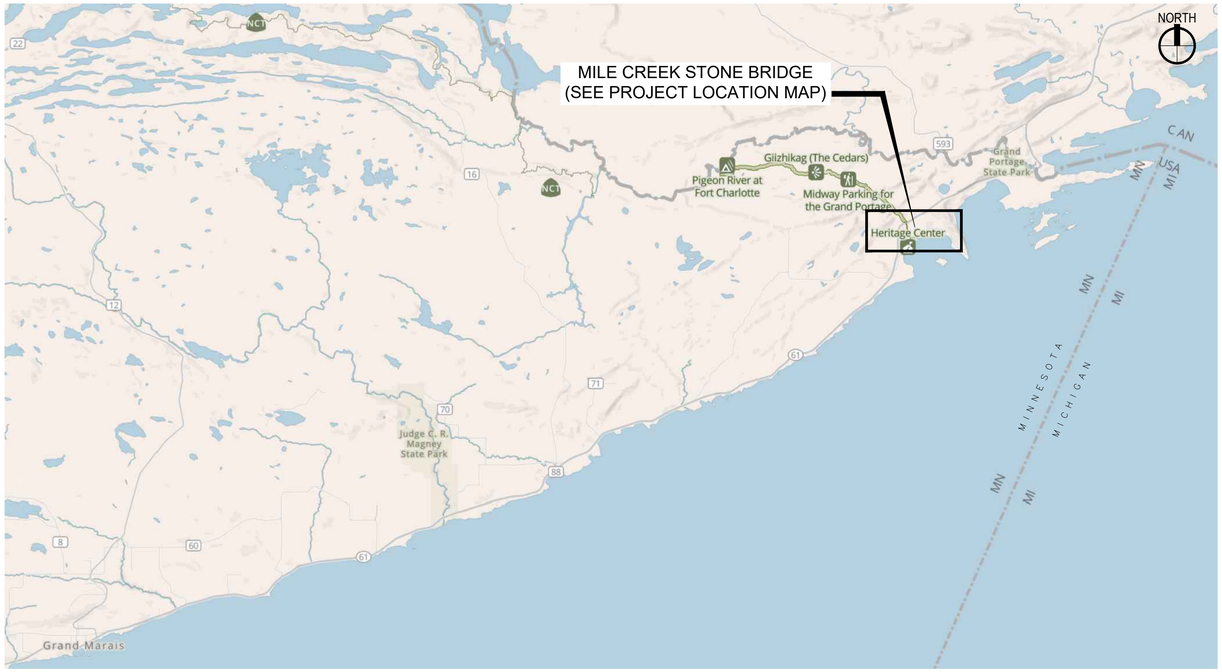
MILE CREEK STONE BRIDGE - TRAIL IMPROVEMENTS

GRAND PORTAGE NATIONAL MONUMENT

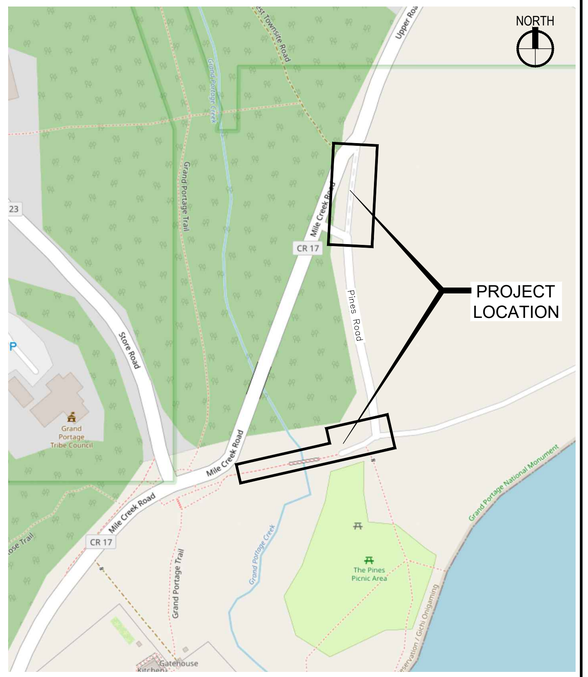
REGIONAL LOCATION MAP

NOT TO SCALE



PARK LOCATION MAP

NOT TO SCALE



PROJECT LOCATION MAP

NOT TO SCALE

DRAWING SHEET INDEX

SHEET	SUB SHEET	TITLE OF SHEET
GENERAL		
1	0	COVER SHEET AND INDEX
2	G0.1	EXISTING CONDITIONS, CONTRACTOR STAGING MAP, AND GENERAL NOTES
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3	C0.1	PROTECTION AND REMOVAL PLANS
4	C1.1	PAVEMENT LAYOUT AND MARKING PLAN
5	C2.1	SURFACE RESTORATION AND EROSION CONTROL PLANS

Mark	Sheet	REVISION	Date	Initial

QUALITY DESIGN CERTIFICATION

[X] Prepared in Accordance with Design Development (Title I) OR Drawing No. 398 / 80035

[ ] Variance from Design Development (Title I) Approved by Superintendent on Date

[ ] Construction Drawing Not Preceded by Design Development (Title I)

Michael R Sharp — Project Manager — Date

CONSTRUCTION DRAWINGS

UNITED STATES
DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE
MIDWEST REGIONAL OFFICE

TITLE OF PROJECT
TRAIL IMPROVEMENTS
LOCATION WITHIN PARK
MILE CREEK STONE BRIDGE
NAME OF PARK
GRAND PORTAGE NATIONAL MONUMENT

REGION	COUNTY	STATE
MWRO 3,4,5	COOK	MINNESOTA

DRAWING NO. 398 80035

PMIS/PKG NO. 317984C

SHEET 1 OF 5

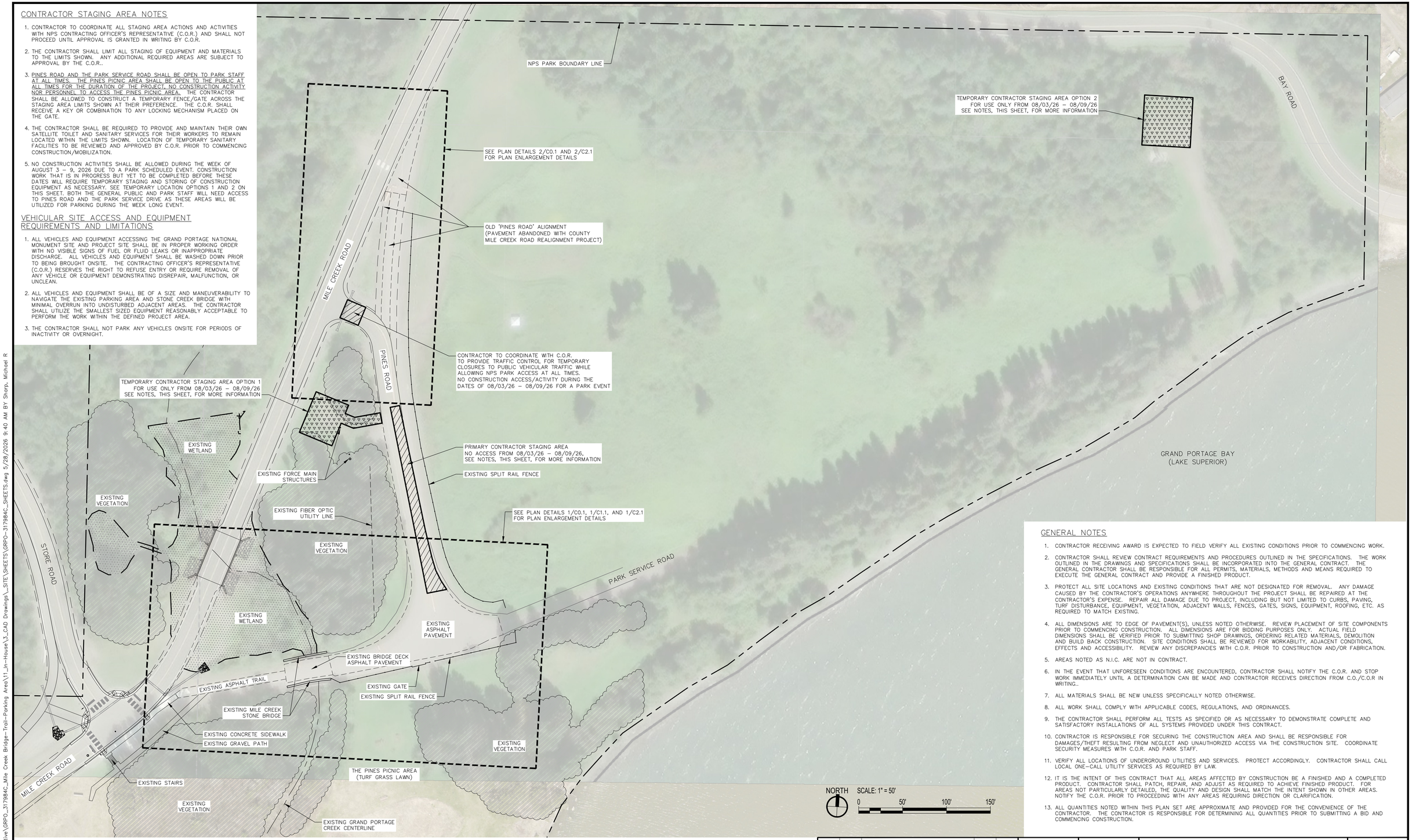
M:\Cadusers\Groups\Maint\Active\GRPO_317984C_Mile Creek Bridge-Trail-Parking Area\11_In-House\3_CAD Drawings__SITE\SHEETS\GRPO-317984C_COVER.dwg 5/28/2026 9:45 AM BY Sharp, Michael R

CONTRACTOR STAGING AREA NOTES

1. CONTRACTOR TO COORDINATE ALL STAGING AREA ACTIONS AND ACTIVITIES WITH NPS CONTRACTING OFFICER'S REPRESENTATIVE (C.O.R.) AND SHALL NOT PROCEED UNTIL APPROVAL IS GRANTED IN WRITING BY C.O.R.
2. THE CONTRACTOR SHALL LIMIT ALL STAGING OF EQUIPMENT AND MATERIALS TO THE LIMITS SHOWN. ANY ADDITIONAL REQUIRED AREAS ARE SUBJECT TO APPROVAL BY THE C.O.R..
3. PINES ROAD AND THE PARK SERVICE ROAD SHALL BE OPEN TO PARK STAFF AT ALL TIMES. THE PINES PICNIC AREA SHALL BE OPEN TO THE PUBLIC AT ALL TIMES FOR THE DURATION OF THE PROJECT. NO CONSTRUCTION ACTIVITY NOR PERSONNEL TO ACCESS THE PINES PICNIC AREA. THE CONTRACTOR SHALL BE ALLOWED TO CONSTRUCT A TEMPORARY FENCE/GATE ACROSS THE STAGING AREA LIMITS SHOWN AT THEIR PREFERENCE. THE C.O.R. SHALL RECEIVE A KEY OR COMBINATION TO ANY LOCKING MECHANISM PLACED ON THE GATE.
4. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE AND MAINTAIN THEIR OWN SATELLITE TOILET AND SANITARY SERVICES FOR THEIR WORKERS TO REMAIN LOCATED WITHIN THE LIMITS SHOWN. LOCATION OF TEMPORARY SANITARY FACILITIES TO BE REVIEWED AND APPROVED BY C.O.R. PRIOR TO COMMENCING CONSTRUCTION/MOBILIZATION.
5. NO CONSTRUCTION ACTIVITIES SHALL BE ALLOWED DURING THE WEEK OF AUGUST 3 – 9, 2026 DUE TO A PARK SCHEDULED EVENT. CONSTRUCTION WORK THAT IS IN PROGRESS BUT YET TO BE COMPLETED BEFORE THESE DATES WILL REQUIRE TEMPORARY STAGING AND STORING OF CONSTRUCTION EQUIPMENT AS NECESSARY. SEE TEMPORARY LOCATION OPTIONS 1 AND 2 ON THIS SHEET. BOTH THE GENERAL PUBLIC AND PARK STAFF WILL NEED ACCESS TO PINES ROAD AND THE PARK SERVICE DRIVE AS THESE AREAS WILL BE UTILIZED FOR PARKING DURING THE WEEK LONG EVENT.

VEHICULAR SITE ACCESS AND EQUIPMENT REQUIREMENTS AND LIMITATIONS

1. ALL VEHICLES AND EQUIPMENT ACCESSING THE GRAND PORTAGE NATIONAL MONUMENT SITE AND PROJECT SITE SHALL BE IN PROPER WORKING ORDER WITH NO VISIBLE SIGNS OF FUEL OR FLUID LEAKS OR INAPPROPRIATE DISCHARGE. ALL VEHICLES AND EQUIPMENT SHALL BE WASHED DOWN PRIOR TO BEING BROUGHT ONSITE. THE CONTRACTING OFFICER'S REPRESENTATIVE (C.O.R.) RESERVES THE RIGHT TO REFUSE ENTRY OR REQUIRE REMOVAL OF ANY VEHICLE OR EQUIPMENT DEMONSTRATING DISREPAIR, MALFUNCTION, OR UNCLEAN.
2. ALL VEHICLES AND EQUIPMENT SHALL BE OF A SIZE AND MANEUVERABILITY TO NAVIGATE THE EXISTING PARKING AREA AND STONE CREEK BRIDGE WITH MINIMAL OVERRUN INTO UNDISTURBED ADJACENT AREAS. THE CONTRACTOR SHALL UTILIZE THE SMALLEST SIZED EQUIPMENT REASONABLY ACCEPTABLE TO PERFORM THE WORK WITHIN THE DEFINED PROJECT AREA.
3. THE CONTRACTOR SHALL NOT PARK ANY VEHICLES ONSITE FOR PERIODS OF INACTIVITY OR OVERNIGHT.



GENERAL NOTES

1. CONTRACTOR RECEIVING AWARD IS EXPECTED TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
2. CONTRACTOR SHALL REVIEW CONTRACT REQUIREMENTS AND PROCEDURES OUTLINED IN THE SPECIFICATIONS. THE WORK OUTLINED IN THE DRAWINGS AND SPECIFICATIONS SHALL BE INCORPORATED INTO THE GENERAL CONTRACT. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS, MATERIALS, METHODS AND MEANS REQUIRED TO EXECUTE THE GENERAL CONTRACT AND PROVIDE A FINISHED PRODUCT.
3. PROTECT ALL SITE LOCATIONS AND EXISTING CONDITIONS THAT ARE NOT DESIGNATED FOR REMOVAL. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS ANYWHERE THROUGHOUT THE PROJECT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. REPAIR ALL DAMAGE DUE TO PROJECT, INCLUDING BUT NOT LIMITED TO CURBS, PAVING, TURF DISTURBANCE, EQUIPMENT, VEGETATION, ADJACENT WALLS, FENCES, GATES, SIGNS, EQUIPMENT, ROOFING, ETC. AS REQUIRED TO MATCH EXISTING.
4. ALL DIMENSIONS ARE TO EDGE OF PAVEMENT(S), UNLESS NOTED OTHERWISE. REVIEW PLACEMENT OF SITE COMPONENTS PRIOR TO COMMENCING CONSTRUCTION. ALL DIMENSIONS ARE FOR BIDDING PURPOSES ONLY. ACTUAL FIELD DIMENSIONS SHALL BE VERIFIED PRIOR TO SUBMITTING SHOP DRAWINGS, ORDERING RELATED MATERIALS, DEMOLITION AND BUILD BACK CONSTRUCTION. SITE CONDITIONS SHALL BE REVIEWED FOR WORKABILITY, ADJACENT CONDITIONS, EFFECTS AND ACCESSIBILITY. REVIEW ANY DISCREPANCIES WITH C.O.R. PRIOR TO CONSTRUCTION AND/OR FABRICATION.
5. AREAS NOTED AS N.I.C. ARE NOT IN CONTRACT.
6. IN THE EVENT THAT UNFORESEEN CONDITIONS ARE ENCOUNTERED, CONTRACTOR SHALL NOTIFY THE C.O.R. AND STOP WORK IMMEDIATELY UNTIL A DETERMINATION CAN BE MADE AND CONTRACTOR RECEIVES DIRECTION FROM C.O./C.O.R IN WRITING..
7. ALL MATERIALS SHALL BE NEW UNLESS SPECIFICALLY NOTED OTHERWISE.
8. ALL WORK SHALL COMPLY WITH APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
9. THE CONTRACTOR SHALL PERFORM ALL TESTS AS SPECIFIED OR AS NECESSARY TO DEMONSTRATE COMPLETE AND SATISFACTORY INSTALLATIONS OF ALL SYSTEMS PROVIDED UNDER THIS CONTRACT.
10. CONTRACTOR IS RESPONSIBLE FOR SECURING THE CONSTRUCTION AREA AND SHALL BE RESPONSIBLE FOR DAMAGES/THEFT RESULTING FROM NEGLECT AND UNAUTHORIZED ACCESS VIA THE CONSTRUCTION SITE. COORDINATE SECURITY MEASURES WITH C.O.R. AND PARK STAFF.
11. VERIFY ALL LOCATIONS OF UNDERGROUND UTILITIES AND SERVICES. PROTECT ACCORDINGLY. CONTRACTOR SHALL CALL LOCAL ONE-CALL UTILITY SERVICES AS REQUIRED BY LAW.
12. IT IS THE INTENT OF THIS CONTRACT THAT ALL AREAS AFFECTED BY CONSTRUCTION BE A FINISHED AND A COMPLETED PRODUCT. CONTRACTOR SHALL PATCH, REPAIR, AND ADJUST AS REQUIRED TO ACHIEVE FINISHED PRODUCT. FOR AREAS NOT PARTICULARLY DETAILED, THE QUALITY AND DESIGN SHALL MATCH THE INTENT SHOWN IN OTHER AREAS. NOTIFY THE C.O.R. PRIOR TO PROCEEDING WITH ANY AREAS REQUIRING DIRECTION OR CLARIFICATION.
13. ALL QUANTITIES NOTED WITHIN THIS PLAN SET ARE APPROXIMATE AND PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALL QUANTITIES PRIOR TO SUBMITTING A BID AND COMMENCING CONSTRUCTION.

NOTE: AERIAL IMAGERY IS FROM COOK COUNTY, MINNESOTA, GIS MAPPING DATA – FOR GRAPHIC REFERENCE PURPOSES ONLY. IT IS NOT GEOLOCATED FOR SCALE NOR LOCATION.

Mark	Sheet	REVISION	Date	Initial

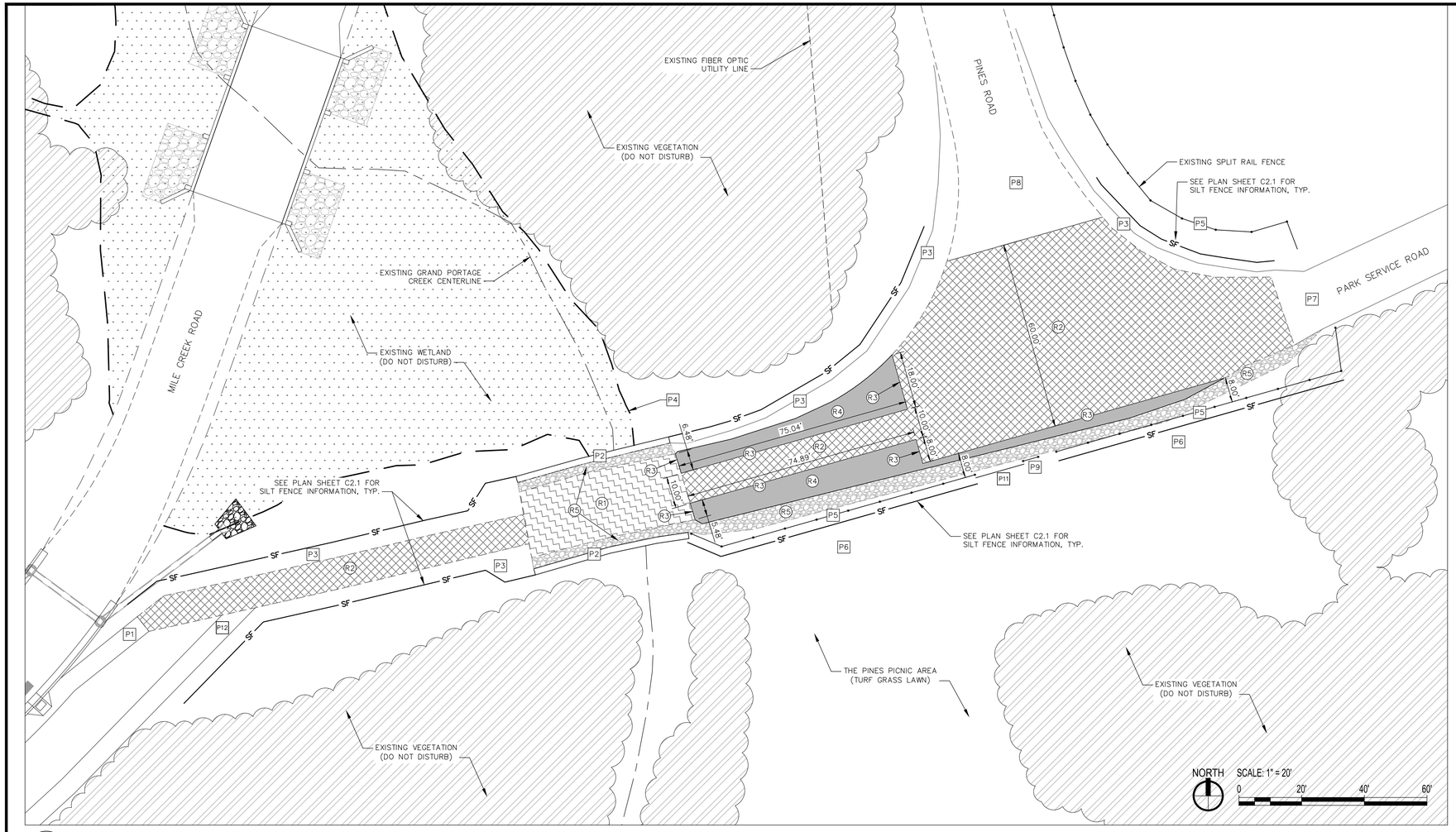
DESIGNED: MRS
DRAWN: --
TECH. REVIEW: --
DATE: 04/23/2026

SUB SHEET NO. G0.1

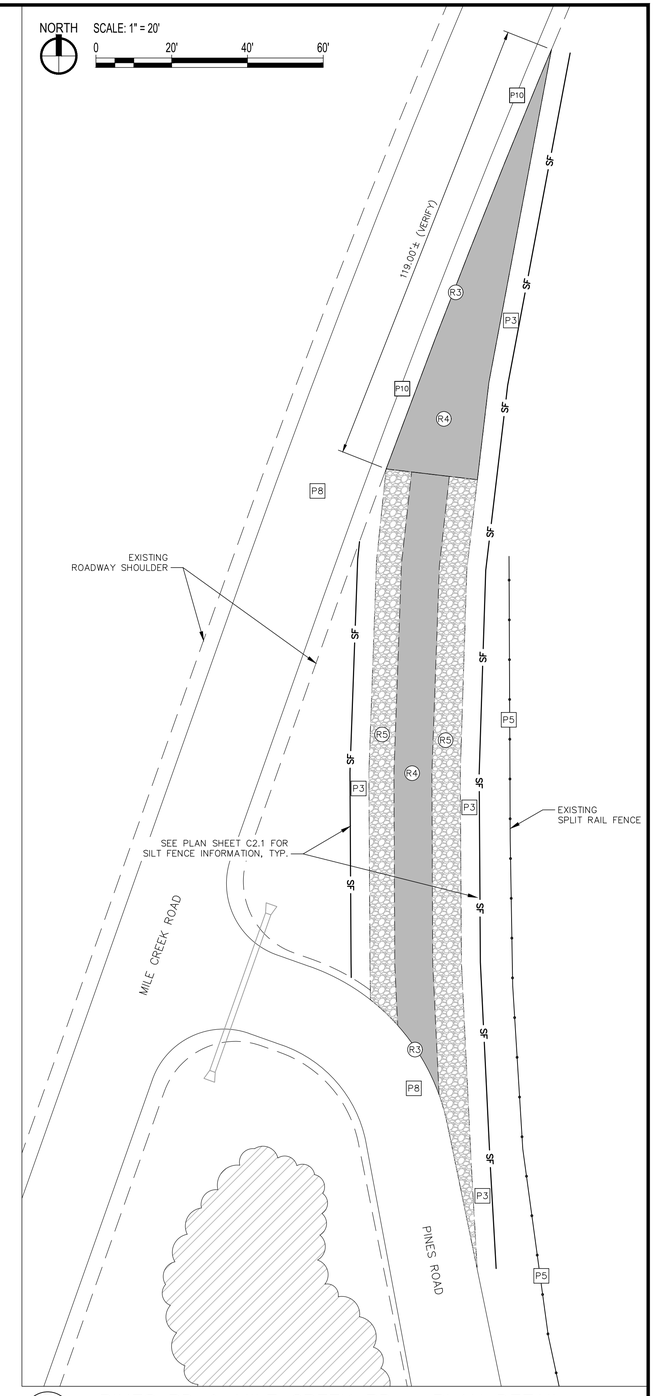
TITLE OF SHEET
EXISTING CONDITIONS, CONTRACTOR STAGING MAP, AND GENERAL NOTES
GRAND PORTAGE NATIONAL MONUMENT

DRAWING NO. 398 80035
PMIS/PKG NO. 317984C
SHEET 2 OF 5

M:\Cadusers\Groups\Maint\Active\GRPO_317984C_Mile Creek Bridge-Trail-Parking Area\11_In-House\3_CAD Drawings_SITE\SHEETS\GRPO-317984C_SHEETS.dwg 5/28/2026 9:40 AM BY Sharp, Michael R



1 C0.1 MILE CREEK STONE BRIDGE AREA – PLAN DETAIL



2 C0.1 PINES RD & MILE CREEK RD – PLAN DETAIL

REMOVAL NOTES

1. ALL MATERIALS REMOVED AND NOT REUSED SHALL BECOME PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFICALLY DESIGNATED TO REMAIN THE PROPERTY OF THE OWNER. HOWEVER, THE OWNER RESERVES THE RIGHT TO ALL ITEMS BEING REMOVED PRIOR TO THE SCHEDULED TIME OF REMOVAL.
2. CONTRACTOR IS HIGHLY ENCOURAGED TO VISIT THE SITE IN ORDER TO FAMILIARIZE THEMSELVES WITH THE PROPOSED IMPROVEMENTS AND SCOPE OF REMOVALS THAT ARE TO OCCUR. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL QUANTITIES PRIOR TO SUBMITTING A BID.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING CONDITIONS/MATERIALS TO REMAIN RESULTING FROM WORK UNDER THIS CONTRACT, AND SHALL RESTORE SUCH DAMAGE TO ITS ORIGINAL CONDITION. CONTRACTOR TO USE CAUTION AND PROTECT EXISTING CONDITIONS AS DEEMED PRUDENT AND IS RESPONSIBLE TO PHOTO DOCUMENT EXISTING CONDITIONS PRIOR TO START OF WORK.
4. ALL DIMENSIONS ARE FOR BIDDING PURPOSES ONLY, AND SHALL BE VERIFIED AND COORDINATED WITH NEW CONSTRUCTION.
5. CONTRACTOR SHALL HAUL ALL REMOVAL DEBRIS COMPLETELY AWAY FROM THE SITE AND DISPOSE OF PROPERLY PER ALL APPLICABLE AND REQUIRED LOCAL LAWS AND CODES.
6. ITEMS NOT IDENTIFIED FOR REMOVAL IN DOCUMENTS SHALL REMAIN AS EXISTING AND IN THE CONDITION THAT THEY ARE TO CURRENT DATE.
7. ITEMS TO BE SALVAGED AND RE-USED SHALL BE STORED IN A MANNER TO AVOID DAMAGE TO THE MATERIALS AND THEIR FINISHES, INCLUDING METHOD OF STACKING, ENVIRONMENTAL CONDITIONS, ETC. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PROTECTION AND PROPER ENVIRONMENTAL CONDITIONS FOR STORAGE OF NEW MATERIALS.

☐ PROTECTION KEYNOTES

- P1 PROTECT EXISTING CONCRETE SIDEWALK PAVEMENT.
- P2 PROTECT EXISTING STONE WALLS ON BRIDGE.
- P3 PROTECT EXISTING AGGREGATE SHOULDER AND LAWN AREAS ADJACENT TO PAVEMENT.
- P4 PROTECT EXISTING WETLAND.
- P5 PROTECT EXISTING FENCE.
- P6 PROTECT EXISTING PINES PICNIC AREA, NO CONSTRUCTION ACTIVITY WITHIN TURF GRASS LAWN AREA (SOUTH SIDE OF FENCE).
- P7 PROTECT EXISTING GATE AND GRAVEL PARK SERVICE ROAD, MAINTAIN ACCESS TO PARK AT ALL TIMES.
- P8 PROTECT EXISTING ASPHALT ROADWAY PAVEMENT.
- P9 PROTECT EXISTING SIGNS MOUNTED ON FENCE. EXISTING SIGNS TO BE RELOCATED BY PARK, N.I.C.
- P10 PROTECT EXISTING ROADWAY SHOULDER AND PAVEMENT MARKINGS.
- P11 PROTECT EXISTING GATE ALLOWING PARK STAFF ACCESS AS NECESSARY.
- P12 PROTECT EXISTING GRAVEL PATHWAY.

◯ REMOVAL KEYNOTES

- R1 MILL EXISTING ASPHALT, 2" DEPTH, ON EXISTING MILE CREEK STONE BRIDGE.
- R2 MILL EXISTING ASPHALT, 2" DEPTH, ON EXISTING TRAIL, ROADWAY, AND PARKING AREA.
- R3 SAW-CUT FULL DEPTH WITH CLEAN VERTICAL EDGE AT LOCATIONS SHOWN, PERPENDICULAR AND PARALLEL TO EXISTING FENCE.
- R4 REMOVE EXISTING ASPHALT PAVING AND AGGREGATE SUBBASE (IF PRESENT) DOWN TO EXISTING SUBGRADE.
- R5 REMOVE EXISTING AGGREGATE DOWN TO EXISTING SUBGRADE.

Mark	Sheet	REVISION	Date	Initial

DESIGNED: MRS
CADD: --
TECH. REVIEW: --
DATE: 04/23/2026

SUB SHEET NO. C0.1

TITLE OF SHEET
PROTECTION AND REMOVAL PLANS
GRAND PORTAGE NATIONAL MONUMENT

DRAWING NO. 398 80035
PMIS/PKG NO. 317984C
SHEET 3 OF 5

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ASPHALT PAVING KEYNOTES

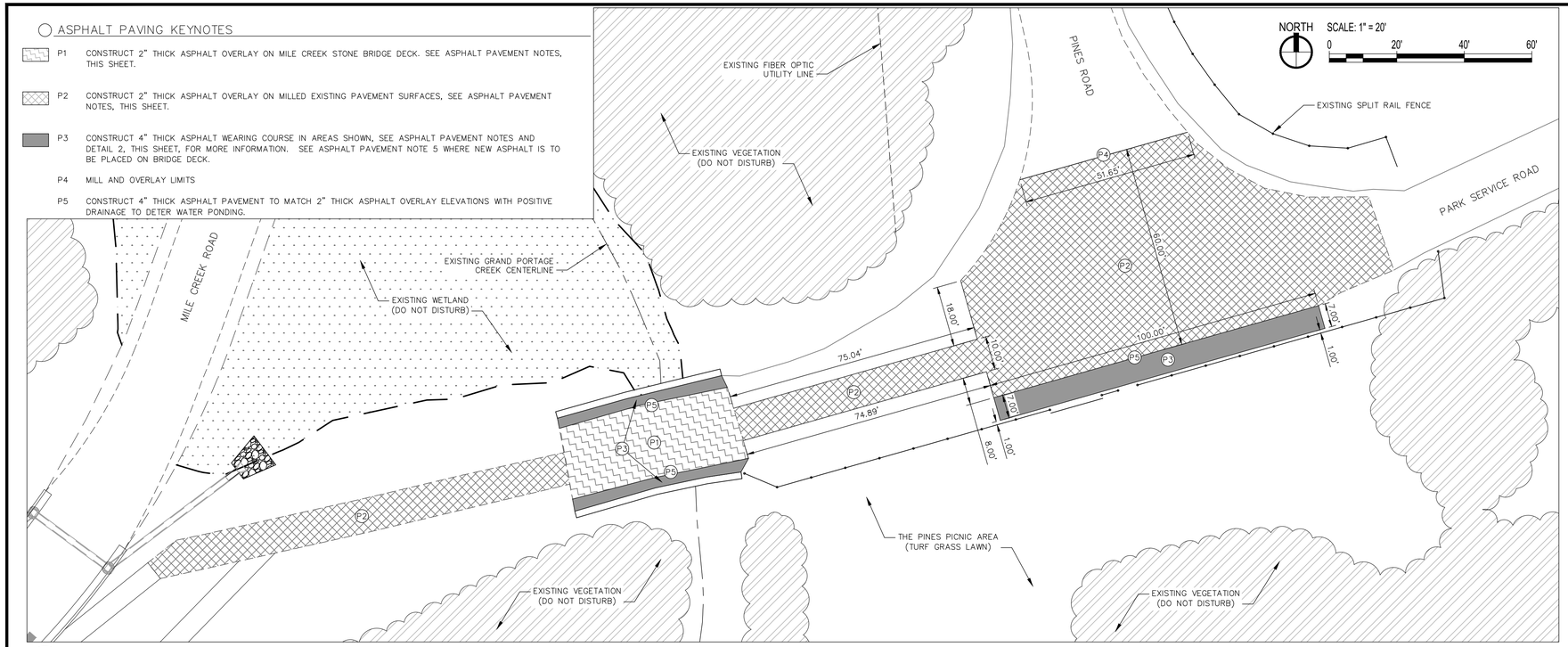
P1 CONSTRUCT 2" THICK ASPHALT OVERLAY ON MILE CREEK STONE BRIDGE DECK. SEE ASPHALT PAVEMENT NOTES, THIS SHEET.

P2 CONSTRUCT 2" THICK ASPHALT OVERLAY ON MILLED EXISTING PAVEMENT SURFACES, SEE ASPHALT PAVEMENT NOTES, THIS SHEET.

P3 CONSTRUCT 4" THICK ASPHALT WEARING COURSE IN AREAS SHOWN, SEE ASPHALT PAVEMENT NOTES AND DETAIL 2, THIS SHEET, FOR MORE INFORMATION. SEE ASPHALT PAVEMENT NOTE 5 WHERE NEW ASPHALT IS TO BE PLACED ON BRIDGE DECK.

P4 MILL AND OVERLAY LIMITS

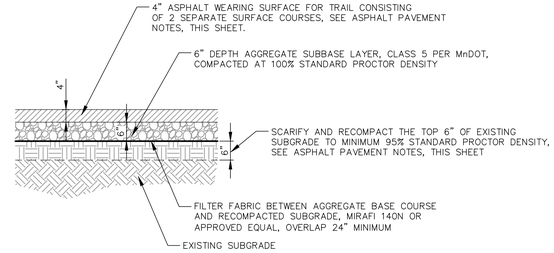
P5 CONSTRUCT 4" THICK ASPHALT PAVEMENT TO MATCH 2" THICK ASPHALT OVERLAY ELEVATIONS WITH POSITIVE DRAINAGE TO DETER WATER PONDING.



1 C1.1 ASPHALT PAVING LAYOUT AT MILE CREEK STONE BRIDGE AREA – PLAN DETAIL

ASPHALT PAVEMENT NOTES

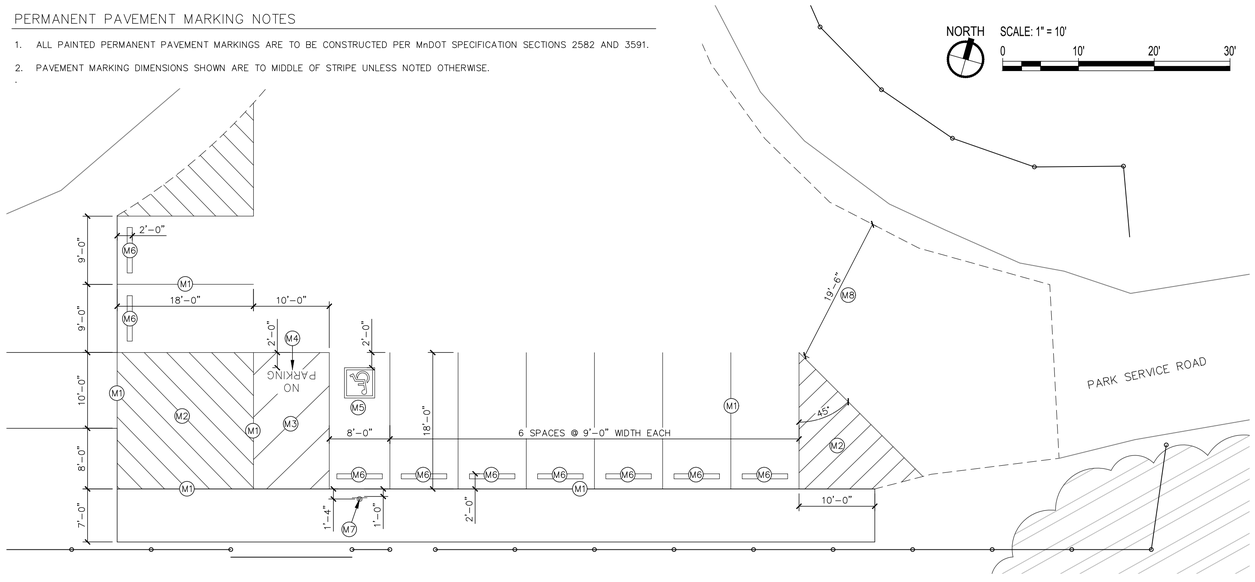
1. 2" DEPTH ASPHALT MILLING AND 2" THICK ASPHALT OVERLAY SHALL BE CONSTRUCTED PER MnDOT DIVISIONS 2232 (MILL PAVEMENT SURFACE) AND 2360 (PLANT MIXED ASPHALT PAVEMENT), OF THE 'MINNESOTA D.O.T. STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2025 EDITION' OR MOST CURRENT VERSION ON FILE.
2. CONSTRUCT TACK COAT PRIOR TO CONSTRUCTING 2" THICK OVERLAY (SPWEA230B).
3. 2" THICK ASPHALT OVERLAY MIX SHALL BE 'SPWEA230B', BINDER GRADE 'PG 58H–34'
4. 4" THICK ASPHALT WEARING COURSE SHALL BE CONSTRUCTED WITH TWO SEPARATE, 2" THICK SURFACE COURSES (MIX 'SPWEA230B' – BINDER GRADE 'PG 58H–34'), PER MnDOT DIVISION 2360 – PLANT MIXED ASPHALT PAVEMENT, OF THE 'MINNESOTA D.O.T. STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2025 EDITION' OR MOST CURRENT VERSION ON FILE.
5. CONFIRM REMOVAL DEPTHS PRIOR TO PLACING NEW 4" THICK ASPHALT PAVEMENT ON BRIDGE DECK IN ORDER TO MATCH ASPHALT OVERLAY ELEVATIONS. PLACE ASPHALT ON CONCRETE BRIDGE DECK WITH TACK COAT, NO AGGREGATE SUBBASE ON BRIDGE DECK.



2 C1.1 ASPHALT PAVEMENT SECTION
SCALE: 1/2" = 1'–0"

PERMANENT PAVEMENT MARKING NOTES

1. ALL PAINTED PERMANENT PAVEMENT MARKINGS ARE TO BE CONSTRUCTED PER MnDOT SPECIFICATION SECTIONS 2582 AND 3591.
2. PAVEMENT MARKING DIMENSIONS SHOWN ARE TO MIDDLE OF STRIPE UNLESS NOTED OTHERWISE.



PAVEMENT MARKING KEYNOTES

M1 CONSTRUCT STANDARD 4" WIDE PAVEMENT STRIPING AS SHOWN, YELLOW IN COLOR, TYP.

M2 CONSTRUCT 45° DIAGONAL HATCHED STRIPING AS SHOWN, STANDARD 4" WIDTH, SPACED 24" APART, YELLOW IN COLOR.

M3 CONSTRUCT 45° DIAGONAL HATCHED STRIPING AS SHOWN, STANDARD 4" WIDTH, SPACED 48" APART, YELLOW IN COLOR.

M4 CONSTRUCT 12" HIGH PAINTED LETTERS "NO PARKING" AS SHOWN, 24" OFFSET FROM EDGE OF PAVEMENT STRIPE AND CENTERED IN PARKING SPACE AS SHOWN, YELLOW IN COLOR.

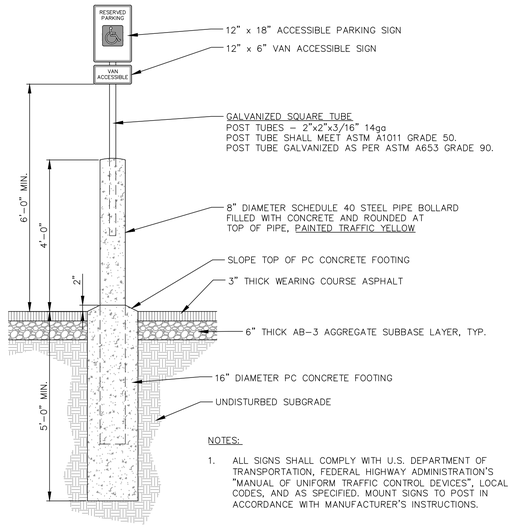
M5 CONSTRUCT 48" SQUARE ACCESSIBLE PARKING SYMBOL, 24" OFFSET FROM END OF PARKING SPACE AND CENTERED WITHIN PARKING SPACE AS SHOWN, SOLID BLUE BACKGROUND WITH WHITE BORDER AND SYMBOL.

M6 CONSTRUCT PC CONCRETE WHEEL STOP, 7'–6" MINIMUM LENGTH, CENTERED WITHIN PARKING SPACE WITH FRONT FACE TO BE 24" FROM EDGE OF PAVEMENT AND/OR PAVEMENT MARKING AS SHOWN, SEE SPEC 32 17 13.

M7 CONSTRUCT 8" DIAMETER BOLLARD WITH ACCESSIBLE PARKING SIGN, CENTER OF BOLLARD TO BE 16" OFFSET FROM EDGE OF PAVEMENT MARKING AND CENTERED WITHIN PARKING SPACE AS SHOWN, SEE DETAIL 4, THIS SHEET.

M8 VERIFY WIDTH OF VEHICULAR ACCESS AISLE AT NARROWEST POINT MEASURED FROM END OF PAVEMENT MARKING STRIPE PERPENDICULAR TO EDGE OF ASPHALT, MAINTAIN MINIMUM 18'–0" WIDTH, VERIFY WITH C.O.R.

3 C1.1 PAVEMENT MARKING PLAN: MILE CREEK STONE BRIDGE AREA – PLAN DETAIL



NOTES:

1. ALL SIGNS SHALL COMPLY WITH U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LOCAL CODES, AND AS SPECIFIED. MOUNT SIGNS TO POST IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

4 C1.1 ACCESSIBLE SIGN AND BOLLARD DETAIL

Mark	Sheet	REVISION	Date	Initial

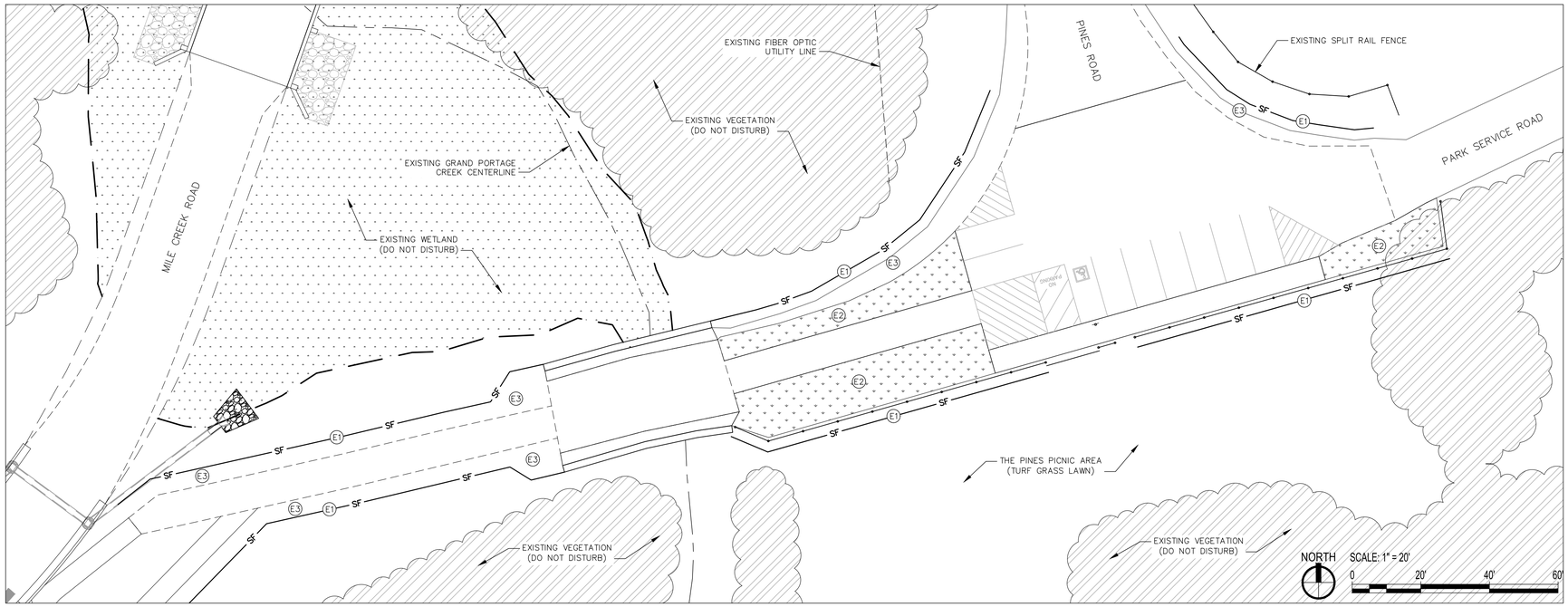
DESIGNED: MRS
DRAWN: --
TECH. REVIEW: --
DATE: 04/23/2026

SUB SHEET NO. C1.1

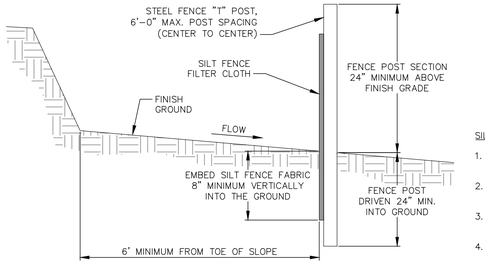
TITLE OF SHEET
PAVEMENT LAYOUT AND MARKING PLAN
GRAND PORTAGE NATIONAL MONUMENT

DRAWING NO. 398 80035
PMIS/PKG NO. 317984C
SHEET 4 OF 5

M:\Cadusers\Groups\Maint\Active\GRPO_317984C_Mile Creek Bridge-Trail-Parking Area\11_In-House\3_CAD Drawings_SITE\SHEETS\GRPO-317984C_SHEETS.dwg 5/28/2026 9:43 AM BY Sharp, Michael R



1 C2.1 MILE CREEK STONE BRIDGE AREA – PLAN DETAIL



SILT FENCE – BASIS OF DESIGN REQUIREMENTS:

1. SILT FENCE MATERIAL SHALL HAVE A GRAB STRENGTH BETWEEN 90 – 125 POUNDS IN ACCORDANCE WITH ASTM D4632.
2. MATERIAL SHALL HAVE A PERMEABILITY BETWEEN 0.05 – 0.10 PER SECOND IN ACCORDANCE WITH ASTM D4491.
3. MATERIAL SHALL HAVE A MINIMUM ULTRA–VIOLET STABILITY OF 70% AFTER 500 HOURS IN ACCORDANCE WITH ASTM D4355.
4. POSTS SHALL BE STEEL AND A MINIMUM OF 66 INCHES IN LENGTH, AND IN ACCORDANCE WITH ASTM D6461.

3 C2.1 SILT FENCE DETAIL
NOT TO SCALE

EROSION CONTROL BLANKET – BASIS OF DESIGN REQUIREMENTS

1. EROSION CONTROL BLANKET SHALL BE A TEMPORARY SYSTEM WITH A MINIMUM 12–MONTH LONGEVITY.
2. BLANKET SHALL BE A ROLLED PRODUCT AND CONSIST OF DOUBLE NETTING, MEETING THE REQUIREMENTS OF ASTM D5035, ASTM D6459, AND ASTM D6460. NETTING SHALL BE BIODEGRADABLE CONSISTING OF JUTE OR TWINE WITH BIODEGRADABLE THREAD.
3. BLANKET SHOULD CONSIST OF EITHER WOOD EXCELSIOR OR A COMBINATION OF A STRAW AND COCONUT FIBER MATRIX.
4. BLANKET SHOULD USE BIODEGRADABLE STAKES TO FASTEN TO FINISH GRADE, 4" – 6" IN LENGTH, HAVING A 12–MONTH LONGEVITY.
5. NO PHOTODEGRADABLE PRODUCTS ARE TO BE USED.

SITE PREPARATION

INSTALL BLANKETS IMMEDIATELY AFTER TOPSOIL AND FINISH GRADING HAVE BEEN COMPLETED. FINISH GRADE OF SOIL IN AREAS RECEIVING EROSION CONTROL BLANKETS SHALL BE IN A SMOOTH, EVEN CONDITION, FREE OF ALL DEBRIS, ROOTS, AND STONES LARGER THAN 1 INCH IN DIAMETER. PULVERIZE, RAKE OUT, OR REMOVE ALL LUMPS OF SOIL. REMOVE ALL VEGETATION FROM THESE AREAS EXCEPT FOR ANY DESIRABLE NATIVE VEGETATION THAT THE CONTRACT DOCUMENTS OR THE C.O.R. DESIGNATES TO REMAIN UNDISTURBED. REMOVE ANY FOREIGN MATERIAL THAT WILL PREVENT UNIFORM CONTACT OF THE PROTECTIVE COVERING WITH THE SOIL SURFACE.

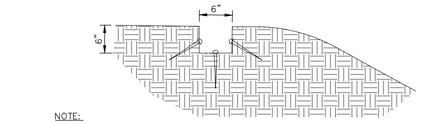
INSTALLATION

1. START LAYING THE BLANKET FROM THE TOP OF THE CHANNEL OR SLOPE AND UNROLL DOWNHILL. ALLOW TO LAY LOOSELY ON SOIL, DO NOT STRETCH.
2. EXCAVATE A 6 INCH VERTICAL SLOT AT THE TOP OF THE SLOPE. EXTEND THE UPSLOPE TERMINAL END OF THE EROSION CONTROL BLANKET A MINIMUM OF 30 INCHES PAST THE VERTICAL SLOT. PLACE THE UPPER EDGE OF THE LAST UPSLOPE SECTION IN THE 6 INCH VERTICAL SLOT. ANCHOR THE BLANKET IN THE SLOT USING STAKES PLACED AT 12 INCH OR LESS INTERVALS. BACKFILL AND COMPACT THE SLOT USING SOIL TO ANCHOR THE UPPER PORTION OF THE BLANKET. STAKE THE OVERLAPPED PORTION DOWN–SLOPE FROM THE VERTICAL TRENCH USING STAKES PLACED AT 12 INCH OR LESS INTERVALS. BURY THE UPSTREAM TERMINAL END OF THE BLANKET AS DIRECTED BY THE COR. ANCHOR ALL OTHER SECTIONS OF THE BLANKETS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS BUT NOT LESS THAN 2 STAKES PER SQUARE YARD.
3. EXTEND BLANKET ABOUT 40 INCHES OVER THE TOP OF SLOPE WHEN MATERIAL IS RELATIVELY FLAT. STAKE MATERIAL AT A MINIMUM OF EVERY 12 INCHES ACROSS THE TOP.
4. EDGES OF THE MATERIAL SHALL BE STAKED EVERY 3 FEET WHERE MULTIPLE WIDTHS ARE LAID SIDE BY SIDE. THE ADJACENT EDGE SHALL BE OVERLAPPED A MINIMUM OF 6 INCHES AND STAKED TOGETHER.
5. STAKE PATTERNS CAN VARY, REFER TO MINNESOTA DOT SPECIFICATION SECTION 3885 AND/OR PRODUCT MANUFACTURER'S RECOMMENDATIONS FOR APPROPRIATE STAKE PATTERN.
6. WHEN DIRECTED BY COR, RAKE TOPSOIL ACROSS THE TOP OF THE EROSION CONTROL BLANKET TO FILL ANY VOIDS IN THE MATERIAL.

MAINTENANCE AND INSPECTION

INSPECT BLANKET AFTER EACH RAIN EVENT OF 1/2 INCH OR GREATER AND EVERY 7 DAYS UNTIL VEGETATION IS ESTABLISHED, FOR EROSION OR UNDERMINING BENEATH THE NETTING BLANKETS. IF ANY AREA SHOWS EROSION, PULL BACK THAT PORTION OF THE MATERIAL, ADD SOIL, TAMP DOWN, AND COORDINATE WITH PARK TO RESEED. IF BLANKETS BECOME DISLOCATED OR DAMAGED, REPAIR OR REPLACE AND RE–SECURE IMMEDIATELY.

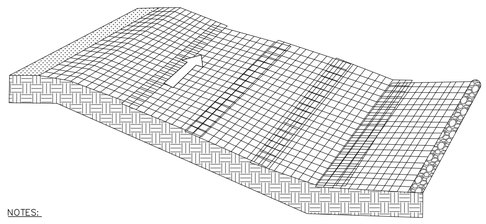
4 C2.1 EROSION CONTROL BLANKET DETAIL
NOT TO SCALE



NOTE:

BRING MATERIAL DOWN TO A LEVEL AREA BEFORE TERMINATING THE INSTALLATION

TOP OF SLOPE
NO SCALE



NOTES:

1. ON SHALLOW SLOPES, EROSION CONTROL BLANKETS MAY BE APPLIED ACROSS THE SLOPE.
2. ON STEEP SLOPES, APPLY EROSION CONTROL BLANKETS PERPENDICULAR TO THE DIRECTION OF FLOW AND ANCHOR SECURELY

SLOPE APPLICATION
NO SCALE

SURFACE RESTORATION AND EROSION CONTROL KEYNOTES

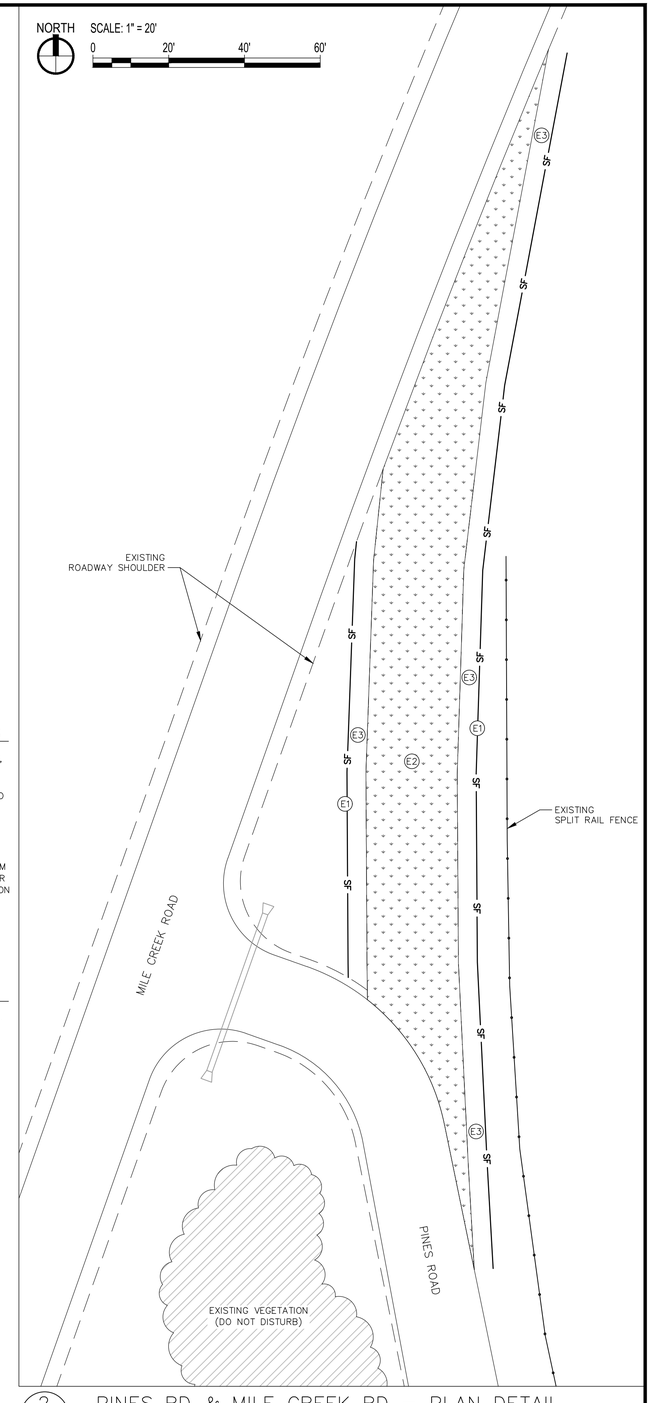
E1 CONSTRUCT SILT FENCE AT LOCATIONS SHOWN TO PROTECT EXISTING WETLANDS, CREEK, AND VEGETATED AREAS. CONSTRUCT SILT FENCE IN NO GREATER THAN 100' LENGTHS, WITH THE ENDS OF EACH RUN TURNING UPHILL ("J" HOOK FORMATION) FOR AN APPROPRIATE DISTANCE TO KEEP WATER FROM FLOWING TO THE NEXT SECTION OF SILT FENCE, SEE DETAIL 3, THIS SHEET.

E2 IN ALL AREAS WHERE ASPHALT PAVEMENT AND AGGREGATE SHOULDERS ARE BEING REMOVED, CONSTRUCT SURFACE RESTORATION BY SCARIFYING SUBGRADE AND PLACING TOPSOIL AT A 4" MINIMUM DEPTH WITH EROSION CONTROL BLANKETS. MATCH EXISTING ELEVATIONS PRIOR TO CONSTRUCTION AND CONFIRM FINISH GRADING ALLOWS STORM WATER TO HAVE POSITIVE DRAINAGE ACROSS OR AWAY FROM PAVED SURFACES. COORDINATE WITH C.O.R. FOR TIMING OF EROSION CONTROL BLANKET INSTALLATION AS NPS WILL CONSTRUCT SEEDING.

E3 CONSTRUCT EROSION CONTROL BLANKETS IN ALL NON–PAVED, SURFACE RESTORATION AREAS, INCLUDING ANY DISTURBED AREAS OUTSIDE THE ASPHALT MILL/OVERLAY LIMITS AND AREAS WHERE NEW ASPHALT PAVEMENT IS CONSTRUCTED, SEE DETAIL 4, THIS SHEET.

SURFACE RESTORATION AND TOPSOIL NOTES

1. ALL PERMANENT SEEDING TO BE COMPLETED BY THE PARK. CONTRACTOR SHALL COORDINATE WITH PARK STAFF FOR PROPER CONSTRUCTION SCHEDULING OF SCARIFYING SOILS, TOPSOIL PLACEMENT, FINISH GRADING, AND EROSION CONTROL BLANKET INSTALLATION.
2. THE PARK RESERVES THE RIGHT TO PROVIDE TEMPORARY SEEDING IN SPECIFIED AREAS WHERE THE CONTRACTOR HAS NOTIFIED THE C.O.R. THAT FINISH GRADING ACTIVITIES ARE COMPLETE, BUT SUCH AREAS DO NOT HAVE EROSION CONTROL BLANKETS INSTALLED AND EXPOSED SOIL IS PRESENT FOR GREATER THAN 48 HOURS.
3. PER KEYNOTE 'E2' ABOVE, EXISTING SUBGRADE SHALL BE SCARIFIED 6" MINIMUM DEPTH PRIOR TO CONSTRUCTING TOPSOIL, FINISH GRADING, AND EROSION CONTROL BLANKETS.
4. FOR ALL TOPSOIL TO BE HAULED IN FROM OFF SITE LOCATION, INSTALL PER MINNESOTA D.O.T. (MnDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION: SECTION 3877 – TOPSOIL MATERIAL, 2025 EDITION OR MOST CURRENT VERSION ON FILE.
5. ALL IMPORTED TOPSOIL SHALL BE CERTIFIED ARCHAEOLOGICALLY CLEAN AND FREE OF INVASIVE PLANT SPECIES.



2 C2.1 PINES RD & MILE CREEK RD – PLAN DETAIL

Mark	Sheet	REVISION	Date	Initial

DESIGNED: MRS
DRAWN: --
TECH. REVIEW: --
DATE: 04/23/2026

SUB SHEET NO. C2.1

TITLE OF SHEET
SURFACE RESTORATION AND EROSION CONTROL PLANS
GRAND PORTAGE NATIONAL MONUMENT

DRAWING NO. 398 80035
PMIS/PKG NO. 317984C
SHEET 5 OF 5

M:\Cadusers\Groups\Maint\Active\GRPO_317984C_Mile Creek Bridge–Trail–Parking Area\11_In–House\3_CAD Drawings_SITE\SHEETS\GRPO–317984C_SHEETS.dwg 5/28/2026 9:44 AM BY Sharp, Michael R