

PLAN OF EXCAVATION SUPPORT ALONG GILMAN AND CONGRESS STREETS (SOLDIER PILES 11 TO 75)  
SCALE: 1/8"=1'-0"

**GENERAL NOTES**

THESE PLANS DETAIL THE TEMPORARY EXCAVATION SUPPORT SYSTEM TO BE INSTALLED ALONG GILMAN AND CONGRESS STREETS AS PART OF THE NEW CONGRESS STREET BUILDING AT THE MAINE MEDICAL CENTER IN PORTLAND, MAINE. THE EXCAVATION SUPPORT SYSTEM HAS BEEN DESIGNED FOR A MAXIMUM VERTICAL SURCHARGE OF 300 PSF APPLIED AT THE TOP OF THE SUPPORT WALL.

**INSTALLATION PROCEDURE**

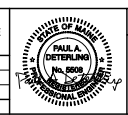
1. THE AREA ALONG THE SOLDIER PILE ALIGNMENT SHALL BE CLEARED OF ALL EXISTING UTILITIES AND OTHER OBSTRUCTIONS PRIOR TO PILE INSTALLATION.
2. THE SOLDIER PILES SHALL THEN BE INSTALLED AT THE LOCATIONS SHOWN IN PLAN. THE PILES SHALL BE DRIVEN IN PLACE USING EITHER A VIBRATORY OR IMPACT PILE DRIVING HAMMER.
3. AFTER THE SOLDIER PILES HAVE BEEN INSTALLED MAKE THE INITIAL EXCAVATION ALONG THE SOLDIER PILE WALL TO 5 FEET BELOW GRADE FOR INSTALLATION OF TIMBER LAGGING BETWEEN PILES. THE HEIGHT OF UNSUPPORTED SOIL FACE MAY NEED TO BE REDUCED FROM 5 FEET BASED ON ACTUAL SOIL CONDITIONS TO MAINTAIN A STABLE SOIL FACE. TIMBER LAGGING WILL BE EITHER TUCKED BEHIND THE PILE FLANGES OR ATTACHED TO THE FLANGES WITH WELDED THREADED ROD (SEE DETAIL ON DRAWG 3 OF 3). LAGGINGS WILL BE SPACED WITH LOUVERS TO PERMIT FREE DRAINAGE. ALL VOIDS BEHIND THE LAGGING WILL BE TIGHTLY BACK PACKED WITH ON-SITE GRANULAR MATERIAL. TIMBER LAGGING TO BE INSTALLED IMMEDIATELY AFTER EXCAVATION IS MADE.
4. THE GENERAL EXCAVATION SHALL CONTINUE IN LIFTS WITH LAGGING INSTALLED BETWEEN THE PILES AS DESCRIBED ABOVE DOWN TO TWO FEET BELOW THE BRACING LEVEL FOR INSTALLATION OF THE TIEBACK ANCHORS AND WALES, AS DETAILED. TIEBACKS SHALL BE INSTALLED AT THE DEPTH AND ANGLE GIVEN IN THE TIEBACK SCHEDULE AND SHOWN IN SECTION. THE TIEBACK TENDON AND REGROUT TUBE SHALL BE INSTALLED THE FULL LENGTH WITHOUT DIFFICULTY. PLACE GROUT BY TREMIE METHODS TO THE FACE OF EXCAVATION. TIEBACKS SHALL BE REGROUTED AT LEAST ONCE. AFTER THE TIEBACKS HAVE BEEN INSTALLED THEY SHALL BE TESTED FOLLOWING THE "TIEBACK TESTING PROCEDURE" GIVEN ON DRAWING 3 OF 3. TIEBACK TEST REPORTS TO BE PROVIDED TO EARTHWORK ENGINEERING FOR REVIEW.
5. EXCAVATION SHALL CONTINUE IN LIFTS WITH LAGGING INSTALLED AS DESCRIBED ABOVE DOWN TO REQUIRED SUBGRADE.
6. AFTER THE STRUCTURE IS INSTALLED AND BACKFILL HAS BEEN PLACED UP TO WITHIN 2 FEET OF THE BRACING LEVEL THE TIEBACKS WILL BE DETENTIONED AND THE WALE REMOVED.

THE LATERAL MOVEMENT OF THE SYSTEM SHALL BE MONITORED DURING CONSTRUCTION. MONITORING POINTS SHALL BE LOCATED EVERY 16 FEET ALONG THE EXCAVATION SUPPORT (MAX.) AND READINGS TAKEN 2 TO 3 TIMES PER WEEK DURING ACTIVE EXCAVATION WORK. AFTER THE EXCAVATION REACHES SUBGRADE THE READINGS SHALL BE TAKEN WEEKLY. MONITORING DATA SHALL BE PROVIDED TO EARTHWORK ENGINEERING FOR REVIEW AS IT IS OBTAINED.

MATERIAL SCHEDULE		
ITEM	MATERIAL	GRADE
SOLDIER PILES	SEE SCHEDULE	ASTM A572 (Fy=50 ksi)
TIMBER LAGGING	3-INCH THICK (NOM.)	Fb = 875 psi
TIEBACK WALES	2 - C15x33.9 CHANNEL	ASTM A36 (Fy=36 ksi)
TIEBACK TENDONS	0.6"Ø 7 WIRE STRAND	ASTM A-416 (Fu=270 ksi)
TIEBACK PLATES	12"x12"x1.25" PLATE	ASTM A572 (Fy=50 ksi)
SUPPORT BRACKET	HP10x42 SECTION	ASTM A572 (Fy=50 ksi)
WELDS	E70XX	Fy=70 ksi

MATERIALS OF EQUAL OR GREATER STRENGTH MAY BE SUBSTITUTED FOR THOSE LISTED ABOVE WRITTEN UPON APPROVAL BY THE EARTHWORK ENGINEERING.

DESIGN AND DRAWING PREPARED BASED IN PART ON UNVERIFIED INFORMATION PROVIDED BY OTHERS. IF ACTUAL SITE AND/OR SOIL CONDITIONS VARY FROM THOSE SHOWN NOTIFY THE DESIGN ENGINEER TO REVIEW PRIOR TO THE START OF WORK.



DESIGN ENGINEER  
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PROJECT  
**CONGRESS STREET BUILDING  
 MAINE MEDICAL CENTER FACILITY  
 PORTLAND, MAINE**

DRAWING TITLE  
**SOLDIER PILE AND LAGGING WALL  
 AT GILMAN AND CONGRESS STREETS  
 PLAN AND GENERAL NOTES**

DESIGN BY: PAD  
 DATE: 1/7/21  
 PROJECT: 20090  
 SHEET: 1 of 3