

# GATEWAY STATE TRAIL

# GATEWAY STATE TRAIL

# WESTMINSTER STREET SEGMENT

Proposed Bridge Info	
Existing MNDNR Bridge #	BR01062
Proposed MNDNR Bridge #	BR01618
Existing MNDOT Bridge #	90410
Proposed MNDOT Bridge #	62664
Carries	Gateway State Trail
Crosses	Westminster Street
Northing	4,981,396
Easting	493,197

NOTES:

EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE-CALL 1-800-252-1166 OR 651-454-0002.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS IN PROJECT MANUAL, DIVISION 1, SECTION 1.531 (01 30 00) INVASIVE SPECIES PREVENTION IN COMPLETING THE WORK

ALL NECESSARY EASEMENTS, PERMITS AND RIGHTS OF WAY FOR THE PROJECT SHALL BE SECURED BY THE OWNER OR SPONSOR BEFORE CONSTRUCTION WORK IS COMMENCED UNLESS OTHERWISE SPECIFIED.

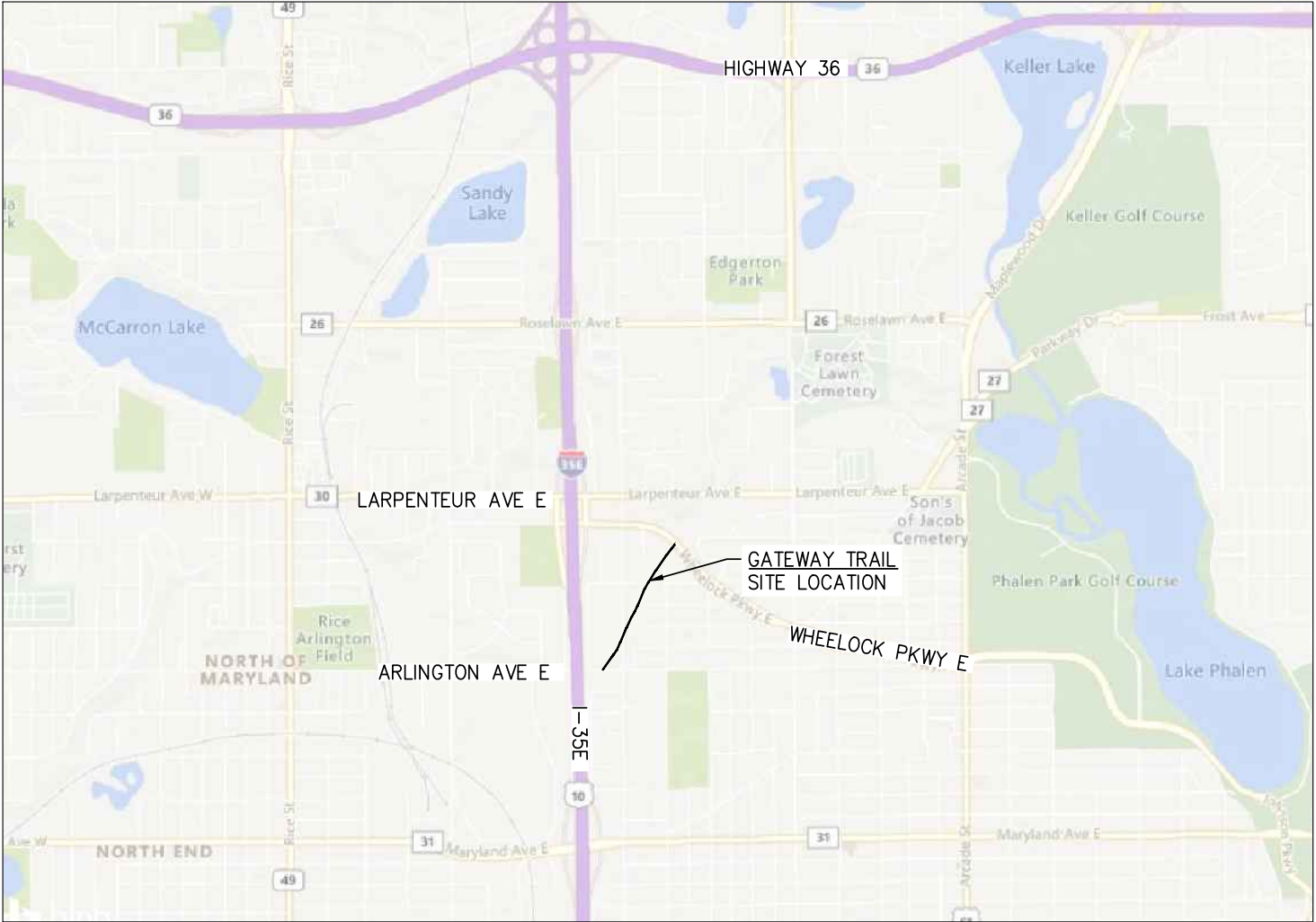
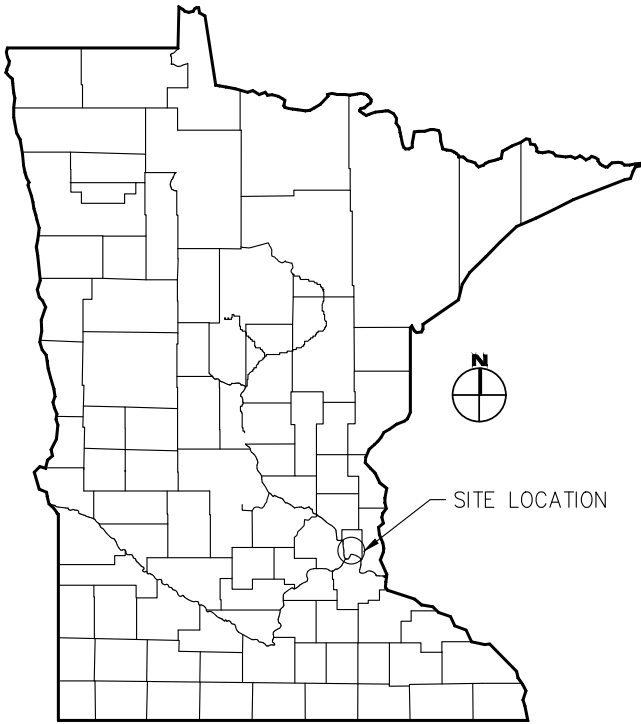
VERIFY ALL DIMENSIONS AND LOCATIONS ON THE JOB. REPORT ALL DISCREPANCIES TO OPERATIONS SERVICES DIVISION.

NO TREE CLEARING (4" DIAMETER AND GREATER) IS ALLOWED BETWEEN JUNE 1ST AND AUGUST 15TH.

NOTE WORK IN WATER EXCLUSION DATES OUTLINED IN DOW'S PERMITS.

PREBID SITE EXAMINATION SHALL BE COORDINATED WITH PARKS & TRAILS DIVISION STAFF. ANY MOTORIZED VEHICLE ALLOWED ON THE TRAIL SHALL BEAR THE COMPANY'S IDENTIFICATION ON THE SIDES OF THE VEHICLE. VEHICLES MUST UTILIZE FLASHERS, TRAVEL UNDER 20 MPH, AND YIELD THE RIGHT OF WAY (BY PULLING TO THE SIDE OF THE TRAIL AND STOPPING) TO ALL TRAIL USERS.

DO NOT SCALE DRAWINGS.



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Approval			FINAL REVIEW	Operations Services Safety Facilities Materials Equipment Field Operations Information Management	BRIDGE REPLACEMENT & TRAIL REHAB GATEWAY STATE TRAIL DNR Parks And Trails Division Ramsey County Section: 19    Township: 29N    Range: 22W	Revisions Date    By	Title: TITLE SHEET		Sheet: C-001
Parks And Trails Division	Date						Survey: WL 03/19	Designed: MH 08/19	CC2: 8T250
Operations Services Division	Date						Drawn: WL 03/19	Drawn: MH 08/19	File #: TRA00705.1.1.12.07
							Checked: NA 03/19	Checked: YS 08/19	
							Horz. datum: NAD 83	Vert. datum: NAVD 88	

EARTHWORK BALANCE SUMMARY					
	COMMON EXCAVATION	EMBANKMENT	GRANULAR BORROW	SELECT GRANULAR BORROW	CLASS 5 BASE
	CY	CY	CY	CY	CY
TRAIL CORRIDOR STA 100+58 TO 105+33 AND SPUR TRAIL STA 20+08 TO 22+70	840	480	410	0	170
TRAIL CORRIDOR STA 107+60 TO 122+45	5770	1190	0	3660	530
TOTALS (LV)	6610	1670	410	3660	700

- SALVAGED TOPSOIL SHALL BE USED TO MEET TOPSOIL BORROW NEEDS.
- EMBANKMENT COMMON TO COME FROM EXCESS COMMON EXCAVATION MATERIAL.
- ALL EXCESS AND UNSUITABLE MATERIALS TO BE HAULED OFF SITE AND SHALL BE INCLUDED IN THE UNIT PRICE FOR EXCAVATION.
- TABLES PROVIDED FOR INFORMATION ONLY.

CONSTRUCTION, SURVEY AND SOIL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2018 Mn/DOT STANDARD SPECIFICATIONS FOR CONSTRUCTION INCLUDING APPLICABLE SUPPLEMENTAL SPECIFICATIONS.
- STRIP TOPSOIL FROM AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. THE DEPTH OF TOPSOIL AVAILABLE IS ASSUMED TO BE 4". TOPSOIL EXCAVATION AND PLACEMENT IS PAID FOR UNDER COMMON EXCAVATION.
- EMBANKMENT MATERIAL SHALL BE EXCAVATED MATERIAL FROM THE SITE. THE EMBANKMENT MUST BE CONSTRUCTED IN ACCORDANCE WITH Mn/DOT SPECIFICATION 2105.
- THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS BEFORE COMMENCING CONSTRUCTION BY CALLING GOPHER STATE ONE CALL.
- SUITABLE GRADING MATERIALS ON THIS PROJECT SHALL CONSIST OF ALL MINERAL SOILS ENCOUNTERED IN EXCAVATION MATCHING THE TEXTURAL CLASSIFICATION OF THE MATERIALS IN THE AREA OF CONSTRUCTION AND NOT DEFINED AS UNSUITABLE MATERIAL. GRANULAR MATERIAL MAY BE SUBSTITUTED FOR SUITABLE GRADING MATERIAL WITH NO ADDITIONAL COMPENSATION.
- UNSUITABLE MATERIALS ARE DEFINED AS TOPSOIL, PEAT, MUCK, DEBRIS, ORGANIC, AND OR OTHER UNSTABLE SOILS. UNSUITABLE MATERIALS MAY NOT BE PLACED WITH A 1V:1.5H SLOPE DOWNWARD AND OUTWARD FROM THE OUTSIDE EDGE OF THE PROPOSED BASE. ALL EARTH MATERIALS NOT DESIGNATED FOR SALVAGE, AND ALL DEBRIS, SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE OF THE RIGHT-OF-WAY.
- BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND MAY BE RECYCLED OR DISPOSED OF OFF THE RIGHT-OF-WAY.
- PROVIDE A 1V:20H TAPER WHEN CHANGING FROM SUBCUT DEPTHS. TAPERS BETWEEN PLASTIC AND GRANULAR SOILS SHALL BE CONSTRUCTED SO THAT GRANULAR SOILS OVERLAY PLASTIC SOILS.
- SOILS AT THE BOTTOM OF SHALLOW EXCAVATIONS AND IN CUT AREAS SHALL BE SCARIFIED TO A DEPTH OF 12 INCHES, BLENDED, AND COMPACTED TO MNDOT SPECIFICATION 2105.F1 "SPECIFIED DENSITY METHOD"
- THE FOLLOWING COMPACTION REQUIREMENTS SHALL BE USED:

MATERIAL

DENSITY

GRANULAR BORROWORDINARY COMPACTION

CLASS 5 AGGREGATE BASEORDINARY COMPACTION
- BITUMINOUS TRAIL PAVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION 2360 AND COMPACTION SHALL BE OBTAINED IN ACCORDANCE WITH THE "ORDINARY COMPACTION METHOD".
- SIDE SLOPES ARE TO BE ROUNDED AS DIRECTED BY THE ENGINEER AND ALL WORK WILL BE CONSIDERED INCIDENTAL TO COMMON EXCAVATION.
- NO WORK, INCLUDING THE STOCKPILING OF TOPSOIL, SHALL EXTEND BEYOND THE RIGHT-OF-WAY UNLESS THE CONTRACTOR HAS PROVIDED THE STATE WITH A COPY OF THE OWNERS' WRITTEN PERMISSION FOR SUCH WORK AND IS APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A STABLE SUBGRADE FOR THE BITUMINOUS TRAIL. THE CONTRACTOR WILL NOT BE ALLOWED TO PLACE BITUMINOUS SURFACES UNTIL THE ENGINEER HAS APPROVED THE SUBGRADE AND AGGREGATE BASE.
- PLACE A MINIMUM OF 4 INCHES OF TOPSOIL ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.


CONSTRUCTION SCHEDULE AND TIMING

- CLEARING OF TREES WITH A DBH (DIAMETER AT BREAST HEIGHT) LARGER THAN 3" WILL ONLY BE ALLOWED BETWEEN AUGUST 15TH AND OCTOBER 30TH. ALL VEGETATIVE DEBRIS TO BE HAULED OFFSITE AND LEGALLY DISPOSED OF.
- GRADING OPERATIONS FOR TRAIL CONSTRUCTION WILL ONLY BE ALLOWED BETWEEN AUGUST 1ST AND OCTOBER 30TH. NO NEW GRADING OR MAJOR SOIL DISTURBANCE WITHIN THE TRAIL CORRIDOR WILL BE ALLOWED BETWEEN OCTOBER 30TH AND AUGUST 1ST OF THE FOLLOWING YEAR.
- THE NPDES PERMIT CANNOT BE APPLIED FOR UNTIL THE NOTICE TO PROCEED IS ISSUED.

STANDARD PLATES	
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT	
PLATE NO.	DESCRIPTION
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
3131C	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS

SHEET LIST	
SHEET NUMBER	SHEET TITLE
C-001	TITLE SHEET
C-002	STANDARD NOTES & PLATES
C-003	TYPICAL SECTION
C-004	TRAFFIC CONTROL PLAN
C-005	PEDESTRIAN CONTROL PLAN
C-201	REMOVALS & EROSION CONTROL
C-202	REMOVALS & EROSION CONTROL
C-203	BRIDGE DEMOLITION & REMOVALS
C-301	TRAIL PLAN & PROFILE
C-302	TRAIL PLAN & PROFILE
C-303	TRAIL PLAN & PROFILE
C-304	TRAIL PLAN & PROFILE
C-305	BRIDGE PLAN, PROFILE, & SECTION
C-401	TRAIL SECTIONS
C-402	TRAIL SECTIONS
C-403	TRAIL SECTIONS
C-404	TRAIL SECTIONS
C-405	TRAIL SECTIONS
C-406	TRAIL SECTIONS
C-501	PAVEMENT MARKINGS & SIGNAGE
C-502	PAVEMENT MARKINGS & SIGNAGE
C-601	PILE FOUNDATION & FOOTING DETAILS
C-602	ABUTMENT DETAILS
C-603	CIVIL DETAILS
C-701	SWPPP
C-702	EROSION CONTROL DETAILS
C-703	EROSION CONTROL DETAILS
C-704	EROSION CONTROL DETAILS
C-705	EROSION CONTROL DETAILS

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FINAL  
REVIEW

Operations Services

Safety

Facilities

Materials Equipment

Field Operations

Information Management

BRIDGE REPLACEMENT & TRAIL REHAB

GATEWAY STATE TRAIL

DNR Parks And Trails Division

Ramsey County

St. Paul

Section: 19

Township: 29N

Range: 22W

Revisions

Date	By
_____	_____
_____	_____
_____	_____

Title: STANDARD NOTES & PLATES

Survey: WL 03/19	Designed: MH 08/19
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Checked: NA 03/19	Checked: YS 08/19
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Sheet: C-002

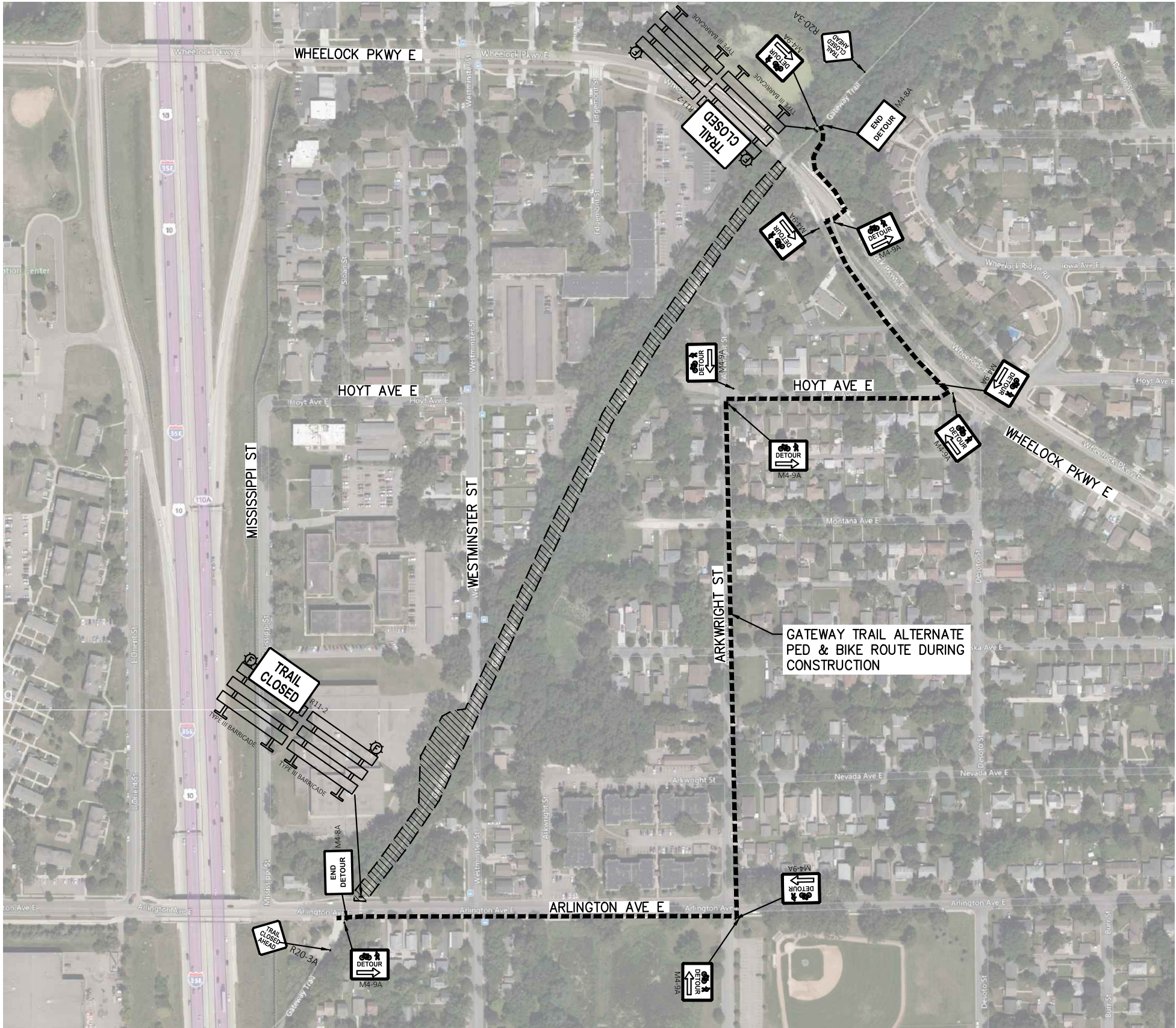
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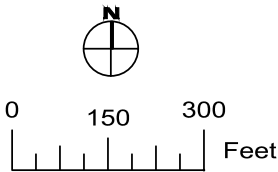






NOTES & GUIDELINES:

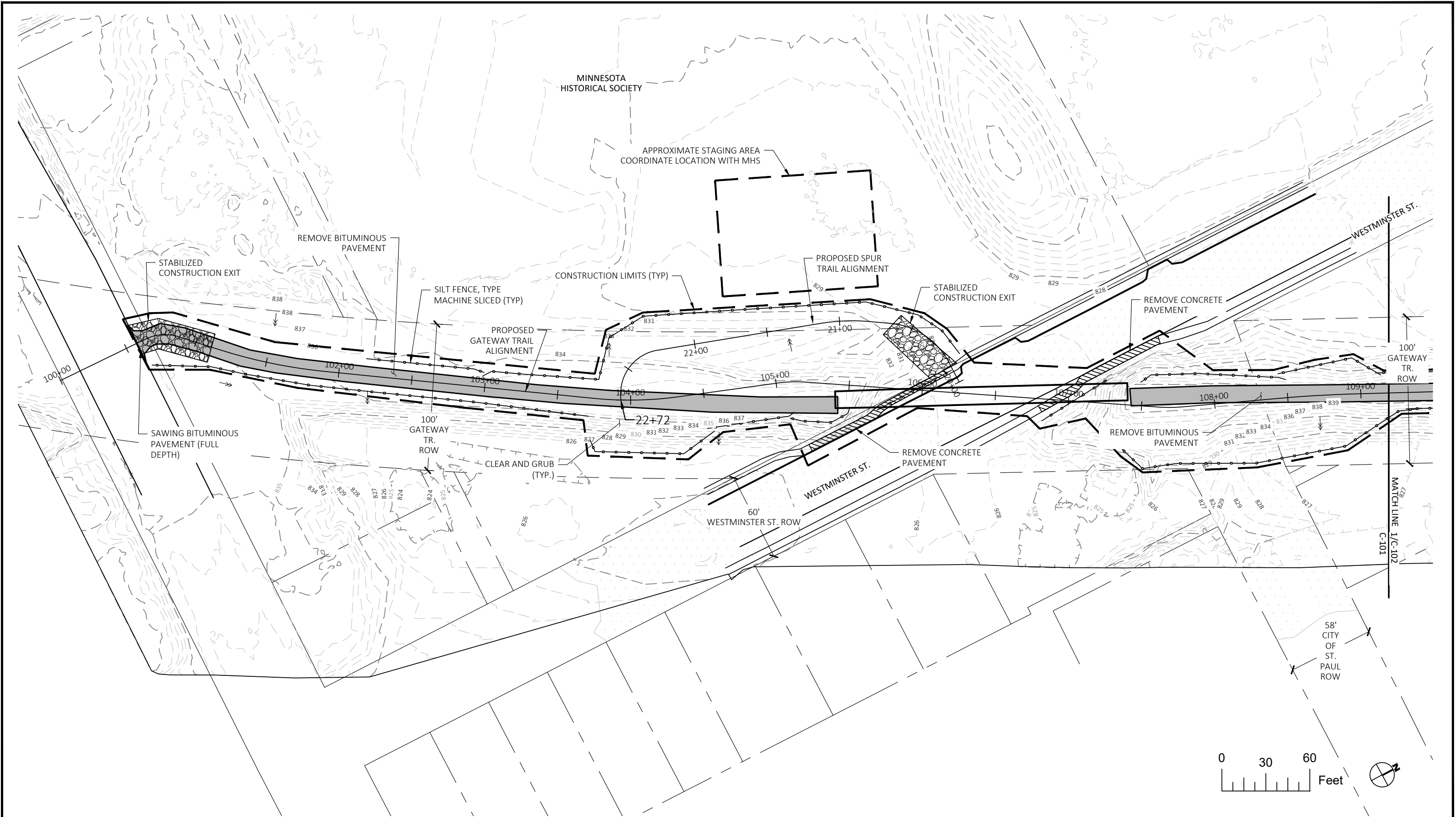
1. REFERENCE NOTES ON SHEET C-004.



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	FINAL REVIEW	Operations Services Safety Facilities Materials Equipment Field Operations Information Management	BRIDGE REPLACEMENT & TRAIL REHAB			Revisions		Title: PEDESTRIAN CONTROL PLAN				Sheet: C-005	
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			DNR Parks And Trails Division					Drawn: WL 03/19    Drawn: MH 08/19				File #: TRA00705.1.1.12.07	
			Ramsey County					Checked: NA 03/19    Checked: YS 08/19					
			Section: 19    Township: 29N    Range: 22W					Horz. datum: NAD 83    Vert. datum: NAVD 88					





1 REMOVALS & EROSION CONTROL PLAN

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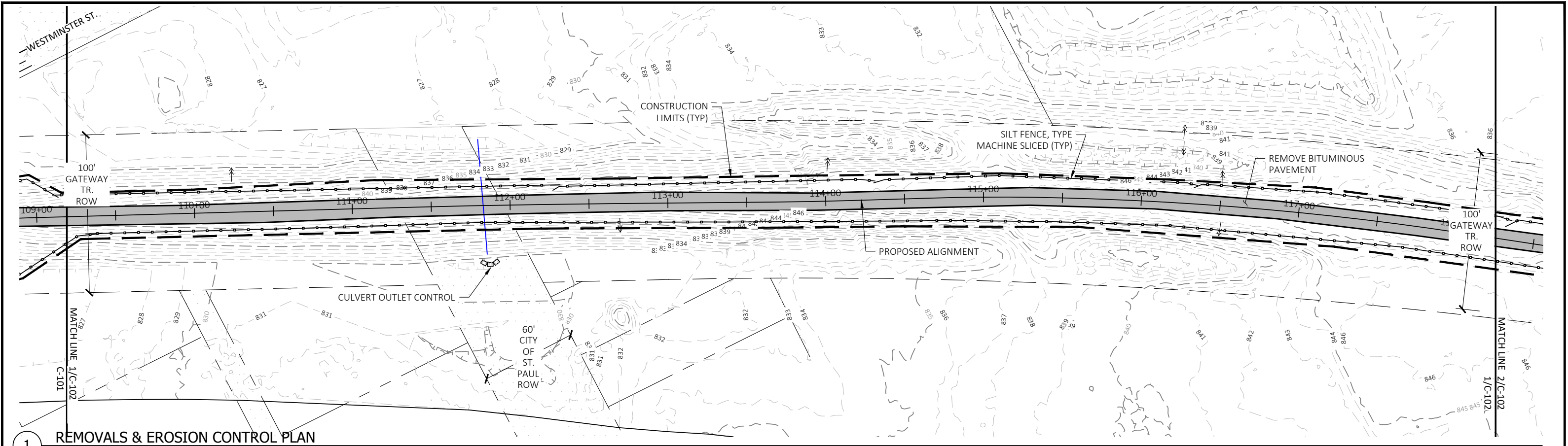
Operations Services  
Safety  
Facilities  
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Field Operations  
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BRIDGE REPLACEMENT & TRAIL REHAB  
GATEWAY STATE TRAIL  
DNR Parks And Trails Division  
Ramsey County St. Paul  
Section: 19 Township: 29N Range: 22W

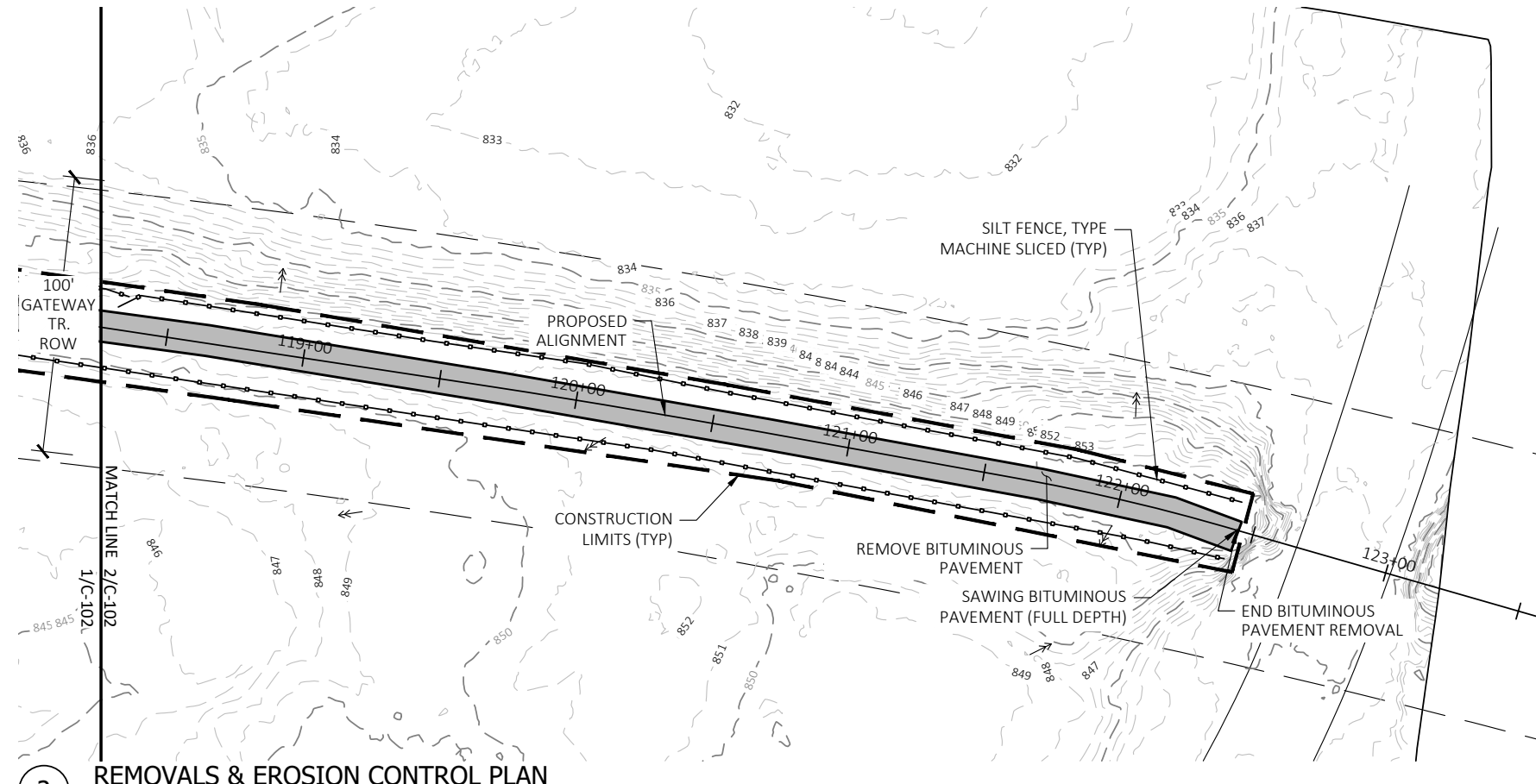
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Date	By

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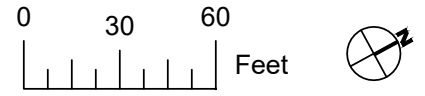
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1 REMOVALS & EROSION CONTROL PLAN

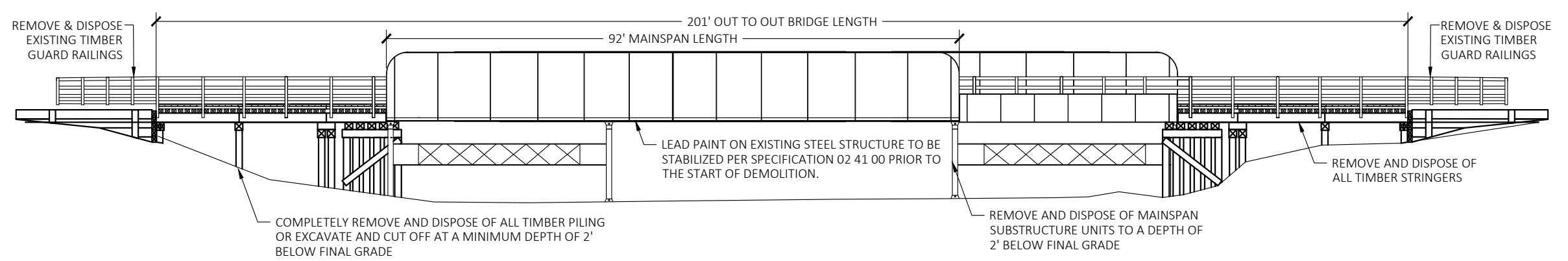
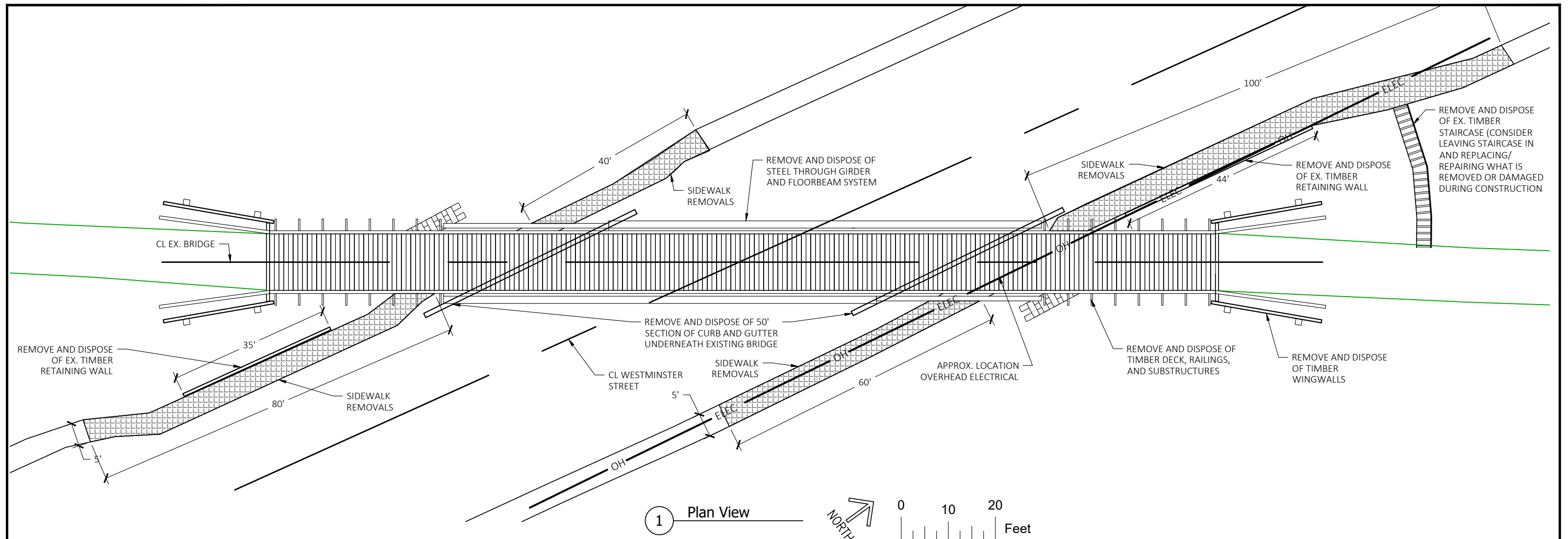


2 REMOVALS & EROSION CONTROL PLAN



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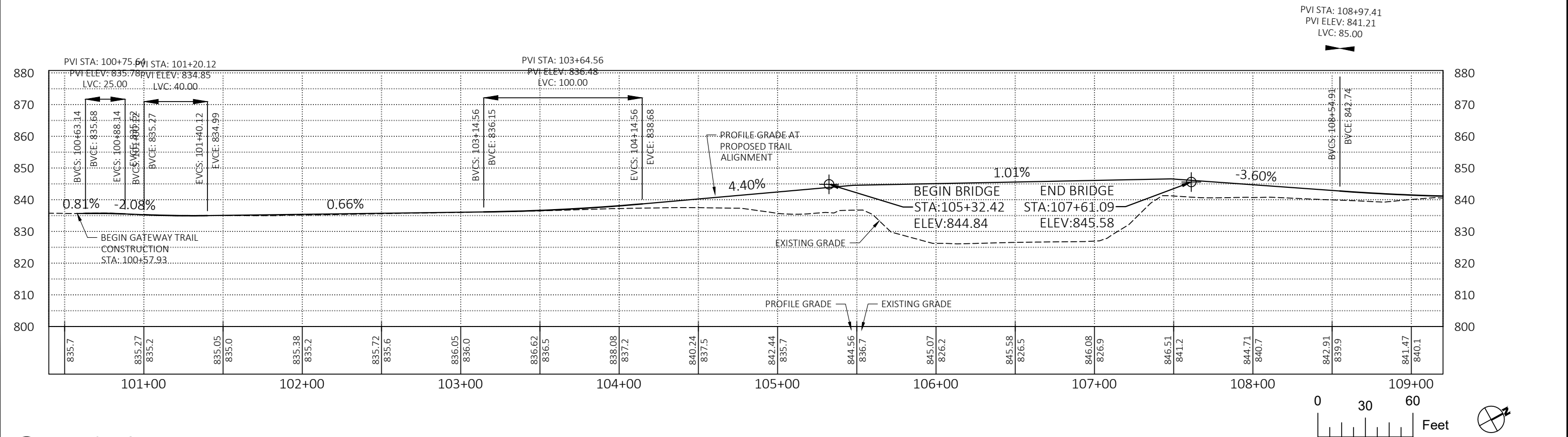
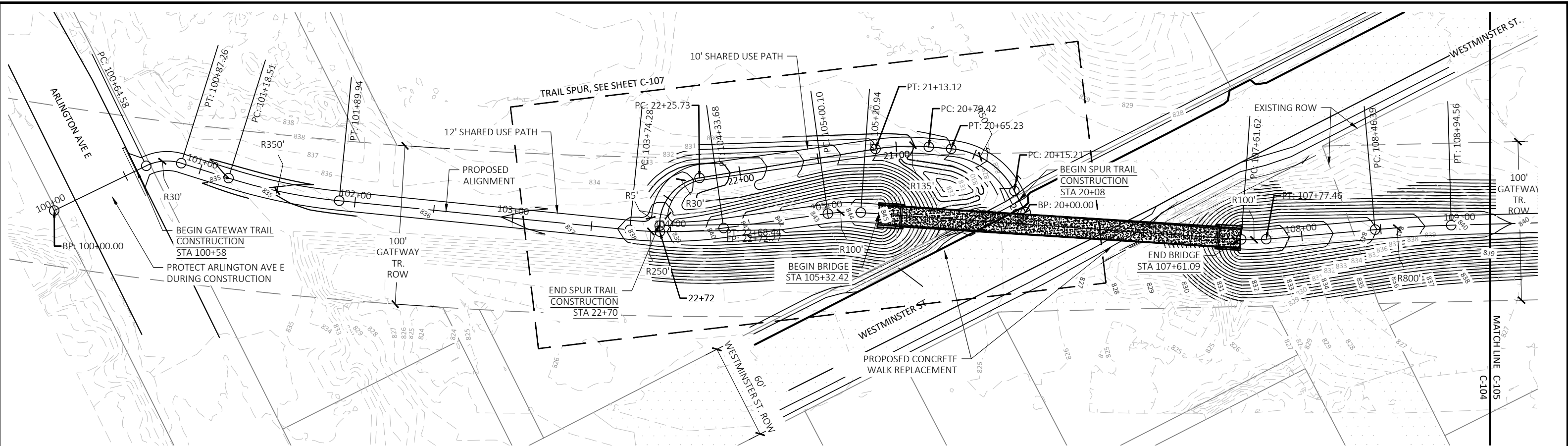
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			Ramsey County			St. Paul				Drawn: WL 03/19    Drawn: MH 08/19				File #: TRA00705.11.12.07	
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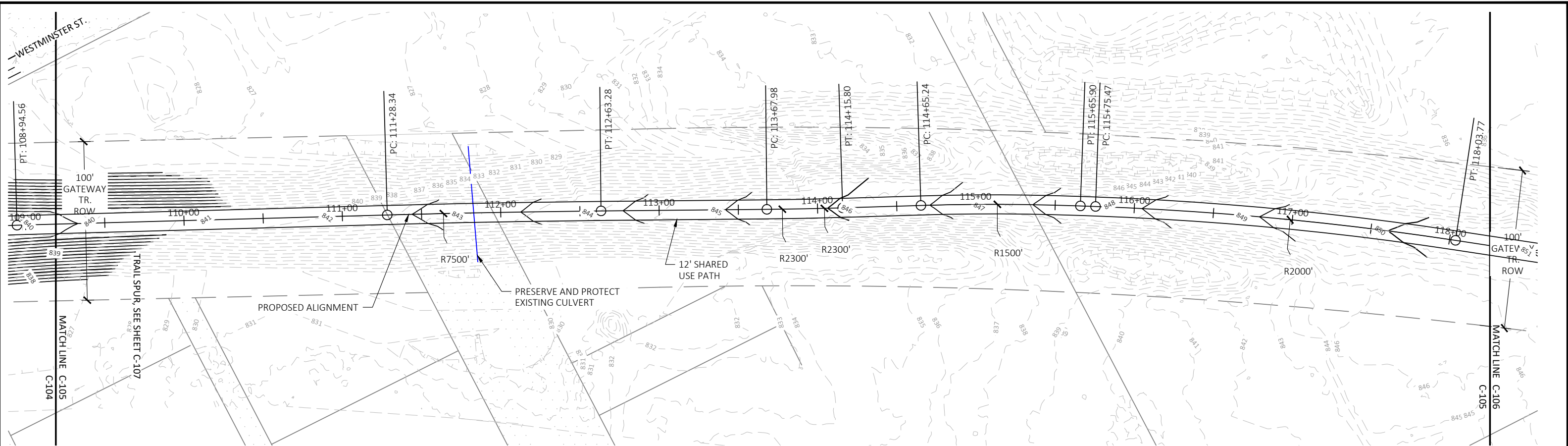
- NOTES:
- EXISTING BRIDGE STRUCTURE SHALL BE REMOVED IN ITS ENTIRETY INCLUDING THE SUPERSTRUCTURE, SUBSTRUCTURE, DECK, RAILINGS, ETC.
  - CURB, GUTTER, AND SIDEWALK DAMAGE OUTSIDE OF THE PROPOSED REMOVALS SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE DNR.
  - CARE SHALL BE TAKEN TO ENSURE NO DAMAGE IS DONE TO THE ROADWAY AND ANY ADJACENT APPURTENANCES
  - ANY DAMAGE TO THE BITUMINOUS ROADWAY SHALL BE REPAIRED OR REPLACED AT THE DIRECTION OF THE ENGINEER AT NO COST TO THE DNR.
  - REGULATED WASTE DISPOSAL
    - ALL TIMBER SHALL BE DISPOSED OF OFF SITE IN ACCORDANCE WITH APPLICABLE LAWS.
    - ALL STEEL COMPONENTS ARE ASSUMED TO HAVE LEAD PAINT AND THUS SHALL BE ENCAPSULATED PRIOR TO DISPOSAL AND DISPOSED OF PROPERLY IN ACCORDANCE WITH ALL APPLICABLE LAWS. SEE ASBESTOS AND REGULATED WASTE INSPECTION REPORT FOR MORE INFORMATION.

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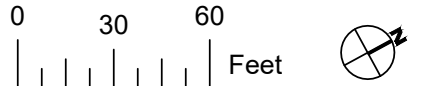




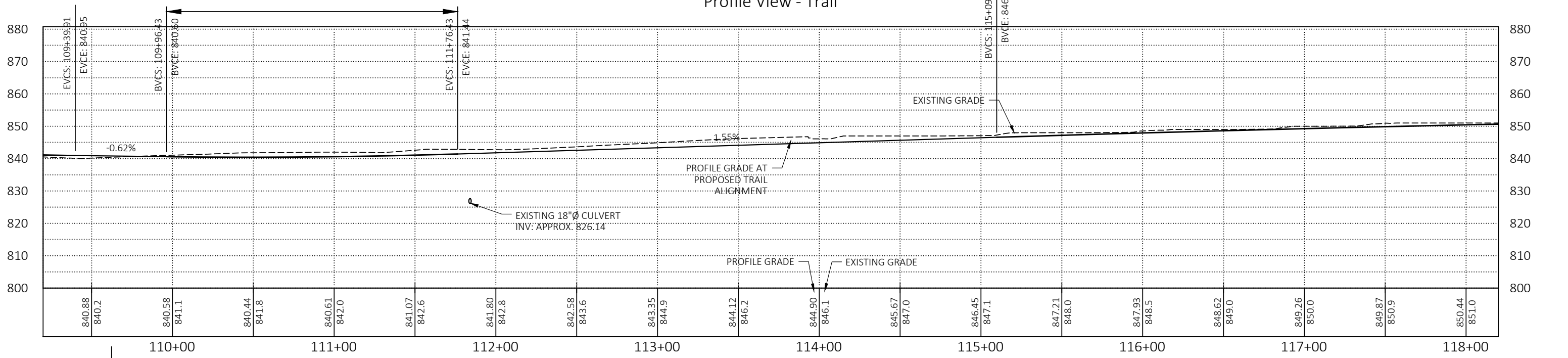


PVI STA: 110+86.43  
PVI ELEV: 840.04  
LVC: 180.00

PVI STA: 116+84.74  
PVI ELEV: 849.31  
LVC: 350.00



Profile View - Trail



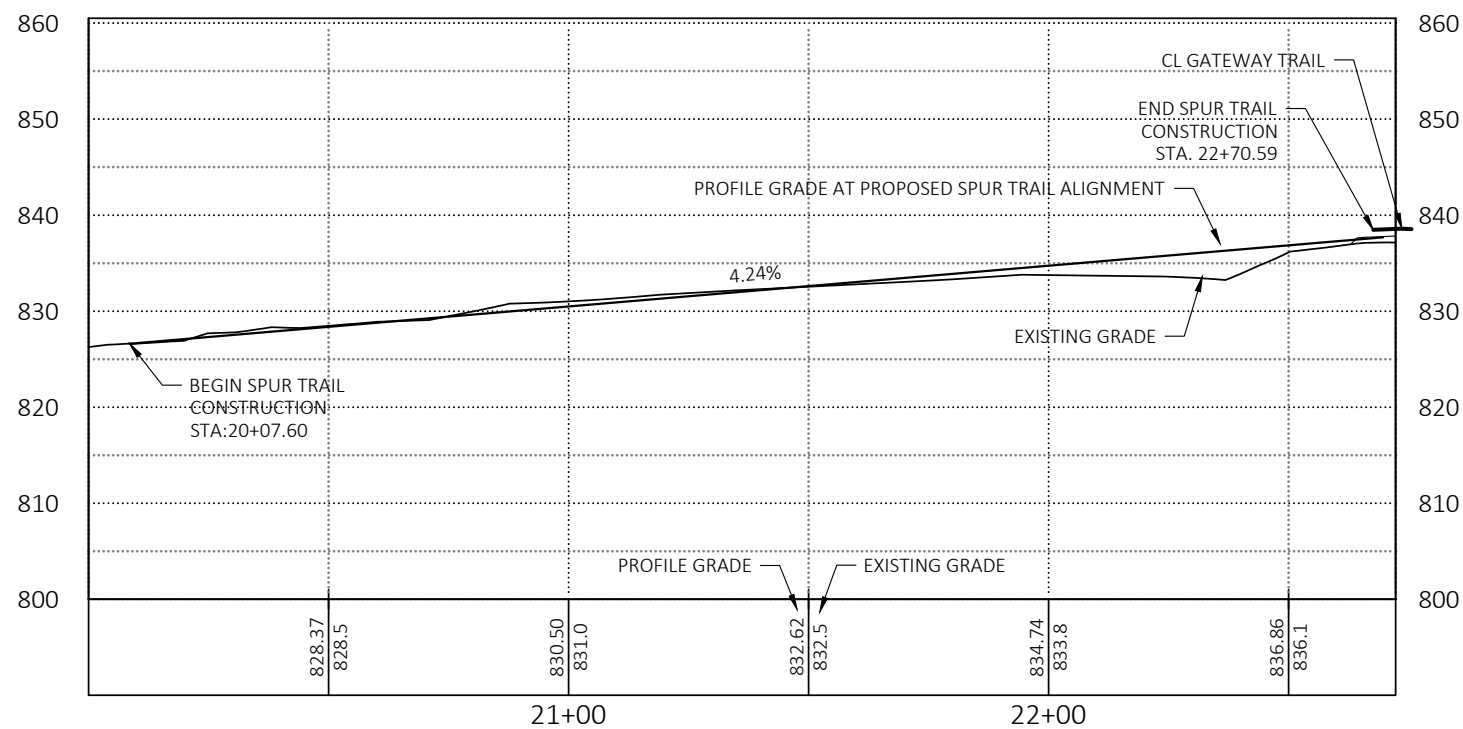
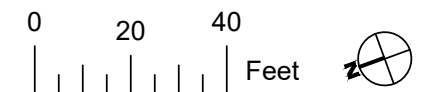
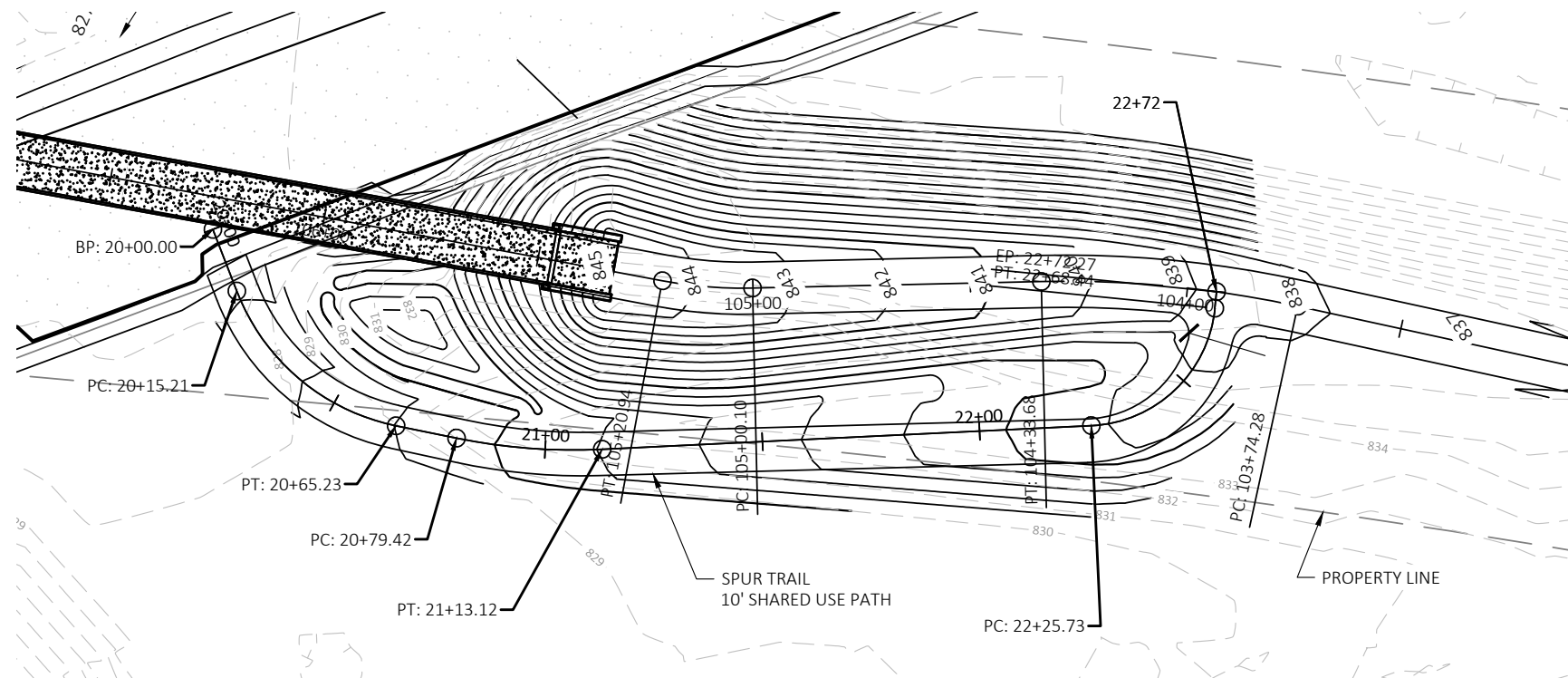
1 PLAN & PROFILE

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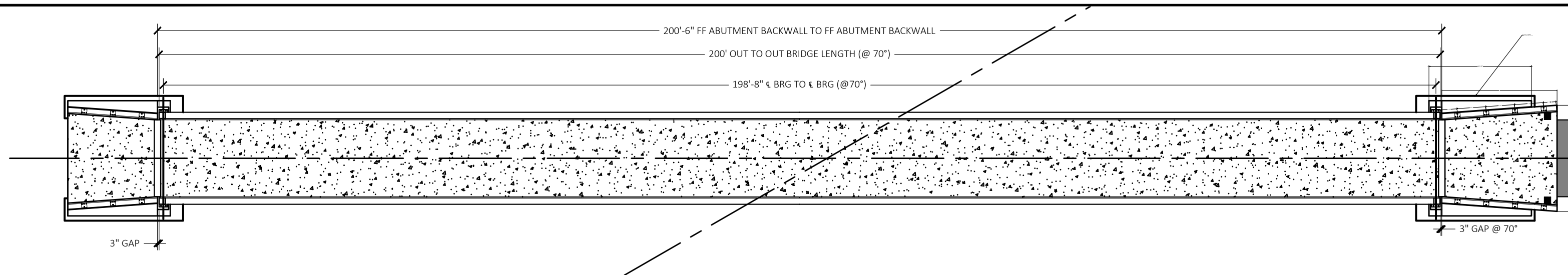




1 PLAN & PROFILE

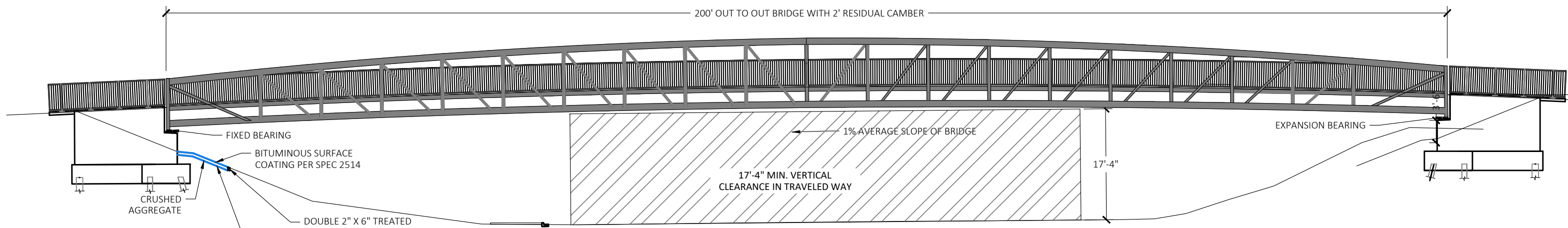
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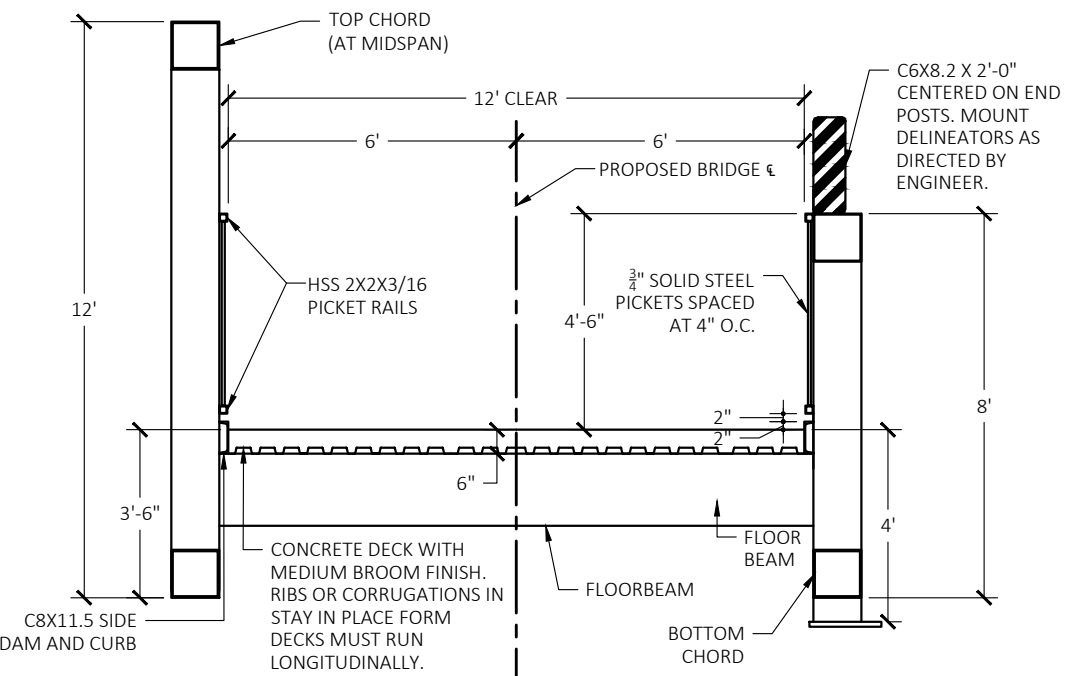
1 Plan View

0 15 30 Feet



2 Profile View

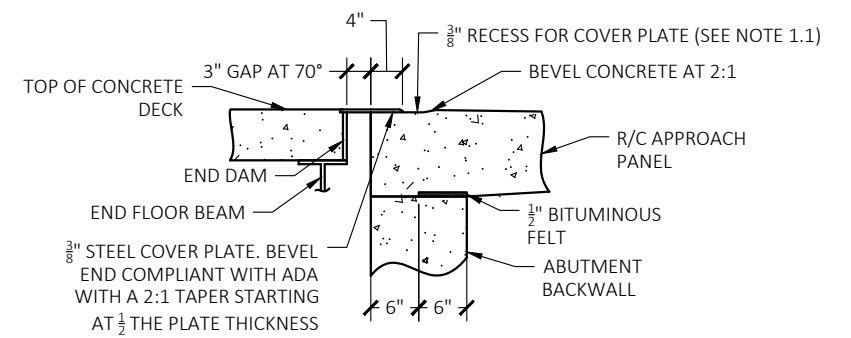
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3 Section View

NTS

- NOTES:
- COVER PLATES
    - COVER PLATE RECESS SHALL BE 6" ON THE EXPANSION END AND 5" ON THE FIXED END. THIS TRANSLATES TO A 1" GAP BETWEEN THE COVER PLATE AND THE CONCRETE BEVEL ON THE FIXED END AND 2" ON THE EXPANSION END AT 70°.
  - WEEP HOLES
    - PROVIDE DRILLED  $\frac{7}{16}$ " -  $\frac{1}{2}$ " DIAMETER WEEP HOLES AT THE LOW POINTS OF ALL STEEL TUBING MEMBERS AS ORIENTED IN THE IN-PLACE, COMPLETED STRUCTURE.
    - PROVIDE ONE WEEP HOLE AT EACH END IN MEMBERS THAT ARE LEVEL OR FLAT.
    - FLAME CUT HOLES ARE PROHIBITED.
    - WEEP HOLES ARE NOT REQUIRED AT FREE DRAINING OPEN ENDED LOCATIONS.
    - SHOW WEEP HOLES AND WEEP HOLE LOCATIONS ON THE SHOP DRAWINGS.



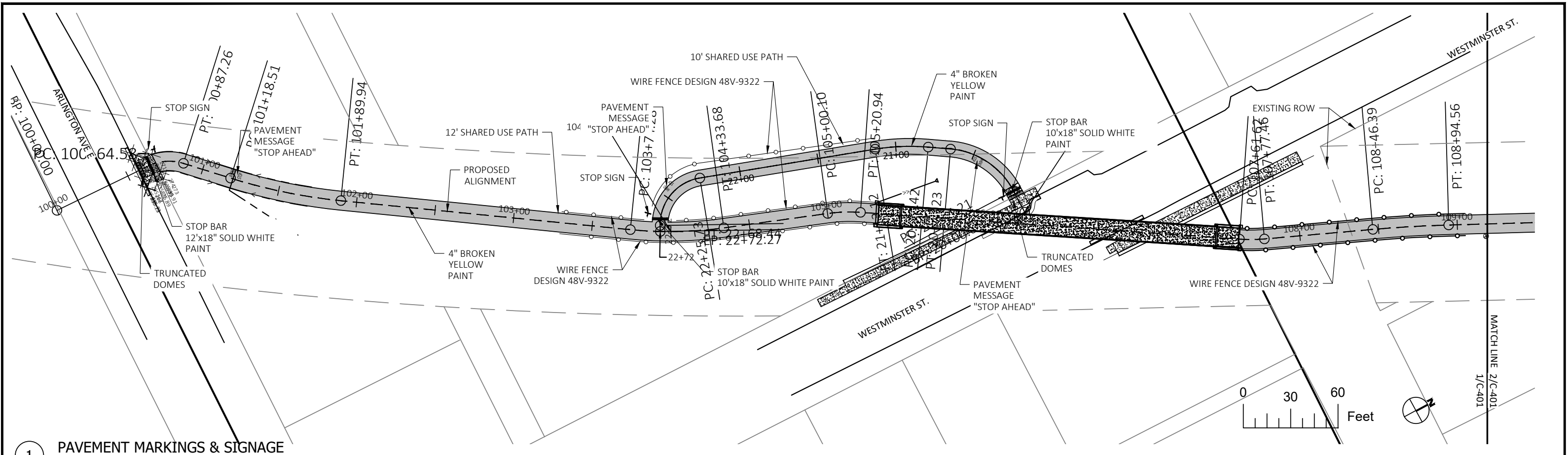
4 Cover Plate

NTS

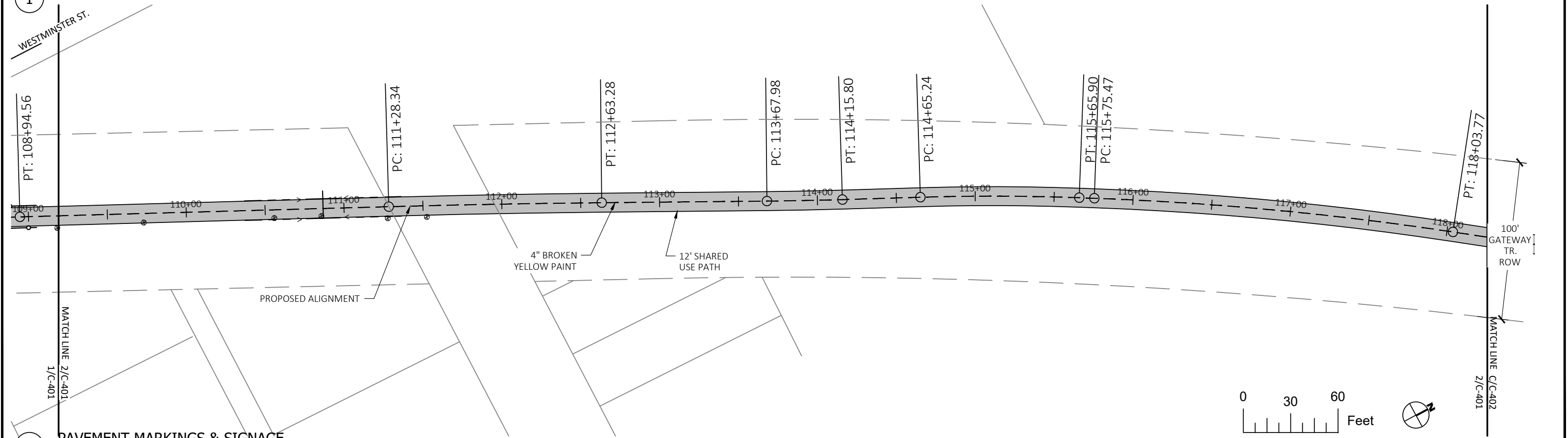
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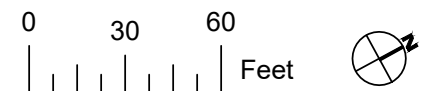
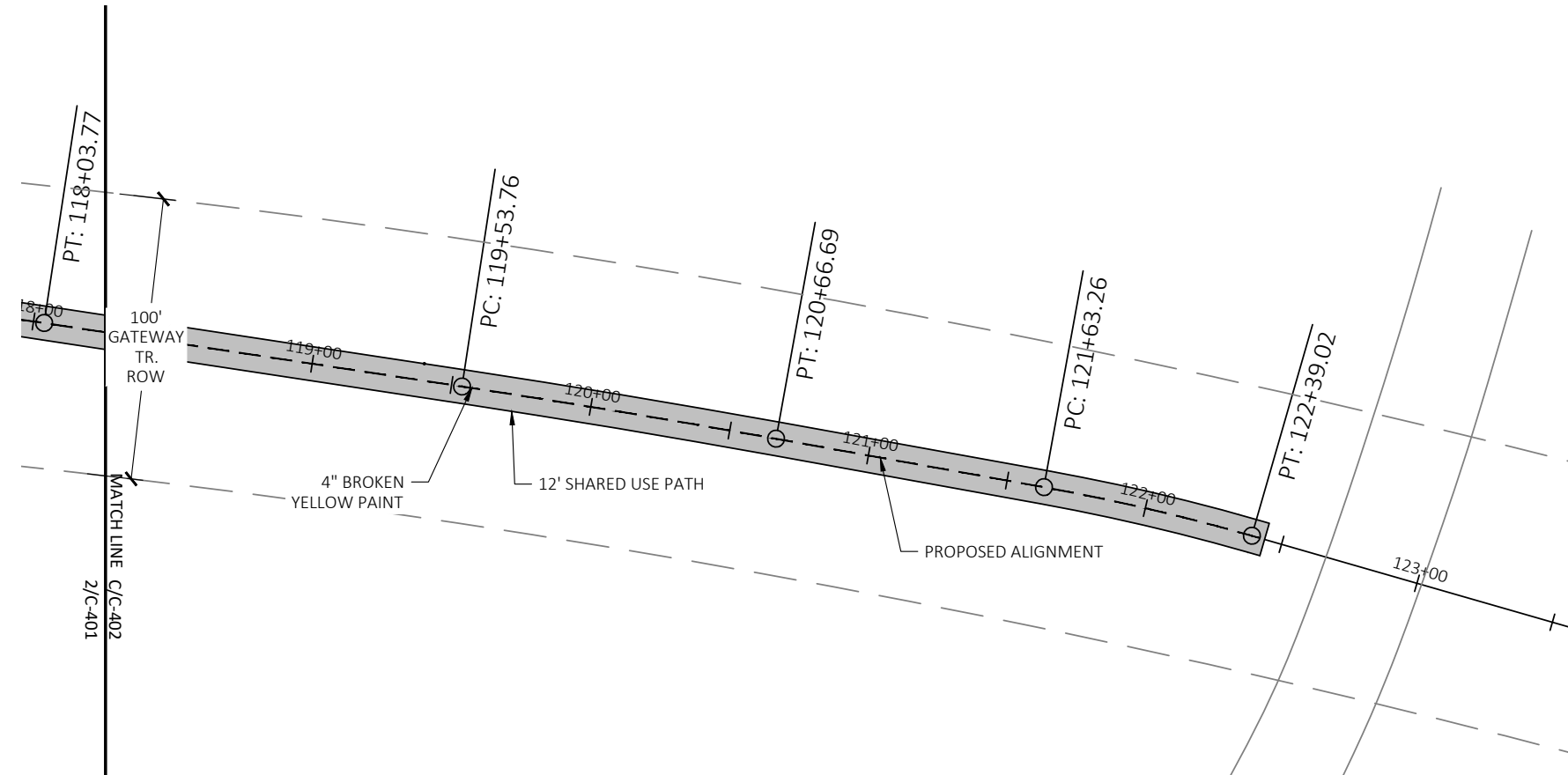


1 PAVEMENT MARKINGS & SIGNAGE



2 PAVEMENT MARKINGS & SIGNAGE

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1 PAVEMENT MARKINGS & SIGNAGE

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FINAL  
REVIEW

Operations Services  
Safety  
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Information Management

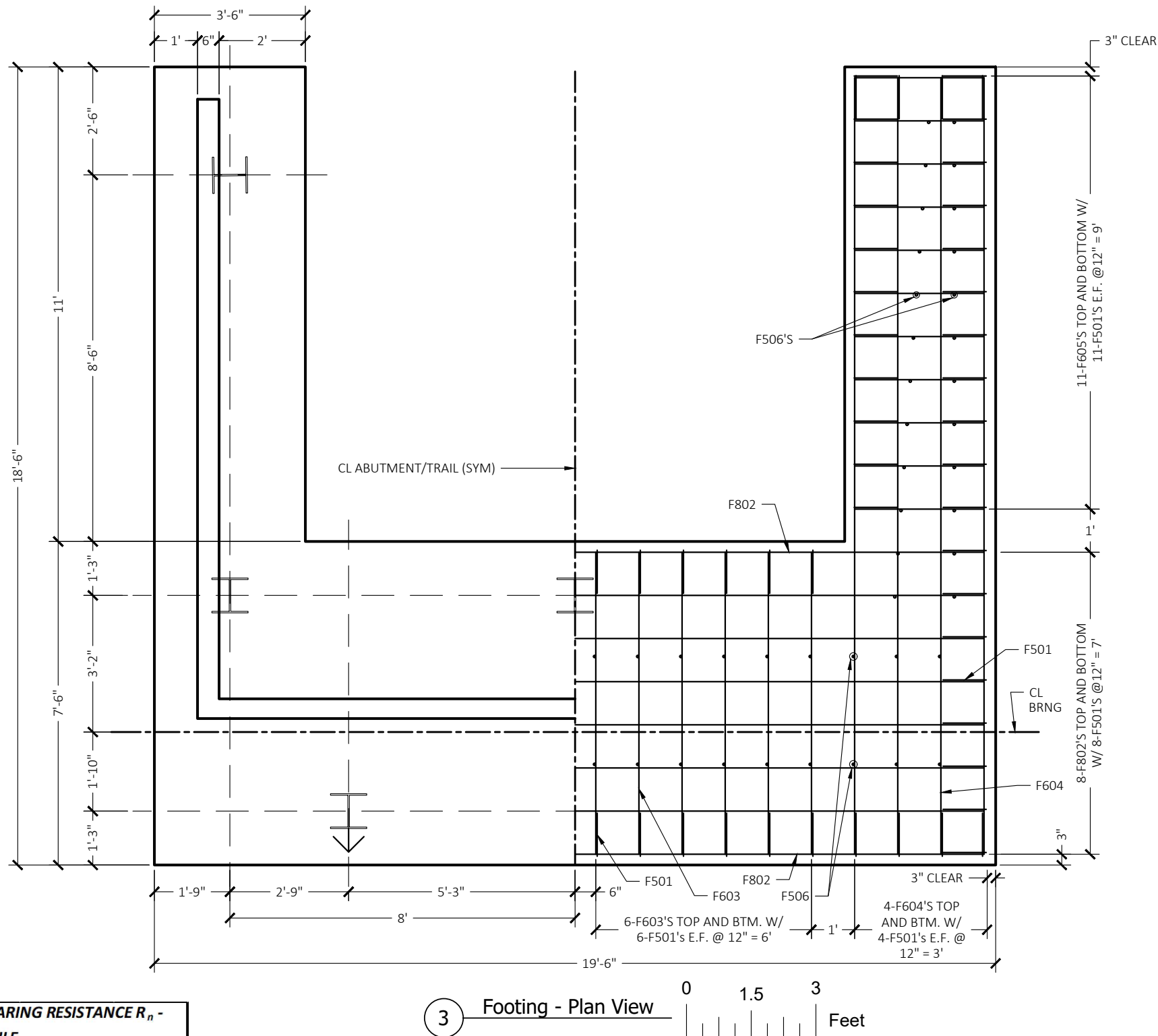
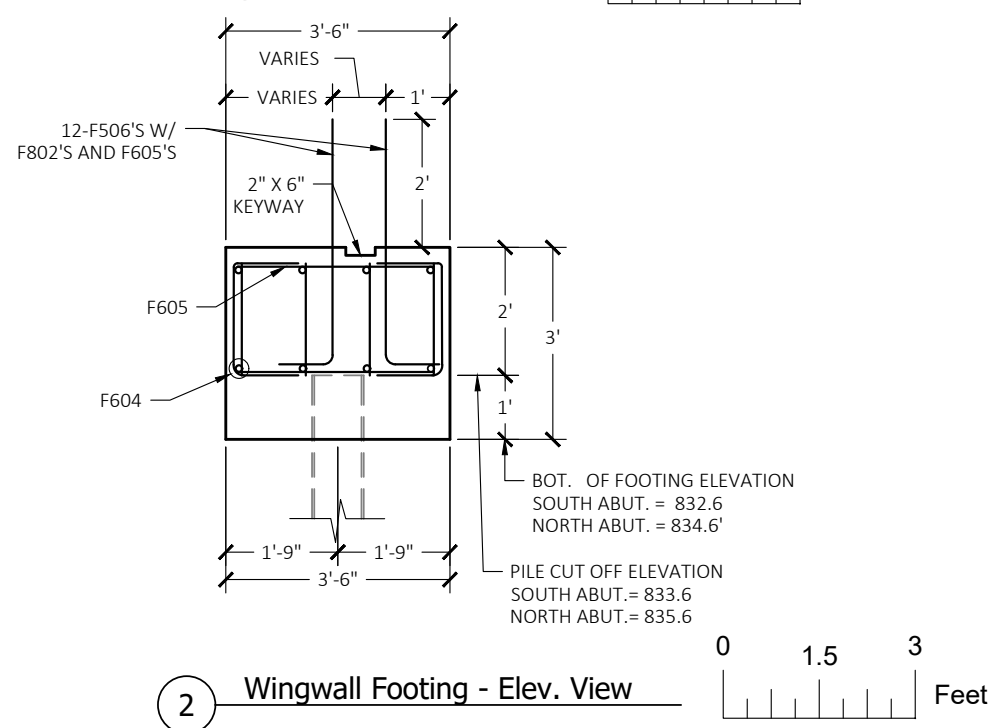
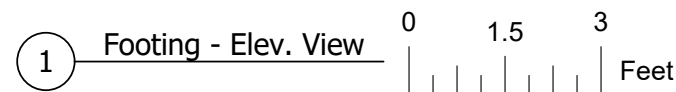
BRIDGE REPLACEMENT & TRAIL REHAB  
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DNR Parks And Trails Division  
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Revisions	
Date	By

Title: PAVEMENT MARKINGS & SIGNAGE			
Survey:	WL 03/19	Designed:	MH 08/19
Drawn:	WL 03/19	Drawn:	MH 08/19
Checked:	NA 03/19	Checked:	YS 08/19
Horz. datum:	NAD 83	Vert. datum:	NAVD 88

Sheet: C-502  
CC2: 8T250  
File #: TRA00705.11.12.07

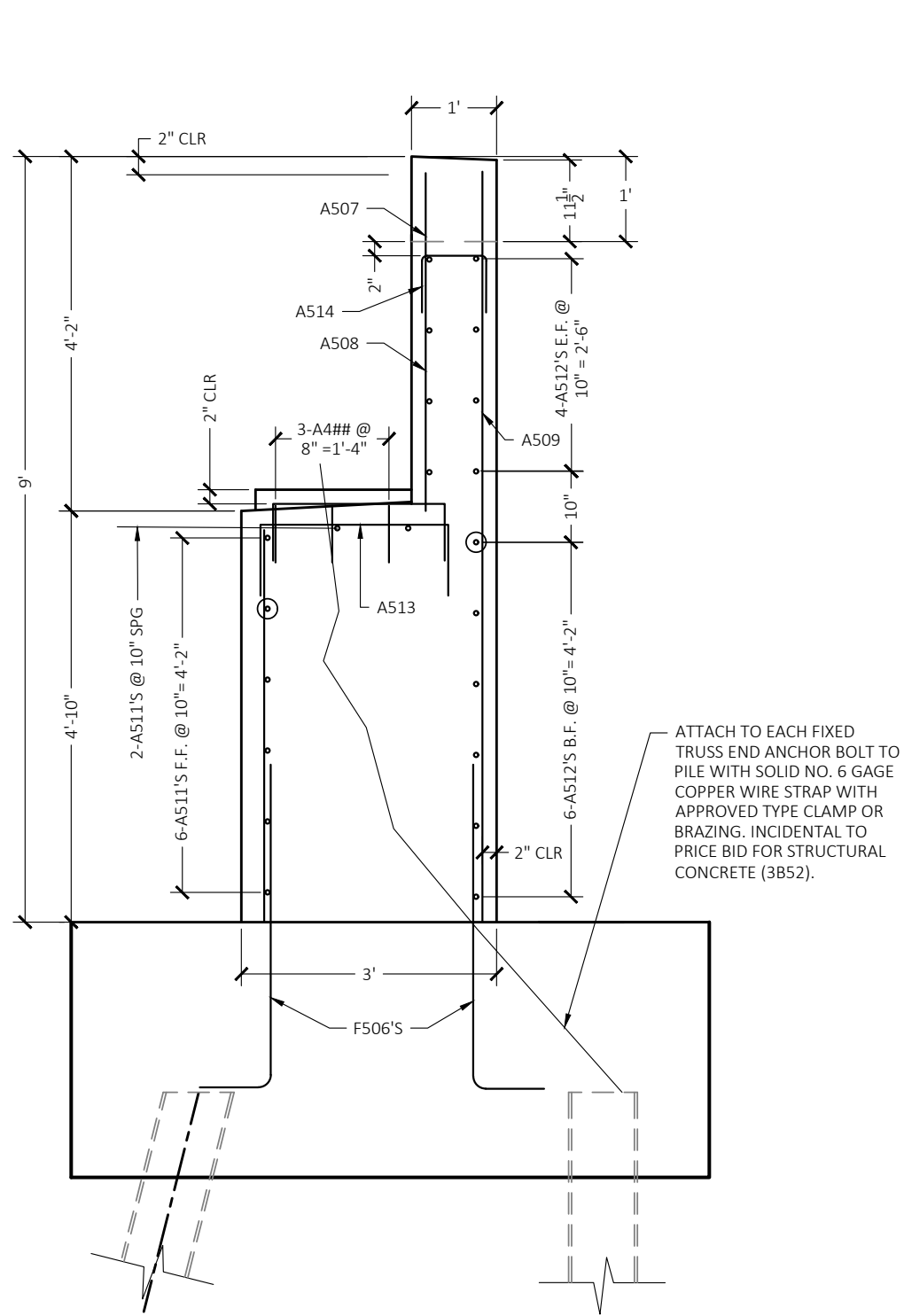




<b>REQUIRED NOMINAL PILE BEARING RESISTANCE <math>R_n</math> -</b> <b>TONS/PILE</b>		
FIELD CONTROL METHOD	$\phi_{dyn}$	* $R_n$
MNDOT PILE FORMULA 2012 (MPF12) $R_n = 20 \times \sqrt{\frac{WxH}{1000}} \times \text{LOG}\left(\frac{10}{S}\right)$	0.6	142
PDA	0.65	131

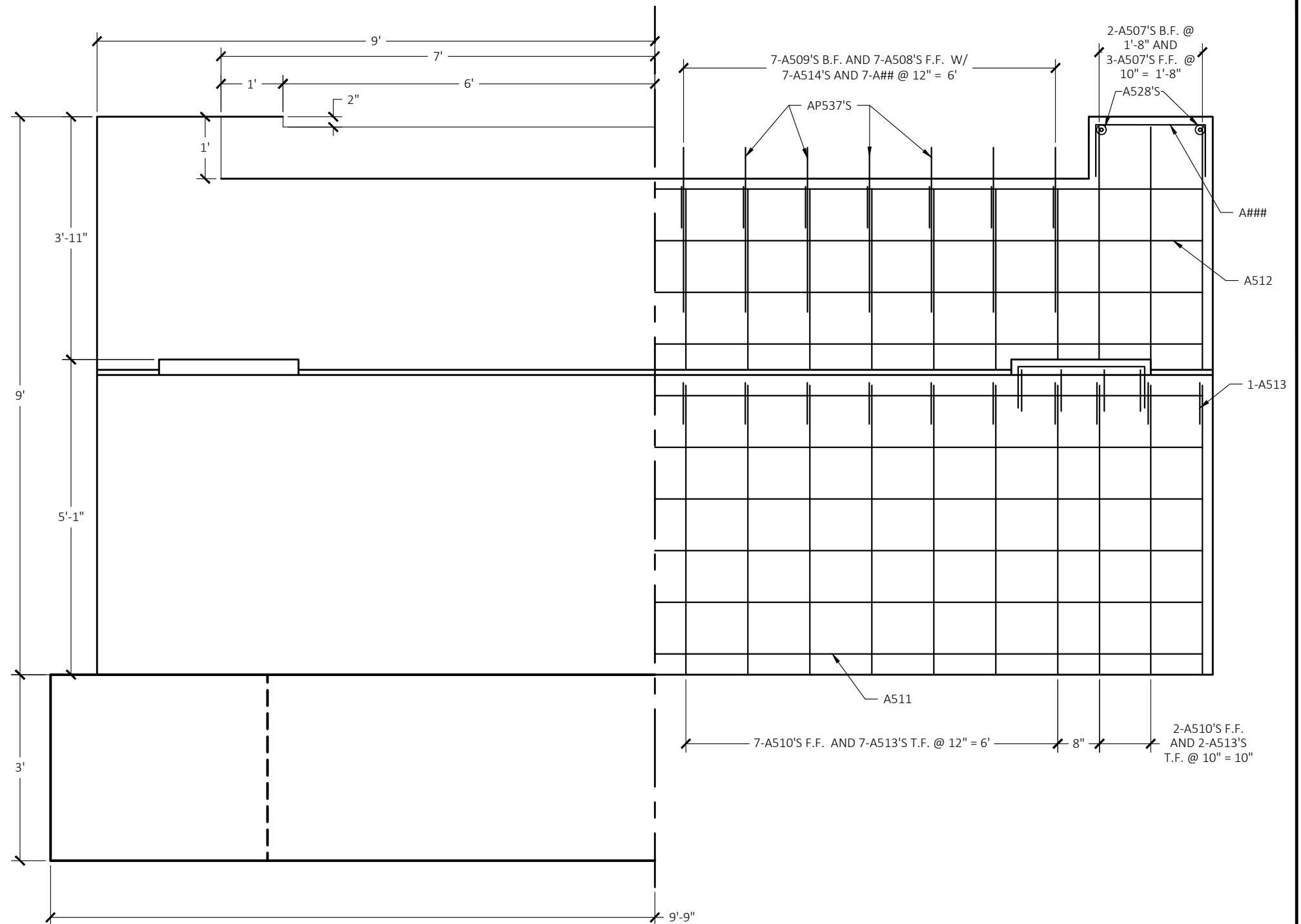
\*  $R_n = (\text{FACTORED DESIGN LOAD}) / \phi_{dyn}$

<b>COMPUTED PILE LOAD - TONS/PILE</b>	
*FACTORED DESIGN LOAD	85
*BASED ON STRENGTH I LOAD COMBINATION	



1 Abut. - Section View

0 1 2 Feet



5 Abutment- Elev. View

0 1 2 Feet

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Operations Services  
Safety  
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Equipment  
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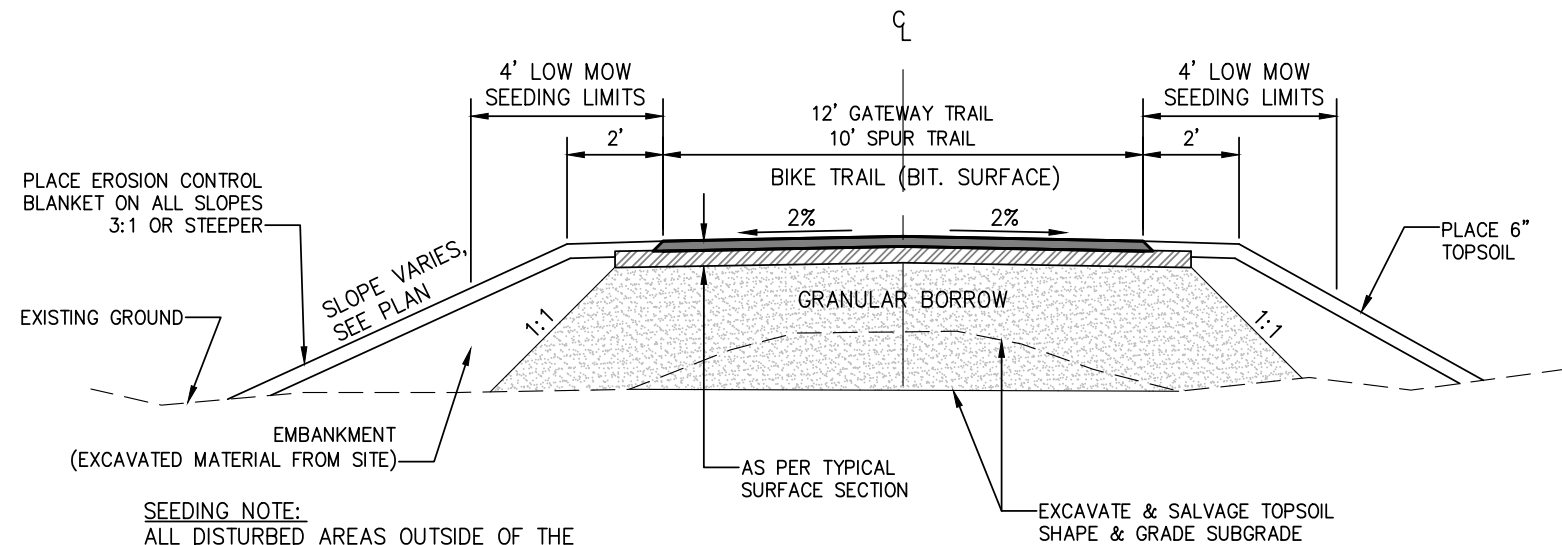
BRIDGE REPLACEMENT & TRAIL REHAB  
GATEWAY STATE TRAIL  
DNR Parks And Trails Division  
Ramsey County Section: 19 Township: 29N Range: 22W St. Paul

Revisions  
Date By

Title: ABUTMENT DETAILS  
Survey: WL 03/19 Designed: MH 08/19  
Drawn: WL 03/19 Drawn: MH 08/19  
Checked: NA 03/19 Checked: YS 08/19  
Horz. datum: NAD 83 Vert. datum: NAVD 88

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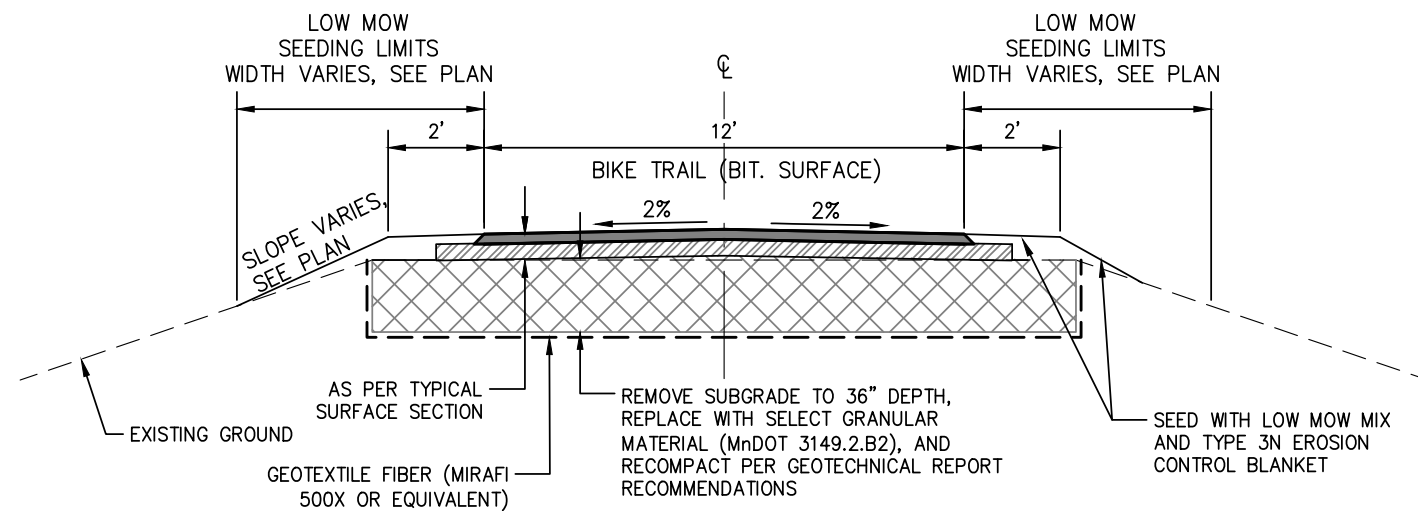




**SEEDING NOTE:**  
ALL DISTURBED AREAS OUTSIDE OF THE LOW MOW SEEDING LIMITS SHALL BE SEEDDED WITH NATIVE MIX 35-641 MESIC PRAIRIE SOUTHEAST AND MULCHED WITH TYPE 5 HYDRAULIC SOIL STABILIZER.

### TRAIL & SPUR TRAIL TYPICAL

N.T.S.  
APPLIES: STA. 100+58 TO 105+33  
STA. 20+08 TO 22+70

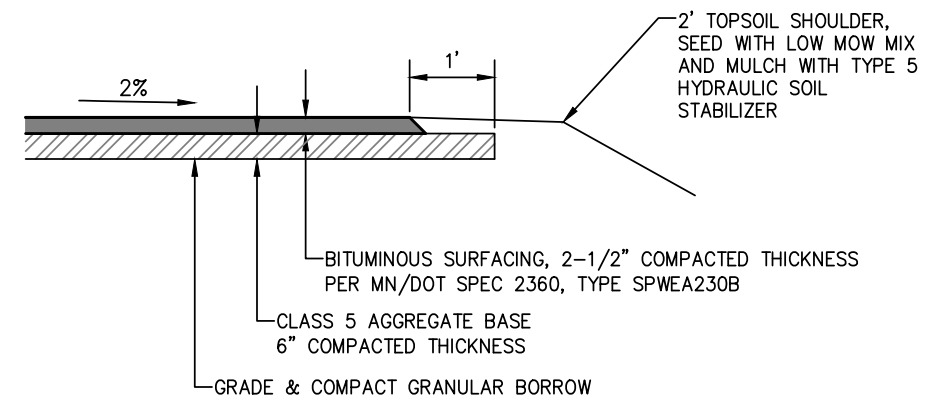


### SUBGRADE REPLACEMENT TRAIL TYPICAL

N.T.S.  
APPLIES: STA. 107+60 TO 122+45

#### SUBGRADE REPLACEMENT NOTES

- IF AREAS OF UNSUITABLE SOILS ARE OBSERVED, THE SUBGRADE EXCAVATION WILL NEED TO BE CARRIED DEEPER. GEOTECHNICAL ENGINEER TO VERIFY SUBGRADE EXCAVATION AND REPLACEMENT DEPTHS ON-SITE.



### TYPICAL SURFACE SECTION

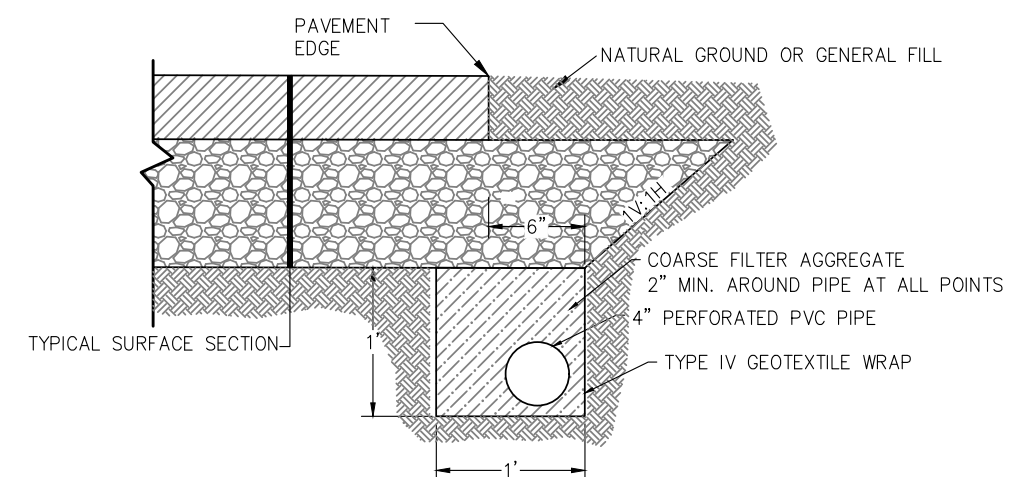
N.T.S.

### PERFORATED PIPE DRAIN TABULATION

BEGIN STA	END STA	LENGTH (FT)	NO. HEADWALLS
100+70	101+70	200	1
110+36	111+36	200	1
TOTAL		400	2

#### PERFORATED PIPE DRAIN NOTES

- DAYLIGHT SUBDRAIN AT SIDES OF EMBANKMENT VIA PRECAST HEADWALLS (MnDOT STD PLATE 3131C) AT PROFILE SAGS.
- PERF PIPE TO BE ADDED IN LOCATIONS IN ADDITION TO SAGS AS DIRECTED BY THE GEOTECHNICAL ENGINEER.



### PAVEMENT EDGE DRAIN DETAIL

N.T.S.

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BRIDGE REPLACEMENT & TRAIL REHAB  
GATEWAY STATE TRAIL  
DNR Parks And Trails Division  
Ramsey County St. Paul  
Section: 19 Township: 29N Range: 22W

Revisions  
Date By

Title: CIVIL DETAILS  
Survey: WL 03/19 Drawn: MH 08/19  
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