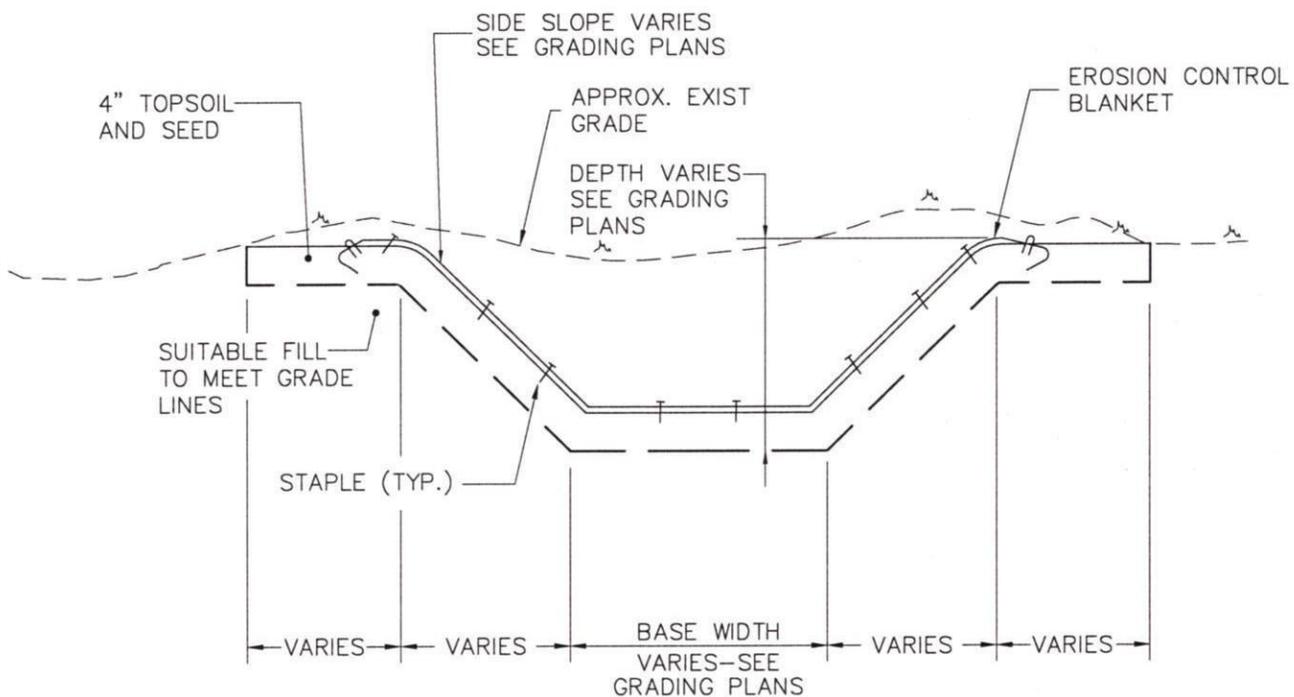


EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR REVIEW AND ACCEPTANCE A WRITTEN TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL PLAN FOR ALL WORK INCLUDED IN THE PROJECT. THE CONTRACTOR'S PLAN WILL BE REVIEWED BY THE ENGINEER, THE OWNER'S ENVIRONMENTAL CONSULTANTS, AND CTDEP OFFICE. THE CONTRACTOR SHALL REVISE THE PLAN TO ADDRESS ANY COMMENTS MADE BY THE REVIEWERS. THE CONTRACTOR SHALL PAY ALL FEES ASSOCIATED WITH ADDRESSING COMMENTS BY REVIEWERS.



VEGETATED SWALE DETAIL

NOT TO SCALE

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| | | | |
|---|---|--|--|
| Application by: TWEED-NEW HAVEN AIRPORT AUTHORITY | TYPICAL EROSION CONTROL NOTES | RUNWAY SAFETY AREA AND TAXIWAY IMPROVEMENTS PROGRAM TWEED-NEW HAVEN AIRPORT | |
| Waterbody: TUTTLE BROOK MORRIS CREEK City: NEW HAVEN, CT. County: NEW HAVEN Date: January, 2006 | <div style="text-align: center;"> HGA Consulting Engineers (603) 669-5555 </div> | DRAWING NO. SEC-30 | |

VEGETATED SWALE NOTES:

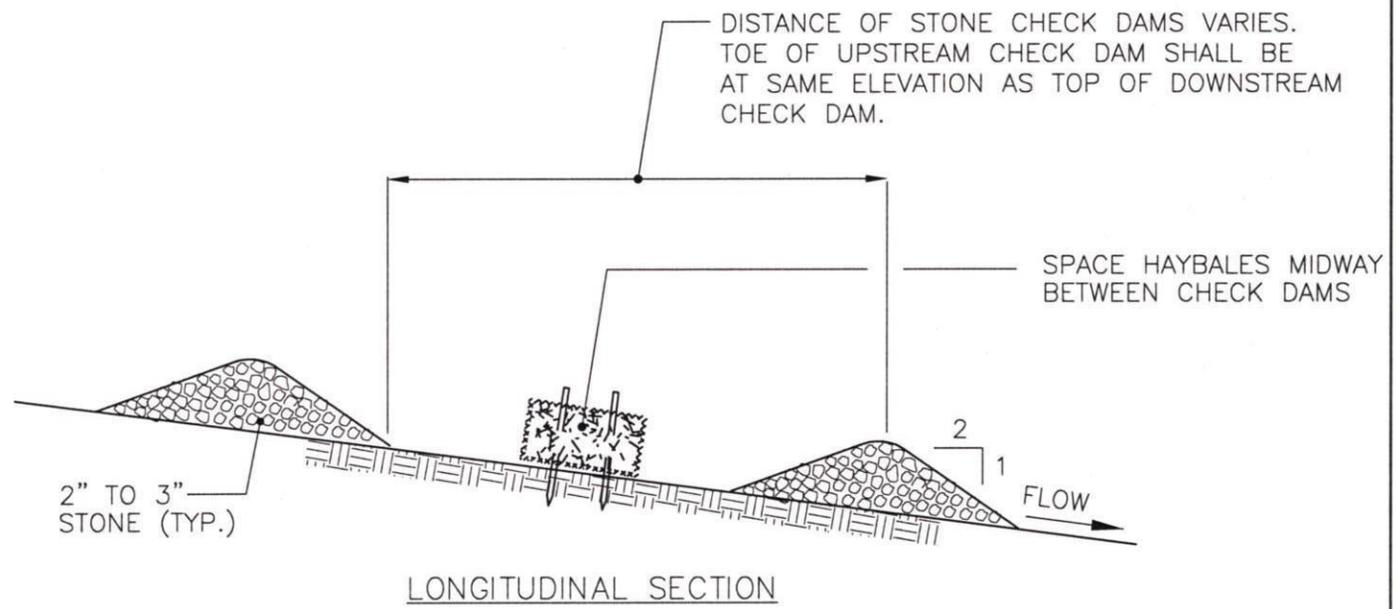
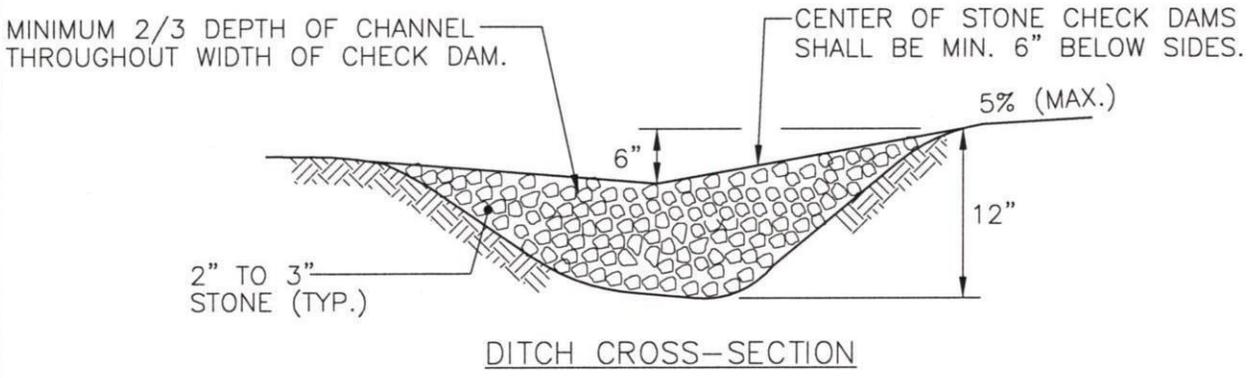
1. PRIOR TO PLACING EROSION CONTROL BLANKET, PREPARE THE SOIL BY RAKING AREA FREE OF CLODS AND 2" STONES.
2. SEED, MULCH AND FERTILIZER SHALL BE DISTRIBUTED AS SPECIFIED OVER THE PREPARED SOIL PRIOR TO PLACING THE EROSION CONTROL BLANKET.
3. ALL SEEMS SHALL BE OVERLAPPED A MINIMUM OF 4" AND SECURED WITH STAPLES SPACED 18" ON CENTER.
4. TO SECURE BLANKET TO GROUND, STAPLE RANDOMLY AT 24" THROUGHOUT.
5. OVERLAP EROSION CONTROL BLANKET IN DIRECTION OF FLOW ONLY.

NOTE:

WHERE SWALE SIDE SLOPES ARE FLATTER THAN 6:1 OR WHERE GRADE BREAKS ARE SUBSTANTIALLY HIGHER THAN THE SWALE BOTTOM, EROSION CONTROL BLANKET MAY BE TUCKED INTO THE SLOPE APPROXIMATELY 1' ABOVE SWALE BOTTOM. OTHERWISE, WELL-DEFINED CHANNELS SHALL BE PROTECTED TO THE TOP OF SLOPE AS SHOWN.

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| | | | |
|---|------------------------------------|---|-----------------------|
| Application by: TWEED-NEW HAVEN AIRPORT AUTHORITY | EROSION CONTROL DETAILS | RUNWAY SAFETY AREA AND TAXIWAY IMPROVEMENTS PROGRAM TWEED-NEW HAVEN AIRPORT | |
| Waterbody: TUTTLE BROOK MORRIS CREEK City: NEW HAVEN, CT. County: NEW HAVEN Date: January, 2006 | |  HGA Consulting Engineers (603) 669-5555 | DRAWING NO. SEC-31 |



STONE CHECK DAM DETAILS
NOT TO SCALE

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Application by:
TWEED-NEW HAVEN AIRPORT AUTHORITY

Waterbody: TUTTLE BROOK
MORRIS CREEK

City: NEW HAVEN, CT.

County: NEW HAVEN

Date: January, 2006

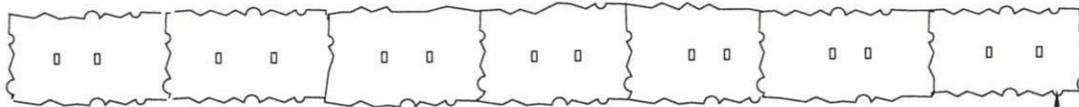
**EROSION CONTROL
DETAILS**

RUNWAY SAFETY AREA AND
TAXIWAY IMPROVEMENTS PROGRAM
TWEED-NEW HAVEN AIRPORT

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DRAWING NO.
SEC-32

STAKED HAY OR STRAW BALES



↑
FLOW

BOTTOM OF SLOPE

5' TO 10'

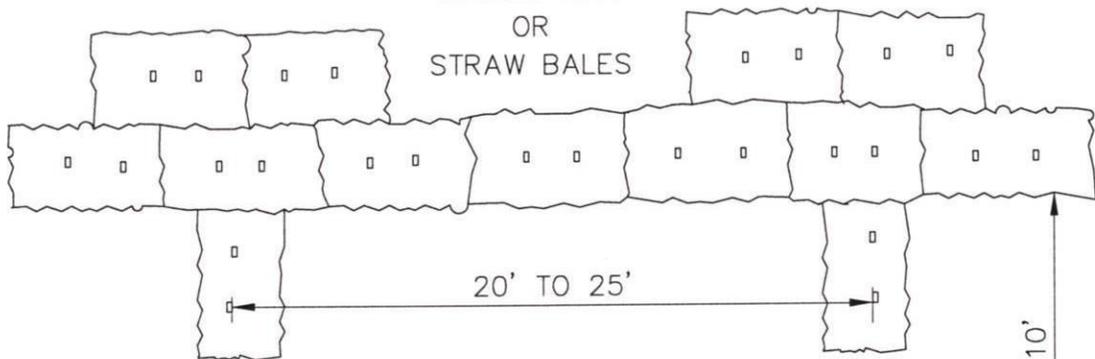
PLAN

NOTE: USE AT BOTTOM OF FILL SLOPE.

EROSION PROTECTION TYPE A

NOT TO SCALE

STAKED HAY
OR
STRAW BALES



↑
FLOW

BOTTOM OF SLOPE

5' TO 10'

20' TO 25'

PLAN

NOTE: USE AT BOTTOM OF FILL SLOPE
WHERE HEAVY FLOW MAY BE ANTICIPATED.

EROSION PROTECTION TYPE B

NOT TO SCALE

Application by:
TWEED-NEW HAVEN AIRPORT AUTHORITY

EROSION CONTROL
DETAILS

RUNWAY SAFETY AREA AND
TAXIWAY IMPROVEMENTS PROGRAM
TWEED-NEW HAVEN AIRPORT

Waterbody: TUTTLE BROOK
MORRIS CREEK
City: NEW HAVEN, CT.
County: NEW HAVEN
Date: January, 2006

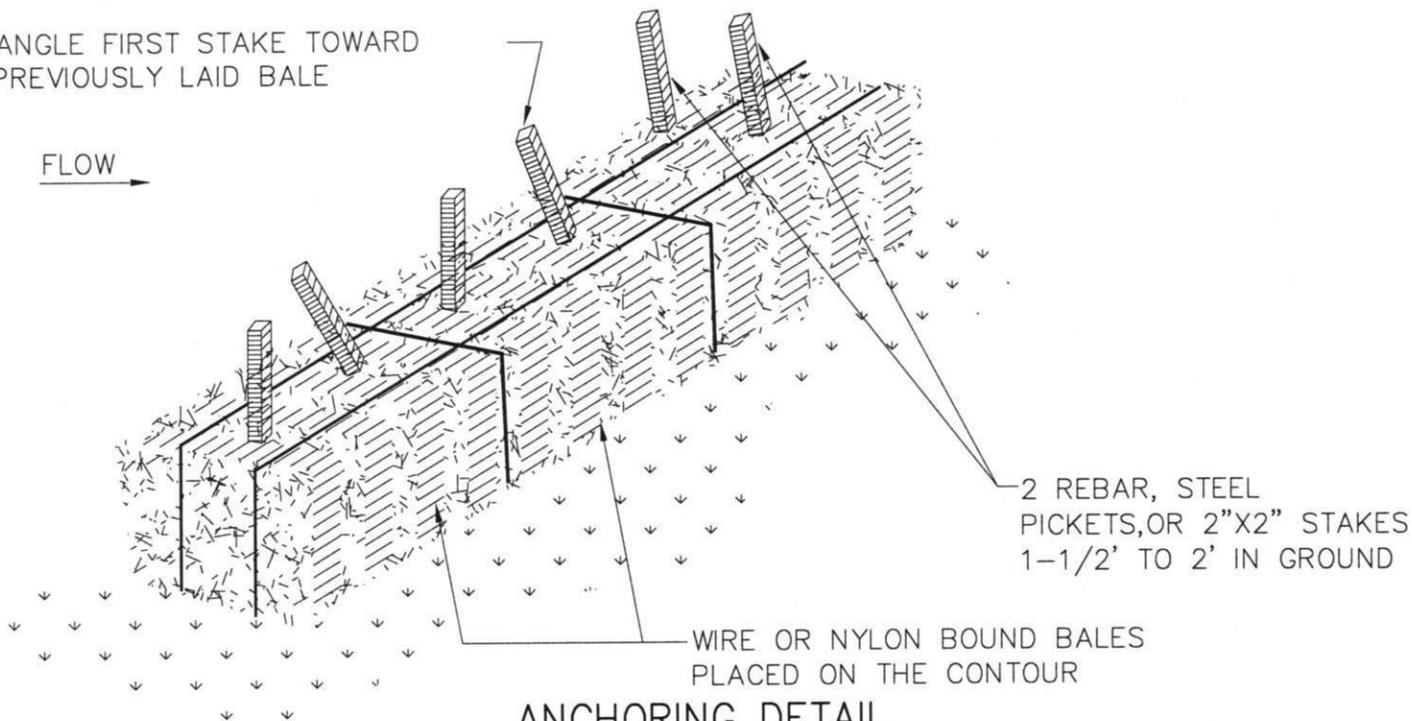
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DRAWING NO.
SEC-33

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ANGLE FIRST STAKE TOWARD
PREVIOUSLY LAID BALE

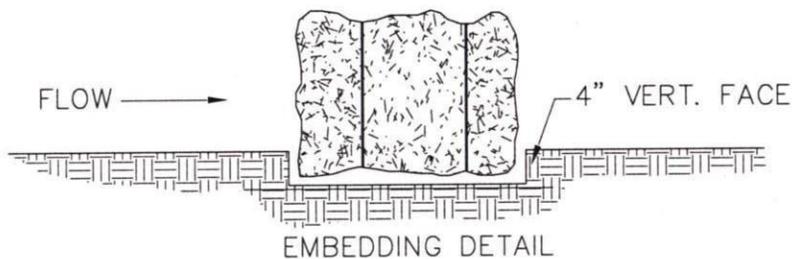
FLOW →



2 REBAR, STEEL
PICKETS, OR 2"X2" STAKES
1-1/2' TO 2' IN GROUND

WIRE OR NYLON BOUND BALES
PLACED ON THE CONTOUR

ANCHORING DETAIL



EMBEDDING DETAIL

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR REBARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARDS PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

HAY BALE DETAIL

Application by:
TWEED-NEW HAVEN AIRPORT AUTHORITY

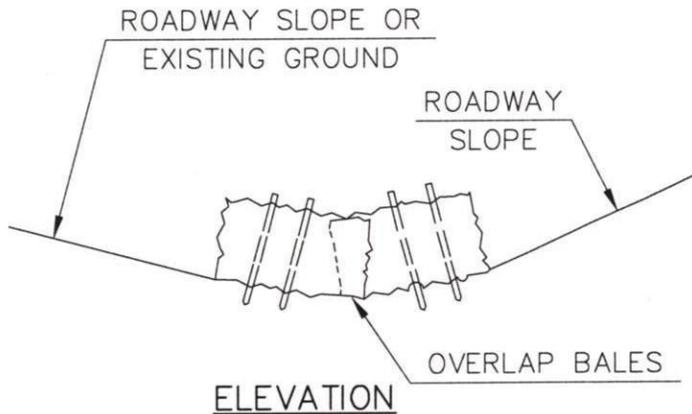
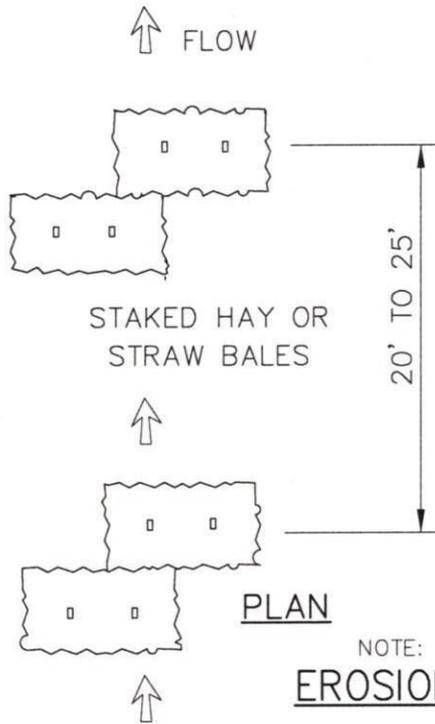
EROSION CONTROL
DETAILS

RUNWAY SAFETY AREA AND
TAXIWAY IMPROVEMENTS PROGRAM
TWEED-NEW HAVEN AIRPORT

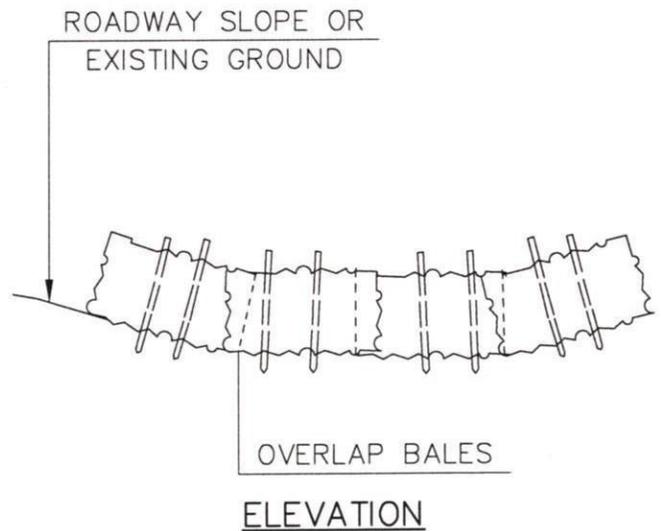
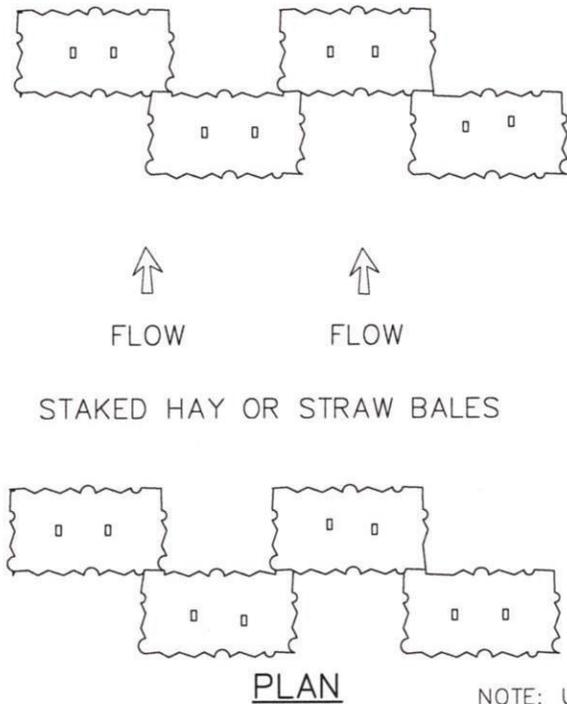
Waterbody: TUTTLE BROOK
MORRIS CREEK
City: NEW HAVEN, CT.
County: NEW HAVEN
Date: January, 2006

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DRAWING NO.
SEC-34



NOTE: USE IN NARROW DITCH SECTION.
EROSION PROTECTION TYPE C
 NOT TO SCALE



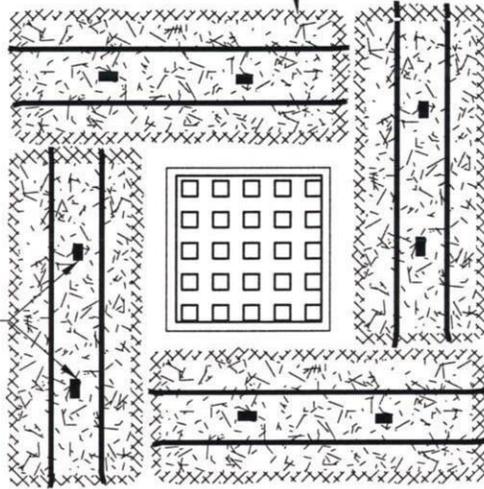
NOTE: USE IN WIDE DITCH SECTION.
EROSION PROTECTION TYPE D
 NOT TO SCALE

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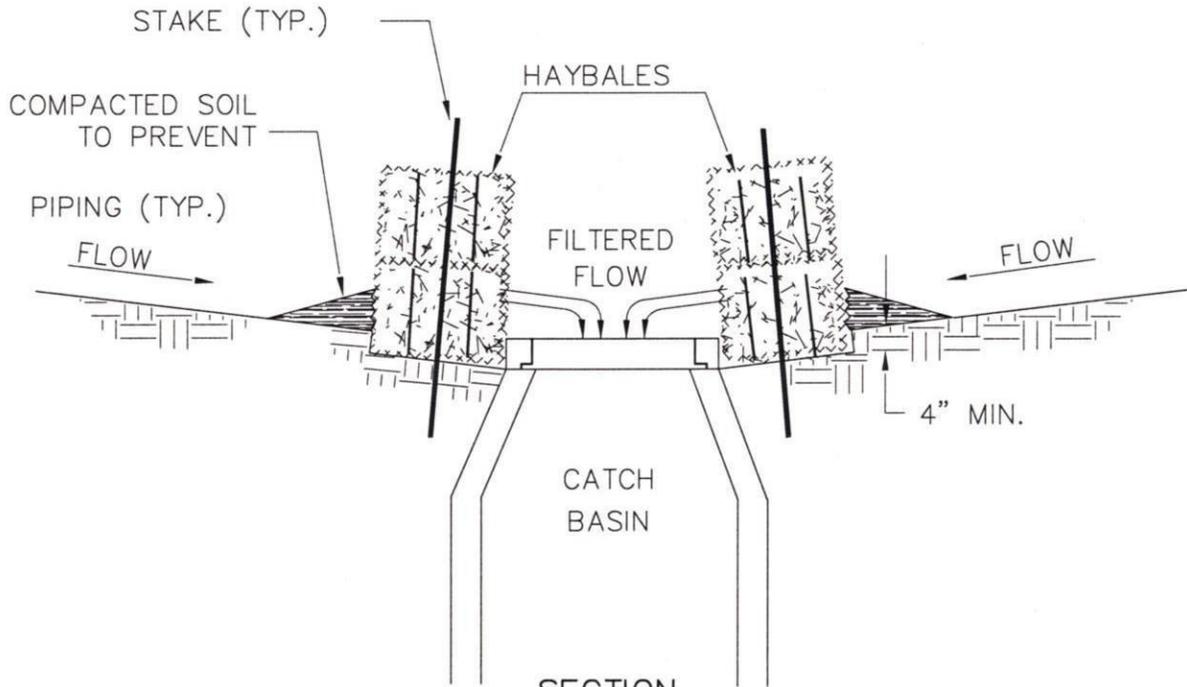
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|---|---|--|--|-----------------------|
| Application by: TWEED-NEW HAVEN AIRPORT AUTHORITY | EROSION CONTROL DETAILS | | RUNWAY SAFETY AREA AND TAXIWAY IMPROVEMENTS PROGRAM TWEED-NEW HAVEN AIRPORT | |
| Waterbody: TUTTLE BROOK MORRIS CREEK City: NEW HAVEN, CT. County: NEW HAVEN Date: January, 2006 | | | HTA Consulting Engineers (603) 669-5555 | DRAWING NO. SEC-35 |

HAYBALE (TYP.)

2 STAKES MIN.
PER BALE (TYP.)



PLAN



SECTION

**SEDIMENTATION CONTROL AT
CATCH BASIN**
NOT TO SCALE

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Application by:
TWEED-NEW HAVEN AIRPORT AUTHORITY

**EROSION CONTROL
DETAILS**

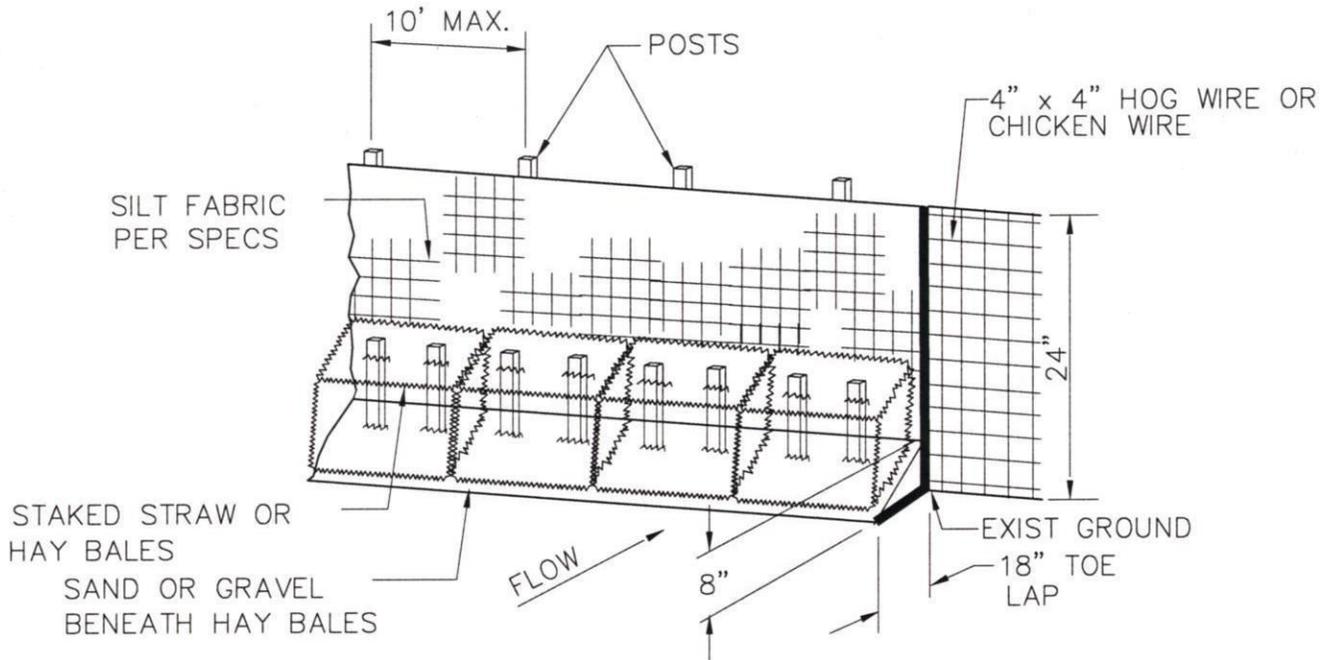
RUNWAY SAFETY AREA AND
TAXIWAY IMPROVEMENTS PROGRAM
TWEED-NEW HAVEN AIRPORT

Waterbody: TUTTLE BROOK
MORRIS CREEK
City: NEW HAVEN, CT.
County: NEW HAVEN
Date: January, 2006

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DRAWING NO.
SEC-36

USE POST, SNOW FENCING, WIRE FENCE OR OTHER MEANS ACCEPTABLE TO THE DESIGN ENGINEER TO FASTEN FILTER FABRIC.



SILT FENCE WITH HAYBALES
NOT TO SCALE

NOTE:

1. SILT FENCE WITH HAY BALES SHALL BE USED ALONG THE EDGE OF THE CONSTRUCTION AND AS SHOWN ON THE APPROVED EROSION CONTROL PLAN OR AS DIRECTED BY THE OWNER.

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Application by:
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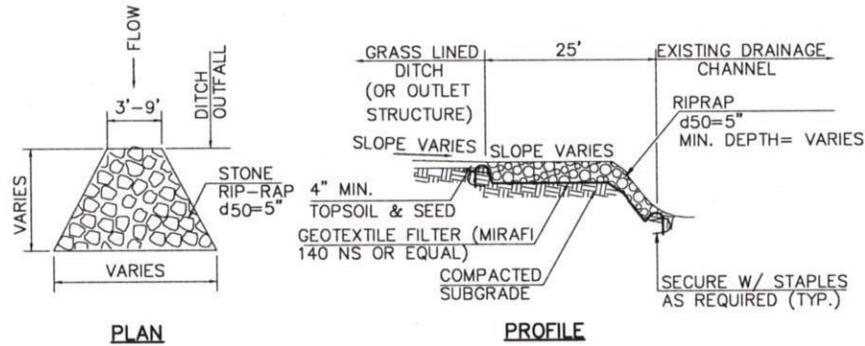
**EROSION CONTROL
DETAILS**

RUNWAY SAFETY AREA AND
TAXIWAY IMPROVEMENTS PROGRAM
TWEED-NEW HAVEN AIRPORT

Waterbody: TUTTLE BROOK
MORRIS CREEK
City: NEW HAVEN, CT.
County: NEW HAVEN
Date: January, 2006

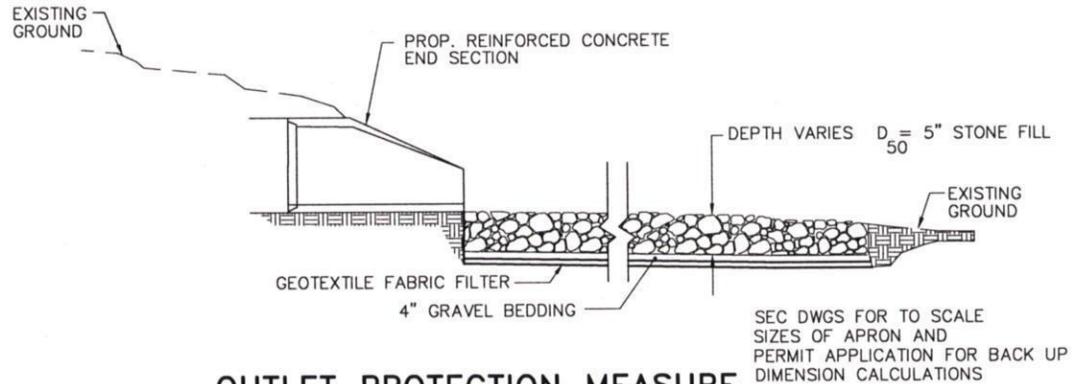
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DRAWING NO.
SEC-37



**DETAILS – RIP RAP OUTLET PROTECTION
AT DITCH OUTFALL**

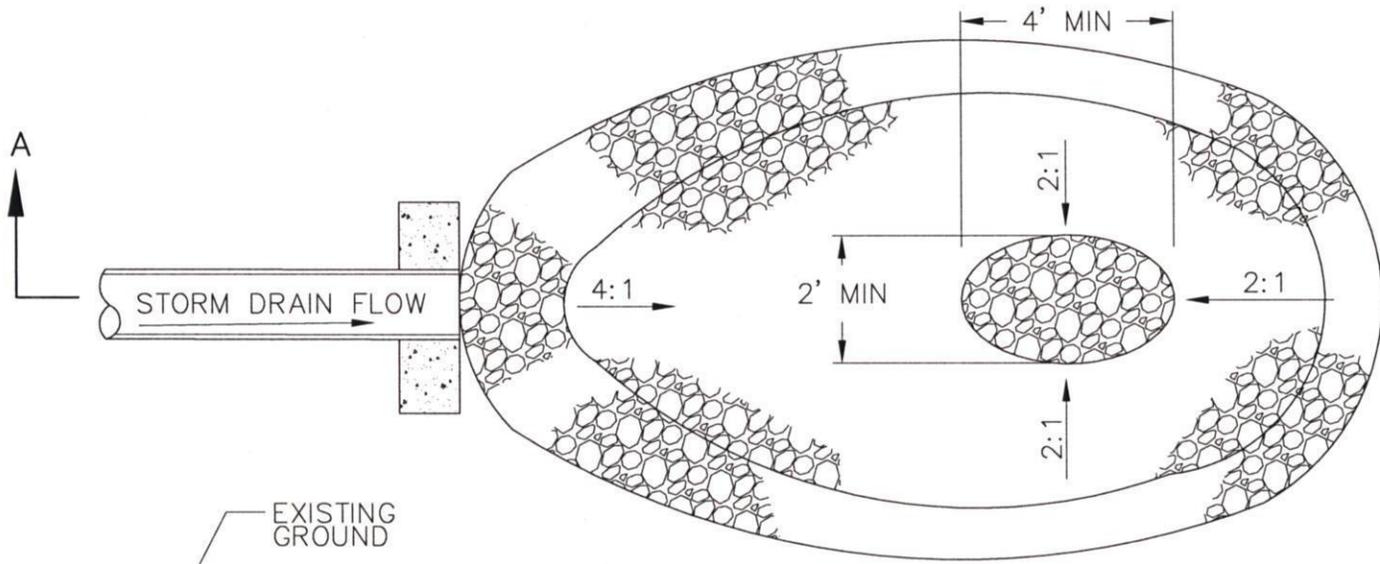
NOT TO SCALE



**OUTLET PROTECTION MEASURE
TYPICAL CROSS SECTION**

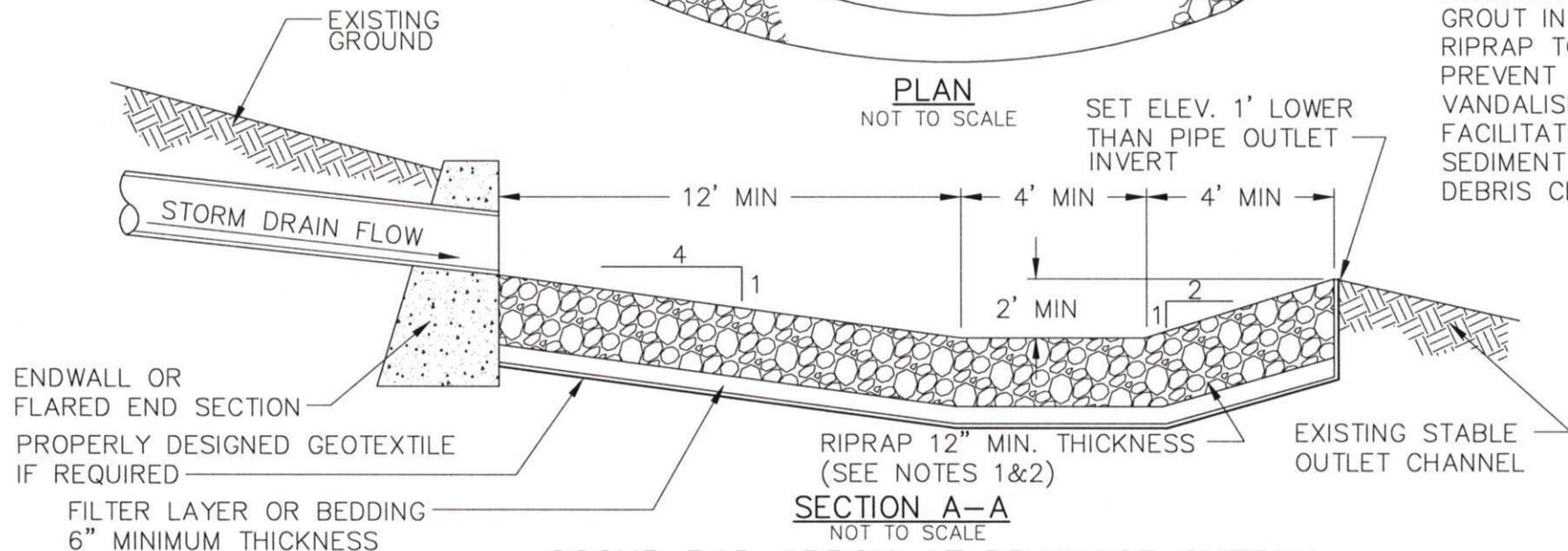
NOT TO SCALE

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| Application by: TWEED-NEW HAVEN AIRPORT AUTHORITY | EROSION CONTROL DETAILS | RUNWAY SAFETY AREA AND TAXIWAY IMPROVEMENTS PROGRAM TWEED-NEW HAVEN AIRPORT | |
| Waterbody: TUTTLE BROOK MORRIS CREEK City: NEW HAVEN, CT. County: NEW HAVEN Date: January, 2006 | |  Consulting Engineers (603) 669-5555 | DRAWING NO. SEC-38 |



- NOTES:
1. RIPRAP AND THICKNESS SHALL BE ADJUSTED UPWARD AS THE STORM DRAIN SIZE AND OUTLET VELOCITY INCREASES. SEE PLANNING CONSIDERATIONS FOR DESIGN REFERENCES.
 2. CONSIDER THE APPLICATION OF CEMENTATIOUS GROUT IN THE RIPRAP TO PREVENT VANDALISM AND FACILITATE SEDIMENT AND DEBRIS CLEANOUT.

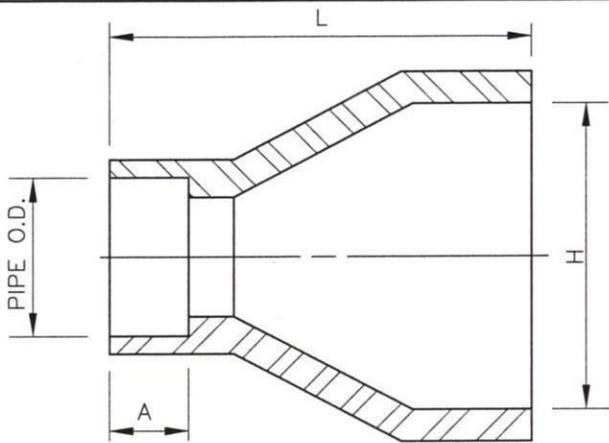
PLAN
NOT TO SCALE



SECTION A-A
NOT TO SCALE

SCOUR PAD APRON AT DRAINAGE OUTFALL

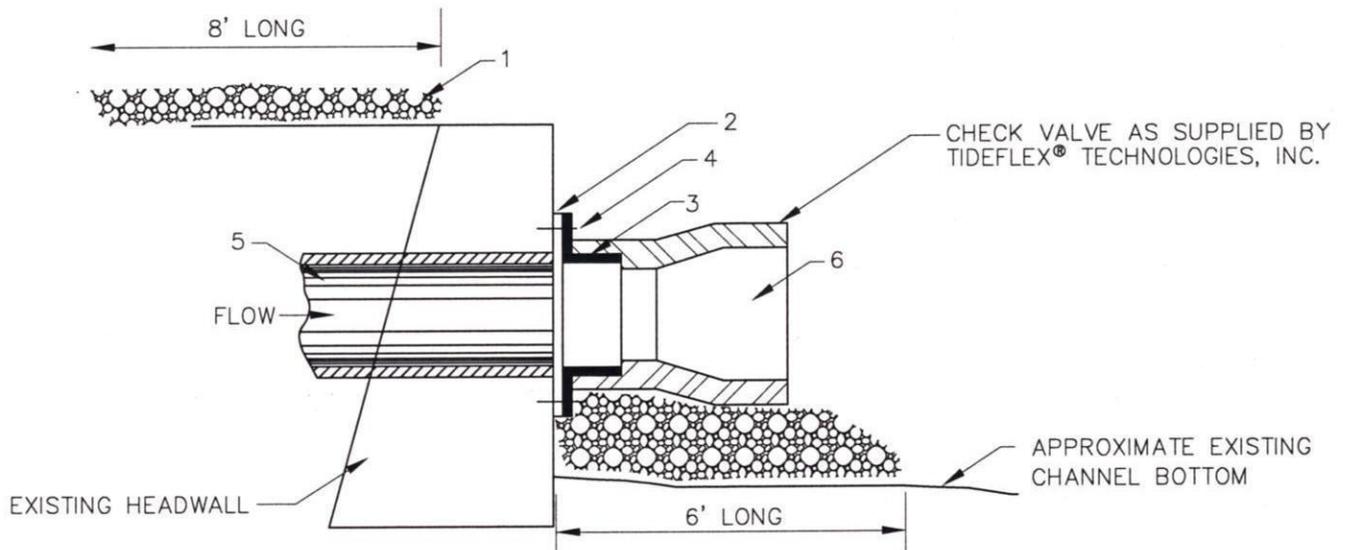
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|--|------------------------------------|--|--|------------------------------|
| Application by: TWEED-NEW HAVEN AIRPORT AUTHORITY | EROSION CONTROL DETAILS | | RUNWAY SAFETY AREA AND TAXIWAY IMPROVEMENTS PROGRAM TWEED-NEW HAVEN AIRPORT | |
| Waterbody: TUTTLE BROOK MORRIS CREEK City: NEW HAVEN, CT. County: NEW HAVEN Date: January, 2006 | | |  HGA Consulting Engineers (603) 669-5555 | DRAWING NO. SEC-39 |



| Tideflex Mating Pipe O.D. | | Cuff slip-on length A | Maximum length L | Maximum Height H |
|---------------------------|---------------------|-----------------------|------------------|------------------|
| Minimum | Maximum (less than) | | | |
| 21" | 23-3/4" | 8" | 35-1/2" | 32-3/4" |
| 29" | 31-1/2" | 9" | 29" | 29" |

FLEXIBLE BOOT CHECK VALVE DETAIL

NOT TO SCALE



1. NEW 6" LAYER OF 3/4" TO 1 1/2" CRUSHED STONE ON LAYER OF FILTER FABRIC. 6' WIDTH X 8' LONG CLEAN AREA AROUND HEADWALL TO ALLOW FOR INSTALLATION.
2. CLEAN HEADWALL FACE. CHIP AND REMOVE ANY LOOSE CONCRETE, FILL VOIDS WITH FAST SETTING VERTICLE GROUT AND FINISH SMOOTH.
3. NEW THIMBLE PLATE AND RUBBER GASKET, METHOD MAY VARY DEPENDING ON EXISTING CONDITIONS
4. NEW ANCHOR BOLTS, 3/4" DIA. X 8" LONG, 316 SS.
5. EXISTING DRAIN. VERIFY INSIDE DIAMETER.
6. NEW TIDE FLEX F-2 VALVE TO MATCH EXISTING ID. WITH STAINLESS CLAMPS.
7. NEW LAYER OF RIP RAP, MAX. D=8", 8' WIDE X 6' LONG. CLEAN AREA AROUND OUTLET TO ALLOW INSTALLATION.

FLEXIBLE BOOT CHECK VALVE DETAIL

NOT TO SCALE

Application by:
TWEED-NEW HAVEN AIRPORT AUTHORITY

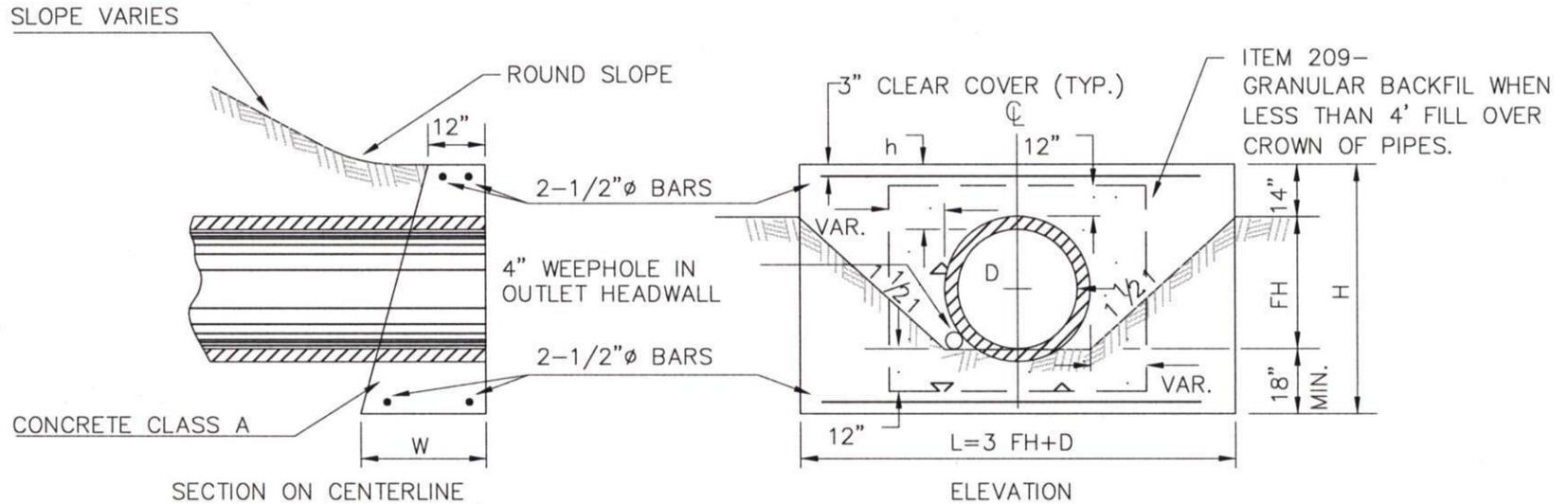
FLEXIBLE BOOT CHECK VALVE DETAIL

RUNWAY SAFETY AREA AND
TAXIWAY IMPROVEMENTS PROGRAM
TWEED-NEW HAVEN AIRPORT

Waterbody: TUTTLE BROOK
MORRIS CREEK
City: NEW HAVEN, CT.
County: NEW HAVEN
Date: January, 2006

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DRAWING NO.
SEC-40



| DIA. D (INCHES) | AREA OF PIPE (SQ. FT.) | MAS. PER FT. OF WALL (CU. YD.) | MAS. PER HOLE (CU. YD.) | MAS. PER STD. HDR. (CU. YD.) | STEEL PER STD. HDR. (LB.) | LENGTH OF BARS | PIPE EXC. 1' DEPTH 1' LENGTH (CU. YD.) | HDR. EXC. PER HDR. 1' DEPTH (CU. YD.) | ITEM 209 PER (LIN. FT.) | HDR. LENGTH L | HDR. HEIGHT H | FILL HEIGHT FH | h | WIDTH AT BOTTOM OF HDR. W |
|-----------------|------------------------|--------------------------------|-------------------------|------------------------------|---------------------------|----------------|--|---------------------------------------|-------------------------|---------------|---------------|----------------|-------|---------------------------|
| 18 | 1.77 | 0.260 | 4.51 | 1.66 | 16 | 5'-8" | 0.130 | 1.375 | 0.35 | 7'-0" | 4'-6" | 1'-10" | 1'-6" | 2'-1 1/2" |
| 30 | 4.91 | 0.344 | 12.60 | 3.32 | 29 | 10-8 | 0.185 | 2.106 | 0.56 | 11-0 | 5-6 | 2-10 | 1-6 | 2'-1 1/2" |

REINFORCED CONCRETE HEADWALL DETAIL

NOT TO SCALE

Application by:
TWEED-NEW HAVEN AIRPORT AUTHORITY

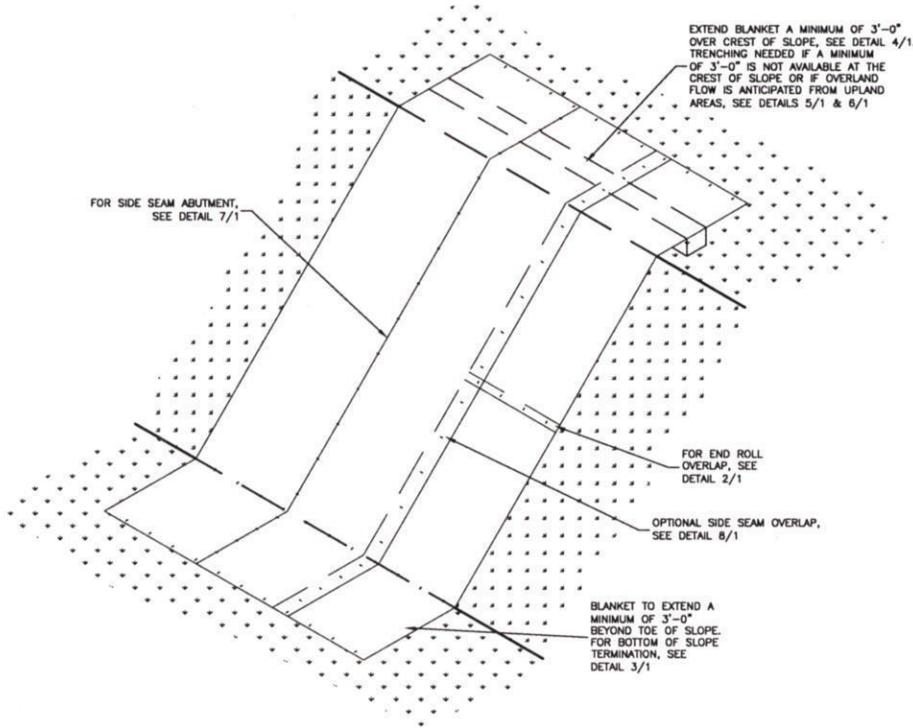
HEADWALL DETAIL

RUNWAY SAFETY AREA AND
TAXIWAY IMPROVEMENTS PROGRAM
TWEED-NEW HAVEN AIRPORT

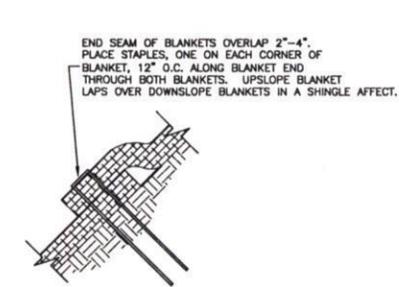
Waterbody: TUTTLE BROOK
MORRIS CREEK
City: NEW HAVEN, CT.
County: NEW HAVEN
Date: January, 2006

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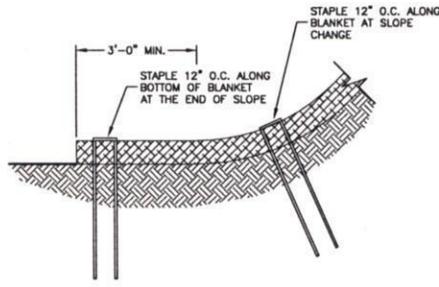
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SEC-41



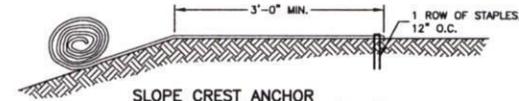
SLOPE DETAIL
NO SCALE



END ROLL OVERLAP
NO SCALE

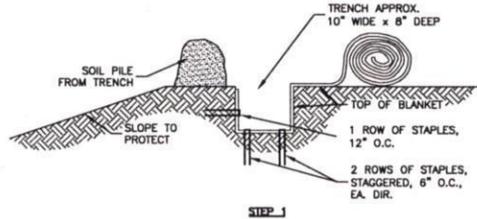


BOTTOM OF SLOPE TERMINATION
NO SCALE

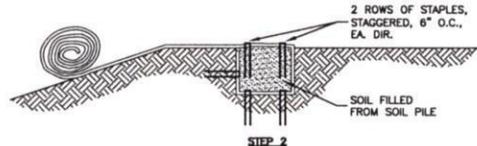


SLOPE CREST ANCHOR METHOD "A" (NO TRENCH)
NO SCALE

DO NOT NEED TO TRENCH BLANKET IN IF IT CAN BE EXTENDED A MINIMUM OF 3'-0" OVER THE CREST OF THE SLOPE.

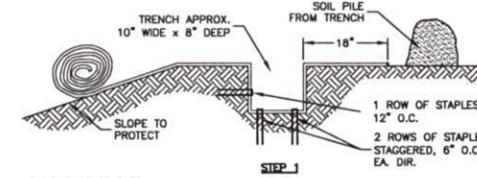


STEP 1

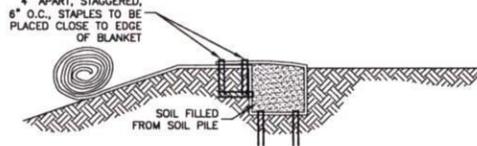


STEP 2

SLOPE TRENCHING METHOD "B"
NO SCALE

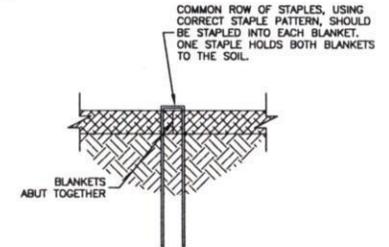


STEP 1

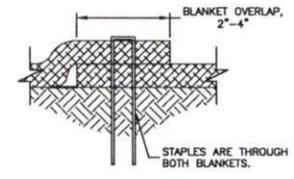


STEP 2

SLOPE TRENCHING METHOD "C"
NO SCALE



SIDE SEAM ABUT STAPLE DETAIL
NO SCALE



SIDE SEAM OVERLAP STAPLE DETAIL
NO SCALE

- NOTES:**
1. STAPLE PATTERNS ARE DEPENDENT ON SITE CONDITIONS. SEE CURLEX® STAPLE PATTERN GUIDE FOR DETAILS.
 2. THIS DETAIL SHEET IS TAKEN FROM AVENDOR'S SPECIFICATIONS.
 3. FLOW RATE AND CREEK VELOCITY CALCULATIONS DICTATE THE USE OF CT DOT TYPES AND A&E EROSION CONTROL MATTING.
 4. ALL OVERLAP AND STAPLE PATTERNS SHALL BE WITH CT DOT DRAINAGE MANUAL SPECIFICATIONS.

Application by:
TWEED-NEW HAVEN AIRPORT AUTHORITY

Waterbody: TUTTLE BROOK
MORRIS CREEK

City: NEW HAVEN, CT.

County: NEW HAVEN

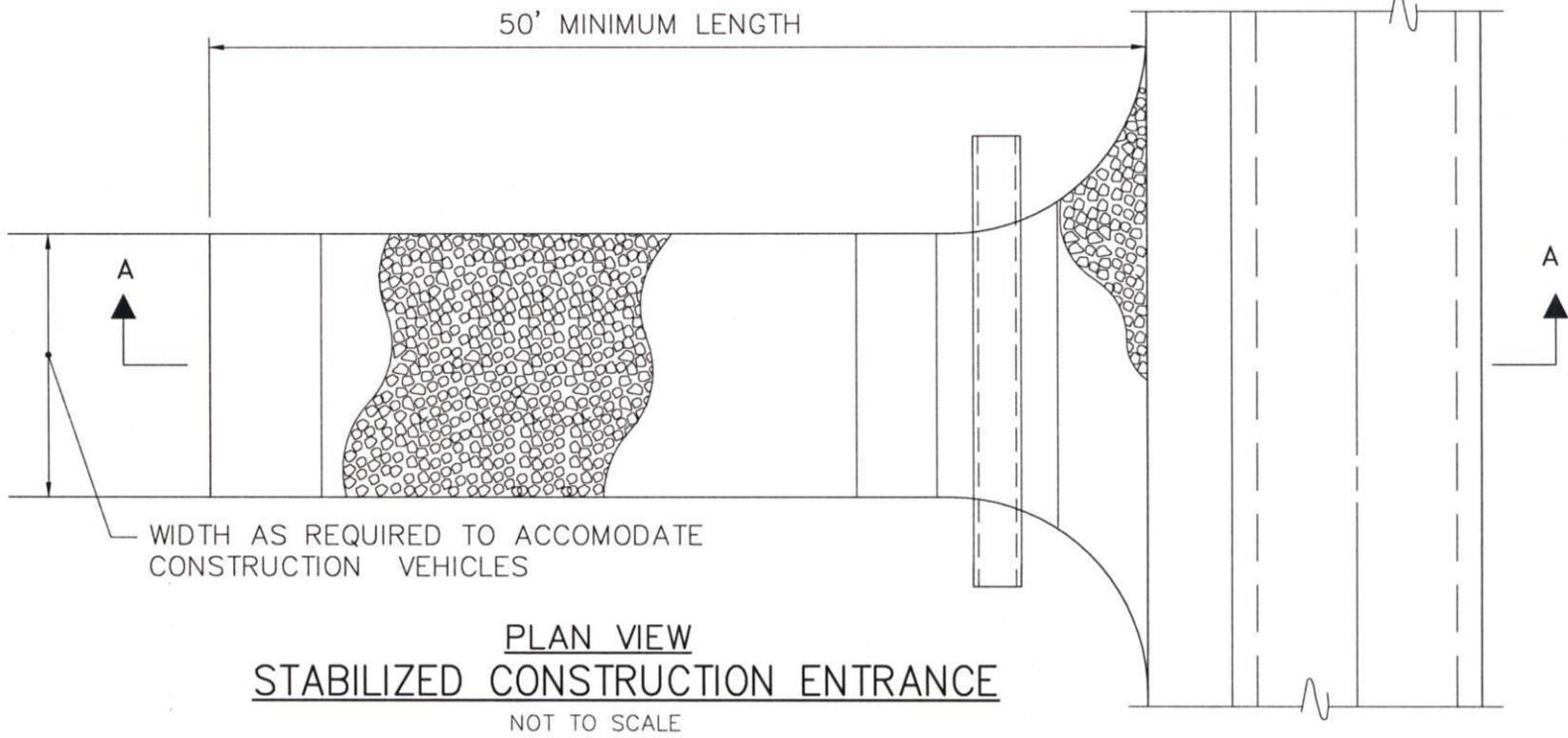
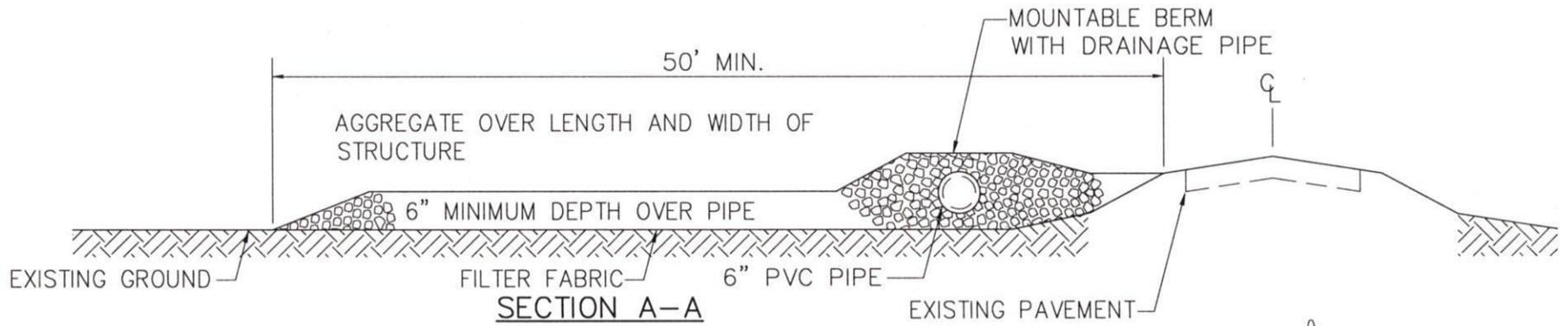
Date: January, 2006

**EROSION CONTROL
DETAILS**

**RUNWAY SAFETY AREA AND
TAXIWAY IMPROVEMENTS PROGRAM
TWEED-NEW HAVEN AIRPORT**

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SEC-42



Application by:
TWEED-NEW HAVEN AIRPORT AUTHORITY

**EROSION CONTROL
DETAILS**

RUNWAY SAFETY AREA AND
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TWEED-NEW HAVEN AIRPORT

Waterbody: TUTTLE BROOK
MORRIS CREEK
City: NEW HAVEN, CT.
County: NEW HAVEN
Date: January, 2006

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DRAWING NO.
SEC-43