MP 52.14
RETAINING STRUCTURES
SEPTEMBER 2020

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If this sheet is smaller than 22" x 34", it is a reduced print. Adjust scale accordingly.
PROJECT NOTES

1. ALL WORK MUST BE DONE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS.
   INCLUDING ASSOCIATED REGULATIONS AND PROJECT PERMIT STIPULATIONS.

2. CONTRACT WORK SHALL BE PERFORMED PER CURRENT ARENA MANUAL FOR RAILWAY ENGINEERING (MRE)
   OR AS MODIFIED BY THE SPECIFICATIONS.

3. ALL WORK SHALL COMPLY WITH APPLICABLE LOCAL AND STATE CODES AND ALL OTHER REGULATIONS
   OF AGENCIES HAVING JURISDICTION.

4. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH ALASKA RAILROAD CORPORATION.

5. AN ESTIMATED THREE (3) WEEK WINDOW OF TIME IS AVAILABLE FOR CONSTRUCTION. THE
   CONTRACTOR SHALL PLAN AND COORDINATE WORK TO BE COMPLETED WITHIN THIS TIME FRAME.

6. ALL TRACK WORK IS TO BE PERFORMED BY ALASKA RAILROAD CORPORATION FORCES.

7. COORDINATES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. ESTABLISHING SURVEY
   CONTROL SHALL BE THE CONTRACTOR’S RESPONSIBILITY.

8. CONSTRUCTION ACTIVITIES SHALL NOT DISRUPT RAILROAD OPERATIONS AND SHALL BE IN
   ACCORDANCE WITH THE SPECIFICATIONS. ALL WORK TO BE SCHEDULED WITH ACCORDANCE
   WITH THE CONSTRUCTION SCHEDULE AND CONSTRUCTION STAGING PLANS.

9. DISPOSAL OF ALL MATERIALS SHALL BE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS, DIMENSIONS
    AND ELEVATIONS AT THE SITE AND MUST ADAPT THEIR WORK TO ACTUAL CONDITIONS IN A MANNER
    APPROVED BY THE ENGINEER.

11. SHALLOW OR EXPOSED BEDROCK IS PRESENT THROUGHOUT THE PROJECT AREA. MECHANICAL ROCK
    EXCAVATION OR BLASTING NECESSARY TO COMPLETE PROJECT EXCAVATIONS IS SUBSIDIARY TO PAY ITEM 3.

12. ALTERATIONS OF CONSTRUCTION PLANS AND DETAILS IS NOT PERMITTED WITHOUT EXPRESS WRITTEN
    PERMISSION OF ALASKA RAILROAD CORPORATION CHEF ENGINEER.

13. DESIGN LIVE LOAD IS COOPER E-86 PLUS IMPACT FOR EQUIPMENT WITHOUT HAMMER BLOW PER THE 2020
    ARENA MRE.

14. UTILITY LOCATIONS SHOWN ON THESE PLANS MAY NOT BE CORRECT OR COMPLETE. IT IS THE
    CONTRACTOR’S RESPONSIBILITY TO VERIFY UTILITY LOCATIONS. THE CONTRACTOR SHALL COORDINATE
    CONSTRUCTION ACTIVITIES WITH THE RESPECTIVE UTILITY COMPANIES.

15. ALL STRUCTURAL STEEL TO BE ASTM A709 GRADE 50 UNLESS OTHERWISE NOTED.

16. ALL STEEL SHEET PILE SHALL BE A572 GRADE 50 UNLESS OTHERWISE NOTED.

17. ALL STRUCTURAL STEEL TO BE HOT-DIP GALVANIZED.

18. ANCHOR RODS SHALL BE THREADED RODS MEETING THE CURRENT REQUIREMENTS OF ASTM A722
    SPECIFICATIONS GRADE 150.

19. ALL STRUCTURAL HARDWARE, INCLUDING ANCHOR RODS, PLATES, HEAVY HEX NUTS AND HARDENED
    WASHERS ARE TO BE GALVANIZED PER ASTM A-193 OR B-499.

20. CEMENT GROUT FOR ROCK ANCHORS SHALL HAVE A MINIMUM:
    1 DAY COMPRESSIVE STRENGTH OF 4,000 PSI
    7 DAY COMPRESSIVE STRENGTH OF 11,000 PSI
    28 DAY COMPRESSIVE STRENGTH OF 15,000 PSI
    PER ASTM C-242, FT. GS 4.2 AND MEET THE REQUIREMENT OF THE CEMENT GROUT SPECIAL PROVISIONS.

21. ALL CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

22. CONCRETE SURFACE SEALER SHALL BE APPLIED TO ALL EXPOSED SURFACES OF CONCRETE.

23. THE RETAINING WALL WAS DESIGNED FOR SEISMIC SITE CLASS B.

24. WELDING ELECTRODES FOR ARC WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE SPECIFICATIONS
    FOR MILD STEEL ARC-WELDING ELECTRODES SERIES E70, AWS E 1, AND LOW HYDROGEN CLASSIFICATION
    FOR SAW AND AWS E 1.7 FOR SAW.

25. STRUCTURAL FASTENERS SHALL BE 7/8" DIAMETER ASTM A325 HIGH-STRENGTH BOLTS, UNLESS NOTED
    OTHERWISE. WHICH SHALL BE TIGHTENED USING THE TURN-NUT METHOD TO OBTAIN A MINIMUM "TENSION
    OF 39 KIPS. ALL OPEN HOLES SHALL BE 15/16" FOR 7/8" DIAMETER BOLTS, UNLESS OTHERWISE NOTED.
NOTES:
1. PROVIDE MATERIAL AND WORKMANSHIP IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS.
2. BACKFILL BEHIND SHEETING TO ANCHOR ROD LEVEL PRIOR TO INSTALLING ROCK ANCHORS.
3. SEE SHEET 13/15 FOR SECTION A-A AND SECTION B-B.
4. SEE SHEET 13/15 FOR ROCK DOWEL DETAIL.

If this sheet is smaller than 22" x 34", it is a reduced print. Adjust scale accordingly.
### SOUTH WALL SOLDIER PILE ELEVATIONS

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NOTE:
1. PROVIDE MATERIAL AND WORKMANSHIP IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS.
2. SEE SHEET 13115 FOR SECTION A-A, SECTION B-B, SECTION C-C AND SECTION D-D.
3. SEE SHEET 13116 FOR ROCK DOWEL DETAIL.
4. BACKFILL BEHIND SHIFTING TO ANCHOR ROD LEVEL PRIOR TO INSTALLING ROCK ANCHORS.

TYPICAL CROSS SECTION
@ STA. 2541+50.00

1/8" SHIM PLATES, AS NEEDED TO ALLOW SHEETS TO BEAR EVENLY ON THE BACK FACE OF FLANGE

1 1/2" PLATE

(2) C12x30

18" PIPE

24" DIA SOCKET

HEX SOCKETS AND SOLDIER PILES

PS41 SHEET PILE (TYP.)

6'-6" (TYP.)

2"-4" COF (MIN.)

MC 18 x 45.8 WALL CAP

PH14x89

EXISTING GROUND

5" SOCKET ENTRANCE TP.

5/8" SOCKET ENTRANCE TP.

BACKFILL WITH 10" MINUS SHOT ROCK

1/2" TRACTION

40:1

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TYPICAL DETAILS
NORTH WALL

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES

MP 52.14
RETAINING WALL REPLACEMENT

DESIRED BY: A-155
DRAFTED BY: A-155
CHECKED BY: A-155
APPROVED BY: A-155
4/13/99

8/15/99
PROPOSED RETAINING WALL

EXISTING RETAINING WALL

EXISTING GROUND

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CROSS SECTIONS
NORTH WALL