

DESIGN NOTES

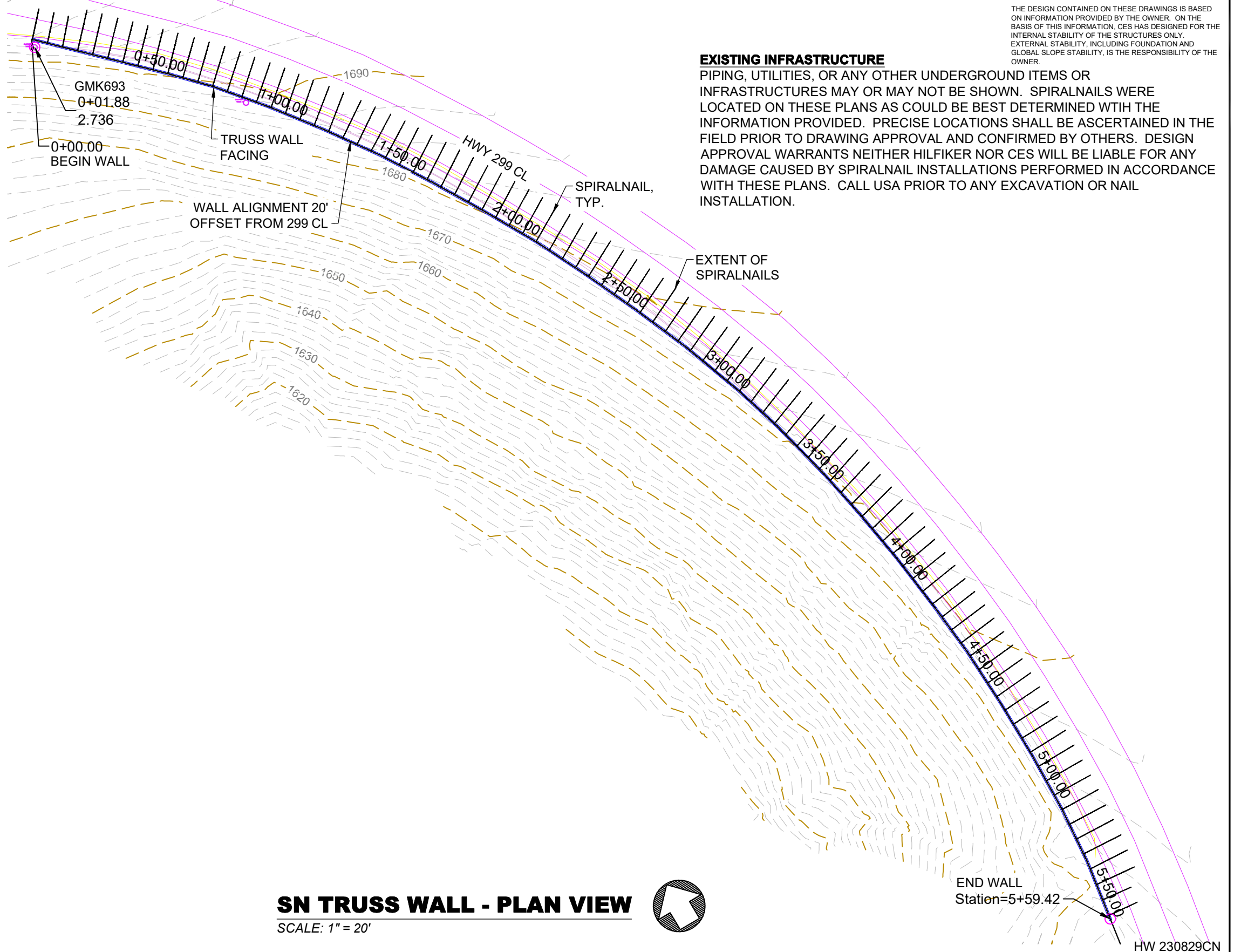
- Design is based on the assumption that the methods of construction and quality of materials conform to the requirements of Hilfiker Retaining Walls.
- Soil Characteristics:

SN - Retained Soils

Unit Weight:	120 pcf
Internal Friction Angle:	34°
Cohesion:	50 psf
Bond Stress:	16 psi

If actual characteristics, grades or dimensions of soil materials differ from those listed above or shown on the plans, the Spiralnail Engineer shall be notified to evaluate the need to redesign.
- Design Procedure: Geotechnical Engineering Circular No. 7 - Soil Nail Walls FHWA Report No. FHWA0-IF-03-017.
- Conflicts between the trusswall panels, pillasters or spiralnails and obstructions are resolved in the field by any combination of the following:
 - Trimming the vertical truss wall panel wires and or bending vertical & horizontal wires to accommodate the penetration through the facing
 - Trimming the bottom part of the pilaster
 - Slight Re-orientation of the spiralnail angle or direction. If re-orientation of the pilaster or nails is more than one foot from the planned location, confirmation of the change shall be approved by CES.
- This design is intended to be responsible for the internal stability of the retaining wall only, and not for global stability or foundation bearing capacity. CES is not responsible for job site drainage, safety and fall protection provisions including compliance with OSHA regulations, nor the Competent Person designated for daily inspection.

SUPPLIED QUANTITY		
TRUSS FACING (SF)	PILLASTER	SPIRALNAILS
3558	(5) 4.5'	(10) 12'
	(66) 6.5'	(201) 16'
	(23) 8.5'	



EXISTING INFRASTRUCTURE
 PIPING, UTILITIES, OR ANY OTHER UNDERGROUND ITEMS OR INFRASTRUCTURES MAY OR MAY NOT BE SHOWN. SPIRALNAILS WERE LOCATED ON THESE PLANS AS COULD BE BEST DETERMINED WITH THE INFORMATION PROVIDED. PRECISE LOCATIONS SHALL BE ASCERTAINED IN THE FIELD PRIOR TO DRAWING APPROVAL AND CONFIRMED BY OTHERS. DESIGN APPROVAL WARRANTS NEITHER HILFIKER NOR CES WILL BE LIABLE FOR ANY DAMAGE CAUSED BY SPIRALNAIL INSTALLATIONS PERFORMED IN ACCORDANCE WITH THESE PLANS. CALL USA PRIOR TO ANY EXCAVATION OR NAIL INSTALLATION.

THE DESIGN CONTAINED ON THESE DRAWINGS IS BASED ON INFORMATION PROVIDED BY THE OWNER. ON THE BASIS OF THIS INFORMATION, CES HAS DESIGNED FOR THE INTERNAL STABILITY OF THE STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING FOUNDATION AND GLOBAL SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER.

SN TRUSS WALL - PLAN VIEW
 SCALE: 1" = 20'

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	10/24/23	KLC	Initial Electronic (.pdf) Release

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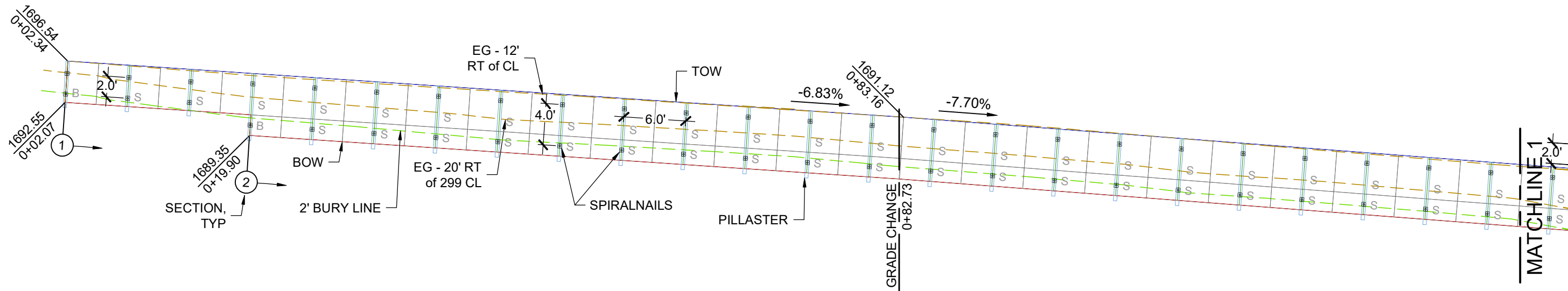
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 Phone (707) 498-7193
 KCesaretti@att.net

CALTRANS 01-0N0904
 SPIRALNAIL TRUSS WALL

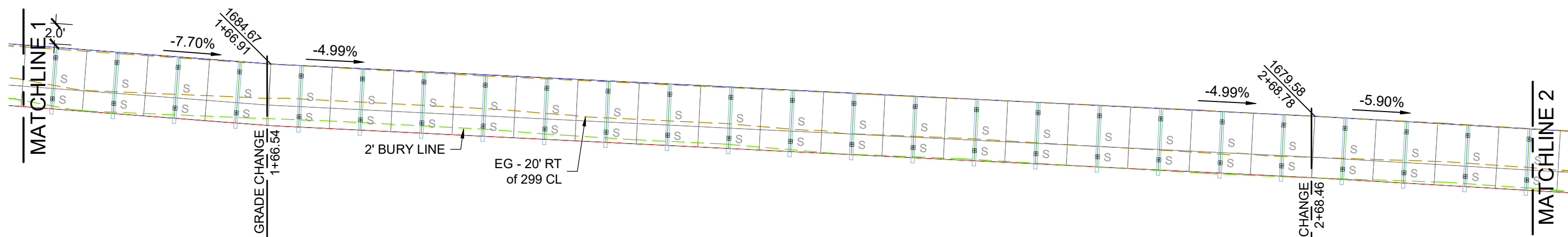
GENERAL NOTES
 SN TRUSS WALL PLAN VIEW

PROJECT	23-067
DATE	10-24-23
DESIGN	KLC
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SN TRUSS WALL - ELEVATION VIEW
SCALE: 1" = 10'



SN TRUSS WALL - ELEVATION VIEW (CONT'D)
SCALE: 1" = 10'

SHORING PARAMETERS		
SECTION	HEIGHT	SPIRALNAIL
1	4.0'	2 - 12'L
2	6.0'	2 - 16'L
3	8.0'	3 - 16'L

NOTE:
SPIRALNAILS ARE INCLINED 15°

SPIRALNAIL LOCATION
SPIRALNAILS ARE ARRANGED ON A VARIABLE (2', 3' OR 4') VERTICAL PATTERN & 6' HORIZONTAL PATTERN (TYP).

EXISTING INFRASTRUCTURE
ALL EXISING UNDERGROUND UTILITIES ARE TO BE NOTED AND FLAGGED AHEAD OF TIME.

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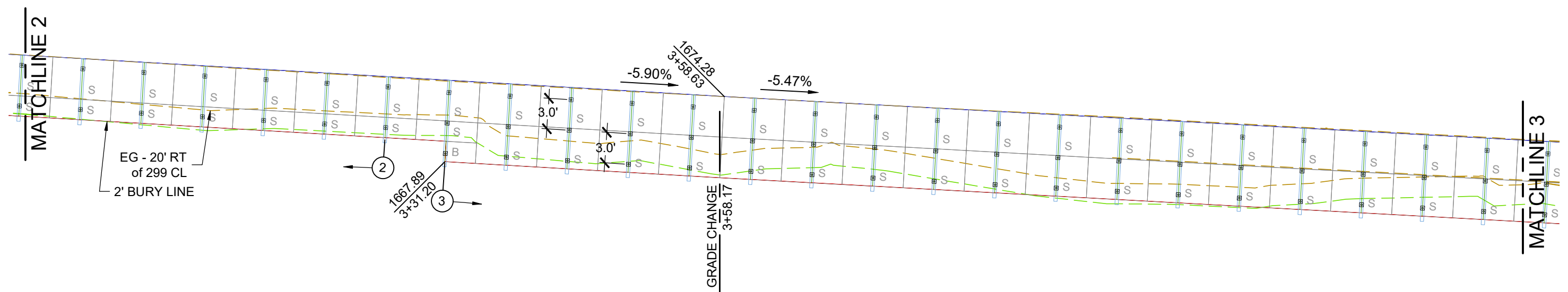
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SPIRALNAIL TRUSS WALL

SN TRUSS WALL ELEVATION VIEW

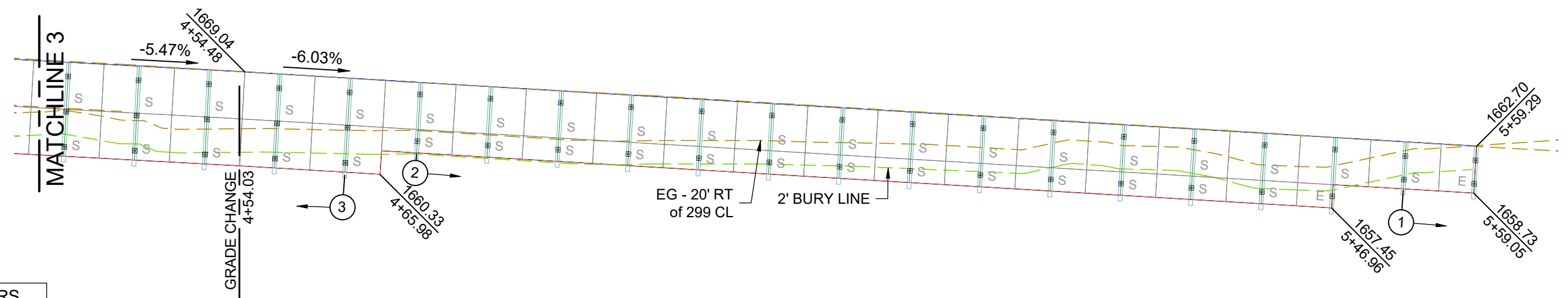
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SN TRUSS WALL - ELEVATION VIEW (CONT'D)

SCALE: 1" = 10'



SN TRUSS WALL - ELEVATION VIEW (CONT'D)

SCALE: 1" = 10'

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SPIRALNAIL TRUSS WALL

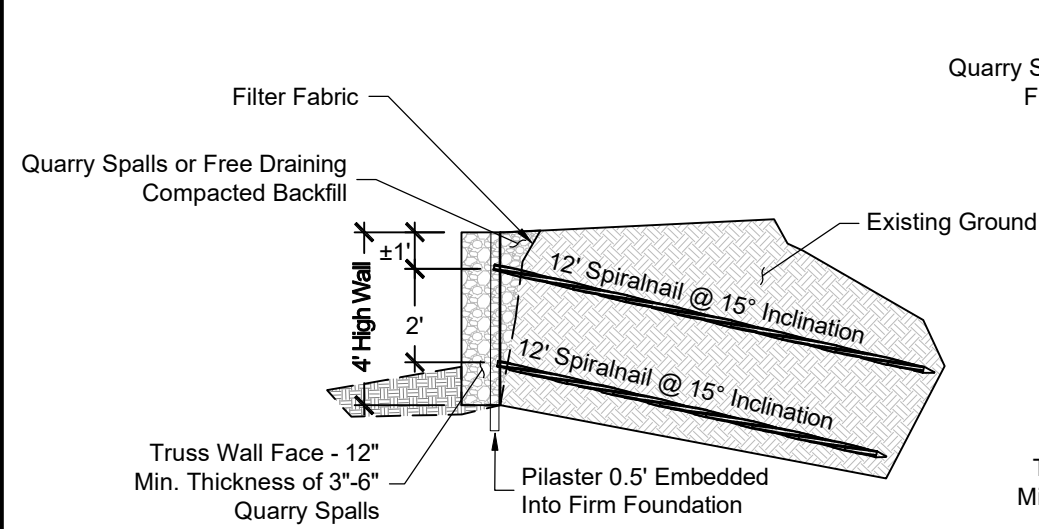
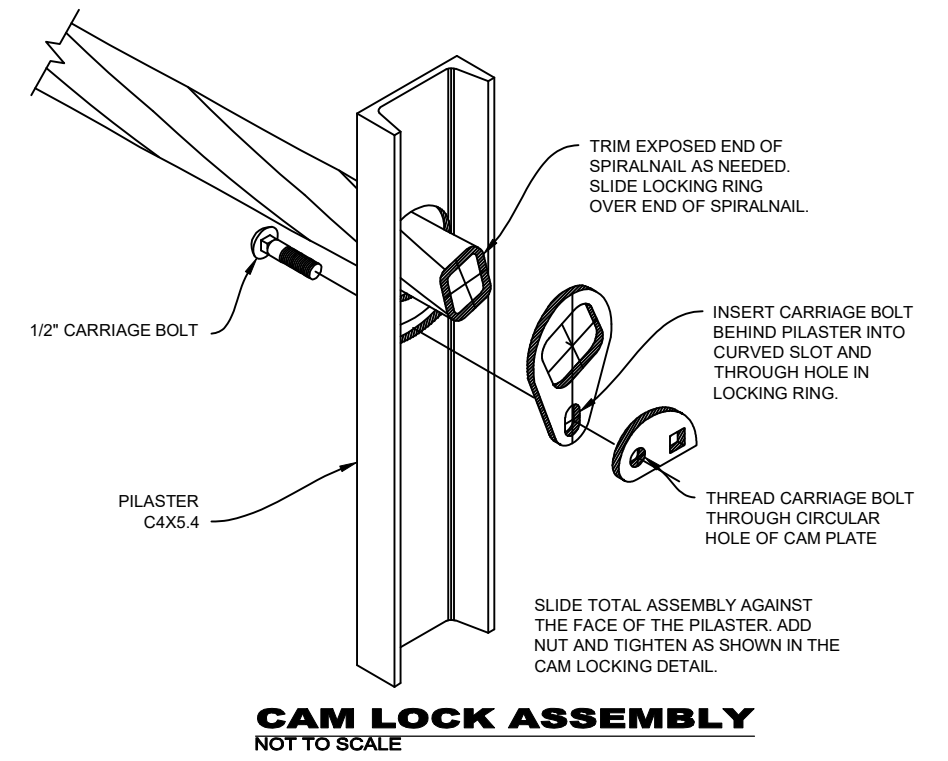
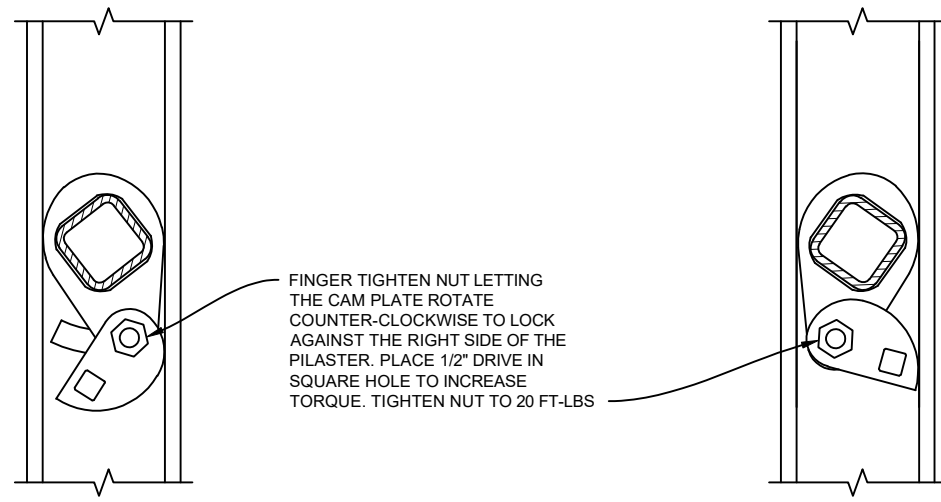
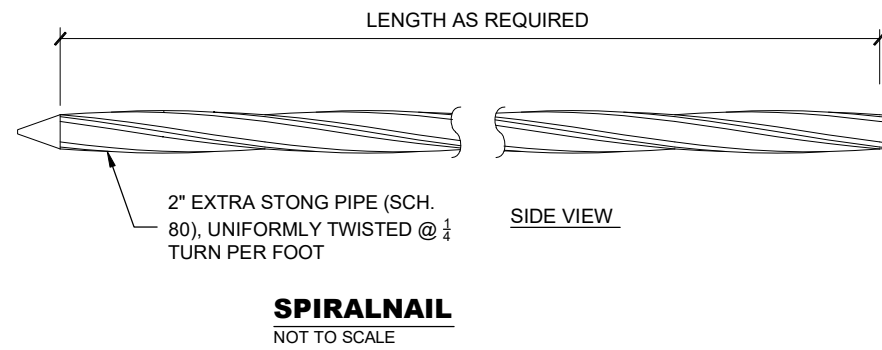
SN TRUSS WALL ELEVATION VIEW

PROJECT 23-067
DATE 10-24-23
DESIGN KLC
DRAWN KLC

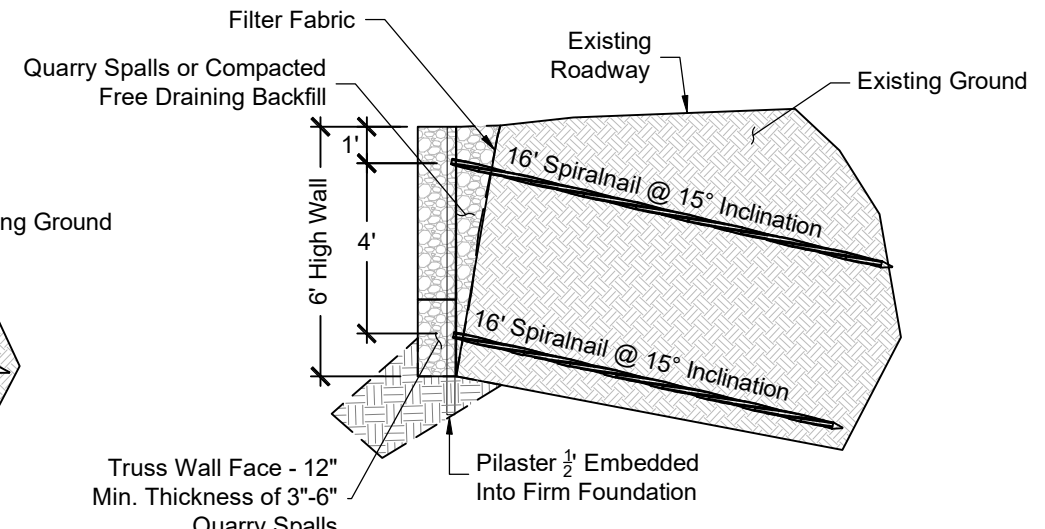
HW 230829CN

SHT 3 OF 5

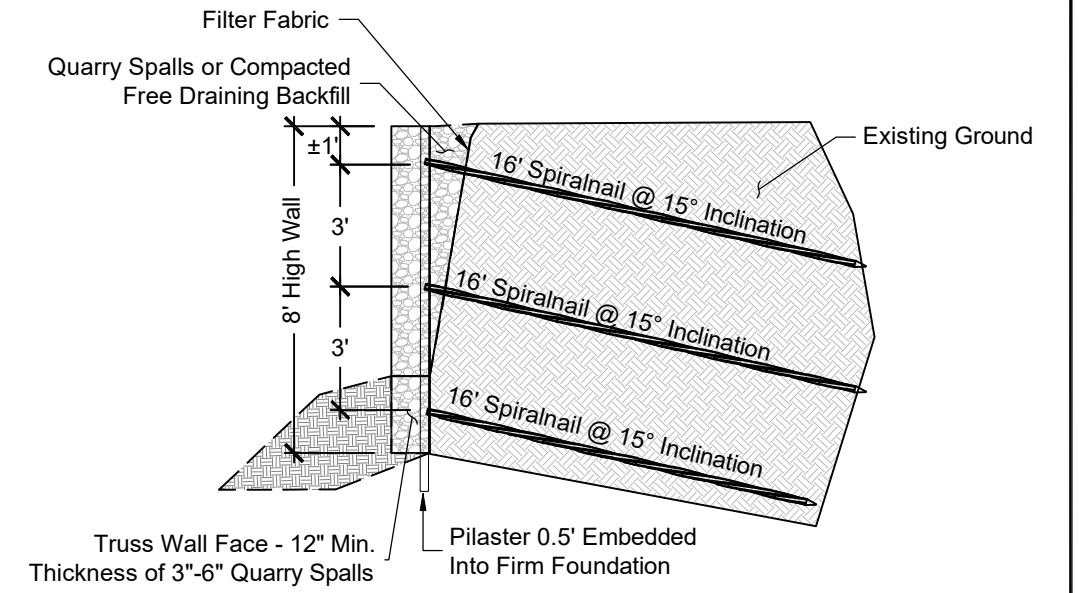
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TYP 4' HIGH CROSS SECTION
1"=5' (SPIRALNAIL LENGTH NTS)



TYP 6' HIGH CROSS SECTION
1"=5'



TYP 8' HIGH CROSS SECTION
1"=5'

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CALTRANS 01-0N0904
SPIRALNAIL TRUSS WALL

SN TRUSS WALL CROSS & DETAILS

HW 230829CN

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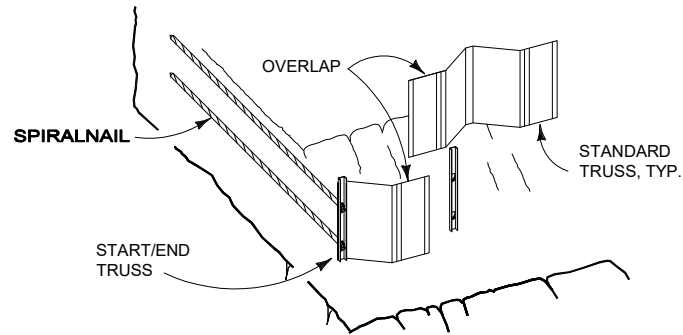
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STEP 1

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

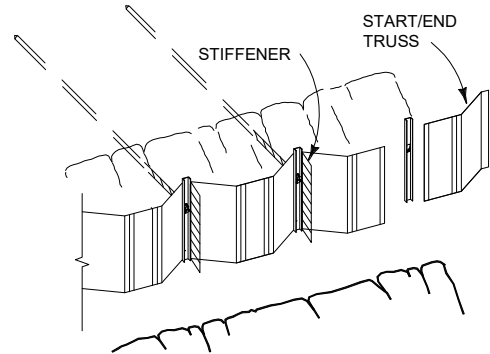
IF PILASTERS CANNOT BE PRE-POSITIONED, PLACE START/END TRUSS ON PREPARED SLOPE FIRST THEN POSITION THE PILASTER CHANNEL AGAINST THE EDGE OF THE TRUSS AND SET BOTTOM OF PILASTER INTO GROUND PER PROJECT PLANS. DRIVE SPIRALNAILS THROUGH THE PILASTER INTO THE SOIL. PLACE CAM LOCK ON EACH SPIRALNAIL AND TIGHTEN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



STEP 2

IF PILASTERS HAVE NOT BEEN PRE-POSITIONED, POSITION NEXT PILASTER AND SET INTO GROUND. PLACE THE STANDARD TRUSS BEHIND 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 CAM LOCKS.

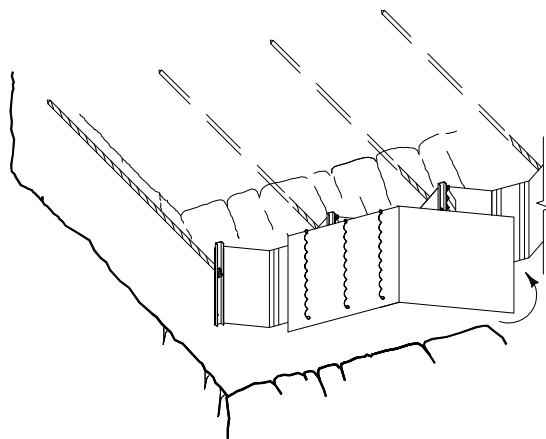
CONTINUE ADDING STANDARD TRUSSES ALONG WALL ENDING AT FINAL PILASTER WITH A START/END TRUSS



STEP 3

POSITION START/END TRUSS, ADD PILASTER IF NEEDED, DRIVE IN SPIRALNAILS AND LOCK IN PLACE WITH CAM LOCKS.

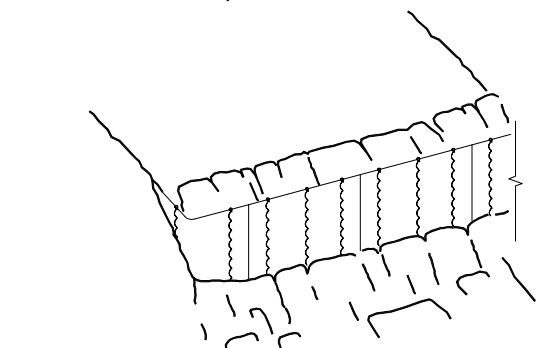
SPIRAL STIFFENERS ONTO STANDARD TRUSSES AT WIRE ON RIGHT SIDE OF PILASTER.



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.

INSERT PRONGS OF SUBSEQUENT FACE PANELS BEHIND FINAL TRANSVERSE WIRE ON PREVIOUS FACING AND ROTATE INTO PLACE TO FORM INTERLOCKING CONNECTION. SEE ENLARGED DETAIL.



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.

CONSTRUCTION SEQUENCE

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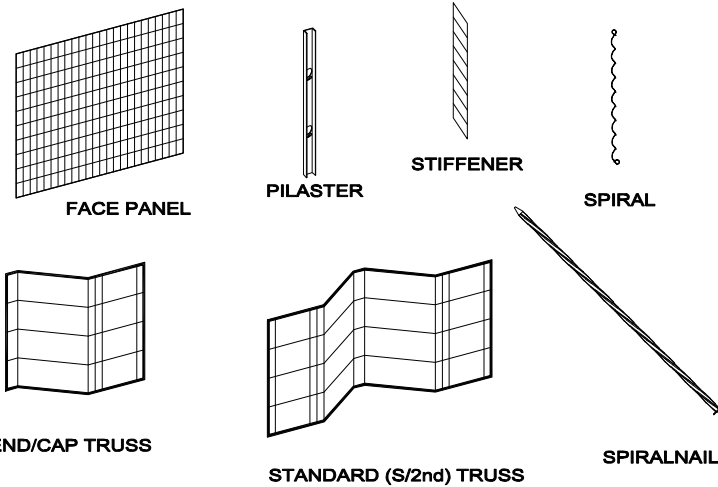
CALTRANS 01-0N0904
SPIRALNAIL TRUSS WALL

SN TRUSS WALL CONSTRUCTION
SEQUENCE & DETAILS

HW 230829CN

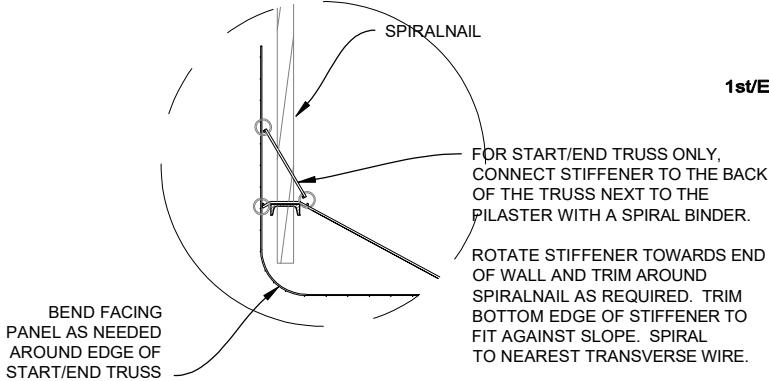
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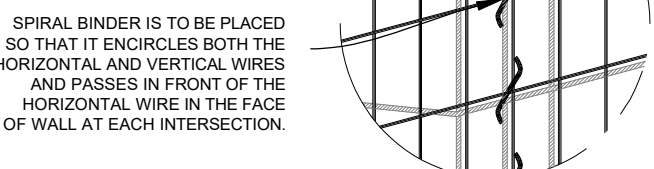


WALL COMPONENTS
NOT TO SCALE

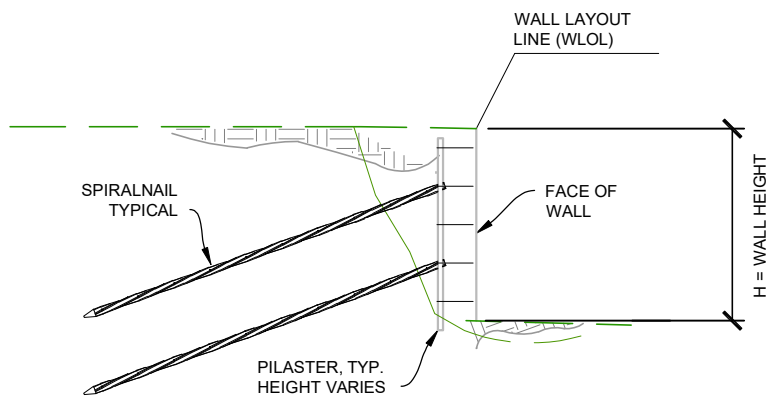
GENERIC COMPONENTS SHOWN FOR ILLUSTRATION PURPOSES ONLY



END OF WALL TREATMENT
NOT TO SCALE



SPIRAL BINDER ATTACHMENT
NOT TO SCALE



GENERIC SECTION
SCALE: 1"=5'