94+38.46	27.5767	5784.3826	5784.4351	27829.4585	94466.0755
F-9	94+46.40	27.3187	5784.5062	5784.5334	27823.3476	94470.6981
P2 BRG BK	94+54.33	26.9817	5784.6396	5784.6396	27817.2367	94475.3207
CL PIER 2	94+55.26	26.9147	5784.6563		27816.5311	94475.8822
P2 BRG AHD	94+56.20	26.8467	5784.6732	5784.6732	27815.8255	94476.4437
F-1	94+64.11	27.2048	5784.8024	5784.8294	27809.2813	94480.4027
F-2	94+72.04	27.4843	5784.9414	5784.9937	27802.7372	94484.3617
F-3	94+79.97	27.6851	5785.0902	5785.1630	27796.1931	94488.3206
F-4	94+87.90	27.8072	5785.2488	5785.3351	27789.6490	94492.2796
F-5	94+95.84	27.8504	5785.4172	5785.5087	27783.1049	94496.2386
F-6	95+03.77	27.8148	5785.5953	5785.6831	27776.5608	94500.1975
F-7	95+11.71	27.7004	5785.7831	5785.8585	27770.0167	94504.1565
F-8	95+19.64	27.5073	5785.9805	5786.0359	27763.4726	94508.1155
F-9	95+27.56	27.2354	5786.1876	5786.2169	27756.9285	94512.0744
CL BRG AB3	95+35.48	26.8849	5786.4041	5786.4041	27750.3844	94516.0334
BF ABUT 3	95+37.09	26.8041	5786.4493		27749.0554	94516.8374
END APPR	95+56.87	25.5421	5787.0378		27732.6648	94526.7532

GIRDER 11

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+48.98	32.8841	5783.5055		27893.0971	94408.1103
BF ABUT 1	93+69.64	34.3542	5783.5620		27877.2956	94420.0632
CL BRG AB1	93+71.32	34.4502	5783.5695	5783.5695	27876.0144	94421.0324
F-1	93+79.33	34.8596	5783.6113	5783.6410	27869.9035	94425.6550
F-2	93+87.35	35.1894	5783.6630	5783.7191	27863.7926	94430.2775
F-3	93+95.38	35.4394	5783.7247	5783.8010	27857.6816	94434.9001
F-4	94+03.41	35.6095	5783.7964	5783.8851	27851.5707	94439.5226
F-5	94+11.44	35.6998	5783.8781	5783.9704	27845.4598	94444.1452
F-6	94+19.48	35.7100	5783.9697	5784.0566	27839.3489	94448.7678
F-7	94+27.51	35.6403	5784.0713	5784.1445	27833.2380	94453.3903
F-8	94+35.54	35.4907	5784.1828	5784.2353	27827.1270	94458.0129
F-9	94+43.57	35.2612	5784.3042	5784.3314	27821.0161	94462.6354
P2 BRG BK	94+51.59	34.9519	5784.4355	5784.4355	27814.9052	94467.2580
CL PIER 2	94+52.58	34.7552	5784.4554		27814.2385	94467.9540
P2 BRG AHD	94+53.57	34.5573	5784.4755	5784.4755	27813.5718	94468.6500
F-1	94+61.57	34.9411	5784.6029	5784.6300	27807.0277	94472.6090
F-2	94+69.57	35.2455	5784.7403	5784.7927	27800.4836	94476.5680
F-3	94+77.59	35.4704	5784.8877	5784.9606	27793.9395	94480.5270
F-4	94+85.60	35.6156	5785.0452	5785.1315	27787.3953	94484.4859
F-5	94+93.62	35.6813	5785.2126	5785.3041	27780.8512	94488.4449
F-6	95+01.64	35.6672	5785.3899	5785.4777	27774.3071	94492.4039
F-7	95+09.66	35.5735	5785.5771	5785.6525	27767.7630	94496.3628
F-8	95+17.68	35.4002	5785.7742	5785.8295	27761.2189	94500.3218
F-9	95+25.69	35.1473	5785.9810	5786.0104	27754.6748	94504.2808
CL BRG AB3	95+33.70	34.8150	5786.1976	5786.1976	27748.1307	94508.2397
BF ABUT 3	95+35.32	34.7378	5786.2428		27746.8018	94509.0437
END APPR	95+55.32	33.5169	5786.8324		27730.4111	94518.9595

RT EDGE OF SIDEWALK

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+46.87	37.0000	5783.4175		27891.8242	94403.7082
BF ABUT 1	93+68.37	37.0000	5783.5023		27876.4878	94417.2699
CL BRG AB1	93+70.10	37.0000	5783.5117	5783.5117	27875.2367	94418.3430
F-1	93+78.18	37.0000	5783.5608	5783.5906	27869.3688	94423.3117
F-2	93+86.26	37.0000	5783.6184	5783.6745	27863.4490	94428.2186
F-3	93+94.34	37.0000	5783.6844	5783.7607	27857.4781	94433.0631
F-4	94+02.41	37.0000	5783.7589	5783.8475	27851.4567	94437.8448
F-5	94+10.49	37.0000	5783.8418	5783.9341	27845.3855	94442.5629
F-6	94+18.57	37.0000	5783.9331	5784.0200	27839.2652	94447.2172
F-7	94+26.65	37.0000	5784.0329	5784.1061	27833.0963	94451.8070
F-8	94+34.72	37.0000	5784.1412	5784.1937	27826.8796	94456.3318
F-9	94+42.80	37.0000	5784.2579	5784.2851	27820.6159	94460.7912
P2 BRG BK	94+50.88	37.0000	5784.3831	5784.3831	27814.3056	94465.1846
CL PIER 2	94+51.80	37.0000	5784.3979		27813.5817	94465.6824
P2 BRG AHD	94+52.72	37.0000	5784.4129	5784.4129	27812.8573	94466.1792
F-1	94+60.77	37.0000	5784.5479	5784.5750	27806.5145	94470.4752
F-2	94+68.82	37.0000	5784.6913	5784.7436	27800.1272	94474.7047
F-3	94+76.86	37.0000	5784.8431	5784.9159	27793.6960	94478.8671
F-4	94+84.91	37.0000	5785.0033	5785.0896	27787.2217	94482.9622
F-5	94+92.96	37.0000	5785.1719	5785.2634	27780.7049	94486.9893
F-6	95+01.01	37.0000	5785.3488	5785.4367	27774.1465	94490.9481
F-7	95+09.05	37.0000	5785.5342	5785.6096	27767.5469	94494.8382
F-8	95+17.10	37.0000	5785.7279	5785.7833	27760.9071	94498.6590
F-9	95+25.15	37.0000	5785.9301	5785.9594	27754.2278	94502.4103
CL BRG AB3	95+33.20	37.0000	5786.1406	5786.1406	27747.5096	94506.0916
BF ABUT 3	95+34.81	37.0000	5786.1838		27746.1589	94506.8207
END APPR	95+54.64	37.0000	5786.7424		27729.4266	94515.5546

RT EDGE OF SIDEWALK

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+46.87	37.0000	5783.4175		27891.8242	94403.7082
BF ABUT 1	93+68.37	37.0000	5783.5023		27876.4878	94417.2699
CL BRG AB1	93+70.10	37.0000	5783.5117	5783.5117	27875.2367	94418.3430
F-1	93+78.18	37.0000	5783.5608	5783.5906	27869.3688	94423.3117
F-2	93+86.26	37.0000	5783.6184	5783.6745	27863.4490	94428.2186
F-3	93+94.34	37.0000	5783.6844	5783.7607	27857.4781	94433.0631
F-4	94+02.41	37.0000	5783.7589	5783.8475	27851.4567	94437.8448
F-5	94+10.49	37.0000	5783.8418	5783.9341	27845.3855	94442.5629
F-6	94+18.57	37.0000	5783.9331	5784.0200	27839.2652	94447.2172
F-7	94+26.65	37.0000	5784.0329	5784.1061	27833.0963	94451.8070
F-8	94+34.72	37.0000	5784.1412	5784.1937	27826.8796	94456.3318
F-9	94+42.80	37.0000	5784.2579	5784.2851	27820.6159	94460.7912
P2 BRG BK	94+50.88	37.0000	5784.3831	5784.3831	27814.3056	94465.1846
CL PIER 2	94+51.80	37.0000	5784.3979		27813.5817	94465.6824
P2 BRG AHD	94+52.72	37.0000	5784.4129	5784.4129	27812.8573	94466.1792
F-1	94+60.77	37.0000	5784.5479	5784.5750	27806.5145	94470.4752
F-2	94+68.82	37.0000	5784.6913	5784.7436	27800.1272	94474.7047
F-3	94+76.86	37.0000	5784.8431	5784.9159	27793.6960	94478.8671
F-4	94+84.91	37.0000	5785.0033	5785.0896	27787.2217	94482.9622
F-5	94+92.96	37.0000	5785.1719	5785.2634	27780.7049	94486.9893
F-6	95+01.01	37.0000	5785.3488	5785.4367	27774.1465	94490.9481
F-7	95+09.05	37.0000	5785.5342	5785.6096	27767.5469	94494.8382
F-8	95+17.10	37.0000	5785.7279	5785.7833	27760.9071	94498.6590
F-9	95+25.15	37.0000	5785.9301	5785.9594	27754.2278	94502.4103
CL BRG AB3	95+33.20	37.0000	5786.1406	5786.1406	27747.5096	94506.0916
BF ABUT 3	95+34.81	37.0000	5786.1838		27746.1589	94506.8207
END APPR	95+54.64	37.0000	5786.7424		27729.4266	94515.5546

GIRDER 12

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+45.09	40.4183	5783.3449		27890.7657	94400.0476
BF ABUT 1	93+65.96	41.9854	5783.3901		27874.9641	94412.0006
CL BRG AB1	93+67.66	42.0890	5783.3967	5783.3967	27873.6829	94412.9697
F-1	93+75.75	42.5344	5783.4345	5783.4642	27867.5720	94417.5923
F-2	93+83.86	42.8994	5783.4824	5783.5385	27861.4611	94422.2148
F-3	93+91.97	43.1837	5783.5405	5783.6168	27855.3502	94426.8374
F-4	94+00.08	43.3873	5783.6087	5783.6974	27849.2393	94431.4600
F-5	94+08.20	43.5102	5783.6872	5783.7795	27843.1283	94436.0825
F-6	94+16.32	43.5523	5783.7758	5783.8628	27837.0174	94440.7051
F-7	94+24.44	43.5135	5783.8746	5783.9478	27830.9065	94445.3276
F-8	94+32.56	43.3940	5783.9836	5784.0361	27824.7956	94449.9502
F-9	94+40.68	43.1936	5784.1026	5784.1298	27818.6847	94454.5728
P2 BRG BK	94+48.79	42.9126	5784.2317	5784.2317	27812.5737	94459.1953
CL PIER 2	94+49.84	42.5866	5784.2548		27811.9459	94460.0258
P2 BRG AHD	94+50.88	42.2592	5784.2780	5784.2780	27811.3181	94460.8564
F-1	94+58.97	42.6692	5784.4035	5784.4306	27804.7740	94464.8153
F-2	94+67.06	42.9990	5784.5393	5784.5916	27798.2299	94468.7743
F-3	94+75.16	43.2484	5784.6852	5784.7580	27791.6858	94472.7333
F-4	94+83.26	43.4174	5784.8414	5784.9277	27785.1417	94476.6922
F-5	94+91.36	43.5059	5785.0077	5785.0992	27778.5976	94480.6512
F-6	94+99.47	43.5139	5785.1841	5785.2720	27772.0535	94484.6102
F-7	95+07.58	43.4414	5785.3707	5785.4461	27765.5094	94488.5691
F-8	95+15.68	43.2883	5785.5673	5785.6227	27758.9652	94492.5281
F-9	95+23.78	43.0549	5785.7740	5785.8033	27752.4211	94496.4871
CL BRG AB3	95+31.87	42.7410	5785.9905	5785.9905	27745.8770	94500.4460
BF ABUT 3	95+33.51	42.6675	5786.0357		27744.5481	94501.2500
END APPR	95+53.74	41.4887	5786.6263		27728.1575	94511.1658

RT EDGE OF DECK

BENT LINE	STATION	OFFSET	ELEVATION	ELEV + DL	NORTHING	EASTING
END APPR	93+41.63	47.0000	5783.2060		27888.7242	94392.9877
BF ABUT 1	93+63.50	47.0000	5783.2778		27873.4293	94406.6928
CL BRG AB1	93+65.26	47.0000	5783.2863	5783.2863	27872.1813	94407.7769
F-1	93+73.47	47.0000	5783.3311	5783.3609	27866.3317	94412.7929
F-2	93+81.67	47.0000	5783.3847	5783.4407	27860.4289	94417.7461
F-3	93+89.88	47.0000	5783.4469	5783.5233	27854.4736	94422.6362
F-4	93+98.09	47.0000	5783.5179	5783.6066	27848.4666	94427.4626
F-5	94+06.29	47.0000	5783.5976	5783.6900	27842.4084	94432.2246
F-6	94+14.50	47.0000	5783.6861	5783.7730	27836.2999	94436.9218
F-7	94+22.71	47.0000	5783.7832	5783.8564	27830.1416	94441.5537
F-8	94+30.91	47.0000	5783.8891	5783.9416	27823.9343	94446.1196
F-9	94+39.12	47.0000	5784.0037	5784.0309	27817.6787	94450.6191
P2 BRG BK	94+47.33	47.0000	5784.1270	5784.1270	27811.3755	94455.0517
CL PIER 2	94+48.26	47.0000	5784.1417		27810.6528	94455.5536
P2 BRG AHD	94+49.20	47.0000	5784.1564	5784.1564	27809.9295	94456.0545
F-1	94+57.37	47.0000	5784.2898	5784.3169	27803.5995	94460.3836
F-2	94+65.54	47.0000	5784.4318	5784.4842	27797.2238	94464.6452
F-3	94+73.70	47.0000	5784.5825	5784.6553	27790.8033	94468.8390
F-4	94+81.87	47.0000	5784.7418	5784.8281	27784.3387	94472.9644
F-5	94+90.04	47.0000	5784.9097	5785.0012	27777.8307	94477.0210
F-6	94+98.21	47.0000	5785.0863	5785.1741	27771.2800	94481.0084
F-7	95+06.37	47.0000	5785.2715	5785.3469	27764.6874	94484.9261
F-8	95+14.54	47.0000	5785.4654	5785.5207	27758.0537	94488.7736
F-9	95+22.71	47.0000	5785.6679	5785.6972	27751.3795	94492.5505
CL BRG AB3	95+30.87	47.0000	5785.8790	5785.8790	27744.6656	94496.2565
BF ABUT 3	95+32.51	47.0000	5785.9223		27743.3162	94496.9901
END APPR	95+52.62	47.0000	5786.4834		27726.5989	94505.7758

NOTE: ELEVATIONS ARE AT TOP OF CONCRETE DECK 3 INCHES BELOW FINISHED GRADE.

ROADWAY CROSS SLOPE IS UPWARDS FROM THE PROFILE GRADE LINE.

THESE STATIONS, COODINATES, OFFSETS AND LENGTHS DEFINE THE LAYOUT OF THE STRUCTURE IN A TWO DIMENSIONAL HORIZONTAL PLANE. ELEVATIONS DEFINE THE FINAL GRADE OF THE FINISHED CONCRETE DECK. FABRICATION OF THE STRUCTURAL COMPONENTS THROUGH THE DIRECT USE OF THIS INFORMATION IS NOT INTENDED OR ADVISABLE.

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Sheet Revisions		
Date	Comments	Initials

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Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
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As Constructed
No Revisions:
Revised:
Void:

BELFORD-HAPPY CANYON CREEK BRIDGE
STRUCTURE PLANS
DECK GEOMETRY (3 OF 3)

Designer: J. LYNCH
Detailer: C. MIYAMOTO
Subset: BRIDGE
Structure Numbers:
Sheets: B33 of 33

Project No./Code:

Sheet Number 62

I:\115360-01 - Compark at Belford\CADD\Bridge\Drawings\, Alivia.Plankis