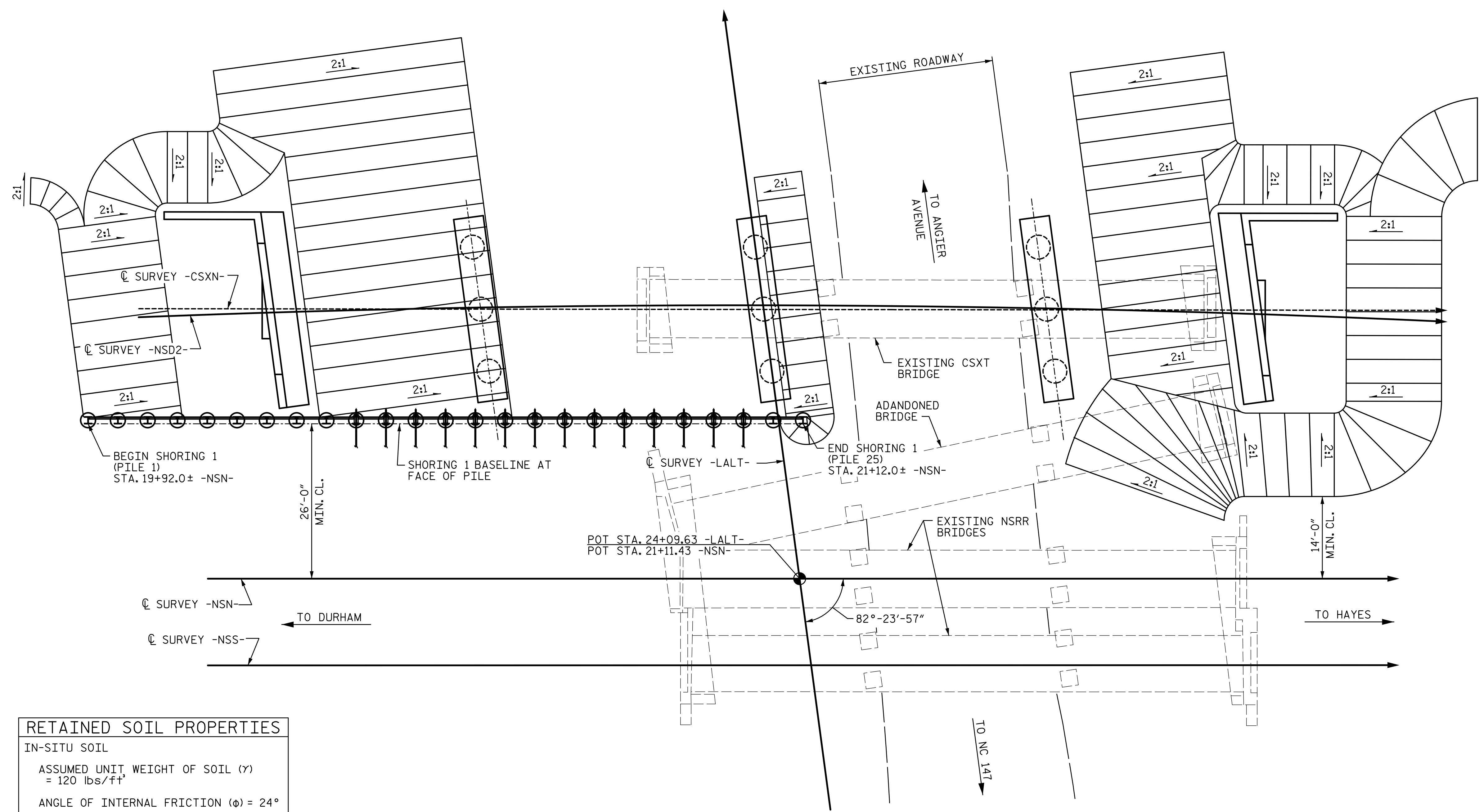


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PLAN - STAGE 2

RETAINED SOIL PROPERTIES

IN-SITU SOIL

ASSUMED UNIT WEIGHT OF SOIL (γ) = 120 lbs/ft³

ANGLE OF INTERNAL FRICTION (ϕ) = 24°

COHESION (c) = 0

WALL FRICTION = 8°

WEATHERED ROCK (EL. VARIES 388-393)

ASSUMED UNIT WEIGHT OF SOIL (γ) = 70 lbs/ft³

ANGLE OF INTERNAL FRICTION (ϕ) = 36°

COHESION (c) = 0

WALL FRICTION = 12°

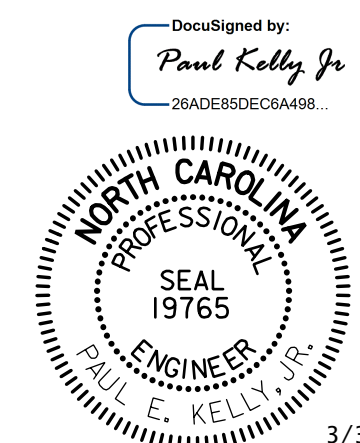
SHOULD THE CONTRACTOR ENCOUNTER SOIL OTHER THAN DESCRIBED ABOVE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.

NOTES:

- FOR TEMPORARY RAILROAD SHORING, SEE SPECIAL PROVISIONS.
- ALL STEEL HP PILING, STEEL W SHAPES, STEEL PLATES, AND ANGLES SHALL BE ASTM A709 GR. 50, IN GOOD CONDITION.
- ALL TIMBER SHALL BE GRADE NO. 2 SOUTHERN PINE, IN GOOD CONDITION.
- FOR EXCAVATABLE FLOWABLE FILL, SEE SECTION 1000-6 OF THE STANDARD SPECIFICATIONS.
- CONTRACTOR SHALL DETERMINE EXACT LOCATION OF SHORING AND LIMITS OF EXCAVATION IN THE FIELD. IF SHORING DEPTHS OR RAILROAD CLEARANCES VIOLATE THESE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
- CONTRACTOR SHALL VERIFY REQUIRED PILE LENGTHS PRIOR TO INSTALLATION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ANY AND ALL ADDITIONAL OSHA AND STATE SAFETY REQUIREMENTS PERTAINING TO THIS EXCAVATION.
- FOR DETAILS, SEE SHEETS 3, 4, AND 5 OF 5.
- CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AND NOTIFY THE ENGINEER IF THERE ARE ANY CONFLICTS.
- ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT AWS STANDARDS AND PERFORMED BY A CERTIFIED WELDER.
- CONCRETE FOR SHAFTS SHALL BE CLASS A AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 psi.
- CONTRACTOR MAY SUBMIT FOR APPROVAL ALTERNATE SHORING PLANS AND CALCULATIONS. SHORING PLANS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN NORTH CAROLINA. PLANS AND CALCULATIONS SHALL BE APPROVED PRIOR TO BEGINNING CONSTRUCTION.
- ALL TIE BACKS SHALL BE A CEMENT GROUTED ANCHOR EMBEDDED INTO BEDROCK AND SHALL BE DESIGNED FOR A SERVICE LOAD OF 70 KIPS. CONTRACTOR SHALL SUBMIT ANCHOR DESIGN FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. ANCHOR DESIGN SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN NORTH CAROLINA.
- DIRECT DRAINAGE AWAY FROM FACE OF SHORING.
- INSTALLED PILES SHALL BE WITHIN 1/8" FT FROM VERTICAL.
- TEMPORARY RAILROAD SHORING HAS BEEN DESIGNED FOR THE RETAINED SOIL PROPERTIES SHOWN ON THESE PLANS AND IN ACCORDANCE WITH AREMA CHAPTER 8 AND CSXT AND NORFOLK SOUTHERN REQUIREMENTS.

PROJECT NO. U-3308
DURHAM COUNTY
 STATION: POT 24+09.63 -LALT-
POT 21+11.43 -NSN-

SHEET 1 OF 5



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TEMPORARY SHORING

DRAWN BY : TRL/TJT DATE : 6-14
 CHECKED BY : PEK DATE : 6-14

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

STV / Ralph Whitehead Associates, Inc.
 900 W Trade Street, Suite 715
 Charlotte, NC 28202
 NC License No. F-0991

REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

TOTAL SHEETS: 44