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<td>L W</td>
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<td>72&quot; 72&quot;</td>
<td>84&quot; x 84&quot;</td>
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**NOTES:**
1. **MAXIMUM PIPE SIZES ARE CALCULATED USING REINFORCED CONCRETE PIPE PERPENDICULAR TO THE BOX WALL. FOR OTHER PIPE SIZES, TYPES AND SKEW ANGLES OTHER THAN PERPENDICULAR, SEE CHART ON DELDOT DESIGN RESOURCE CENTER.**
2. **STEPS ARE REQUIRED ON ALL BOXES WHOSE DEPTHS ARE GREATER THAN 4'-0".**
3. **FOR A 34" x 24" DRAINAGE INLET, SEE DETAIL D-4 OR APPROPRIATE DETAIL SHEET FOR ADDITIONAL NOTES.**
4. **FOR A 34" x 36" DRAINAGE INLET, SEE DETAIL D-5, SHEET 2 FOR INLET TOP UNIT TYPES A, B, C, D, E & F. FOR INLET TOP UNIT TYPES S, SEE DETAIL D-5, SHEET 3.**
5. **FOR MORE INFORMATION ON DRAINAGE INLET TOP UNIT TYPES A, B, C, D, E & F SEE DETAIL D-5, SHEET 3 AND FOR DRAINAGE INLET TOP UNIT, TYPE S, SEE DETAIL D-5, SHEET 8.**
6. **ONLY USE THE TYPE 7 DRAINAGE INLET GRATE WHEN SPECIFIED ON THE PLANS OR AFTER APPROVAL BY THE ENGINEER.**
Note: This inlet grate is only to be used when specified on the plans and should not be retrofitted without approval by the engineer.

This frame is to be used with Types 1 through 4 grates only.

Only install the Type 2 drainage inlet grate where bicycle traffic is not expected to be present.

Label the top of all drainage inlet grates, except Type 7, with "only rain down the storm drain." Also, label drainage inlet grates Type 1 and Type 4 with "water flow" and an arrow indicating flow direction as shown in the example detail.

Label the top and bottom of the Type 1 drainage inlet grate with "curbide" as shown on the example detail.

Only use the Types 5 & 6 drainage inlet frame and grate combinations on lawn inlet drainage boxes. See Schedule on Detail D-4, Sheet 1 for which box sizes are considered lawn inlet drainage boxes.

The Type 6 drainage inlet frame and grate combination shown is the Neenah Foundry frame and grate combination model NF-1878-A5-G, an acceptable alternative is the East Jordan Iron Works frame and grate combination model V-5622.

DRAINAGE GRADE LABELING EXAMPLE DETAIL

CURBIDE WATER FLOW

ONLY RAIN DOWN THE STORM DRAIN

SCHEDULE ON DETAIL D-4, SHEET 1 FOR WHICH BOX SIZES ARE CONSIDERED LAWN INLET DRAINAGE BOXES.

DELTAWEST DEPARTMENT OF TRANSPORTATION

DRAINAGE INLET FRAME AND GRATES

STANDARD NO. D-5 (2014) SHT. 2 OF 9

APPROVED SIGNATURE ON FILE 12/20/2014 12/11/2014

RECOMMENDED SIGNATURE ON FILE 12/4/2014
CONCRETE WASHOUT SIGN

MORE INFORMATION.

STABILIZED CONSTRUCTION ENTRANCE. SEE DETAIL E-13 FOR MORE INFORMATION.

ACCESS DRIVE SHOULD MATCH MINIMUM REQUIREMENTS OF STABILIZED CONSTRUCTION ENTRANCE. SEE DETAIL E-13 FOR MORE INFORMATION.

SIDE (EXCLUDING ACCESS DRIVE LOCATION)

BERM REQUIRED ON ALL SIDES (EXCLUDING ACCESS DRIVE LOCATION)

SANDBAG OR CONCRETE BLOCK ANCHOR

COMPACTED BERM WITH LINER OVERTOP AND CONCRETE BLOCK ANCHOR

OPTIONAL LINER/BERM INSTALLATION

PLATE VIEW

SECTION A-A

CONCRETE WASHOUT

PLAN VIEW

NOTES:

1. A PREFABRICATED CONCRETE WASHOUT UNIT MAY BE USED IN LIEU OF THE DESIGN SHOWN ON THIS DETAIL. THE DIMENSIONS ARE 4'-0" x 4'-0" x 1'-0" DEEP WITH A 4 MIL POLYETHYLENE PLASTIC LINER. FOLLOW THE DIMENSIONS IN THIS DETAIL FOR CONSTRUCTED CONCRETE WASHOUT AREAS.

2. THE LINER MUST BE FREE OF TEARS OR HOLES AND PLACED OVER SMOOTH SURFACES TO PREVENT PUNCTURING. FOR EXCAVATED WASHOUTS, ANCHOR THE LINER UNDERNEATH THE BERM OR OVERTOP WITH SANDBAGS OR CONCRETE BLOCKS TO HOLD IN PLACE, AS DIRECTED ON THIS DETAIL.

3. ALLOW WASHED OUT CONCRETE MIXTURE TO HARDEN THROUGH EVAPORATION OF THE WASTEWATER. ONCE THE FACILITY HAS REACHED 75% OF ITS CAPACITY, REMOVE THE HARDENED CONCRETE BY REUSING THE BROKEN AGGREGATE ON SITE, RECYCLING, OR DISPOSING OFFSITE. THE HARDENED MATERIAL CAN BE BURIED ON SITE WITH A MINIMUM OF 1'-0" OF CLEAN, COMPACTED FILL.

4. APPLY A NEW LINER BEFORE REUSING THE STATION FOR ADDITIONAL WASHOUTS AFTER MAINTENANCE HAS OCCURRED.

DELAWARE DEPARTMENT OF TRANSPORTATION

CONCRETE WASHOUT

APPROVED

SIGNATURE ON FILE

12/30/2014

STANDARD NO. E-1 (2014)

SIGNATURE ON FILE

12/11/2014

SHT. 1

OF 1

RECOMMENDED

10/24/2014
NOTES:
1. This device is intended to control sheet flow only and is not to be used in areas of concentrated flow.
2. Turn ends of silt fence upslope to contain runoff.
3. Reinforcing strip is to be one complete strip covering all geotextile fabric at post.

DELWARE DEPARTMENT OF TRANSPORTATION
STANDARD NO. E-2 (2014)
SHT. 1 OF 1
APPROVED RECOMMENDED
SIGNATURE ON FILE 10/24/2014
Sediment Traps are intended for use in existing, proposed, and temporary ditches of all types with a maximum drainage area of 15 acres, as shown on plans or as directed by the Engineer.

1. Stabilize side slopes with temporary grass seeding as per specifications.
2. An outlet structure is required and is noted on the plans.
3. For size, location, etc. of sediment trap, see plans.
4. All fill slopes are to have a slope of 1:1.
5. The sediment trap length to width ratio is to be 2:1. Special designs are permitted to increase the flow time after approval by the Stormwater Engineer.

Notes:

1. sediment traps are intended for use in existing, proposed, and temporary ditches of all types with a maximum drainage area of 15 acres, as shown on plans or as directed by the Engineer.
2. Stabilize side slopes with temporary grass seeding as per specifications.
3. An outlet structure is required and is noted on the plans.
4. For size, location, etc. of sediment trap, see plans.
5. All fill slopes are to have a slope of 2:1.
6. The sediment trap length to width ratio is to be 2:1. Special designs are permitted to increase the flow time after approval by the Stormwater Engineer.
IF THE INLET IS NOT AT A LOW POINT, INSTALL STONE CHECK DAM DOWNSTREAM FROM INLET.

18" 12" 6"

12"

18"

MAX

2" x 4" (NOMINAL) POST, DRIVEN INTO GROUND

2" x 4" (NOMINAL) NAILED AT JOINTS [TYP]

2" x 4" (NOMINAL) FRAME, NAILED AT JOINTS [TYP]

EXISTING GROUND

EXCAVATE AND RE-COMPACT SOIL [TYP]

STANDARD NO. E-4 (2014)

APPROVED 12/20/2014

SIGNATURE ON FILE

RECOMMENDED 12/11/2014

SIGNATURE ON FILE

DELAWARE DEPARTMENT OF TRANSPORTATION

INLET SEDIMENT CONTROL, DRAINAGE INLET

STANDARD NO. E-4 (2014) SHT. 1 OF 1

SIGNATURE ON FILE

SIGNATURE ON FILE

10/24/2014
**PLAN VIEW**

SECTION A-A

**INLET SEDIMENT CONTROL, CULVERT INLET**

DELAWARE DEPARTMENT OF TRANSPORTATION

INLET SEDIMENT CONTROL, CULVERT INLET

DE. NO 3 STONE

NOTE:

1. THE ENGINEER WILL ADAPT SIZE AND SHAPE OF THE STONE CHECK DAM TO MEET FIELD CONDITIONS, INTERCEPTING SWALES AND GRADES.

2. 6" MINIMUM WEIR WIDTH

3. 24" MINIMUM DIAMETER (MAX) OF PIPE INSIDE

4. 3" MIN DIAMETER (TYP)

5. 3/4" OF PIPE INSIDE DIAMETER (MAX)

6. GEOTEXTILE

SCALE: NTS

12/20/2014

SIGNATURE ON FILE

DATE

RECOMMENDED

SIGNATURE ON FILE

12/11/2014

10/24/2014
1. The maximum pump discharge in this typical portable sediment tank is 125 gallons per minute. Replace the geotextile when the portable sediment tank can no longer allow this flow rate, when there is a tear, or when directed by the engineer.

2. Several unconnected or connected in parallel portable sediment tanks may be used when a higher flow rate is needed to dewater the job.

3. Place 72" C.M.P. so that it is centered in the 96" C.M.P. and there is an equal amount of space between the two pipes.

Notes:

- 3" dia. metal pipe through outer C.M.P. only.
- 72" C.M.P. perforate with 1" holes at 6" on center and at 6" intervals for the length of the entire pipe.
- See Note 3.
NOTES:

PLAN

SECTION A-A

TO PUMP DELAWARE NO. 57 STONE.

TO PUMP W.S. EL.

GRADE TO DRAIN DELAWARE NO. 57 STONE.

DISCHARGE TO STABILIZED OUTFALL

DEWATERING HOSE (CLEAN WATER FREEBOARD 6" MIN.

12" 4'-0" MIN.

SUMP PIT

WOOD WEDGE 2" X 4" (NOM)

WOOD WEDGE 2" X 4" (NOM)

12

6'-0"

(SEE NOTE 4)

24" C.M.P.

36" C.M.P.

(SEE NOTE 4)

36" C.M.P.

(SEE NOTE 4)

24" C.M.P.

(SEE NOTE 4)

(SEE NOTE 4)

(SEE NOTE 4)

E-7 (2014)

REPLACE GEOTEXTILE FOR THE 24" C.M.P. WHEN CLOGGED WITH SEDIMENT.

4).

WELD PERFORATED CAP TO THE BOTTOM OF BOTH PIPES.

3).

THE GEOTEXTILE TO INCREASE FLOW THROUGH THE GEOTEXTILE.

PLACE WIRE MESH AROUND THE REMOVABLE 24" C.M.P. BEFORE ATTACHING ALL PERFORATIONS ARE 1" IN DIAMETER AND 12" ON CENTER IN ALL DIRECTIONS. 1).

SECTION B-B

FLOW GEOTEXTILE WIRE MESH " 23 GAGE 4 1/4" x 4 1/4"

24" C.M.P.

36" C.M.P.

SEE SECTION B-B WIRE MESH AND GEOTEXTILE

DELAWARE NO. 57 STONE.

WIRE MESH AND GEOTEXTILE SEE SECTION B-B

SECTION B-B

1/8" x 1/8" 23 GAGE WIRE MESH

24" C.M.P.

36" C.M.P.

NOTE:

1. ALL PERFORATIONS ARE 1" IN DIAMETER AND 12" ON CENTER IN ALL DIRECTIONS.
2. PLACE WIRE MESH AROUND THE REMOVABLE 24" C.M.P. BEFORE ATTACHING THE GEOTEXTILE TO INCREASE FLOW THROUGH THE GEOTEXTILE.
3. WELD PERFORATED CAP TO THE BOTTOM OF BOTH PIPES.
4. REPLACE GEOTEXTILE FOR THE 24" C.M.P. WHEN CLOGGED WITH SEDIMENT.
NOTES:
1. ALL PVC PIPES ARE 4" I.D., SCHEDULE 40.
2. SOLVENT WELD ALL JOINTS OF THE FLOTATION SECTION.
3. ATTACH A 4" HDPE FLEXIBLE DRAIN PIPE TO THE POND OUTLET STRUCTURE USING WATER TIGHT CONNECTIONS.

POND OUTLET STRUCTURE

4" HDPE FLEXIBLE DRAIN PIPE

PVC PIPE (TYP.)

PVC END CAP (TYP.)

WIRE STOP

OVERLAPPING CONNECTING BANDS

SKIMMER SECTION

FLOATATION SECTION

12 ROWS OF 5/8" DIA.
4 HOLESL, 11/16" C.C.

ATTACH FLEXIBLE PIPE TO PVC
WITH TWO NO. 8 WOOD SCREWS

ATTACH FLEXIBLE PIPE TO PVC
WITH TWO NO. 8 WOOD SCREWS

FLANGE WITH RUBBER GASKET MATERIAL
(ATTACH TO STRUCTURE WITH CONCRETE SCREWS OR OTHER SUITABLE ATTACHMENT AS APPROVED BY THE ENGINEER)

#4 REBAR GUIDE POST (TYP.)
WITH WIRE STOP AT TOP OF RISER

4'-0" x 6'-0" DELAWARE #57 STONE PAD FOR SKIMMER.
4" MINIMUM THICKNESS.

DELAWARE DEPARTMENT OF TRANSPORTATION

SKIMMER DEWATERING DEVICE

STANDARD NO. E-8 (2014) SHT. 1 OF 1

APPROVED SIGNATURE ON FILE 12/20/2014

SIGNATURE ON FILE 12/11/2014

RECOMMENDED

10/24/2014
NOTES:

1) THE MAXIMUM HEIGHT OF THE CHECK DAM IS 2'-0" AT THE CENTER OF THE WEIR.

2) CONSTRUCT CHECK DAM SO THAT THE CENTER OF THE DAM IS 6" LOWER THAN THE OUTER EDGES, FORMING A WEIR THAT WATER CAN FLOW ACROSS.

3) INSTALL GEOTEXTILE FABRIC UNDERNEATH RIPRAP ON PERMANENT CHECK DAMS ONLY.

4) SPACE DAMS SO THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE WEIR OF THE DOWNSTREAM DAM. PLACE DAMS NO FURTHER THAN 20'-0" APART WHEN THE SLOPE IS LESS THAN 1%.

DELAWARE DEPARTMENT OF TRANSPORTATION

STONE CHECK DAM


SIGNATURE ON FILE 10/24/2014

SIGNATURE ON FILE 10/24/2014
TEMPORARY SLOPE DRAIN

1) Use temporary slope drains at the top of fill slopes as embankment is constructed to prevent excessive erosion until shoulders are constructed and the slopes are seeded as per specifications.

2) Discharge all temporary slope drains onto a stabilized outfall and then into a sediment trapping device.

3) Restrict movement of slope drains to the slope by a method approved by the engineer.

NOTE: See Note 1.
NOTES:

1. Construct edge berms and temporary slope drains along the top of all slopes to intercept runoff and convey it down the slope faces without creating gullies or washouts.

2. Track slope faces with cleated equipment such that the cleat marks are oriented horizontally.

3. Stabilize all cut and fill slopes of the highway embankment with temporary or permanent seed as work progresses in increments not to exceed 10'-0" of embankment height.

4. Construct embankment cross slopes so that they are no flatter than 2% and no steeper than 4%.

FINAL PHASE EMBANKMENT

EXISTING GROUND

INTERMEDIATE PHASE(S) EMBANKMENT

PHASE 1 EMBANKMENT

EXISTING GROUND

FINAL PHASE EXCAVATION

PHASE I EXCAVATION

INTERMEDIATE PHASE(S) EXCAVATION

LIMIT OF CONSTRUCTION

NOTES:

AS A CLEAN WATER DIVERSION

PERIMETER/DIKE SWALE USED

AS A CLEAN WATER DIVERSION

FLOW LEFT OR RIGHT AS DIRECTED

BY THE ENGINEER

EDGE BERM TO BE PLACED AT THE END OF EACH WORK DAY AND USED UNTIL SLOPE IS COMPLETELY STABILIZED.

MINIMUM OF 6"-0" OFFSET FROM TOE OF SLOPE

SLT FENCE, SEE DETAIL E-2 FOR MORE INFORMATION

CUT SECTION

FILL SECTION

LIMIT OF CONSTRUCTION

EXISTING GROUND

CUT SECTION

FILL SECTION

LIMIT OF CONSTRUCTION

EXISTING GROUND
**NOTES:**

1. TRACK AND SEED TOPSOIL UNDER EROSION CONTROL BLANKET.
2. ADDITIONAL STAPLES ARE REQUIRED AT OVERLAPS. SEE OVERLAP DETAIL ON THIS SHEET FOR STAPLE PLACEMENT.
3. STAGGER ALL STAPLES ACROSS EROSION CONTROL BLANKET AS SHOWN.

**EROSION CONTROL BLANKET APPLICATIONS**

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<th>SHT.</th>
<th>1</th>
<th>OF</th>
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STABILIZATION OF DITCHES

OVERLAP DETAIL

STABILIZATION OF DITCHES

LONGITUDINAL TRENCH ANCHOR DETAIL

STAPLES TO BE PLACED AT 12"
SPACING ACROSS DOMINANT FLOW

STAPLES TO BE PLACED AT 18"
SPACING ALONG DOMINANT FLOW

DOMINANT FLOW

STAPLES (TYP.)

A

OVERLAP

NOS:
1) TRACK AND SEED TOPSOIL UNDER TURF REINFORCEMENT.
2) ADDITIONAL STAPLES ARE REQUIRED AT OVERLAPS, ENDS, CHECK SLOTS, AND EDGES AS DETAILED ON THIS SHEET.
3) STAGGER ALL STAPLES AS SHOWN ON THIS SHEET.

DOMINANT FLOW

TURF REINFORCEMENT MAT TO BE CENTRED ALONG FLOW LINE OF DITCH.

LONGITUDINAL TRENCH ANCHOR TO BE CENTRED ALONG FLOW LINE OF DITCH.

STAPLES (TYP.)

STABILIZATION OF DITCHES

SECTION A-A

STAPLES TO BE PLACED AT 12"
SPACING ACROSS DOMINANT FLOW

STAPLES TO BE PLACED AT 12"
SPACING ACROSS DOMINANT FLOW

DO MINANT FLOW

TURF REINFORCEMENT MAT TO BE PLACED AT 6"
SPACING ACROSS DOMINANT FLOW

STAPLES (TYP.)

STABILIZATION OF DITCHES

PLAN

DOMINANT FLOW

STAPLES [TYP.]

A

DELAWARE
DEPARTMENT OF TRANSPORTATION

TURF REINFORCEMENT MAT APPLICATIONS

APPROVED

SIGNATURE ON FILE

DATE

10/24/2014

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12/11/2014

SIGNATURE ON FILE

STANDARD NO. E-13 (2014)

SHT. 1 OF 1

RECOMMENDED
NOTES:

1. PLACE ALL SURFACE WATER THAT IS FLOWING OR DIVERTED TOWARDS THE CONSTRUCTION ENTRANCE UNDER THE ENTRANCE. A MOUNTABLE BERM AS SHOWN ON THIS DETAIL, IS PERMITTED TO FACILITATE PLACEMENT OF PIPES IN SHALLOW CONDITIONS.

2. SEE PLANS FOR LOCATION AND NUMBER OF STABILIZED CONSTRUCTION ENTRANCES. PRIOR APPROVAL BY THE ENGINEER IS REQUIRED FOR ANY CHANGE IN LOCATION OR NUMBER OF ENTRANCES.

3. REMOVE AND REPLACE TOP 2" OF STONE WITH 2" OF CLEAN STONE WHEN VOIDS ARE FILLED OR AS DIRECTED BY THE ENGINEER.
THE NOTES BELOW FOR HEIGHT, REFER TO TOP OF BANK (EXISTING OR PROPOSED) BOTTOM OF CHANNEL.

SANDBAG DIKE

SECTION A-A

ELEVATION

FLEXIBLE PIPE WITH WATERTIGHT BANDS

NOTES:
1. INSTALL SANDBAG DIKE IN UPSTREAM LOCATION FIRST.
2. CONSTRUCT SANDBAG DIKE SUCH THAT THE HEIGHT IS 1'-0" ABOVE THE PEAK ELEVATION OF THE 1 YEAR STORM, OR 1'-0" BELOW THE TOP OF THE BANK, WHICHEVER IS LESS. SEE PLANS FOR MORE INFORMATION.
3. CONSTRUCT WEIR SUCH THAT IT WILL PASS A 1 YEAR STORM EVENT PEAK FLOW. SEE PLANS FOR MORE INFORMATION.
4. SIZE THE PIPE SUCH THAT IT WILL ALLOW PASSAGE OF THE STREAM BASE FLOW.

DELAWARE
DEPARTMENT OF TRANSPORTATION

SANDBAG DIKE

STANDARD NO. E-15 (2014) SHT. 1 OF 1

APPROVED SIGNATURE ON FILE 12/20/2014

RECOMMENDED SIGNATURE ON FILE 12/21/2014

10/24/2014
1. Install diversion structure from upstream to downstream.
2. Size effective channel width so that it will pass a 1-year storm event peak flow, or 3 of stream width, whichever is greater.
3. Construct sandbag diversion height such that top of the diversion structure is 2' above the 1-year storm peak elevation.

NOTES:

SANDBAG DIVERSION E-16 (2014)

DELTAURER DEPARTMENT OF TRANSPORTATION

SANDBAG DIVERSION

STANDARD NO. E-16 (2014) SHT. 1 OF 1

APPROVED

SIGNATURE ON FILE 12/20/2014

SIGNED

10/24/2014

CHIEF ENGINEER

DESIGN ENGINEER

DATE

SIGNATURE ON FILE 12/11/2014

DATE

SIGNATURE ON FILE 10/24/2014

SCALE : NTS
1. ADDITIONAL PANEL REQUIRED FOR DEPTHS GREATER THAN 5'-0".
2. USE 2 TURBIDITY CURTAIN PANELS TO REACH BOTTOM DEPTHS OF 10'-0".

SPECIAL DEPTH TURBIDITY CURTAIN PANELS ARE REQUIRED FOR DEPTHS GREATER THAN 10'-0" AND THEIR USE MUST BE CALLED OUT IN THE PLANS OR DIRECTED BY THE ENGINEER.
THE DIMENSIONS OF THE STILLING WELL ARE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER. THE MINIMUM SIZE OF THE STILLING WELL IS 5'-0" x 5'-0".

DELAWARE
DEPARTMENT OF TRANSPORTATION

STILLING WELL

APPROVED
SIGNATURE ON FILE
12/20/2014

STANDARD NO. E-19 (2014) SHT. 1 OF 1 RECOMMENDED
SIGNATURE ON FILE 12/11/2014

10/24/2014
1. Place riprap prior to placing pipe.
2. Place Delaware No. 3 stone under pipe.
3. Construct dissipator such that the elevation (EL.) is lower than pipe invert.
4. Refer to the pipe energy dissipator schedule on the plans for the value of dimension variables.

NOTES:

1. 12" MIN (TYP)
2. 3'-0" W 2
3. 10'-0" R

DELAWARE DEPARTMENT OF TRANSPORTATION

RIPRAP ENERGY DISSIPATOR

STANDARD NO. E-20 (2014)  SHT. 1  OF 1  APPROVED  RECOMMENDED

SIGNATURE ON FILE  DATE

12/30/2014

SIGNATURE ON FILE  DATE

12/11/2014

SIGNATURE ON FILE  DATE

10/24/2014
DELTA PAVEMENT
DE. NO. 3 STONE
GEOTEXTILE
R-4 RIPRAP

SECTION B-B

SECTION A-A

GEOTEXTILE LAPPING DETAIL

NOTES:
1. GUARDRAIL DEPICTED ON THIS SHEET IS FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO THE GUARDRAIL DETAILS FOR ACTUAL PLACEMENT. PLACEMENT OF SLOPE DRAIN MAY NEED TO BE ADJUSTED TO AVOID CONFLICT WITH GUARDRAIL POSTS.
2. PLACE CURB OPENING AT EACH SLOPE DRAIN LOCATION.
3. SEI DETAILS C-4 AND C-5 FOR MORE INFORMATION.

TOPSOIL, 6" DEPTH
(TYP.)

TOPSOIL, 6" DEPTH
(TYP.)

CURB (SEE GUARDRAIL DETAIL SHEET FOR MORE INFORMATION)

PROPOSED PAVEMENT

GABC

R-4 RIPRAP

DE. NO. 3 STONE

GEOTEXTILE

NOTE:

REFERENCES:
STANDARD NO.
E-21 (2014)

APPROVED
SIGNATURE ON FILE
DATE
12/30/2014

DELAWARE
DEPARTMENT OF TRANSPORTATION

STONE OUTLET DETAIL

APPROVED
SIGNATURE ON FILE
DATE
12/11/2014

STANDARD NO.
E-21 (2014)

APPROVED
SIGNATURE ON FILE
DATE
11/19/2014
BRIDGE SAFETY FENCE, TYPE 1

SECTION A-A

- 1'-0" maximum spacing
- 1"-#9 GA chain
- 1'-0" BRIDGE DECK
- 8 3/8" CAP (typ.)
- #13 GA TIE (typ. each post)
- 2" X 1 3/4" carrage bolts and nut (typ.)
- 2'-6" 4 X 16 3/8" diagonal truss rod
- 2" X 1 3/4" STRETCHER BAR
- 2'-9" SCREEN
- 1"-#9 GA CHAIN
- 1'-0" MIN.
- PLACE ANTI-CLIMB SHIELD AT SECOND INTERIOR POST OF BRIDGE DECK. TYPICAL FOR BOTH ENDS AND BOTH SIDES OF EACH BRIDGE.

SECTION B-B

- 1'-0" maximum spacing
- 1"-#9 GA chain
- 1'-0" BRIDGE DECK
- 8 3/8" CAP (typ.)
- #13 GA TIE (typ. each post)
- 2" X 1 3/4" carrage bolts and nut (typ.)
- 2'-6" 4 X 16 3/8" diagonal truss rod
- 2" X 1 3/4" STRETCHER BAR
- 2'-9" SCREEN
- 1"-#9 GA CHAIN
- 1'-0" MIN.
- PLACE ANTI-CLIMB SHIELD AT SECOND INTERIOR POST OF BRIDGE DECK. TYPICAL FOR BOTH ENDS AND BOTH SIDES OF EACH BRIDGE.

NOTES:
1. IF A TAPER EXISTS AT THE END OF THE BARRIER, PLACE POST 6" FROM THE TOP OF TAPER.
2. MINIMUM 8" TO MAXIMUM 1" OF CLEARANCE BETWEEN TOP OF BARRIER AND BOTTOM OF CHAIN LINK FENCE SCREEN.
3. LINE UP EXPANSION JOINTS IN TOP AND BOTTOM FENCE RAILS WITH EXPANSION JOINTS IN BARRIER.
4. ATTACH ANTI-CLIMB SHIELD TO FENCE POST BY SMALL SECTION OF PIPE TO EACH VERTICAL POST WITH 3/8" FILLET WELD. SHAPE PIPE CONNECTOR TO HAVE FULL CONTACT WITH EACH POST.

DELTA WARE
DEPARTMENT OF TRANSPORTATION

STANDARD NO. M-10 (2014)

APPROVED

SIGNATURE ON FILE 12/11/2014

SIGNATURE ON FILE 11/19/2014

RECOMMENDED

SIGNATURE ON FILE 12/30/2014

SIGNATURE ON FILE 11/18/2014
BRIDGE SAFETY FENCE, TYPE 2

SECTION D-D

10'-0" MAXIMUM SPACING EACH BRIDGE.
FOR BOTH ENDS AND BOTH SIDES OF INTERIOR POST OF MAIN SPAN. TYPICAL PLACE ANTI-CLIMB SHIELD AT SECOND ANTI-CLIMB SHIELD (SHOWN DASHED). ALL POSTS CAP (TYP. CURVED POST ATTACH TO ATTACHMENT STRETCHER BAR " X 16"
TRUSS ROD " DIA. 8"

SEE NOTE 1  BARRIER ON APPROACH SLAB EXPANSION JOINT IN BARRIER 2'-9"
SCREEN LINK FENCE 1"-#9 GA CHAIN SPACE AS SHOWN ATTACHMENT (TYP)
STRETCHER BAR REAR FACE CONCRETE BARRIER TOP OF BARRIER

SECTION C-C

SEE NOTE 5
NOTES:
1. IF A TAPER EXISTS AT THE END OF THE BARRIER, PLACE POST 6" FROM THE TOP OF TAPER.
2. MINIMUM 3" TO MAXIMUM 1" OF CLEARANCE BETWEEN TOP OF BARRIER AND BOTTOM OF CHAIN LINK FENCE SCREEN.
3. LINE UP EXPANSION JOINTS IN TOP AND BOTTOM FENCE RAILS WITH EXPANSION JOINTS IN BARRIER.
4. ATTACH ANTI-CLIMB SHIELD TO FENCE POST BY SMALL SECTION OF PIPE TO EACH VERTICAL POST WITH 8" FILLET WELD. SHAPE PIPE CONNECTOR TO HAVE FULL CONTACT WITH EACH POST.
5. WELD ADDITIONAL STRAIGHT POST TO CURVED POST AT SECOND INTERIOR POST OF MAIN SPAN. (TYPICAL FOR BOTH ENDS OF THE BRIDGE.)

DESIGNER NOTE: BRIDGE SAFETY FENCE, TYPE 2 SHOULD BE USED WHEN A SIDEWALK EXISTS ADJACENT TO THE BARRIER. OTHERWISE, USE BRIDGE SAFETY FENCE, TYPE 1.

SINGLE #9 GA OR DOUBLE #13 GA TIE WIRES @ 2'-0" C/C. TYPICAL EACH LONGITUDINAL RAIL [MINIMUM OF 2% TURNS].
ATTACH TO CURVED POST STRETCHER BAR ATTACHMENT 8" DIA. TRUSS ROD 8" X 3" CARRIAGE BOLT AND NUT (TYP) 8" X 1" BRACE WITH 8" X 32" CARRIAGE BOLT AND NUT (TYP)

EXPANSION JOINT IN FENCE RAILS (TYP)

1.66" O.D. LONGITUDINAL PIPE (TYP)

2.875" O.D. PIPE (TYP EACH POST)

SINGLE #9 GA OR DOUBLE #13 GA TIE (TYP EACH POST)

ELEVATION

SECTION D-D

SEE NOTE 5
SEE NOTE 4
SEE NOTE 1
SEE NOTE 5
SEE NOTE 5

SECTION C-C

SEE NOTE 4
SEE NOTE 5
SEE NOTE 5
SEE NOTE 5
SEE NOTE 5

DESIGNER NOTE: BRIDGE SAFETY FENCE, TYPE 2 SHOULD BE USED WHEN A SIDEWALK EXISTS ADJACENT TO THE BARRIER. OTHERWISE, USE BRIDGE SAFETY FENCE, TYPE 1.

STRETCHER BAR ATTACHMENT 8" DIA. ANCHOR STUDS WITH HEX NUTS AND WASHERS (TYP) 8" DIA. ANCHOR STUD WITH HEX NUTS AND WASHERS (TYP)
CONCRETE BARRIER REAR FACE

CONCRETE BARRIER REAR FACE

EXPANSION JOINT IN BARRIER

EXPANSION JOINT IN BARRIER

1' Min.

1' Min.
NOTES:
1. Adjust the profile of the overlay paving to assure a smooth transition through the butt joint.
2. Crack seal the joint between the butt joint and the existing pavement.

CONDITION | SLOPE FEET:INCHES
---|---
GREATER THAN OR EQUAL TO 55 MPH | 40:1
LESS THAN 55 MPH | 30:1
STOP CONTROLLED INTERSECTION | 15:1
**POLE BASE DATA CHART**

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<th>DIAMETER</th>
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<th>#8 VERTICAL REINFORCING BARS</th>
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**NOTE:**

ANCHOR BOLTS AND BOLT PATTERN FOR TYPES 5, 6, & 7 POLE BASES TO BE PROVIDED BY THE MANUFACTURER.

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**DELTAWE DEPARTMENT OF TRANSPORTATION**

STANDARD NO. T-5 (2014)  SHT. 3  OF 4  RECOMMENDED
NOTE: BOLT PATTERN TO BE PROVIDED BY DELDOT'S SIGNAL CONSTRUCTION INSPECTOR.

ANCHOR DETAIL

BREAK AWAY COUPLING DETAIL

STANDARD NO. T-5 (2014)

DELAWARE DEPARTMENT OF TRANSPORTATION

PROPOSED

SIGNATURE ON FILE 10/28/2014

RECOMMENDED

SIGNATURE ON FILE 12/11/2014

APPROVED

SIGNATURE ON FILE 12/30/2014

CHIEF ENGINEER

DESIGN ENGINEER

DATE

DATE

SCALE: NTS