

LEGEND

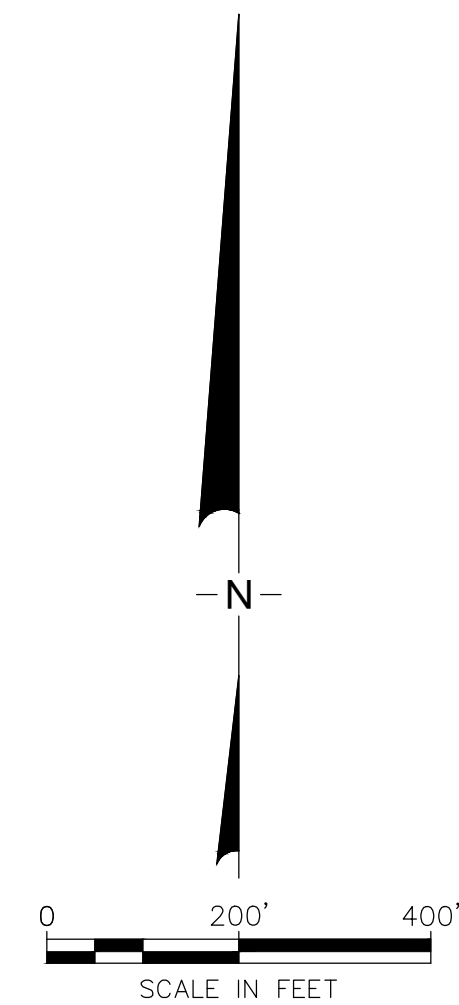
- 730— EXISTING GROUND ELEVATION (FEET)
- ==== EXISTING ROAD
- - - - PROPERTY BOUNDARY
- THALWEG LINE
- - - - UNDERGROUND STORMDRAIN
- 4 DRAWING NUMBER
- ACCESS POINT
- ← ROUTE FROM PAVED ROAD TO ACCESS POINT

APPROXIMATE CONSTRUCTION QUANTITIES

CONTROL MEASURE ID	QUANTITY	UNITS
① INSTALL NEW RIPRAP CHECK STRUCTURE WITH CALTRANS CLASS FACING (METHOD A) RIPRAP	95	TONS RIPRAP
③ RETROFIT EXISTING RIPRAP CHECK STRUCTURE	58	TONS RIPRAP
⑤ INSTALL GROUDED/VEGETATED ENERGY DISSIPATION		
INSTALL GROUDED RIPRAP	116	TONS GROUDED RIPRAP
INSTALL VEGETATED RIPRAP	151	TONS VEGETATED RIPRAP
⑥ INSTALL EROSION CONTROL BLANKET	1541	SQ YD ECB
⑦ INSTALL TURF REINFORCEMENT MAT	446	SQ YD TRM
⑧ INSTALL NEW RIPRAP CHECK STRUCTURE WITH CALTRANS CLASS LIGHT (METHOD A) RIPRAP	16	TONS RIPRAP

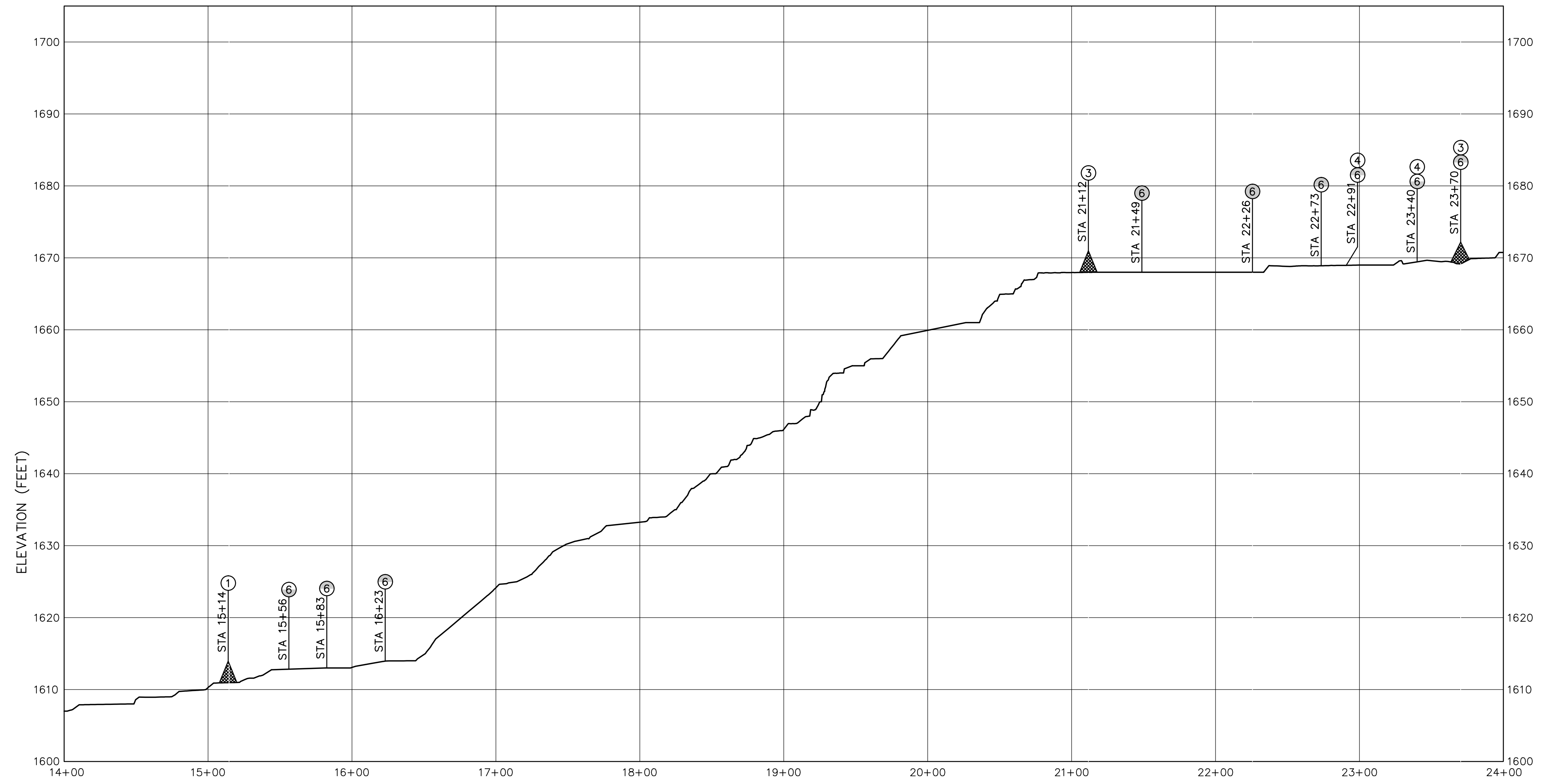
GENERAL NOTES:

- 1) PROPOSED STABILIZATION MEASURES WERE BASED ON FIELD RECONASSANCE CONDUCTED BY GEOSYNTEC IN JUNE 2011. ACTUAL EXTENTS OF STABILIZATION MEASURES SHALL BE CONFIRMED PRIOR OR DURING CONSTRUCTION.
- 2) PRE-CONSTRUCTION ASSESSMENT TO BE PERFORMED BY A QUALIFIED EROSION AND SEDIMENT CONTROL SPECIALIST OR REGISTERED PROFESSIONAL ENGINEER.
- 3) THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A PROJECT-SPECIFIC CONSTRUCTION SWPPP TO MINIMIZE EROSION IMPACTS DURING CONSTRUCTION IF NECESSARY.
- 4) DESIGNS SUBJECT TO CHANGE BASED ON PERMIT REQUIREMENTS/CONDITIONS, CONSTRUCTION EQUIPMENT ACCESS ISSUES, AND OTHER POTENTIAL CONSTRAINTS.
- 5) CONSTRUCTION ACCESS MAY BE LIMITED TO EXISTING ACCESS POINTS INTO THE NORTHERN DRAINAGE AND MAY NOT BE ACCESSIBLE TO HEAVY CONSTRUCTION EQUIPMENT AND WILL REQUIRE HAND WORK.



**60% DESIGN DRAWINGS
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION	DRN	APP
924 ANACAPA STREET, SUITE 4A SANTA BARBARA, CALIFORNIA 92310 USA PHONE: 805.897.3800.				
SITE LAYOUT				
NORTHERN DRAINAGE RESTORATION				
BOEING SANTA SUSANA FIELD LABORATORY (SSFL)				
THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.		DESIGN BY: JG	DATE: JULY 2011	
		DRAWN BY: BP	PROJECT NO.: SB0363	
		CHECKED BY: DB	FILE: SB0363 C02	
		REVIEWED BY: BS	DRAWING NO.:	
		APPROVED BY: RJ	2 OF 10	



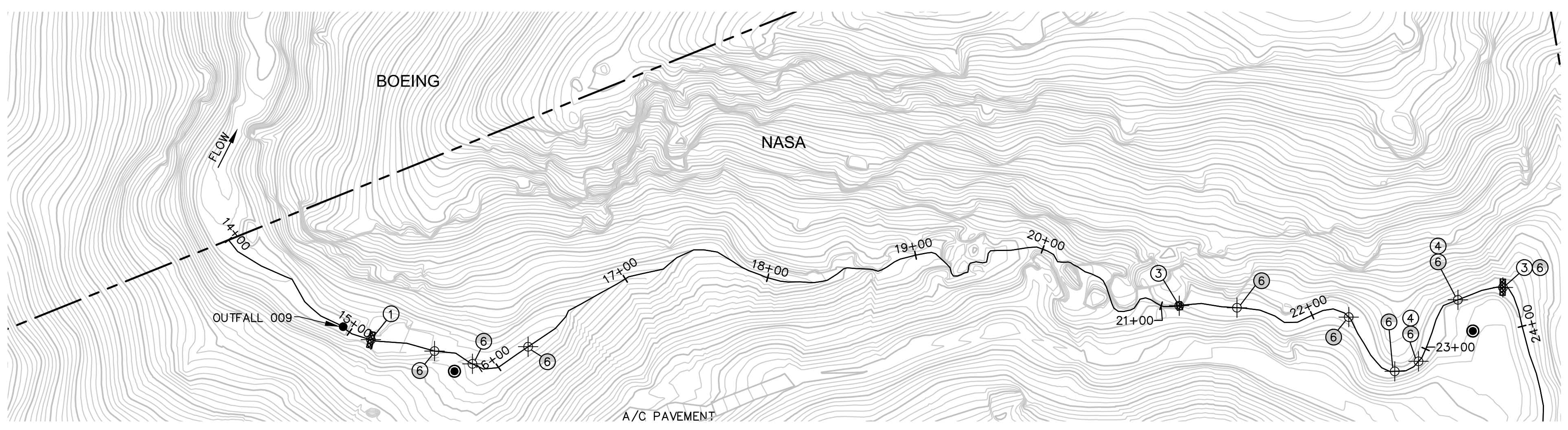
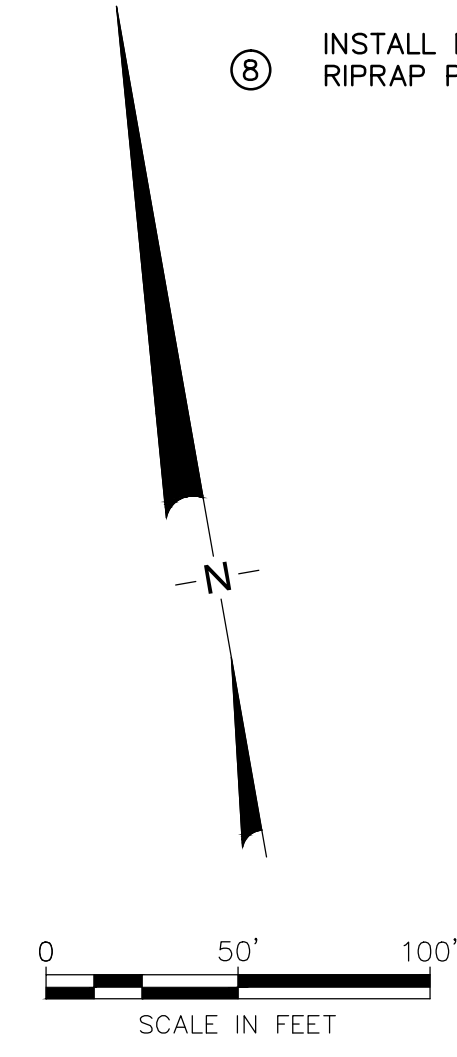
PROFILE VIEW
 SCALE: HORIZ: 1"=50'
 VERT: 1" = 10'

- LEGEND**
- 730— EXISTING MAJOR CONTOUR (FEET)
 - EXISTING MINOR CONTOUR
 - - - PROPERTY BOUNDARY
 - THALWEG LINE
 - ▨ CHECK STRUCTURE
 - ACCESS POINT
 - (with 1) SLOPE STABILIZATION ON NORTH & SOUTH BANKS
 - (with 2) SLOPE STABILIZATION ON NORTH BANK
 - (with 3) SLOPE STABILIZATION ON SOUTH BANK
 - (with 4) CONTROL MEASURE IN THALWEG

- CONSTRUCTION NOTES**
- ① INSTALL NEW RIPRAP CHECK STRUCTURE WITH CALTRANS CLASS FACING (METHOD A) RIPRAP PER DETAIL **(4/10)**
 - ② REMOVE EXISTING RIPRAP CHECK STRUCTURE, (REMOVE THE EXISTING ROCK AND PLACE THE THALWEG TO THE SIDE AT THE TOE OF THE SLOPES).
 - ③ RETROFIT EXISTING RIPRAP CHECK STRUCTURE, INSTALL CALTRANS CLASS FACING (METHOD A) RIPRAP TO CREATE A STRUCTURE THAT IS CONSISTENT WITH THE RIPRAP CHECK STRUCTURE DETAIL **(4/10)**
 - ④ BREAK UP INSTREAM BOULDERS, (BREAKING INSTREAM BOULDERS SHALL INCLUDE BREAKING THE BOULDERS TO A ROCK SIZE, ON AVERAGE, LESS THAN 11 INCHES IN DIAMETER. ROCK SHALL BE MOVED FROM THE THALWEG TO THE SIDE AT THE TOE OF THE SIDE SLOPES).
 - ⑤ INSTALL GROUTED AND VEGETATED RIPRAP ENERGY DISSIPATION STRUCTURE PER DETAIL **(1/10)**
 - ⑥ INSTALL EROSION CONTROL BLANKET PER DETAIL **(2/10)**
 - ⑦ INSTALL TURF REINFORCEMENT MAT PER DETAIL **(2/10)**
 - ⑧ INSTALL NEW RIPRAP CHECK STRUCTURE WITH CALTRANS CLASS LIGHT (METHOD A) RIPRAP PER DETAIL **(4/10)**

APPROXIMATE CONSTRUCTION QUANTITY

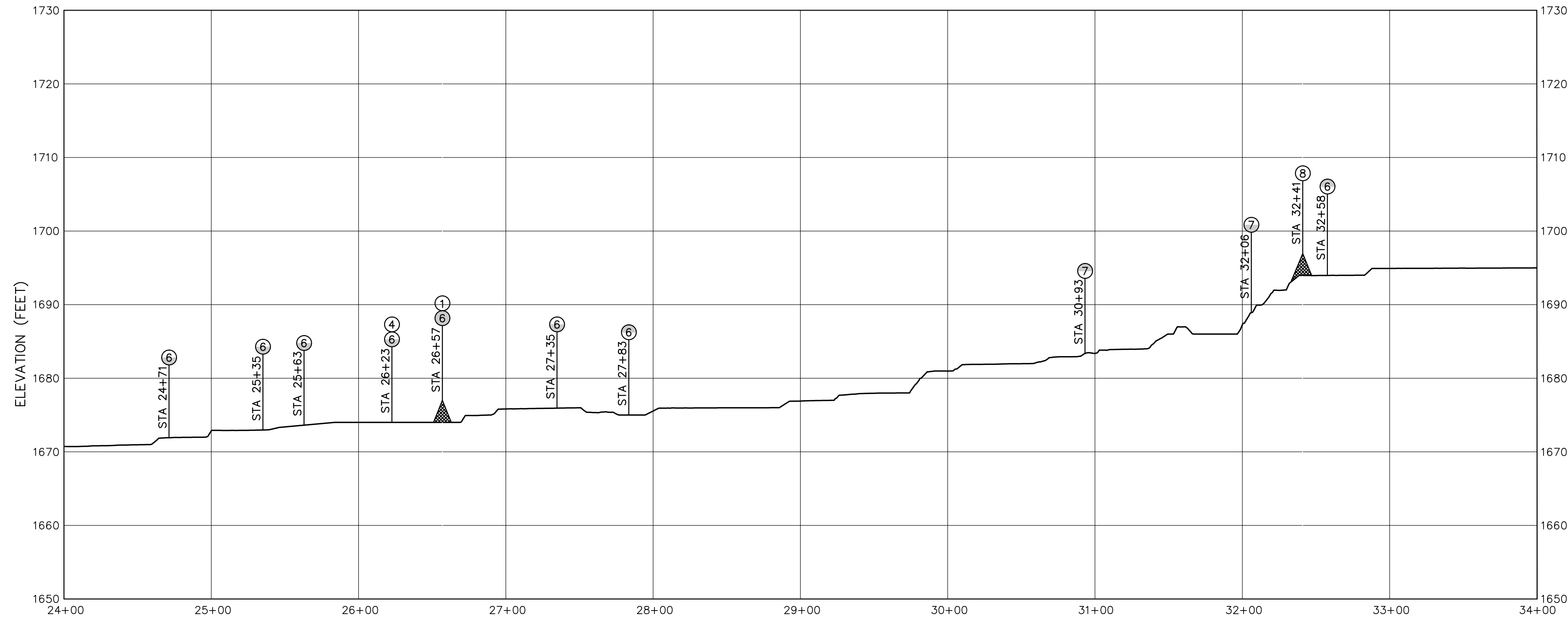
STATION	CONTROL MEASURE ID	QUANTITY	UNITS
15+14	①	33	TONS RIPRAP
15+56	⑥	20	SQ YD ECB
15+83	⑥	22	SQ YD ECB
16+23	⑥	19	SQ YD ECB
21+12	③	9	TONS RIPRAP
21+49	⑥	50	SQ YD ECB
22+26	⑥	80	SQ YD ECB
22+73	⑥	21	SQ YD ECB
22+91	⑥	21	SQ YD ECB
23+40	⑥	12	SQ YD ECB
23+70	③	16	TONS RIPRAP
23+70	⑥	63	SQ YD ECB



PLAN VIEW

**60% DESIGN DRAWINGS
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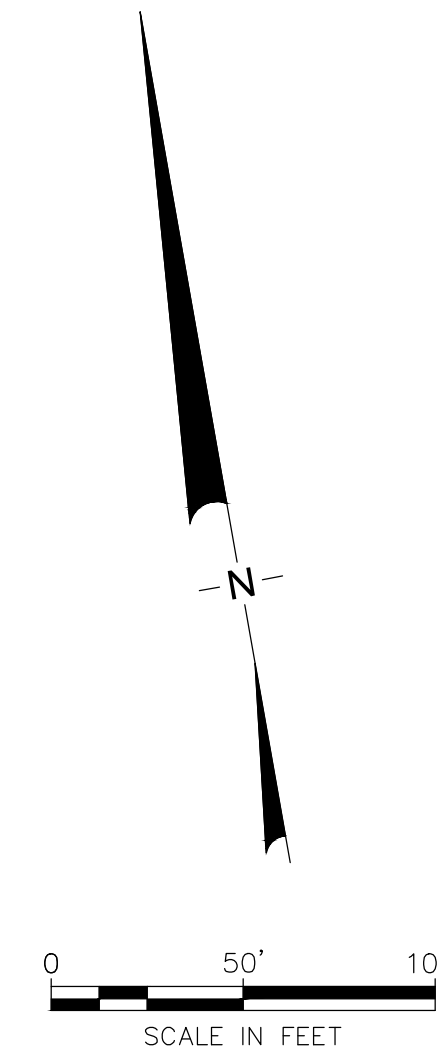
REV	DATE	DESCRIPTION	DRN	APP	
924 ANACAPA STREET, SUITE 4A SANTA BARBARA, CALIFORNIA 923101 USA PHONE: 805.897.3800.					
SANTA SUSANA FIELD LABORATORY VENTURA COUNTY, CALIFORNIA					
TITLE: PLAN & PROFILE STA 14+00 TO 24+00					
PROJECT: NORTHERN DRAINAGE RESTORATION					
SITE: BOEING SANTA SUSANA FIELD LABORATORY (SSFL)					
THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.		DESIGN BY: JG DRAWN BY: BP CHECKED BY: DB REVIEWED BY: BS APPROVED BY: RJ	DATE: JULY 2011 PROJECT NO.: SB0363 FILE: SB0363 C03 DRAWING NO.: 3 OF 10		



PROFILE VIEW
SCALE: HORIZ: 1"=50'
VERT: 1"= 10'



PLAN VIEW



LEGEND

- 730— EXISTING MAJOR CONTOUR (FEET)
- EXISTING MINOR CONTOUR
- - - - - PROPERTY BOUNDARY
- THALWEG LINE
- ▨ CHECK STRUCTURE
- ACCESS POINT
- SLOPE STABILIZATION ON NORTH & SOUTH BANKS
- SLOPE STABILIZATION ON NORTH BANK
- SLOPE STABILIZATION ON SOUTH BANK
- CONTROL MEASURE IN THALWEG

CONSTRUCTION NOTES

- ① INSTALL NEW RIPRAP CHECK STRUCTURE WITH CALTRANS CLASS FACING (METHOD A) RIPRAP PER DETAIL **(4/10)**
- ② REMOVE EXISTING RIPRAP CHECK STRUCTURE, (REMOVE THE EXISTING ROCK AND PLACE THE THALWEG TO THE SIDE AT THE TOE OF THE SLOPES).
- ③ RETROFIT EXISTING RIPRAP CHECK STRUCTURE, INSTALL CALTRANS CLASS FACING (METHOD A) RIPRAP TO CREATE A STRUCTURE THAT IS CONSISTENT WITH THE RIPRAP CHECK STRUCTURE DETAIL **(4/10)**
- ④ BREAK UP INSTREAM BOULDERS. (BREAKING INSTREAM BOULDERS SHALL INCLUDE BREAKING THE BOULDERS TO A ROCK SIZE, ON AVERAGE, LESS THAN 11 INCHES IN DIAMETER. ROCK SHALL BE MOVED FROM THE THALWEG TO THE SIDE AT THE TOE OF THE SIDE SLOPES).
- ⑤ INSTALL GROUTED AND VEGETATED RIPRAP ENERGY DISSIPATION STRUCTURE PER DETAIL **(1/10)**
- ⑥ INSTALL EROSION CONTROL BLANKET PER DETAIL **(2/10)**
- ⑦ INSTALL TURF REINFORCEMENT MAT PER DETAIL **(2/10)**
- ⑧ INSTALL NEW RIPRAP CHECK STRUCTURE WITH CALTRANS CLASS LIGHT (METHOD A) RIPRAP PER DETAIL **(4/10)**

APPROXIMATE CONSTRUCTION QUANTITY

STATION	CONTROL MEASURE ID	QUANTITY	UNITS
24+71	⑥	13	SQ YD ECB
25+35	⑥	16	SQ YD ECB
25+63	⑥	16	SQ YD ECB
26+23	⑥	21	SQ YD ECB
26+57	①	13	TONS RIPRAP
26+57	⑥	58	SQ YD ECB
27+35	⑥	27	SQ YD ECB
27+83	⑥	27	SQ YD ECB
30+93	⑦	24	SQ YD TRM
32+06	⑦	11	SQ YD TRM
32+41	⑧	16	TONS RIPRAP
32+58	⑥	22	SQ YD ECB

REV	DATE	DESCRIPTION	DRN	APP

Geosyntec
consultants

924 ANACAPA STREET., SUITE 4A
SANTA BARBARA, CALIFORNIA 923101 USA
PHONE: 805.897.3800.

BOEING

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

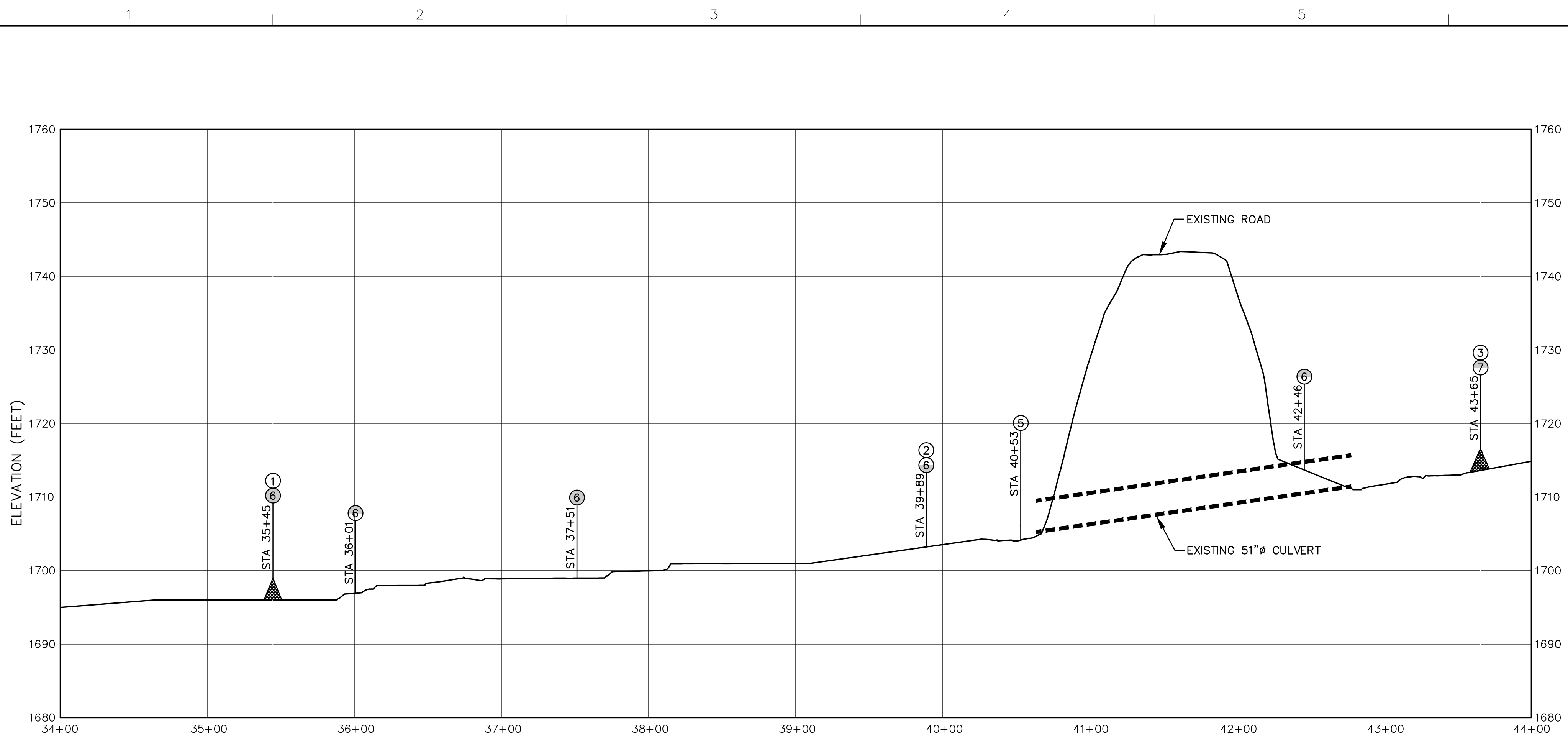
TITLE: **PLAN & PROFILE STA 24+00 TO 34+00**

PROJECT: **NORTHERN DRAINAGE RESTORATION**

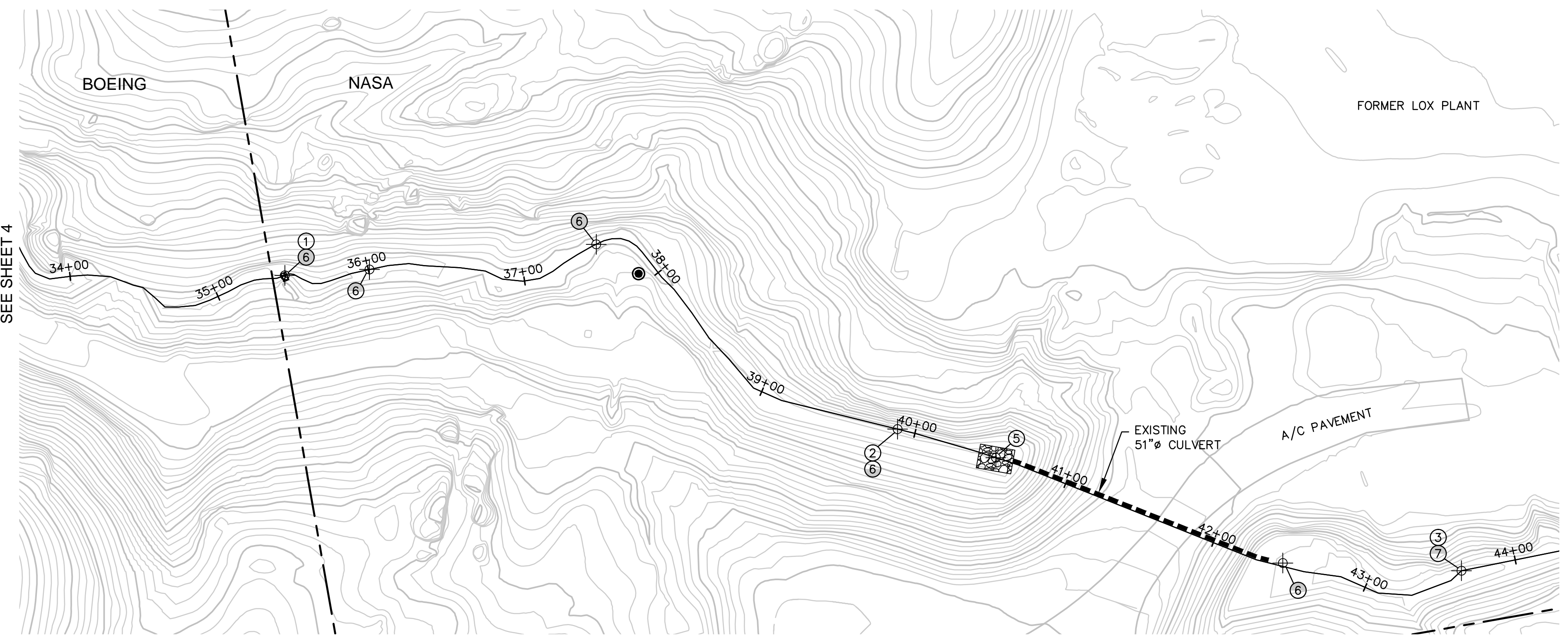
SITE: **BOEING SANTA SUSANA FIELD LABORATORY (SSFL)**

<p>THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.</p> <p>SIGNATURE _____</p> <p>DATE _____</p>	DESIGN BY: JG	DATE: JULY 2011
	DRAWN BY: BP	PROJECT NO.: SB0363
	CHECKED BY: DB	FILE: SB0363 C04
	REVIEWED BY: BS	DRAWING NO.: 4 OF 10
	APPROVED BY: RJ	

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PROFILE VIEW
 SCALE: HORIZ: 1"=50'
 VERT: 1" = 10'



PLAN VIEW

LEGEND

- 730— EXISTING MAJOR CONTOUR (FEET)
- EXISTING MINOR CONTOUR
- EXISTING ROAD
- - - - PROPERTY BOUNDARY
- - - - EXISTING 51" DIAMETER CULVERT
- THALWEG LINE
- [Symbol] ENERGY DISSIPATER
- [Symbol] CHECK STRUCTURE
- [Symbol] ACCESS POINT
- [Symbol] SLOPE STABILIZATION ON NORTH & SOUTH BANKS
- [Symbol] SLOPE STABILIZATION ON NORTH BANK
- [Symbol] SLOPE STABILIZATION ON SOUTH BANK
- [Symbol] CONTROL MEASURE IN THALWEG

CONSTRUCTION NOTES

- ① INSTALL NEW RIPRAP CHECK STRUCTURE WITH CALTRANS CLASS FACING (METHOD A) RIPRAP PER DETAIL **(4/10)**
- ② REMOVE EXISTING RIPRAP CHECK STRUCTURE, (REMOVE THE EXISTING ROCK AND PLACE THE THALWEG TO THE SIDE AT THE TOE OF THE SLOPES).
- ③ RETROFIT EXISTING RIPRAP CHECK STRUCTURE, INSTALL CALTRANS CLASS FACING (METHOD A) RIPRAP TO CREATE A STRUCTURE THAT IS CONSISTENT WITH THE RIPRAP CHECK STRUCTURE DETAIL **(4/10)**
- ④ BREAK UP INSTREAM BOULDERS, (BREAKING INSTREAM BOULDERS SHALL INCLUDE BREAKING THE BOULDERS TO A ROCK SIZE, ON AVERAGE, LESS THAN 11 INCHES IN DIAMETER. ROCK SHALL BE MOVED FROM THE THALWEG TO THE SIDE AT THE TOE OF THE SIDE SLOPES).
- ⑤ INSTALL GROUDED AND VEGETATED RIPRAP ENERGY DISSIPATION STRUCTURE PER DETAIL **(1/10)**
- ⑥ INSTALL EROSION CONTROL BLANKET PER DETAIL **(2/10)**
- ⑦ INSTALL TURF REINFORCEMENT MAT PER DETAIL **(2/10)**
- ⑧ INSTALL NEW RIPRAP CHECK STRUCTURE WITH CALTRANS CLASS LIGHT (METHOD A) RIPRAP PER DETAIL **(4/10)**

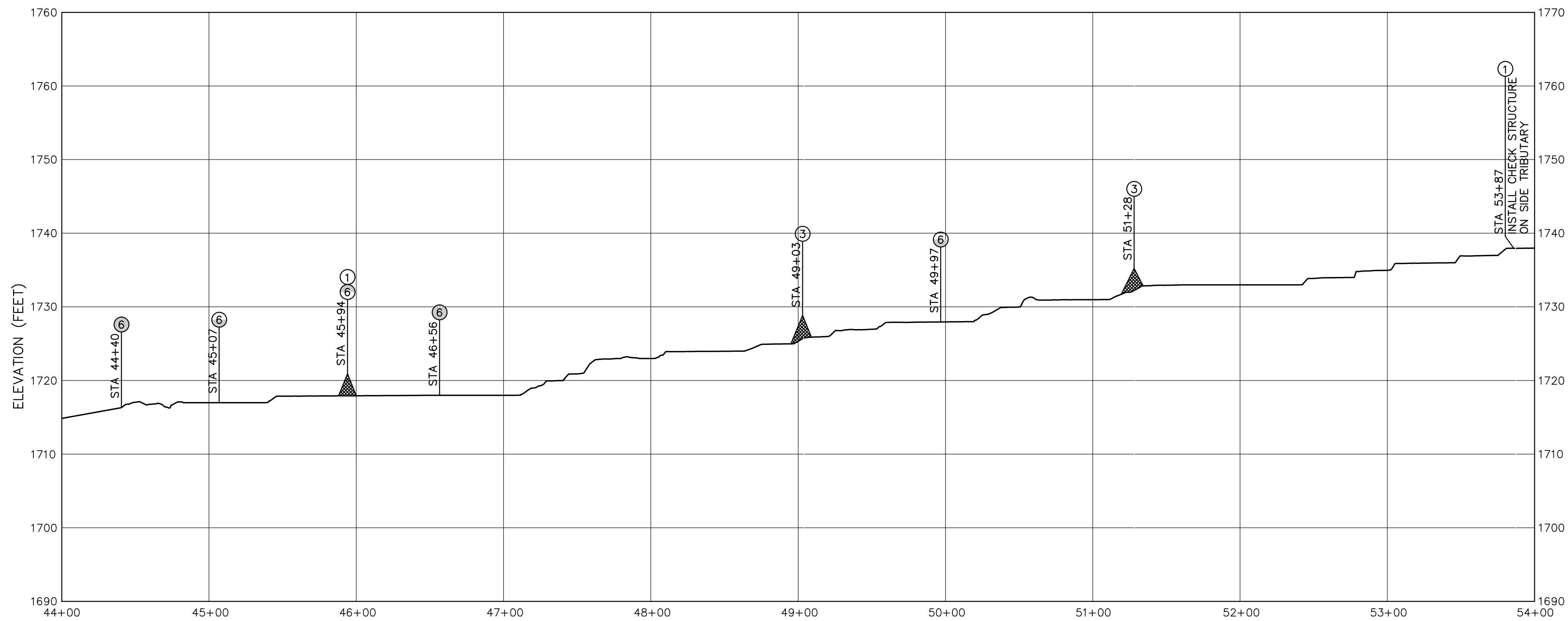
APPROXIMATE CONSTRUCTION QUANTITY

STATION	CONTROL MEASURE ID	QUANTITY	UNITS
35+45	①	10	TONS RIPRAP
35+45	⑥	57	SQ YD ECB
36+01	⑥	24	SQ YD ECB
37+51	⑥	94	SQ YD ECB
39+89	⑥	36	SQ YD ECB
40+53	⑤	57	TONS-GROUDED RIPRAP
40+53	⑤	69	TONS-VEGETATED RIPRAP
42+46	⑥	24	SQ YD ECB
43+65	③	11	TONS RIPRAP
43+65	⑦	121	SQ YD TRM

REV	DATE	DESCRIPTION	DRN	APP
<p>924 ANACAPA STREET., SUITE 4A SANTA BARBARA, CALIFORNIA 923101 USA PHONE: 805.897.3800.</p> <p>SANTA SUSANA FIELD LABORATORY VENTURA COUNTY, CALIFORNIA</p>				
<p>TITLE: PLAN & PROFILE STA 34+00 TO 44+00</p>				
<p>PROJECT: NORTHERN DRAINAGE RESTORATION</p>				
<p>SITE: BOEING SANTA SUSANA FIELD LABORATORY (SSFL)</p>				
<p>THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.</p>		<p>DESIGN BY: JG</p> <p>DRAWN BY: BP</p> <p>CHECKED BY: DB</p> <p>REVIEWED BY: BS</p> <p>APPROVED BY: RJ</p>	<p>DATE: JULY 2011</p> <p>PROJECT NO.: SB0363</p> <p>FILE: SB0363 C05</p> <p>DRAWING NO.: 5 OF 10</p>	
<p>SIGNATURE</p> <p>DATE</p>				

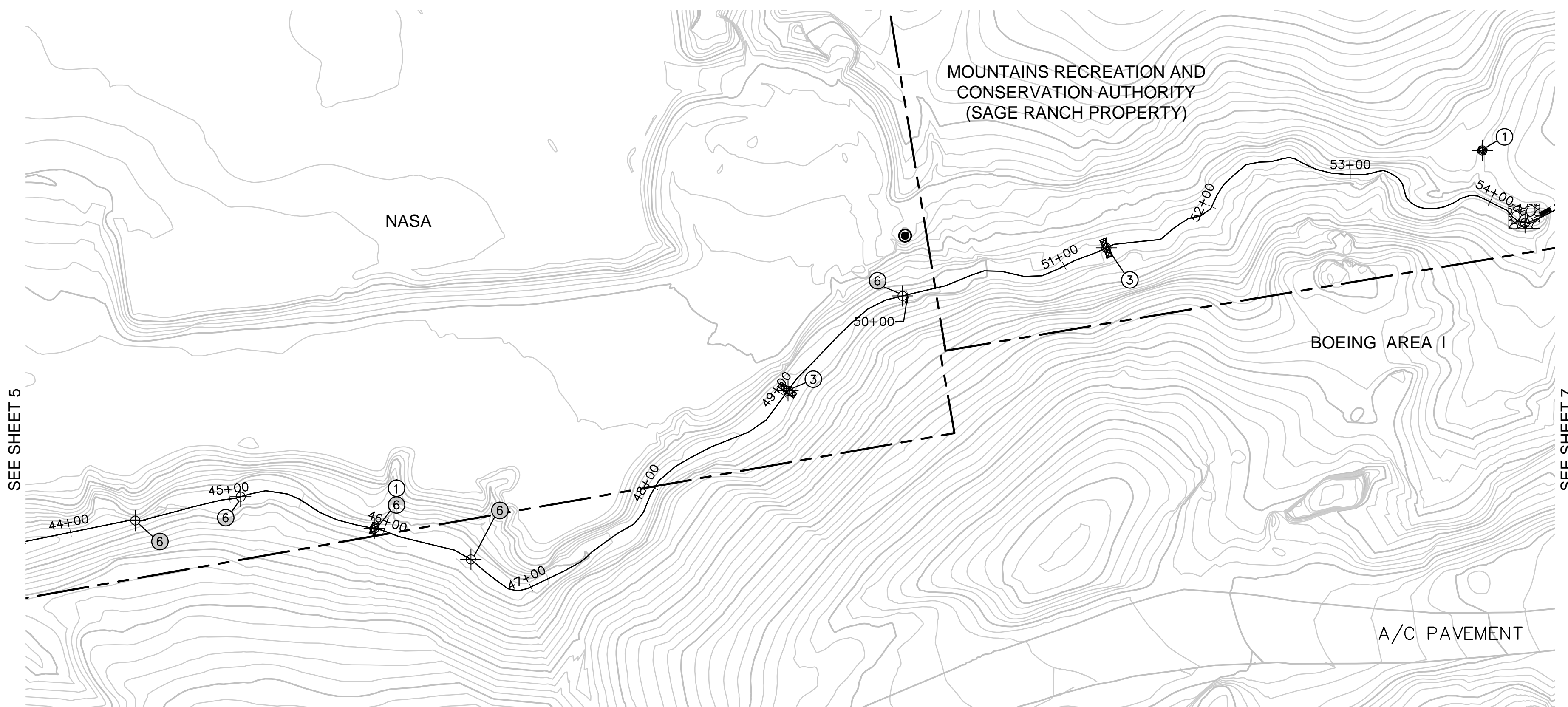
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PROFILE VIEW

SCALE: HORIZ: 1"=50'
VERT: 1" = 10'



PLAN VIEW

LEGEND

- 730 EXISTING MAJOR CONTOUR (FEET)
- EXISTING MINOR CONTOUR
- EXISTING ROAD
- PROPERTY BOUNDARY
- THALWEG LINE
- ENERGY DISSIPATER
- CHECK STRUCTURE
- ACCESS POINT
- SLOPE STABILIZATION ON NORTH & SOUTH BANKS
- SLOPE STABILIZATION ON NORTH BANK
- SLOPE STABILIZATION ON SOUTH BANK
- CONTROL MEASURE IN THALWEG

CONSTRUCTION NOTES

- ① INSTALL NEW RIPRAP CHECK STRUCTURE WITH CALTRANS CLASS FACING (METHOD A) RIPRAP PER DETAIL 4
10
- ② REMOVE EXISTING RIPRAP CHECK STRUCTURE, (REMOVE THE EXISTING ROCK AND PLACE THE THALWEG TO THE SIDE AT THE TOE OF THE SLOPES).
- ③ RETROFIT EXISTING RIPRAP CHECK STRUCTURE, INSTALL CALTRANS CLASS FACING (METHOD A) RIPRAP TO CREATE A STRUCTURE THAT IS CONSISTENT WITH THE RIPRAP CHECK STRUCTURE DETAIL 4
10
- ④ BREAK UP INSTREAM BOULDERS, (BREAKING INSTREAM BOULDERS SHALL INCLUDE BREAKING THE BOULDERS TO A ROCK SIZE, ON AVERAGE, LESS THAN 11 INCHES IN DIAMETER. ROCK SHALL BE MOVED FROM THE THALWEG TO THE SIDE AT THE TOE OF THE SIDE SLOPES).
- ⑤ INSTALL GROUDED AND VEGETATED RIPRAP ENERGY DISSIPATION STRUCTURE PER DETAIL 1
10
- ⑥ INSTALL EROSION CONTROL BLANKET PER DETAIL 2
10
- ⑦ INSTALL TURF REINFORCEMENT MAT PER DETAIL 2
10
- ⑧ INSTALL NEW RIPRAP CHECK STRUCTURE WITH CALTRANS CLASS LIGHT (METHOD A) RIPRAP PER DETAIL 4
10

APPROXIMATE CONSTRUCTION QUANTITY

STATION	CONTROL MEASURE ID	QUANTITY	UNITS
44+40	⑥	212	SQ YD ECB
45+07	⑥	54	SQ YD ECB
45+94	①	6	TONS RIPRAP
45+94	⑥	68	SQ YD ECB
46+56	⑥	216	SQ YD ECB
49+03	③	9	TONS RIPRAP
49+97	⑥	12	SQ YD ECB
51+28	③	13	TONS RIPRAP
53+87	①	11	TONS RIPRAP

REV	DATE	DESCRIPTION	DRN	APP
<small>924 ANACAPA STREET., SUITE 4A SANTA BARBARA, CALIFORNIA 923101 USA PHONE: 805.897.3800.</small>				
TITLE: PLAN & PROFILE STA 44+00 TO 54+00				
PROJECT: NORTHERN DRAINAGE RESTORATION				
SITE: BOEING SANTA SUSANA FIELD LABORATORY (SSFL)				
<small>THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.</small>		<small>DESIGN BY: JG</small> <small>DRAWN BY: BP</small> <small>CHECKED BY: DB</small> <small>REVIEWED BY: BS</small> <small>APPROVED BY: RJ</small>	<small>DATE: JULY 2011</small> <small>PROJECT NO.: SB0363</small> <small>FILE: SB0363 C06</small> <small>DRAWING NO.: 6 OF 10</small>	
SIGNATURE _____ DATE _____				

**60% DESIGN DRAWINGS
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 7/1/2011 10:00:00 AM
 User: jg