Attachment A

A. Feasibility-Level Alternative Design Plans (Alternatives 1, 2, 3, and 4)

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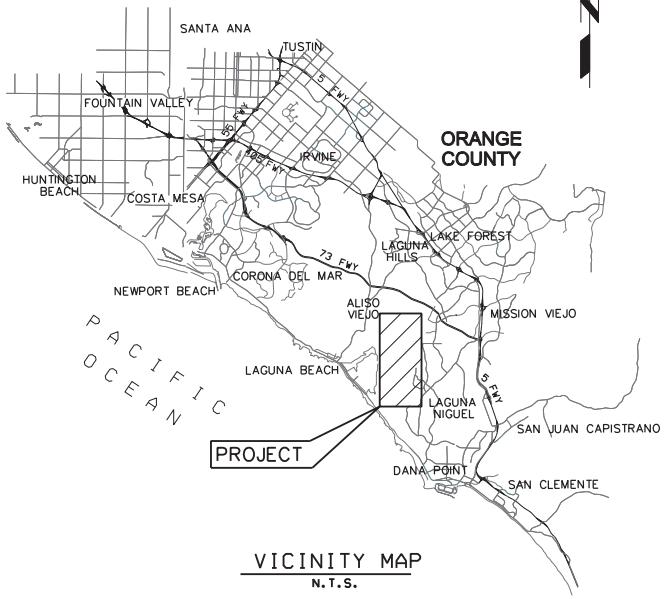
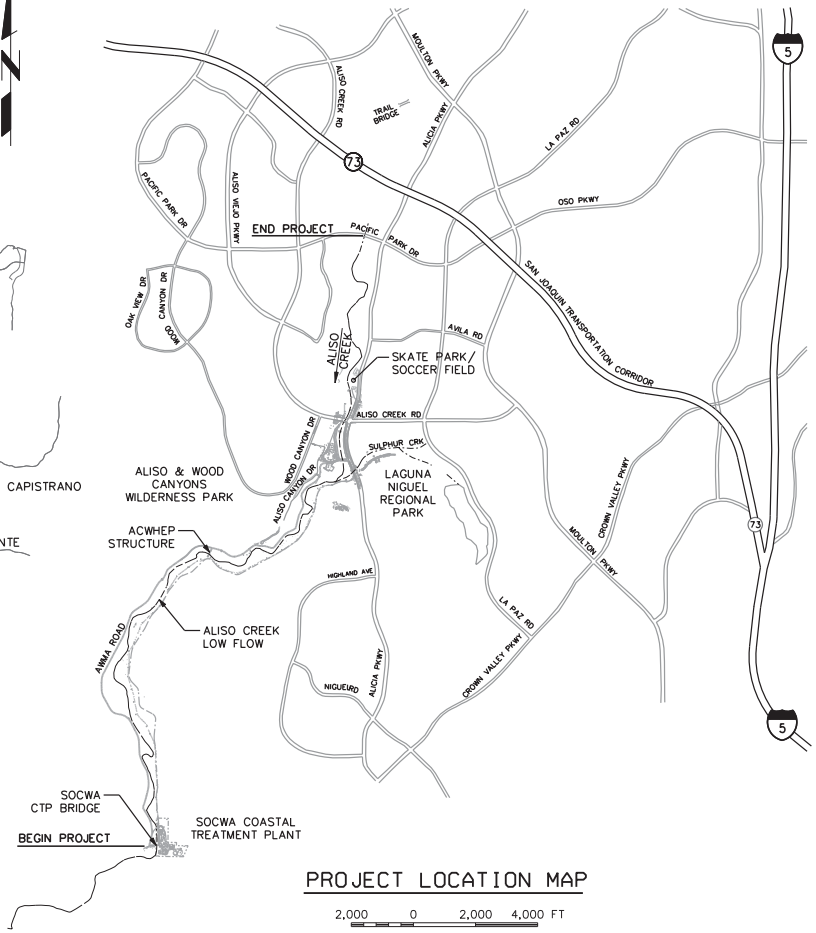
ALISO CREEK MAINSTEM
ECOSYSTEM RESTORATION STUDY - ALTERNATIVE I
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA



VICINITY MAP
N.T.S.



PROJECT LOCATION MAP
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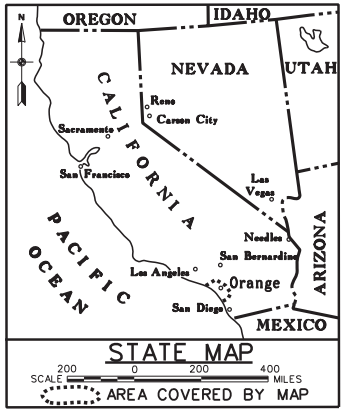

LEGEND

15 INTERSTATE HIGHWAY

73 STATE HIGHWAY

THIS DESIGN IS ACCEPTED BY THE LOS ANGELES DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY E.R. 1110-1-8152. SIGNATURES AFFIXED HEREON INDICATE OFFICIAL RECOMMENDATION AND APPROVAL OF ALL THE DRAWINGS IN THIS SET.

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: THC
DATE:
APPROVED:
DATE:
CHIEF, ENGINEERING DIVISION

SUBMITTED BY:
DATE:
CHIEF, DESIGN BRANCH

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PREPARED UNDER THE DIRECTION OF:
COL. KIMBERLY M. COLLOTON
DISTRICT ENGINEER

DISTRICT FILE NO. XXX/XXXX
SPEC. NO. XXXXXX-XX-X-XXXX
FILE NAME: XXXX.DGN

Scale: AS SHOWN
SHEET
G01

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1
PROJECT LOCATION AND VICINITY MAPS

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

VALUE ENGINEERING PAYS

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Plot Date: $date$

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GENERAL LEGEND

℄	CENTERLINE	—S—	EXISTING SEWER LINE
PP	POWER POLE	—W—	EXISTING WATER LINE
MH	MANHOLE	—E—	EXISTING ELECTRICAL LINE
—·—·—·—	CONTROL LINE	—G—	EXISTING GAS LINE
	RIGHT-OF-WAY	—x—	FENCE

ABBREVIATIONS

A.C.	Asphalt Concrete
ABC	Aggregate Base Course
ACWHEP	Aliso Creek Wetland Habitat Enhancement Project
Ahd.	Ahead
Alt.	Alternate
AM	Additional Measure
B.C.	Begin Horizontal Curve
Bk.	Back
BM	Benchmark
B.V.C.	Begin Vertical Curve
CHAN.	Channel
C.J.	Construction Joint
C.L	Control Line
CLR.	Clearance
C.L.F.	Chain Link Fence
CMP	Corrugated Metal Pipe
CONT.	Continuous
CTP	Coastal Treatment Plant
CY	Cubic Yards
CYN	Canyon
Dbl.	Double
DIA.	Diameter
DIAG.	Diagonal
DG.	Decomposed Granite
D/S	Downstream
Ea.	Each
E.C.	End Horizontal Curve
EG.	Existing Grade
EL/ELV.	Elevation
E.V.C.	End Vertical Curve
EX.	Existing
EXP.JT.	Expansion Joint
F.G.	Finished Grade
FRM	Flood Risk Management
FWY	Freeway
FS	Finish Surface
G.L.	Grade Line
HT.	Height
Horiz.	Horizontal
ID.	Inside Diameter
Int.	Intersection
INV.	INVERT
Jt.	Joint
L	Length
Lbs.	Pounds
L.O.L.	Layout Line
Lt.	Left
MAX.	Maximum
MFR	Manufacturer
M.H.	Manhole
MIN.	Minimum
Misc.	Miscellaneous
No.	Number
O.C.	On Center
OD.	Outside Diameter
OH	Overhead Line
O.C.F.C.D.	Orange County Flood Control District
P.C.	Point of Curvature
P.C.C.	Portland Cement Concrete
PERM	Permanent
PI	Point of Intersection
P.I.P.	Protect In Place
PL.	Plate
POB	Point of Beginning
POE	Point of Ending
PROT.	PROTECTION
PVI	Point of Vertical Intersection
R	Radius
R.C.B.	Reinforced Concrete Box
R.C.P.	Reinforced Concrete Pipe
RD.	Road
REINF.	Reinforcing
Ret.	Retaining
Rt.	Right
R/W	Right-of-Way
SC	Soil Cement
S.F.	Square Foot
Symm.	Symmetrical
SD	Side Drain, Storm Drain
SOCWA	South Orange County Wastewater Authority
STD	Standard
T	Tangent
T&B	Top And Bottom
TEMP.	Temporary
TF	Top of Footing
TOB	Top of Bank
TW	Top of Wall
TWA	Temporary Work Area
TYP.	Typical
U/S	Upstream
USACE	United States Army Corps of Engineers
Vert.	Vertical
V.P.I.	Vertical Point of Intersection

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
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ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

INDEX, LEGEND, AND ABBREVIATIONS

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DRAWN BY: JWS
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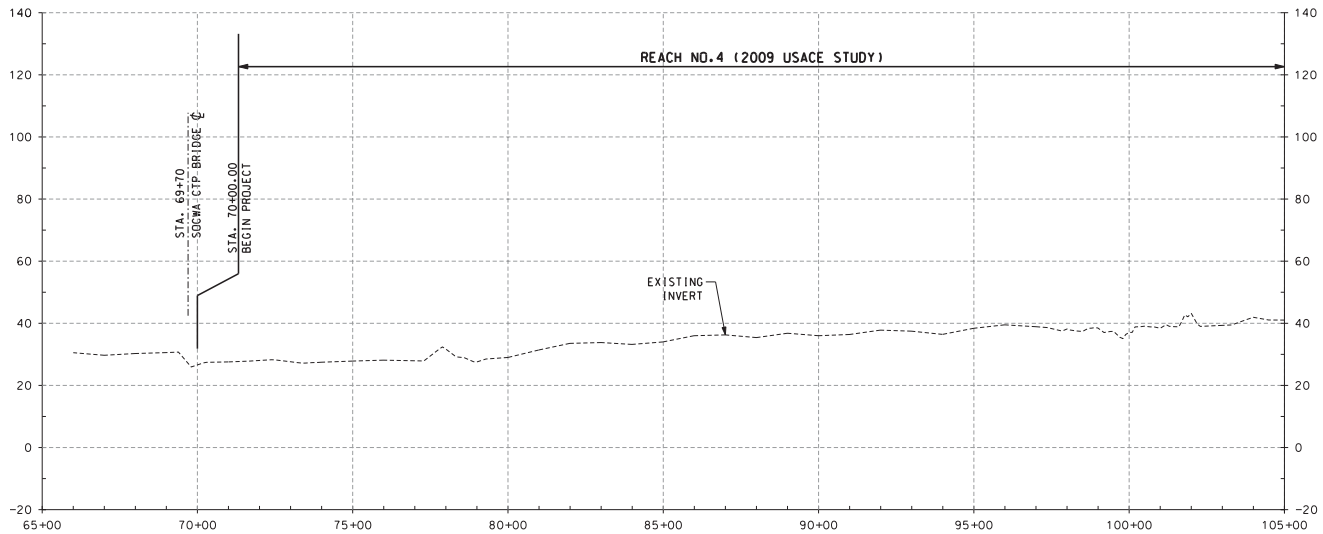
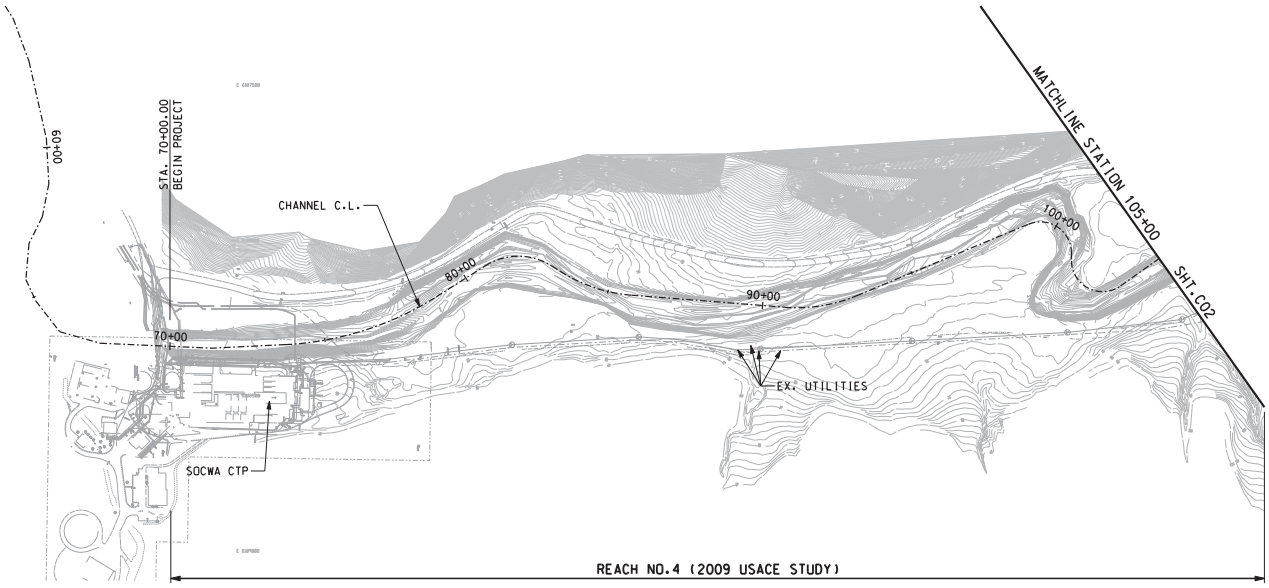
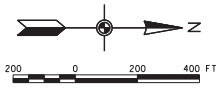


PROFILE ALONG CHANNEL ℄

SCALE: VERTICAL: 1"=20'
HORIZONTAL: 1"=200'

NOTE:
ALTERNATIVE 1 SHOWN HEREON REFLECTS EXISTING CONDITIONS OF ALISO CREEK WITHIN THE PROJECT LIMITS.





SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

PLAN AND PROFILE (1)

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FILE NAME: T32516CF100PLNS.DGN

DISTRICT FILE NO. XXX/???

SPEC. NO. XXXXXX-XX-X-XXXX

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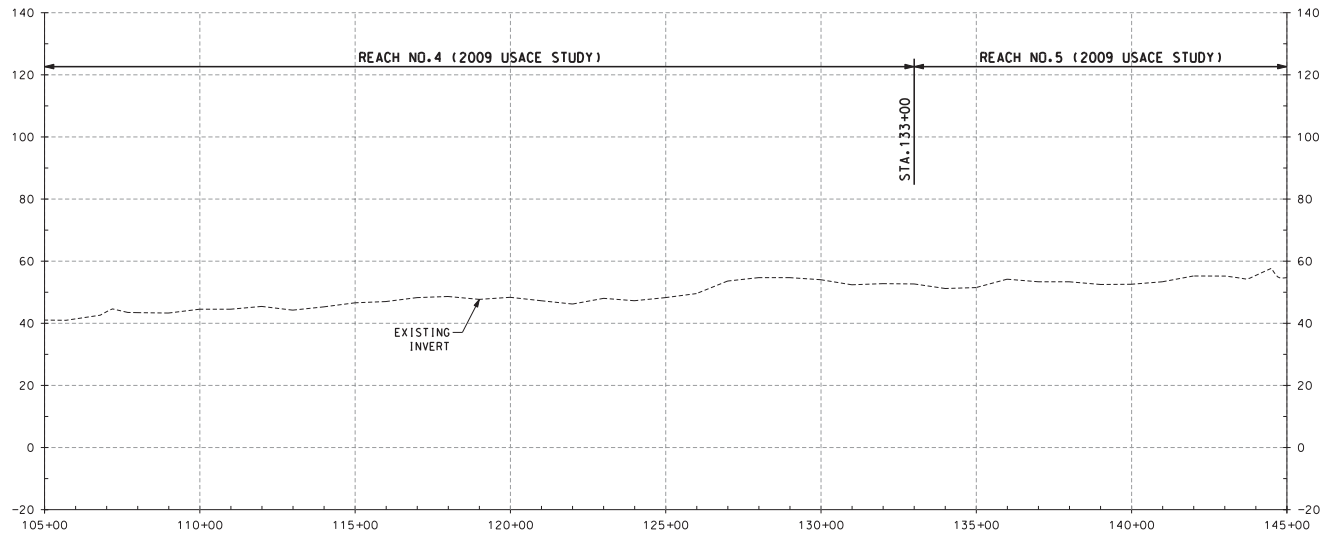

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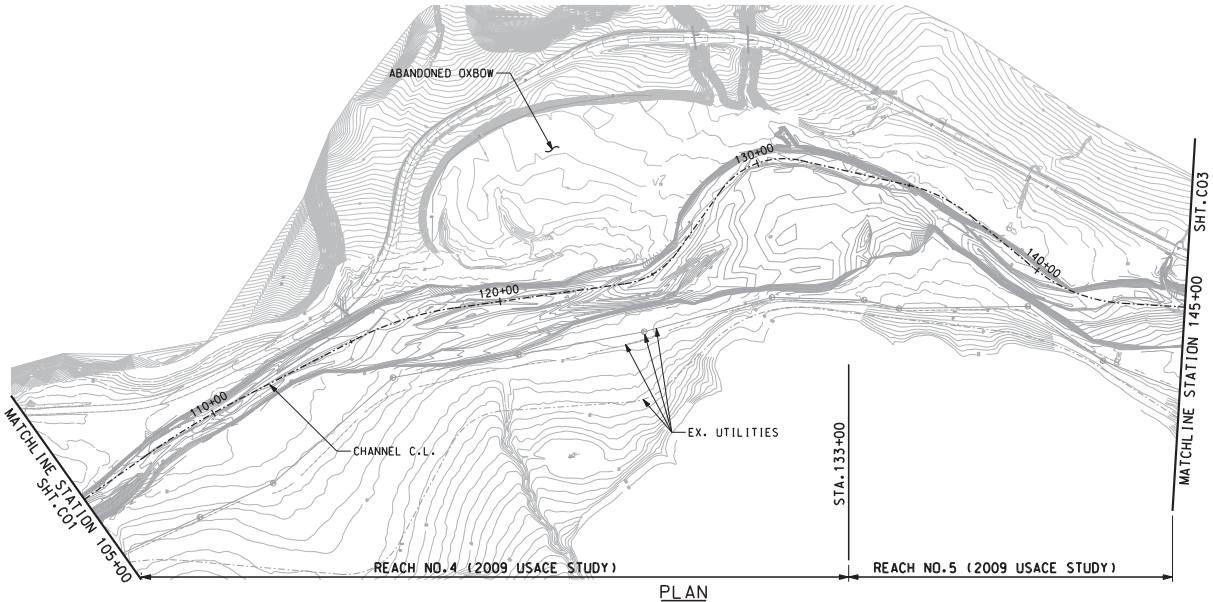

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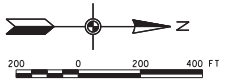

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BIOSOLIDS TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

PLAN AND PROFILE (2)

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CHECKED BY: YHC

FILE NAME: T32516CF100PLNS.DGN

SPEC. NO. XXXXXX-XX-X-XXXX

DISTRICT FILE NO. XXX/???

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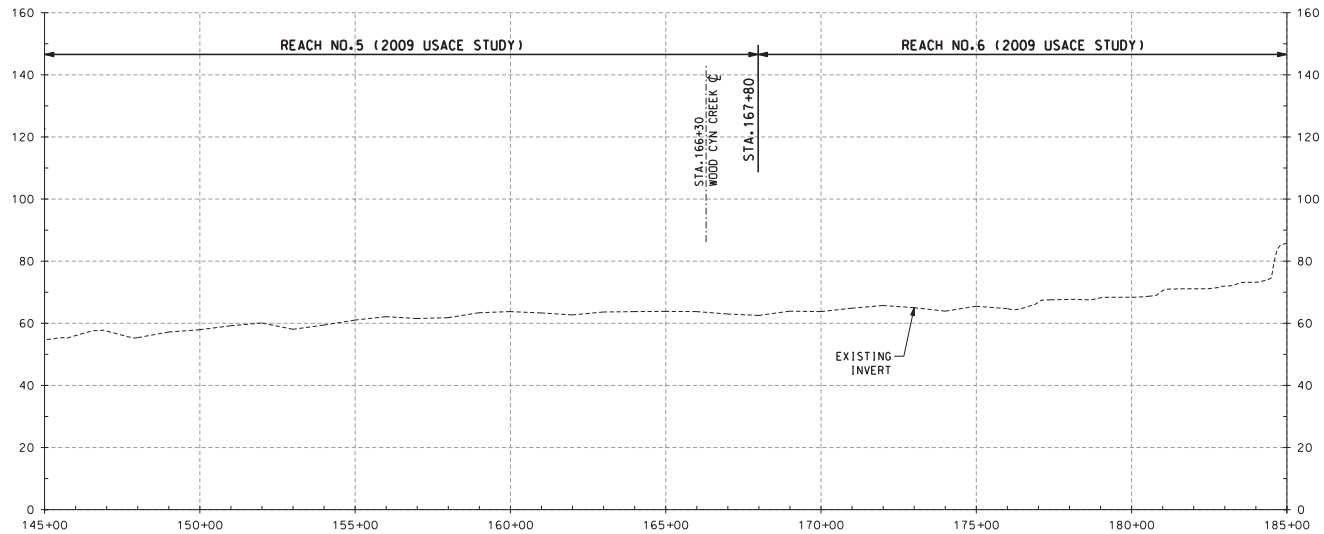

PROFILE ALONG CHANNEL ℄

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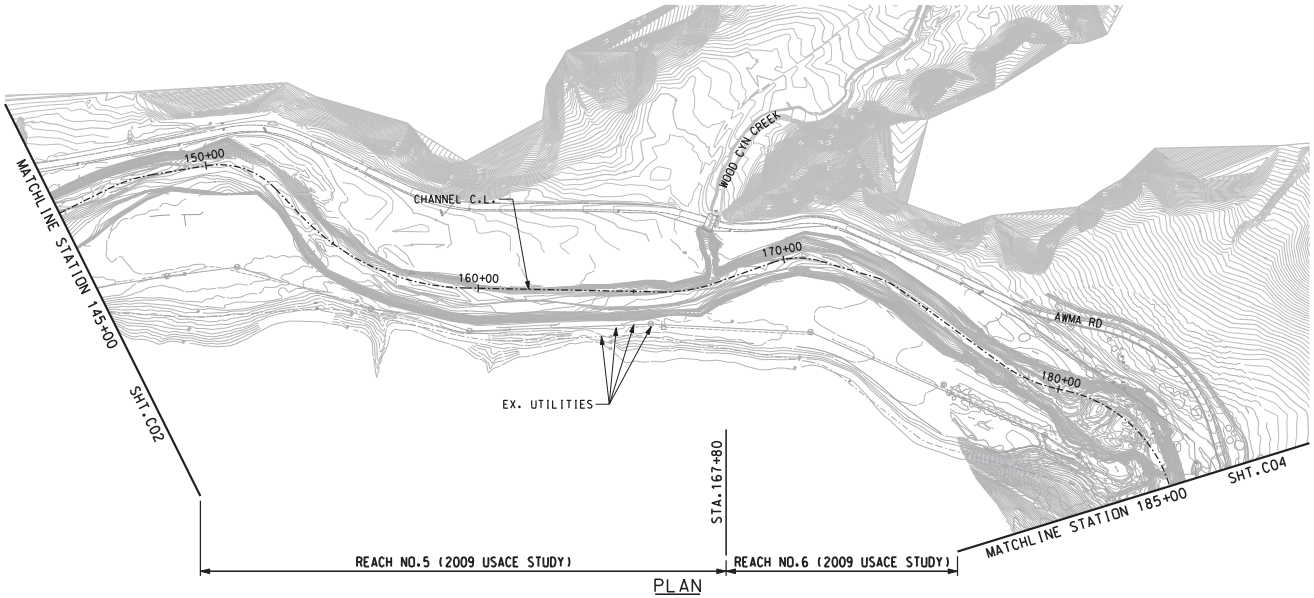

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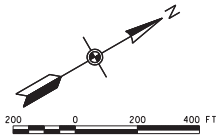

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BROOKS TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

PLAN AND PROFILE (3)

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CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
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FILE NAME: T32516CF100PLNS.DGN

DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX

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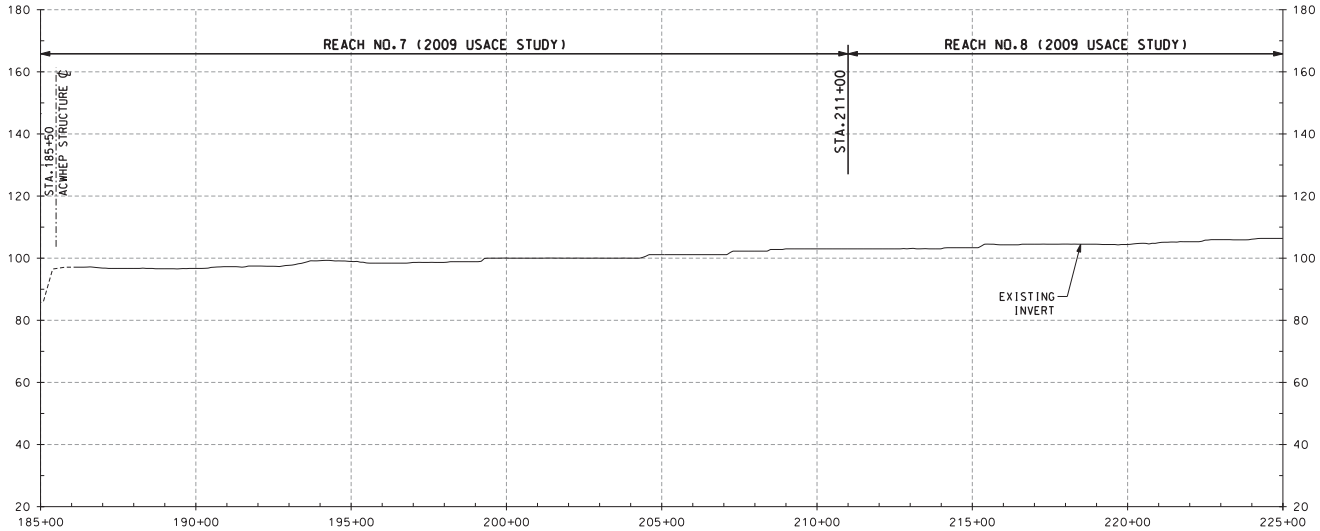

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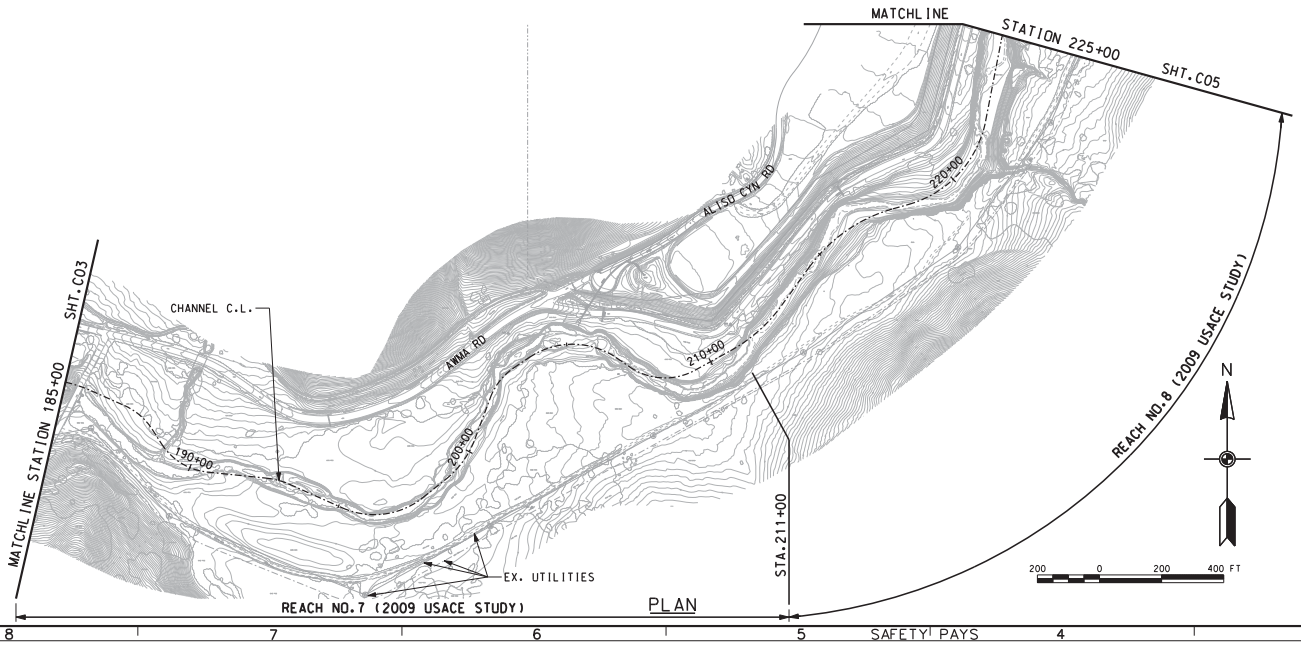

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SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BROOKS TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

PLAN AND PROFILE (4)

U.S. ARMY ENGINEER DISTRICT
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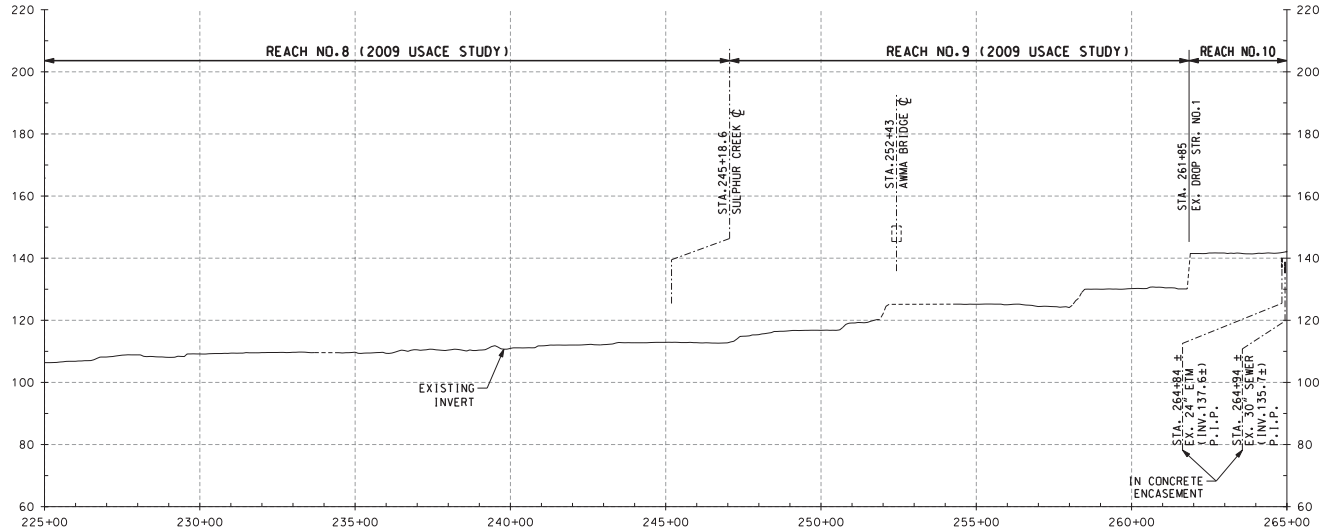

PROFILE ALONG CHANNEL ℄

SCALE: VERTICAL: 1"=20'
HORIZONTAL: 1"=200'

NOTE:
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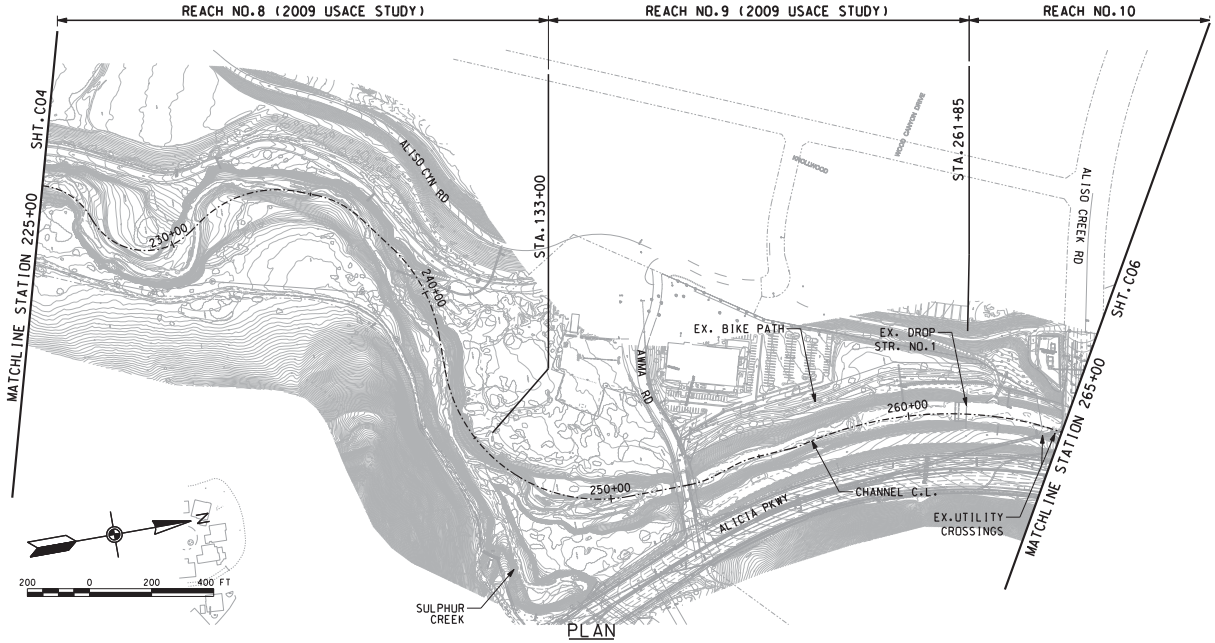

PLAN

SAFETY! PAYS

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BROOKS TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

PLAN AND PROFILE (5)

U.S. ARMY ENGINEER DISTRICT
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FILE NAME: T32516CF100PLNS.DGN

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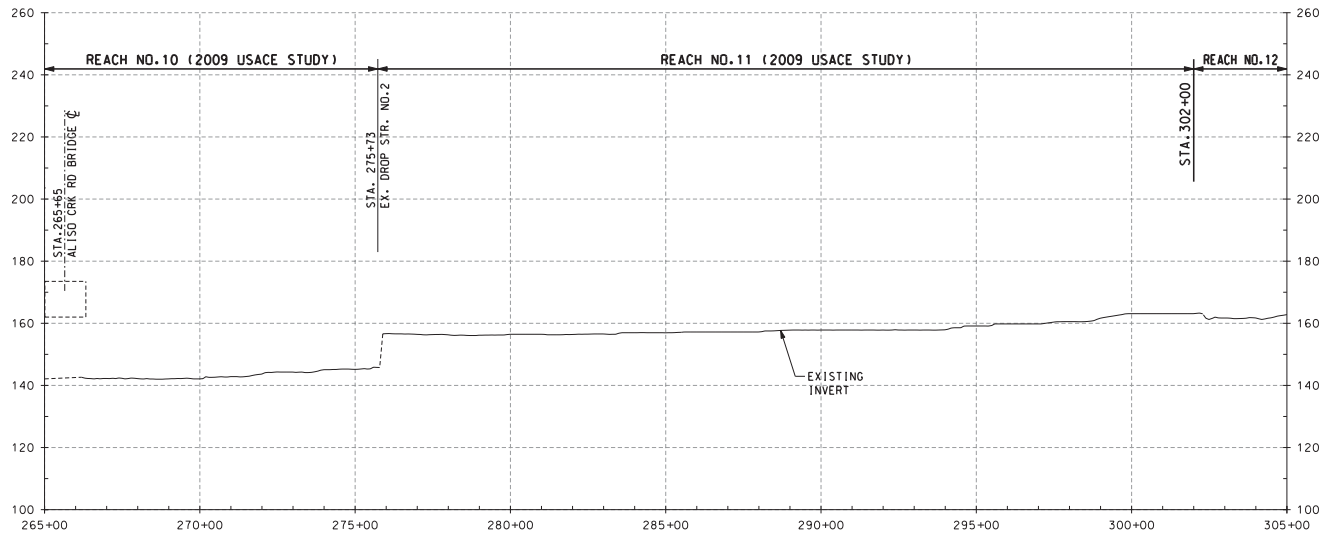

PROFILE ALONG CHANNEL ℄

SCALE: VERTICAL: 1"=20'
HORIZONTAL: 1"=200'

NOTE:
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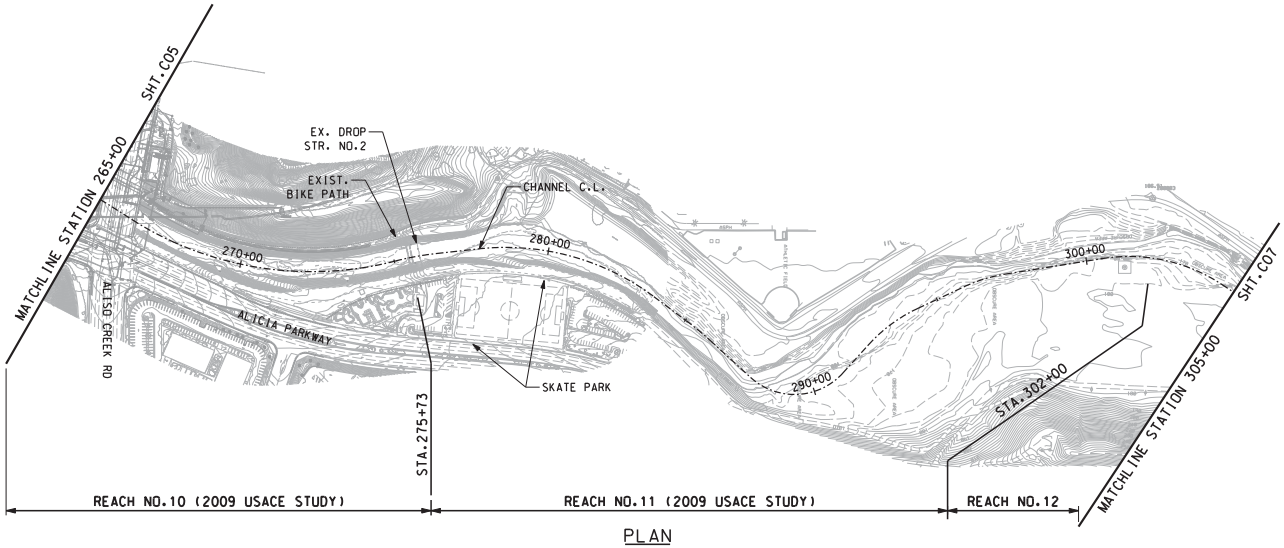

PLAN

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

PLAN AND PROFILE (6)

U.S. ARMY ENGINEER DISTRICT
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FILE NAME: T32516CF100PLNS.DGN

DISTRICT FILE NO. XXX/???

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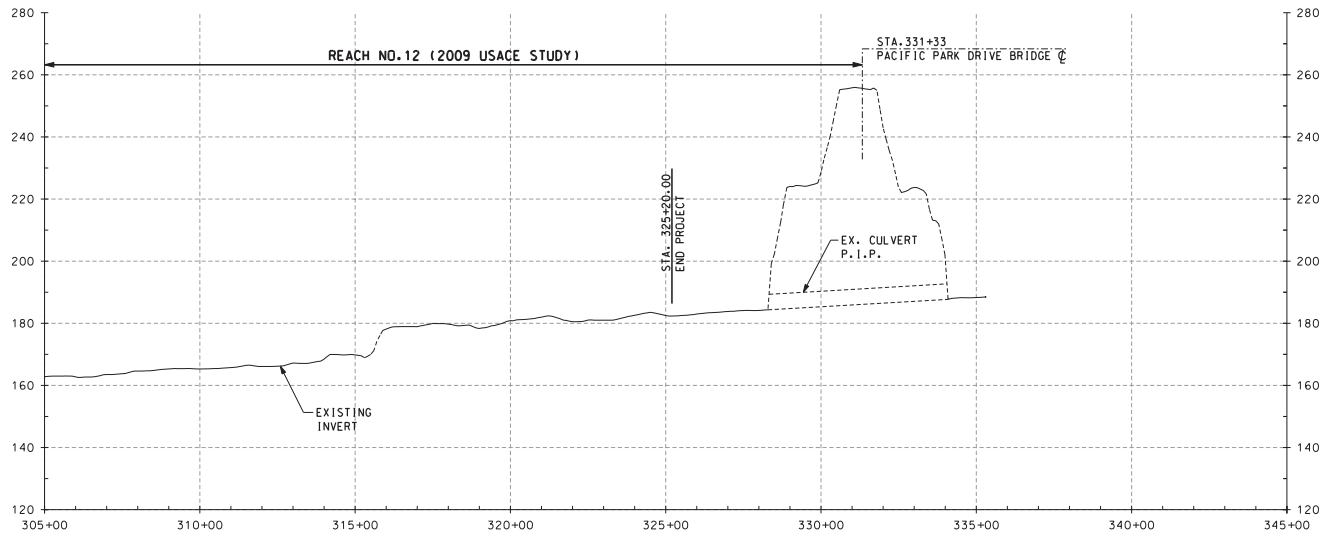

PROFILE ALONG CHANNEL ℄

SCALE: VERTICAL: 1"=20'
HORIZONTAL: 1"=200'

NOTE:
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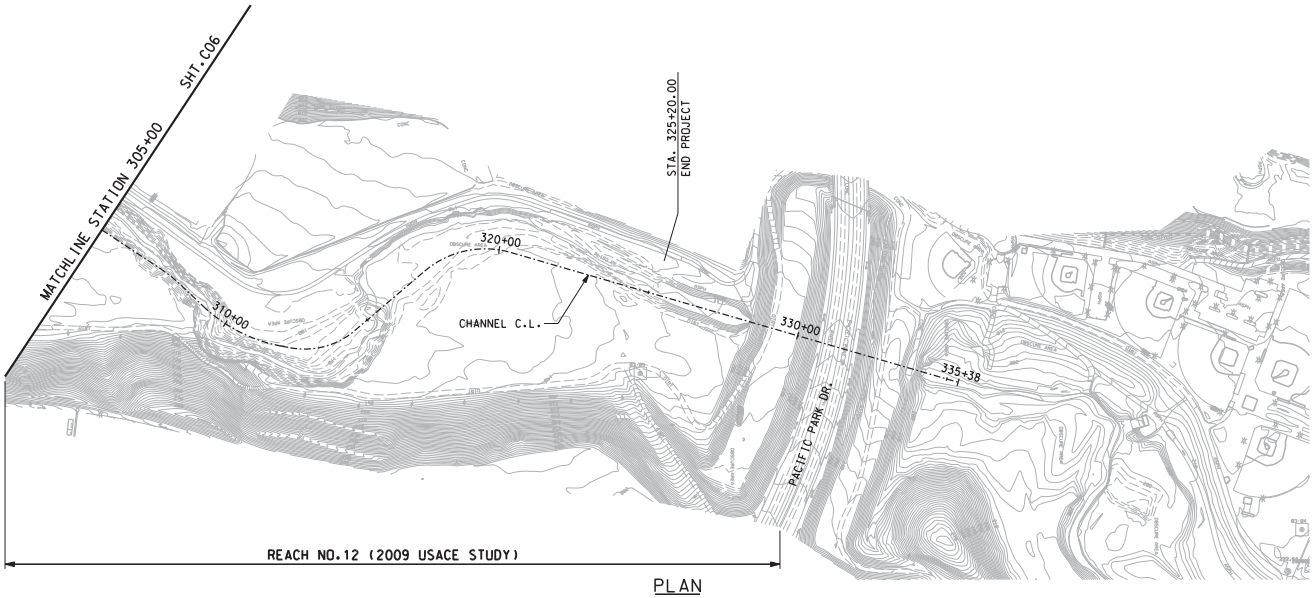
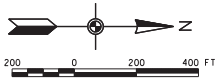


PLAN



SYMBOL	DESCRIPTIONS	DATE	APPROVAL
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ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
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PLAN AND PROFILE (7)

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DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

FILE NAME: T32516CF100PLNS.DGN

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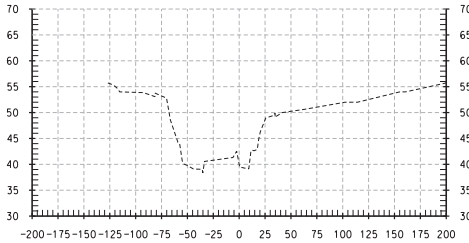

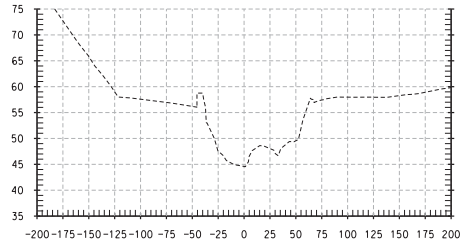

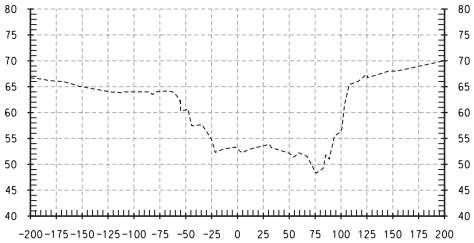

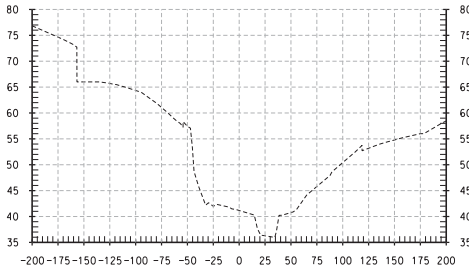

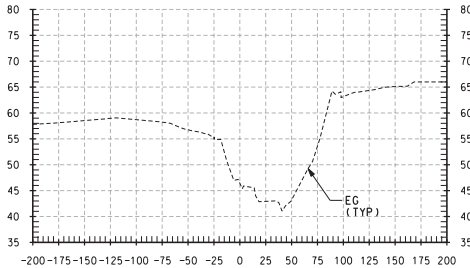

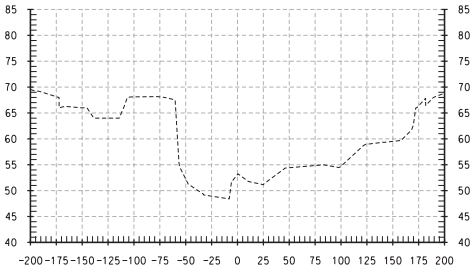

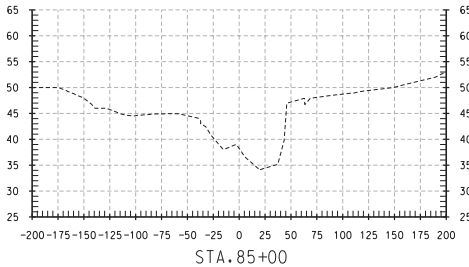

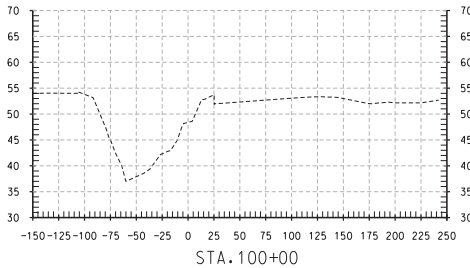

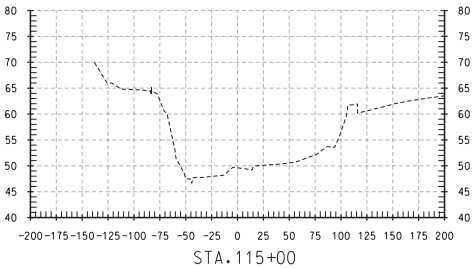

NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.

VERTICAL SCALE: 10 0 10 20 FT

HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA EBROOTS TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

CROSS SECTIONS (1)

TETRA TECH
17885 VON KARMAN AVE, SUITE 500
IRVINE, CALIFORNIA 92614
TEL (949)809-5100 FAX (949)809-5003

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX
FILE NAME: ??????????.DGN

Scale: AS SHOWN

SHEET
C08

Plot Date: #date#

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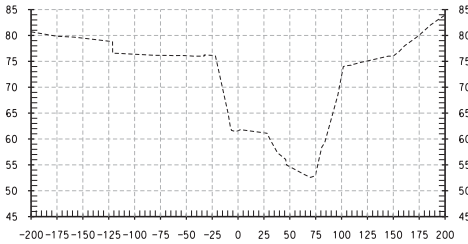
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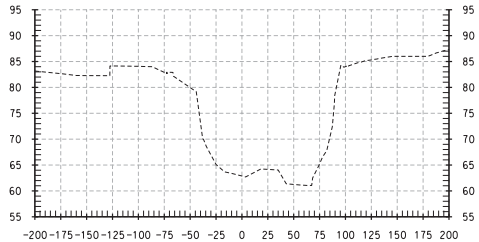
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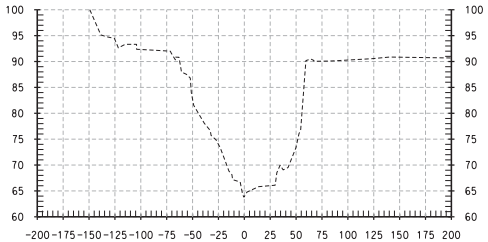
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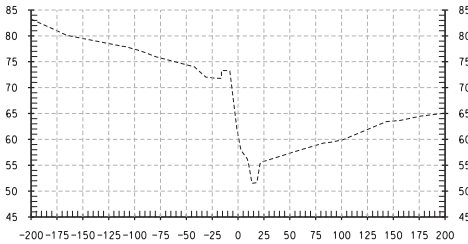
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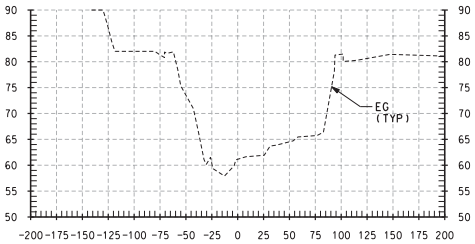

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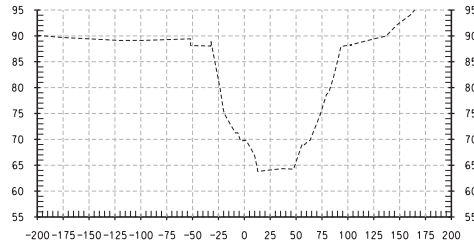
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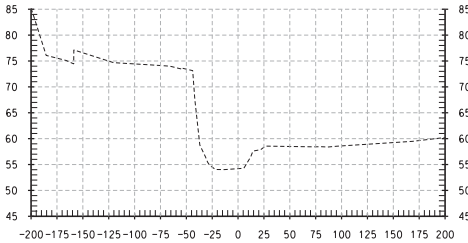
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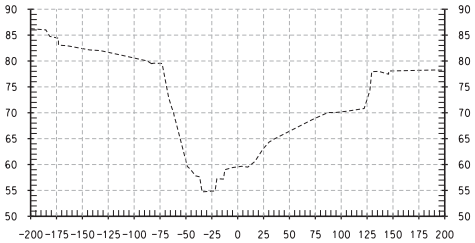
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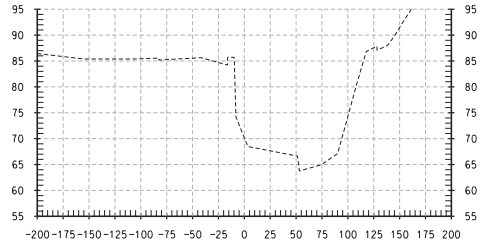
STA.160+00

NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.

VERTICAL SCALE: 10 0 10 20 FT
HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BROOKE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1
CROSS SECTIONS (2)

TETRA TECH
17885 VON KARMAN, SUITE 500
IRVINE, CALIFORNIA 92614
TEL (949)809-5100 FAX (949)809-5003
SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

FILE NAME: ??????????.DGN
SPEC. NO. XXXXXX-XX-X-XXXX
DISTRICT FILE NO. XXX/???

Scale: AS SHOWN
SHEET
C09

Plot Date: $date$

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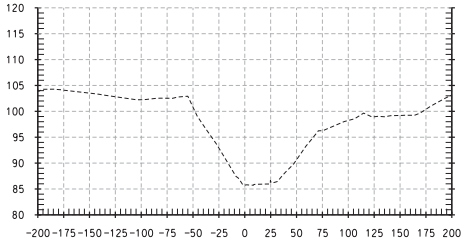

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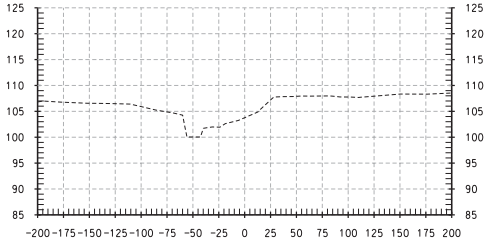

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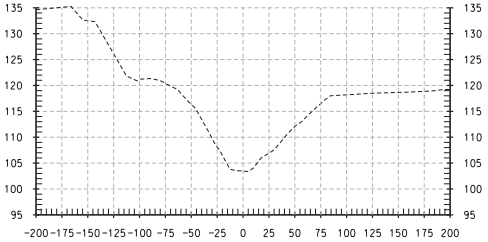

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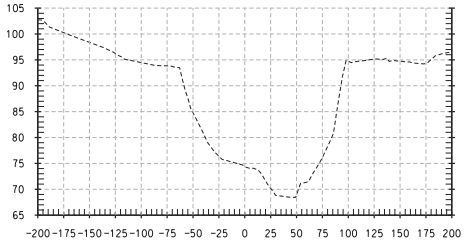

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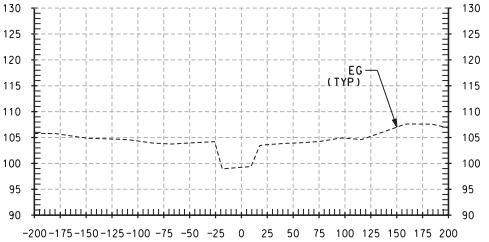

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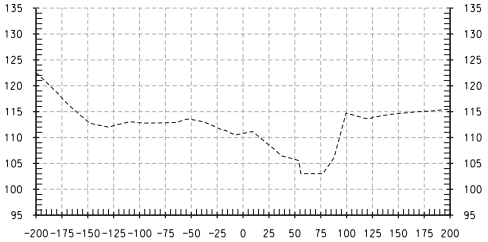

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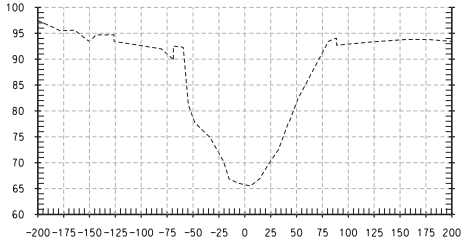

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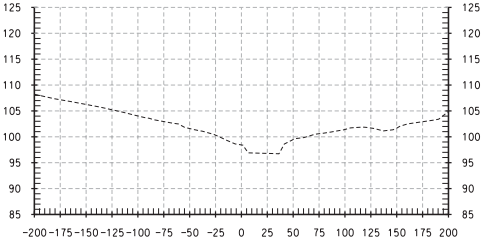

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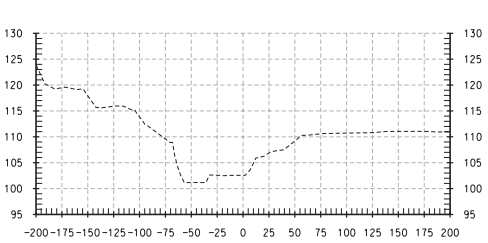

STA.205+00

NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.

VERTICAL SCALE: 10 0 10 20 FT

HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA EROSION TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

CROSS SECTIONS (3)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

TETRA TECH
17885 VON KARMAN AVE. SUITE 500
IRVINE, CALIFORNIA 92614
TEL (949)809-5100 FAX (949)809-5003

SUBMITTED BY: ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

FILE NAME: ??????????.DGN

DISTRICT FILE NO. XXX/???

SPEC. NO. XXXXXX-XX-X-XXXX

Scale: AS SHOWN

SHEET
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Plot Date: #date#

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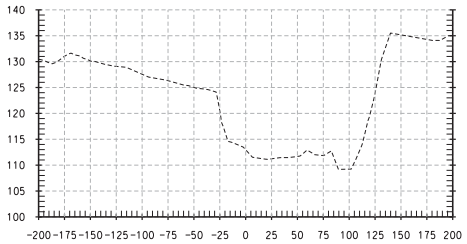
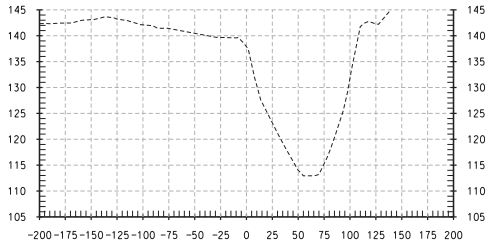


STA.230+00



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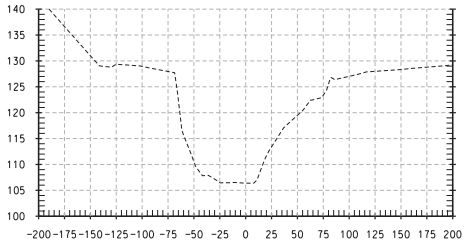

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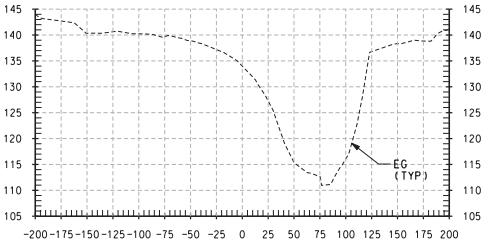

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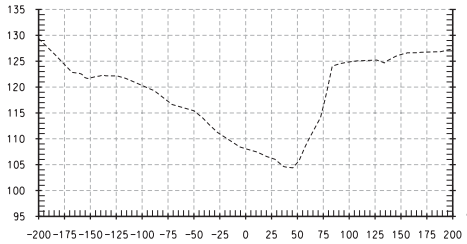
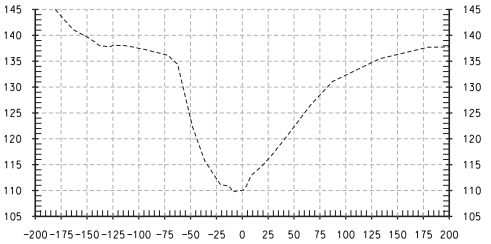
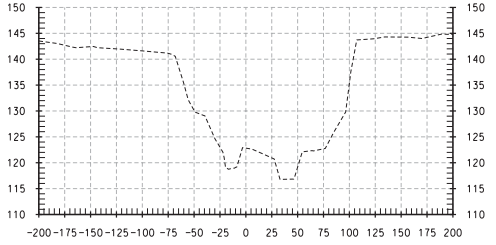


STA.220+00



STA.235+00



STA.250+00

NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.

VERTICAL SCALE: 10 0 10 20 FT

HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BROOKS TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

CROSS SECTIONS (4)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

TETRA TECH
17885 VON KARMAN, SUITE 500
IRVINE, CALIFORNIA 92614
TEL (949)809-5100 FAX (949)809-5003

SUBMITTED BY: ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

FILE NAME: ??????????.DGN

DISTRICT FILE NO. XXX/???

SPEC. NO. XXXXXX-XX-X-XXXX

Scale: AS SHOWN

SHEET
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Plot Date: $date$

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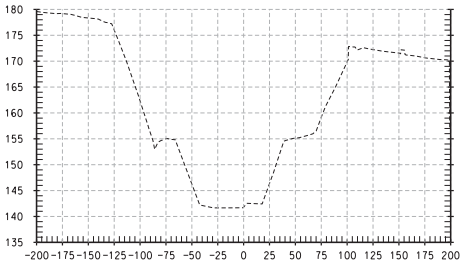

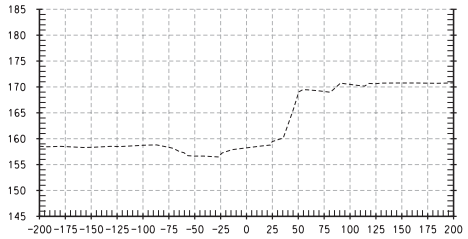

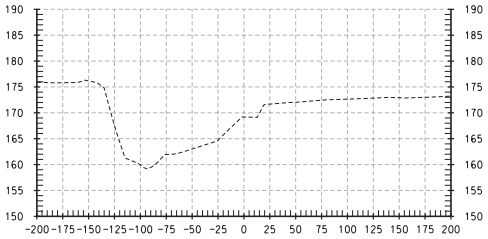

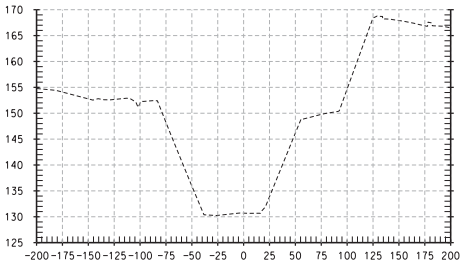

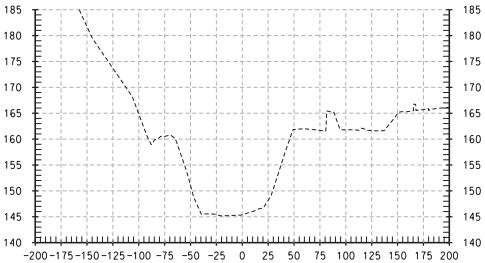

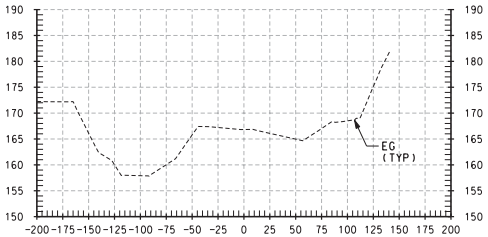

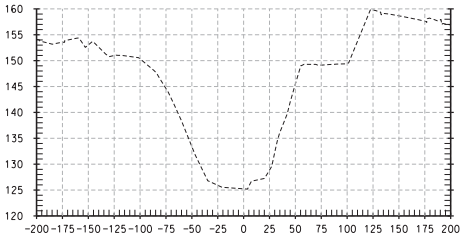

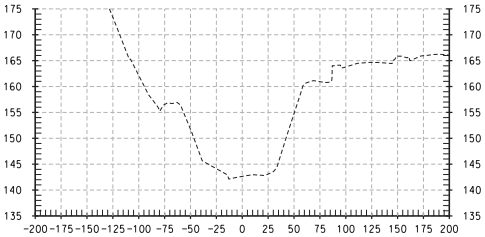

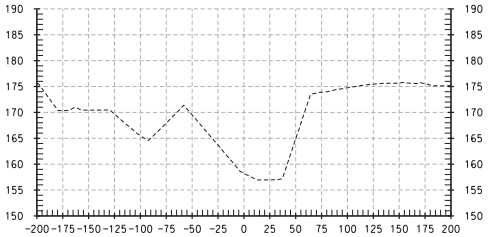

NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.

VERTICAL SCALE: 10 0 10 20 FT

HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA EBROSE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

CROSS SECTIONS (5)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

TETRA TECH
17885 VON KARMAN, SUITE 500
IRVINE, CALIFORNIA 92614
TEL (949)809-5100 FAX (949)809-5003

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

FILE NAME: ??????????.DGN

SPEC. NO. XXXXXX-XX-X-XXXX

DISTRICT FILE NO. XXX/???

Scale: AS SHOWN

SHEET
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Plot Date: #date#

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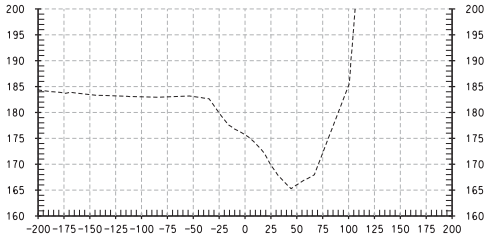

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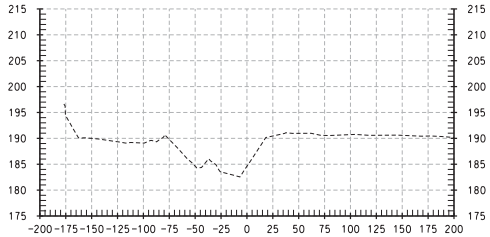

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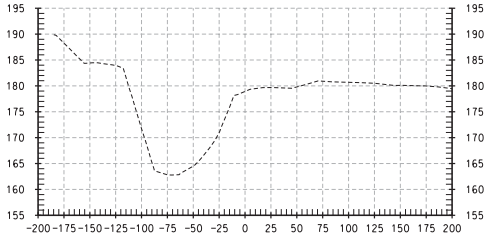

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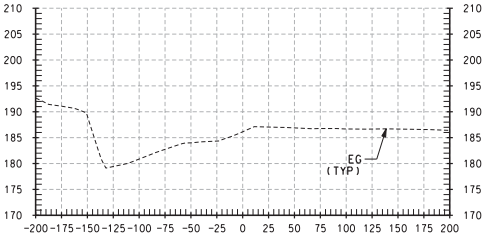

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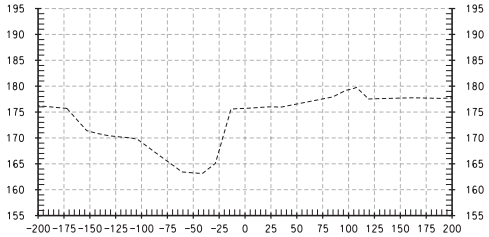

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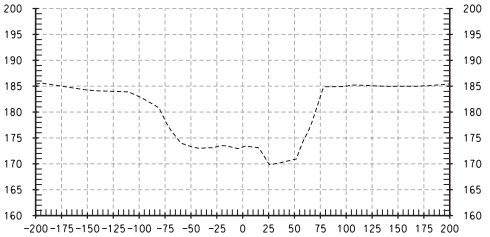

STA.315+00

NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.

VERTICAL SCALE: 10 0 10 20 FT

HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CP BROOKE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.1

CROSS SECTIONS (6)

TETRA TECH
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IRVINE, CALIFORNIA 92614
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SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX
FILE NAME: ??????????.DGN

Scale: AS SHOWN
SHEET
C13

Plot Date: $date$

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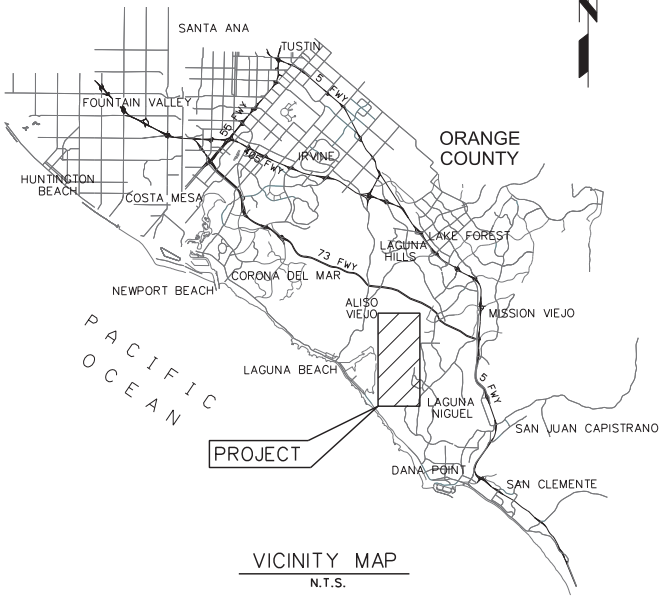
ALISO CREEK MAINSTEM
ECOSYSTEM RESTORATION STUDY - ALTERNATIVE 2
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA



VICINITY MAP
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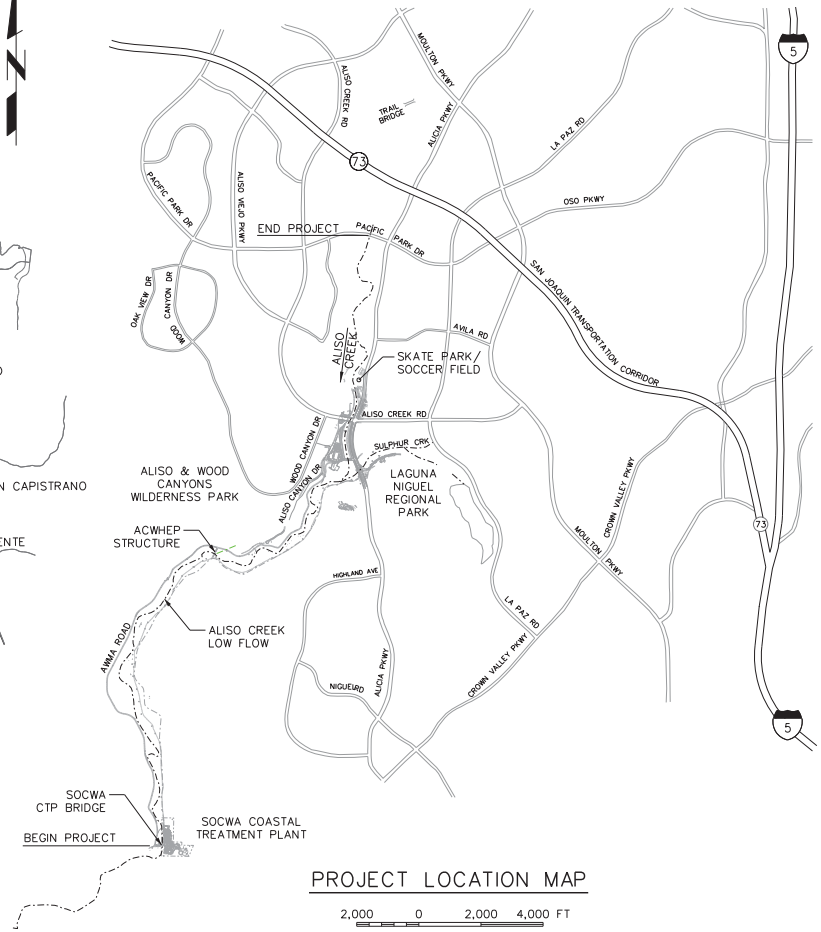
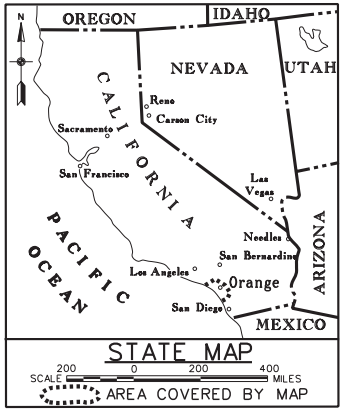


PROJECT LOCATION MAP
2,000 0 2,000 4,000 FT



STATE MAP

LEGEND

15 INTERSTATE HIGHWAY

73 STATE HIGHWAY

THIS DESIGN IS ACCEPTED BY THE LOS ANGELES DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY E.R. 1110-1-8152. SIGNATURES AFFIXED HEREON INDICATE OFFICIAL RECOMMENDATION AND APPROVAL OF ALL THE DRAWINGS IN THIS SET.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA

ALTERNATIVE NO. 2
PROJECT LOCATION AND VICINITY MAPS

TETRA TECH
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U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC
DATE:

PREPARED UNDER THE DIRECTION OF:
COL. KIMBERLY M. COLLOTON
DISTRICT ENGINEER

SUBMITTED BY:
DATE:
CHIEF, DESIGN BRANCH

APPROVED:
CHIEF, ENGINEERING DIVISION

DISTRICT FILE NO. XXX/XXXX
SPEC. NO. XXXXXX-XX-X-XXXX
FILE NAME: XXXX.DGN

Scale: AS SHOWN
SHEET
G01

VALUE ENGINEERING PAYS
SAFETY PAYS

Plot Date: $date$

INDEX TO CONTRACT DRAWINGS

TITLE	SHEET NO.
GENERAL	
PROJECT LOCATION AND VICINITY MAPS	G01
INDEX, LEGEND, AND ABBREVIATIONS	G02
CIVIL	
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PLAN AND PROFILE (2) (BASELINE DESIGN)	C02
PLAN AND PROFILE (3) (BASELINE DESIGN)	C03
PLAN AND PROFILE (4) (ADDITIONAL MEASURE)	C04
PLAN AND PROFILE (5) (ADDITIONAL MEASURE)	C05
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CROSS SECTIONS (3) (BASELINE DESIGN)	C15
CROSS SECTIONS (4) (ADDITIONAL MEASURE)	C16
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GENERAL LEGEND

℄	CENTERLINE	—S—	EXISTING SEWER LINE
PP	POWER POLE	—W—	EXISTING WATER LINE
MH	MANHOLE	—E—	EXISTING ELECTRICAL LINE
	CONTROL LINE	—G—	EXISTING GAS LINE
	RIGHT-OF-WAY	—x—	FENCE

ABBREVIATIONS

A.C.	Asphalt Concrete
ABC	Aggregate Base Course
ACWHEP	Aliso Creek Wetland Habitat Enhancement Project
Ahd.	Ahead
Alt.	Alternate
AM	Additional Measure
B.C.	Begin Horizontal Curve
Bk.	Back
BM	Benchmark
B.V.C.	Begin Vertical Curve
CHAN.	Channel
C.J.	Construction Joint
C.L	Control Line
CLR.	Clearance
C.L.F.	Chain Link Fence
CMP	Corrugated Metal Pipe
CONT.	Continuous
CTP	Coastal Treatment Plant
CY	Cubic Yards
CYN	Canyon
Dbl.	Double
DIA.	Diameter
DIAG.	Diagonal
DG.	Decomposed Granite
D/S	Downstream
Ea.	Each
E.C.	End Horizontal Curve
EG.	Existing Grade
EL/ELV.	Elevation
E.V.C.	End Vertical Curve
EX.	Existing
EXP.JT.	Expansion Joint
F.G.	Finished Grade
FRM	Flood Risk Management
FWY	Freeway
FS	Finish Surface
G.L.	Grade Line
HT.	Height
Horiz.	Horizontal
ID.	Inside Diameter
Int.	Intersection
INV.	INVERT
Jt.	Joint
L	Length
Lbs.	Pounds
L.O.L.	Layout Line
Lt.	Left
MAX.	Maximum
MFR	Manufacturer
M.H.	Manhole
MIN.	Minimum
Misc.	Miscellaneous
No.	Number
O.C.	On Center
OD.	Outside Diameter
OH	Overhead Line
O.C.F.C.D.	Orange County Flood Control District
P.C.	Point of Curvature
P.C.C.	Portland Cement Concrete
PERM	Permanent
PI	Point of Intersection
P.I.P.	Protect In Place
PL.	Plate
POB	Point of Beginning
POE	Point of Ending
PROT.	PROTECTION
PVI	Point of Vertical Intersection
R	Radius
R.C.B.	Reinforced Concrete Box
R.C.P.	Reinforced Concrete Pipe
RD.	Road
REINF.	Reinforcing
Ret.	Retaining
Rt.	Right
R/W	Right-of-Way
SC	Soil Cement
S.F.	Square Foot
Symm.	Symmetrical
SD	Side Drain, Storm Drain
SOCWA	South Orange County Wastewater Authority
STD	Standard
T	Tangent
T&B	Top And Bottom
TEMP.	Temporary
TF	Top of Footing
TOB	Top of Bank
TW	Top of Wall
TWA	Temporary Work Area
TYP.	Typical
U/S	Upstream
USACE	United States Army Corps of Engineers
Vert.	Vertical
V.P.I.	Vertical Point of Intersection

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2

INDEX, LEGEND, AND ABBREVIATIONS

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
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U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

FILE NAME: 1325160020X.DGN

DISTRICT FILE NO.239/3202 REV.4 SPEC. NO. XXXXXX-XX-X-XXXX

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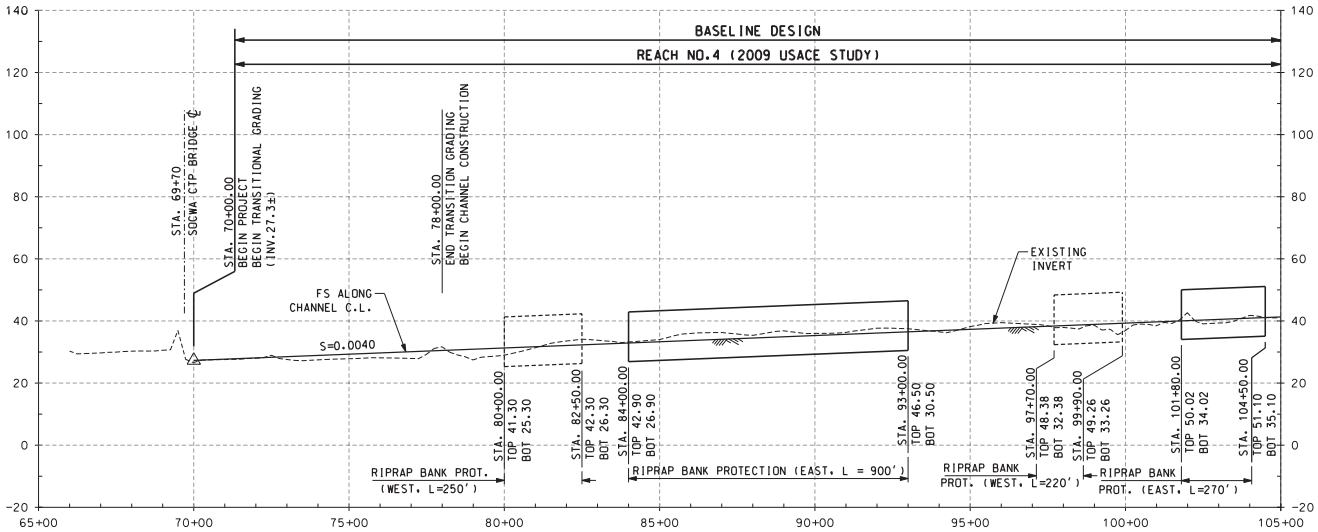

PROFILE ALONG CHANNEL ℄

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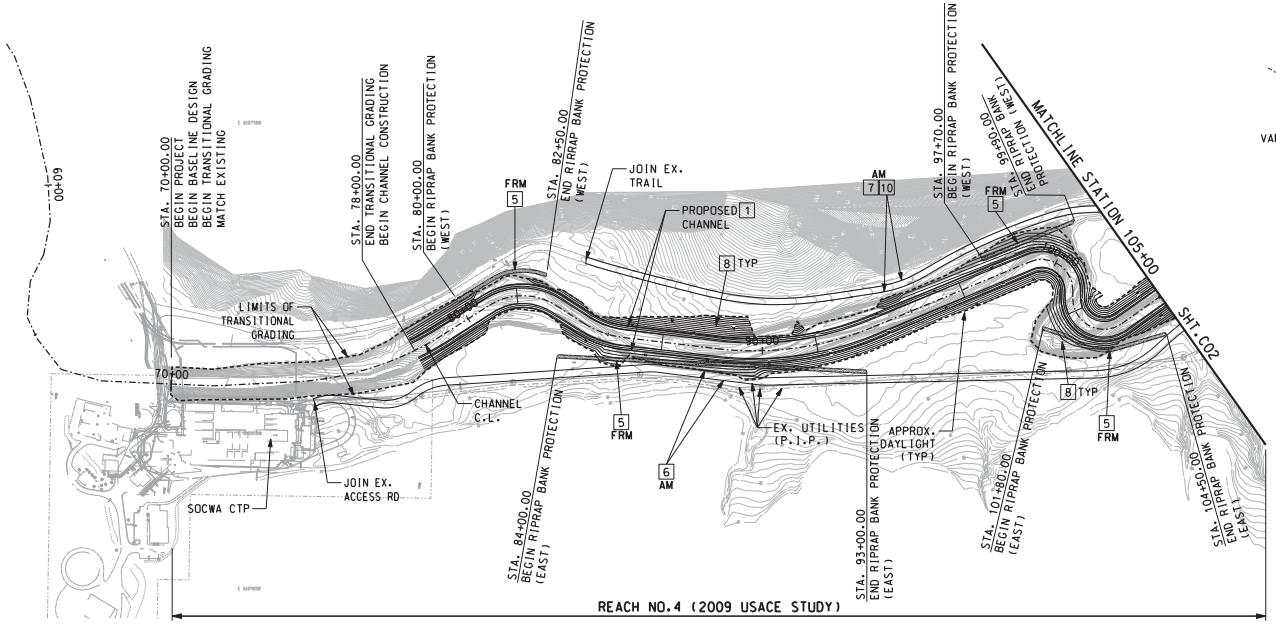
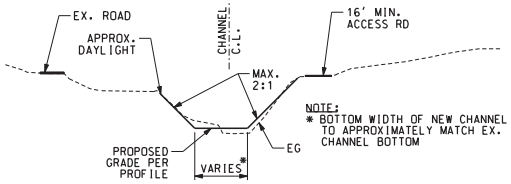
HORIZONTAL: 1"=200'



CONSTRUCTION NOTES

1. CONSTRUCT EARTHEN CHANNEL PER PLAN AND PROFILE HEREON, AND TYPICAL SECTIONS ON SHT. C08.
5. CONSTRUCT RIPRAP BANK PROTECTION PER PLAN HEREON AND DETAILS ON SHT. C08.
6. CONSTRUCT 6" AC, 16' WIDE ACCESS ROAD PER PLAN HEREON. (ADDITIONAL MEASURE A)
7. CONSTRUCT 4" DG, 12' WIDE ROAD PER PLAN HEREON. (ADDITIONAL MEASURE B)
8. HYDROSEED SLOPES PER PLAN HEREON.
10. REMOVE AND DISPOSE OF EX. AC PAVEMENT PER PLAN HEREON.



TYP. SECTION - STA.70+00 TO 78+00

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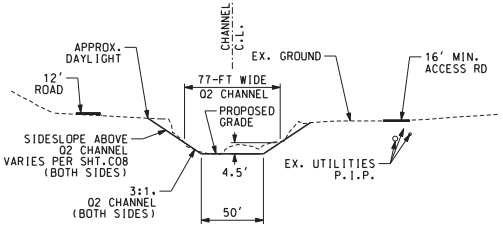

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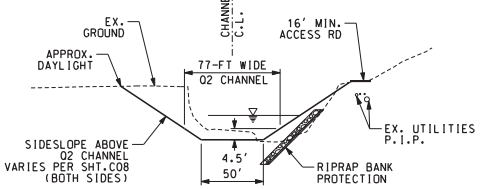

TYP. SECTION AT BEND

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N

200 0 200 400 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2

PLAN AND PROFILE (1) (BASELINE DESIGN)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC
FILE NAME: T32516CF100PLANS.DGN

TETRA TECH
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TEL. (949)809-5100 FAX. (949)809-5003

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

SPEC. NO. XXXXXX-XX-X-XXXX

DISTRICT FILE NO. XXX/???

Scale: AS SHOWN

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Plot Date: $date$
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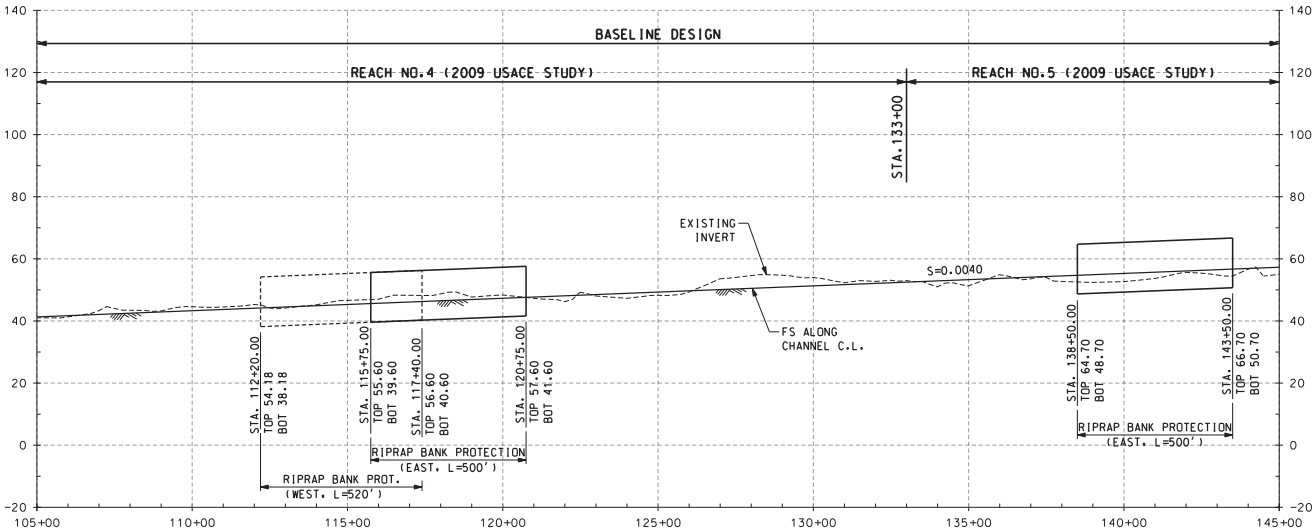
VALUE ENGINEERING PAYS



PROFILE ALONG CHANNEL ℄

SCALE: VERTICAL: 1"=20'
HORIZONTAL: 1"=200'

CONSTRUCTION NOTES

1. CONSTRUCT EARTHEN CHANNEL PER PLAN AND PROFILE HEREON, AND TYPICAL SECTIONS ON SHT. C08.
5. CONSTRUCT RIPRAP BANK PROTECTION PER PLAN HEREON AND DETAILS ON SHT. C08.
6. CONSTRUCT 6" AC, 16' WIDE ACCESS ROAD PER PLAN HEREON. (ADDITIONAL MEASURE A)
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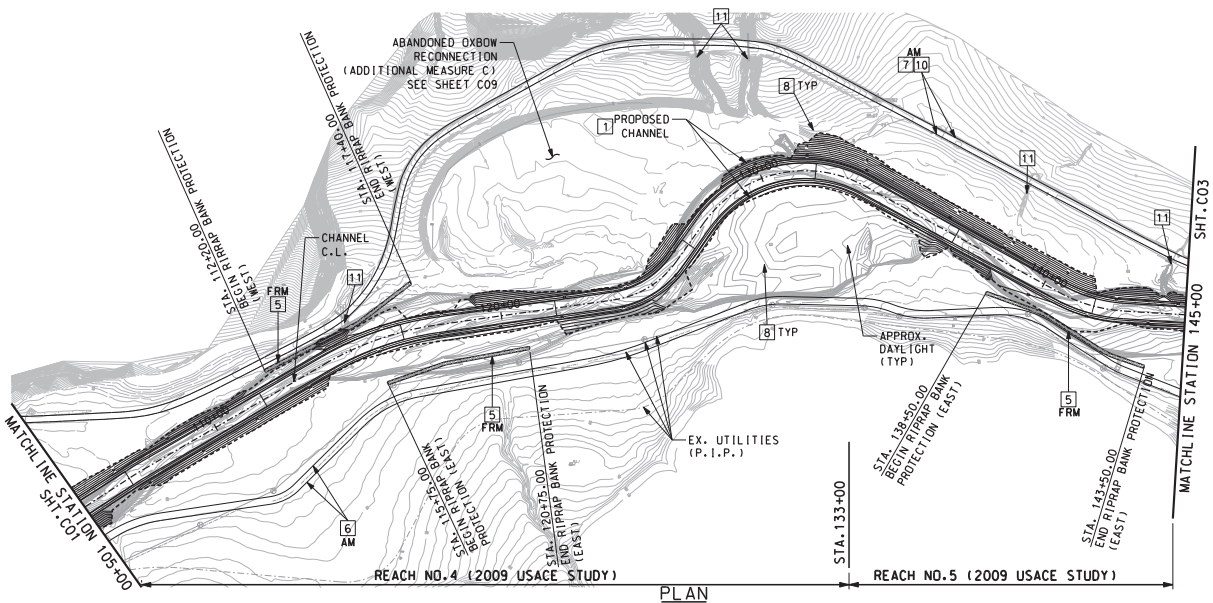
8. HYDROSEED SLOPES PER PLAN HEREON.
10. REMOVE AND DISPOSE OF EX. AC PAVEMENT PER PLAN HEREON.
11. CONSTRUCT RIPRAP DOWNDRAIN FOR EX. PIPE OUTLET PER PLAN HEREON AND DETAILS ON SHT. C09.



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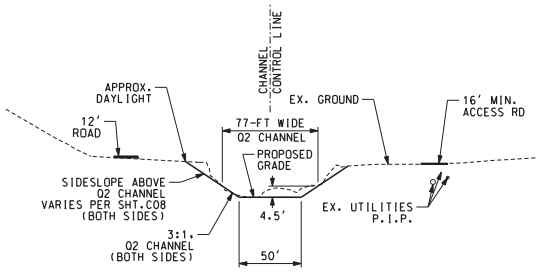

TYP. SECTION - STA.105+00 TO 145+00

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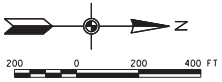

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
PLAN AND PROFILE (2)
(BASELINE DESIGN)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC
FILE NAME: T32516CF100PLANS.DGN

TETRA TECH
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SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

SPEC. NO. XXXXXX-XX-X-XXXX
DISTRICT FILE NO. XXX/???

Scale: AS SHOWN
SHEET
C02

SAFETY PAYS

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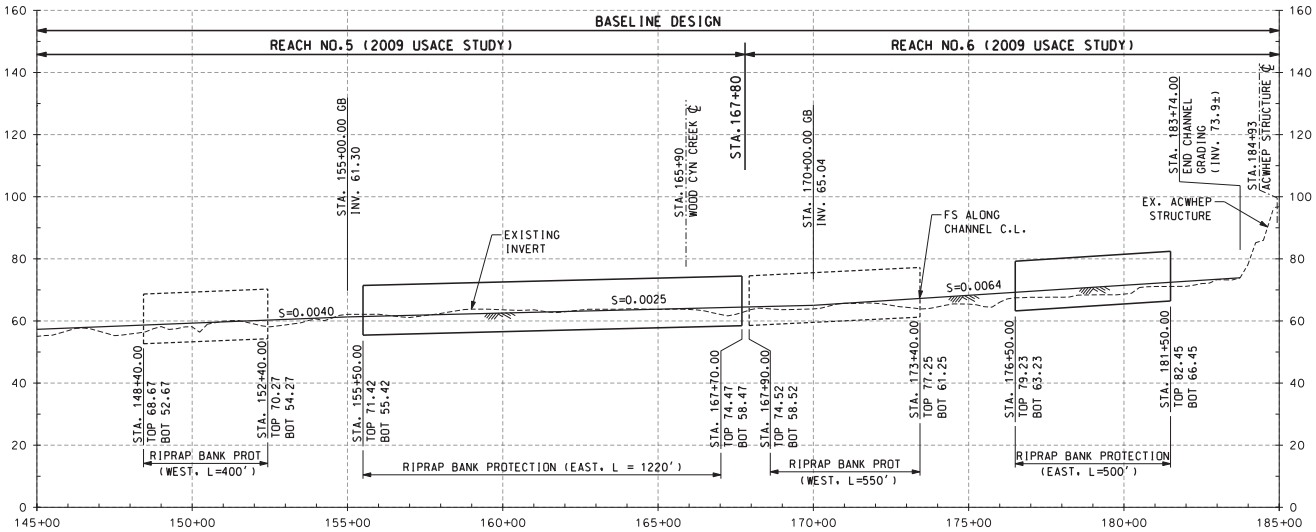

PROFILE ALONG CHANNEL ℄

SCALE: VERTICAL: 1"=20'
HORIZONTAL: 1"=200'

CONSTRUCTION NOTES

1. CONSTRUCT EARTHEN CHANNEL PER PLAN AND PROFILE HEREON, AND TYPICAL SECTIONS ON SHT. C08.
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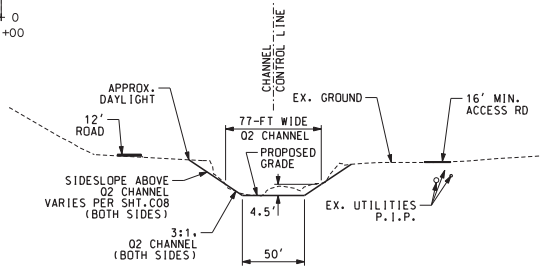
8. HYDROSEED SLOPES PER PLAN HEREON.
10. REMOVE AND DISPOSE OF EX. AC PAVEMENT PER PLAN HEREON.
11. CONSTRUCT RIPRAP DOWNDRAIN FOR EX. PIPE OUTLET PER PLAN HEREON AND DETAILS ON SHT. C09.
19. REPAIR EX. TOE OF ACWHEP STRUCTURE PER PLAN HEREON.



TYP. SECTION - STA.145+00 TO 183+74

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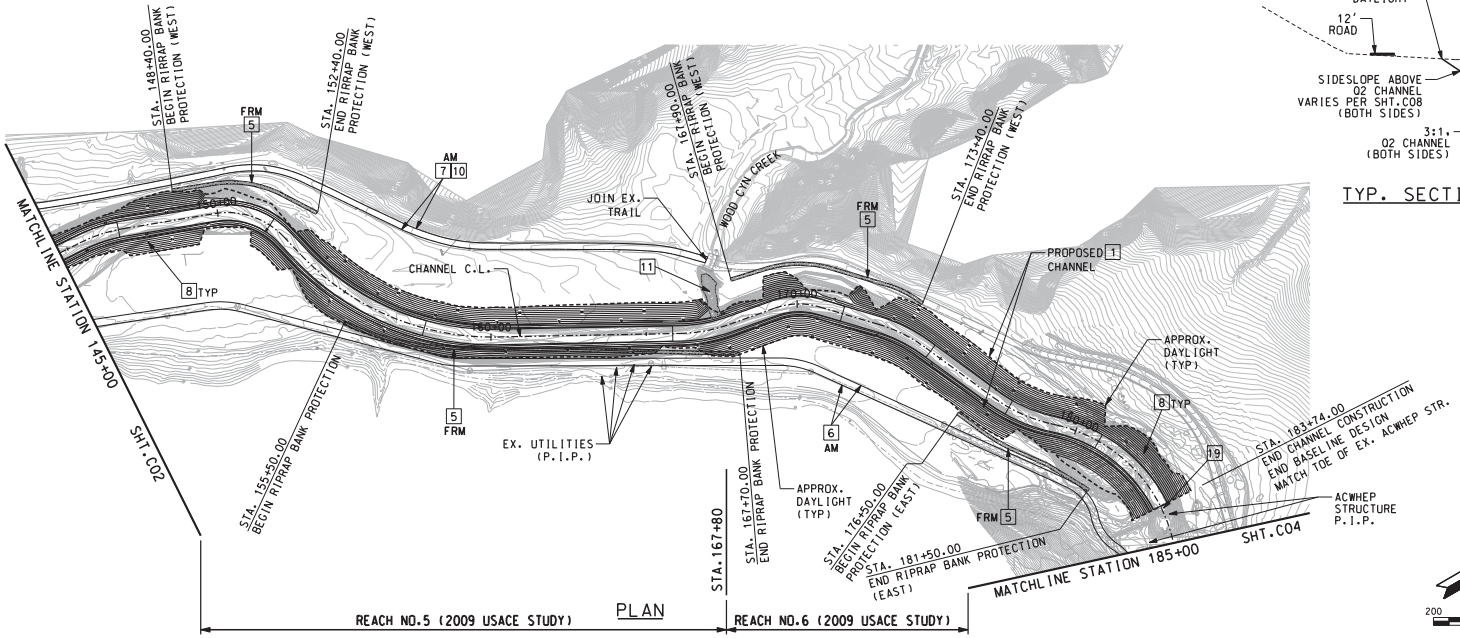
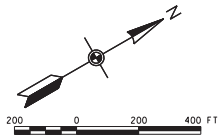


PLAN



SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
PLAN AND PROFILE (3)
(BASELINE DESIGN)

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
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SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC
FILE NAME: T32516CF100PLANS.DGN

DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX

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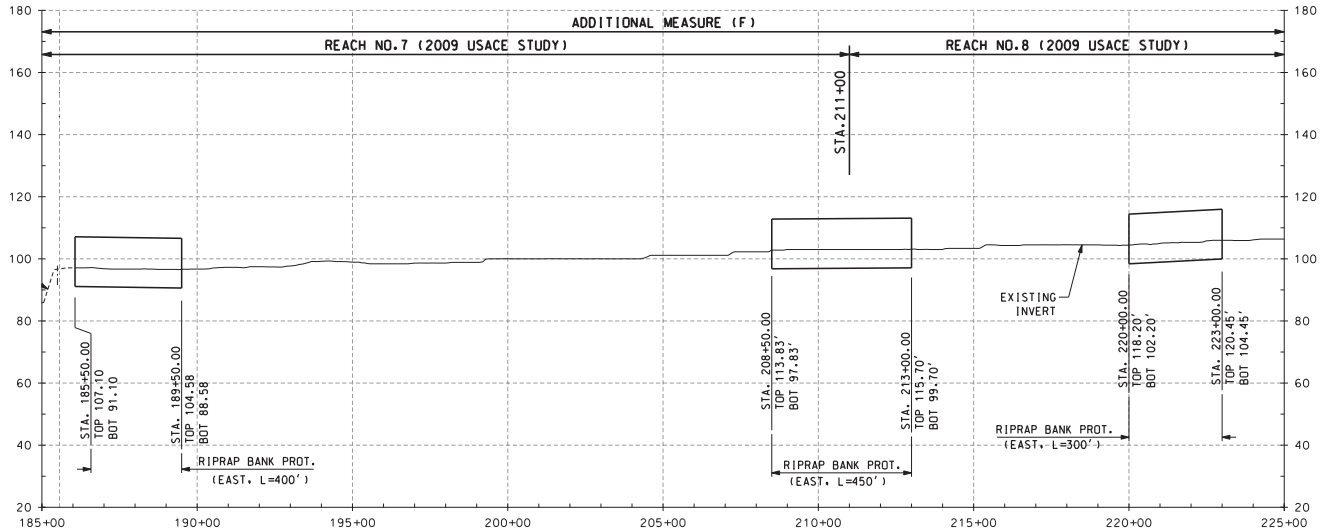


PROFILE ALONG CHANNEL ℄

SCALE: VERTICAL: 1"=20'
HORIZONTAL: 1"=200'

CONSTRUCTION NOTES

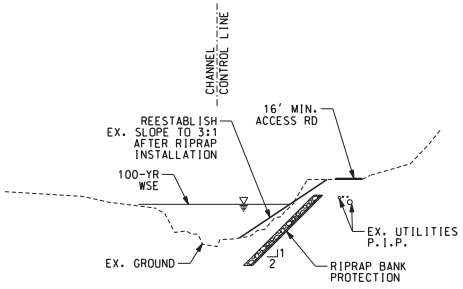
5 CONSTRUCT RIPRAP BANK PROTECTION PER PLAN HEREON AND DETAILS ON SHT. C08.

6 CONSTRUCT 6" AC. 16' WIDE ACCESS ROAD PER PLAN HEREON. (ADDITIONAL MEASURE A)

20 RE-CONTOUR EX. BANKS TO STABLE (3(H):1(V)) SLOPE PER PLAN AND TYP. SECTION HEREON. (ADDITIONAL MEASURE F)

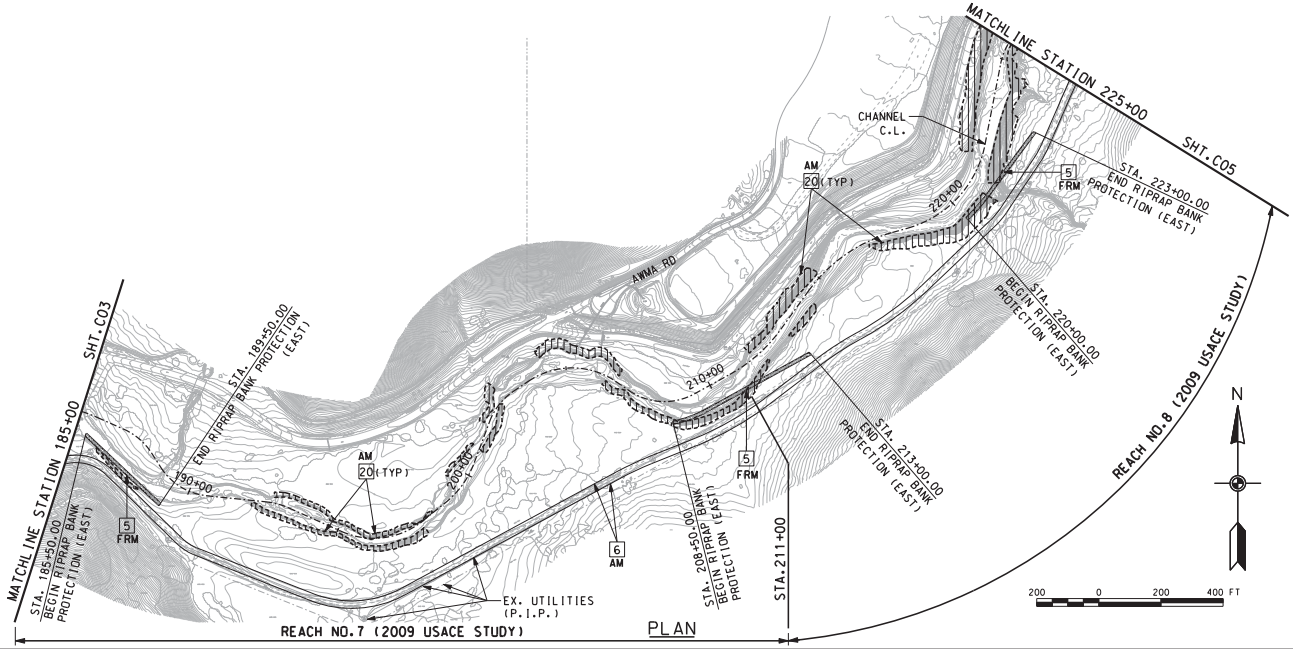
TYP. SECTION - STA.185+00 TO 225+00

N.T.S.



TYP. SECTION - RIPRAP BANK PROTECTION

N.T.S.



PLAN

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
PLAN AND PROFILE (4)
(ADDITIONAL MEASURE)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

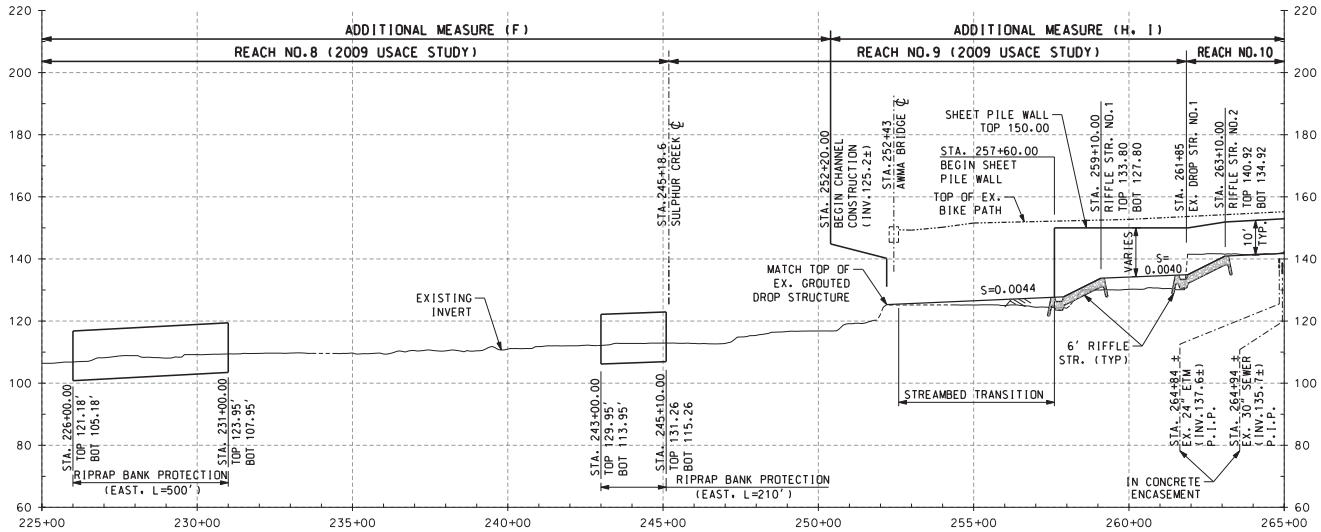
DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC
FILE NAME: T32516CF100PLANS.DGN

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614-5203
TEL. (949)809-5100 FAX. (949)809-5003

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

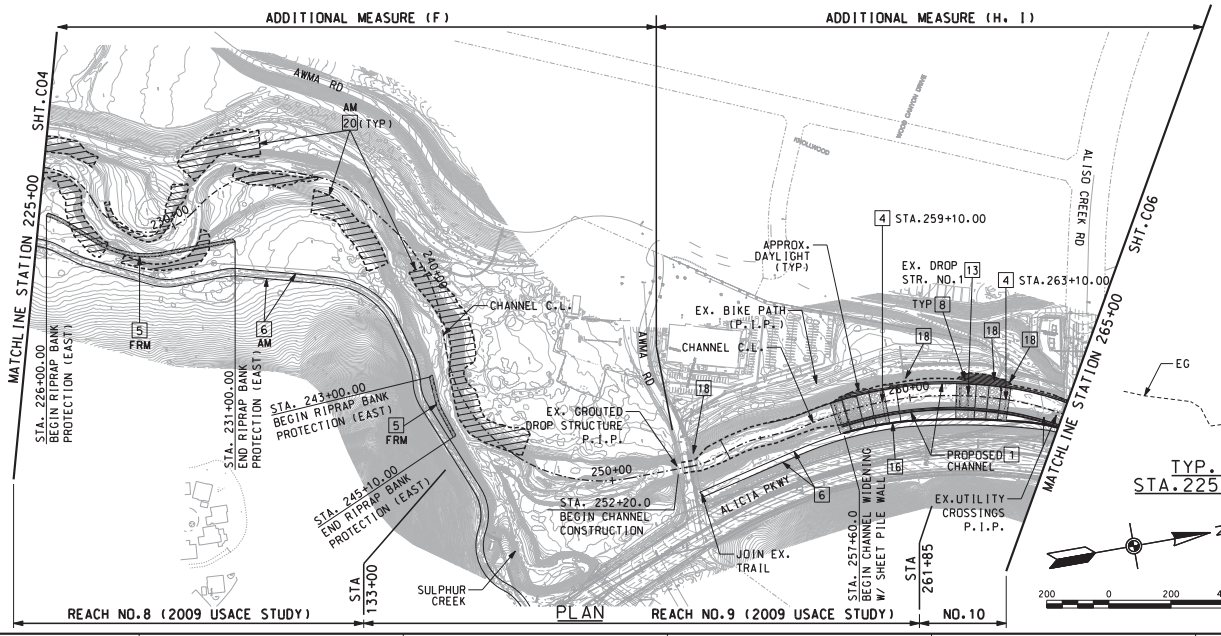
DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX

Scale: AS SHOWN
SHEET
C04



PROFILE ALONG CHANNEL ℄

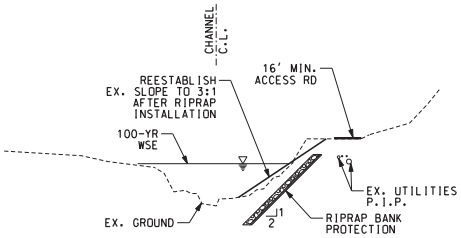
SCALE: VERTICAL: 1"=20'
HORIZONTAL: 1"=200'



PLAN

CONSTRUCTION NOTES

1. CONSTRUCT EARTHEN CHANNEL PER PLAN AND PROFILE HEREON, AND TYPICAL SECTIONS ON SHT. C08.
4. CONSTRUCT 6' RIFFLE STRUCTURE PER PLAN AND PROFILE HEREON, AND DETAILS ON SHT. C09.
5. CONSTRUCT RIPRAP BANK PROTECTION PER PLAN HEREON AND DETAILS ON SHT. C08.
6. CONSTRUCT 6" AC, 16' WIDE ACCESS ROAD PER PLAN HEREON. (ADDITIONAL MEASURE A)
8. HYDROSEED SLOPES PER PLAN HEREON.
13. REMOVE AND DISPOSE OF EXISTING DROP STRUCTURE PER PLAN HEREON. (ADDITIONAL MEASURE H)
16. CONSTRUCT SHEET PILE WALL PER PLAN AND PROFILE HEREON AND DETAILS ON SHT. C08.
18. MODIFY EX. STORM DRAIN OUTLET TO JOIN PROPOSED CHANNEL PER PLAN HEREON.
20. RE-CONTOUR EX. BANKS TO STABLE (3(H):1(V)) SLOPE PER PLAN AND TYP. SECTION HEREON. (ADDITIONAL MEASURE F)



TYP. SECTION - RIPRAP BANK PROTECTION (STA.225+00 TO 252+20)

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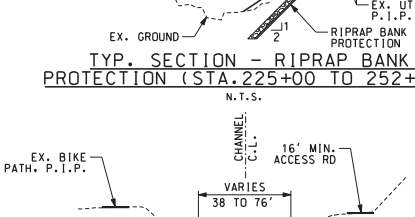
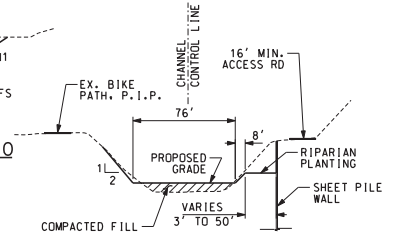


TYP. SECTION - STA.252+20 TO 257+60

N.T.S.

TYP. SECTION - STA.225+00 TO 252+20

N.T.S.



TYP. SECTION - STA.257+60 TO 265+00

N.T.S.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
PLAN AND PROFILE (5)
(ADDITIONAL MEASURE)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC
FILE NAME: T32516CF100PLANS.DGN

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614
TEL. (949)809-5100 FAX. (949)809-5003

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX

Scale: AS SHOWN
SHEET
C05

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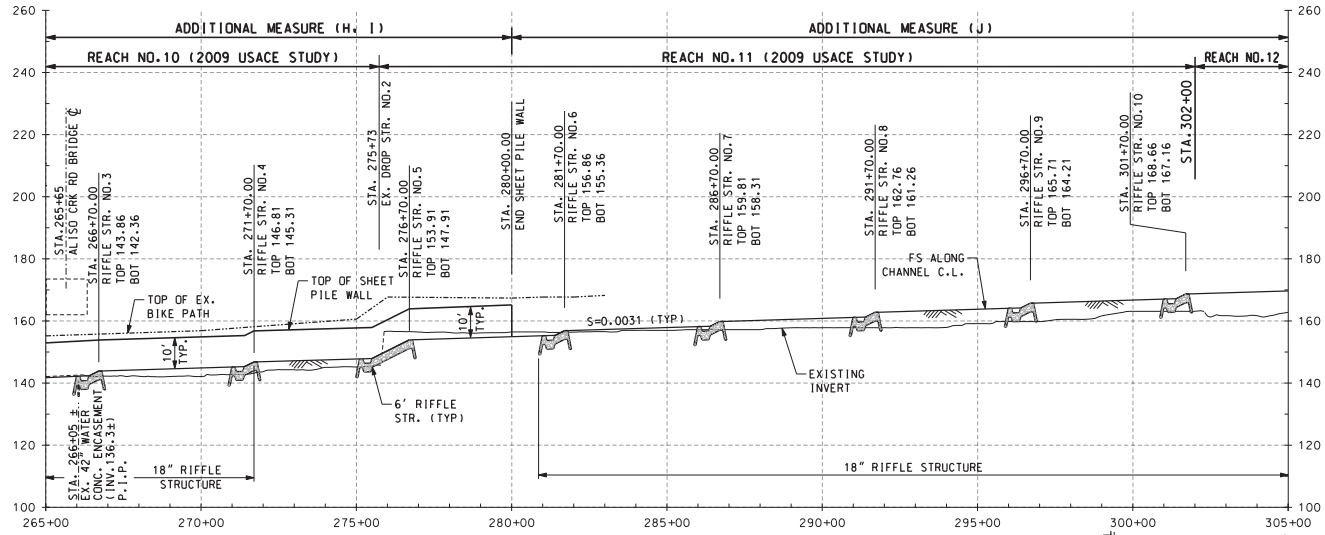
Plot Date: $date$

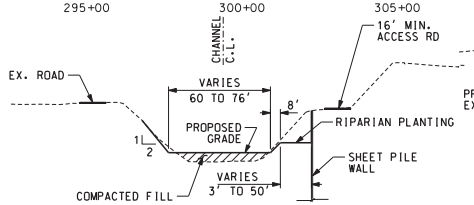


PROFILE ALONG CHANNEL ℄

SCALE: VERTICAL: 1"=20'
HORIZONTAL: 1"=200'

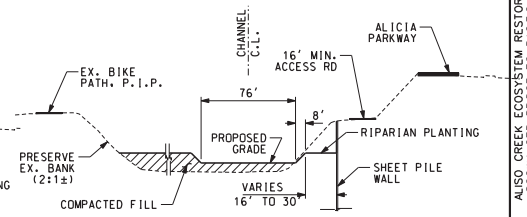
CONSTRUCTION NOTES

1. CONSTRUCT EARTHEN CHANNEL PER PLAN AND PROFILE HEREON, AND TYPICAL SECTIONS ON SHT. C08.
3. CONSTRUCT 18" RIFFLE STRUCTURE PER PLAN AND PROFILE HEREON, AND DETAILS ON SHT. C09.
4. CONSTRUCT 6' RIFFLE STRUCTURE PER PLAN AND PROFILE HEREON, AND DETAILS ON SHT. C09.
6. CONSTRUCT 6" AC, 16' WIDE ACCESS ROAD PER PLAN HEREON. (ADDITIONAL MEASURE A)
8. HYDROSEED SLOPES PER PLAN HEREON.
9. CONSTRUCT LANDSCAPE IMPROVEMENTS PER PLAN HEREON (BY OTHERS).
13. REMOVE AND DISPOSE OF EXISTING DROP STRUCTURE PER PLAN HEREON. (ADDITIONAL MEASURE H)
16. CONSTRUCT SHEET PILE WALL PER PLAN AND PROFILE HEREON AND DETAILS ON SHT. C08.
18. MODIFY EX. STORM DRAIN OUTLET TO JOIN PROPOSED CHANNEL PER PLAN HEREON.



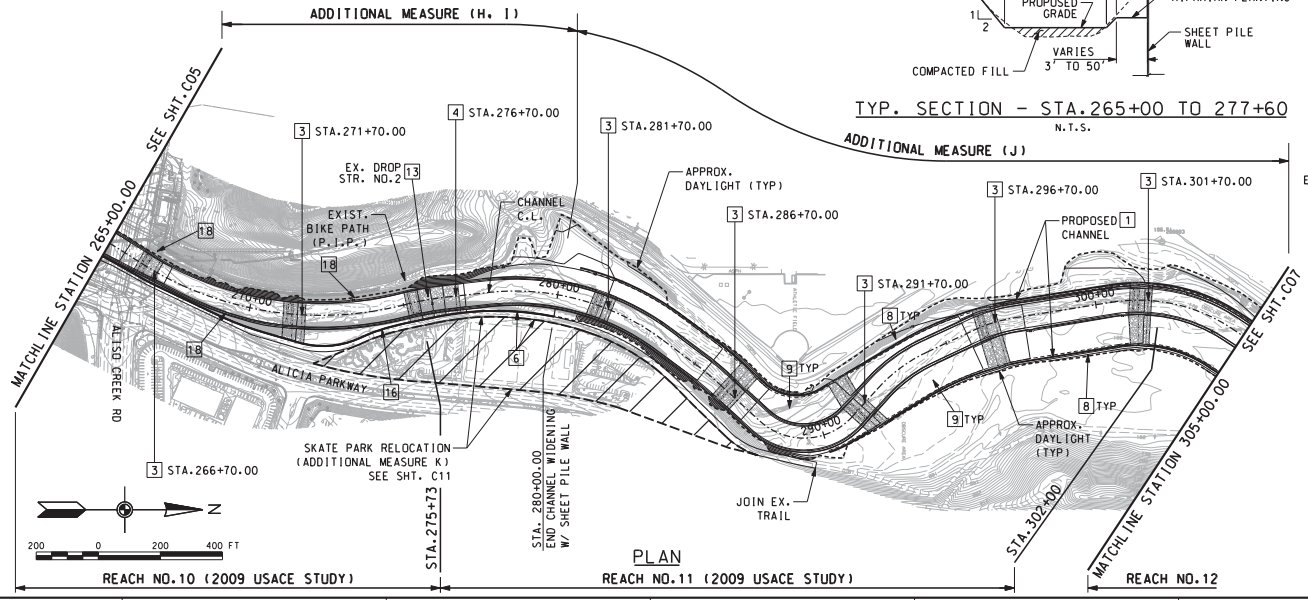
TYP. SECTION - STA.265+00 TO 277+60

N.T.S.

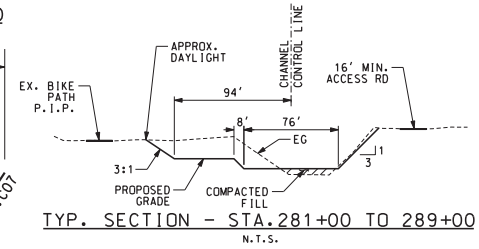


TYP. SECTION - STA.277+60 TO 280+00

N.T.S.

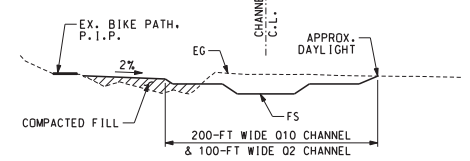


PLAN



TYP. SECTION - STA.281+00 TO 289+00

N.T.S.



TYP. SECTION - STA.290+00 TO 305+00

N.T.S.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
PLAN AND PROFILE (6)
(ADDITIONAL MEASURE)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

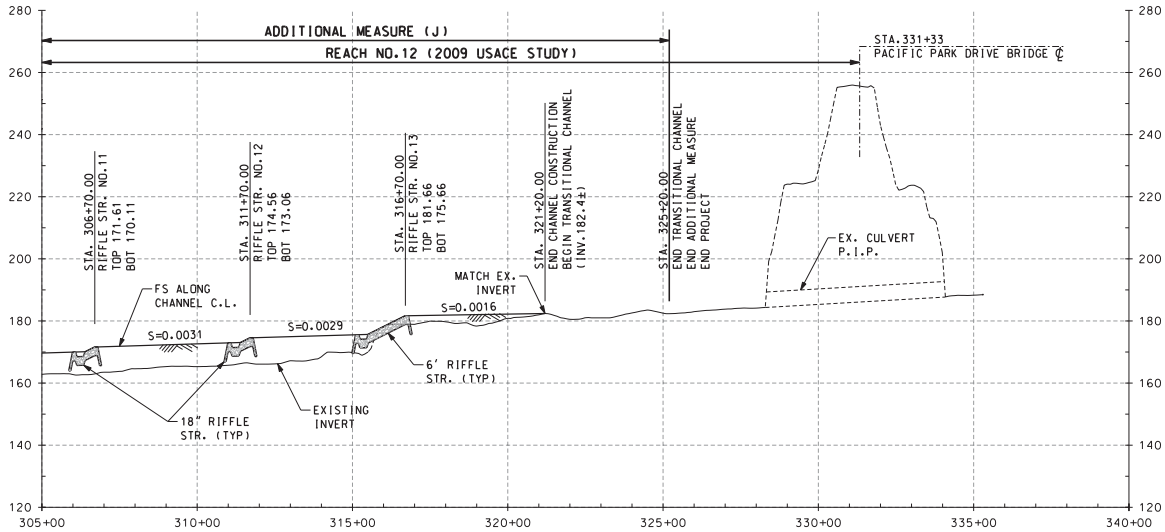
DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC
FILE NAME: T32516CF100PLANS.DGN

TETRA TECH
17885A VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614-5003
TEL. (949)809-5100 FAX. (949)809-5003

SUBMITTED BY: ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

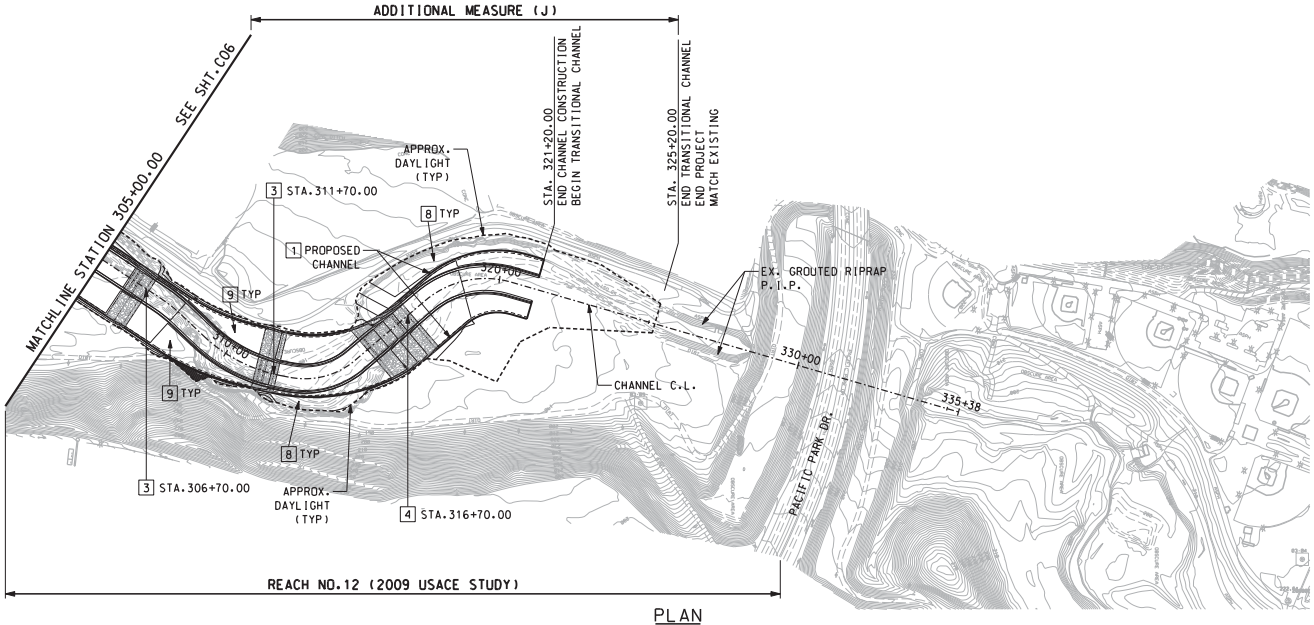
DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX

Scale: AS SHOWN
SHEET C06



PROFILE ALONG CHANNEL ℄

SCALE: VERTICAL: 1"=20'
HORIZONTAL: 1"=200'



PLAN

CONSTRUCTION NOTES

1. CONSTRUCT EARTHEN CHANNEL PER PLAN AND PROFILE HEREON, AND TYPICAL SECTIONS ON SHT. C08.
3. CONSTRUCT 18" RIFFLE STRUCTURE PER PLAN AND PROFILE HEREON, AND DETAILS ON SHT. C09.
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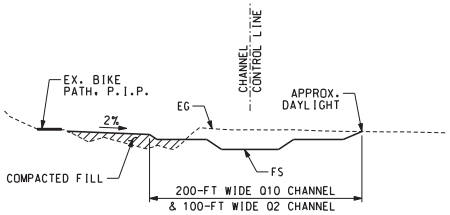
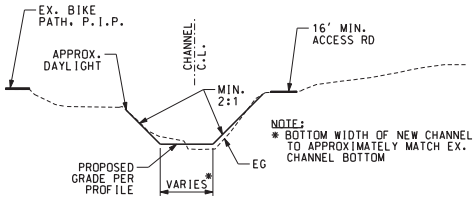


TYP. SECTION - STA.305+00 TO 321+20

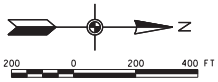
N.T.S.



NOTE:
* BOTTOM WIDTH OF NEW CHANNEL TO APPROXIMATELY MATCH EX. CHANNEL BOTTOM

TYP. SECTION - STA.321+20 TO 325+20

N.T.S.



SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
PLAN AND PROFILE (7)
(ADDITIONAL MEASURE)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC
FILE NAME: T32516CF100PLANS.DGN

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614-5203
TEL. (949)809-5100 FAX. (949)809-5003

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

SPEC. NO. XXXXXX-XX-X-XXXX

DISTRICT FILE NO. XXX/???

Scale: AS SHOWN
SHEET
C07

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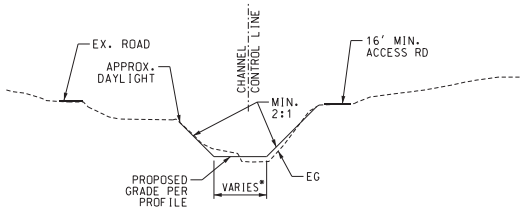
Plot Date: $date$

VALUE ENGINEERING PAYS



TYP. SECTION - STA.70+00 TO 80+00 & 321+20 TO 352+20

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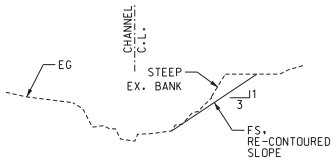
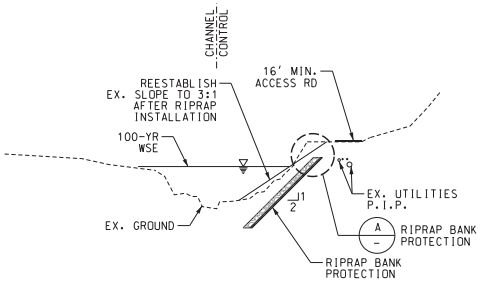


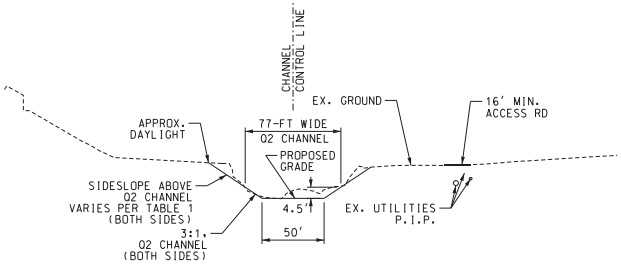
TYP. SECTION - STA.185+00 TO 252+00

N.T.S.



TYP. SECTION FOR RIPRAP BANK PROTECTION (STA.185+00 TO 252+00)

N.T.S.

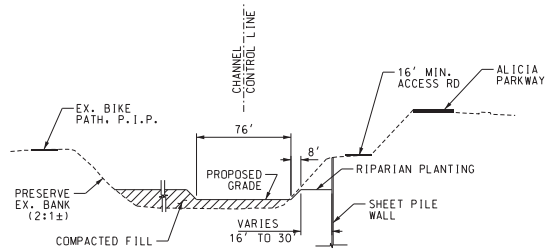


TYP. SECTION - STA.78+00 TO 183+74

N.T.S.

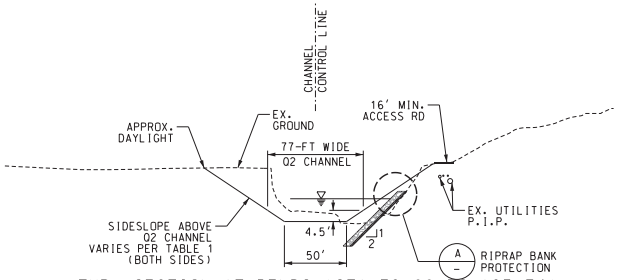
TABLE 1
SIDE SLOPES ABOVE Q2 CHANNEL

STATION		WEST BANK	EAST BANK
FROM	TO		
78+00	84+50	3	3
85+00	89+50	3	5
90+00	94+50	3	3
95+00	100+00	5	3
100+50	102+30	5	5
103+50	114+50	3	3
115+50	136+00	5	5
136+50	183+74	3	3



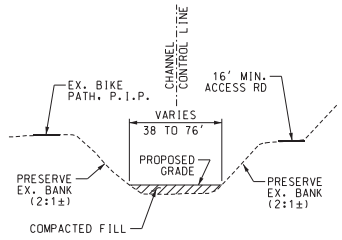
TYP. SECTION - STA.277+60 TO 280+00

N.T.S.



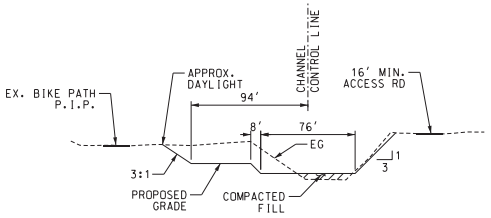
TYP. SECTION AT BENDS (STA.78+00 TO 183+74)

N.T.S.



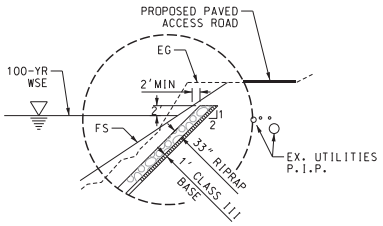
TYP. SECTION - STA.252+20 TO 257+60

N.T.S.



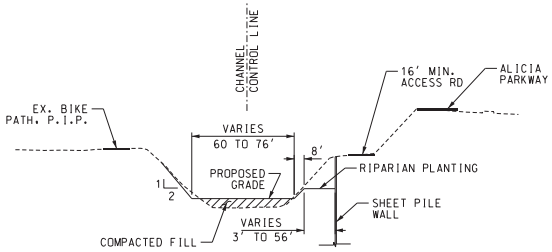
TYP. SECTION - STA.282+00 TO 289+00

N.T.S.



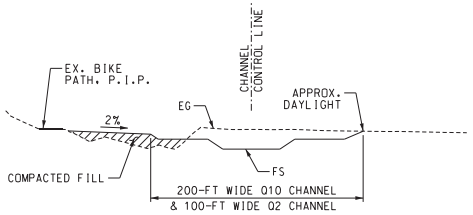
DETAIL A

N.T.S.



TYP. SECTION - STA.257+60 TO 277+60

N.T.S.



TYP. SECTION - STA.290+00 TO 321+20

N.T.S.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2

TYPICAL SECTIONS (1)

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614
TEL. (949)809-5100 FAX. (949)809-5003

SUBMITTED BY: ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

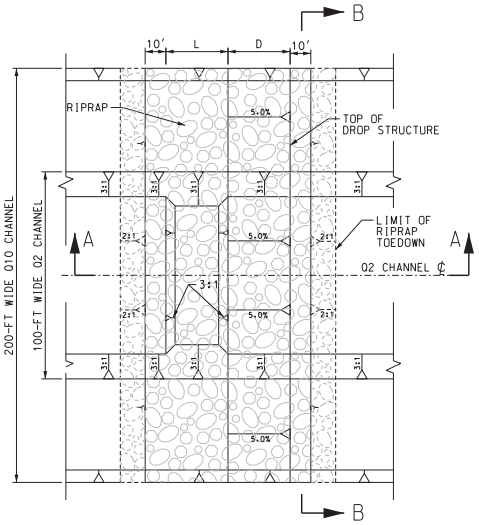
DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

FILE NAME: ????????.DGN
SPEC. NO. XXXXXX-XX-X-XXXX
DISTRICT FILE NO. XXX/???

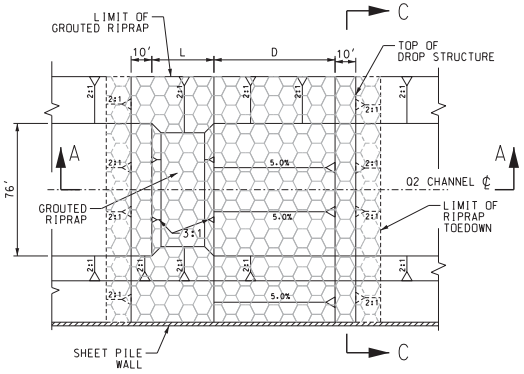
Scale: AS SHOWN
SHEET C08

SAFETY PAYS

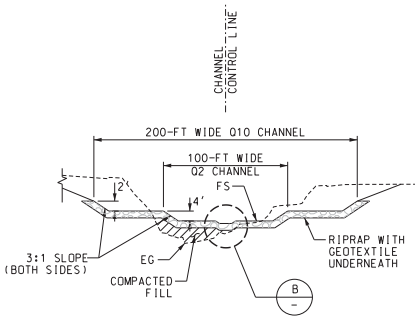
Plot Date: $date$



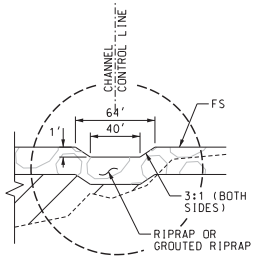
PLAN VIEW (H=9″ OR 18″)



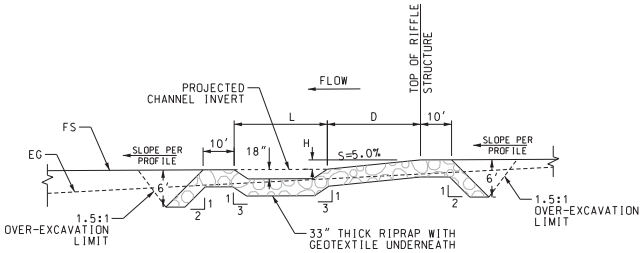
PLAN VIEW (H=6′)



SECTION B-B



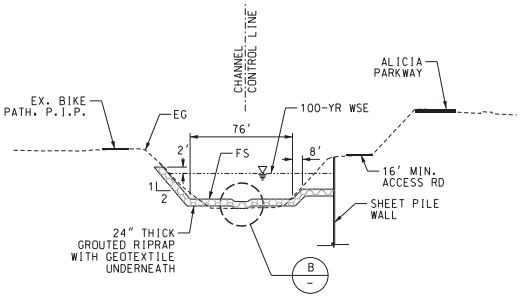
DETAIL B
N.T.S.



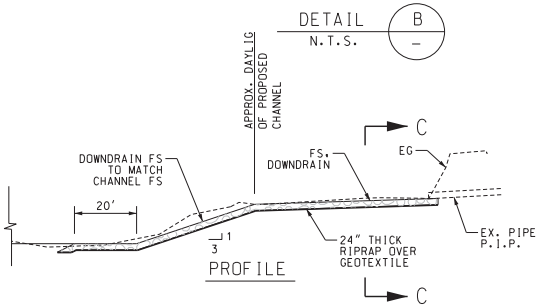
RIFFLE STRUCTURE DIMENSIONS

DROP HEIGHT, H	DROP LENGTH, D	POOL LENGTH, L	ROCK TYPE
18″	30′	20′	UNGROUTED
6′	120′	30′	GROUTED

SECTION A-A

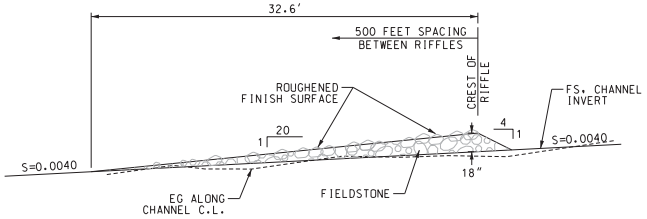


SECTION C-C

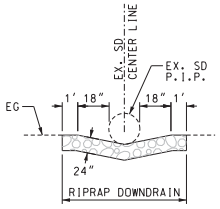


PROFILE

TYP. RIFFLE STRUCTURE
N.T.S.



TYP. SECTION - NEWBURY RIFFLE (ADDITIONAL MEASURE)
N.T.S.



SECTION C-C

TYP. RIPRAP DOWNDRAIN
N.T.S.

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
TYPICAL SECTIONS (2)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614
TEL. (949)809-5100 FAX. (949)809-5003

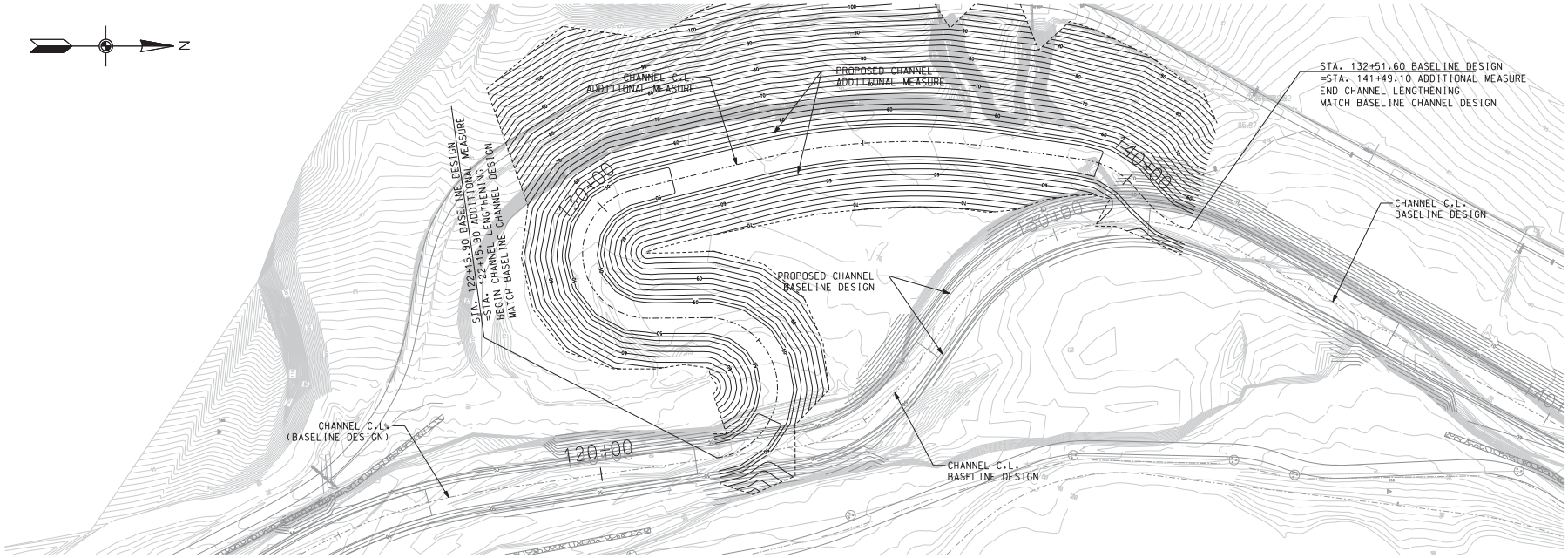
SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

FILE NAME: ????????.DGN
SPEC. NO. XXXXXX-XX-X-XXXX
DISTRICT FILE NO. XXX/???

Scale: AS SHOWN
SHEET
C09

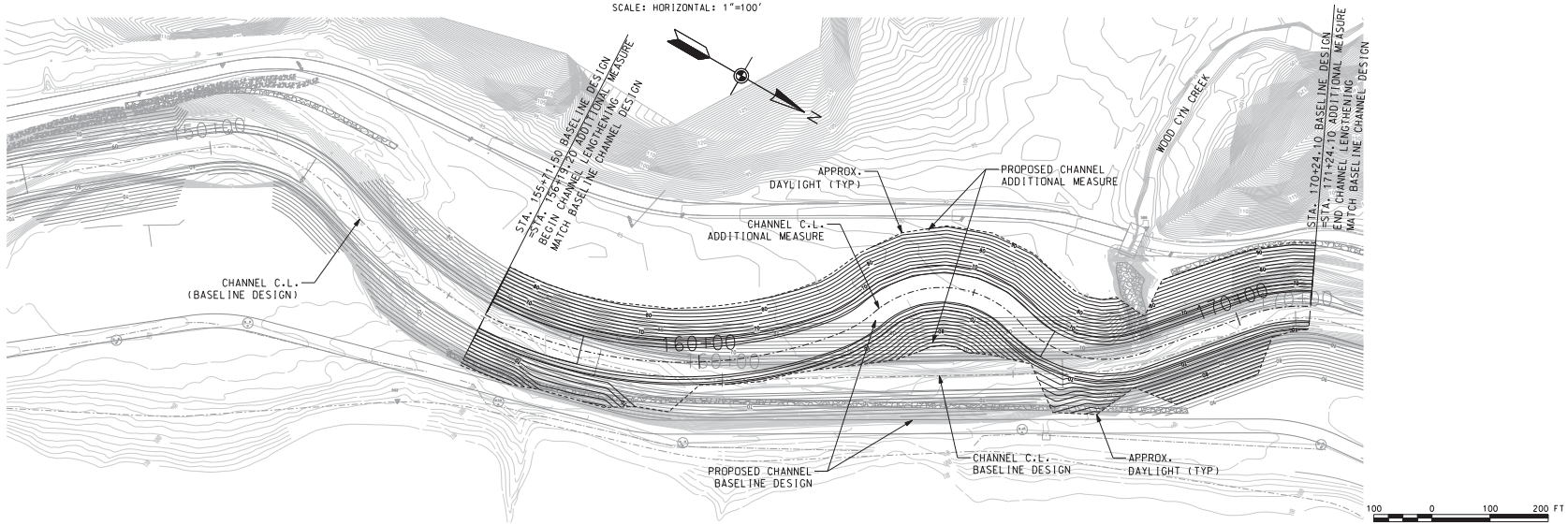
Plot Date: $date$

VALUE ENGINEERING PAYS



RECONNECTION OF ABANDONED OXBOW

SCALE: HORIZONTAL: 1"=100'



CHANNEL LENGTHENING - D/S OF WOOD CANYON CREEK CONFLUENCE

SCALE: HORIZONTAL: 1"=100'

SAFETY PAYS

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2

DETAILS (1) - OXBOW RECONNECTION AND
CHANNEL LENGTHENING (ADDITIONAL MEASURE)

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614-5003
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SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

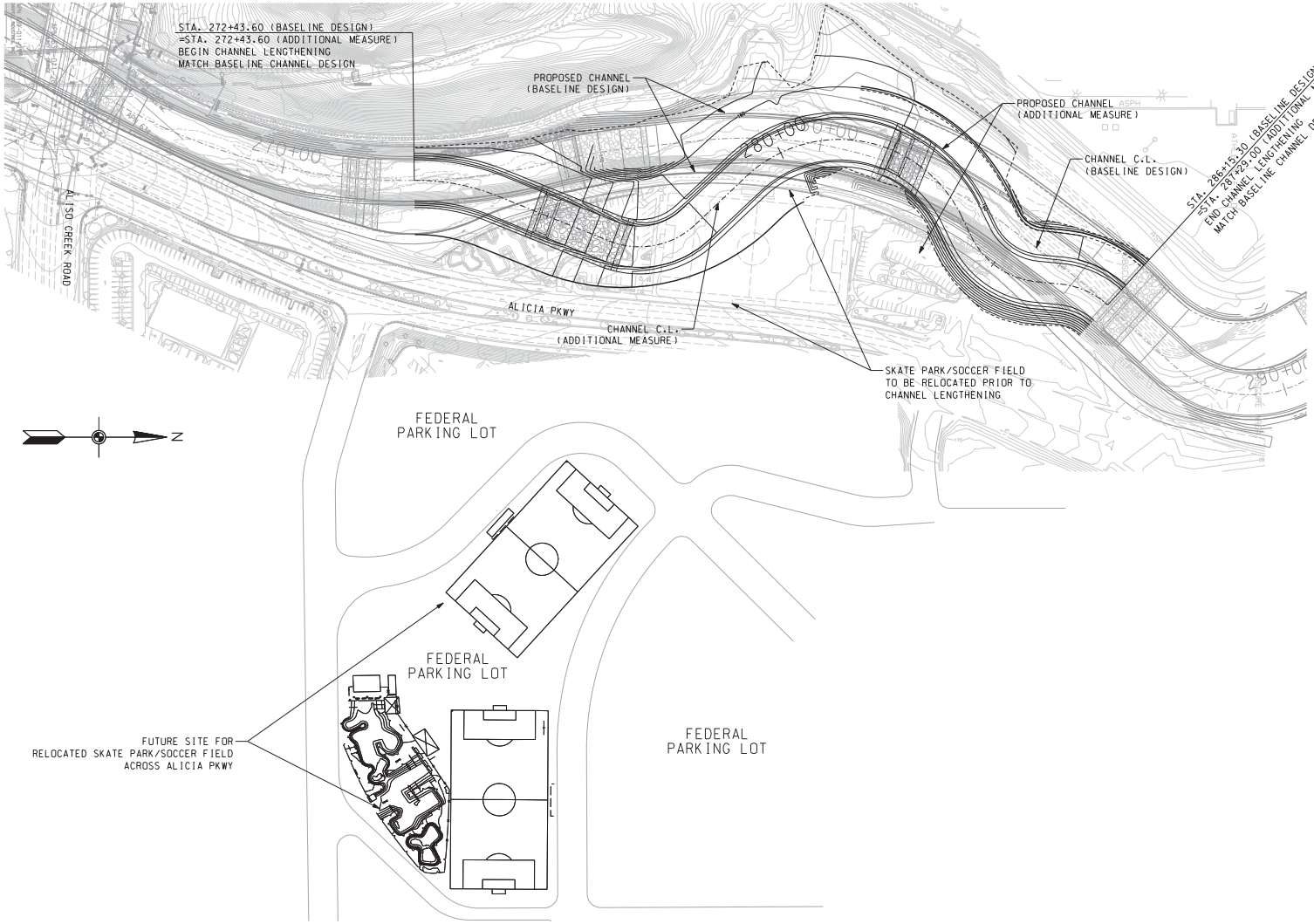
U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX
FILE NAME: 1325BCF1DDPLANS.DGN

Scale: AS SHOWN
SHEET
C10

Plot Date: $date$



CHANNEL LENGTHENING AND SKATE PARK/SOCCER FIELD RELOCATION

SCALE: HORIZONTAL: 1"=100'

100 0 100 200 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
DETAILS (2) - CHANNEL LENGTHENING AND
SKATE PARK RELOCATION (ADDITIONAL MEASURE)

TETRA TECH
17885A VON KARMAN AVE., SUITE 500
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SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

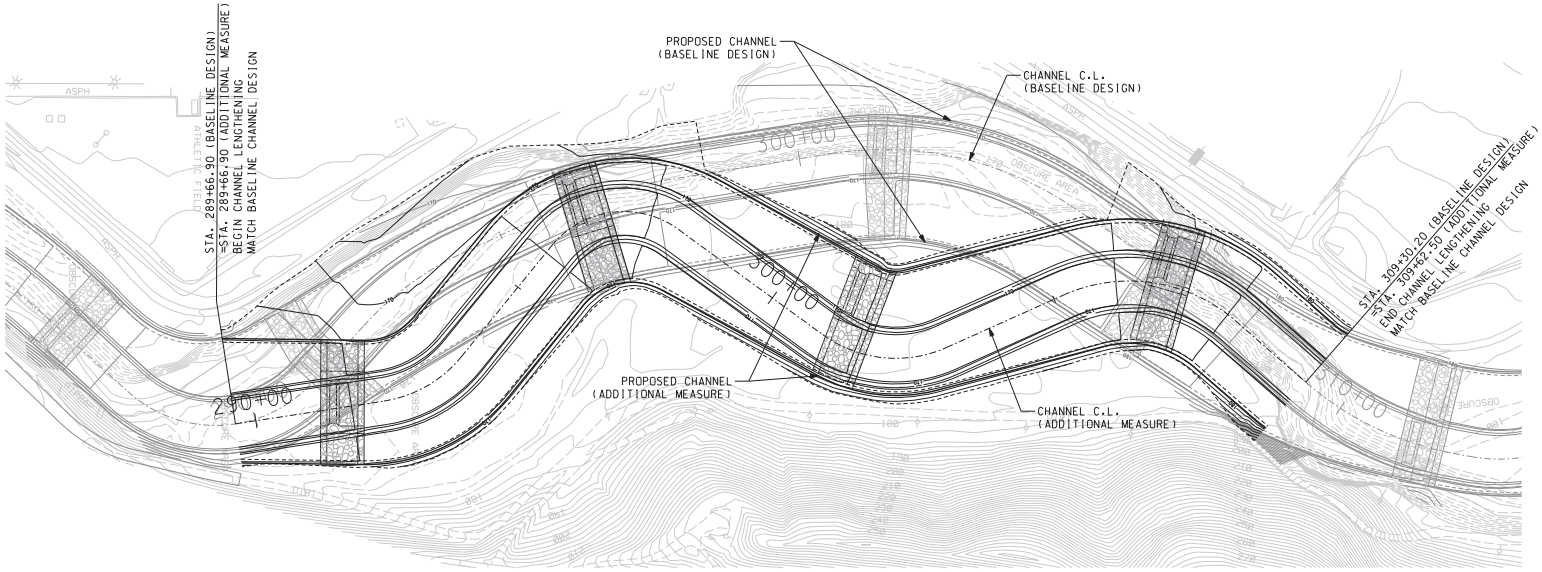
DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC
FILE NAME: 1325BCFTOOPLANS.DGN

DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX

Scale: AS SHOWN

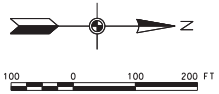
SHEET
C11

Plot Date: $date$



CHANNEL LENGTHENING - D/S OF PACIFIC PARK DRIVE (STA.286+40 TO 310+00)

SCALE: HORIZONTAL: 1"=100'



SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
DETAILS (3) - CHANNEL LENGTHENING
(ADDITIONAL MEASURE)

TETRA TECH
17885A VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614
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SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

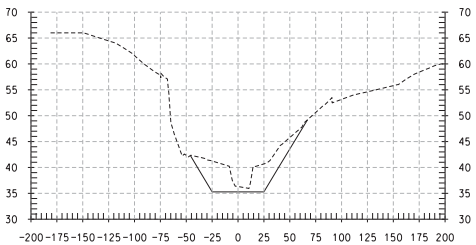
DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX
FILE NAME: 1325BGFTOOPLANS.DGN

Scale: AS SHOWN

SHEET
C12

Plot Date: $date$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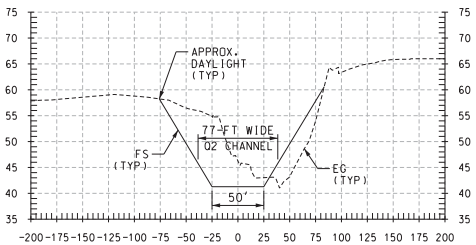
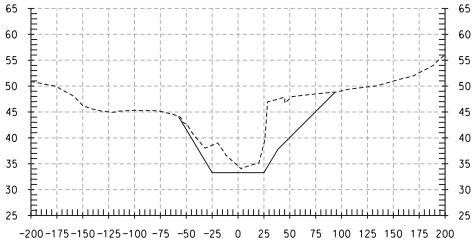


STA.105+00

NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.

2. ONLY FS AND EG ARE SHOWN FOR CLARITY.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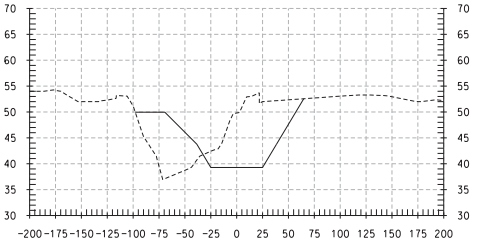
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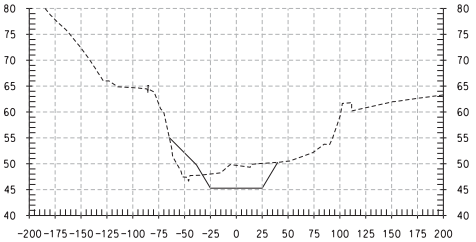
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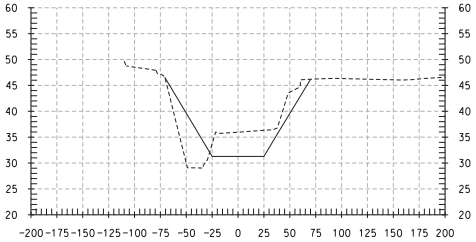
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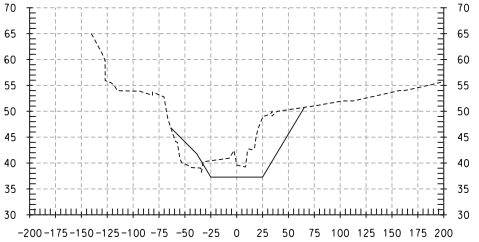
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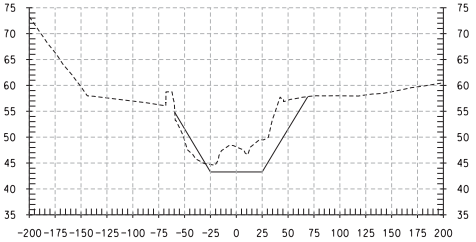
STA.110+00

VERTICAL SCALE: 10 0 10 20 FT

HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL

REVISIONS

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
CROSS SECTIONS (1)
(BASELINE DESIGN)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

FILE NAME: ????????.DGN

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614
TEL. (949)809-5100 FAX. (949)809-5003

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

SPEC. NO. XXXXXX-XX-X-XXXX

DISTRICT FILE NO. XXX/???

Scale: AS SHOWN

SHEET
C13

Plot Date: $date$

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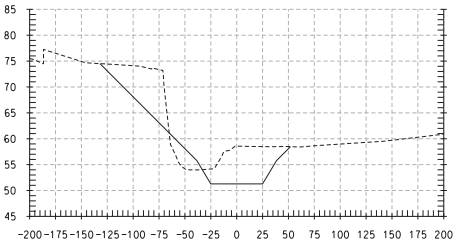
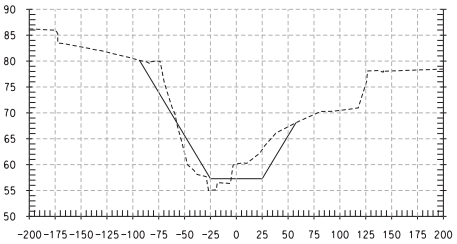
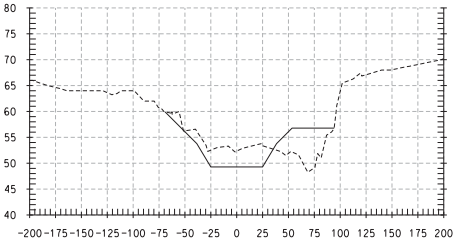
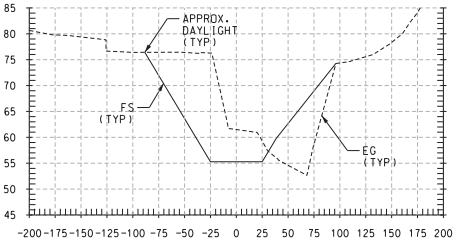


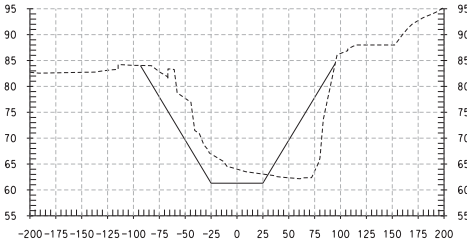


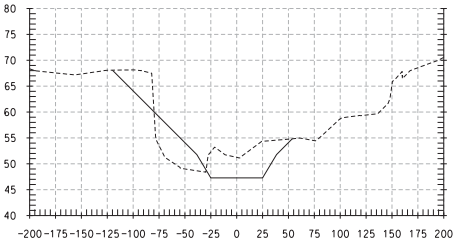
NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.

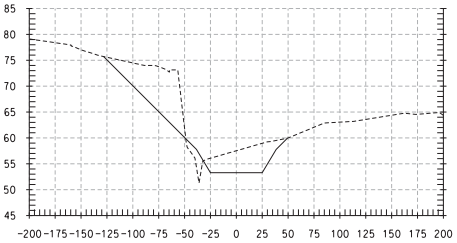
2. ONLY FS AND EG ARE SHOWN FOR CLARITY.

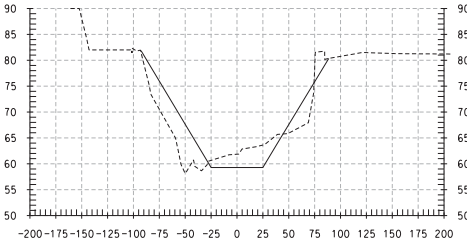












VERTICAL SCALE: 10 0 10 20 FT

HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
CROSS SECTIONS (2)
(BASELINE DESIGN)

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

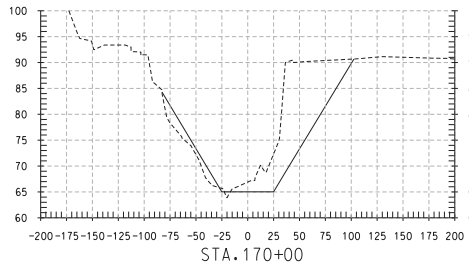
TETRA TECH
17885 VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614
TEL. (949)809-5100 FAX. (949)809-5003

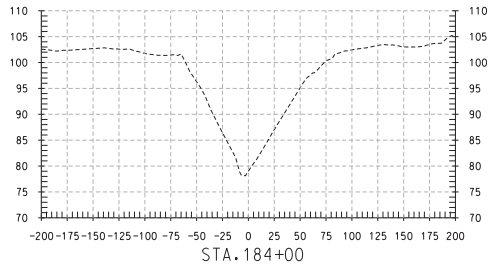
SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

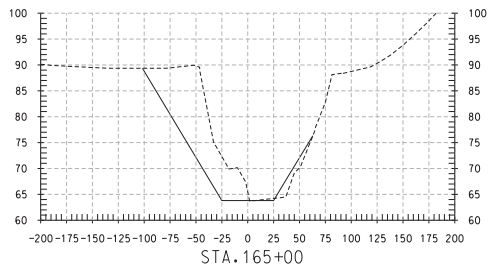
FILE NAME: ????????.DGN
SPEC. NO. XXXXXX-XX-X-XXXX
DISTRICT FILE NO. XXX/???

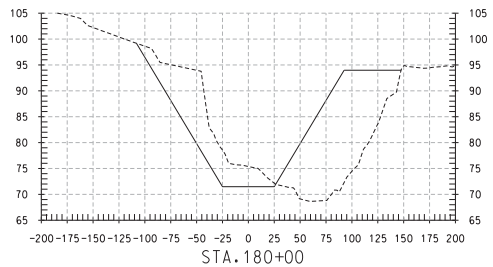
Scale: AS SHOWN
SHEET
C14

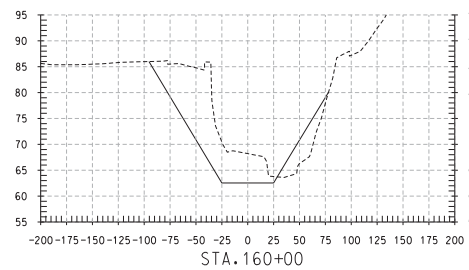
Plot Date: $date$

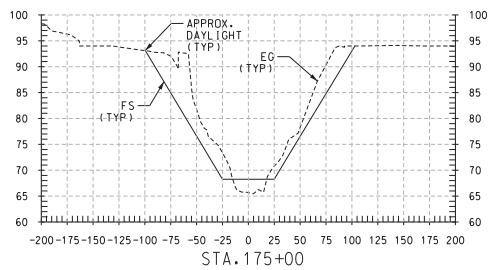












NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.

2. ONLY FS AND EG ARE SHOWN FOR CLARITY.

VERTICAL SCALE: 10 0 10 20 FT

HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
CROSS SECTIONS (3)
(BASELINE DESIGN)

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
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SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

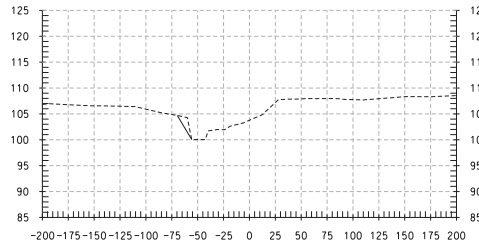
DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX
FILE NAME: ????????.DGN

Scale: AS SHOWN
SHEET
C15

Plot Date: $date$

325160F3010113_SYS.dgn 11/19/2014 4:17:25 PM

NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.
2. ONLY FS AND EG ARE SHOWN FOR CLARITY.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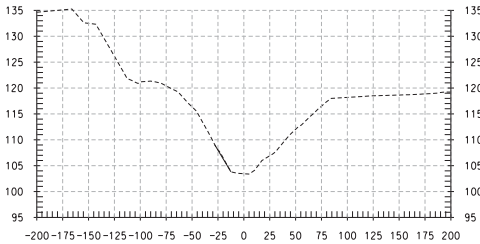
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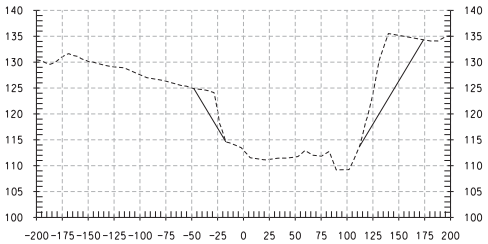
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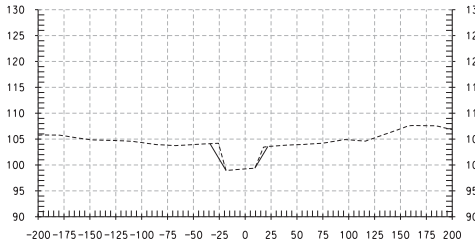
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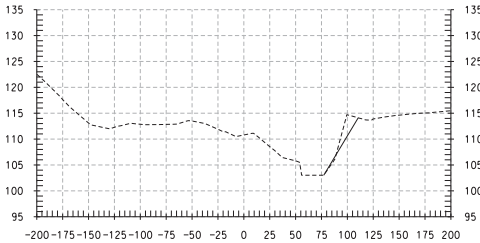
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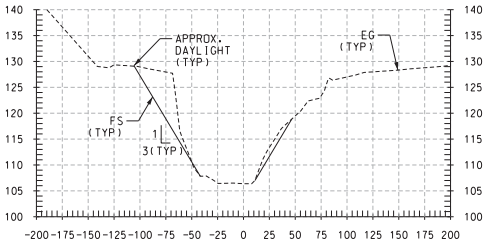

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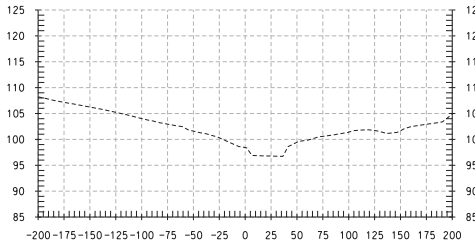
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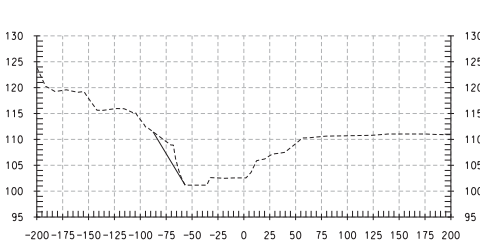
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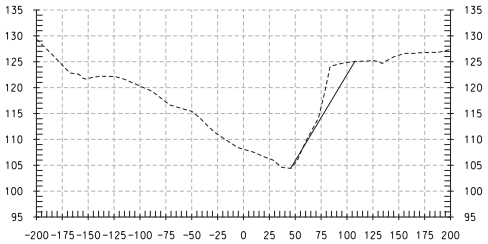

STA.220+00

VERTICAL SCALE: 10 0 10 20 FT
HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL

REVISIONS

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
CROSS SECTIONS (4)
(ADDITIONAL MEASURE)

TETRA TECH
17885A VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614
TEL. (949)809-5100 FAX. (949)809-5003

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

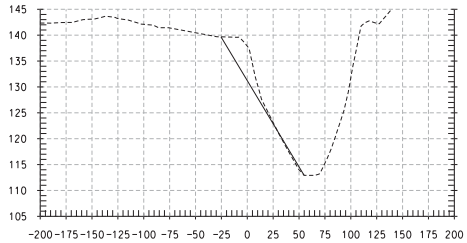
DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC

DISTRICT FILE NO. XXX/???
SPEC. NO. XXXXXX-XX-X-XXXX
FILE NAME: ????????.DGN

Scale: AS SHOWN
SHEET
C16

Plot Date: $date$
32516CF301013_918.dgn 10/30/2015 11:02:36 AM

NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.
2. ONLY FS AND EG ARE SHOWN FOR CLARITY.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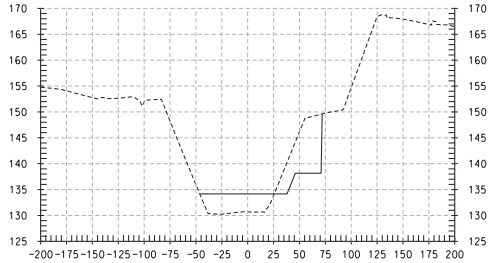
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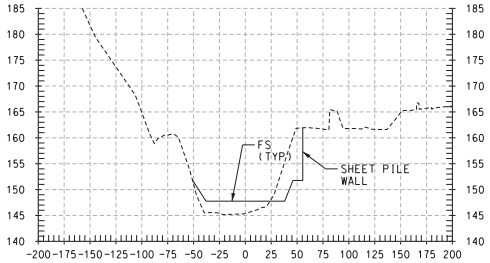
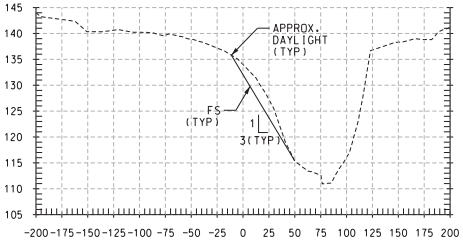
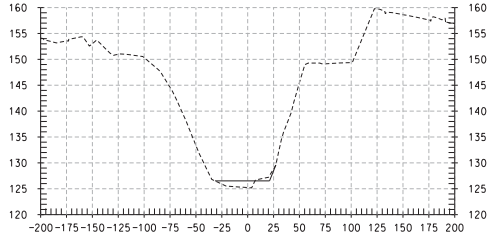
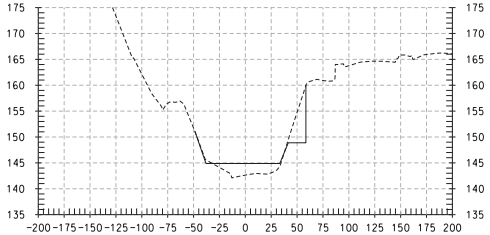


STA.275+00



STA.240+00


STA.255+00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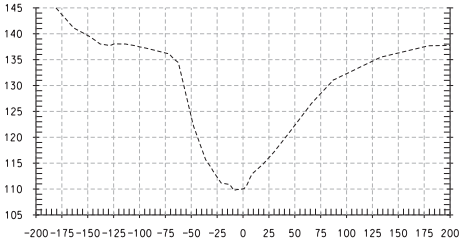
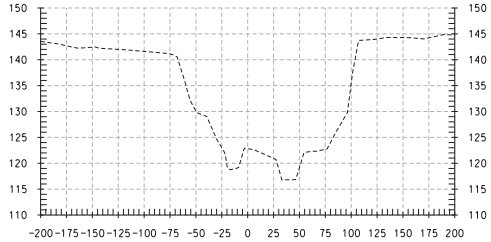
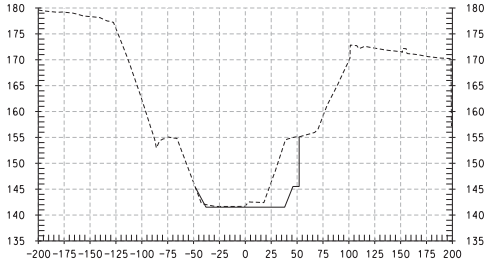

STA.235+00


STA.250+00


STA.264+50

VERTICAL SCALE: 10 0 10 20 FT
HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
CROSS SECTIONS (5)
(ADDITIONAL MEASURE)

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614-5203
TEL. (949)809-5100 FAX. (949)809-5003

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC
FILE NAME: ????????.DGN
SPEC. NO. XXXXXX-XX-X-XXXX
DISTRICT FILE NO. XXX/???

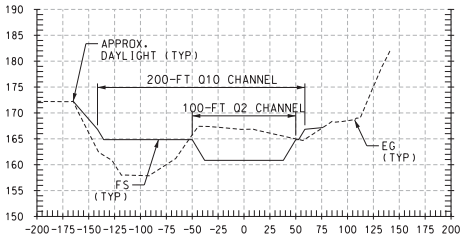
Scale: AS SHOWN
SHEET
C17

Plot Date: $date$

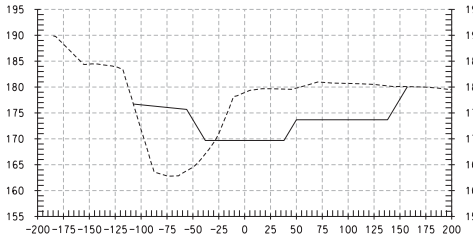
325HCF301013_018.dgn 10/30/2015 11:02:16 AM

VALUE ENGINEERING PAYS

NOTE:
1. CROSS SECTIONS ARE LOOKING UPSTREAM.
2. ONLY FS AND EG ARE SHOWN FOR CLARITY.



STA.290+00



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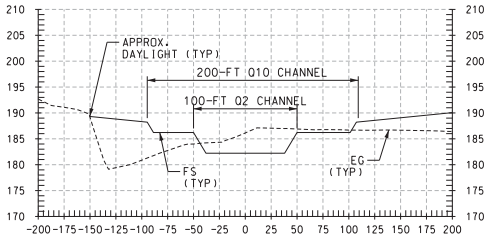

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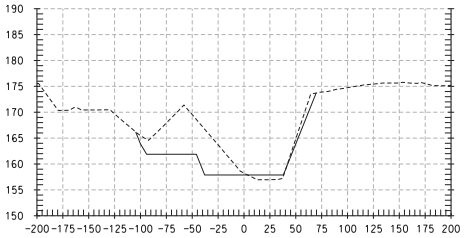

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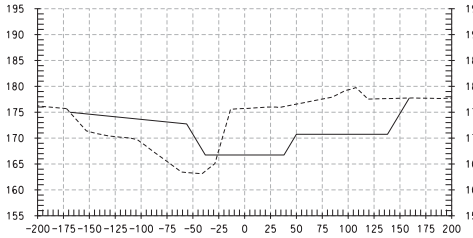

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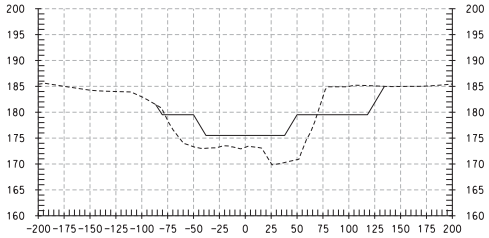

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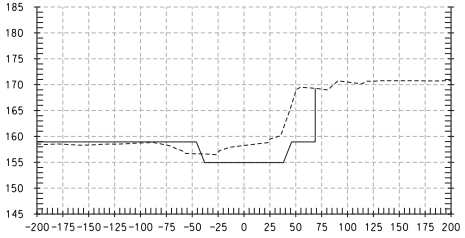

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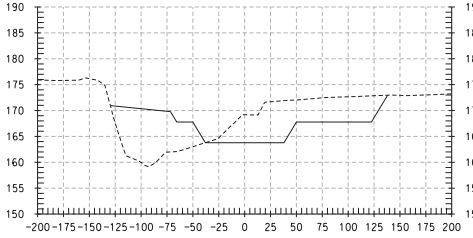

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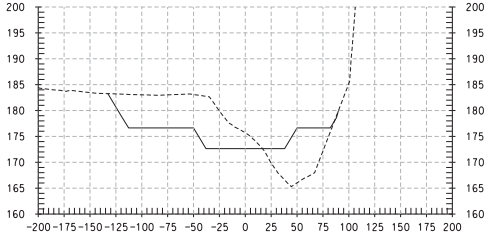

STA.310+00

VERTICAL SCALE: 10 0 10 20 FT
HORIZONTAL SCALE: 60 0 60 120 FT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

ALISO CREEK ECOSYSTEM RESTORATION STUDY
SOCWA CTP BRIDGE TO PACIFIC PARK DRIVE
ORANGE COUNTY, CALIFORNIA
ALTERNATIVE NO.2
CROSS SECTIONS (6)
(ADDITIONAL MEASURE)

TETRA TECH
17885 VON KARMAN AVE., SUITE 500
IRVINE, CALIFORNIA 92614
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SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: JWS
DRAWN BY: JWS
CHECKED BY: YHC
FILE NAME: ????????.DGN
SPEC. NO. XXXXXX-XX-X-XXXX
DISTRICT FILE NO. XXX/???

Scale: AS SHOWN
SHEET
C18

SAFETY PAYS

Plot Date: $date$

325160F3010113_018.dgn 10/30/2015 11:03:34 AM