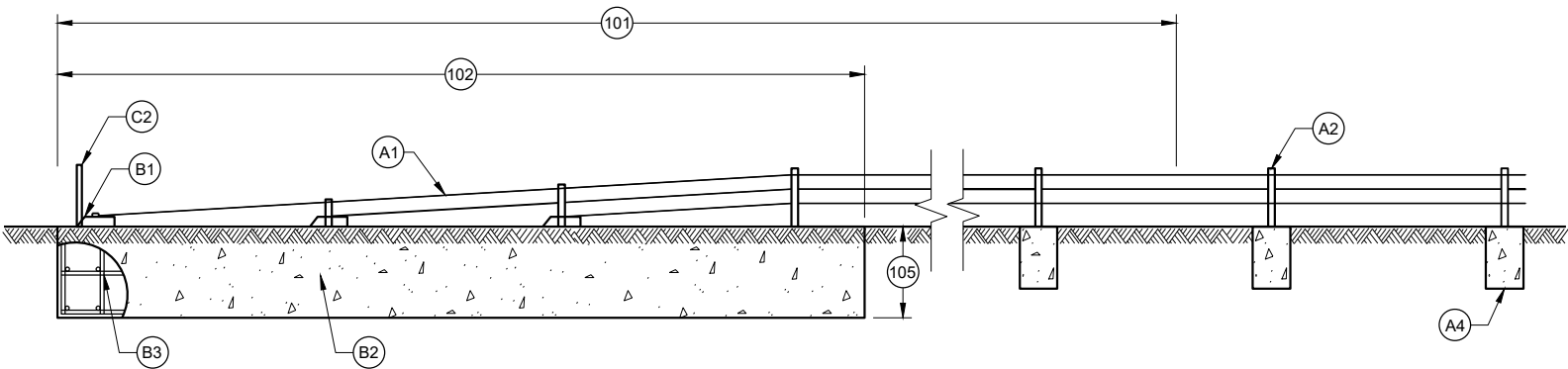
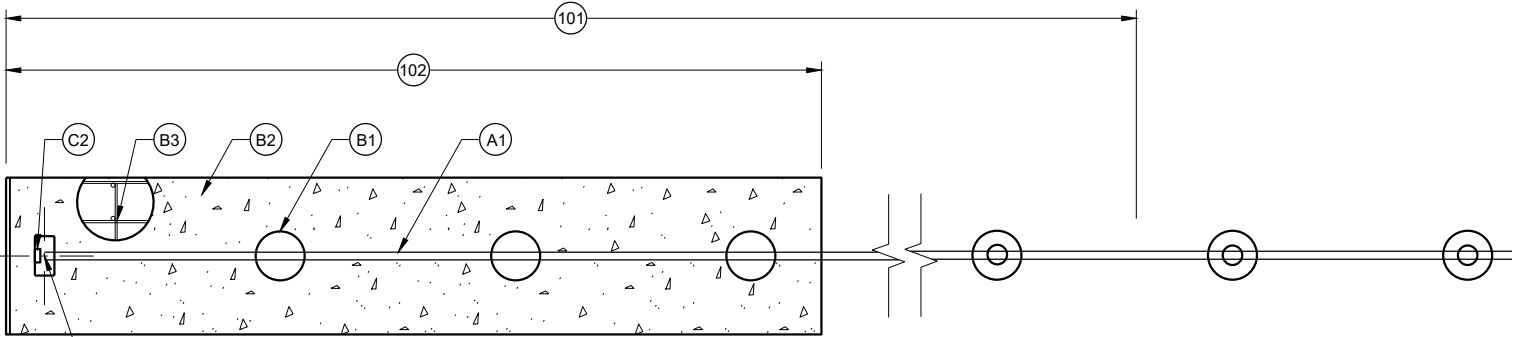


SDD 14B52-a Cable Barrier Type 1 Layout

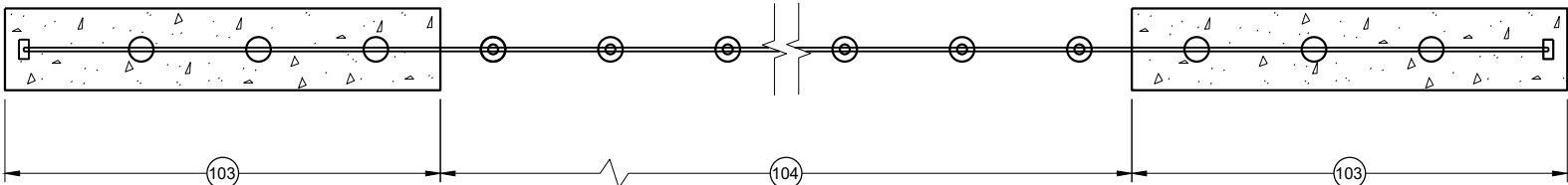


PROFILE VIEW

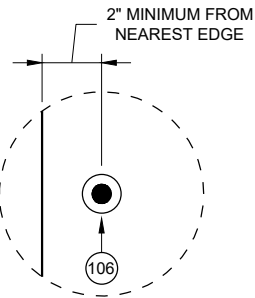
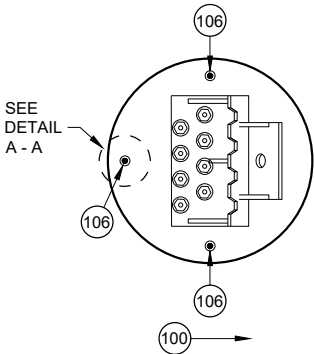
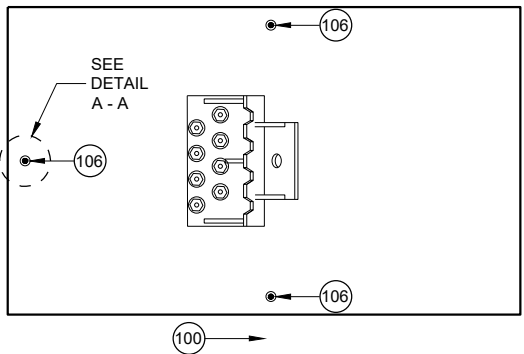


PLAN VIEW

TRANSITION FROM CABLE BARRIER TERMINAL TO CABLE BARRIER LINE POSTS



TYPICAL PLAN VIEW



DETAIL A - A

ANCHOR MONITOR POINTS FOR CABLE BARRIER END TERMINAL ANCHORS

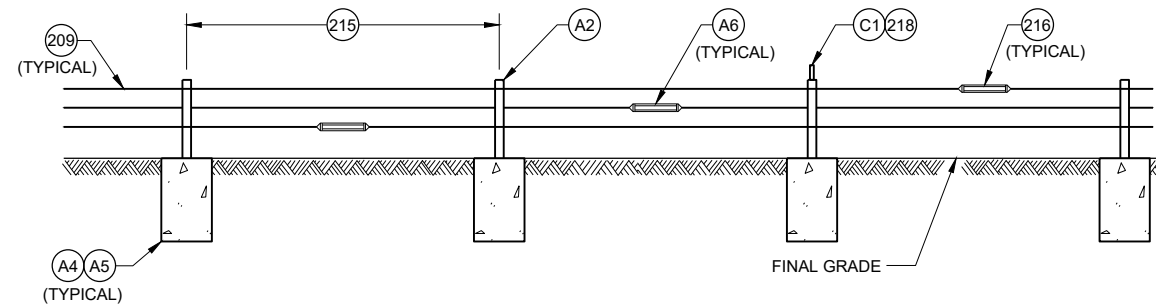
GENERAL NOTES

- DRAWINGS ARE GENERAL IN NATURE. SEE MANUFACTURER'S INFORMATION FOR MORE DETAIL.
- PROVIDE 2 INCH CLEAR COVER FROM OUTER EDGE OF CONCRETE FOOTINGS TO REINFORCEMENT.
- INSTALL LINE POSTS PLUMB. LINE POSTS ARE TO BE EASILY REMOVED BY HAND AND HOLD CABLES AT THE PROPER ELEVATION.
- PROVIDE CABLE BARRIER SYSTEM FROM APPROVED PRODUCT LIST.
- PROVIDE A SYSTEM TO HAVE THE WORKING WIDTH INDICATED IN PLAN.
- PROVIDE DOCUMENTATION HOW POST SPACING, RADIUS OF CURVE AND ANCHOR SPACING INFLUENCES WORKING WIDTH TO CONSTRUCTION STAFF.
- CONSTRUCT SHAFTS VERTICALLY. VERTICAL TOLERANCE OF SHAFT IS $\frac{1}{8}$ " PER FOOT OF DEPTH. SHAFTS ARE TO MINIMIZE DISTURBANCE TO ADJACENT SOILS.
- SECURE STEEL REINFORCEMENT AND STEEL SLEEVE PRIOR TO PLACEMENT OF CONCRETE. MAINTAIN CLEAR DISTANCE BETWEEN SOIL AND REINFORCEMENT CAGE.
- PLACE CONCRETE IN ONE CONTINUOUS POUR FOR EACH FOOTING. USE VIBRATION TO CONSOLIDATE CONCRETE.
- PROVIDE CASING AS NECESSARY TO PREVENT INTRUSION OF UNCONSOLIDATED MATERIALS OR WATER. USE CASINGS WHEN THERE IS 3 OR MORE INCHES OF WATER IN EXCAVATION.
- PROVIDE WISCONSIN PROFESSIONAL ENGINEER SIGNED AND APPROVED FOOTING DESIGN USING A CASING AND CONSTRUCTION SEQUENCE. PROJECT ENGINEER WILL REVIEW AND APPROVED CASING DESIGN AND CONSTRUCTION SEQUENCE. CASING IS TO HAVE INTIMATE CONTACT WITH SHAFT SIDEWALL. CASING IT TO WITHSTAND INSERTION STRESS, REMOVAL STRESS, CONCRETE PRESSURE AND SOIL PRESSURE. REMOVE CASING DURING CONCRETE PLACEMENT OR IMMEDIATELY AFTER CONCRETE PLACEMENT. NO TEMPORARY CASING MAY REMAIN IN-PLACE.
- PROVIDE WISCONSIN PROFESSIONAL ENGINEER SIGNED AND APPROVED FOOTING DESIGN AND CONSTRUCTION SEQUENCE WHEN OVER EXCAVATION IS REQUIRED NEAR A FOOTING. PROJECT ENGINEER WILL REVIEW AND APPROVED DESIGN AND CONSTRUCTION SEQUENCE.
- FINISH TOP OF FOOTINGS TO THE DIMENSIONS INDICATED IN PLAN. REMOVE EXCESS CONCRETE.
- DESIGN POST FOOTINGS SO THAT LINE POST FOOTING MOVE LESS THAN 1 INCH WHEN LINE POST IS IMPACTED BY A NCHRP 350 TL-3 SMALL CAR.
- USE MARINE GRADE ANTI-SEIZE LUBRICANT FOR THREADING FITTINGS THAT IS ACCEPTABLE FOR USE ON GALVANIZED STEEL.

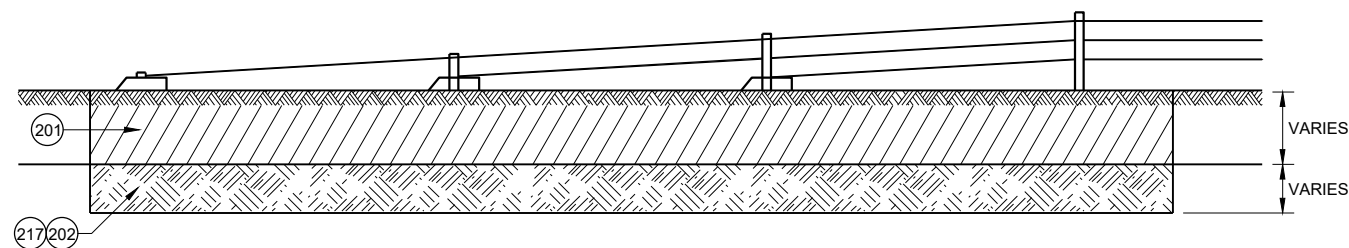
- 100 DIRECTION THAT THE CABLE PULLS THE END ANCHOR FOOTING
- 101 LOCATION OF LENGTH OF NEED POINT FOR CABLE BARRIER END TERMINAL VARIES. (SEE MANUFACTURER'S INFORMATION)
- 102 PAY LIMIT FOR CABLE BARRIER END TERMINAL. LENGTH OF CABLE BARRIER END TERMINAL VARIES. (SEE MANUFACTURER'S INFORMATION)
- 103 CABLE BARRIER END TERMINAL
- 104 CABLE BARRIER AND LINE POSTS
- 105 IN SOIL MINIMUM DEPTH OF CABLE BARRIER END TERMINAL FOOTING IS 60 INCHES. DEEPER FOOTINGS PER MANUFACTURER'S RECOMMENDATION ARE ACCEPTABLE.
- 106 ANCHOR MONITOR POINTS ARE GALVANIZED SURVEY NAIL, OR MASONRY NAIL, PLACED INTO CONCRETE FOOTING BEFORE HARDENING. IF THERE ARE MULTIPLE ANCHOR POINTS WITHIN A PAY LIMIT FOR A CABLE BARRIER END TERMINAL, EACH ANCHOR POINT NEEDS THREE ANCHOR MONITOR POINTS.

CABLE BARRIER TYPE 1 LAYOUT

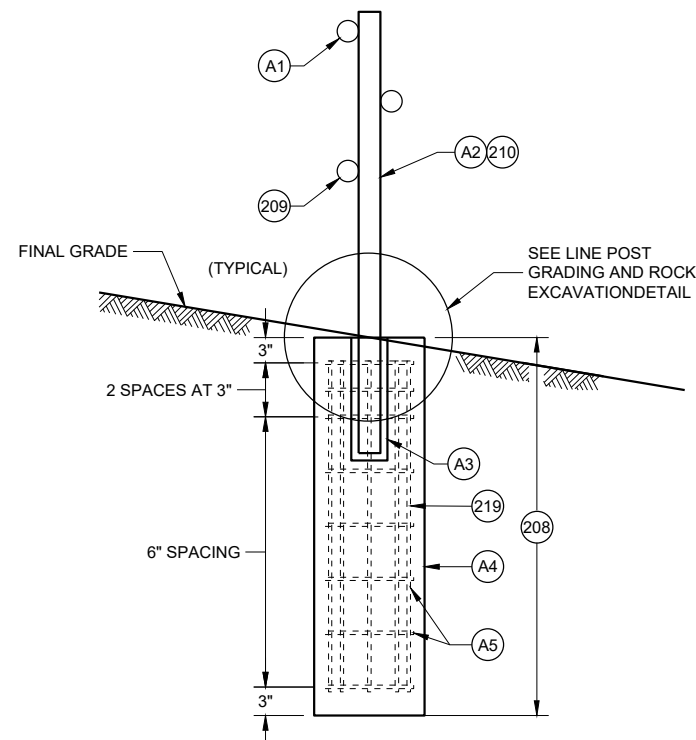
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



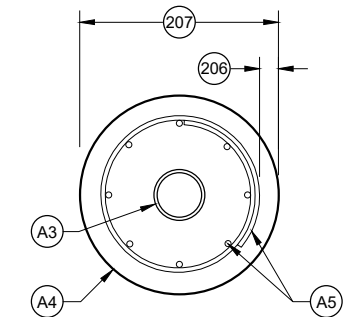
**PROFILE VIEW
LINE POST INSTALLATION**



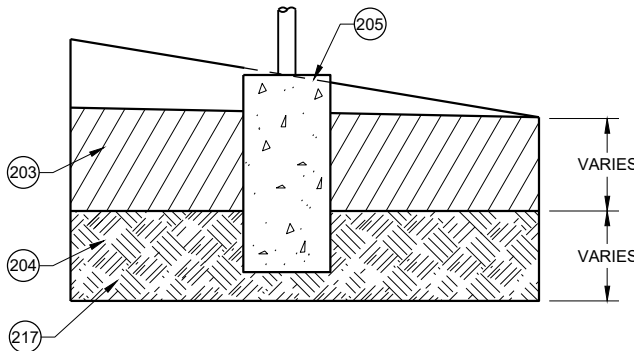
**CABLE BARRIER END TERMINAL
ROCK EXCAVATION DETAIL**



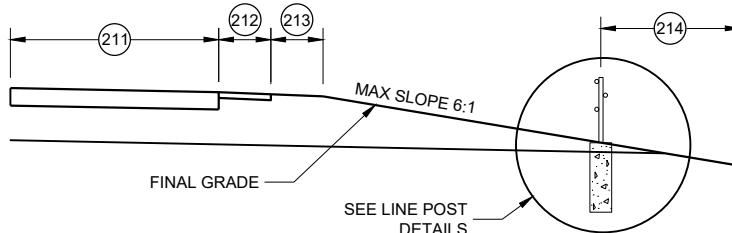
CROSS SECTION



**PROFILE VIEW
(LINE POSTS AND CABLES NOT SHOWN)**



**LINE POST GRADING
AND ROCK EXCAVATION DETAIL**



CABLE BARRIER OFFSET FROM DITCH LINE

GENERAL NOTES

- (201) SOIL TO BE EXCAVATED FOR CABLE BARRIER END TERMINAL (VARIES)
- (202) ROCK TO BE EXCAVATED FOR CABLE BARRIER END TERMINAL (VARIES)
- (203) SOIL TO BE EXCAVATED FOR LINE POST (VARIES)
- (204) ROCK TO BE EXCAVATED FOR LINE POST (VARIES)
- (205) EXCAVATE AND GRADE LINE FOR LINE POST FOOTINGS. INSTALL LINE POST FOOTING TO MINIMIZE 4 INCH TALL OBJECT ON 5 FOOT CHORD.
- (206) 2 INCHES OF CLEAR COVER FROM EDGE OF CONCRETE TO REINFORCEMENT.
- (207) DIAMETER OF LINE POST FOOTING VARIES. SEE MANUFACTURERS' INFORMATION.
- (208) MINIMUM DEPTH OF LINE POST FOOTING IS 4' - 0" IN SOIL. DEEPER FOOTINGS PER MANUFACTURER'S RECOMMENDATION ARE ACCEPTABLE.
- (209) NUMBER AND LOCATION OF CABLES VARY. SEE MANUFACTURERS' INFORMATION.
- (210) LINE POST DIMENSIONS AND CONNECTION HARDWARE VARY. SEE MANUFACTURERS' INFORMATION.
- (211) LANE OF ROADWAY (VARIES). SEE PLAN FOR MORE INFORMATION.
- (212) PAVED SHOULDER (VARIES). SEE PLAN FOR MORE INFORMATION.
- (213) GRAVEL SHOULDER (VARIES). SEE PLAN FOR MORE INFORMATION.
- (214) CABLE BARRIER OFFSET FROM CENTERLINE OF MEDIAN DITCH (8 FOOT MINIMUM). SEE PLAN FOR MORE INFORMATION.
- (215) MAXIMUM POST SPACING IS 15 FEET.
- (216) STAGGER TURNBUCKLES (TYPICAL).
- (217) SEE MANUFACTURER'S DESIGN WHEN ROCK IS ENCOUNTERED.
- (218) LINE POST DELINEATOR SPACING IS 100 FEET.
- (219) MINIMUM LINE POST FOOTING REINFORCEMENT SHOWN. MANUFACTURER IS TO INDICATE REINFORCEMENT IS ADEQUATE FOR THEIR SYSTEM. IF REINFORCEMENT IS NOT ADEQUATE, PROVIDE FOOTING DESIGN WITH A ADEQUATE REINFORCEMENT.

**CABLE BARRIER
TYPE 1 LAYOUT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SDD 14B52-c Cable Barrier Type 1 Layout - Bill of Materials

| BILL OF MATERIALS | | | |
|-------------------|---|---|--|
| PART NUMBER | QTY. | DESCRIPTION | MATERIALS SPECIFICATIONS |
| (A1) | 3 OR 4 | ¾" 3x7 PRESTRECHED GALVANIZED STEEL WIRE ROPE | AASHTO M30 TYPE 1 CLASS A OR ASTM A741 TYPE 1 CLASS A WITH MINIMUM BREAKING STRENGTH = 39 KIPS (173.5 KN) |
| (A2) | 1 PER LINE POST | GALVANIZED REMOVABLE STEEL LINE POST | SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS. ASTM A123 (GALVANIZATION). |
| (A3) | 1 PER LINE POST | GALVANIZED STEEL SLEEVE | SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS. ASTM A123 (GALVANIZATION). |
| (A4) | VARIES | CONCRETE FOR LINE POST FOOTING | A, A-FA.A-T, OR A-IP OF STANDARD SPECIFICATION 501.2 OR AS MANUFACTURER SPECIFIES. STANDARD SPECIFICATION 716 QMP FOR CLASS II ANCILLARY CONCRETE SEE MANUFACTURER'S INFORMATION ON DIMENSIONS. |
| (A5) | MINIMUM REINFORCEMENT: 8 HORIZONTAL LOOP BARS 8 VERTICAL BARS | EPOXY COATED STEEL REINFORCEMENT | STANDARD SPECIFICATION 505. ALL BARS ARE NO. 4 BARS |
| (A6) | VARIES | TURNBUCKLES AND OTHER CABLE CONNECTING HARDWARE | SEE MANUFACTURER'S INFORMATION ON DIMENSIONS. MINIMUM BREAKING STRENGTH OF TURNBUCKLES AND CONNECTION HARDWARE IS EQUAL TO CABLE. TURNBUCKLES AND OTHER CABLE CONNECTION HARDWARE IS FIELD SWAGED PER MANUFACTURER'S RECOMMENDATION AND DETAILS. PROVIDE DOCUMENTATION THAT THE FITTINGS ARE STRONGER THAN THE CABLE BARRIER. DOCUMENTATION IS TO INCLUDE: MANUFACTURER NAME, TESTING RESULTS, AND DATE OF TESTING. |
| (B1) | VARIES | CABLE CONNECTION TO CABLE BARRIER END TERMINAL | SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS. |
| (B2) | VARIES | CONCRETE FOR CABLE BARRIER END TERMINAL | A, A-FA.A-T, OR A-IP OF STANDARD SPECIFICATION 501.2. STANDARD SPECIFICATION 716 QMP FOR CLASS II ANCILLARY CONCRETE |
| (B3) | VARIES | EPOXY COATED STEEL REINFORCEMENT | STANDARD SPECIFICATION 505. |
| (C1) | VARIES | LINE POST DELINEATOR | REFLECTIVE SHEETING TYPE SH. SEE APPROVED PRODUCT LIST YELLOW. |
| (C2) | VARIES | CABLE BARRIER END TERMINAL DELINEATOR | REFLECTIVE SHEETING TYPE SH. SEE APPROVED PRODUCT LIST OBJECT MARKER TYPE 3 PATTERN |

CABLE BARRIER
TYPE 1 LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

*Cable Barrier Type 1***References**[FDM 11-45-30](#)**Bid items associated with this drawing:**

| <u>ITEM NUMBER</u> | <u>DESCRIPTION</u> | <u>UNIT</u> |
|--------------------|---|-------------|
| 613.1100.S | Cable Barrier Type 1 | LF |
| 613.1200.S | Cable Barrier End Terminal Type 1 | EACH |

Standardized Special Provisions associated with this drawing:

| <u>STSP NUMBER</u> | <u>TITLE</u> |
|--------------------|----------------------|
| 613-010 | Cable Barrier Type 1 |

Other SDDs associated with this drawing:**Design Notes:**

This SDD is for proprietary cable barriers. Review approved product list for which systems are available in the county that the project is located.

If the county where the project is located is not listed in the approved product list, contact Bureau of Project Services.

Contact Person:

Erik Emerson (608) 266-2842