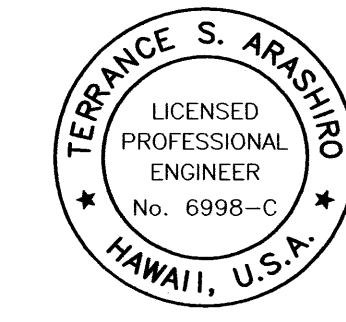


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-030-1(38)	2010	71	213

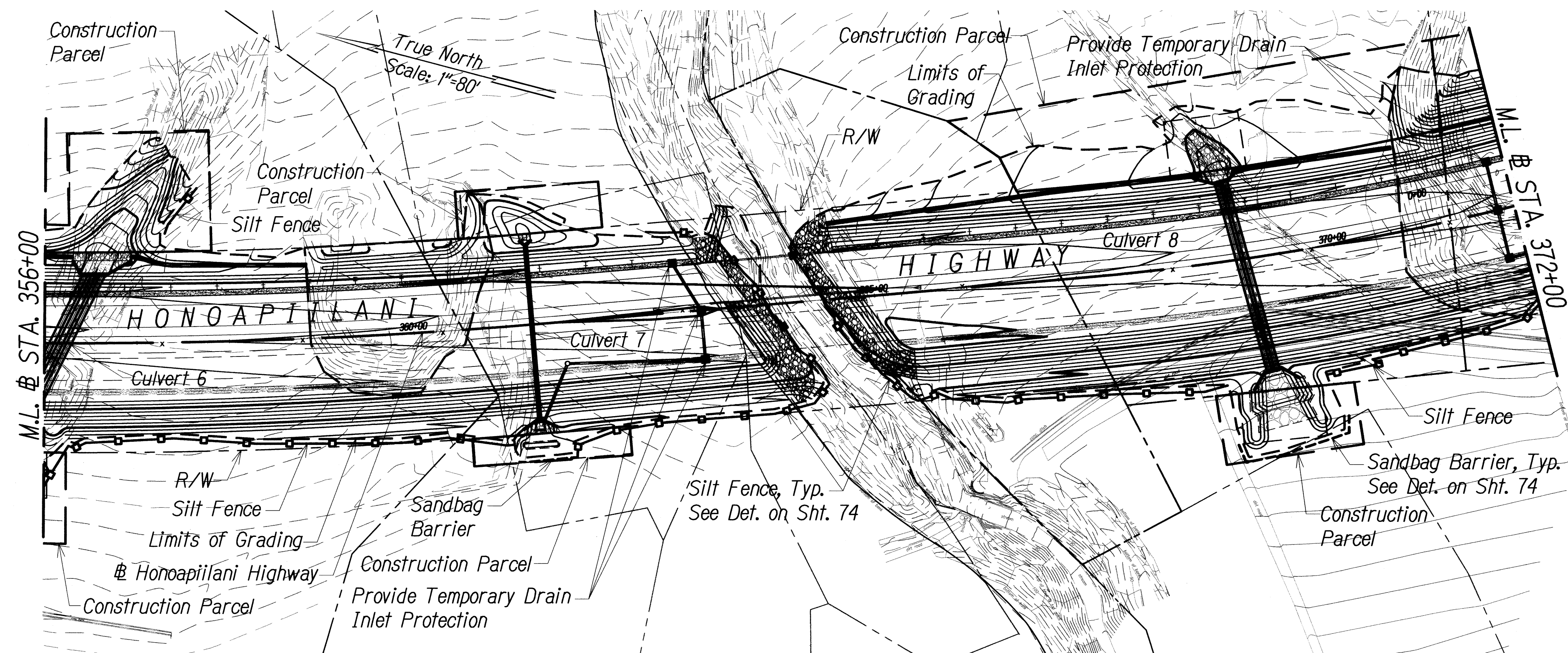
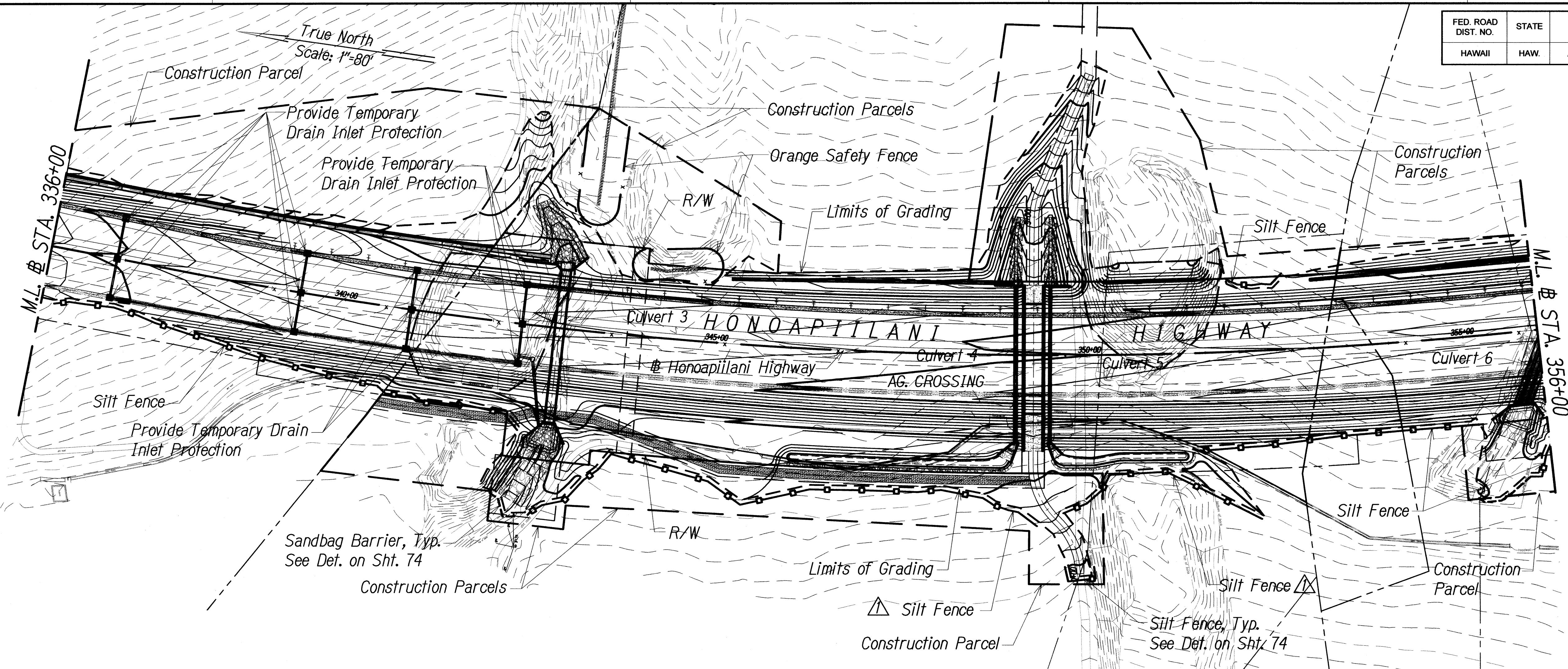
1/18/10	Rev. Construction Parcels
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<b>EROSION CONTROL PLAN</b>	
HONOAPIILANI HIGHWAY REALIGNMENT, PHASE 1B-1 Lahainaluna Rd. to Hokiokio Pl. Federal Aid Project NO. NH-030-1(38)	
Scale: 1" = 80'	Date: November 23, 2009
SHEET No. 1 OF 6 SHEETS	



EXP. 4/30/10  
THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION AND  
CONSTRUCTION OF THIS PROJECT  
WILL BE UNDER MY OBSERVATION



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-030-1(38)	2010	72	213

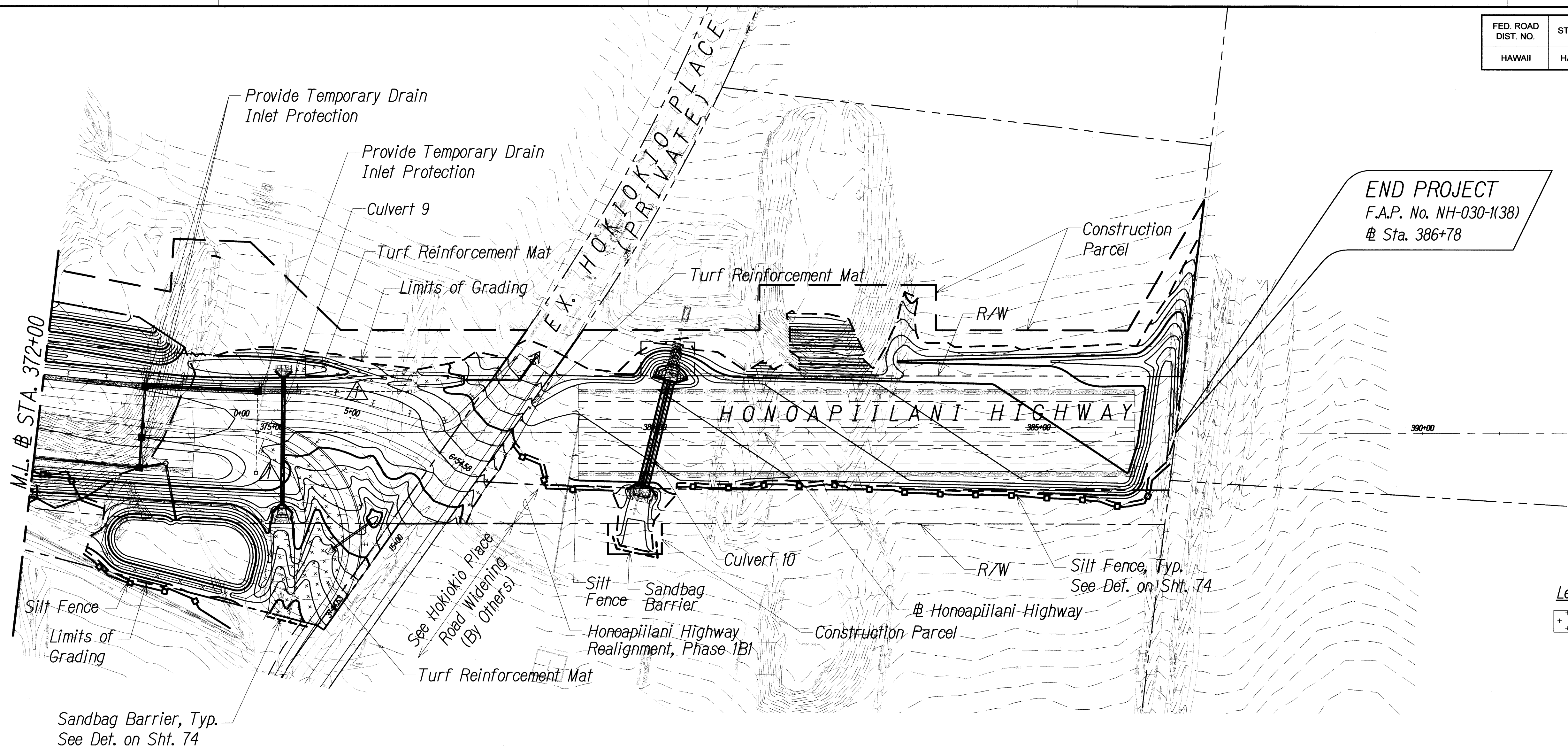


TERRANCE S. ARASHIRO  
 LICENSED PROFESSIONAL ENGINEER  
 No. 6998-C  
 HAWAII, U.S.A.  
 EXP. 4/30/10  
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

1/18/10 DATE	Rev. Grading, Silt Fence, Add Push Piles REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <b>EROSION CONTROL PLAN</b> HONOAPIILANI HIGHWAY REALIGNMENT, PHASE 1B-1 Lahainaluna Rd. to Hokiokio Pl. Federal Aid Project NO. NH-030-1(38) Scale: 1" = 80'      Date: November 23, 2009	
SHEET No. 2 OF 6 SHEETS	



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-030-K(38)	2010	73	213



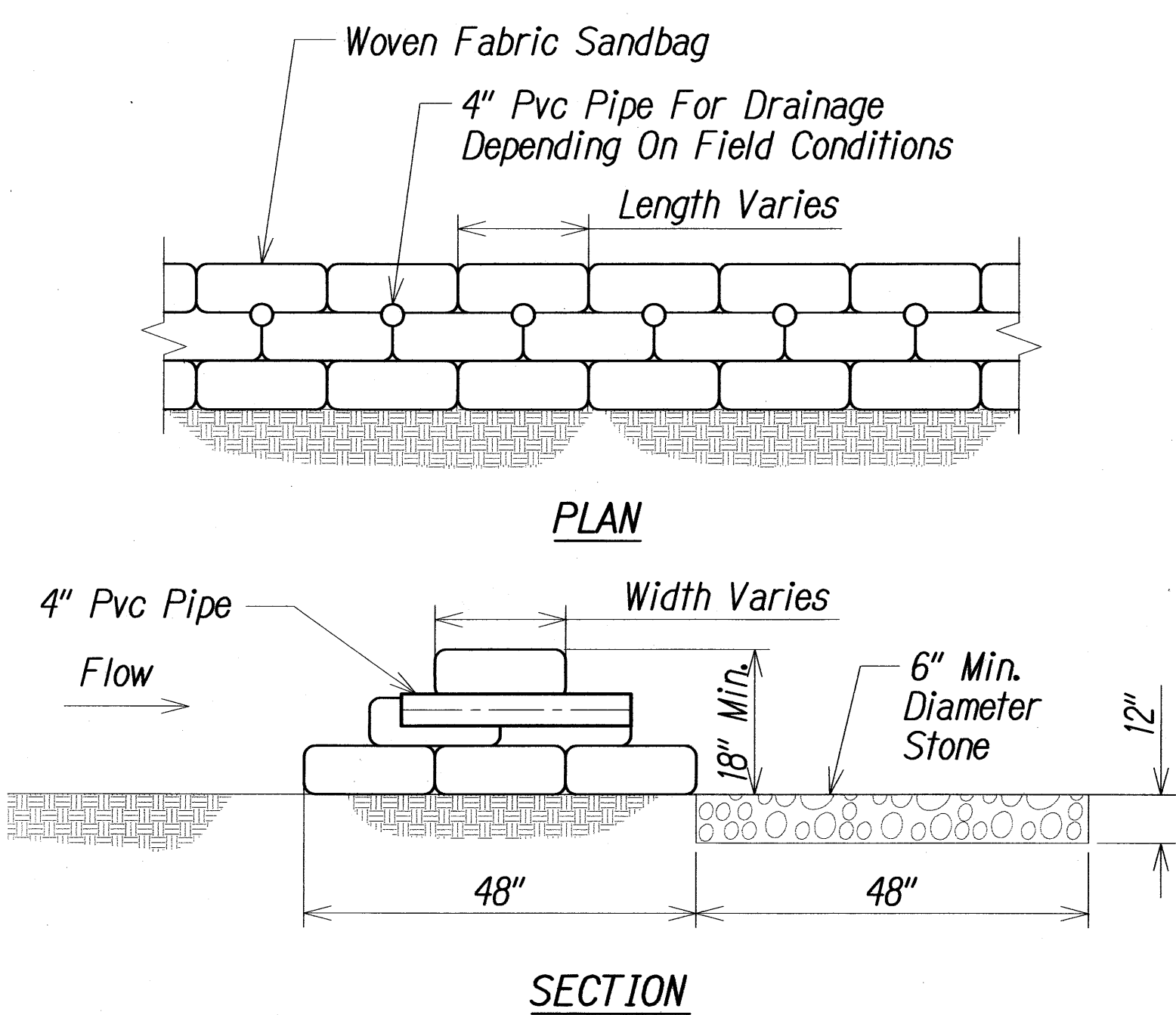
True North  
Scale: 1"=80'

Legend:  
+++++ Turf Reinforcement Mat

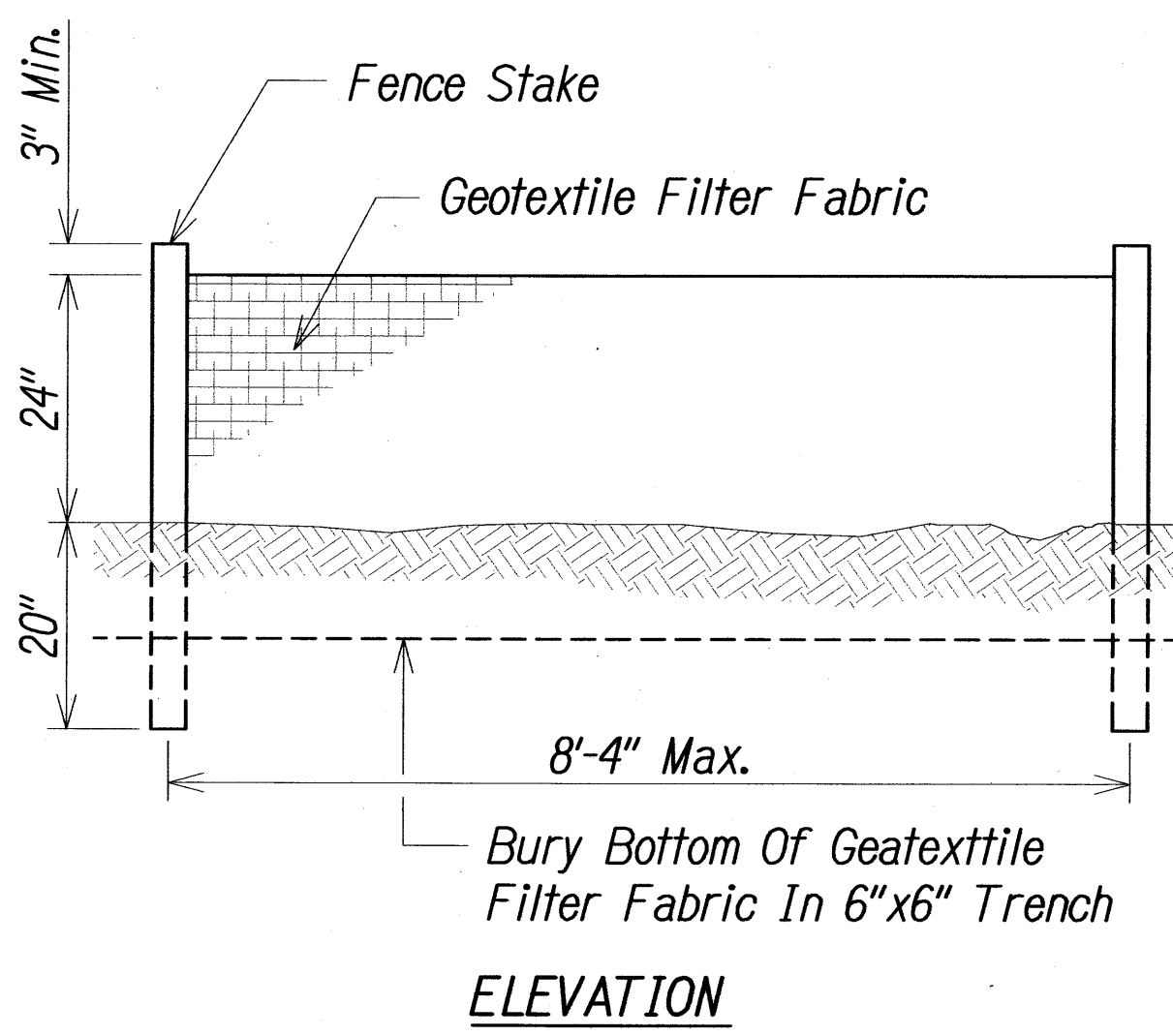
TERENCE S. ARASHIRO  
LICENSED PROFESSIONAL ENGINEER  
No. 6998-C  
HAWAII, U.S.A.  
EXP. 4/30/10  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

1/18/10 DATE	Revised TRM near Cul. 9 and D.L.'s M#N REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<b>EROSION CONTROL PLAN</b>	
HONOAPIILANI HIGHWAY REALIGNMENT, PHASE 1B-1 Lahainaluna Rd. to Hokiokio Pl. Federal Aid Project NO. NH-030-K(38)	
Scale: 1" = 80'	Date: November 23, 2009
SHEET No. 3 OF 6 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-030-K38)	2010	74	213

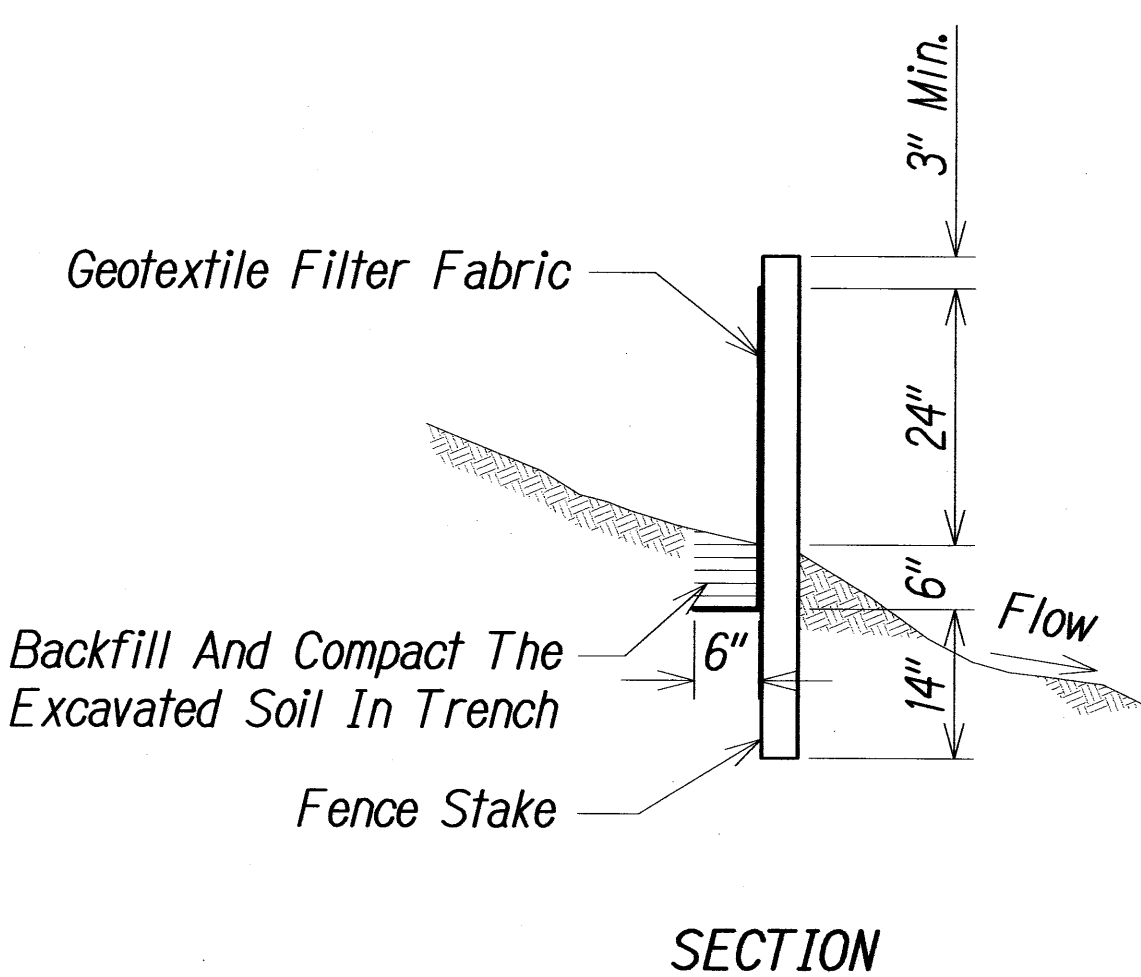


**SANDBAG BARRIER**  
Not to Scale

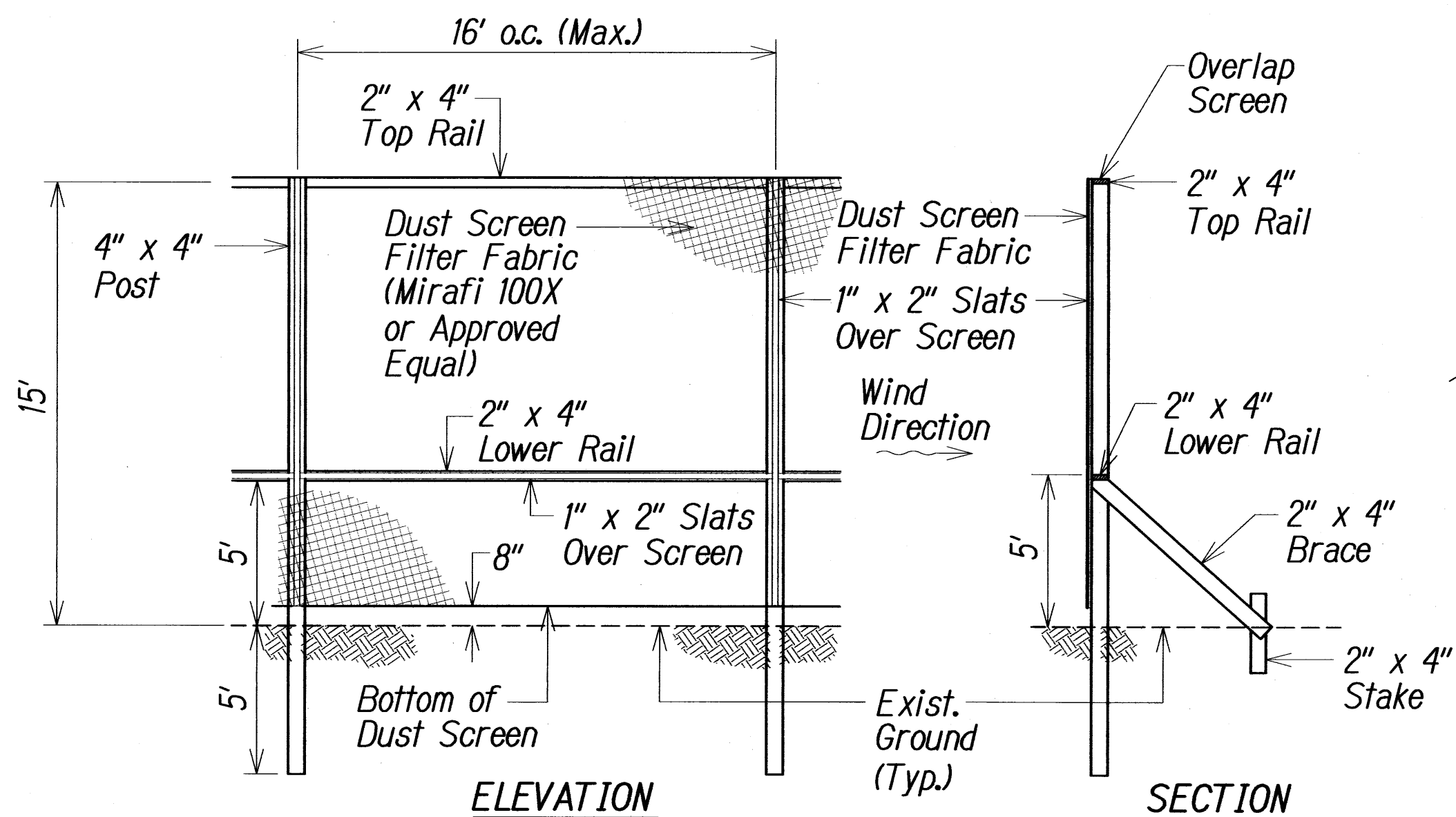


- NOTES:**
1. The filter fabric shall be a minimum of 36 inches wide.
  2. If silt fence is obtained from manufacturer as a package (i.e. fabric attached to post) the manufacturer's installation instruction shall be adhered to.
  3. Fence stakes may be wood or metal, must be capable of supporting anticipated loads.

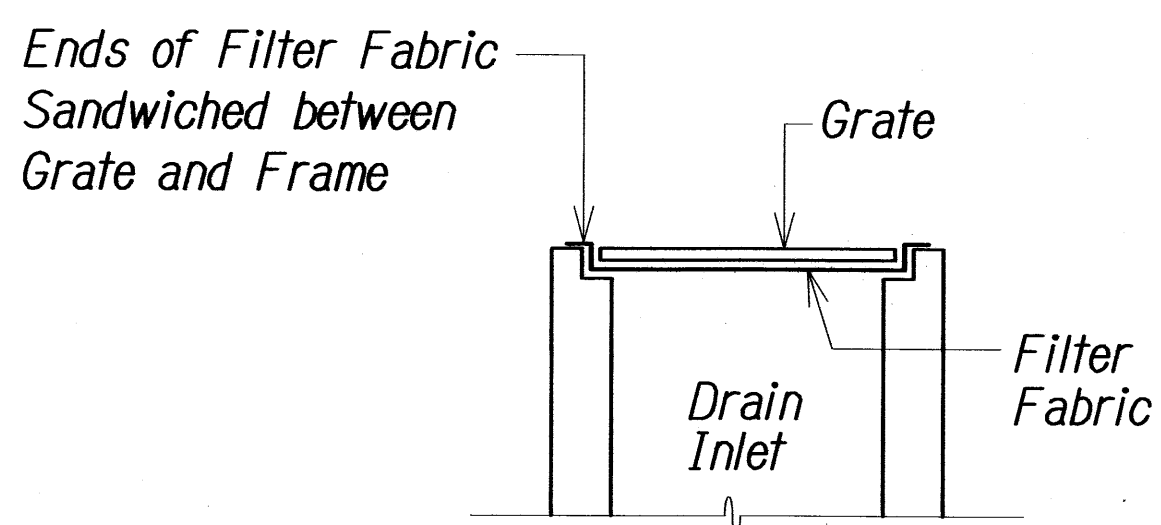
**SILT FENCE DETAIL**  
Not to Scale



**SECTION**

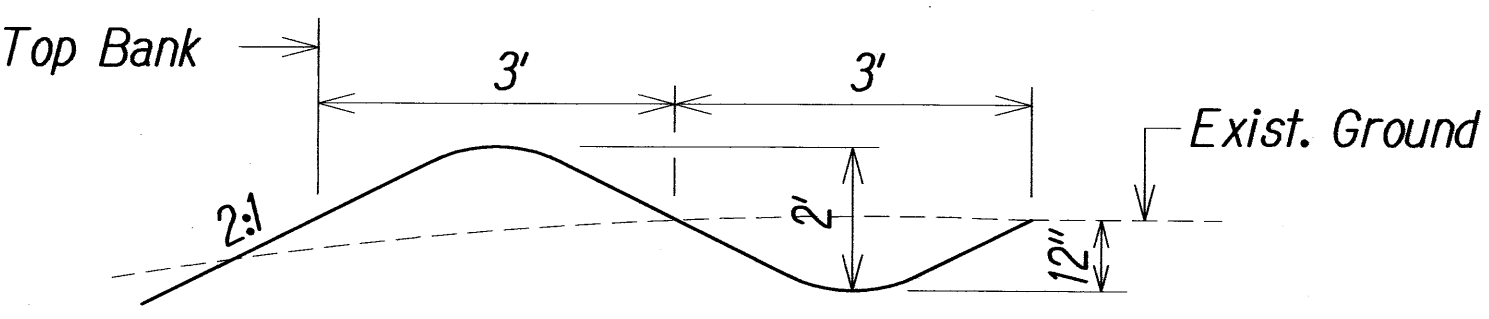


**DUST FENCE DETAIL**  
Not to Scale



- NOTES:**
1. Filter fabric shall be 15 mil (min.) "Envirofence #10800" by Nicolon Corp. or approved equal.
  2. Contractor shall check the condition of the filter at the beginning and ending of each work day and repair/ clean as necessary.
  3. The Contractor shall remove inlet filters during times of above normal rainfall events and replace them when the event has passed.\*
- \* The Contractor shall use his/her best professional judgment (BPJ) in determining if inlet filters and/or sediment barriers need to be removed during a heavy rain event to protect health and safety. The Contractor and/or Owner would still be liable for any water pollution violations that may occur due to the removal of the BMP's, however, factors such as the protection of public health and safety are taken into account in the event of an enforcement action. BPJ should also be used in determining when to reinstall the bmp's that were removed.

**TEMPORARY SEDIMENT BARRIER  
AT DRAIN INLET**  
Not to Scale



**TEMPORARY INTERCEPTOR DITCH**  
Not to Scale



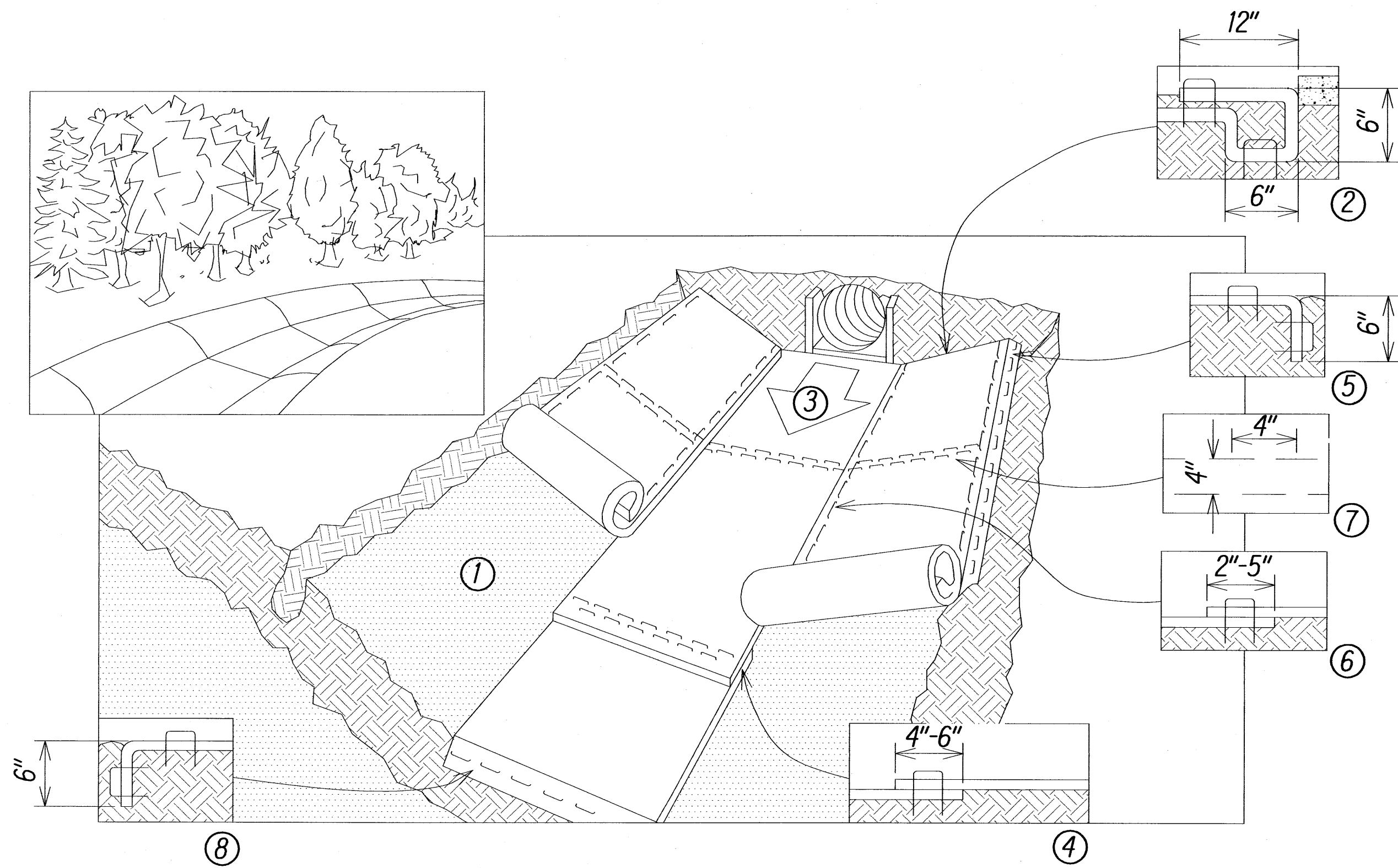
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WILL BE UNDER MY OBSERVATION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**EROSION CONTROL DETAILS**  
HONOAPIILANI HIGHWAY REALIGNMENT, PHASE 1B-1  
Lahainaluna Rd. to Hokiokio Pl.  
Federal Aid Project NO. NH-030-K38)  
Scale: As Shown      Date: November 23, 2009



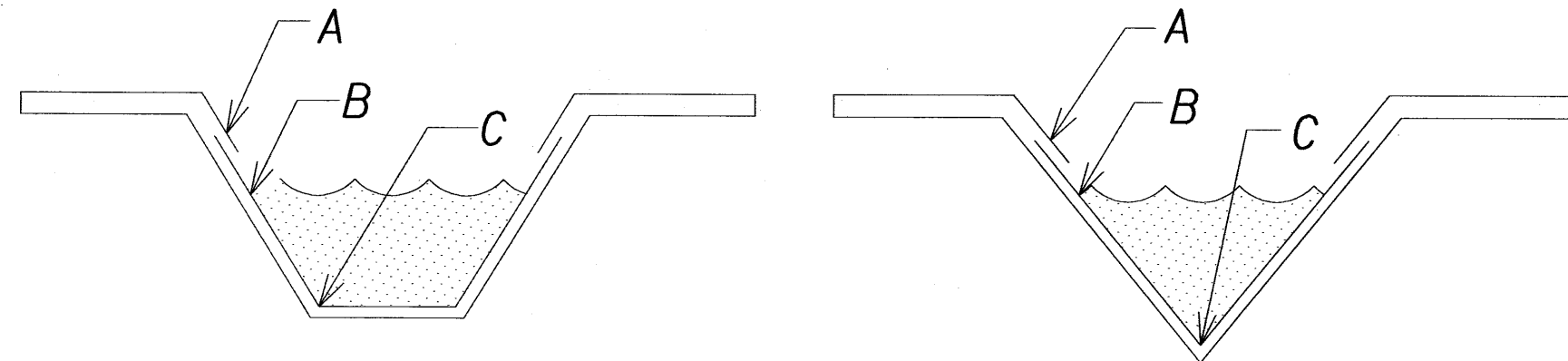
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-030-K(38)	2010	75	213



1. Prepare soil before installing blankets, including any necessary application of lime, fertilizer, and seed. Note: when using cell-o-seed do not seed prepared area. Cell-o-seed must be installed with paper side down.
2. Begin at the top of the channel by anchoring the blanket in a 6" (15 cm) deep x 6" (15 cm) wide trench with approximately 12" (30 cm) of blanket extended beyond the up-slope portion of the trench. Anchor the blanket with a row of staples/stakes approximately 12" (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12" (30 cm) portion of blanket back over seed and compacted soil. Secure blanket over compacted soil with a row of staples/stakes spaced approximately 12" (30 cm) across the width of the blanket.
3. Roll center blanket in direction of water flow in bottom of channel. Blankets will unroll with appropriate side against the soil surface. All blankets must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.™ When using the dot system , staples/stakes should be placed through each of the colored dots corresponding to the appropriate staple pattern.
4. Place consecutive blankets end over end (shingle style) with a 4" - 6" (10 cm -15 cm) overlap. Use a double row of staples staggered 4" (10 cm) apart and 4" (10 cm) on center to secure blankets.
5. Full length edge of blankets at top of side slopes must be anchored with a row of staples/stakes approximately 12" (30 cm) apart in a 6" (15 cm) deep x 6" (15 cm) wide trench. Backfill and compact the trench after stapling.
6. Adjacent blankets must be overlapped approximately 2" - 5" (5 cm -12.5 cm) (depending on blanket type) and stapled.
7. In high flow channel applications, a staple check slot is recommended at 30 to 40 foot (9 m - 12 m) intervals. Use a double row of staples staggered 4" (10 cm) apart and 4" (10 cm) on center over entire width of the channel.
8. The terminal end of the blankets must be anchored with a row of staples/stakes approximately 12" (30 cm) apart in a 6" (15 cm) deep x 6" (15 cm) wide trench. Backfill and compact the trench after stapling.

NOTE:

\* In loose soil conditions, the use of staple or stake lengths greater than 6" (15 cm) may be necessary to properly anchor the blankets.



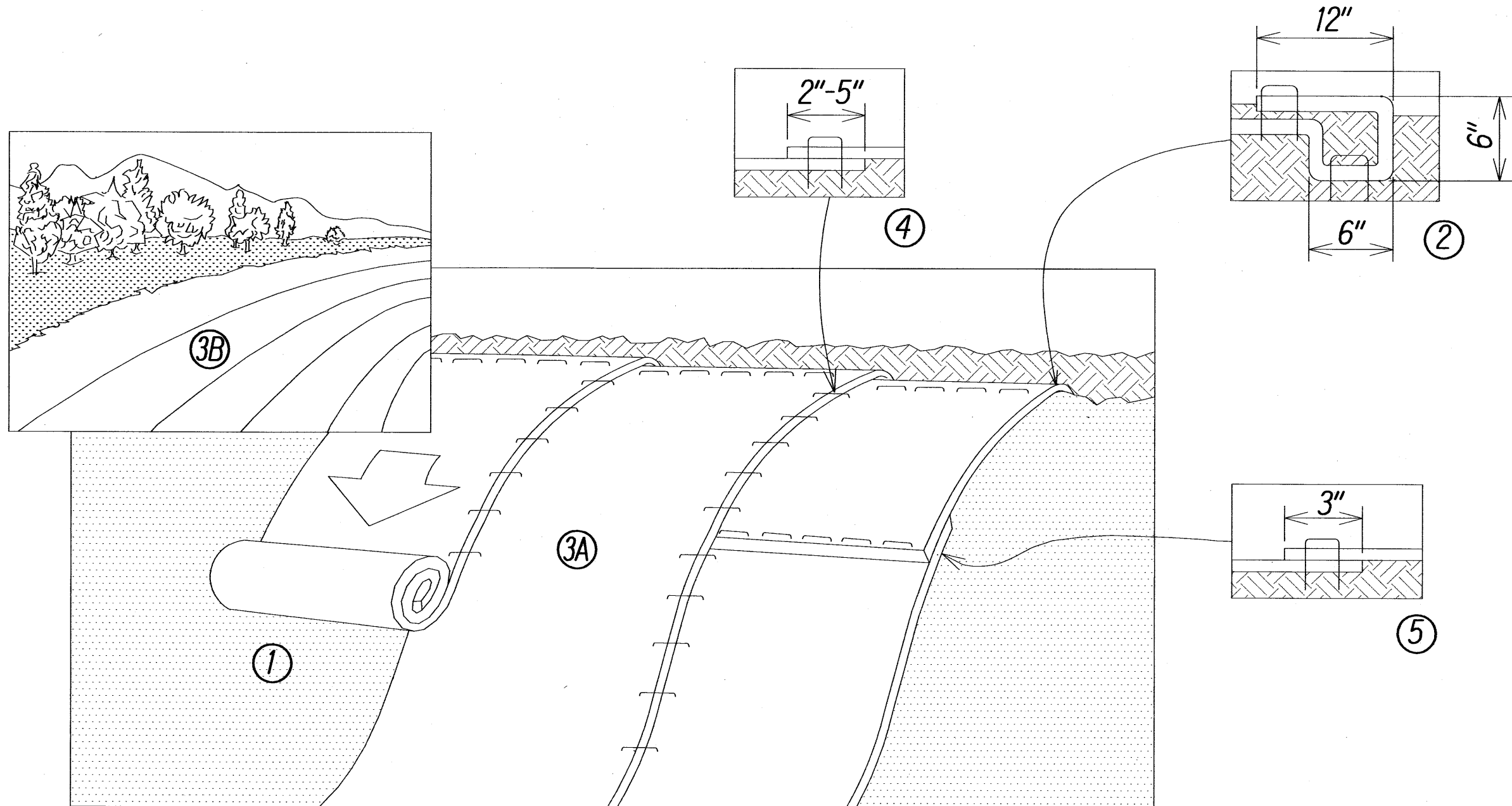
#### CRITICAL POINTS

- A. Overlaps and seams
- B. Projected water line
- C. Channel bottom/side slope vertices

NOTE:

\* Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.

\*\* In loose soil conditions, the use of staple or stake lengths greater than 6" (15 cm) may be necessary to properly anchor the blankets.



1. Prepare soil before installing blankets, including any necessary application of lime, fertilizer, and seed. Note: when using cell-o-seed do not seed prepared area. Cell-o-seed must be installed with paper side down.
2. Begin at the top of the slope by anchoring the blanket in a 6" (15 cm) deep x 6" (15 cm) wide trench with approximately 12" (30cm) of blanket extended beyond the up-slope portion of the trench. Anchor the blanket with a row of staples/stakes approximately 12" (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12" (30 cm) portion of blanket back over seed and compacted soil. Secure blanket over compacted soil with a row of staples/stakes spaced approximately 12" (30 cm) apart across the width of the blanket.
3. Roll the blankets (a.) down or (b.) horizontally across the slope. Blankets will unroll with appropriate side against the soil surface. All blankets must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide. When using the dot system, staples/stakes should be placed through each of the colored dots corresponding to the appropriate staple pattern.
4. The edges of parallel blankets must be stapled with approximately 2" - 5" (5 cm - 12.5 cm) overlap depending on blanket type.
5. Consecutive blankets spliced down the slope must be placed end over end (shingle style) with an approximate 3" (7.5 cm) overlap. Staple through overlapped area, approximately 12" (30 cm) apart across entire blanket width.

Note:

\* In loose soil conditions, the use of staple or stake lengths greater than 6" (15 cm) may be necessary to properly secure the blankets.

### TURF REINFORCEMENT MAT INSTALLATION FOR SLOPES

Not to Scale



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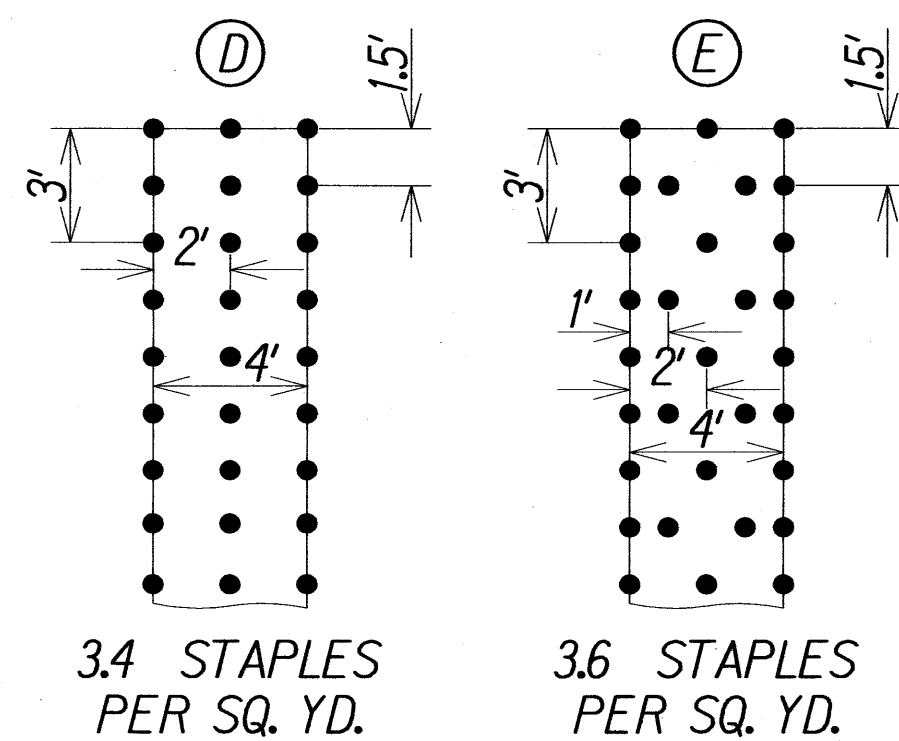
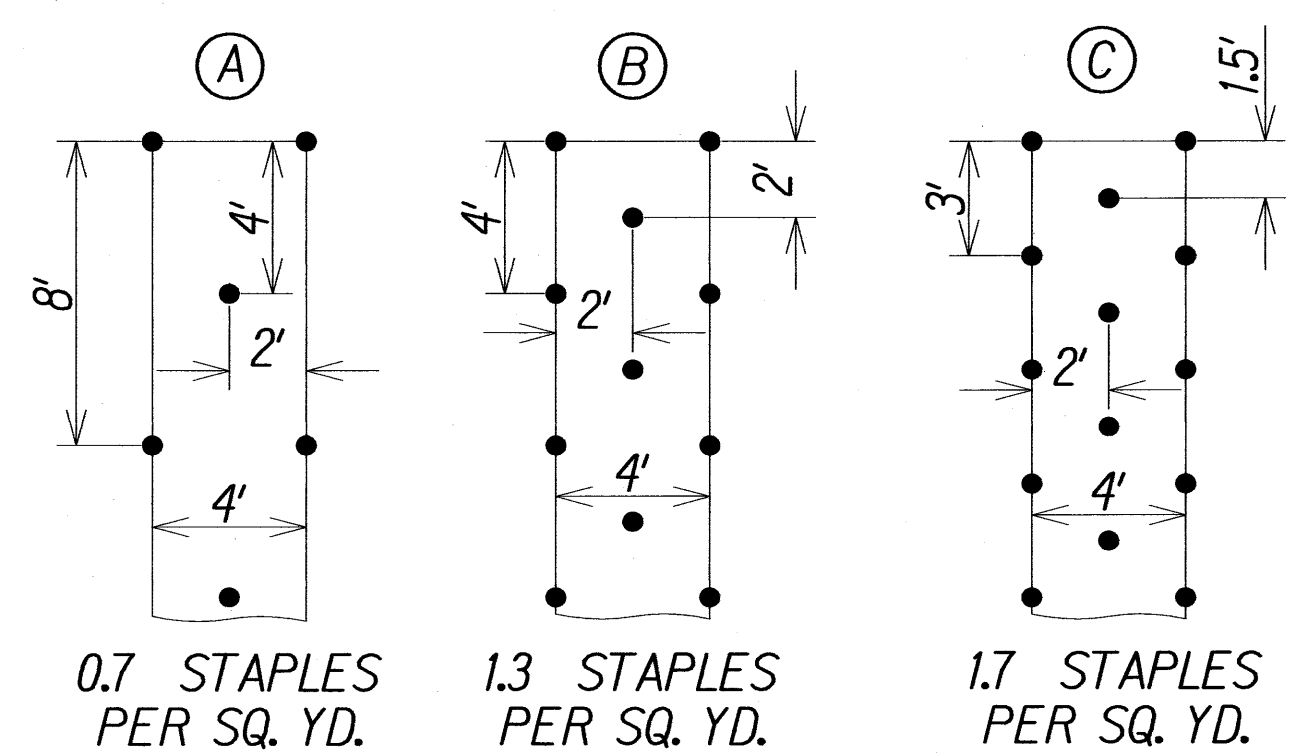
### EROSION CONTROL DETAILS

HONOAPIILANI HIGHWAY REALIGNMENT, PHASE 1B-1  
Lahainaluna Rd. to Hokiokio Pl.  
Federal Aid Project NO. NH-030-K(38)

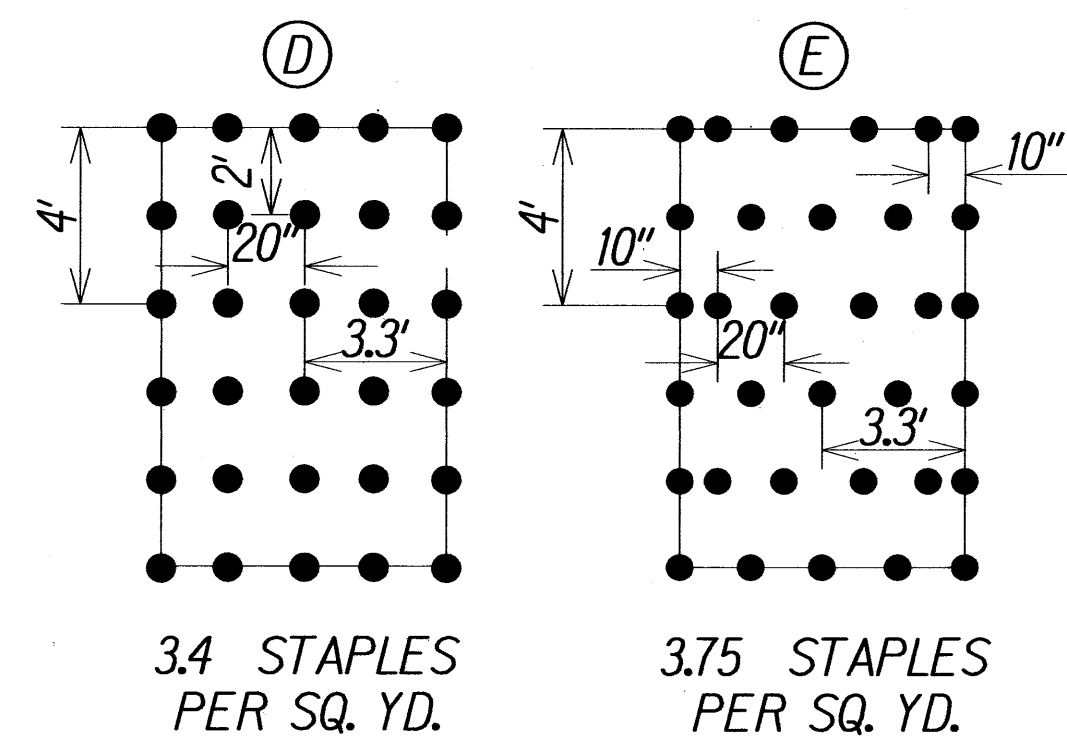
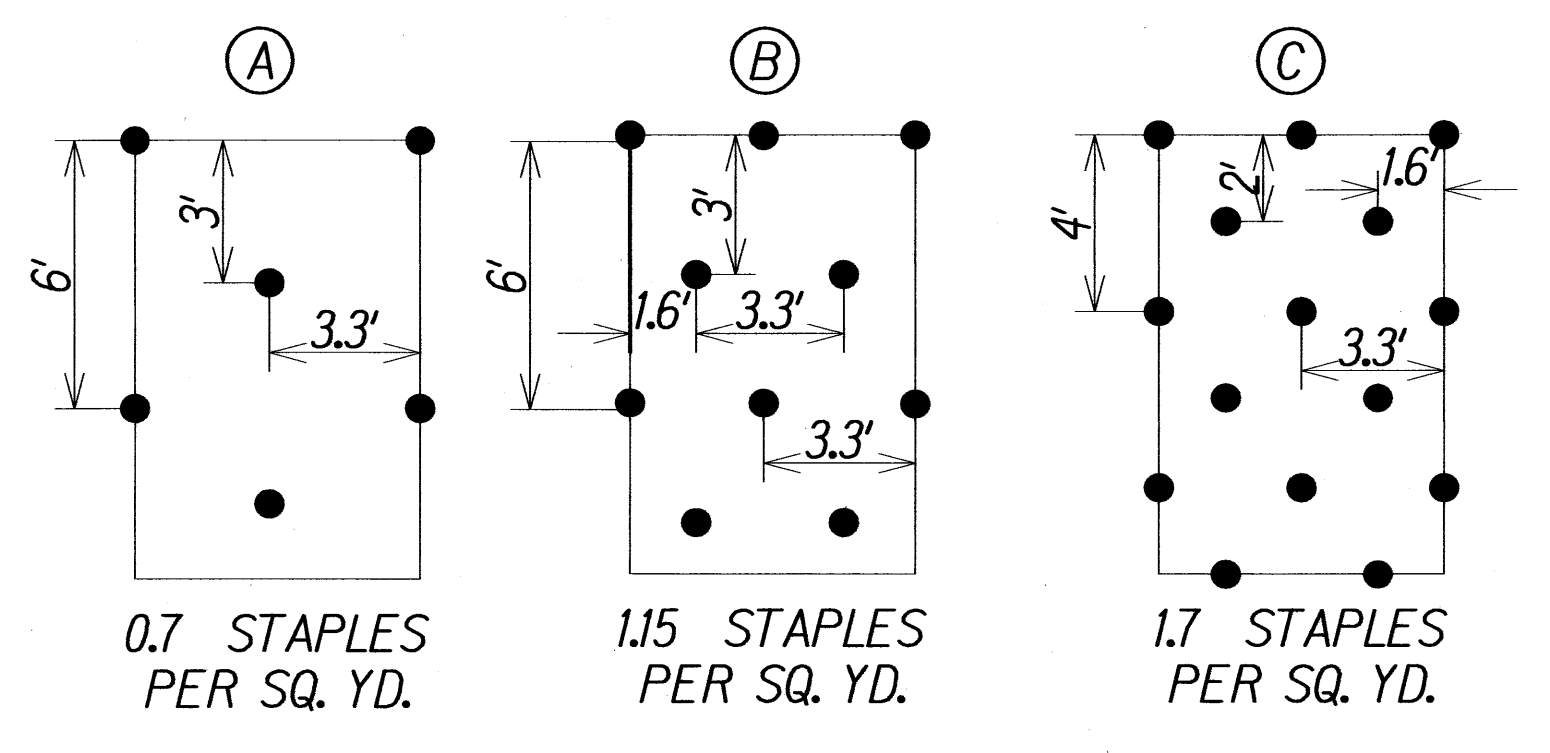
Scale: As Shown Date: November 23, 2009

SHEET No. 5 OF 6 SHEETS

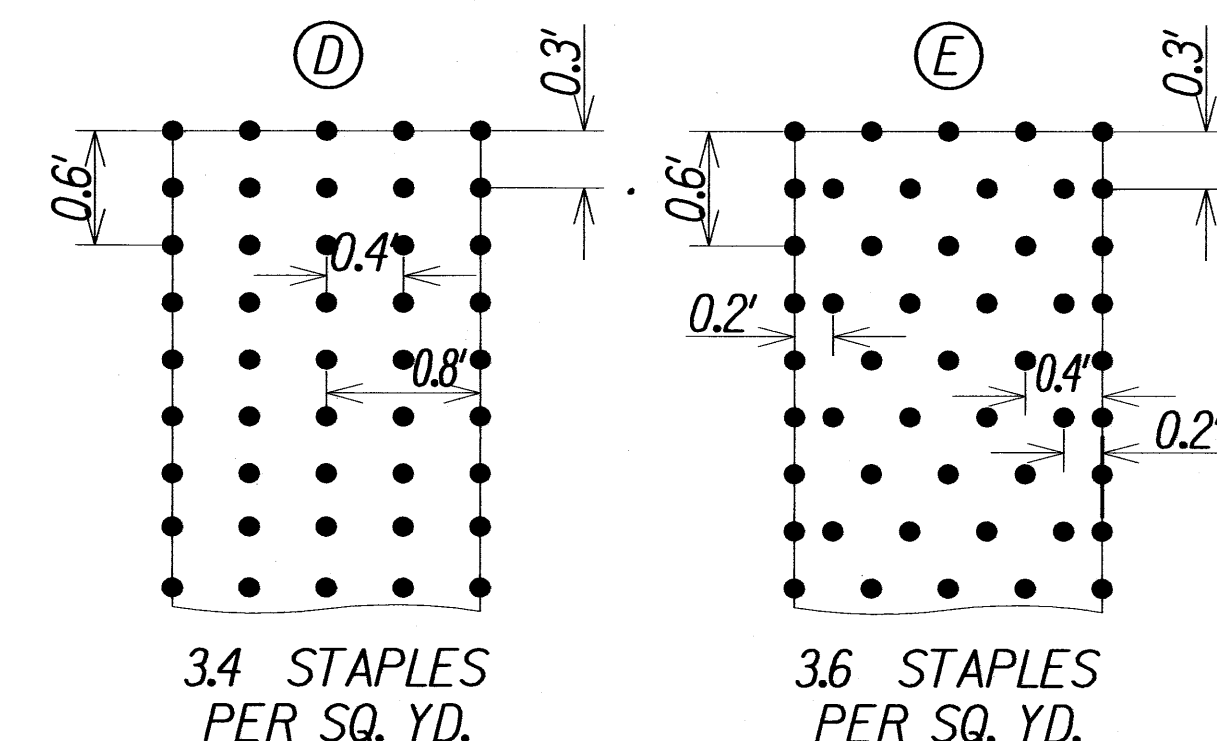
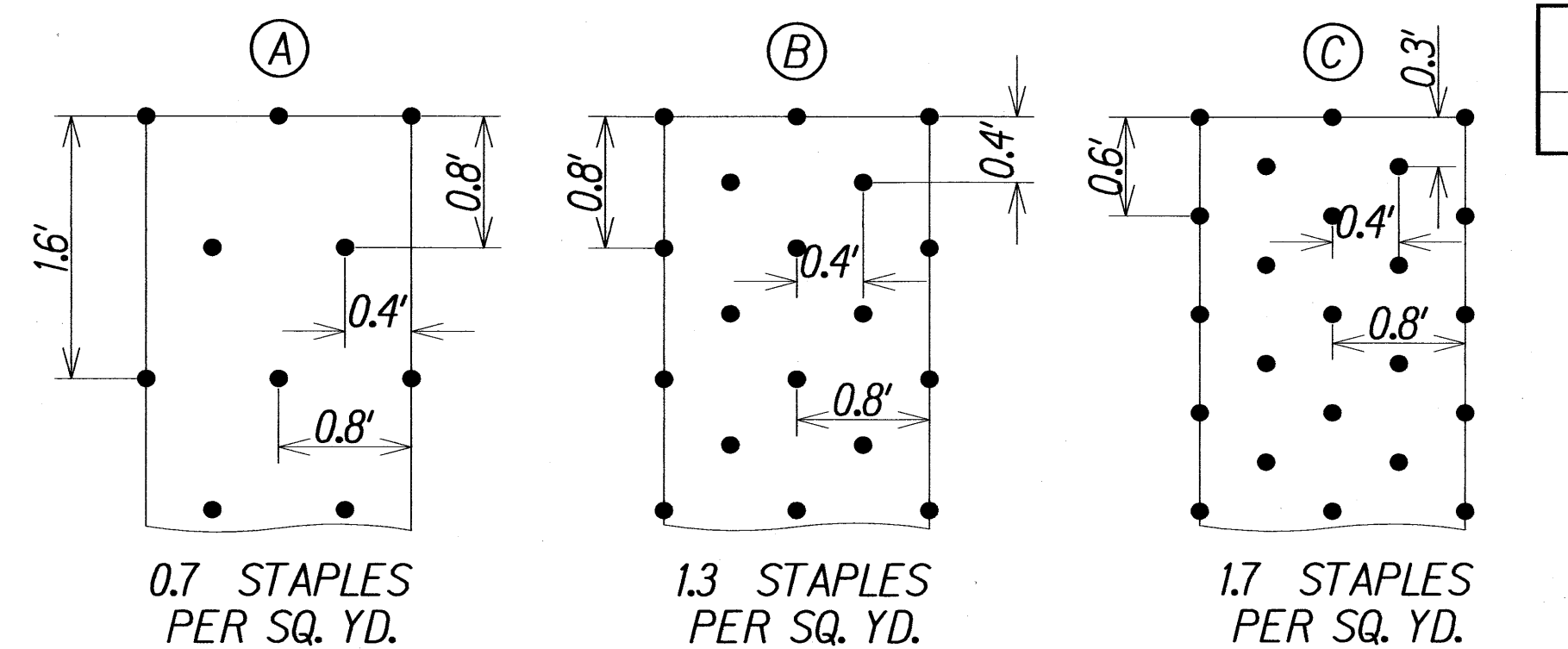
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-030-1(38)	2010	76	213



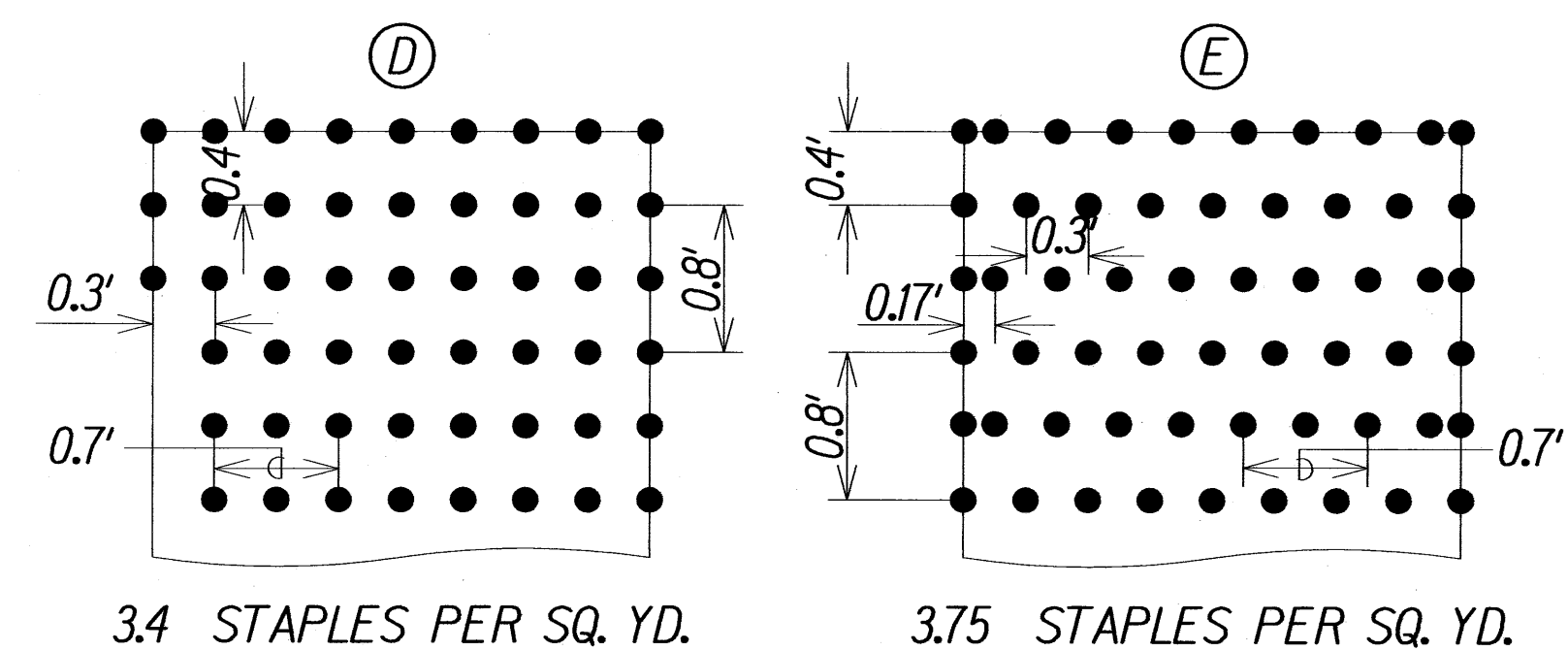
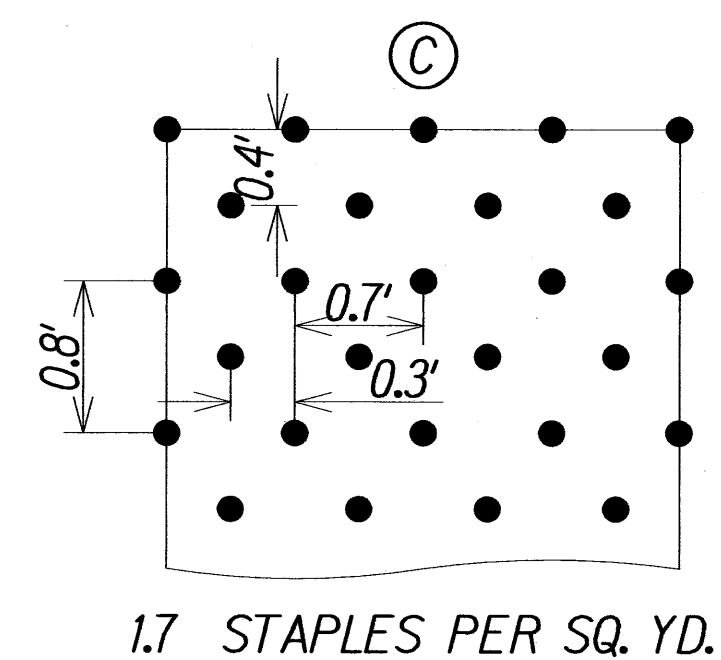
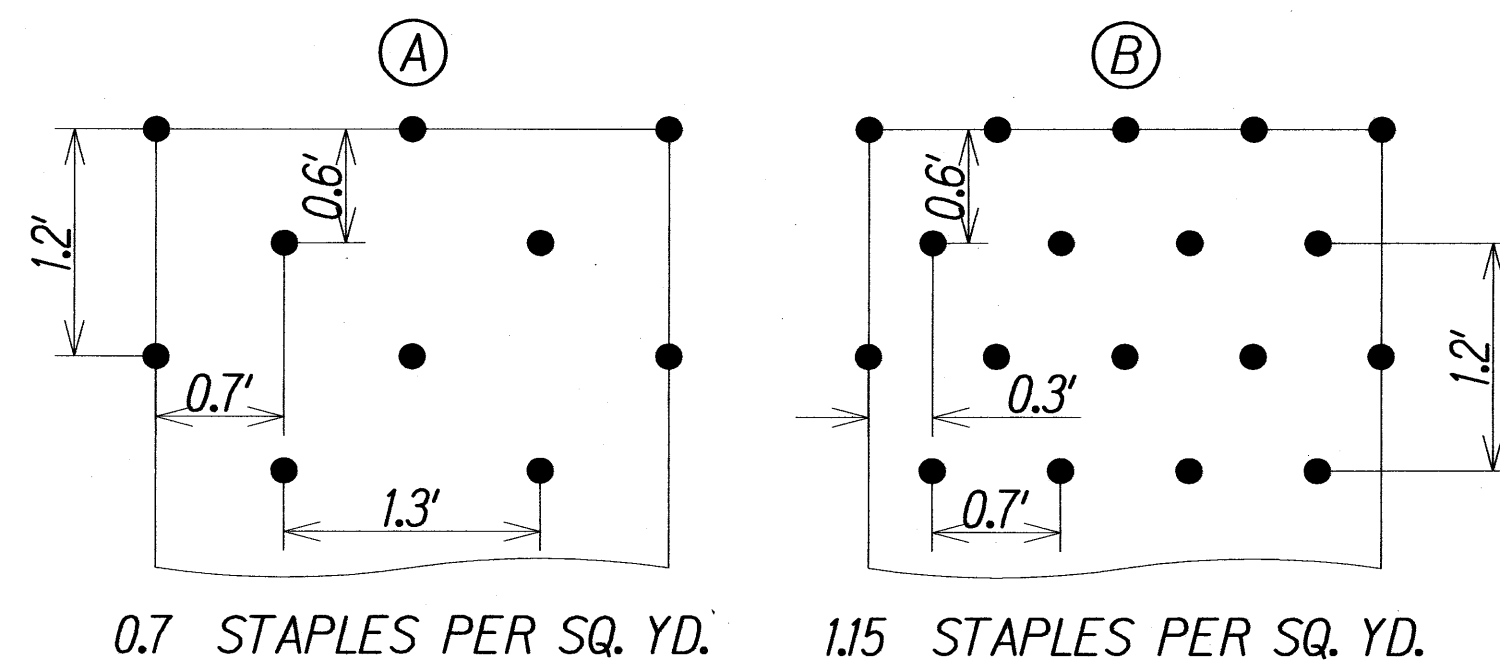
STAPLE PATTERN GUIDE - 4' WIDE ROLLS



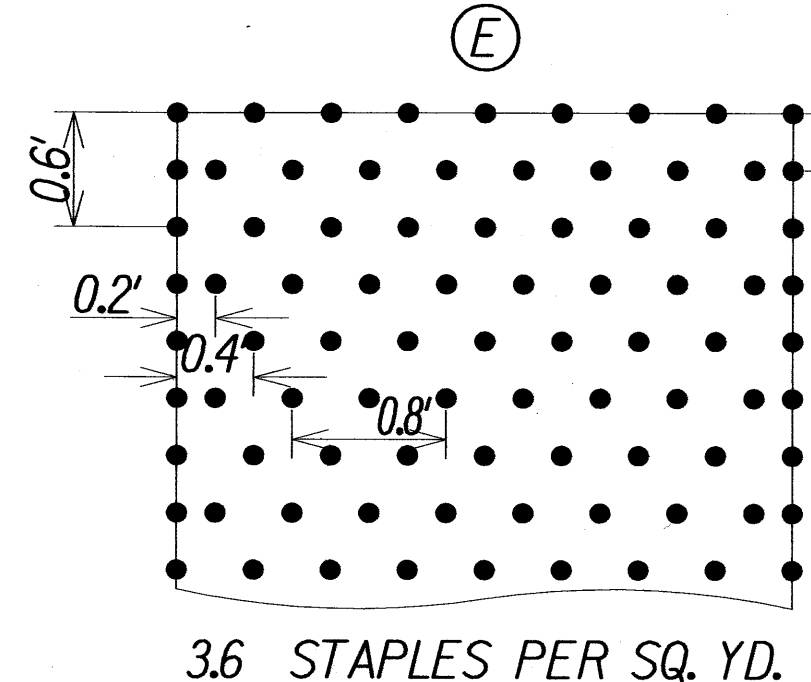
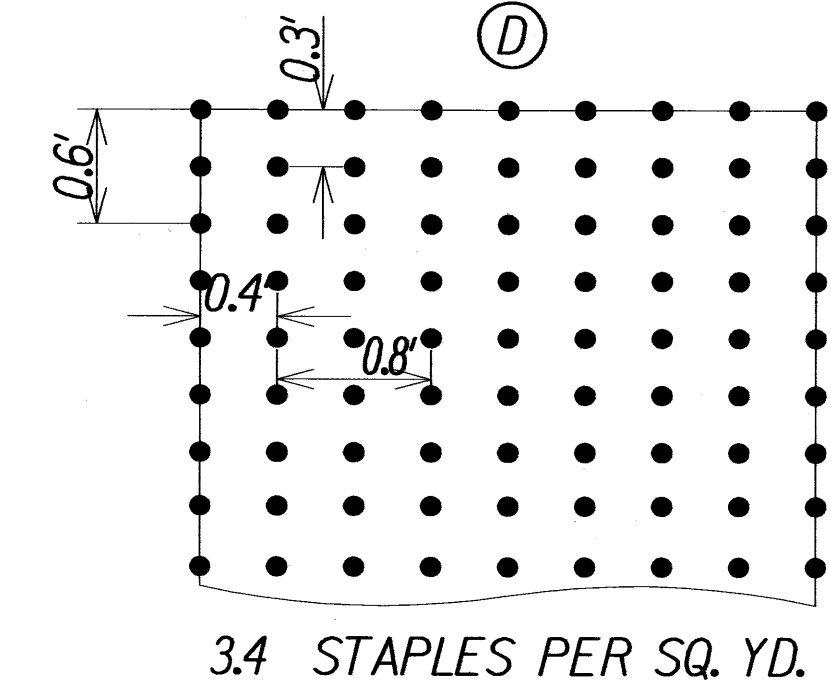
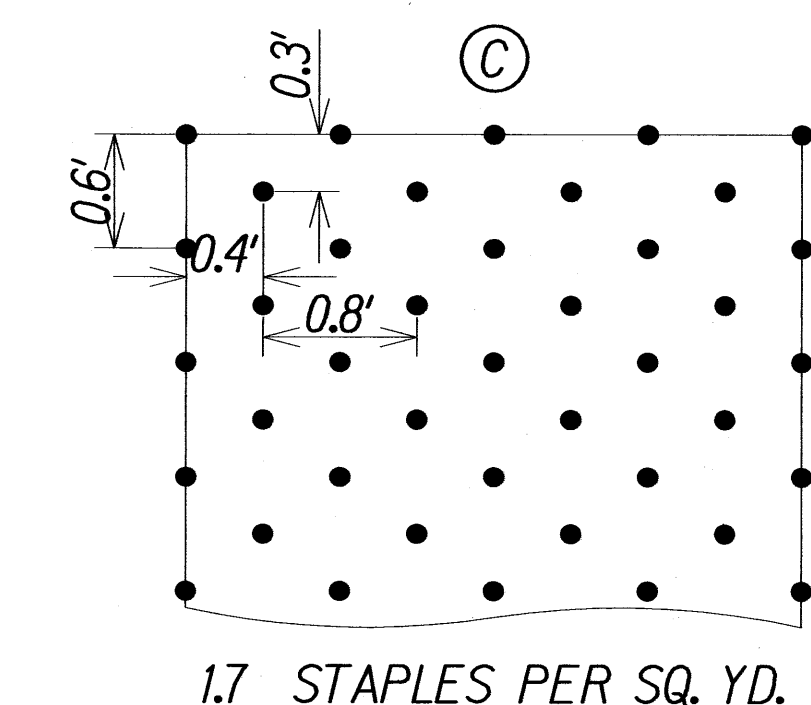
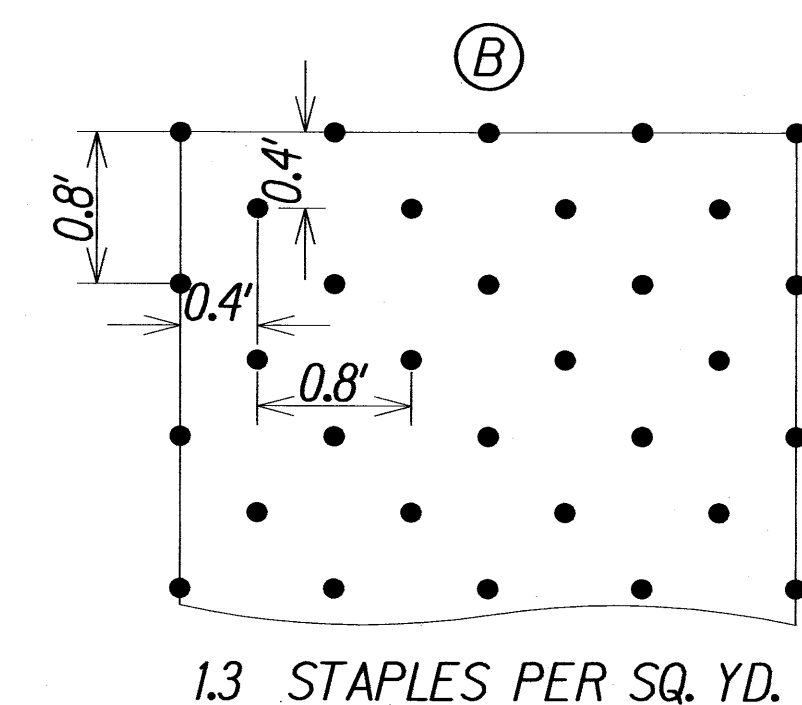
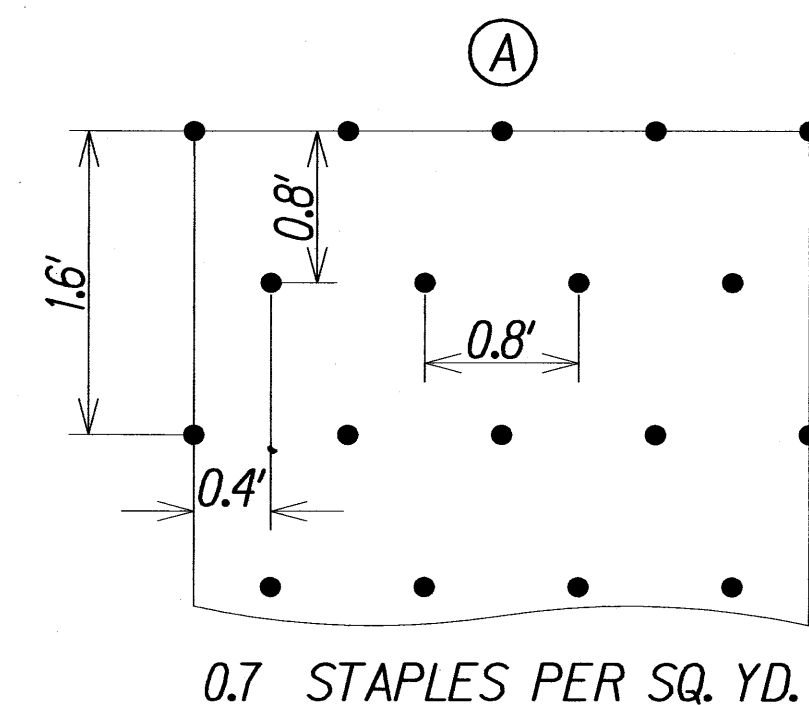
STAPLE PATTERN GUIDE - 6.67' WIDE ROLLS



STAPLE PATTERN GUIDE - 8' WIDE ROLLS



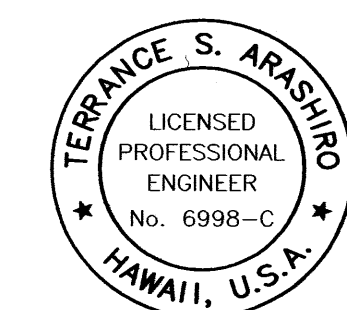
STAPLE PATTERN GUIDE - 13.3' WIDE ROLLS



STAPLE PATTERN GUIDE - 16' WIDE ROLLS

### TURF REINFORCEMENT MAT STAPLE PATTERN GUIDES

Not to Scale



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HIGHWAYS DIVISION

### EROSION CONTROL DETAILS

HONOAPIILANI HIGHWAY REALIGNMENT, PHASE 1B-1  
Lahainaluna Rd. to Hokiokio Pl.  
Federal Aid Project NO. NH-030-1(38)

Scale: As Shown Date: November 23, 2009

SHEET No. 6 OF 6 SHEETS