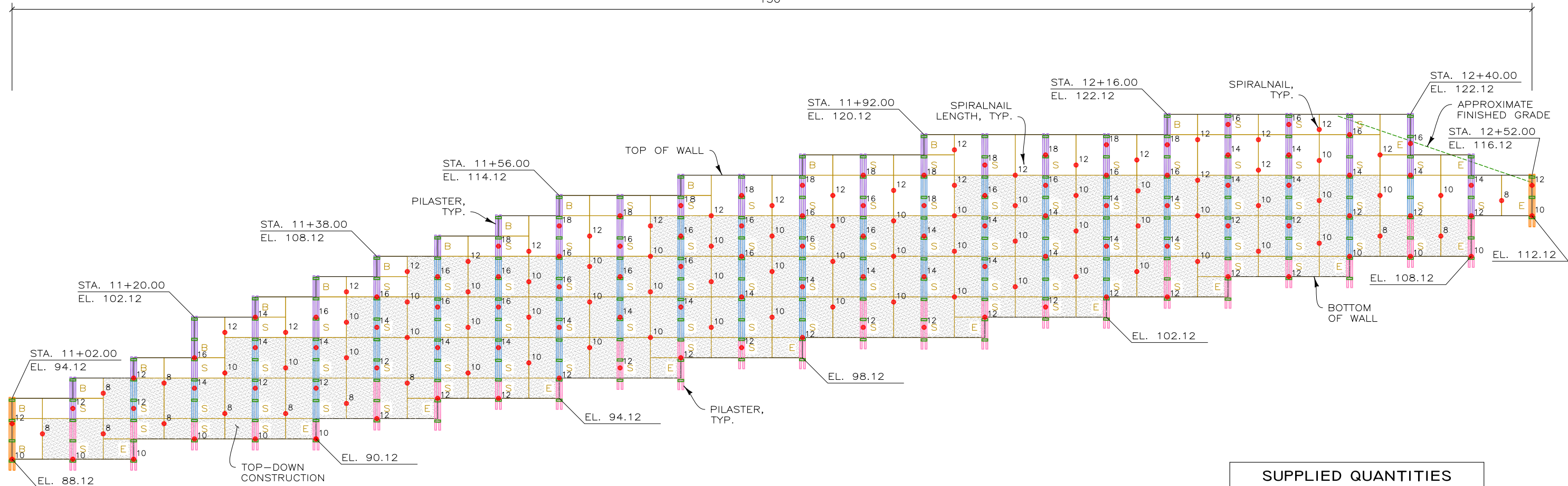


150'



DEVELOPED ELEVATION - NORTH WALL
SCALE: 1" = 10'

LEGEND

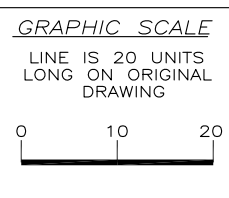
	TOP-DOWN WIRETRUSS CONSTRUCTION
	PERMANENT SPIRALNAIL AND LENGTH
	TEMPORARY SPIRALNAIL AND LENGTH
	SHOTCRETE FINISH (SUPPLIED BY OTHERS)
	SHOTCRETE TEMPORARY SHORING (SUPPLIED BY OTHERS)

SUPPLIED QUANTITIES	
NORTH WALL	
FACE AREA	2,220 SQ. FT.
RETURN PANEL AREA	204 SQ. FT.
TOTAL WALL AREA	2,424 SQ. FT.
TOTAL PERMANENT SPIRALNAILS	195 EA.
TOTAL PILASTERS	101 EA.
SOUTH WALL	
FACE AREA	1,620 SQ. FT.
RETURN PANEL AREA	180 SQ. FT.
TOTAL WALL AREA	1,800 SQ. FT.
TOTAL PERMANENT SPIRALNAILS	319 EA.
TOTAL PILASTERS	79 EA.
TOTAL SHOTCRETE FINISH AREA (BY OTHERS)	1,474.00 SQ. FT.
TOTAL SHOTCRETE TEMPORARY SHORING (BY OTHERS)	633.47 SQ. FT.
TOTAL TEMPORARY SPIRALNAILS	72 EA.

180327AW - MALLARD POINTE

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HILFIKER RETAINING WALLS

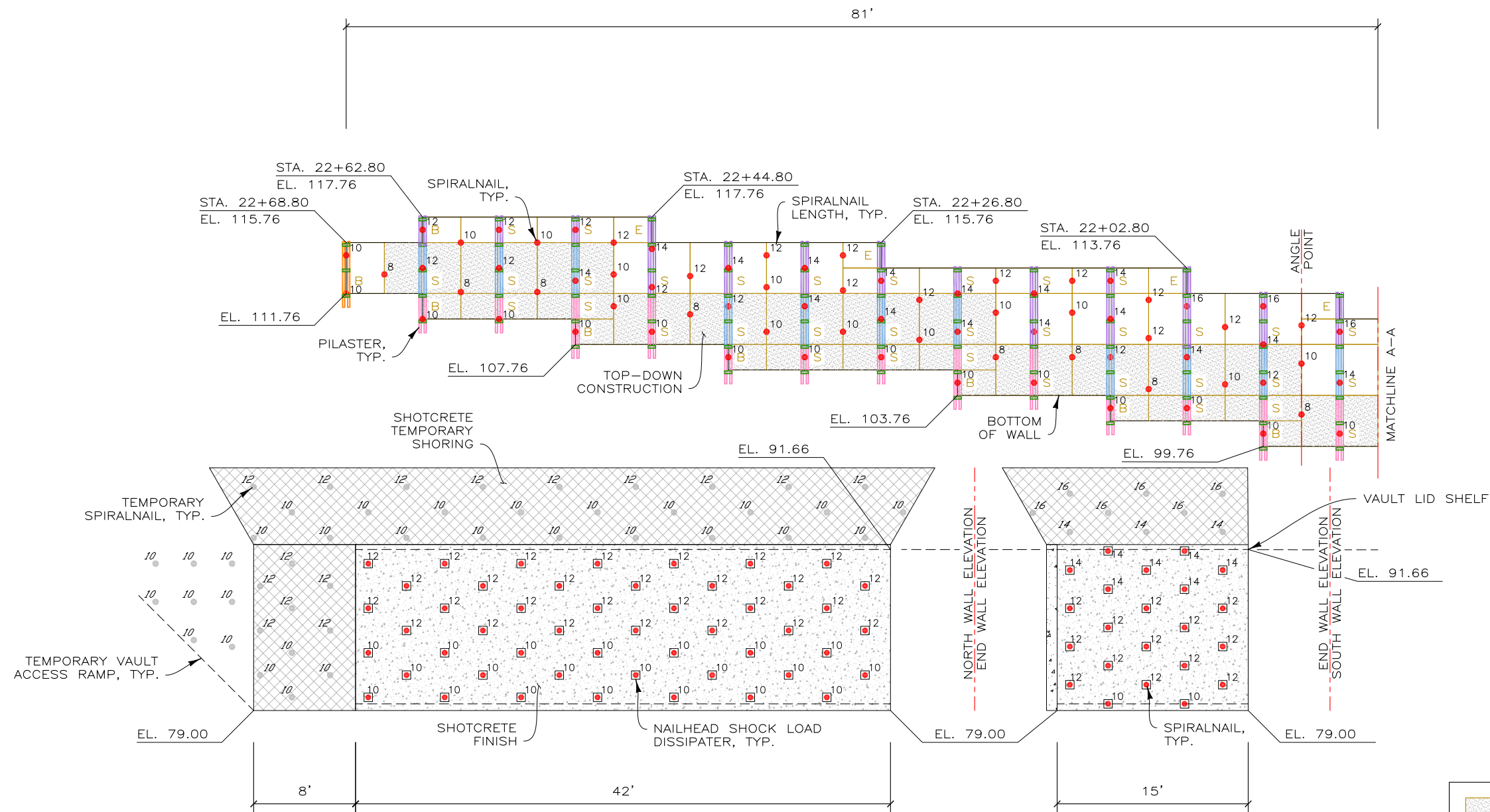
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8 MAY 19
REVISION DATE
SCALE
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SHOP DRAWINGS
SPIRALNAIL WIRETRUSS WALL
MALLARD POINTE
ISSAQUAH, WASHINGTON
DEVELOPED ELEVATION

PROJECT NO.
180327AW
SHEET
1
OF 12



DEVELOPED ELEVATION - SOUTH WALL
SCALE: 1" = 10'

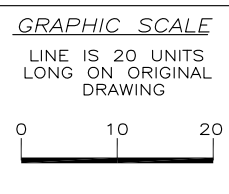
LEGEND

	TOP-DOWN WIRETRUSS CONSTRUCTION
	PERMANENT SPIRALNAIL AND LENGTH
	TEMPORARY SPIRALNAIL AND LENGTH
	SHOTCRETE FINISH (SUPPLIED BY OTHERS)
	SHOTCRETE TEMPORARY SHORING (SUPPLIED BY OTHERS)

180327AW-MALLARD POINTE

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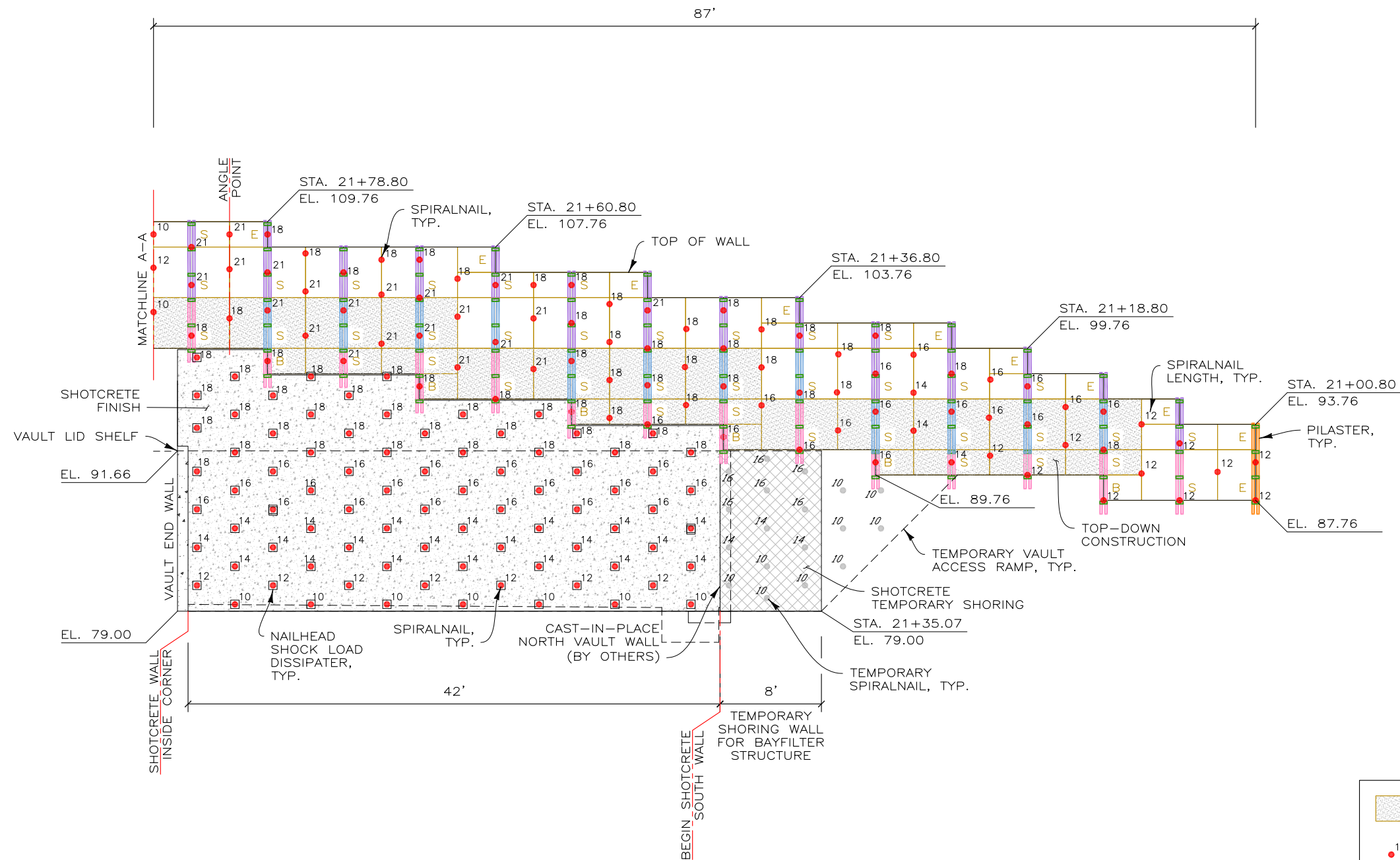
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SHOP DRAWINGS	PROJECT NO. 180327AW
SPIRALNAIL WIRETRUSS WALL	SHEET 2
MALLARD POINTE	OF 12
ISSAQUAH, WASHINGTON	
DEVELOPED ELEVATION	



DEVELOPED ELEVATION - SOUTH WALL (CONT'D)
SCALE: 1" = 10'

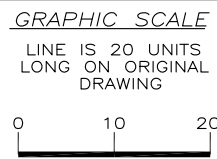
LEGEND

	TOP-DOWN WIRETRUSS CONSTRUCTION
	PERMANENT SPIRALNAIL AND LENGTH
	TEMPORARY SPIRALNAIL AND LENGTH
	SHOTCRETE FINISH (SUPPLIED BY OTHERS)
	SHOTCRETE TEMPORARY SHORING (SUPPLIED BY OTHERS)

180327AW-MALLARD POINTE

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HILFIKER RETAINING WALLS

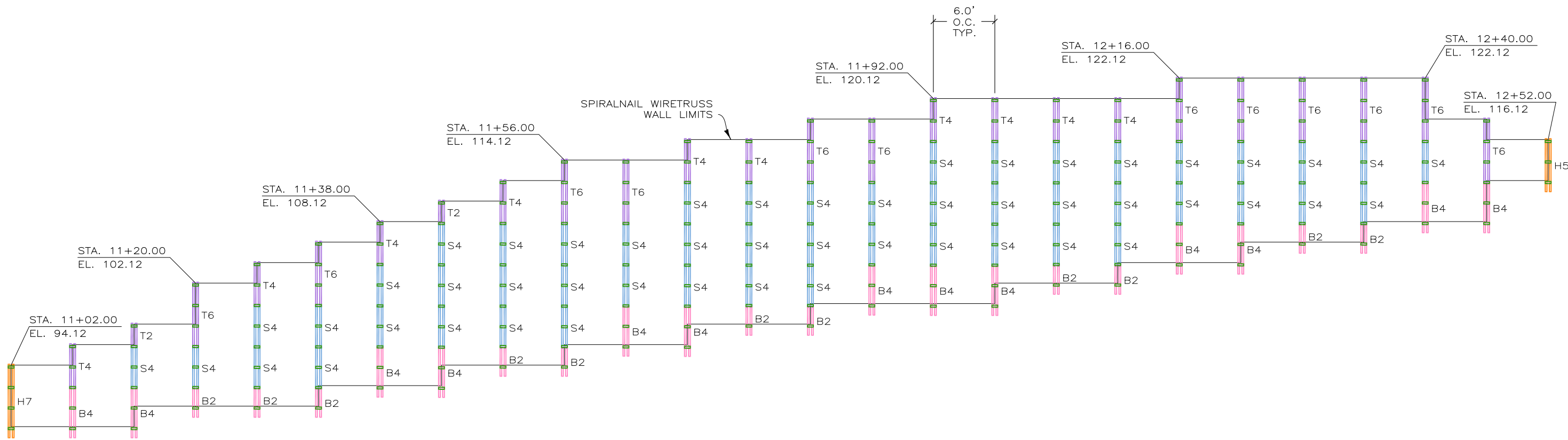
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SHOP DRAWINGS
SPIRALNAIL WIRETRUSS WALL
MALLARD POINTE
ISSAQUAH, WASHINGTON
DEVELOPED ELEVATION

PROJECT NO.
180327AW
SHEET
3
OF 12

180327AW - MALLARD POINTE

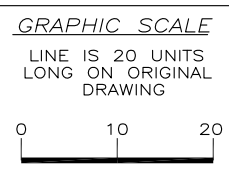


SEGMENTAL COMPOUND PILASTER SCHEDULE - NORTH WALL
SCALE: 1" = 10'

**REFER TO 'SEGMENTAL COMPOUND PILASTERS' DETAIL ON SHEET 6*

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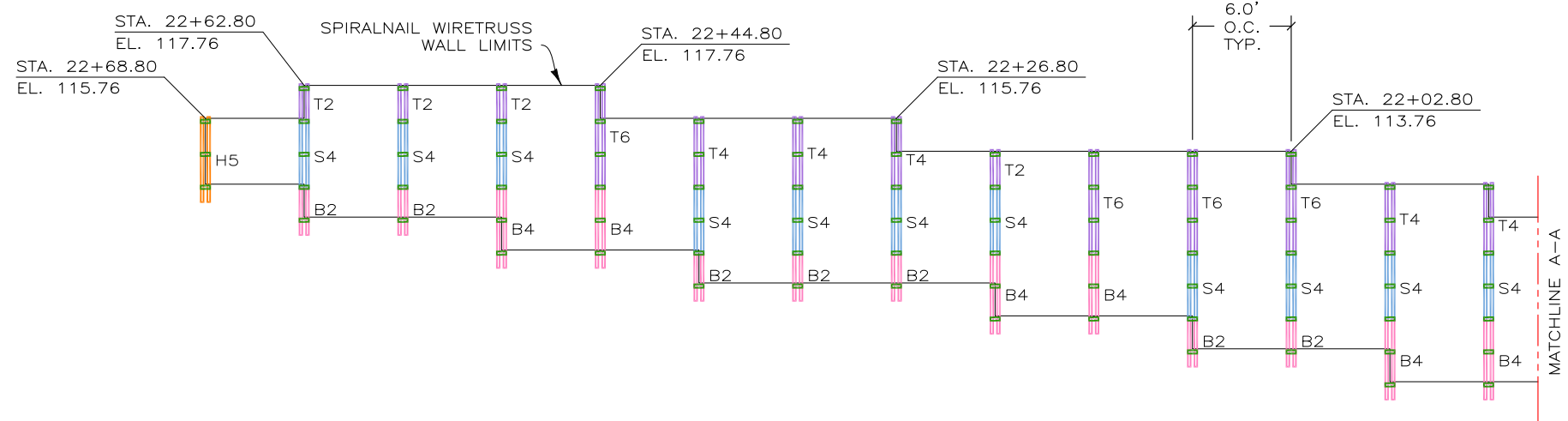
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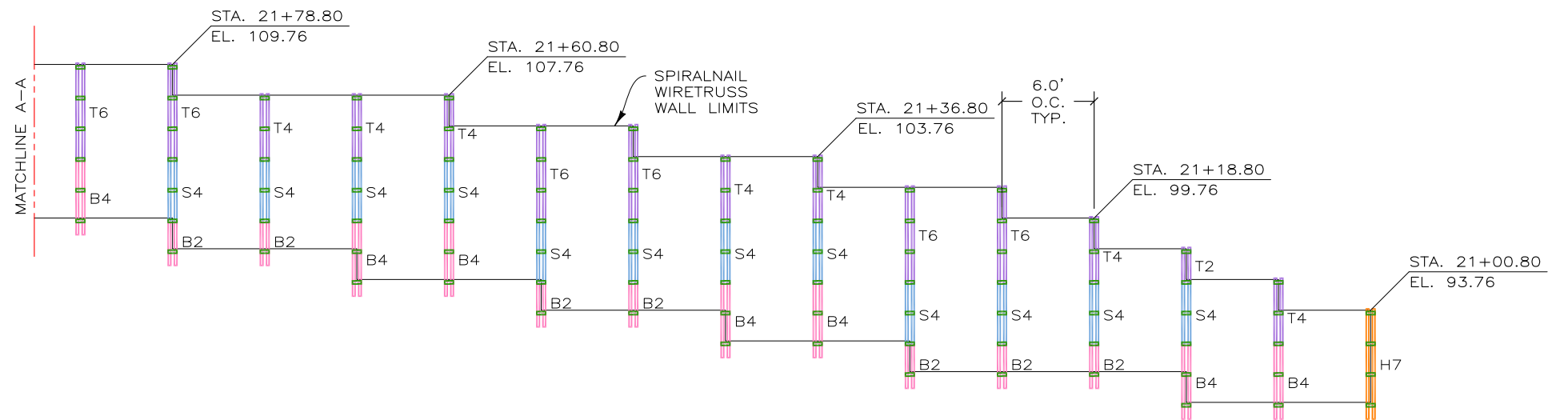
SHOP DRAWINGS
SPIRALNAIL WIRETRUSS WALL
MALLARD POINTE
ISSAQUAH, WASHINGTON
PILASTER SCHEDULE

PROJECT NO.
180327AW
SHEET
4
OF 12



SEGMENTAL COMPOUND PILASTER SCHEDULE - SOUTH WALL
SCALE: 1" = 10'

*REFER TO 'SEGMENTAL COMPOUND PILASTERS' DETAIL ON SHEET 6



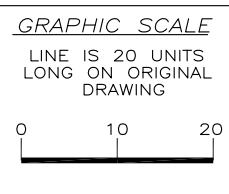
SEGMENTAL COMPOUND PILASTER SCHEDULE - SOUTH WALL
SCALE: 1" = 10'

*REFER TO 'SEGMENTAL COMPOUND PILASTERS' DETAIL ON SHEET 6

180327AW - MALLARD POINTE

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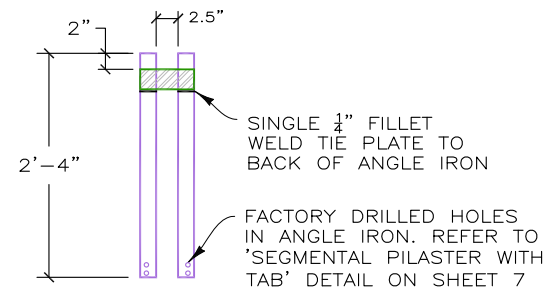
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HILFIKER RETAINING WALLS

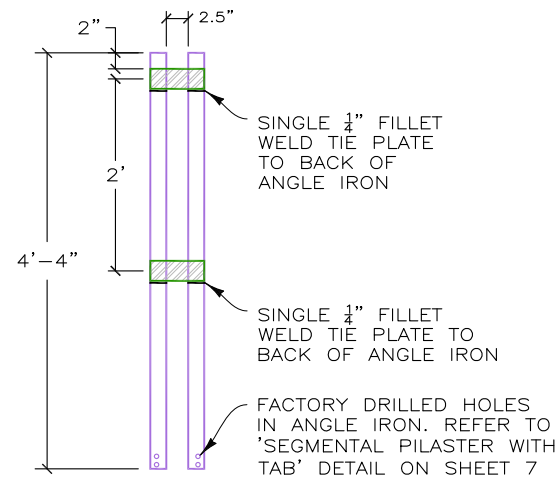
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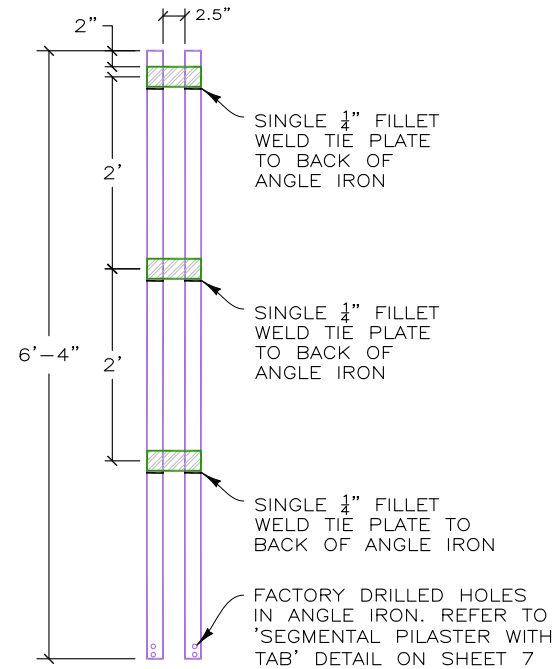
SHOP DRAWINGS	PROJECT NO. 180327AW
SPIRALNAIL WIRETRUSS WALL MALLARD POINTE	SHEET 5
ISSAQUAH, WASHINGTON	OF 12
PILASTER SCHEDULE	



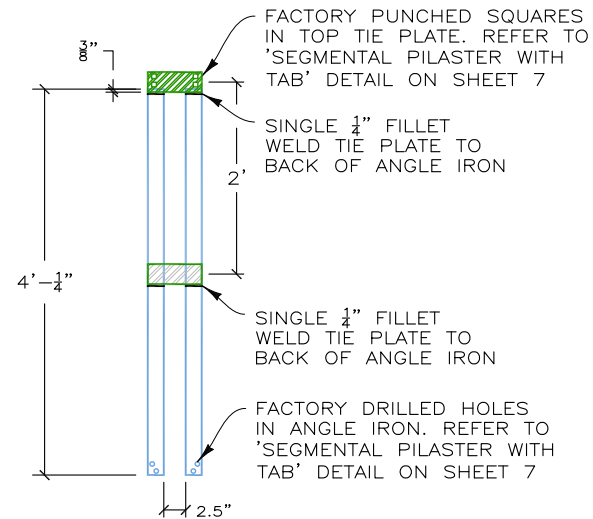
T2 (TOP 2')
(BACK FACE)



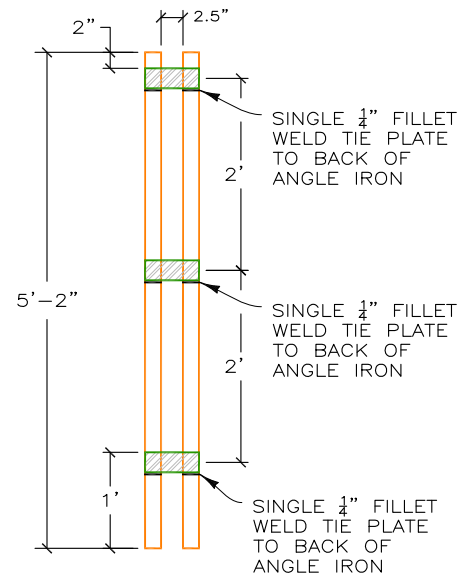
T4 (TOP 4')
(BACK FACE)



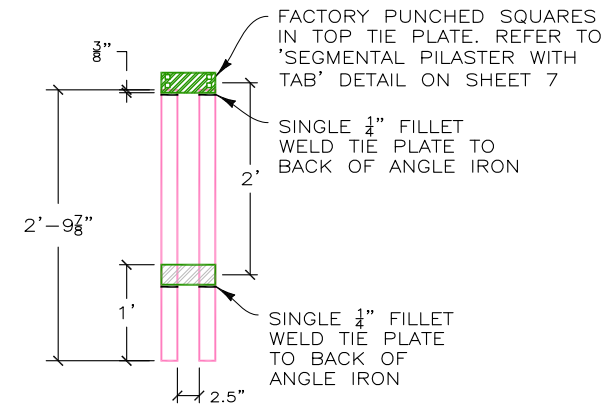
T6 (TOP 6')
(BACK FACE)



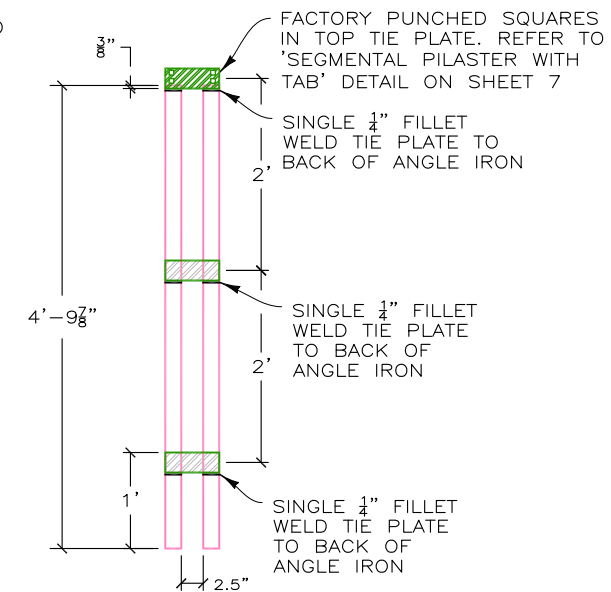
S4 (SEGMENTAL 4')
(BACK FACE)



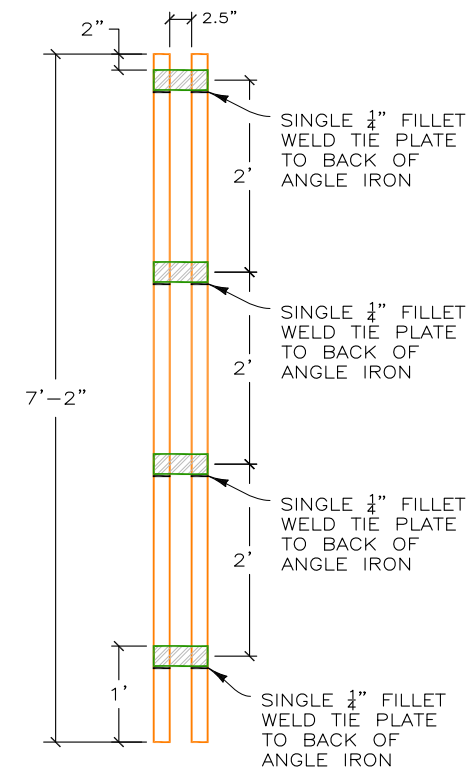
H5 (FULL HEIGHT 5')
(BACK FACE)



B2 (BOTTOM 2')
(BACK FACE)



B4 (BOTTOM 4')
(BACK FACE)



H7 (FULL HEIGHT 7')
(BACK FACE)

QUANTITIES:

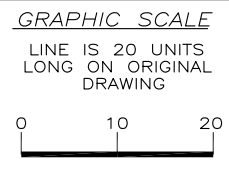
T2:	7
T4:	22
T6:	22
B2:	25
B4:	26
S4:	74
H5:	2
H7:	2

SEGMENTAL COMPOUND PILASTERS
SCALE: 1" = 2'

180327AW-MALLARD-POINTE

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REV.NO.	DATE	BY	DESCRIPTION



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HILFIKER RETAINING WALLS

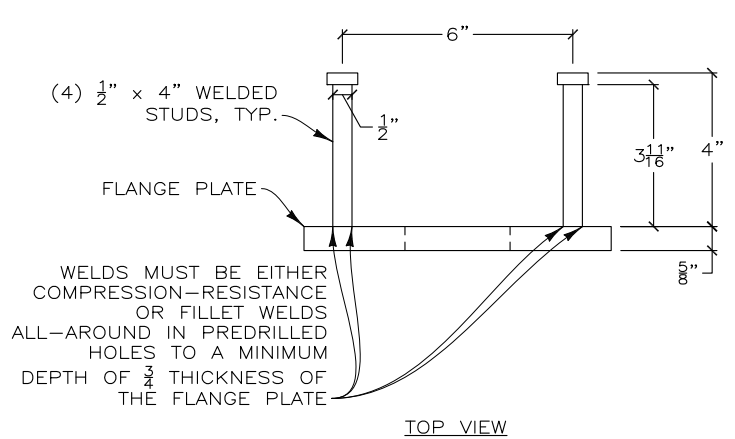
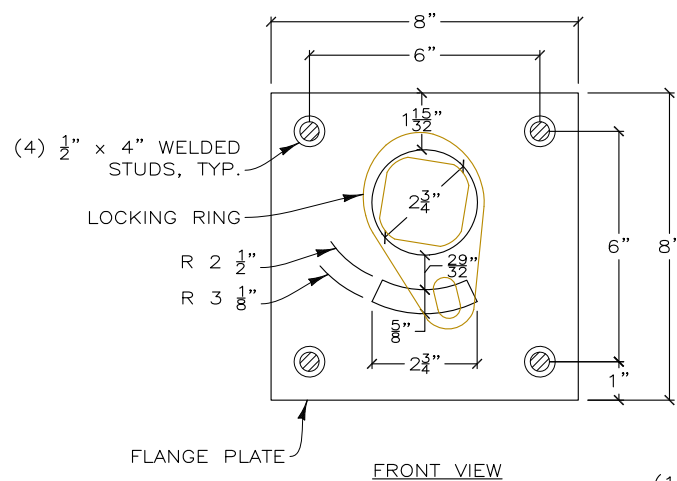
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SHOP DRAWINGS
SPIRALNAIL WIRETRUSS WALL
MALLARD POINTE
ISSAQUAH, WASHINGTON
PILASTER DETAILS

PROJECT NO.
180327AW
SHEET
6
OF 12

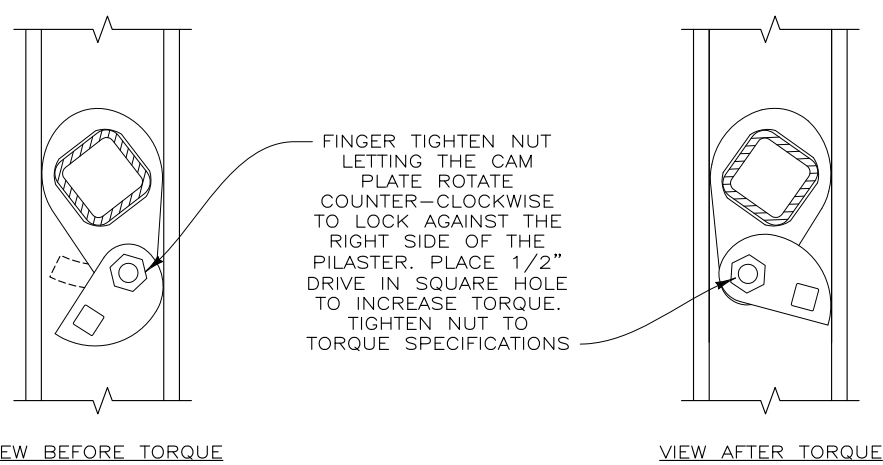


(1) SHOCK LOAD DISSIPATOR PER PERMANENT SPIRALNAIL IN SHOTCRETE FINISH WALLS

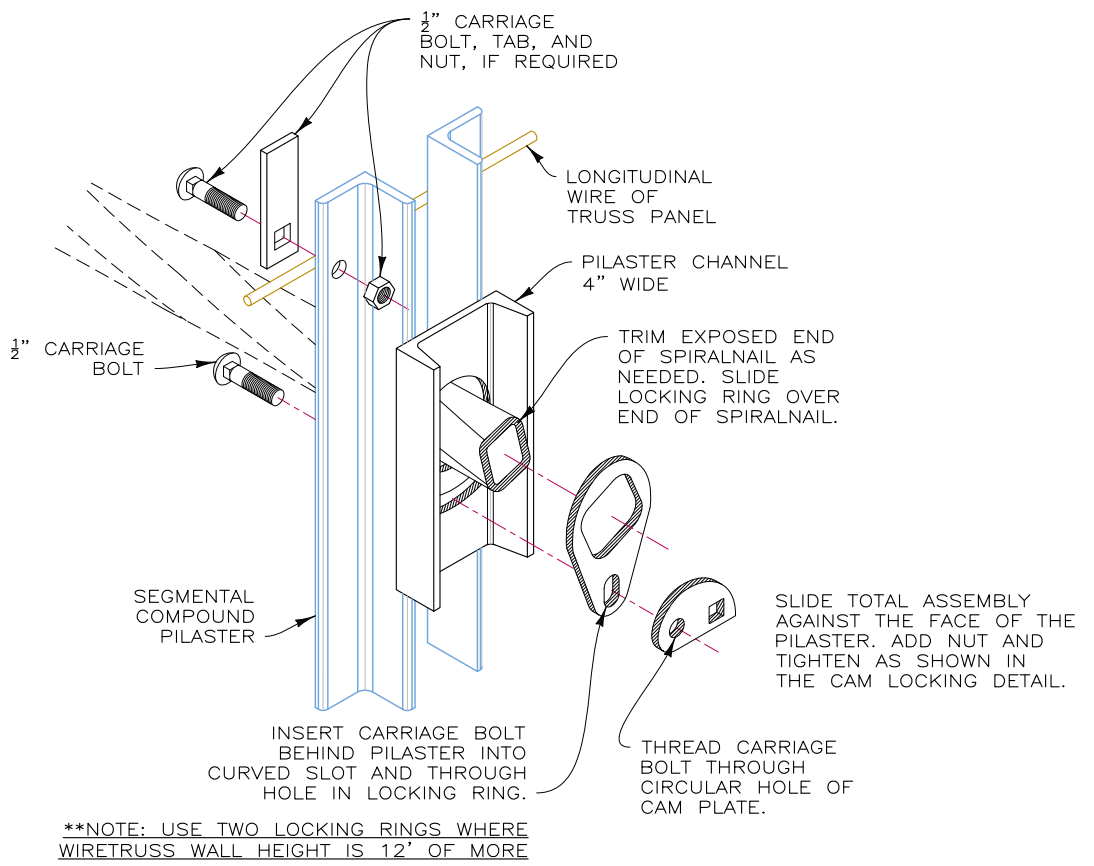
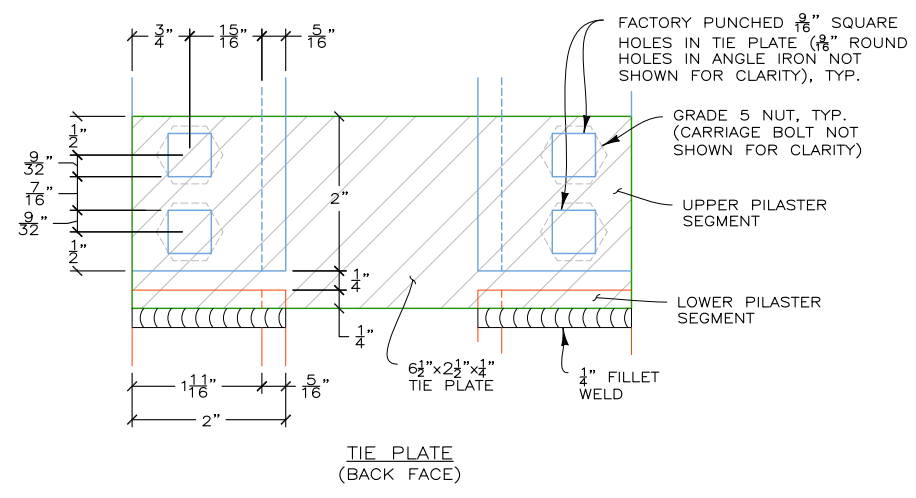
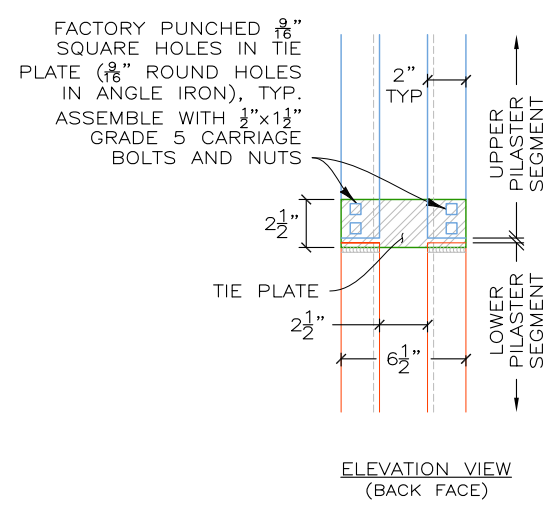
NAILHEAD SHOCK LOAD DISSIPATOR
NOT TO SCALE

NAILHEAD SHOCK LOAD DISSIPATOR ASSEMBLY SEQUENCE

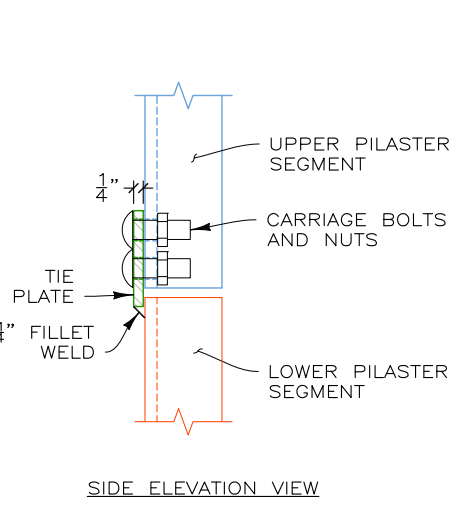
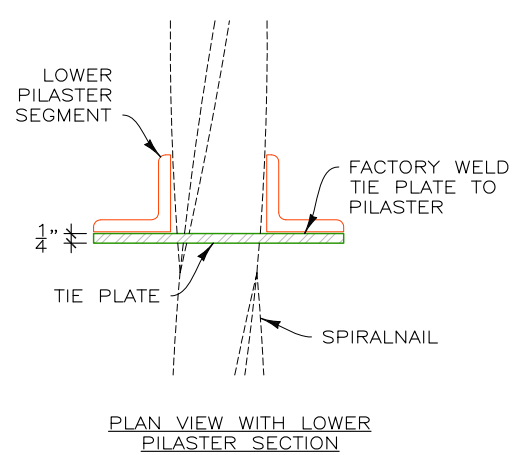
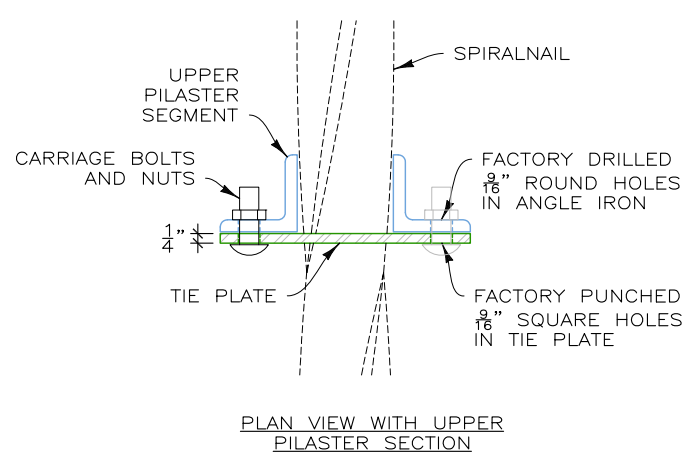
1. AFTER COMPLETING THE SPIRALNAILS, PLACE BASE LAYER OF STEEL REINFORCEMENT AND PRIME SHOTCRETE OVER WHILE PROTECTING THE NAILHEADS AND LEAVING POCKETS FOR FLANGE PLATES.
2. SLIDE THE FLANGE PLATES OVER THE SPIRALNAILS AND SECURE IN PLACE WITH THE WIRES TO ADJOINING REINFORCING BARS.
3. SLIDE THE LOCKING RING OVER EACH SPIRALNAIL AND POSITION SO THE LOCKING RING IS AS FAR AS POSSIBLE TO THE RIGHT END OF CURVED SLOT IN THE FLANGE PLATE, THEN TIGHTEN THE RING NUT TO 20 FT-LB MAX TORQUE.
4. SLIDE THE PLASTIC OR WIRE MESH SQUARE PROTECTOR (PROVIDED BY OTHERS) OVER THE NAILHEAD FIRMLY OVER THE LOCKING RING.



CAM LOCK LOCKING DETAIL
NOT TO SCALE



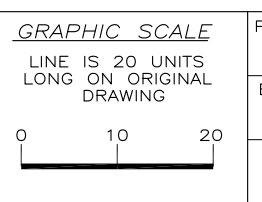
ISOMETRIC SPIRALNAIL NAILHEAD RESTRAINER ASSEMBLY
NOT TO SCALE



SEGMENTAL PILASTER WITH TAB
NOT TO SCALE

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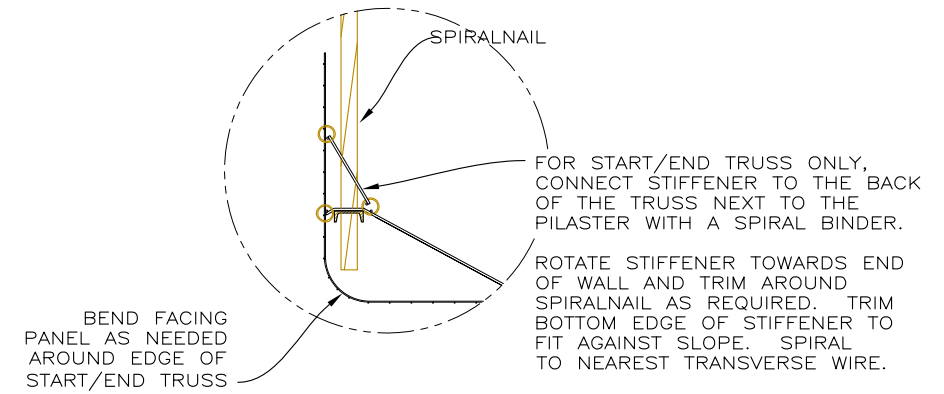
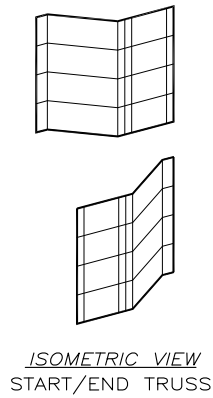
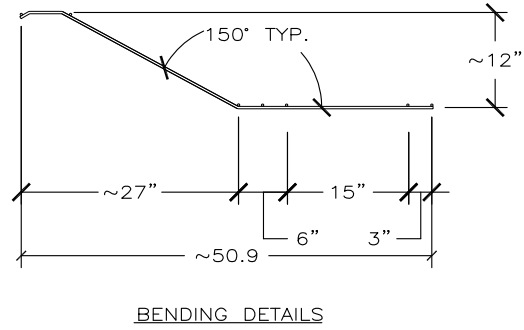
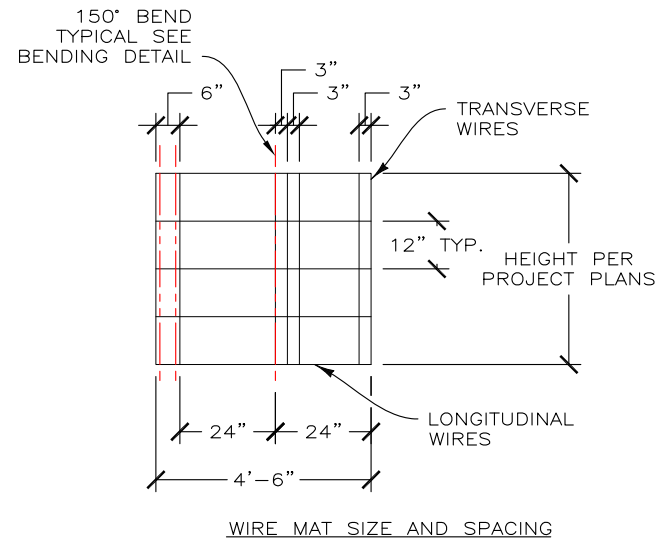
DWG DATE 8 MAY 19
REVISION DATE
SCALE NOTED

SHOP DRAWINGS
SPIRALNAIL WIRETRUSS WALL
MALLARD POINT
ISSAQUAH, WASHINGTON
TYPICAL DETAILS

PROJECT NO. 180327AW
SHEET 7 OF 12

180327AW - MALLARD POINTE

TYPICAL FOR BOTH STANDARD AND TOP-DOWN WIRETRUSS CONSTRUCTION



END OF WALL TREATMENT
NOT TO SCALE

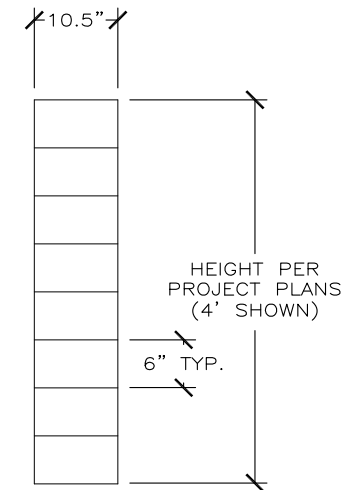
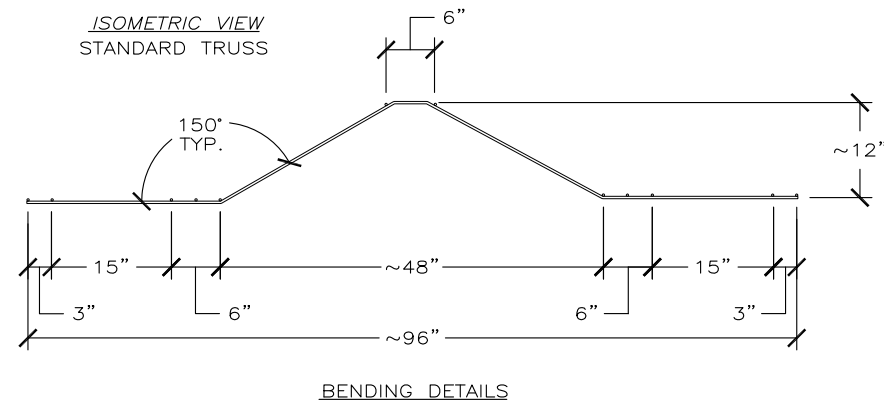
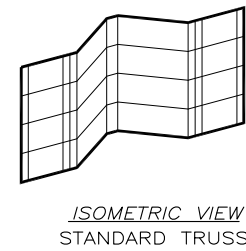
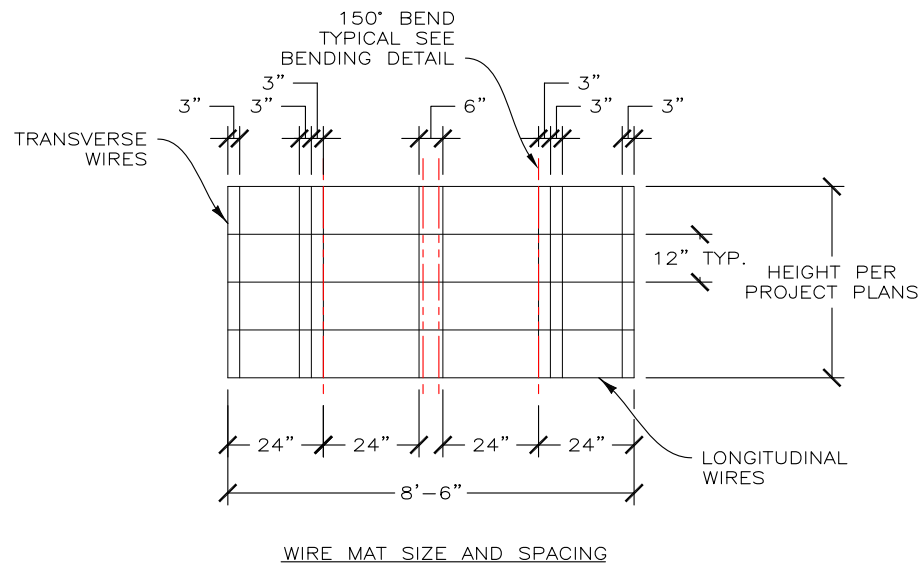
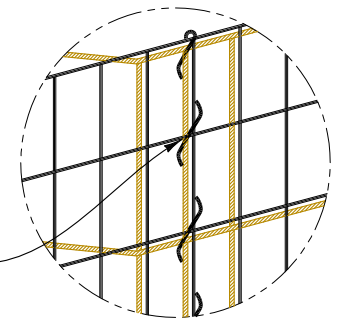
START/END TRUSS
NOT TO SCALE

APPROX. (~) DIMENSIONS ARE BASED ON BENDS AND MAY DIFFER SLIGHTLY

QUANTITIES:

START/END TRUSS	
2' TALL:	50
4' TALL:	7
STANDARD TRUSS	
2' TALL:	52
4' TALL:	118
STIFFENER	
2' TALL:	102
4' TALL:	125
SPIRALS	
2' LONG:	408
4' LONG:	500
6' LONG:	129

SPIRAL BINDER IS TO BE PLACED SO THAT IT ENCIRCLES BOTH THE HORIZONTAL AND VERTICAL WIRES AND PASSES IN FRONT OF THE HORIZONTAL WIRE IN THE FACE OF WALL AT EACH INTERSECTION.



STIFFENER
SCALE: 1/2"=1'

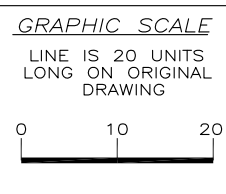
STANDARD TRUSS
NOT TO SCALE

TYPICAL FOR BOTH STANDARD AND TOP-DOWN WIRETRUSS CONSTRUCTION

180327AW-MALLARD POINTE

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REV.NO.	DATE	BY	DESCRIPTION



PROJ. MGR.
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CADD BY
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SINCE 1902
QUALITY PRODUCTS

DWG DATE
8 MAY 19
REVISION DATE
SCALE
NOTED

SHOP DRAWINGS
SPIRALNAIL WIRETRUSS WALL
MALLARD POINTE
ISSAQUAH, WASHINGTON
TYPICAL TRUSS PANEL DETAILS

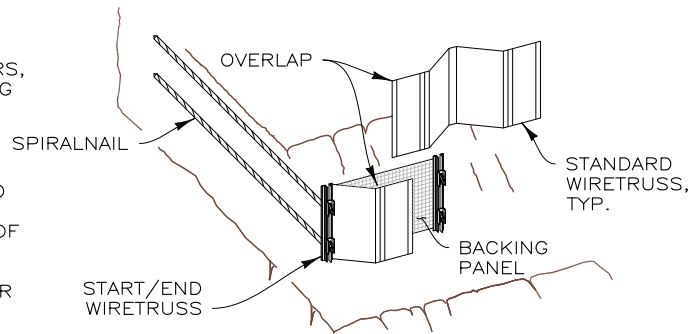
PROJECT NO.
180327AW
SHEET
9
OF 12

FOR STANDARD WIRETRUSS CONSTRUCTION

STEP 1

IF PREPARED SOIL WILL SUPPORT COMPOUND PILASTERS, POSITION COMPOUND PILASTERS EVERY SIX FEET ALONG WALL LAYOUT LINE AND SET BOTTOM OF COMPOUND PILASTER INTO GROUND PER PROJECT PLANS.

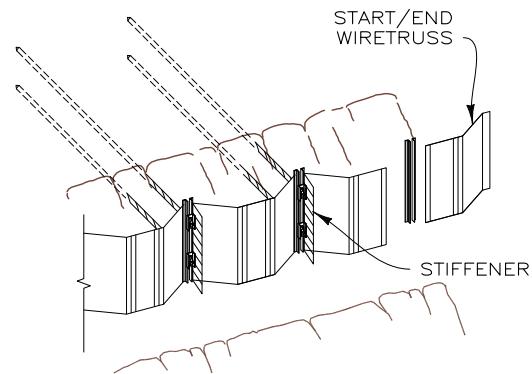
IF PILASTERS CANNOT BE PRE-POSITIONED, PLACE START/END TRUSS WITH BACKING PANEL ON PREPARED SLOPE FIRST THEN POSITION THE COMPOUND PILASTER AGAINST THE EDGE OF THE TRUSS AND SET BOTTOM OF COMPOUND PILASTER INTO GROUND PER PROJECT PLANS. DRIVE SPIRALNAILS THROUGH THE COMPOUND PILASTER INTO THE SOIL. PLACE NAILHEAD RESTRAINER WITH LOCKING RING AND CAM LOCK ON EACH SPIRALNAIL AND TIGHTEN TO TORQUE SPECIFICATIONS.



STEP 2

IF COMPOUND PILASTERS HAVE NOT BEEN PRE-POSITIONED, POSITION NEXT COMPOUND PILASTER AND SET INTO GROUND. PLACE THE STANDARD TRUSS AND BACKING PANEL BEHIND COMPOUND PILASTER AND OVERLAP PANEL AGAINST THE START/END TRUSS USING ZIP TIES OR TIE WIRE TO SECURE TRUSS IN PLACE. DRIVE IN SPIRALNAILS AND LOCK WITH NAILHEAD RESTRAINER, LOCKING RING, AND CAM LOCK.

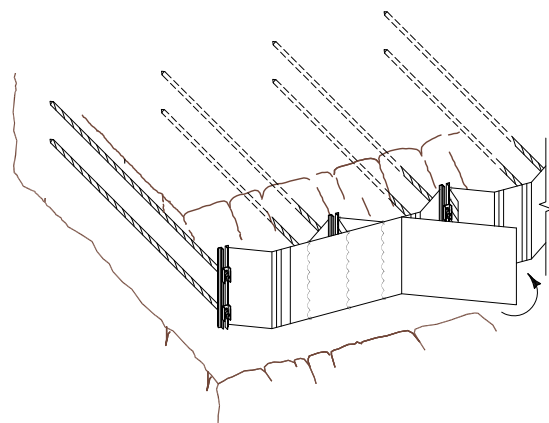
CONTINUE ADDING STANDARD TRUSSES ALONG WALL ENDING AT FINAL PILASTER WITH A START/END TRUSS



STEP 3

POSITION START/END TRUSS, ADD COMPOUND PILASTER IF NEEDED, DRIVE IN SPIRALNAILS AND LOCK IN PLACE WITH NAILHEAD RESTRAINER, LOCKING RING, AND CAM LOCK.

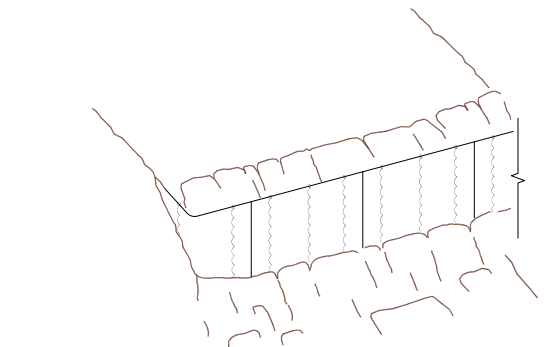
SPIRAL STIFFENERS ONTO STANDARD TRUSSES AT WIRE ON RIGHT SIDE OF COMPOUND PILASTER.



STEP 4

TO BEGIN FACING THE WALL, CENTER EDGES OF A FACING PANEL ON TRUSS OVERLAP. SPIRAL THE ENDS OF OVERLAP AND THE STIFFENER TO FACE PANEL.

PLACE EDGE OF NEXT FACE PANEL AGAINST PREVIOUS PANEL AND SPIRAL TO WIRETRUSS.

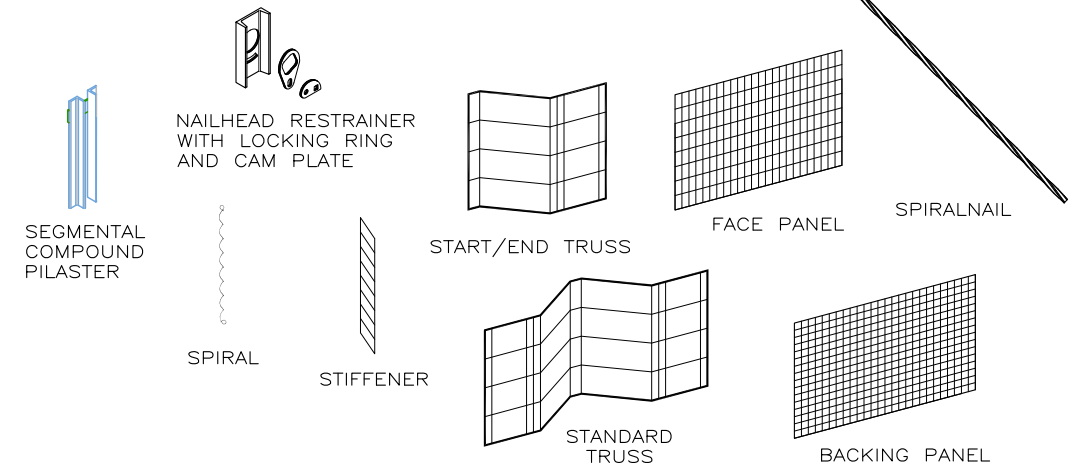


STEP 5

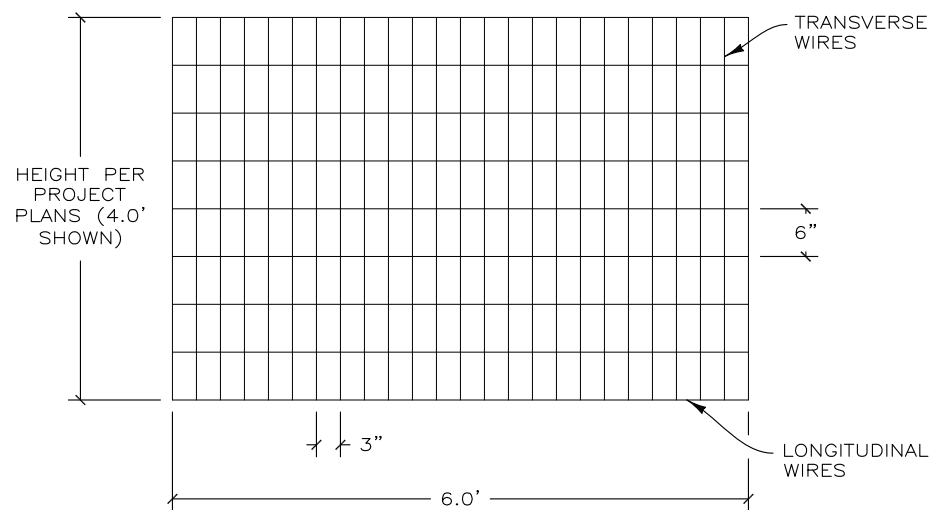
FOR CLOSURE FACING AT EACH END OF WALL, BEND FACING PANEL PER PROJECT PLANS AND INSERT END OF PANEL AGAINST PREVIOUS FACING. FIELD FIT OPPOSITE END AND TRIM AS NEEDED AGAINST SLOPE. SPIRAL FACING TO START/END TRUSS PANEL AND TO STIFFENER. SEE END OF WALL TREATMENT DETAIL, THIS SHEET.

FILL AREA BEHIND WALL WITH BACKFILL PER PROJECT PLANS. COMPACT SOIL AGAINST FACE OF WALL FOR TOE BURY.

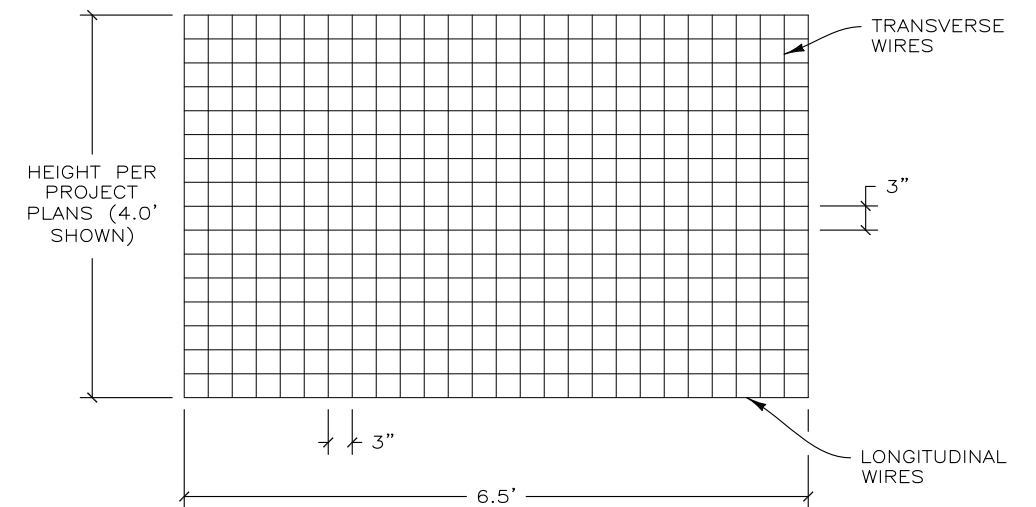
STANDARD WIRETRUSS CONSTRUCTION SEQUENCE
NOT TO SCALE



WALL COMPONENTS
NOT TO SCALE



FACING PANEL
SCALE: 1/2"=1'



BACKING PANEL
SCALE: 1/2"=1'

QUANTITIES:

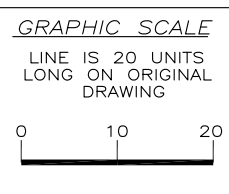
STANDARD FACING PANEL
2' TALL: 27
4' TALL: 36
START/END FACING PANEL
2' TALL: 29
4' TALL: 6
BACKING PANEL
2' TALL: 56
4' TALL: 42

FOR STANDARD WIRETRUSS CONSTRUCTION

180327AW - MALLARD POINTE

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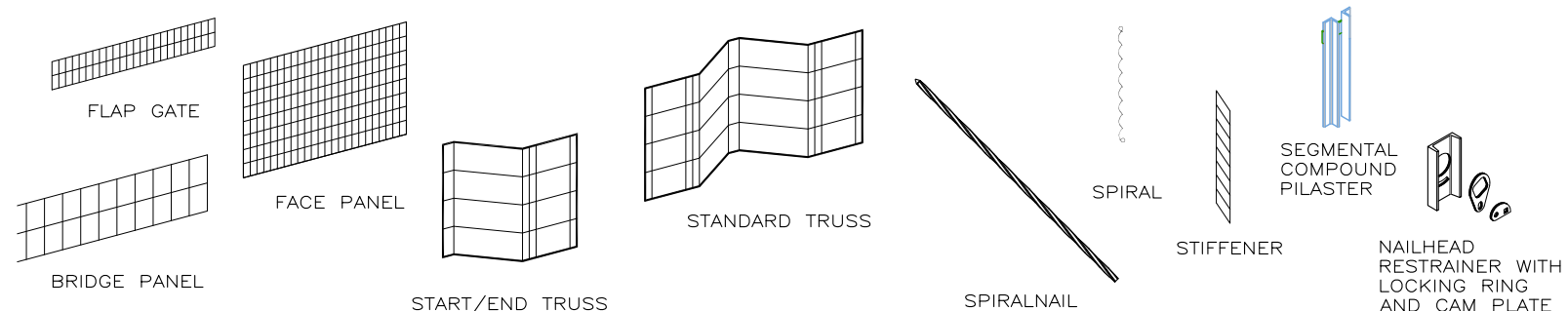
SINCE 1902
QUALITY PRODUCTS

DWG DATE	8 MAY 19
REVISION DATE	
SCALE	NOTED

SHOP DRAWINGS
SPIRALNAIL WIRETRUSS WALL
MALLARD POINTE
ISSAQUAH, WASHINGTON
TYPICAL DETAILS

PROJECT NO.	180327AW
SHEET	10
OF	12

FOR TOP-DOWN WIRETRUSS CONSTRUCTION

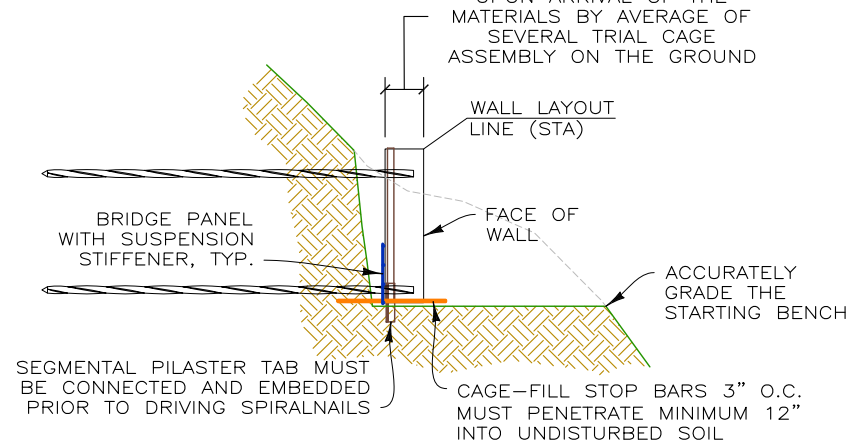


WALL COMPONENTS
NOT TO SCALE

STEP 1

PREPARE STARTING BENCH TO LINE AND GRADES ACCURATELY CONSISTENT WITH THE PLANS.

MEASURE IN FIELD SOON UPON ARRIVAL OF THE MATERIALS BY AVERAGE OF SEVERAL TRIAL CAGE ASSEMBLY ON THE GROUND



STEP 2

WALL IS BUILT FROM THE TOP DOWN IN STEPS ONE LEVEL AT A TIME STARTING AT THE HIGHEST STEP. THE TOP OF WALL CONTROLS LINE AND GRADE, AND THEREFORE, SHALL BE BUILT TO LINES AND GRADES AS SPECIFIED ON THE PLANS.

SURVEY THE WALL LINE (FACE OF WALL) REFERENCE POINTS; THEN EXCAVATE THE BENCH FOR THE HIGHEST WALL STEP TO PLAN LINE & GRADE, NO MORE THAN FOR ONE-DAY'S PRODUCTION. ESTABLISH THE WIRETRUSS WALL ASSEMBLY REFERENCE LINES ACCURATELY TO BACK OF NAILHEAD PILASTERS AT THE TOP AND NEAR THE BOTTOM OF WIRETRUSS CAGE USING LASER LEVELS OR OTHER MEANS TO MAINTAIN LINE AND GRADES ACCURATELY.

IN TOP-DOWN WALL CONSTRUCTION, THE PRECISION IN ASSEMBLING THE TOP STEP IS OF UTMOST IMPORTANCE IN ESTABLISHING THE VERTICAL AND HORIZONTAL WALL ALIGNMENT.

DRIVE SPIRALNAILS WHILE ASSEMBLING WIRETRUSS CAGE; SEE WIRETRUSS WALL ASSEMBLY DETAILS. THEN, PLACE THE BOTTOM OF CAGE FILL STOP BARS AS SHOWN WHEN READY FOR ROCK PLACEMENT. PLACE AND DENSIFY ROCK SPALLS AND WALL BACKFILL AS SPECIFIED ELSEWHERE IN THE PLANS.

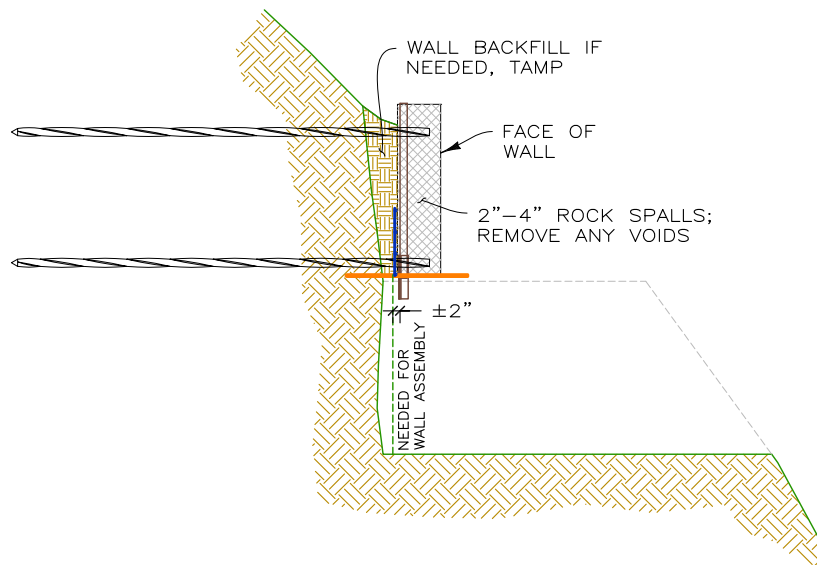
STEP 3

UPON APPROVAL OF THE GEOTECHNICAL ENGINEER, CAREFULLY EXCAVATE THE BENCH FOR THE LOWER WALL STEP INCREMENTALLY FOR NO MORE THAN TWO PILASTER SPACINGS AT A TIME OR AS THE GEOTECHNICAL ENGINEER DIRECTS IN THE FIELD.

HAND EXCAVATE ONLY IN THE ZONE DIRECTLY UNDER THE COMPLETED WALL CAGE ABOVE. CAREFULLY AVOID OVEREXCAVATING. THIS OPERATION IS TO BE PERFORMED UNDER DIRECT OBSERVATIONS OF THE GEOTECHNICAL ENGINEER.

MINIMIZE UNDER-EXCAVATION ONLY TO LIMITS NECESSARY FOR WALL ASSEMBLY, AS SHOWN.

COORDINATE LOAD TESTING OF SPIRALNAILS WITH THE GEOTECHNICAL ENGINEER.

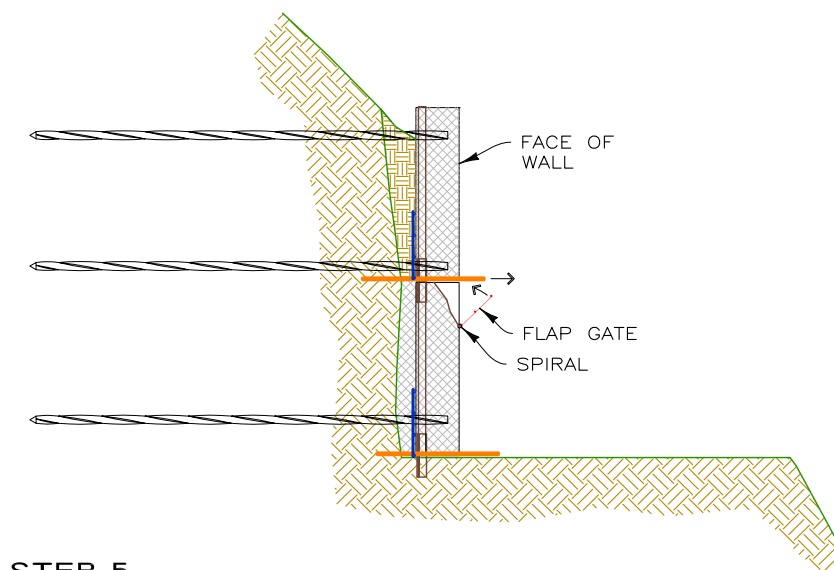


STEP 4

FOLLOW STEP 2 DIRECTIONS TO MAINTAIN HORIZONTAL WALL ALIGNMENT AND 1:48 VERTICAL WALL PLUMBNESS.

THE WALL FACING PANELS FOR THE LOWER WALL STEPS ARE SPLIT TO FORM AN UPPER FLAP GATE FOR PLACEMENT OF ROCK SPALLS, AS SHOWN. BRIDGING BACK PANELS ARE USED TO SUPPORT THE ROCK-FILL STOP BARS IN THE SPACE BETWEEN THE PILASTERS, SO THAT ROCK SPALLS REACH TO FACE OF EXCAVATION BEHIND THE BRIDGING PANELS; SEE TYPICAL SECTION LEFT.

FOLLOW STEP 2 DIRECTIONS FOR PLACEMENT OF ROCK SPALLS, POURED THROUGH THE FLAP GATE UNTIL THE CAGE CELLS ARE ALMOST FULL. USE A HEAVY DIGGING BAR TO COLLAPSE VOIDS IN ROCK FILL. HAND PLACEMENT OF ROCK SPALLS WILL BE NECESSARY BEFORE CLOSING AND FASTENING THE FLAP GATE. THEN, REMOVE THE UPPER CAGE STOP BARS TO JOIN THE CAGE FILL FULL HEIGHT; AND USE A DIGGING BAR THROUGH THE WALL FACING PANEL TO COLLAPSE ANY REMAINING VOIDS IN ROCK FILL.



STEP 5

REPEAT STEPS 2 THROUGH 4 UNTIL THE WALL IS COMPLETED.

NOTE:
ALL TOP-DOWN CONSTRUCTION SHALL BE CONDUCTED UNDER DIRECT OBSERVATIONS OF THE GEOSTRUCTURES ENGINEER.

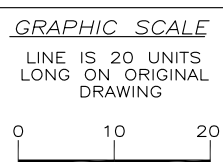
TOP-DOWN WIRETRUSS CONSTRUCTION SEQUENCE
NOT TO SCALE

FOR TOP-DOWN WIRETRUSS CONSTRUCTION

180327AW-MALLARD POINTE

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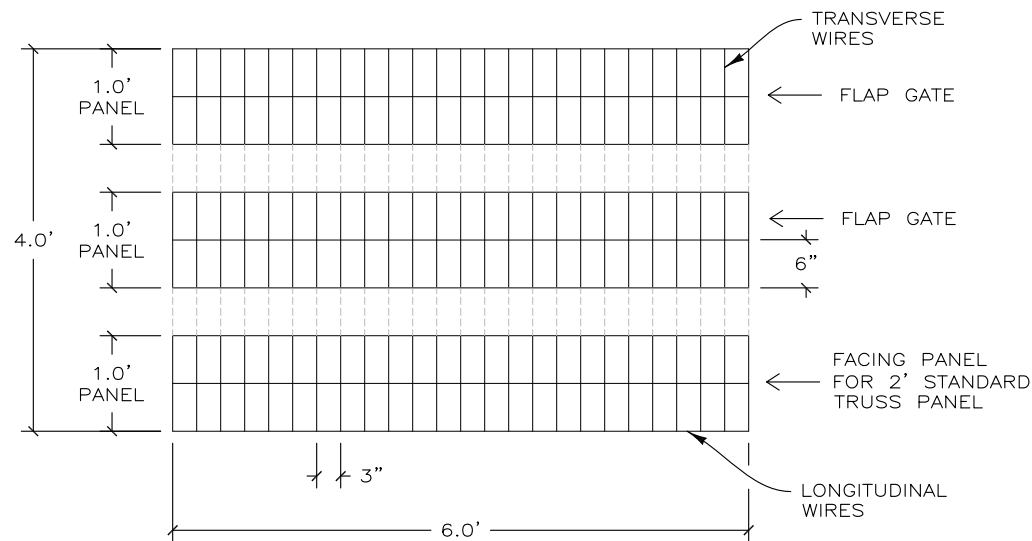
SINCE 1902
QUALITY PRODUCTS

DWG DATE
8 MAY 19
REVISION DATE
SCALE
NOTED

SHOP DRAWINGS
SPIRALNAIL WIRETRUSS WALL
MALLARD POINTE
ISSAQUAH, WASHINGTON
CONSTRUCTION SEQUENCE AND DETAILS

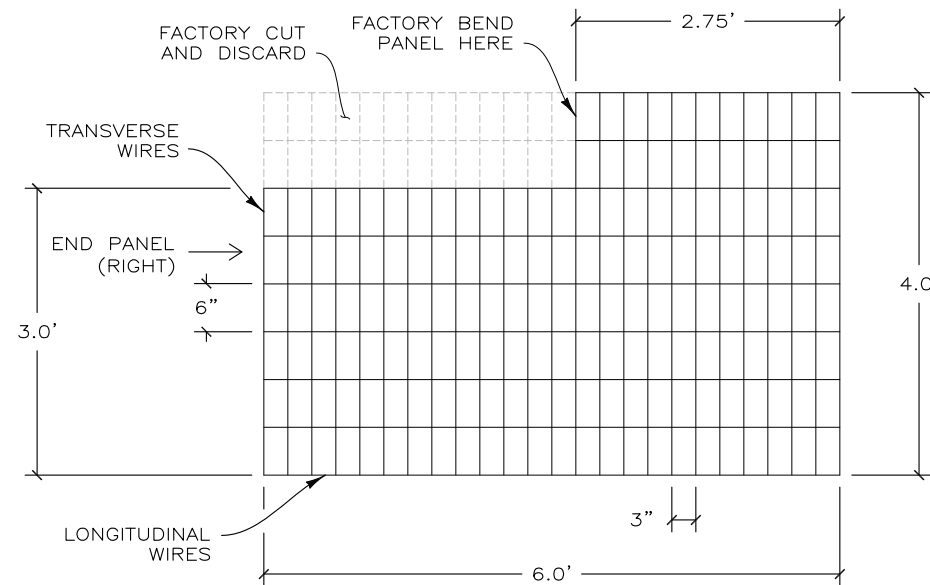
PROJECT NO.
180327AW
SHEET
11
OF 12

FOR TOP-DOWN WIRETRUSS CONSTRUCTION



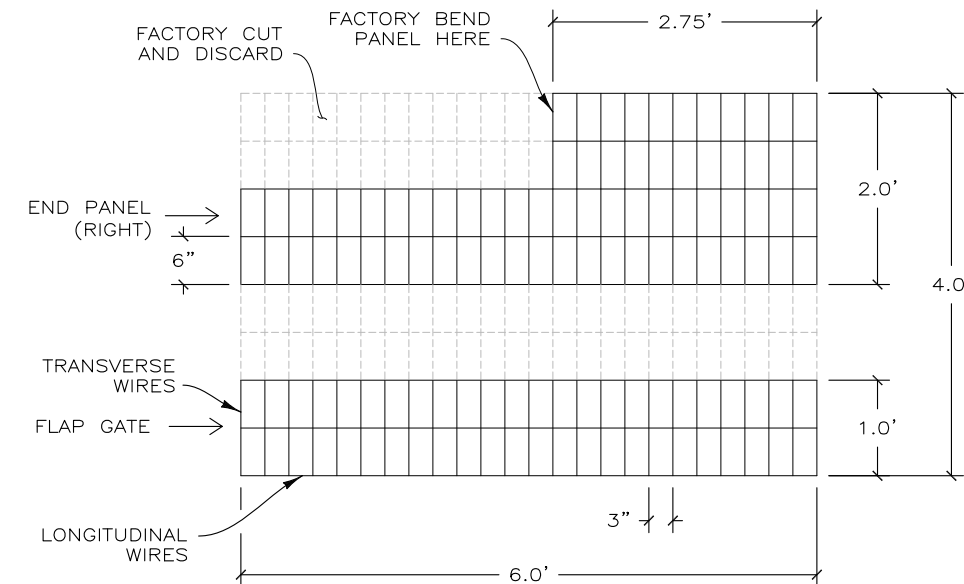
*FACTORY CUT (3) 6'x1' PANELS FROM A STANDARD 6'x4' PANEL
(THIS WILL PRODUCE (2) FLAP GATE PANELS AND (1) FACING PANEL FOR A 2' STANDARD TRUSS PANEL)

STANDARD 4' FACING PANEL
NOT TO SCALE



*FACTORY CUT (1) CUSTOM PANEL FROM A STANDARD 6'x4' PANEL
(THIS WILL PRODUCE (1) FACING PANEL FOR (1) 4' END TRUSS PANEL)

4' END FACING PANEL (RIGHT)
NOT TO SCALE

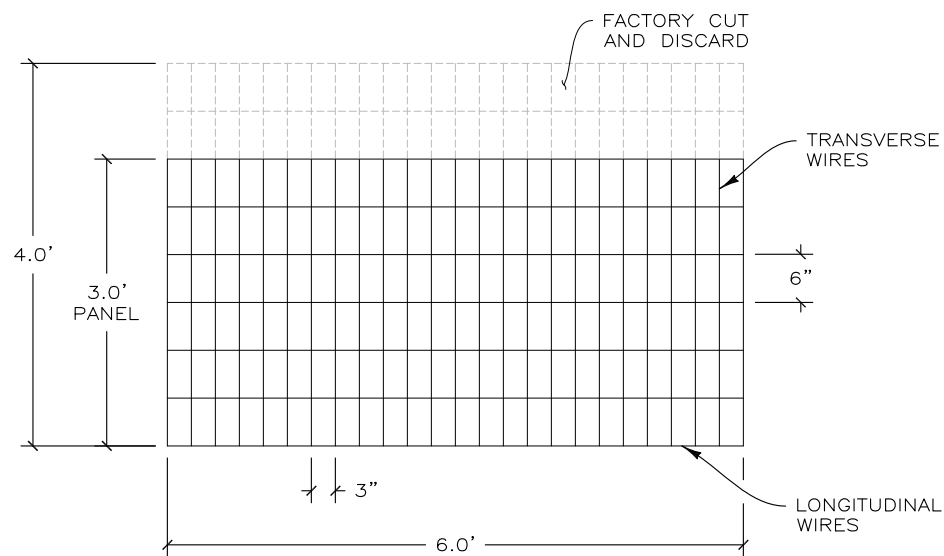


*FACTORY CUT (1) CUSTOM PANEL AND (1) 6'x1' PANEL FROM A STANDARD 6'x4' PANEL
(THIS WILL PRODUCE (1) FACING PANEL FOR (1) 2' END TRUSS PANEL AND (1) FLAP GATE PANEL)

2' END FACING PANEL (RIGHT)
NOT TO SCALE

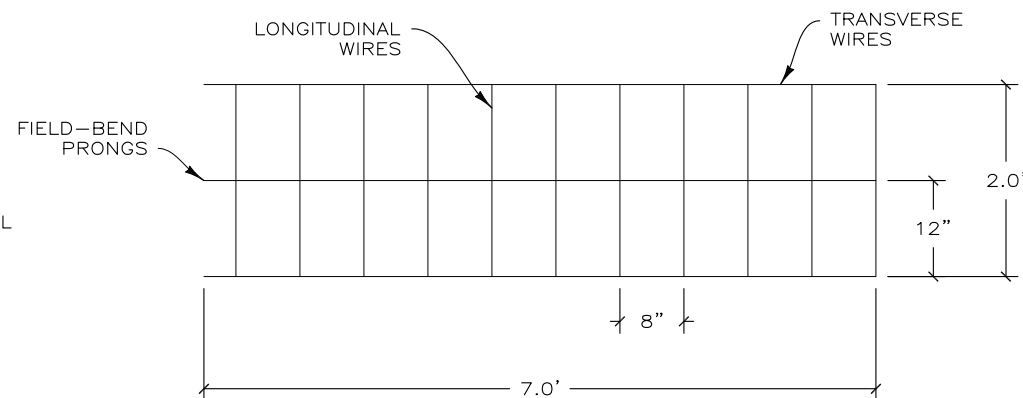
QUANTITIES:

STANDARD FACING PANEL	1' TALL: 25
	3' TALL: 82
START FACING PANEL (LEFT)	2' TALL: 11
END FACING PANEL (RIGHT)	2' TALL: 10
	4' TALL: 1
BRIDGE PANEL	7'x2': 129
FLAP GATE	6'x1': 129

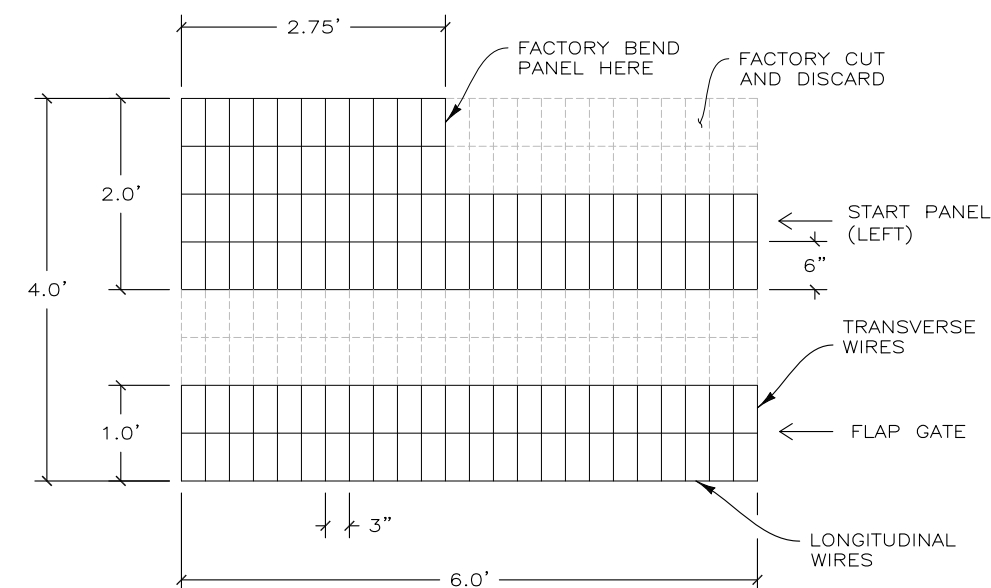


*FACTORY CUT (1) 6'x3' PANEL FROM A STANDARD 6'x4' PANEL
(THIS WILL PRODUCE (1) FACING PANEL FOR (1) 4' STANDARD TRUSS PANEL)

4' STANDARD FACING PANEL
NOT TO SCALE



BRIDGE PANEL
SCALE: 1/2"=1'



*FACTORY CUT (1) CUSTOM PANEL AND (1) 6'x1' PANEL FROM A STANDARD 6'x4' PANEL
(THIS WILL PRODUCE (1) FACING PANEL FOR (1) 2' START TRUSS PANEL AND (1) FLAP GATE PANEL)

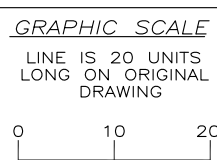
2' START FACING PANEL (LEFT)
NOT TO SCALE

FOR TOP-DOWN WIRETRUSS CONSTRUCTION

180327AW-MALLARD POINTE

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TYPICAL TRUSS PANEL DETAILS

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