Utility Accommodation on GDOT Owned Railroad Right of Way

**Purpose** - Prescribe policies and standards for the accommodation of utilities and establish procedures and controls for issuing permits by the Department. The information below provides a means for coordinating the use of GDOT owned railroad right of way and establishes a tracking system of all utility operations and plans within such right of way.

**Procedures for Obtaining Permits**

**District Utilities Office Review** - Permit applications shall be submitted electronically to the District Utilities Engineer via the Georgia Utilities Permitting System (GUPS) for review and shall contain as a minimum the following information: The proposed plan showing in detail the location of the proposed facility. The plans shall include the operating railroad name, nearest railroad milepost and intersecting public road; show the size, material, pressure (if applicable), capacity, etc. of facilities to be installed; casing material, size, thickness, length; features such as right of way lines; horizontal and vertical clearance to top of rail and any other information necessary to evaluate the impact to the right of way. Include a location sketch (County map) showing the work site. Upon the completion of the Districts review, the application shall be forwarded to the State Utilities Office for further processing and final approval.

[Click here](#) for instructions to apply for the GUPS Permit.

**State Utilities Office Review** - Upon receipt, the State Utilities Office shall review the permit for compliance and submit a **SPECIAL PROVISION FOR PROTECTION OF RAILWAY INTERESTS** to the District Utilities Office to forward to the Utility for completion. The Utility shall address each stipulation in the Special Provision and forward the complete permit package to the District Utilities Office. The District Utilities Office will forward the completed permit package back to the State Utilities Office for final review. The State Utilities Office shall notify the District Utilities Office of the conditional approval upon receipt of the ten (10) day notice of intent to begin work to the Department and operating railroad. At this time the District Utilities Office will approve the permit and send one original copy to the State Utilities Office and hold all other copies until notified from the State Utilities Office that the ten (10) day notice has been received.

**General Controls**

**Aerial Facilities** – Overhead installations shall maintain a minimum vertical clearance of 25 feet above rail elevation; preferably adjacent to intersecting roadways and as close to a 90 degree angle as possible. The Utility shall design the facility in such a manner to span the entire right of way and shall utilize joint-use practices whenever applicable.

**Underground Facilities** – When practical, utility facilities should cross underneath the tracks at a 90 degree angle. The minimum clearance shall be 6 feet below the toe of slope of the rail bed or a minimum 3 feet below the ditch line which ever is greater; all facilities shall be encased in steel casing from right of way to right of way (i.e. water, gas & sewer). Telecommunication facilities, that are deemed non-pressurized, may be installed in a HDPE conduit at a minimum depth of 10 feet under the rail bed. Bore pits, at a minimum, shall be 30 feet from center of tracks.

**Note**- Any other information not outlined above will be governed by the current edition of the Georgia Department of Transportation’s Utility Accommodation Policy and Standards manual.
SECTION 1: AUTHORITY OF RAILROAD REPRESENTATIVE AND HIGHWAY ENGINEER:

The authorized representative of the Railroad, hereinafter referred to as Railroad Representative, shall have final authority in all matters affecting the safe maintenance of Railroad traffic and the necessity for flagging during any proposed utility construction.

The authorized representative of the Department’s Chief Engineer, hereinafter referred to as the Highway Engineer, shall have authority over all other matters as prescribed in the Department’s Utility Accommodation Policy and Standards Manual, current edition, as may be revised for this permit.

For the purpose of this Special Provision the term “Utility” shall mean the Utility Company or its Contractor(s).

SECTION 2: NOTICE OF STARTING WORK:

A. The Utility shall not commence any work on Department owned railroad right of way until he has complied with the following conditions:

(1) Obtained written authorization from the Department to begin work on Department owned railroad right of way, such authorization may include an outline of specific and general conditions.

(2) Obtained written approval from the Department for the railroad protective and general liability insurance coverages as required by Section 8 of this special provision.

(3) Furnished a schedule for all work to the District Utilities Engineer as required by Section 6 of this Special Provision.

(4) Given the Department and Railroad written notice at the addresses shown below and contact the Department’s Area Engineer who has been designated to be in charge of the work, at least 10 working days in advance of the begin work date. If flagging is required, it may take up to 30 days to obtain a flagger from the Railroad and no work
shall be undertaken until a flagger is present at the job site (See Section 6 for additional information).

Notice to:                          Copy to:
Contact Name, Title                State Utilities Engineer
Railroad Company                   Georgia Department of Transportation
Address                            Office of Utilities, 10th Floor
Location, State & Zip              600 W. Peachtree Street
                                      Atlanta, Georgia 30308

B. The Department’s written authorization to proceed with the work shall include the names, addresses, and telephone numbers of the Highway Engineers and Railroad’s Representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

Section 3: INTERFERENCE WITH RAILROAD OPERATIONS AND EQUIPMENT, AND WITH DEPARTMENT OWNED RAILROAD RIGHT OF WAY:

A. The Utility shall so arrange and conduct the work such that there will be no interference with Railroad operations, including train, signal, and communication services, or damage to the facilities or tenants on the Department owned railroad right of way. Whenever work is liable to affect such operations, safety, facilities, or property, the method of doing such work shall first be submitted to the Railroad Representative for review and approval, but such approval shall not relieve the Utility from liability. Any work to be performed by the Utility, which requires flagging and inspection by the Railroad shall be deferred by the Utility until the flagging and inspection required by the Railroad is available at the job site.

B. Whenever work within Department owned railroad right of way is of such a nature that Railroad operations are impeded to a point where the necessity for reduced speed is unavoidable, the Utility shall schedule and conduct his operations so that such impediment is reduced to the absolute minimum.

C. Should conditions arising from, or in connection with the work, that requires that immediate and unusual provisions be made to protect operations, facilities, and property of the Department and of the Railroad, the Utility shall make such provisions. If in the judgment of the Railroad Representative, or in his absence, the Highway Engineer, such provision is insufficient, either may require or make revised or additional provisions, as he deems necessary. In any event, such revised or additional provisions shall be at the Utility’s expense and without cost to the Railroad or the Department.
Section 4: CONSTRUCTION PROCEDURES:

A. General:

Construction work and operations by the Utility on Department owned railroad right of way, or property, shall be:

(1) Subject to the inspection and approval of the Department and the Railroad.

(2) In accord with the Railroad’s general rules, regulations, and requirements including those relating to safety, fall protection, and personal protective equipment.

(3) In accord with the Department’s Utility Accommodation Policy and Standards Manual, current edition, and this special provision.

B. Track Clearances:

Aerial Facilities: On overhead crossings a minimum vertical clearance of twenty-five (25) feet shall be continuously maintained between top of rail and bottom of the utility facility. Poles shall be located off of the Department owned railroad right of way.

Track Bores: Bores shall normally be limited to access points such as public or private road crossings; however in some cases it may be prudent for the Utility to install their facilities beyond these access points.

a) All installations shall be encased (Except as Noted Below) from right of way to right of way and shall maintain a minimum depth of three (3) feet below the ditch line or six (6) feet below the toe of slope of the rail bed, which ever is greater (See Attached Jack & Bore Detail).

b) On all non-pressurized installations (electrical, telecommunication) less than 6 inches in diameter and over 10 feet deep, HDPE will be considered on a case by case basis (See Attached Jack & Bore Detail).

c) At access points where a utility is proposed, bores pits shall not be allowed within ten (10) feet of the toe of the railroad front slopes or a minimum of thirty (30) feet from the center of the tracks, which ever is greater.

d) At locations between access points the proposed bore shall extend from right of way to right of way.
C. Excavation for Structures:

The Utility shall take special precaution and care in connection with excavating and shoring pits for construction of utility facilities under, over, or adjacent to tracks in order to provide adequate lateral and vertical support for the tracks and the loads which they carry, without disturbance of track alignment and surface; and to avoid obstructing track clearances with working equipment, tools or other material. The procedure for doing such work, including plans for excavation and shoring shall be approved by the Department’s Office of Bridge and Structural Design, but such approval shall not relieve the Utility from liability.

D. Blasting:

(1) The Utility shall obtain advance approval of the Railroad Representative and the State Utilities Engineer for use of explosives on or adjacent to Department owned railroad right of way or near Railroad equipment. The request for permission to use explosives shall include a detailed blasting plan. If permission for use of explosives is granted, the Utility will be required to comply with the following:

(a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Utility.

(b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.

(c) No blasting shall be done without the presence of an authorized representative of the Railroad. At least 72 hours advance notice to the person designated in the Railroad’s notice of authorization to proceed (See Section 2 above) will be required to arrange for the presence of an authorized Railroad Representative and such flagging the Railroad may require.

(d) Have at the job site adequate equipment, labor, and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains. Correction of any track misalignment or other damage to the Department owned railroad right of way resulting from the blasting shall be done as directed by the Highway Engineer and the Railroad Representatives at the Utility’s expense. If the Utility’s actions result in delay of trains, the Utility shall bear the entire cost thereof.

(e) Storage of explosives on Department owned railroad right of way will not be permitted.
(f) Furnish satisfactory evidence of XCU (explosion-collapse-underground damage) insurance coverage.

(2) The Railroad Representative will:

(a) Determine the approximate location of trains and advise the Utility the approximate amount of time available for the blasting operation and clean up.

(b) Have the authority to order discontinuance of blasting if, in his opinion, blasting is too hazardous or is not in accord with the permit and this special provision.

(3) Other Requirements:

Each Railroad has its own requirements for blasting which may include provisions in addition to the above. It is the Utility’s responsibility to contact the Railroad before performing any blasting and determine and comply with these requirements. The Utility shall handle all matters relating to blasting with the Railroad and pay for all costs involved.

E. Maintenance and Repair of Railroad Facilities:

(1) The Utility will maintain all ditches and drainage structures free of silt or other obstructions, which may result from the operations and provide and maintain any erosion control measures as required by the Highway Engineer. The Utility Contractor will promptly repair eroded areas within Department owned railroad right of way.

(2) The Utility will also repair, or cause to be repaired, any other damage to the property or facilities of the Department or to the equipment of the Railroad or its tenants.

(3) All such maintenance and repair of damages due to the Utility’s operations shall be done at the Utility’s expense.

F. Storage of Materials and Equipment:

Materials and equipment shall not be stored on the Department owned railroad right of way.

G. Cleanup:

Upon completion of the work, the Utility shall remove from within the limits of the Department owned railroad right of way, all machinery, equipment, surplus materials, falsework, temporary erosion measures, rubbish or temporary facilities, and leave said right of way in a neat condition satisfactory to the Highway Engineer and to the Railroad Representative.
Section 5: **DAMAGES:**

A. The Utility shall assume all liability for any and all damages to his work, employees, servants, equipment, and materials caused by Railroad traffic.

B. Any cost incurred by the Department or Railroad for repairing damages to its property or to property of its tenants, caused by or resulting from the operations of the Utility Contractor, shall be paid directly to the Department and/or the Railroad by the Utility Contractor.

Section 6: **FLAGGING SERVICES:**

A. **When Required**

Under the terms of the lease agreement between the Department and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect its operations and Department’s facilities. In general, the requirements for flagging will be whenever the Utility’s personnel or equipment are, or are likely to be, working on the Department owned railroad right of way, or within distances as may be specified by Railroad’s Representative, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging. These requirements include situations where a crane, or other piece of equipment, is located such that its boom, or extremity, could move and pass within 15 feet of the centerline of a track or within a distance as may otherwise be specified by Railroad Representative. **Normally the Railroad will assign one flagman to a project, but in some cases, more than one may be necessary.**

B. **Scheduling and Notification**

(1) Not later than the time that approval is initially requested to begin work on the Department owned railroad right of way, the Utility shall furnish to the Railroad and the Department a schedule for all activities required to complete the work.

(2) The Utility will be required to give the Department and Railroad at least 10 working days of advance notice of intent to begin work within the Department owned railroad right of way in accordance with Section 2 of this Special Provision. Once begun, when such work is then suspended at any time, or for any reason, the Utility will be required to give the Railroad Representative at least 3 working days of advance notice before resuming work on Department owned railroad right of way. Such notices shall include sufficient details of the proposed work to enable the Railroad Representative to
determine if flagging will be required. If such notice is in writing, the Utility shall furnish the State Utilities Engineer a copy; if notice is given verbally, it shall be confirmed in writing with copy to the State Utilities Engineer. If flagging is required, no work shall be undertaken until the flagman, or flagmen, are present at the job site. It may take up to 30 days to obtain flagging initially from the Railroad. When flagging begins, the flagman is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and cannot be called for on a spot basis. If flagging becomes unnecessary and is suspended, it may take up to 30 days to again obtain flagging services from the Railroad. Due to Railroad practices, in some cases it may be necessary to give 5 days notice before flagging service may be discontinued and payment stopped.

(3) If, after the flagman is assigned to the project site, unusual circumstances or conditions arise which require the flagman’s presence elsewhere, then the Utility shall delay work on Department owned railroad right of way until such time as the flagman is again available. Any additional costs resulting from such delays shall be borne by the Utility and not the Department or the Railroad.

C. Payment:

(1) The Utility will be responsible for paying the Railroad directly for any and all costs of flagging, which may be required to accomplish the work. The Utility shall not delegate this responsibility to any utility contractor, subcontractor or any other party. The estimated cost of flagging service is approximately $35 per hour or $280 per day based on an 8-hour work day and 40-hour work week. This cost includes the base pay for the flagman, overhead, and generally includes travel expenses, meals, lodging, equipment, etc. The charge to the Utility by the Railroad will be the actual cost based on the rate of pay for the Railroad’s employees who are available for flagging service at the time the service is required. Work by a flagman in excess of 8 hours per day and 40 hours per week may result in overtime pay at 1 ½ times the appropriate rate. Also, certain unusual conditions may arise which may result in overtime pay at 2 times the appropriate rate. Railroad work involved in preparing and handling bills may also be charged to the Utility. Charges to the Utility by the Railroad shall be in accordance with Federal-Aid Highway billing procedures and requirements as contained in applicable provisions of Part 140, Subpart I, and Part 646, Subpart B, of Title 23, Highways, of the Code of Federal Regulations, current edition, and shall further be on the same basis as the Department would be billed by the Railroad if the Department was paying for the charges on a Department project. Flagging costs are subject to change and vary from railroad to railroad. The Utility must verify current and actual cost with the Railroad involved before pricing the work. The above estimates are provided for information purposes only and are not to be interpreted as factual in any way.

(2) The Utility will be billed for flagging services on a periodic basis directly by the Railroad; and the Utility will promptly pay such bills within 30 days after each bill is rendered. Should the Utility fail to pay the Railroad within 60 days after any bill is
rendered, the Department and/or the Railroad may stop the work until such time as this payment is paid in full.

D. Verification

(1) The Utility will review and sign the Railroad flagman’s semi-monthly time sheet, payroll sheet or other similar documentation, attesting that the flagman was present during the time recorded.

(2) The Railroad flagman assigned to the project will be responsible for notifying the Highway Engineer upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services have begin and on the last day that he performs such services for each separate period that services are provided. The Highway Engineer will document such notification in the project records. When requested, the Highway Engineer will also sign the flagman’s time sheets showing daily time spent at the project site.

Section 7: SAFETY GUIDELINES:

A. Guidelines for Personnel on Department Owned Railroad Right of Way

(1) All persons shall wear hard hats. Appropriate eye and hearing protection must be used. Working in shorts is prohibited. Shirts must cover shoulders, back, and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip-on type boots is prohibited. Hard-sole, lace-up footwear, zippered boots, or boots cinched up with straps, which fit snugly about the ankle, are adequate. Safety boots are strongly recommended.

(2) No one is allowed within 25 feet of the centerline of track without specific authorization from the flagman.

(3) All persons working near track while train is passing are to look out for dragging bands, chains, and protruding or shifted cargo.

(4) No one is allowed to cross tracks without specific authorization from flagman.

(5) All welders and cutting torches working within 25 feet of the track must stop when train is passing.

(6) No steel tape or chain will be allowed to cross or touch rails without permission.

B. Guidelines for Equipment on Department Owned Railroad Right of Way
(1) No crane or boom equipment will be allowed to set up to work or park within boom distance plus 15 feet of the centerline of track without specific permission from Railroad Representative and/or flagman.

(2) No crane or boom equipment will be allowed to foul track or lift a load over the track without flag protection and track time.

(3) All equipment operators will stay with their machines when crane or boom equipment is pointed toward track.

(4) All cranes and boom equipment under load will stop work while train is passing (including pile driving).

(5) Swinging loads must be secured to prevent movement while train is passing.

(6) No loads will be suspended above a moving train.

(7) No equipment will be allowed within 25 feet of centerline of track without specific authorization of the flagman.

(8) Trucks, tractors or any equipment will not touch ballast line without specific permission from Railroad Representative and/or flagman.

(9) No equipment or load movement within 25 feet or above a standing train or railroad equipment without specific authorization of flagman.

(10) All operating equipment within 25 feet of track must halt operations when a train is passing. All other operating equipment may be halted by the flagman if the flagman views the operation to be dangerous to the passing train.

(11) All equipment, loads, and cables are prohibited from touching rails.

(12) While clearing and grubbing, no vegetation will be removed from railroad embankment with heavy equipment without specific permission from the Railroad Representative and/or flagman.

(13) No equipment or materials will be parked or stored on Department owned railroad right of way unless specific authorization is granted from the Railroad Representative.

(14) All unattended equipment that is left parked on Department owned railroad right of way shall be effectively immobilized so that it cannot be moved by unauthorized persons.

(15) All cranes and boom equipment will be turned away from track after each work day or whenever unattended by an operator.
Section 8: **INSURANCE**:

A. The Utility (or its Contractor) who is actually performing the work will be required to carry insurance of the following kinds:

(1) Utility Contractor’s Public Liability and Property Damage Liability Insurance.

The Utility Contractor shall furnish to the Department and copy to the Railroad the certificate of insurance in TRIPlicate as evidence that, with respect to the operations he performs he carries regular Contractor’s Public Liability Insurance and regular Contractor’s Property Damage Liability Insurance both providing for limits of not less than $2,000,000.00.

(2) Utility Contractor’s Protective Public Liability and Property Damage Liability Insurance.

The Utility Contractor shall furnish the Department and copy to the Railroad the certificate of insurance in TRIPlicate as evidence that with respect to the operations performed for him by any subcontractor, he carries in his own behalf regular Contractor’s Protective Public Liability Insurance and regular Contractor’s Protective Property Damage Liability Insurance both providing for limits of not less than $2,000,000.00. Such insurance shall contain a contractual liability endorsement which will cover the obligations assumed under this utility permit and an endorsement naming the Department as “additional insured”. This endorsement provision shall be stated on the certificate of insurance provided to the Department and copied to the Railroad.

**CERTIFICATE HOLDER** for (1) and (2) above is as follows:

<table>
<thead>
<tr>
<th>Contact Name, Title</th>
<th>Railroad Company</th>
<th>Address</th>
<th>Location, State &amp; Zip</th>
</tr>
</thead>
</table>

Copy to:

State Utilities Engineer
Georgia Department of Transportation
Office of Utilities, 10th Floor
600 W. Peachtree Street
Atlanta, Georgia 30308
CERTIFICATE OF “ADDITIONAL INSURED” for (1) and (2) above is as follows:

Georgia Department of Transportation
Administrator, Office of Intermodal Programs
600 W. Peachtree Street, 2nd Floor
Atlanta, Georgia 30308

Copy to:

State Utilities Engineer
Georgia Department of Transportation
Office of Utilities, 10th Floor
600 W. Peachtree Street
Atlanta, Georgia 30308

(3) Railroad Protective Liability Insurance.

The Utility Contractor shall furnish to the Department and copy to the Railroad the ORIGINAL AND TWO (2) COPIES of Railroad Protective Insurance Policy with limits of liability as follows:

<table>
<thead>
<tr>
<th>COVERAGE</th>
<th>MINIMUM COMBINED LIMITS OF LIABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodily Injury Liability</td>
<td>$2,000,000.00 per occurrence</td>
</tr>
<tr>
<td>Property Damage Liability</td>
<td>$6,000,000.00 aggregate</td>
</tr>
<tr>
<td>Physical Damage to Property</td>
<td></td>
</tr>
</tbody>
</table>

The Standards for this protective insurance shall follow the requirements of Part 646, Subpart A, of Title 23, Highways, of the Code of Federal Regulations, current edition.

Railroad protective insurance shall be provided on “ISO-RIMA” (Insurance Services Office – Railroad Insurance Management Association) policy form No. CG 00 35 01 96. ISO Amendatory Endorsement No. CG 28 31 10 93 should also be included if a policy form number other than the foregoing is used. The equivalent of the foregoing will also be acceptable. Such insurance shall contain a contractual liability endorsement which will cover the obligations assumed under this utility permit and an endorsement naming the Department as “additional insured”. This endorsement provision shall be stated on the certificate of insurance provided to the Department and copied to the Railroad.
UTILITY PERMIT SPECIAL PROVISION FOR PROTECTION OF RAILWAY INTERESTS

BINDERS ARE NOT ACCEPTABLE FOR THIS COVERAGE

NAMED INSURED for Railroad Protective Liability Insurance is as follows:

State Utilities Engineer
Contact Name, Title
Georgia Department of Transportation
Railroad Company
Office of Utilities, 10th Floor
Address
600 W. Peachtree Street
Location, State & Zip
Atlanta, Georgia 30308

NAMED “ADDITIONAL INSURED” for Railroad Protective Liability Insurance is as follows:

Georgia Department of Transportation
Administrator, Office of Intermodal Programs
600 W. Peachtree Street, 2nd Floor
Atlanta, Georgia 30308

B. Evidence of insurance as required in A. above shall be furnished to the address shown below for review and approval by the Department and copied to the Railroad:

NOTICE TO: 

COPY TO:

State Utilities Engineer
Georgia Department of Transportation
Office of Utilities, 10th Floor
600 W. Peachtree Street
Atlanta, Georgia 30308

Contact Name, Title
Railroad Company
Address
Location, State & Zip

Department:

Georgia Department of Transportation
Administrator, Office of Intermodal Programs
600 W. Peachtree Street, 2nd Floor
Atlanta, Georgia 30308

C. All insurance hereinbefore specified shall be carried until all utility work required to be performed under the terms of the permit has been satisfactorily completed within the limits of the Department owned railroad right of way of the as evidenced by the formal acceptance by the Department and the Railroad. Insuring companies may cancel insurance by permission of the Department and Railroad or on THIRTY (30) days written notice to the Department and Railroad as follows:
NOTICE TO:  
State Utilities Engineer  
Georgia Department of Transportation  
Office of Utilities, 10th Floor  
600 W. Peachtree Street  
Atlanta, Georgia 30308

COPY TO:  
Contact Name, Title  
Railroad Company  
Address  
Location, State & Zip

Department:  
Georgia Department of Transportation  
Administrator, Office of Intermodal Programs  
600 W. Peachtree Street, 2nd Floor  
Atlanta, Georgia 30308

Section 9: FAILURE TO COMPLY:

In the event the Utility violates or fails to comply with any of these requirements, the Highway Engineer and/or the Railroad Representative may require that the Utility vacate the Department owned railroad right of way.

Any such orders shall remain in effect until the Utility has remedied the situation to the satisfaction of the Highway Engineer and/or the Railroad Representative.
UTILITY PERMIT SPECIAL PROVISION FOR PROTECTION OF RAILWAY INTERESTS

**REQUERED CASING SIZE VARIES**

**THE REQUIRED CASING SHALL BE A SMOOTH STEEL PIPE INSTALLED BY JACK AND BORE METHOD & CONFIRMED TO ASME A-153 GRADE B-1 NON HYDRAULIC, THE CASING WALL THICKNESS SHALL BE AS LESS THAN 0.500 INCH AND HAVE A MIN. YIELD STRENGTH OF 36,000 P.S.I. JOINTS SHOULD BE FULLY WELDED WITH FULL DEPTH SINGLE V-GROOVE BUTT JOINT WELD. THE LENGTH OF THE CASING SHALL BE FROM RIGHT TO RIGHT OF WAY FOR FUTURE MAINTENANCE OF THE UTILITY FACILITY OUTSIDE THE RAILROAD STANDARD RIGHT-OF-WAY SECTION. SEE UTILITY PLANS FOR LOCATION, SIZE AND NUMBER OF CASINGS.**

**MATERIAL**

STEEL CASING SHALL CONFORM TO ASME SPECIFICATIONS A-153 GRADE B-1 NON HYDRAULIC. THE MINIMUM YIELD STRENGTH OF THIS CASING SHALL BE 36,000 PSI. THE MINIMUM WALL THICKNESS IS AS FOLLOWING:

<table>
<thead>
<tr>
<th>NOMINAL SIZE (IN)</th>
<th>REQUIRED WALL THICKNESS (IN)</th>
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<tbody>
<tr>
<td>4</td>
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<tr>
<td>6</td>
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<tr>
<td>18</td>
<td>0.975</td>
</tr>
<tr>
<td>24</td>
<td>1.220</td>
</tr>
</tbody>
</table>

**SINGLE MAIN TRACK**

METHOD OF JOINING PIPES

SECTIONS OF PIPE SHALL BE FIELD WELDED WITH A FULL DEPTH SINGLE V-GROOVE BUTT JOINT WELD.

SEPAREATION OF DUAL CASING PIPES

<table>
<thead>
<tr>
<th>DIAMETER</th>
<th>SEPARATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>18&quot; - 20&quot;</td>
<td>1/2 DIA. DIAMETER OF CASING</td>
</tr>
<tr>
<td>24&quot; - 30&quot;</td>
<td>4&quot;</td>
</tr>
</tbody>
</table>

**JACK & BORE DETAIL OF CASING UNDER RAILROAD**

NO SCALE