

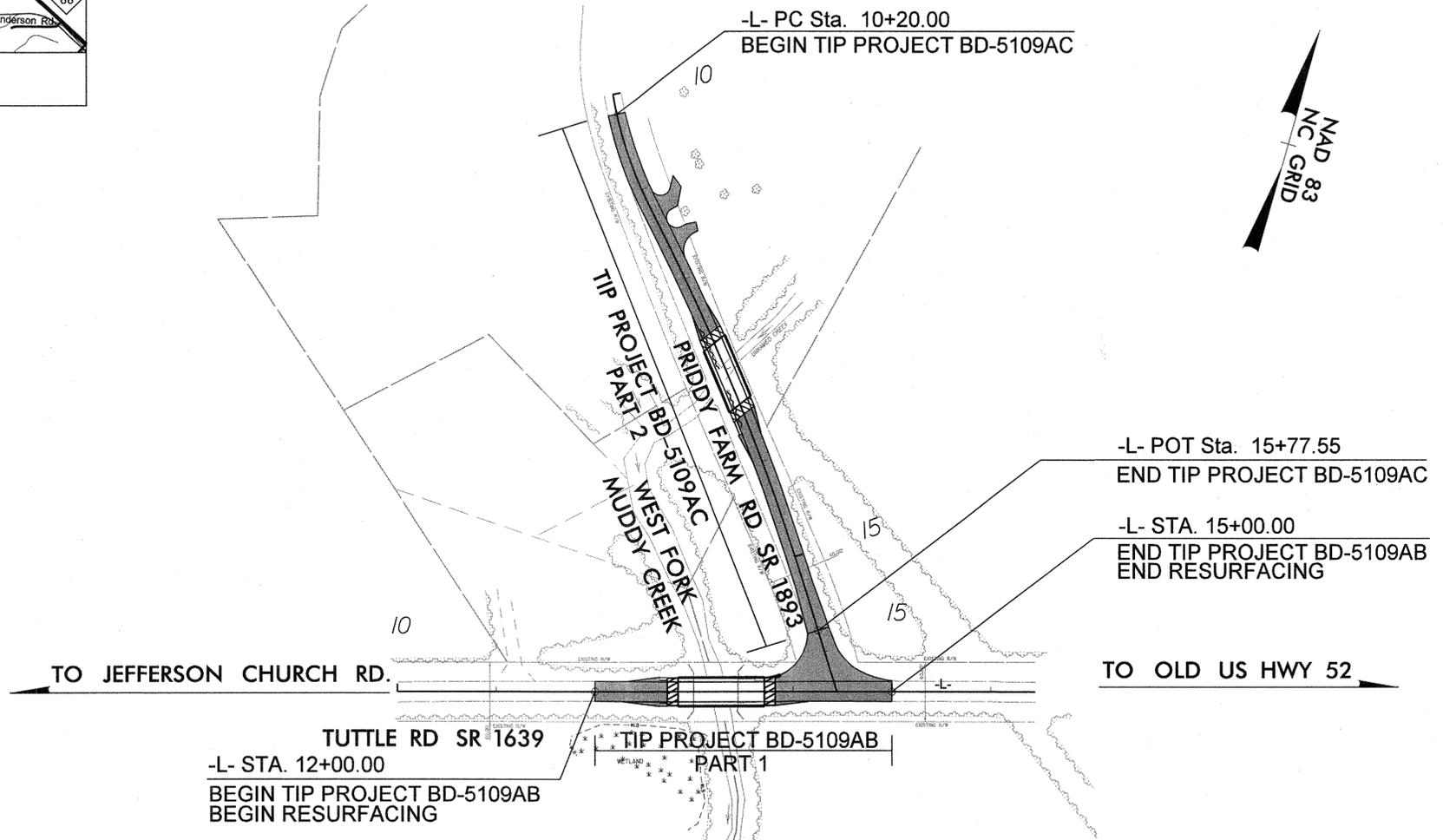
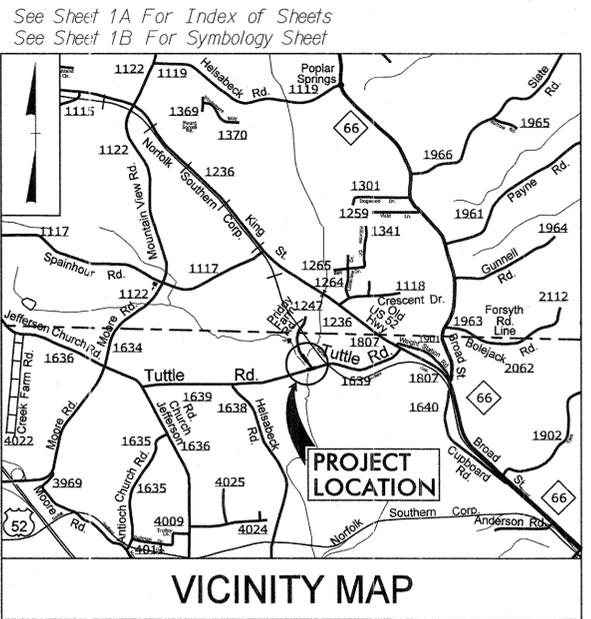
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|------------------------------|--------------|
| N.C. | BD-5109AB/BD-5109AC | 1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 45355.1.28 | BRZ-1639(3) | PE | |
| 45355.1.29 | BRZ-1893(1) | PE | |
| 45355.2.28 | BRZ-1639(3) | R/W, UTILITIES | |
| 45355.2.29 | BRZ-1893(1) | R/W, UTILITIES | |
| 17BP.9.R.64 | | (BD-5109AB/BD-5109AC) CONST. | |

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

FORSYTH COUNTY

LOCATION: REPLACE EXISTING BRIDGE NO.142 OVER MUDDY CREEK ON SR 1639 - TUTTLE RD/REPLACE EXISTING BRIDGE NO.283 OVER MUDDY CREEK ON SR 1893 PRIDDY FARM RD.

TYPE OF WORK: GRADING, DRAINAGE, WIDENING, PAVING AND STRUCTURES



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACT: DI00124 TIP PROJECT: BD-5109AB/BD-5109AC
 09/08/09
 I:\54\52 AM
 BD-5109 AB&AC_Combine_Rdy_tsh.dgn
 2/29/2016

| | |
|--|--|
| | |
|--|--|

| PROJECT LENGTH | |
|--|----------|
| LENGTH ROADWAY TIP PROJECT BD-5109AB/BD-5109AC = | 0.133 MI |
| LENGTH STRUCTURE TIP PROJECT BD-5109AB/BD-5109AC = | 0.03 MI |
| TOTAL LENGTH TIP PROJECT BD-5109AB/BD-5109AC = | 0.163 MI |

| | |
|---|---|
| PLANS PREPARED BY: PARSONS BRINCKERHOFF 434 FAYETTEVILLE STREET SUITE 1800 RALEIGH, NC 27601 LICENSE NO. E-8165 2012 STANDARD SPECIFICATIONS | PLANS PREPARED FOR: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr. Raleigh NC, 27610 |
| RIGHT OF WAY DATE: MARCH 23, 2016 | TIM HAYES, PE PROJECT ENGINEER |
| NCDOT CONTACT: | LAUREN WILSON, EI PROJECT DESIGN ENGINEER |
| | MATT JONES, PE DIVISION BRIDGE - PROGRAM MANAGER |

HYDRAULICS ENGINEER

SEAL 032312
CHARLES W. HEASLER
P.E.

SIGNATURE: _____

ROADWAY DESIGN ENGINEER

SEAL 18563
TIMOTHY SCOTT HAYES
P.E.

SIGNATURE: _____



8/17/99

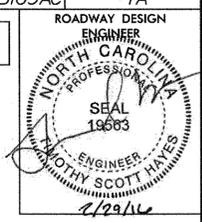
5:52:21 PM
BD-5109AB&AC-Rdy-1A.dgn
12/2/2015

| SHEET NUMBER | SHEET |
|---------------------|--|
| 1 | TITLE SHEET |
| 1A | INDEX OF SHEETS, GENERAL NOTES AND LIST OF STANDARD DRAWINGS |
| 1B | CONVENTIONAL SYMBOLS |
| PART 1 | |
| 1 | TITLE SHEET (BD-5109AB) |
| 1C-1 THRU 1C-2 | SURVEY CONTROL SHEET |
| 2A-1 | PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS |
| 2C-1 | GUARDRAIL ANCHOR UNIT TYPE III - SHOP CURVED |
| 2C-2 | STRUCTURE ANCHOR UNIT TYPE III |
| 3B-1 | SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, ASPHALT PAVEMENT REMOVAL SUMMARY AND SHOULDER BERM GUTTER SUMMARY |
| 3D-1 | LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER) |
| 4 | PLAN AND PROFILE SHEET |
| TMP-1 THRU TMP-2 | TRAFFIC MANAGEMENT PLANS |
| EC-1 THRU EC-3 | EROSION CONTROL PLANS |
| UD-1 THRU UD-2 | UTILITIES BY OTHERS |
| X-1 THRU X-3 | CROSS-SECTIONS |
| S-1 THRU S-14 SN | STRUCTURE PLANS STRUCTURE STANDARD NOTES |
| PART 2 | |
| 1 | TITLE SHEET (BD-5109AC) |
| 1C-1 THRU 1C-2 | SURVEY CONTROL SHEET |
| 2A-1 | PAVEMENT SCHEDULE, TYPICAL SECTIONS, MILLING AND WEDGING DETAILS |
| 2C-1 | STRUCTURE ANCHOR UNIT TYPE III |
| 2G-1 THRU 2G-3 | STANDARD TEMPORARY WALL |
| 3B-1 | SUMMARY OF EARTHWORK, PAVEMENT REMOVAL SUMMARY AND SHOULDER BERM GUTTER SUMMARY |
| 3D-1 | LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER) |
| 4 | PLAN AND PROFILE SHEET |
| TMP-1 THRU TMP-6 | TRAFFIC MANAGEMENT PLANS |
| EC-1 THRU EC-4 | EROSION CONTROL PLANS |
| UD-1 THRU UD-2 | UTILITIES BY OTHERS |
| X-1 THRU X-4 | CROSS-SECTIONS |
| S-1 THRU S-16 | STRUCTURE PLANS |
| SN | STRUCTURE STANDARD NOTES |

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 10/30/12

PROJECT REFERENCE NO. **BD-5109AB/BD-5109AC** SHEET NO. **1A**

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE: POWER: DUKE ENERGY- POWER: PATRICK SIZEMORE. PHONE: 336-917-2522.
TELEPHONE: WINDSTREAM-TELEPHONE: ROBERT MELTON. PHONE: 336-785-6393.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

| STD.NO. | TITLE |
|---|---|
| DIVISION 2 - EARTHWORK | |
| 200.03 | Method of Clearing - Method III |
| 225.02 | Guide for Grading Subgrade - Secondary and Local |
| 225.04 | Method of Obtaining Superelevation - Two Lane Pavement |
| DIVISION 3 - PIPE CULVERTS | |
| 300.01 | Method of Pipe Installation |
| DIVISION 4 - MAJOR STRUCTURES | |
| 422.11 | Reinforced Bridge Approach Fills - Sub Regional Tier |
| DIVISION 5 - SUBGRADE, BASES AND SHOULDERS | |
| 560.01 | Method of Shoulder Construction - High Side of Superelevated Curve - Method I |

| STD.NO. | TITLE |
|---------------------------------|---|
| DIVISION 8 - INCIDENTALS | |
| 806.01 | Concrete Right-Of-Way Marker |
| 806.02 | Granite Right-Of-Way Marker |
| 815.03 | Pipe Underdrain and Blind Drain |
| 840.00 | Concrete Base Pad for Drainage Structures |
| 840.25 | Anchorage for Frames - Brick or Concrete or Precast |
| 840.29 | Frames and Narrow Slot Flat Grates |
| 840.35 | Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates |
| 846.01 | Concrete Curb, Gutter and Curb & Gutter |
| 846.04 | Drop Inlet Installation in Shoulder Berm Gutter |
| 862.01 | Guardrail Placement |
| 862.02 | Guardrail Installation |
| 862.03 | Structure Anchor Units |
| 876.02 | Guide for Rip Rap at Pipe Outlets |

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale *S.U.E. = Subsurface Utility Engineering

BOUNDARIES AND PROPERTY:

| | |
|---------------------------------------|---------|
| State Line | ----- |
| County Line | ----- |
| Township Line | ----- |
| City Line | ----- |
| Reservation Line | ----- |
| Property Line | ----- |
| Existing Iron Pin | ○ EIP |
| Property Corner | ----- |
| Property Monument | □ EDM |
| Parcel/Sequence Number | 123 |
| Existing Fence Line | -x-x-x- |
| Proposed Woven Wire Fence | ○ |
| Proposed Chain Link Fence | □ |
| Proposed Barbed Wire Fence | ◇ |
| Existing Wetland Boundary | -WLB- |
| Proposed Wetland Boundary | -WLB- |
| Existing Endangered Animal Boundary | -EAB- |
| Existing Endangered Plant Boundary | -EPB- |
| Existing Historic Property Boundary | -HPB- |
| Known Contamination Area: Soil | ☠ ☠ |
| Potential Contamination Area: Soil | ☠ ☠ |
| Known Contamination Area: Water | ☠ ☠ |
| Potential Contamination Area: Water | ☠ ☠ |
| Contaminated Site: Known or Potential | ☠ ☠ |

BUILDINGS AND OTHER CULTURE:

| | |
|------------------------------|---|
| Gas Pump Vent or UG Tank Cap | ○ |
| Sign | ○ |
| Well | ○ |
| Small Mine | ✕ |
| Foundation | □ |
| Area Outline | □ |
| Cemetery | □ |
| Building | □ |
| School | □ |
| Church | □ |
| Dam | □ |

HYDROLOGY:

| | |
|------------------------------------|--------|
| Stream or Body of Water | ----- |
| Hydro, Pool or Reservoir | ----- |
| Jurisdictional Stream | -JS- |
| Buffer Zone 1 | -BZ 1- |
| Buffer Zone 2 | -BZ 2- |
| Flow Arrow | ← |
| Disappearing Stream | → |
| Spring | ○ |
| Wetland | ----- |
| Proposed Lateral, Tail, Head Ditch | ----- |
| False Sump | ----- |

RAILROADS:

| | |
|--------------------|-------|
| Standard Gauge | ----- |
| RR Signal Milepost | ○ |
| Switch | □ |
| RR Abandoned | ----- |
| RR Dismantled | ----- |

RIGHT OF WAY:

| | |
|---|-------|
| Baseline Control Point | ◆ |
| Existing Right of Way Marker | △ |
| Existing Right of Way Line | ----- |
| Proposed Right of Way Line | ----- |
| Proposed Right of Way Line with Iron Pin and Cap Marker | ----- |
| Proposed Right of Way Line with Concrete or Granite RW Marker | ----- |
| Proposed Control of Access Line with Concrete C/A Marker | ----- |
| Existing Control of Access | ----- |
| Proposed Control of Access | ----- |
| Existing Easement Line | ----- |
| Proposed Temporary Construction Easement | ----- |
| Proposed Temporary Drainage Easement | ----- |
| Proposed Permanent Drainage Easement | ----- |
| Proposed Permanent Drainage / Utility Easement | ----- |
| Proposed Permanent Utility Easement | ----- |
| Proposed Temporary Utility Easement | ----- |
| Proposed Aerial Utility Easement | ----- |
| Proposed Permanent Easement with Iron Pin and Cap Marker | ----- |

ROADS AND RELATED FEATURES:

| | |
|----------------------------|-------|
| Existing Edge of Pavement | ----- |
| Existing Curb | ----- |
| Proposed Slope Stakes Cut | ----- |
| Proposed Slope Stakes Fill | ----- |
| Proposed Curb Ramp | ----- |
| Existing Metal Guardrail | ----- |
| Proposed Guardrail | ----- |
| Existing Cable Guiderail | ----- |
| Proposed Cable Guiderail | ----- |
| Equality Symbol | ⊕ |
| Pavement Removal | ----- |

VEGETATION:

| | |
|--------------|-------|
| Single Tree | ○ |
| Single Shrub | ○ |
| Hedge | ----- |
| Woods Line | ----- |

| | |
|----------|-------|
| Orchard | ----- |
| Vineyard | ----- |

EXISTING STRUCTURES:

| | |
|--|-------|
| MAJOR: | |
| Bridge, Tunnel or Box Culvert | ----- |
| Bridge Wing Wall, Head Wall and End Wall | ----- |
| MINOR: | |
| Head and End Wall | ----- |
| Pipe Culvert | ----- |
| Footbridge | ----- |
| Drainage Box: Catch Basin, DI or JB | ----- |
| Paved Ditch Gutter | ----- |
| Storm Sewer Manhole | ----- |
| Storm Sewer | ----- |

UTILITIES:

| | |
|-------------------------------|-------|
| POWER: | |
| Existing Power Pole | ● |
| Proposed Power Pole | ○ |
| Existing Joint Use Pole | ● |
| Proposed Joint Use Pole | ○ |
| Power Manhole | ⊕ |
| Power Line Tower | ⊗ |
| Power Transformer | ⊗ |
| UG Power Cable Hand Hole | ----- |
| H-Frame Pole | ● |
| UG Power Line LOS B (S.U.E.*) | ----- |
| UG Power Line LOS C (S.U.E.*) | ----- |
| UG Power Line LOS D (S.U.E.*) | ----- |

TELEPHONE:

| | |
|---------------------------------------|-------|
| Existing Telephone Pole | ● |
| Proposed Telephone Pole | ○ |
| Telephone Manhole | ⊕ |
| Telephone Pedestal | ⊕ |
| Telephone Cell Tower | ⊕ |
| UG Telephone Cable Hand Hole | ----- |
| UG Telephone Cable LOS B (S.U.E.*) | ----- |
| UG Telephone Cable LOS C (S.U.E.*) | ----- |
| UG Telephone Cable LOS D (S.U.E.*) | ----- |
| UG Telephone Conduit LOS B (S.U.E.*) | ----- |
| UG Telephone Conduit LOS C (S.U.E.*) | ----- |
| UG Telephone Conduit LOS D (S.U.E.*) | ----- |
| UG Fiber Optics Cable LOS B (S.U.E.*) | ----- |
| UG Fiber Optics Cable LOS C (S.U.E.*) | ----- |
| UG Fiber Optics Cable LOS D (S.U.E.*) | ----- |

WATER:

| | |
|-------------------------------|-----------|
| Water Manhole | ⊕ |
| Water Meter | ○ |
| Water Valve | ⊗ |
| Water Hydrant | ⊕ |
| UG Water Line LOS B (S.U.E.*) | ----- |
| UG Water Line LOS C (S.U.E.*) | ----- |
| UG Water Line LOS D (S.U.E.*) | ----- |
| Above Ground Water Line | A/G Water |

TV:

| | |
|--------------------------------------|-------|
| TV Pedestal | ⊕ |
| TV Tower | ⊗ |
| UG TV Cable Hand Hole | ----- |
| UG TV Cable LOS B (S.U.E.*) | ----- |
| UG TV Cable LOS C (S.U.E.*) | ----- |
| UG TV Cable LOS D (S.U.E.*) | ----- |
| UG Fiber Optic Cable LOS B (S.U.E.*) | ----- |
| UG Fiber Optic Cable LOS C (S.U.E.*) | ----- |
| UG Fiber Optic Cable LOS D (S.U.E.*) | ----- |

GAS:

| | |
|-----------------------------|---------|
| Gas Valve | ◇ |
| Gas Meter | ⊕ |
| UG Gas Line LOS B (S.U.E.*) | ----- |
| UG Gas Line LOS C (S.U.E.*) | ----- |
| UG Gas Line LOS D (S.U.E.*) | ----- |
| Above Ground Gas Line | A/G Gas |

SANITARY SEWER:

| | |
|-------------------------------------|--------------------|
| Sanitary Sewer Manhole | ⊕ |
| Sanitary Sewer Cleanout | ⊕ |
| UG Sanitary Sewer Line | ----- |
| Above Ground Sanitary Sewer | A/G Sanitary Sewer |
| SS Forced Main Line LOS B (S.U.E.*) | ----- |
| SS Forced Main Line LOS C (S.U.E.*) | ----- |
| SS Forced Main Line LOS D (S.U.E.*) | ----- |

MISCELLANEOUS:

| | |
|---|--------|
| Utility Pole | ● |
| Utility Pole with Base | ⊕ |
| Utility Located Object | ○ |
| Utility Traffic Signal Box | ⊕ |
| Utility Unknown UG Line LOS B (S.U.E.*) | ----- |
| UG Tank; Water, Gas, Oil | ----- |
| Underground Storage Tank, Approx. Loc. | ⊕ |
| A/G Tank; Water, Gas, Oil | ----- |
| Geoenvironmental Boring | ⊕ |
| UG Test Hole LOS A (S.U.E.*) | ----- |
| Abandoned According to Utility Records | AATUR |
| End of Information | E.O.I. |