



# Lessons Learned on Monteagle

The Good, the Bad (Let's skip the  
"Ugly")

**Firefox has encountered**

**an unexpected problem with Windows**



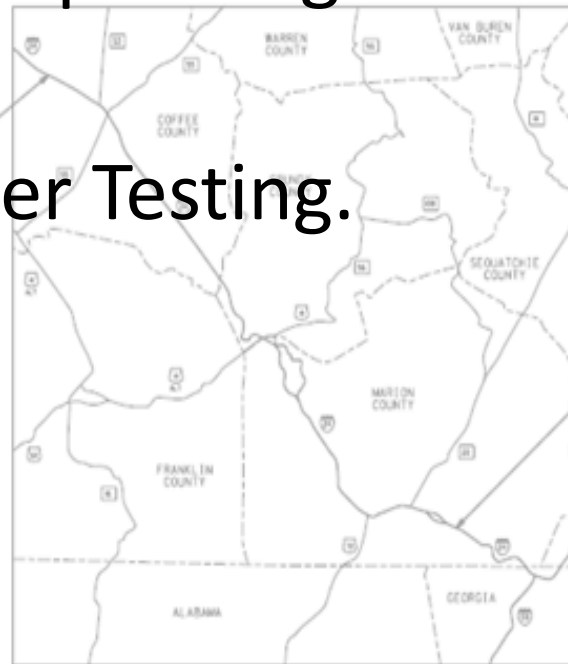
INDEX OF SHEETS  
ON SHEET 1A

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF PLANNING AND DEVELOPMENT  
COFFEE COUNTY / GRUNDY COUNTY / MARION COUNTY  
INTELLIGENT TRANSPORTATION SYSTEM (ITS)  
REGION TWO SMARTWAY RURAL EXPANSION

# Lesson 1

|                    |                  |           |
|--------------------|------------------|-----------|
| TENN.              | YEAR             | SHEET NO. |
|                    | 2014             | 1         |
| FED. AID PROJ. NO. | [M/NH-24-2(143)] |           |
| STATE PROJ. NO.    | 98028-3123-44    |           |

- Make sure your plans agree with your specifications.
- Example 1. Fiber Testing.



BEGIN PROJECT  
[M/NH-24-2(143)]  
98028-3123-44  
1-24  
MM 109.9  
E: 1937115.00  
N: 427980.00

THIS PROJECT DOES NOT  
REQUIRE ANY R.O.W.,  
ACQUISITION OR EASEMENTS.



END PROJECT  
[M/NH-24-2(143)]  
98028-3123-44  
1-24  
MM 156.9  
E: 2086175.00  
N: 259265.00

**UNOFFICIAL  
SET  
NOT FOR  
BIDDING**

APPROVED: *Paul D. DeGee*  
PAUL D. DEGEE, CHIEF ENGINEER

DATE: \_\_\_\_\_

APPROVED: *John Schroder*  
JOHN SCHRODER, COMMISSIONER

**SPECIAL NOTES**

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT MANAGER: SAID EL SAID, P.E.

DESIGNED BY: KIMLEY-HORN AND ASSOCIATES, INC.

DESIGNER: B. BRADFORD WALDSCHMIDT, P.E. CHECKED BY: CHRISTOPHER D. RHODES, P.E.

P.E. NO. 98027-1157-44

PIV NO. 115780.00

**TOTAL PROJECT LENGTH 47.8 MILES**

1-24 (COFFEE COUNTY): 18.0 MILES  
1-24 (GRUNDY COUNTY): 7.3 MILES  
1-24 (MARION COUNTY): 22.5 MILES

NO EQUATIONS

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: \_\_\_\_\_  
DIVISION ADMINISTRATOR DATE

| TYPE  | YEAR | PROJECT NO.     | SHEET NO. |
|-------|------|-----------------|-----------|
| CONST | 2014 | 14W/MH-24-20143 | 16        |
|       |      |                 |           |
|       |      |                 |           |

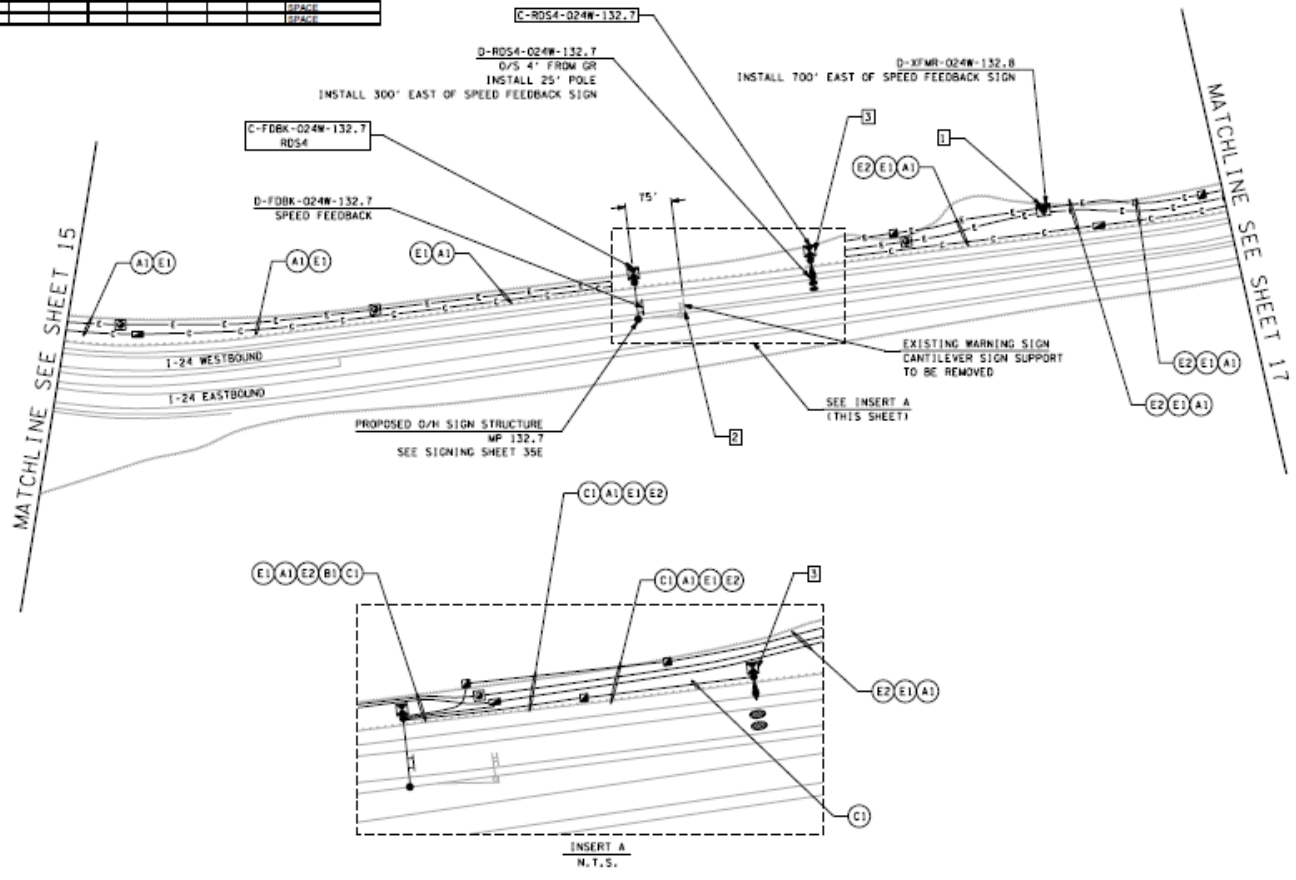
| ITEM                | CONDUIT AND CABLE SCHEDULE |   |   |    |   |   |    |    |    |    |
|---------------------|----------------------------|---|---|----|---|---|----|----|----|----|
|                     | RUN                        |   |   |    |   |   |    |    |    |    |
|                     | A1                         |   |   | B1 |   |   | C1 |    | E1 | E2 |
|                     | O                          | B | W | BR | D | B | W  | GR |    |    |
| 25KV #1/0 AWG CBL   |                            |   |   |    |   |   |    |    | 2  |    |
| 500V 1/0 #4 AWG CBL |                            |   |   |    |   |   |    |    | 1  |    |
| #1/0 AWG CBL        |                            |   |   |    |   |   |    |    |    | 4  |
| 48 SMFO CBL         | 1                          |   |   |    |   |   |    |    |    |    |
| 12 SMFO CBL         |                            |   |   | 1  |   |   |    |    |    |    |
| RDS CBL             |                            |   |   |    |   |   | 1  |    |    |    |

| CONDUIT SIZE AND TYPE | TYPE 4 CONDUIT BANK | TYPE 3 CONDUIT BANK | TYPE 1 CONDUIT BANK | 4" CONDUIT | 2" CONDUIT |
|-----------------------|---------------------|---------------------|---------------------|------------|------------|
|                       |                     |                     |                     |            |            |

- NOTES:
- 15KVA, 14.4KV X 7.2KV - 120V/240V DUAL VOLTAGE PAD-MOUNTED TRANSFORMER. CONTRACTOR SHALL INSTALL A 6 SPACE 120V/240V MCB LOAD CENTER ON TRANSFORMER SECONDARY SIDE AS SHOWN ON SHEET 3R. PANELBOARD DETAIL IS SHOWN ON THIS SHEET.
  - EXISTING WARNING SIGN SHALL REMAIN FUNCTIONAL UNTIL PROPOSED SIGN IS COMPLETED AND FULLY OPERATIONAL.
  - CONTRACTOR TO VERIFY FINAL INSTALLATION LOCATION FOR THIS RADAR DETECTION SYSTEM, WITH REGARD TO DISTANCE FROM THE PROPOSED SPEED FEEDBACK SIGN. THIS DISTANCE, CURRENTLY SHOWN AT 300 FEET, MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.

| PANELBOARD SCHEDULE   |         |          |        |    |    |        |          |         |                   |
|---|---------|----------|--------|----|----|--------|----------|---------|-------------------|
| NO. A MAIN CIRCUIT BREAKER, 120/240V, 1 PHASE, 3 WIRE, 10 KAC MINIMUM |         |          |        |    |    |        |          |         |                   |
| LOAD DESCRIPTION  | BKR AMP | WIRE AWG | CKT NO | P1 | P2 | CKT NO | WIRE AWG | BKR AMP | LOAD DESCRIPTION  |
| C-FDBK-024W-132.7 FDBK  | 15      | 1/0      | 1      | x  | x  | 2      | 1/0      | 15      | C-CCTV-024W-132.7 |
| SPACE   |         |          |        |    |    |        |          |         | SPACE             |
| SPACE   |         |          |        |    |    |        |          |         | SPACE             |



**UNOFFICIAL SET**  
**NOT FOR BIDDING**

SEALED BY

STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

ITS LAYOUT  
 1-24  
 MP 132.7  
 FDBK  
 1" = 100'

### 3. Standalone Acceptance Test (SAT)

- a. Perform an SAT on all fiber optic infrastructure on this project after field installation is complete, including, but not limited to, all splicing and terminations.
- b. An SAT for each fiber in each cable shall include OTDR Tests and Optical Attenuation Tests.
- c. All fibers in all FO Cables and FO Branch Cables shall be tested from termination point to termination point, including:
  - i. fibers from FO Termination Cabinet to FO Termination Cabinet
  - ii. fibers from FO Termination Cabinet to FO Branch Panel
  - iii. fiber from FO Branch Panel to FO Branch Panel
  - iv. fibers from FO Termination Cabinet to the end of the cable run in the last FO Closure
- d. All test results shall confirm compliance with this TSP including, but not limited to, optical fibers and fusion splices. No event in any given fiber may exceed 0.10

From TSP 725

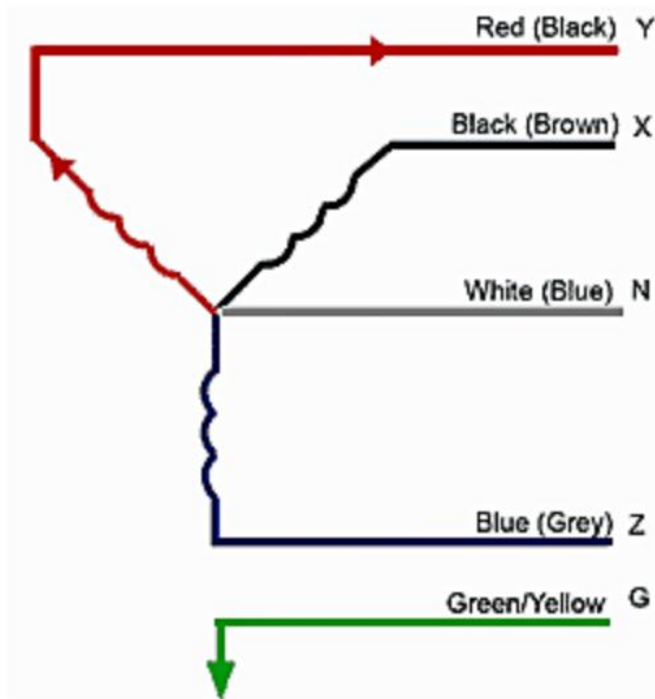
4.3.14 b. An SAT for each fiber in each cable shall include OTDR Tests and Optical Attenuation Tests.

From Plans

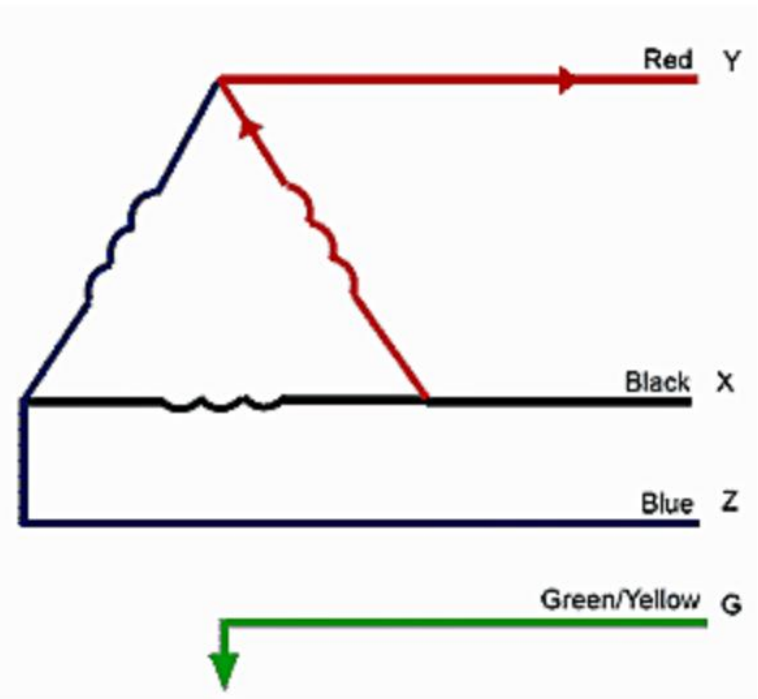
**CONTRACTOR SHALL CAP AND SEAL ANY UNUSED, NON-TERMINATED FIBERS AFTER COMPLETION OF PROPOSED NETWORK DEPLOYMENT.**

# Lesson 2

Know which configuration (Wye or Delta) power will be provided. Design for it.



**3-Phase Wye**



**3-Phase Delta**

# Lesson 3

- The ordering of communication services such as T-1's from Communication Providers needs to be started as soon as possible after the contract is Let.



# Lesson 4

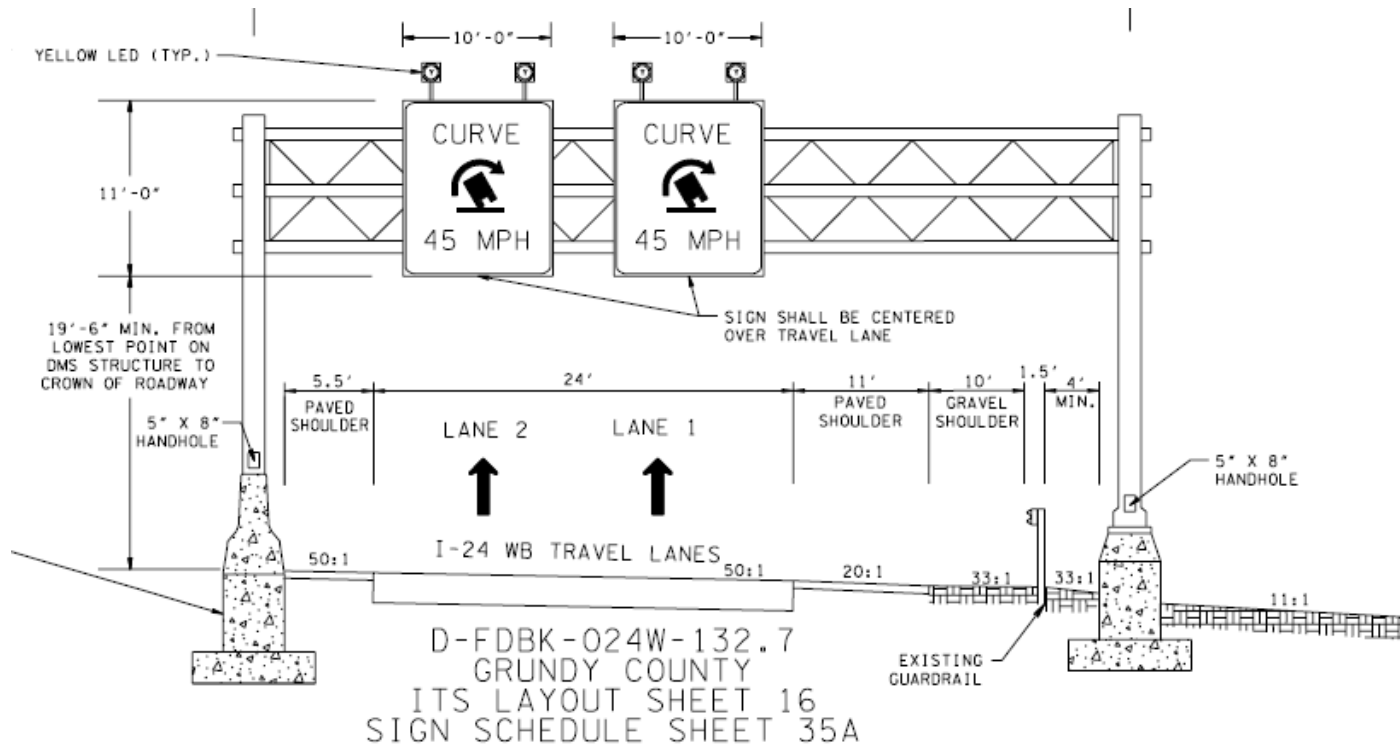
- On a Rocky Mountain, bring a rock saw and have items in the contract for rock.

# Lesson 5

- In the Precon Meeting, The contractor should be provided a list of ITS devices in the area/Region of the project.

# Lesson 6

- Make detector for speed feedback sign far enough ahead of sign.



*That's all Folks!*