

# 2005

## CHISAGO LAKE TOWNSHIP

### STANDARD DETAIL PLATES

PLATE NO.            SECTION AND DETAIL

SECTION 1 – STREETS

STR-01	TYPICAL RURAL ROAD SECTION
STR-02	TYPICAL SECTION TURNAROUND – RURAL SECTION
STR-03	RURAL RESIDENTIAL DRIVEWAY
STR-04	REGULATORY SIGN
STR-05	STREET SIGN
STR-06	DOUBLE PERMANENT BARRICADE

SECTION 2 – STORM SEWER

STO-01	STANDARD SKIMMER STRUCTURE
STO-02	TYPICAL POND SLOPING BENCH
STO-03	RIP RAP
STO-04	FLARED END SECTION AND TRASH GUARD

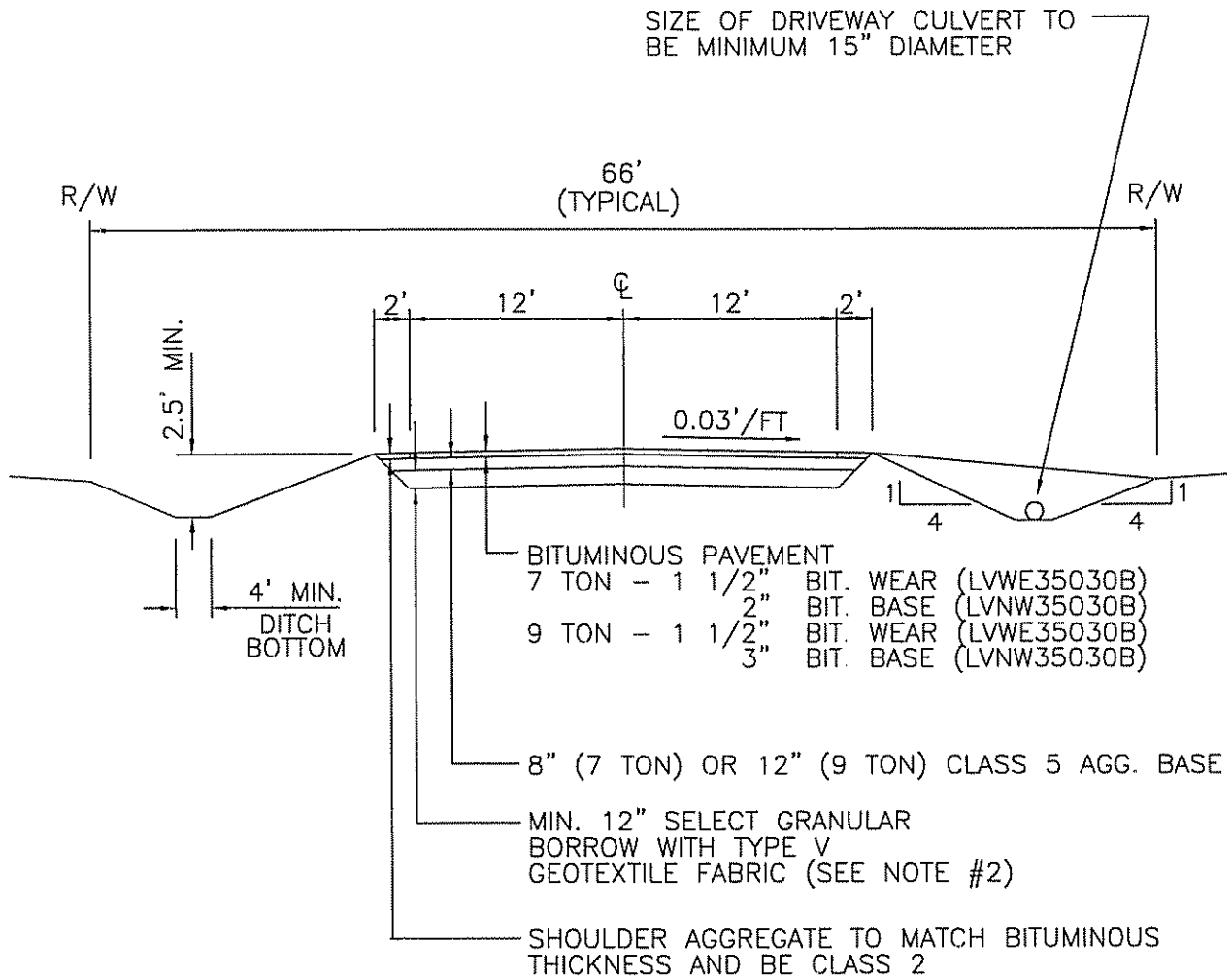
SECTION 3 – EROSION CONTROL

ERO-01	SILT FENCE, REGULAR AND HEAVY DUTY
ERO-02	SILT FENCE, MACHINE SLICED
ERO-03	EROSION CONTROL BEEHIVE CASTING AND FLARED END SECTION
ERO-04	ROCK CONSTRUCTION ENTRANCE

CHISAGO LAKE  
TOWNSHIP



COVER



NOTES:

1. ALL ORGANIC OR OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM BENEATH THE ROADWAY.
2. A TEST ROLL OF THE PREPARED SUBGRADE SHALL BE PERFORMED BY THE OWNER IN THE PRESENCE OF A TOWNSHIP INSPECTOR. THE TOWNSHIP HAS THE AUTHORITY TO REQUIRE ADDITIONAL SUBGRADE CORRECTION AND GRANULAR BORROW OR ELIMINATE THE STABILIZATION FABRIC AND GRANULAR BORROW

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TOWNSHIP



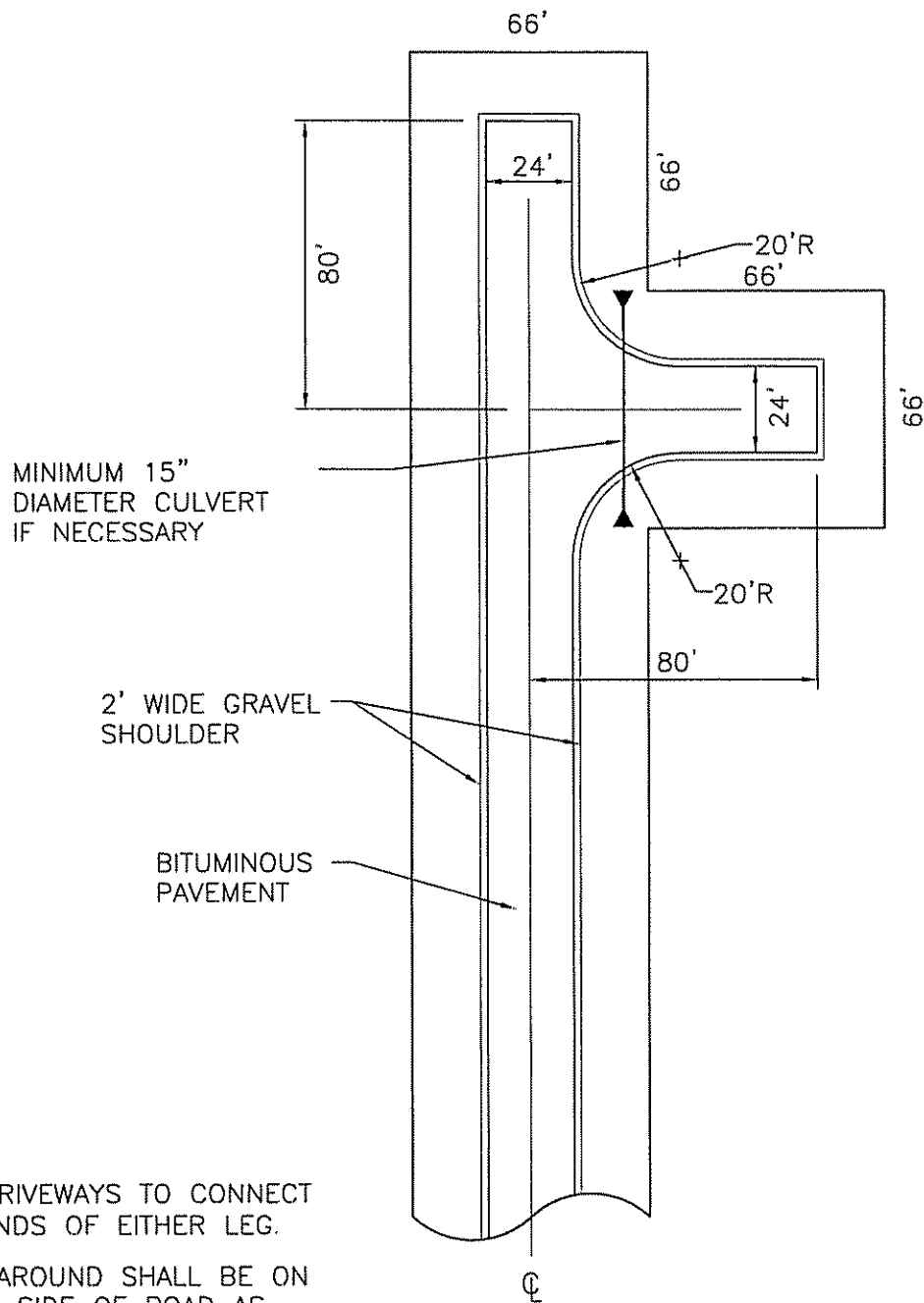
TYPICAL  
RURAL ROAD  
SECTION

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DATE: JAN. 2005

PLATE NO.: STR-01

FILE NAME: STR-01.DWG



MINIMUM 15"  
DIAMETER CULVERT  
IF NECESSARY

2' WIDE GRAVEL  
SHOULDER

BITUMINOUS  
PAVEMENT

NOTES:

1. NO DRIVEWAYS TO CONNECT TO ENDS OF EITHER LEG.
2. TURNAROUND SHALL BE ON RIGHT SIDE OF ROAD AS SHOWN.

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TOWNSHIP



TYPICAL SECTION  
TURNAROUND -  
RURAL SECTION

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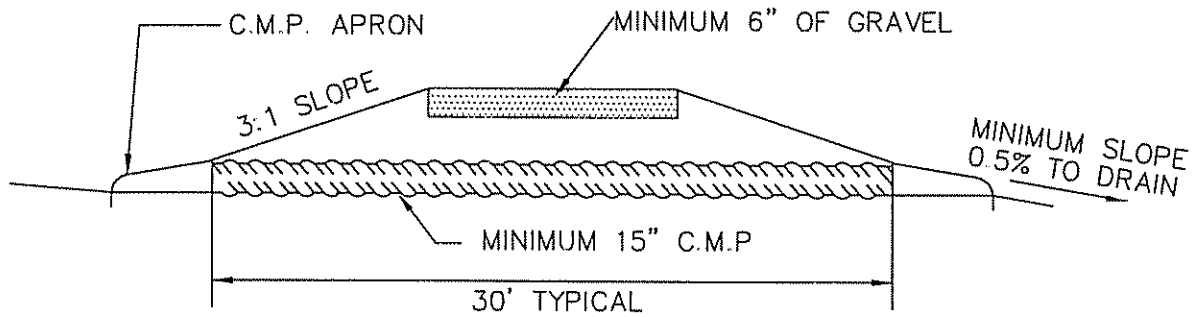
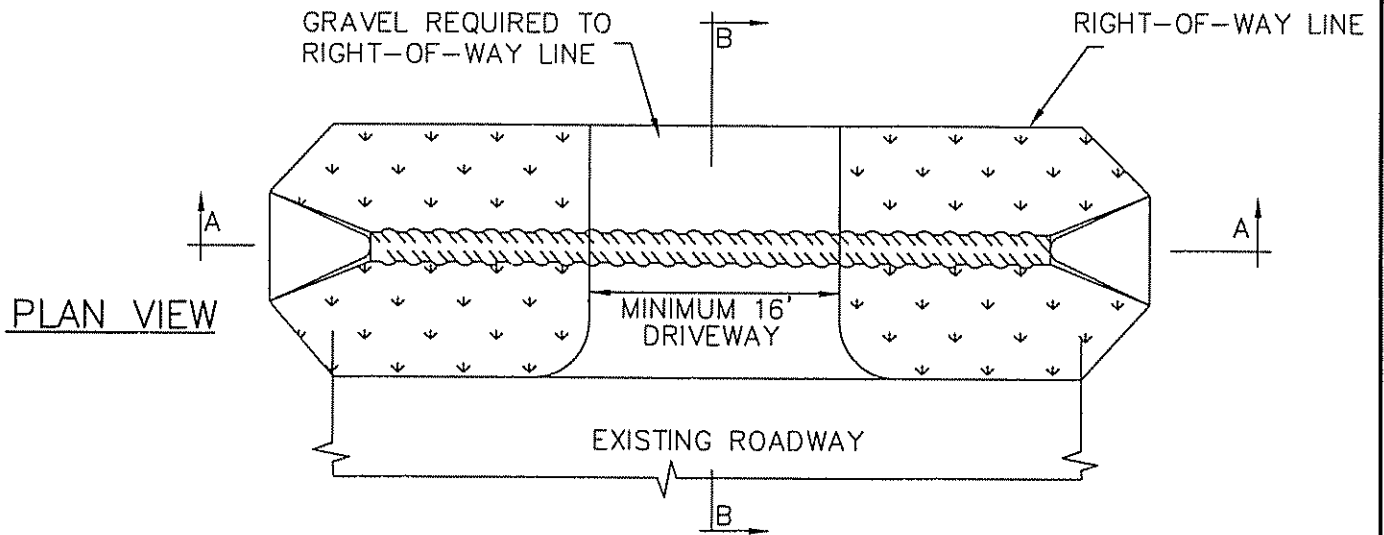
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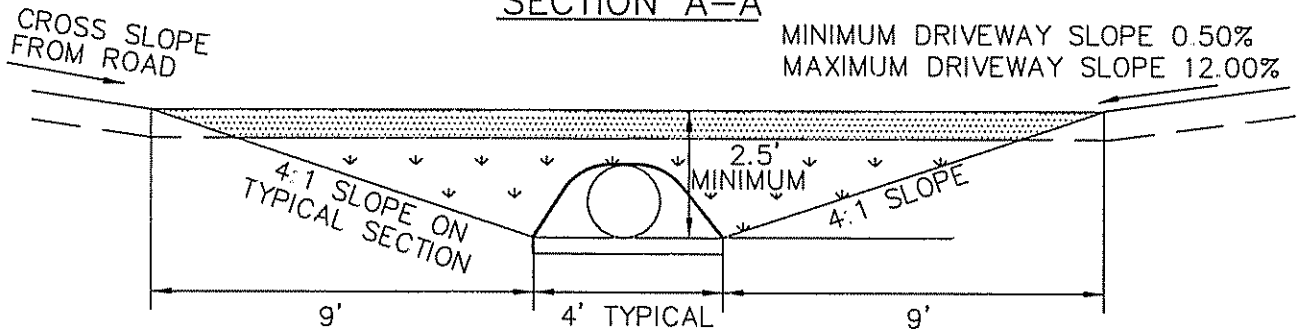
PLATE NO.:

STR-02

FILE NAME: STR-02.DWG



SECTION A-A



SECTION B-B

**NOTES:**

1. AT DRIVEWAYS, EXTEND SLOPE OF ROAD SECTION TO CENTER OF DITCH FOR LOW POINT OF DRIVEWAY.
2. DRIVEWAY AT RIGHT-OF-WAY SHALL BE LOWER THAN THE ROAD CENTERLINE.
3. DRIVEWAYS WITH SLOPES GREATER THAN 6% SHALL BE BLACK-TOPPED TO PREVENT GRAVEL FROM WASHING ONTO RIGHT-OF-WAY.

**CHISAGO LAKE  
TOWNSHIP**



**RURAL  
RESIDENTIAL  
DRIVEWAY**

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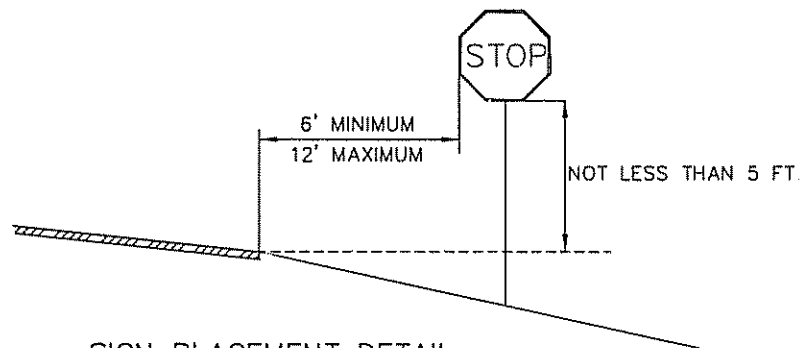
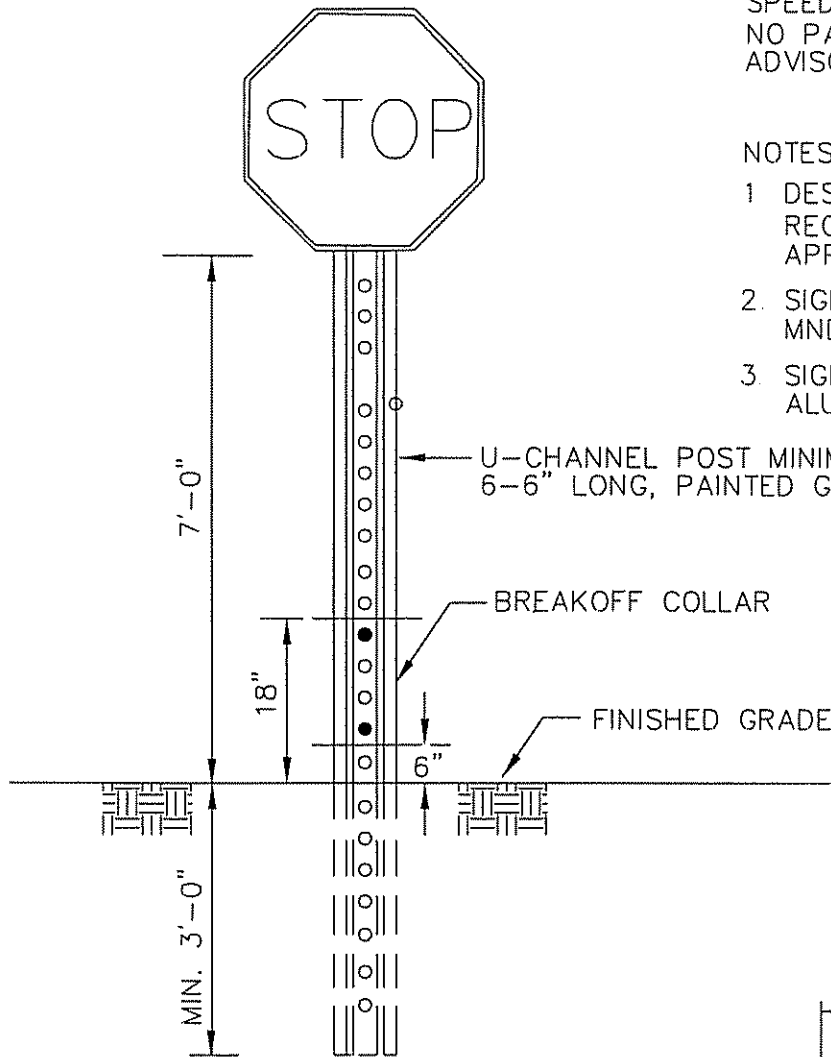
**STR-03**

FILE NAME: STR-03.DWG

Sign Name	Designation	Size
STOP	R1-1	30"x30"
YIELD	R1-2	36"x36"x36"
SPEED LIMIT	R2-1	24"x30"
NO PARKING	R8-3	24"x30"
ADVISORY SPEED	W13-1	24"x24"

NOTES:

1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE TOWNSHIP ENGINEER.
2. SIGN SHALL BE REFLECTORIZED AS PER MNDOT 3352.2A2B, STANDARD NO. 2
3. SIGN SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A1



NOTE:

INSTALLATION SHALL BE IN COMPLIANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION).

CHISAGO LAKE  
TOWNSHIP



REGULATORY  
SIGN

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PLATE NO.:

STR-04

FILE NAME: STR-04.DWG



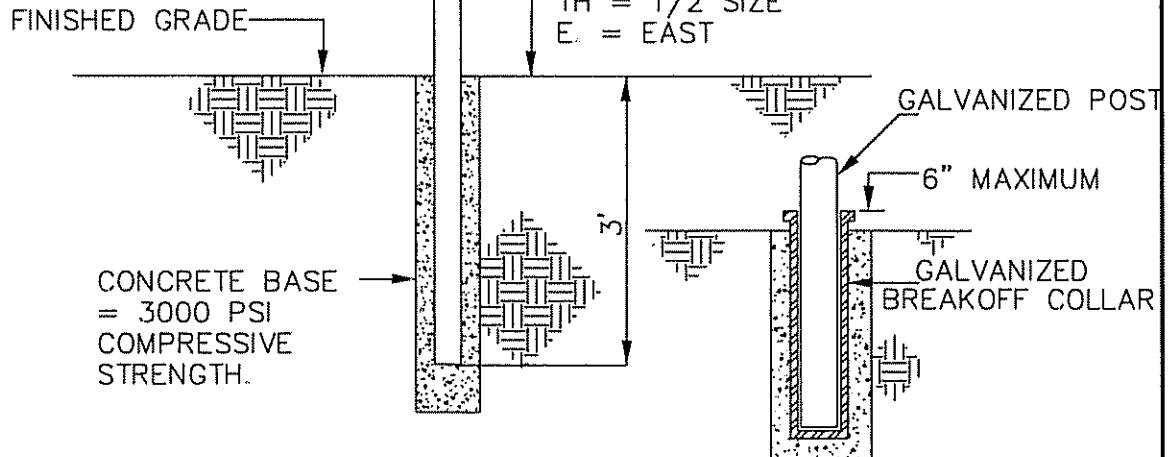
2 3/8" O.D. GALVANIZED STEEL POST, 10' LONG, 3' TO BE BURIED IN CONCRETE.

ABBREVIATIONS ARE AS FOLLOWS:

- AVENUE = AVE.
- PATH = PATH
- STREET = ST.
- COURT = CT.
- WAY = WAY
- TRAIL = TRAIL
- PLACE = PLACE
- CIRCLE = CIR.
- DRIVE = DR.
- LANE = LANE
- BOULEVARD = BLVD.

HEIGHT OF SIGN = 0.5 FT.  
 HEIGHT OF LETTERS = 4 INCHES  
 LENGTH OF SIGN = VARIABLE

TH = 1/2 SIZE  
 E. = EAST



NOTES:

1. NUMBERED STREETS ARE TO BE WRITTEN OUT WHEN THE NUMBER IS NINETEENTH OR LESS.
2. INSTALLATION SHALL BE IN COMPLIANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION).
3. STREETS WITH SPEED LIMIT GREATER THAN 30 MPH, A 0.7' SIGN LETTERS IS REQUIRED.
4. SIGN SHALL BE ALUMINUM PLATE WITH REFLECTORIZED WHITE LETTERS ON A GREEN BACKGROUND. TYPE AP BORDER STYLE.
5. TYPICALLY INSTALLED AT SOUTHWEST CORNER OF INTERSECTION. ALL EQUALS MUST BE APPROVED BY TOWNSHIP ENGINEER BEFORE INSTALLATION.
6. SIGN SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A1

CHISAGO LAKE  
TOWNSHIP



STREET  
SIGN

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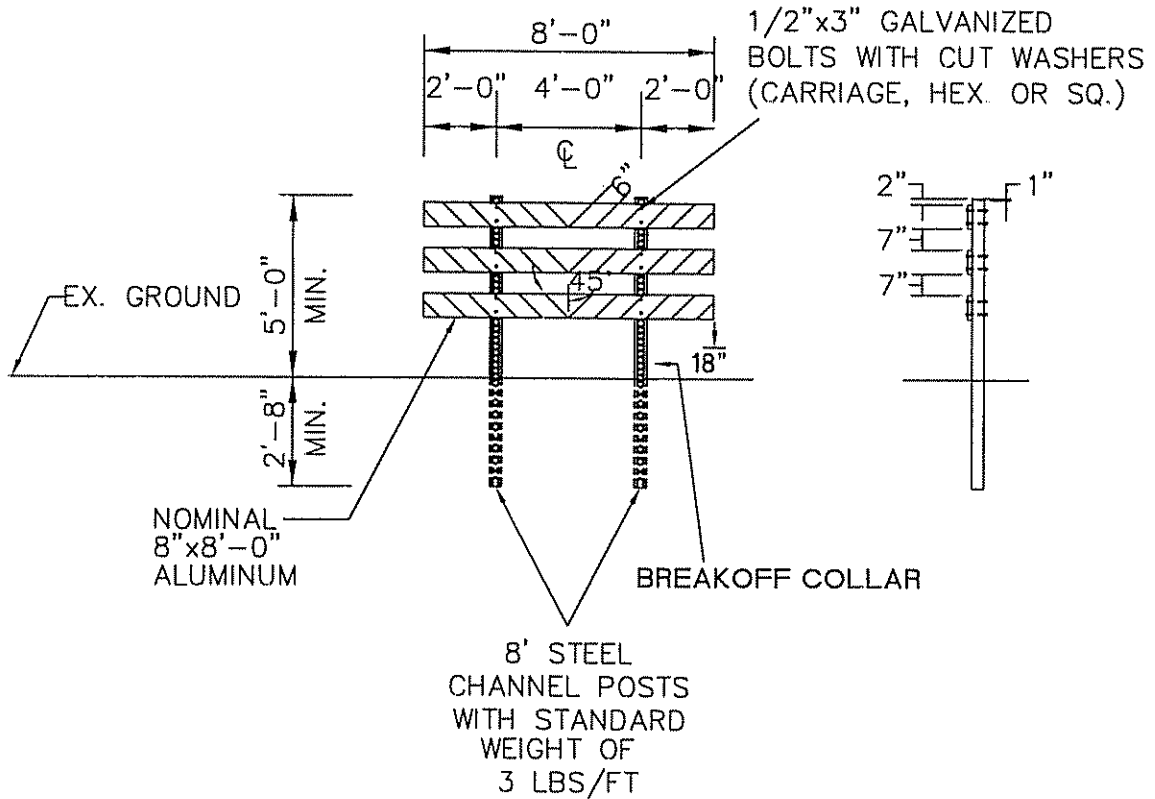
DATE:

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PLATE NO :

STR-05

FILE NAME: STR-05.DWG



NOTES:

1. THE BARRICADE SIGNS SHALL BE FULLY REFLECTORIZED IN ALTERNATE SILVER-WHITE AND RED STRIPING, USING REFLECTIVE SHEETING CONFORMING TO THE REQUIREMENTS OF MNDOT 3352.2A2B, STANDARD NO. 2.
2. THE PLACEMENT OF THE BARRICADES SHALL BE 10'-0" FROM THE END OF THE BITUMINOUS ROAD WITH THE BARRICADE CENTERED ON THE ROADWAY FACING THE FLOW OF TRAFFIC.

CHISAGO LAKE  
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DOUBLE  
PERMANENT  
BARRICADE

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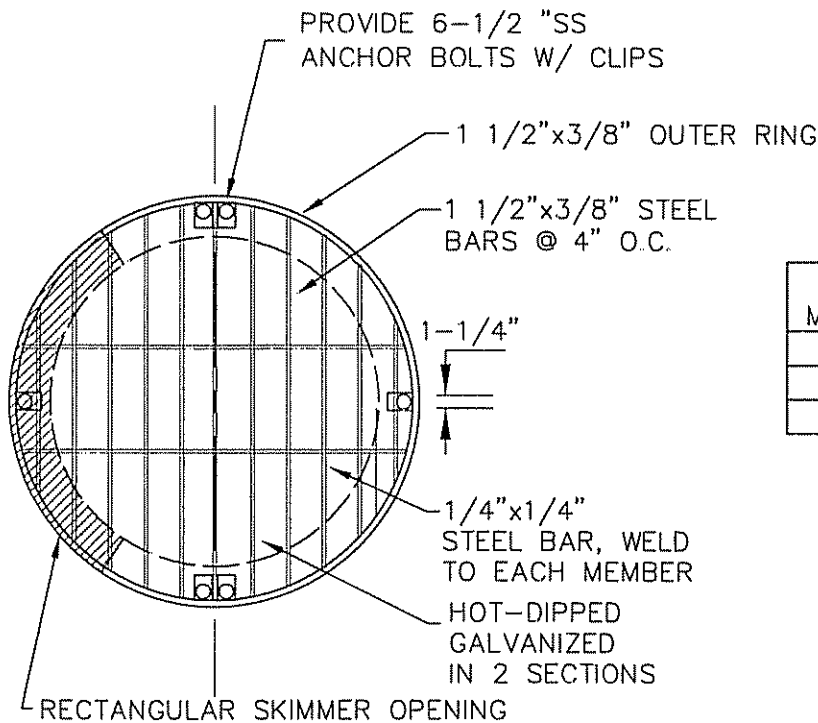
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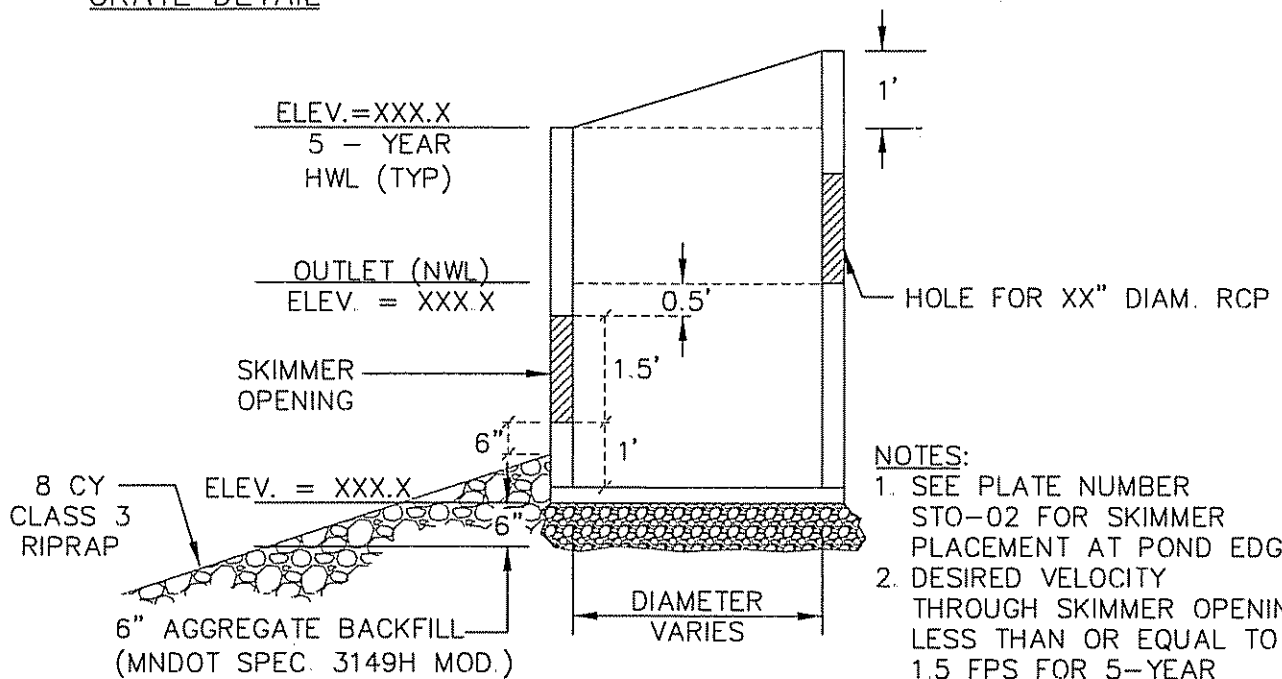
STR-06

FILE NAME: STR-06.DWG



MH DIAMETER	SKIMMER OPENING
4'	3'x1.5'
5'	4.5'x1.5'
6'	6'x1.5'

GRATE DETAIL



- NOTES:**
1. SEE PLATE NUMBER STO-02 FOR SKIMMER PLACEMENT AT POND EDGE.
  2. DESIRED VELOCITY THROUGH SKIMMER OPENING LESS THAN OR EQUAL TO 1.5 FPS FOR 5-YEAR STORM EVENT.

**CHISAGO LAKE  
TOWNSHIP**



**STANDARD  
SKIMMER  
STRUCTURE**

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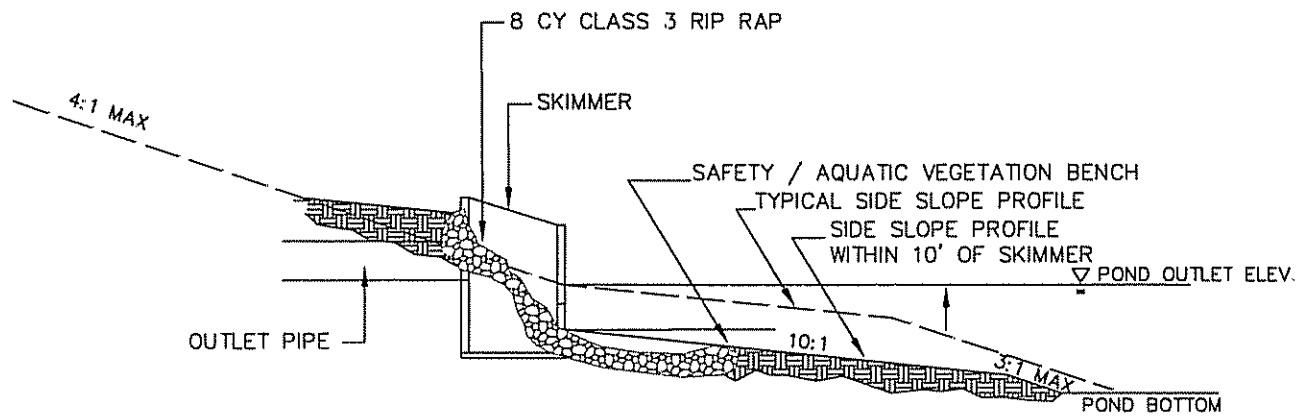
**JAN. 2005**

PLATE NO.:

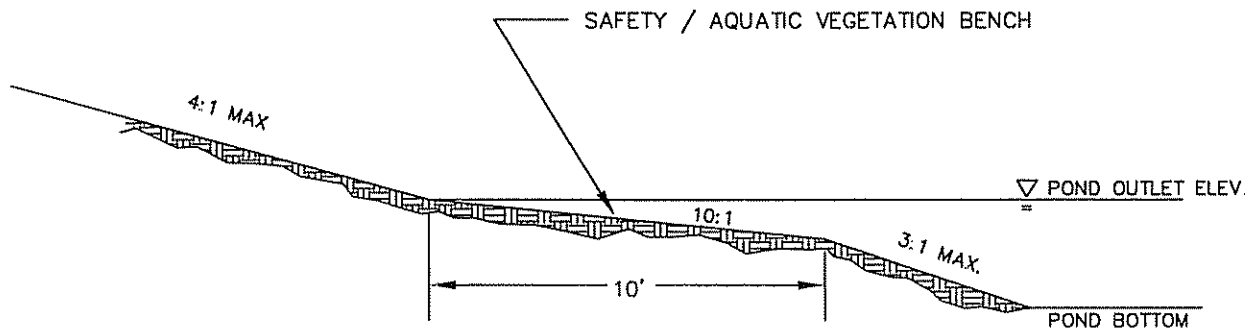
**STO-01**

FILE NAME: STO-01.DWG





TYPICAL BENCH DETAIL  
WITHIN 10' OF SKIMMER OUTLET



TYPICAL BENCH DETAIL

**NOTE:**

SEE TOWNSHIP PLATE NO. STO-01 FOR SPECIFIC SKIMMER STRUCTURE DETAILS.

CHISAGO LAKE  
TOWNSHIP



TYPICAL POND  
SLOPING  
BENCH

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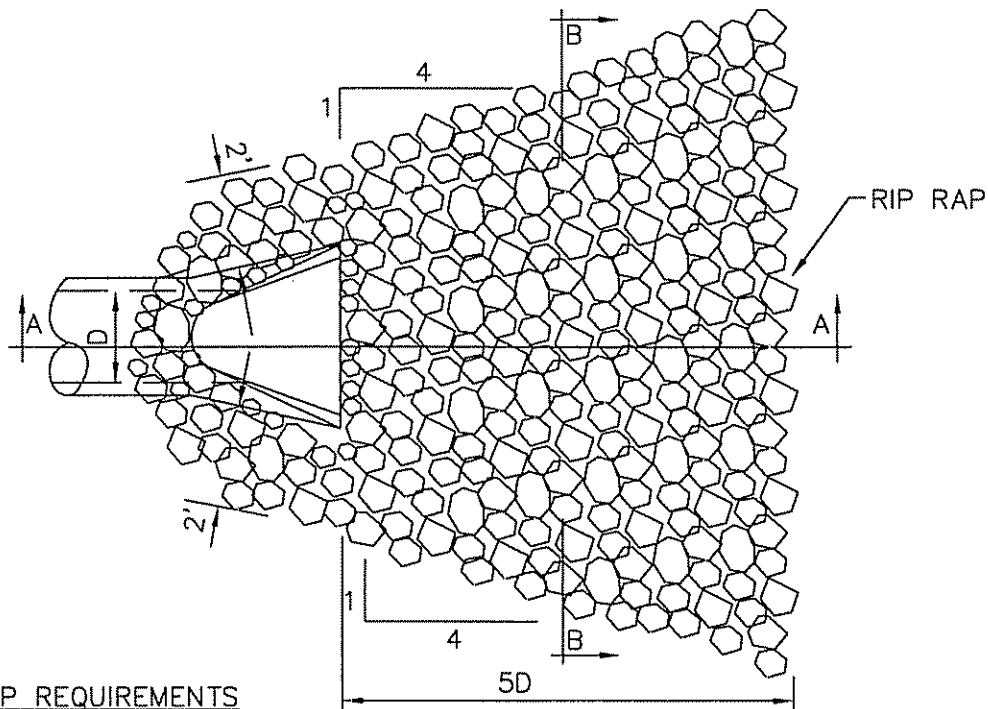
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PLATE NO.:

STO-02

FILE NAME: STO-02.DWG



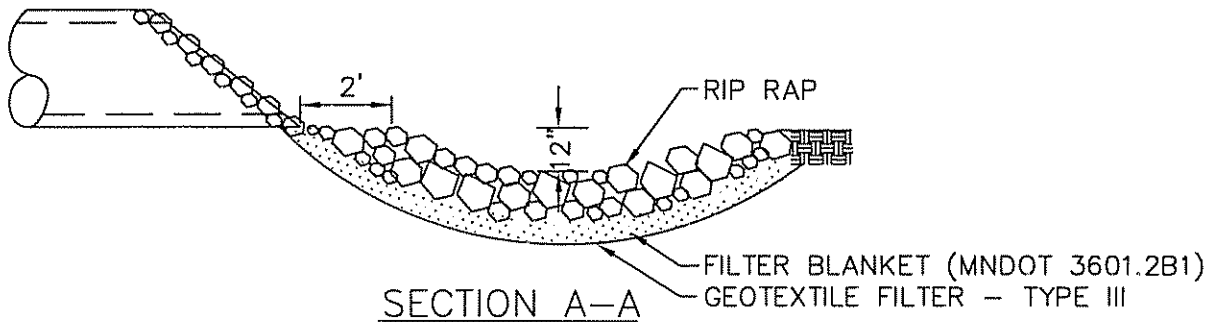
**RIPRAP REQUIREMENTS**

PIPE DIA.	RIPRAP REQUIRED
12" TO 24"	8 TO 12 CY CL.3
27" TO 33"	14 TO 20 CY CL.3
36" TO 48"	23 TO 38 CY CL.3
54" AND UP	62 CY AND UP CL.4

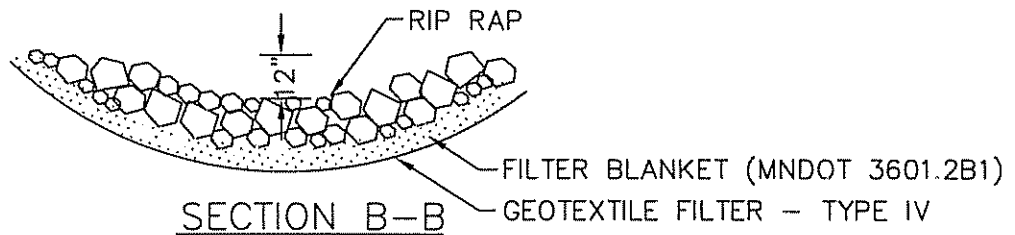
(ONE CUBIC YARD IS APPROX. 2,800 LBS)

**PLAN**

**NOTE**  
 GRANULAR FILTER REQUIRED  
 UNDER RIP RAP OR 2  
 LAYERS OF 500X MIRAFI  
 FABRIC OR EQUAL



**SECTION A-A**



**SECTION B-B**

**CHISAGO LAKE  
 TOWNSHIP**



**RIP RAP**

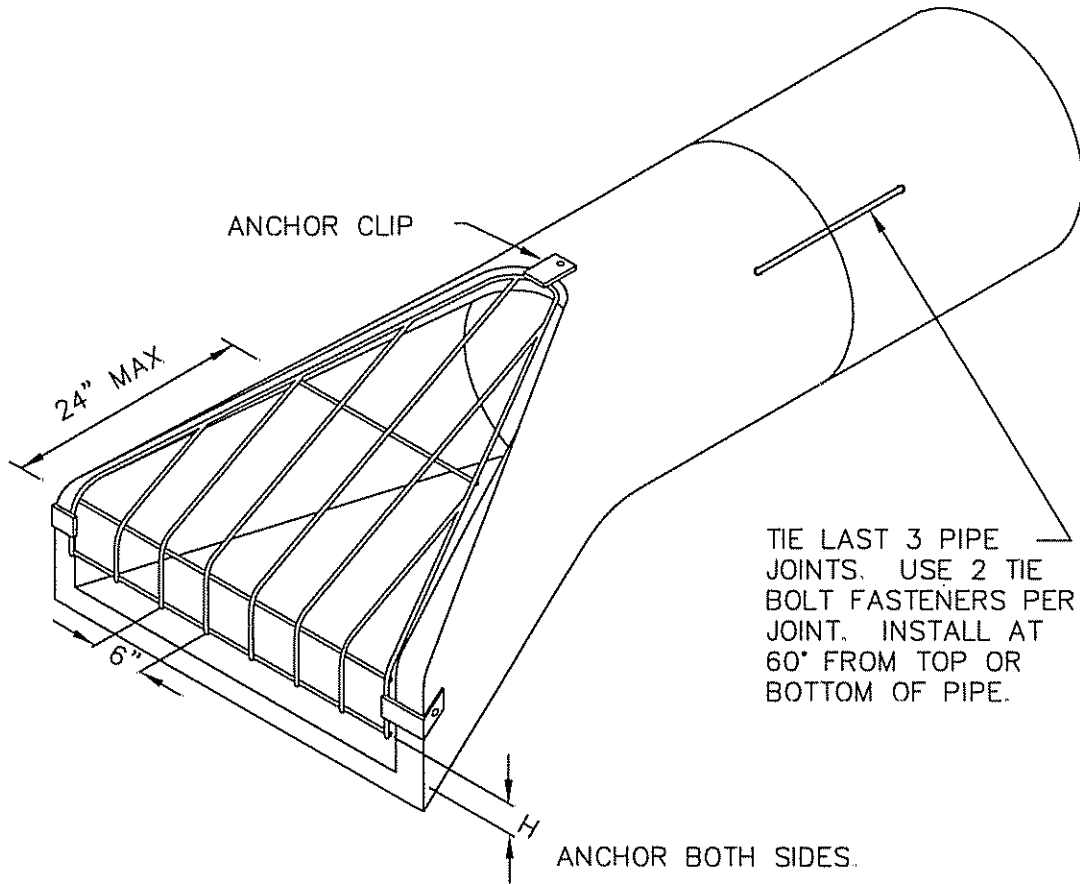
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PLATE NO : **STO-03**

FILE NAME: STO-03.DWG

SEE TOWNSHIP PLATE NO. STO-03 FOR RIPRAP PLACEMENT.



**ISOMETRIC**

PROVIDE 3 ANCHOR CLIPS TO FASTEN TRASH GUARD TO FLARED END SECTION. HOT DIP GALVANIZE AFTER FABRICATION.

TRASH GUARD SIZING			
PIPE SIZE	BARS	'H'	BOLTS
12"-18"	3/4" $\phi$	6"	5/8"
21"-42"	1" $\phi$	6"	3/4"
48"-72"	1 1/4" $\phi$	12"	1"

CHISAGO LAKE  
TOWNSHIP



FLARED END  
SECTION AND  
TRASH GUARD

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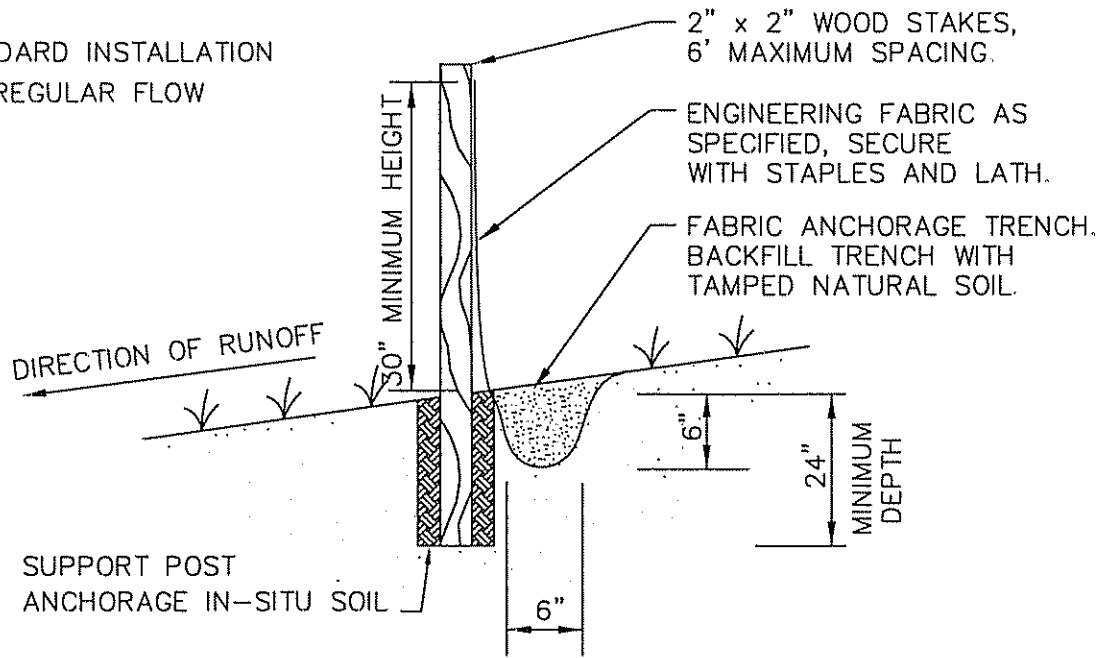
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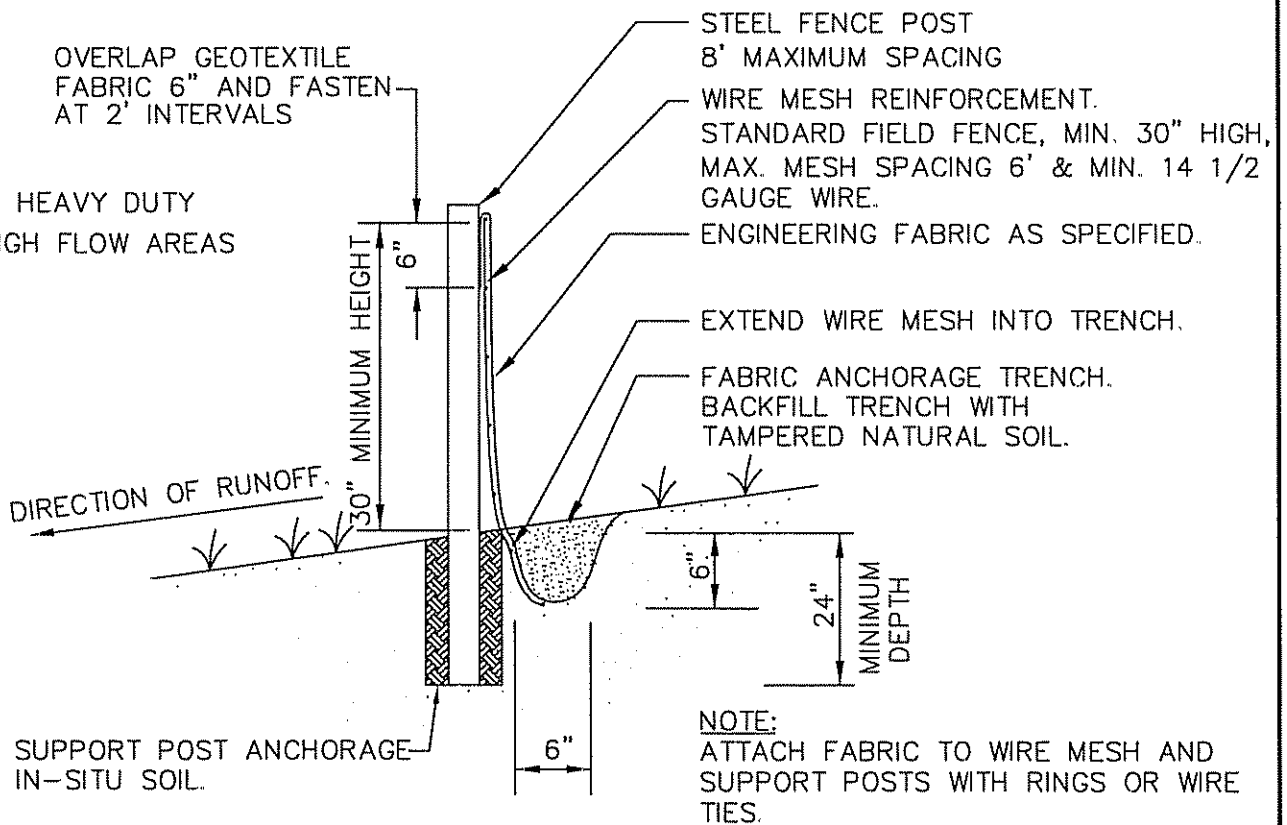
STO-04

FILE NAME: STO-04.DWG

STANDARD INSTALLATION  
REGULAR FLOW



HEAVY DUTY  
HIGH FLOW AREAS



**NOTE:**  
ATTACH FABRIC TO WIRE MESH AND  
SUPPORT POSTS WITH RINGS OR WIRE  
TIES.

CHISAGO LAKE  
TOWNSHIP



SILT FENCE  
REGULAR AND  
HEAVY DUTY

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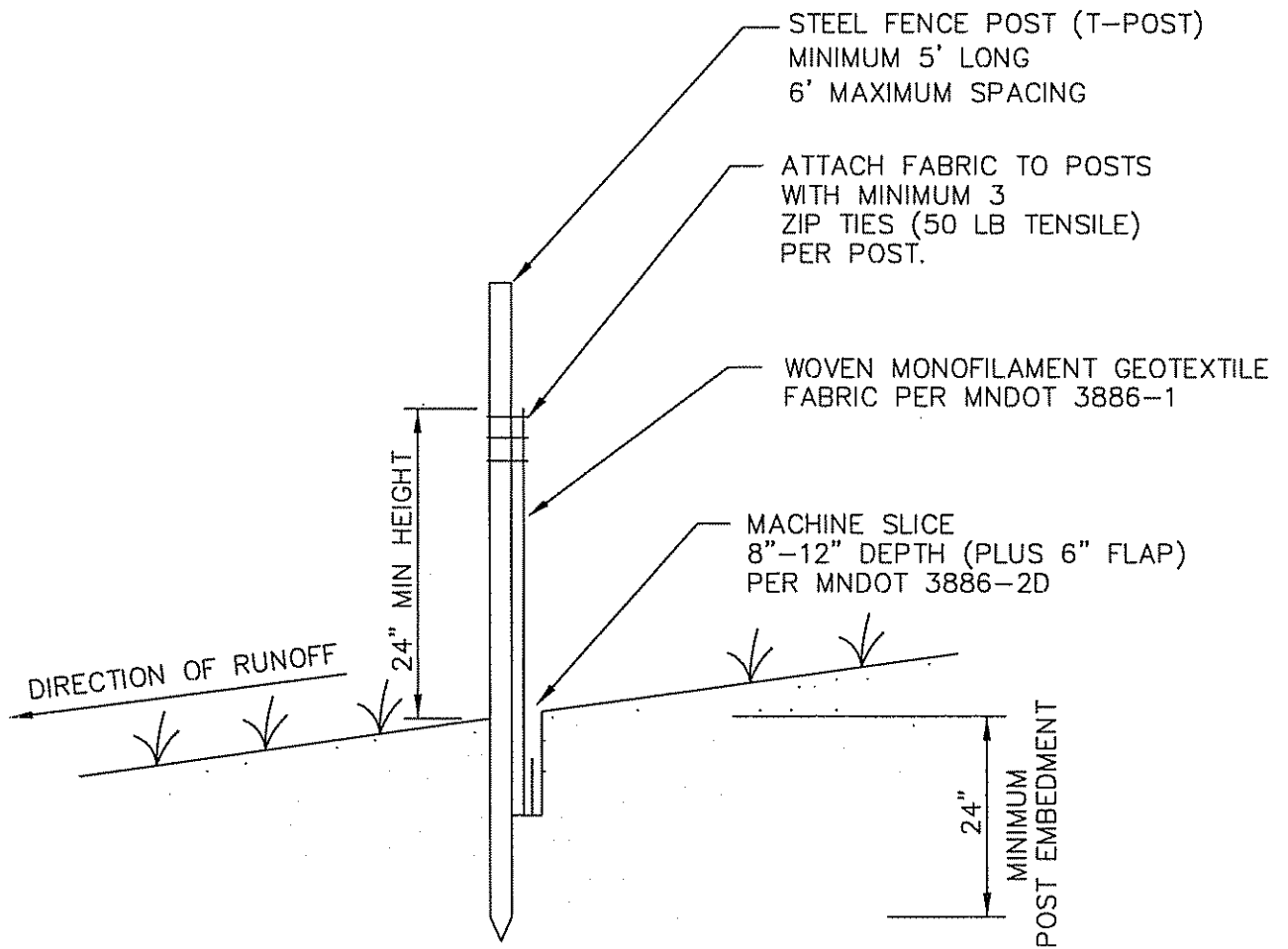
DATE:

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PLATE NO :

ERO-01

FILE NAME: ERO-01.DWG



CHISAGO LAKE  
TOWNSHIP



SILT FENCE  
MACHINE  
SLICED

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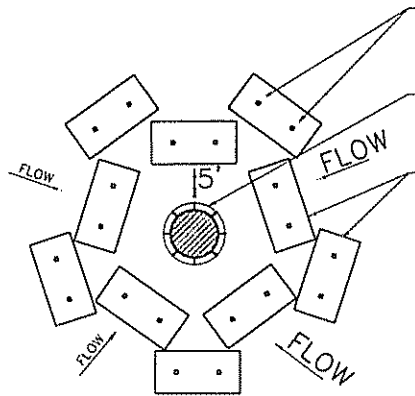
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PLATE NO.:

ERO-02

FILE NAME: ERO-02.DWG

A. HAYBALES AROUND BEEHIVE

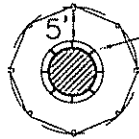


TWO 2" X 2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND IMBEDDED IN THE GROUND 10" MINIMUM

STORM SEWER CATCHBASIN

2 ROWS HAY BALES PLACED ON EDGE WITH OVERLAPPING JOINTS. AREA TO BE GRADED PRIOR TO PLACING BALES.

B. SILT FENCE AROUND BEEHIVE

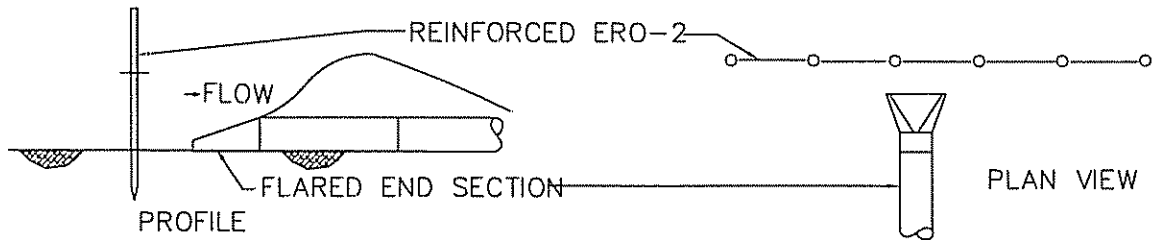


STORM SEWER CATCHBASIN

SILT FENCE INSTALLED AS PER DETAIL PLATE ERO-1

MINIMUM OF 8 2" X 2" WOOD POSTS OR STEEL POSTS ARE REQUIRED

C. SILT FENCE AT FLARED END SECTION  
TOP OF SILT FENCE TO BE LOWER THAN LOWEST ADJACENT OVERFLOW



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EROSION CONTROL  
BEEHIVE CASTING AND  
FLARED END SECTION

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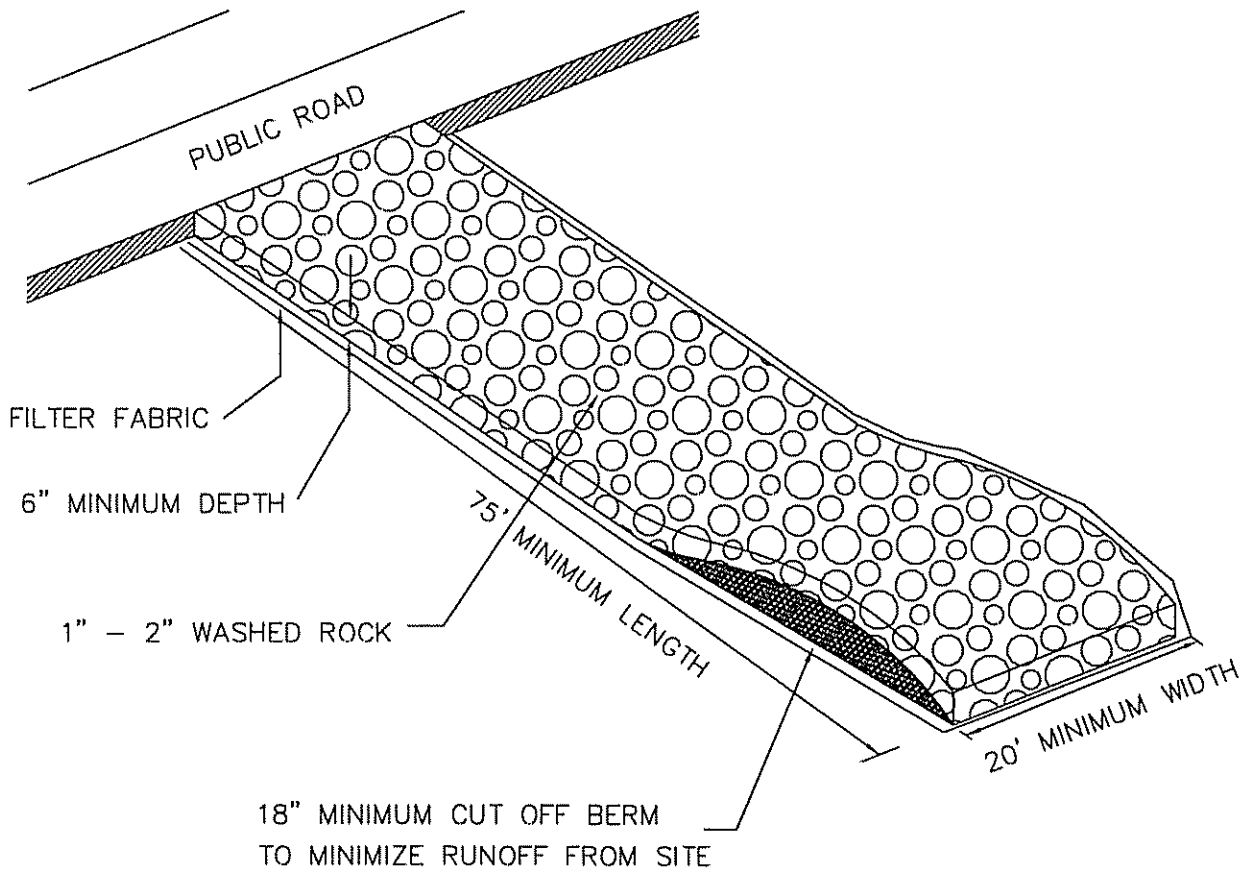
DATE:

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PLATE NO.:

ERO-03

FILE NAME: ERO-03.DWG



NOTE: FILTER FABRIC SHALL BE PLACED UNDER ROCK  
TO STOP MUD MIGRATION THROUGH ROCK.

CHISAGO LAKE  
TOWNSHIP



ROCK  
CONSTRUCTION  
ENTRANCE

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PLATE NO :

ERO-04

FILE NAME: ERO-04.DWG