

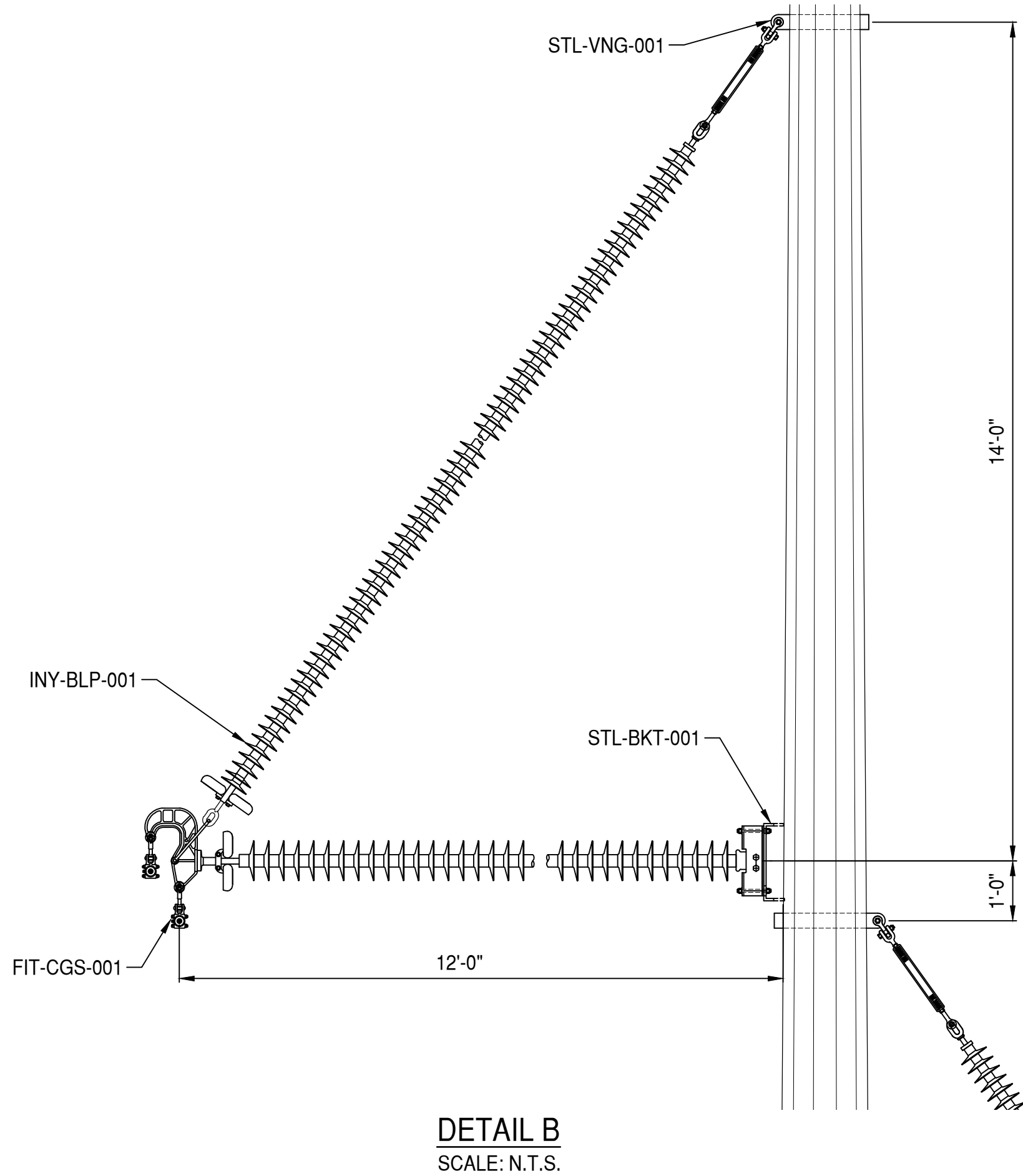
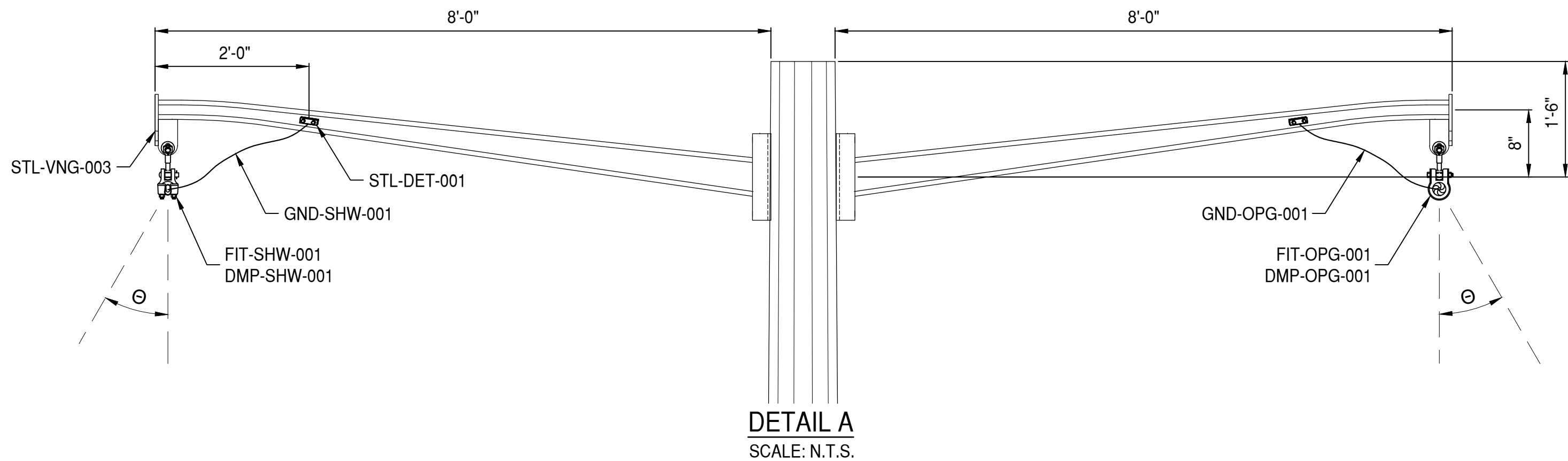
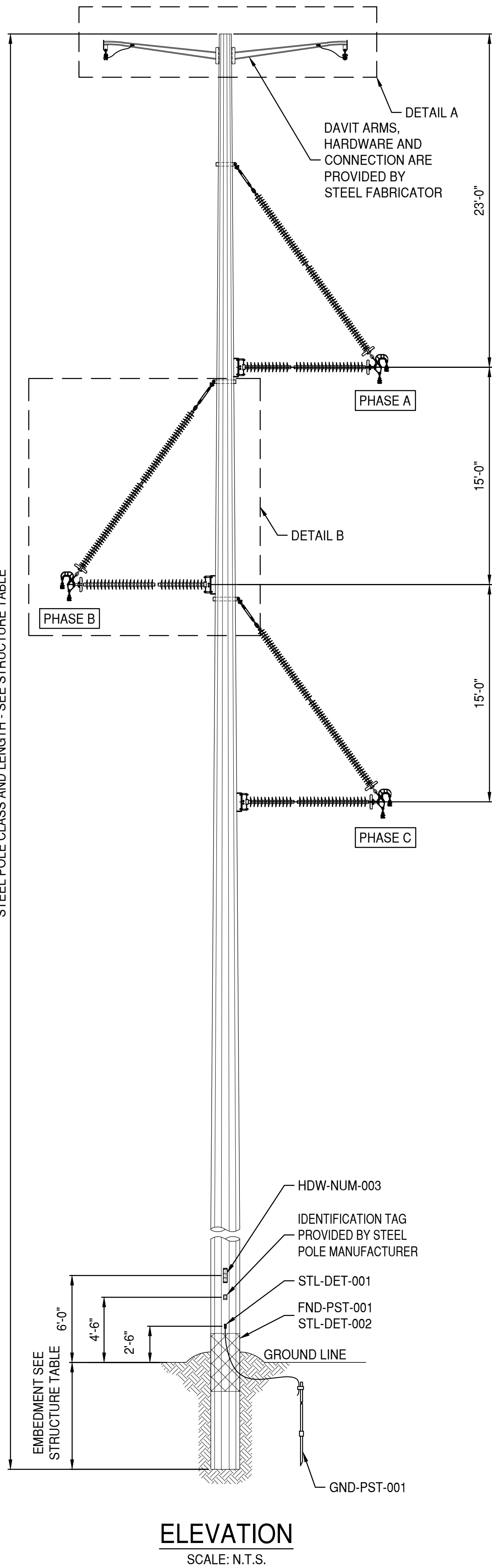
Appendix E

Technical Drawings of Proposed Structures

- **Tangent Braced Post Direct Embed Steel**
- **Small Angle Braced Post Self-Supporting Steel**
- **Medium Angle Suspension Self-Supporting Steel**
- **Angle Deadend Self-Supporting Steel**

2019.07.22

STEEL POLE CLASS AND LENGTH - SEE STRUCTURE TABLE



ASSEMBLY NAME	QUANTITY	ASSEMBLY DESCRIPTION
DMP-OPG-001	1	OPGW TANGENT SPIRAL DAMPER RANGE (0.462" TO 0.563")
DMP-SHW-001	1	SHIELD WIRE TANGENT SPIRAL DAMPERS (RANGE 0.327" TO 0.461")
FIT-CGS-001	3	CUSHION GRIP SUSPENSION CLAMP FOR BUNDLE (RANGE 0.884" TO 1.196")
FIT-OPG-001	1	OPGW CUSHION GRIP SUSPENSION CLAMP (RANGE 0.508" TO 0.537")
FIT-SHW-001	1	SHIELD WIRE SUSPENSION CLAMP WITH ARMOR ROD (RANGE 0.30" TO 0.70")
FND-PST-001	1	STEEL POLE DIRECT EMBEDMENT
GND-OPG-001	1	OPGW TANGENT GROUNDING ON STEEL DAVIT ARM (RANGE #10 TO #1 CU)
GND-PST-001	1	DIRECT EMBED STEEL POLE GROUNDING
GND-SHW-001	1	TANGENT GROUNDING ON STEEL DAVIT ARM (RANGE 0.1285" TO 0.398")
HDW-NUM-003	1	BASE NUMBERING TAGS FOR STEEL POLES (2 TAG HOLDER)
INY-BLP-001	3	BRACED LINE POST INSULATOR FOR BUNDLED CONDUCTOR

STEEL DETAIL	QUANTITY	DETAIL DESCRIPTION
STL-BKT-001	3	POST INSULATOR BRACKET
STL-DET-001	3	GROUNDING PLATE
STL-DET-002	1	DIRECT EMBED GROUNDING SLEEVE
STL-VNG-001	3	SINGLE HOLE THRU VANG
STL-VNG-003	2	SHIELD WIRE DAVIT ARM END VANG

PLUM CREEK
WIND PROJECT

REDWOOD AND COTTONWOOD
COUNTIES, MINNESOTA



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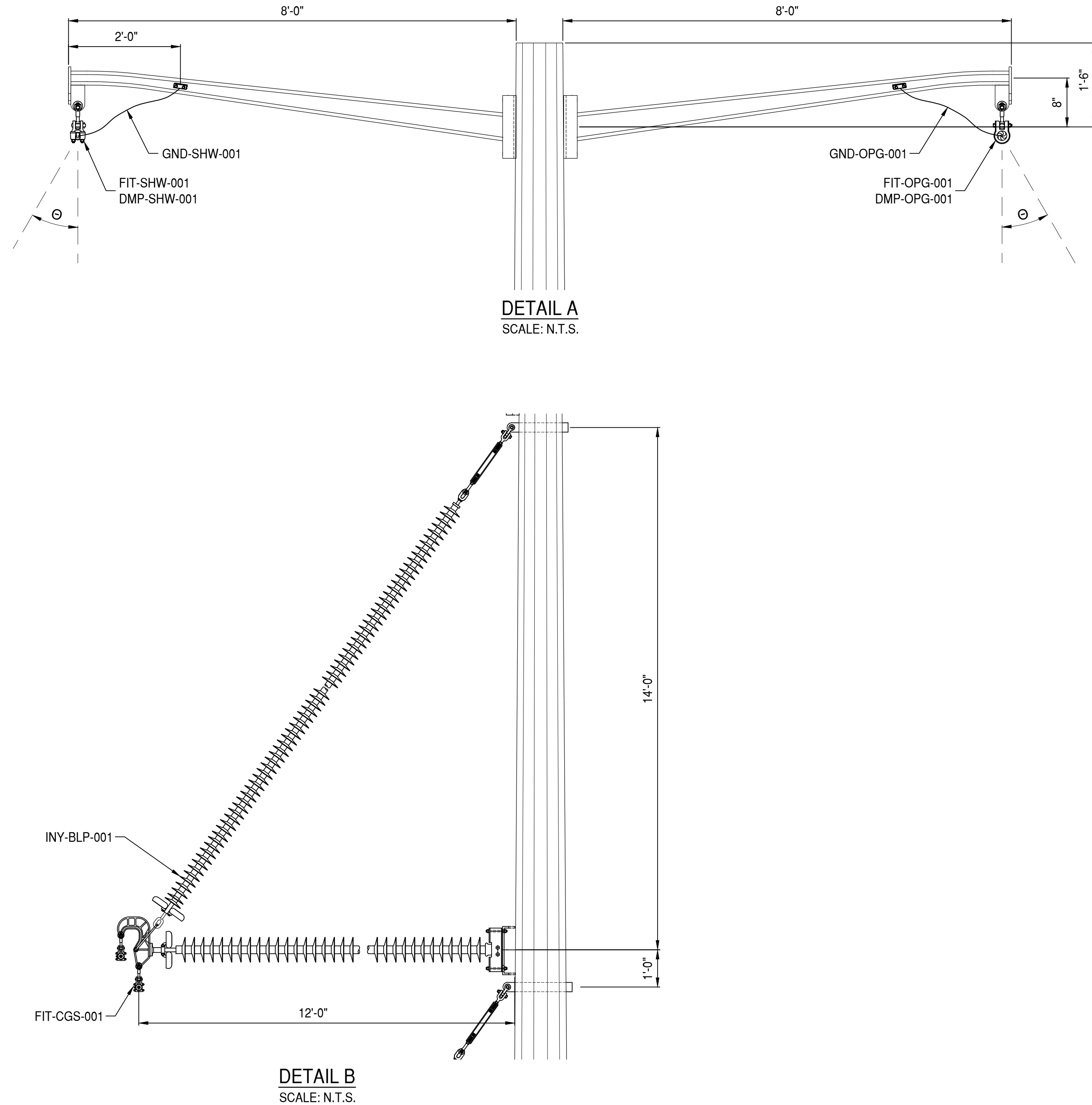
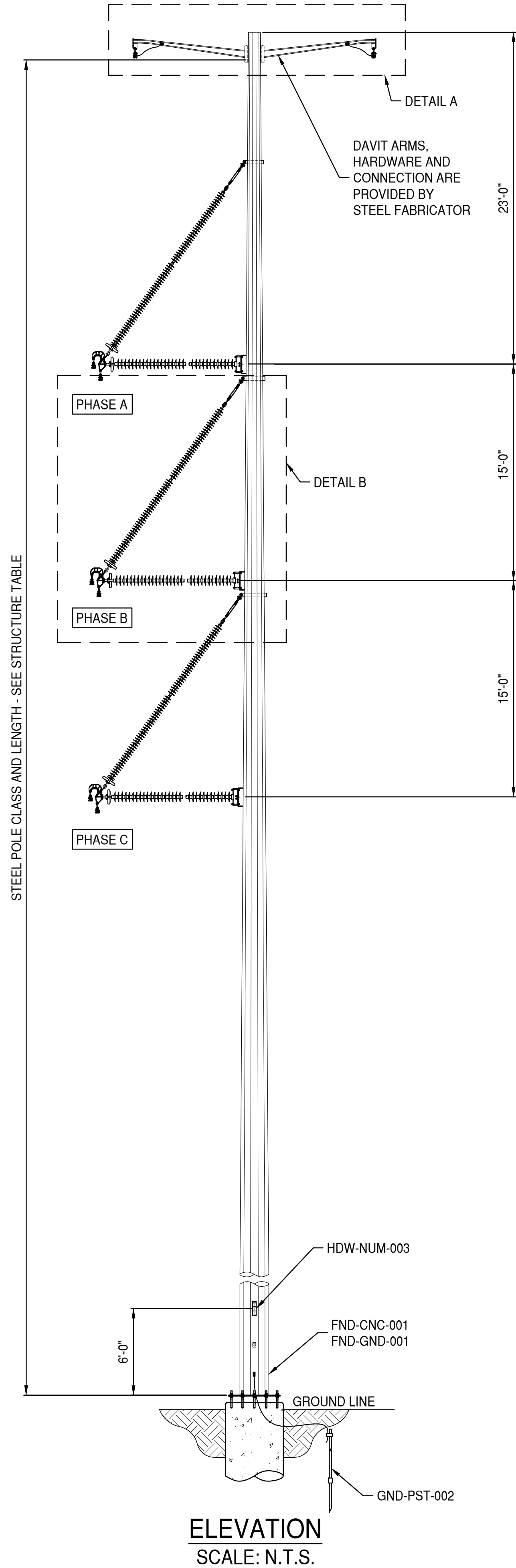


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Drawn By: P. KEPPEL
Approved By: S. FINNESAND
Project Number: 19.00499

STRUCTURE FRAMING,
TANGENT BRACED POST
DIRECT EMBED STEEL

DWG #: **PMC-T-555-01** REVISION: **A**



ASSEMBLY NAME	QUANTITY	ASSEMBLY DESCRIPTION
DMP-OPG-001	1	OPGW TANGENT SPIRAL DAMPER RANGE (0.462" TO 0.563")
DMP-SHW-001	1	SHIELD WIRE TANGENT SPIRAL DAMPERS (RANGE 0.327" TO 0.461")
FIT-CGS-001	3	CUSHION GRIP SUSPENSION CLAMP FOR BUNDLE (RANGE 0.884" TO 1.196")
FIT-OPG-001	1	OPGW CUSHION GRIP SUSPENSION CLAMP (RANGE 0.508" TO 0.537")
FIT-SHW-001	1	SHIELD WIRE SUSPENSION CLAMP WITH ARMOR ROD (RANGE 0.30" TO 0.70")
FND-PST-001	1	STEEL POLE DIRECT EMBEDMENT
GND-OPG-001	1	OPGW TANGENT GROUNDING ON STEEL DAVIT ARM (RANGE #10 TO #1 CU)
GND-PST-001	1	DIRECT EMBED STEEL POLE GROUNDING
GND-SHW-001	1	TANGENT GROUNDING ON STEEL DAVIT ARM (RANGE 0.1285" TO 0.398")
HDW-NUM-003	1	BASE NUMBERING TAGS FOR STEEL POLES (2 TAG HOLDER)
INY-BLP-001	3	BRACED LINE POST INSULATOR FOR BUNDLED CONDUCTOR

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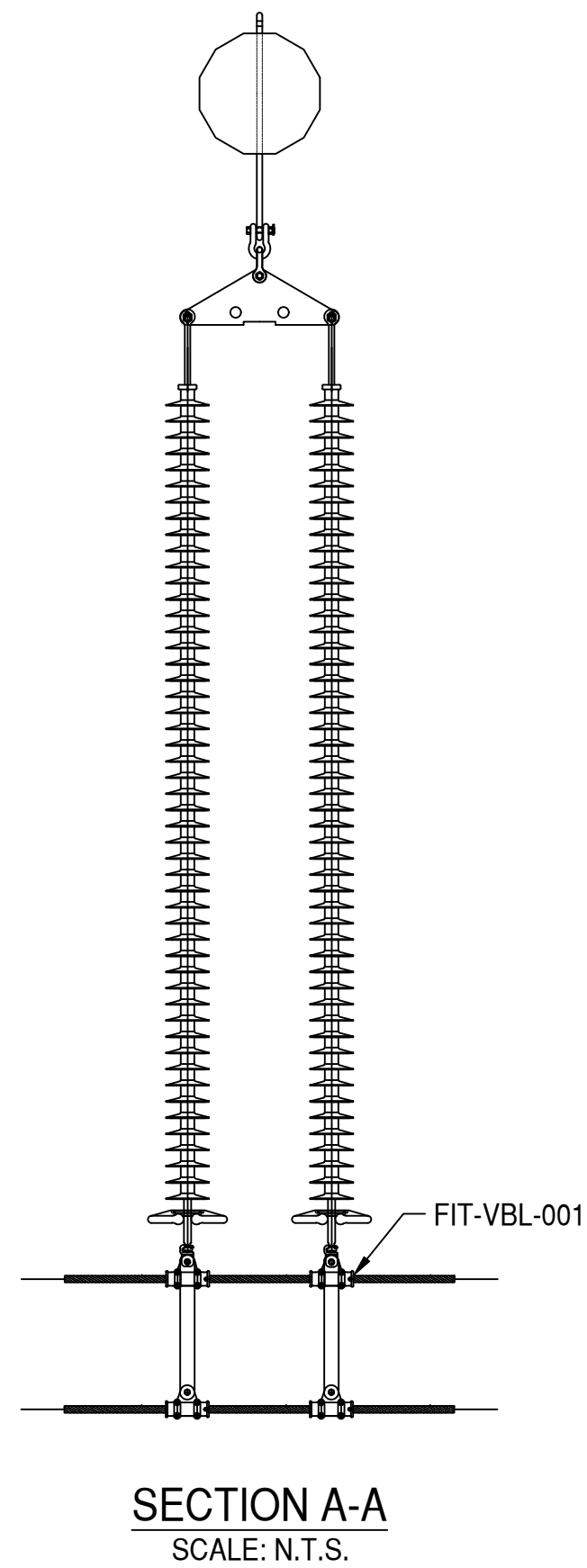
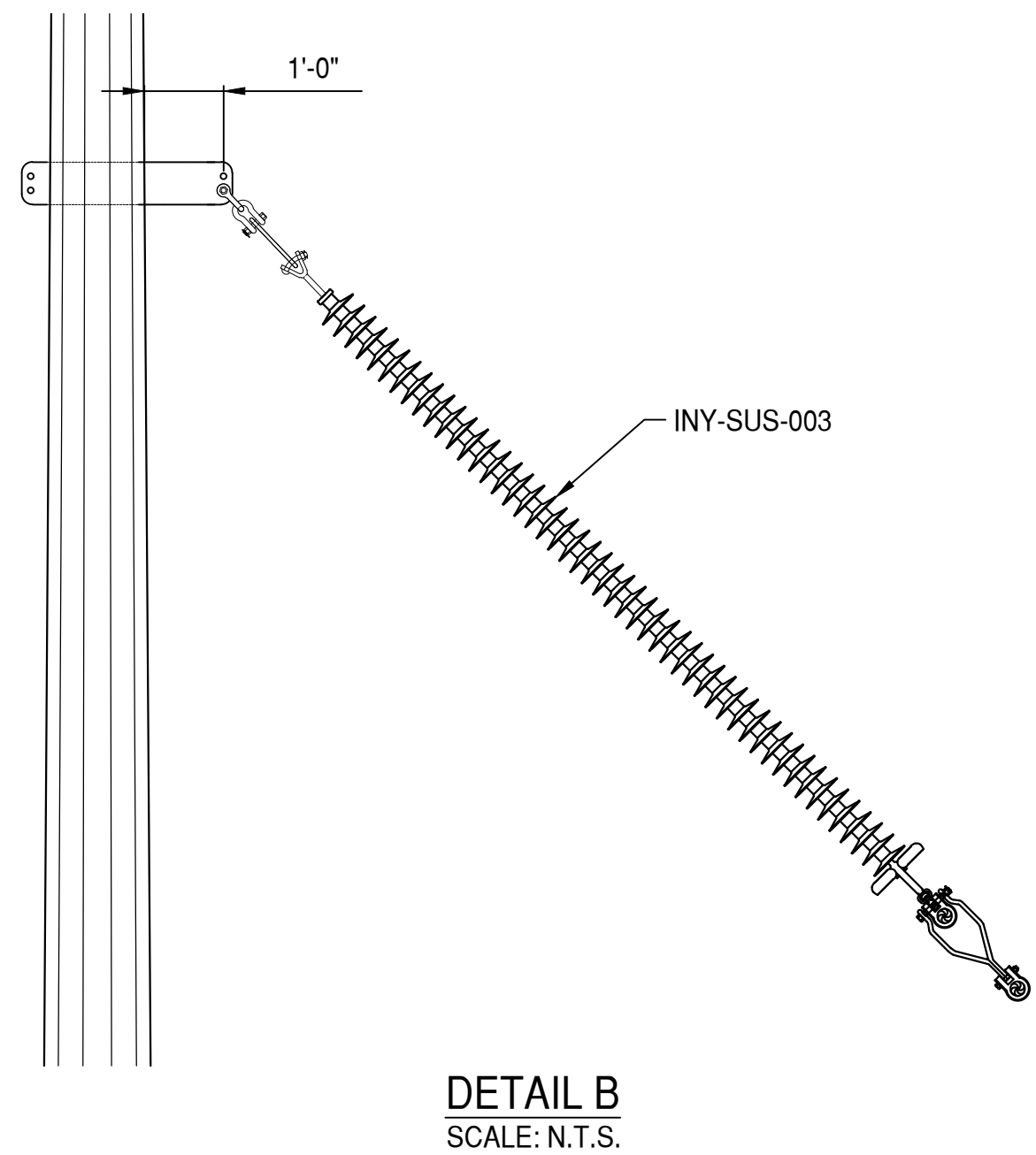
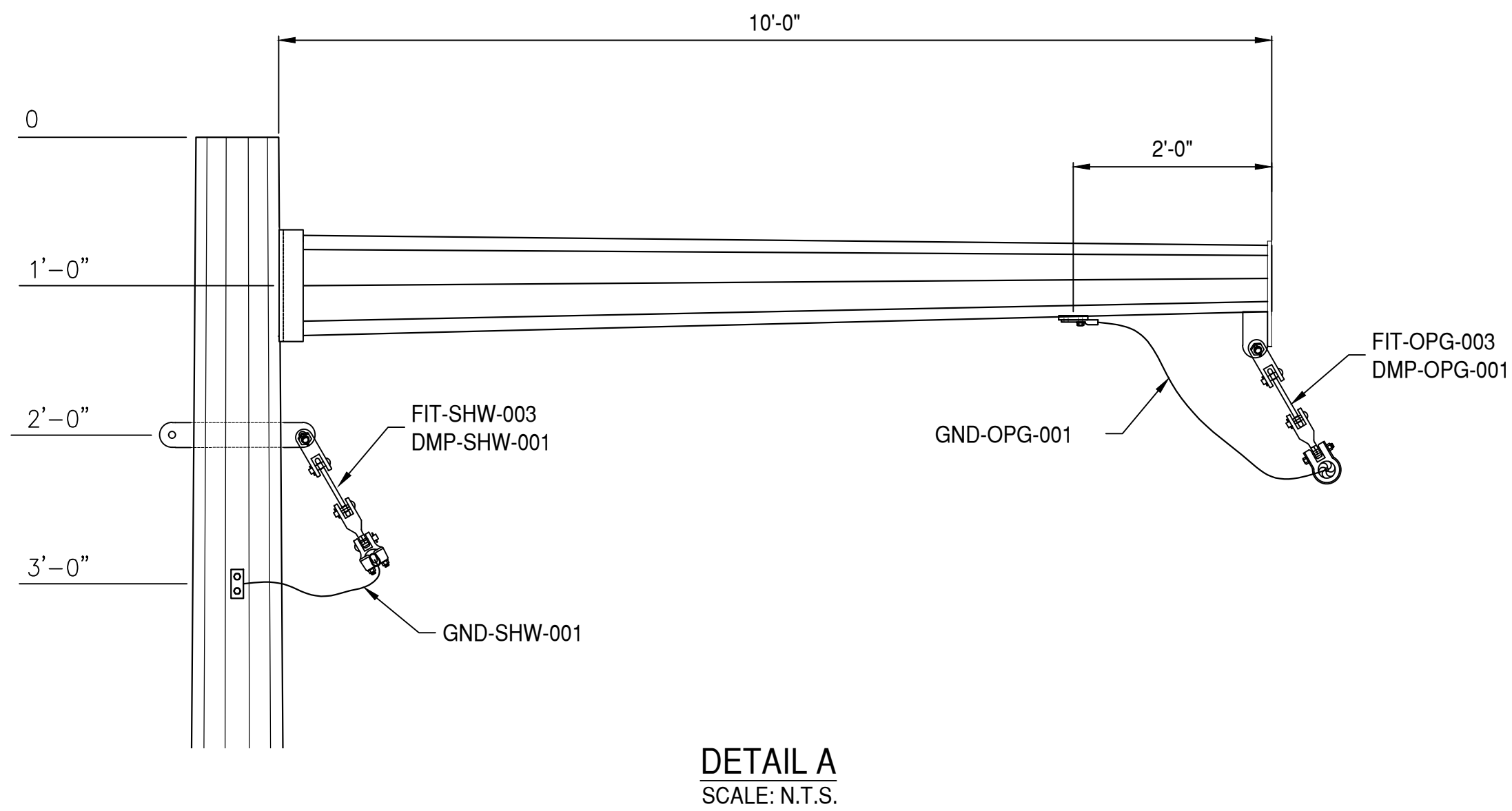
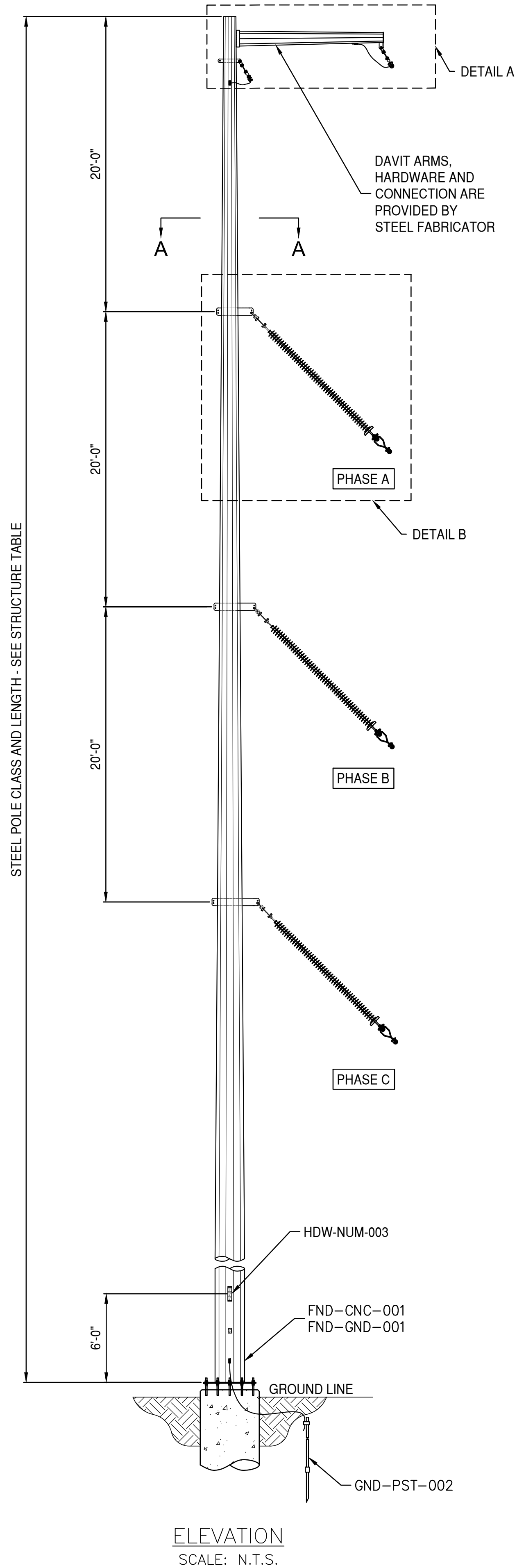
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**STRUCUTURE FRAMING,
SMALL ANGLE BRACED
POST SELF-SUPPORTING
STEEL**



ASSEMBLY NAME	QUANTITY	ASSEMBLY DESCRIPTION
DMP-OPG-001	1	OPGW TANGENT SPIRAL DAMPER RANGE (0.462" TO 0.563")
DMP-SHW-001	1	SHIELD WIRE TANGENT SPIRAL DAMPERS (RANGE 0.327" TO 0.461")
FIT-OPG-001	1	OPGW CUSHION GRIP SUSPENSION CLAMP (RANGE 0.508" TO 0.537")
FIT-SHW-001	1	SHIELD WIRE SUSPENSION CLAMP WITH ARMOR ROD (RANGE 0.30" TO 0.70")
FIT-VBL-001	3	VERTICAL BUNDLING LINK AND CUSHION GRIP CLAMPS (RANGE 0.884" TO 1.196")
FND-CNC-001	1	CONCRETE FOUNDATION
FND-GND-001	1	FOUNDATION REBAR GROUNDING
GND-OPG-001	1	OPGW TANGENT GROUNDING ON STEEL POLE OR STEEL DAVIT ARM (RANGE #10 TO #1)
GND-PST-002	1	STEEL POLE ON CONCRETE PIER GROUNDING
GND-SHW-001	1	TANGENT GROUNDING ON STEEL POLE OR STEEL DAVIT ARM (RANGE 0.1285" TO 0.398")
HDW-NUM-003	1	BASE NUMBERING TAGS FOR STEEL POLES (2 TAG HOLDER)
INY-SUS-001	3	RUNNING ANGLE SUSPENSION INSULATOR FOR BUNDLED 795 DRAKE

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WIND PROJECT

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COUNTIES, MINNESOTA



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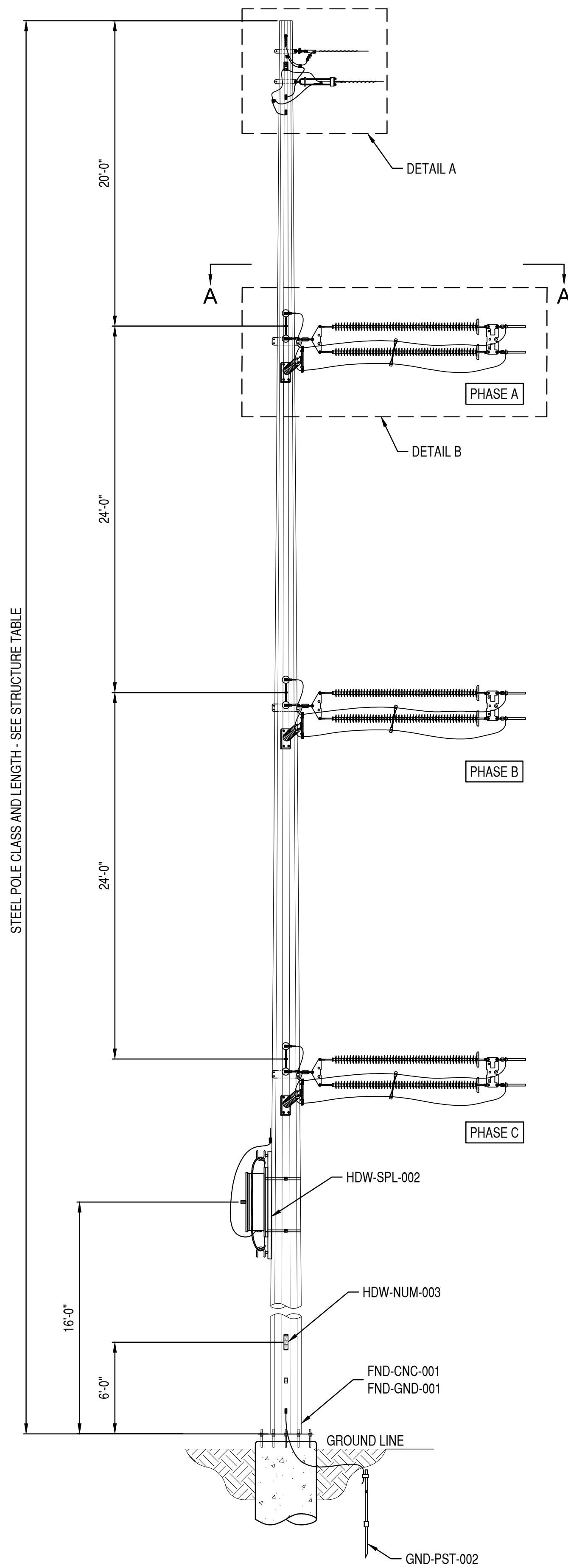
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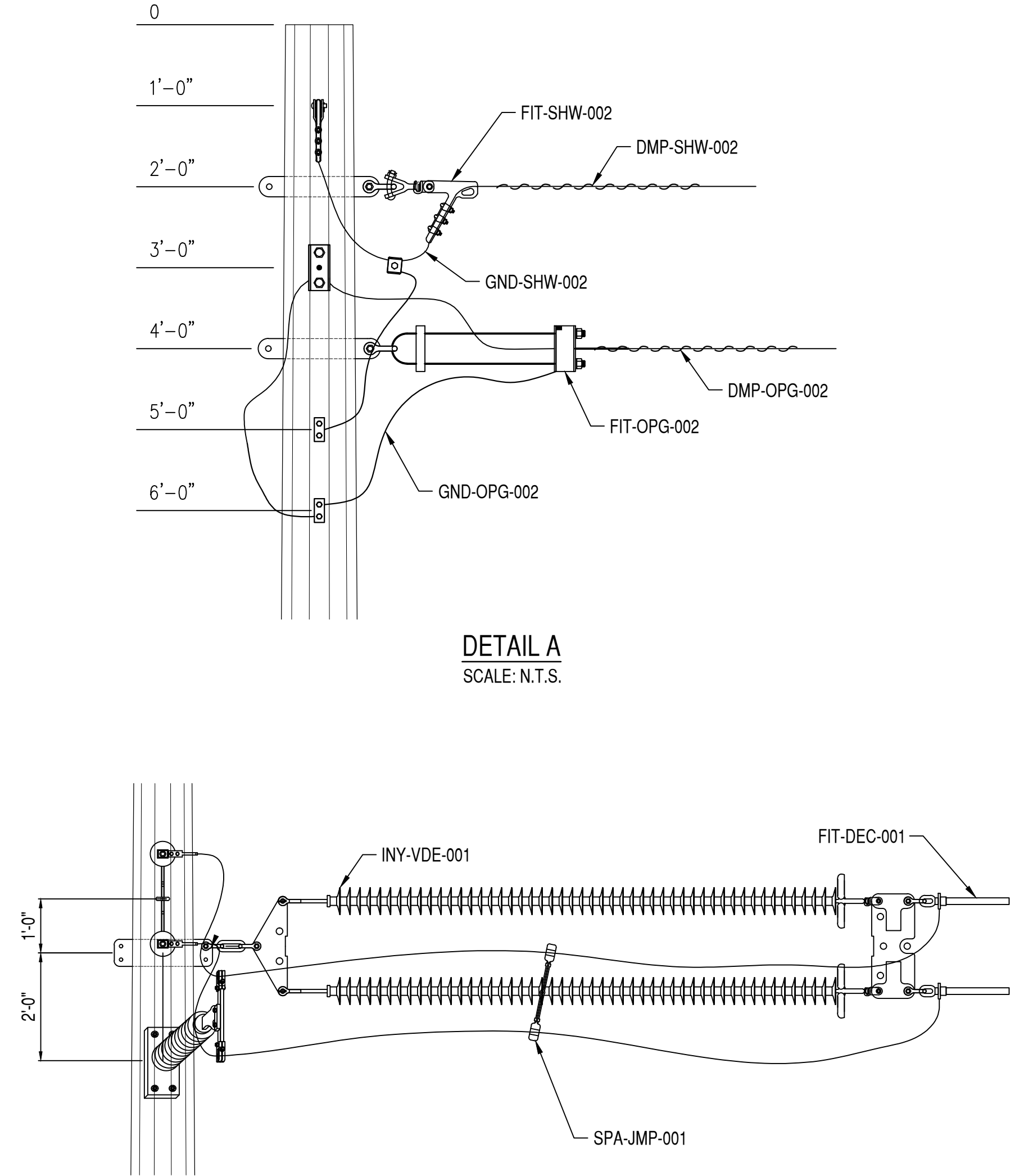
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Drawn By: P. KEPPEL
Approved By: S. FINNESAND
Project Number: 19.00499

STRUCTURE FRAMING,
MEDIUM ANGLE
SUSPENSION
SELF-SUPPORTING
STEEL

DWG #: PMC-T-555-03
REVISION: A

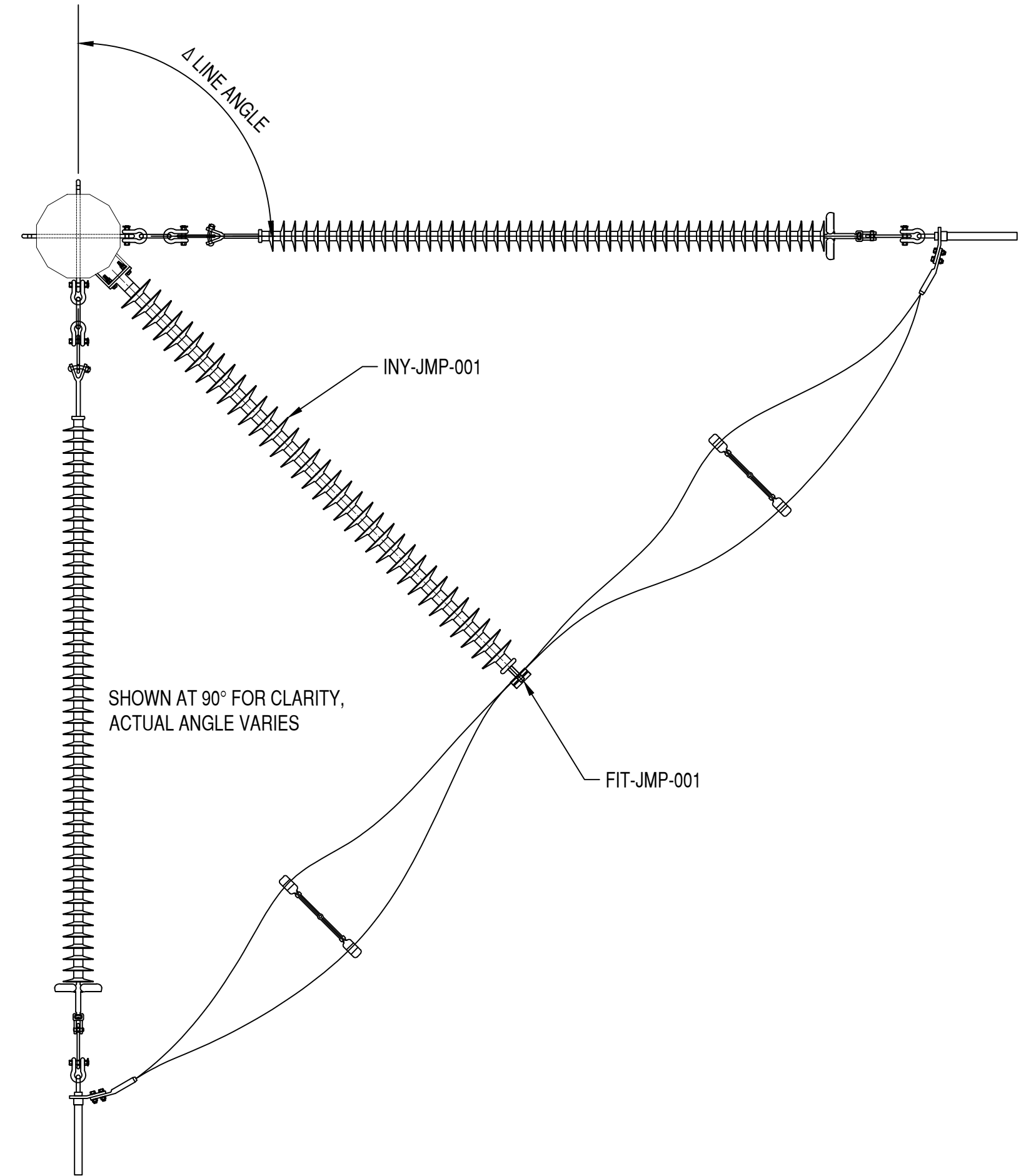


ELEVATION
SCALE: N.T.S.



DETAIL A
SCALE: N.T.S.

DETAIL B
SCALE: N.T.S.



SECTION A-A
SCALE: N.T.S.

ASSEMBLY NAME	QUANTITY	ASSEMBLY DESCRIPTION
DMP-OPG-002	2	OPGW DEADEND SPIRAL DAMPER (RANGE 0.462" TO 0.563")
DMP-SHW-002	2	SHIELD WIRE DEADEND SPIRAL DAMPERS (RANGE 0.327" TO 0.461")
FIT-DEC-001	6	DEADEND CLAMP FOR BUNDLED 795 DRAKE
FIT-JMP-001	3	JUMPER POST CLAMP FOR BUNDLE (RANGE 1.00" TO 1.40")
FIT-OPG-002	2	OPGW DEADEND CLAMP (RANGE 0.508" TO 0.537")
FIT-SHW-002	2	SHIELD WIRE DEADEND CLAMP (RANGE 0.22" TO 0.55")
FND-CNC-001	1	CONCRETE FOUNDATION
FND-GND-001	1	FOUNDATION REBAR GROUNDING
GND-OPG-002	1	OPGW DOUBLE DEADEND GROUNDING (RANGE #10 TO #1 CU)
GND-SHW-002	1	DOUBLE DEADEND GROUNDING (RANGE 0.1285" TO 0.398")
GND-PST-002	1	STEEL POLE ON CONCRETE PIER GROUNDING
HDW-NUM-003	1	BASE NUMBERING TAGS FOR STEEL POLES (2 TAG HOLDER)
HDW-SPL-001	1	OPGW SPLICE ENCLOSURE ON STEEL POLE
INY-JMP-001	3	JUMPER POST INSULATOR FOR BUNDLED 795 DRAKE
INY-VDE-001	6	DEADEND INSULATOR FOR BUNDLED 795 DRAKE
SPA-JMP-001	6	18" CONDUCTOR SPACER (RANGE 1.063" TO 1.130")



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STRUCTURE FRAMING, ANGLE DEADEND SELF-SUPPORTING STEEL