

# **Forest Lake Dam 2023 Inspection Report**

**Ela Township Highway Department  
23605 N. Echo Lake Road  
Lake Zurich, Illinois 60047**



Prepared by:  
Gewalt Hamilton Associates, Inc.  
625 Forest Edge Drive  
Vernon Hills, Illinois 60061  
Tel. (847) 478-9700  
Fax: (847) 478-9701

**July 7, 2023**

**FOREST LAKE DAM INSPECTION REPORT  
ELA TOWNSHIP HIGHWAY DEPARTMENT**

**CONTENTS**

**1. Inspection Reports**

**Dam Inspection Report**

**Dam Observation Spreadsheets**

**Maintenance Summary**

**Downstream Development Worksheet**

**Owner's Maintenance Statement and Owner's Operation and Maintenance  
Plan Statement**

**2. Existing Condition Photos**

**3. Appendix**

**A. General Layout Plan**

**B. Cross Section Plans**

**C. Revetment Mattress Detail**

# Dam Inspection Report

Name of Dam Forest Lake Dam Dam ID No. 00638

Permit Number 19162 Class of Dam One- Small size, High Hazard Potential

Location SE 1/4 Section 10 Township 43N Range 10E

Owner Ela Township 847-438-2371  
Name Telephone Number (Day)

23605 N. Echo Lake Road 847-438-2371  
Street Telephone Number (Night)

Lake Zurich, IL 60047 County Lake  
City Zip Code

Type of Dam Earth Embankment

Type of Spillway Drop Inlet

Date(s) Inspected March 20, 2023

Weather When Inspected Cloudy

Temperature When Inspected 49 deg. F

Pool Elevation When Inspected 793.33

Tailwater Elevation When Inspected 785.00

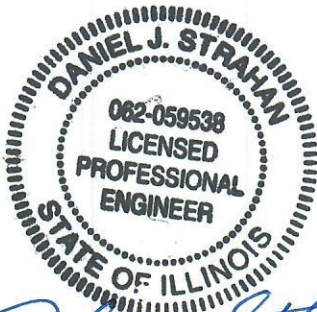
## Inspection Personnel:

Daniel J. Strahan, P.E., CFM  
Name Title

Mike DePouw Highway Superintendent  
Name Title

\_\_\_\_\_  
Name Title

\_\_\_\_\_  
Name Title



Professional Engineer's Seal

**SUMMARY OF MAINTENANCE DONE AND/OR  
REPAIRS MADE SINCE THE LAST INSPECTION**

**DATE OF PRESENT INSPECTION**

March 20, 2023

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**DATE OF LAST INSPECTION**

November 1, 2021

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**1. EARTH EMBANKMENT DAMS**

Routine vegetation removal and trimming.

**2. CONCRETE MASONRY DAMS**

N/A

**3. PRINCIPAL SPILLWAY**

None

**4. OUTLET WORKS**

None

**5. EMERGENCY SPILLWAY**

Ongoing shoulder restoration.

**Earth Embankment**

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Surface Cracks	NE		
Vertical and Horizontal Alignment of Crest ( <i>Bituminous Roadway</i> )	GC		
Unusual Movement or Cracking At or Beyond Toe	NE		
Sloughing or Erosion of Embankment and Abutment Slopes	NE		
Upstream Face Slope Protection ( <i>Rip Rap</i> )	GC		
Seepage	NE		
Filter and Filter Drains	NA		

**Earth Embankment (Continued)**

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Animal Damage	NE		
Embankment Drainage Ditches	NA		
Vegetative Cover	GC		Recommend continued periodic removal/trimming of brush and trees on embankment and within 10' of revetment mattress
Other (Name) Revetment Mattress on Downstream Slope	GC		Small tear noted in wire cage of revetment mattress has not increased in size. Continue monitoring.
Other			
Other			
Other			

**Concrete or Masonry Dams**

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Seepage	NA		
Structure to Abutment/Embankment Junctions	NA		
Water Passages	NA		
Foundation	NA		
Surface Cracks in Concrete Surfaces	NA		
Structural Cracking	NA		
Vertical and Horizontal Alignment	NA		

**Concrete or Masonry Dams (Continued)**

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Monolith Joints	NA		
Construction Joints	NA		
Spalling of Concrete	NA		
Filters, Drains, etc.	NA		
Riprap	NA		
Other (Name)	NA		

IF THE DAM IS GATED- Fill out the portion of the Principal Spillway Form related to Gated Spillways



**Principal Spillway**

**Approach Channel**

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Debris	NE		
Side Slope Stability	GC		
Slope Protection	GC		
Other (Name)			
Other			
Other			
Other			

Principal Spillway

Drop Inlet Spillway

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion, Spalling, Cavitation	NE		
Structure to Embankment Junction	GC		
Drains	NA		
Seepage Around or Into Structure	IM	Small sinkhole developing in gravel shoulder between drop structure and roadway. Follow-up investigation (pipe televising) on Nov. 19, 2021 found crumbling concrete and exposed rebar in a section of concrete pipe.	Sinkhole was repaired with stone in 2021 and was not visible in the 2023 inspection. Township will continue to monitor pipe condition by camera and visual inspection.
Surface Cracks	NE		
Structural Cracks	NE		

IF THE SPILLWAY IS GATED FILL OUT THE GATES SECTION

Principal Spillway (Continued)

Drop Inlet Spillway

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Alignment of Abutment Walls	NA		
Construction Joints	NA		
Filter and Filter Drains	NA		
Trash Racks	NA		
Bridge and Piers	NA		
Differential Settlement	NA		
Other (Name)			

IF THE SPILLWAY IS GATED FILL OUT THE GATES SECTION

**Principal Spillway (Continued)**

**Conduit (36" RCP)**

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion, Spalling, Cavitation	NE		
Joint Separation	IM	Joints separating between pipe sections adjacent to drop inlet caused by concrete deterioration, creating small sinkhole.	Township is continuing to monitor pipe condition by camera and visual inspection. Sinkhole was repaired with stone in 2021.
Seepage Around or Into Conduit	NE		
Surface Cracks	NE		
Structural Cracks	NE		
Trash Racks	NE		
Differential Settlement	NE		
Alignment	GC		
Other (Name)			

IF THE SPILLWAY IS GATED FILL OUT THE GATES SECTION

**Principal Spillway (Continued)**

**Chute**

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion, Spalling, Cavitation	NA		
Structure to Embankment Junction	NA		
Construction Joints	NA		
Expansion and Contraction Joints	NA		
Differential Settlement	NA		
Surface Cracks	NA		
Structural Cracks	NA		
Wall Alignment	NA		
Other (Name)			

IF THE SPILLWAY IS GATED FILL OUT THE GATES SECTION

Principal Spillway

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Gate Sill	NA		
Gate Seals	NA		
Gate and Frame	NA		
Operating Machinery	NA		
Emergency Operating Machinery	NA		
Other (Name)			
Other			

**Outlet Works**

**If Separate from Principal Spillway Structure**

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion, Spalling, Cavitation	NA		
Joint Separation	NA		
Seepage Around or Into Conduit	NA		
Intake Structure	NA		
Outlet Structure	NA		
Outlet Channel	NA		
Riprap	NA		
Other (Name)			
Other			

**Energy Dissipator**

**Principal Spillway Type: Rip Rap**

<b>ITEM</b>	<b>CONDITION CODE</b>	<b>DEFICIENCIES</b>	<b>RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE</b>
Erosion, Spalling, Cavitation	NE		
Structure to Embankment Junction	NA		
Construction Joints	NA		
Surface Cracks	NE		
Structural Cracks	NA		
Differential Alignment	NE		
Expansion and Contraction Joints	NA		



**Energy Dissipator (Continued)**

**Principal Spillway**

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Riprap	GC		
Outlet Channel	MM		
Debris	NE		
Other (Name)			
Other			
Other			
Other			

**Emergency Spillway**

Other: Name Bituminous Roadway

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion	NE		
Weeds, Logs, Other Obstructions	NE		
Side Slope Sloughing	NE		
Vegetation	NE		
Sedimentation	NE		
Riprap ( <i>Revetment Mattress</i> )	GC		
Settlement of Crest	NE		
Downstream Channel	GC		
Other (Name)			







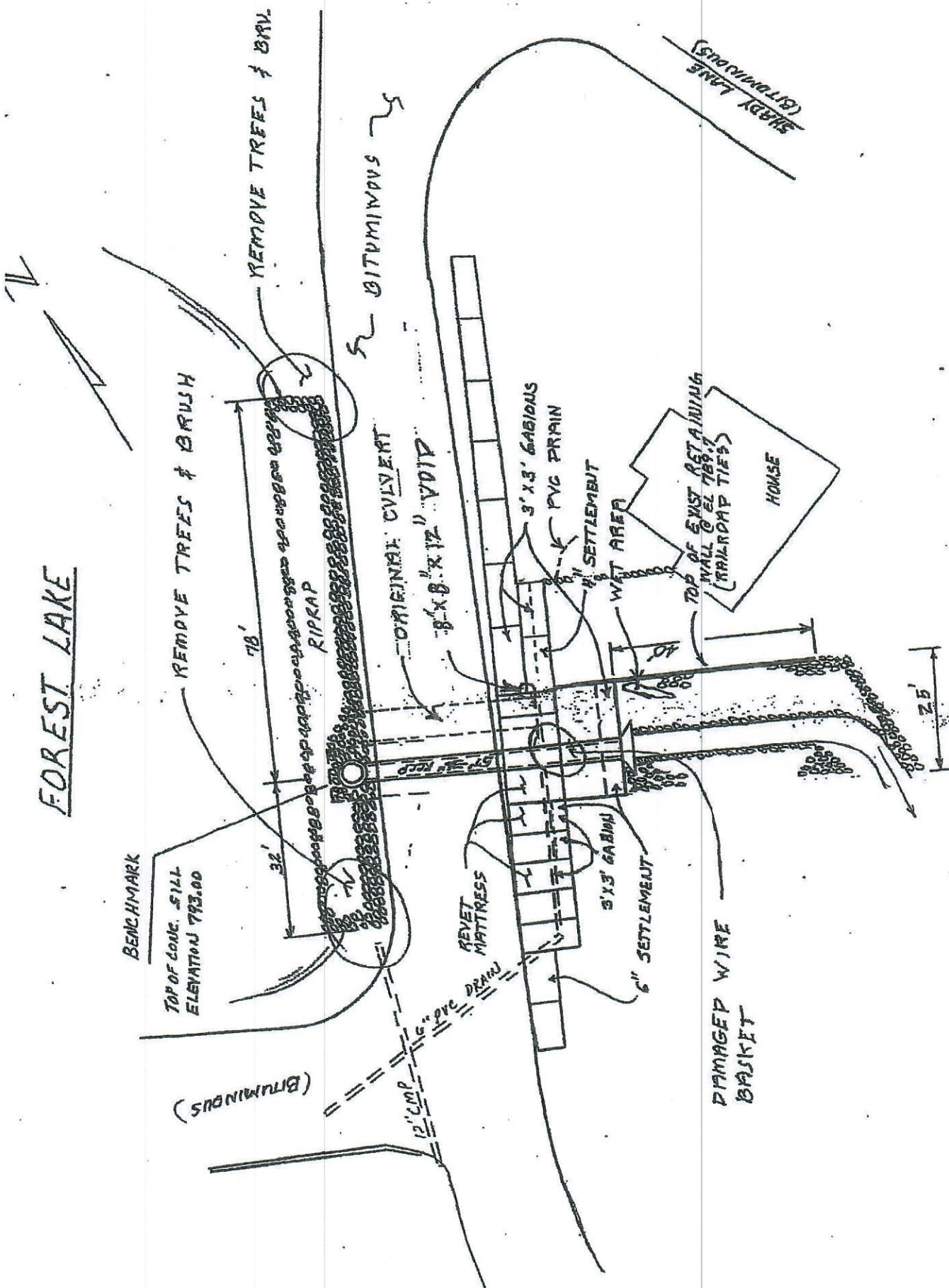








# FOREST LAKE



GENERAL LAYOUT PLAN  
SCALE 1" = 25'

17' (N.T.S.)

24'

24'

NEW GUARD RAIL

EXISTING PAVEMENT

NEW GUARD RAIL

REMOVE EXIST CONC. REMAINING WALLS

EXIST. BITUMINOUS PAVEMENT, REPLACE WITH NEW BITUMINOUS WHERE REMOVED OR DAMAGED.

9" REVEL MATTRESS SEE DETAIL SHEET STA. 745.7

REMOVE TOP 2" OF EXIST. CONC. REMAINING WALL

9" THICK REVEL MATTRESS 5' 3" GABION

4" COMPRESSED ASPHALT BASE COURSE REVD. TYPE B (LARGE GRAIN)

BACKFILL WITH EXCAVATED MATERIAL COMPACTED TO GREATER THAN 95% OF THE STANDARD PROCTOR DENSITY

SUPPORT EXISTENCE TO BE REMOVED IN THIS AREA

PRINTING REVD. SEE SHEET 16

PRECAST CONNECTION

8" WASHED STONE

REMOVE ENTIRE WEIR DITCH AREA INCLUDING BENCH SLOPES MIN. THICKNESS OF 12"

### SECTION THRU NEW STRUCTURE

REMOVE TOP FOOT NEEDED TO PROTECT SPILLWAY

REMOVE EXIST CONC. REMAINING WALLS (11'-8" DIA.)

704.00

752.4

752.4

752.4

752.4

752.4

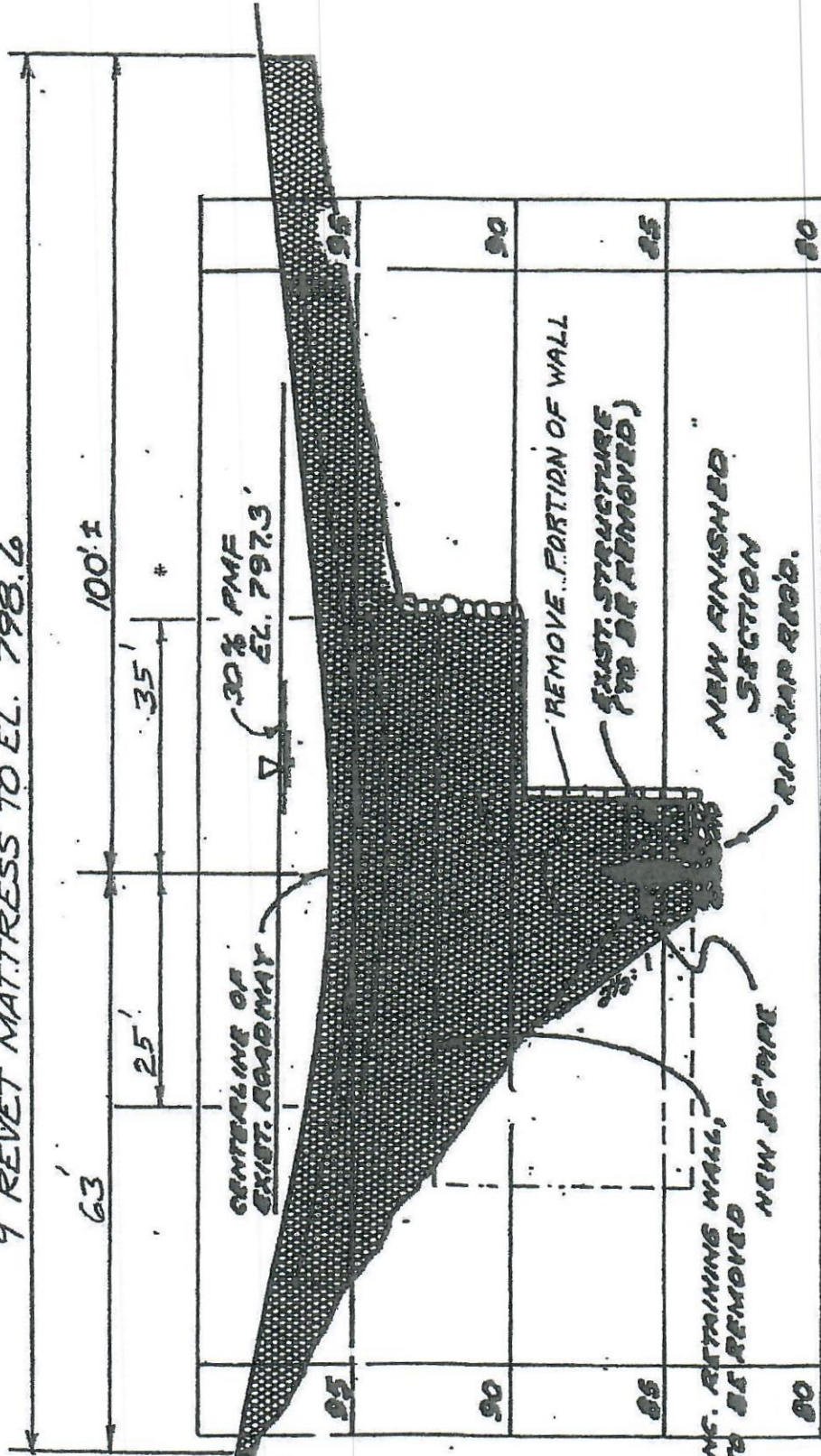
752.4

702.4

702.35

ALL

9" REVET MATTRESS TO EL. 798.6'

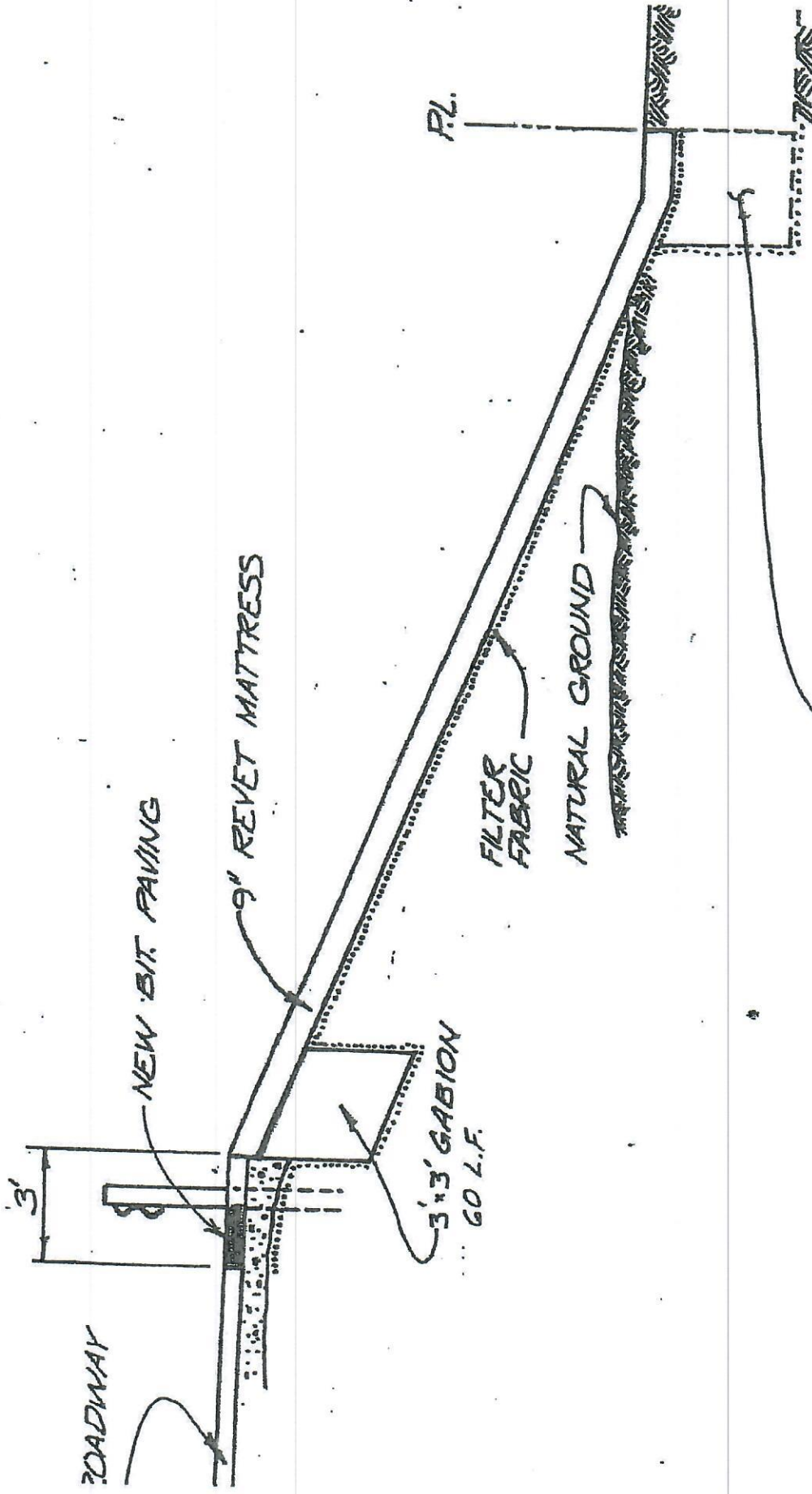


\* CONC. REMAINING WALL, TOP 2' TO BE REMOVED

**DOWNSTREAM ELEVATION**

SCALE:

HOR: 1" = 20'  
VERT: 3/16" = 1'



USE 3'x3' GABIONS WHERE NECESSARY TO KEEP MATRESS WITHIN ROADWAY ROW AND EASEMENT

REDET MATRESS DETAIL

SCALE 1/4" = 1'-0"