

Accommodation of Utilities On
Highway Right of Way
And
Adjustment And Relocation of
Utility Facilities On
Highway Projects

2023



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**THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
CHARLESTON, WEST VIRGINIA**

ABSTRACT FROM THE RECORDS OF THE
COMMISSIONER'S ORDERS
DATED

May 3, 2024

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**SECRETARY OF
STATE**

**PUBLIC
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COMM.**

WHEREAS, the West Virginia Division of Highways, acting by and through its Commissioner has promulgated rules and regulations for accommodating utilities on the State highway rights-of-way under the authority of Chapter 17, Article 2A, and does at this time desire the adoption of said rules and regulations.

NOW, THEREFORE, the Commissioner, upon recommendation of the Right of Way Division Director and Chief Engineer – Development, hereby **ORDERS** the **ADOPTION** of the attached policy on the Accommodation of Utilities on Highways Right-of-Way and Adjustment and Relocation of Utility Facilities on Highway Projects as the official manual of the West Virginia Division of Highways.

The manual Accommodation of Utilities on Highways Right-of-Way and Adjustment and Relocation of Utility Facilities on Highway Projects supersedes the Accommodation of Utilities on Highways Right-of-Way and Adjustment and Relocation of Utility Facilities on Highway Projects adopted by the Commissioner's Order dated June 15, 2007. This order amends the June 15, 2007 Order only in regard to the superseding of the manual.

The policy Accommodation of Utilities on Highways Right-of-Way and Adjustment and Relocation of Utility Facilities on Highway Projects is in compliance with the official Code of West Virginia of 1931, as amended, Chapter 17, Articles 1, 2A, 4, and 16, to establish rules pertaining to the use of State road rights-of-way and adjacent areas.

Entered this 3rd day of May 2024.



Jimmy Wriston, P. E.
Secretary of Transportation
Commissioner of Highways

**STATE OF WEST VIRGINIA
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

Given under my hand and seal of the Division of Highways, I hereby certify that the foregoing is a true abstract from the Orders of the West Virginia Commissioner of Highways, entered of record on May 3, 2024.



Division of Highways

Definitions of Terms

AASHTO - American Association of State Highway and Transportation Officials

ALTERNATE PROJECT DELIVERY (APD) - delivery system for projects that do not follow the typical Design-Bid-Build procurement method - this includes Design-Build projects (DB)

ANTENNA - communications equipment that transmits or receives electromagnetic radio frequency signals used in the provision of wireless services

APPLICABLE CODES - uniform building, fire, electrical, plumbing, or mechanical codes adopted by a recognized national code organization or local amendments to those codes, including the National Electrical Safety Code® (NESC)

APPLICANT - any person, company, or other entity who submits to the Division a utility permit application

APPLICATION - a Right of Way Entry Permit Application Form MM-109 and associated plans and details submitted to the Division for a permit to install, modify, replace, or repair a utility line or appurtenance, or perform other work within Division's right of way or to collocate small wireless facilities or to approve the installation, modification, or replacement of a utility pole or wireless support structure

AVERAGE DAILY TRAFFIC (ADT) - quotient representing volume of vehicles utilizing a roadway segment during a 24-hour period divided by the number of days in that period, expressed in vehicles per day (vpd)

BACKFILL - suitable material, compacted as specified, around and over a pipe, conduit, or casing

BEDDING - organization of soil or other suitable material to support a pipe

BORING - process of creating a larger circular hole from a hole that has already been drilled; similar to jacking, but auger can be forward of pipe

BRIDGE - a structure, including supports, erected over a depression or an obstruction, such as water, a highway or a railway, and having a track or passage for carrying traffic or other moving loads, and having an opening, measured along the center of roadway, of more than 20' (6.1m) between undercopings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes; may also include multiple pipes, where the clear distance between openings is less than half of the smaller contiguous opening

BROADBAND or BROADBAND SERVICE - any service providing advanced telecommunications capability with the same downstream data rate and upstream data rate as is specified by the Federal Communications Commission (FCC), and as further defined in WV Code §31G-1-2

BROADBAND INFRASTRUCTURE - any buried, underground, or aerial facility, and any wireless or wireline connections, that enables users to send and receive voice, video, data, graphics, or any combination thereof, as per 47 U.S.C. 1504(a)(2)

BROADBAND INFRASTRUCTURE ENTITY - any entity that installs, owns, or operates broadband infrastructure and provides broadband service in a manner consistent with the public interest, convenience, and necessity as determined by the State, as per 47 U.S.C. 1504(a)(3)

BUSINESS DAY - an interval of 24 hours as represented by a calendar day in which normal business operations are conducted by the Division, Monday through Friday, from 7:30 am to 4:00 pm Eastern time; when determining the time in which an act must be completed, the provisions of WV Code §2-2-1 shall be followed

CARRIER - pipe directly enclosing a transmitted liquid or gas

CASING - larger diameter pipe, of durable material, capable of withstanding anticipated weight and forces above such pipe, enclosing a carrier

CLEAR ROADSIDE POLICY - federal guidelines, criteria, process, and procedures employed to increase safety, improve traffic operation, and enhance the appearance of highways by designing, constructing, and maintaining highway roadsides as free as practical from physical obstructions above the ground, such as trees, drainage structures, massive sign supports, utility poles, and other ground-mounted obstructions

CLEAR ZONE - roadside border area, starting at the edge of the traveled way, free of above-ground obstructions, and available for use by errant vehicles

COATING - material applied to or wrapped around a pipe

CODE OF FEDERAL REGULATIONS (CFR) - annual codification of the general and permanent rules published in the *Federal Register* by the executive departments and agencies of the federal government

COLLOCATE - to install, mount, maintain, modify, operate, or replace wireless facilities on or adjacent to a wireless support structure or utility pole or the installation of a utility line within the same trench as another utility

COMMISSIONER - the Commissioner of the West Virginia Division of Highways, or his or her designee

COMMUNICATIONS SERVICE - cable service, as defined in 47 U.S.C. 522(6), as amended; information service, as defined in 47 U.S.C. 153(24), as amended; telecommunications service, as defined in 47 U.S.C. 153(53), as amended; mobile service, as defined in 47 U.S.C. 153(33), as amended; or wireless service other than mobile service

COMMUNICATIONS SERVICE PROVIDER - any entity that provides communications service

CONDUIT - a tubing of durable material that may include within it innerduct or microduct through which utility facilities are installed

CONTROLLED ACCESS - condition in which the Division has acquired from a landowner the right of access to a highway in connection with a highway construction project

COVER - depth to top of pipe, conduit, or casing below grade of roadway, ditch, or ground surface, whichever is the lowest elevation

CULVERT - any structure not classified as a bridge and that provides an opening under the roadway

DESIGN BUILD TEAM (DBT) - contractor, their designer(s), and other supporting consultants awarded a Design Build project, and acting as Division's agent

DIRECT BURY - installation of telecommunications wire or cable directly into the ground by means of plowing or direct insertion, without the opening of a trench and without the installation of conduit or innerduct

DISTRICT - one of the management areas established by the Division of Highways that encompass all Counties of the State and are intended primarily to facilitate maintenance and upkeep of the State Highway System; a list of the Division of Highways' Districts and contact information for each is available on the Division's website at <https://transportation.wv.gov/highways/districts/Pages/default.aspx>

DISTRICT MANAGER - the administrative head of a District

DIVISION - the West Virginia Division of Highways

EXPRESSWAY - roadway classification associated with arterial highways, usually multi-lane and divided by a median, that carry major intrastate and interstate travel

FCC - the Federal Communications Commission of the United States

FEE - a one-time, nonrecurring charge

FEEDER - roadway classification associated with community-to-community travel and/or that "feeds" traffic to higher systems

FIBER OPTIC - a network cable assembly, containing strands of glass fibers inside an insulated casing, used to carry communication signals using pulses of light generated by small lasers or light-emitting diodes to provide high bandwidth and to transmit data over long distances for high-performance data networking, and telecommunications; the optical fiber elements typically are individually coated with plastic layers and contained in a protective tube; a dark fiber is a strand with no optical transmission equipment for which a customer adds his/her equipment and builds his/her own network, retaining complete control over all aspects of it

FORCE ACCOUNT - payment method in which a Utility or Railroad performs work utilizing its own labor and is paid for the actual cost of labor, equipment and materials

FREEWAY - an expressway with full control of access

FRONTAGE ROAD - a local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and other adjacent areas and for control of access

GROUNDED - electrical conductor connected to earth or to some extended conducting body which serves as a conductor instead of the earth.

GROUT - a cement mortar or slurry using fine sand

HANDHOLE - shallow form of manhole giving access to a top row of ducts in an underground electrical or telecommunication system (also might be referred to as access box, underground utility box, junction box, underground enclosure, splice box or pull box)

HIGHWAY (or ROAD, or STREET) - a general term denoting a public way for purposes of vehicular travel including the entire area within the right of way

ILA - In-Line Amplifier that may be utilized along a fiber optic route to restore or regenerate the optical signal to its original power level

INTERNET - global computer network providing a variety of information and communication facilities, consisting of interconnected networks using standardized communication protocols

INTERNET SERVICE PROVIDER - a company that provides personal and business access to the Internet

JACKING - forcing an open-ended pipe through the soil with an auger to transport soil back to the pit, with no fluids being utilized

LANDLINE TELEPHONE - communications service that uses a metal wire or optical fiber telephone line for transmission (also may be referred to as land line, land-line, main line, home phone, landline, fixed-line, or wireline)

LAW - a federal or state statute, common law, code, rule, regulation, order, or a local ordinance or resolution

LONGITUDINAL ACCESS - access to or the use of any part of a right of way that extends generally parallel to the travelway

MANHOLE - an opening in an underground system that permits access for the purpose of making installations, inspections, repairs, connections, and tests

MEDIAN - the portion of a divided highway separating the travelways of traffic in opposite directions

MICRO WIRELESS FACILITY - a small wireless facility with dimensions no larger than 24 inches in length, 15 inches in width, and 12 inches in height, and with no exterior antenna greater than 11 inches

MOBILE SERVICE - communication service that uses for transmission radio waves carried between mobile stations or receivers and land stations, and by mobile stations communicating among themselves, and includes both one-way and two-way radio communication services; a mobile service which provides a regularly interacting group of base, mobile, portable, and associated control and relay stations (whether licensed on an individual, cooperative, or multiple basis) for private one-way or two-way land mobile radio communications by eligible users over designated areas of operation and any service for which a license is required in a personal communications service

MOLE - an air driven mechanical device which self-propels without casing, sometimes referred to as a missile

OFFICE OF BROADBAND - the West Virginia Office of Broadband is the agency created pursuant to WV Code §31G-1A-1 *et seq* and to whom telecommunications providers may be required to report information pursuant to WV Code 17-2E-1 *et seq* (“Dig Once Policy”)

OVERBREAK - a caving in of loosened material along the border of an excavation

OVERLASHING - the practice of placing an additional communications cable by lashing such cable with spinning wire over an existing cable and strand on existing poles

PAVED ROAD - a travelway with a concrete, asphalt, or tar-and-chip surface

PERMIT - a written authorization, utilizing Form MM-109, issued by the Division that specifies the requirements and conditions to perform an action or initiate, continue, or complete a project in the Division’s right of way, including occupancy of such right of way by a Utility

PRESSURE - the relative internal force exerted per unit area that is produced by a gas, measured in pounds per square inch (psi) or kilopascals (kPa)

PRIOR RIGHTS - an entity having acquired ownership or right of way previous to the Division acquiring ownership or right of way on coincidental real estate

RAILROADS & UTILITIES SECTION – a unit of the Central Office’s Right of Way Division, responsible for all Railroad and Utility coordination

REAL PROPERTY - land and associated rights, of a permanent and immovable nature, for which the owner has an estate therein at least for life

RIGHT OF WAY - land, property, or interest therein, usually in a longitudinal strip, acquired for or devoted to transportation purposes and under control of the Division. It includes areas on, below, or above a public roadway, highway, street, sidewalk, alley, utility easement, or similar property, but not including the interstate highway

RIGID PIPE - a conveyance structure designed for diametric deflection of less than one percent (<1%)

ROADSIDE - a general term denoting the area adjoining the outer edge of the roadway, or the extensive areas between the roadways of a divided highway

ROADWAY - the portion of a highway, including shoulders, for vehicular use

SERVICE DROP - a non-longitudinal installation to a customer that generally attaches to a singular pole within Division's right of way

SERVICE TAP - a non-longitudinal installation to a customer

SHARED RESOURCE PROJECT - a project undertaken by the Division with a public entity and/or private company, that may utilize Division's right of way and/or private property, to achieve the goal of meeting the needs of each, including revenue to support these needs

SMALL WIRELESS FACILITY - a telecommunications facility for which each antenna could fit within an imaginary enclosure of no more than six (6) cubic feet; and all other wireless equipment associated with the facility is cumulatively no more than 28 cubic feet in volume. The following types of associated ancillary equipment are not included in the calculation of equipment volume: electric meter, concealment elements, telecommunications demarcation box, ground-based enclosures, grounding equipment, power transfer switches, cut-off switches, and vertical cable runs for the connection of power and communications services

STATE - the State of West Virginia

STATE LOCAL SERVICE ROAD - localized arterial and spur roads that provide land access and socioeconomic benefits to abutting properties

TELECOMMUNICATIONS - the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received

TELECOMMUNICATIONS CARRIER - any provider of telecommunications services, as per 47 U.S.C. §153

TELECOMMUNICATIONS FACILITY - any cable, line, fiber, wire, conduit, innerduct, access manhole, handhole, tower, hut, pedestal, pole, box, transmitting equipment, receiving equipment, power equipment, or other equipment, system, or device that is used to transmit, receive, produce, or distribute a signal for telecommunications purposes via wireline, electronic, or optical means

TELECOMMUNICATIONS PROVIDER - any company, or part of a company, providing telecommunications services

TELECOMMUNICATIONS SERVICES - the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used

TRAVELED WAY - the portion of the roadway for the movement of vehicles, exclusive of shoulders

TRENCH - a narrow open excavation

TRUNKLINE - roadway classification associated with major city to city travel

UNITED STATES CODE (U.S.C.) - a consolidation and codification by subject matter of the general and permanent laws of the United States, prepared by the Office of the Law Revision Counsel of the United States House of Representatives

UNPAVED ROAD - a travelway with a dirt, stone, or tar and chip surface

UNSUITABLE MATERIAL - ashes, refuse, vegetable, organic or any other material determined by the District Manager or authorized representative as unsuitable

UNTRENCHED - installed without breaking ground or pavement surface, such as by jacking or boring

UTILITY - any privately, publicly, or cooperatively owned line, facility, or system for producing, transmitting, or distributing communications, data, information, video services, cable television, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, stormwater not connected with highway drainage, or any other similar commodity, including any fire or police signal system or street lighting system, which directly or indirectly serves the public; also includes those similar facilities which are owned or leased by a government agency for its own use, or otherwise dedicated solely to governmental use, or those facilities which are owned or leased by a local exchange carrier, as defined by WV Code §17-2A-17a

UTILITY POLE or POLE - structure that is or may be used, in whole or in part, by a Utility Provider, for electric distribution, landline telephone service, telecommunications, lighting, traffic control, signage (if the pole is 15 feet or taller), or a similar function, or for the collocation of small wireless facilities, but does not include wireless support structures or electric transmission structures

UTILITY PROVIDER (or OWNER) - an entity providing utility service to customers and that owns and/or operates equipment used to provide such service

VENT - appurtenance to discharge gaseous build-up from casings

WI-FI - standard wireless local area network (WLAN) technology for connecting computers and myriad electronic devices to each other and to the internet. It is the wireless version of a wired Ethernet network and is commonly deployed alongside it

WIRELESS FACILITY - equipment at a fixed location that enables wireless communications between user equipment and a communications network, including equipment associated with wireless communications; radio transceivers; antennas; coaxial or fiber-optic cable; regular and backup power supplies; and comparable equipment, regardless of technological configuration, and includes small wireless facilities. It does not include the structure or improvements on, under, or within which the equipment is located, or wireline backhaul facilities, coaxial or fiber-optic cable that is between wireless support structures or utility poles, or coaxial or fiber-optic cable that is otherwise not immediately adjacent to, or directly associated with, an antenna

WIRELESS SERVICES - any services, using licensed or unlicensed spectrum, including the use of Wi-Fi, whether at a fixed location or mobile location, provided to the public using wireless facilities

WIRELESS SUPPORT STRUCTURE - a structure, such as a monopole; tower, either guyed or self-supporting; billboard; or other existing or proposed structure designed to support or capable of supporting wireless facilities. “Wireless support structure” does not include a utility pole.

WORKING DAY – every day shown on the calendar, exclusive of Saturdays, Sundays, and holidays

WVDOH-OWNED POLE - a structure that is or may be used, in whole or in part, by the Division for electric distribution, lighting, traffic control, signage, or a similar function

1 – Accommodation of Utilities on Highway Rights of Way

1.1 – INTRODUCTION

The West Virginia Department of Transportation, Division of Highways (hereinafter “Division”) is responsible for maintaining the rights of way of State Highways to preserve the operation, safety, integrity, and function of highway facilities. Since the manner in which utilities cross or otherwise occupy State highway rights of way can materially affect the integrity, operation, safety, maintenance, and appearance of a highway, it is necessary that such occupancy be authorized and regulated.

The provisions of WV Codes §17-16-6 and §17-4-8 provide that no opening shall be made in any State Highway, nor shall any structure be placed therein or thereover, nor shall any structure which has been so placed, be changed or removed, except in accordance with a permit from the Division. No highway shall be excavated for laying or placing pipes, sewers, poles or wires, or for other purposes shall obstructions be placed thereon, without a written permit issued by the Division for such work. After a permit is issued, the work shall be performed under the supervision of and to the satisfaction of the Division, and the entire expense of replacing and restoring the highway, in accordance with Division specifications, shall be borne by the Applicant.

1.1.1 – Applicability

The Federal Highway Administration (hereinafter “FHWA”) has determined that the use of highway rights of way to accommodate public utility facilities is in the public interest (23 CFR 645.205 (a)). To the extent that any such utility facilities serve “the public,” they may be accommodated on the right of way of State highways when such occupancy does not interfere with the free and safe flow of traffic, impair the highway or its scenic appearance and does not conflict with the provisions of Federal, State or Local laws or this accommodation policy. If the use of such facilities is to serve a private or proprietary interest, that use still might be accommodated but such use would have to be approved under the airspace leasing requirements of 23 CFR 710 Subpart D. The distinction between a public or private use will determine which regulations apply. The policy herein has been outlined in the interest of developing and preserving safe roadsides and minimizing interference with and impairment of the highway, its structures, appearance, operation, and maintenance. The Division may consult with the Public Service Commission of West Virginia (hereinafter “PSC”) and other governmental entities, as needed, to determine whether a proposed installation is a “public” use.

Utilities, as defined by 23 CFR 645.207, 150 CSR 6, and WV Code §17-2A-17a, provide essential services to the general public. Accommodating the utility facilities on the rights of way of state highways serves an important public purpose for transmitting and distributing services and by increasing public access to utility services, provided such use and occupancy does not:

- adversely affect highway or traffic safety or otherwise impair the highway or its aesthetic quality, and
- conflict with the provisions of Federal, State, or Local laws, legislative rules, or agency policies.

The policies and procedures described in this document apply to all utilities that are to be accommodated, adjusted, or relocated within highway rights of way, real estate or other property interests owned, acquired, or maintained by the Division.

1.1.2 – Considerations

This policy provides regulations for the process, review, approval, location, installation, adjustment, relocation, maintenance, upkeep, repair, and replacement of utilities on State highway rights of way. The conditions and regulations contained herein are not subject to the Applicant's interpretation.

Where law or orders of public authority or industry codes prescribe a higher degree of protection than provided by this policy, the higher degree of protection will prevail.

In all cases, full consideration shall be given to sound engineering principles; overall economic aspects; protection of the integrity and scenic appearance of the highway; maintenance operations; accessibility; and the safety of the traveling public.

This policy also prohibits longitudinal occupancy inside or within fully or partially controlled access right of way on any classification of highway, by any Utility, except telecommunications companies that may be permitted to locate underground fiber optic facilities within fully- or partially-controlled access right of way, in accordance with the *Telecommunications Act of 1996* (Pub. L. 104-104), as amended, upon such terms as are acceptable to the Division and the FHWA, as established by legislative rule. Installation of above-ground utility features or appurtenances, including poles, is not permissible within controlled access rights of way, whether fully or partially controlled, and no underground fiber optic facility is to be installed longitudinally within the median of any controlled access highway. Aerial utility lines may be permitted to span controlled access rights of way; however, such aerial crossings require that poles be located outside the controlled access right of way limits and that acceptable vertical clearance be provided at all times. Buried utility crossings of controlled access rights of way may be permitted by the Division but no poles or similar structures may be located within the controlled access right of way.

This Policy is not intended to, nor shall it be interpreted or applied to:

- prohibit or effectively prohibit any Telecommunication Provider's ability to provide personal wireless services

- prohibit or effectively prohibit any Telecommunication Provider’s ability to provide any interstate or intrastate telecommunications service, subject to any competitively neutral and nondiscriminatory rules, regulations, or other legal requirements for rights of way management
- unreasonably discriminate among providers of functionally equivalent services
- deny, on the basis of environmental effects of radio frequency emissions to the extent that such wireless facilities comply with the FCC’s regulations concerning such emissions, any request for authorization to place, construct or modify personal wireless service facilities
- prohibit any collocation or modification that the Division may not deny under federal or state law
- impose any unfair, unreasonable, discriminatory, or anticompetitive fees that exceed the reasonable cost to provide the services for which the fee is charged, or
- otherwise authorize the Division to preempt any applicable federal or state law.

The Division shall make publicly available accepted Permit applications and agreements. Notwithstanding the foregoing, Applicant may designate as “proprietary” or “confidential” portions of its application materials that it reasonably believes contain proprietary or confidential information or trade secrets, by clearly marking each portion of such materials accordingly. The Division shall treat such information as proprietary and confidential, subject to applicable State freedom of information law in WV Code §29B-1-4 and §31G-1-13. In no event shall Division accept any financial or other obligation or liability associated with the public disclosure of materials Applicant does not mark as proprietary or confidential or for any ruling by any Court that Applicant’s materials are not exempt from public disclosure.

1.2 – GENERAL CONSIDERATIONS

1.2.1 – Location

The Division will in no way be financially obligated for the repair or replacement of any utility facility, placed within Division’s right of way, that is damaged as a result of maintenance or construction activities performed by the Division. Every effort shall be made by the Applicant to place its facilities in accordance with the guidelines and regulations in this Manual to reduce the potential for damage; minimize the necessity for adjustments to accommodate planned future highway improvements; and to permit servicing with a minimum of interference and disruption to the traveling public.

In all cases, full consideration shall be given to sound engineering principles, overall economic aspects, and protection of the integrity and scenic appearance of the highway, maintenance operations, and the safety of the traveling public.

The horizontal and vertical location of utility lines within highway rights of way should conform with the clear roadside and other design policies applicable for the type of highway affected and the specific conditions associated with the highway section involved. Installation of valve boxes in the ditch line will not be permitted, unless prior approval is given by District Utility Supervisor and no other option is viable. Meters of any kind should not be installed within Division's right of way. Except as provided above for Telecommunications facilities, longitudinal or above-ground utility installations will not be allowed inside controlled access rights of way, including the median.

Manholes may be retained or installed along State Local Service roads, on a case-by-case basis, but are not to be installed within the pavement or within the shoulder, whether paved or unpaved, of any Expressway, Trunkline or Feeder highway. Exceptions may be made for locations along certain streets where manholes are essential parts of existing lines that are permitted to remain in place under existing and proposed highways. If, for a legitimate reason, a manhole must be installed within the pavement, it is not to be placed in the wheel path of vehicles and must be installed with the lid flush with the pavement. Likewise, manholes located in paved shoulders will also be installed flush with the shoulder pavement. Manholes placed in unpaved shoulders shall have the cover six (6) inches (150 mm) below the finished shoulder elevation. Manholes will be permitted in the ditch line only when no other alternative exists. Manholes so placed shall have 12" (300 mm) of cover below the normal flow line of the ditch.

Locations of valve boxes and manholes are to be marked in the manner prescribed by the District's Utility Supervisor. This could help prevent damage during regular maintenance of Division's rights of way.

In expanding areas along controlled access highways, Utility providers should install distribution or feeder line crossings, spaced as needed to serve consumers along either or both sides of the highway, to minimize the need for crossings for service connections. In areas where utility services are not available within a reasonable distance along the side of a controlled access highway, crossings for utility service connections may be permitted. To the extent feasible and practical, utility installations crossing the highway should be perpendicular to the highway alignment.

Conduit to accommodate future water or sanitary sewer lines may be installed as part of new highway construction under the terms of an agreement the Division may execute with the West Virginia Infrastructure and Jobs Development Council. For such conduit installations, the Utility provider must obtain from the Division a permit for installation within the conduit for a water or sanitary sewer line, prior to installation of the utility line.

In-line amplifier (ILA) structures ("huts") associated with telecommunications facilities are to be located outside Division's controlled access rights of way. Installation of an ILA within Division's

non-controlled access right of way or real estate may be permissible; however, such installation would be subject to a fair market value lease with the Division.

1.2.2 – Design

The person, firm or corporation requesting use of Division’s right of way is responsible for the design of the facility to be installed within the highway right of way or attached to a highway structure. The Division will be responsible for the review and approval of the proposal with respect to the location, construction materials used, procedures for and manner of installation or attachment.

Approval of any installation does not constitute liability of the Division for engineered or installed facilities, nor will the Division be responsible for any costs incurred by the Applicant resulting in changes in right of way limits or designations that may render a previously approved design invalid.

All utility installations should be of durable materials; should be anticipated to require relatively minimal routine servicing and maintenance; and should meet the following requirements:

- Electric power and communication facilities should conform with the current edition of the NESC[®] published by the Institute of Electrical and Electronics Engineers (IEEE).
- Water lines should conform with the American National Standards Institute accredited standards of the American Water Works Association and the State Department of Health.
- Sanitary sewer lines should conform with regulations of the West Virginia Department of Health and Human Services, Bureau of Public Health, or any successor entity, including but not limited to the West Virginia Department of Health, Bureau for Public Health.
- Pressure pipelines should conform with the applicable sections of the American National Standards Institute; Title 49 CFR, Parts 192, 193, and 195 and applicable industry codes.
- Liquid petroleum pipelines should conform with applicable recommended practice of the American Petroleum Institute for pipeline crossings under railroads and highways.
- Any pipeline carrying hazardous materials shall conform to the rules and regulations of the US Department of Transportation, Pipeline and Hazardous Materials Safety Administration, governing the transport of such materials.
- Stormwater facilities are to meet the applicable requirements of the West Virginia Department of Environmental Protection.

Any other applicable State and Federal laws shall be followed.

No sewage or other noxious effluents shall be discharged into any highway ditch line or storm drainage structure.

Utility facilities should be of a design, subject to reasonable consideration of engineering and economic feasibility, compatible with the scenic appearance of the specific highway section involved.

Applicant is wholly responsible for compliance with any local stormwater ordinance and any Municipal Separate Storm Sewer System (MS4) requirements, and for obtaining any necessary permits or approvals of any Local Floodplain Manager.

New installations or adjustments of existing utility lines, particularly those located underground or attached to structures, should be planned in a manner that will minimize hazards and interference with highway traffic.

1.2.3 – Permit Conditions

Any facility placed on, over, through or under the right of way of any State highway without an approved permit or utility agreement and the owner, after 10 calendar days' notice, refuses to remove same, then the Division may proceed with removal at the owner's expense. Nothing herein will prevent the Division from immediately removing any installation which creates a hazard to public safety, or the use, construction, or maintenance of any highway.

A permit issued by the Division authorizes an Applicant to undertake only certain activities in accordance with this Manual and does not create a property right or grant authority to the Applicant to impinge upon the rights of others who may already have an interest in the right of way.

1.2.3.1 – General Occupancy Provisions

The following provisions apply to the use and occupancy of the highway right of way by permit:

- All requests to perform utility work within the Division's right of way shall be made according to the Utility Permit Submission Guidelines and using the current Form MM-109. The Submission Guidelines and permit forms can be obtained from District offices or <https://transportation.wv.gov/highways/right-of-way/Pages/Utility-Publications.aspx> .
- Applicant shall submit information, including sketches acceptable to Division, sufficient to show the nature of work to be performed.
- Applicant agrees to comply with all applicable State and Federal laws in the performance of work under this permit, including but not limited to the requirement to provide Division copies of any National Environmental Policy Act (NEPA) clearance documentation for utility installations along or across the interstate highway system and/or controlled-access rights of way.

- All underground facilities will be installed so that they can be located, as per WV Code §24C-1-11. The recommended location of the tape is 18” (450 mm) below the surface directly above the installation. Locator tape will be used in accordance with the following:
 - Red - Electric Lines
 - Yellow - Gas, Oil, Steam, Petroleum, etc.
 - Orange - Communication Lines
 - Blue - Water
 - Green - Sanitary Sewers
- The Applicant agrees to hold the State harmless regarding any damage to persons or property, which may arise during the progress of or by reason of the work performed.
- Facilities should be kept in a good state of repair, concerning both structure and appearance. Applicant agrees to keep any surface facilities clear of vegetation for so long as Applicant’s facilities are located on Division’s right of way. Applicant agrees to remove promptly any vegetation in, on, or around such facilities that poses a risk or hazard to the safety of the traveling public.
- The utility facility shall be relocated, adjusted, or removed by the Applicant, at no cost to the Division, when required for improvement of the highway, unless the provisions of WV Code §17-4-17b apply. Such relocation, adjustment or removal shall be completed by Applicant no later than 90 calendar days after receipt by Applicant of written notice from Division, unless prior approval is given by District Utility Supervisor or Utility Coordinator. If the Division is required to perform the relocation work, the Utility shall be billed according to same WV Code.
- The Applicant agrees to protect at all times, its employees, equipment, and the traveling public in accordance with the current edition of the Division’s “Manual on Temporary Traffic Control for Streets and Highways”.
- All Utility providers shall affix to the poles a legible ownership designation.
- Applicant shall provide to Division a bond, as described in the Permit Submission Guidelines document.
- Applicant shall provide to Division evidence of insurance, as described in the Permit Submission Guidelines document.
- Any of the provisions listed above or in the Submission Guidelines not met at the time an application is received by the Division will cause the application to be returned to the Applicant for completion.

1.2.3.2 – Permit Submission

All permits issued by the Division shall be subject to the following criteria:

- All permits for installations or adjustments are to be reviewed for conformance with established clear roadside policies and procedures corresponding to the topography, roadway conditions, and other considerations throughout the State. The distance from the

edge of the traveled way to the proposed installation, as approved in the permit, is the effective minimum offset established for the installation.

- All permits are subject to the limitation of available space within the Division's right of way existing at the time of application.
- All permit applications are subject to rejection by the Division for non-compliance with the requirements contained in this Manual, or if the Division, in its application of reasonable management practices, determines that granting the Applicant's permit would hinder or impinge upon the maintenance of highway right of way.
- The review by Division personnel of permit application materials, the issuance by Division of a permit, or the inspection or review of the installation of a utility within Division's right of way:
 - does not relieve Utility from responsibility for errors or omissions in the design
 - is solely to identify apparent or obvious defects or deviations from the specified materials or plans, and
 - does not relieve the Utility from liability for the design or the construction of the utility.
- The highway must be maintained adequately for the safe and convenient use of the traveling public. The Applicant is responsible for erecting and maintaining all required warning devices, barricades, and danger signals, and for ensuring such items remain operational and clean for the duration of the permitted work.
- Any work performed during the presence or absence of the Division's inspector in no way relieves the Applicant of responsibility for proper installation and accountability to the Division.

The Applicant shall provide to the Division as part of any permit application for occupancy of Division's right of way copies of any documents that the Applicant is required also to file pursuant to Federal Aviation Administration regulations for any proposed wireless telecommunications facility or any other aerial structure.

1.2.3.3 – Permit Applicant Requirements

- Applicant shall notify the District Utility Supervisor or authorized representative at least 48 hours in advance of the date that permitted work will begin. If traveling public will be impeded, seven (7) calendar days' notice is required. Failure to comply will result in cancellation of permit.
- Applicant shall perform all work in a manner satisfactory to Division. Damage to highway right of way resulting from work authorized under an approved permit shall be repaired within 14 calendar days' notice from Division or completion of work area by Applicant, unless otherwise approved by the District Utility Supervisor. Failure to repair or unsatisfactory repairs may be corrected by the Division or its authorized agent and the cost thereof paid by Applicant, according to WV Code §17-4-17b.

- Applicant shall notify the District Utility Supervisor or authorized representative when the work covered by an approved permit is complete.
- Any deviation from the approved permit must be authorized in writing by the District Utility Supervisor or authorized representative prior to making such changes.
- Division reserves the right to cancel the permit at any time should the Applicant fail to comply with the terms and conditions under which it was granted.

1.2.4 – Maintenance of Facilities along Non-Controlled Access Right of Way

All utility facilities are to be maintained and serviced in accordance with the conditions of the original permit and this Manual. A blanket permit may be issued, at Division’s sole discretion, to a Utility on an annual basis for routine maintenance of existing facilities.

Maintenance activities for overhead installations should be limited to:

- Clearing of vegetation and trimming of trees around any surface facilities
- Immediate removal of any vegetation in, on, or around such facilities that poses a risk or hazard to the safety of the traveling public
- Placing or replacing cross arms or transformers on existing poles
- Replacement or repair of cable at the same capacity
- Replacing existing poles with same size and no nearer the traveled way
- Overhead lighting maintenance
- Emergency repairs as defined in this Manual
- Service drop installation
- Other activities as approved by the Division

Maintenance activities for underground installations outside the traveled way should be limited to:

- Leak repair
- Service tap installation (same side only)
- Cathodic protection repair
- Emergency repairs as defined in this manual
- Accessing or modifying parts of an existing underground facility within conduit or through an existing manhole with no new surface opening required, and
- Other activities as approved by the Division

All non-routine maintenance work, other than noted above, to be performed under the terms of an approved permit should be diagrammed and provided to the District Utility Supervisor prior to the work occurring or, for emergency repairs, as soon as reasonably possible. Applicant shall notify the District Utility Supervisor or authorized representative at least 48 hours in advance of the date the work will begin. If traffic will be affected, a minimum seven (7) calendar days’ notice is required. Work orders or other documentation of work performed should be provided to the District Utility Supervisor on a weekly basis, or other written schedule agreeable to both parties.

1.2.5 – Maintenance of Facilities along Controlled Access Right of Way

Utilities installed along fully or partially controlled access rights of way are to be located in such a manner that they can be serviced without access from the through roadways or connecting ramps, and are not to be installed within the median. Maintenance activities associated with such utilities are to be performed in conformance with the clear roadside policy, the current editions of the Division’s Operations Manual and the “Manual on Temporary Traffic Control for Streets and Highways,” and any other traffic safety regulations that may be deemed necessary by the Division. The Applicant shall compensate the Division for inspection costs incurred by Division. Permits or other documentation of maintenance work to be performed on controlled access rights of way shall be reviewed by FHWA, as per the current Stewardship & Oversight Agreement, before approval is given to the Utility.

1.2.6 – Emergency Repairs

For the purposes of permitted utilities within the Division’s rights of way, an emergency would exist any time the public services of a group of individuals were interrupted; when the safety of the public is endangered by a damaged utility, such as a ruptured gas line; or when there is a possibility that damage might occur to public or private property unless immediate corrective action is taken. The Applicant should notify District Utility Supervisor and Division’s Transportation Management Center (TMC) at (304) 558-3028 of the location of the emergency and then, at the Applicant's sole risk, responsibility, and expense, repair the damaged facilities. Appropriate safety methods, measures, and devices must be provided by the Utility and utilized to give adequate warning and protection to persons and property.

1.2.7 – Preservation, Restoration and Cleanup

1.2.7.1 – Disturbed Areas

The area to be disturbed shall be kept to a minimum. Construction methods, erosion control and revegetation along the length of the construction area must be performed in accordance with Division requirements. Unsatisfactory restoration work shall be corrected promptly, or at the discretion of District Utility Supervisor, by the Applicant. If necessary, the restoration work will be corrected by the Division and the cost thereof paid by the Applicant, according to WV Code §17-4-17b.

1.2.7.2 – Drainage

Care must be taken to avoid disturbing existing drainage facilities, including all cross-pipes. Underdrain and outlets are to be provided for entrapped water.

1.2.7.3 – Vegetation

Utilities must clear vegetation from their aerial and surface installations. When the complete removal of a tree is absolutely necessary, it will be cut flush with the ground. If the stump is removed, the hole is to be properly backfilled. If the stump is not removed, the stump must be treated with non-sprouting chemical. All cut debris, refuse and waste shall be removed from the right of way daily and the area site graded and revegetated to the satisfaction of the District Utility Supervisor or authorized representative.

1.2.8 – Abandonment of Facilities

A Utility provider is required to notify the Division of abandonment of any utility that is permitted within Division's right of way, at the time the decision to abandon is made. However, in no case shall such notification be made later than 30 calendar days prior to abandonment. Following receipt of such notice, the Division shall direct the Provider to remove all or any portion of the facility if the Division determines that such removal will be in the best interest of public safety and public welfare. The Division may also choose to have abandoned lines filled with grout, at the direction of the District Utility Supervisor. If the Provider fails to remove the abandoned facility within 60 calendar days after such notice, the Division may undertake to do so and recover the actual and reasonable expenses of doing so from the Provider, its successors and/or assigns.

Specifically, pole owners shall follow the procedure outlined in the most updated version of the PSC's Rules for the Government of Pole Attachments, 150 CSR 38.16, as required by WV Code §31G-4-4. Transfer of pole attachments, by cable or telecommunications, to new poles and removal of old poles need to happen in a timely fashion in accordance with said Rules. Upon request by the District Utility Supervisor, a pole owner shall provide all documentation relating to said Rules. Notice of Obstruction will be issued if the PSC timelines are not adhered to.

1.3 – SUBSURFACE INSTALLATIONS

Oil & Gas transmission lines, typically greater than 150 psi (1.035 MPa) shall adhere to the current Oil and Gas Road Policy, available at <https://transportation.wv.gov/highways/maintenance/Pages/Oil-and-Gas-Permits.aspx> .

All other underground utilities, including oil and gas distribution lines less than 150 psi (1.035 MPa), shall follow the guidelines in this Manual.

1.3.1 – Methods of Installation

The length of any type of open trench, related shoulder and ditch line shall not exceed that which must be properly restored by the end of each workday.

Material removed from any type of trench shall not be stockpiled or stored on Division right of way, unless authorized by District Utility Supervisor.

Blasting will not be permitted within Division's right of way unless it is established by Applicant and agreed, in writing, by Division that there is no other feasible alternative. Each case then must conform to Division's current edition of Standard Specifications, Roads & Bridges and must include provisions for adequate protection of the highway facility and the safety of the traveling public and any nearby residents. The length and location of each shot must be approved by the District Manager or authorized representative. All blasting will be done by a licensed "shooter"; a copy of such license will be on site at all times.

An Applicant may choose to utilize more than one of these techniques to address the Applicant's needs, however the Applicant's plans need to identify the proposed installation method(s) along each section of Division's right of way to be affected. Field verification of the suitability of the proposed installation method is the responsibility of the Applicant.

1.3.1.1 – Open Cut

A trench is excavated to the required depth and alignment, placing the pipes on an even surface. Trench support systems and dewatering may be required. The integrity of the pavement, shoulders, and embankment slopes shall be protected.

The cutting of pavement to install utility facilities is discouraged by the Division. This option could be allowed in rare instances and shall be approved by the District Utility Supervisor. No longitudinal pavement cuts will be permitted on Division's right of way except in cases of extreme hardship.

1.3.1.2 – Bore and Jack

A trenchless method for installing pipe or casing by means of a rotating cutting head. The Utility shall minimize the overbore. Bore and jack requires excavating entry and exit pits. The location of these pits must be shown on the plan sheets submitted with the permit. The pits will not be permitted within a divided highway median. If the entry and exit pits must remain open overnight, the Utility shall provide appropriate protective measures, as approved by the District Utility Supervisor. If the cutting head becomes unretrievable under the road during installation, the District Utility Supervisor shall make determination of feasibility of retrieval and applicable pavement restoration.

1.3.1.3 – Horizontal Directional Drilling

A trenchless method for installing small facilities that involves an operator from a remote location using a control panel combined with locating techniques to guide the cutting head along an intended path. The drill first creates a pilot hole, and the borehole then is widened using a reamer, and the new cable is installed by pulling it from the exit pit. This installation technology is optimal

for medium to long installations in challenging terrain and river crossings. The Horizontal Directional Drilling Guidelines are available at <https://transportation.wv.gov/highways/right-of-way/Pages/Utility-Publications.aspx> .

1.3.1.4 – Trenching

Direct burial method in which a long excavation at a specified depth and with a relatively narrow width is made, and fiber optic lines are installed within the excavated area. The trench then is backfilled and compacted.

1.3.1.5 – Micro-trenching

WV Code §31G-3 allows for the use of micro-trenching for the installation of broadband facilities. Micro-trenching is a technique of deploying broadband networks and fiber optic cables, using a cutting wheel to cut a trench with smaller dimensions (no greater than three (3) inches in width, and a depth between one and two (1 and 2) feet) than can be achieved with conventional trench digging equipment. The guidelines for micro-trenching installations are available at <https://transportation.wv.gov/highways/right-of-way/Pages/Utility-Publications.aspx> .

1.3.2 – Backfill

The following backfilling specification is to be used in connection with any utility work performed within Division’s right of way.

After the casing, conduit or other underground facility is installed, the trench is to be backfilled. All backfill material shall:

- be free of particles larger than three (3) inches (75 mm)
- not be frozen, and
- contain no cinders, ashes, refuse, organic, vegetable, or other like matter, or any other material deemed unsuitable by the District Utility Supervisor or authorized representative.

Care shall be taken to compact the material under the haunches of the casing, conduit pipe or other facility and to place the backfill evenly on each side. The backfill material shall be deposited in the trench for its full width in layers not exceeding four (4) inches (100 mm) after compaction. This method shall be followed until the trench is fully backfilled. The target dry density for the backfill material will be 95 percent (95%), or the density of the existing material, as evidenced by testing, if the existing density is lower than 95%. In areas outside the limits of the traveled way and shoulders, compaction to the density of the original ground is sufficient.

All backfill material and compaction shall be in accordance with the specifications in this Manual and subject to the Division’s approval. Evidence of proper compaction by testing will be the responsibility of the Applicant. The testing shall be 1 (one) lot per day or every 500 lineal feet (150 m), or as determined by the District Utility Supervisor or authorized representative.

Appropriate aggregate base course and/or aggregate shoulder stone is to be placed on the shoulder at a thickness equal to six (6) inches (150 mm) or its original thickness, whichever is greater. Paved shoulders shall be repaved.

1.3.3 – Crossings

1.3.3.1 – General

Locations which are generally unsuitable for pipeline crossings include deep cuts; near footings of bridges and retaining walls; at cross drains where the flow of water or stream bed may be obstructed; or within basins of an underpass drained by a pump, if the pipeline carries a liquid. No pipe, conduit or other facility shall be placed in any manner inside or across the ends of any drainage pipe or culvert. Crossings should be located as far as practical from Division’s structures and other utility installations and as near perpendicular to the highway alignment as practical.

Buried electric, telephone, television, and telecommunications cables crossing under a paved road will require conduit, having a minimum nominal diameter of two (2) inches (50 mm). The conduit length and depth shall be the same as required for pipeline encasement in accordance with Profile View on the Roadway Cross Section (Appendix A, Figure 2).

Open cut methods will not be employed for existing pavements except when approved, in writing, by the District Utility Supervisor or authorized representative. For the purpose of this section, a paved road is one which has an asphalt, concrete, or “tar and chip” surface. Where crossings have been approved for open cut, work and pavement replacement shall be performed promptly and shall be in accordance with the Medians, Shoulders and Ditches provision of the Division’s current Typical Sections & Related Details and Repaving Pipe Trenches Under Existing Pavement provision of the Division’s current Standard Details Volume 1, both available at <https://transportation.wv.gov/highways/TechnicalSupport/Pages/Details.aspx> . The type of material, quantities, and all costs associated with the repair shall be the responsibility of the owner. The type of material shall meet all current governing Division specifications.

1.3.3.2 – Cover

The minimum required depth of cover for a crossing is three (3) feet (0.9 m). The critical control for cover on a pipeline crossing is the low point in the highway cross-section, usually the bottom of the longitudinal ditch. When measuring cover over pipes, the commonly specified surfaces are the top of pavement, natural ground, or the flow line of drainage ditches. A protective coating is considered part of the pipe. When the carrier is encased, cover is measured to the top of the casing.

1.3.3.3 – Casing

It is recognized that a definite policy on the encasement of pipelines must consider many inconclusive variables, not the least of which is the progressive improvements being made in the pipeline industry for strengthening and protecting carrier pipes.

A policy of requiring casing for all highway crossings is too expensive for both the utility consumer and the highway user. However, considering experience and current appraisal of future hazard, waiving *all* casing requirements is not prudent. Since the Division is responsible for the safety of the traveling public and the structural integrity of the roadway, the burden of proof is on the Utility if it contends that, for any particular location, casing is unnecessary. Consequently, casing will be required unless the proposed installation:

- Is in a municipal section and determined to be infeasible
- Consists of carrier pipe that is to be:
 - 1-1/4" (32 mm) diameter or smaller copper or steel
 - 1-1/4" (32 mm) or smaller nominal diameter plastic meeting requirements of ASTM, D2513, Type 2306, or
 - Steel, cast iron, ductile iron, rigid plastic, concrete, or other material acceptable to Division, with a thickness capable of sustaining live and dead load requirements of the Division, with the design calculations, signed and stamped by a Professional Engineer registered in West Virginia, submitted for approval by the Division, and
- Can be shown by the Applicant (by submission, to the Division for approval, of design calculations, stamped by a Professional Engineer registered in WV, and the anticipated repair or replacement procedure) that it will not compromise safety and that the repair or replacement of the pipe will not result in damage to the integrity of the highway.

The District Utility Supervisor or their authorized representative still maintains authority to require casing at any particular location.

To ensure reasonable protection to the highway and traveling public, the following stipulations shall apply:

- All pipelines crossing under paved and unpaved State highways must be placed in a casing a minimum of 1-1/2 times the diameter for a length adequate to permit repair or replacement of the carrier pipe in accordance with Profile View on the Roadway Cross Section (Appendix A, Figure 2). For pipes exceeding an outside diameter of 12 inches, casing pipe shall be at least six (6) inches greater than carrier pipe.
- End seals must be used
- Provided the material is able to sustain the live and dead loads as currently used by the Division, with the design calculations, signed and stamped by a Professional Engineer registered in West Virginia, submitted for approval by the Division, the material for required casing shall be:
 - steel pipe of standard manufacture with joints welded around the entire circumference of the pipe
 - reinforced concrete pipe
 - rigid plastic pipe, or
 - poured portland cement concrete

- Casing should extend a minimum of five (5) feet (1.5 m) beyond the projected toe of fill slopes as shown in Appendix A, Figure 2. Length requirements for flat areas or sections with a ditch or curb are shown in sections B and C of Appendix A, Figure 2. The lateral distance between the surfaced area of the highway, including paved shoulders, and the portal limits of excavation:
 - should be a minimum of five (5) feet (1.5 m) if the excavation is bulkheaded, and
 - not less than the vertical difference in elevation between the surfaced area of the highway and the bottom of the trench if the excavation is not bulkheaded.
 Where extenuating circumstances preclude the attainment of this requirement, consideration will be given to alternate proposals that ensure the structural integrity of the highway and its operations.
- When boring and jacking casing pipe under the highway, care must be taken to minimize annular voids and overbreaks. Pressure grout must be used to fill abandoned pipes, unused holes, overbreaks and voids.
- Installation of casing pipe with an outside diameter of two (2) inches (50 mm) or less or carrier pipe with an inside diameter of 1-1/4 inches (32 mm) or less will be permitted by the use of a “mole/missile”. Use of liquids or chemicals during this type of installation will not be permitted. If the mole/missile becomes unretrievable under the road during installation, the District Utility Supervisor shall make determination of retrieval and pavement restoration.

1.3.3.4 – Markers, Vents & Appurtenances

Markers, vents, drains, and shut-offs are appurtenances to gas pipeline installations. Pipeline crossings other than service lines shall be identified by permanent markers. These location markers shall furnish sufficient information to enable identification and contact with the owner, including line distance from marker, and shall be of a durable, non-rigid material that is expected to yield if struck by vehicle, as required by 49 CFR 192.707. All casing pipes shall be sealed, and if carrying combustibles will be provided with a screened vent. Vent standpipes and location markers may be located within the Division’s right of way but should be located outside the clear zone and preferably should be located at the fence or right of way line or in a protected location. They should not interfere with maintenance of the highway nor be concealed by vegetation.

1.3.4 – Longitudinal Installations

Longitudinal installations, other than in municipal sections, should be parallel to the pavement and to the extent possible, should be adjacent to the right of way line. The nearest edge of trench should be a minimum of five (5) feet (1.5 m) from the edge of pavement, traveled way, toe of slope, or curb line, when practical, but for any length of 500 feet (150 m) or more, a greater distance will be expected. The trench depth should not exceed the distance between the edge of the pavement, curb, paved shoulder, toe of slope, or back of ditch, and the nearest edge of the trench,

unless a bulkhead is used. The minimum depth of cover on all longitudinal lines shall be three (3) feet (0.91 m).

Cable buried along unpaved roads must be outside the traveled way. If rock or hard shale is encountered, the depth of direct bury may be reduced if prior approval is obtained from the District Utility Supervisor or his authorized representative.

The longitudinal placing of pipelines under the traveled lanes is discouraged and will be considered by the Division only as a last resort, and only if the Applicant provides detailed plans that verify there is no feasible location outside the pavement. Restoration of such pipe trenches shall require complete replacement of at least one (1) lane of pavement and will be in accordance with Repaving Pipe Trenches Under Existing Pavement provision of the Division's current Standard Details Volume 1, available at

<https://transportation.wv.gov/highways/TechnicalSupport/Pages/Details.aspx> . The type of material, quantities, and all costs associated with the repair shall be the responsibility of the owner. The type of material shall meet all current governing Division specifications. Every effort shall be made to keep the excavated trench and all related appurtenances (manholes, valves, shut-offs, etc.) out of the wheel path of traffic. The trench shall be located in the center of the traveled lane when possible.

All pavement damaged by equipment, blasting or by the installation of pipe promptly will be repaired by Applicant and to the satisfaction of the Division; a full width pavement overlay may be required. Other pavement restoration methods will be considered if the design is submitted in writing by the Applicant. Sufficient time must be given for a complete review by the Division.

Municipal sections will be handled on an individual basis in a manner consistent with the prevailing limitations. Whenever practical, pipelines should be placed under the sidewalk. If this space is not available, the parking lanes should be used.

1.4 – AERIAL INSTALLATIONS

The safety, maintenance, efficiency, and appearance of the highway are enhanced by keeping the space between the edge of shoulder or curblin and the right of way line as free as practical from obstacles. The width and suitability of this space must be considered in locating poles, guys, and related facilities along the highway. Where the road makes a curve and the line overhangs the road without crossing from one side to the other, all crossing and longitudinal clearance criteria must be met.

1.4.1 – Installation

Longitudinal installations within Division’s right of way should be limited to single pole type of construction. Joint-use single pole construction is encouraged, as indicated by NESC® Part 2 Rule 222, where more than one (1) aerial utility is involved. This is of particular significance at locations where right of way widths approach the minimum needed for safe operations or maintenance requirements or where separate installations may require extensive removal or alterations of trees. Any construction detail not specifically covered herein must meet the current requirements of the NESC®.

Self-supporting poles, towers, and/or dead-end construction should be employed at all crossings of the highway. The prime concern is the safety and appearance of the crossing. It is necessary to ensure that structures will not fall or let conductors drop on the highway. NESC® Sections 24 through 26 sets forth the strengths required for grades of construction for different situations. Construction that complies with this part of the Code will meet the Division’s requirements.

No lines shall be attached to trees or any other items not specifically designed and constructed for such purposes. Any pole to be abandoned must be completely removed and hauled away except when abandonment is part of a utility agreement.

1.4.2 – Vertical Clearance

The minimum vertical clearance for overhead electric and communication lines should conform with the current NESC® (Appendix A, Figure 3).

1.4.3 – Location

Poles and related facilities should be located as far as practical from the edge of pavement. As a minimum, poles should be located outside the applicable clear zone for the highway section involved. This location is to be consistent with the standards applied to the elimination of other obstacles. On curbed sections in urban areas, the utilities should be located as far as practical behind the face of the curb and where feasible, behind the sidewalk. Exception to these clearances may be made where poles are of a breakaway type design or poles and guys can be placed at proper locations behind guardrails, deep drainage ditches, toe or top of steep slopes, retaining walls and other similarly protected locations.

The nature and extent of highway development and the ruggedness of the terrain being traversed are controlling factors for locating poles, guys, and related facilities near the right of way line.

Location of overhead utility installations along highways with narrow right of way or on urban streets with abutting improvements are special cases. These must be resolved in a manner consistent with the prevailing limitations and conditions. Before locating the utility at a location other than the right of way line, consideration should be given to designs employing self-supporting, armless, single pole construction with vertical alignment of wires or cables or other

techniques permitted by government or industry codes that are conducive to a safe traffic environment.

Where irregularly shaped portions of the right of way are involved, variances in location from the right of way may be allowed to maintain a uniform alignment for longitudinal installations.

1.4.4 – Service Drops and Guy Wires

Guy wires to ground anchors and stub poles shall not be placed between a pole and the traveled way where they would occupy the clear zone. No poles, stubs for guy wires, or anchors should be located in such a manner as to interfere with highway maintenance activities.

Installations made in accordance with an approved permit or utility agreement cover future construction of service drops and guy wires where no new poles or stubs are to be located within the Division’s right of way, provided the installation conforms with this manual. The Utility shall contact the District Utility Supervisor prior to making the installation.

1.5 – TELECOMMUNICATIONS/BROADBAND

1.5.1 – Installation of Underground Telecommunications Lines within Controlled Access Rights of Way

The Division prohibits longitudinal occupancy in controlled access rights of way by any Utility, except buried fiber optic installations that conform with the provisions of the Telecommunications Act of 1996, and such fiber optic installations are not permitted within the median and no above-ground appurtenances are permissible for such installations, other than markers (of an approved size, material and location) delineating the location of the fiber optic line. The Fiber Optic Permitting Guidelines are available at <https://transportation.wv.gov/highways/right-of-way/Pages/Utility-Publications.aspx> .

1.5.1.1 – General Considerations

All General Considerations apply to telecommunication installations within controlled access right of way of the Division. Additionally, for all telecommunication installations within controlled access right of way of the Division:

- The installation shall be located outside the median and in an area that is as far along the outer limit of the rights of way as is practicable.
- Service connections to adjacent properties shall not be permitted from utility installations within the rights of way, unless approved in writing by Division.
- Review by Division and FHWA of any proposed accommodation request along the Interstate System, and any final decisions made regarding such accommodation, will

consider the regulations found in 23 CFR 645 and 23 CFR 710, as well as the provisions established for standards (as specified in 23 U.S.C. 109); use and access (as specified in 23 CFR 1.23 (b) and 23 U.S.C. 111); and maintenance (as specified in 23 U.S.C. 116).

- To the extent possible, installation of telecommunication lines shall be designed and constructed in a manner that will readily accommodate future replacement.

1.5.2 – Dig Once Guidance

This guidance concerns the considerations within the Manual and the provisions of WV Code §17-2E-1 *et seq.* that allow Telecommunications Carriers to install within Division right of way underground telecommunications facilities upon such terms as are acceptable to the Division and the FHWA. The provisions of this document are applicable to all Telecommunications Carriers that perform work within the State of West Virginia. This guidance is available at <https://transportation.wv.gov/highways/right-of-way/Pages/Utility-Publications.aspx> .

1.5.3 – Small Wireless Facilities Applications within Rights of Way

The deployment of reliable small wireless facilities and other next generation wireless and broadband network technology is a matter of statewide concern and important to the continued economic development and diversification in the State of West Virginia. Small wireless facilities are integral to delivering wireless access to advanced technology, broadband, and 911 services to homes, businesses, and schools. Because of the integral role that the delivery of broadband and wireless technology plays in the economic vitality of the State and in the lives of its citizens, the West Virginia Legislature has determined that a law addressing the further deployment of wireless technology is of vital interest to the State. Small wireless facilities, including facilities commonly referred to as small cells and distributed antenna systems, may often be deployed most effectively in public rights of way. The Small Wireless Facilities Guidelines document is available at <https://transportation.wv.gov/highways/right-of-way/Pages/Utility-Publications.aspx> .

1.6 – INSTALLATION AND ACCOMMODATION ALONG HIGHWAY STRUCTURES

1.6.1 – General

Attaching utility lines to a highway structure can adversely affect the safe operation of traffic and the integrity and routine maintenance of the structure. Where it is feasible to locate utility lines elsewhere, attachment to highway structures is discouraged. However, where installation of utilities at other nearby locations proves to be extremely difficult, unsafe or unreasonably costly, consideration will be given by the Division for attaching a utility line to a highway structure.

Requests for attachment to an existing structure must be accompanied by a complete written explanation of the circumstances creating the need for the proposed attachment. The written document must include a detailed summary of estimated costs (labor, equipment, materials, permitting, and other pertinent expenses that would be incurred) for all alternate locations studied and all reasons that the Utility provider submitting the request feels those locations are infeasible.

The method of attachment should conform to logical engineering considerations for preserving the highway structure, maintenance, appearance, and safety of both the traveling public and the utility. The following considerations apply:

- Since highway structure designs and site conditions vary, the adoption of standardized methods to accommodate utility facilities on structures is not feasible. Each proposed attachment will be considered on its individual merits.
- The attachment of pipelines carrying combustible materials will not be permitted except for distribution-type natural gas pipelines carrying 60 psi (415 kPa) or less.
- Attachment of a utility will be considered only if the structure in question:
 - is adequate to support the additional weight without any traffic load reduction; and
 - can accommodate the utility facility without compromising highway features, including reasonable ease of structure maintenance.
- Installations that would inhibit access to any structural part for inspection, painting or repair will not be allowed.
- The installation must maintain minimum appropriate vertical clearances.
- Manholes will not be allowed in bridge decks or sleeper slabs.
- Support rollers, saddles and hangers should be padded or coated to muffle vibration.
- Electric and communication lines shall be insulated, grounded, and carried in protective conduit from exit of ground to reentry.
- Utility shall perform yearly inspections and provide the report to the District Bridge Engineer.
- Attachment hardware shall be promptly removed if the line is taken out of service.
- If attachments are not maintained, Division will remove at the Utility's expense.
- The Utility provider will be responsible for obtaining any permit or approval of any other governmental entity.

1.6.2 – Installation along Existing Bridges

A Permit application for the placement of any installation on an existing bridge shall be accompanied by a complete description of the work involved and plans reflecting same. This information, stamped by a Professional Engineer registered in West Virginia, must include the weight per lineal foot of each line, flowing full, and details of the proposed method of attachment. The following conditions apply:

- Welding to main steel members or anchoring to the concrete deck, parapet, or sidewalk will not be allowed.

- All installations shall be placed below the elevation of the bridge floor.
- Trenching in the vicinity of piers or abutments shall be kept a sufficient distance from footings to prevent undercutting or sloughing of material from under the footing into the trench.
- Any application that would result in a reduction of existing waterway area will not be approved.

Review of the Permit application and associated details concerning the proposed attachment of utility to an existing bridge will be reviewed by the District Utility Supervisor and the District Bridge Engineer. If determined by the District to be necessary, additional review by the Division's Central Office and FHWA may be requested. If bridge attachment is determined to be acceptable to the Division, a Permit will be issued by the District.

1.6.3 – Accommodation as Part of Construction of a New Bridge

The placement of conduits for utility installation or other similar facilities as part of construction by Division of new bridges will be approved only in accordance with the following conditions:

- The Utility provider is responsible for obtaining any desired information regarding the Division's proposed construction schedule.
- The Utility provider shall submit to the Chief Engineer-Development a written request for inclusion of utility accommodation as part of Division's construction, and Division shall provide to the Utility provider within 60 days a written response indicating whether the Division can consider such accommodation.
- If the Division determines that consideration can be given for inclusion or accommodation of the utility installation as part of Division's construction:
 - the Utility provider will be responsible for timely providing to Division, prior to Division's completion of plans and specifications for the proposed bridge or drainage structure, complete plans and specifications of its proposed installation, stamped by a Professional Engineer registered in West Virginia, including the weight per lineal foot and detailed drawings, and any time constraints that the Applicant feels to be appropriate
 - the Division shall draft an agreement with the Utility provider describing the responsibilities for design, construction, maintenance, and funding pertaining to the utility installation
 - the Utility provider shall bear all engineering and construction costs incurred by the Division associated with the installation of the utility as part of the Division project:
 - upon execution of the agreement, the Utility provider shall provide to Division a deposit of funds in an amount determined by the Division to be appropriate to address Division's anticipated additional engineering cost
 - Division shall provide to Utility provider when available, the preliminary estimate of the construction cost anticipated for the utility accommodation

- Division shall notify the Utility provider of the anticipated construction cost upon completion of the Plans, Specifications and Estimates for Division's construction project, and Utility provider shall provide to Division, prior to advertisement by Division of the construction contract, the amount of Division's estimate
- as soon as practicable after award by Division of the construction contract, Division shall notify Utility provider of the construction cost associated with the award of the contract and the engineering and contingencies cost
- After completion of the construction of Division's project:
 - Utility provider shall pay Division for any additional costs incurred by Division in excess of the amount provided by Utility provider prior to advertisement of the construction contract, or
 - Division shall issue to Utility provider a refund of any balance remaining of the previously provided amount.
- the Division's contractor would install utility conduit and other appurtenances to facilitate the installation of utility's facilities, by the Utility provider, when appropriate after Division's construction is complete, and
- prior to installation of a utility line along the new bridge or other structure, the Utility provider shall obtain from the District an approved Utility Permit concerning the occupancy of Division's right of way with that utility line.

Review of the details concerning the proposed installation of utility conduit and other appurtenances will be coordinated by Division's Project Manager. If determined by the Division to be necessary, additional review by the FHWA may be requested.

1.7 – SCENIC ENHANCEMENT

1.7.1 – General

The type and size of utility facilities and the manner and extent to which they are permitted along or within Division's right of way can materially alter the scenic appearance and view of highway roadsides and adjacent areas. For these reasons additional controls are applicable in certain areas that have been acquired or set aside for their scenic quality. Such scenic areas include scenic strips, overlooks, rest areas and welcome centers, State Parks, Forests and Wildlife Management Areas, recreation areas, and the right of way of highways adjacent thereto or which pass through parks and historic sites.

Underground installations will not be permitted within Scenic Areas if such installations require extensive removal or alteration of trees or other natural features visible to the traveling public or impair the visual quality of the land being traversed.

Aerial installations should be avoided at such locations where there is a feasible and prudent alternative. Such installations will be considered only when:

- Other locations are unusually difficult to access for installation and maintenance, unreasonably costly, or undesirable from the standpoint of visual quality
- Placing the facility underground is not feasible or is unreasonably costly
- The proposed installation can be made employing suitable designs and materials, which will give adequate attention to the visual qualities of the area being traversed, or
- Approved by the District Manager

Proposed installations of utilities at overlooks, rest areas and welcome centers operated by the Division and located within controlled access rights of way will be considered only to the extent that such installation will provide a desired new or improved utility service for Division's facility.

2 – Adjustment and Relocation of Utility Facilities on Highway Projects

The Division engages in construction of federal-aid and non-federal highway projects that may necessitate adjustment or relocation of railroad and utility facilities. The procedures outlined herein have been developed in the interest of facilitating the coordination necessary when railroad and utility relocations are required in conjunction with highway projects.

2.1 – APPLICATION

This policy applies to all railroad and utility facilities including, but not limited to, electric, communication, gas, oil and other petroleum products, water, steam, sewage, drainage and other similar commodities.

2.2 – SCOPE

This policy sets forth the procedures to be followed for the adjustment or relocation of railroad and utility facilities as part of highway projects.

2.3 – UTILITIES

2.3.1 – West Virginia Code – Utility Reimbursement

WV Code §17-4-17b covers the Relocation of Public Utility Lines to Accommodate Highway Projects. The Division and the Utility shall work together to determine whether existing facilities need relocated for the Division's work. This coordination shall work within the project schedule.

In order to avoid construction delays and to create an efficient and effective highway program, the Division may schedule program meetings with the Utility on a quarterly basis to assure that schedules are maintained.

The Commissioner of Highways is hereby authorized to include within the cost of highway construction the cost of relocation necessarily incurred by any Utility which has prior rights, in relocating any utility line, pipeline or facility as a result of the construction of any fully or partially controlled access highway as a part of the national highway system as authorized by the FHWA. Privately owned public utilities located within state highway right of way by permit are not eligible for reimbursement of relocation costs which are required due to a Division construction improvement or maintenance project.

WV Code §17-4-17d covers the relocation of publicly-owned utility lines on state highway construction projects and provides that whenever the Commissioner of Highways determines that any public utility line owned by a county or municipal governmental body located upon, across or under any portion of a state highway needs to be relocated in order to accommodate a highway project for which proportionate reimbursement of the cost is not available from any federal program, the Commissioner shall notify the public utility owning or operating the facility which shall relocate the same in accordance with this section, and the cost of the relocation shall be paid out of the State Road Fund.

However, in situations where a public utility repair or installation causes a slip/slide, the utility relocations may not be reimbursed.

For the purpose of this section, the term “cost of relocation” includes the entire amount paid by the Utility, exclusive of any right of way costs incurred by the Utility, properly attributable to the relocation after deducting these from any increase in the value of the new facility and salvage value derived from the old facility. Any notice required by this section is sufficient if given by registered mail or certified mail, return receipt requested, addressed to any officer of the Utility or to an individual if the person to whom notice is required is an individual.

2.3.2 – Proportionate Share Reimbursement – Engineering and Construction

In those cases where only a portion of a Utility's relocation cost qualifies for reimbursement by the State, the determination of proportionate share, exclusive of right of way, will be based on the percentage of the existing facility, which qualifies for reimbursement. The percentage so developed on the existing line will be applied to the cost of the relocation. Percentages are usually developed from linear footage.

2.3.3 – Proportionate Share Reimbursement – Right of Way Acquisition

The determination of proportionate share for right of way cost will be a ratio of the linear feet of existing right of way to linear feet of proposed right of way.

$$\frac{\text{Existing Length of RW}}{\text{Proposed Length of RW}} = \text{Reimbursible Share} *$$

*Never to be greater than 1.0

2.3.4 – Federal-Aid Policy Guide

The Federal government may reimburse the State for a varying percentage of the funds considered incidental to the construction of Federal-aid Highways.

Payment of the proportionate share of the cost by the Federal government is contingent upon strict compliance by all parties with certain procedures set forth in the FHWA’s Federal-Aid Policy Guide (hereinafter “FAPG”), 23 CFR, 645A and 23 CFR, 645B and all supplements and amendments thereto. The FAPG defines the procedures the Division must require of Utilities in order to be eligible to collect its proportionate share of the funds spent for utility relocation.

2.3.5 – Types Of Utility Agreements

When the Division is liable for any of the incurred cost of a required relocation, a legal, binding agreement is required with the affected Utility. While FAPG 23 CFR, 645A does not specifically prescribe the form of the written agreement between the Division and the Utility, it does specify certain essential elements necessary for all such agreements where Federal-aid participation in the cost is requested and establishes a functional framework to provide a working liaison between the Division and the Utility.

All requests for reimbursement shall be made according to the Utility Reimbursement Submission Guidelines. The Submission Guidelines and forms can be obtained from District offices or at <https://transportation.wv.gov/highways/right-of-way/Pages/Utility-Publications.aspx>.

These agreements shall contain the specifications, regulations, and provisions required in conjunction with work performed on all highway projects.

2.3.6 – Plan, Profile, Cross Section and Legends for Agreements and Permits

Plans, cross sections and/or profiles are required for all proposed utility installations on Division’s right of way. These should be shown on Division’s Plans when possible. The following legend and color code are preferred. Other plan symbols and/or colors may be used, if the legend explaining them is clear.

Green	Existing Locations
Red	Relocated Facilities
X---X---X---X---X	Remove or Abandon
Orange	Temporary Relocation

2.3.7 – District Responsibility

For all projects designed at the District level, the District designer is responsible to have all existing utilities shown on the plans, and also is responsible to have those locations verified by the owner. The District Utility Supervisor is responsible for notifying and providing plans to each affected utility. Relocation plans submitted by the affected Utility will be reviewed and approved by the District designer, and a notice to proceed letter will be issued by the District Utility Supervisor. The District Utility Supervisor will ensure that a permit is obtained for the relocations within the Division’s right of way. Each Utility shall provide to the Railroads & Utilities Section a schedule for the necessary work. When the Division is liable for any part of the relocation cost, the District

Utility Supervisor will notify the Railroads & Utilities Section for handling of the agreement with the affected Utility or railroad.

2.3.8 – Central Office Railroads & Utilities Section Responsibility

The Railroads & Utilities Section is responsible for all liaison incidental to the negotiation, preparation, processing, review and recommendation of approval of all utility and railroad agreements.

For all projects designed at the Central Office level, the project manager is responsible for having all existing utilities shown on the plans and is also responsible for having those locations verified by the Utility. The Regional Utility Coordinator is responsible for notifying and providing plans to each affected utility. Relocation plans submitted by the affected Utility will be reviewed and approved by the project manager, and a notice to proceed letter will be issued by the Railroads and Utilities Section. Each Utility shall provide to the Railroads & Utilities Section a schedule for the necessary work.

2.3.9 – Organization

Railroads and Utilities Manager

The Manager is responsible for managing all agreements through execution and coordinating funding as needed.

Regional Utility Coordinators - Railroads and Utilities

The Regional Utility Coordinators are responsible for obtaining and reviewing all agreement requests concerning projects in their area involving all public utilities and railroads. The Regional Coordinators are direct reports to the Railroads and Utilities Manager.

2.3.10 – Advance Planning Procedure

The Division will:

- When requested by a Utility provider, furnish a tentative construction program covering a period of one (1) year, if possible. Information will include route, location, and nature of improvements and probable dates of construction. The information is for planning purposes only.
- When highway alignment studies are underway, request from affected utilities comments regarding the feasibility of changes to reduce or eliminate utility relocation costs.
- Furnish affected utilities with preliminary plans as early as possible and determine eligibility for reimbursement.
- If a highway consultant is involved, follow the procedure set forth in the Highway Consultant Utility Agreement Action Section of this Manual.

The Utility or Railroad will:

- Review with Division plans for major, new construction or changes in existing utility or rail facilities to avoid, to the extent possible, conflicts with highway planning.
- When advised by Division that a highway route is under study, promptly furnish related data concerning facilities in the area.
- Cooperate with Division on all District Maintenance and Design projects, determine eligibility for reimbursement, and coordinate relocation of facilities.
- Advise, in writing, the name and address of person in the company to be notified.

2.3.11 – Preliminary Planning Procedure

The Division will:

- As soon as usable plans are available, conduct a field check of the project to determine and verify the location of all existing utility facilities.
- After the field check, submit to affected utilities the preliminary plans with a request to verify or correct the ownership and location of existing utility facilities as shown on the plans.

The Utility or Railroad will:

- When requested, participate and cooperate with Division in field checks.
- Promptly check the verification plans, indicate on the plans any additions or deletions, and then return to Division.
- Furnish, if requested, a “windshield” estimate of cost for the relocation.

2.3.12 – Alternates Considered

The economics of highway location and utility adjustment are studied to obtain the most desirable outcome. Where appropriate, the factors to be studied shall include comparison of the costs of underground and overhead utility facilities, and the costs of relocating a utility facility compared with revising the proposed road alignment. Once plans are firm, they are sent to the affected Utilities with a request that relocation plans along with reimbursement requests and/or permits be prepared and submitted to the Division.

2.3.13 – Utility Agreement Process

The Division will:

- Provide to the designated person for each affected Utility an authorization for preliminary engineering and replacement right of way. As soon as possible, provide usable plans to Utility and request an estimate of cost and proposed relocation plan.
- Notify each Utility of all changes in construction plans that involve its facilities.
- Review the plans and estimates submitted by each Utility regarding location of replaced facilities and conflict with construction details and potential conflicts with proposed locations of other utilities.

- Review proposed agreements as to eligibility for participation in accordance with the Reimbursement Submission Guidelines, and as set forth in FAPG 23 CFR, 645A.
- Allocate funds in conformity with Utility Cost Estimate.
- Where applicable, request Alternate Procedure approval as outlined in FAPG 23 CFR, 645A.
- Have utility relocations shown on highway construction plans.
- Process agreement for approval within the Division.
- Upon request, authorize the purchase of materials not in stock, which have an extended delivery date.
- Notify the Utility, in writing, to begin actual relocation work at the earliest possible date.
- The Railroads & Utilities Section will obtain betterment agreements, when required, for upgraded water and sewer line relocations designed by the Division or Consultant.
- Prepare Utility Status Report (Form RU-10), which shows for each Utility the estimated work completion dates or indicates coordination is required.
- After letting the contract, conduct a preconstruction conference with Division's Contractor and affected Utilities, primarily to determine the Contractor's sequence of operation and clarify work coordination.
- If there are revisions necessary to the Utility's relocation plans after the project begins, or additional work required because of changes in the highway construction plans, provide proper written authority to the Utility.

When Consulting Engineers develop highway plans for the Division, the Consultant is to:

- Locate by field surveys, available maps or other means all existing public and private utilities affected by the proposed construction.
- Submit to each Utility plans showing existing facilities and request verification of ownership and location. If verification is not promptly received from the Utility, the consultant will renew the request and advise the Division.
- Upon receiving verification of ownership and location from a Utility, submit to the Division a request that the affected Utilities be authorized preliminary engineering. A copy of the Division's authorization letter will be sent to the Consultant.
- Promptly notify each Utility of any changes in construction plans that involve its facilities.
- Promptly review submission of the relocation plans of each Utility regarding location of replaced facilities and conflict with construction details or with proposed locations of other Utilities.
- Be able to discuss all proposed utility relocations at the final field review. On any major or complicated utility relocation, the Consultant may request a special session for utilities. A representative from each Utility will be invited.
- Incorporate all utility relocations, including profiles and cross section views, into the plans.
- Furnish the Division with written summaries of all meetings and copies of all correspondence between Consultant and Utility.

The Utility or Railroad will:

- Designate a specific representative for the Division to contact.
- Upon receiving preliminary engineering authorization and plans, promptly proceed with the preparation of utility relocation plans. If right of way stakeout is needed, use the Right of Way Stake Request (Form RU-07) form, available at <https://transportation.wv.gov/highways/right-of-way/Pages/Utility-Publications.aspx> .
- Submit to Division's Railroad & Utilities Section for approval the Request for Reimbursement after the relocation plans have been approved by the Division.
- In the event the relocation requires material that is not in stock, or may have an extended delivery date, make an early request for authorization to order same.
- Within 10 working days of receipt of a properly executed Utility Agreement, provide a schedule for the work and notify the appropriate District Utility Supervisor when work will commence. Proceed with the necessary work and notify the District when work is complete using the Notice of Completion (Form RU-05) form, available at <https://transportation.wv.gov/highways/right-of-way/Pages/Utility-Publications.aspx> .
- Complete all physical work possible prior to the start of highway construction.
- Participate in the preconstruction conference and coordinate all work as required.
- Make no change from that shown in the approved Utility Agreement nor do any additional work without authorization from the Railroads & Utilities Manager.
- Keep necessary records during construction and furnish all information requested by Division.

When not adequately staffed to perform the design of facilities to accommodate proposed highway projects, the Utility provider may utilize consulting engineers, architects and others for required engineering and associated services. The Division will participate in the amounts paid for such services, provided that the amounts are not based on a percentage of the cost of relocation. The Utility and its Consultant shall agree in writing as to the services to be provided and the fees and arrangements, prior to commencement of performance of such work. The use of such services will require prior approval by the Division and should be requested as follows:

- Utility furnishes Division:
 - A written statement that Utility is not adequately staffed to perform the required design
 - Qualifications of Consultant, and
 - An executed utility-consultant agreement containing:
 - List of Consultant's staff by classification with pay scale per hour
 - Estimate of time and cost for the work
 - Certificate of Authorization of Consultant, to work in West Virginia
- Division reviews the:
 - Qualifications of the individual or firm

- Reasonableness of the rates and fee as compared to the standard rates in the area for similar services by other consulting engineers. The complexity of the work, time allowed and other factors affecting the cost will be considered, and
- Adequacy of the agreement and Certificate

The approval of a Consultant shall be on a project-by-project basis. The approved fee should be considered a maximum amount payable by Division, with the amount paid by Division to be the actual amount expended by the Utility, not to exceed the maximum. Any anticipated overrun for which the Division would be asked to reimburse shall be subject to Division's approval prior to incurring such cost. Such overrun approval should be based on supporting information furnished by the Utility.

The Division also will participate in the cost of such services performed under existing written continuing contracts where it is demonstrated that such work regularly is performed for the Utility's own work under the same contract. In this case, no prior Division approval is necessary; however, the Division is to be notified that work will be done in this manner. Reimbursement for the costs incurred will be contingent upon the use of normal audit procedures and the acceptability of the costs established thereby.

2.4 – RAILROADS

2.4.1 – Railroad-Highway Agreements

There are four (4) general types of highway projects involving railroads that require agreements to address new highway construction, relocation of railroad facilities, or the installation of protective warning devices:

- at-grade highway/rail crossing
- highway bridge spanning rail line(s)
- highway (as underpass or viaduct) beneath rail line(s), rail bridge or rail trestle, and
- highway adjacent to rail line/railroad right of way

When such a highway project is initiated, the Division drafts an agreement with the affected rail company (Railroad) to outline the responsibilities of both parties concerning the implementation of the highway project. When required, approval of the FHWA is obtained by the Division, prior to full execution of the agreement. This agreement contains the following information:

- The names of the parties to the agreement, the appropriate DOH project number(s), and date
- A description of the highway project
- A detailed statement of the work to be performed by each party

- Itemized force account estimate, material list and sketches for work to be performed by the Railroad
- Amount of participation of cost by each party
- Reference to:
 - FHWA Federal-Aid Policy Guide, Title 23 – Code of Federal Regulations:
 - 140I, Reimbursement for Railroad Work
 - 646A, Railroad-Highway Insurance Protection, and
 - 646B, Railroad-Highway Projects
 - Manual on Uniform Traffic Control Devices published by the FHWA
 - Road and Motor Vehicle Laws of West Virginia, and
 - Rules and Regulations of the Division
- Where applicable, provisions covering the right of entry on Railroad property
- Form, duration, and amount of any needed insurance
- Maintenance provisions, and
- Signatures of authorized representatives of the parties to the agreement.

2.4.2 – Force Account

Construction within Railroad right of way as part of a Division project is administered through a force account contract in which the Railroad performs the construction and is reimbursed for the actual costs incurred. The use of Railroad Flaggers as part of a project is also addressed by force account. The Division is authorized to utilize this method in accordance with 23 CFR § 635.205(b), which indicates that “Pursuant to authority in 23 U.S.C. 112(b), it is hereby determined that by reason of the inherent nature of the operations involved, it is cost effective to perform by force account the adjustment of railroad or utility facilities and similar types of facilities owned or operated by a public agency, a railroad, or a Utility company provided that the organization is qualified to perform the work in a satisfactory manner.”

Adjustment of railroad facilities shall include minor work on the railroad’s operating facilities routinely performed by the railroad with its own forces such as the installation of grade crossing warning devices, crossing surfaces, and minor track and signal work.

If no force account work is to be performed by the Railroad as part of the Division project, the Division may reimburse the Railroad for preliminary engineering costs incurred by the Railroad for the review of Division’s plans, including costs incurred by the Railroad’s Consultant utilized for review of Division’s plans. If the agreement is intended to address only preliminary engineering, inclusion of responsibility for right of entry and acquisition, insurance, and maintenance is unnecessary.

2.4.3 – Responsibilities of Division

- Provide authorization for preliminary engineering and furnish project plans

- Arrange, when necessary, a meeting (in-person or videoconference) with Railroad representatives on the project to study the extent of the work on Railroad property or affecting Railroad facilities
- Determine the following so that final plans can be completed:
 - Limits of work
 - Horizontal and vertical clearances
 - Drainage, and
 - Miscellaneous items
- Prepare a draft agreement between Division and Railroad to cover work to be performed and outline the responsibility of each party:
 - Provide draft to the Railroad, and
 - Review comments received from Railroad and finalize agreement
- Upon receipt from the Railroad of signed agreement, execute same on behalf of the Division.
 - Submit for approval to the FHWA, the Railroad agreement regarding all projects on the National Highway System, if required
 - Transmit to the Railroad one (1) fully executed original of the agreement and distribute copies accordingly
- Authorize the Railroad to proceed with force account work and to notify District personnel prior to commencement of work. This prior notification will ensure that the records necessary for reimbursement will be developed, and
- Promptly review invoices after receipt from Railroad and process for payment for reimbursement of actual costs incurred by Railroad

2.4.4 – Responsibilities of Railroad

- Determine the extent of work to be done by its forces
- Submit to the Division plans and an itemized estimate of the cost involved
- Review draft agreement. If the draft is not satisfactory, coordinate with Division to resolve concerns and finalize the agreement
- After signing, return the agreement to Division
- Upon receipt of authorization to proceed with force account work and prior to the commencement of work, notify the Assistant District Engineer, Construction, when work will commence. Proceed with the necessary work and notify the District when work is complete by using the Notice of Completion (Form RU-05) form, available at <https://transportation.wv.gov/highways/right-of-way/Pages/Utility-Publications.aspx> , and
- Provide to Division invoices for reimbursement of actual costs incurred

Any specific situation that occurs in which the District is not notified prior to commencement of work by the Railroad should be brought to the attention of Railroad & Utilities Manager. The Railroad's Chief Engineer will be notified.

2.5 – GENERAL

2.5.1 – Alternate Project Delivery – Design Build Projects

For certain projects, the Design Build method is utilized by Division's Alternate Project Delivery section. This means that no specific design is done before the project is advertised and bid. Utility companies may be contacted by various Design-Build Teams (DBT) who intend to bid on the project. Meetings may be held by Division that require your participation and discussion of existing utility facilities. After the project is awarded to a specific contractor, the Division will notify impacted Utilities which DBT was awarded the project. The DBT will act as an agent of the Division, and any correspondence or requests should be treated as if received from the Division. The DBT will manage the utility coordination process, including verifications and relocations. Unless otherwise directed by Division, any agreements and reimbursements will be coordinated directly with the DBT. Any relocation work performed on Division right of way will still require a permit.

2.5.2 – Direction of Work Performed Under Agreements or Permits Due to a Highway Project

Work under an agreement must not be performed prior to notification of plan approval by the Railroads & Utilities Manager.

The inspection of the work outlined in Railroad and Utility Agreements is a District responsibility. The list of District locations and contact information is available on the Division's website at <https://transportation.wv.gov/highways/districts/Pages/default.aspx> . Copies of all approved agreements are sent to the appropriate District Utility Supervisor.

If the Utility does not start operations when authorized or delays the performance of its work, direct contact shall be made by the District Utility Supervisor with the Utility representative. The Railroads and Utilities Section shall be notified of the occurrence by the District Utility Supervisor, and they will contact the designated representative for the Utility. In accordance with WV Code §17-4-17b the Utility will be liable for any delay charges that are found to be the result of the Utility's failure to relocate in a timely manner.

2.5.3 – Preconstruction Conferences

As soon as practicable following the awarding of a highway contract, a preconstruction conference is held wherein the District Manager, or representative, and the Contractor meet with representatives of each involved Railroad and Utility to verify the schedule provided after Notice to Proceed for coordination of the work. Procedures for this conference, usually held at a District office, are described in the Division's Construction Manual. Full notes of the meeting are to be taken, proofread, typed, and distributed at the earliest possible date to those in attendance. This

procedure will allow corrections of any errors in the notes and will make this document important in the event future questions or issues arise.

2.5.4 – Inspection and Records of Work Performed under Permit and by Agreement

The purpose of inspection is to ensure that the work is performed in substantial compliance with the agreement and document information, which also will facilitate performance of an audit by representatives of the Division or the FHWA. The Division's Construction Manual provides that the Engineer or Inspector in charge of the project must keep detailed records regarding the amount of labor, material, and equipment used and materials salvaged. This enables a crosscheck when invoices are rendered. The Inspector assigned to observe reimbursable operations should be familiar with the agreement before the work starts. The Inspector assigned to observe operations should be familiar with the permit before the work starts.

An Inspector's Daily Utilities Report (Appendix B, Form RU-09) is to be completed by the Inspector observing the work. Both the Utility representative and the Division Inspector are to agree and sign the form at the end of each day's operation; however, if either refuses to sign the form, or is unavailable, a notation to that effect should be made in the space provided for the Inspector's or Utility's signature.

Where feasible, a daily running total of materials used and/or removed should be tallied, in simple form, to facilitate final review upon job completion. Before any recovered material is disposed of by sale, scrap, or reuse, the Utility must notify the appropriate Assistant District Engineer, Construction, in writing. The results of the inspection, along with the inventory and condition of materials recovered, shall be entered on the Inspector's Daily Utilities Report. It is important that any substantial change in the amount and/or character of materials actually recovered as compared with those estimated in the Utility Agreement be noted and explained. The District Utilities Supervisor is responsible for reviewing the completed report and notifying the Railroads and Utilities Section if a schedule change is anticipated.

Upon completion of the utility work, the District Utility Supervisor should review the paperwork with the Inspector who observed the utility work. This paperwork should be checked against the completed as-built plans and the agreement. Any comments or exceptions that arise during the final check should be carefully recorded.

2.5.5 – Inspection of Work Performed under Permit

For those projects where the Division is not responsible for relocation costs and the work is done under permit, the Inspector must ensure that the work is properly performed in accordance with the permit and sketches accompanying same. On active highway projects, the District Utility Supervisor should send a copy of the permit to the Project Engineer.

2.5.6 – Self-Certification of Utility Installation under Permit

In addition to the other requirements of this Manual a Utility choosing to exercise this option shall ensure the following:

- The Utility must submit to the Division, in writing, a request for this option, with a letter from the Independent Inspector (independent of the Utility requesting this option) that is signed and stamped by a Professional Engineer registered in West Virginia, verifying the Inspector's or Engineer's services, and confirming the Inspector or Engineer:
 - has reviewed/approved the plans and design concerning said permit
 - will provide full-time inspection and testing with qualified personnel
 - will perform compaction tests (one (1) lot per 500 lf = five (5) sub-lots)
- These items will accompany the original permit (Form MM-109) submitted to the District Utility Supervisor.
- The Utility must provide to the Division a Performance Bond for each permit submitted. Project-Specific bonds will be \$100,000 or 5% of the project cost, whichever is greater.
- One original and two (2) copies of the permit (Form MM-109), plans, cross-sections, profile view, area map, utility consultant letter, and description of the work to be performed will be submitted by the Applicant to the District Utility Supervisor for review.
- No work shall begin until said permit is reviewed and approved by the District and the approved permit has been received by the Utility.
- A copy of the approved permit shall be kept at the work site at all times by the Utility.
- The permit holder will assume full responsibility for placement of the utility, restoration of Division right of way to the original condition or to a condition that exceeds the original.
- The permit holder shall assume full responsibility for the maintenance of traffic as provided by the Division's current Manual on Temporary Traffic Control for Streets and Highways, and as indicated in the plans accompanying the permit.
- The permit holder shall be responsible for obtaining any other permits required by West Virginia State Law.
- The permit holder shall hold the Division harmless from any liability for injury to persons or damage to property on or off Division right of way during the construction of said project. Any work performed in the presence of or during the absence of the Division's inspector in no way relieves the Applicant of his responsibility for proper installation and accountability to the Division.
- Minimum qualifications for inspectors shall be NICET Level II certification, WVDOT Engineering Technician Level II certification, or the equivalent with minimum experience of five (5) years in the Utility or Construction field. This information will be made available to the Division.
- The Division may perform quality assurance inspection to ensure minimum requirements are being met and quality control is in place.
- The District Manager/Engineer reserves the right to revoke the permit at any time for any technical or policy related reason.

- The Utility Permittee will lose the option of Self-Certification if it or its Engineer/Consulting Firm are determined by the Division to be irresponsible, unresponsive or if continued written warnings are issued for non-compliance of these minimum requirements. A written course of corrective action will be required to be submitted for approval to the District Utility Supervisor for reinstatement of this option.
- Upon completion of work, the Independent Inspector shall certify in writing, signed and stamped by the responsible engineer, that the Division's conditions and policy have been met.
- A Substantial Completion Review shall be conducted by the Utility Permittee or its Contractor, the Utility Permittee's Engineer/Consulting Firm, and the District Utility Supervisor at the time all work has been completed.
- A Final Review will be performed after one (1) year after which the Applicant may request the bond be released.

2.5.7 – Billing Procedures

All invoices are to be submitted directly to the District Engineer of the District in which the work is performed. The list of District locations and contact information is available on the Division's website at <https://transportation.wv.gov/highways/districts/Pages/default.aspx> . All invoices must contain the state project number, federal right of way project number (where applicable), project description and county, date of agreement, and the amount of the invoice, showing credit for any previously received partial payments. Partial invoices may be submitted for actual costs incurred up to, but not exceeding, the amount shown in the approved agreement and must be clearly marked PARTIAL INVOICE. Final invoices are required to be submitted within 120 calendar days after all chargeable work covered by the agreement has been completed. The Utility or Railroad shall submit the final invoice, with complete support documentation, signed by an authorized representative. Final invoices cannot be paid until they have been audited, as required by Division Policies and Procedures. Final invoice audits take a minimum of 120 calendar days to complete.

2.5.8 – Project Closure

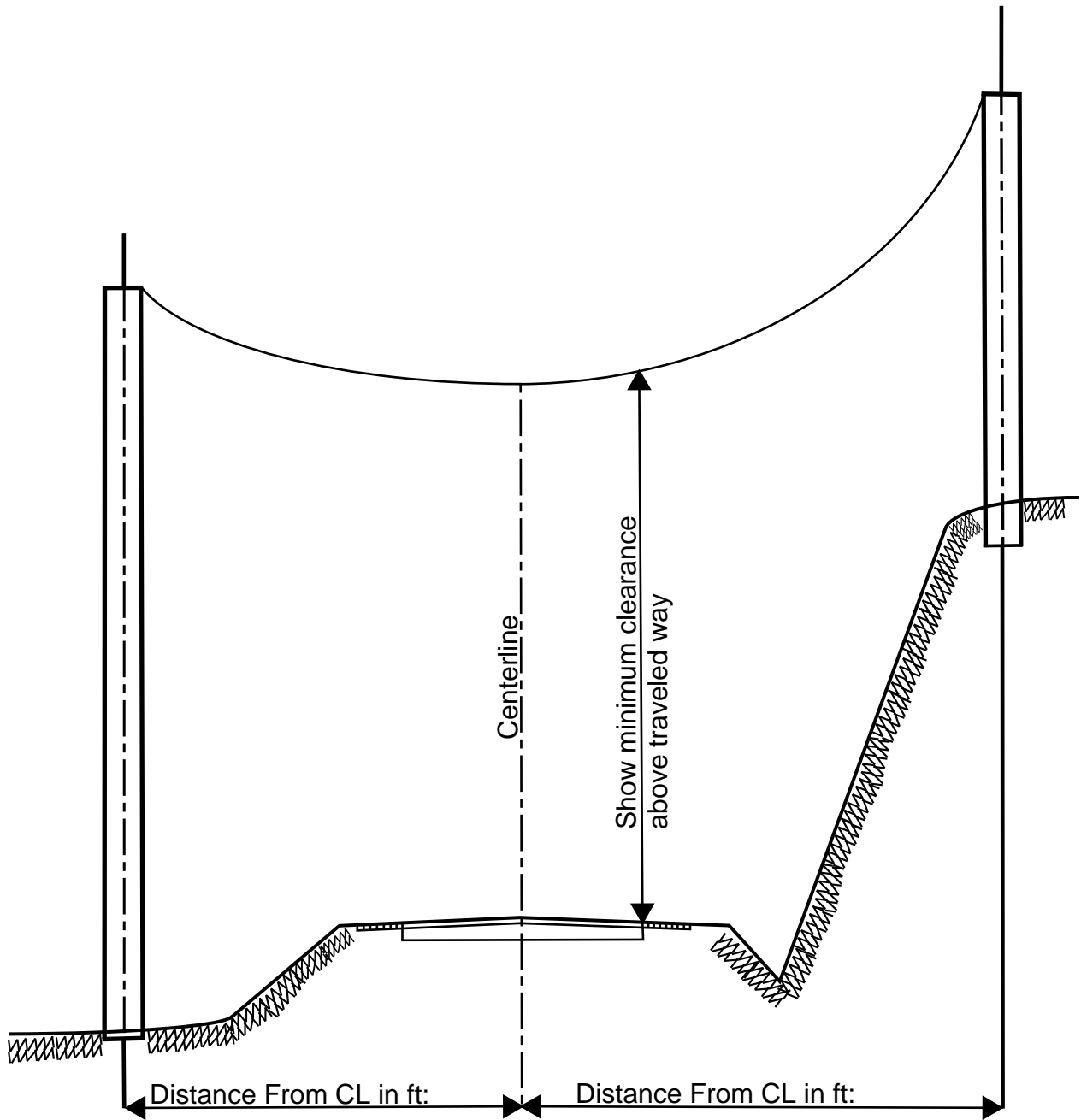
The District Utility Supervisor will ensure final invoices are submitted in a timely manner. The project will be closed after final invoices have been paid or work has been complete for one (1) year with appropriate notice given to the involved utilities or railroad.

Appendix A

Lat/Long:
Pole Owner:
Pole Number(s):

Route No. :
DOH ROW FROM CL:
Type of crossing:

Lat/Long:
Pole Owner:
Pole Number(s):



**PROFILE VIEW ON THE ROADWAY
CROSS SECTION
"AERIAL"**

FIGURE 1

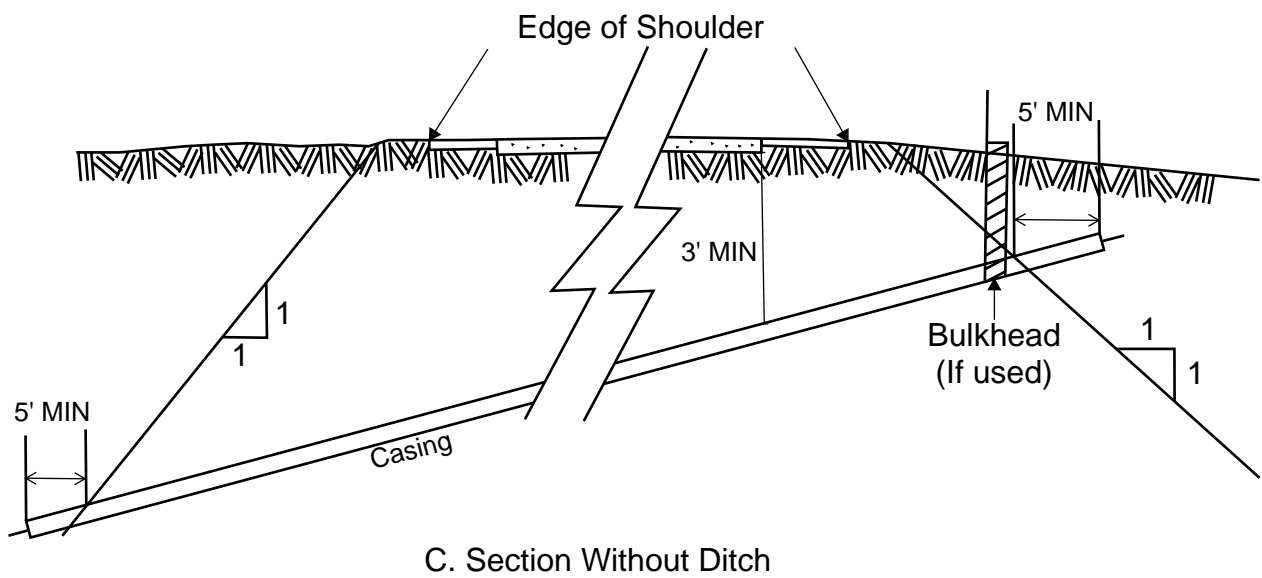
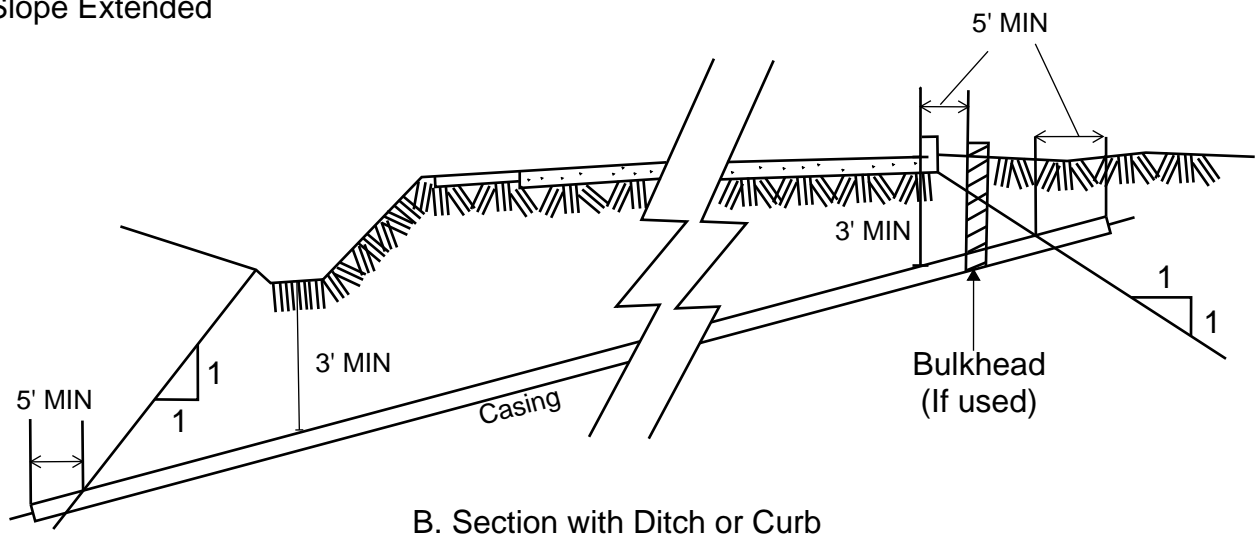
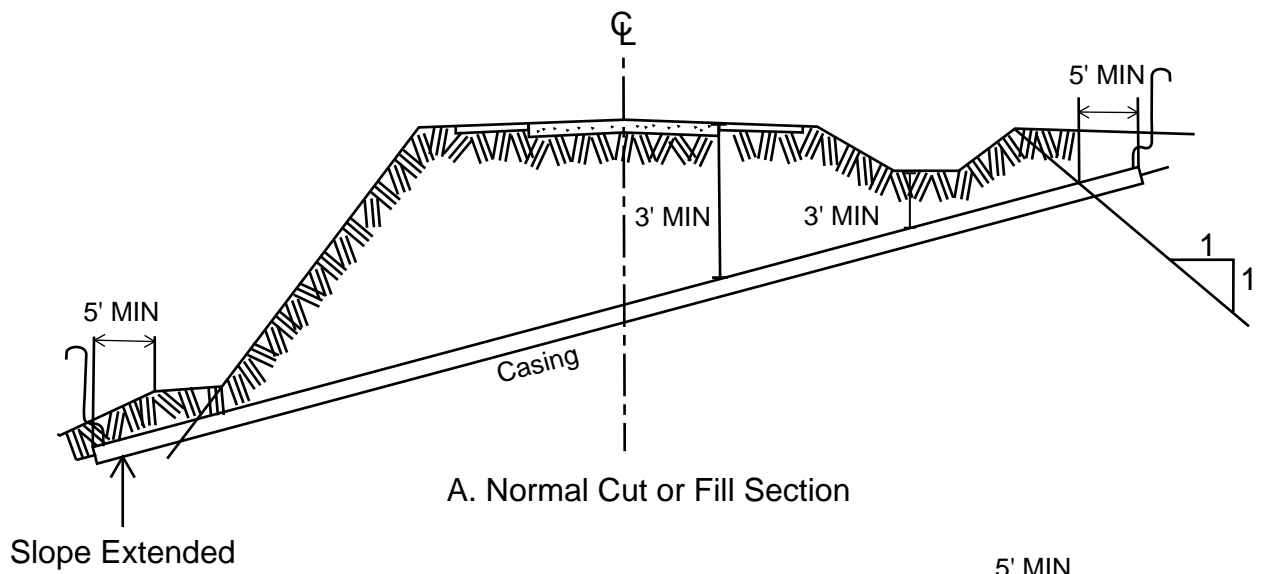


FIGURE 2

MINIMUM VERTICAL CLEARANCE OF WIRE ABOVE GROUND

ACROSS AND ALONG ROADS

(RULE 232 OF NATIONAL ELECTRICAL SAFETY CODE)

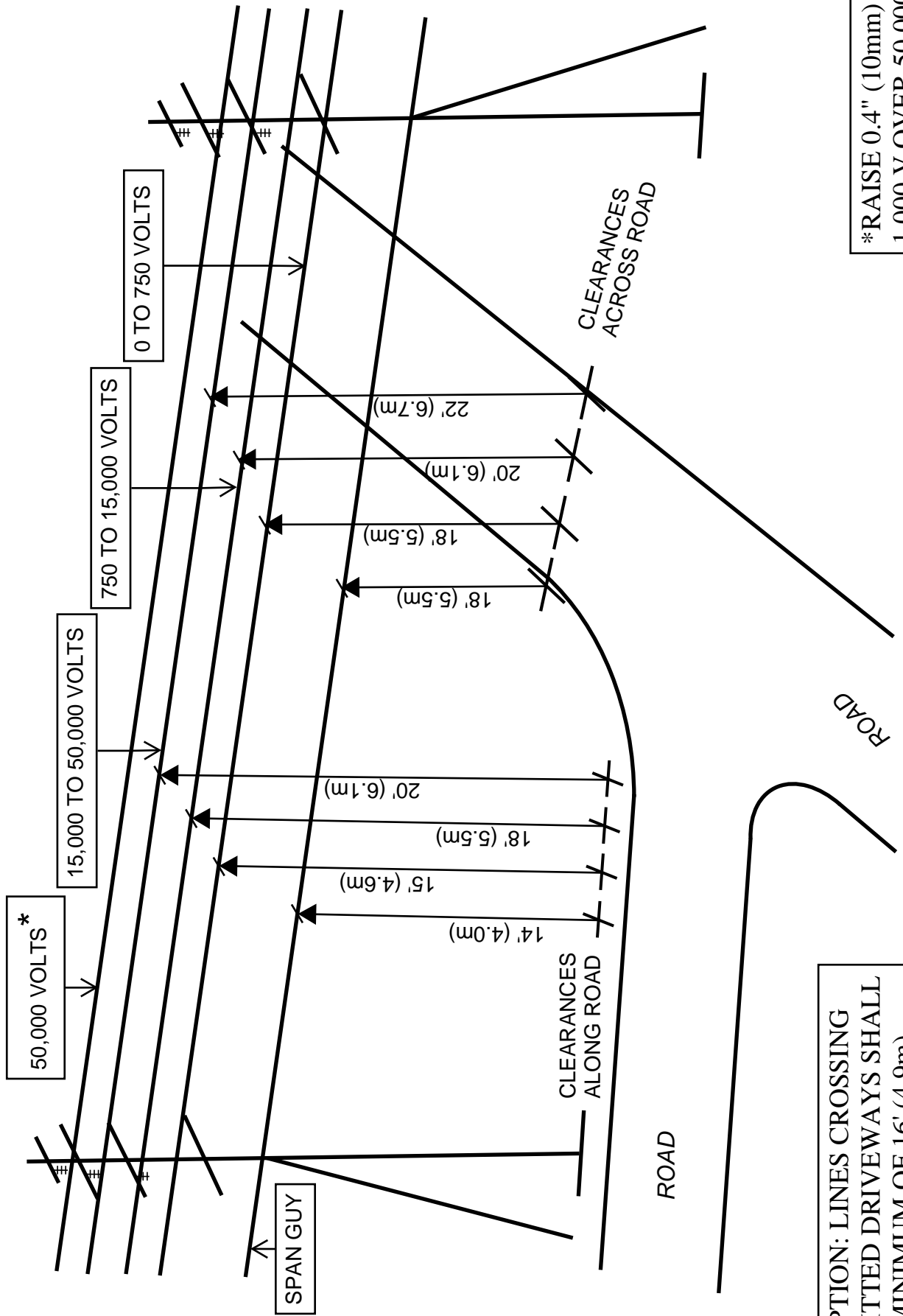


FIGURE 3

EXCEPTION: LINES CROSSING PERMITTED DRIVEWAYS SHALL BE A MINIMUM OF 16' (4.9m)

*RAISE 0.4" (10mm) PER 1,000 V OVER 50,000 V

Appendix B

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Form RU-09		Utility Inspector's Report Number			
Project/Permit No.	Authorization No.	District	County	Date	
Utility/Applicant		(1) Work Force			
(2) Location and Description of Work: _____ _____					
(3) Labor			(4) Equipment		
Name	Title	Hours	Description	Hours	
			(5) Materials		
			Description	Unit/Qty	I/S
(6) Remarks:					
_____ DOH Inspector's Signature		_____ Hours	_____ Vehicle Ending Mileage	_____ Vehicle ED Number	
(7) _____ Utility Representative Signature			_____ Utility Work Order, AFE, or ID Number		

FIGURE 4

**INSTRUCTIONS FOR COMPLETING
FORM RU-09**

- 1) Enter word "Same" if work is performed by Utility's forces or Applicant; otherwise, enter name of Contractor performing work.
- 2) Enter adequate information such as Route Number, Station and Offset, etc.
- 3) Enter first initial and last name of worker, their classification and hours on job.
- 4) Enter vehicle name, type, ID or license number.
- 5) Enter description of material, unit and quantity, indicate (I) "Installed" or (S) "Salvaged".

Example: 8" PVC Conduit 500 LF I

- 6) Explain any extenuating circumstances. Provide any information not otherwise indicated on form such as number of compaction tests taken and their results. Make sketch if necessary, indicate disposition of recovered material, sign form, and enter your hours, your vehicle's ending mileage and ED number.
- 7) Agreement Inspection Only:
 - A. Have utility representative sign form and enter appropriate work order, AFE or ID number.
 - B. A separate report must be made each day for each utility whether or not work is performed.
 - C. As-built plans must be utilized and kept up-to-date.

***DO NOT WRITE ON BACK OF REPORT.
USE ADDITIONAL PAPER AS NEEDED**