

CITY OF SHOREWOOD, MN

CONSTRUCTION PLANS FOR FREEMAN PARK TRAIL IMPROVEMENTS

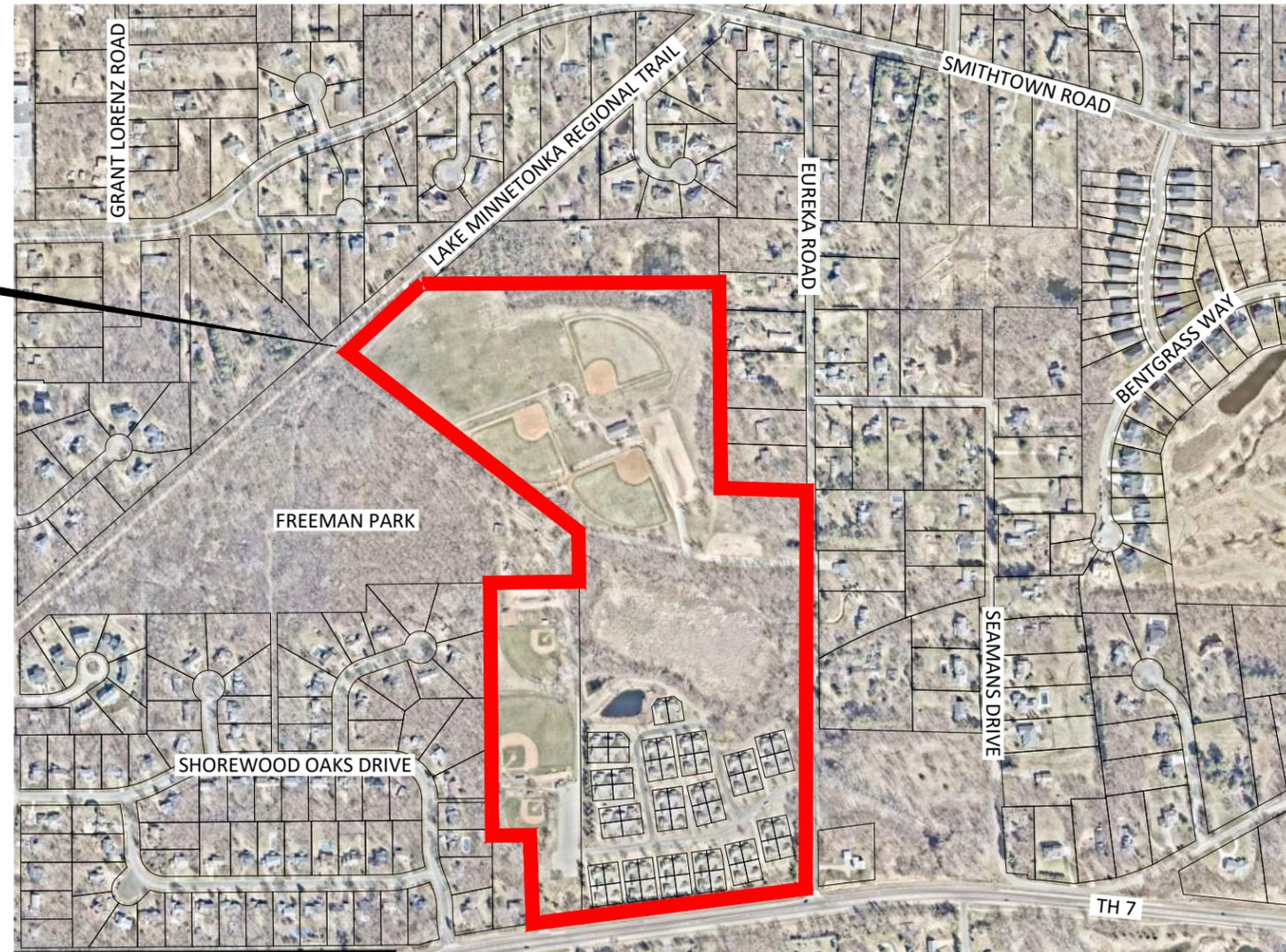
GRADING, AGGREGATE BASE, BITUMINOUS PAVEMENT,
TRAIL RECONSTRUCTION, ADA IMPROVEMENTS

APRIL 2023

NOTE: 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 UNLESS OTHERWISE NOTED. THIS UTILITY 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."

PROJECT LOCATION



MAP OF THE
CITY OF SHOREWOOD
HENNEPIN COUNTY, MN



0 300 600
SCALE FEET

SHEET INDEX

SHEET NUMBER	SHEET TITLE
GENERAL	TITLE SHEET
G0.01	LEGEND
G0.02	
CIVIL	EXISTING CONDITIONS & REMOVAL PLAN
C0.01-C0.11	CONSTRUCTION DETAILS
C1.01-C1.03	STAGING PLAN & TRAFFIC CONTROL
C1.09-C1.11	SWPP
C2.01-C2.03	EROSION CONTROL & TURF ESTABLISHMENT
C2.04-C2.14	CONSTRUCTION PLAN OVERVIEW
C3.01-C3.02	TRAIL PLAN & PROFILE
C3.03-C3.06	CONSTRUCTION PLAN
C3.07-C3.19	STORM SEWER & POND CONSTRUCTION
C4.01-C4.02	CROSS SECTIONS
C5.01-C5.05	

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DRAFT
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
ANDREW L. BUDE
LIC. NO. 46585 DATE 02/08/2023



2638 SHADOW LANE, SUITE 200
CHASKA, MINNESOTA 55318
Phone: (952) 448-8838
Email: Chaska@bolton-menk.com
www.bolton-menk.com

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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
TITLE SHEET

SHEET
G0.01

EXISTING TOPOGRAPHIC SYMBOLS

	ACCESS GRATE		REGULATION STATION GAS
	AIR CONDITION UNIT		SATELLITE DISH
	ANTENNA		SIGN NON TRAFFIC
	AUTO SPRINKLER CONNECTION		SIGN TRAFFIC
	BARRICADE PERMANENT		SIGNAL CONTROL CABINET
	BASKETBALL POST		SOIL BORING
	BENCH		SIREN
	BIRD FEEDER		TELEPHONE BOOTH
	BOLLARD		TILE INLET
	BUSH		TILE OUTLET
	CATCH BASIN RECTANGULAR CASTING		TILE RISER
	CATCH BASIN CIRCULAR CASTING		TRANSFORMER-ELECTRIC
	CURB STOP		TREE-CONIFEROUS
	CLEAN OUT		TREE-DEAD
	CULVERT END		TREE-DECIDUOUS
	DRINKING FOUNTAIN		TREE STUMP
	DOWN SPOUT		TRAFFIC ARM BARRIER
	FILL PIPE		TRAFFIC SIGNAL
	FIRE HYDRANT		TRASH CAN
	FLAG POLE		UTILITY MARKER
	FLARED END / APRON		VALVE
	FUEL PUMP		VALVE POST INDICATOR
	GRILL		VALVE VAULT
	GUY WIRE ANCHOR		VAULT
	HANDHOLE		VENT PIPE
	HANDICAP SPACE		WATER SPIGOT
	IRRIGATION SPRINKLER HEAD		WELL
	IRRIGATION VALVE BOX		WETLAND DELINEATED MARKER
	LIFT STATION CONTROL PANEL		WETLAND
	LIFT STATION		WET WELL
	LIGHT ON POLE		YARD HYDRANT
	LIGHT-GROUND		
	MAILBOX		

PROPOSED TOPOGRAPHIC SYMBOLS

	CLEANOUT
	MANHOLE
	LIFT STATION
	STORM SEWER CIRCULAR CASTING
	STORM SEWER RECTANGULAR CASTING
	STORM SEWER FLARED END / APRON
	STORM SEWER OUTLET STRUCTURE
	STORM SEWER OVERFLOW STRUCTURE
	CURB BOX
	FIRE HYDRANT
	WATER VALVE
	WATER REDUCER
	WATER BEND
	WATER TEE
	WATER CROSS
	WATER SLEEVE
	WATER CAP / PLUG
	RIP RAP
	DRAINAGE FLOW
	TRAFFIC SIGNS

SURVEY SYMBOLS

	BENCHMARK LOCATION
	CONTROL POINT
	MONUMENT FOUND
	CAST IRON MONUMENT
	STONE MONUMENT

EXISTING TOPOGRAPHIC LINES

	RETAINING WALL
	FENCE
	FENCE-DECORATIVE
	GUARD RAIL
	TREE LINE
	BUSH LINE

SURVEY LINES

	CONTROLLED ACCESS BOUNDARY
	CENTERLINE
	EXISTING EASEMENT LINE
	PROPOSED EASEMENT LINE
	EXISTING LOT LINE
	PROPOSED LOT LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	SETBACK LINE
	SECTION LINE
	QUARTER LINE
	SIXTEENTH LINE
	TEMPORARY EASEMENT

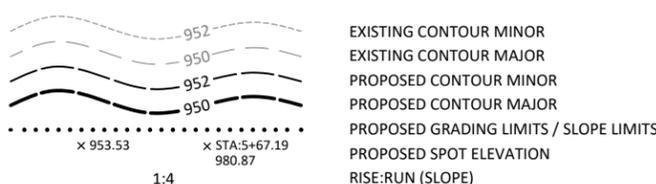
EXISTING UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE

PROPOSED UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE
	PIPE CASING

GRADING INFORMATION



HATCH PATTERNS

	BITUMINOUS		GRAVEL
	CONCRETE		

EXISTING PRIVATE UTILITY LINES

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	UNDERGROUND FIBER OPTIC
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS
	UNDERGROUND COMMUNICATION
	OVERHEAD ELECTRIC
	OVERHEAD COMMUNICATION
	OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL:

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE: G-A UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-02.

UTILITY QUALITY LEVELS:

QUALITY LEVEL D: PROVIDES THE MOST BASIC LEVEL OF INFORMATION. IT INVOLVES COLLECTING DATA FROM EXISTING UTILITY RECORDS. RECORDS MAY INCLUDE AS-BUILT DRAWINGS, DISTRIBUTION AND SERVICES MAPS, EXISTING GEOGRAPHIC INFORMATION SYSTEM DATABASES, CONSTRUCTION PLANS, ETC.

QUALITY LEVEL C: INVOLVES SURVEYING VISIBLE SUBSURFACE UTILITY STRUCTURES SUCH AS MANHOLES, HAND-HOLES, UTILITY VALVES AND METERS, FIRE HYDRANTS, PEDESTALS AND UTILITY MARKERS, AND THEN CORRELATING THE INFORMATION WITH EXISTING UTILITY RECORDS TO CREATE COMPOSITE DRAWINGS. INCLUDES QUALITY LEVEL D ACTIVITIES.

QUALITY LEVEL B: INVOLVES DESIGNATING THE HORIZONTAL POSITION OF SUBSURFACE UTILITIES THROUGH SURFACE DETECTION METHODS AND COLLECTING THE INFORMATION THROUGH A SURVEY METHOD. INCLUDES QUALITY LEVEL C AND D TASKS.

QUALITY LEVEL A: PROVIDES THE HIGHEST LEVEL OF ACCURACY. IT INVOLVES LOCATING OR POTHOLING UTILITIES AS WELL AS ACTIVITIES IN QUALITY LEVELS B, C, AND D. THE LOCATED FACILITY INFORMATION IS SURVEYED AND MAPPED AND THE DATA PROVIDES PRECISE PLAN AND PROFILE INFORMATION.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GRAV	GRAVEL	RSC	RIGID STEEL CONDUIT
ADJ	ADJUST	GU	GUTTER	RT	RIGHT
ALT	ALTERNATE	GV	GATE VALVE	SAN	SANITARY SEWER
B-B	BACK TO BACK	HDPE	HIGH DENSITY POLYETHYLENE	SCH	SCHEDULE
BIT	BITUMINOUS	HH	HANDHOLE	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL	CLASS	MAX	MAXIMUM	TYP	TYPICAL
CLVT	CULVERT	MH	MANHOLE	VCP	VITRIFIED CLAY PIPE
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VERT	VERTICAL
C.O.	CHANGE ORDER	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
COMM	COMMUNICATION	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CON	CONCRETE	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
CSP	CORRUGATED STEEL PIPE	NTS	NOT TO SCALE	WM	WATERMAIN
DIA	DIAMETER	NWL	NORMAL WATER LEVEL		
DIP	DUCTILE IRON PIPE	OHW	ORDINARY HIGH WATER LEVEL		
DWY	DRIVEWAY	PC	POINT OF CURVE	AC	ACRES
E	EXTERNAL CURVE DISTANCE	PCC	POINT OF COMPOUND CURVE	CF	CUBIC FEET
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CV	COMPACTED VOLUME
ELEV	ELEVATION	PED	PEDESTRIAN, PEDESTAL	CY	CUBIC YARD
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	EA	EACH
ER	END RADIUS	PERM	PERMANENT	EV	EXCAVATED VOLUME
ESMT	EASEMENT	PI	POINT OF INTERSECTION	LB	POUND
EX	EXISTING	PL	PROPERTY LINE	LF	LINEAR FEET
FES	FLARED END SECTION	PRC	POINT OF REVERSE CURVE	LS	LUMP SUM
F-F	FACE TO FACE	PT	POINT OF TANGENT	LV	LOOSE VOLUME
FF	FINISHED FLOOR	PVC	POLYVINYL CHLORIDE PIPE	SF	SQUARE FEET
F&I	FURNISH AND INSTALL	PVMT	PAVEMENT	SV	STOCKPILE VOLUME
FM	FORCEMAIN	R	RADIUS	SY	SQUARE YARD
FO	FIBER OPTIC	R/W	RIGHT-OF-WAY		
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE		
GRAN	GRANULAR	RET	RETAINING		

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DRAFT

ANDREW L. BUDDÉ
LIC. NO. 46585 DATE 02/08/2023



2638 SHADOW LANE, SUITE 200
CHASKA, MINNESOTA 55318
Phone: (952) 448-8838
Email: Chaska@bolton-menk.com
www.bolton-menk.com

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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS

LEGEND

SHEET

G0.02



CONNOR ROACH & KAITLYN LYALL
25975 SMITHTOWN LN

MICHAEL & LORI BRAUN
25805 EUREKA WAY

LAKE MINNETONKA REGIONAL TRAIL

12" WATER MAINS AT PROXIMATE PER G.L. MARKS

REMOVE 12" CULVERT

EXISTING TRAIL

SEE SHEET C0.02

FREEMAN PARK

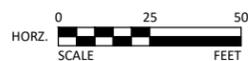
CITY OF SHOREWOOD
5755 COUNTRY CLUB RD

REMOVAL LEGEND

-  TRAIL REMOVAL
-  REMOVE BITUMINOUS PAVEMENT
-  REMOVE CURB & GUTTER
-  CONSTRUCTION LIMITS
-  DELINEATED WETLAND
-  CLEAR & GRUB TREE

GENERAL NOTES:

1. REMOVALS SHALL NOT OCCUR WITHOUT AUTHORIZATION FROM THE ENGINEER. REMOVAL LIMITS & REMOVAL ITEMS SHALL BE VERIFIED BY THE ENGINEER PRIOR TO REMOVAL.
2. ALL TREES IDENTIFIED FOR REMOVAL SHALL BE MARKED BY THE ENGINEER.
3. NO TREES SHALL BE REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE ENGINEER.
4. EXISTING PRIVATE UTILITIES SHALL BE RELOCATED BY OTHERS AS DIRECTED BY THE ENGINEER.
5. SEE SHEET G0.02 FOR LEGEND.
6. SAWCUTTING SHALL BE INCIDENTAL.



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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
EXISTING CONDITIONS & REMOVALS

SHEET
C0.01



MICHAEL & LORI BRAUN
25805 EUREKA WAY

JAYMES PANTEKOEK & KELLIE BIGHAM
5820 EUREKA RD

EXISTING TRAIL

BIT. TRAIL

DELINEATED WETLANDS

DELINEATED WETLANDS

JOHN & JILL MAJESTIC
5840 EUREKA RD

SEE SHEET C0.01

FENCE:
CHAIN LINK

PROTECT LIGHT POLE

PROTECT FENCING.
REGRADE UP TO
FENCE AS DIRECTED
BY ENGINEER.

ERIC & ANGELA NELSON
5860 EUREKA RD

BASEBALL FIELD

FREEMAN PARK

BARBARA ALBRECHT
5890 EUREKA RD

REMOVAL LEGEND

-  TRAIL REMOVAL
-  REMOVE BITUMINOUS PAVEMENT
-  REMOVE CURB & GUTTER
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FENCE:
CHAIN LINK

PROTECT DOG WASTE STATION

SEE SHEET C0.03

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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
EXISTING CONDITIONS & REMOVALS

SHEET
C0.02



REMOVAL LEGEND

-  TRAIL REMOVAL
-  REMOVE BITUMINOUS PAVEMENT
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-  DELINEATED WETLAND
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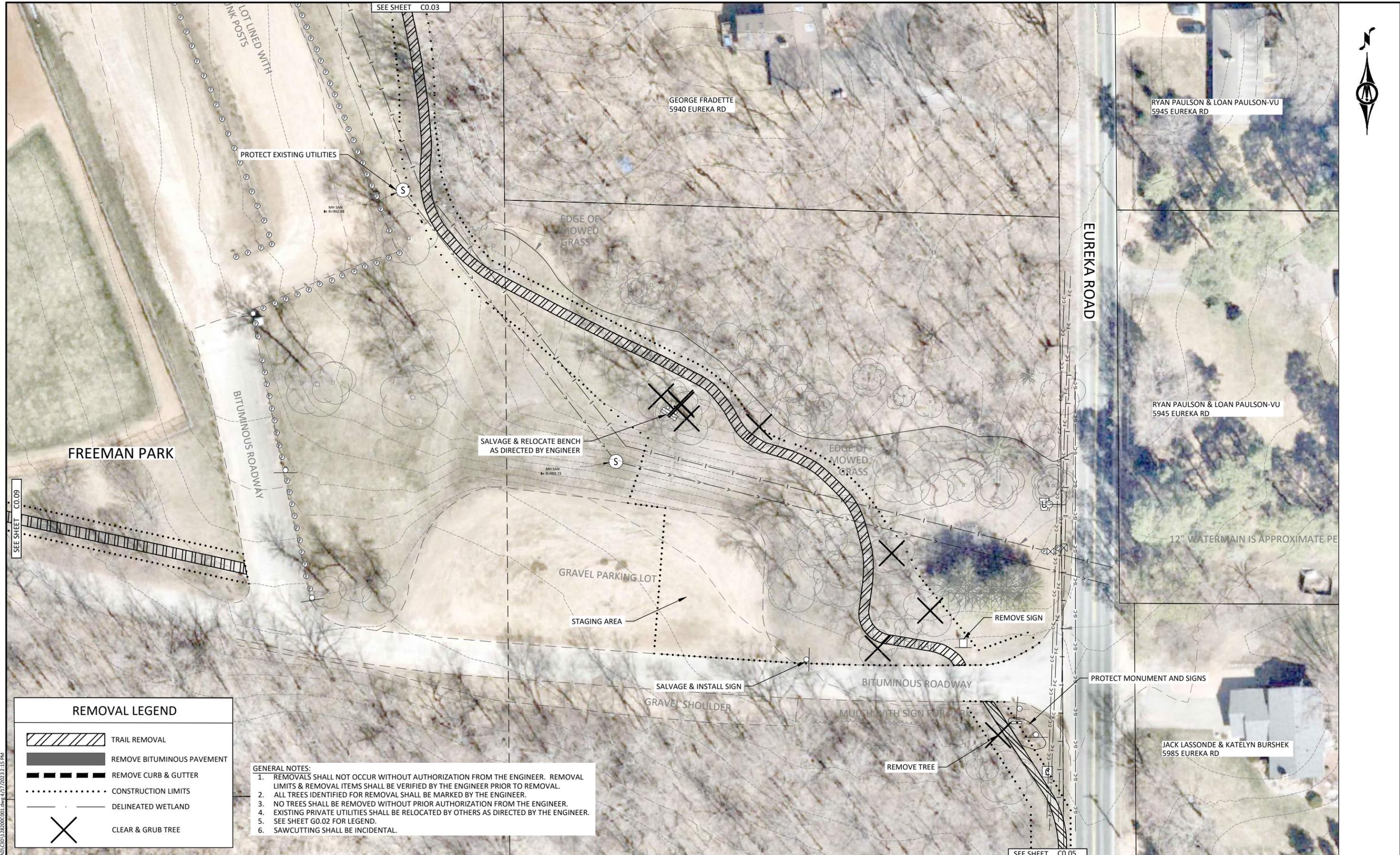
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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
EXISTING CONDITIONS & REMOVALS

SHEET
C0.03

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FREEMAN PARK

SEE SHEET C0.09

SEE SHEET C0.03

EUREKA ROAD

REMOVAL LEGEND

- TRAIL REMOVAL
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- REMOVE CURB & GUTTER
- CONSTRUCTION LIMITS
- DELINEATED WETLAND
- CLEAR & GRUB TREE

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EXISTING CONDITIONS & REMOVALS

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C0.04

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GRAVEL PARKING LOT

SEE SHEET C0.04

REMOVE SIGN

REUTIMAN LANE

BITUMINOUS ROADWAY

PROTECT MONUMENT AND SIGNS

GRAVEL SHOULDER

MULCH WITH SIGN FOR PARK

JACK LASSONDE & KATELYN BURSHEK
5985 EUREKA RD

REMOVE TREE

SALVAGE & INSTALL SIGN

FREEMAN PARK

CITY OF SHOREWOOD
5755 COUNTRY CLUB RD

EUREKA ROAD

ANDREW & CASSANDRA KLEIN
6025 EUREKA RD

BRENDA REDWING
6065 EUREKA RD

SALVAGE & INSTALL MAILBOX

SEE SHEET C0.06

REMOVAL LEGEND

-  TRAIL REMOVAL
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FREEMAN PARK

CITY OF SHOREWOOD
5755 COUNTRY CLUB RD

BRENDA REDWING
6065 EUREKA RD

POND VIEW DRIVE

EUREKA ROAD

JAMES & SUSAN
ANDERSON
25500 PARK LA

WILLIAM & RUTH
NOUN
25530 PARK LA

JERRY BRECKE
25510 PARK LA

SIFFING FAMILY
REVOCABLE TR
25540 PARK LA

DONALD & KAREN
SHEARER
6020 POND VIEW DR

KATHERINE KITT
25520 PARK LA

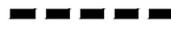
CCS WALNUT GROVE VILLAS LLC
26 ADDRESS PENDING

FRED & EVELYN HUBER
6010 POND VIEW DR

ROBERT & CHERYLE
LARSEN
2428 E 5TH ST

SALVAGE & INSTALL SIGN

REMOVAL LEGEND

-  TRAIL REMOVAL
-  REMOVE BITUMINOUS PAVEMENT
-  REMOVE CURB & GUTTER
-  CONSTRUCTION LIMITS
-  DELINEATED WETLAND
-  CLEAR & GRUB TREE



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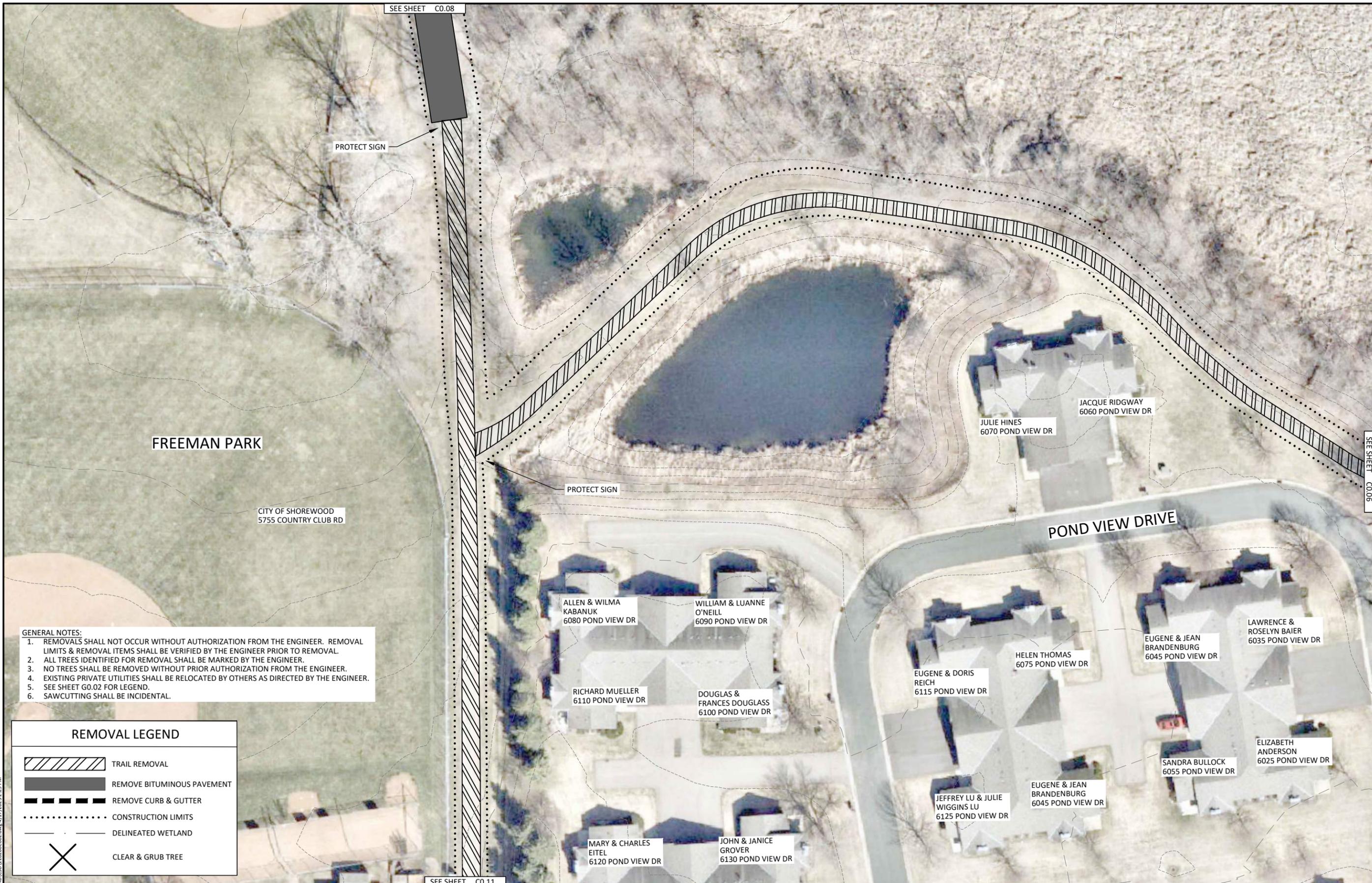
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CITY OF SHOREWOOD
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REMOVAL LEGEND	
	TRAIL REMOVAL
	REMOVE BITUMINOUS PAVEMENT
	REMOVE CURB & GUTTER
	CONSTRUCTION LIMITS
	DELINEATED WETLAND
	CLEAR & GRUB TREE



DRAFT

ANDREW L. BUDDÉ
LIC. NO. 46585 DATE 02/08/2023



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CHASKA, MINNESOTA 55318
Phone: (952) 448-8838
Email: Chaska@bolton-menk.com
www.bolton-menk.com

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RRJ			
CLIENT PROJ. NO.	OC1.128200		

CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
EXISTING CONDITIONS & REMOVALS

SHEET
C0.07

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SEE SHEET C0.09

SEE SHEET C0.09

REUTIMAN LANE



PROTECT WOODEN BOLLARDS

FREEMAN PARK

CITY OF SHOREWOOD
5755 COUNTRY CLUB RD

REMOVAL LEGEND

-  TRAIL REMOVAL
-  REMOVE BITUMINOUS PAVEMENT
-  REMOVE CURB & GUTTER
-  CONSTRUCTION LIMITS
-  DELINEATED WETLAND
-  CLEAR & GRUB TREE

GENERAL NOTES:

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2. ALL TREES IDENTIFIED FOR REMOVAL SHALL BE MARKED BY THE ENGINEER.
3. NO TREES SHALL BE REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE ENGINEER.
4. EXISTING PRIVATE UTILITIES SHALL BE RELOCATED BY OTHERS AS DIRECTED BY THE ENGINEER.
5. SEE SHEET G0.02 FOR LEGEND.
6. SAWCUTTING SHALL BE INCIDENTAL.

SEE SHEET C0.07

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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
EXISTING CONDITIONS & REMOVALS

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C0.08



SEE SHEET CO.10

FREEMAN PARK

CITY OF SHOREWOOD
5755 COUNTRY CLUB RD

BITUMINOUS ROADWAY

PROTECT WOODEN BOLLARDS

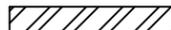
REUTIMAN LANE

SALVAGE & INSTALL DOG WASTE STATION

SALVAGE & INSTALL SIGN

REMOVE CULVERT

REMOVAL LEGEND

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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
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FREEMAN PARK

CITY OF SHOREWOOD
5755 COUNTRY CLUB RD

APPROXIMATE PER G.I.S. MAP
6" WATERMAIN IS APPROXIMATE PER G.I.S. MAP

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SEE SHEET C0.09



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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
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SEE SHEET C0.09

SEE SHEET C0.09



REMOVAL LEGEND

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FREEMAN PARK

CITY OF SHOREWOOD
5755 COUNTRY CLUB RD

SHOREWOOD OAKS DRIVE

SALVAGE & INSTALL PARK ENTRANCE BOLLARDS

PROTECT BLEACHERS

PROTECT FENCE

SALVAGE & INSTALL BOLLARD



DRAFT

ANDREW L. BUDE
LIC. NO. 46585 DATE 02/08/2023



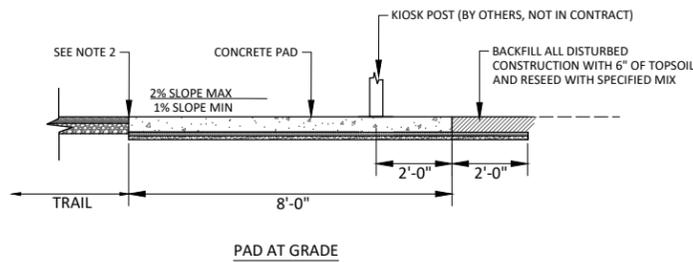
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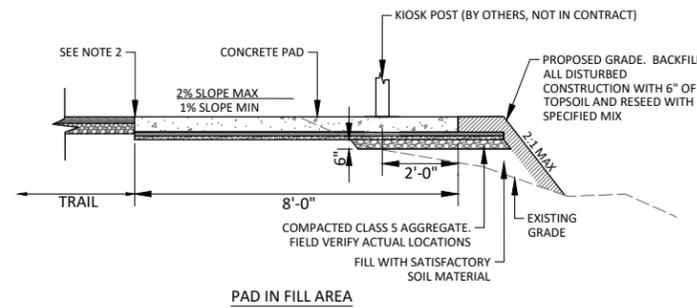
CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
EXISTING CONDITIONS & REMOVALS

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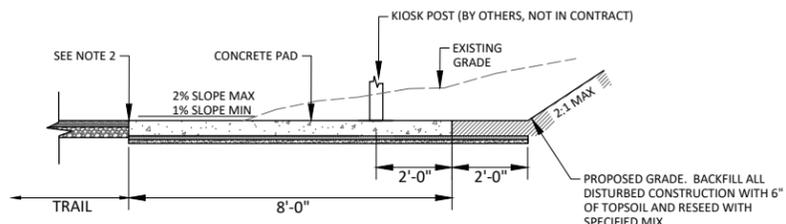
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PAD AT GRADE



PAD IN FILL AREA

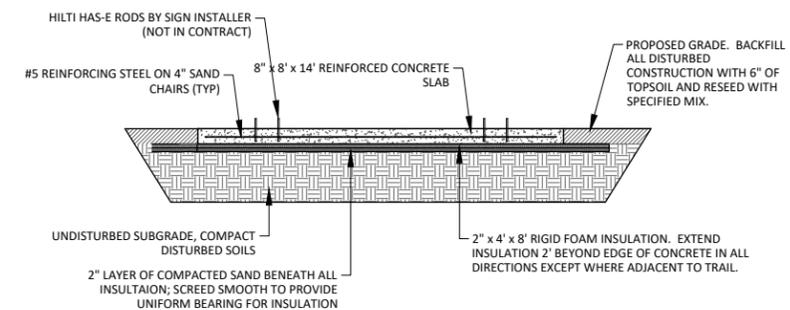
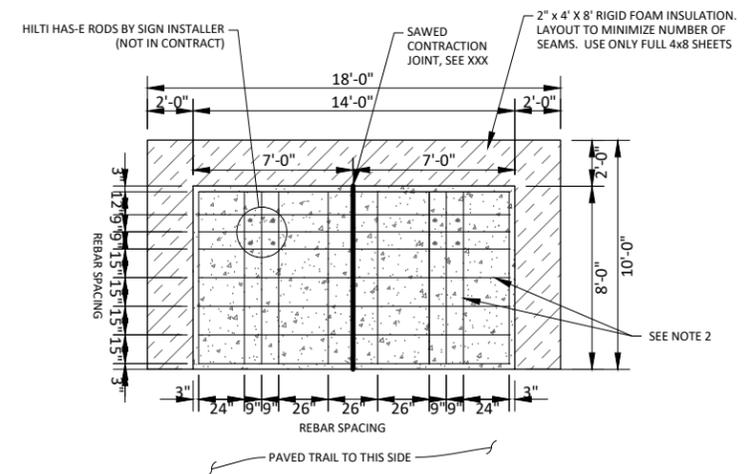


PAD IN CUT AREA

NOTES:

- (SEE TR-18, TR-19 OR TR-20) FOR TYPICAL SECTION FOR CONCRETE SLAB.
- AT EXISTING PAVED TRAIL, CONTRACTOR SHALL SAWCUT BITUMINOUS ADJACENT TO CONCRETE SLAB TO PROVIDE A STRAIGHT VERTICAL EDGE.

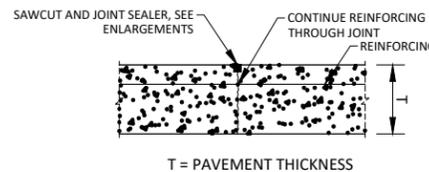
TR-21 TYPICAL REGIONAL TRAIL KIOSK SLAB FOUNDATION PROFILES
NO SCALE



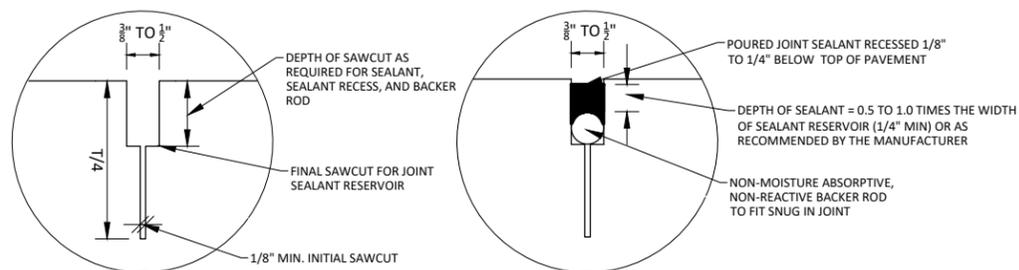
TR-20 SLAB FOUNDATION: INFORMATION TRAIL ORIENTATION KIOSK
NO SCALE

NOTES:

- ALL WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS.
- ALL REBAR TO BE #5 REINFORCING STEEL, EPOXY COATED AND PLACED ON 4" SAND CHAIRS. REINFORCING SHOWN AS DASHED SHALL BE LOCATED WITH STAKES ON EITHER SIDE OF SLAB (OUTSIDE OF EDGE OF RIGID FOAM) TO ALLOW SIGN INSTALLER TO STRING LINE LOCATION FOR PLACEMENT OF HILTI RODS. CONTRACTOR TO USE PAINT WHERE SLAB ADJACENT TO TRAIL.
- CONCRETE MIX TO BE MnDOT 4000 PSI, 6% AIR ENTRAINMENT, .45 WATER MAXIMUM.
- CONCRETE SLAB TO HAVE A LIGHT BROOM FINISH, TOOLED EDGES, WITH A CONTINUOUS 1/2" RADIUS.
- RIGID FOAM INSULATION TO BE ASTM-C578 TYPE IV, EPS WITH MIN. 25 PSI COMPRESSIVE STRENGTH. FULL 4 x 8 SHEETS REQUIRED.
- CONCRETE TO BE CURED AND SEALED.
- CONTRACTOR SHALL PROVIDE ONE SET OF CONCRETE CYLINDERS TO OWNER FOR TESTING.
- CONTRACTOR TO STAKE SLAB IN FIELD AND COORDINATE WITH OWNER THE ELEVATION OF THE TOP SLAB PRIOR TO BEGINNING EXCAVATION. SLOPE ON CONCRETE SLAB TO BE 1% MIN, 2% MAX.
- AT EXISTING PAVED TRAIL, CONTRACTOR SHALL PROVIDE STRAIGHT SAWCUT EDGE ALONG BITUMINOUS PAVEMENT.
- ALL CONSTRUCTION DEBRIS SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR OFFSITE AT THEIR EXPENSE.
- CONTRACTOR SHALL ERECT WARNING SIGNS AND GUARD AS NEEDED TO PROTECT NEWLY POURED CONCRETE FROM TRAFFIC AND DEFACEMENT UNTIL CURED.
- CONTRACTOR SHALL COORDINATE WITH OWNER FOR DETOURING OF TRAIL TRAFFIC DURING ALL PHASES OF THE CONSTRUCTION PROJECT AS NECESSARY.



T = PAVEMENT THICKNESS



ENLARGEMENT: SAWCUT

ENLARGEMENT: COMPLETED SEALANT DETAIL

XXX CONTRACTION JOINT DETAIL
NO SCALE

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DRAFT
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
ANDREW L. BUDDÉ
LIC. NO. 46585 DATE 02/08/2023

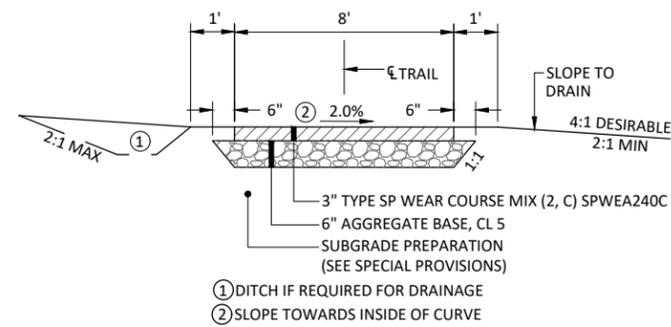


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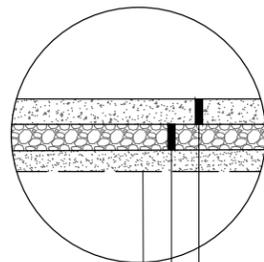
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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
CONSTRUCTION DETAILS

SHEET
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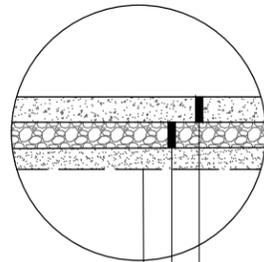


BITUMINOUS TRAIL - NEW CONSTRUCTION



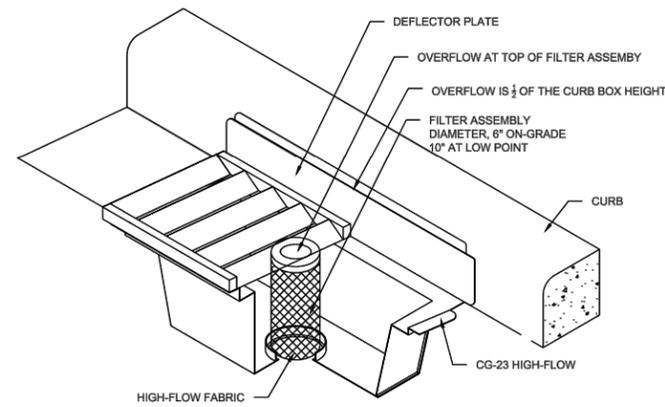
- 6" CONCRETE DRIVEWAY PAVEMENT (2531)
- 6" AGGREGATE BASE, CL 5 (2211) (INCIDENTAL)
- SUBGRADE PREPARATION (2111)

6" CONCRETE WALK
NOT TO SCALE



- 6" CONCRETE DRIVEWAY PAVEMENT (2531)
- 6" AGGREGATE BASE, CL 5 (2211) (INCIDENTAL)
- SUBGRADE PREPARATION (2111)

4" CONCRETE WALK
NOT TO SCALE



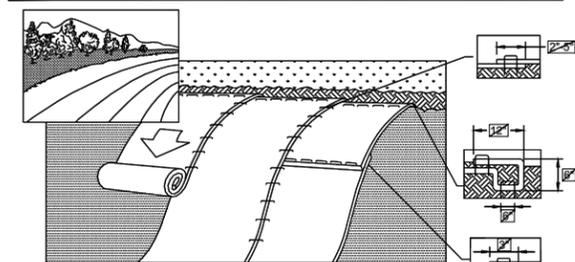
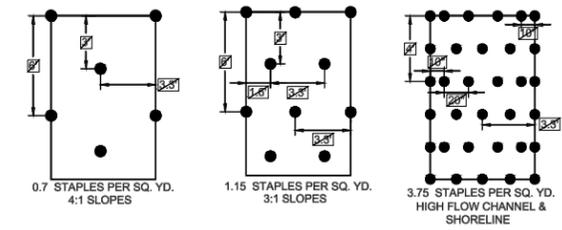
- NOTES:
1. WIMCO ROAD DRAIN CB-23 HIGH FLOW INLET PROTECTION CURB AND GUTTER MODEL OR CITY APPROVED EQUAL.



INLET PROTECTION – CATCH BASIN INSERT AFTER PAVING

Special Details

Date: JAN. 2016
Revised: ERO-06



- NOTES:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, TO A SMOOTH GRADE SO THAT BLANKET HAS DIRECT CONTACT WITH SOILS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
 3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2'-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
 5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.

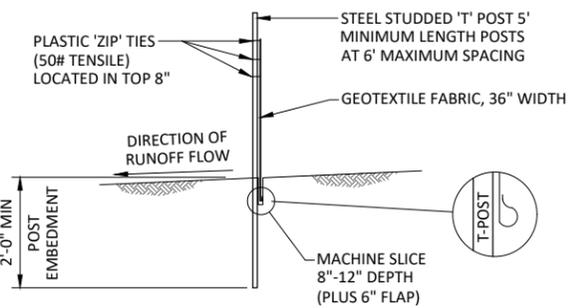
NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.



EROSION CONTROL BLANKET INSTALLATION

Special Details

Date: JAN. 2016
Revised: ERO-10



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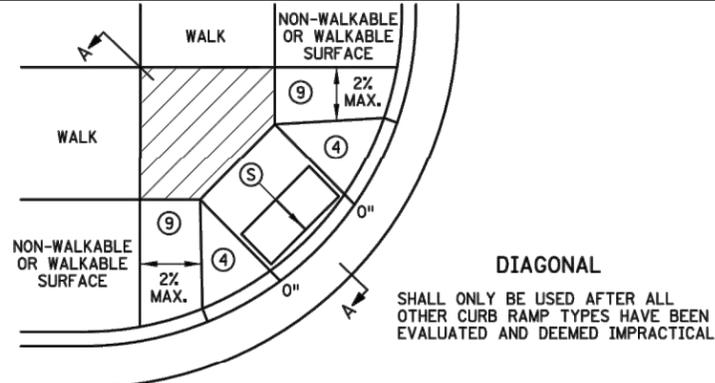
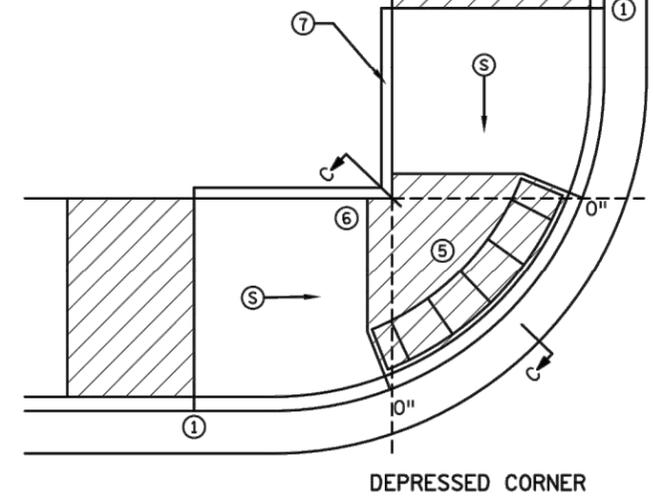
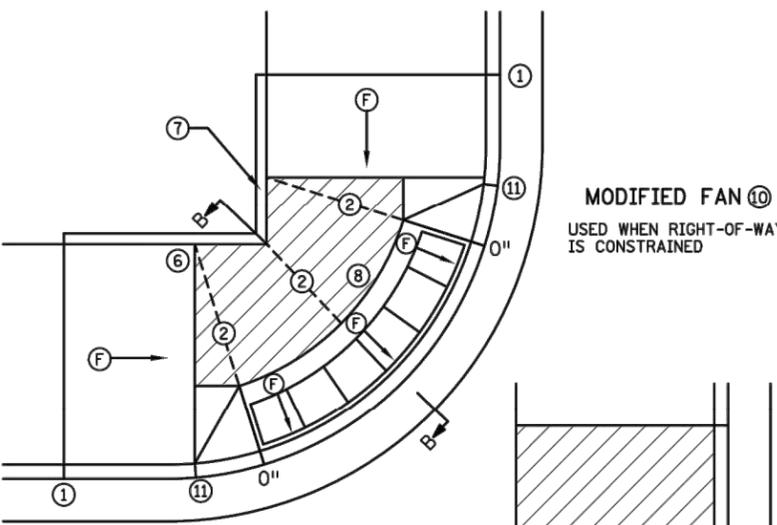
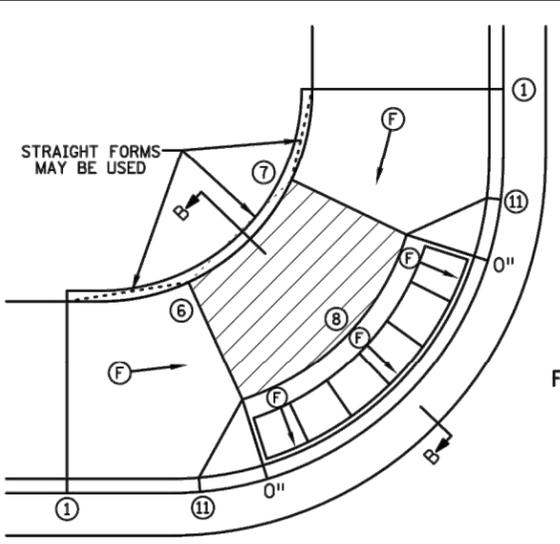
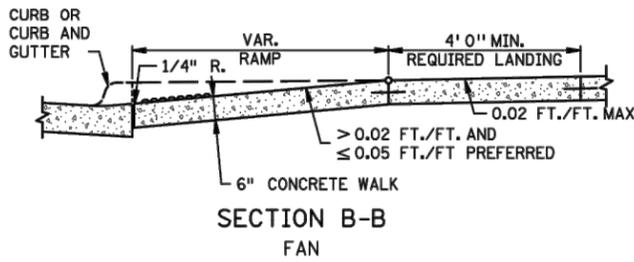
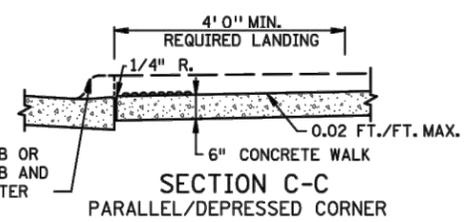
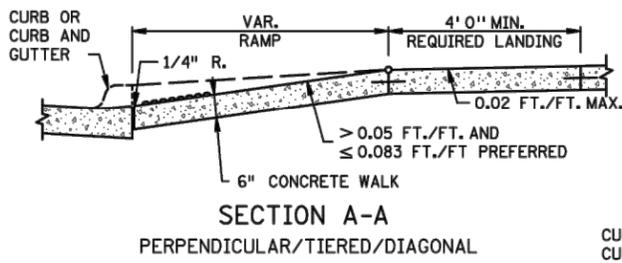
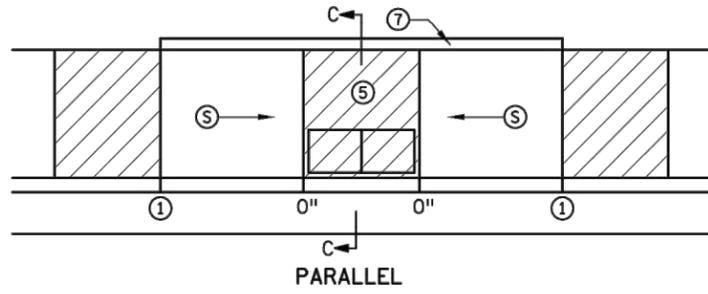
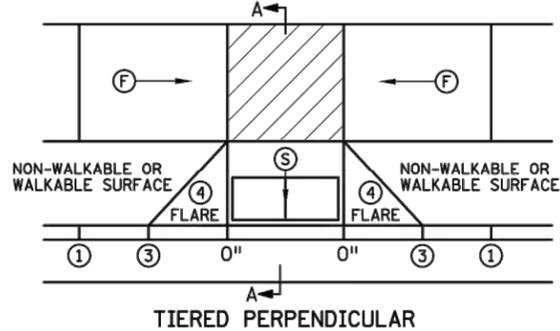
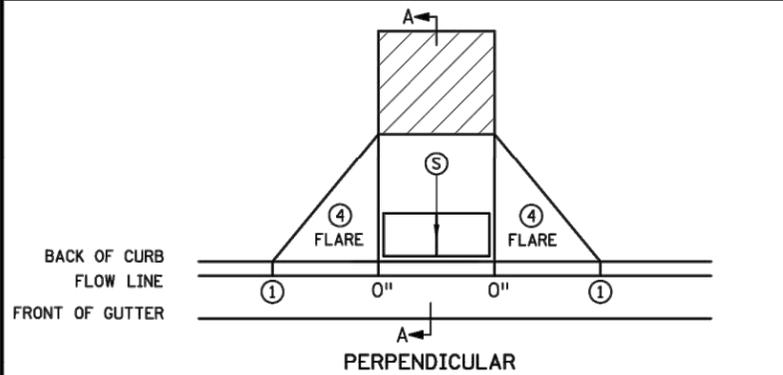
CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
CONSTRUCTION DETAILS

SHEET

C1.02

DRAFT

ANDREW L. BUDDÉ
LIC. NO. 46585 DATE 02/08/2023



NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL, THIS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH, (EXCEPT AS STATED IN 6) BELOW.

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.

WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE. MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS, DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL, DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF, WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB, RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

1 MATCH FULL HEIGHT CURB.

2 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.

3 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.

4 SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.

5 DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.

6 THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK, THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)

7 WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE, V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

8 A 7' MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.

9 PAVE FULL WALK WIDTH.

10 "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

11 INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

LEGEND	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
(X)	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
(H)	CURB HEIGHT

REVISION:

APPROVED: 11-04-2021

Jeff J. Perkins

JEFFREY PERKINS
OPERATIONS DIVISION

m MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 1 OF 6

APPROVED: 11-04-2021
REVISED:

Tom S...
THOMAS TYRIBICKI
STATE DESIGN ENGINEER

STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

PEDESTRIAN CURB RAMP DETAILS

CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
MNDOT PEDESTRIAN RAMP DETAILS

DRAFT

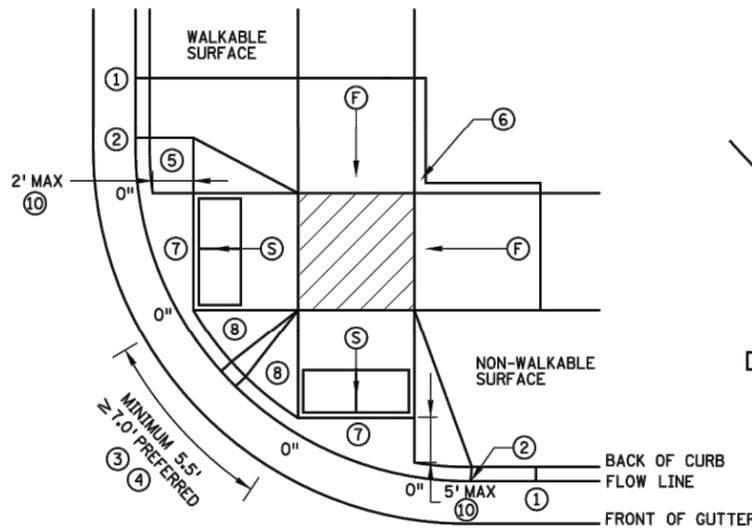
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LIC. NO. 46585 DATE 02/08/2023



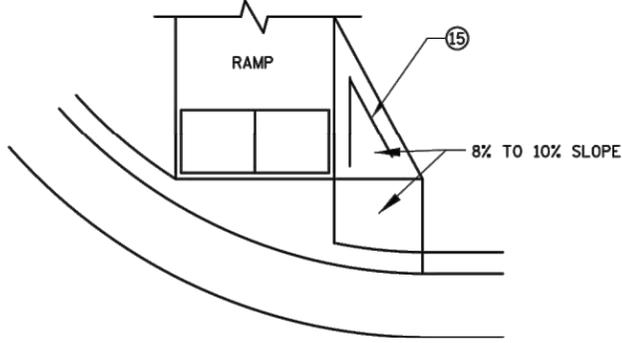
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CHASKA, MINNESOTA 55318
Phone: (952) 448-8838
Email: Chaska@bolton-menk.com
www.bolton-menk.com

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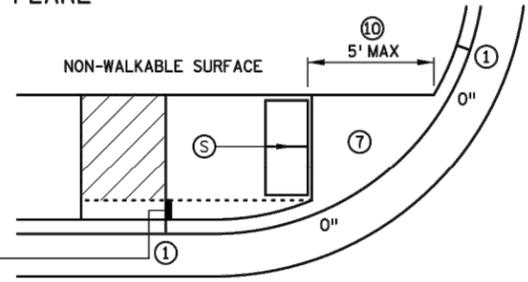


COMBINED DIRECTIONAL

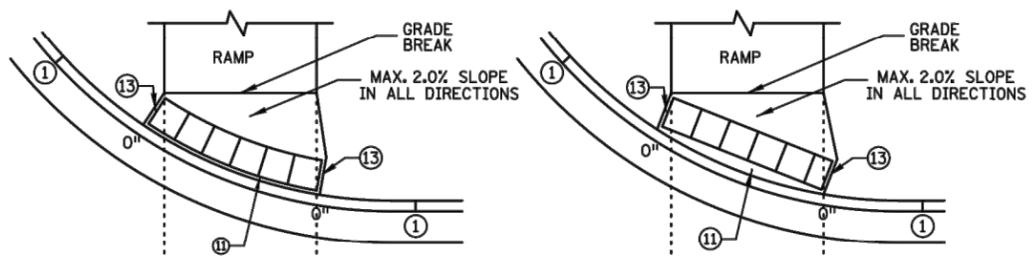


DIRECTIONAL RAMP WALKABLE FLARE

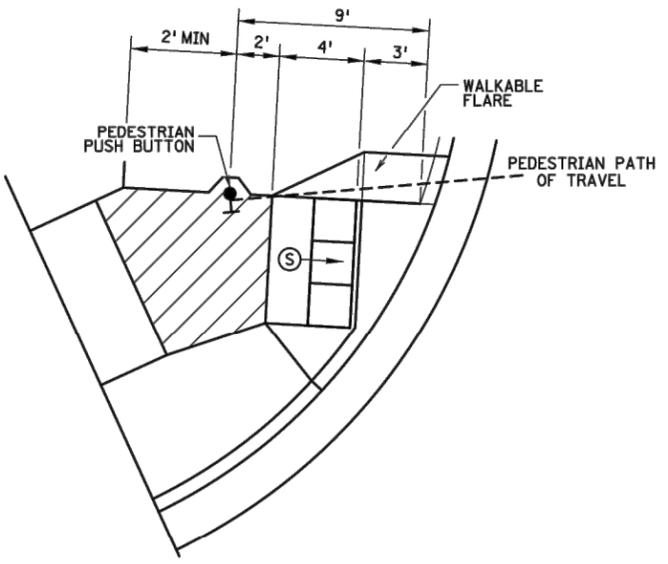
IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.



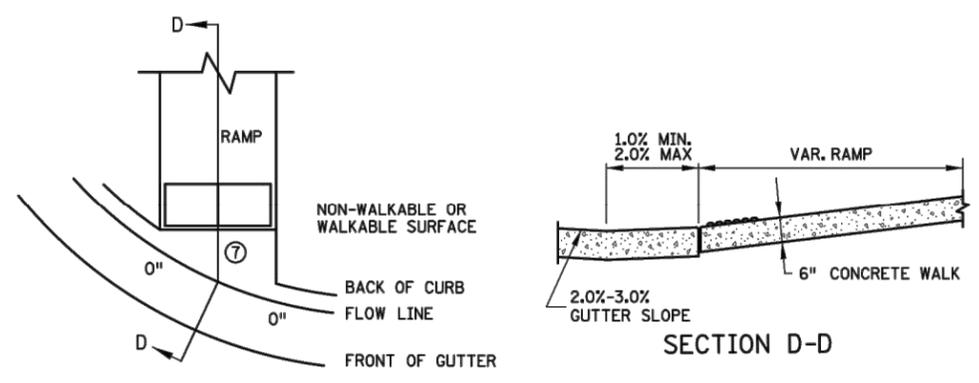
STANDARD ONE-WAY DIRECTIONAL



DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



SEMI-DIRECTIONAL RAMP
3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB
PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)



CURB FOR DIRECTIONAL RAMPS

- NOTES:**
- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
 - INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
 - SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
 - CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
 - ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.
 - TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).
 - TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
 - WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
 - ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
 - 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
 - WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
 - RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES (10) & (11) FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.
 - (1) MATCH FULL CURB HEIGHT.
 - (2) 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.
 - (3) 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
 - (4) THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
 - (5) WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHALL BE USED. SEE THE DETAIL ON THIS SHEET.
 - (6) GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
 - (7) MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
 - (8) 8% TO 10% WALKABLE FLARE.
 - (9) PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
 - (10) FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
 - (11) RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
 - (12) FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
 - (13) THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
 - (14) TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.
 - (15) PLACE 2 NO. 4 BARS 4 INCHES FROM SIDE OF FORMS WITH A MINIMUM 2 INCHES OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- X" CURB HEIGHT

REVISION:
APPROVED: 11-04-2021
Jeff J. Pel...
JEFFREY PERKINS
OPERATIONS DIVISION

m MINNESOTA
DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.250 2 OF 6
APPROVED: 11-04-2021
REVISOR:
Tom St...
THOMAS STYBRICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS
(T.H.) SHEET NO. OF SHEETS

DRAFT
ANDREW L. BUDDÉ
46585
DATE 02/08/2023

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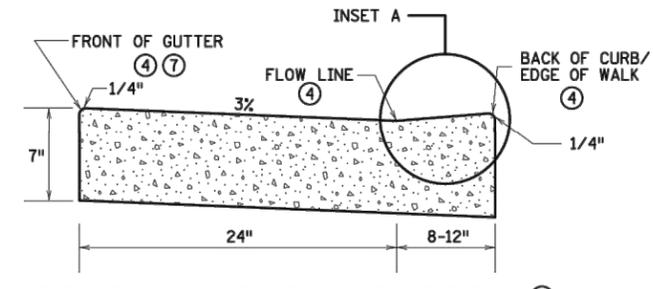
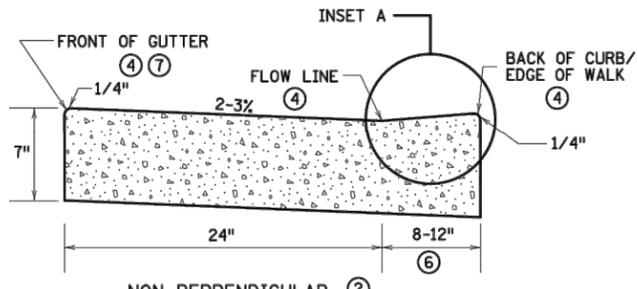
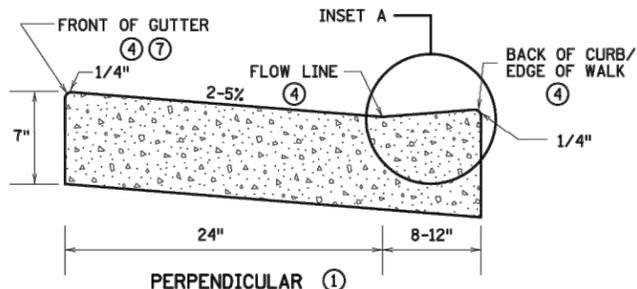
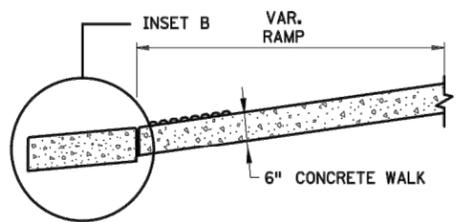
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CHASKA, MINNESOTA 55318
Phone: (952) 448-8838
Email: Chaska@bolton-menk.com
www.bolton-menk.com

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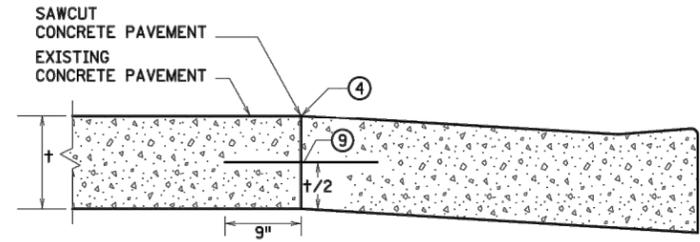
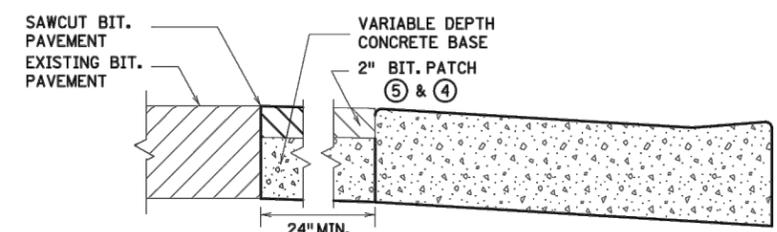
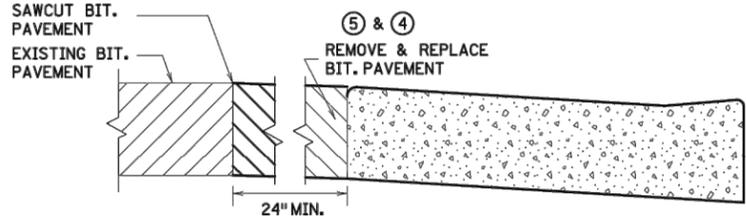
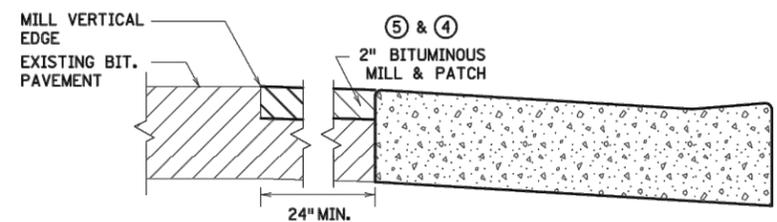
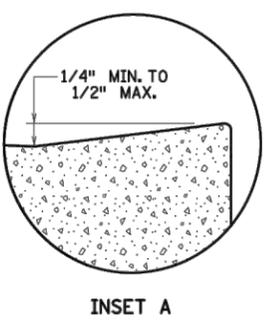
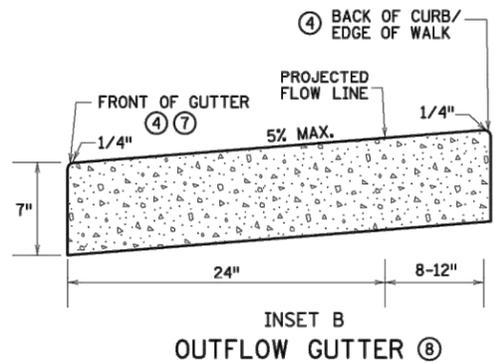
CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
MNDOT PEDESTRIAN RAMP DETAILS

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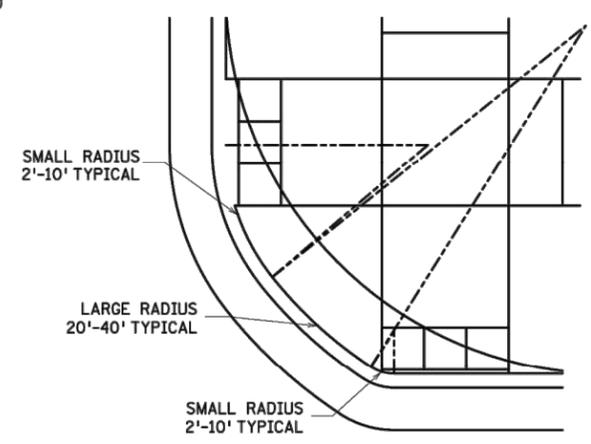
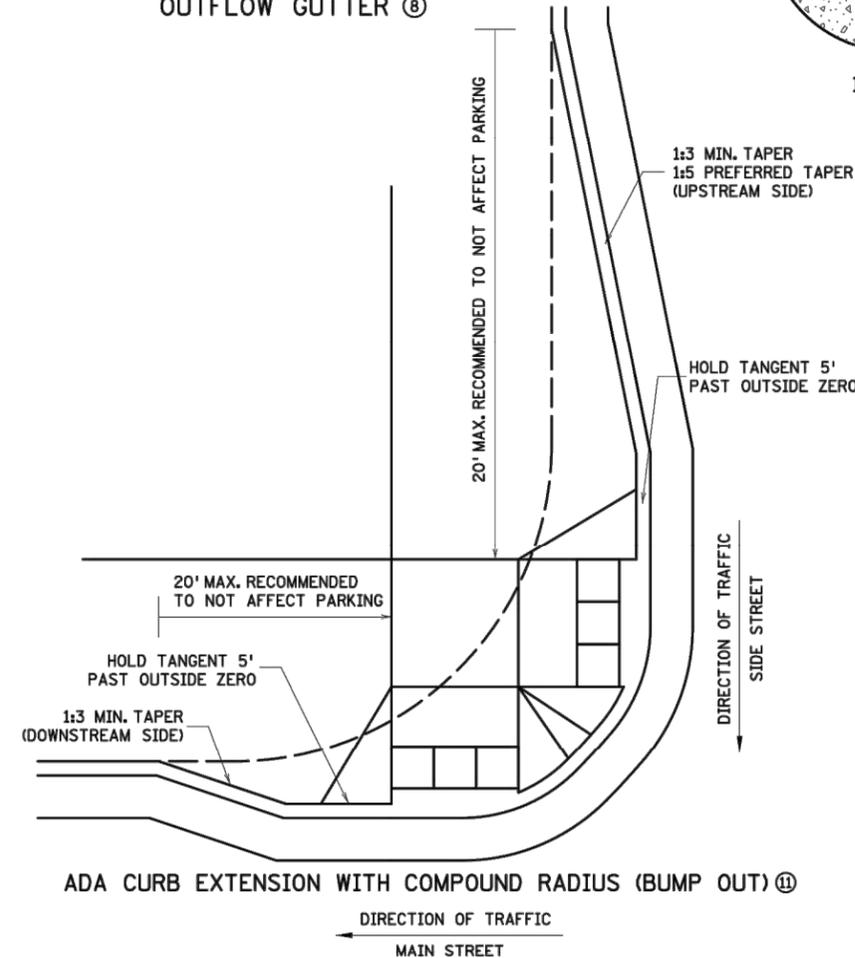


PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



ONLY ALLOWED PER ENGINEER'S APPROVAL

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER FOR USE ON CURB RAMP RETROFITS



NOTES:

- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM. NO PONDING SHALL BE PRESENT IN THE PAR.
- ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
- (1) FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMP.
- (2) FOR USE AT CURB RAMP WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
- (3) BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMP.
- (4) THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
- (5) ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
- (6) VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
- (7) TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
- (8) SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
- (9) DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1" MINIMUM FROM ALL JOINTS.
- (10) HELPS PROVIDE TWO SEPARATE RAMP, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
- (11) CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

REVISION:
 APPROVED: 11-04-2021
 Jeff J. Perkins
 OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.250 3 OF 6
 APPROVED: 11-04-2021
 THOMAS TYRIBICKI
 STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS
 (TH) SHEET NO. OF SHEETS

DRAFT
 ANDREW L. BUDDÉ
 46585 DATE 02/08/2023



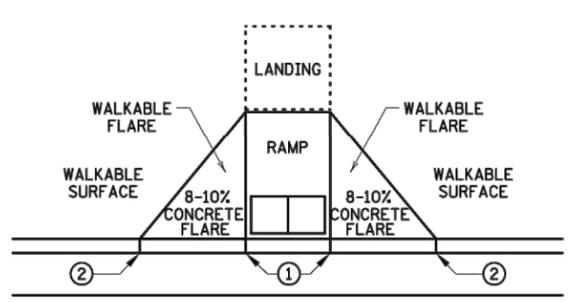
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 CHASKA, MINNESOTA 55318
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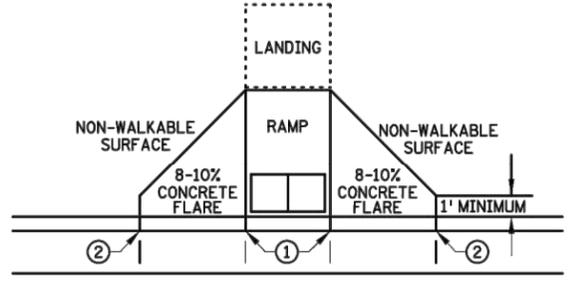
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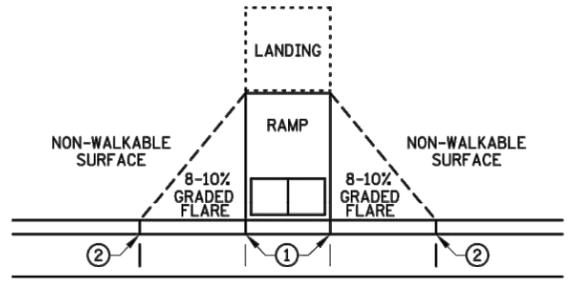
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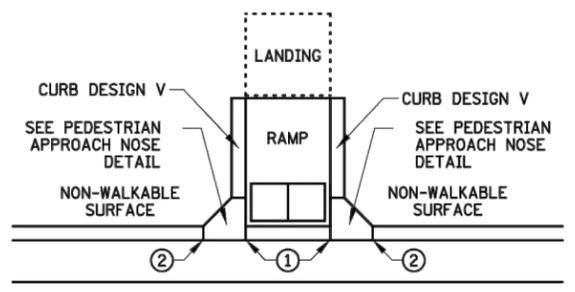
PAVED FLARES ADJACENT TO WALKABLE SURFACE



PAVED FLARES ADJACENT TO NON-WALKABLE SURFACE

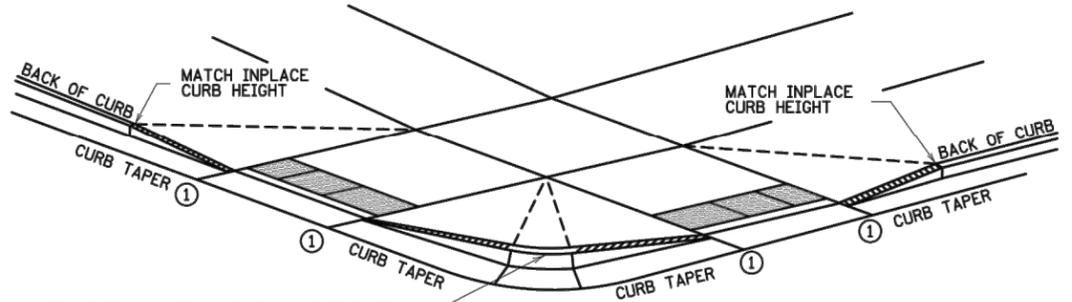


GRADED FLARES



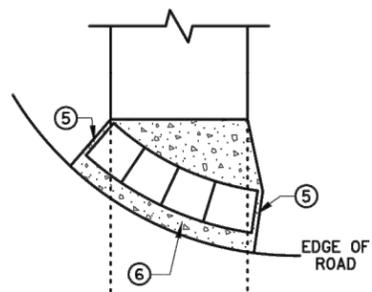
RETURNED CURB ④

TYPICAL SIDE TREATMENT OPTIONS ③ ⑩

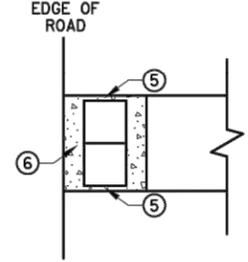


3" MINIMUM CURB HEIGHT, 4" PREFERRED (MEASURED AT FRONT FACE OF CURB) FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH CURB AND GUTTER ⑦

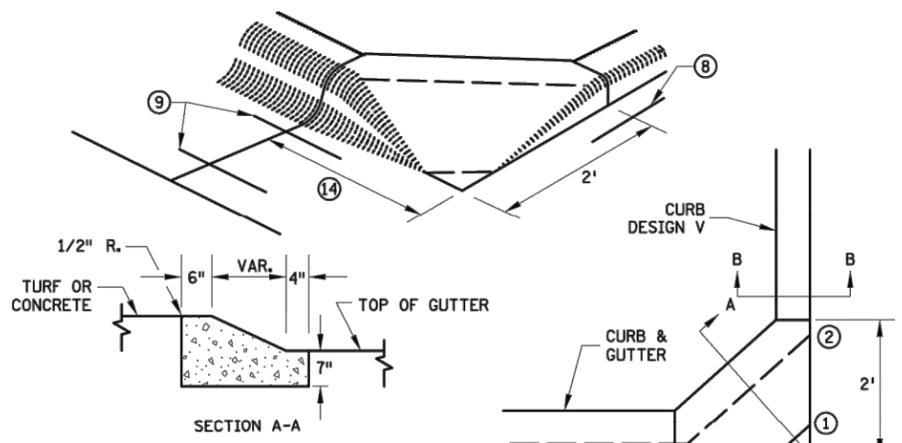


RADIALLY DETECTABLE WARNING

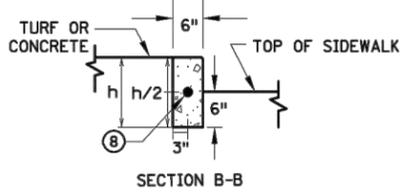
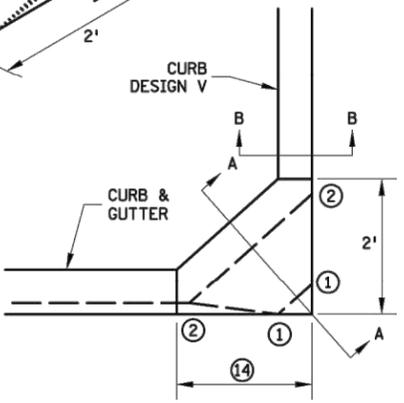


RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

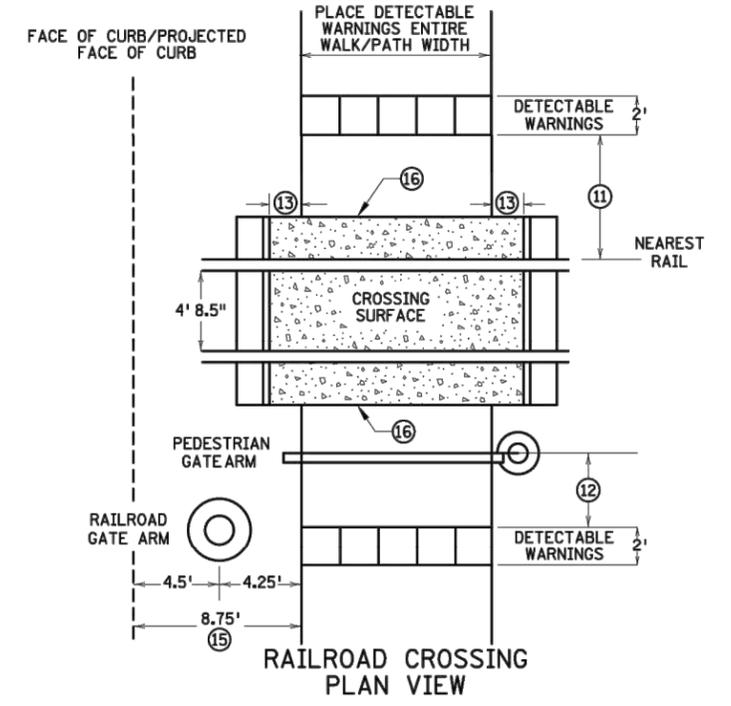


SECTION A-A



SECTION B-B

PEDESTRIAN APPROACH NOSE DETAIL (FOR RETURNED CURB SIDE TREATMENT)



NOTES:

- INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.
- SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
- A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.
- ① 0" CURB HEIGHT. SEE INSET A ON SHEET 3 OF 6.
- ② FULL CURB HEIGHT.
- ③ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
- ④ TYPICALLY USED FOR MEDIANS AND ISLANDS.
- ⑤ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑥ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.
- ⑦ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS, AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
- ⑧ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.
- ⑨ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.
- ⑩ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6" LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE. CONSTRUCT THESE TAPERS AT 0"-3" AT 8-10%, THEN LESS THAN 5% FROM 3" CURB TO FULL CURB HEIGHT.
- ⑪ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
- ⑫ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑪.
- ⑬ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
- ⑭ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
- ⑮ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.
- ⑯ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

REVISION:
 APPROVED: 11-04-2021
 Jeff J. Perkins
 OPERATIONS DIVISION

STANDARD PLAN 5-297.250 4 OF 6
 APPROVED: 11-04-2021
 REVISION:
 STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

PEDESTRIAN CURB RAMP DETAILS
 CITY OF SHOREWOOD
 FREEMAN PARK TRAIL IMPROVEMENTS
 MNDOT PEDESTRIAN RAMP DETAILS

DRAFT
 ANDREW L. BUDDÉ
 46585 DATE 02/08/2023

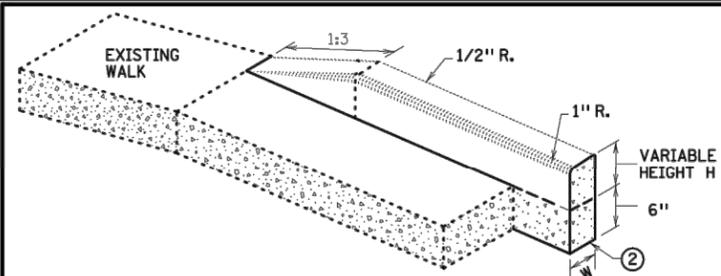


2638 SHADOW LANE, SUITE 200
 CHASKA, MINNESOTA 55318
 Phone: (952) 448-8838
 Email: Chaska@bolton-menk.com
 www.bolton-menk.com

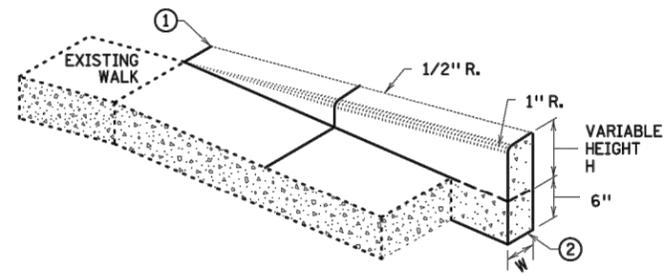
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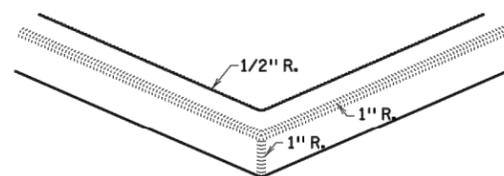
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V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

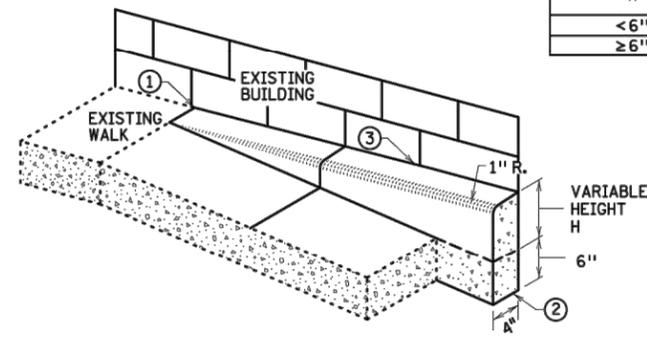


V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

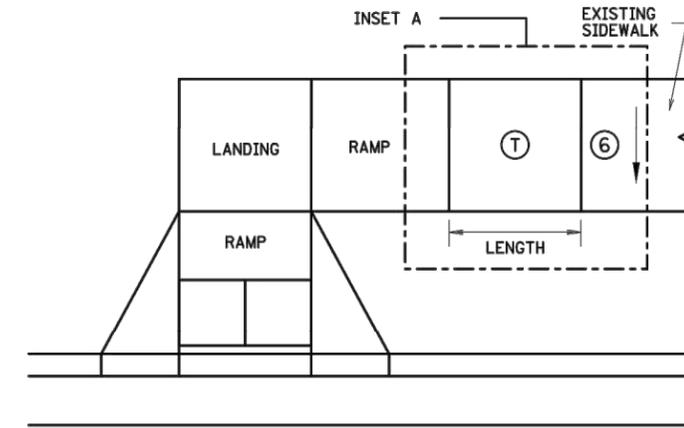


V CURB INTERSECTION

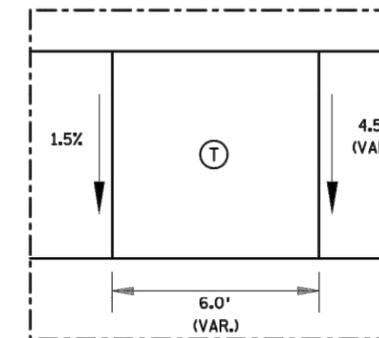
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



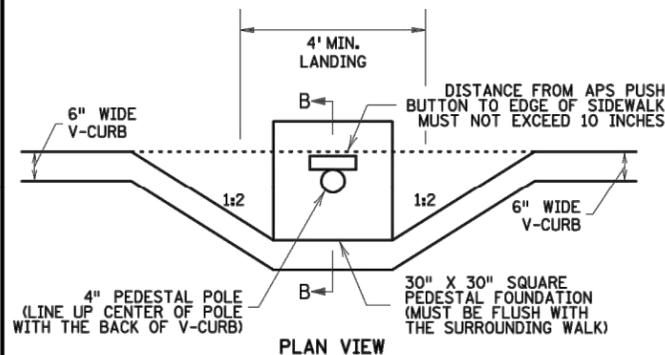
V CURB ADJACENT TO BUILDING
OR BARRIER



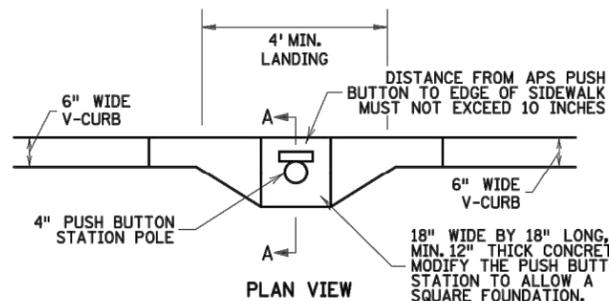
TRANSITION PANEL ④ ⑤



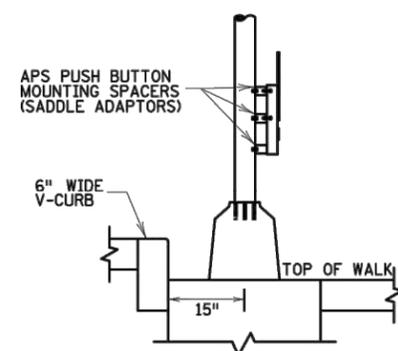
INSET A



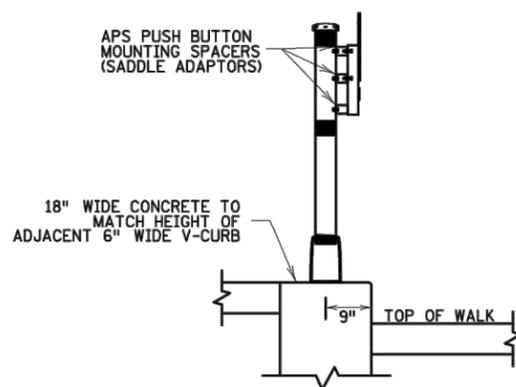
PLAN VIEW



PLAN VIEW



SECTION B-B
SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A
PUSH BUTTON STATION (V-CURB)

NOTES:

- A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.
- ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.
- WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.
- V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
- V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.
- ① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- ③ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
- ④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SADDLE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
- ⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
- ⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

- THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
- ⑤ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- ④ LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- ① TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1' LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

REVISIONS:
APPROVED: 11-04-2021
Jeffrey Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

STANDARD PLAN 5-297.250 5 OF 6
APPROVED: 11-04-2021
REVISED:
STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

PEDESTRIAN CURB RAMP DETAILS

CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
MNDOT PEDESTRIAN RAMP DETAILS

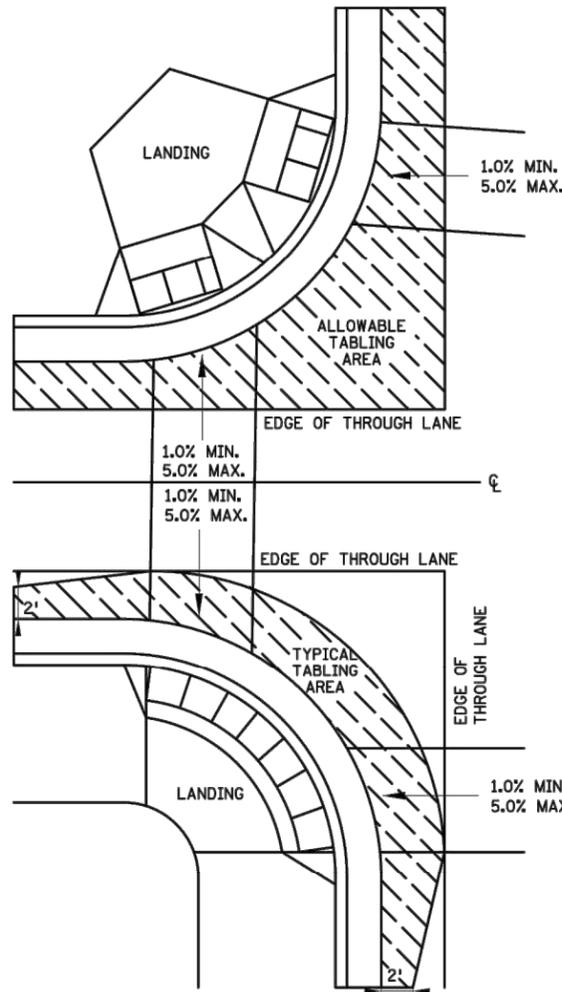
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DRAFT
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
ANDREW L. BUDDE
LIC. NO. 46585 DATE 02/08/2023

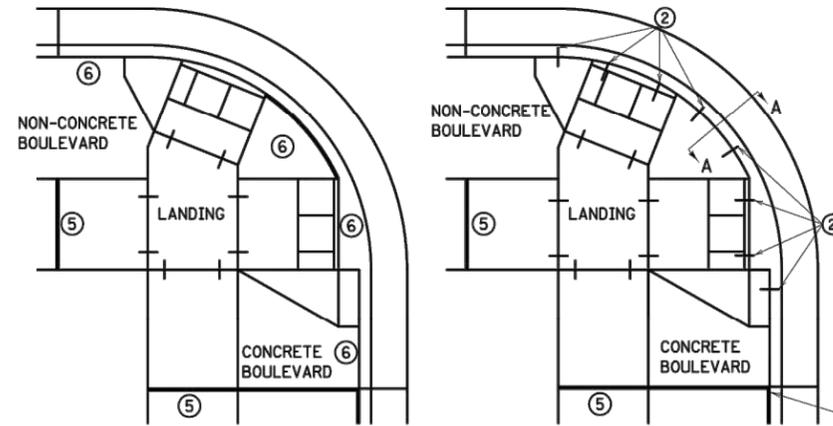


2638 SHADOW LANE, SUITE 200
CHASKA, MINNESOTA 55318
Phone: (952) 448-8838
Email: Chaska@bolton-menk.com
www.bolton-menk.com

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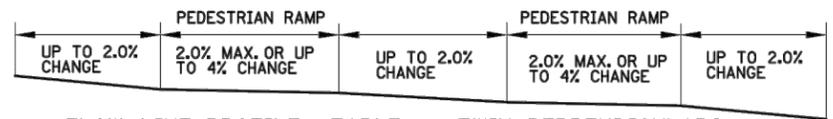


CURB LINE AND ROAD CROSSING ADJUSTMENTS

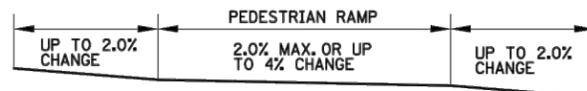


EXPANSION MATERIAL PLACEMENT FOR CONCRETE ROADWAYS

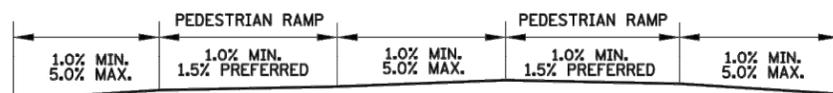
CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS



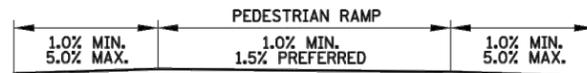
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



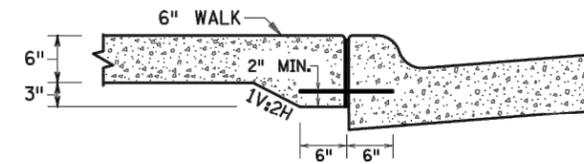
FLOW LINE PROFILE "TABLE" - FAN



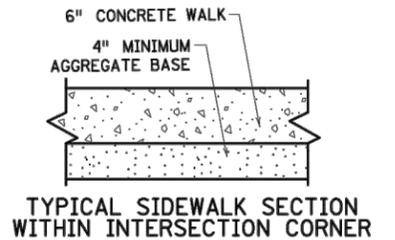
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



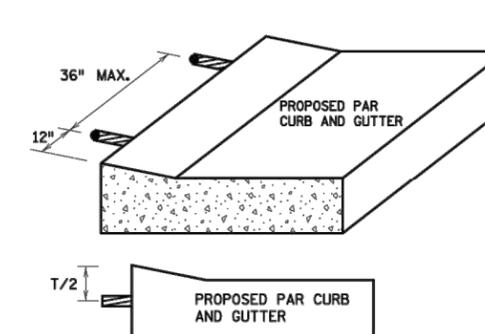
FLOW LINE PROFILE RAISE - FAN



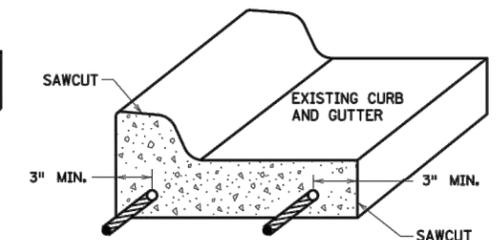
SECTION VIEW A-A THICKENED SECTION THROUGH CURB RAMP FLARES



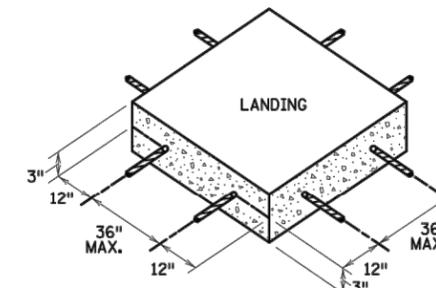
TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER



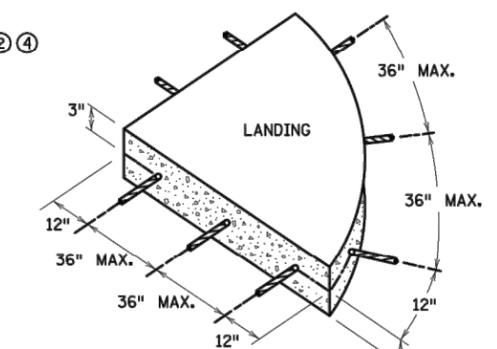
CURB RAMP REINFORCEMENT DETAILS



CURB AND GUTTER REINFORCEMENT



SEPARATE LANDING POUR REINFORCEMENT



GENERAL NOTES:

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

- 1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
- 2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
- 3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
- 4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

- 1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
- 2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
- 3) 5.0% RECOMMENDED MAX. FLOW LINE
- 4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

- 1) TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
- 2) DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) AT 36" MAXIMUM CENTER TO CENTER MINIMUM 12" SPACING FROM CONSTRUCTION JOINTS. BARS TO BE ADJUSTED TO MATCH RAMP GRADE. BARS TO BE PAID BY EACH.
- 3) DRILL AND GROUT 2 - NO. 4 X 12" LONG (6" EMBEDDED) REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS. BARS TO BE PAID BY EACH.
- 4) THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.
- 5) CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.
- 6) USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

REVISIONS:
APPROVED: 11-04-2021
<i>Jeffrey J. Perkins</i>
JEFFREY PERKINS OPERATIONS DIVISION

	STANDARD PLAN 5-297.250	6 OF 6	PEDESTRIAN CURB RAMP DETAILS	
		APPROVED: 11-04-2021		
DEPARTMENT OF TRANSPORTATION	THOMAS J. TYRBIICKI STATE DESIGN ENGINEER	STATE PROJ. NO.	(TH)	SHEET NO. OF SHEETS

DRAFT

ANDREW L. BUDE
46585 DATE 02/08/2023

BOLTON & MENK

2638 SHADOW LANE, SUITE 200
CHASKA, MINNESOTA 55318
Phone: (952) 448-8838
Email: Chaska@bolton-menk.com
www.bolton-menk.com

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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
MNDOT PEDESTRIAN RAMP DETAILS

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Information contained in this SWPPP narrative sheet summarizes requirements of the GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM PROGRAM - Permit No: MN R100001 (Permit) as they apply to this project. All provisions of the Permit including those not specifically cited herein shall apply to this project. The Contractor is responsible to be familiar with and comply with all conditions of the permit. The full text of the Permit is available at: <https://www.pca.state.mn.us/sites/default/files/wq-strm2-80a.pdf>

SWPPP AMENDMENTS AND SUBMITTALS

Contractor must prepare and submit to the Engineer a SWPPP amendment as necessary to include additional Best Management Practices (BMPs) to correct problems identified or address the following situations.

1. Contact information and training documentation for Construction SWPPP Manager and BMP Installer,
2. There is a change in construction method of phasing, operation, maintenance, weather or seasonal conditions not anticipated during the design of the SWPPP including but not limited to:
 - a. Types and/or Locations of BMPs
 - b. Material Storage and Spill Response
 - c. Fueling Plans
 - d. Locations for Stockpiles, Concrete Washout, and Sanitation Facilities and
 - e. Project Phasing
3. It is determined that the SWPPP is not achieving objectives of minimizing pollutants in stormwater discharges associated with construction activity, or
4. The SWPPP is not consistent with the terms and conditions of the permit.

The Contractor may implement SWPPP amendments immediately and is not required to wait for Engineer review of the submittal. The responsibility for completeness of SWPPP amendments and compliance with the Permit lies with the Contractor. Review, comment, or lack of comment by the Engineer on a SWPPP amendment shall not absolve the responsibilities of the Contractor in any way.

If a change order is issued for a design change the SWPPP amendment will be prepared by the Engineer and included in the change order.

In addition to SWPPP amendments, the Contractor shall submit to the Engineer Weekly Erosion and Sediment Control Schedule meeting the requirements of MnDOT 1717.

The Contractor shall keep copies of all SWPPP amendments, Weekly Erosion and Sediment Control Schedules, inspection logs, and maintenance logs with the field copy of the SWPPP. A PDF copy of these documents will be provided along with a copy of the final Field Copy of the SWPPP to the Engineer along with the signed Notice of Termination when final stabilization is complete.

EROSION PREVENTION PRACTICES

Stormwater conveyance channels shall be routed around unstabilized areas. Erosion controls and velocity dissipation devices shall be used at outlets within and along the length of any constructed conveyance channel.

The normal wetted perimeter of all ditches or swales, including storm water management pond slopes, that drain waters from the site must be stabilized within 200' of any property edge or discharge point, including storm sewer inlets, within 24 hours of connection.

Temporary or permanent ditches or swales used as sediment containment during construction do not need to be stabilized during temporary period of use and shall be stabilized within 24 hours after no longer used as sediment containment.

Mulch, hydromulch, tackifier, or similar practice shall not be used in any portion of the wetted perimeter of a temporary or permanent drainage ditch or swale section with a continuous slope of greater than 2 percent.

Energy dissipation shall be installed at all temporary or permanent pipe outlets within 24 hours of connection to a surface water or permanent stormwater treatment system.

The Contractor shall phase construction and use construction methods to the extent practical to minimize exposed soils. The project phasing shall be documented in the Weekly Erosion and Sediment Control Schedule.

SEDIMENT CONTROL PRACTICES

Down gradient BMPs including perimeter BMPs must be in place before up gradient land- disturbing activities begin and shall remain in place until final stabilization.

All BMPs that have been adjusted or removed to accommodate short-term activities shall be re-installed or replaced the earlier of the end of the work day or before the next precipitation event even if the activity is not complete.

Inlet BMPs may be removed for specific safety concerns. The BMPs shall be replaced as soon as the safety concern is resolved. The removal shall be documented in the SWPPP as a SWPPP amendment.

Temporary stockpiles must have sediment control BMPs. The Contractor shall prepare and submit to the Engineer a SWPPP amendment showing the location of temporary stockpiles and the BMPs for each stockpile. The SWPPP amendment must meet the minimum requirements of Section 9 of the Permit.

Soil compaction shall be minimized and topsoil shall be preserved, unless infeasible or if construction activities dictate soil compaction or topsoil stripping.

The use of polymers, flocculants, or other sedimentation treatment chemicals are not proposed as part of this SWPPP as designed by the Engineer. If methods or phasing of construction require the use of any of these chemicals, the Contractor shall prepare and submit to the Engineer a SWPPP amendment that meets the minimum requirements of Section 9 of the Permit.

TEMPORARY SEDIMENTATION BASINS

A temporary sedimentation basin has not been included in this SWPPP as designed by the Engineer. If a basin is later determined to be desirable or necessary the Contractor shall prepare and submit to the Engineer a SWPPP amendment. Temporary sedimentation basins shall meet or exceed the minimum requirements of Section 14 of the Permit and shall include a basin draining plan meeting or exceeding the minimum requirements of Section 10 of the Permit. Where the site discharges to Special and/or Impaired Waters the SWPPP amendment shall also meet or exceed the minimum requirements of Section 23 of the permit.

DEWATERING

A dewatering plan has not been included in this SWPPP as designed by the Engineer. If dewatering is required for this project, the Contractor shall prepare and submit to the Engineer a SWPPP amendment. All dewatering shall meet or exceed the minimum requirements of Section 10 of the Permit.

POLLUTION PREVENTION

Products and materials that have the potential to leach pollutants that are stored on the site must be stored in a manner designed to minimize contact with stormwater. Materials that are not a source of potential contamination to stormwater or that are designed for exposure to stormwater are not required to be covered.

Hazardous materials including but not limited to pesticides, fertilizer, petroleum products, curing compounds and toxic waste must be properly stored and protected from stormwater exposure as recommended by the manufacturer in an access restricted area.

Solid waste must be stored, collected and disposed of in compliance with Minnesota Administrative Rules Chapter 7035.

Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. CH 7041.

Exterior vehicle or equipment washing on the project site shall be limited to a defined area of the site. No engine degreasing is allowed on site. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

The Contractor shall prepare and submit a SWPPP amendment detailing the location and BMPs proposed for storage of materials, solid waste, portable toilets, and exterior vehicle or equipment washing on the site. The SWPPP amendment shall include a spill prevention and response plan that is appropriate for the materials proposed to be on the site. The SWPPP amendment shall meet or exceed the minimum requirements of Section 12 of the Permit.

INSPECTION & MAINTENANCE

A trained person shall routinely inspect the entire construction site at the time interval indicated on this sheet of the SWPPP during active construction and within 24-hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24-hours after a rainfall event, the next inspection must be conducted at the time interval indicated in the Receiving Waters Table found on the SITE PLAN AND INFORMATION SHEET of the SWPPP.

All inspections and maintenance conducted during construction must be recorded on the day it is completed and must be retained with the SWPPP. Inspection report forms are available in the Project Specifications. Inspection report forms other than those provided shall be approved by the engineer.

The Contractor may request a change in inspection schedule for the following conditions:

- a. Inspections of areas with permanent cover to be reduced to once per month,
- b. Inspections of areas that have permanent cover and have had no construction activity for 12 months to be suspended until construction resumes,
- c. Inspections of areas where construction is suspended due to frozen ground conditions, inspections to be suspended until the earlier of within 24 hours of runoff occurring, or upon resuming construction.

No change in inspection schedule shall occur until authorized by the Engineer.

Inspections must include:

1. All erosion prevention and sediment control BMPs and Pollution Prevention Management Measures to ensure integrity and effectiveness.
2. Surface waters, including drainage ditches and conveyance systems for evidence of erosion and sediment deposition.
3. Construction site vehicle exit locations, streets and curb and gutter systems within and adjacent to the project for sedimentation from erosion or tracked sediment from vehicles.
4. Infiltration areas to ensure that no sediment from ongoing construction activity is reaching the infiltration area and that equipment is not being driven across the infiltration area.

All non-functioning BMPs and those BMPs where sediment reaches one-half (1/2) of the depth of the BMP, or in the case of sediment basins one-half (1/2) of the storage volume, must be repaired, replaced, or supplemented by the end of the next business day after discovery, or as soon as field conditions allow.

Permittees must repair, replace or supplement all nonfunctional BMPs with functional BMPs by the end of the next business day after discovery, or as soon as field conditions allow.

Any sediment that escapes the site must be removed and the area stabilized within 7 calendar days of discovery unless precluded by legal, regulatory, or physical access in which case the work shall be completed within 7 calendar days of authorization. Paved surfaces such as streets shall have any escaped or tracked sediment removed by the end of the day that it is discovered. Sediment release, other than paved surfaces that can be cleaned up with street sweeping shall be reported immediately upon discovery to the Engineer.

PUBLIC WATER RESTRICTIONS:

For public waters that have been promulgated "work in water restrictions" during fish spawning time frames, all exposed soil areas that are within 200 feet of the water's edge, and drain to these waters must complete stabilization within 24-hours during the time period. MN DNR permits are not valid for work in waters that are designated as infested waters unless accompanied by an Infested Waters Permit or written notification has been obtained from MN DNR stating that such permit is not required. There is no exception for pre-existing permits. If a MN DNR Permit has been issued for the project and the water is later designated as infested, the Contractor shall halt all work covered by the MN DNR Permit until an Infested Waters Permit is obtained or that written notification is obtained stating that such permit is not required.

FINAL STABILIZATION

Final Stabilization is not complete until all the following requirements have been met:

1. Substantial Completion has been reached and no ground disturbing activities are anticipated.
2. Permanent cover has been installed with an established minimum uniform perennial vegetation density of 70 percent of its expected final growth. Vegetation is not required in areas where no vegetation is proposed by this project such as impervious surfaces or the base of a sand filter.

3. Accumulated sediment has been removed from all permanent stormwater treatment systems as necessary to ensure the system is operating as designed.
4. All sediment has been removed from conveyance systems
5. All temporary synthetic erosion prevention and sediment control BMPs have been removed. BMPs designated on the SWPPP to remain to decompose on-site may remain.
6. For residential construction only, permit coverage terminates on individual lots if the structures are finished and temporary erosion prevention and downgradient perimeter control is complete, the residence sells to the homeowner, and the permittee distributes the MPCA's "Homeowner Fact Sheet" to the homeowner.
7. For agricultural land only (e.g., pipelines across cropland), the disturbed land must be returned to its preconstruction agricultural use prior to submitting the NOT.

SITE STABILIZATION COMPLETION:

Stabilization of exposed soils shall begin immediately and shall be completed after the construction activity has temporarily or permanently ceased no later than:	14 calendar days
--	------------------

SITE INSPECTION INTERVAL:

A trained person shall routinely inspect the entire construction site during active construction at an interval of no less than:	7 calendar days
--	-----------------

SPECIAL ENVIRONMENTAL CONSIDERATIONS AND PERMITS:

1) Was an environmental review required for this project or any part of a common plan of development or sale that includes all or any portion of this project?	NO
2) Does any portion of the site have the potential to affect threatened or endangered species or their critical habitat?	NO
3) Does any portion of this site discharge to a Calcareous fen.	NO
4) Will any portion of the site potentially affect properties listed on the National Register of Historic Places or a known or discovered archeological site?	NO
5) Have any Karst features been identified in the project vicinity?	NO
6) Is compliance with temporary or permanent stormwater management design requirements infeasible for this project?	NO
7) Has the MN DNR promulgated "work in water restrictions" for any Public Water this site discharges to during fish spawning?	NO

TYPE OF PERMIT	PERMITTING AGENCY	PERMIT STATUS AND CONDITIONS
Construction Stormwater NPDES	MPCA	PENDING

SWPPP DESIGNER TRAINING DOCUMENTATION:

UNIVERSITY OF MINNESOTA

Anthony Adderley

Construction Installer
(May 31, 2025)
Design of Construction SWPPP
(May 31, 2025)

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ANDREW L. BUDDÉ
LIC. NO. 46585 DATE 02/08/2023



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CHASKA, MINNESOTA 55318
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Email: Chaska@bolton-menk.com
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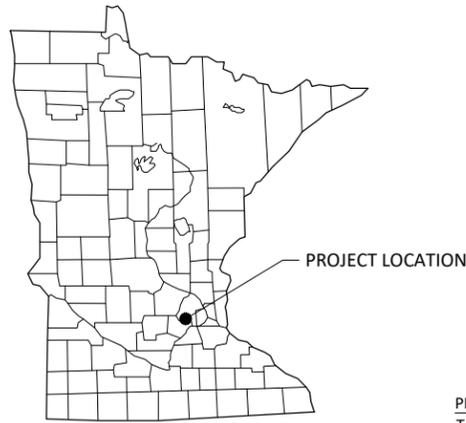
CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
SWPPP NARRATIVE

SHEET

C2.01

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

FREEMAN PARK TRAIL 2023
CITY OF SHOREWOOD
HENNEPIN COUNTY, MINNESOTA



LEGEND	
	1-MILE BOUNDARY
	PROJECT BOUNDARY
	OR
	NATIONAL WETLANDS INVENTORY
	CALCAREOUS FEN
	RECEIVING WATERS

PROJECT AREAS:

Total Project Size (disturbed area) =	4.4	ACRES
Existing area of impervious surface =	1.2	ACRES
Post construction area of impervious surface =	1.4	ACRES
Total new impervious surface area created =	0.2	ACRES

Planned Construction Start Date: 05/01/2023
Estimated Construction Completion Date: 12/15/2023

PERMANENT STORMWATER MANAGEMENT SYSTEM:
Type of storm water management used if more than 1 acre of new impervious surface is created:

<input type="checkbox"/>	Wet Sedimentation Basin
<input type="checkbox"/>	Infiltration/Filtration
<input type="checkbox"/>	Regional Pond
<input checked="" type="checkbox"/>	Permanent Stormwater Management Not Required

PROJECT LOCATION:

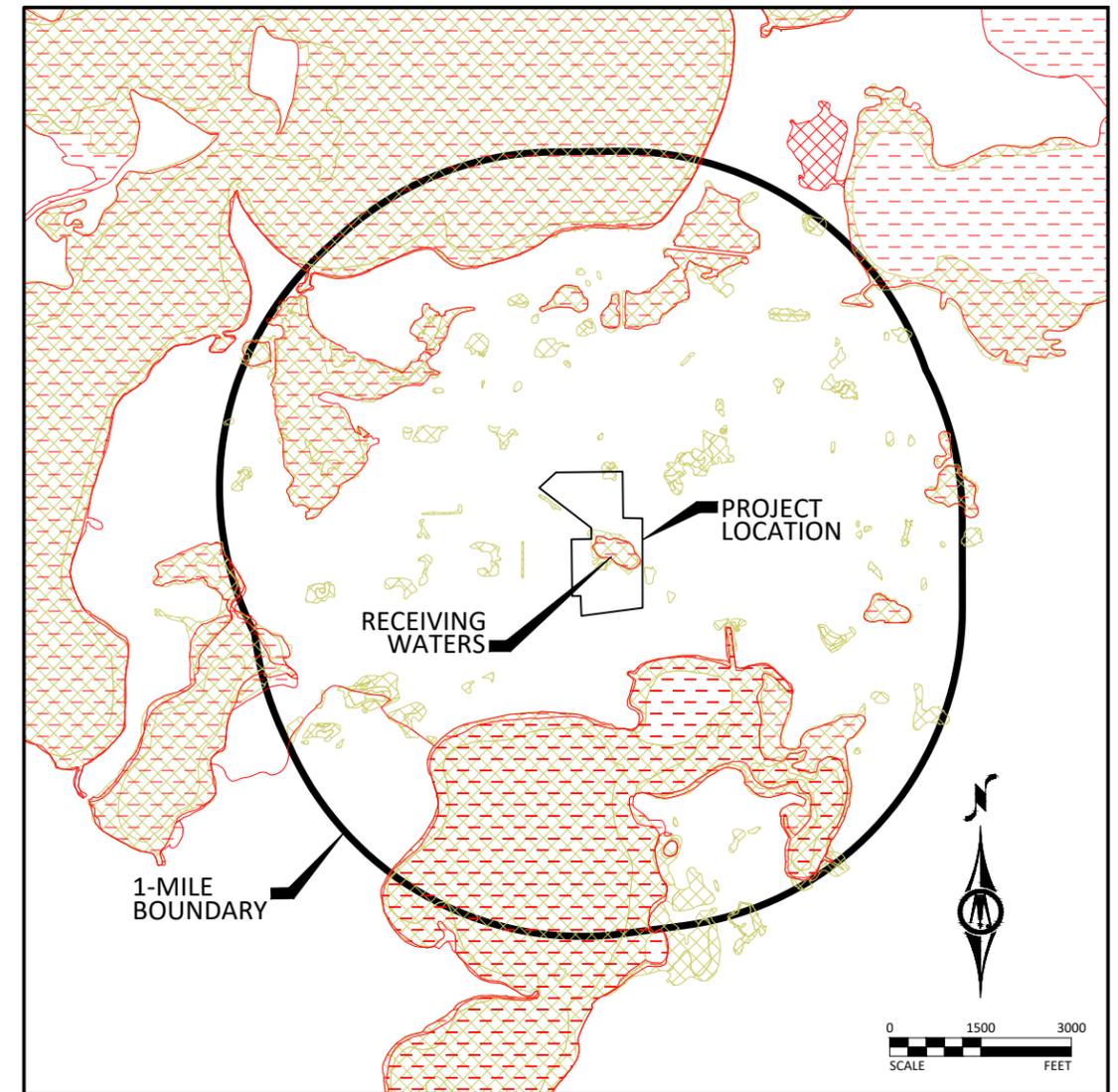
COUNTY	TOWNSHIP	RANGE	SECTION	LATITUDE	LONGITUDE
HENNEPIN	T117N	R23W	32	44.8980°	-93.6077°

BMP SUMMARY	QUANTITY	UNIT
INLET PROTECTION	6	EA
SILT FENCE	10,277	LF
HYDROMULCH W/ SEED	116,501	SF
EROSION CONTROL BLANKET	5,346	SF

DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:
Construction activities include: Site grading and removals, trial construction, temporary erosion and sediment control, and permanent stabilization.

Stormwater currently flows to wetland at the center of Freeman Park. Drainage will not be changed by this project.

This project uses seeding, erosion control blankets, inlet protections, and silt fence to control stormwater runoff. There will be no construction of permanent BMP's as the new impervious area is below 1 acre.



RECEIVING WATERS:
Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, within 1-mile of the project boundary are identified on the USGS 7.5 min quad map above. Receiving waters that are impaired, the impairment, and WLA are listed as follows. All specific BMPs relative to construction activities listed in the permit for special, prohibited, restricted, or impaired have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	Special, Prohibited, Restricted Water ¹	Flows to Impaired Water Within 1-Mile ²	USEPA Approved Construction Related TMDL ³
MINNETONKA	LAKE	NO	NO	NONE
MINNEWASHTA	LAKE	NO	YES	NONE

¹ Special, prohibited, and restricted waters are listed in Section 23 of the MN Construction Stormwater General Permit (MNR100001).
² Identified as impaired under section 303 (d) of the federal Clean Water Act for phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.
³ Construction Related TMDLs include those related to: phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.

IMPLEMENTATION SCHEDULE AND PHASING: The Contractor is required to provide an updated schedule and site management plan meeting the minimum requirements of Section 1717 of the Minnesota Standard Specifications for Construction.

- 1) Submit SWPPP Updates to Engineer. Submittal shall include any requested changes to the SWPPP, including but not limited to: Trained Personnel, Locations for Stockpiles, Concrete Washout, Sanitation Facilities, Types and Locations of Erosion & Sediment Control. Failure to submit updates shall be considered acceptance of the SWPPP as designed with no changes.
- 2) Install perimeter sediment control, inlet protection, and construction exit.
- 3) Add additional temporary BMPs as necessary during construction based on inspection reports.
- 4) Ensure final stabilization measures are complete.
- 5) Provide digital copy of all Field SWPPP Documentation including Inspection Reports and SWPPP Revisions to the Owner.
- 6) Submit Notice of Termination (NOT) to MPCA. NOTE: The NOT must be submitted to MPCA before Final Stabilization is considered complete.

RESPONSIBLE PARTIES:

The Contractor and Owner will be joint applicants under the MPCA's General Stormwater Permit for Construction Activity as required by the National Pollutant Discharge Elimination System (NPDES) Phase II program.

The Contractor shall provide one or more trained Construction SWPPP Manager(s) knowledgeable and experienced in the application of erosion prevention and sediment control BMPs that will oversee the implementation of the SWPPP, and the installation, inspection and maintenance of the erosion prevention and sediment control BMPs.

A Construction SWPPP Manager must be available for an on-site inspection within 72 hours upon request by the MPCA.

	COMPANY	CONTACT PERSON	PHONE
OWNER:	City of Shorewood	Matt Morreim	952-960-7913
SWPPP DESIGNER:	Bolton & Menk, Inc.	Tony Adderley	612-751-2289
CONTRACTOR:	TBD	TBD	TBD
CONSTRUCTION SWPPP MANAGER:	TBD	TBD	TBD
PARTY RESPONSIBLE FOR LONG TERM O&M:	City of Shorewood	Matt Morreim	952-960-7913

The SWPPP Designer, Construction SWPPP Manager, and BMP Installer must have appropriate training. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Training documentation for the SWPPP Designer is included on the Narrative sheet. The Contractor shall attach training documentation to this SWPPP for the Construction SWPPP Manager and BMP Installer prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

ADDITIONAL COMPENSATION

Payment for all work associated with Erosion and Sediment Control shall be as described in the Project Manual. Unless otherwise authorized by the Owner no additional payment shall be made for any work required to administer and maintain the site erosion and sediment control in compliance with the Minnesota Pollution Control Agency (MPCA) - General Stormwater Permit for Construction Activity (MN R100001) including but not limited to inspection, maintenance, and removal of BMPs or addition of BMPs to accommodate Contractor phasing.

DOCUMENT RETENTION

Permittees must make the SWPPP, including all inspection reports, maintenance records, training records and other information required by this permit, available to federal, state, and local officials within three (3) days upon request for the duration of the permit and for three (3) years following the NOT.

GENERAL STORMWATER DISCHARGE REQUIREMENTS

All requirements listed in Section 5.1 of the Permit for the design of the permanent stormwater management system and discharge have been included in the preparation of this SWPPP. These include but are not limited to:

1. The expected amount, frequency, intensity, and duration of precipitation.
2. The nature of stormwater runoff and run-on at the site
3. Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
4. The range of soil particle sizes expected to be present on the site.

Permanent stormwater treatment systems for this project have been designed in accordance with the guidance in the MN Stormwater Manual in place at the time of bidding. Copies of the design information and calculations are part of this SWPPP and will be provided in digital format upon written request to the Engineer.

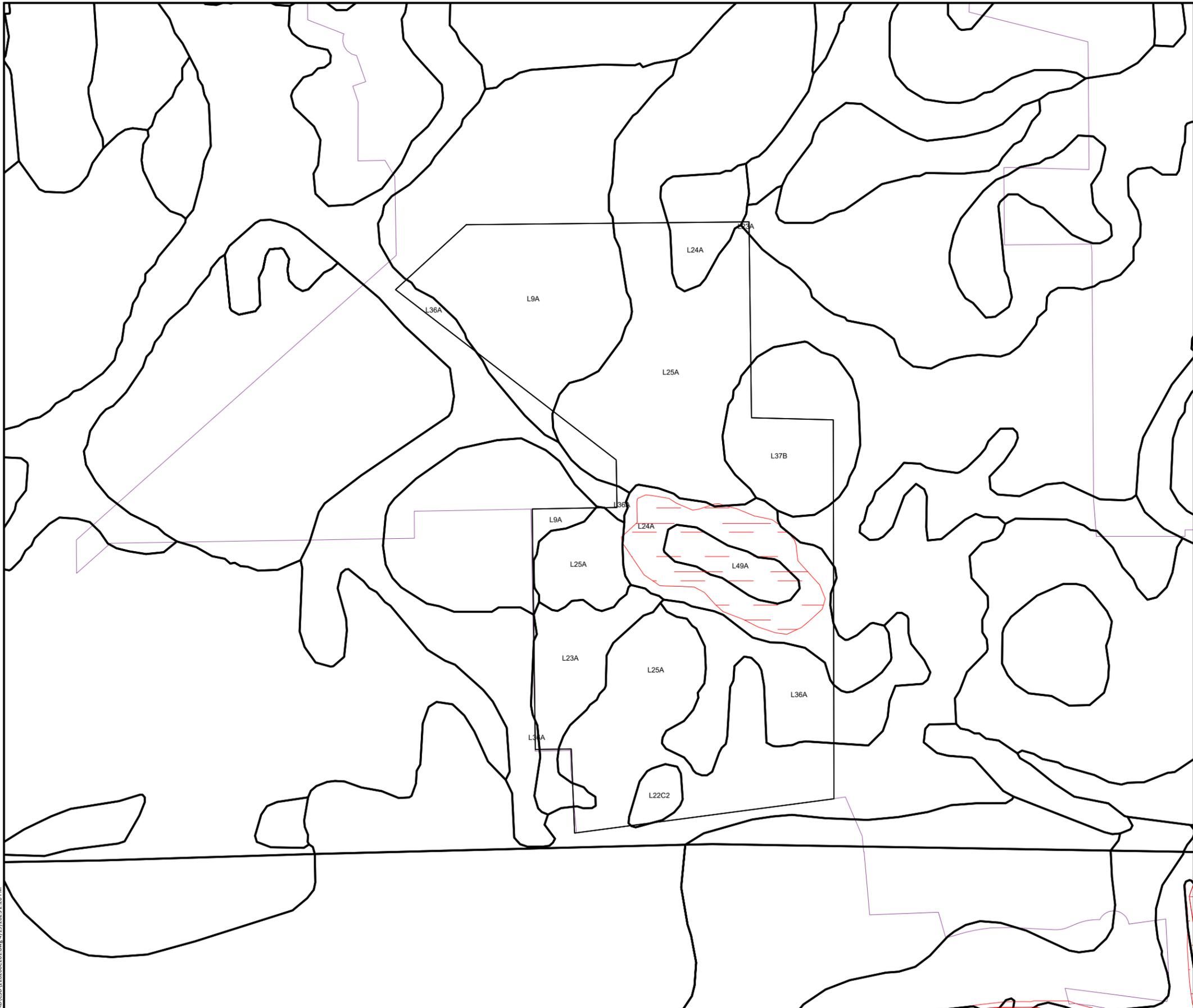
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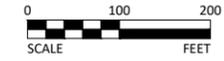
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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
SWPPP PLAN



LEGEND

-  PROJECT BOUNDARY
-  SOIL TYPE
-  IMPAIRED, SPECIAL OR PROTECTED WATERS
-  NATIONAL WETLANDS INVENTORY
-  DWSMA, LOW VULNERABILITY
-  STEEP SLOPES (>33.3%)
-  RECEIVING WATERS



SOIL TYPE SUMMARY

Map Unit Symbol	Soil Name	Hyd. Soil Group	Erodibility
L22C2	LESTER	B	MUHELCL
L23A	CORDOVA	C/D	NHEL
L24A	GLENCOE	B/D	NHEL
L25A	LE SUEUR	B/D	NHEL
L36A	HAMEL	C/D	NHEL
L37B	ANGUS	C	NHEL
L49A	KLOSSNER	B/D	NHEL
L9A	MINNETONKA	C/D	NHEL

NHEL - Not Highly Erodible Land
 PHEL - Potentially Highly Erodible Land
 HEL - Highly Erodible Land

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	SHEET NO.
SITE MAP	G0.01
DIRECTION OF FLOW	C2.04-C2.12
FINAL STABILIZATION	C2.04-C2.12
SOILS	C2.03
DRAINAGE STRUCTURES	-
DRAINAGE TABULATION	-
STORM SEWER PLAN & PROFILE SHEETS	-
EROSION & SEDIMENT CONTROL DETAILS	C2.04-C2.12
EROSION CONTROL TABULATION	C2.02
TURF ESTABLISHMENT TABULATION	C2.02
NARRATIVE & NOTES	C2.01 - C2.02

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CITY OF SHOREWOOD
 FREEMAN PARK TRAIL IMPROVEMENTS
 SWPPP SOILS

SHEET
C2.03



CONNOR ROACH & KAITLYN LYALL
25975 SMITHTOWN LN

MICHAEL & LORI BRAUN
25805 EUREKA WAY

12" WATERMAIN IS APPROXIMATE PER G.I.S. MAPS

LAKE MINNETONKA REGIONAL TRAIL

BIT. TRAIL

FREEMAN PARK

SEE SHEET C2.05

- NOTES:
1. NO TREES SHALL BE REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE ENGINEER.
 2. CONTRACTOR SHALL STRIP, STOCKPILE AND PLACE TOPSOIL THROUGHOUT THE PROJECT (INCIDENTAL). ANY ADDITIONAL TOPSOIL NEEDED (AS APPROVED BY THE ENGINEER) SHALL BE IMPORTED BY THE CONTRACTOR WITH PAYMENT AT THE BID UNIT PRICE.
 3. PLACE A MINIMUM OF 6 INCHES OF TOPSOIL ON ALL DISTURBED AREAS REQUIRING RESTORATION OF VEGETATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 4. SEED MIX 25-151 TO BE SEEDED AT AN APPLICATION RATE OF 120 LB/AC. PROVIDE FERTILIZER TYPE 3 10-10-10 ON ALL AREAS TO BE SEEDED AT AN APPLICATION RATE OF 60 LB/AC (INCIDENTAL).

EROSION CONTROL LEGEND

<p>— MS — MACHINE SLICED SILT FENCE</p> <p>..... CONSTRUCTION LIMITS</p> <p>--- EXISTING MAJOR CONTOUR</p> <p>----- EXISTING MINOR CONTOUR</p> <p>—— PROPOSED MAJOR CONTOUR</p> <p>----- PROPOSED MINOR CONTOUR</p>	<p> HYDROMULCH W/SEED MIX 25-151</p> <p> HYDROMULCH W/SEED MIX 25-151 & CATEGORY 3 EROSION CONTROL BLANKET</p> <p> EXISTING/PROPOSED DRAINAGE FLOW</p> <p> INLET PROTECTION</p>	
---	---	--

CITY OF SHOREWOOD
5755 COUNTRY CLUB RD



DRAFT

ANDREW L. BUDDÉ
LIC. NO. 46585 DATE 02/08/2023



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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
EROSION CONTROL & TURF ESTABLISHMENT

SHEET
C2.04

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MICHAEL & LORI BRAUN
25805 EUREKA WAY



JOHN & JILL MAJESTIC
5840 EUREKA RD

ERIC & ANGELA NELSON
5860 EUREKA RD

BARBARA ALBRECHT
5890 EUREKA RD

DELINEATED WETLANDS

DELINEATED WETLANDS

EXISTING TRAIL

BIT. TRAIL

BIT. TRAIL

FENCE:
CHAIN LINK

BASEBALL FIELD

FREEMAN PARK

FENCE:
CHAIN LINK

EROSION CONTROL LEGEND

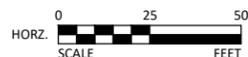
MS	MACHINE SLICED SILT FENCE		HYDROMULCH W/SEED MIX 25-151
.....	CONSTRUCTION LIMITS		HYDROMULCH W/SEED MIX 25-151 & CATEGORY 3 EROSION CONTROL BLANKET
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SEE SHEET C2.04

SEE SHEET C2.06



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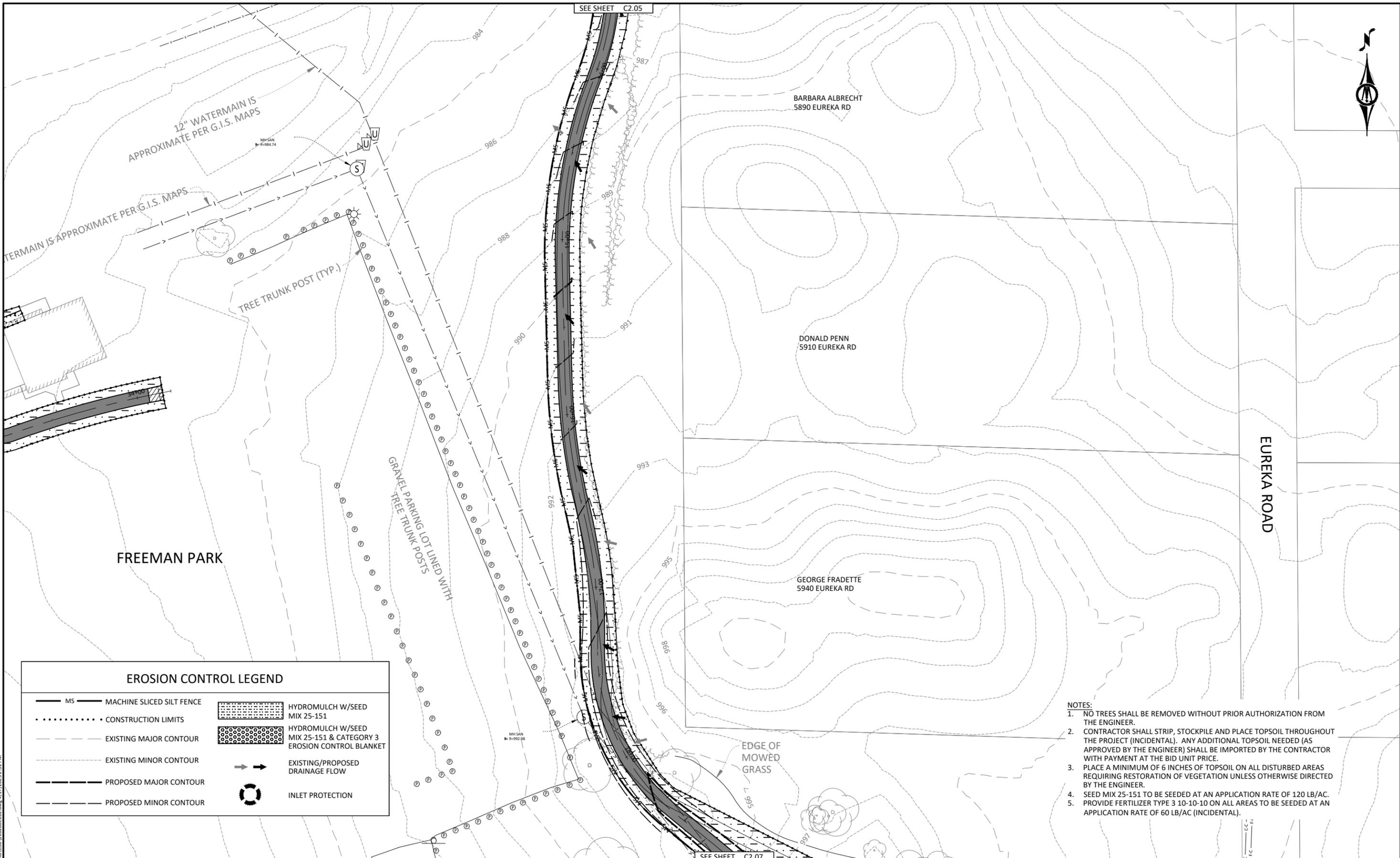


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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
EROSION CONTROL & TURF ESTABLISHMENT

SHEET
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12" WATERMAIN IS APPROXIMATE PER G.I.S. MAPS

TERMAIN IS APPROXIMATE PER G.I.S. MAPS

TREE TRUNK POST (TYP.)

GRAVEL PARKING LOT LINED WITH TREE TRUNK POSTS

FREEMAN PARK

EUREKA ROAD

BARBARA ALBRECHT
5890 EUREKA RD

DONALD PENN
5910 EUREKA RD

GEORGE FRADETTE
5940 EUREKA RD

EROSION CONTROL LEGEND

	MS	MACHINE SLICED SILT FENCE		HYDROMULCH W/SEED MIX 25-151
	CONSTRUCTION LIMITS		HYDROMULCH W/SEED MIX 25-151 & CATEGORY 3 EROSION CONTROL BLANKET
	- - - - -	EXISTING MAJOR CONTOUR		EXISTING/PROPOSED DRAINAGE FLOW
	- - - - -	EXISTING MINOR CONTOUR		INLET PROTECTION
	— — — — —	PROPOSED MAJOR CONTOUR		
	— — — — —	PROPOSED MINOR CONTOUR		

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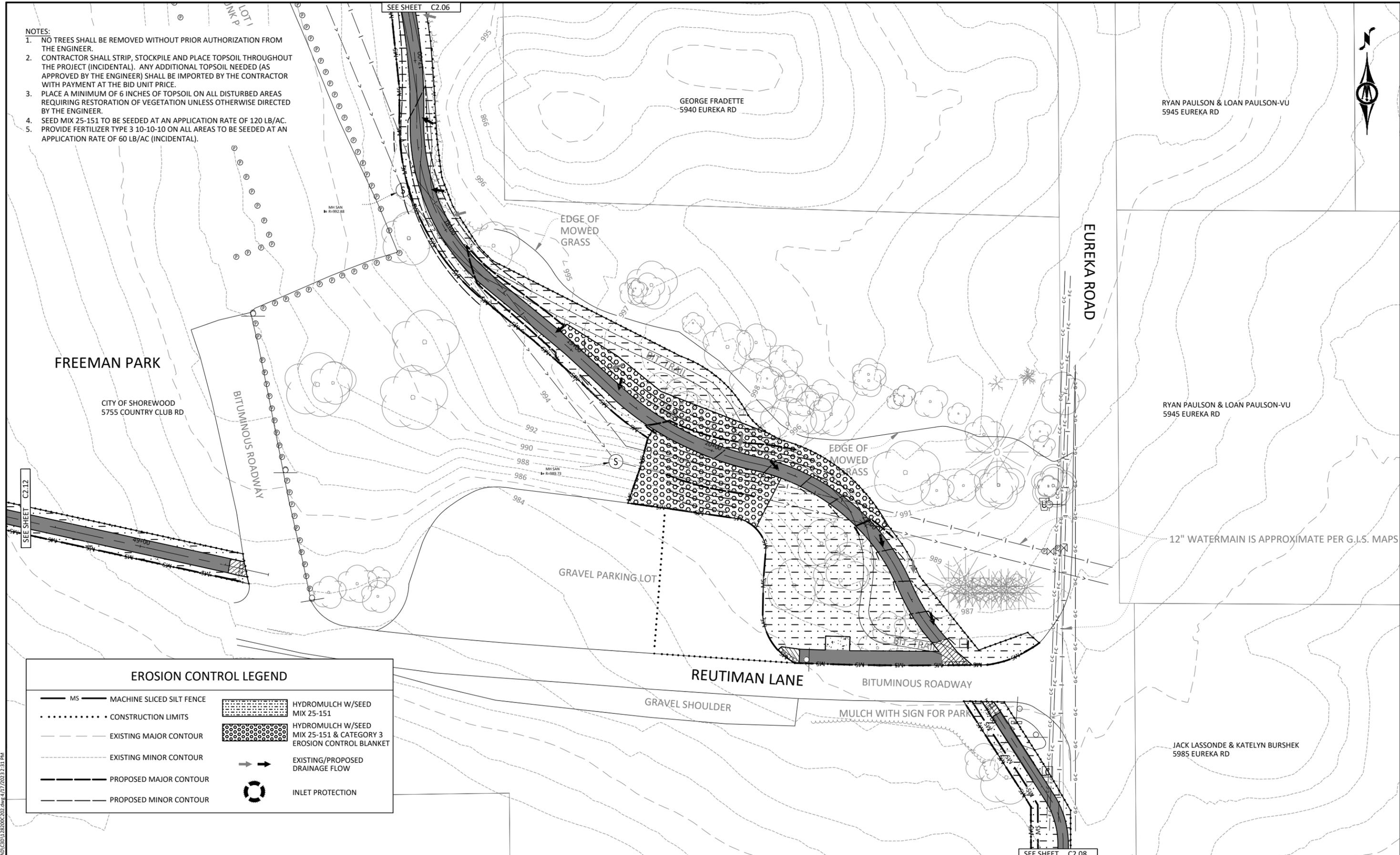
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CITY OF SHOREWOOD
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EROSION CONTROL & TURF ESTABLISHMENT

SHEET
C2.06

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EROSION CONTROL LEGEND

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	CONSTRUCTION LIMITS		HYDROMULCH W/SEED MIX 25-151 & CATEGORY 3 EROSION CONTROL BLANKET
	---	EXISTING MAJOR CONTOUR		EXISTING/PROPOSED DRAINAGE FLOW
	- - - -	EXISTING MINOR CONTOUR		INLET PROTECTION
	---	PROPOSED MAJOR CONTOUR		
	- - - -	PROPOSED MINOR CONTOUR		



DRAFT

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 3. PLACE A MINIMUM OF 6 INCHES OF TOPSOIL ON ALL DISTURBED AREAS REQUIRING RESTORATION OF VEGETATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 4. SEED MIX 25-151 TO BE SEEDED AT AN APPLICATION RATE OF 120 LB/AC.
 5. PROVIDE FERTILIZER TYPE 3 10-10-10 ON ALL AREAS TO BE SEEDED AT AN APPLICATION RATE OF 60 LB/AC (INCIDENTAL).

EROSION CONTROL LEGEND	
MS	MACHINE SLICED SILT FENCE
.....	CONSTRUCTION LIMITS
---	EXISTING MAJOR CONTOUR
- - - - -	EXISTING MINOR CONTOUR
---	PROPOSED MAJOR CONTOUR
- - - - -	PROPOSED MINOR CONTOUR
[Grid Pattern]	HYDROMULCH W/SEED MIX 25-151
[Grid Pattern]	HYDROMULCH W/SEED MIX 25-151 & CATEGORY 3 EROSION CONTROL BLANKET
[Arrow]	EXISTING/PROPOSED DRAINAGE FLOW
[Circle]	INLET PROTECTION

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ANDREW L. BUDDÉ
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Phone: (952) 448-8838
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www.bolton-menk.com

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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
EROSION CONTROL & TURF ESTABLISHMENT

SHEET
C2.08



SEE SHEET C2.08

SEE SHEET C2.10

EROSION CONTROL LEGEND

- MS MACHINE SLICED SILT FENCE
- CONSTRUCTION LIMITS
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- HYDROMULCH W/SEED MIX 25-151
- HYDROMULCH W/SEED MIX 25-151 & CATEGORY 3 EROSION CONTROL BLANKET
- EXISTING/PROPOSED DRAINAGE FLOW
- INLET PROTECTION

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FREEMAN PARK

CITY OF SHOREWOOD
5755 COUNTRY CLUB RD

POND VIEW DRIVE

EROSION CONTROL LEGEND

— MS —	MACHINE SLICED SILT FENCE		HYDROMULCH W/SEED MIX 25-151
.....	CONSTRUCTION LIMITS		HYDROMULCH W/SEED MIX 25-151 & CATEGORY 3 EROSION CONTROL BLANKET
---	EXISTING MAJOR CONTOUR		EXISTING/PROPOSED DRAINAGE FLOW
- - - -	EXISTING MINOR CONTOUR		INLET PROTECTION
---	PROPOSED MAJOR CONTOUR		
- - - -	PROPOSED MINOR CONTOUR		

ALLEN & WILMA KABANUK
6080 POND VIEW DR

WILLIAM & LUANNE O'NEILL
6090 POND VIEW DR

RICHARD MUELLER
6110 POND VIEW DR

DOUGLAS & FRANCES DOUGLASS
6100 POND VIEW DR

EUGENE & DORIS REICH
6115 POND VIEW DR

HELEN THOMAS
6075 POND VIEW DR

EUGENE & JEAN BRANDENBURG
6045 POND VIEW DR

LAWRENCE & ROSELYN BAIER
6035 POND VIEW DR

JEFFREY LU & JULIE WIGGINS LU
6125 POND VIEW DR

EUGENE & JEAN BRANDENBURG
6045 POND VIEW DR

SANDRA BULLOCK
6055 POND VIEW DR

ELIZABETH ANDERSON
6025 POND VIEW DR

MARY & CHARLES EITEL
6120 POND VIEW DR

JOHN & JANICE GROVER
6130 POND VIEW DR

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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
EROSION CONTROL & TURF ESTABLISHMENT

SHEET
C2.10



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EROSION CONTROL LEGEND				
	MS	MACHINE SLICED SILT FENCE		HYDROMULCH W/SEED MIX 25-151
		CONSTRUCTION LIMITS		HYDROMULCH W/SEED MIX 25-151 & CATEGORY 3 EROSION CONTROL BLANKET
		EXISTING MAJOR CONTOUR		EXISTING/PROPOSED DRAINAGE FLOW
		EXISTING MINOR CONTOUR		INLET PROTECTION
		PROPOSED MAJOR CONTOUR		
		PROPOSED MINOR CONTOUR		

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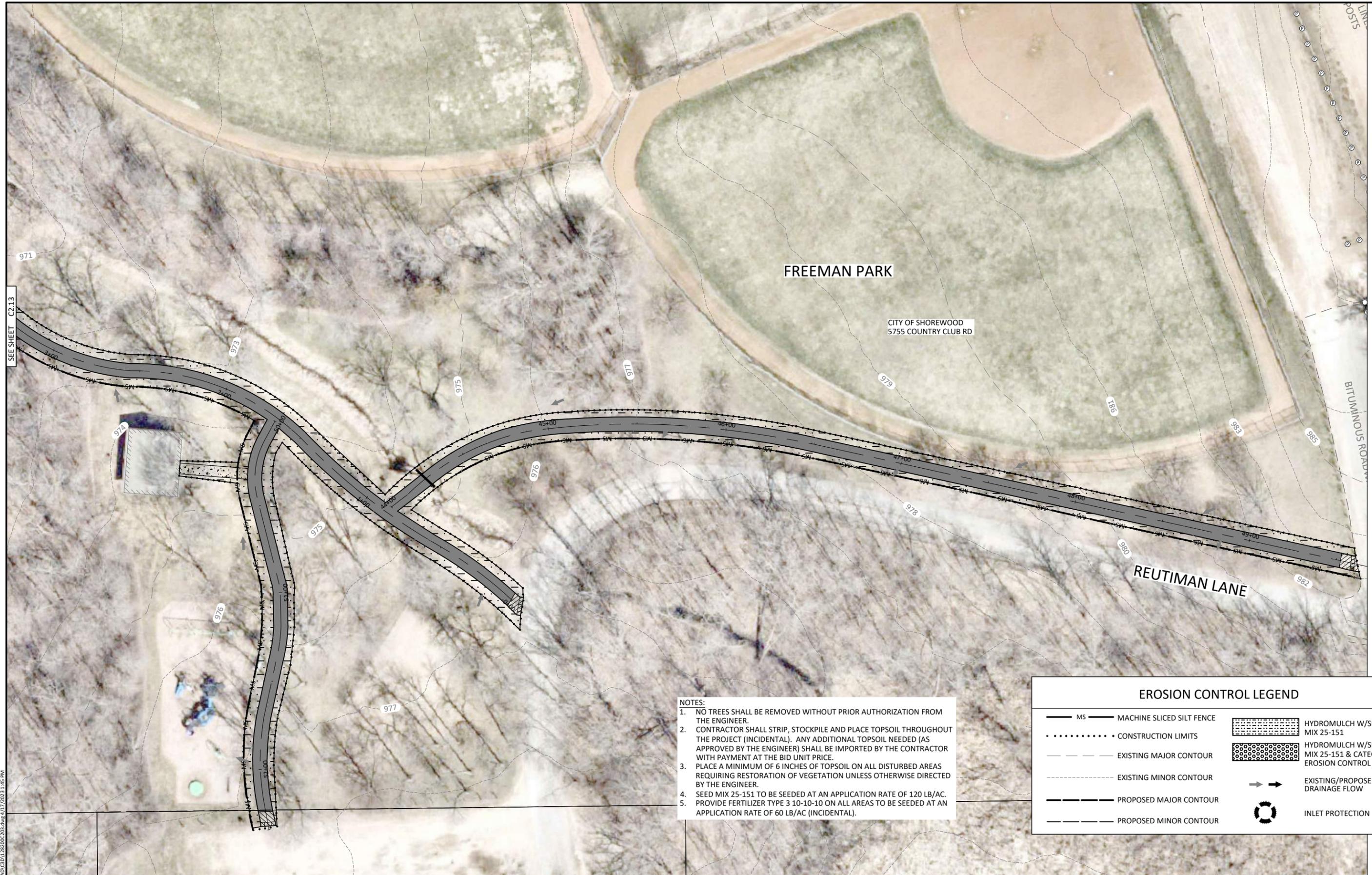


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EROSION CONTROL & TURF ESTABLISHMENT

SHEET
C2.11



SEE SHEET C2.13

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EROSION CONTROL LEGEND			
	MS	MACHINE SLICED SILT FENCE	
	•••••	CONSTRUCTION LIMITS	
	---	EXISTING MAJOR CONTOUR	
	- - - - -	EXISTING MINOR CONTOUR	
	---	PROPOSED MAJOR CONTOUR	
	- - - - -	PROPOSED MINOR CONTOUR	

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CITY OF SHOREWOOD
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SHEET
C2.12



FREEMAN PARK

CITY OF SHOREWOOD
5755 COUNTRY CLUB RD

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EROSION CONTROL LEGEND	
	MACHINE SLICED SILT FENCE
	CONSTRUCTION LIMITS
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	HYDROMULCH W/SEED MIX 25-151
	HYDROMULCH W/SEED MIX 25-151 & CATEGORY 3 EROSION CONTROL BLANKET
	EXISTING/PROPOSED DRAINAGE FLOW
	INLET PROTECTION

APPROXIMATE PER G.I.S. MAP
6" WATERMAIN IS APPROXIMATE PER G.I.S. MAP

SEE SHEET C2.12



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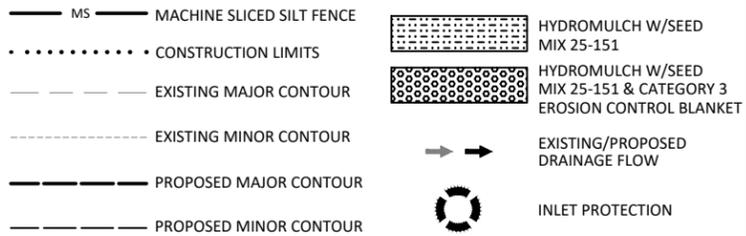
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CITY OF SHOREWOOD
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EROSION CONTROL & TURF ESTABLISHMENT

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EROSION CONTROL LEGEND



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FREEMAN PARK

CYNTHIA SCHLICK
26060 SHOREWOOD OAKS DR

R & C MILSTEIN
26050 SHOREWOOD OAKS DR

J HEALY & K KIRK-HEALY
26040 SHOREWOOD OAKS DR

MICHELLE FOSS
26030 SHOREWOOD OAKS DR

CITY OF SHOREWOOD
5755 COUNTRY CLUB RD

ALLEN & WILMA KABANUK
6080 POND VIEW DR

RICHARD MUELLER
6110 POND VIEW DR

MARY & CHARLES EITEL
6120 POND VIEW DR

JOANNE H SCHMID TRUST
6150 POND VIEW DR

PF NIELSEN ETAL TRUSTEES
6160 POND VIEW DR

SHOREWOOD OAKS DRIVE

SEE SHEET C2.10

SEE SHEET C2.10



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2638 SHADOW LANE, SUITE 200
 CHASKA, MINNESOTA 55318
 Phone: (952) 448-8838
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CITY OF SHOREWOOD
 FREEMAN PARK TRAIL IMPROVEMENTS
 EROSION CONTROL & TURF ESTABLISHMENT

SHEET
C2.14



CONSTRUCTION LEGEND

	4" CONCRETE SIDEWALK
	6" CONCRETE SIDEWALK
	GRAVEL TRAIL TO REMAIN
	3" BITUMINOUS TRAIL

CONSTRUCTION LAYOUT

	TRAIL B PLAN & PROFILE-C3.03-C3.06
	TRAIL A CONSTRUCTION PLAN-C3.07
	TRAIL C CONSTRUCTION PLAN-C3.08-C3.09
	TRAIL D CONSTRUCTION PLAN-C3.10-C3.11
	TRAIL E CONSTRUCTION PLAN-C3.12
	TRAIL F CONSTRUCTION PLAN-C3.13
	TRAIL G-H CONSTRUCTION PLAN-C3.14
	TRAIL I CONSTRUCTION PLAN-C3.15-C3.16
	TRAIL J CONSTRUCTION PLAN-C3.17-C3.18
	TRAIL K CONSTRUCTION PLAN-C3.19



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CONSTRUCTION PLAN OVERVIEW

SHEET
C3.01

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STAGING AREA

CONSTRUCTION LEGEND

	4" CONCRETE SIDEWALK
	6" CONCRETE SIDEWALK
	GRAVEL TRAIL TO REMAIN
	3" BITUMINOUS TRAIL

CONSTRUCTION LAYOUT

	TRAIL B PLAN & PROFILE-C3.03-C3.06
	TRAIL A CONSTRUCTION PLAN-C3.07
	TRAIL C CONSTRUCTION PLAN-C3.08-C3.09
	TRAIL D CONSTRUCTION PLAN-C3.10-C3.11
	TRAIL E CONSTRUCTION PLAN-C3.12
	TRAIL F CONSTRUCTION PLAN-C3.13
	TRAIL G-H CONSTRUCTION PLAN-C3.14
	TRAIL I CONSTRUCTION PLAN-C3.15-C3.16
	TRAIL J CONSTRUCTION PLAN-C3.17-C3.18
	TRAIL K CONSTRUCTION PLAN-C3.19

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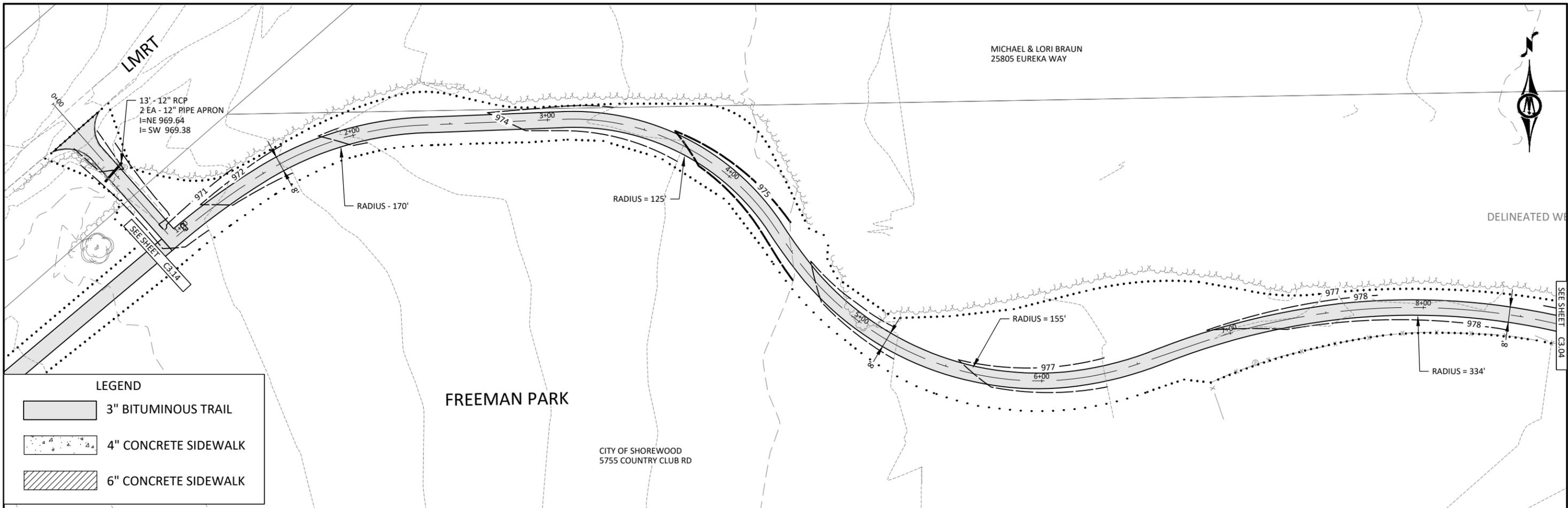
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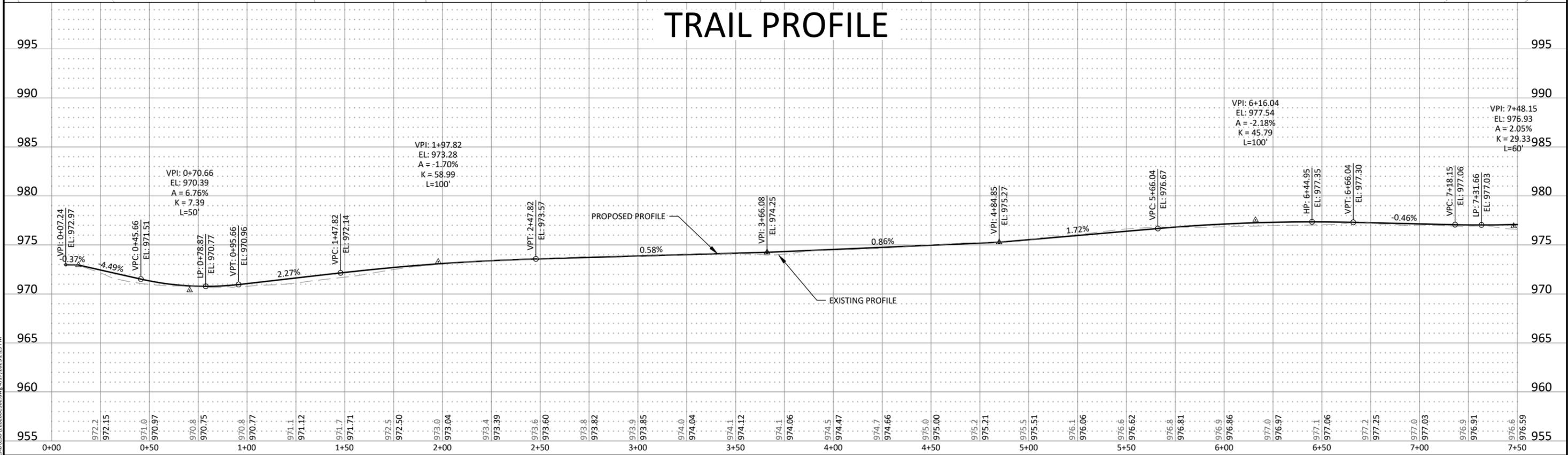
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CONSTRUCTION PLAN OVERVIEW

SHEET
C3.02

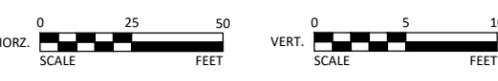
MICHAEL & LORI BRAUN
25805 EUREKA WAY



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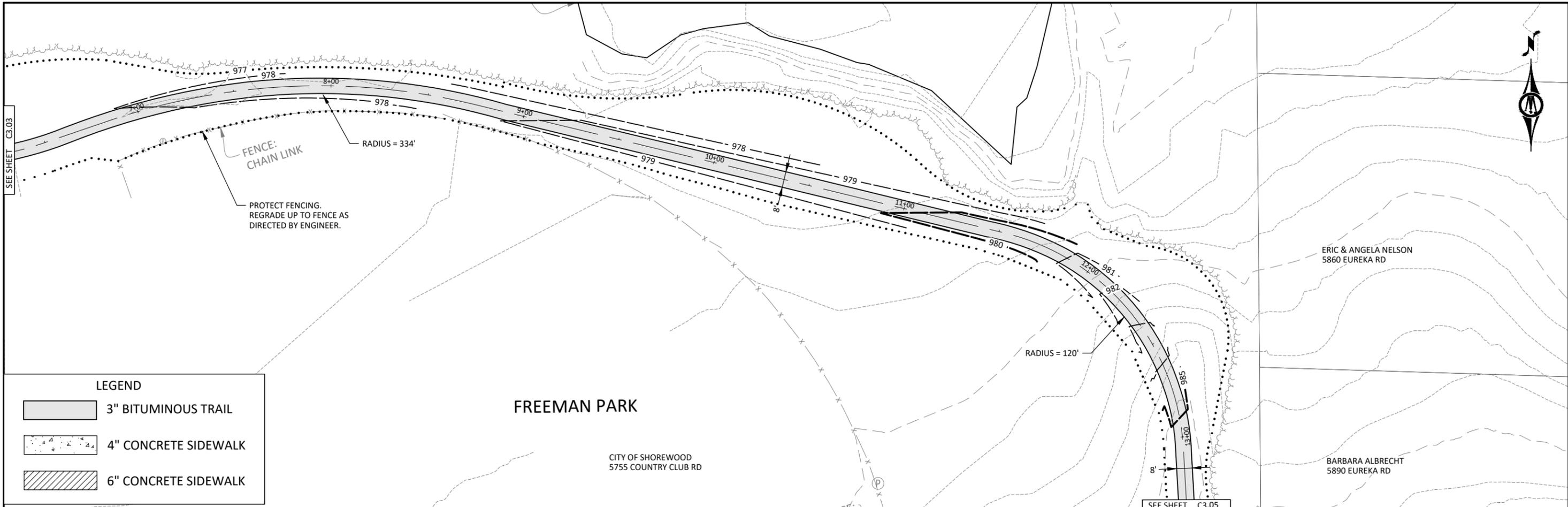


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CITY OF SHOREWOOD
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 PLAN & PROFILE-TRAIL B

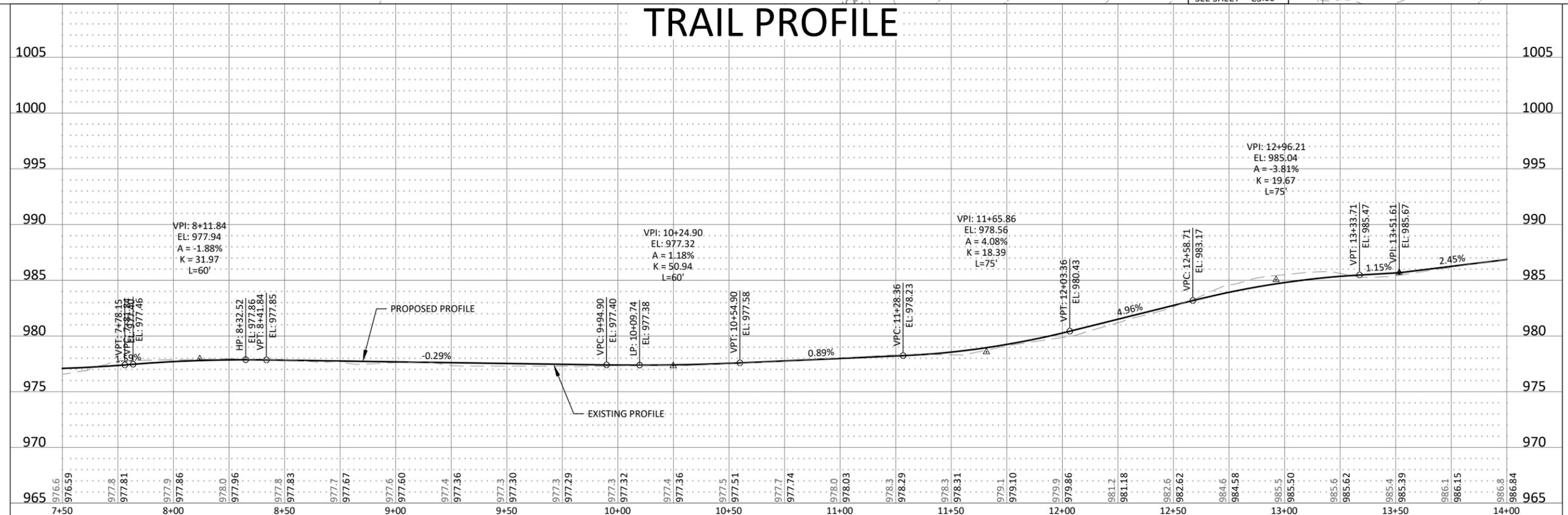
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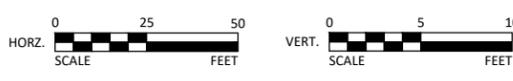
LEGEND

	3" BITUMINOUS TRAIL
	4" CONCRETE SIDEWALK
	6" CONCRETE SIDEWALK

TRAIL PROFILE



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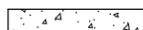
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FREEMAN PARK TRAIL IMPROVEMENTS
PLAN & PROFILE-TRAIL B

SHEET
C3.04

LEGEND

-  3" BITUMINOUS TRAIL
-  4" CONCRETE SIDEWALK
-  6" CONCRETE SIDEWALK

ERIC & ANGELA NELSON
5860 EUREKA RD

BARBARA ALBRECHT
5890 EUREKA RD

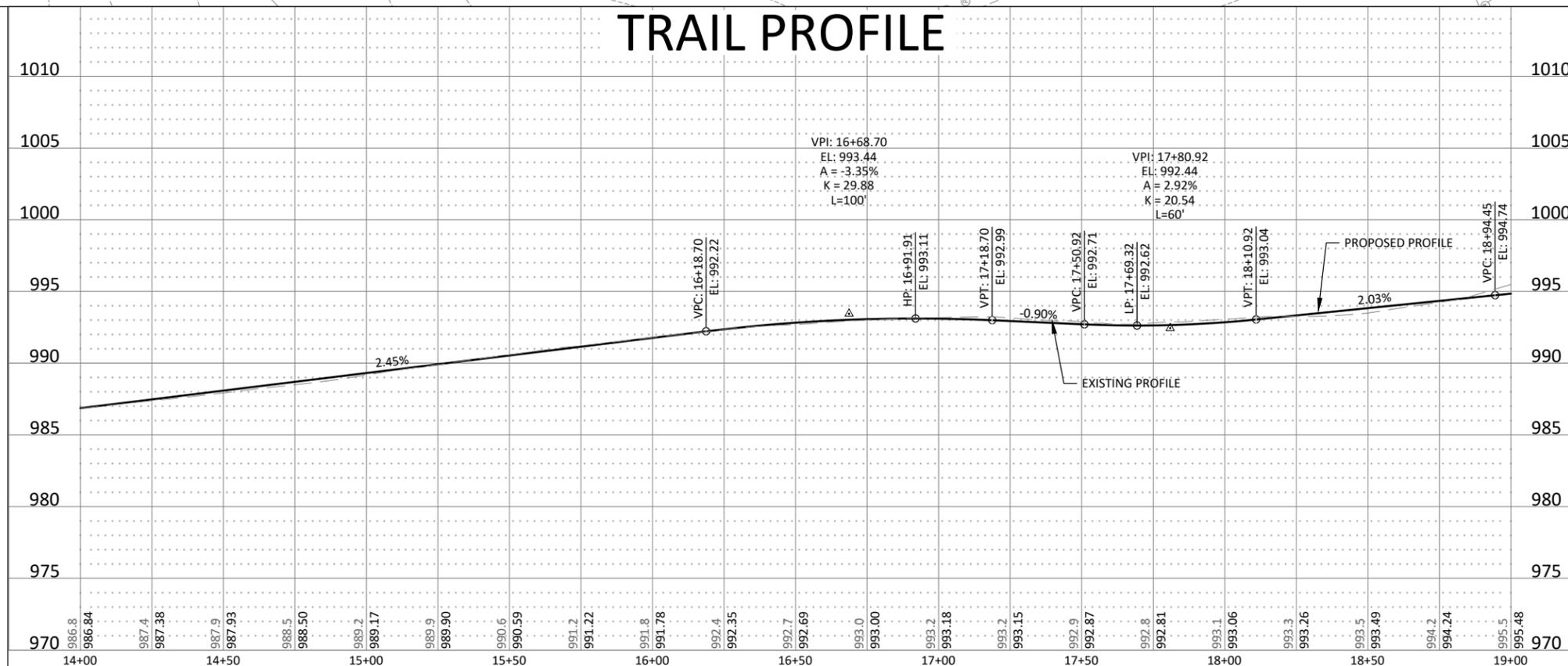
DONALD PENN
5910 EUREKA RD

GEORGE FRADETTE
5940 EUREKA RD

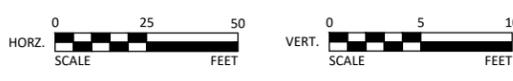
FREEMAN PARK

CITY OF SHOREWOOD
5755 COUNTRY CLUB RD

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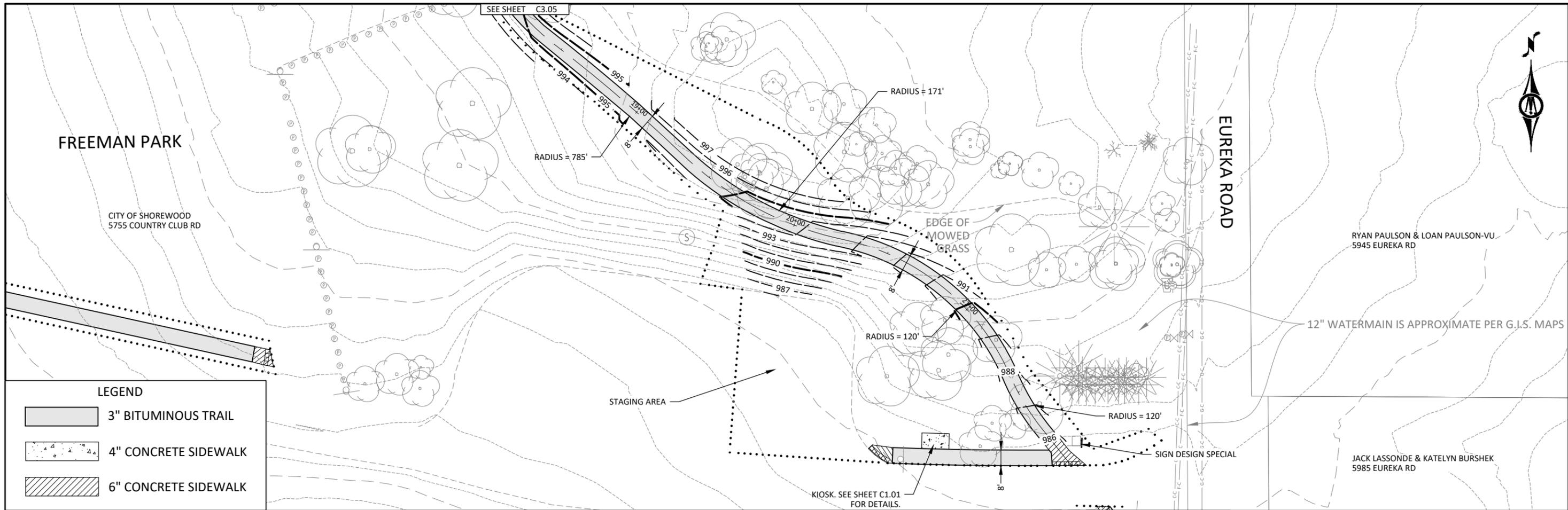


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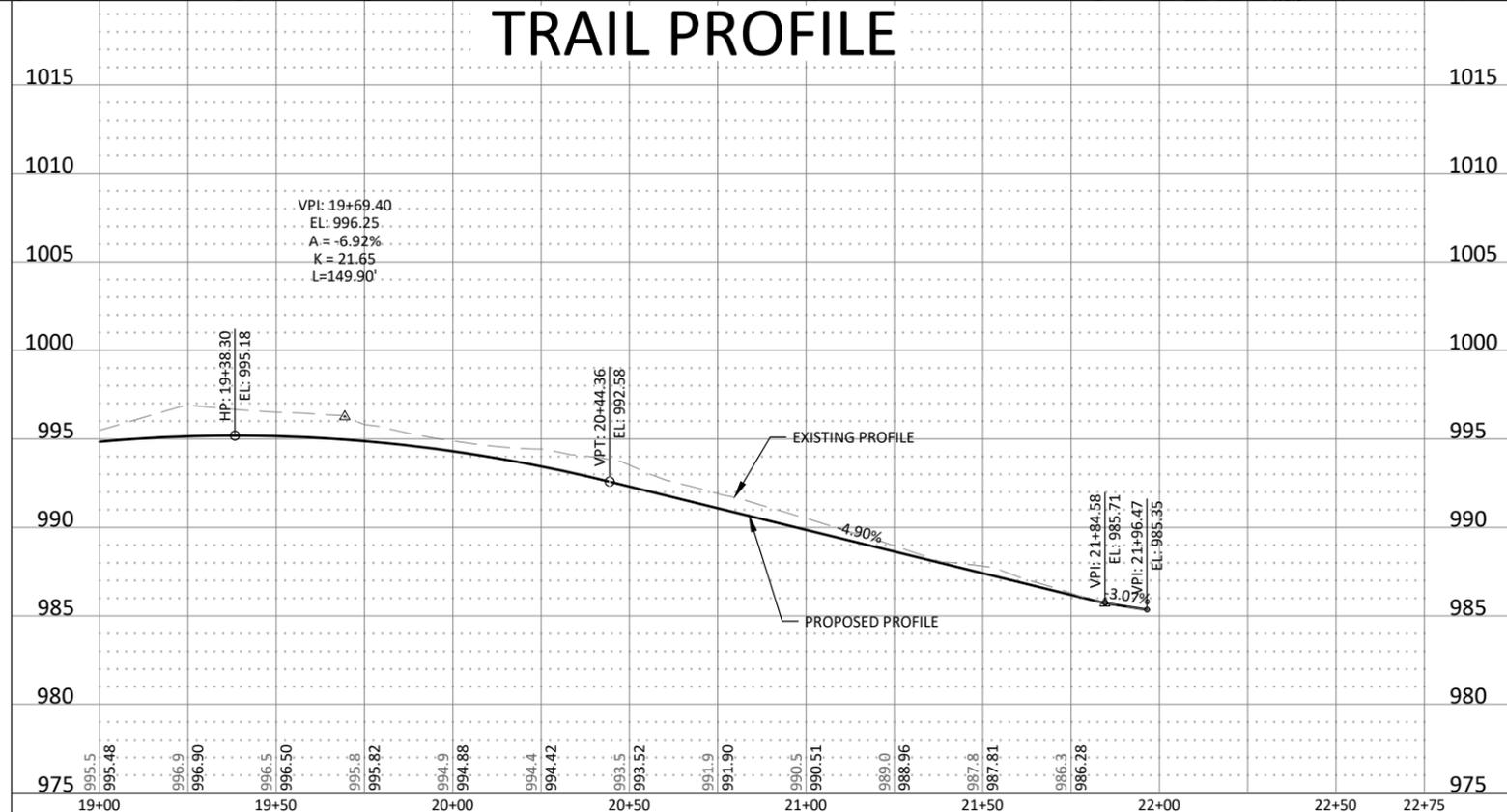
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CITY OF SHOREWOOD
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 PLAN & PROFILE-TRAIL B

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C3.05



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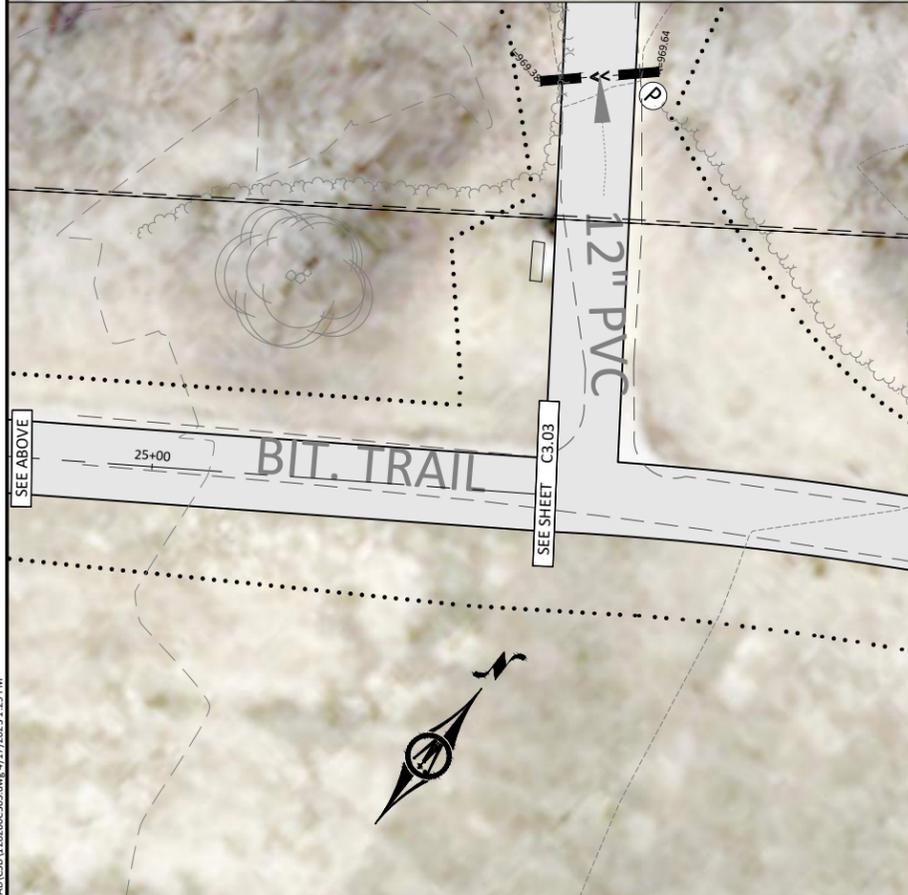


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Email: Chaska@bolton-menk.com
www.bolton-menk.com

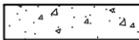
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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
PLAN & PROFILE-TRAIL B

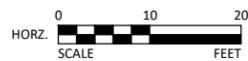
SHEET
C3.06



LEGEND

	3" BITUMINOUS TRAIL
	4" CONCRETE SIDEWALK
	6" CONCRETE SIDEWALK

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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
CONSTRUCTION PLAN-TRAIL A

SHEET
C3.07



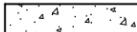
SEE SHEET C3.10

SEE BELOW



SEE ABOVE

LEGEND

-  3" BITUMINOUS TRAIL
-  4" CONCRETE SIDEWALK
-  6" CONCRETE SIDEWALK

SEE SHEET C3.09

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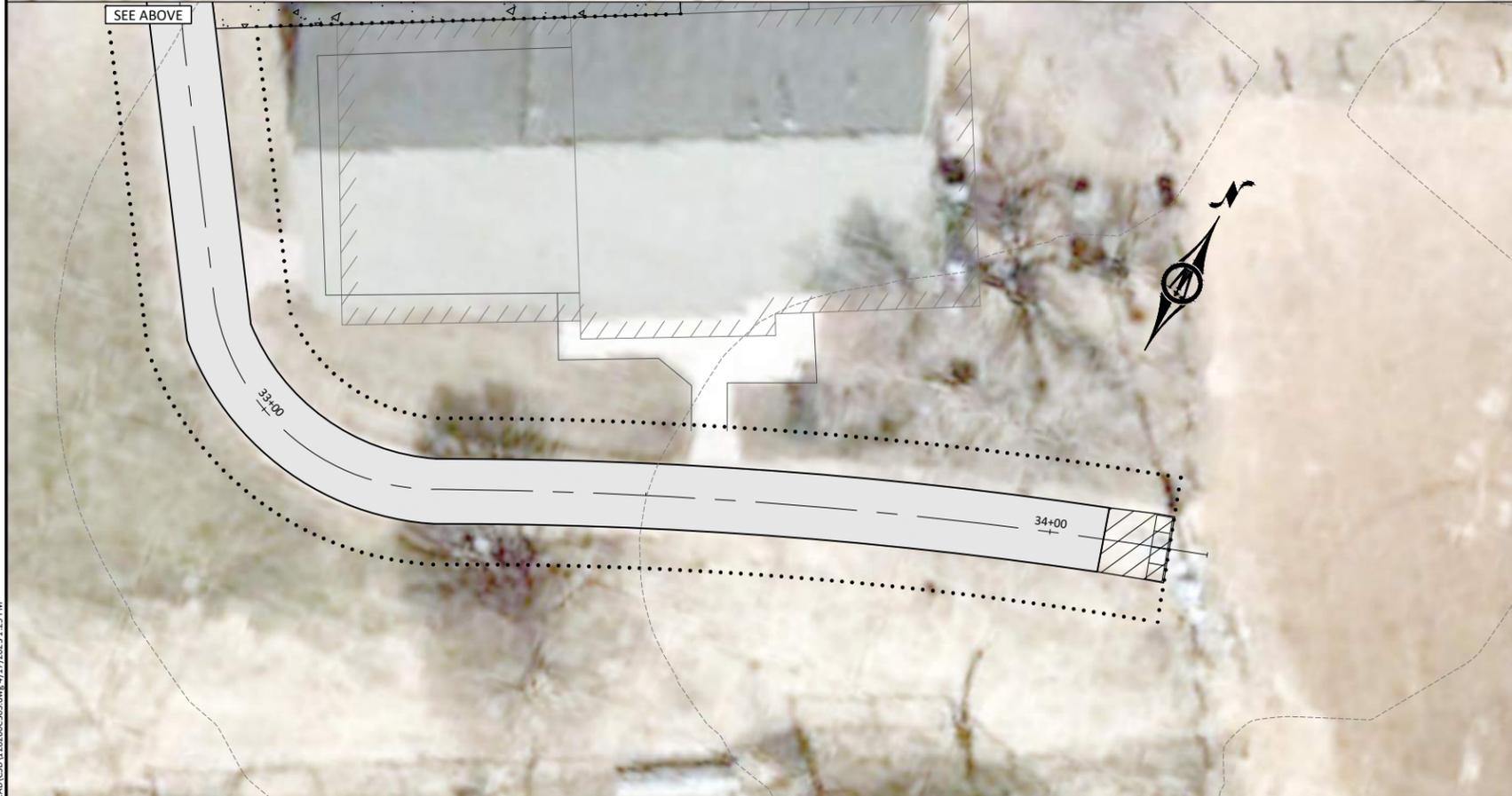


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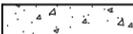
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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
CONSTRUCTION PLAN-TRAIL C

SHEET
C3.08



LEGEND

	3" BITUMINOUS TRAIL
	4" CONCRETE SIDEWALK
	6" CONCRETE SIDEWALK

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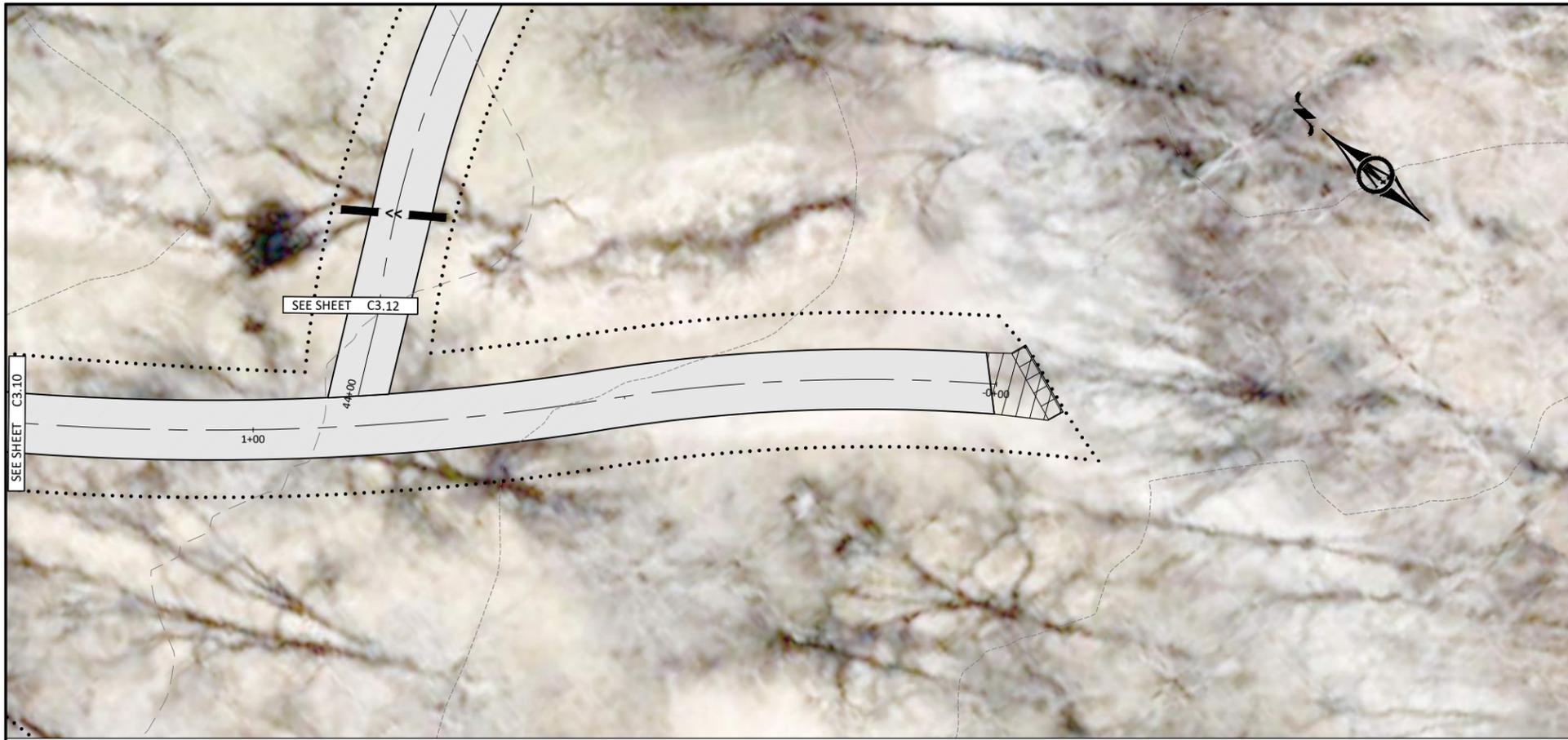


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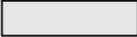
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CONSTRUCTION PLAN-TRAIL C

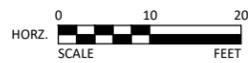
SHEET
C3.09



LEGEND

	3" BITUMINOUS TRAIL
	4" CONCRETE SIDEWALK
	6" CONCRETE SIDEWALK

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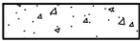
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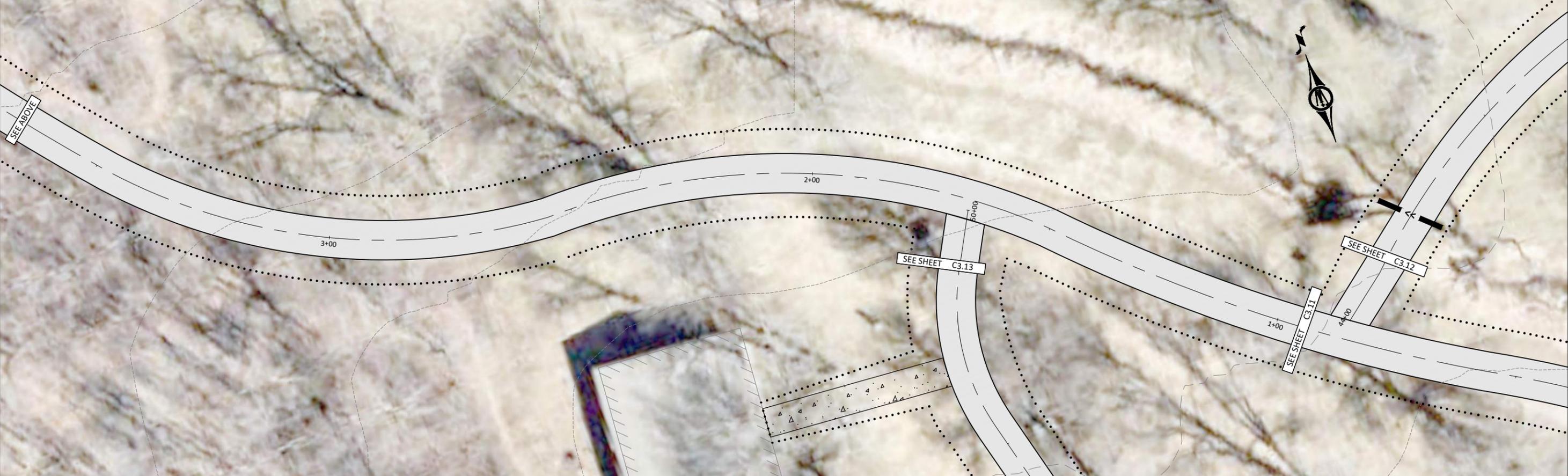
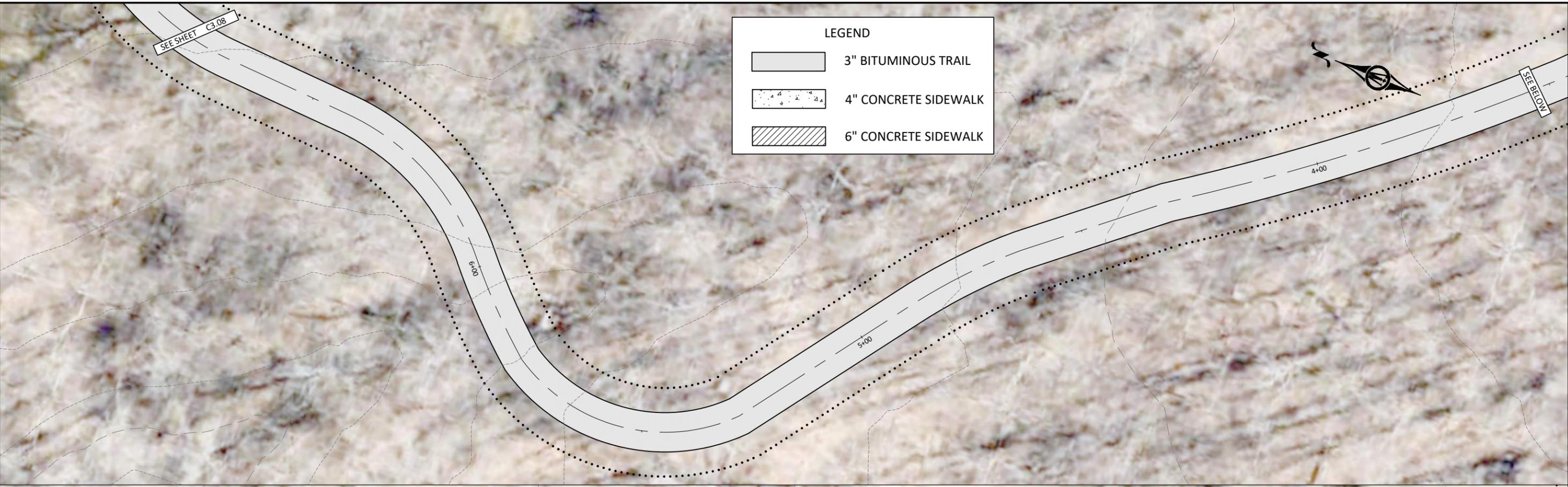
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CITY OF SHOREWOOD
 FREEMAN PARK TRAIL IMPROVEMENTS
 CONSTRUCTION PLAN-TRAIL D

SHEET
C3.11

LEGEND

-  3" BITUMINOUS TRAIL
-  4" CONCRETE SIDEWALK
-  6" CONCRETE SIDEWALK



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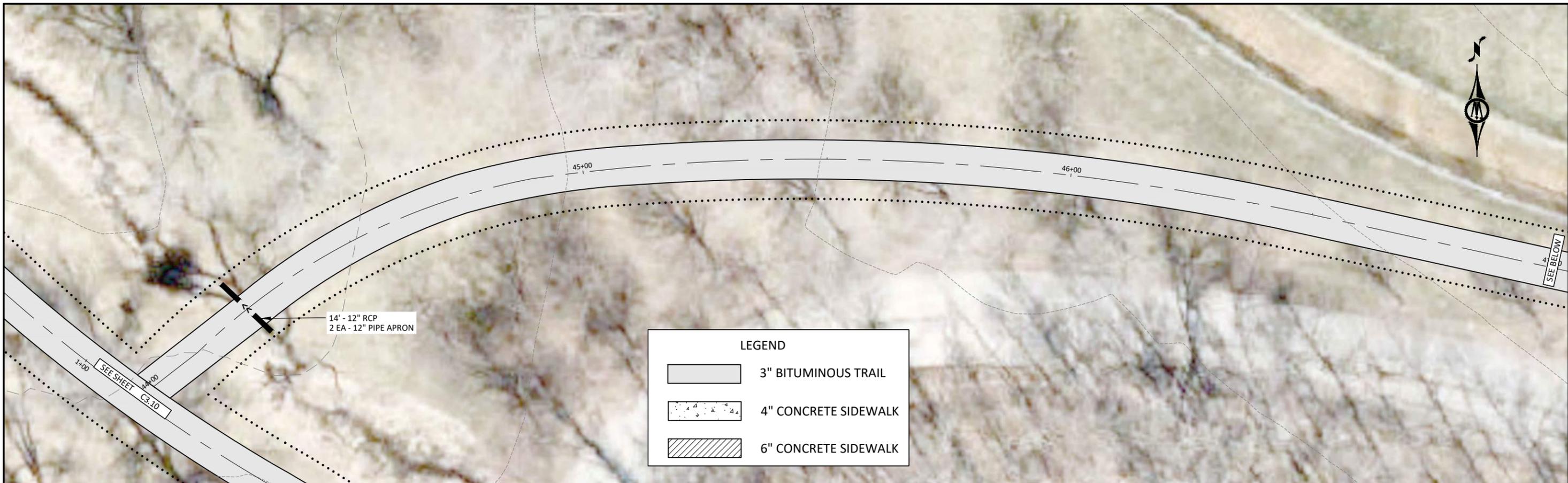


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CONSTRUCTION PLAN-TRAIL D

SHEET
C3.10



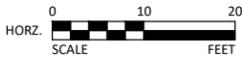
LEGEND

	3" BITUMINOUS TRAIL
	4" CONCRETE SIDEWALK
	6" CONCRETE SIDEWALK



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SEE SHEET C3.11



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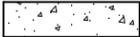
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CONSTRUCTION PLAN-TRAIL E

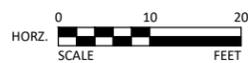
SHEET
C3.12



LEGEND

	3" BITUMINOUS TRAIL
	4" CONCRETE SIDEWALK
	6" CONCRETE SIDEWALK

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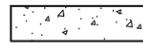
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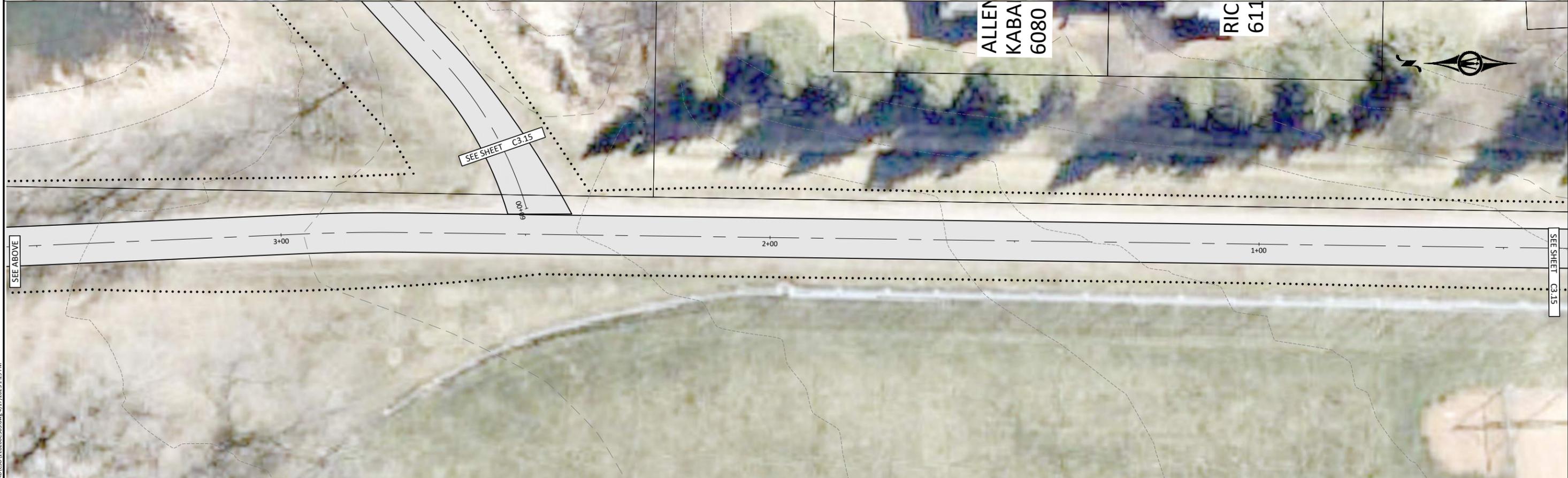
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 CONSTRUCTION PLAN-TRAIL F

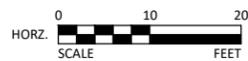
SHEET
C3.13

LEGEND

-  3" BITUMINOUS TRAIL
-  4" CONCRETE SIDEWALK
-  6" CONCRETE SIDEWALK



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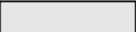
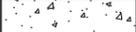
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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
CONSTRUCTION PLAN-TRAIL G-H

SHEET
C3.14



LEGEND

-  3" BITUMINOUS TRAIL
-  4" CONCRETE SIDEWALK
-  6" CONCRETE SIDEWALK

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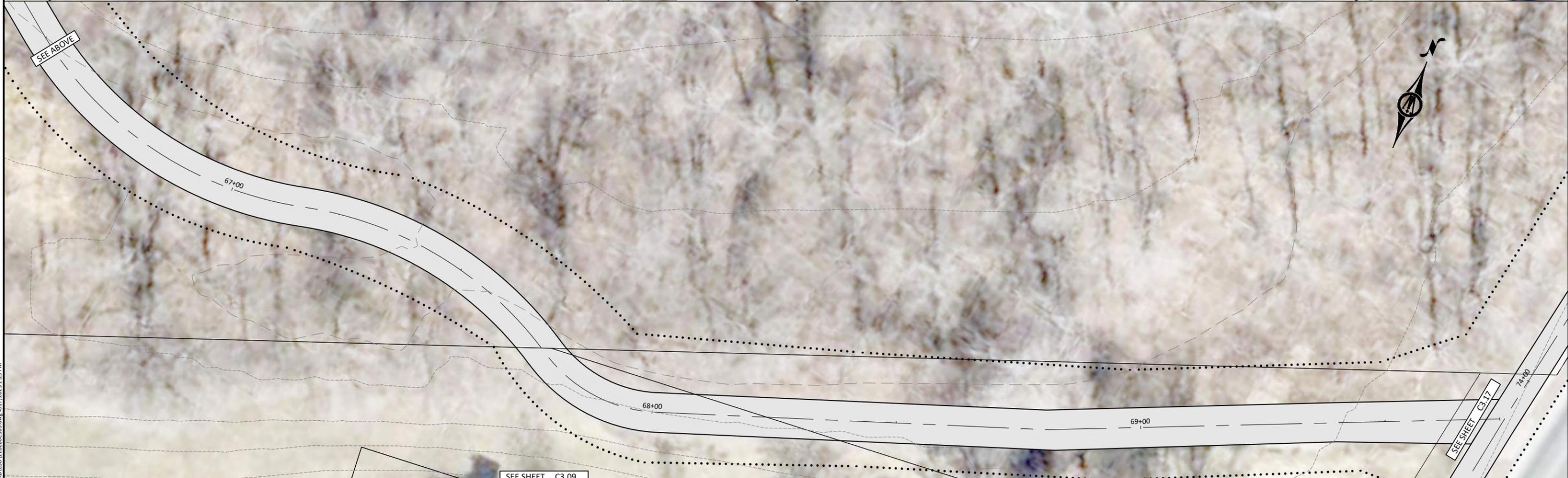
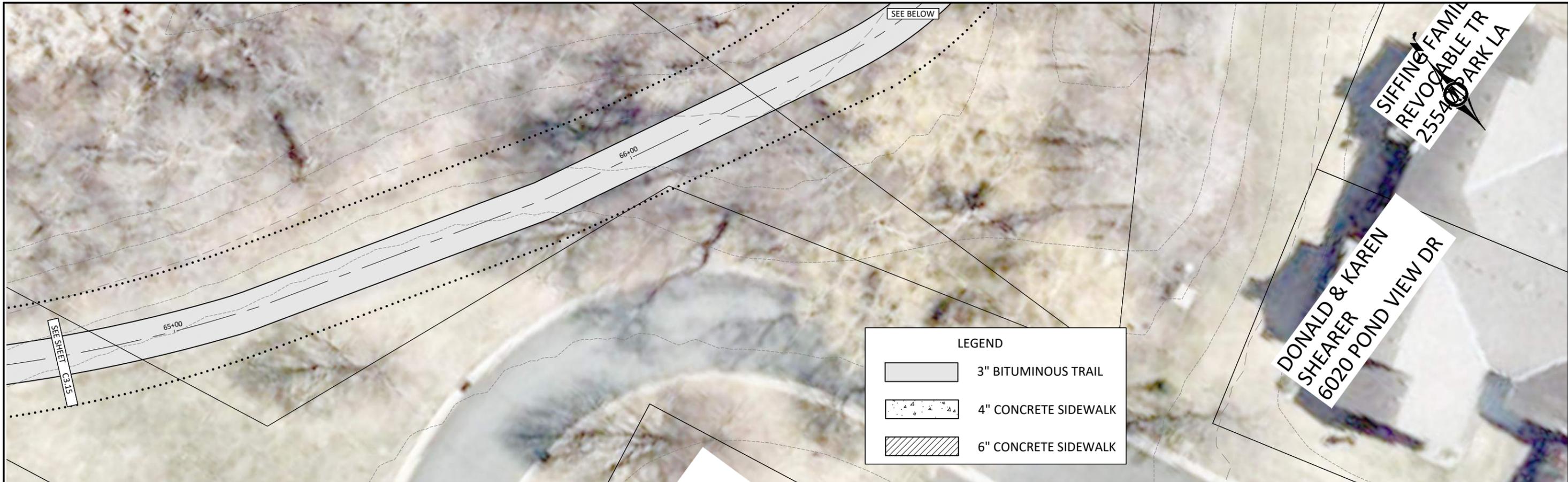


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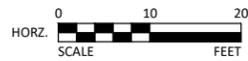
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CONSTRUCTION PLAN-TRAIL I

SHEET
C3.15



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 CONSTRUCTION PLAN-TRAIL I

SHEET
C3.16



PARK LANE

72+00

73+00

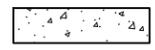
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EUREKA ROAD

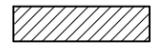
LEGEND



3" BITUMINOUS TRAIL



4" CONCRETE SIDEWALK



6" CONCRETE SIDEWALK

CC 26

SEE SHEET C3.16



SEE ABOVE

74+00

75+00

76+00

SEE SHEET C3.18

EUREKA ROAD

SEE SHEET C3.08

CC 26



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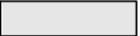
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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
CONSTRUCTION PLAN-TRAIL J

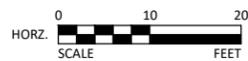
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LEGEND	
	3" BITUMINOUS TRAIL
	4" CONCRETE SIDEWALK
	6" CONCRETE SIDEWALK

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 FREEMAN PARK TRAIL IMPROVEMENTS
 CONSTRUCTION PLAN-TRAIL J

SHEET
C3.18



MICHELLE FOSS
26030 SHOREWOOD OAKS DR

LEGEND	
	3" BITUMINOUS TRAIL
	4" CONCRETE SIDEWALK
	6" CONCRETE SIDEWALK



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CITY OF SHOREWOOD
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CONSTRUCTION PLAN-TRAIL K-L

SHEET
C3.19



SMITHTOWN WAY

KA A BURKESEMMER
XANDER SEMMER
SMITHTOWN RD

MATTHEW J & LISA M MESSERLI
5760 SMITHTOWN WAY

MATT J & MICHELLE J MIDBOE
5770 SMITHTOWN WAY

JAMES R GUY & LESLIE GUY
5780 SMITHTOWN WAY

MARTIN WELLS & NANCY WELLS
5780 EUREKA RD

CONTRACTOR TO LOCATE EXISTING DRAINTILE FOR
PIPE CONNECTION PRIOR TO PLACEMENT OF STRUCTURE.

DELINEATED WETLANDS

DELINEATED WETLANDS

JAYMES PANTEKOEK & KELLIE BIGHAM
5820 EUREKA RD

MICHAEL & LORI BRAUN
25805 EUREKA WAY

BIT. TRAIL

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CITY OF SHOREWOOD
FREEMAN PARK TRAIL IMPROVEMENTS
STORM SEWER & POND CONSTRUCTION

SHEET
C4.01



CASSANDRA A BURKESEMMER
PETER ALEXANDER SEMMER
25765 SMITHTOWN RD

MATTHEW J & LISA M MESSERLI
5760 SMITHTOWN WAY

MATT J & MICHELLE J MIDBOE
5770 SMITHTOWN WAY

JAMES R GUY & LESLIE GUY
5780 SMITHTOWN WAY

MARTIN
5780 EU

DELINEATED WETLANDS

DELINEATED WETLANDS

JAYMES PANTEKOEK & KELLIE BIGHAM
5820 EUREKA RD

MICHAEL & LORI BRAUN
25805 EUREKA WAY

JOHN & JILL MAJESTIC
5840 EUREKA RD

EXISTING TRAIL

BIT. TRAIL

BIT. TRAIL

DELINEATED WETLANDS

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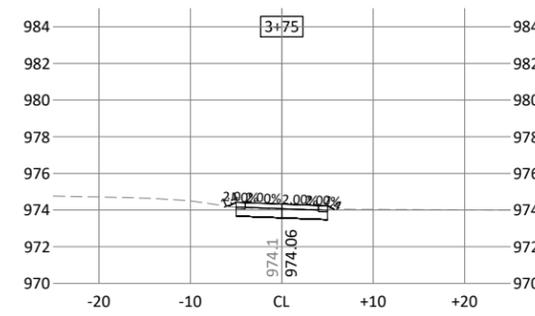
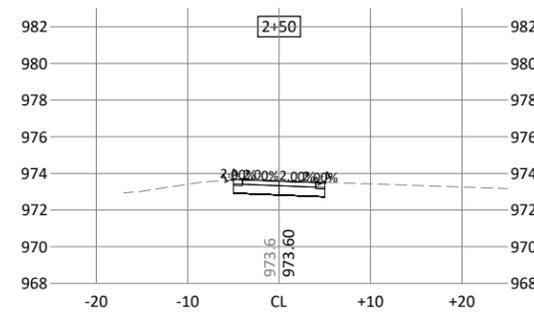
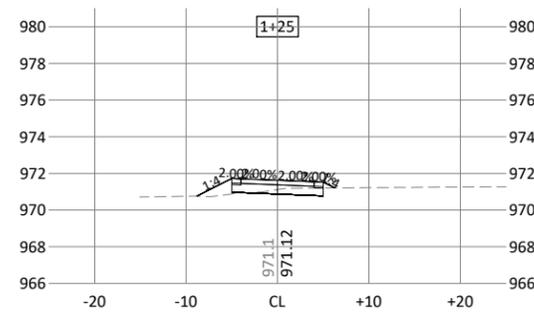
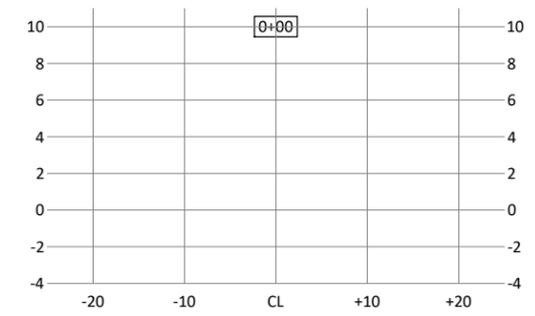
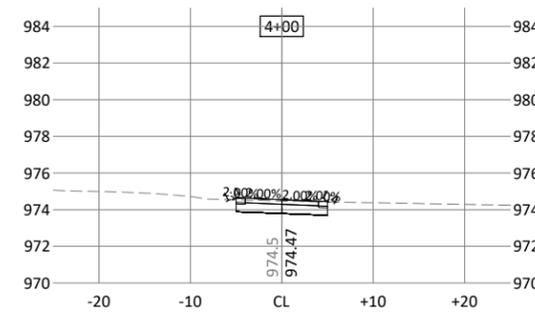
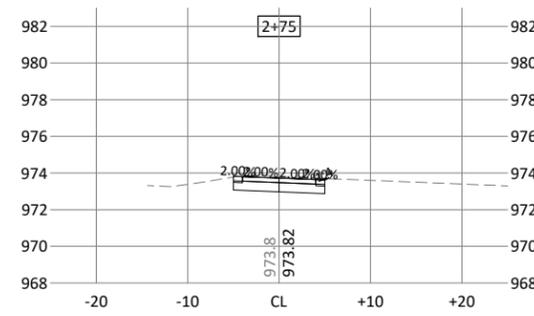
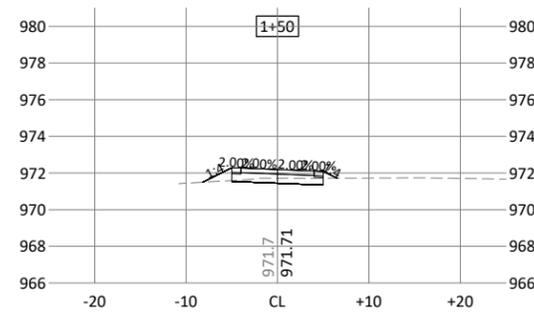
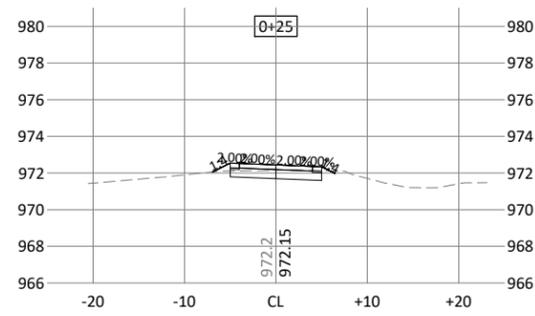
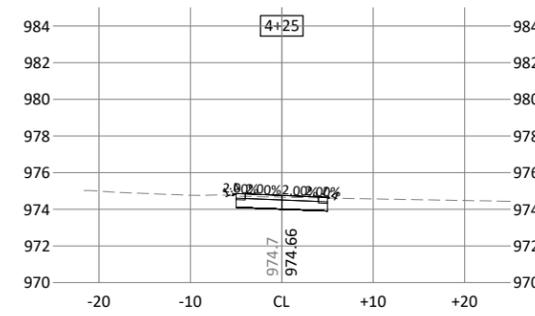
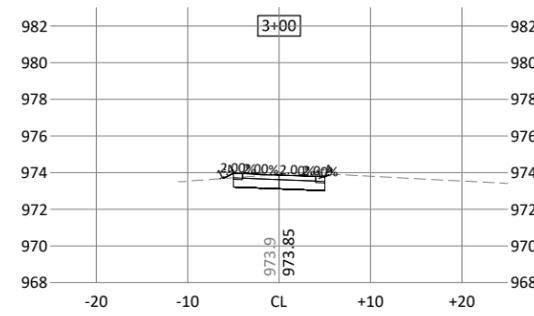
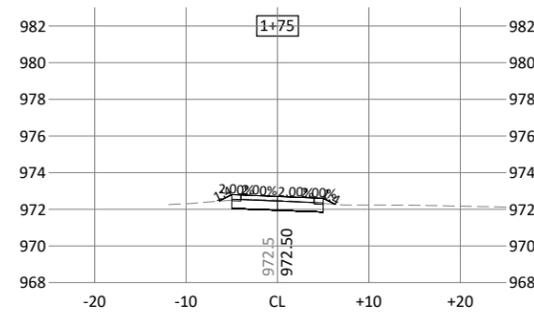
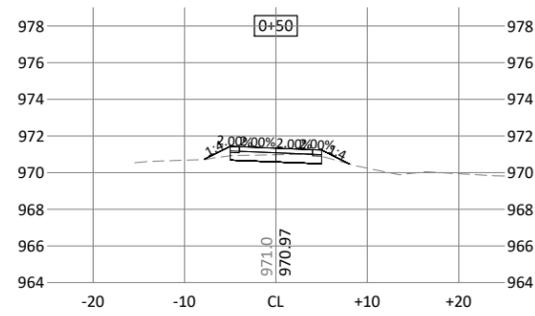
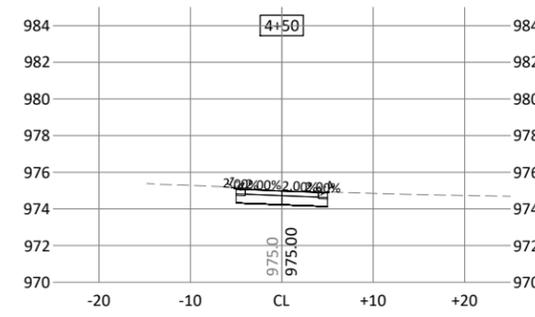
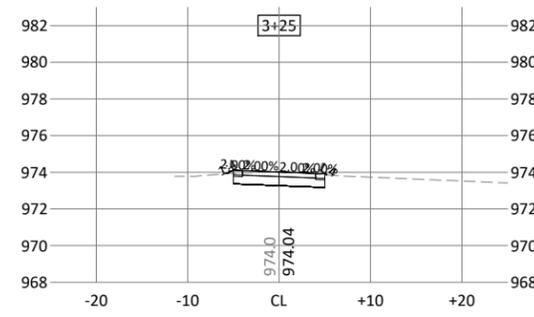
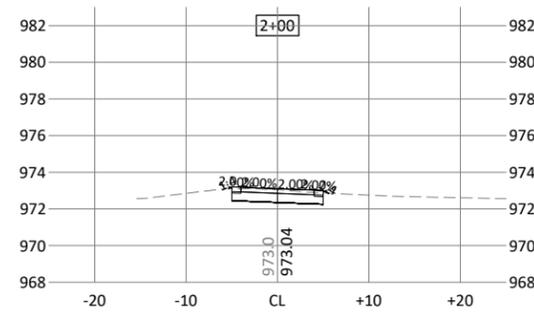
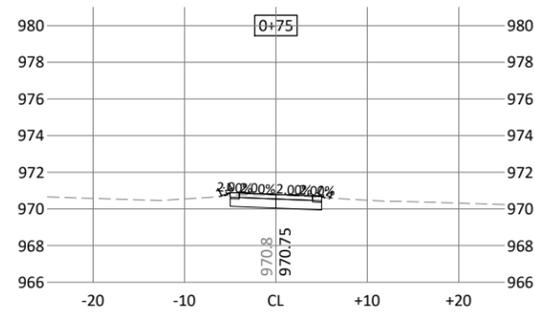
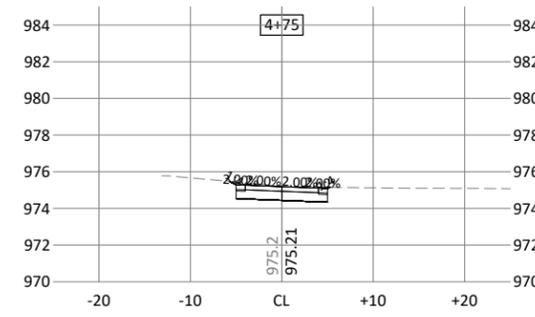
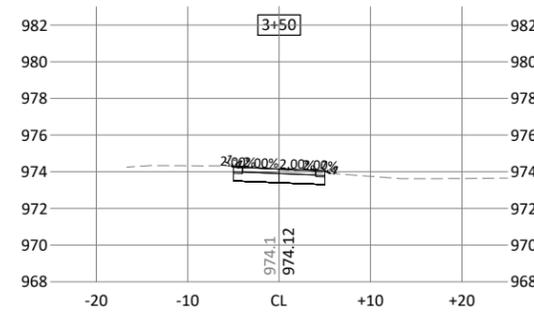
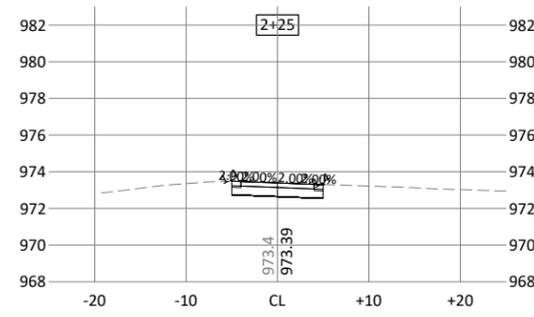
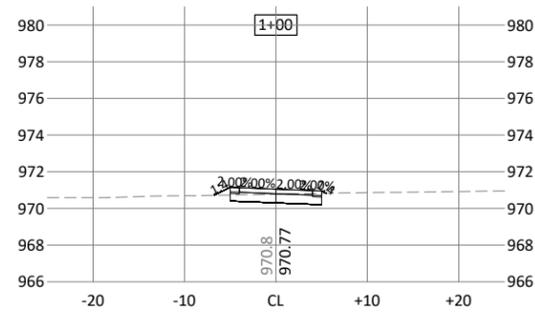
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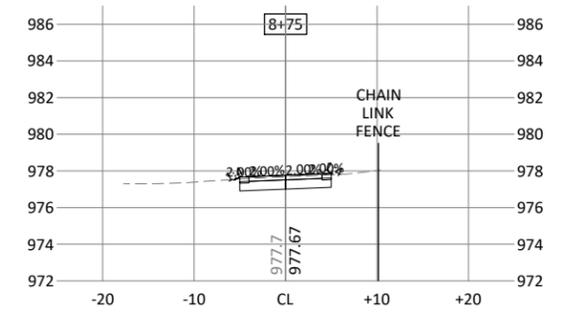
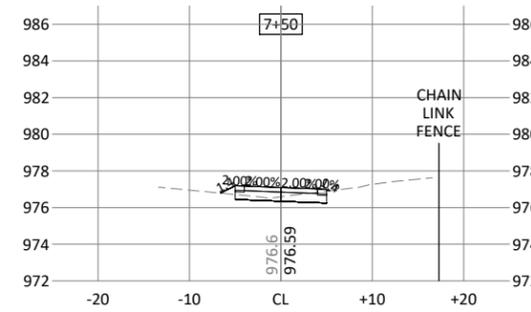
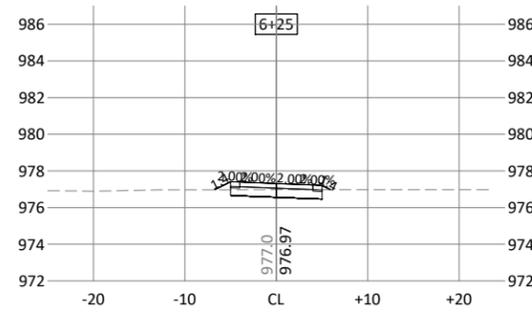
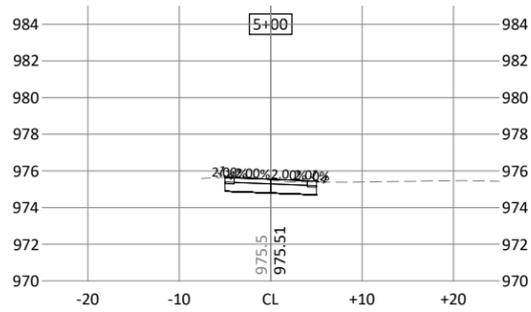
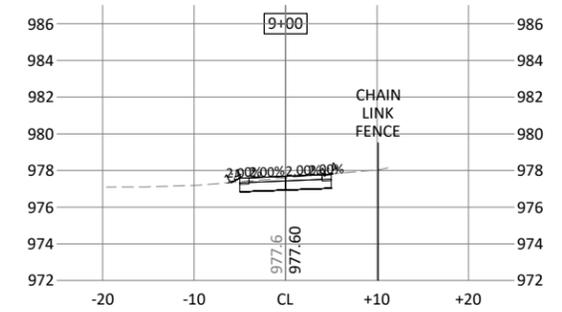
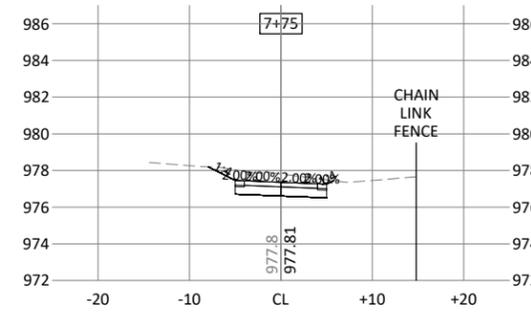
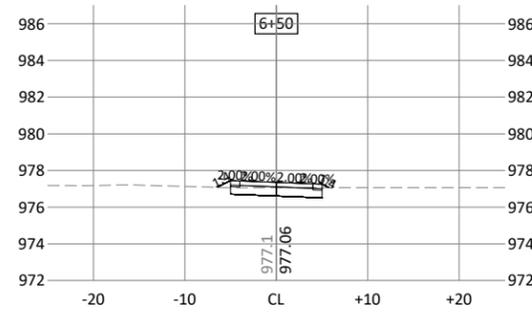
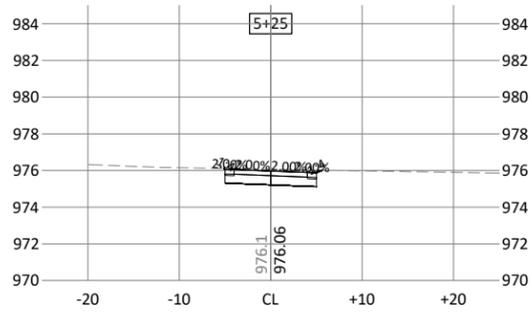
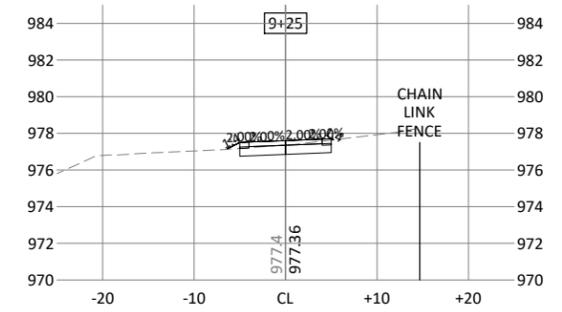
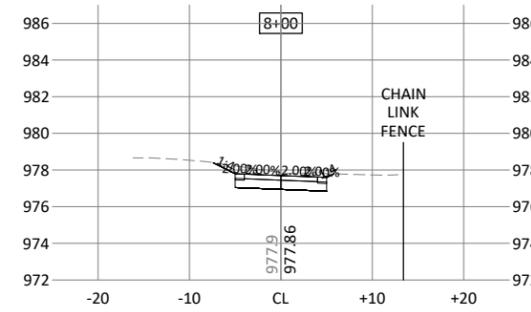
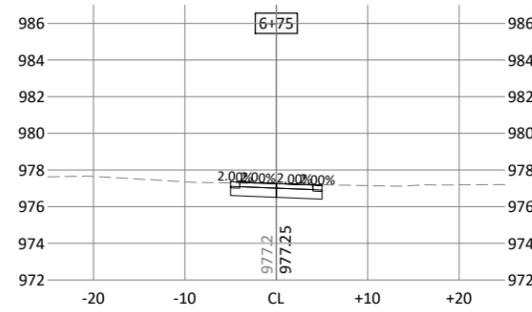
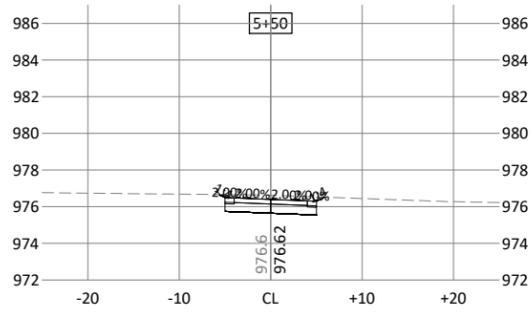
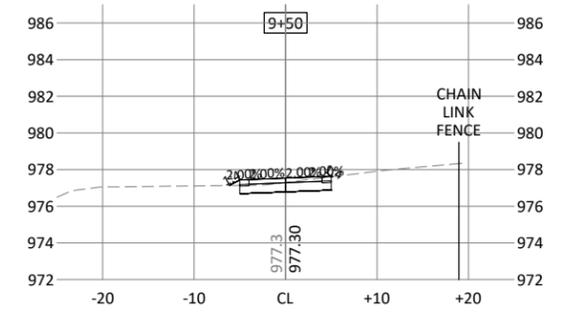
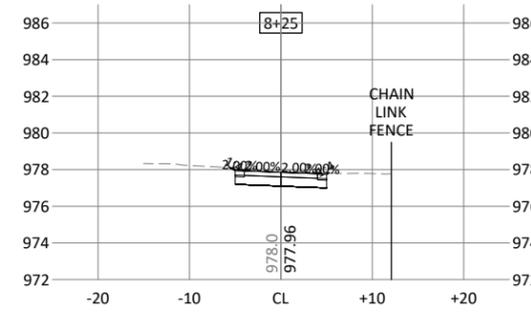
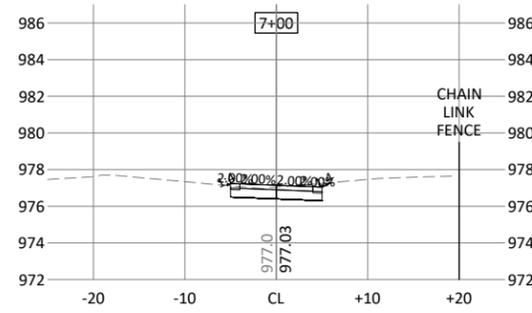
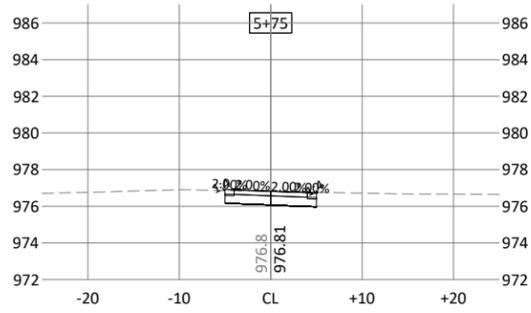
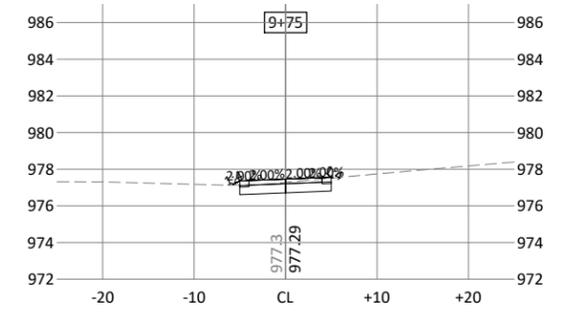
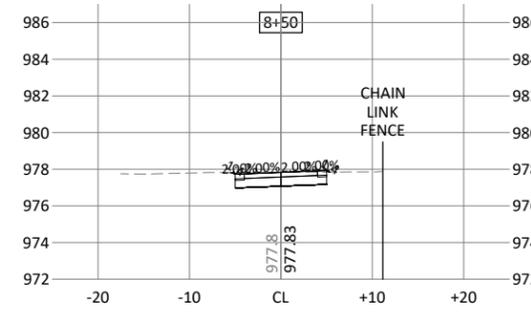
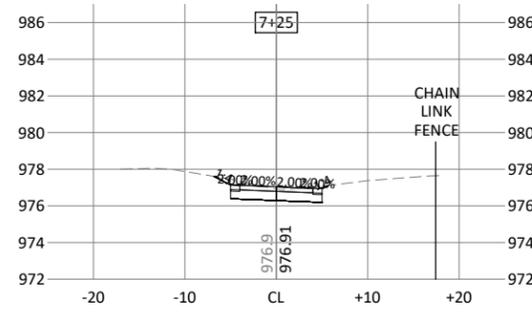
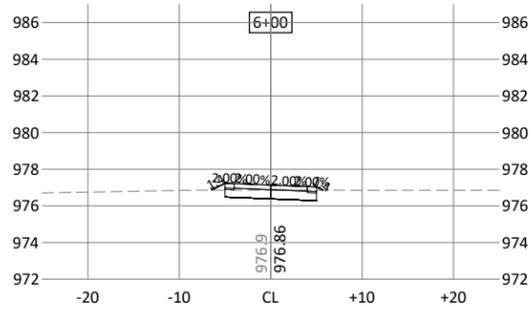
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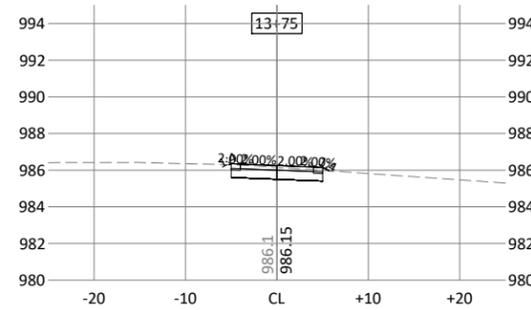
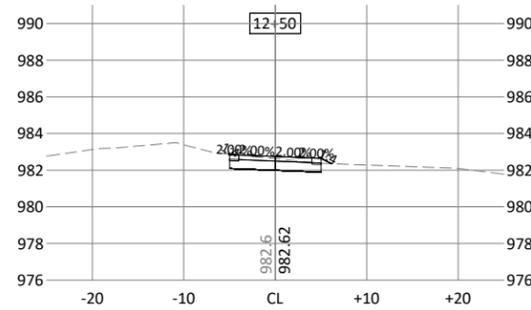
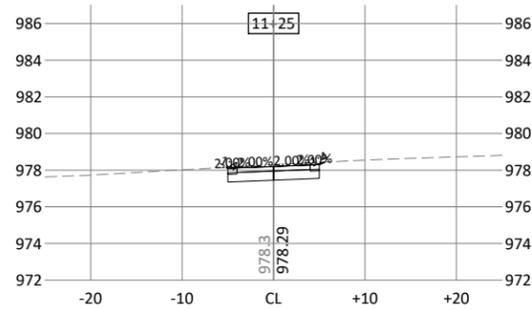
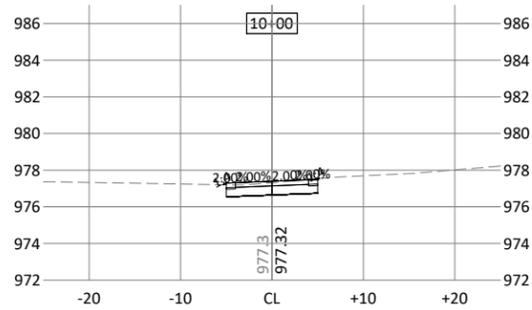
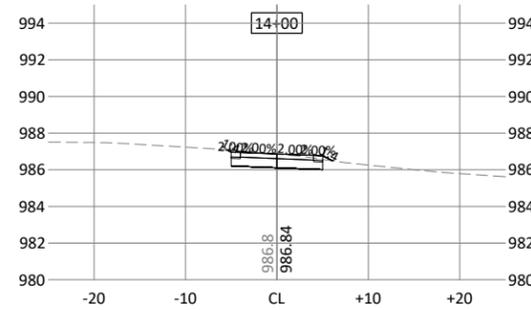
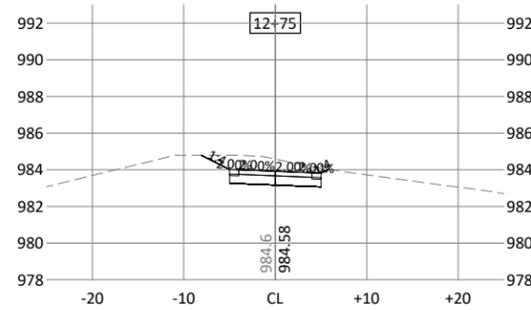
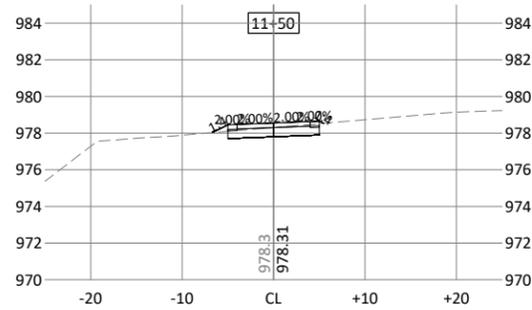
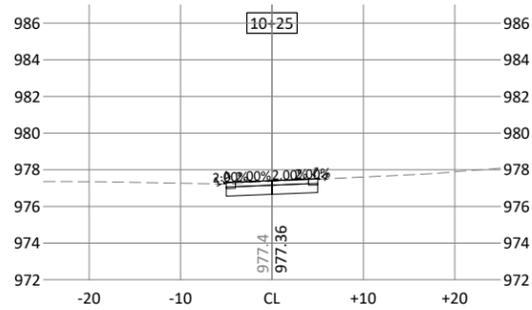
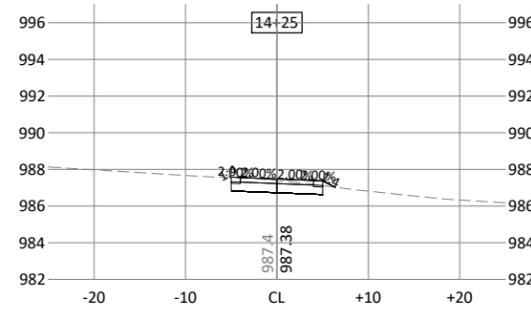
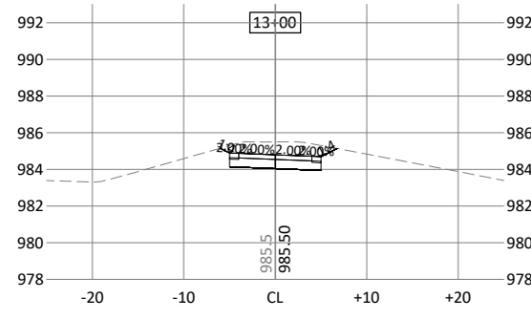
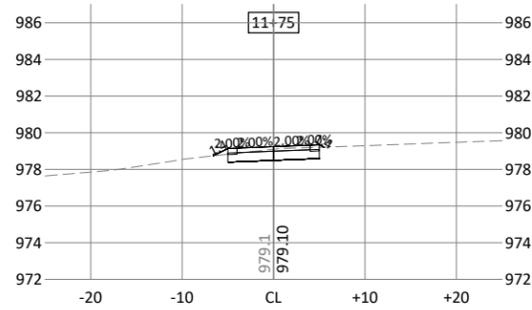
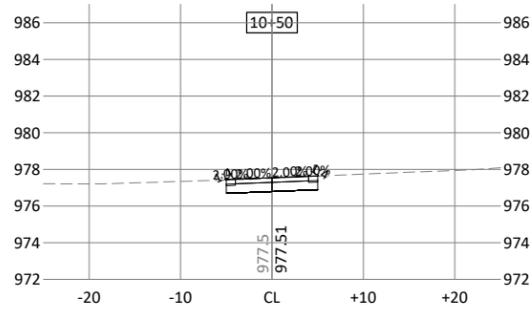
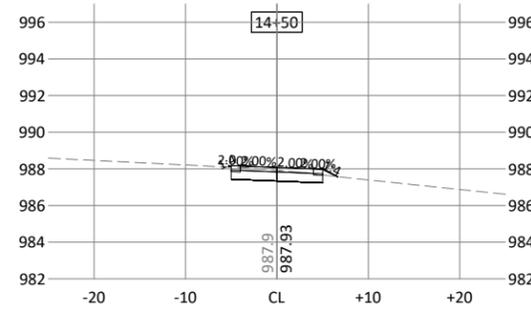
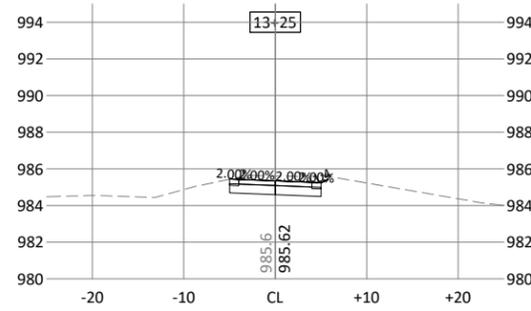
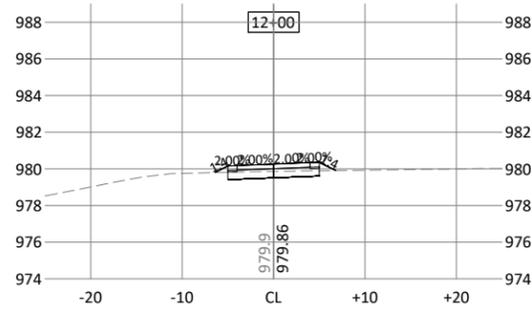
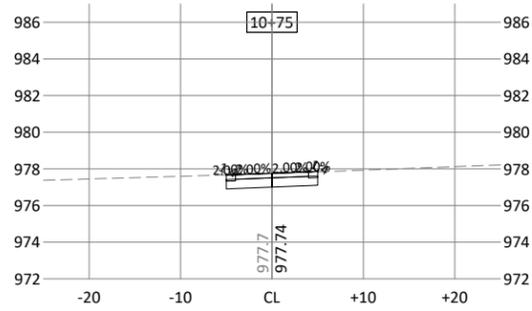
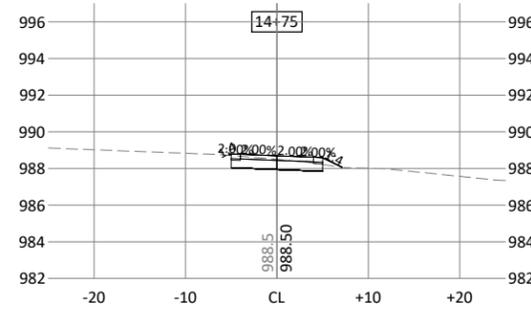
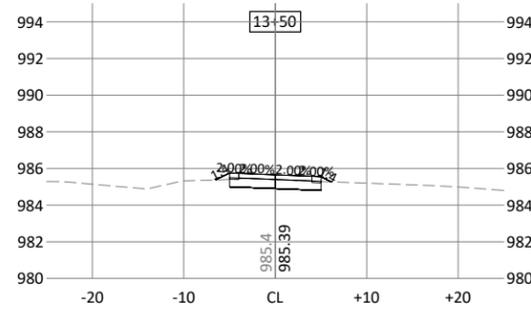
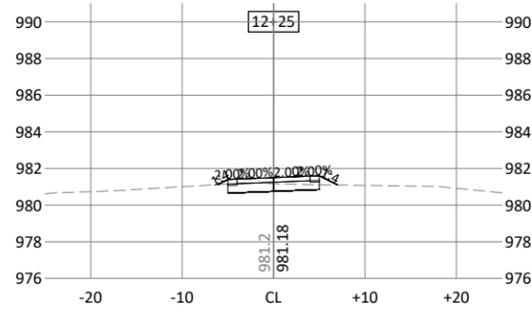
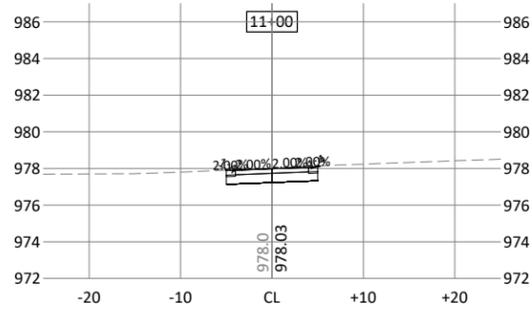
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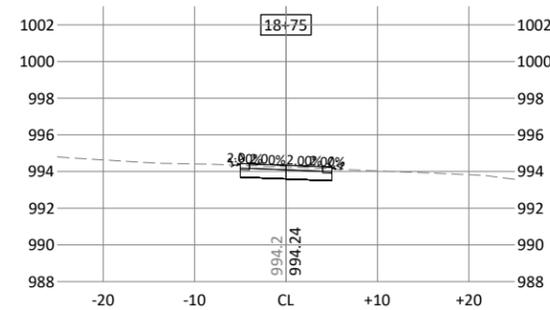
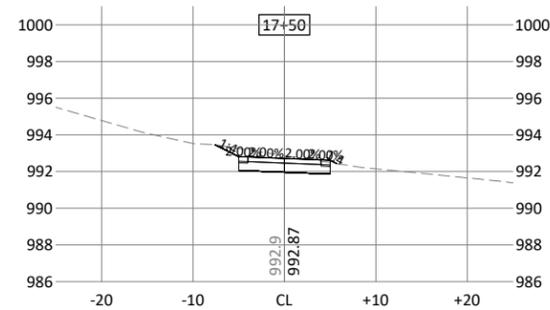
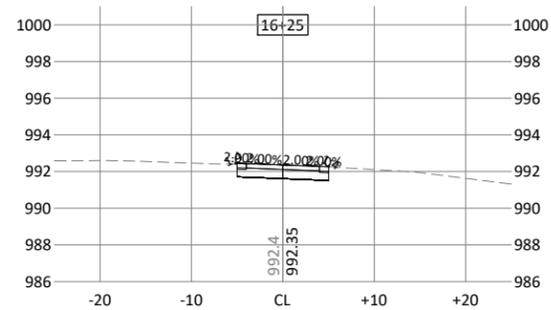
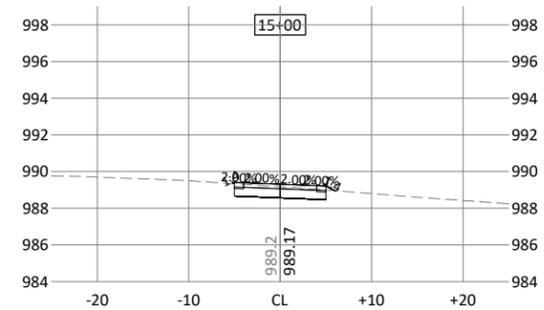
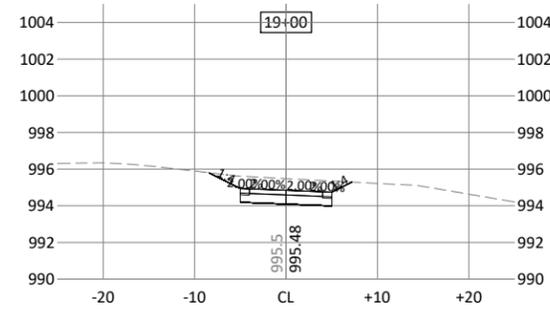
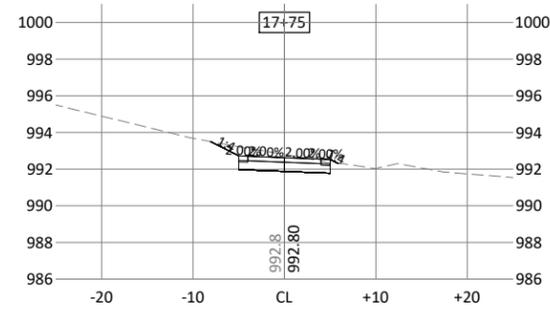
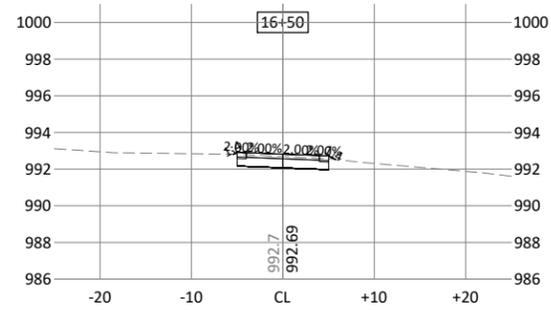
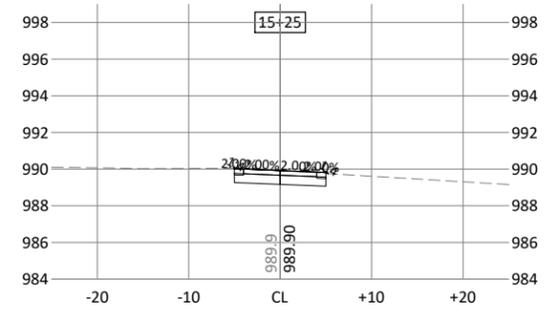
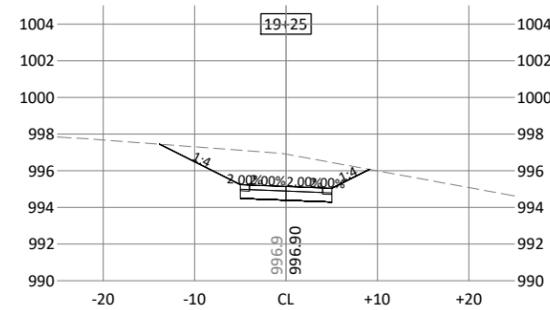
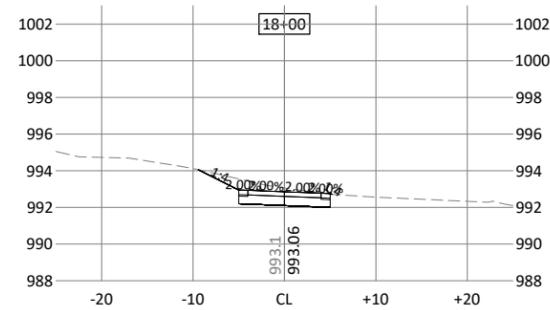
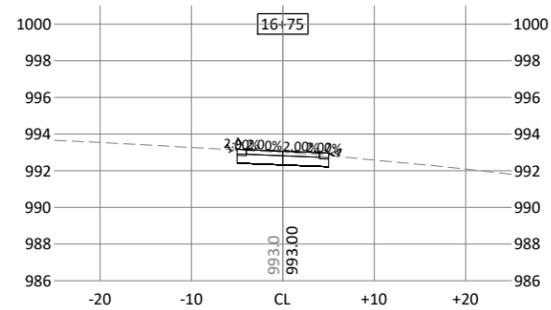
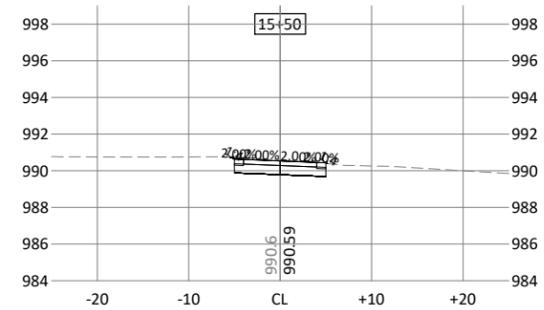
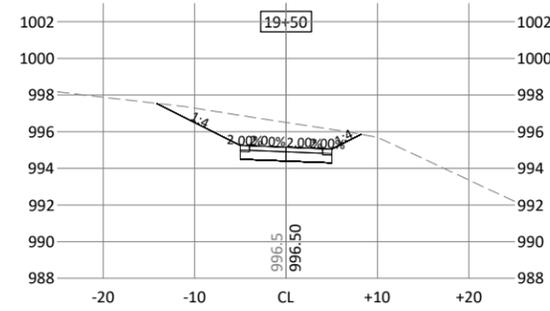
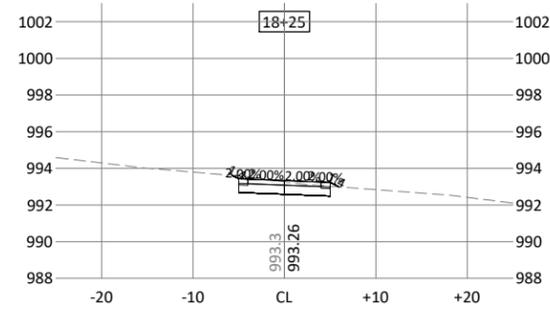
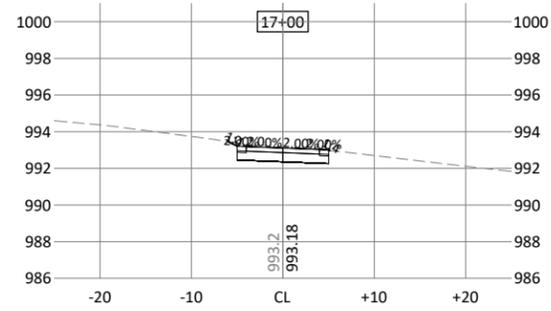
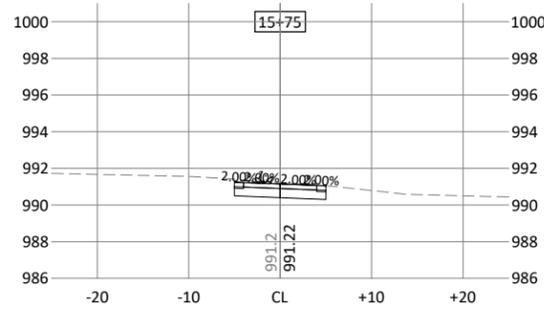
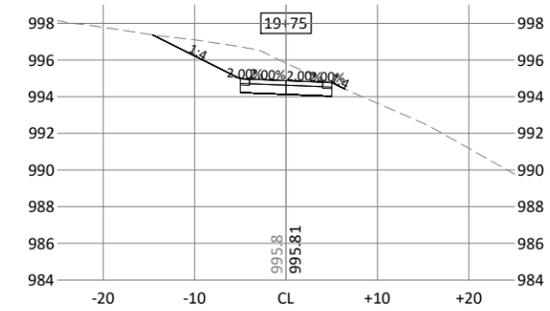
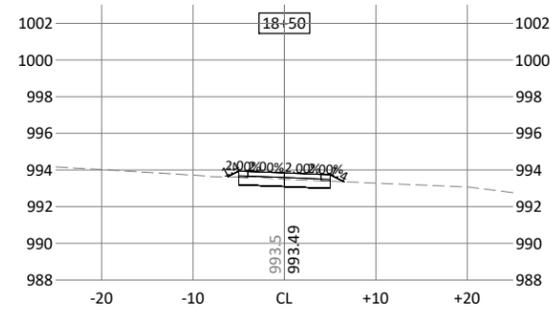
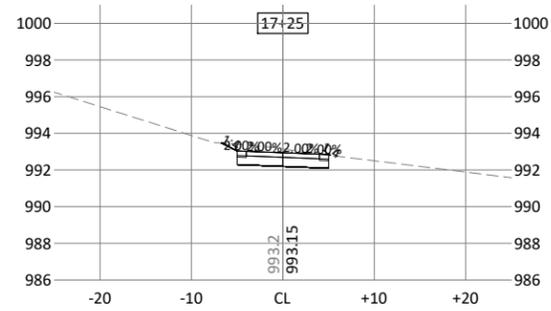
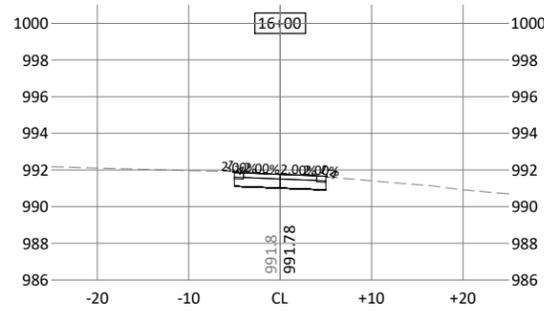
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
ANDREW L. BUDDÉ
LIC. NO. 46585 DATE 02/08/2023



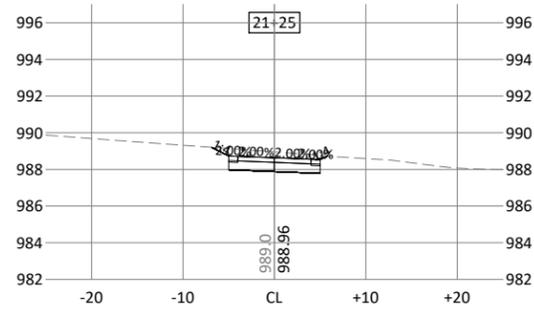
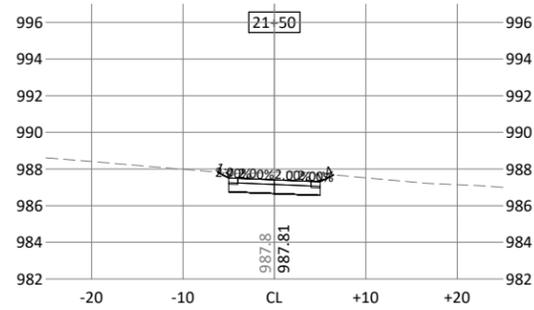
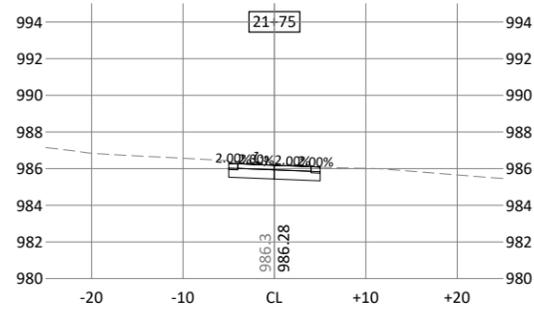
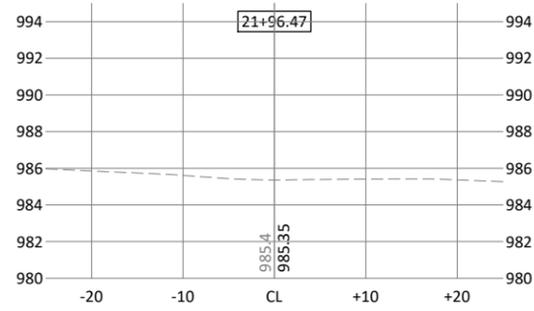
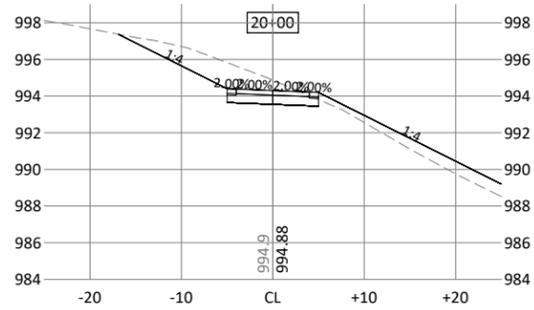
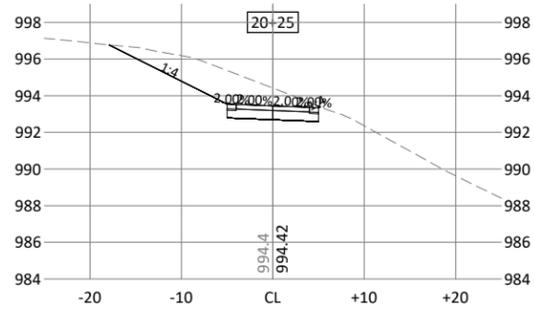
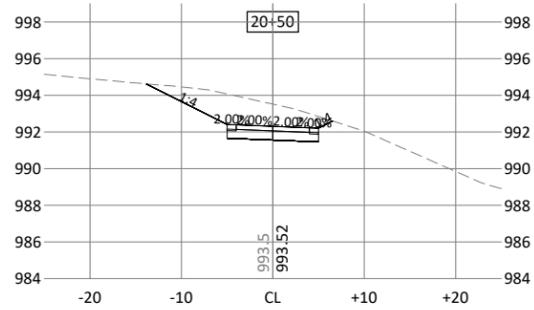
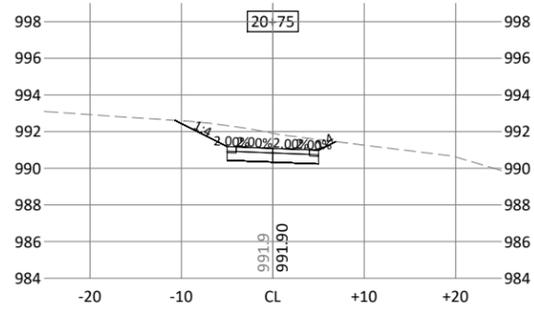
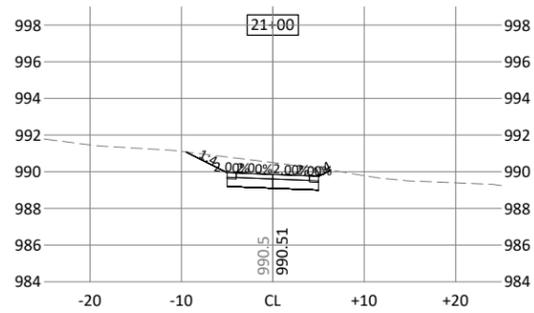
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CHASKA, MINNESOTA 55318
Phone: (952) 448-8838
Email: Chaska@bolton-menk.com
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ANDREW L. BUDDE
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