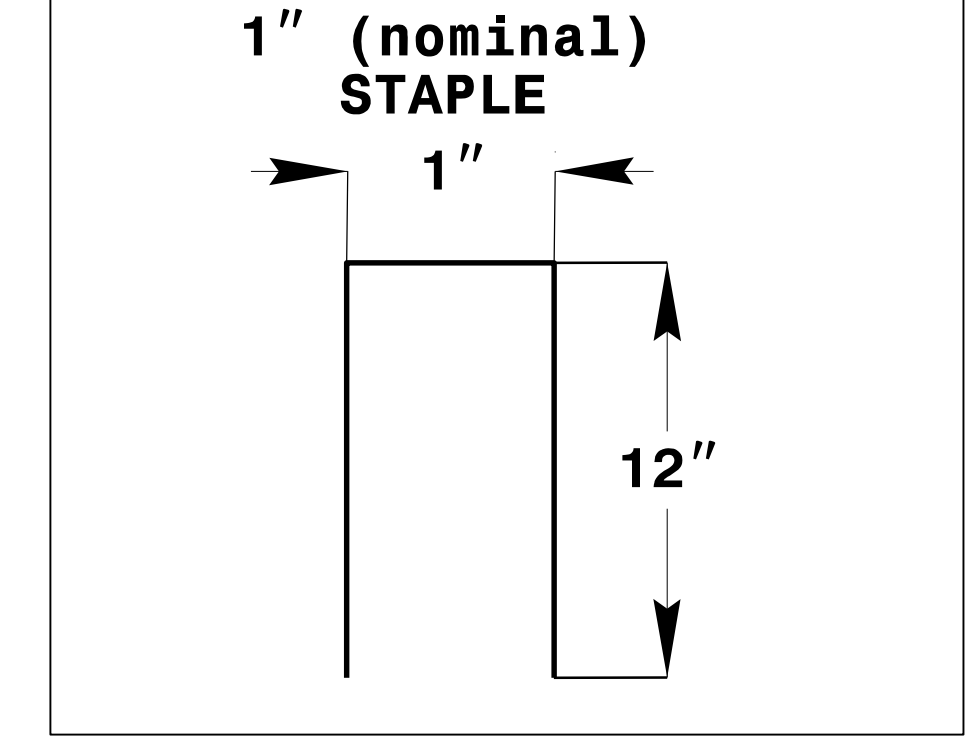
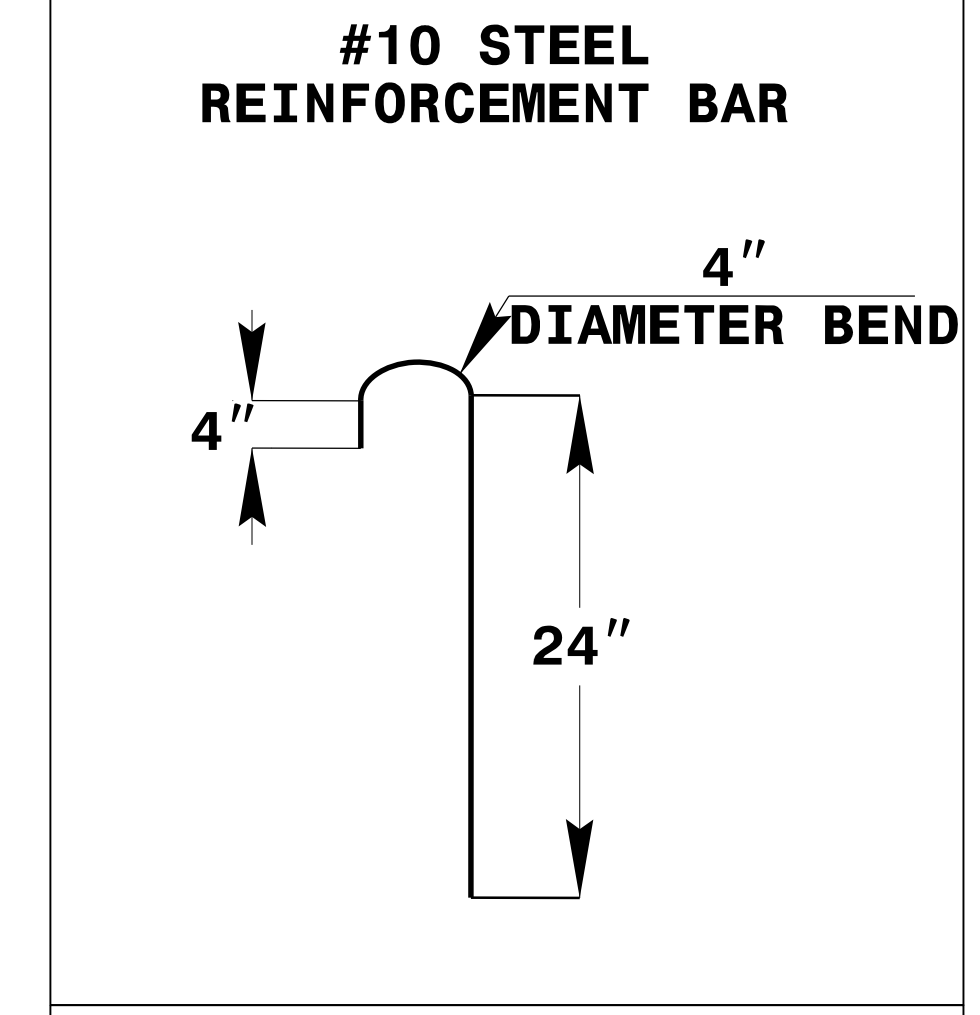
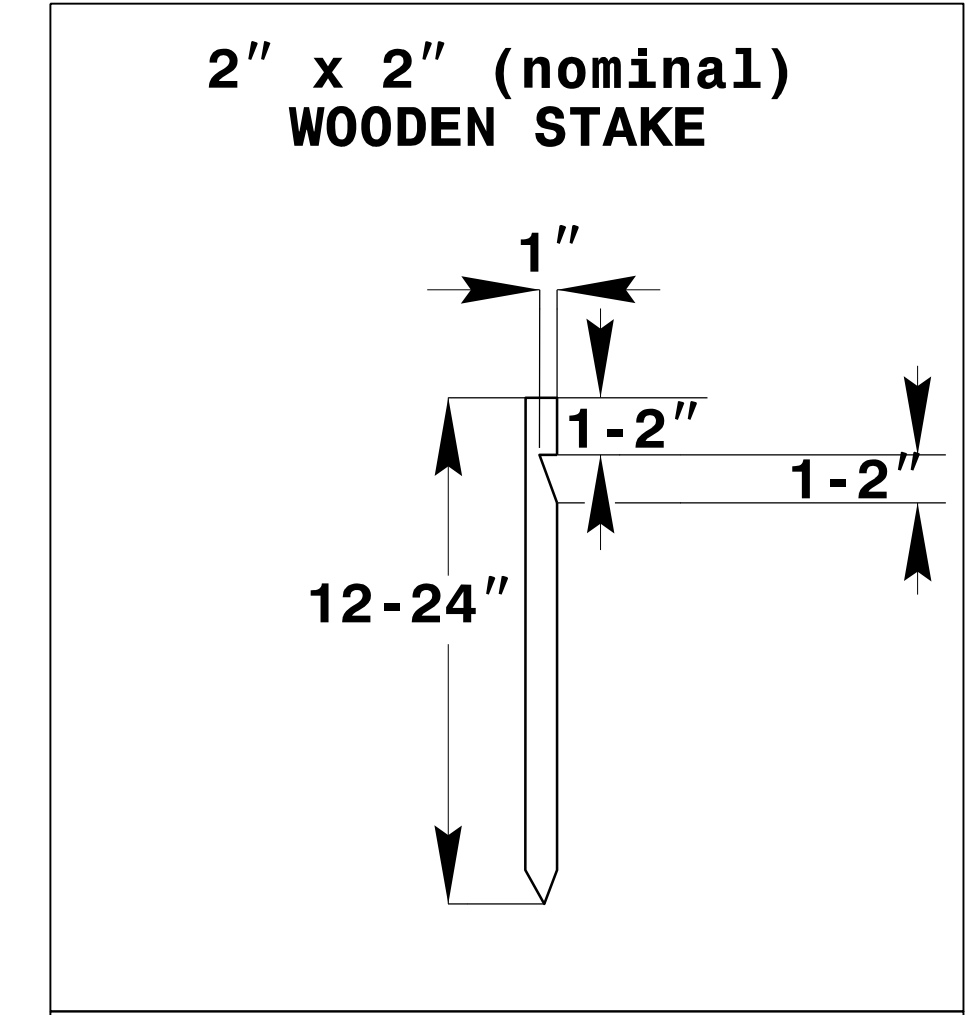
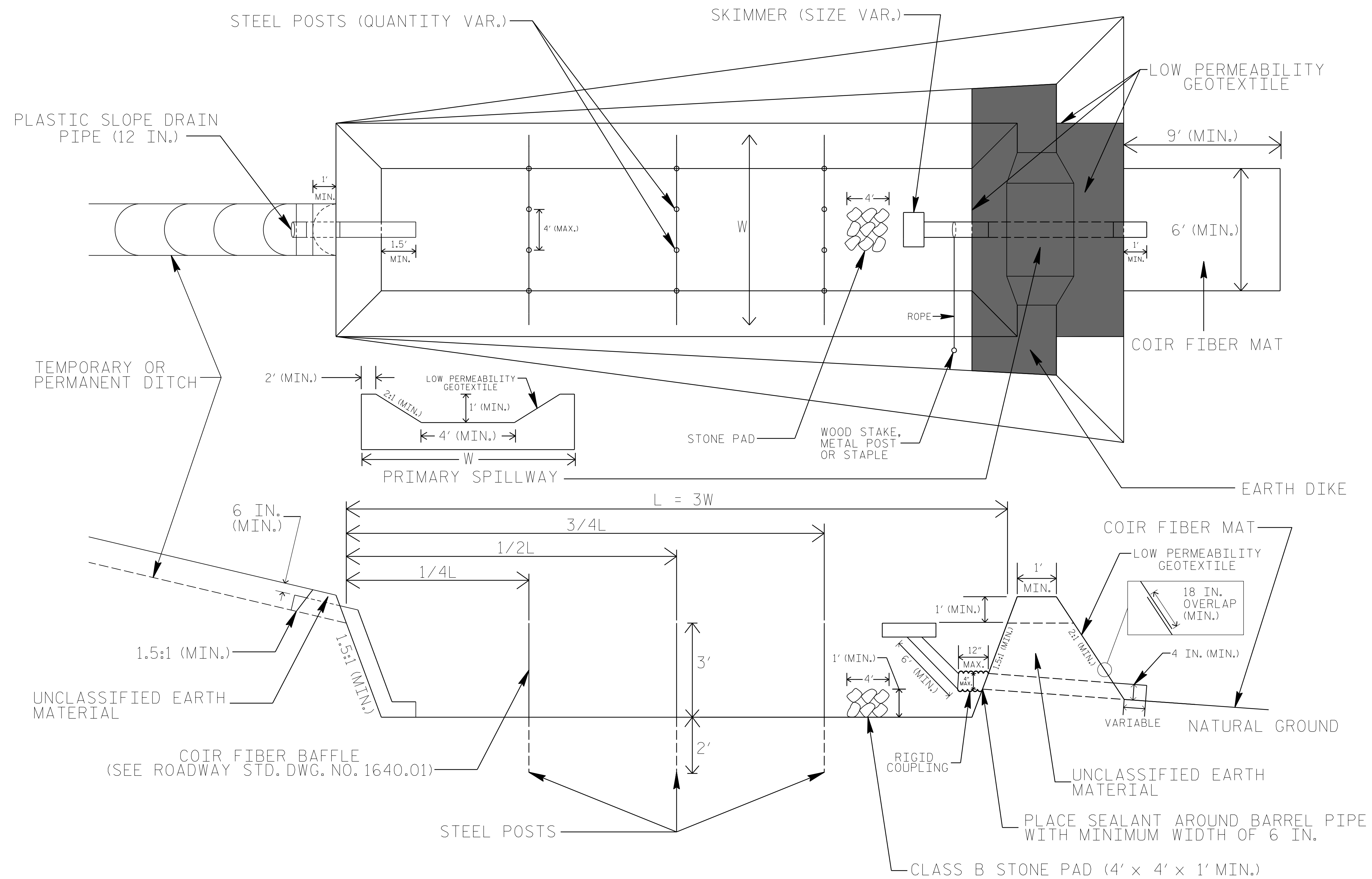




|   |                          |
|---|--------------------------|
| PROJECT REFERENCE NO.<br><i>BR-0046</i> | SHEET NO.<br><i>EC-2</i> |
| RW SHEET NO.                            |                          |
| ROADWAY DESIGN ENGINEER                 | HYDRAULICS ENGINEER      |

# SKIMMER BASIN WITH BAFFLES DETAIL (EAST)



## COIR FIBER MAT ANCHOR OPTIONS

### NOTES

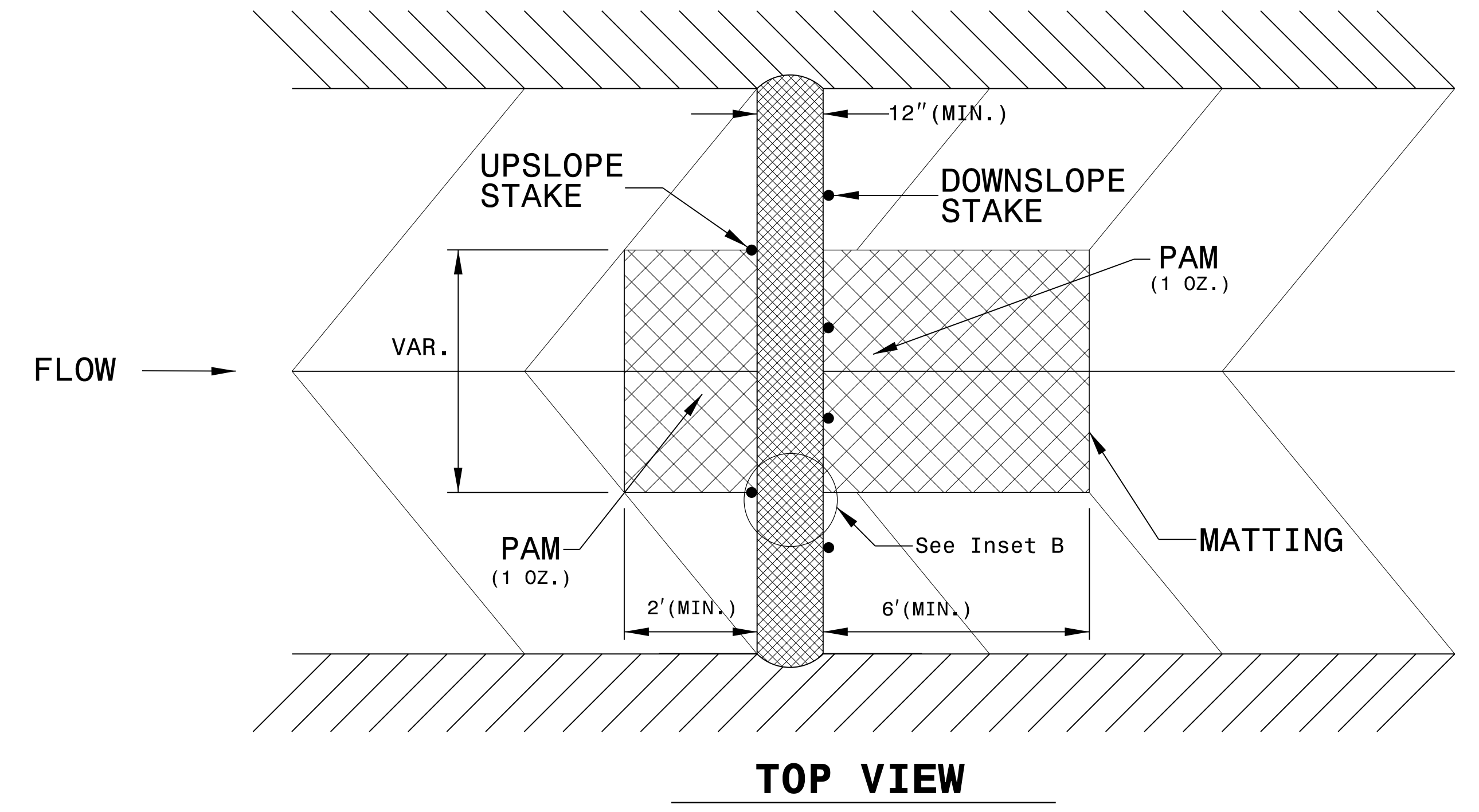
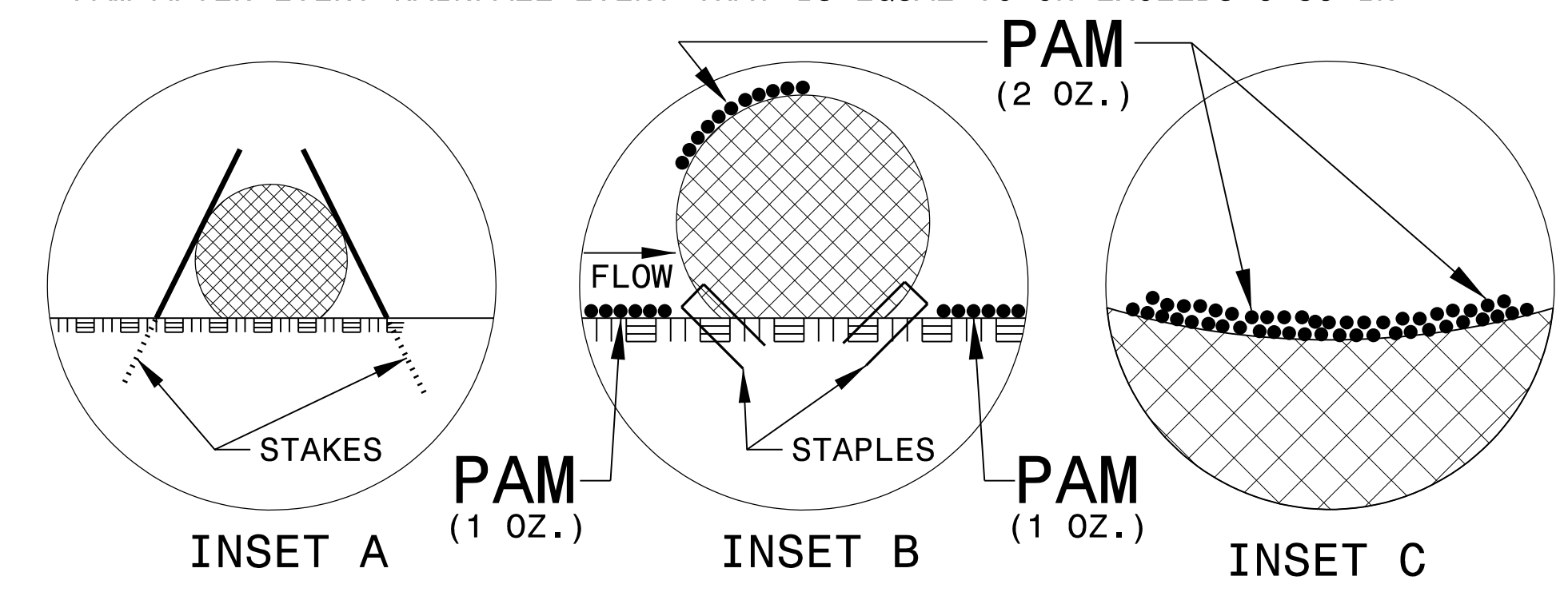
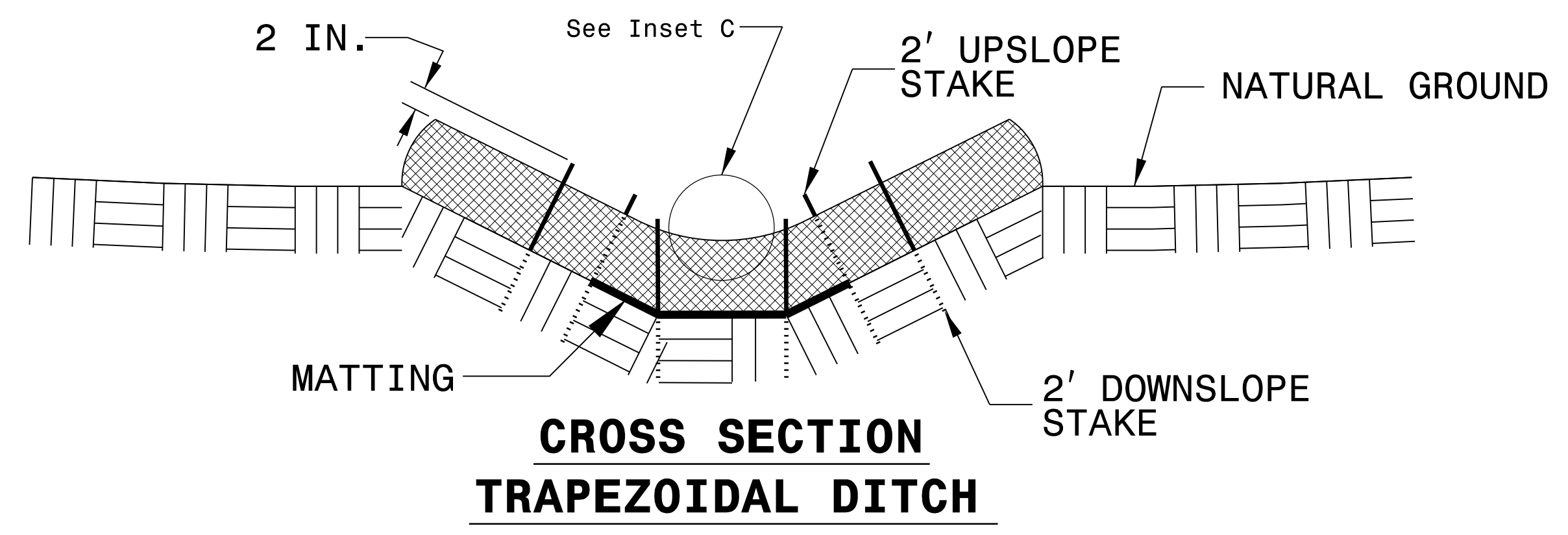
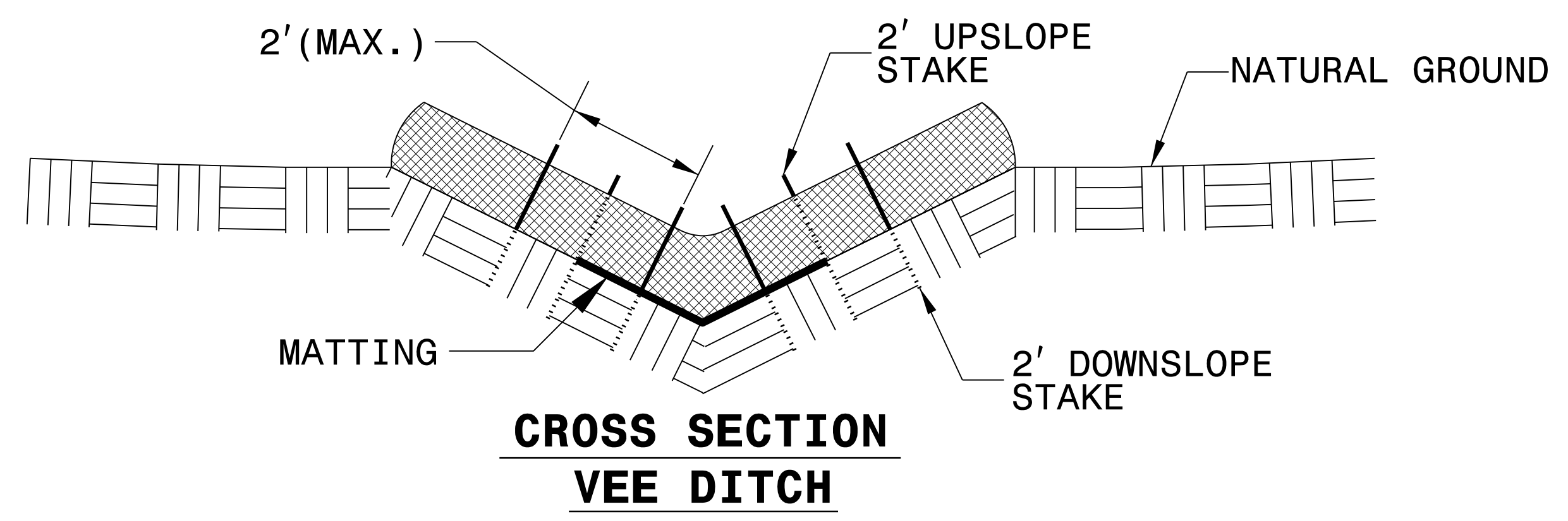
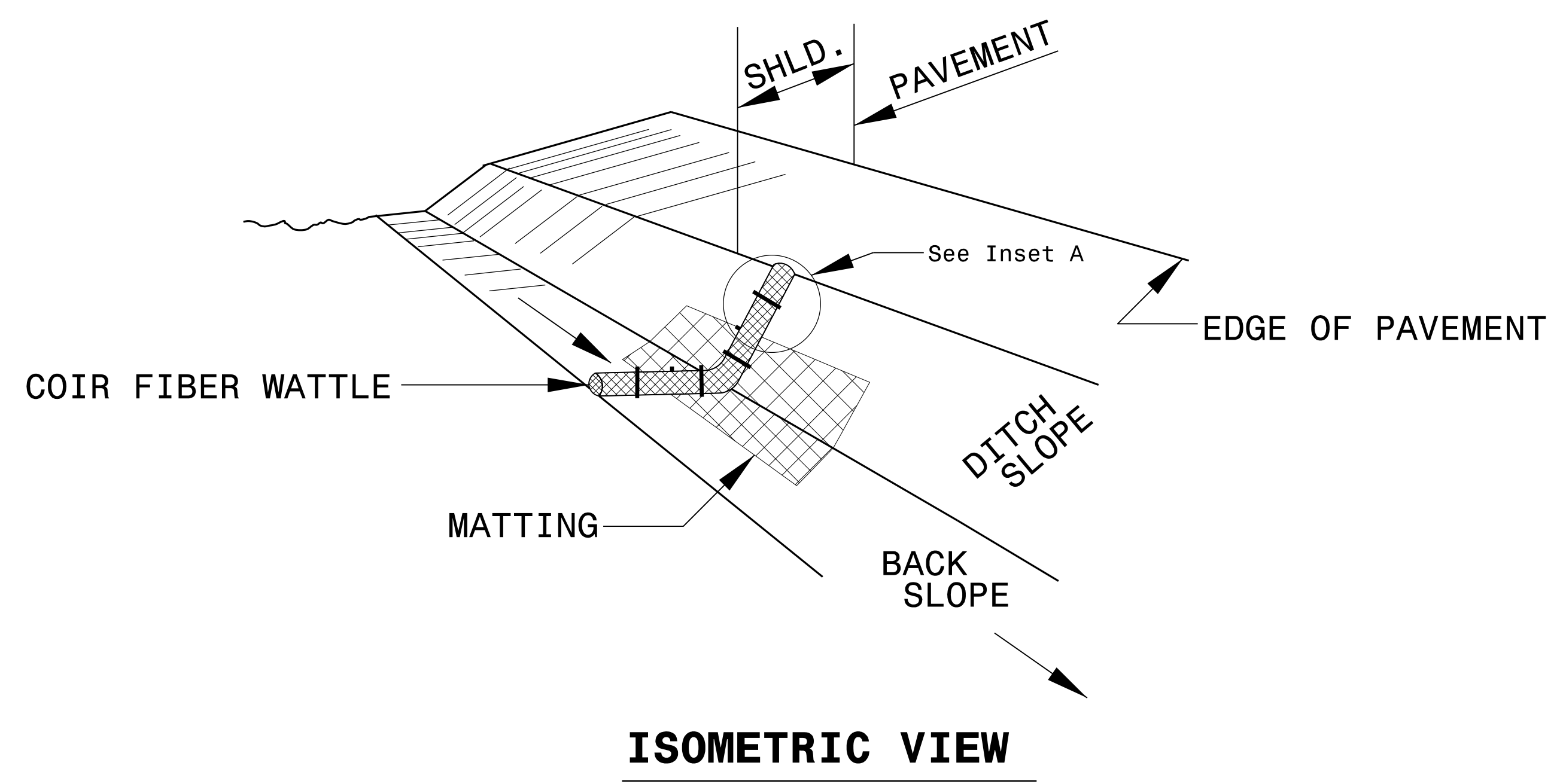
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING  $Q/0.8$ , WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. LOW PERMEABILITY GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

|   |                           |
|---|---------------------------|
| PROJECT REFERENCE NO.<br><i>BR-0046</i> | SHEET NO.<br><i>EC-2A</i> |
| RW SHEET NO.                            |                           |
| ROADWAY DESIGN ENGINEER                 | HYDRAULICS ENGINEER       |

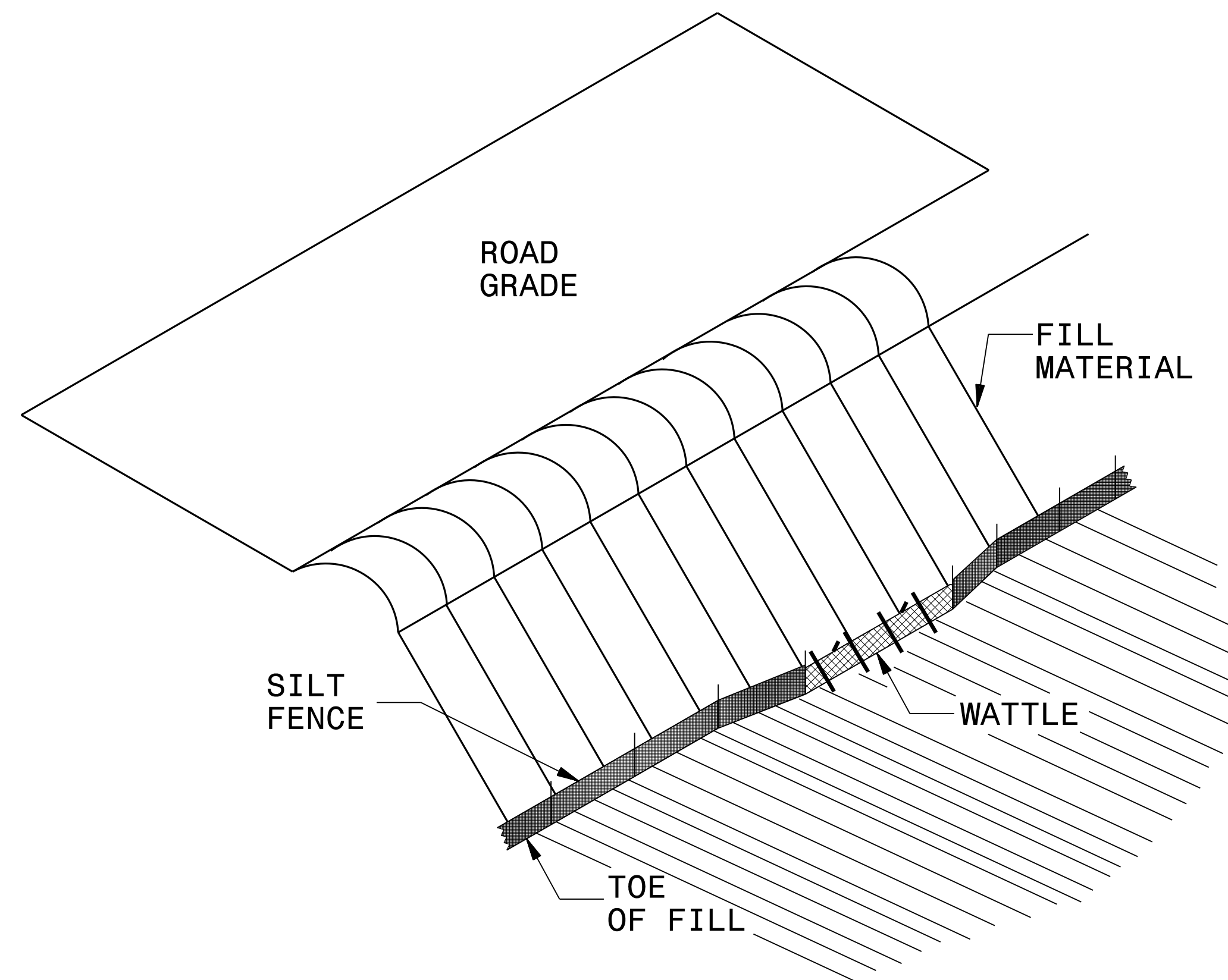
# COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

- NOTES:
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
  - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
  - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
  - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
  - PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
  - INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
  - INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
  - PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
  - INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

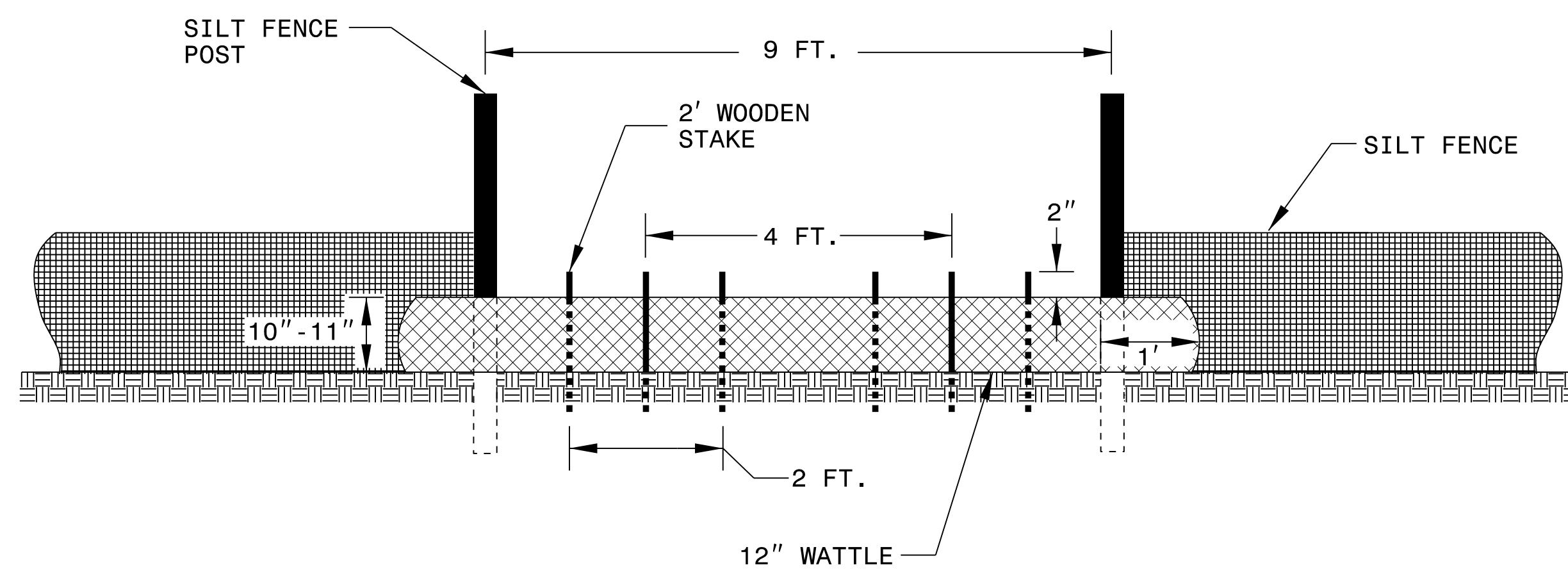


# SILT FENCE COIR FIBER WATTLE BREAK DETAIL

|                         |  |                     |  |
|-------------------------|--|---------------------|--|
| PROJECT REFERENCE NO.   |  | SHEET NO.           |  |
| BR-0046                 |  | EC-2B               |  |
| RW SHEET NO.            |  |                     |  |
| ROADWAY DESIGN ENGINEER |  | HYDRAULICS ENGINEER |  |



**ISOMETRIC VIEW**

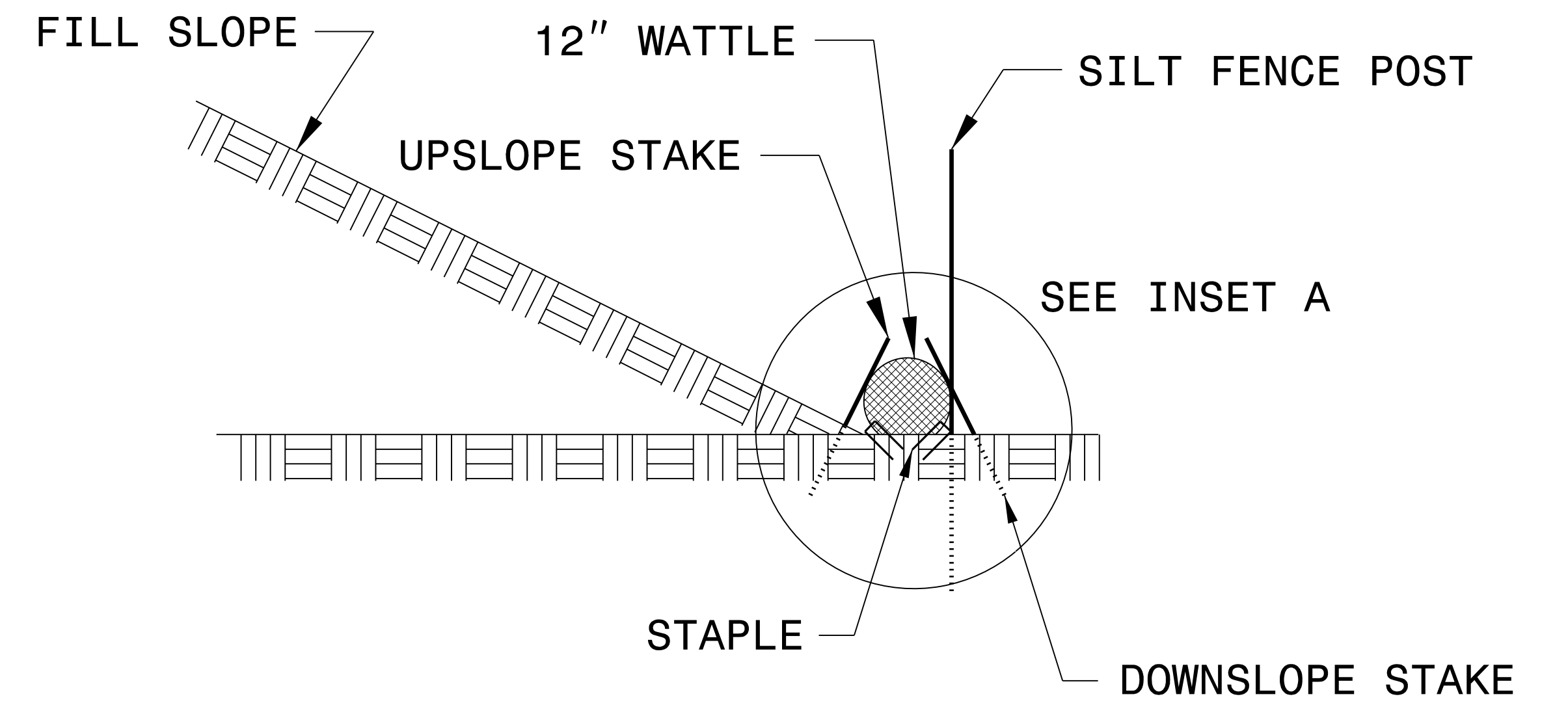
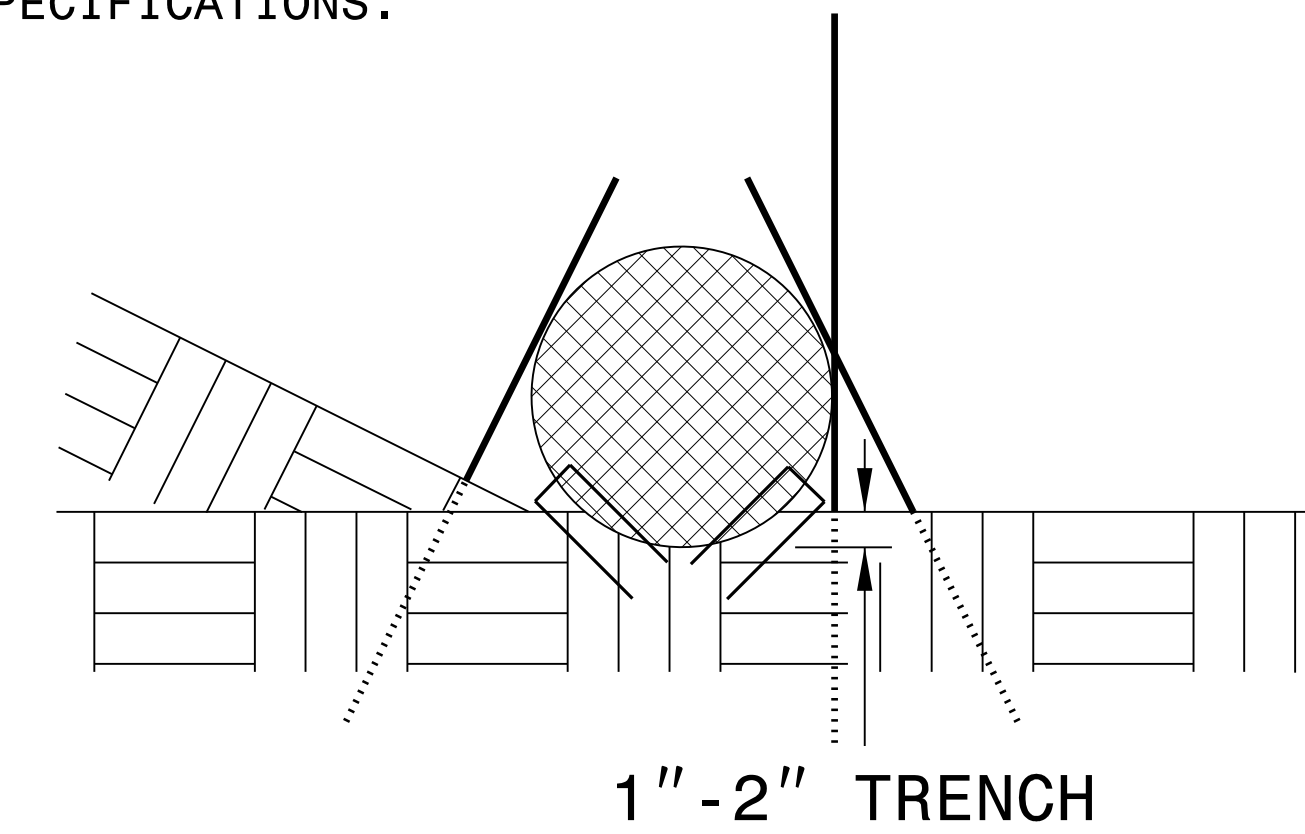


**VIEW FROM SLOPE**

**NOTES:**

- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

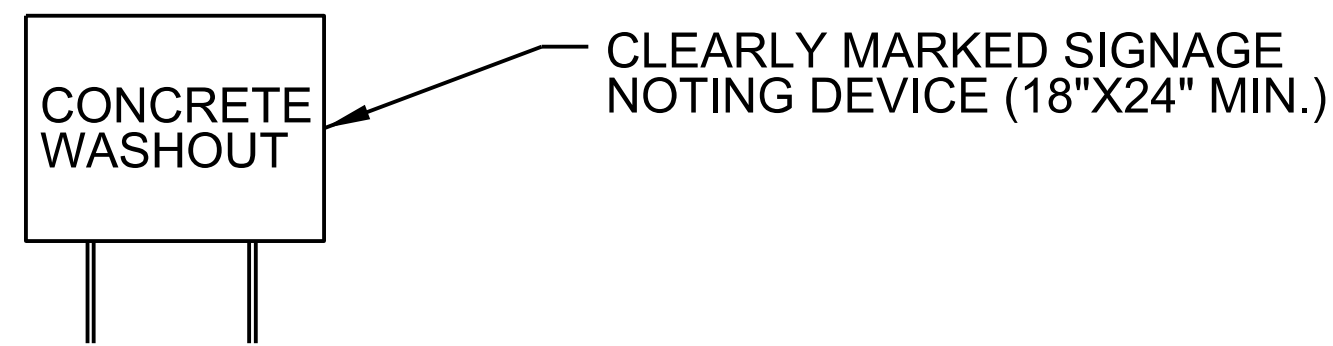
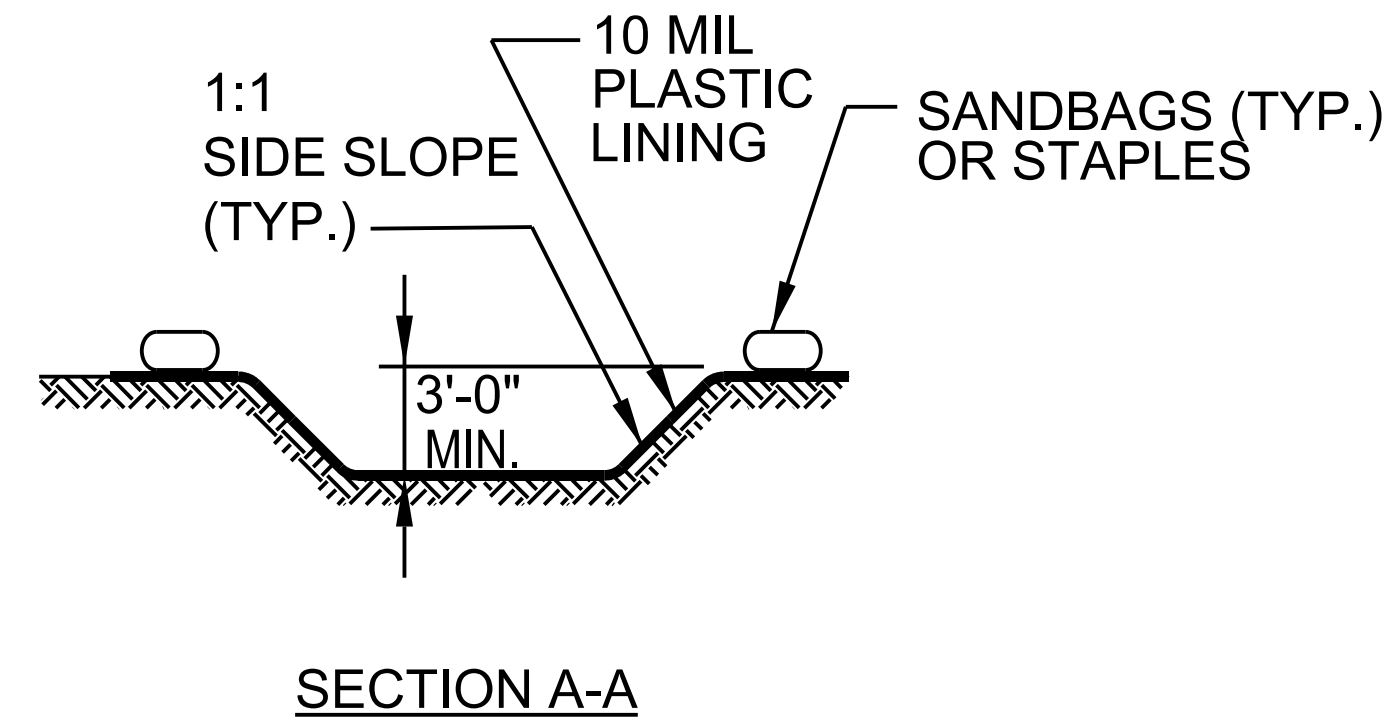
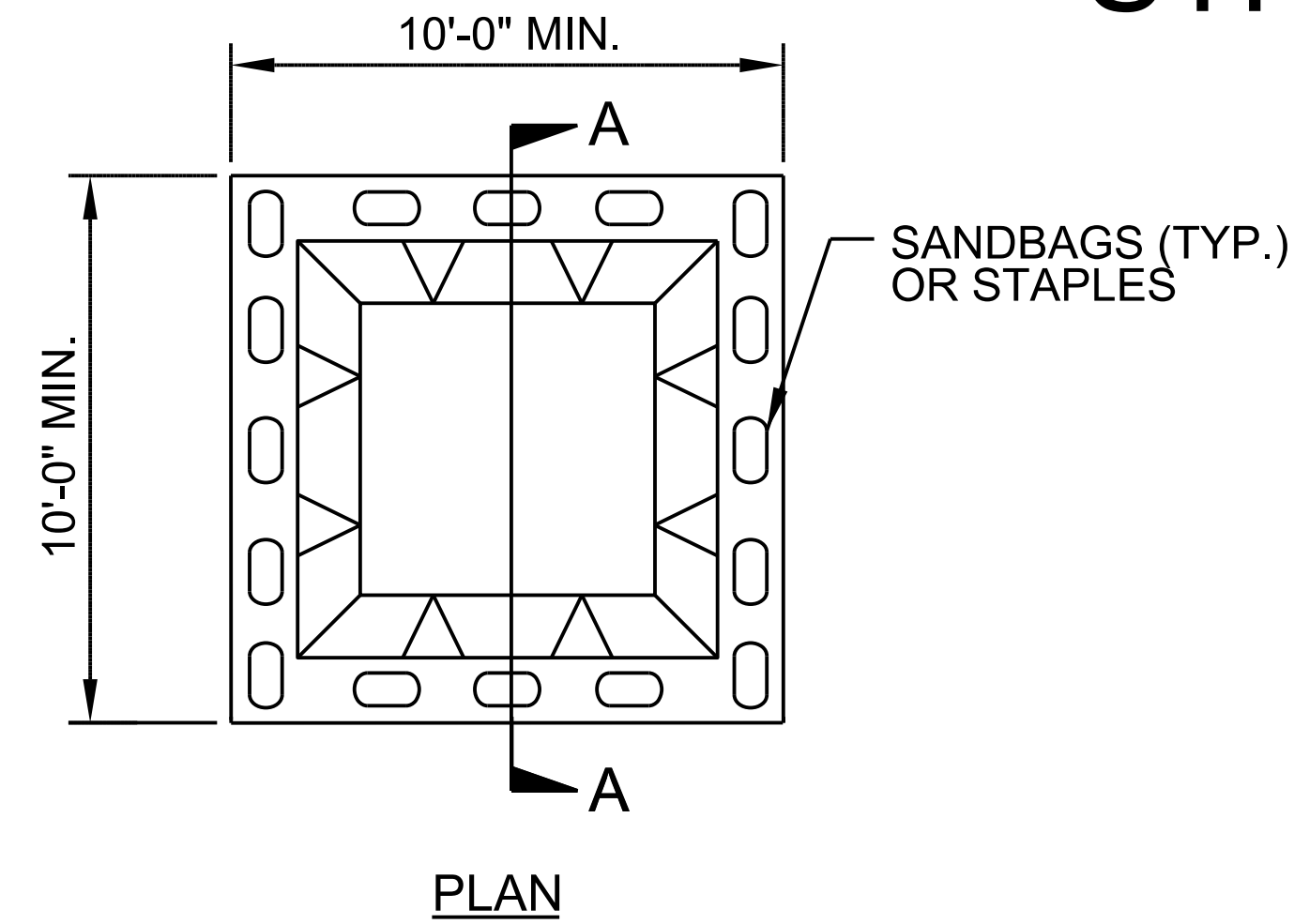
**INSET A**



**SIDE VIEW**

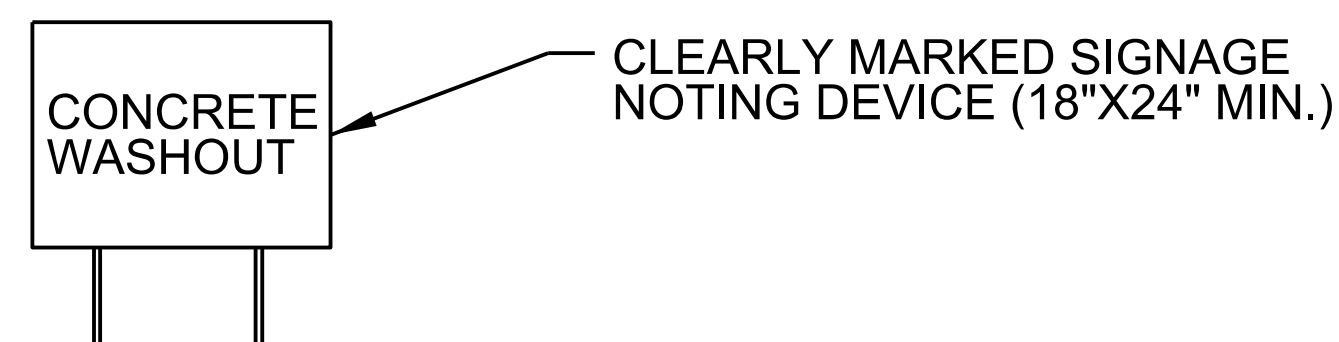
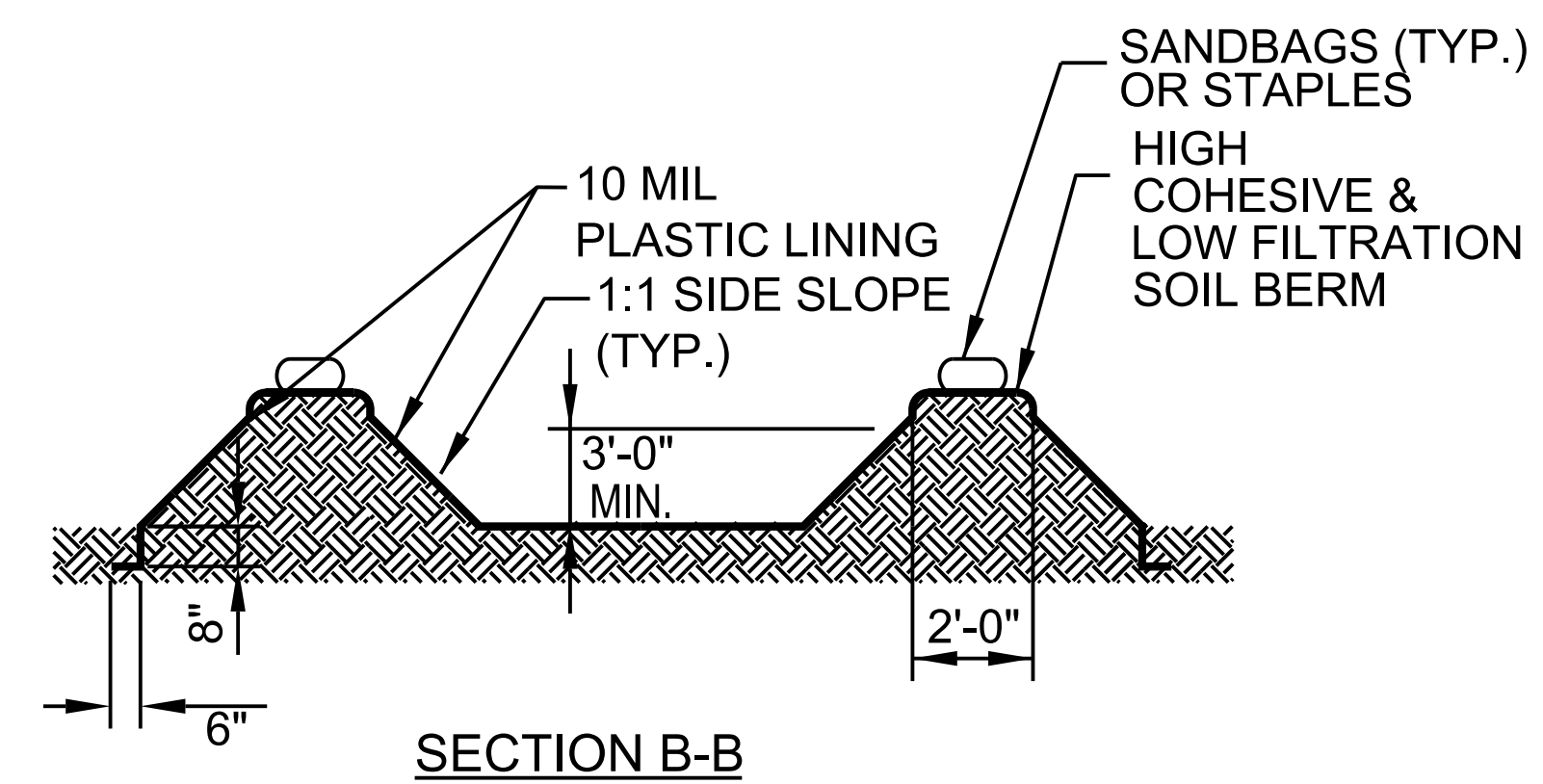
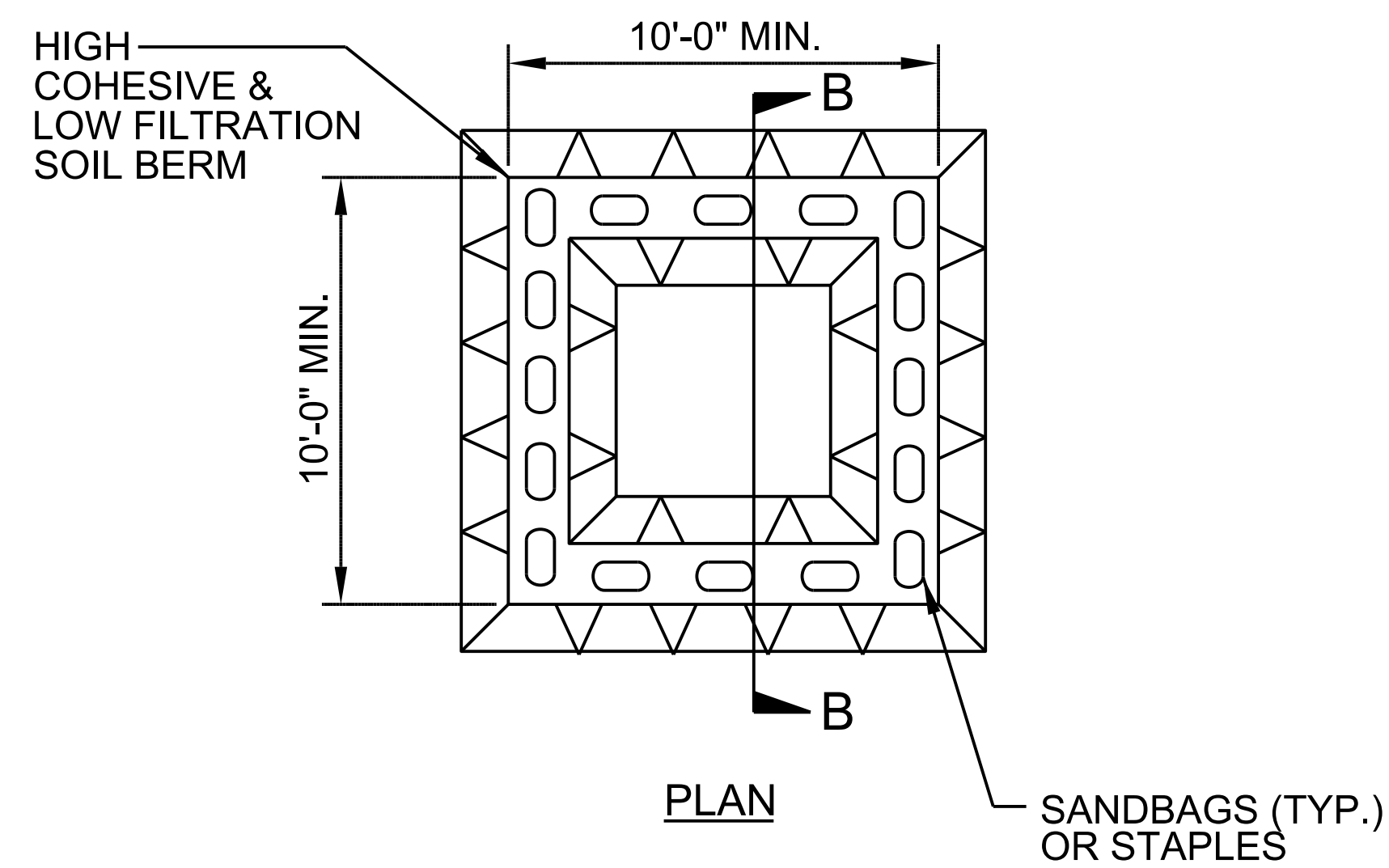
|   |                           |
|---|---------------------------|
| PROJECT REFERENCE NO.<br><i>BR-0046</i> | SHEET NO.<br><i>EC-2C</i> |
| RW SHEET NO.                            |                           |
| ROADWAY DESIGN ENGINEER                 | HYDRAULICS ENGINEER       |

# ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



**BELOW GRADE WASHOUT STRUCTURE**  
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
  2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
  3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



**ABOVE GRADE WASHOUT STRUCTURE**  
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
  2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
  3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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|   |                          |
|---|--------------------------|
| PROJECT REFERENCE NO.<br><i>BR-0046</i> | SHEET NO.<br><i>EC-3</i> |
| ROADWAY DESIGN<br>ENGINEER              | HYDRAULICS<br>ENGINEER   |

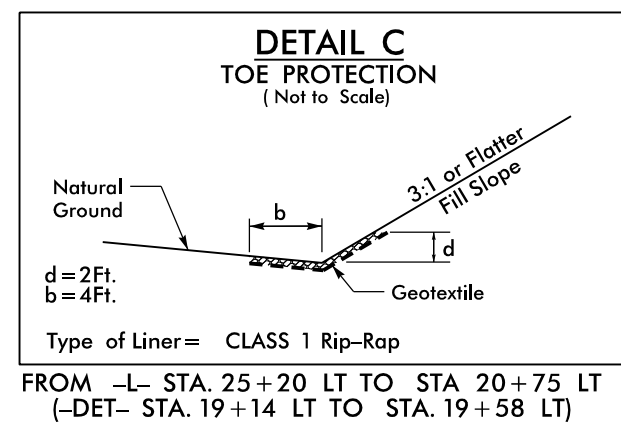
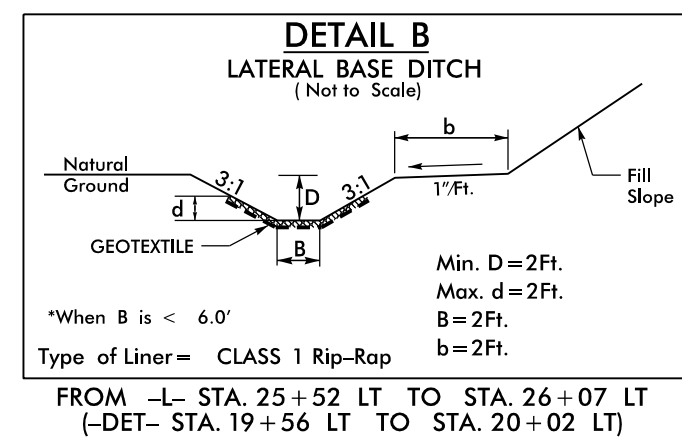
# ***SOIL STABILIZATION TIMEFRAMES***

| <i>SITE DESCRIPTION</i>                      | <i>STABILIZATION TIME</i> | <i>TIMEFRAME EXCEPTIONS</i>  |
|--|---------------------------|--|
| PERIMETER DIKES, SWALES, DITCHES AND SLOPES  | 7 DAYS                    | NONE   |
| HIGH QUALITY WATER (HQW) ZONES               | 7 DAYS                    | NONE   |
| SLOPES STEEPER THAN 3:1                      | 7 DAYS                    | IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED. |
| SLOPES 3:1 OR FLATTER                        | 14 DAYS                   | 7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.  |
| ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 | 14 DAYS                   | NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.   |



|                         |                     |
|-------------------------|---------------------|
| PROJECT REFERENCE NO.   | SHEET NO.           |
| BR-0046                 | EC-4/CONST.2B-1     |
| RW SHEET NO.            |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

# DETOUR

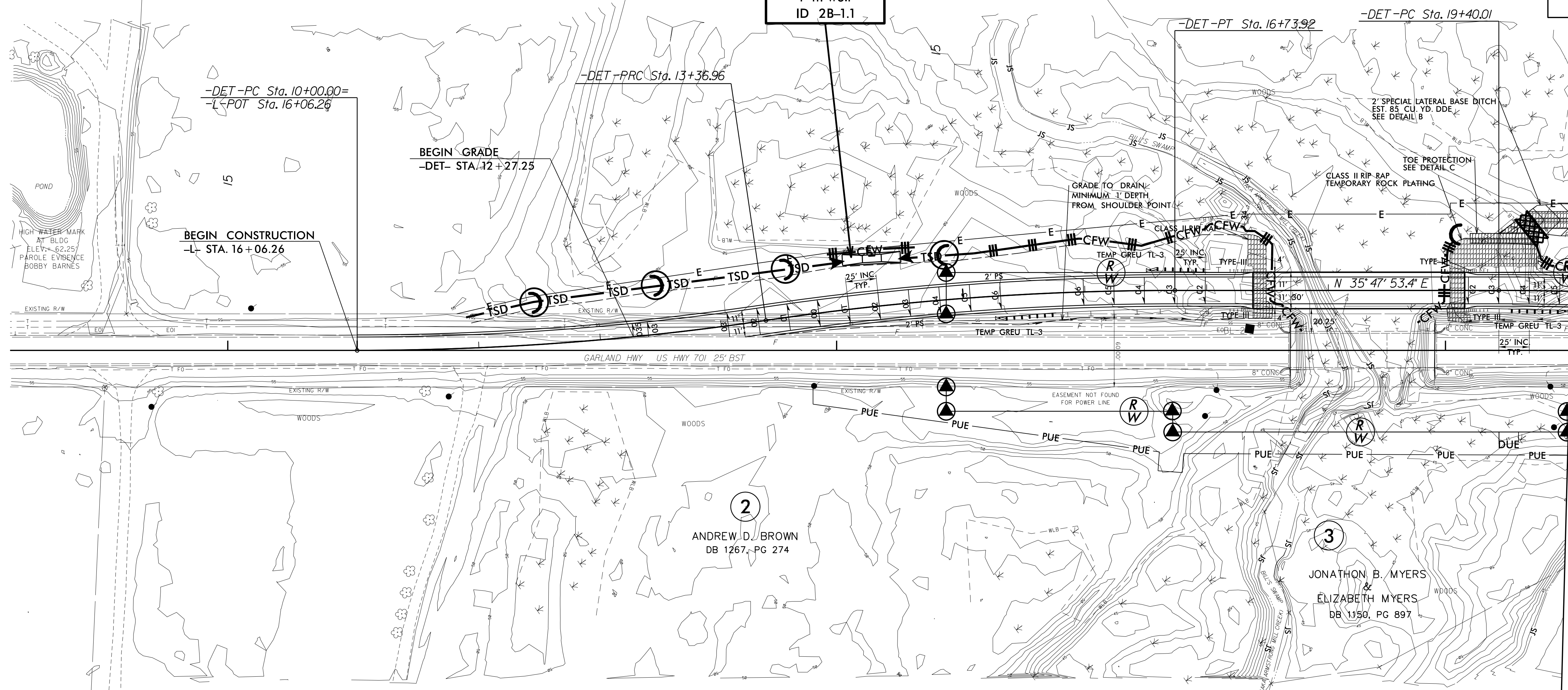


9 x 47 x 3  
1.5 inch Skimmer  
with 0.375 inch  
Orifice Diameter  
4 ft. weir  
ID 2B-1.1

1  
BOBBY L. BARNES  
DB 2012, PG 336

3  
JONATHON B. MYERS  
&  
ELIZABETH MYERS  
DB 1150, PG 897

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 2B-1



-DET-PC Sta. 10+00.00=  
-L-POT Sta. 16+06.26

BEGIN CONSTRUCTION  
-L- STA. 16+06.26

BEGIN GRADE  
-DET- STA. 12+27.25

-DET-PRC Sta. 13+36.96

-DET-PT Sta. 16+73.92

-DET-PC Sta. 19+40.01

GARLAND HWY US HWY 701 25' BST

2  
ANDREW D. BROWN  
DB 1267, PG 274

3  
JONATHON B. MYERS  
&  
ELIZABETH MYERS  
DB 1150, PG 897

MATCHLINE -DET- STA. 20+00.00  
SEE SHEET 2B-2

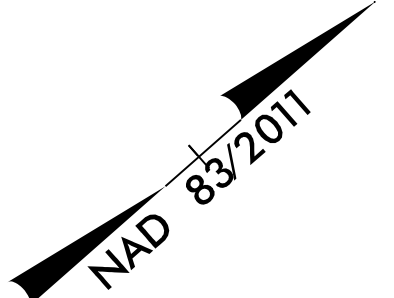
-DET-

|                               |                               |                               |
|-------------------------------|-------------------------------|-------------------------------|
| PI Sta 11+68.78               | PI Sta 15+05.74               | PI Sta 21+19.95               |
| $\Delta = 8' 23' 38.5''$ (LT) | $\Delta = 8' 23' 38.5''$ (RT) | $\Delta = 8' 56' 48.7''$ (RT) |
| $D = 2' 29' 28.0''$           | $D = 2' 29' 28.0''$           | $D = 2' 29' 28.0''$           |
| $L = 336.96'$                 | $L = 336.96'$                 | $L = 359.15'$                 |
| $T = 168.78'$                 | $T = 168.78'$                 | $T = 179.94'$                 |
| $R = 2,300.00'$               | $R = 2,300.00'$               | $R = 2,300.00'$               |
| $e = 0.035$                   | $e = 0.04$                    | $e = 0.04$                    |
| $RO = 100'$                   | $RO = 100'$                   | $RO = 100'$                   |

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

NOTE:  
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING  
BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

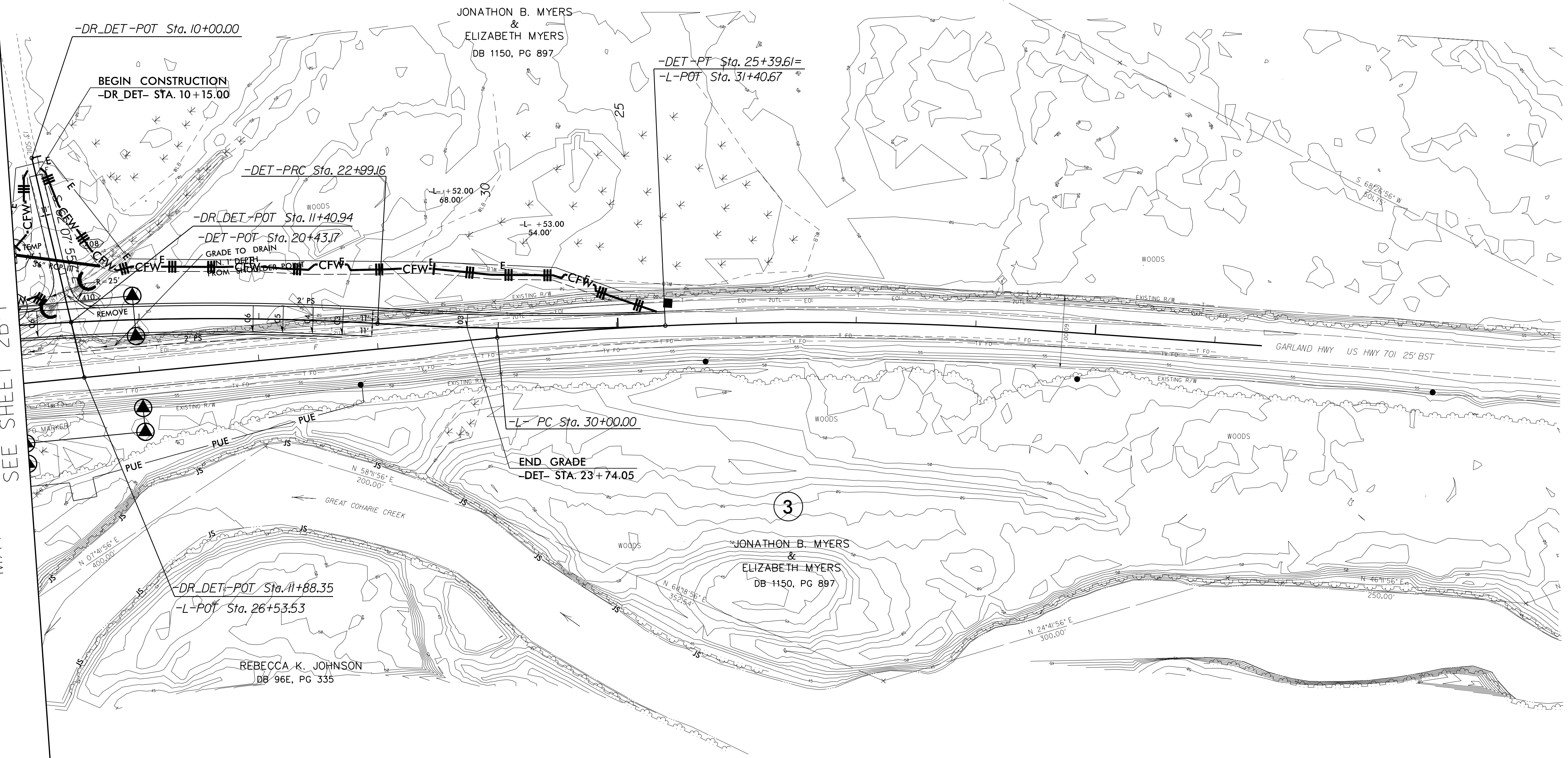
# DETOUR



|   |                                     |
|---|-------------------------------------|
| PROJECT REFERENCE NO.<br><i>BR-0046</i> | SHEET NO.<br><i>EC-5/CONST.2B-2</i> |
| RW SHEET NO.                            |                                     |
| ROADWAY DESIGN ENGINEER                 | HYDRAULICS ENGINEER                 |

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 2B-2

MATCHLINE -DET- STA.20+00.00  
SEE SHEET 2B-1



NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

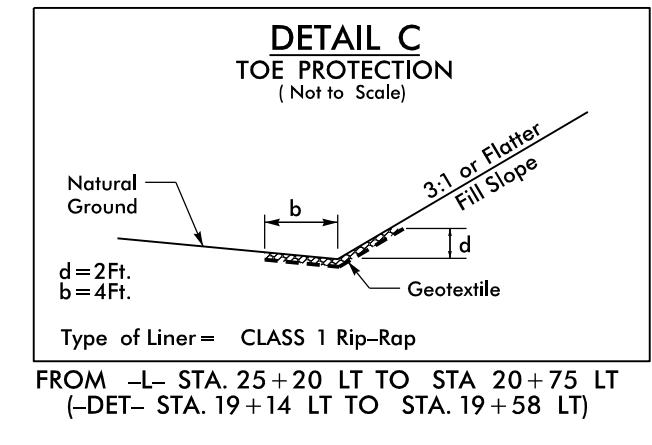
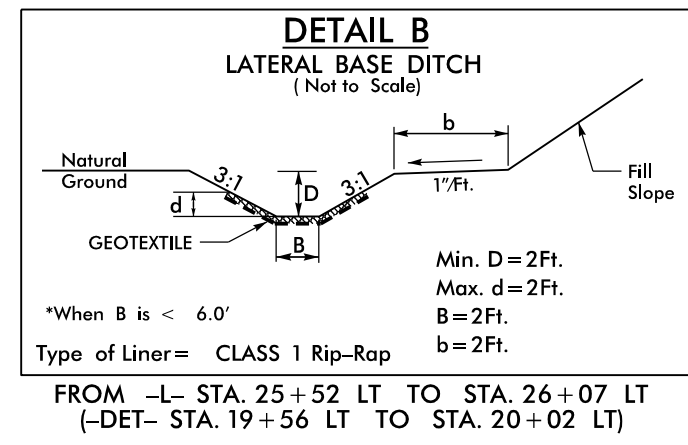
NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.





|                         |                     |
|-------------------------|---------------------|
| PROJECT REFERENCE NO.   | SHEET NO.           |
| BR-0046                 | EC-7/CONST.2B-1     |
| RW SHEET NO.            |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

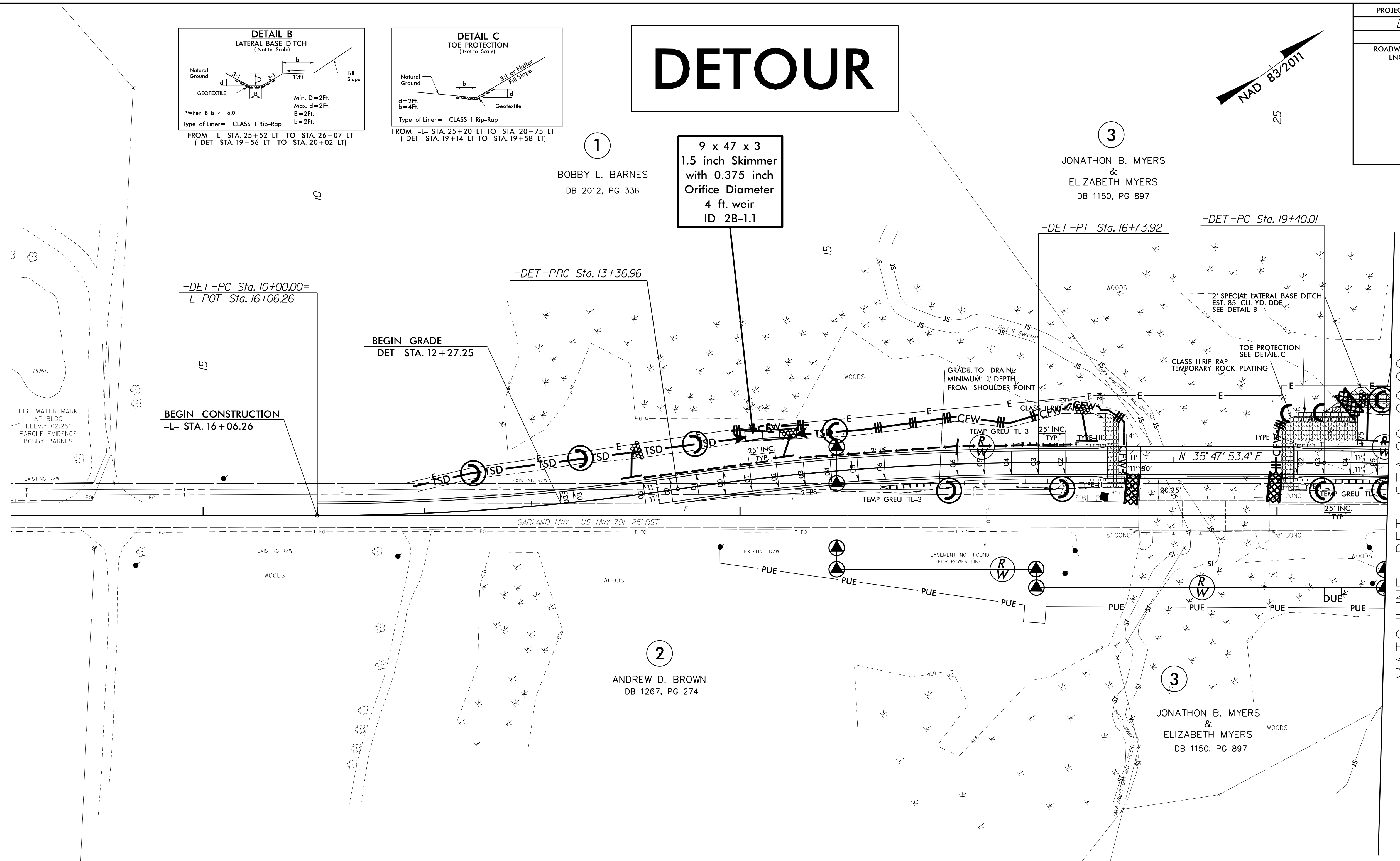
# DETOUR



9 x 47 x 3  
1.5 inch Skimmer  
with 0.375 inch  
Orifice Diameter  
4 ft. weir  
ID 2B-1.1

1  
BOBBY L. BARNES  
DB 2012, PG 336

3  
JONATHON B. MYERS  
&  
ELIZABETH MYERS  
DB 1150, PG 897



2  
ANDREW D. BROWN  
DB 1267, PG 274

3  
JONATHON B. MYERS  
&  
ELIZABETH MYERS  
DB 1150, PG 897

| -DET-                               |                                     |                                     |
|-------------------------------------|-------------------------------------|-------------------------------------|
| PI Sta 11+68.78                     | PI Sta 15+05.74                     | PI Sta 21+19.95                     |
| $\Delta = 8^{\circ} 23' 38.5" (LT)$ | $\Delta = 8^{\circ} 23' 38.5" (RT)$ | $\Delta = 8^{\circ} 56' 48.7" (RT)$ |
| $D = 2^{\circ} 29' 28.0"$           | $D = 2^{\circ} 29' 28.0"$           | $D = 2^{\circ} 29' 28.0"$           |
| $L = 336.96'$                       | $L = 336.96'$                       | $L = 359.15'$                       |
| $T = 168.78'$                       | $T = 168.78'$                       | $T = 179.94'$                       |
| $R = 2,300.00'$                     | $R = 2,300.00'$                     | $R = 2,300.00'$                     |
| $e = 0.035$                         | $e = 0.04$                          | $e = 0.04$                          |
| $RO = 100'$                         | $RO = 100'$                         | $RO = 100'$                         |

Place Matting for Erosion Control  
on Slopes Adjacent to Permitted  
Wetlands as Work Allows.

Place Matting for Erosion Control  
on Slope as Work Allows.  
-Det- Sta. 12+00 to Sta. 17+30 LT  
-Det- Sta. 19+75 to Sta. 20+00 LT

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/  
JURISDICTIONAL AREAS AND AS DIRECTED

NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING  
BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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USER:JMB

8/17/99

Place Matting for Erosion Control  
on Slope as Work Allows.  
-Det- Sta. 20+00 to Sta. 20+20 LT  
-Det- Sta. 20+50 to Sta. 25+00 LT  
-DR\_Det- Sta. 10+65 to Sta. 11+00 LT and RT

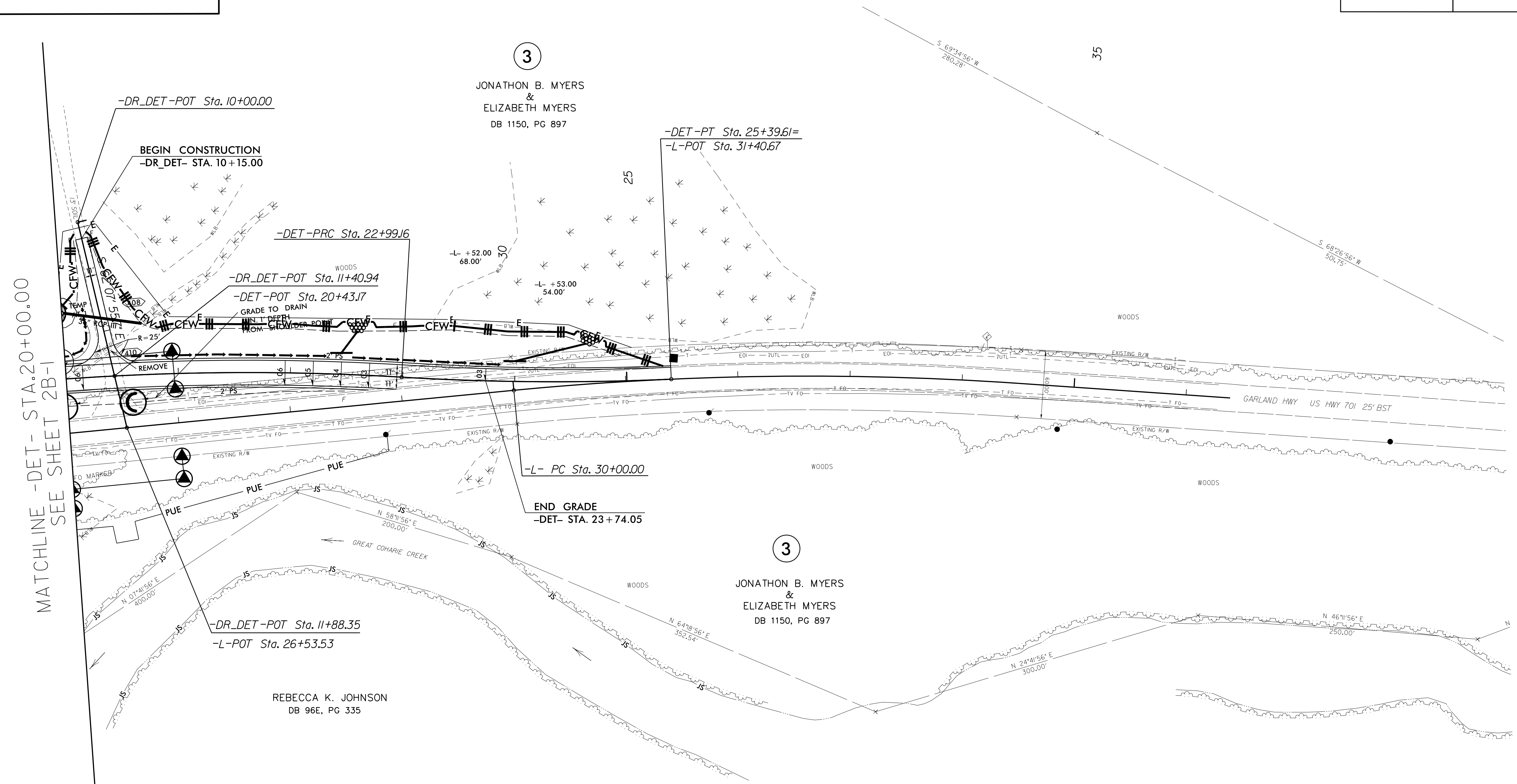
Place Matting for Erosion Control  
on Slopes Adjacent to Permitted  
Wetlands as Work Allows.

# DETOUR



|                         |                     |
|-------------------------|---------------------|
| PROJECT REFERENCE NO.   | SHEET NO.           |
| BR-0046                 | EC-8/CONST.2B-2     |
| R/W SHEET NO.           |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/  
JURISDICTIONAL AREAS AND AS DIRECTED

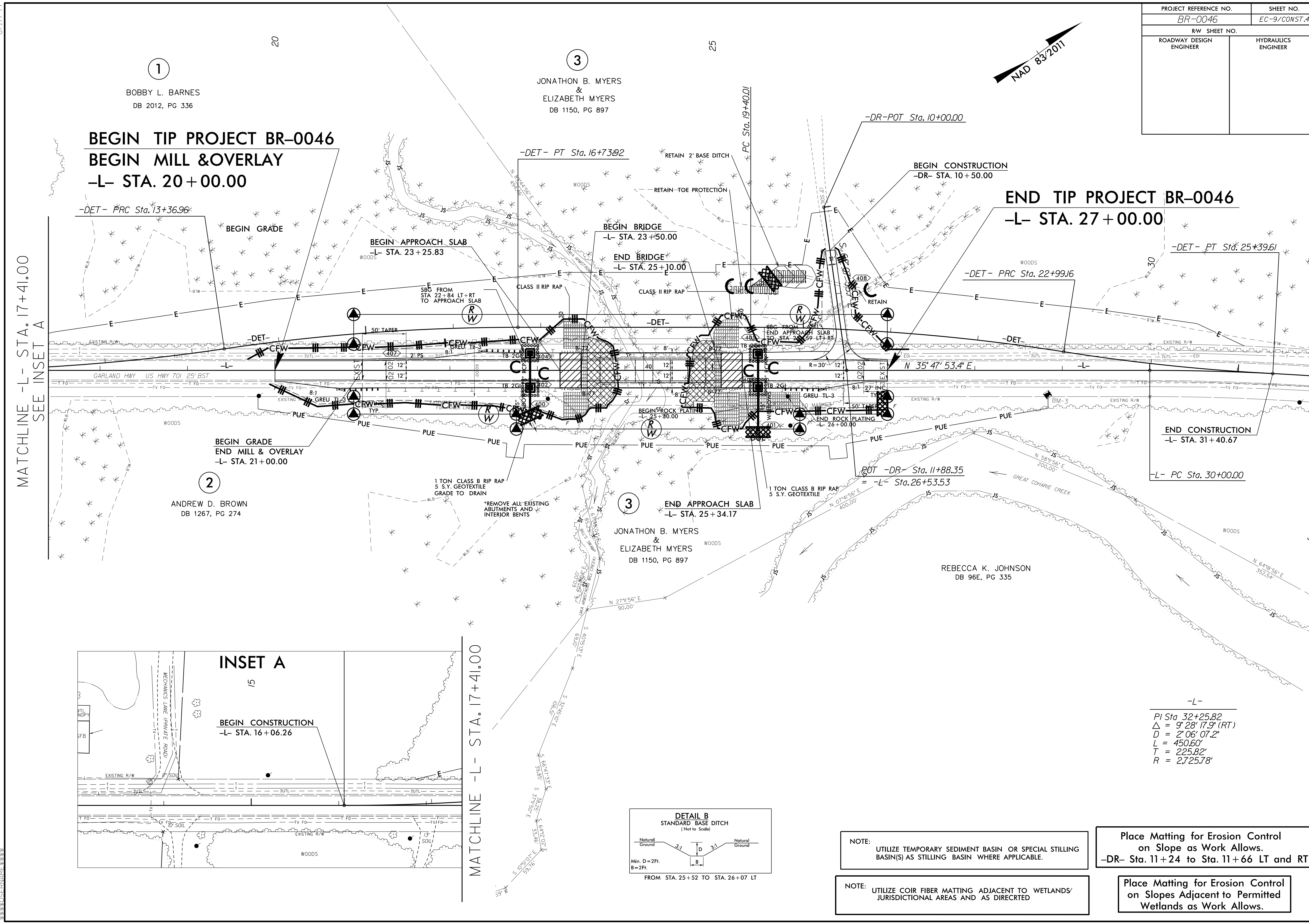


NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING  
BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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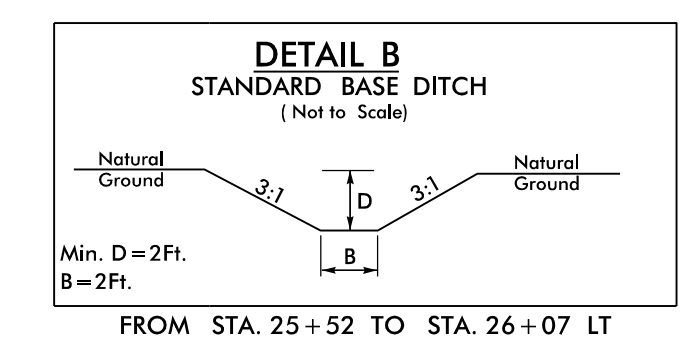
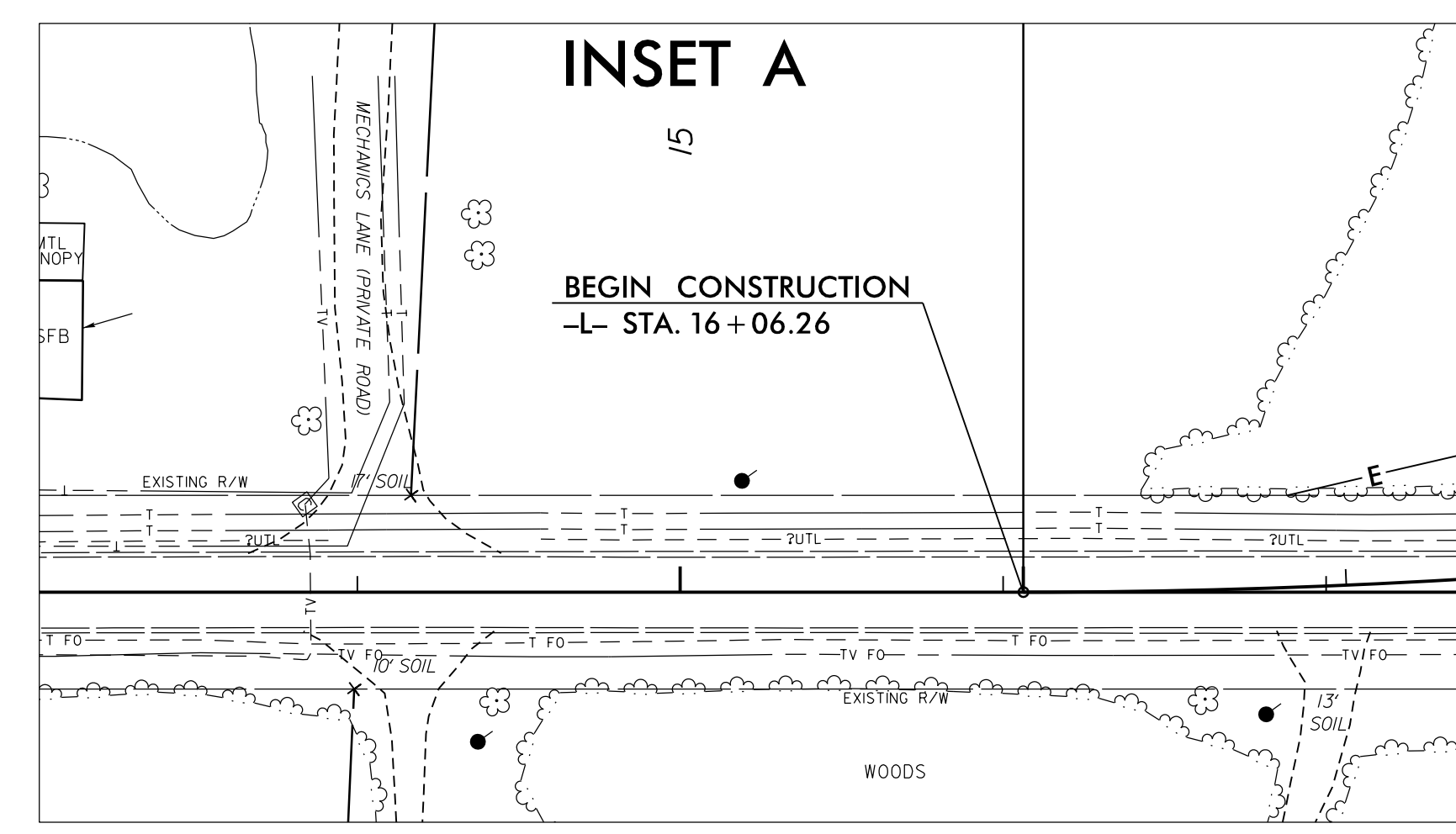


|                         |                     |
|-------------------------|---------------------|
| PROJECT REFERENCE NO.   | SHEET NO.           |
| BR-0046                 | EC-9/CONST.4        |
| RW SHEET NO.            |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |



MATCHLINE -L- STA. 17+41.00  
SEE INSET A

MATCHLINE -L- STA. 17+41.00



NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/ JURISDICTIONAL AREAS AND AS DIRECTED

Place Matting for Erosion Control on Slope as Work Allows.  
-DR- Sta. 11+24 to Sta. 11+66 LT and RT

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

-L-  
PI Sta. 32+25.82  
 $\Delta = 9' 28' 17.9'' (RT)$   
 $D = 2' 06' 07.2''$   
 $L = 450.60'$   
 $T = 225.82'$   
 $R = 2,725.78'$

1  
BOBBY L. BARNES  
DB 2012, PG 336

3  
JONATHON B. MYERS  
&  
ELIZABETH MYERS  
DB 1150, PG 897

2  
ANDREW D. BROWN  
DB 1267, PG 274

3  
JONATHON B. MYERS  
&  
ELIZABETH MYERS  
DB 1150, PG 897

REBECCA K. JOHNSON  
DB 96E, PG 335

8/17/99  
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\$\$\$\$\$PERM\$\$\$\$\$