土研資料第1453号

土木研究所資料

旋回軌跡による隅角部の設計について

昭和54年1月

建設省土木研究所
道路部道路研究室

まえがき

戦後、日本経済の発展とともに自動車も大型化し、それに伴って道路の改善・改良が広く行なわれるようになった。なかでも車の大型化に対応できる道路の形状の設計が重要な課題となっているが、隅角部および曲線部の形状もこの課題の一つである。

自動車が曲線部を旋回する場合、前輪と後輪との内輪差だけ走行巾員が増加する。しかもこの値は曲線半径が小さくなればなるほど大きくなる。現状の問題点の例として巾員および拡巾の少ない道路を大型車が無理に曲がろうとして後輪を歩道に乗り上げるのがよく見られる。またこれに関連して、最近では大型車が左折する場合に死角の点から自転車や歩行者を巻き込む事故が多発している。曲線部における必要な拡巾は同じ半径でも法線交角の小さい曲線部からUターンに至るまで、法線交角が大きくなるに従って必要な拡巾量も大きくなる。したがって曲線部においては交角と半径に対応した走行形状、いいかえれば自動車の軌跡を考慮する必要が生じてくる。従来このような拡巾を行なう場合には交角の大小などによる考慮はほとんど払われず、もっぱら半径に応じた一定の拡巾量によって代用されてきたのが実情であり、このため余分な拡巾量を含む不経済な設計となるか、または場所によっては設計不能となるなど、きわめて不合理な設計となっている。本研究は必要十分な隅角部の走行軌跡を図化することにより、簡便にして合理的な隅角部の設計または路面表示ができるよう意図したものである。このため一つの試案として隅角部設計に用いる型板を提案するものである。この型板に用いる設計車両は道路構造令に規定されているものと一致させた。尚、本研究において開発した型板は現在実用新案申請中であることを付記する。

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1. 本型板の構成について

この隅角部旋回軌跡型板の構成は次に示すとおりである。（図１－１参照のこと）

1）対象車種：道路構造令に示す普通自動車（トラック）およびセミトレーラ連結車…… ２種

2）前輪車軸の中点に沿った走行曲線半径（８m～３０m） …… ２３種

3）道路巾員　2.75m、3.00m、3.25m、3.50m …… ４種

4）縮　　尺　１／５００、１／３００ …… ２種

5）交　　角　図１－１の車跡図において実線と点線で示す転出方向線と車の侵入方向線とのなす角。本型板には実用上十分であると思われる代表値として次の値を採用した。

５０°、６０°、７５°、９０°、１１０°、１２５°、１４５°、１６０°、１８０° …… ９種

尚、旋回曲線の外側と内側については区別を明らかにするため、最初（５０°）の曲線と最後（１８０°）の場合を除き、外側を点線、内側を実線で描くことにした。

次に図１－１における文字と数字の配列は右上より

W　：幅　員

R_T　：トラックの場合の曲線半径（R_sはセミトレーラの場合である）

下端に縮尺を標示し、その下にページを印字している。トラックの場合はＴ－１４４までとなり、セミトレーラの場合はＳ－１４４までとなる。従って合計２８８枚から構成されている。

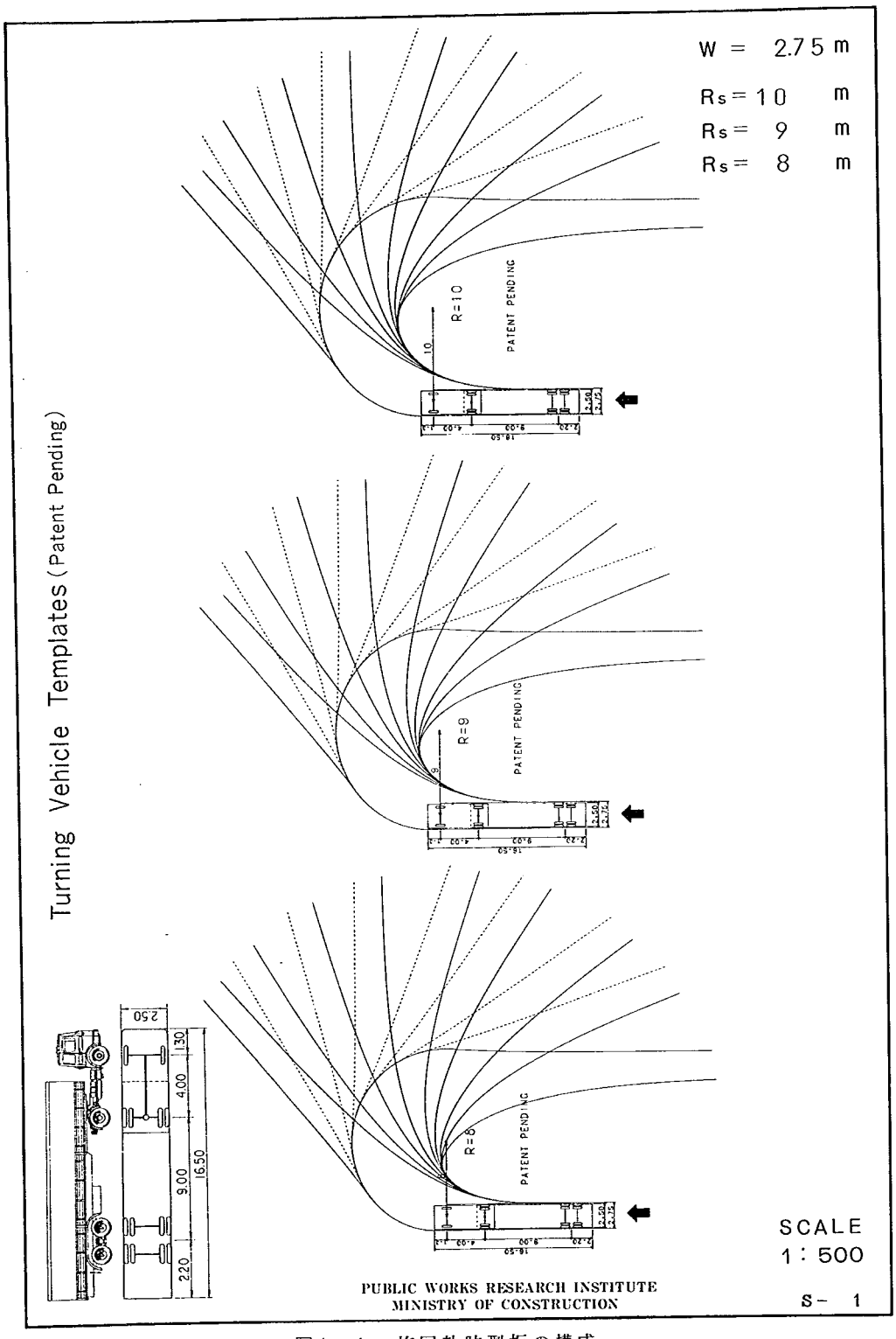


図1－1　旋回軌跡型板の構成

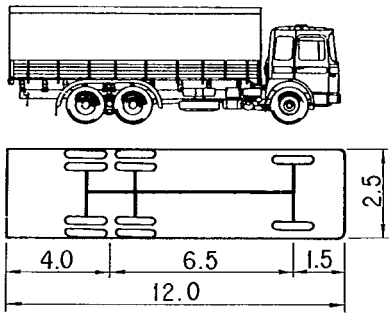
2. 本型板の使用方法について

本型板は後述の計算理論にもとずいて車跡図を求め、半透明のポリエステルベースに焼き付けしたもので、地形図、街路図の上に置いた場合、上から見ることができるものである。これにより走行軌跡と街路との幾何構造的な関係が明確になり、必要十分な導流路巾員や隅角部における隅切り形状などを検討することができる。

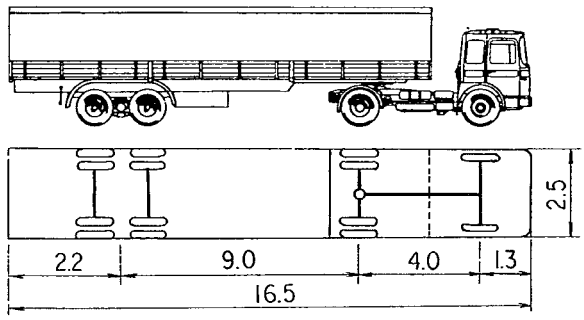
次に本図は正面図として右折旋回図を描いているが、この図を裏返して使用すれば左折旋回にも用いることができるのはいうまでもない。

3. 設 計 車 両

本型板に使用した車両寸法は道路構造令に規定されている値に従ったものであり、その値は図３－１に示すとおりである。本型板においては、このうち大型車の２車種をとりあげている。したがってこれ以外の特殊車については本型板に示す車跡とは形状が異なるのはいうまでもない。



普通自動車（トラック）



セミトレーラ連結車

図３－１　車　両　寸　法

4. 作　図　方　針

自動車が隅角部を走行する場合、旋回半径の大きさに応じた拡巾の必要性が生じる。本型板においては自動車規格（ＪＡＳＯ）の７２２２番である＂セミトレーラの直角旋回軌跡図の様式＂による計算方式を部分的に変更してトラックおよびセミトレーラの車跡の作図を求めることにした。この計算方法を以下に示す。

1. トラックの旋回車跡図の作図方針

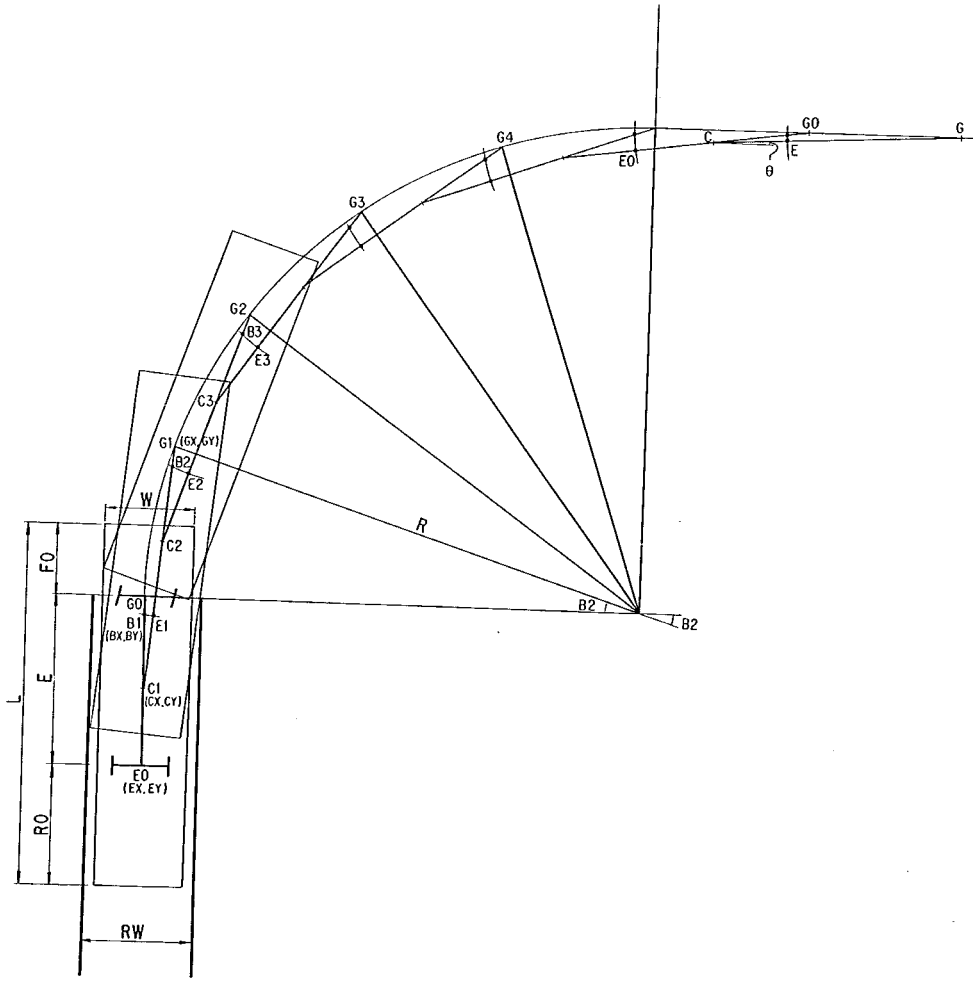


図４－１　トラック（単車）の車跡作図方針

図４－１に示すように巾Ｗ×長さＬなる単車の前輪の中心点が旋回曲線（本図の場合は半径Ｒの曲線）に沿って右旋回をする場合を考える。左旋回の場合はＹ軸に対し折り返せばよいので拡巾の求め方としては同一でよい。また本型板使用の場合には、まえがきで述べたように裏返して用いればよい。

車が停止点Ｇ０から走行してＧ１、Ｇ２、Ｇ３…… と進行して行くにつれて車体のホイールベースはＧ０－Ｅ０からＧ１－Ｅ１、Ｇ２－Ｅ２、Ｇ３－Ｅ３へと順に傾き、拡巾が生じてくる。この場合、車体の傾きを決めるのはＥ１、Ｅ２、Ｅ３… であるが、このＥ点は次のようにして求めた。まずＥ１点であるがＧ０がＧ１にくるとして、Ｇ１点を中心にホイールベースの大きさで円弧を描き、それがＧ０－Ｅ０と交る点をＢ１とする。次にＢ１とＥ０の２等分点をＣ１とすれば、移動後の後輪車軸の中点はこのＧ１－Ｃ１線上にある。したがってＧ１点を中心にホイールベースの大きさで描いた円弧とＧ１－Ｃ１線との交点が第２ステップにおける後輪車軸の中点Ｅ１となり、これとＧ１とを結ぶ線が車体の傾きとなる。これをまとめていえばステップが最初の点Ｃ０からＧ１へ移動すれば後輪軸の中点はＥ０からＥ１へ移動したということになる。このようにして順次ステップを計算して行けば、例えば図４－２のようになる。

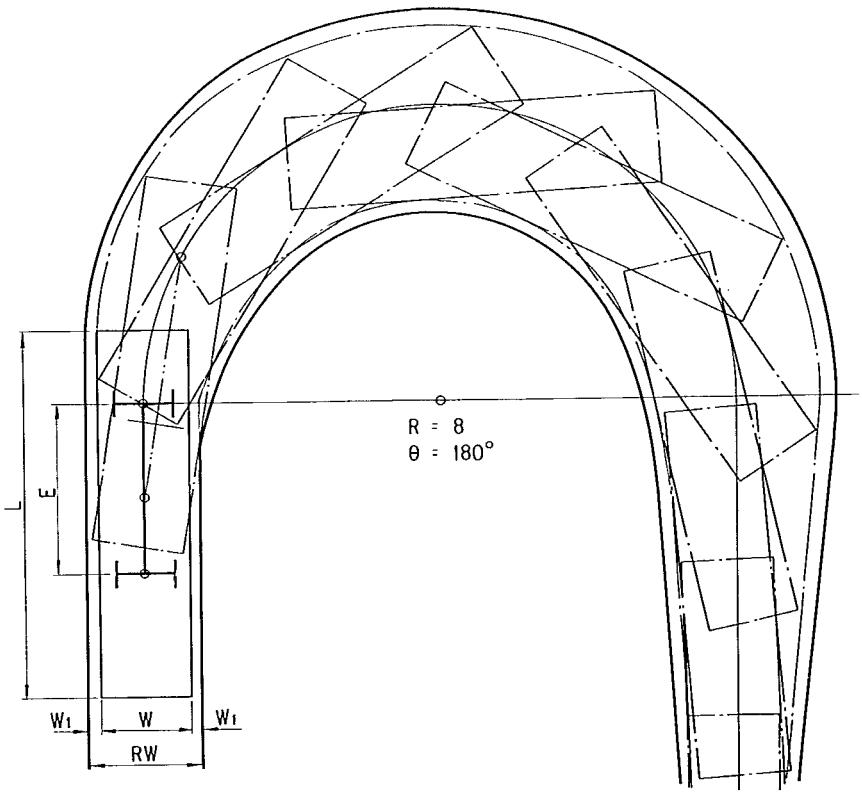


図４－２　単車（トラック）の旋回軌跡

自動車が隅角部を走行する場合、車体の両側に側方余裕巾が必要である。したがって上に求めた車の車跡の最も大きくなる点の軌跡に側方余裕巾を加えたものが導流巾員となる。具体的にはこの点は図４－２に示す右折の場合、車の前方左端の点と後車軸の延長線上、車体右側の線との交点となる。したがって各ステップ毎に求められるこの点に側方余裕巾Ｗ１を加えた点をなめらかな曲線で結んだものが導流路巾員軌跡となる。道路構造令では車線巾員として以下の４種が規定されているのでＷ１の値はそれぞれから車両巾（2.5ｍ）を差し引いたものの半分となる。

車線巾員		側方余裕巾（W1）
2.75（m）	→	0.125（m）
3.00	→	0.250
3.25	→	0.375
3.50	→	0.500

2. セミトレーラの旋回車跡図の作図方針

セミトレーラにおいてトラクタ部分の作図方針はトラックの場合と同様であるから、ここではトレーラ部分の作図方針を図４－３において述べる。

トラクタ部の前輪車軸の中心が前記トラックの場合と同様にＴ0、Ｔ1、Ｔ2、Ｔ3、…と移動して行けばキングピンの位置はＧ0、Ｇ1、Ｇ2、Ｇ3……と移動する。ここでＧ0からＧ1に移動した場合のトレーラ後輪軸の中間点Ｅ0の移動点Ｅ1はトラクタの移動点の求め方に類似した方法で次のように求めた。まずＧ0がＧ1に移るとして、Ｇ1点を中心にキングピンから後輪軸の中間点までの大きさで円弧を描き、それがＧ0－Ｅ0と交る点をＢ1とする。次にＢ1とＥ0の２等分点をＣ1とすれば、移動後の後輪車軸の中点はこのＧ1－Ｇ1線上にある。したがってＧ1点を中心にキングピンから後輪軸の中間点までの大きさで描いた円弧とＧ1－Ｇ1線との交点が第２ステップにおける後輪車軸の中点Ｅ1となる。このようにして順次ステップを計算して行けばセミトレーラの車跡が求められ、その両側に側方余裕巾Ｗ１を加えて求めた点の軌跡をなめらかな曲線で描けばセミトレーラの場合の導流路巾員軌跡となる。

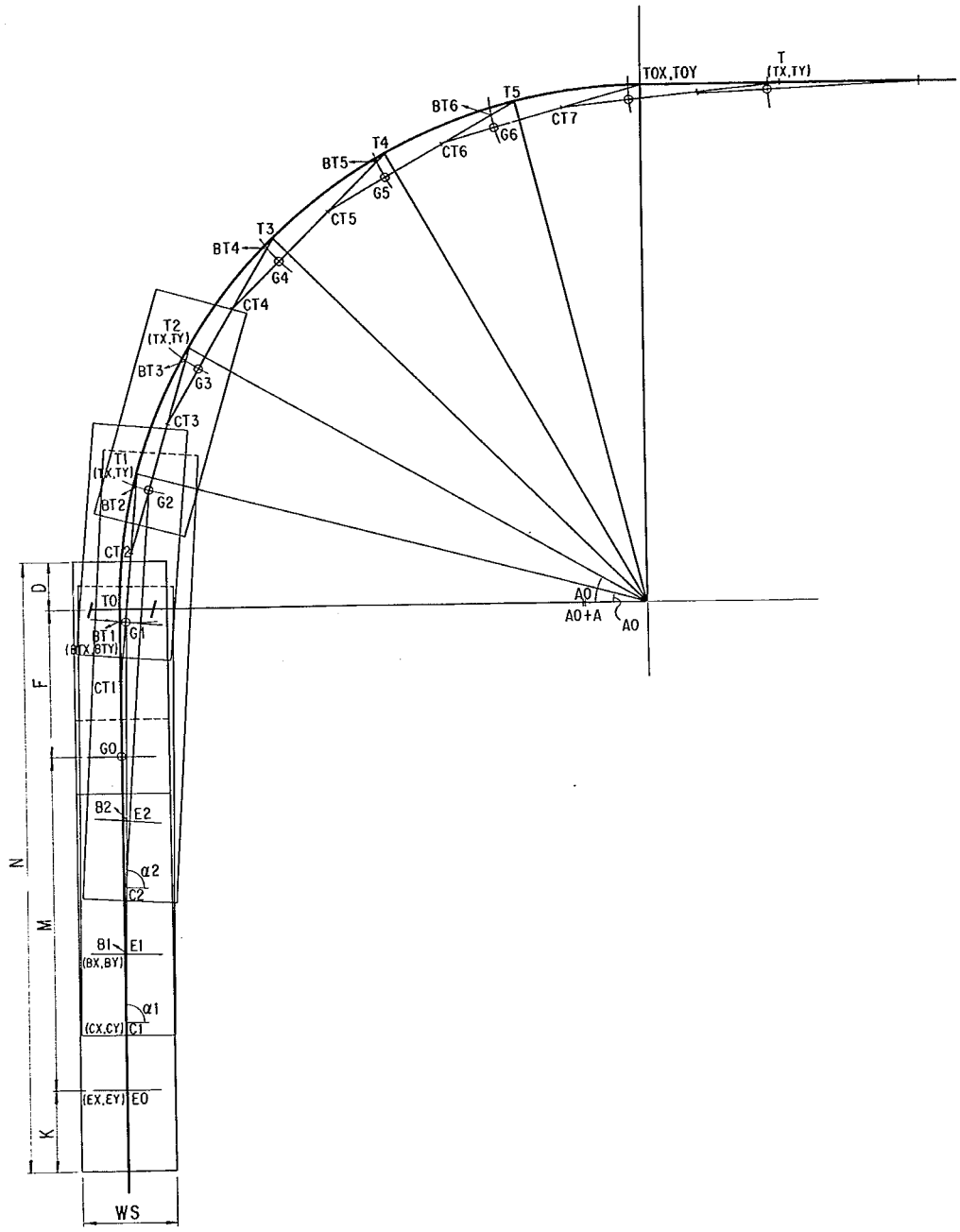


図４－３　セミトレーラの車跡作図方針

あ と が き

本資料は交差点や導流路設計の一つの方法として大型車の車跡を示す型板を用いた簡便な方法を提案したものである。この資料が交差点や導流路の設計の合理化に寄与し、ひいては大型車の左折事故等を防ぐことを期待するものであるが、型板の表現形式、縮尺、曲線半径の範囲やキザミ等については実際に設計を担当する方々の評価と批判を仰ぐことにより、更に改良を行なうことにしたい。

本研究を終るにあたり、いすゞ自動車開発本部　天野栄、日本自動車工業会　谷本行雄の両氏の協力に対し謝意を表わすものである。

文　献

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2. 道路構造令の運用と解説、昭和４５年１１月３０日、㈳日本道路協会
3. Für einen LKW erforderliche Strassenfläche bei Kurvenfahrt：Der Normblatt SNV 40267 der Schweizerischen Normenvereinigung
4. チャンネリゼーション（平面交差点の導流化設計）　昭和４２年１１月、建設省土木研究所
5. Turning Vehicle Templates , Transportation Design Techniques Inc. 1603 Orrington Avenue, Suite 1275, Evanston, Illinois 60201, U.S.A.

普通自動車（トラック）

縮尺（SCALE）　1：500

車線幅員（W）　2.75m

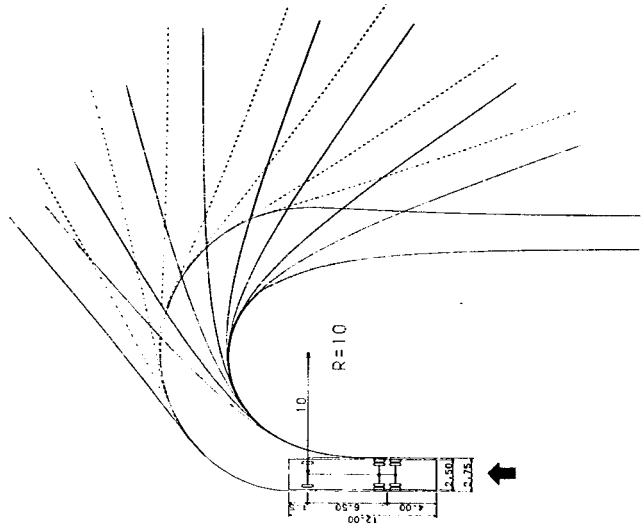
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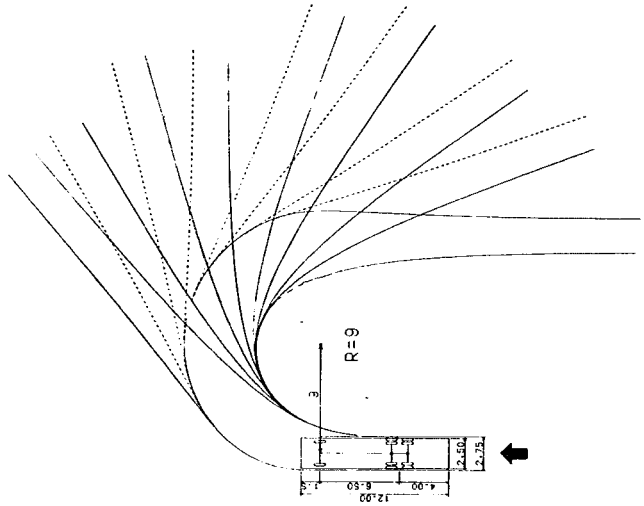
W = 2.75 m

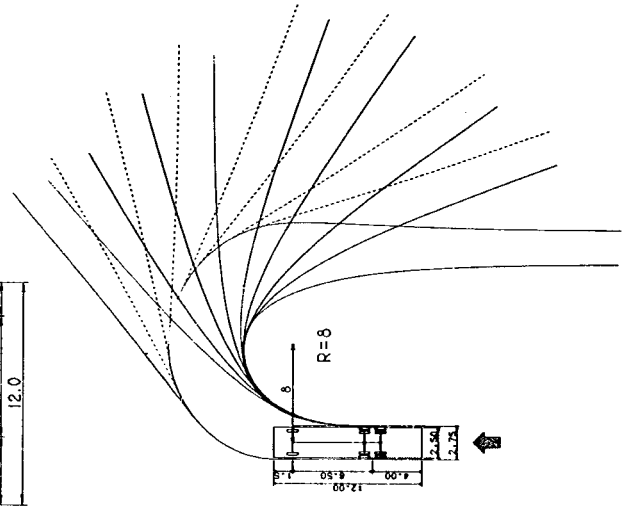
R_T = 10 m

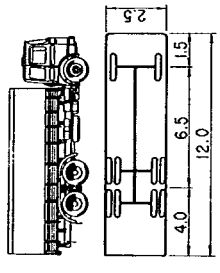
R_T = 9 m

R_T = 8 m









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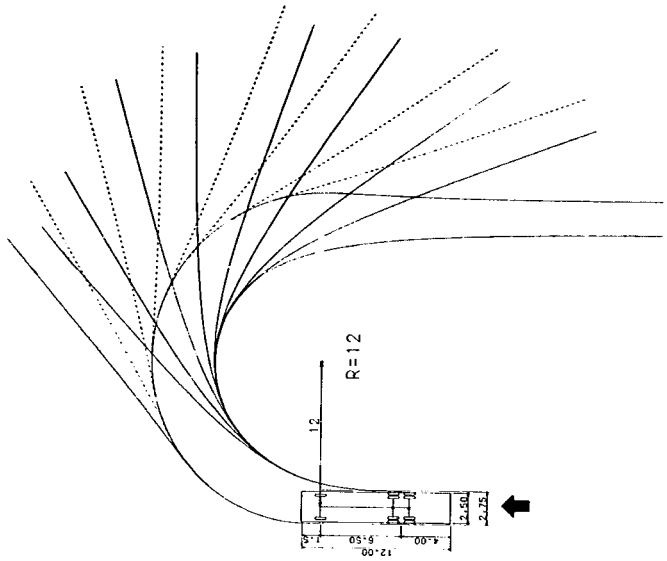
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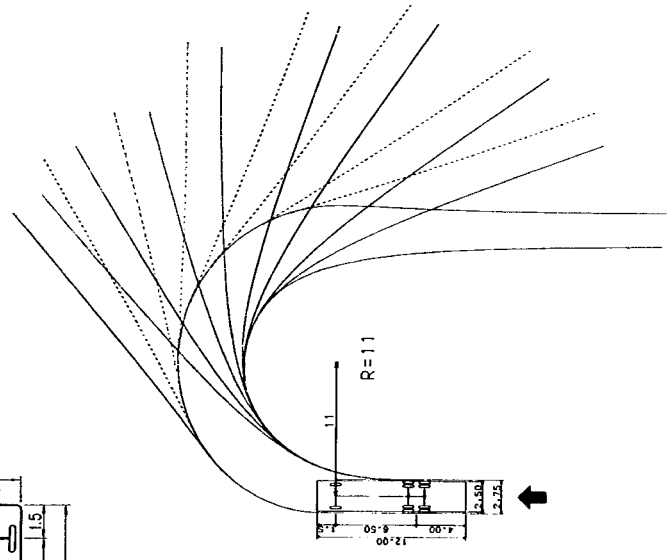
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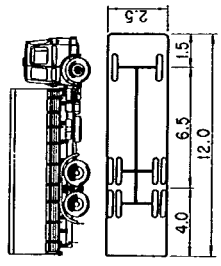
W = 2.75 m

R_T = 12 m

R_T = 11 m







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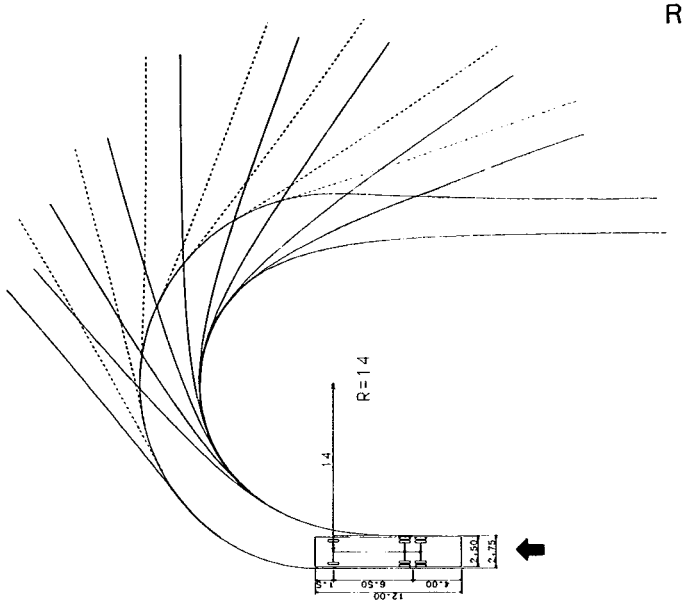
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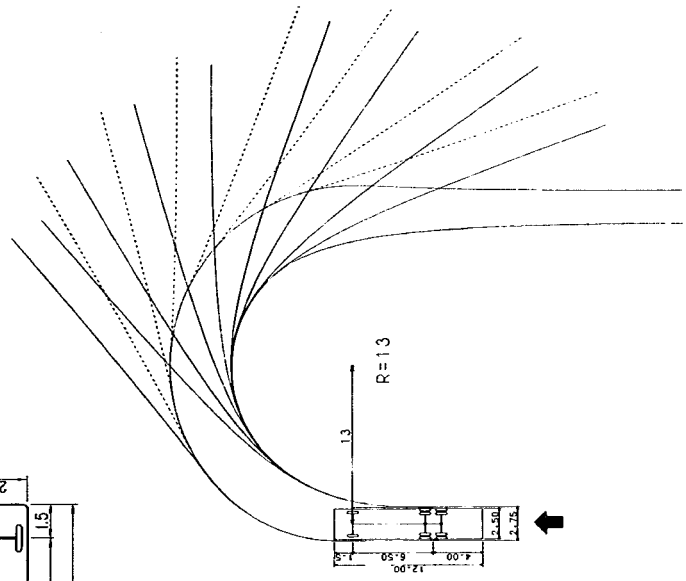
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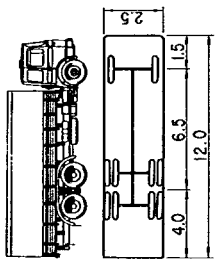
W = 2.75 m

R_T = 14 m

R_T = 13 m







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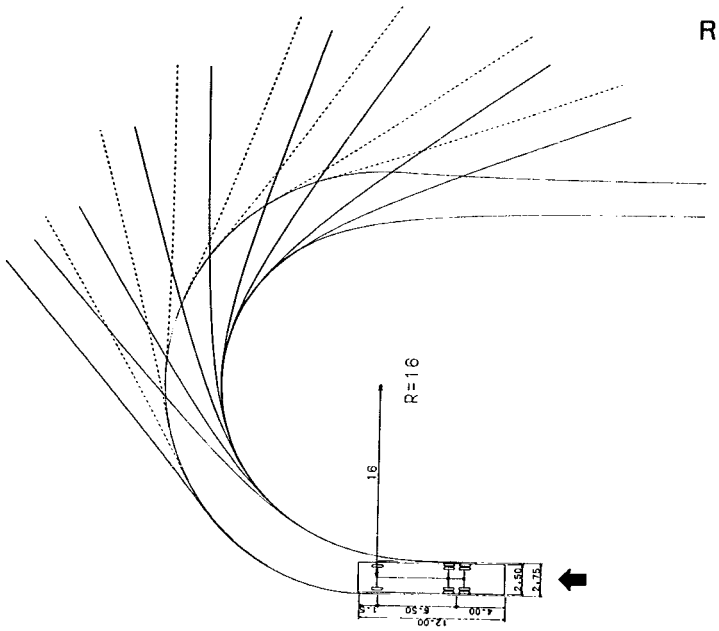
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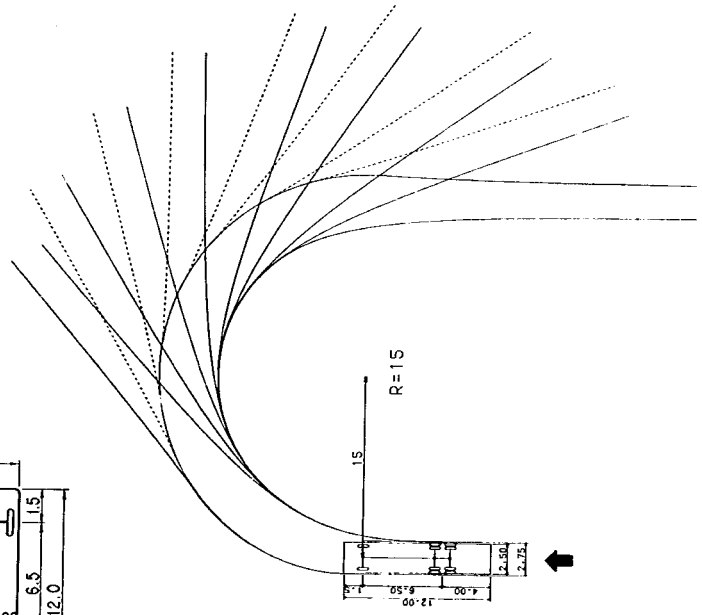
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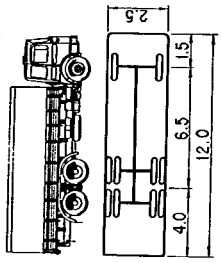
W = 2.75 m

R_T = 16 m

R_T = 15 m







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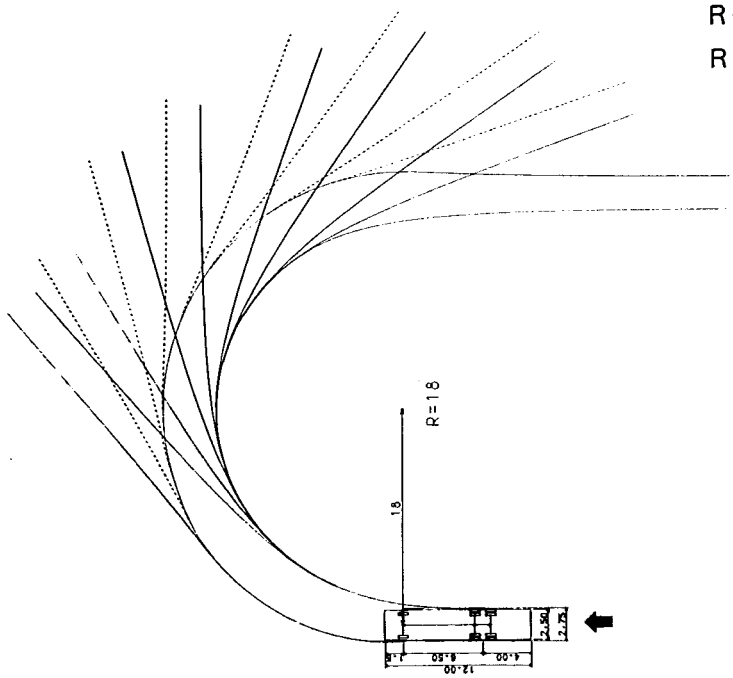
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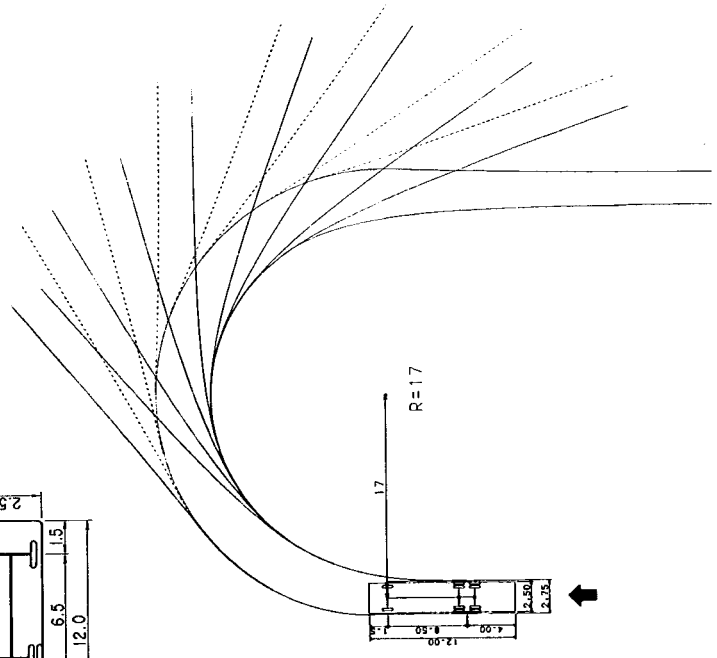
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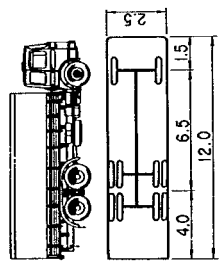
W = 2.75 m

R_T = 18 m

R_T = 17 m







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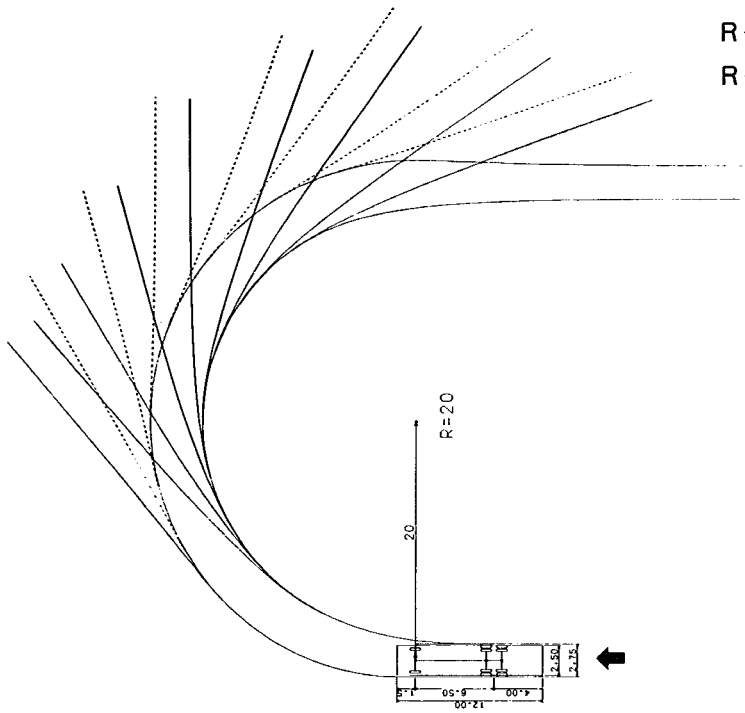
T - 5

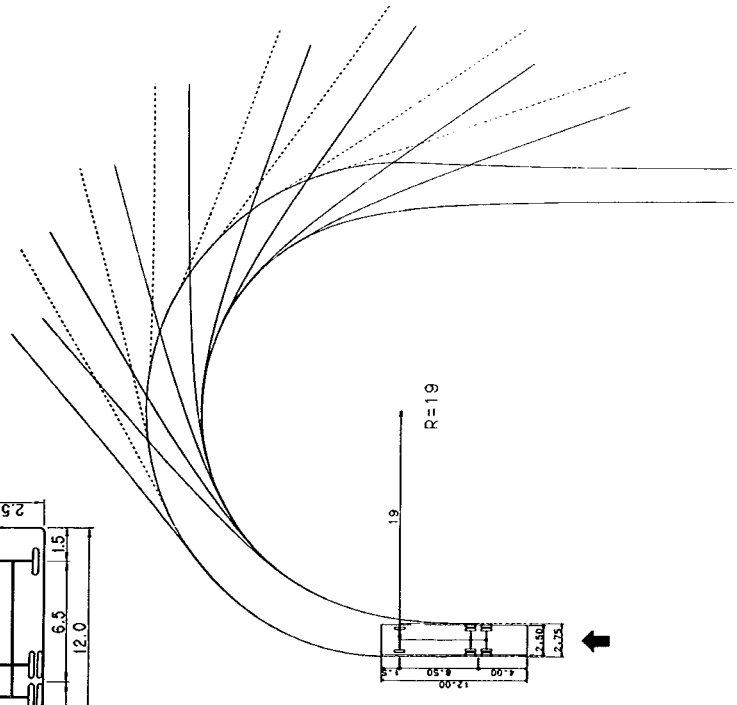
Turning Vehicle Templates (Patent Pending)

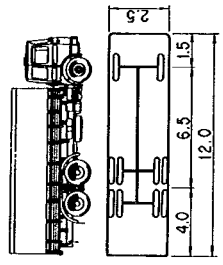
W = 2.75 m

R_T = 20 m

R_T = 19 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

T - 6

Turning Vehicle Templates (Patent Pending)

W = 2.75 m

R_T = 22 m

R_T = 21 m

SCALE
1 : 500

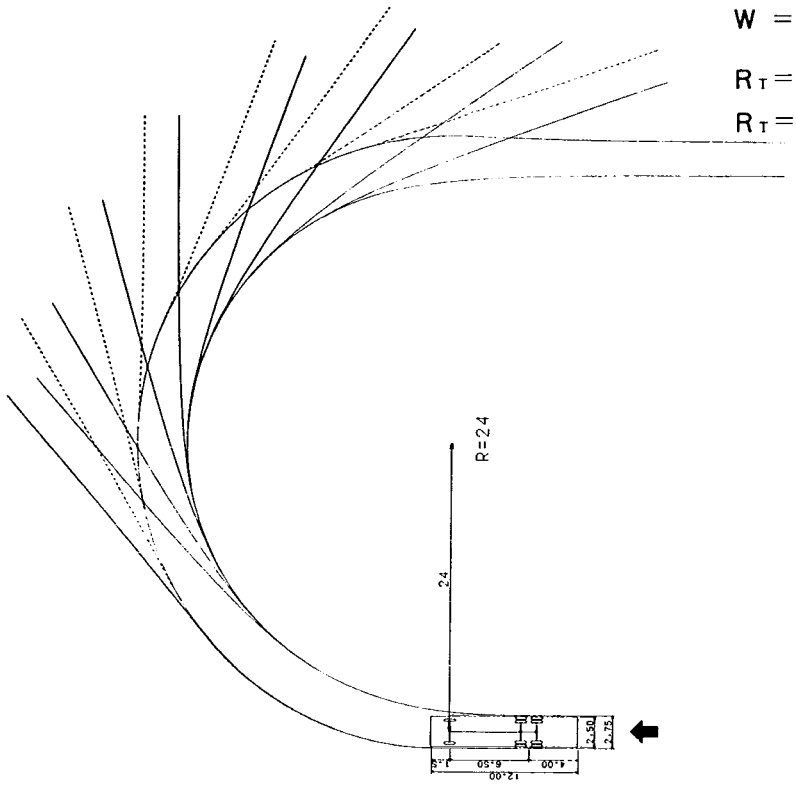
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MINISTRY OF CONSTRUCTION

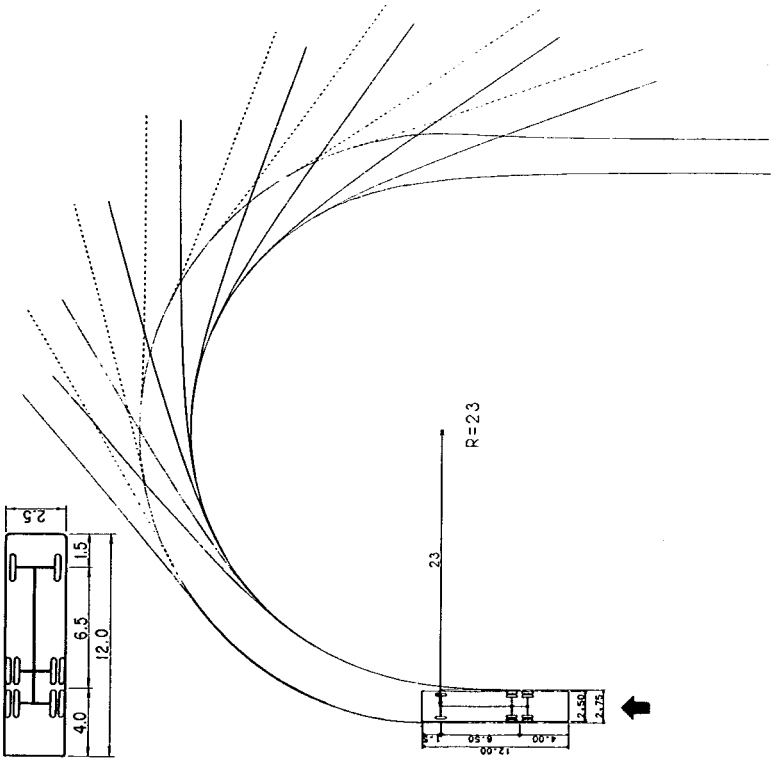
Turning Vehicle Templates (Patent Pending)

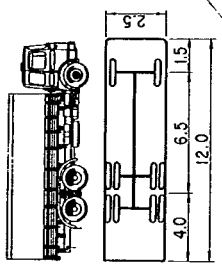
W = 2.75 m

R_T = 24 m

R_T = 23 m







SCALE
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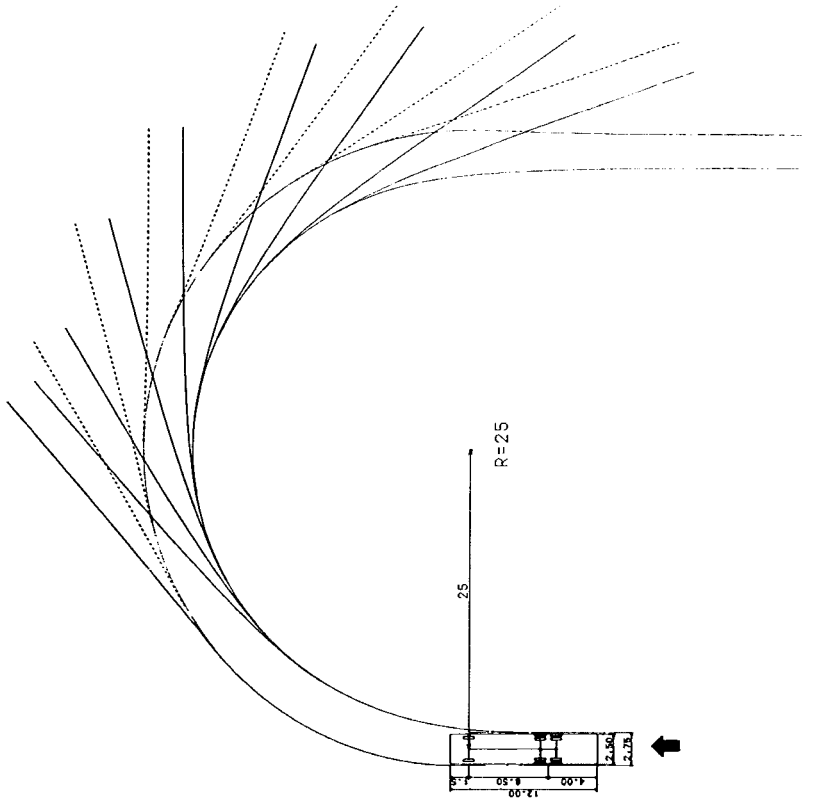
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MINISTRY OF CONSTRUCTION

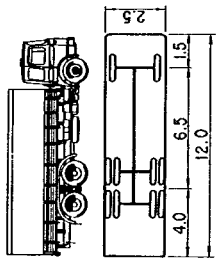
T - 8

W = 2.75 m

R_T = 25 m

Turning Vehicle Templates (Patent Pending)





SCALE
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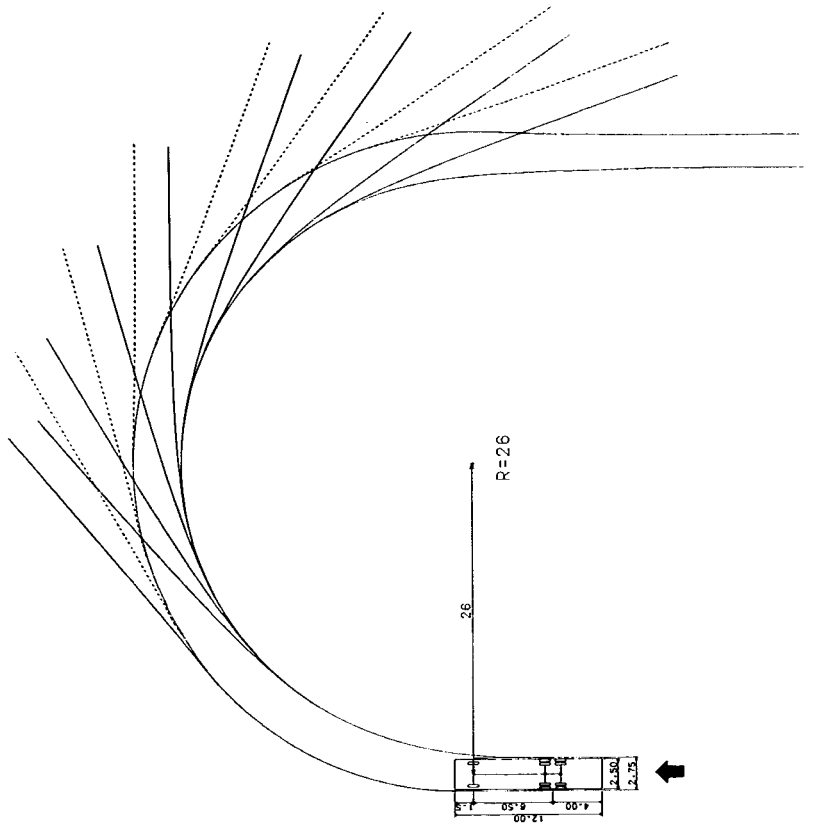
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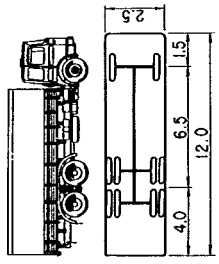
T – 9

W = 2.75 m

R_T = 26 m

Turning Vehicle Templates (Patent Pending)





SCALE
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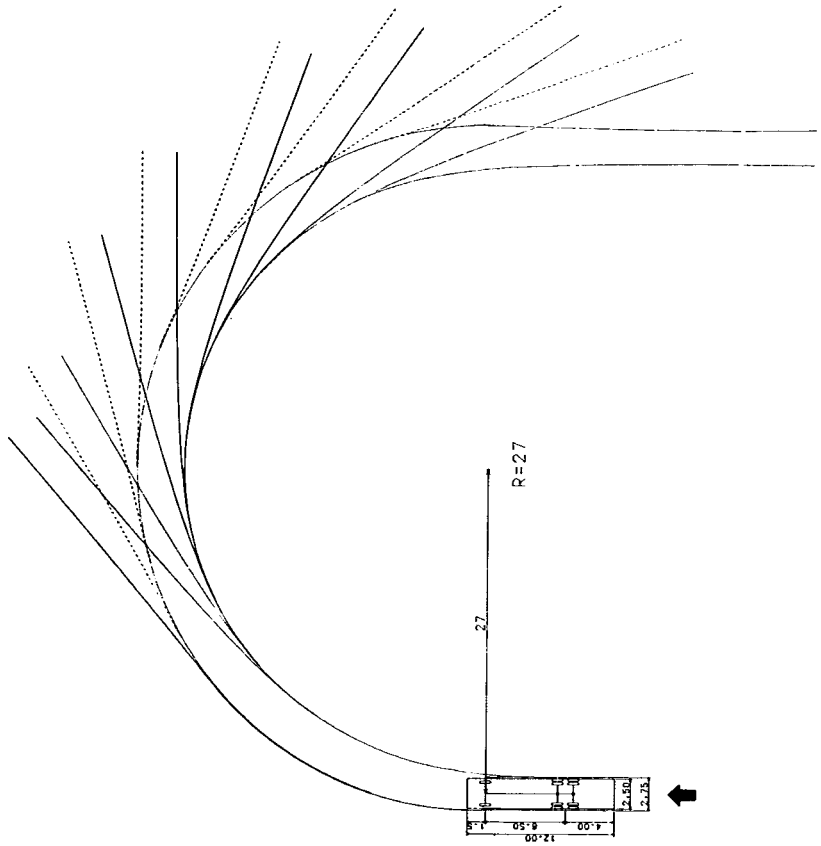
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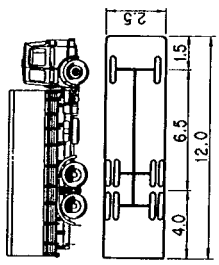
T- 10

W = 2.75 m

R_T = 27 m

Turning Vehicle Templates (Patent Pending)





SCALE
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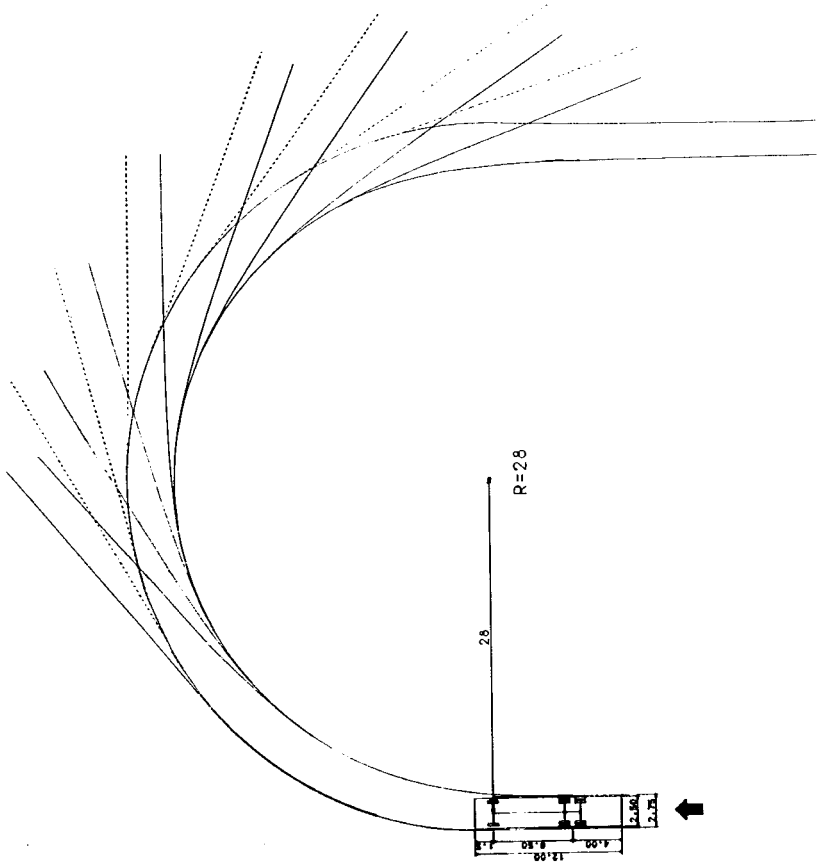
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MINISTRY OF CONSTRUCTION

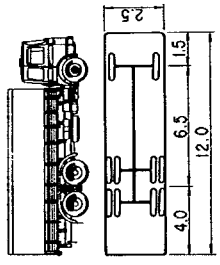
T – 11

W = 2.75 m

R_T = 28 m

Turning Vehicle Templates (Patent Pending)





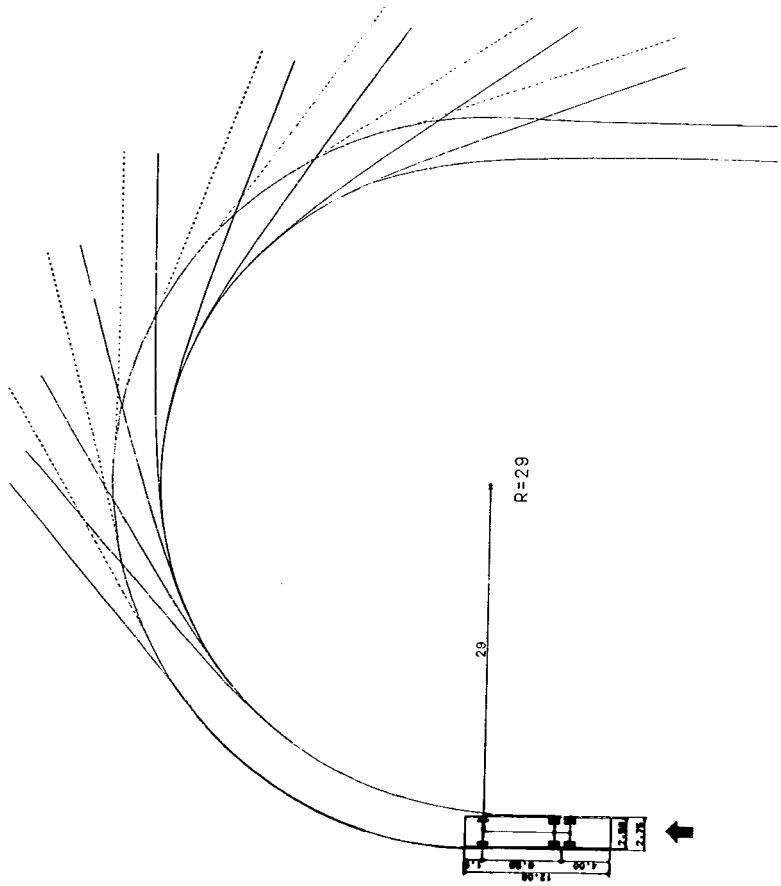
SCALE
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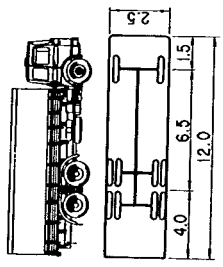
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 2.75 m

R_T = 29 m

Turning Vehicle Templates (Patent Pending)





SCALE
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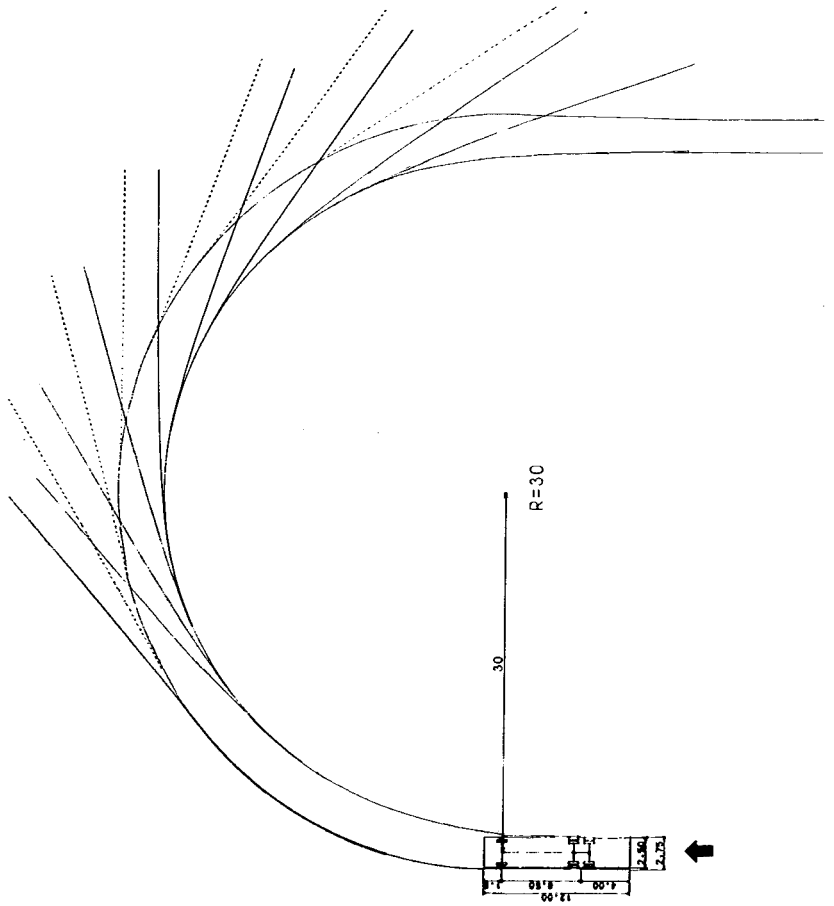
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MINISTRY OF CONSTRUCTION

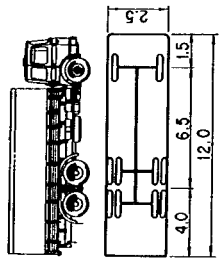
T - 13

W = 2.75 m

R_T = 30 m

Turning Vehicle Templates (Patent Pending)





SCALE
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縮尺（SCALE）　1：500

車線幅員（W）　3.00m

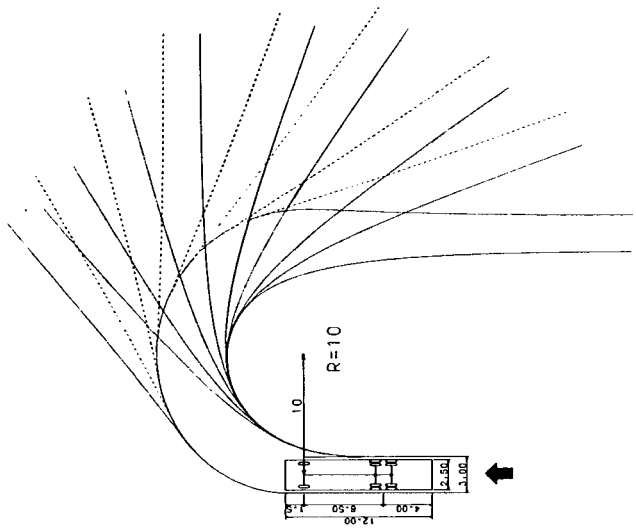
Turning Vehicle Templates (Patent Pending)

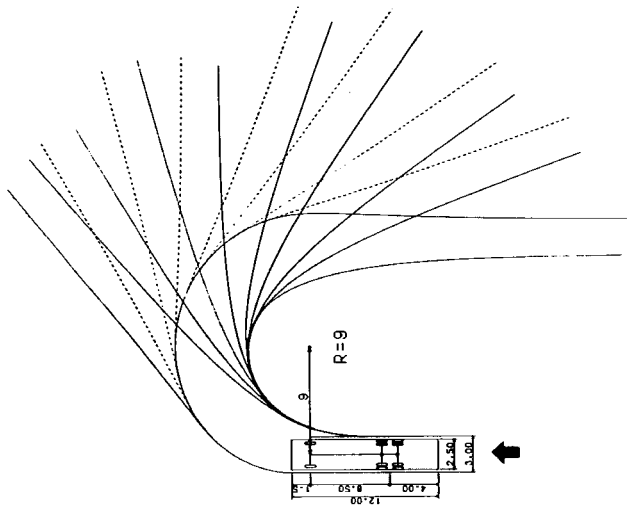
W = 3.00 m

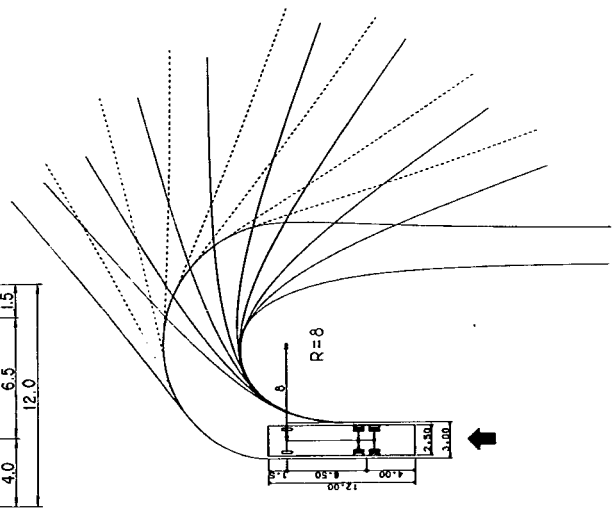
R_T = 10 m

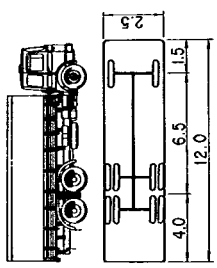
R_T = 9 m

R_T = 8 m









SCALE
1 : 500

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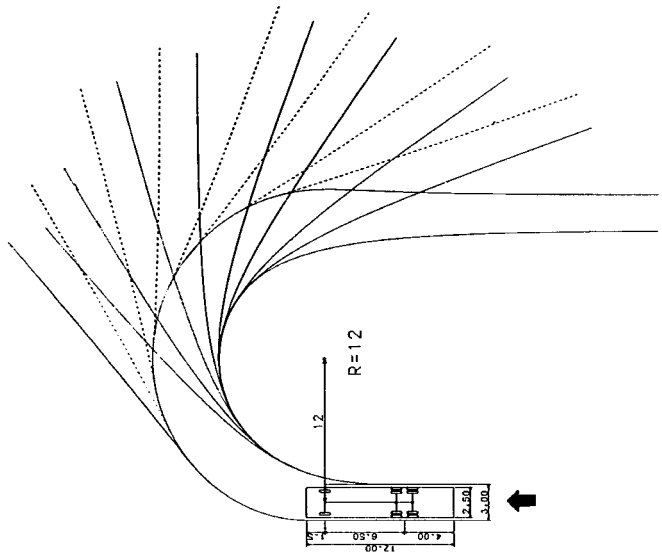
T – 15

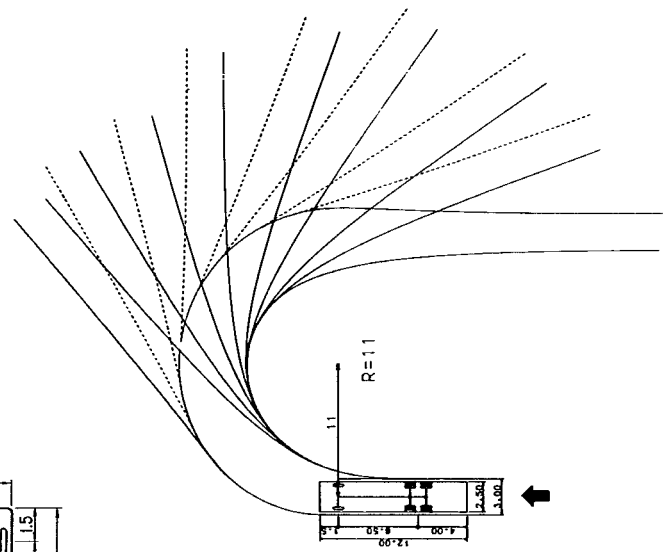
Turning Vehicle Templates (Patent Pending)

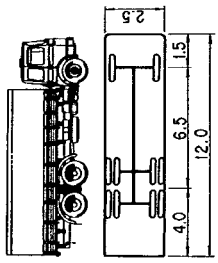
W = 3.00 m

R_T = 12 m

R_T = 11 m







SCALE
1 : 500

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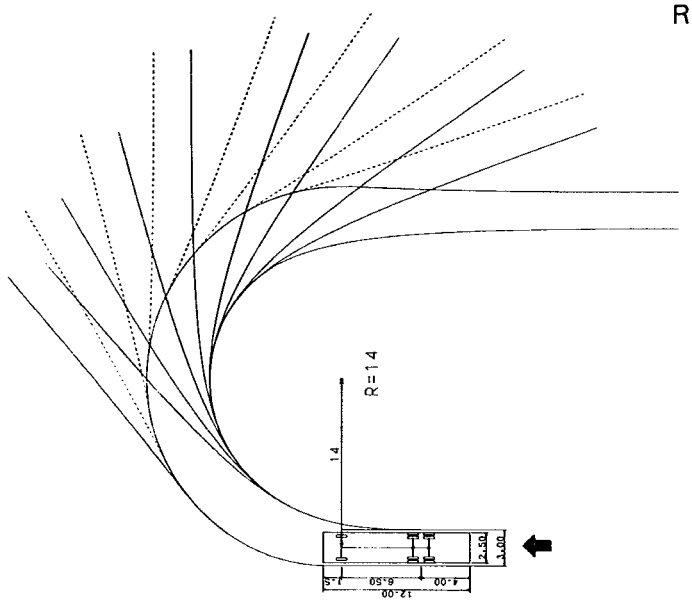
T - 16

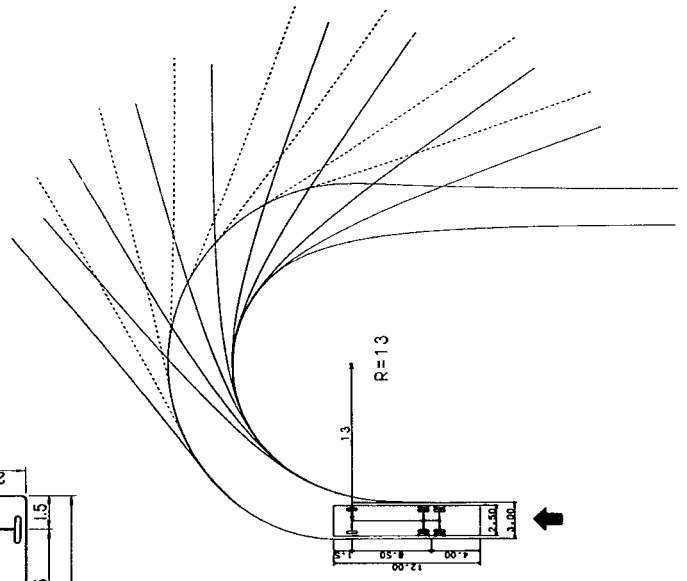
Turning Vehicle Templates (Patent Pending)

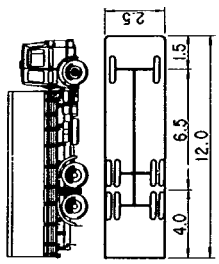
W = 3.00 m

R_T = 14 m

R_T = 13 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

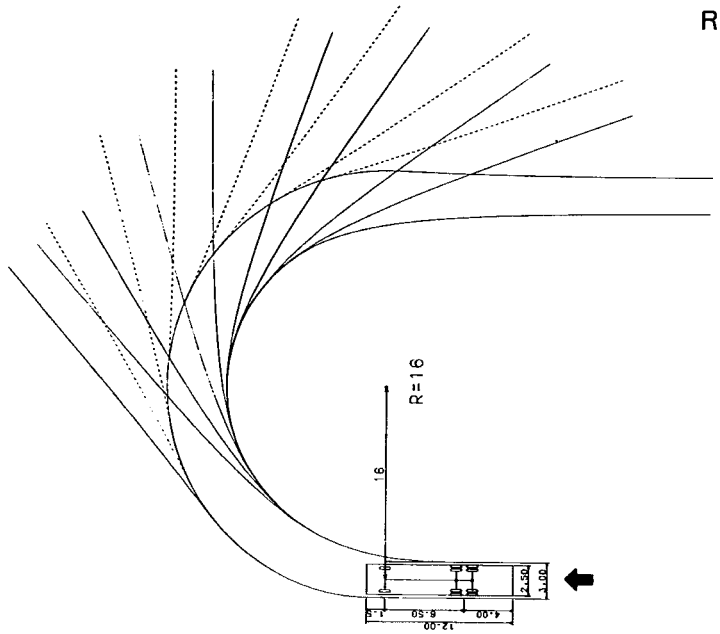
T - 17

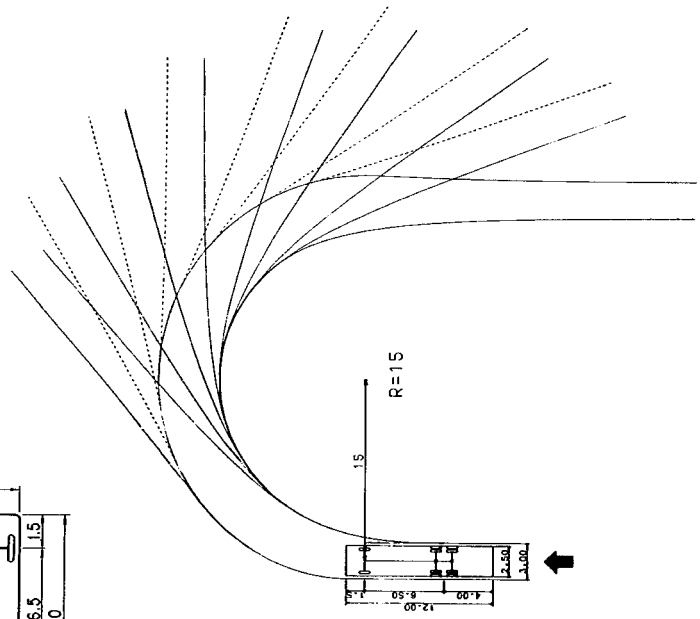
Turning Vehicle Templates (Patent Pending)

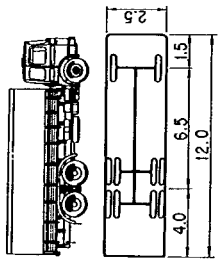
W = 3.00 m

R_T = 16 m

R_T = 15 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

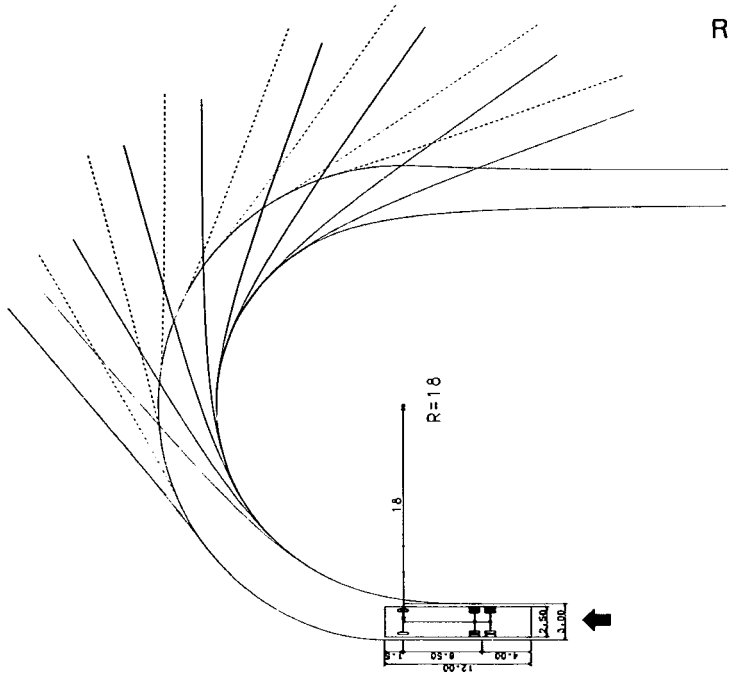
T - 18

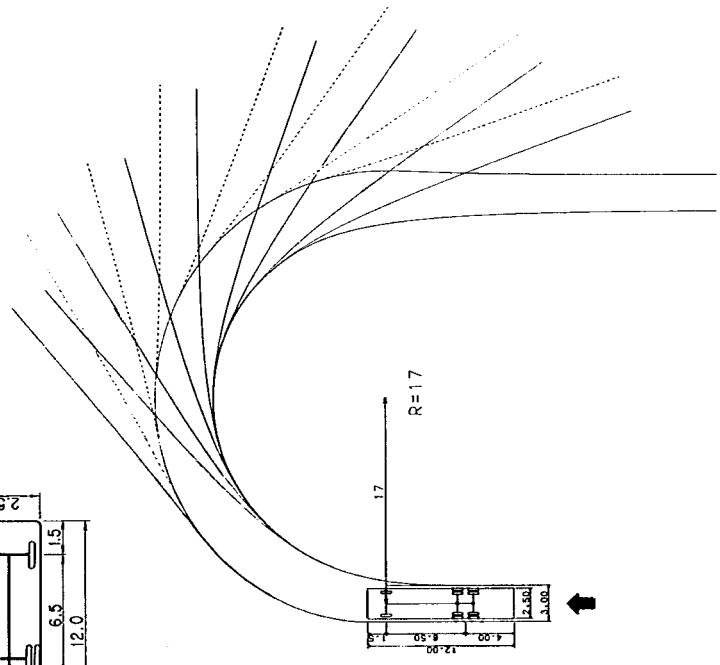
Turning Vehicle Templates (Patent Pending)

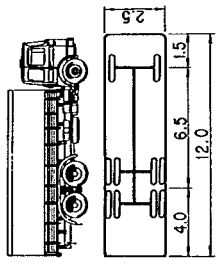
W = 3.00 m

R_T = 18 m

R_T = 17 m







SCALE
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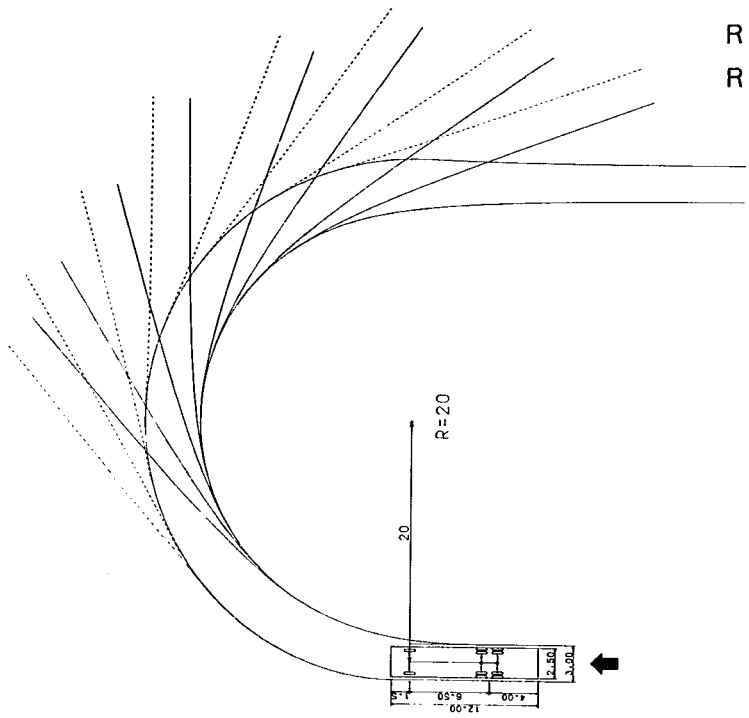
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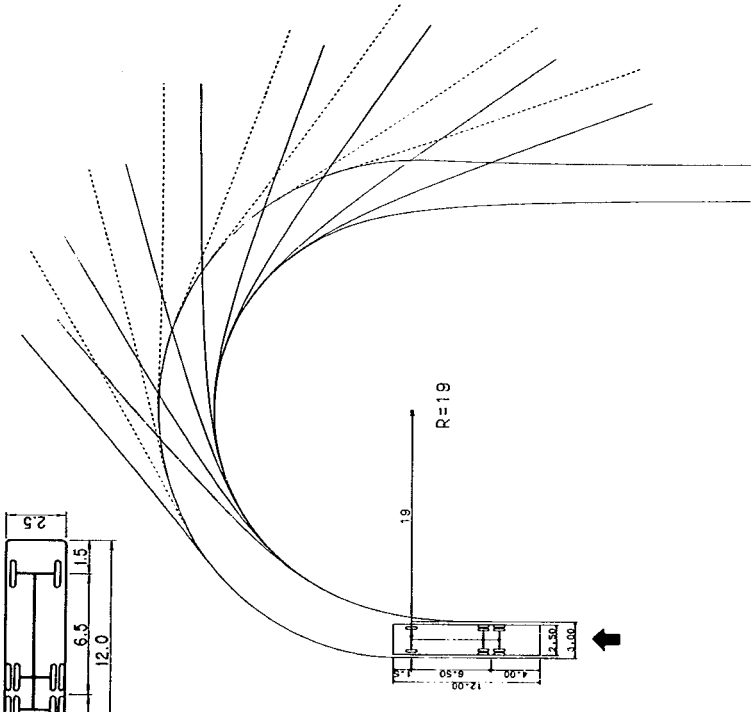
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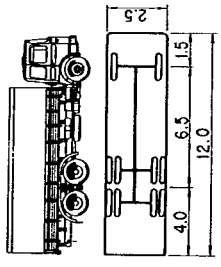
W = 3.00 m

R_T = 20 m

R_T = 19 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

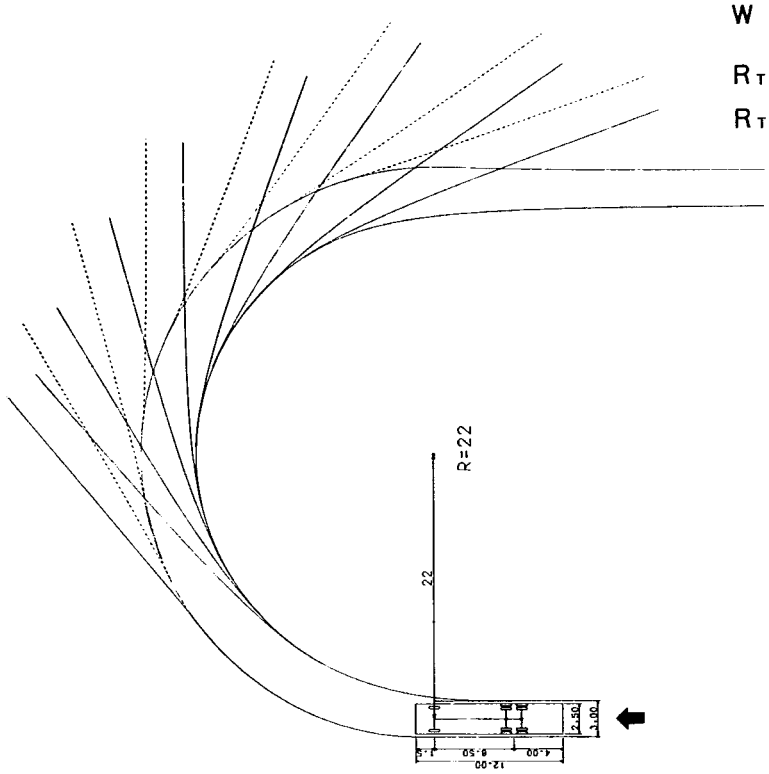
T- 20

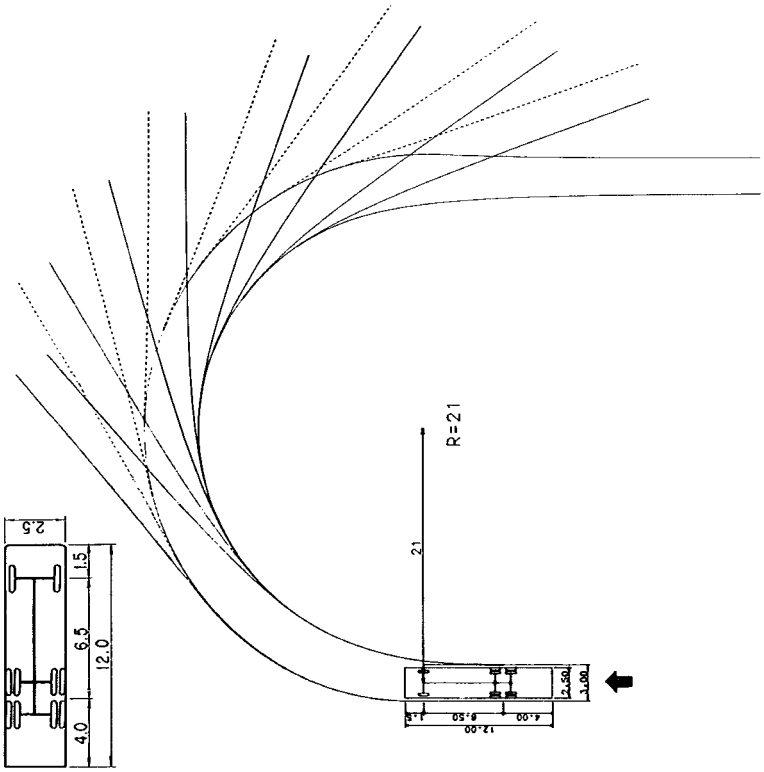
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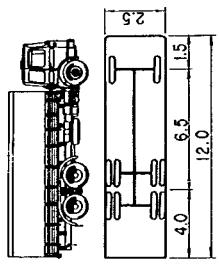
W = 3.00 m

R_T = 22 m

R_T = 21 m







SCALE
1 : 500

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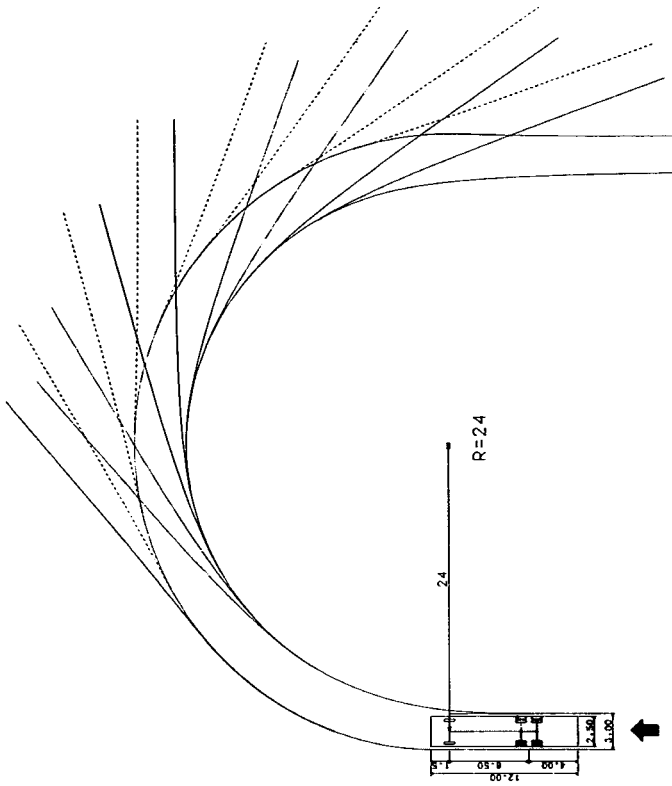
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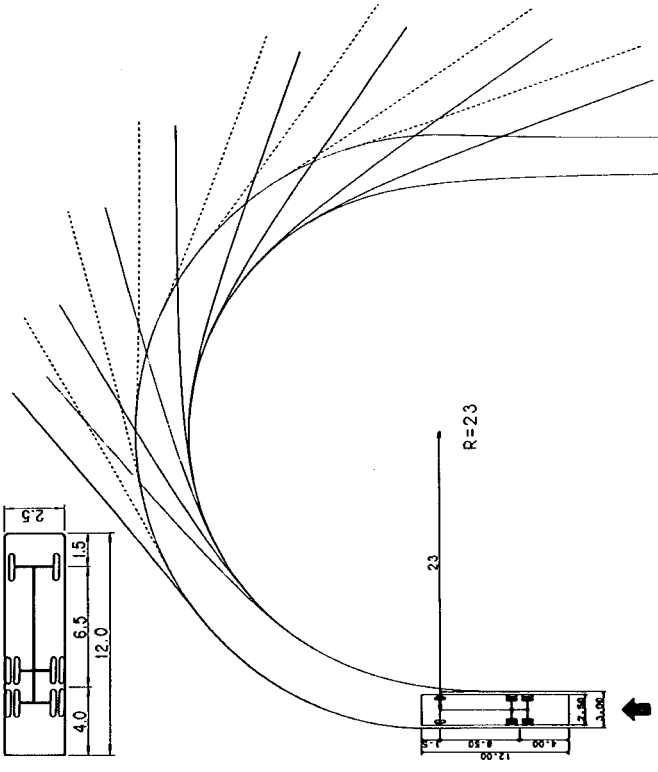
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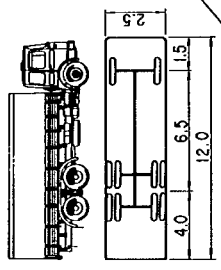
W = 3.00 m

R_T = 24 m

R_T = 23 m







SCALE
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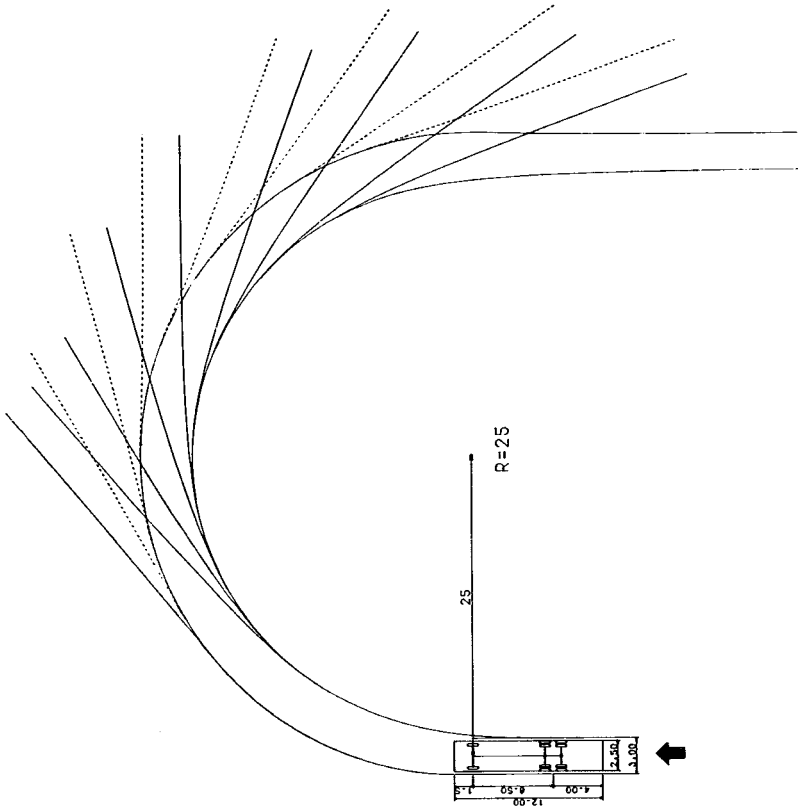
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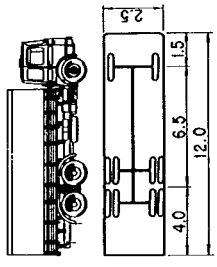
T – 22

W = 3.00 m

R_T = 25 m

Turning Vehicle Templates (Patent Pending)





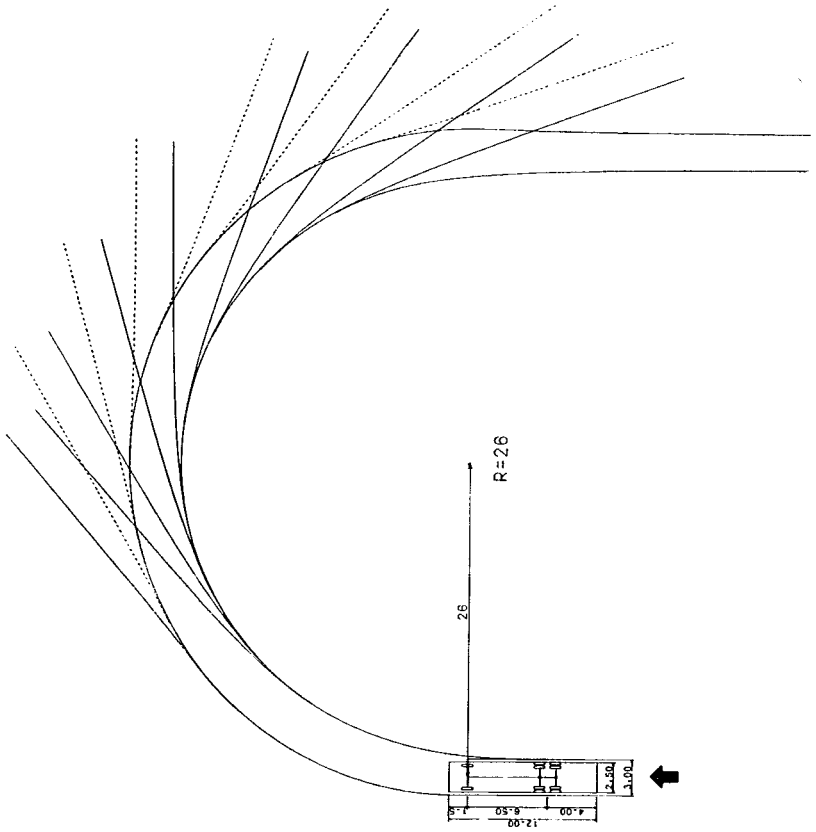
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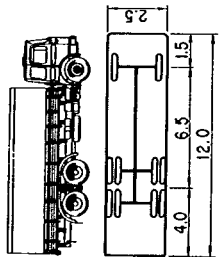
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.00 m

R_T = 26 m

Turning Vehicle Templates (Patent Pending)





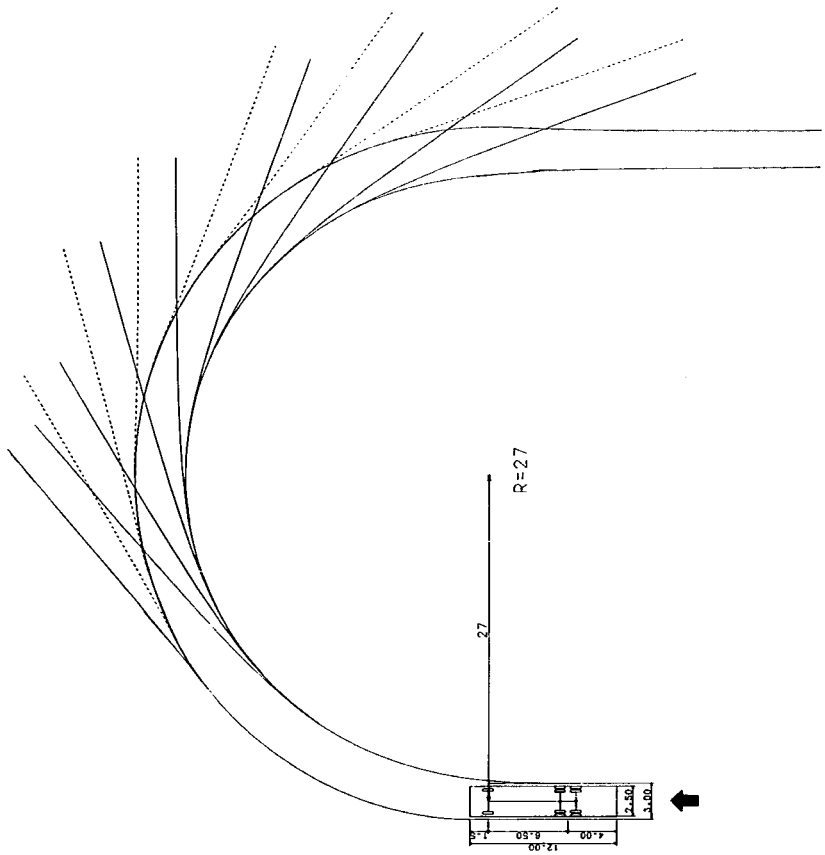
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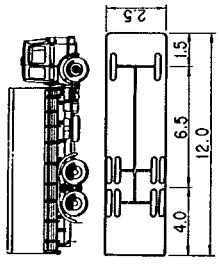
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.00 m

R_T = 27 m

Turning Vehicle Templates (Patent Pending)





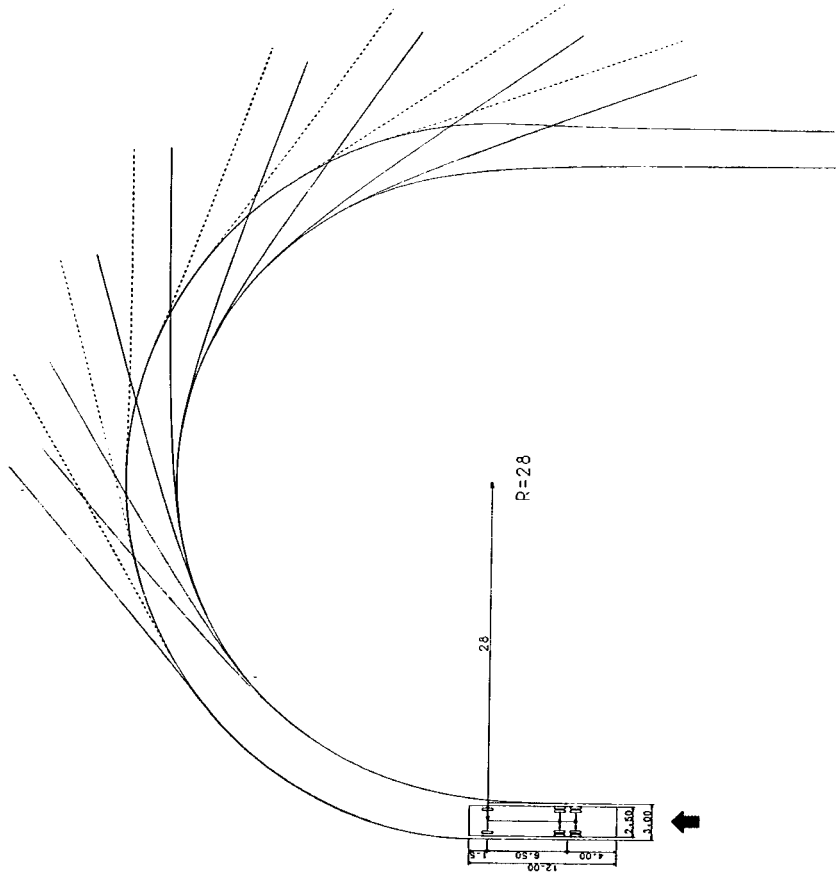
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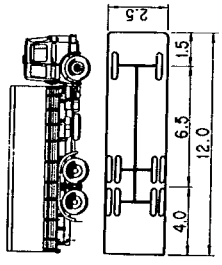
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.00 m

R_T = 28 m

Turning Vehicle Templates (Patent Pending)





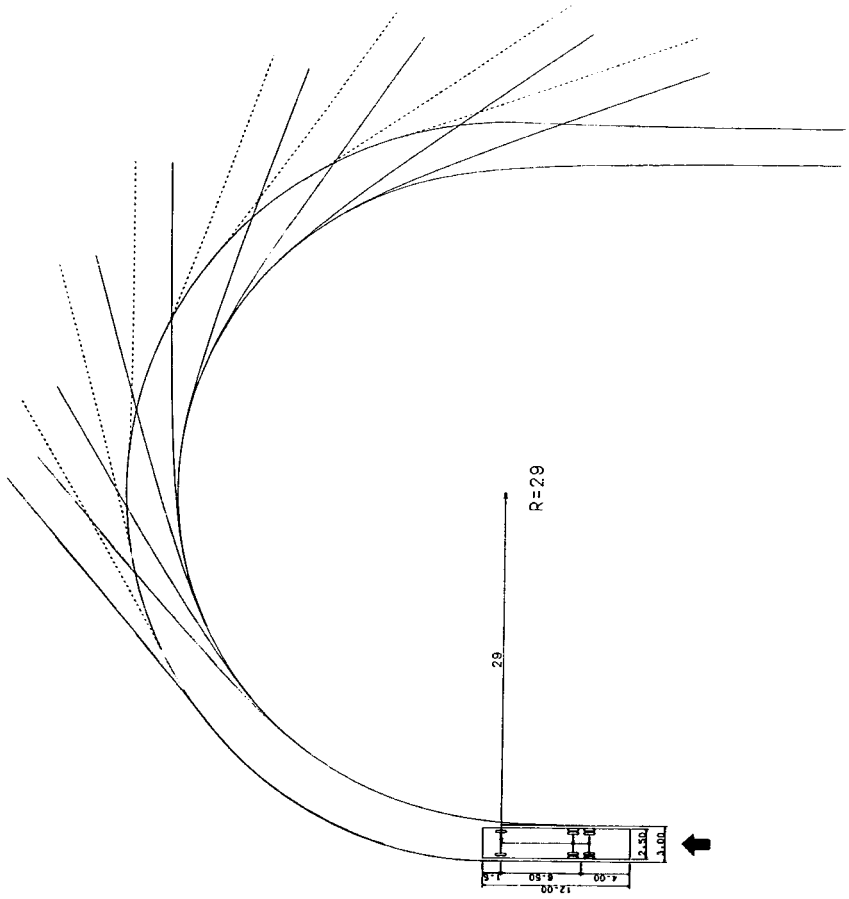
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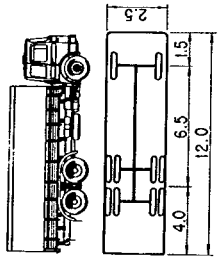
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.00 m

R_T = 29 m

Turning Vehicle Templates (Patent Pending)





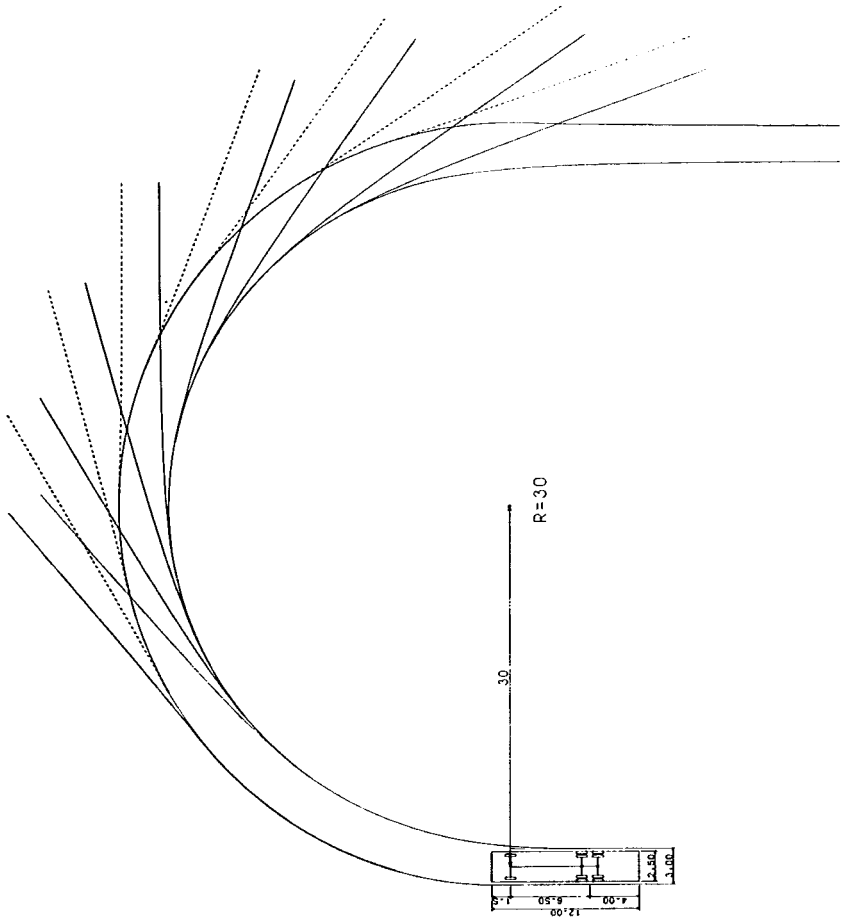
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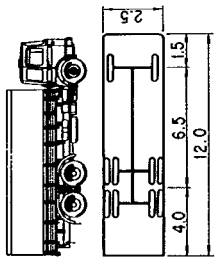
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.00 m

R_T = 30 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

T - 28

縮尺（SCALE）　1：500

車線幅員（W）　3.25m

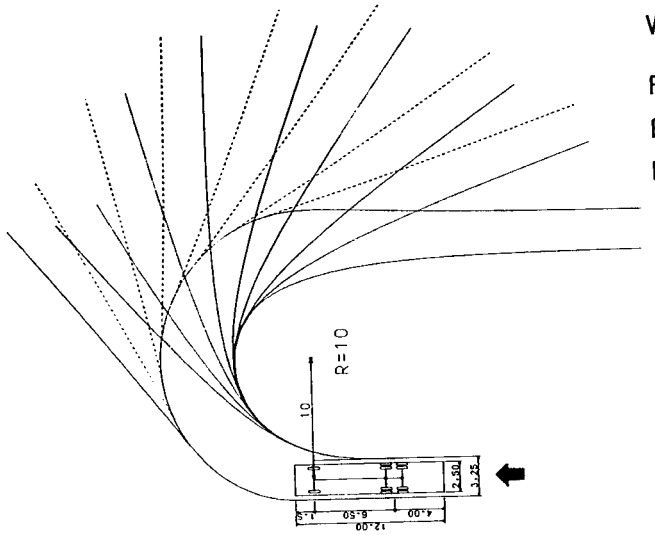
Turning Vehicle Templates (Patent Pending)

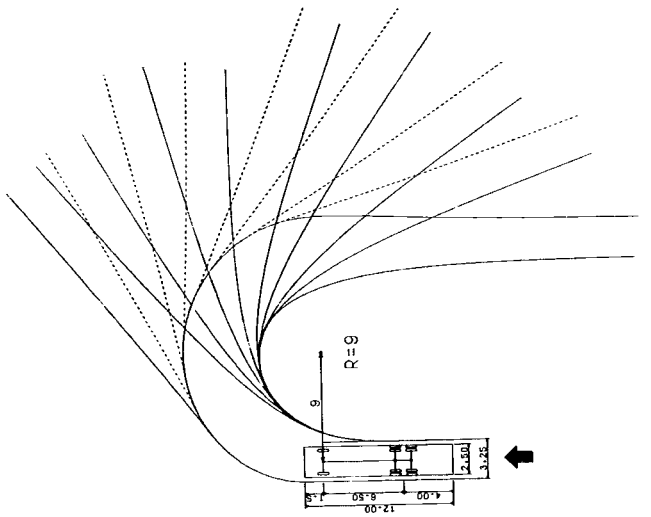
W = 3.25 m

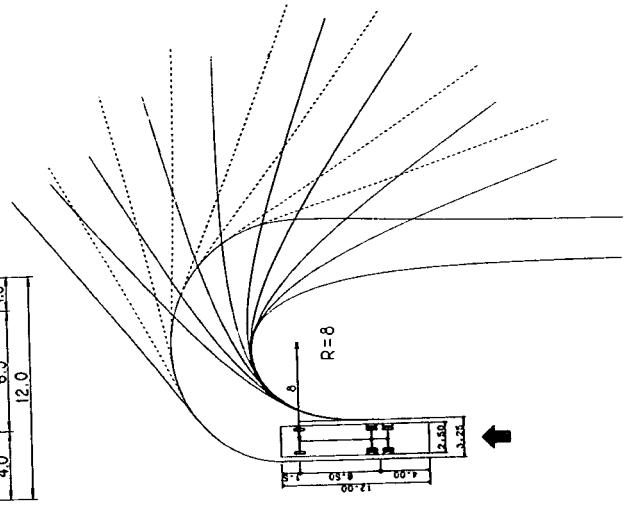
R_T = 10 m

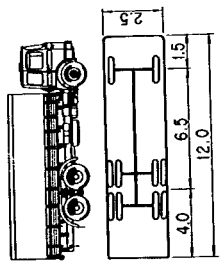
R_T = 9 m

R_T = 8 m









SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

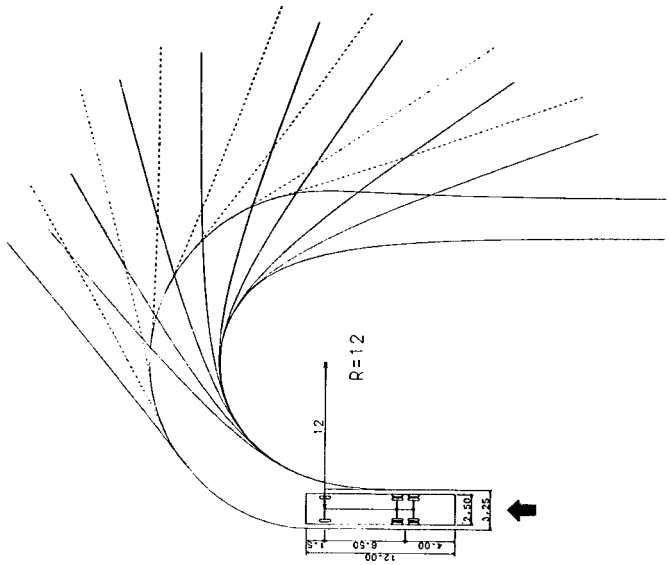
T - 29

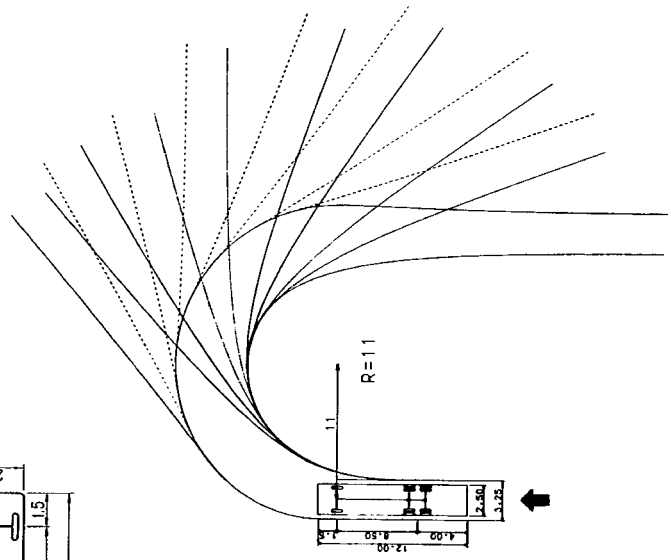
Turning Vehicle Templates (Patent Pending)

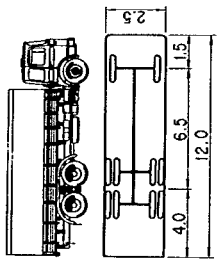
W = 3.25 m

R_T = 12 m

R_T = 11 m







SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

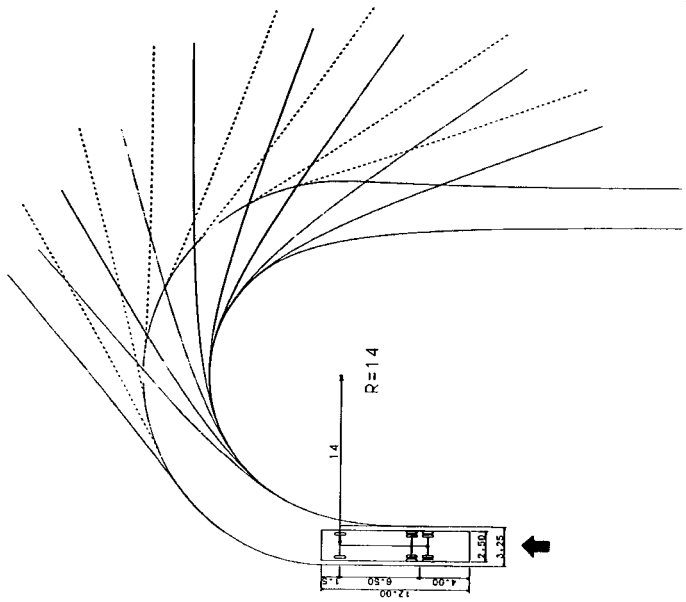
T - 30

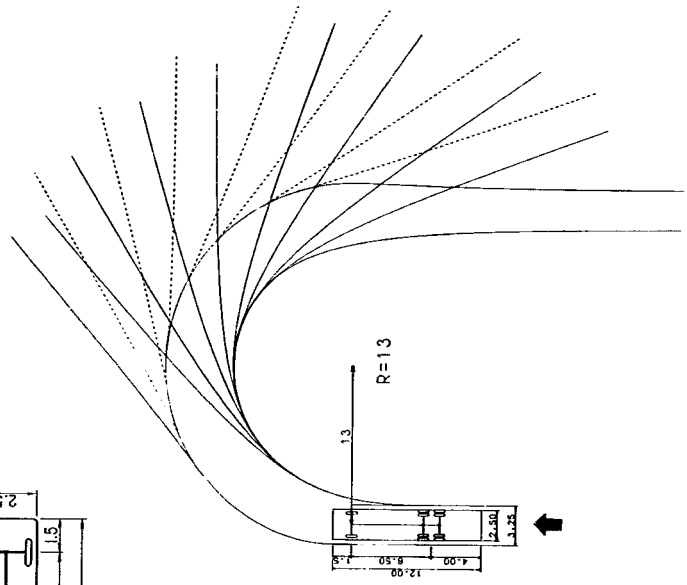
Turning Vehicle Templates (Patent Pending)

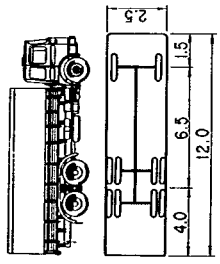
W = 3.25 m

R_T = 14 m

R_T = 13 m







SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

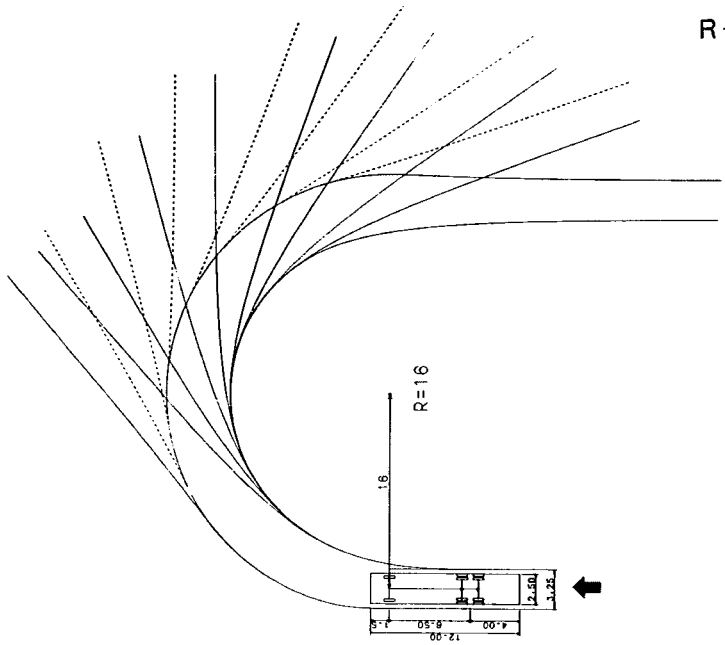
T – 31

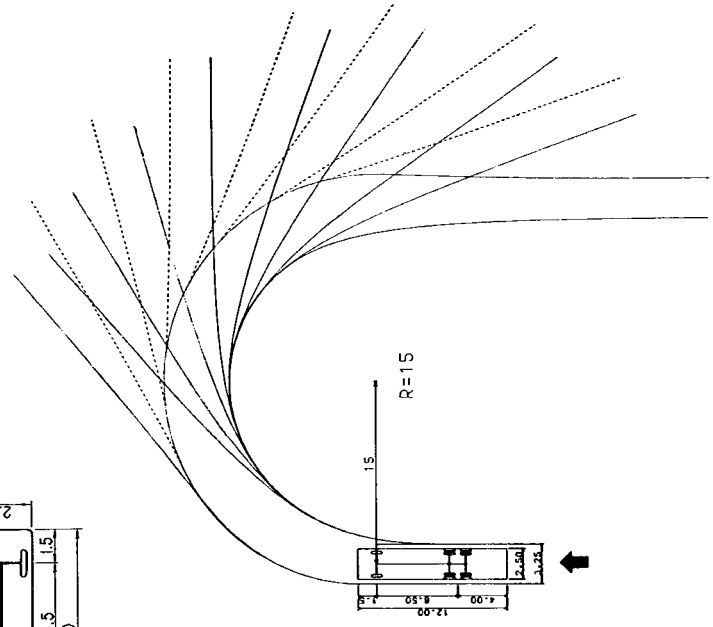
Turning Vehicle Templates (Patent Pending)

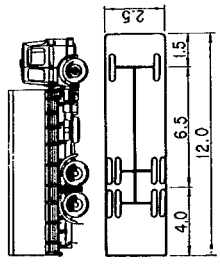
W = 3.25 m

R_T = 16 m

R_T = 15 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

T - 32

Turning Vehicle Templates (Patent Pending)

W = 3.25 m

R_T = 18 m

R_T = 17 m

SCALE
1 : 500

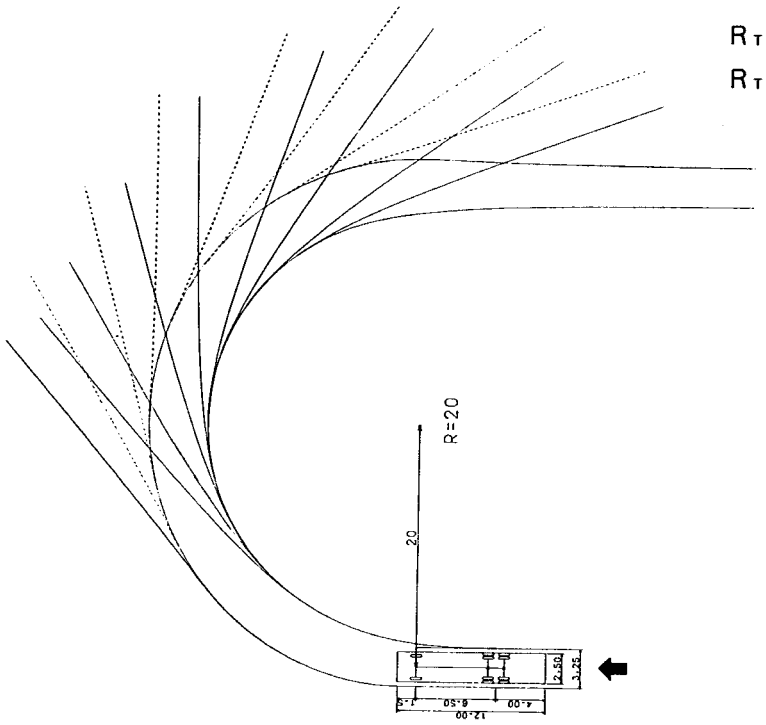
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

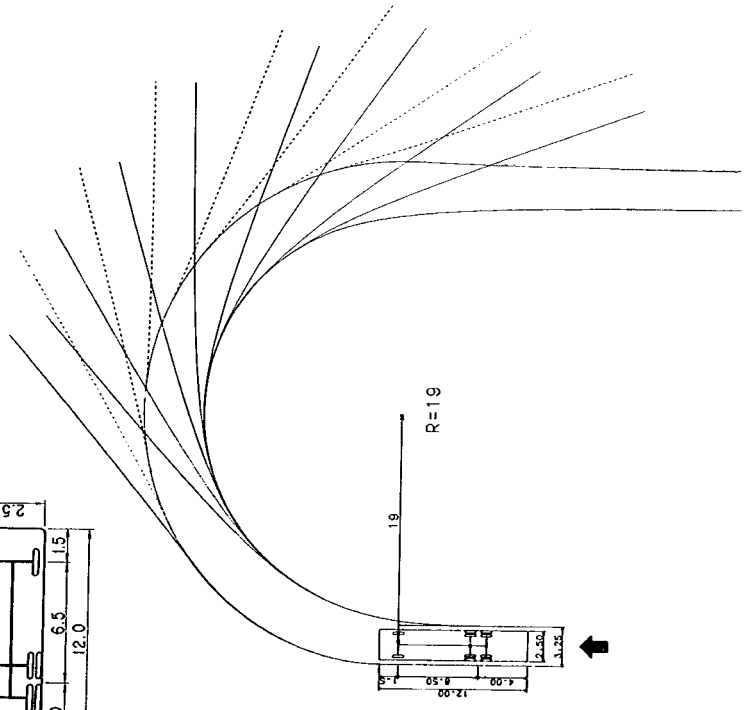
Turning Vehicle Templates (Patent Pending)

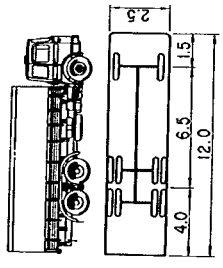
W = 3.25 m

R_T = 20 m

R_T = 19 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

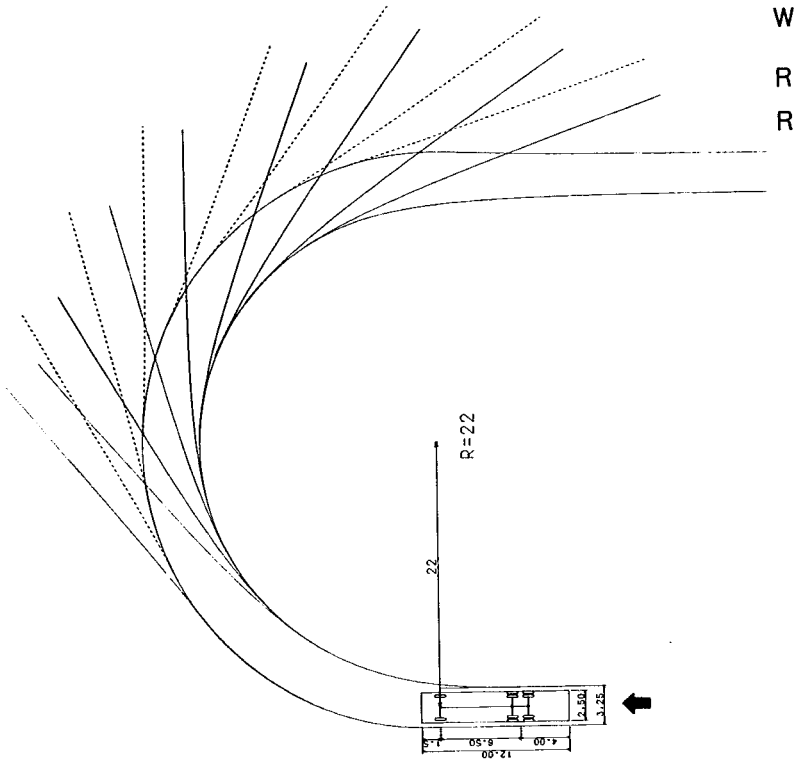
T – 34

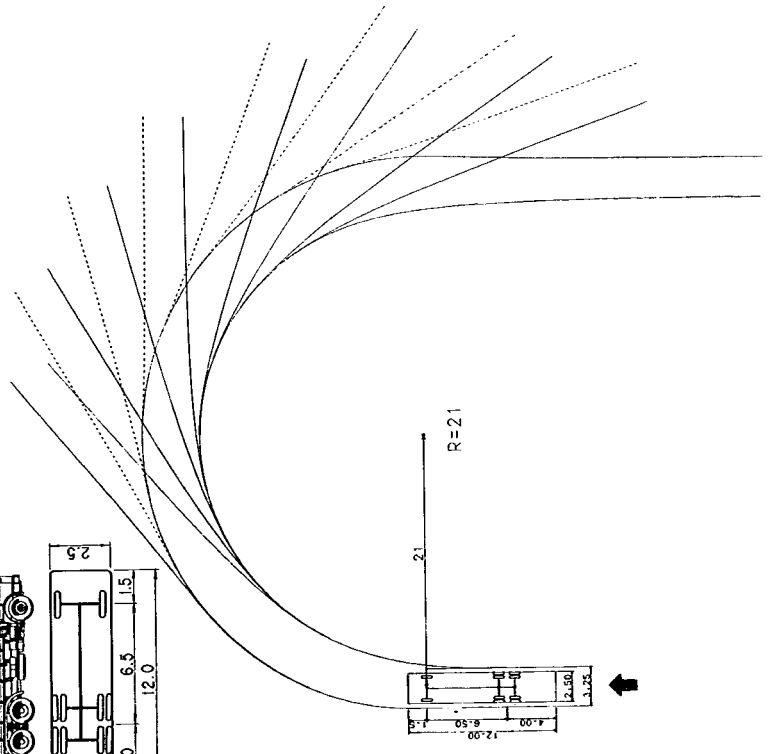
Turning Vehicle Templates (Patent Pending)

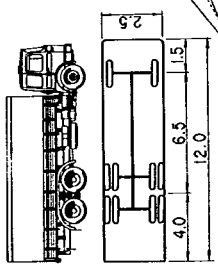
W = 3.25 m

R_T = 22 m

R_T = 21 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

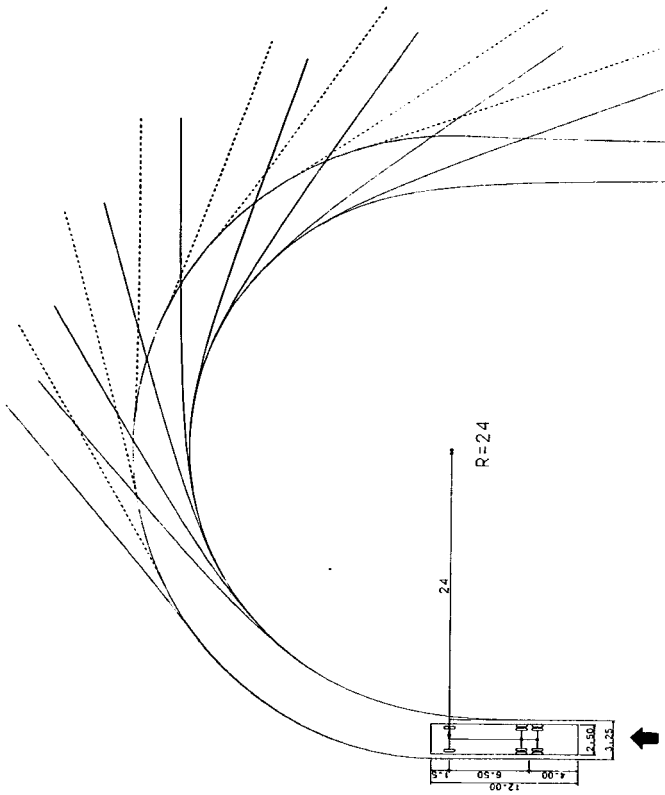
T – 35

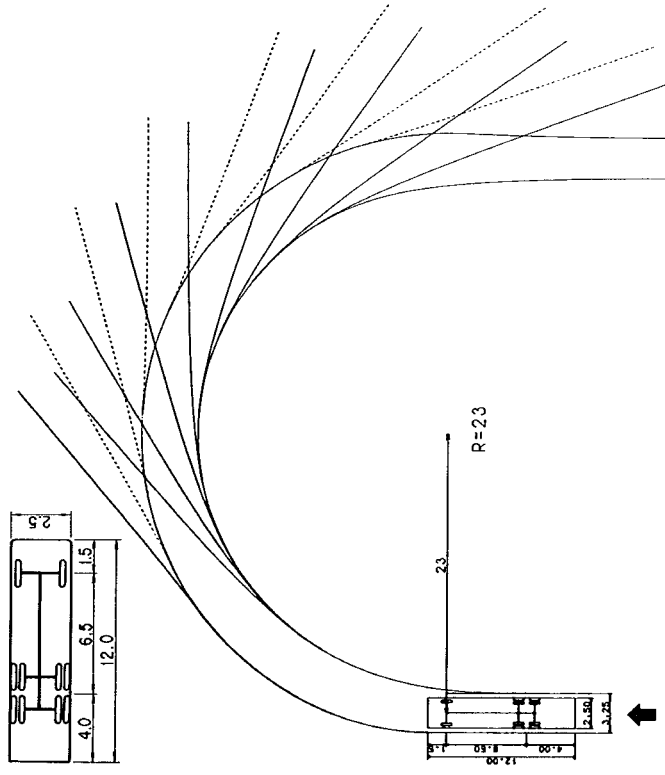
Turning Vehicle Templates (Patent Pending)

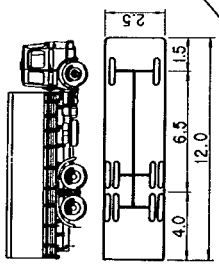
W = 3.25 m

R_T = 24 m

R_T = 23 m







SCALE
1 : 500

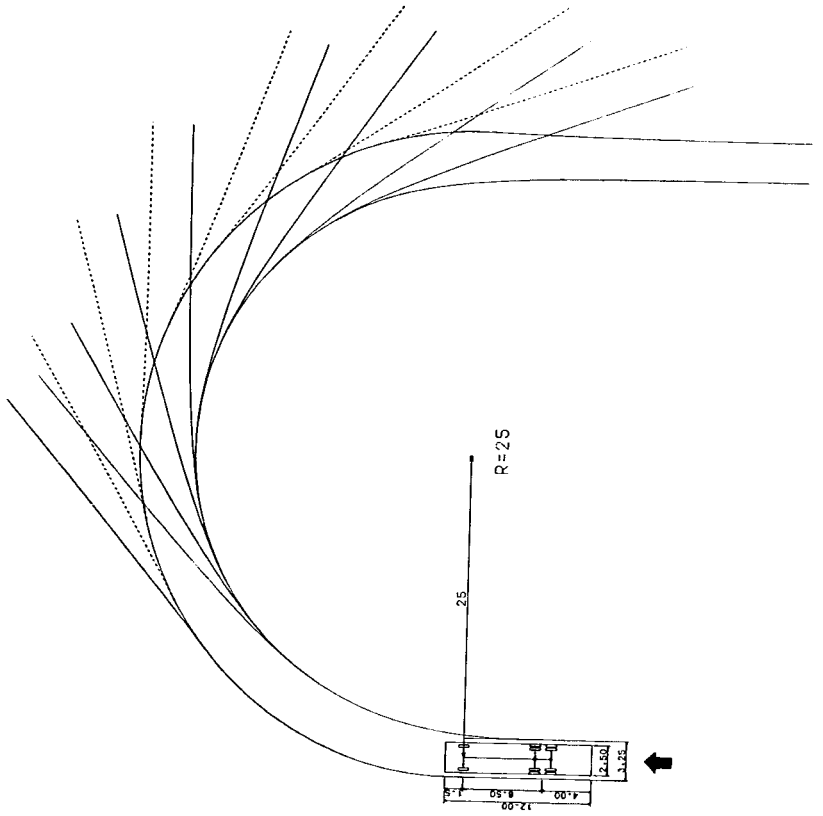
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MINISTRY OF CONSTRUCTION

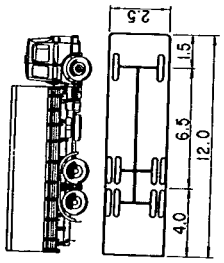
T- 36

W = 3.25 m

R_T = 25 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

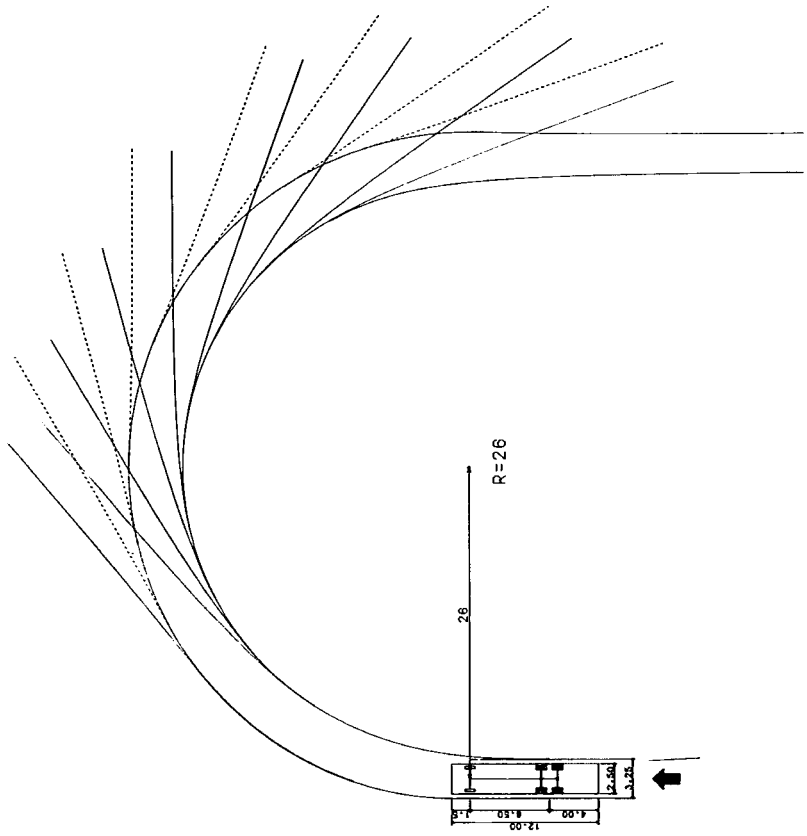
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MINISTRY OF CONSTRUCTION

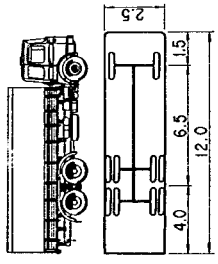
T - 37

W = 3.25 m

R_T = 26 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

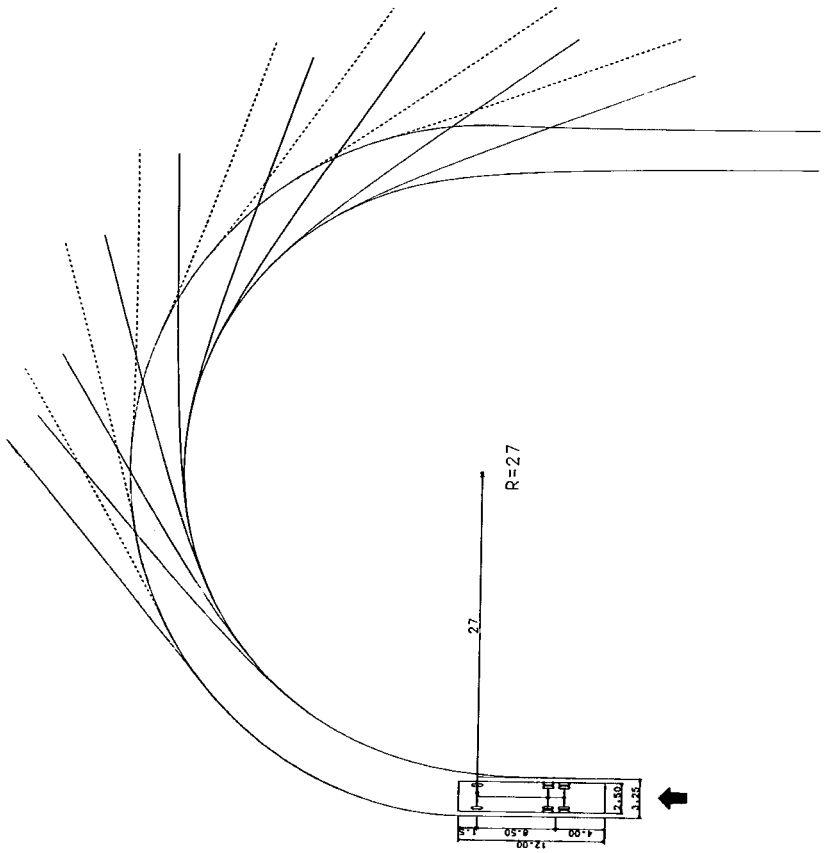
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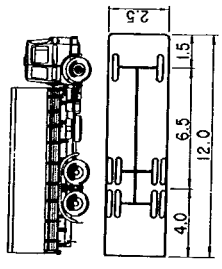
T - 38

W = 3.25 m

R_T = 27 m

Turning Vehicle Templates (Patent Pending)





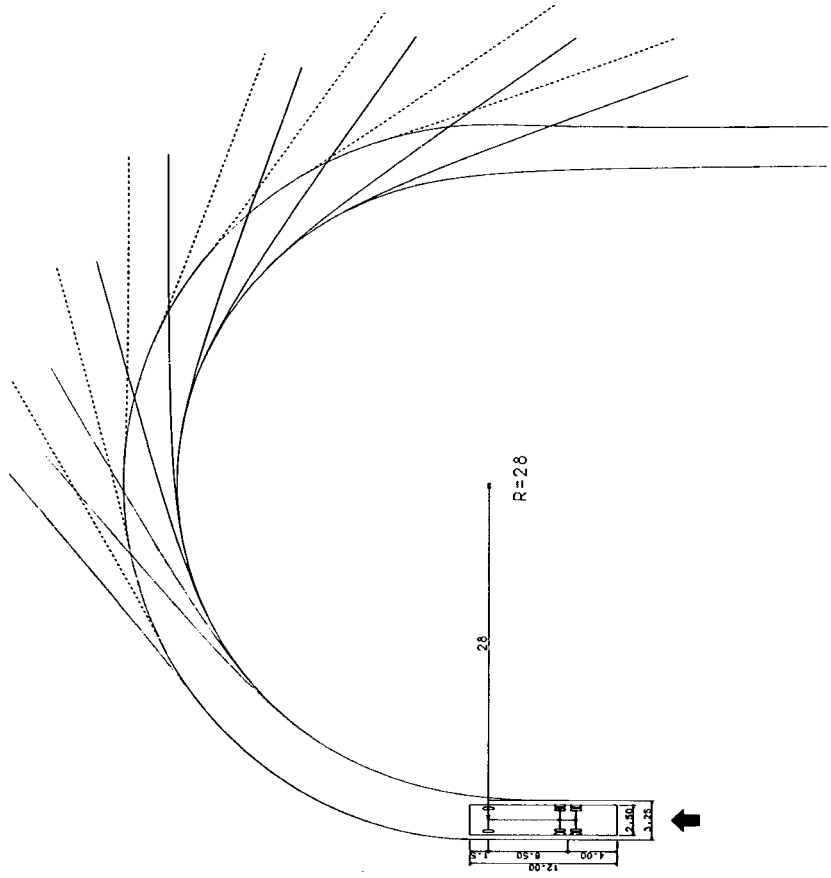
SCALE
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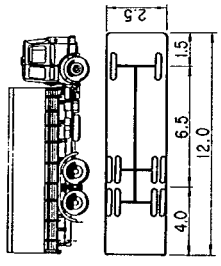
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.25 m

R_T = 28 m

Turning Vehicle Templates (Patent Pending)





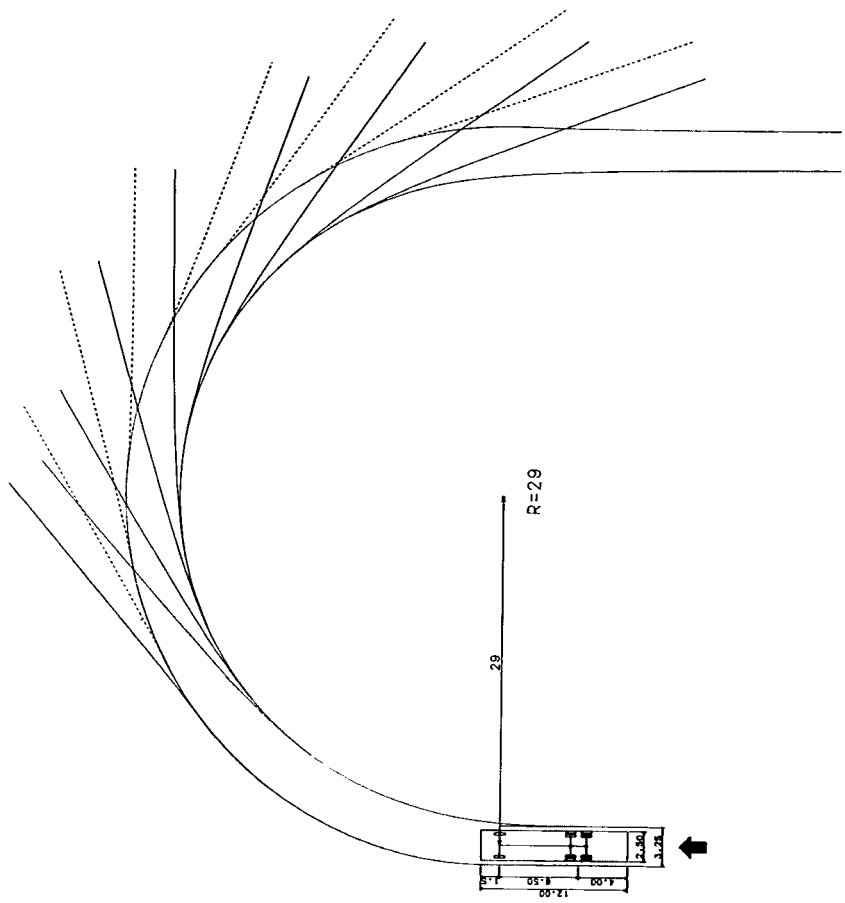
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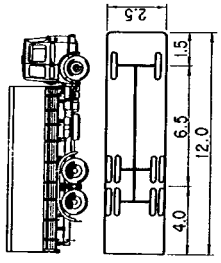
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.25 m

R_T = 29 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

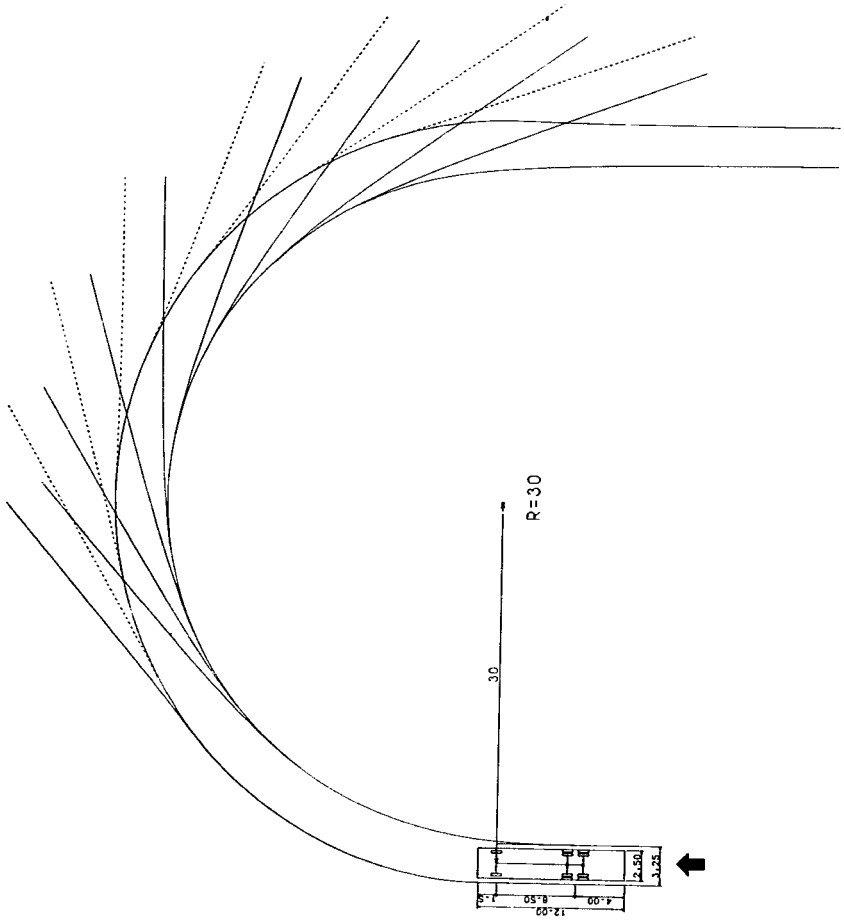
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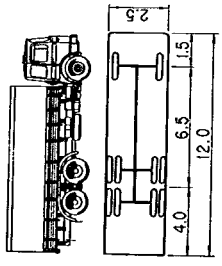
T – 41

W = 3.25 m

R_T = 30 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

縮尺（SCALE）　1：500

車線幅員（W）　3.50m

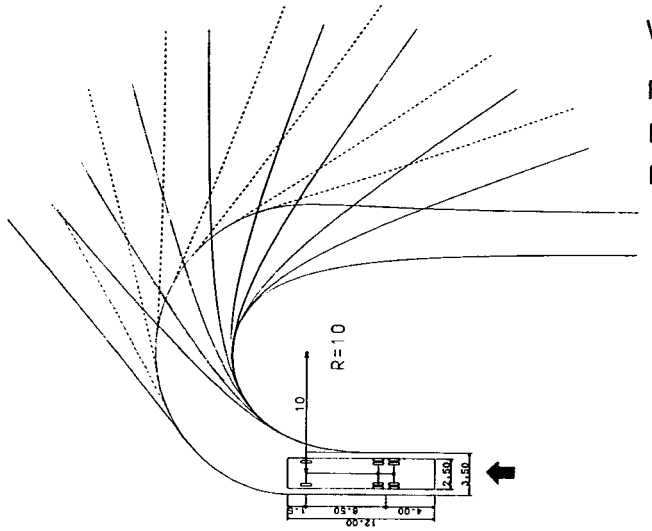
Turning Vehicle Templates (Patent Pending)

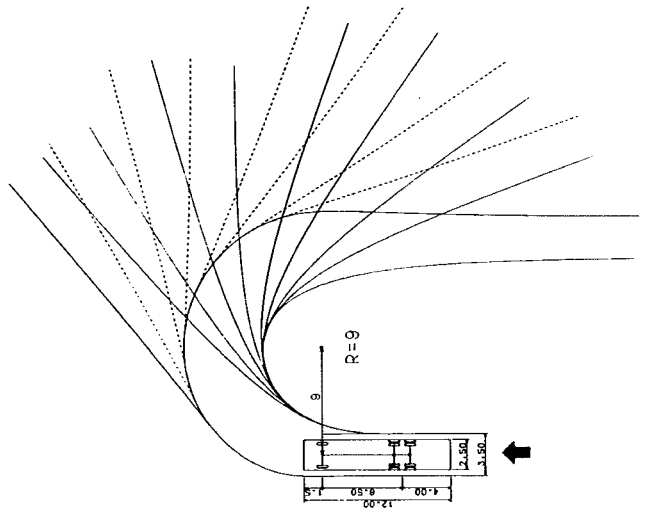
W = 3.50 m

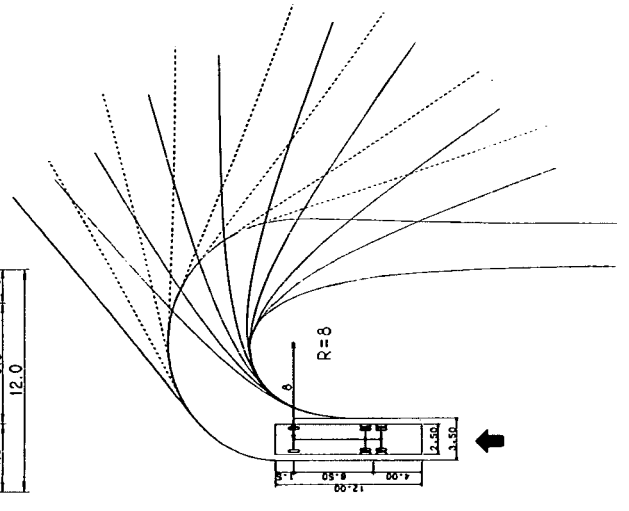
R_T = 10 m

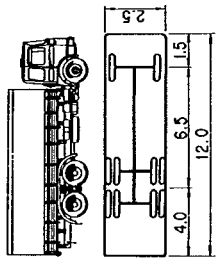
R_T = 9 m

R_T = 8 m









SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

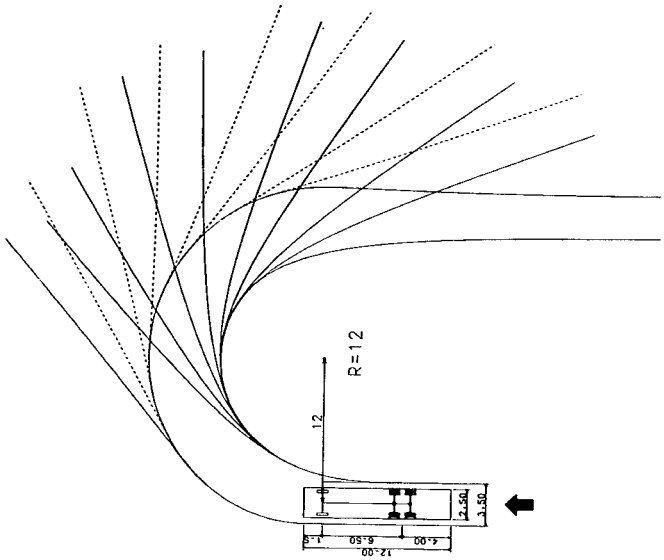
T - 43

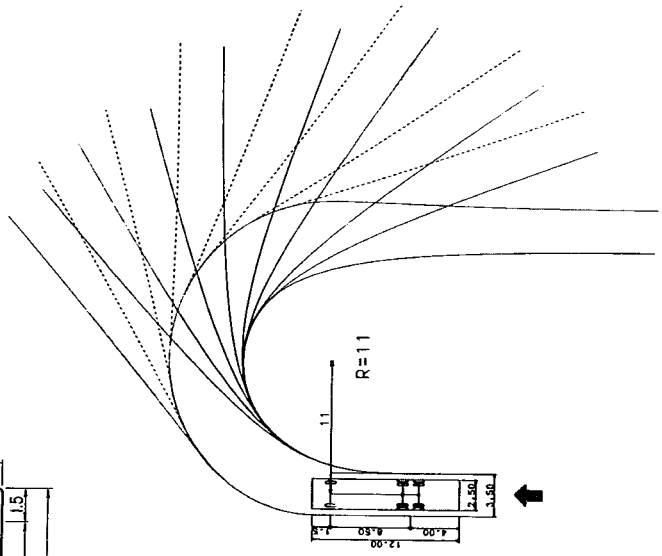
Turning Vehicle Templates (Patent Pending)

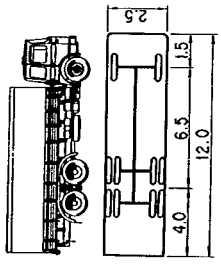
W = 3.50 m

R_T = 12 m

R_T = 11 m







SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

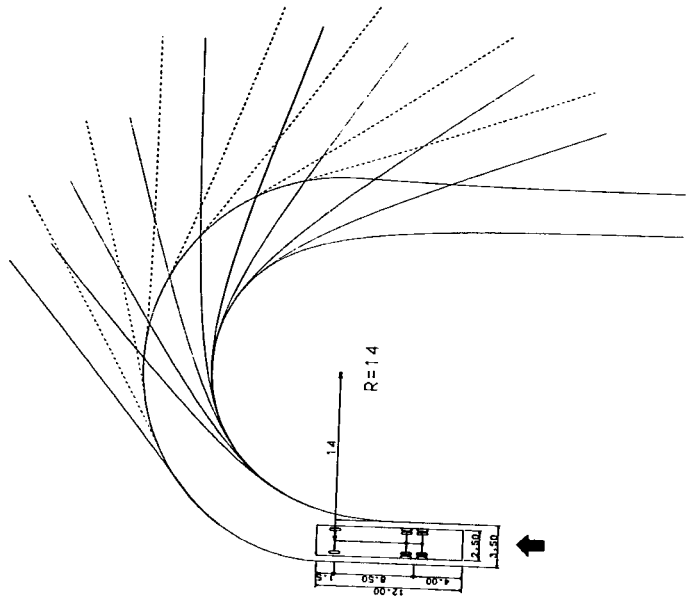
T - 44

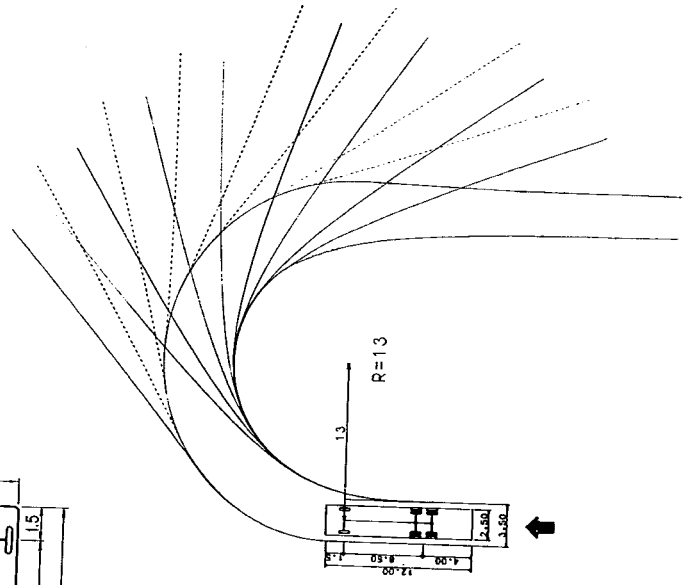
Turning Vehicle Templates (Patent Pending)

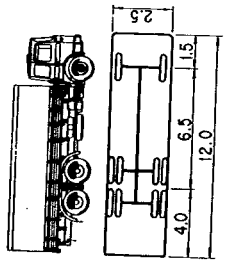
W = 3.50 m

R_T = 14 m

R_T = 13 m







SCALE
1 : 500

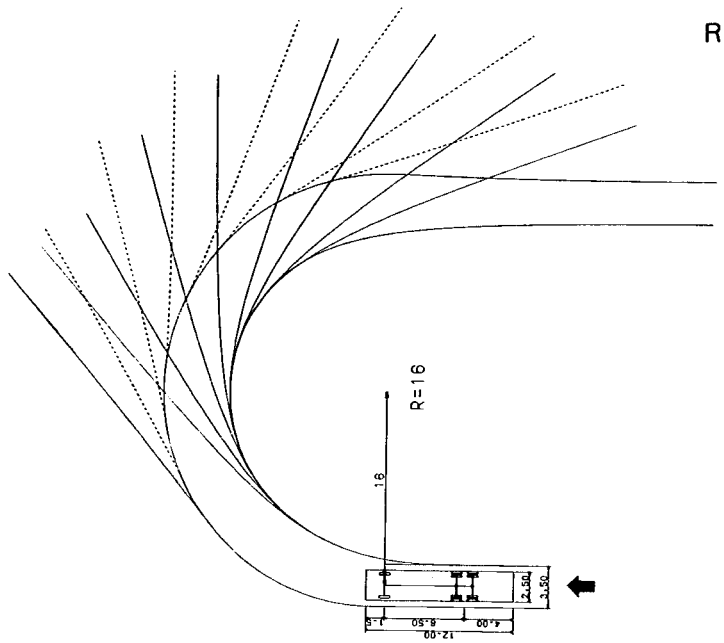
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MINISTRY OF CONSTRUCTION

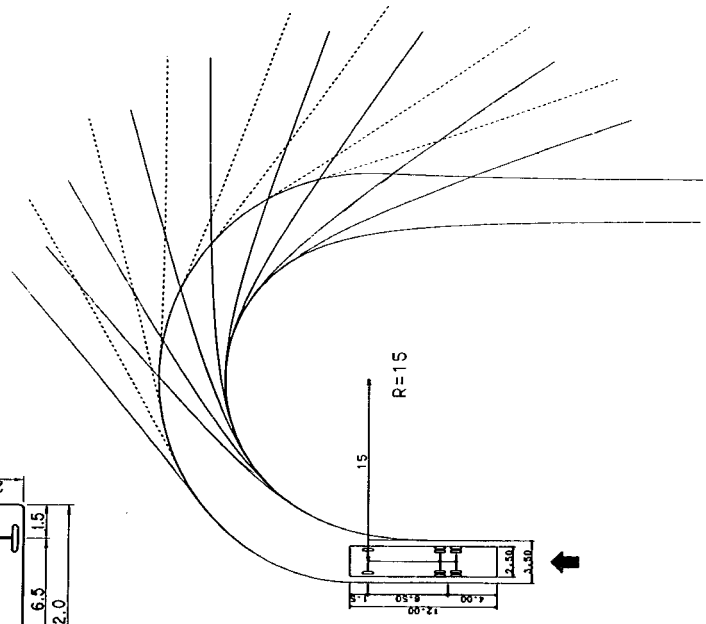
Turning Vehicle Templates (Patent Pending)

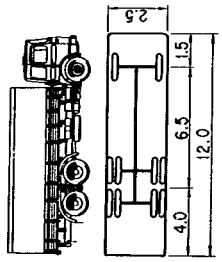
W = 3.50 m

R_T = 16 m

R_T = 15 m







SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

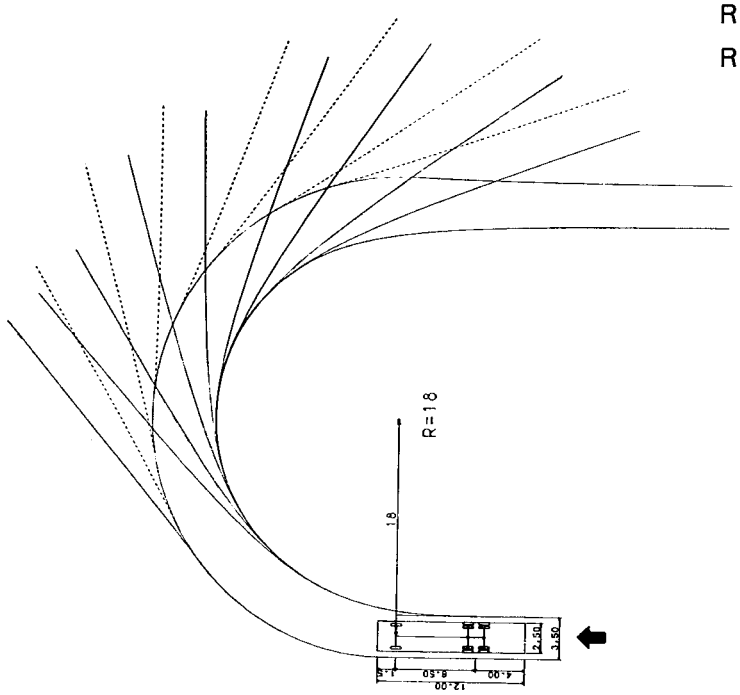
T - 46

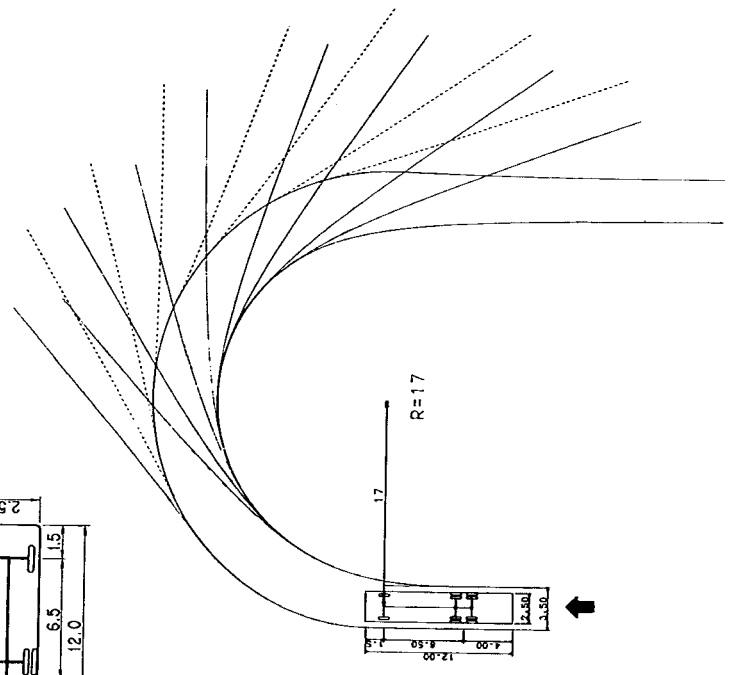
Turning Vehicle Templates (Patent Pending)

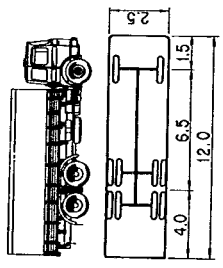
W = 3.50 m

R_T = 18 m

R_T = 17 m







SCALE
1 : 500

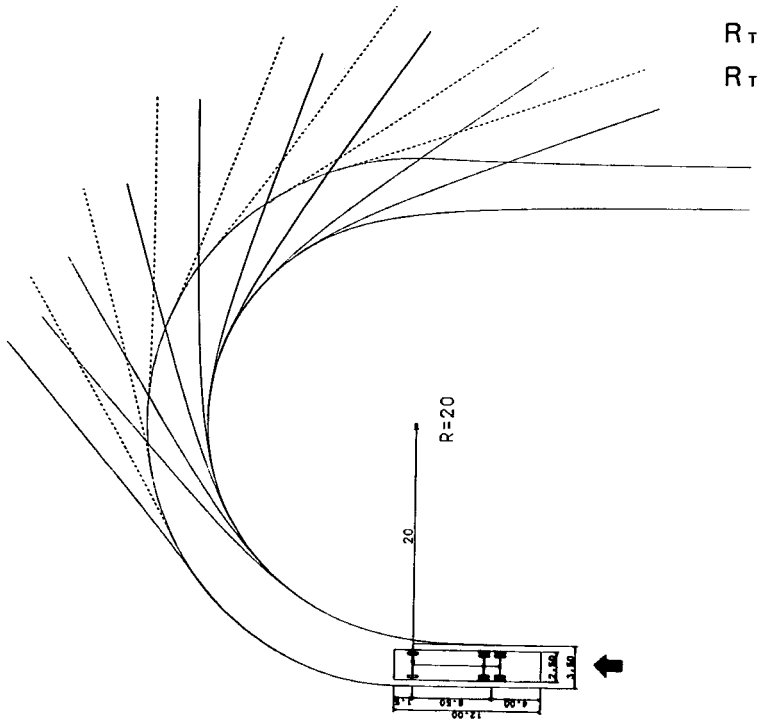
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

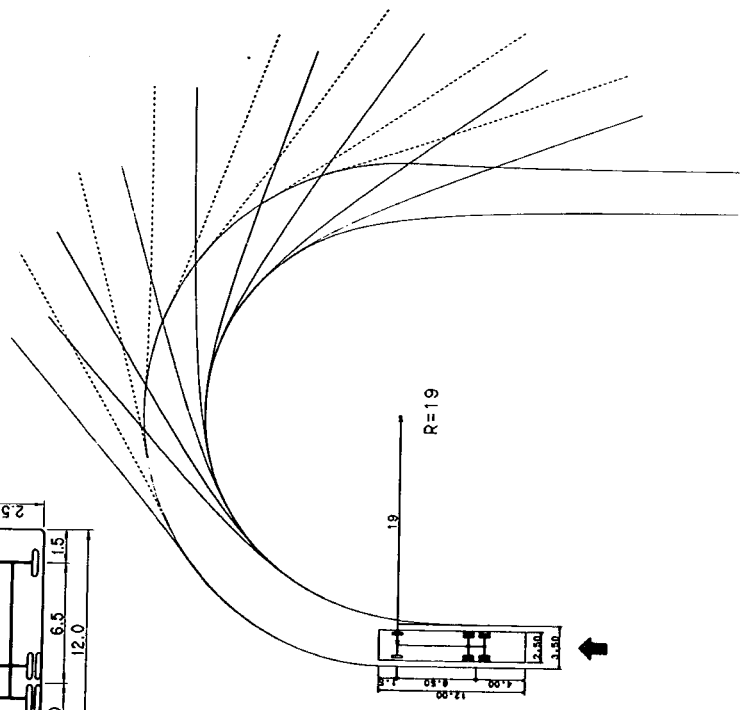
Turning Vehicle Templates (Patent Pending)

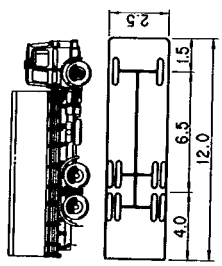
W = 3.50 m

R_T = 20 m

R_T = 19 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

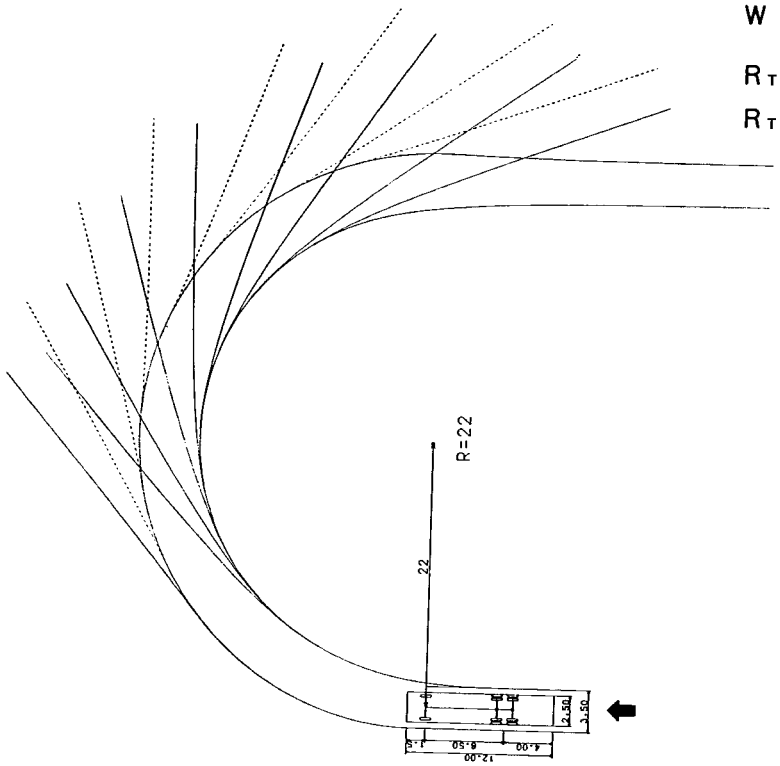
T - 48

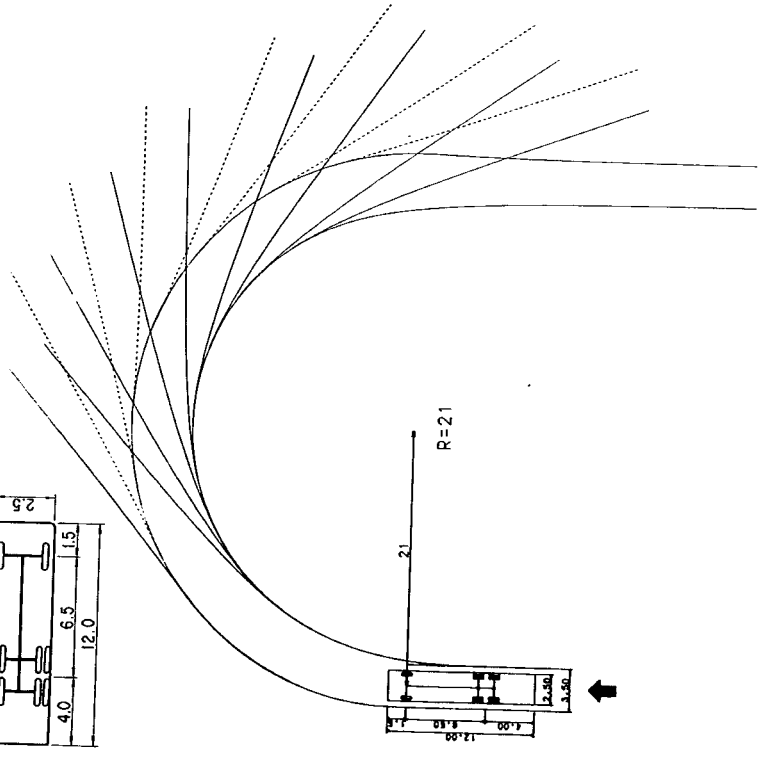
Turning Vehicle Templates (Patent Pending)

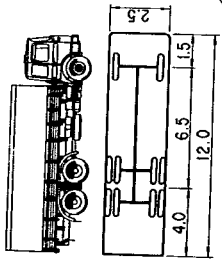
W = 3.50 m

R_T = 22 m

R_T = 21 m







SCALE
1 : 500

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T - 49

Turning Vehicle Templates (Patent Pending)

W = 3.50 m

R_T = 24 m

R_T = 23 m

SCALE
1 : 500

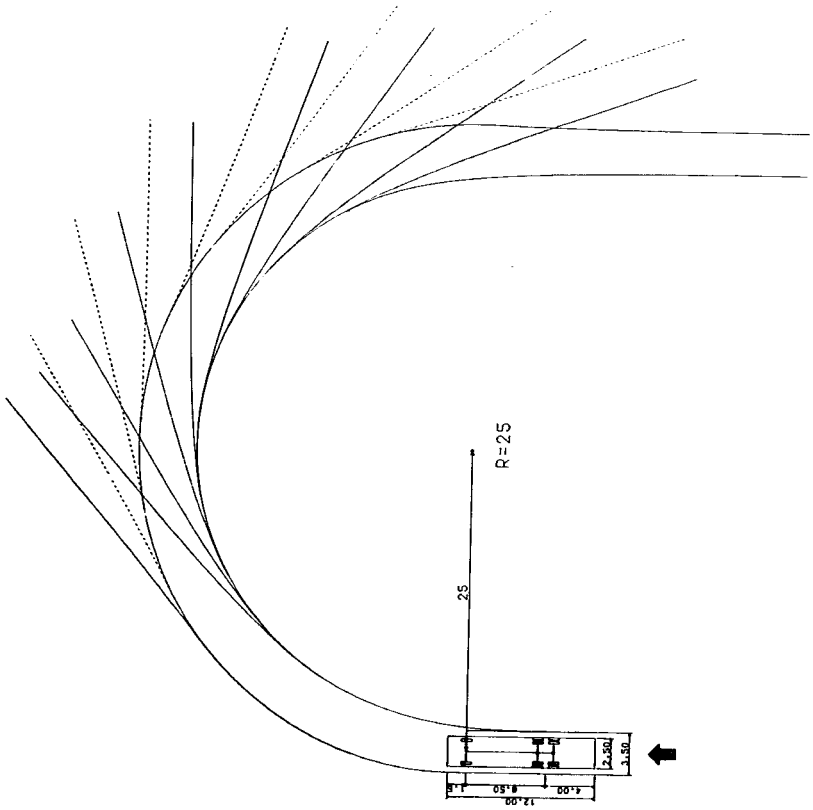
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MINISTRY OF CONSTRUCTION

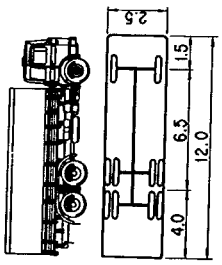
T – 50

W = 3.50 m

R_T = 25 m

Turning Vehicle Templates (Patent Pending)





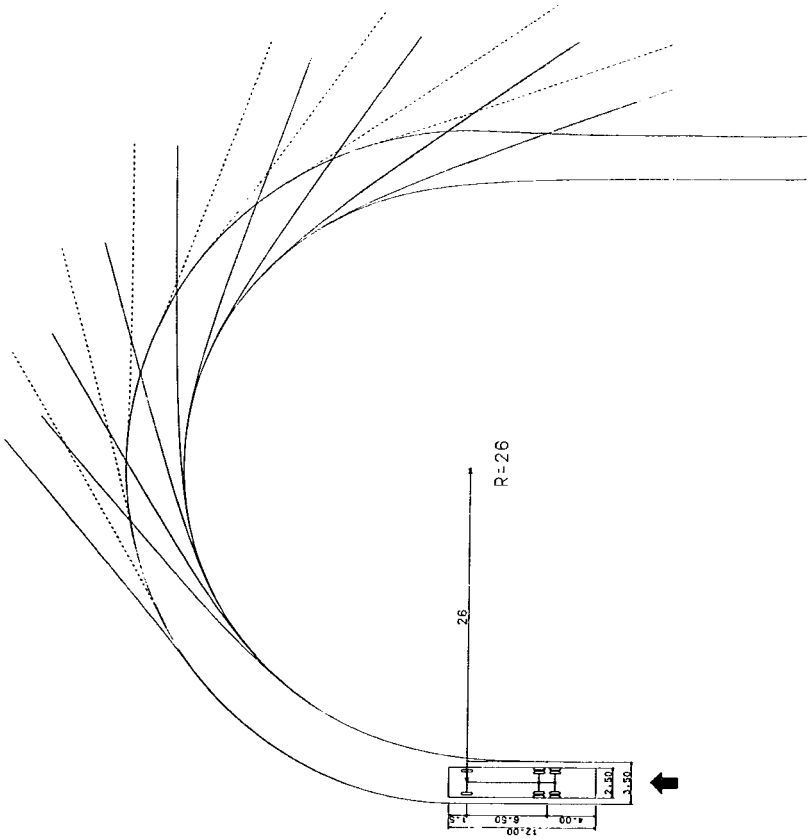
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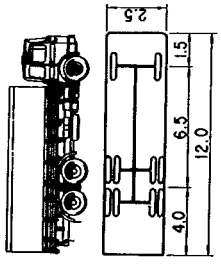
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.50 m

R_T = 26 m

Turning Vehicle Templates (Patent Pending)





SCALE
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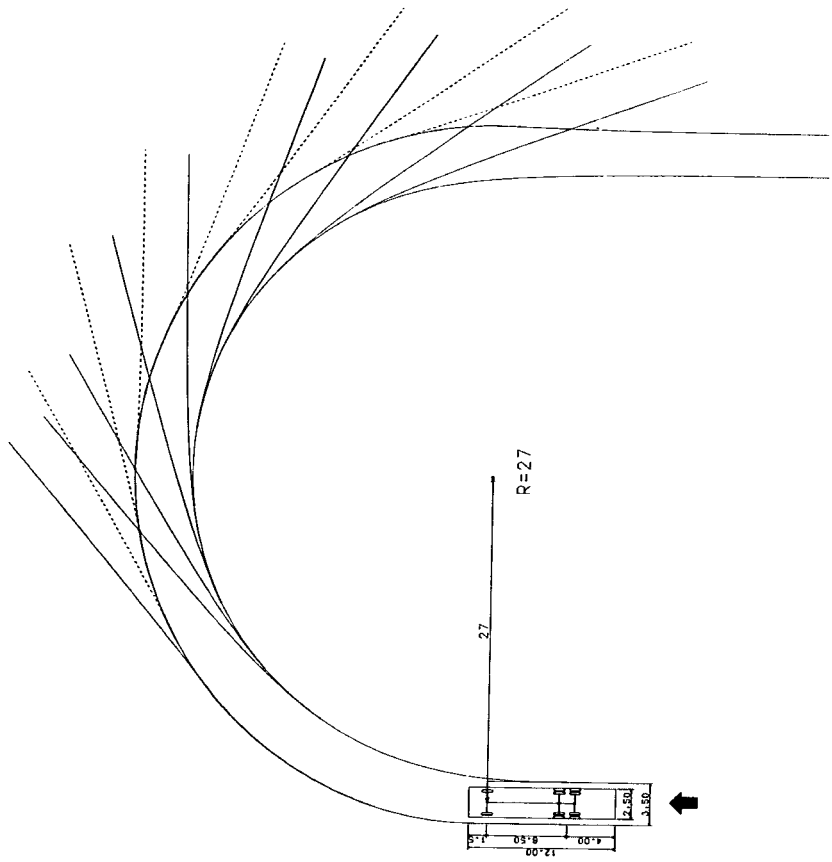
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MINISTRY OF CONSTRUCTION

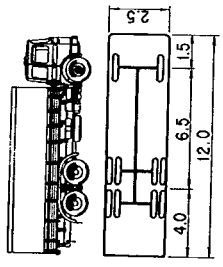
T – 52

W = 3.50 m

R_T = 27 m

Turning Vehicle Templates (Patent Pending)





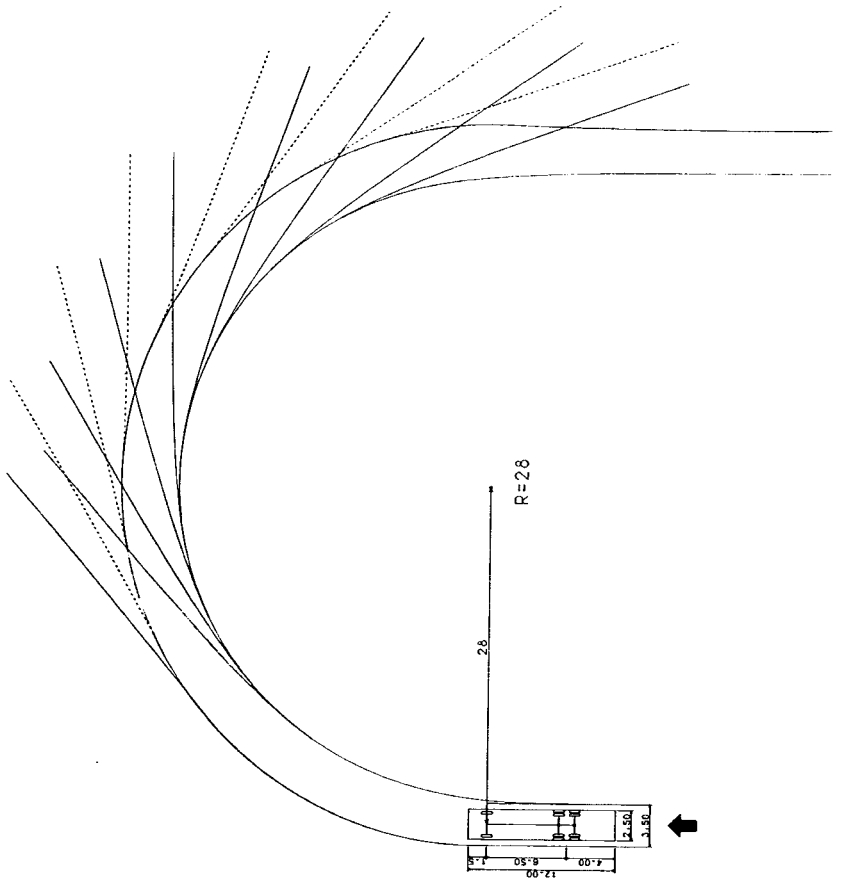
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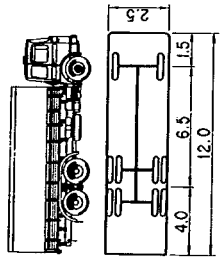
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.50 m

R_T = 28 m

Turning Vehicle Templates (Patent Pending)





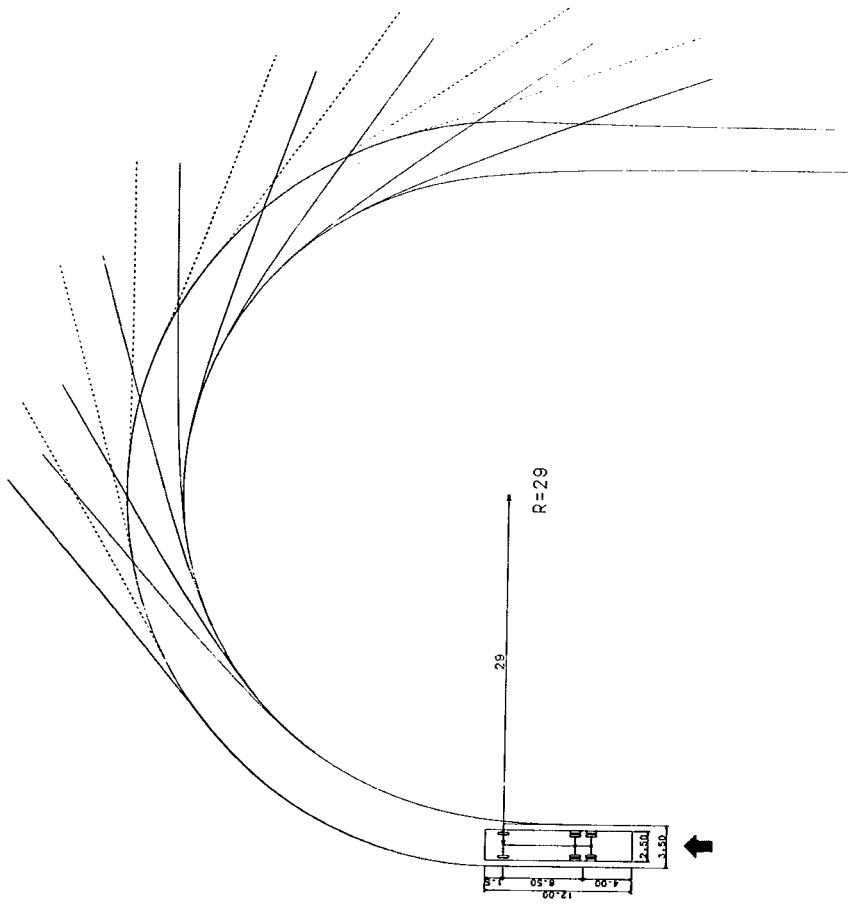
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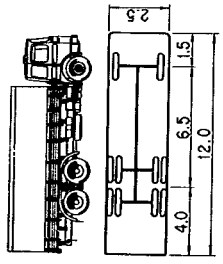
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.50 m

R_T = 29 m

Turning Vehicle Templates (Patent Pending)





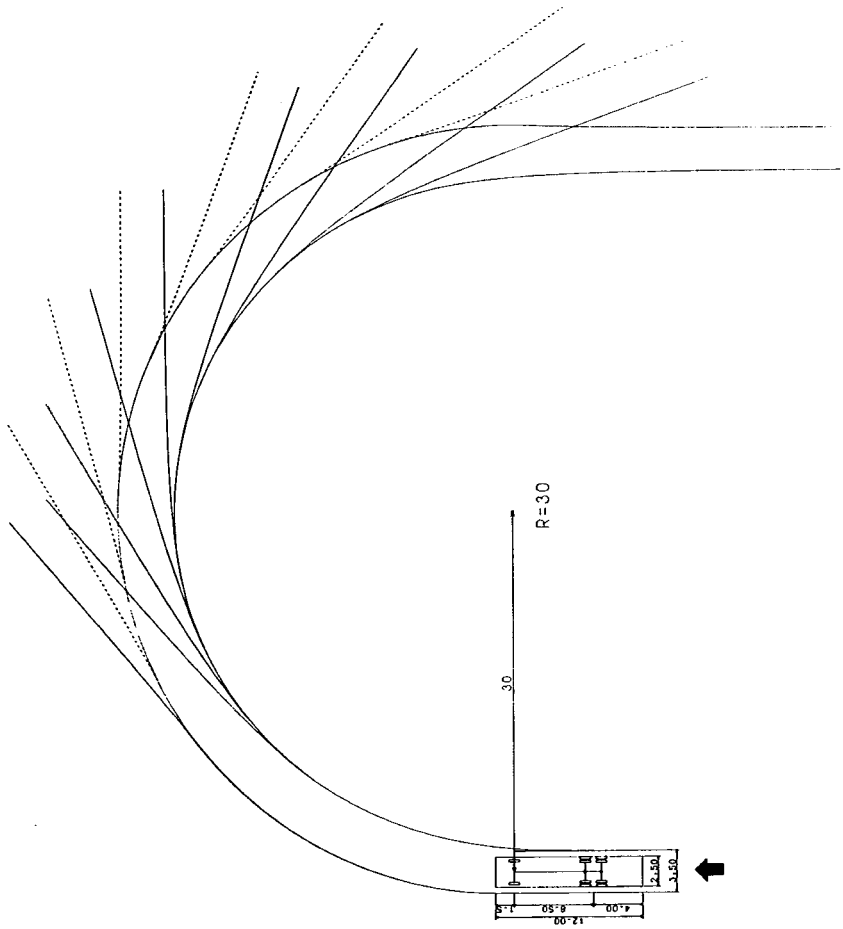
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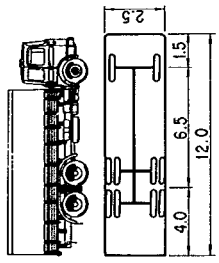
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MINISTRY OF CONSTRUCTION

W = 3.50 m

R_T = 30 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

T – 56

縮尺（SCALE）　1：300

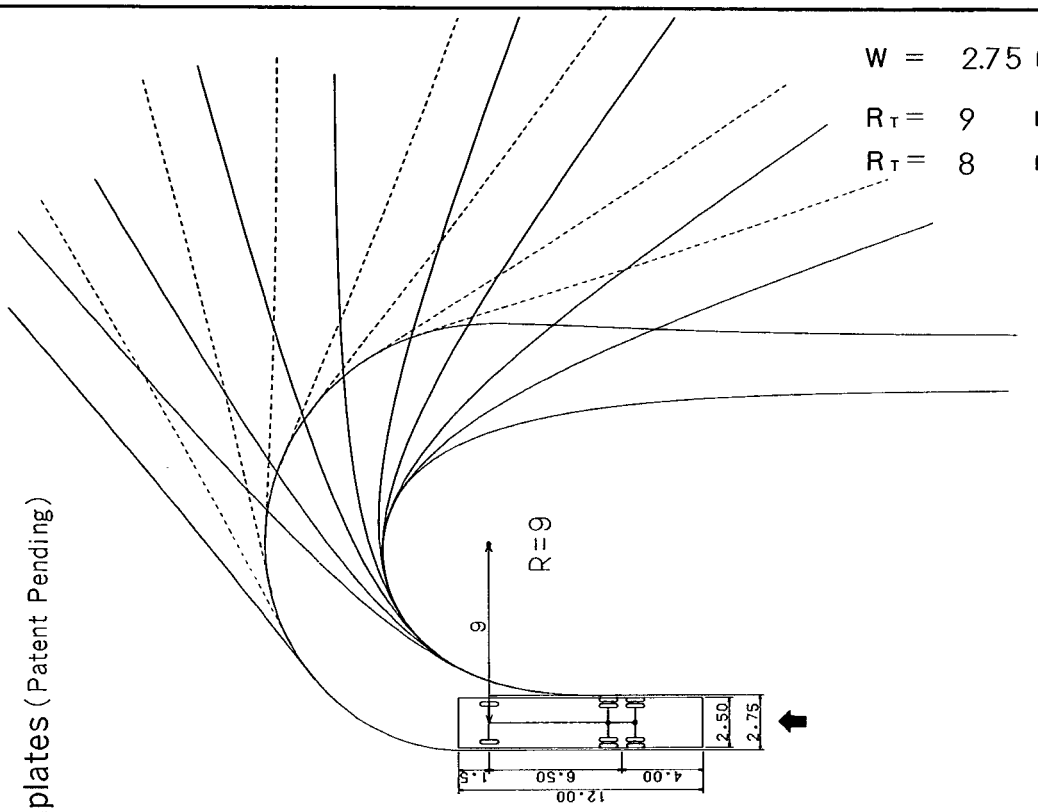
車線幅員（W）　2.75m

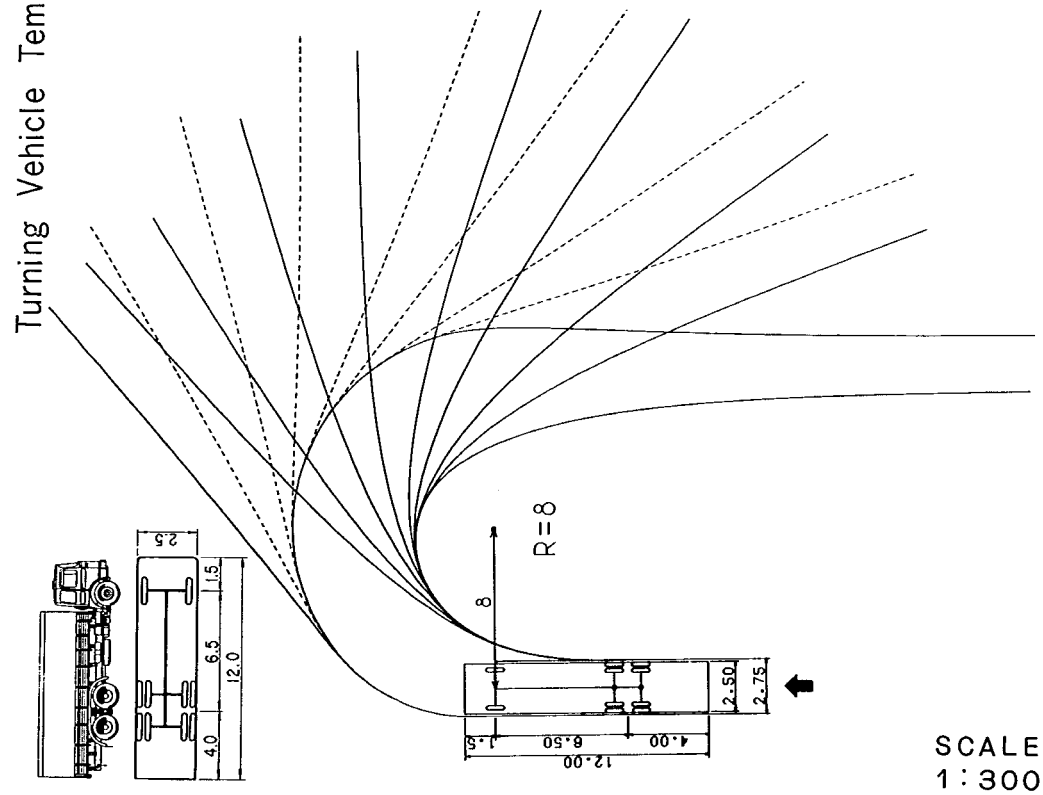
Turning Vehicle Templates (Patent Pending)

W = 2.75 m

R_T = 9 m

R_T = 8 m





SCALE
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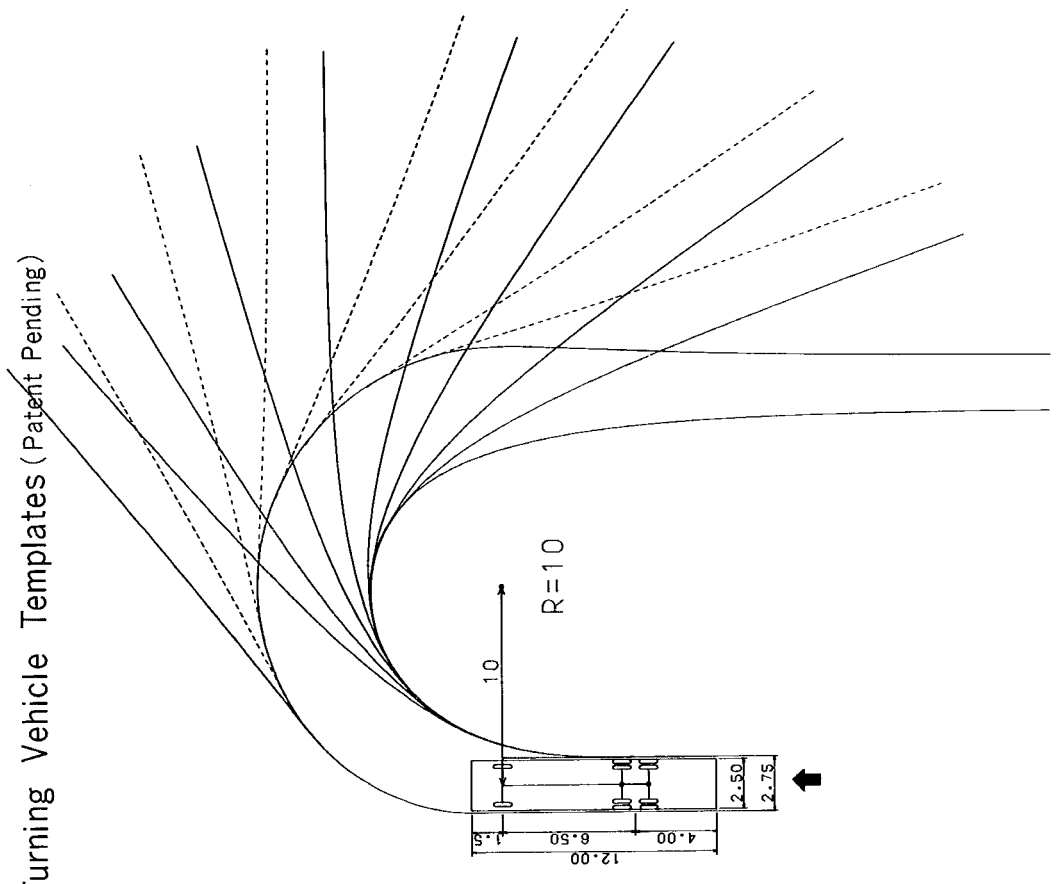
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

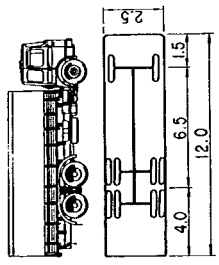
T - 57

W = 2.75 m

R_T = 10 m

Turning Vehicle Templates (Patent Pending)





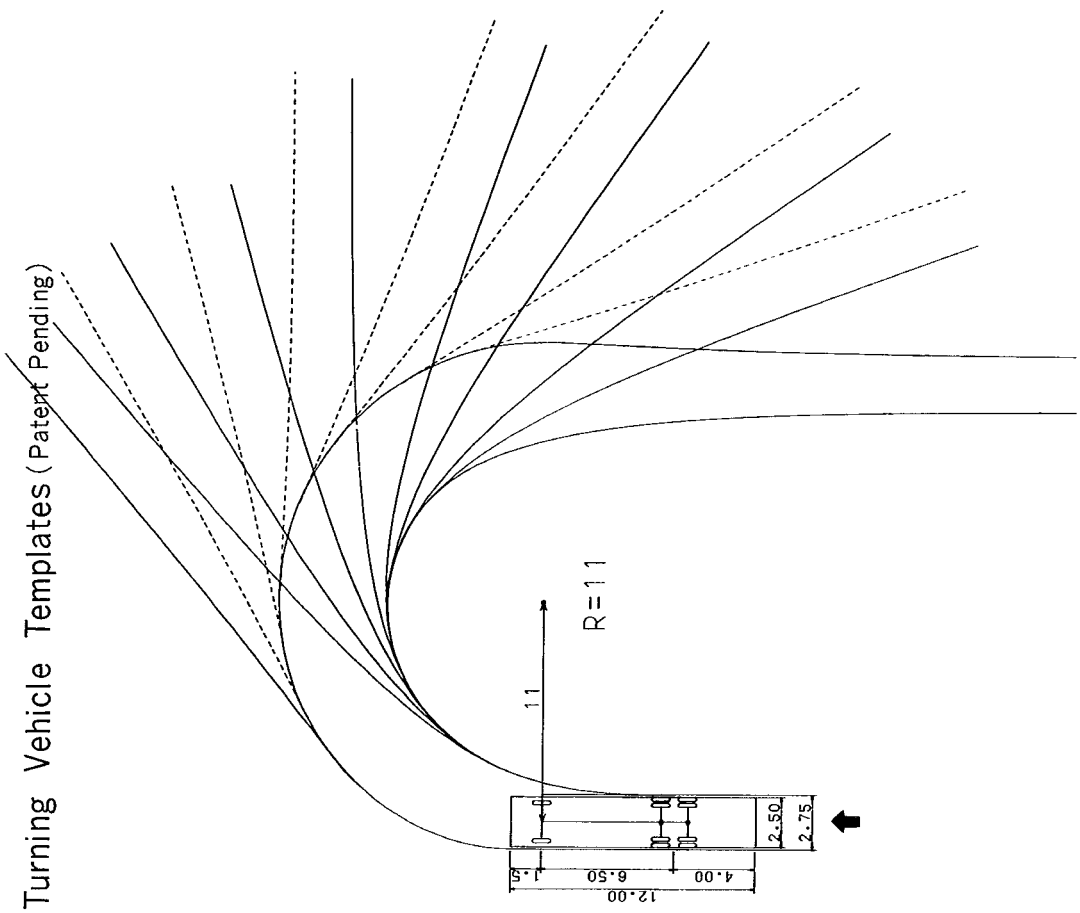
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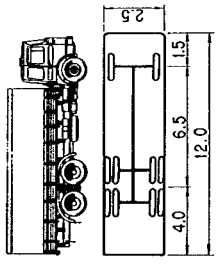
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MINISTRY OF CONSTRUCTION

W = 2.75 m

R_T = 11 m

Turning Vehicle Templates (Patent Pending)





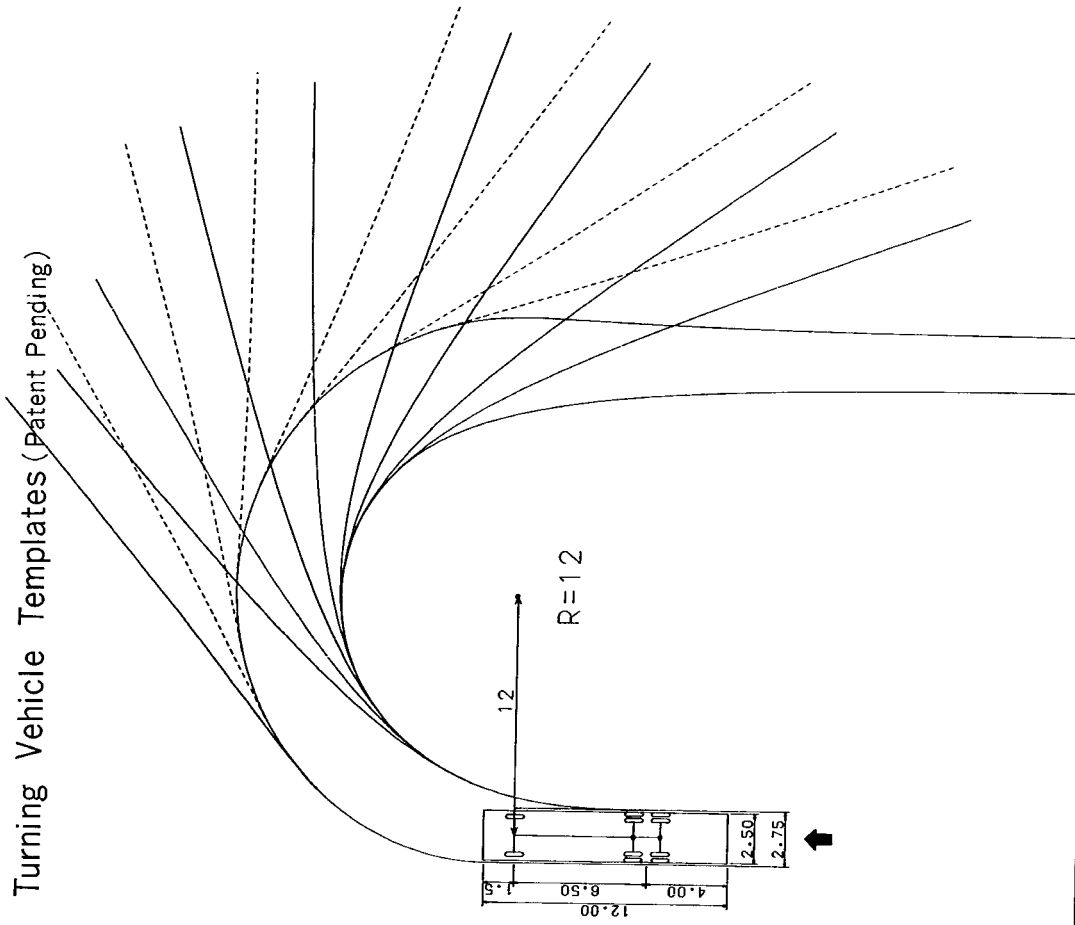
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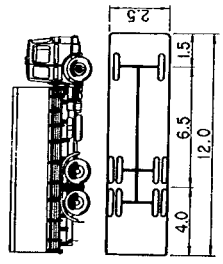
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MINISTRY OF CONSTRUCTION

W = 2.75 m

R_T = 12 m

Turning Vehicle Templates (Patent Pending)





SCALE
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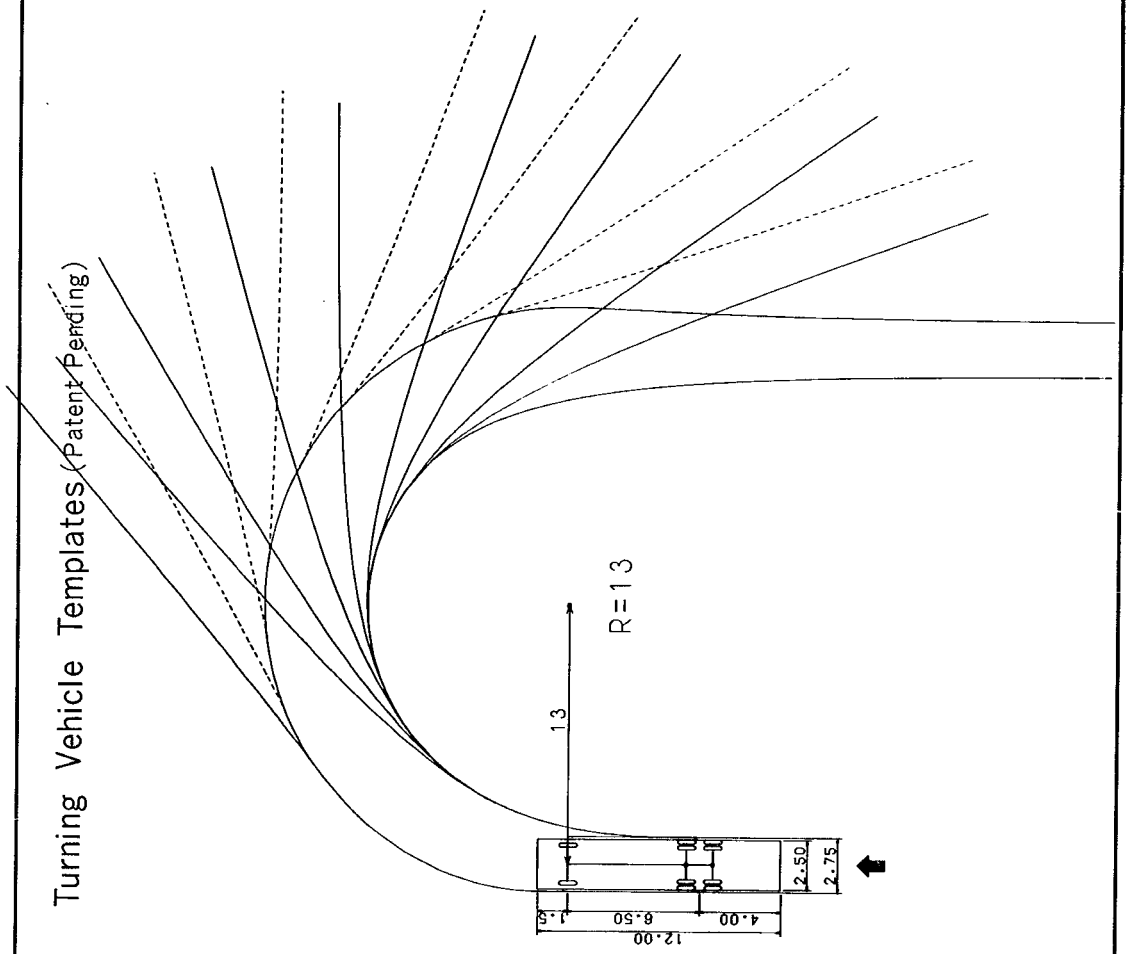
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MINISTRY OF CONSTRUCTION

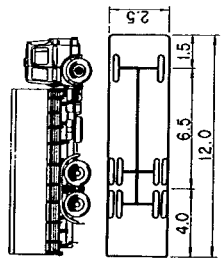
T- 60

W = 2.75 m

R_T = 13 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

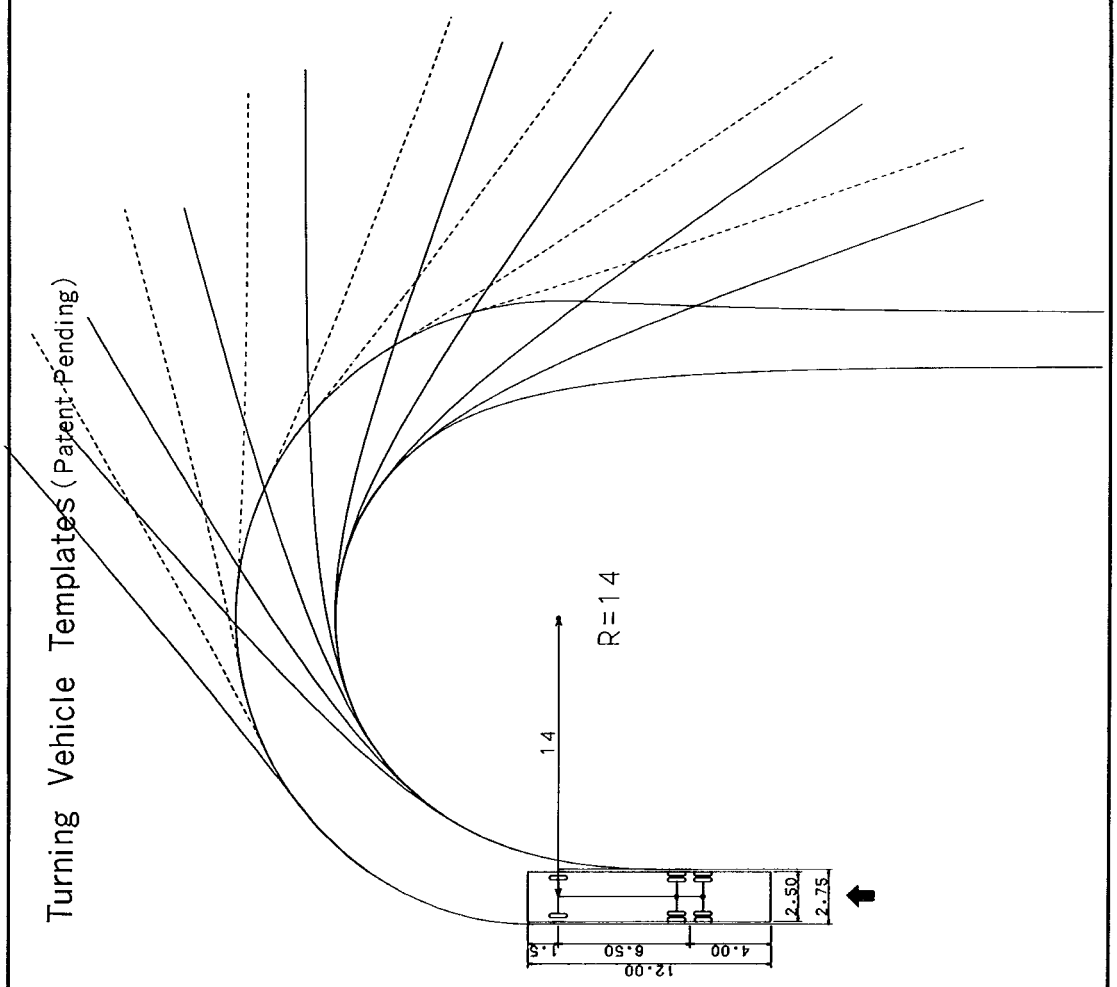
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MINISTRY OF CONSTRUCTION

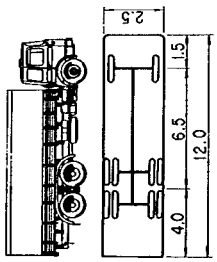
T – 61

W = 2.75 m

R_T = 14 m

Turning Vehicle Templates (Patent Pending)





SCALE
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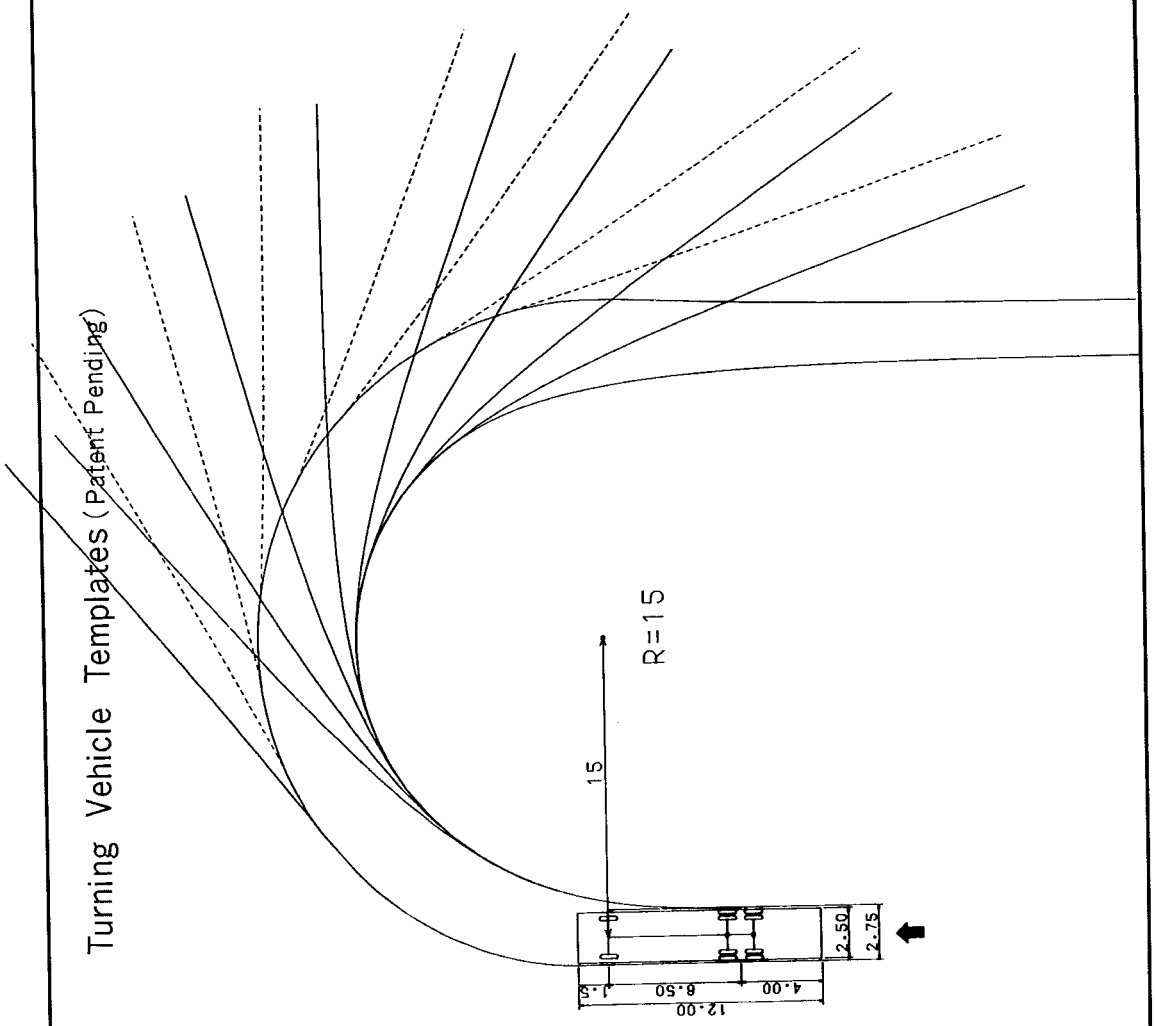
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MINISTRY OF CONSTRUCTION

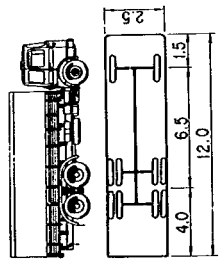
T – 62

W = 2.75 m

R_T = 15 m

Turning Vehicle Templates (Patent Pending)





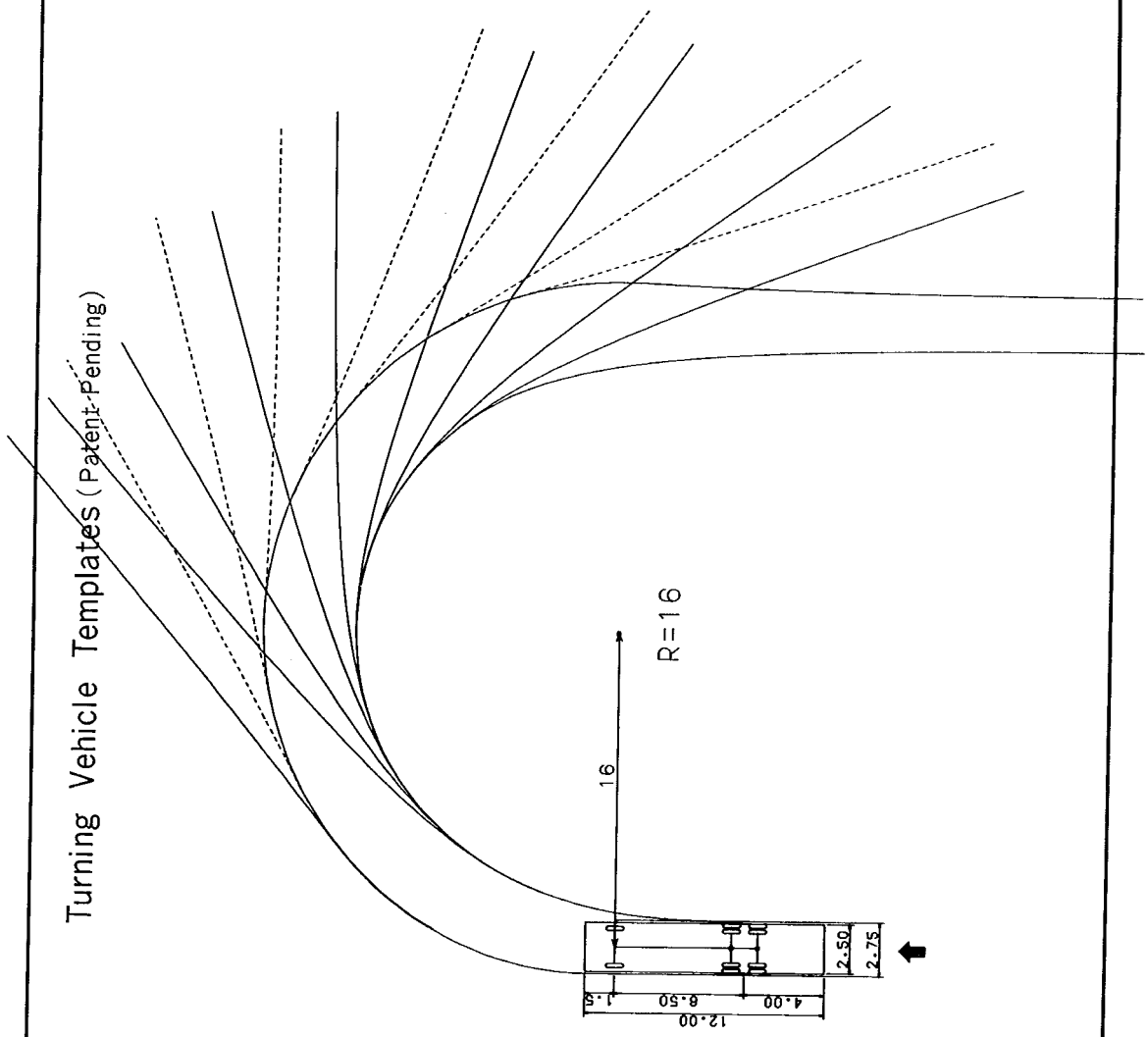
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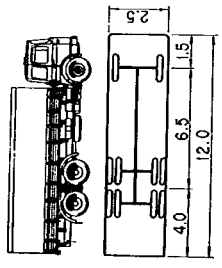
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 2.75 m

R_T = 16 m

Turning Vehicle Templates (Patent Pending)





SCALE
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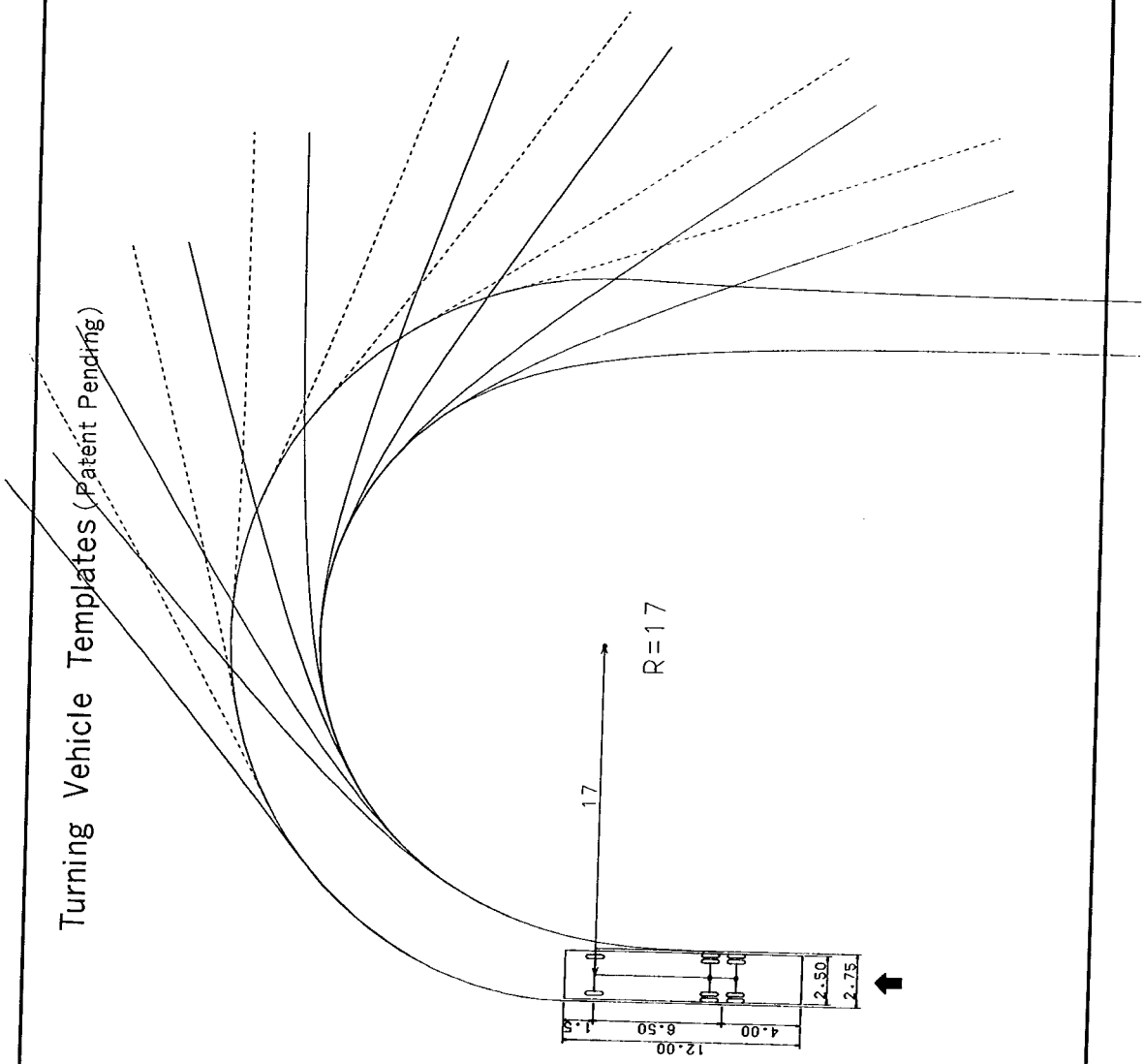
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MINISTRY OF CONSTRUCTION

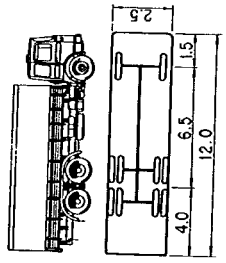
T – 64

W = 2.75 m

R_T = 17 m

Turning Vehicle Templates (Patent Pending)





SCALE
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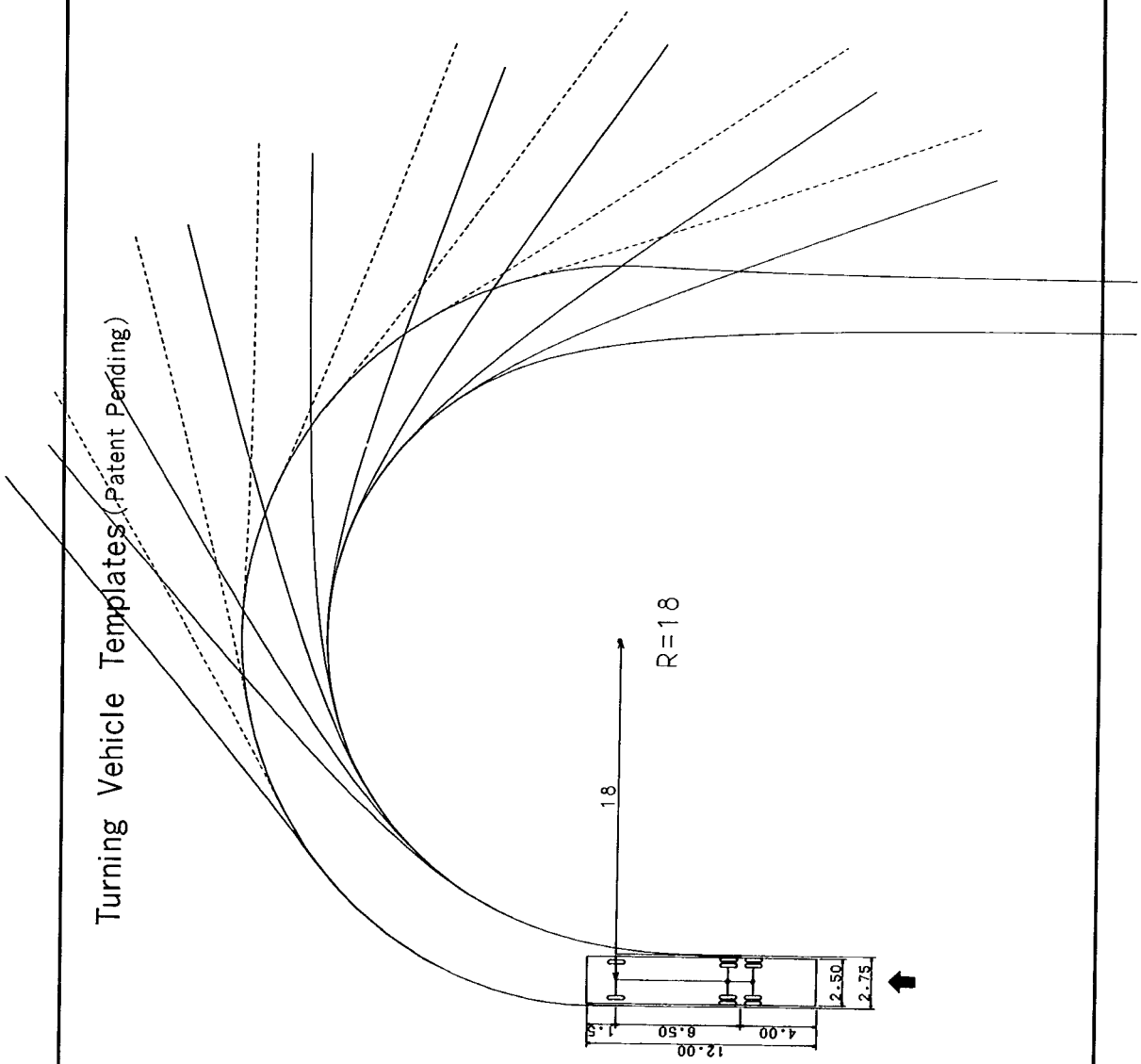
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MINISTRY OF CONSTRUCTION

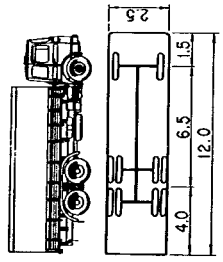
T- 65

W = 2.75 m

R_T = 18 m

Turning Vehicle Templates (Patent Pending)





SCALE
1:300

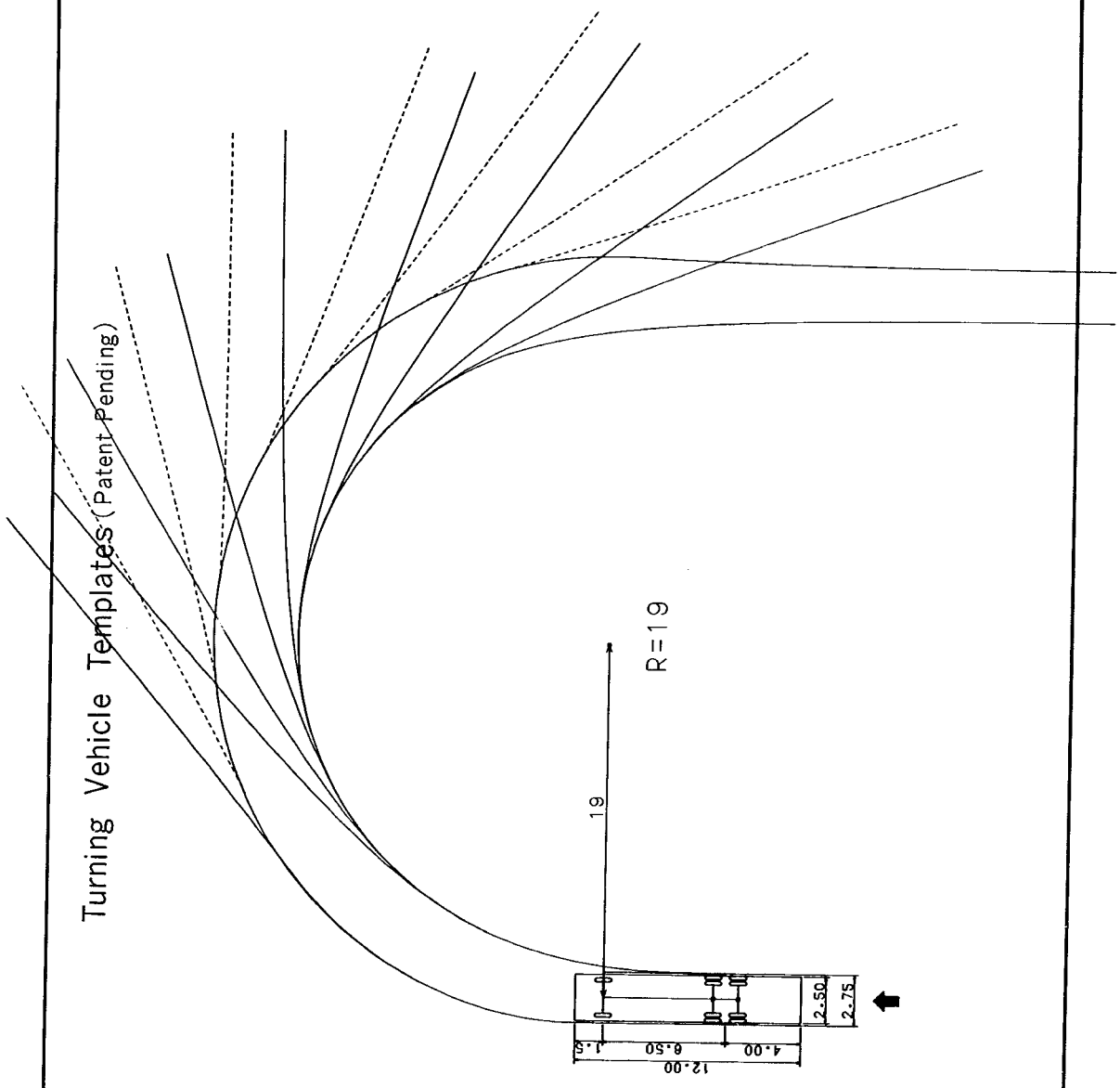
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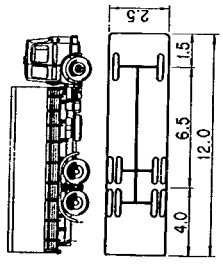
T- 66

W = 2.75 m

R_T = 19 m

Turning Vehicle Templates (Patent Pending)





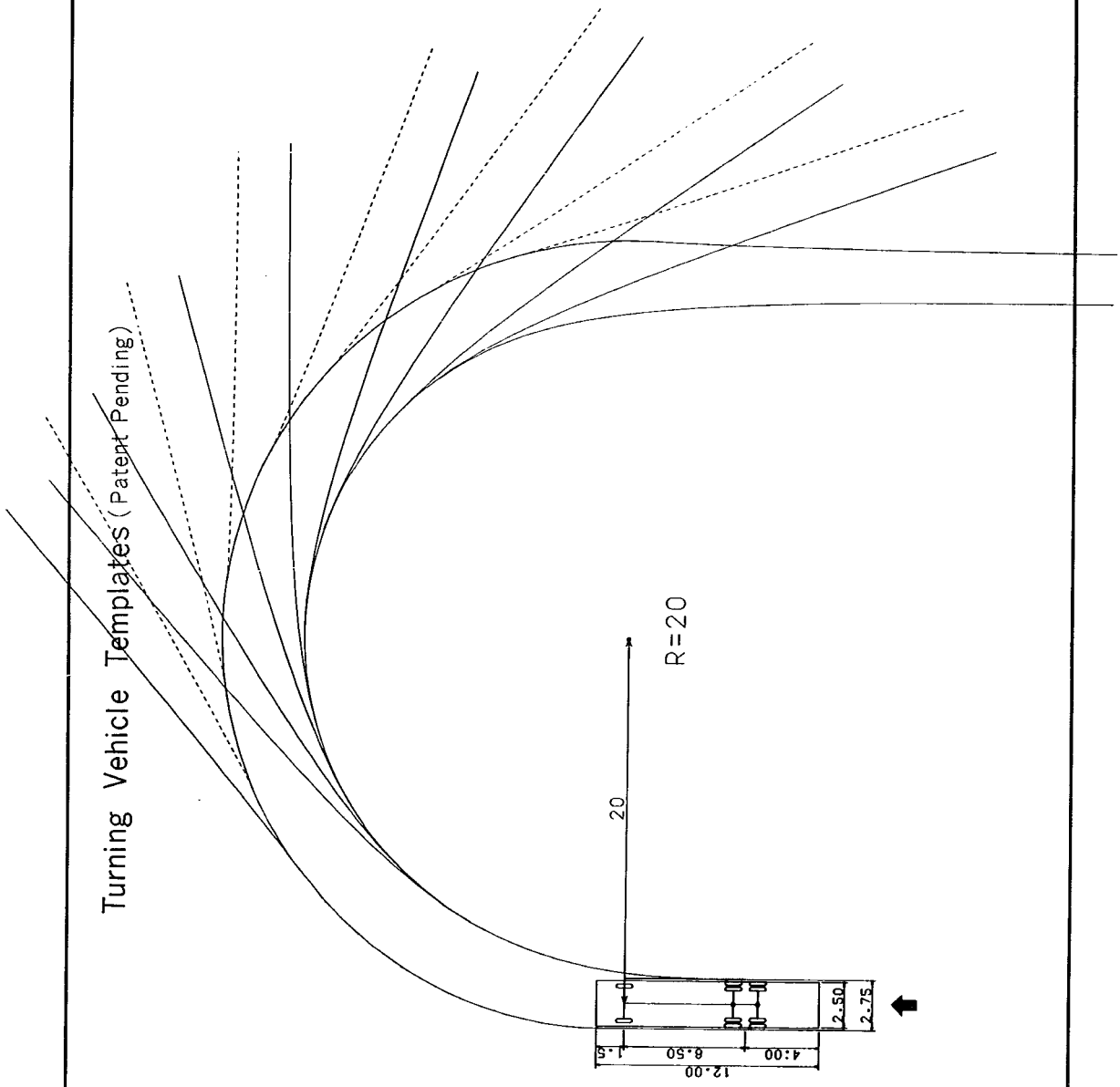
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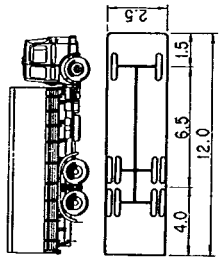
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 2.75 m

R_T = 20 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

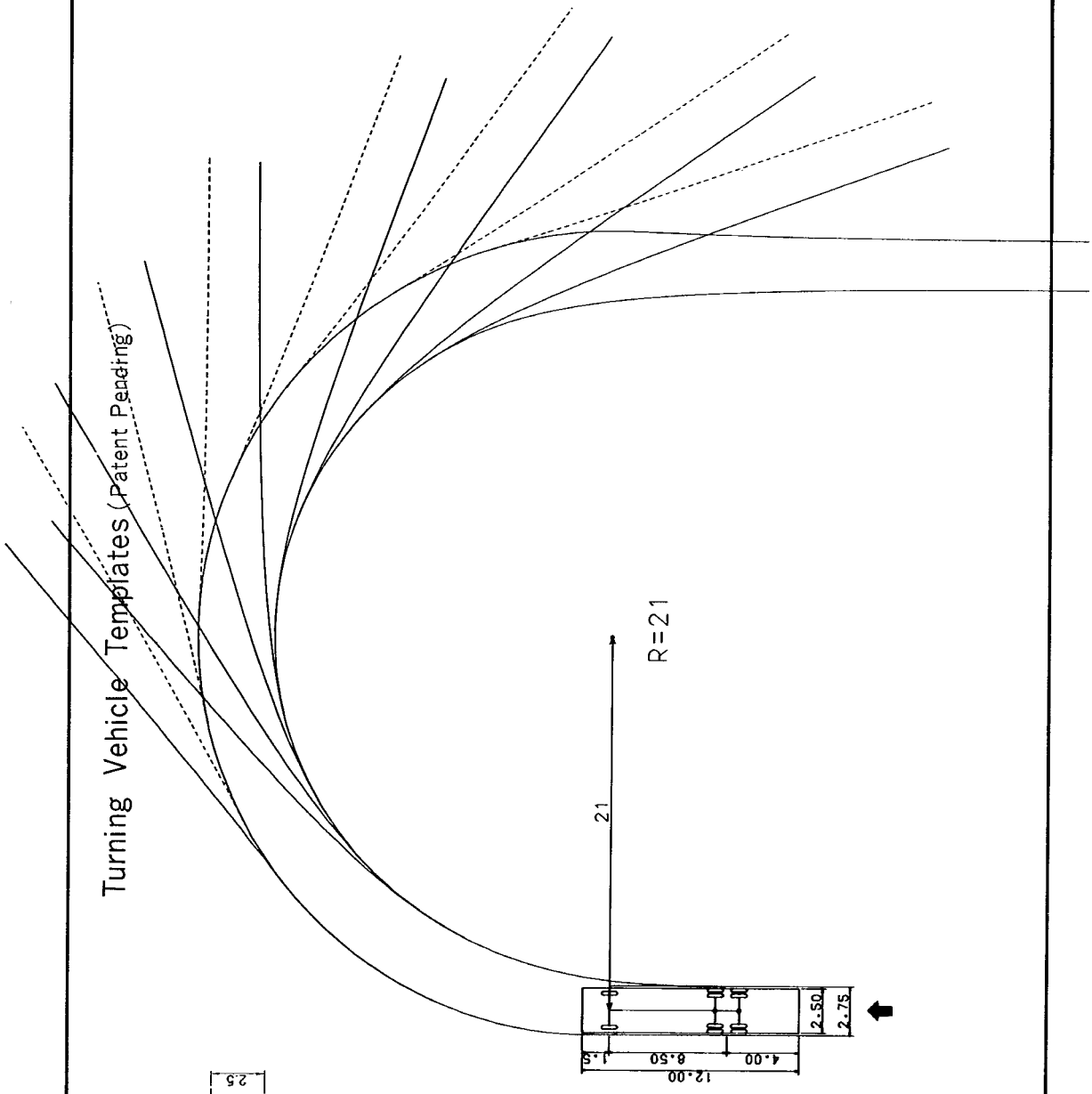
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MINISTRY OF CONSTRUCTION

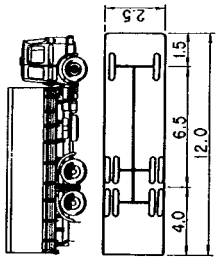
T - 68

W = 2.75 m

R_T = 21 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

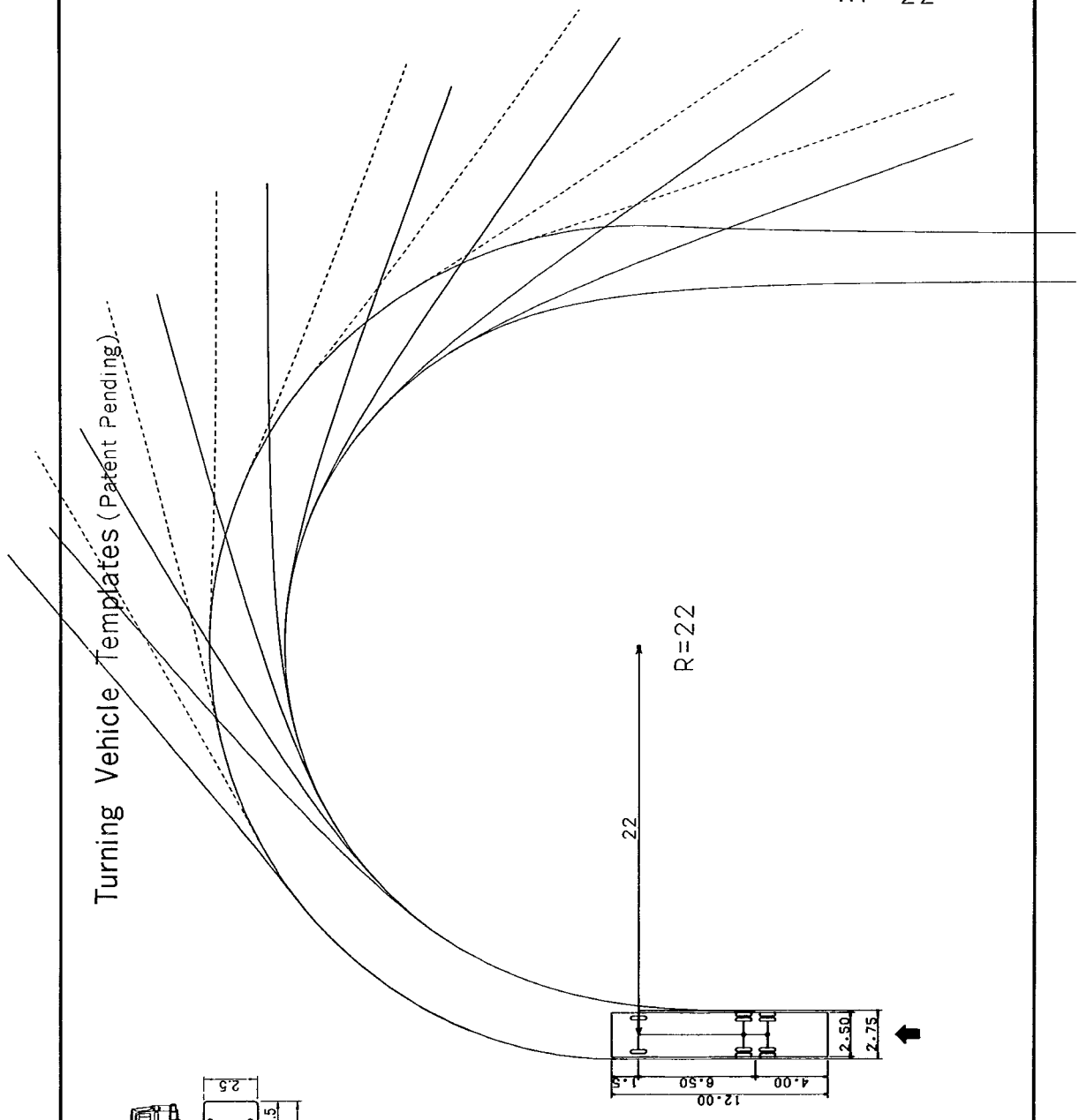
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MINISTRY OF CONSTRUCTION

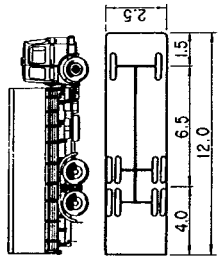
T - 69

W = 2.75 m

R_T = 22 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

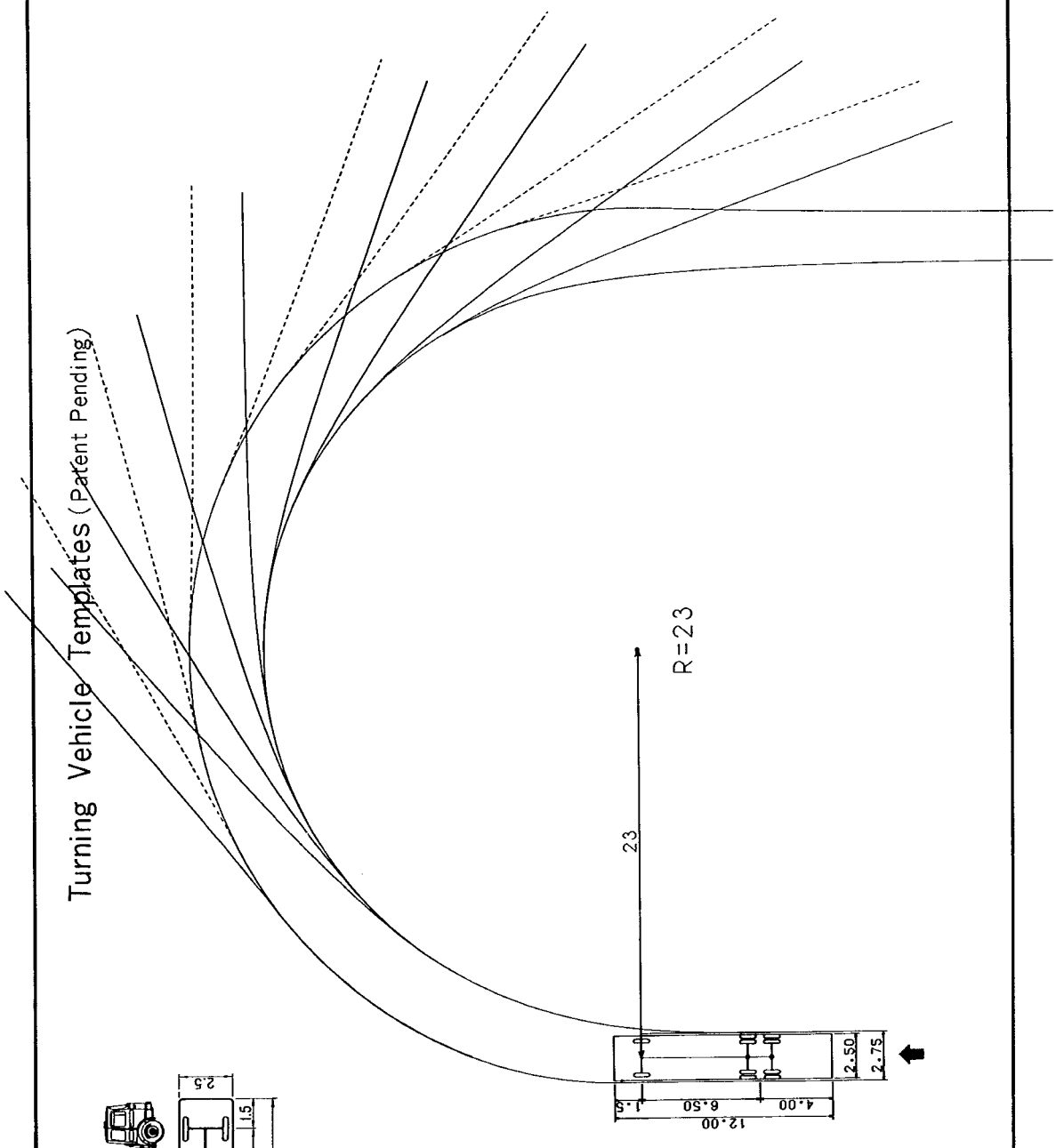
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

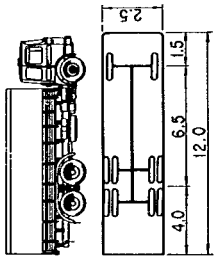
T - 70

W = 2.75 m

R_T = 23 m

Turning Vehicle Templates (Patent Pending)

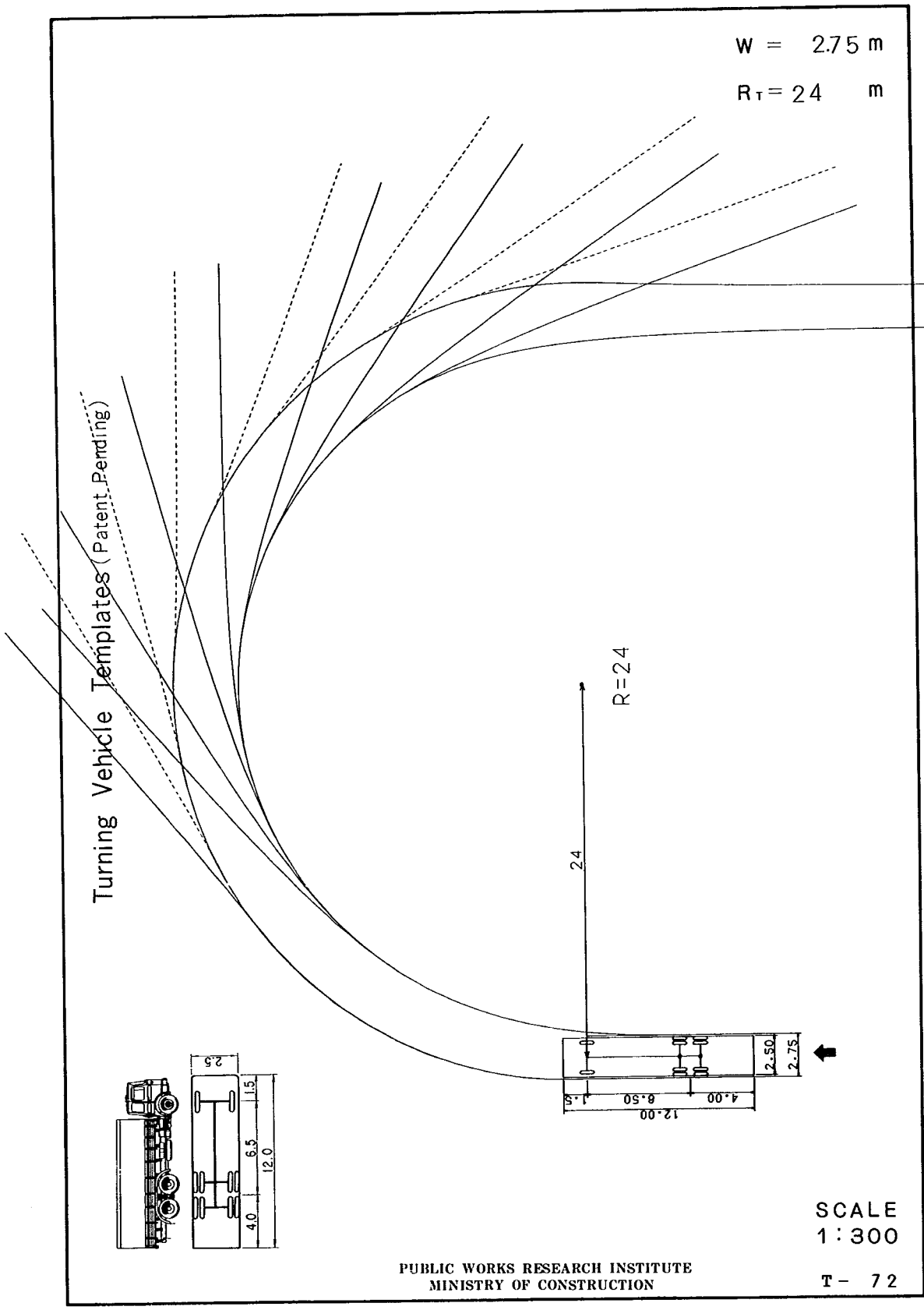




SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

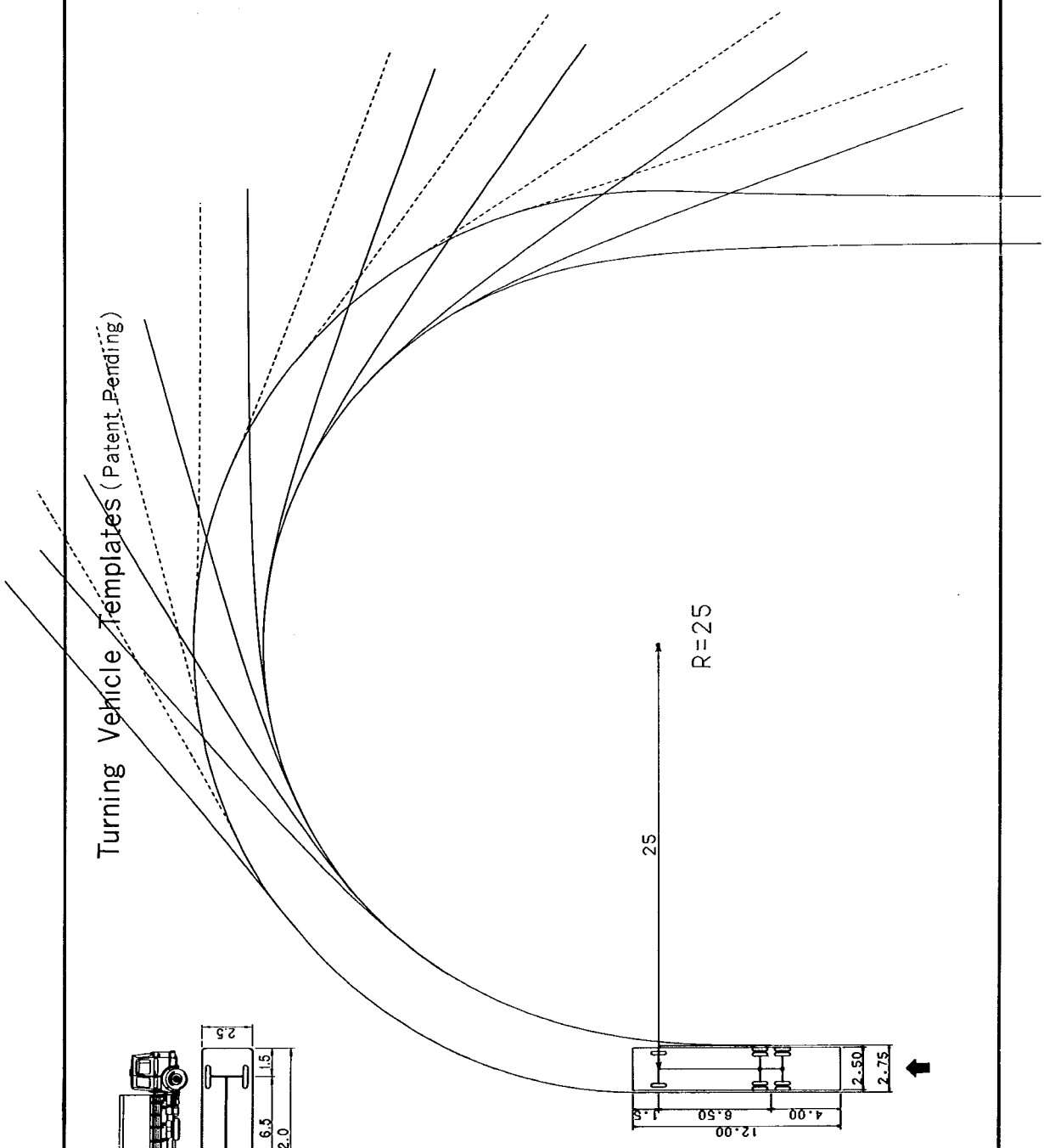
T - 71

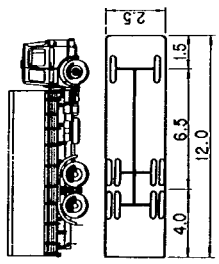

W = 2.75 m
R T = 24 m
Turning Vehicle Templates (Patent Pending)
R=24
24
2.50
2.75
1.5
6.50
4.00
12.00
2.5
1.5
6.5
12.0
4.0
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T - 72

W = 2.75 m

R_T = 25 m

Turning Vehicle Templates (Patent Pending)

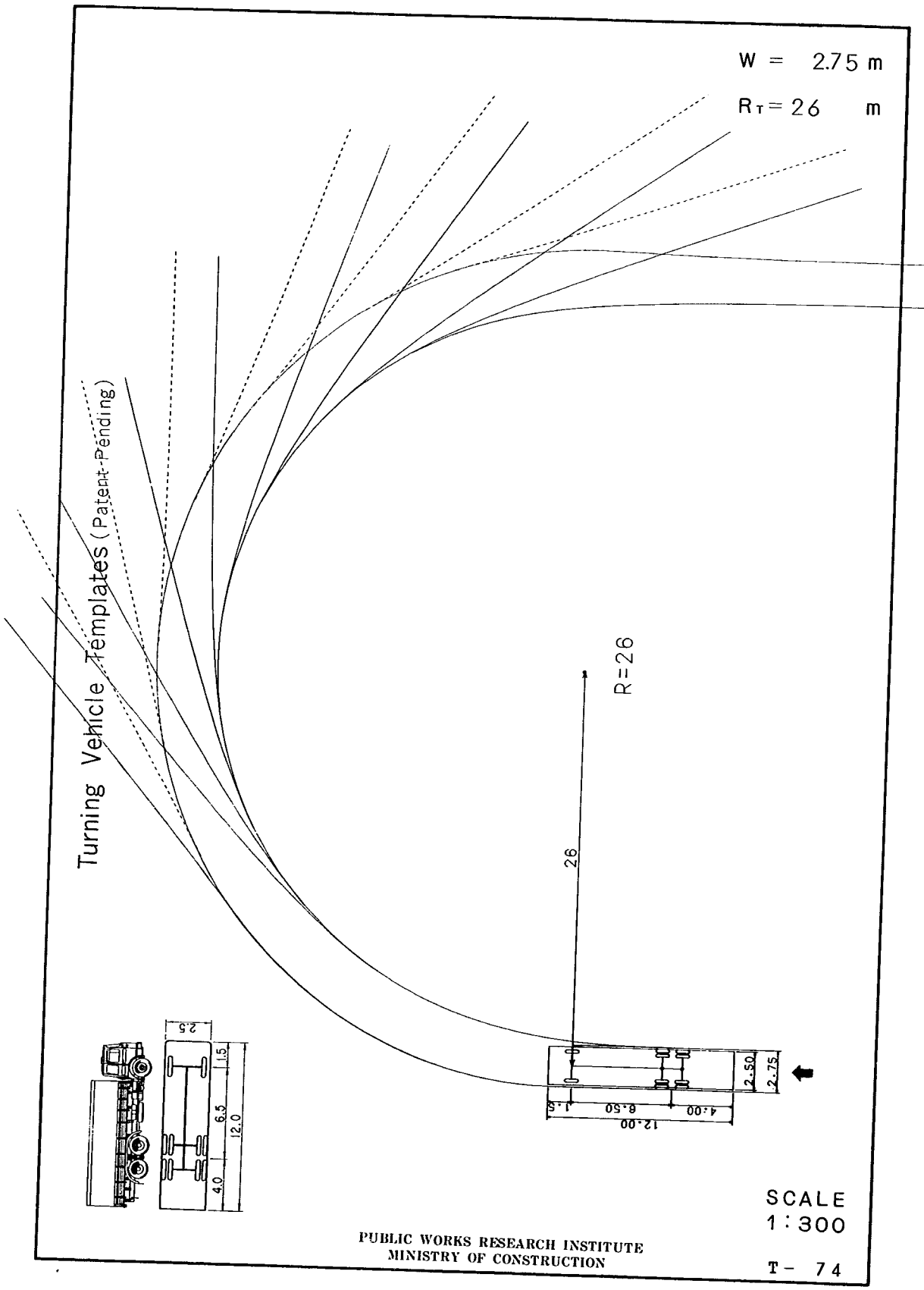




SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

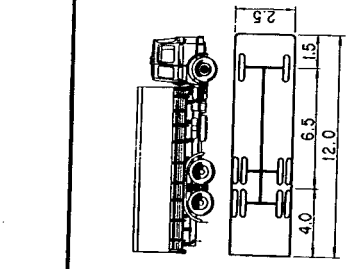
T - 73

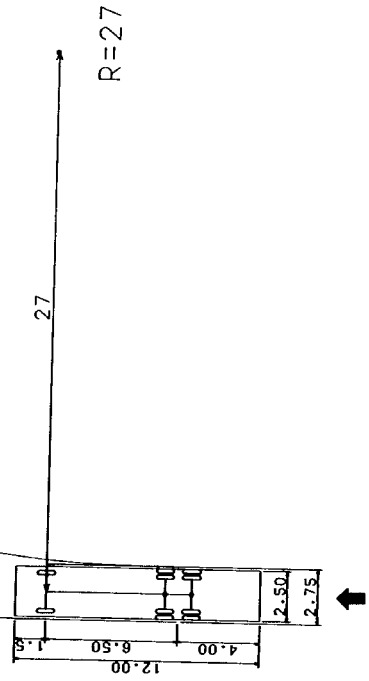

W = 2.75 m
R T = 26 m
Turning Vehicle Templates (Patent-Pending)
R=26
26
2.5
1.5
6.5
12.0
4.0
2.50
2.75
1.5
8.50
4.00
12.00
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T- 74

W = 2.75 m

R_T = 27 m

Turning Vehicle Templates (Patent-Pending)

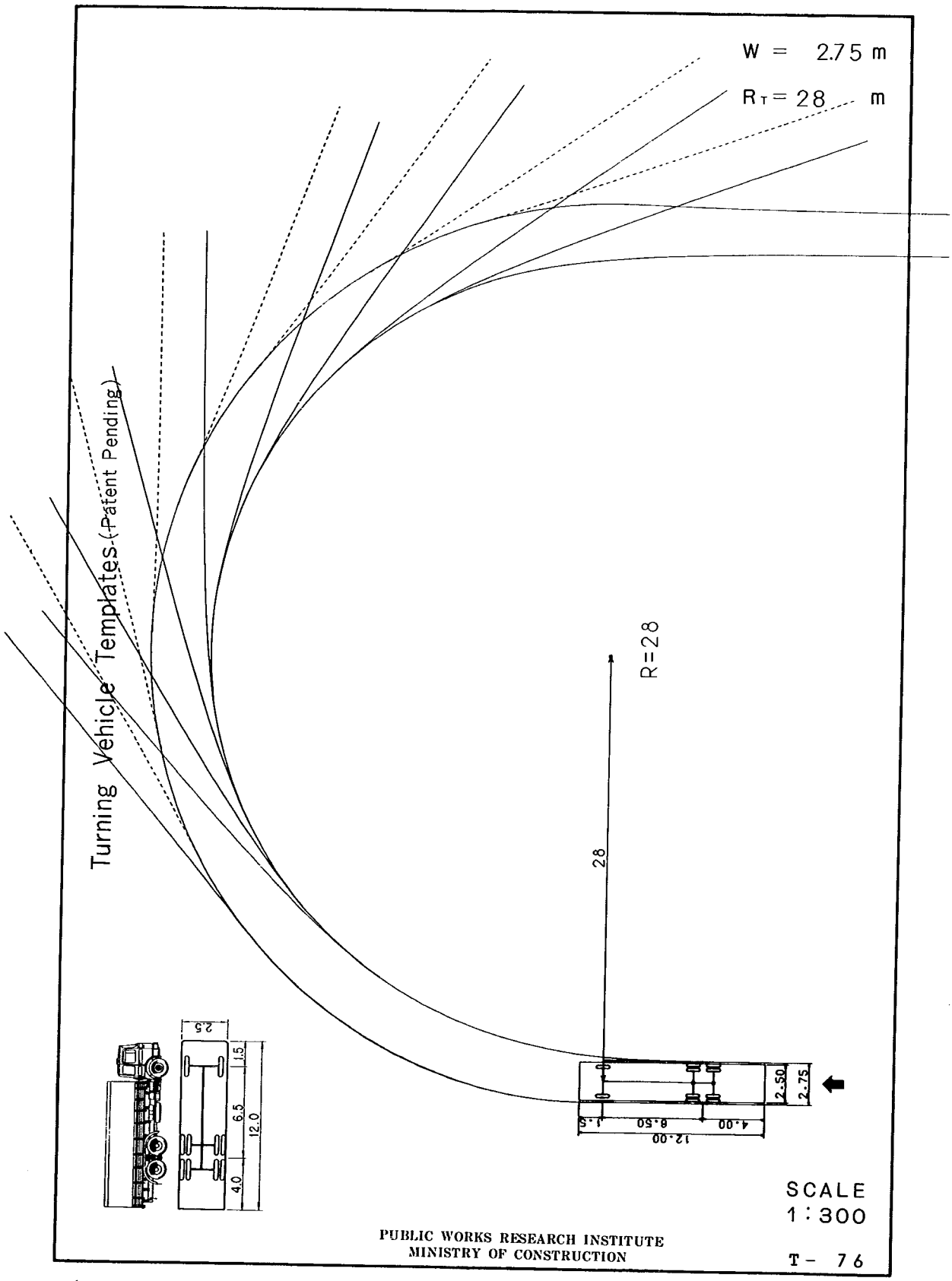




SCALE
1:300

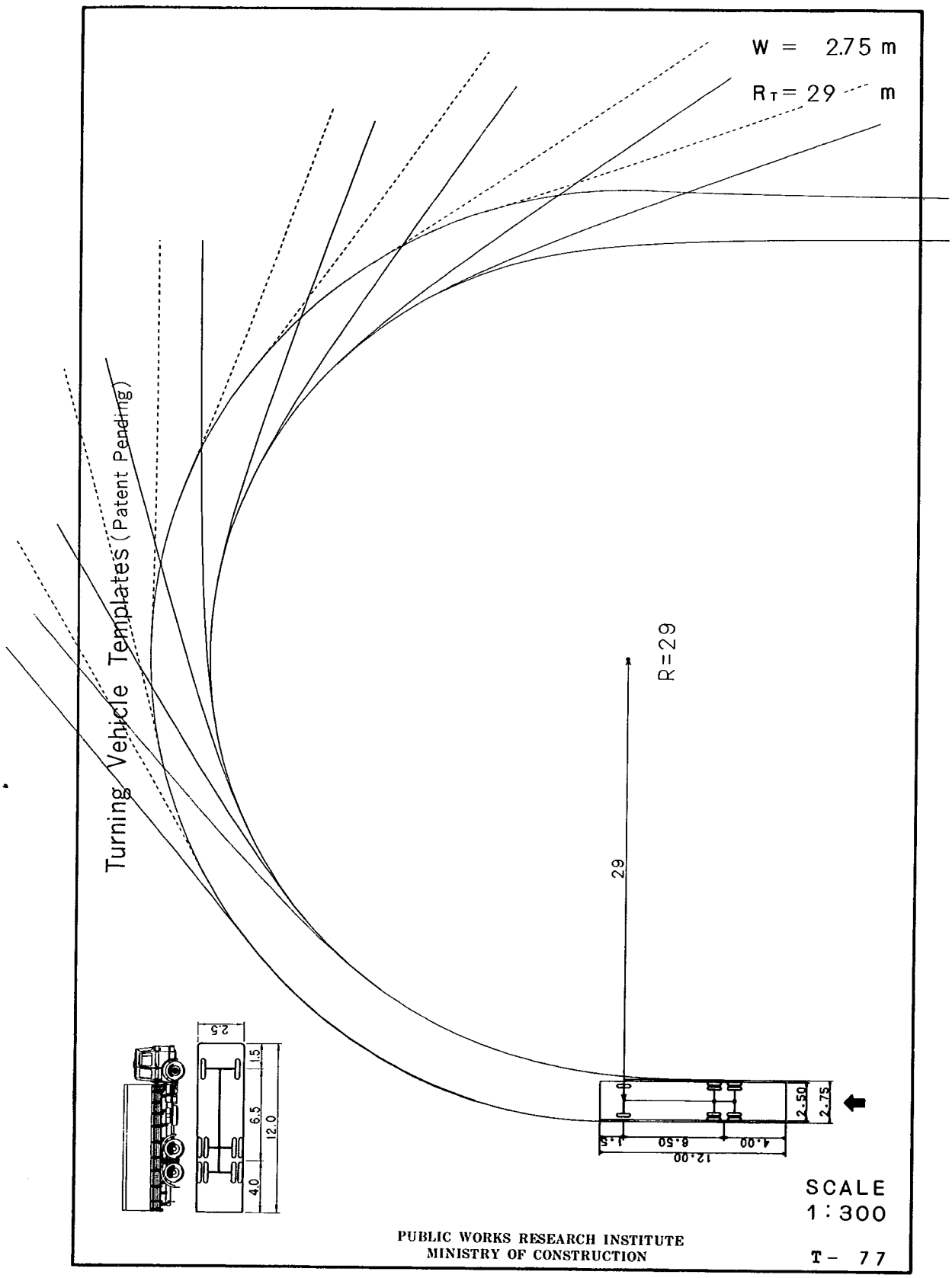
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

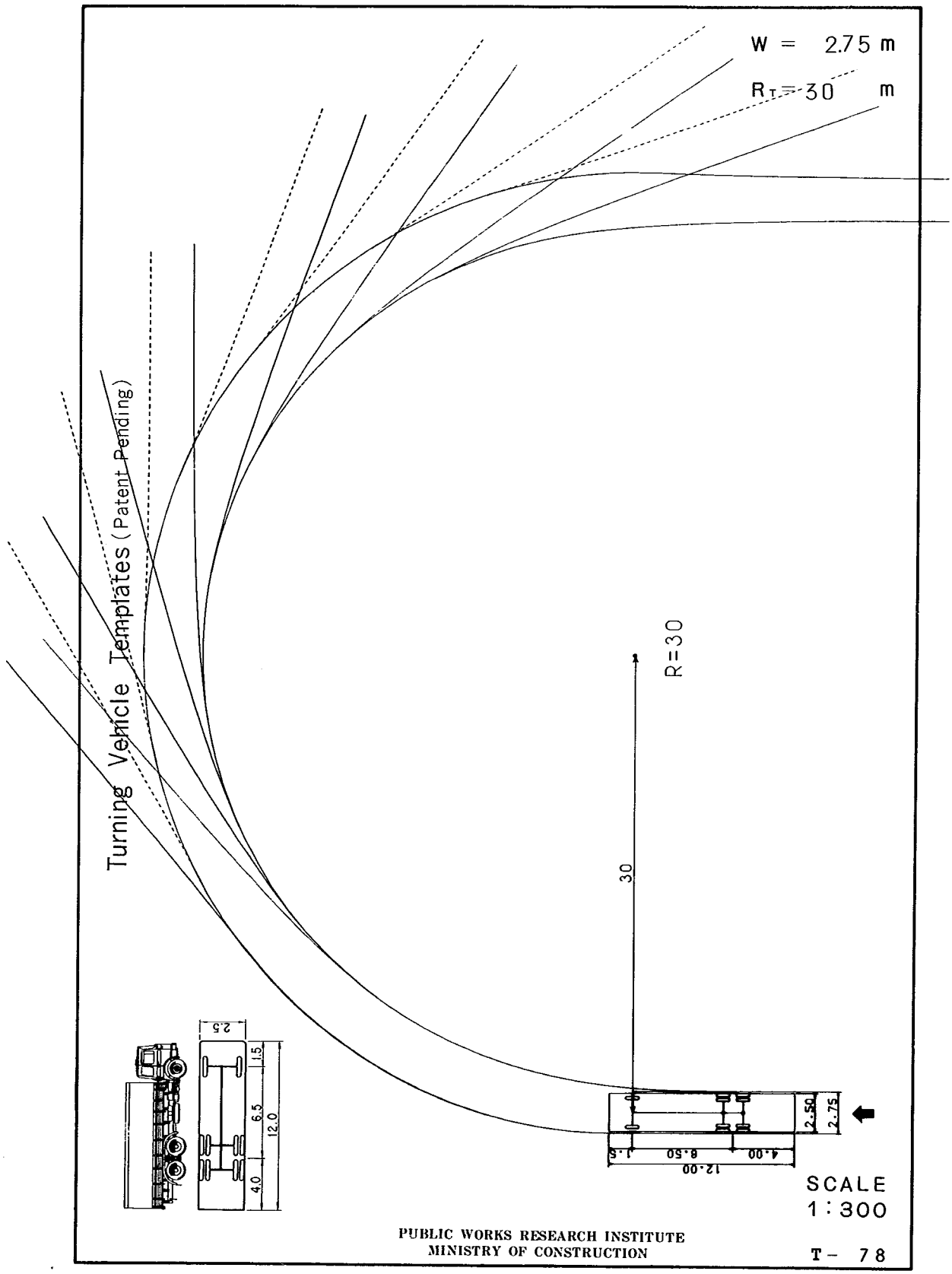
T- 75



PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

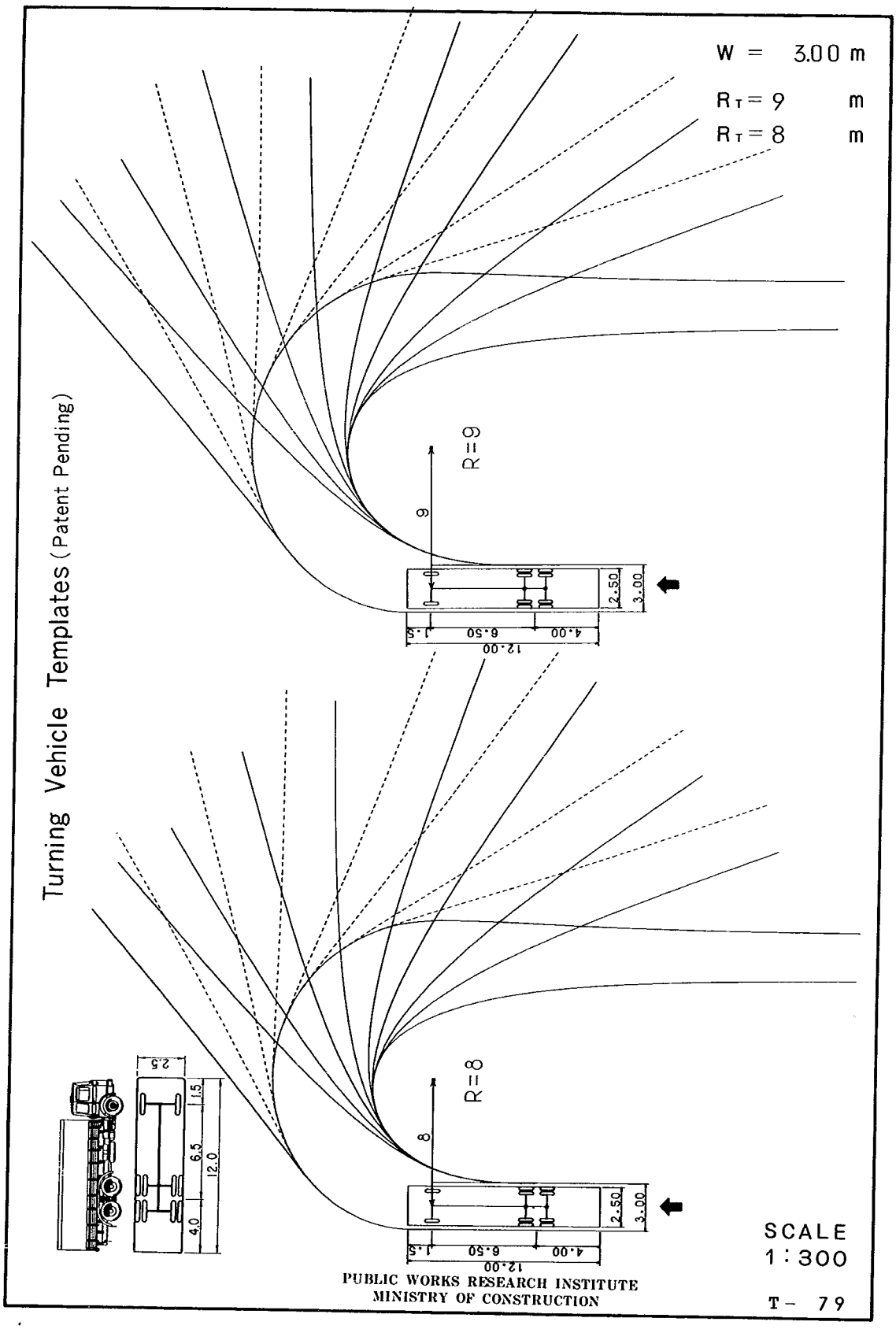
T - 76


W = 2.75 m
R T = 29 m
Turning Vehicle Templates (Patent Pending)
R=29
29
2.5
1.5
6.5
12.0
4.0
2.50
2.75
1.5
8.50
4.00
12.00
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T- 77


W = 2.75 m
R_T = 30 m
Turning Vehicle Templates (Patent Pending)
R=30
30
2.5
1.5
6.5
12.0
4.0
2.50
2.75
1.5
8.50
4.00
12.00
SCALE
1:300

縮尺（SCALE）　1：300

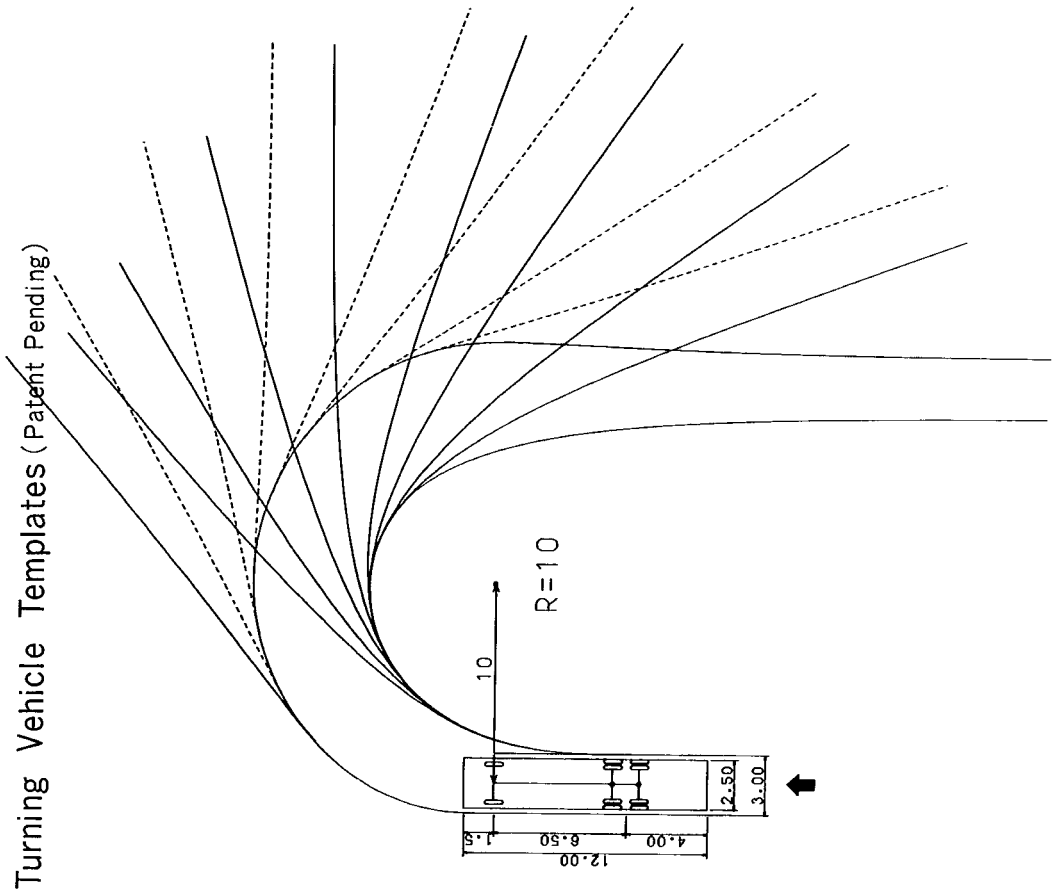
車線幅員（W）　3.00m

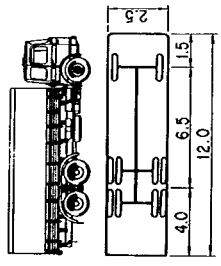

Turning Vehicle Templates (Patent Pending)
W = 3.00 m
R_T = 9 m
R_T = 8 m
R=9
9
2.50
3.00
1.5
6.50
4.00
12.00
R=8
8
2.5
1.5
6.5
12.0
4.0
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T- 79

W = 3.00 m

R_T = 10 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

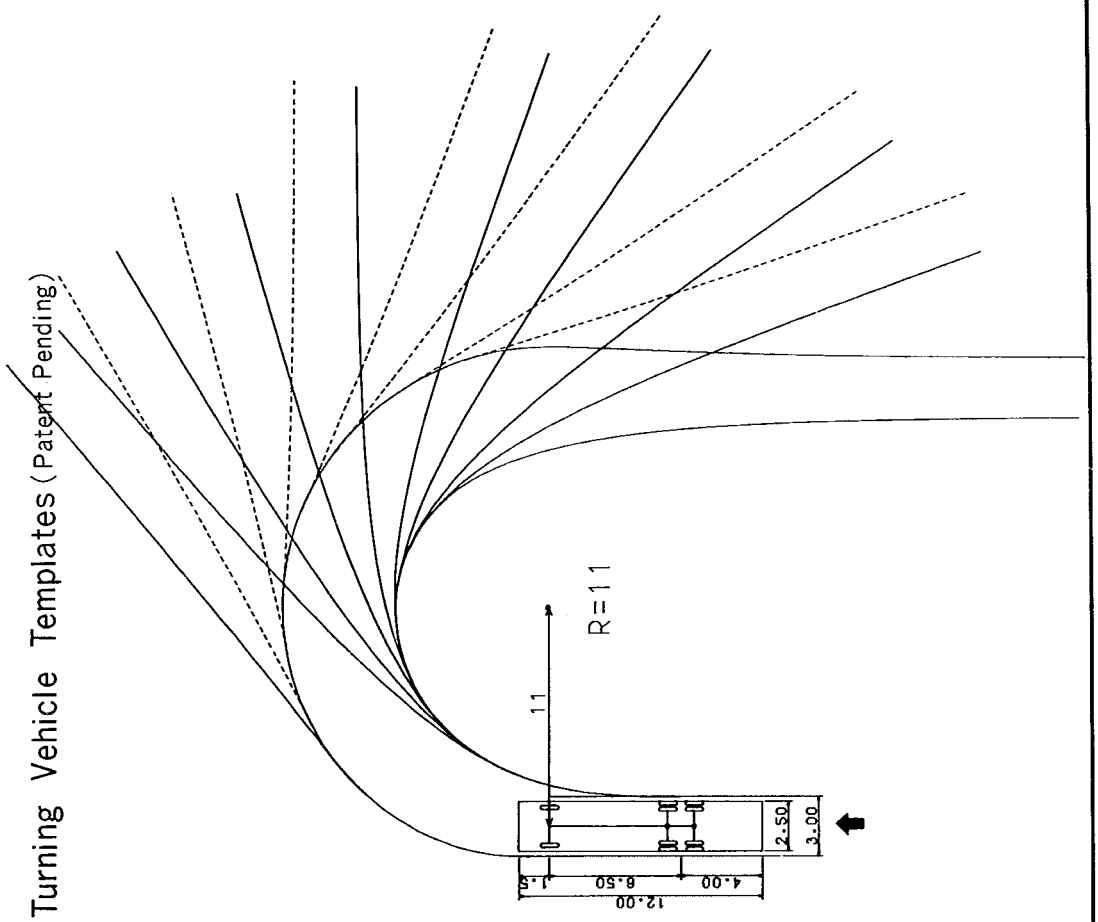
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MINISTRY OF CONSTRUCTION

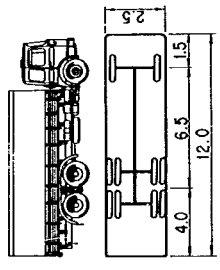
T – 80

W = 3.00 m

R_T = 11 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

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MINISTRY OF CONSTRUCTION

T – 81

W = 3.00 m

R_T = 12 m

Turning Vehicle Templates (Patent Pending)

SCALE
1 : 300

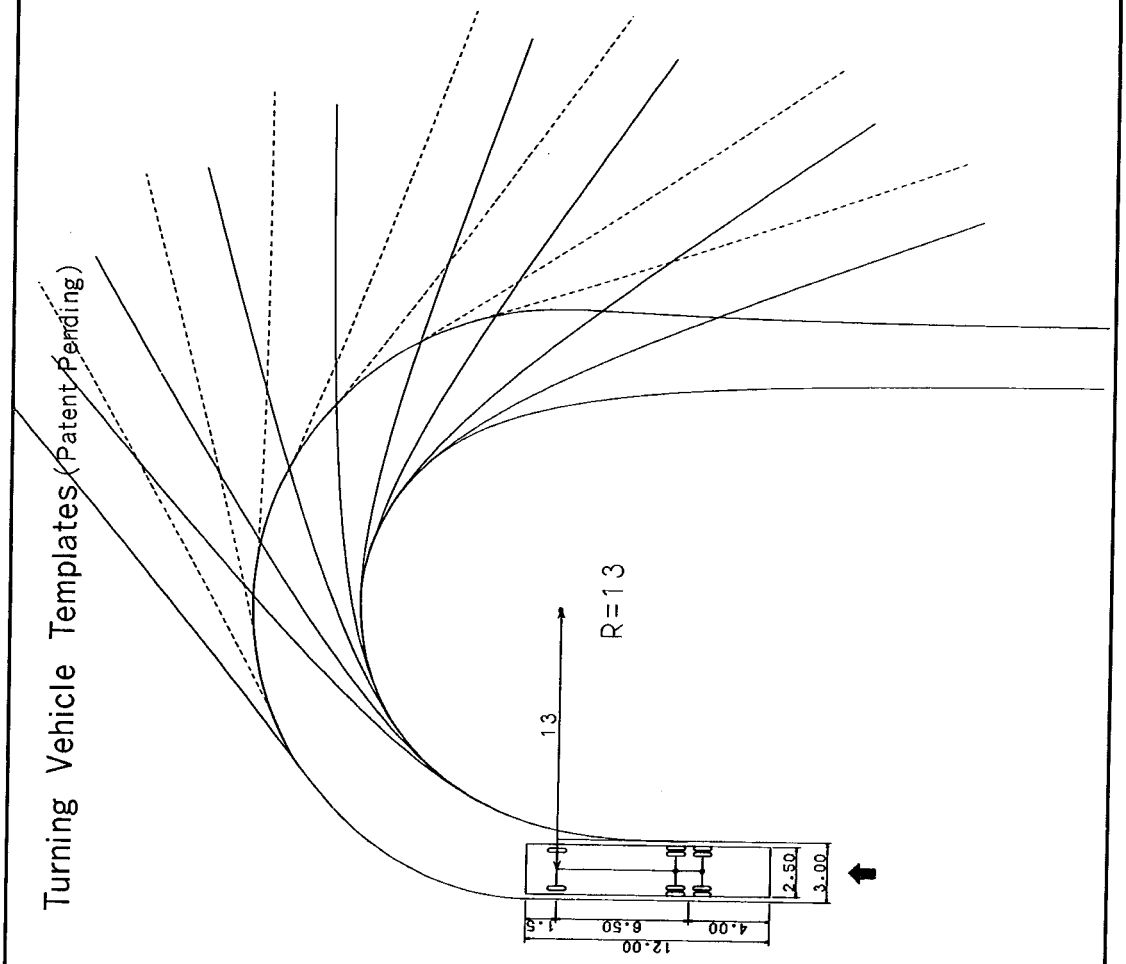
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MINISTRY OF CONSTRUCTION

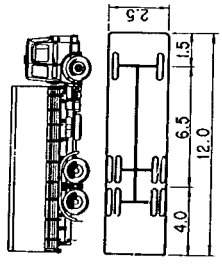
T - 82

W = 3.00 m

R_T = 13 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

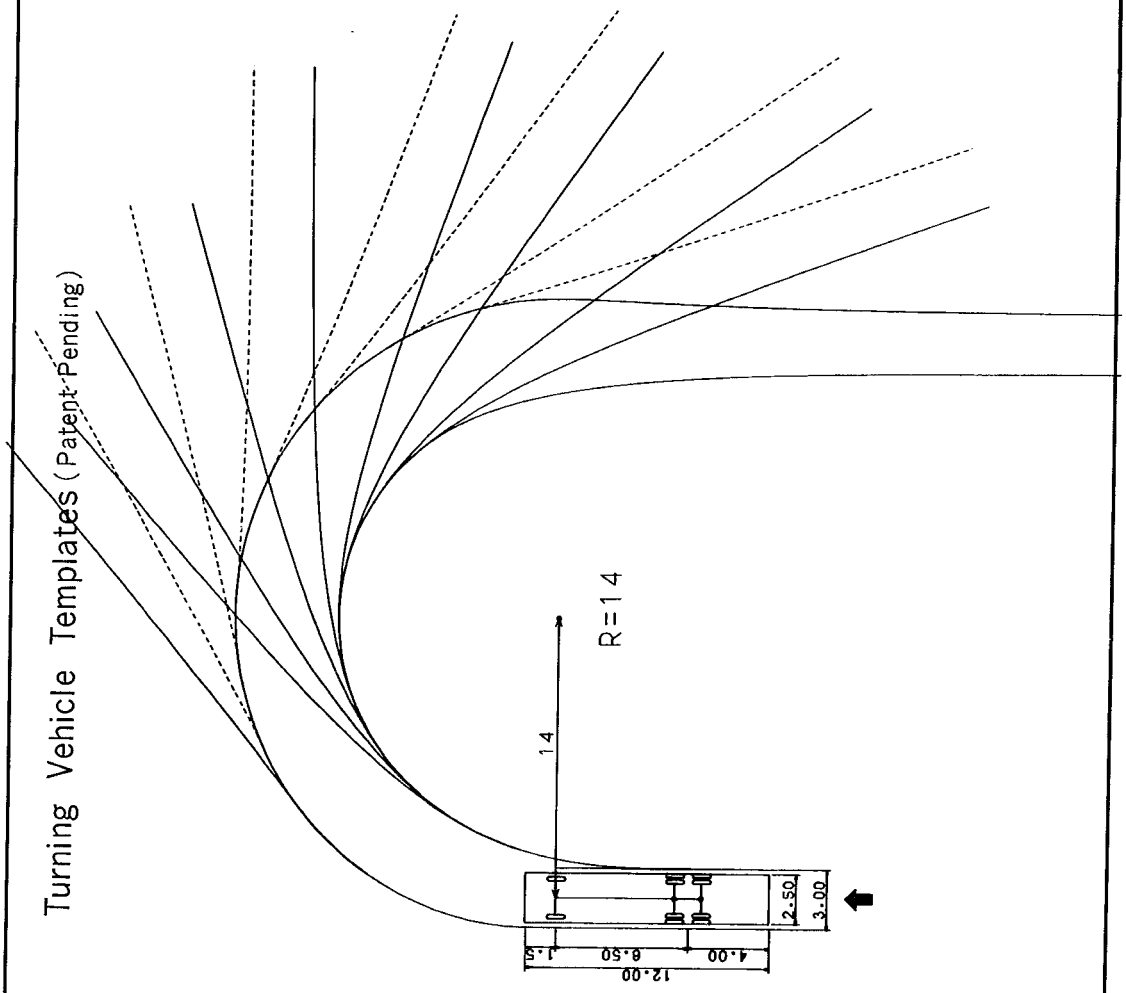
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MINISTRY OF CONSTRUCTION

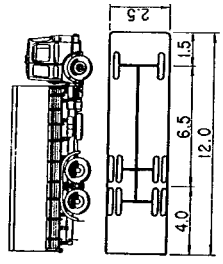
T - 83

W = 3.00 m

R_T = 14 m

Turning Vehicle Templates (Patent-Pending)





SCALE
1 : 300

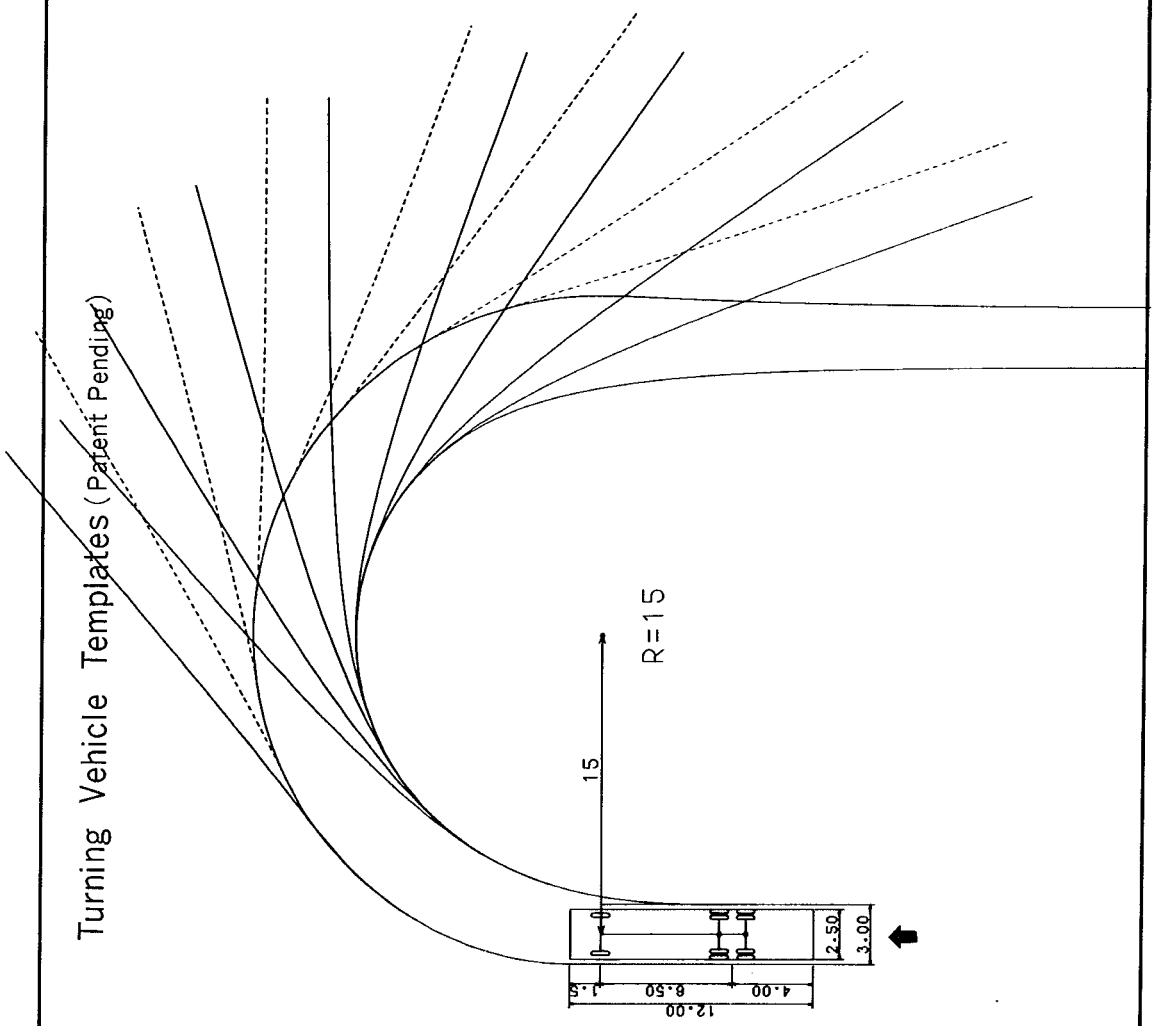
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MINISTRY OF CONSTRUCTION

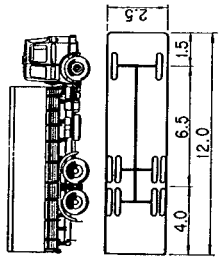
T - 84

W = 3.00 m

R_T = 15 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

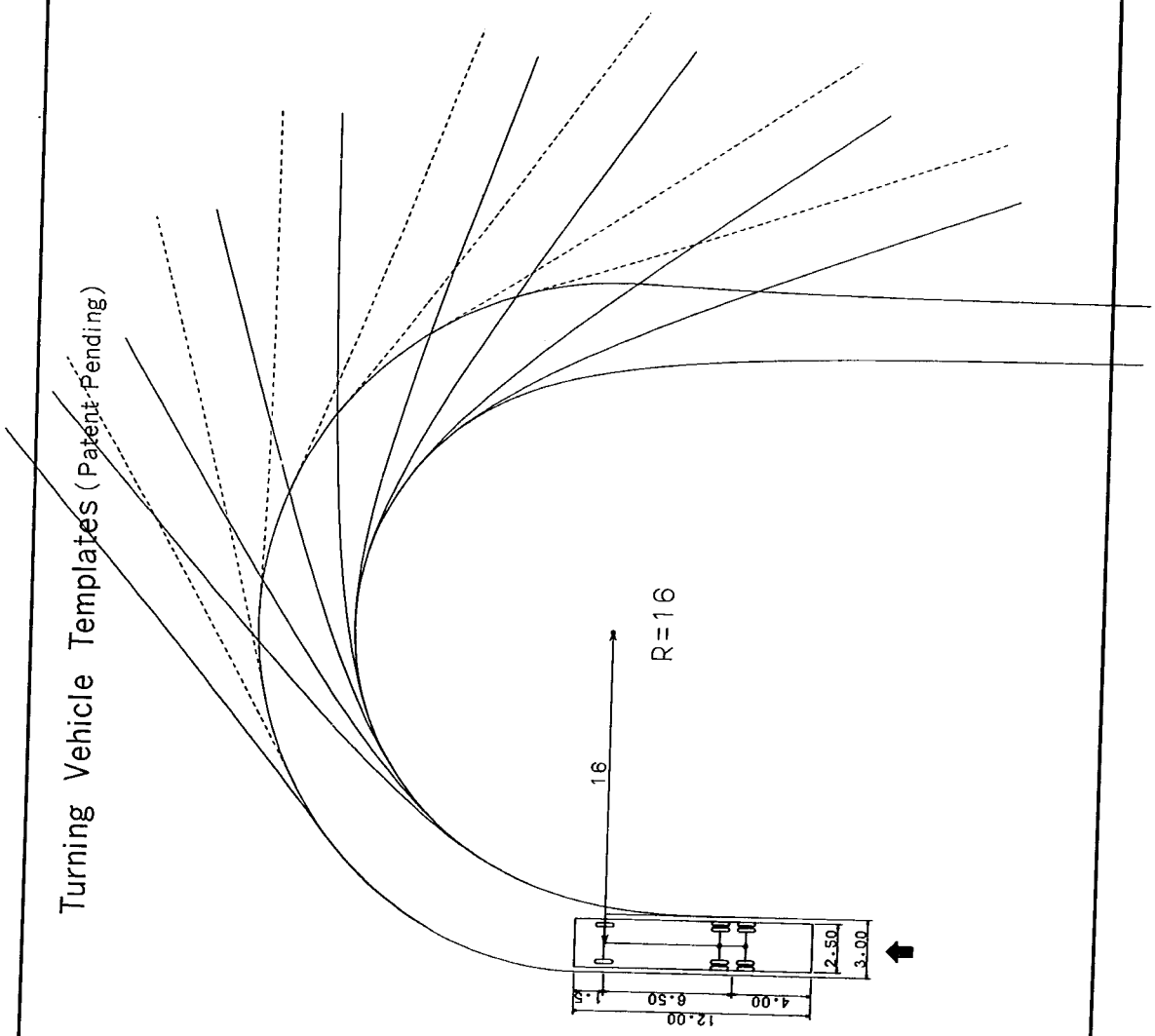
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MINISTRY OF CONSTRUCTION

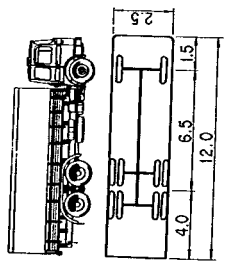
T - 85

W = 3.00 m

R_T = 16 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

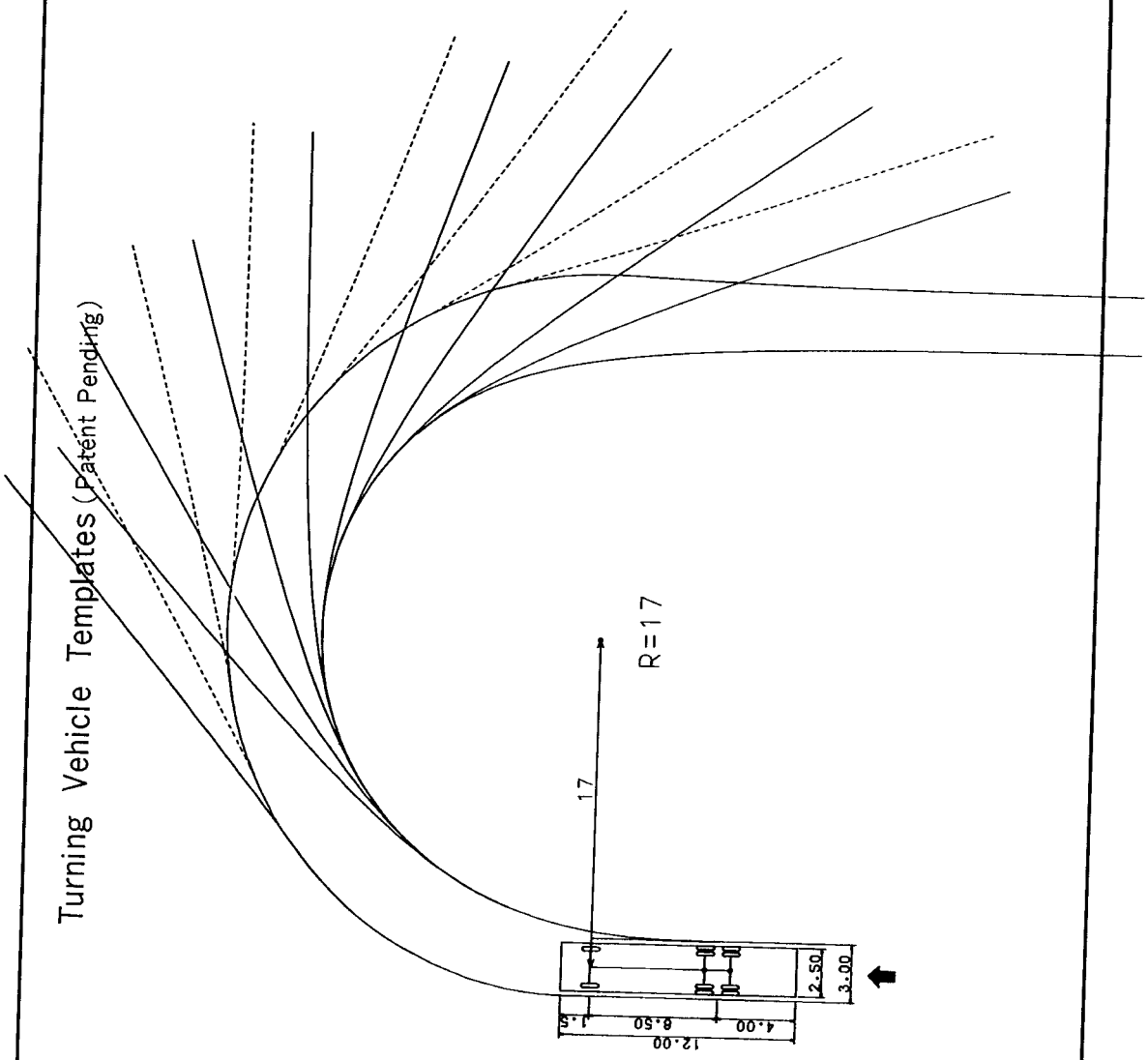
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MINISTRY OF CONSTRUCTION

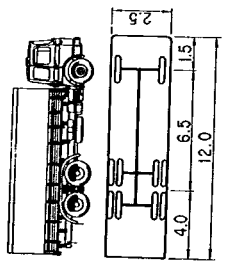
T - 86

W = 3.00 m

R_T = 17 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

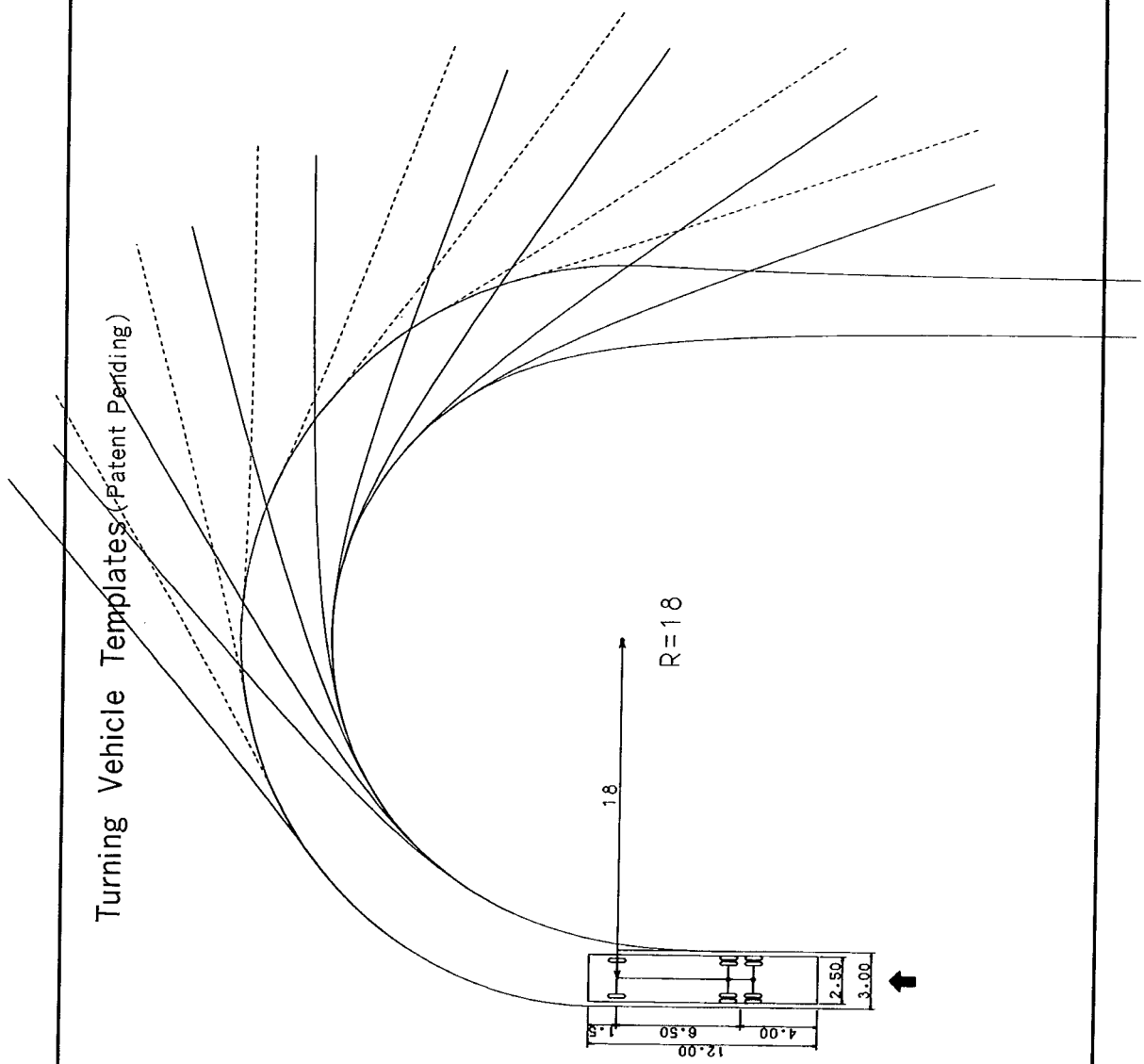
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

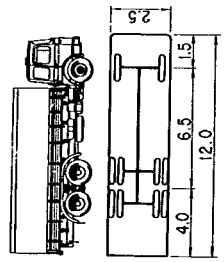
T - 87

W = 3.00 m

R_T = 18 m

Turning Vehicle Templates (Patent Pending)





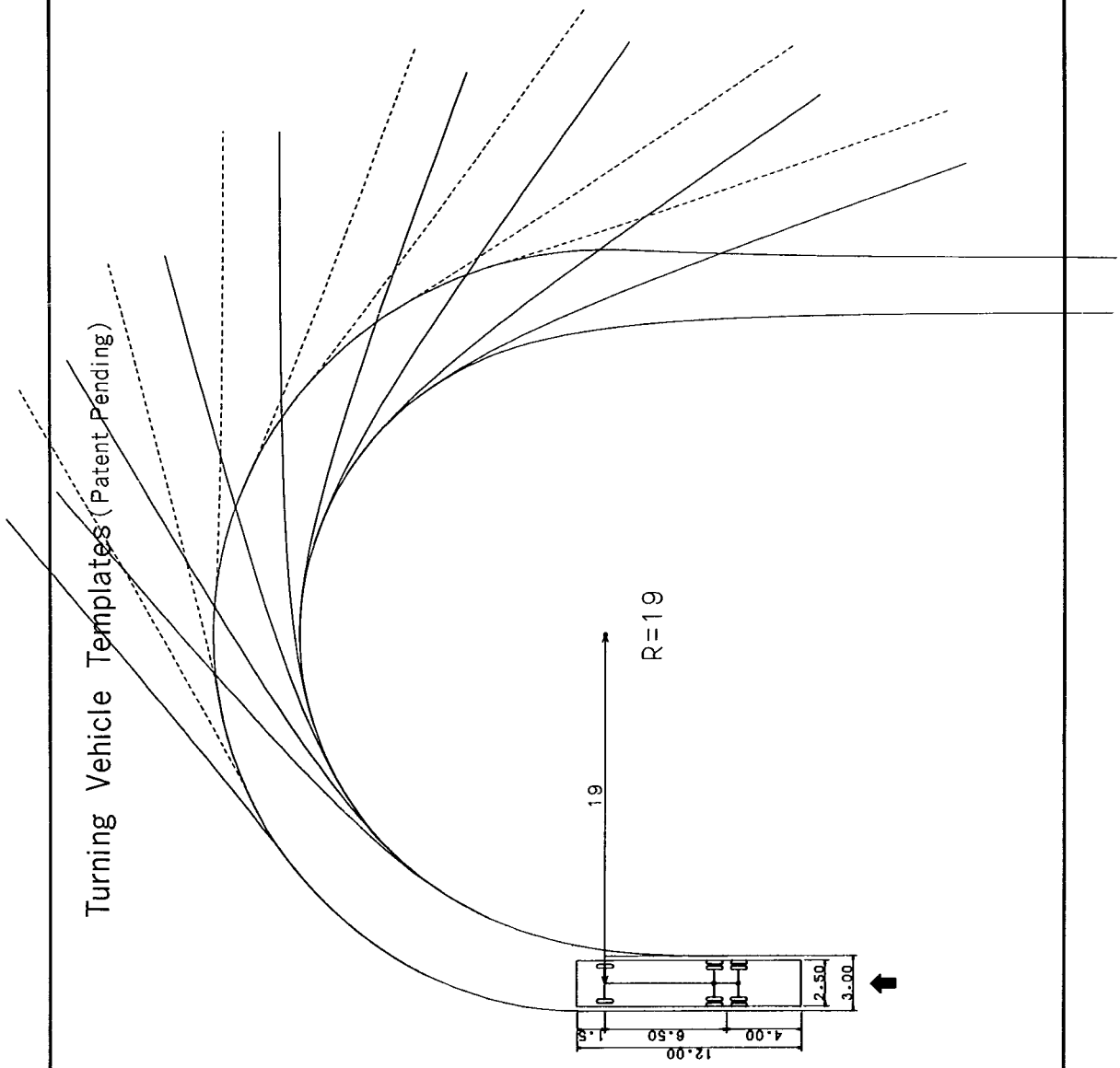
SCALE
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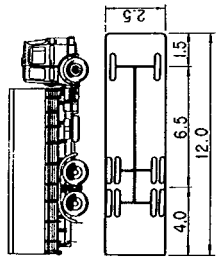
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.00 m

R_T = 19 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

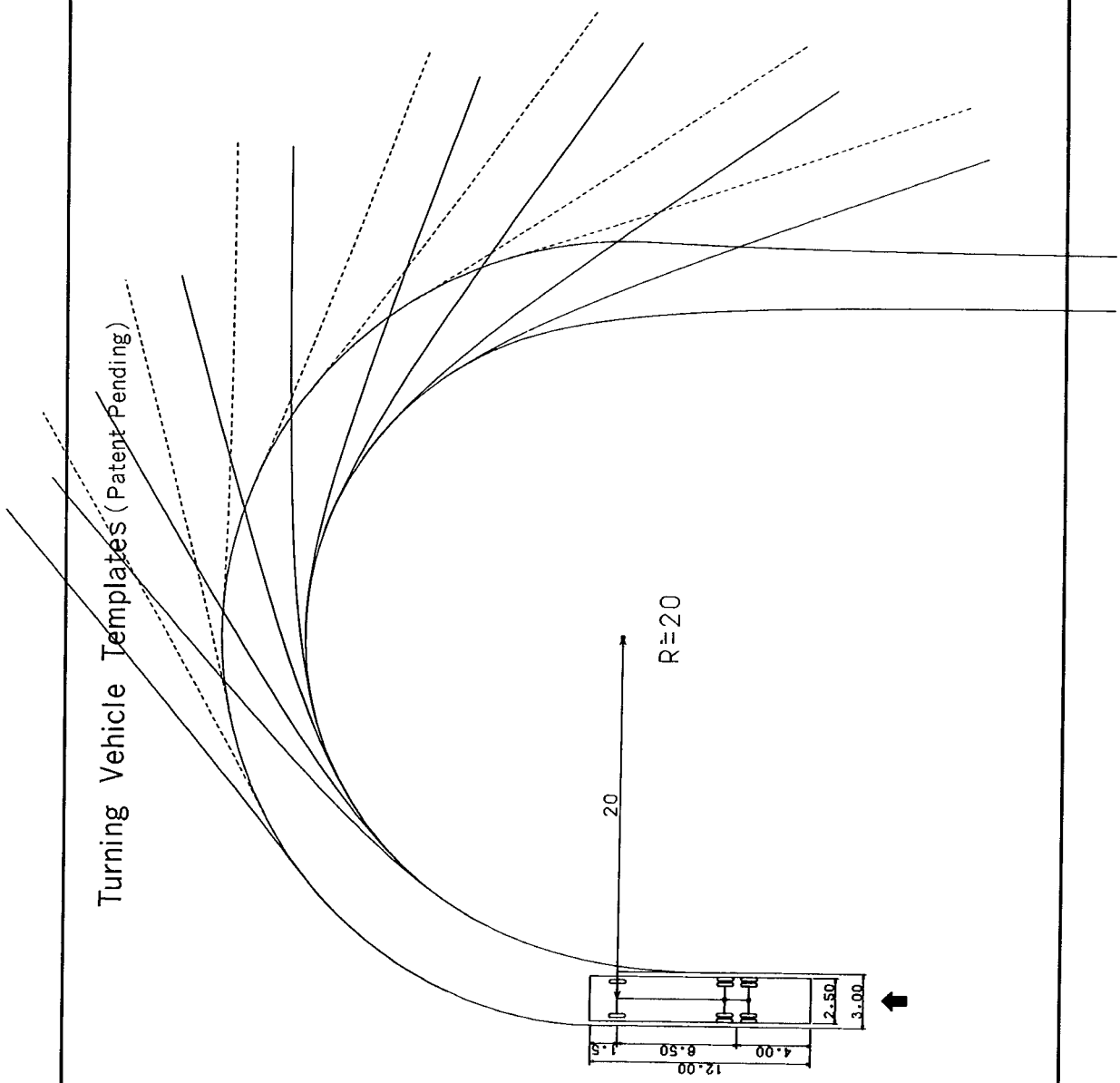
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MINISTRY OF CONSTRUCTION

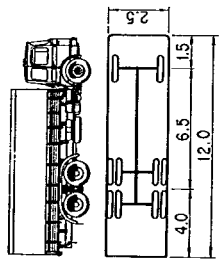
T - 89

W = 3.00 m

R_T = 20 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

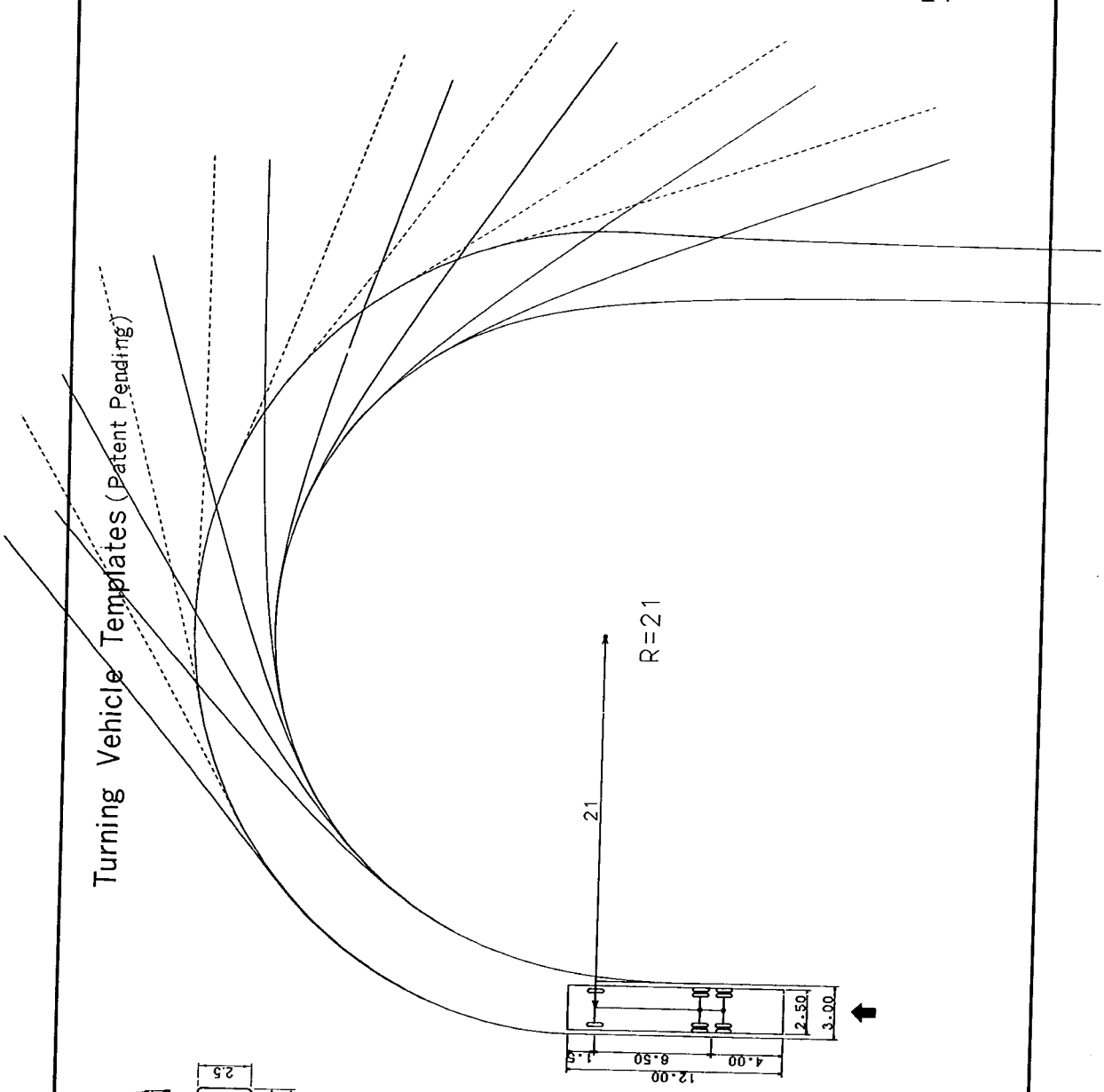
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

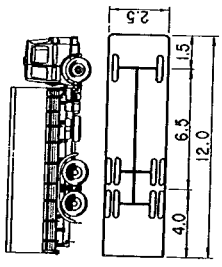
T - 90

W = 3.00 m

R_T = 21 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

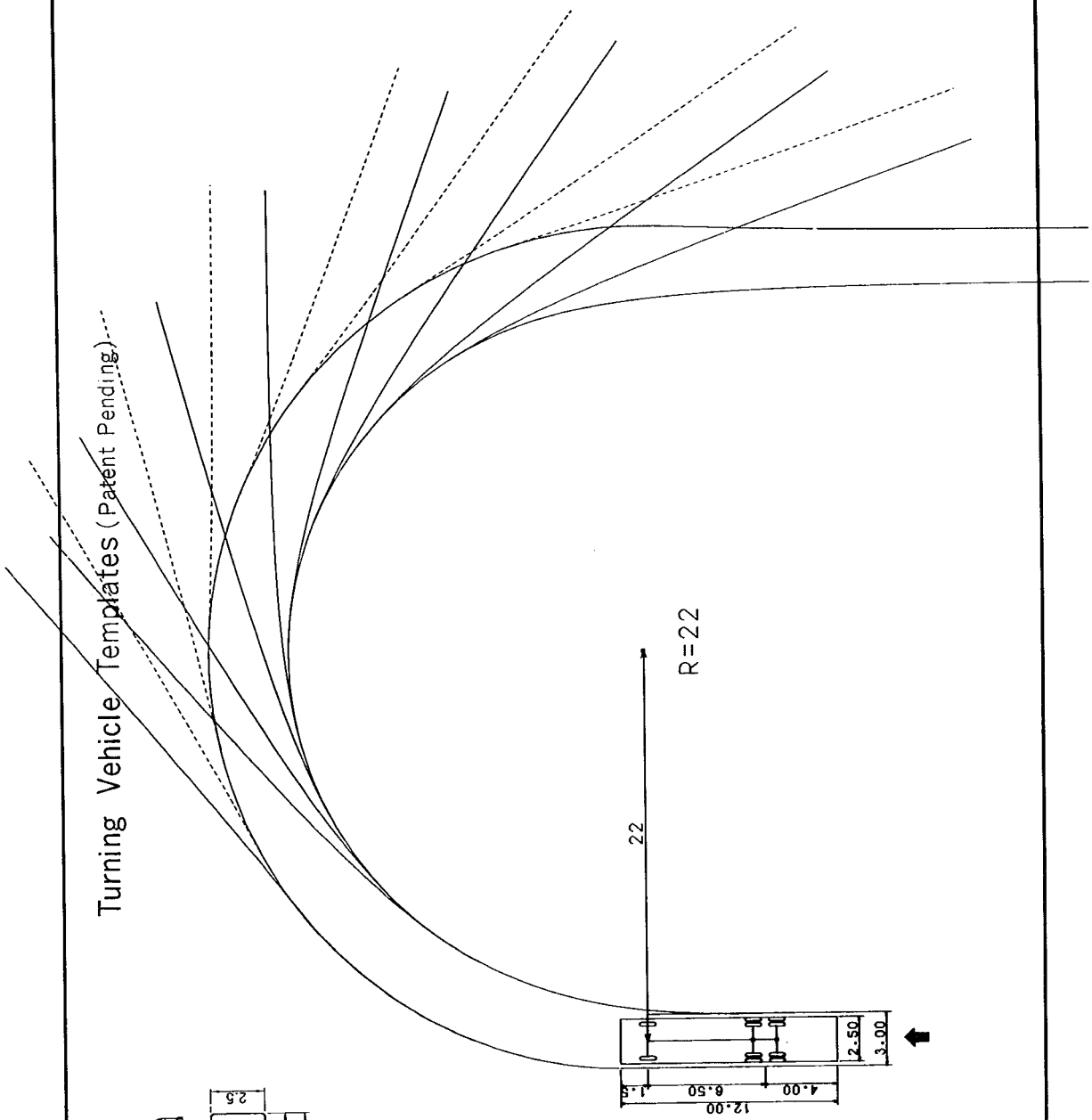
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MINISTRY OF CONSTRUCTION

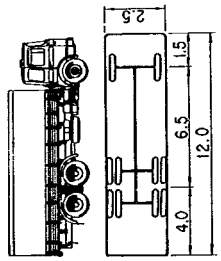
T – 91

W = 3.00 m

R_T = 22 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

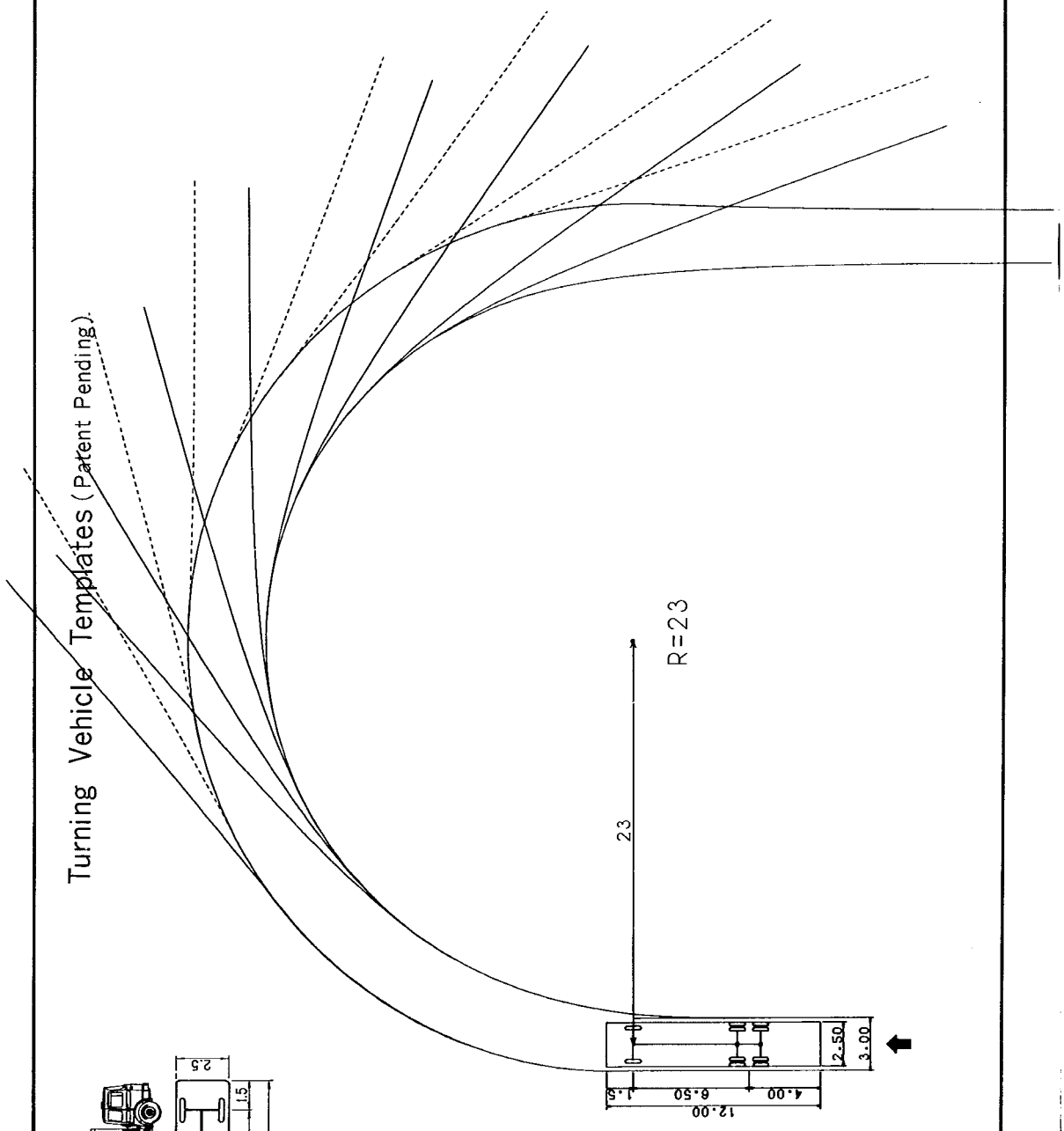
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MINISTRY OF CONSTRUCTION

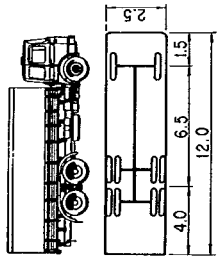
T - 92

W = 3.00 m

R_T = 23 m

Turning Vehicle Templates (Patent Pending).

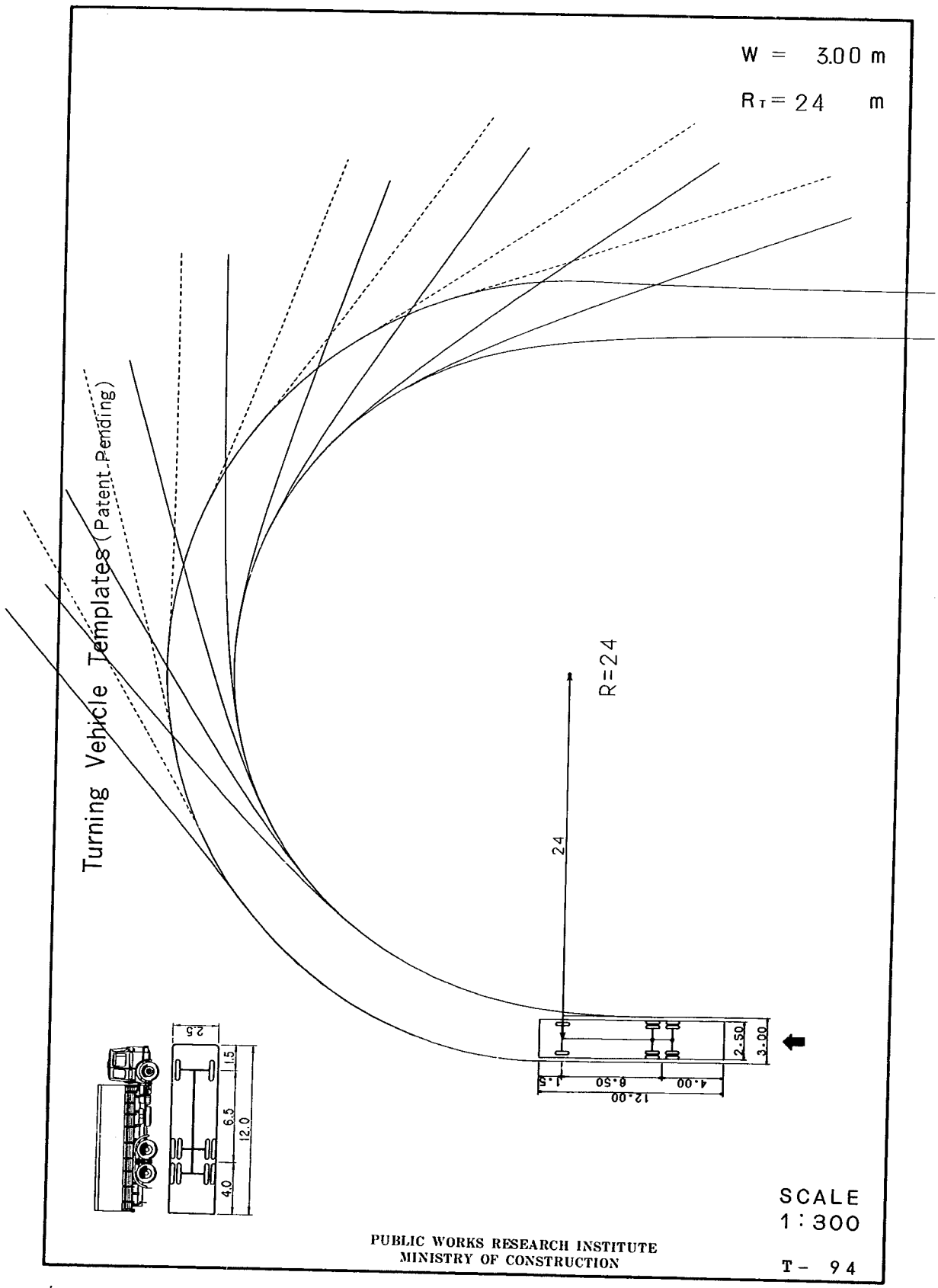




SCALE
1 : 300

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MINISTRY OF CONSTRUCTION

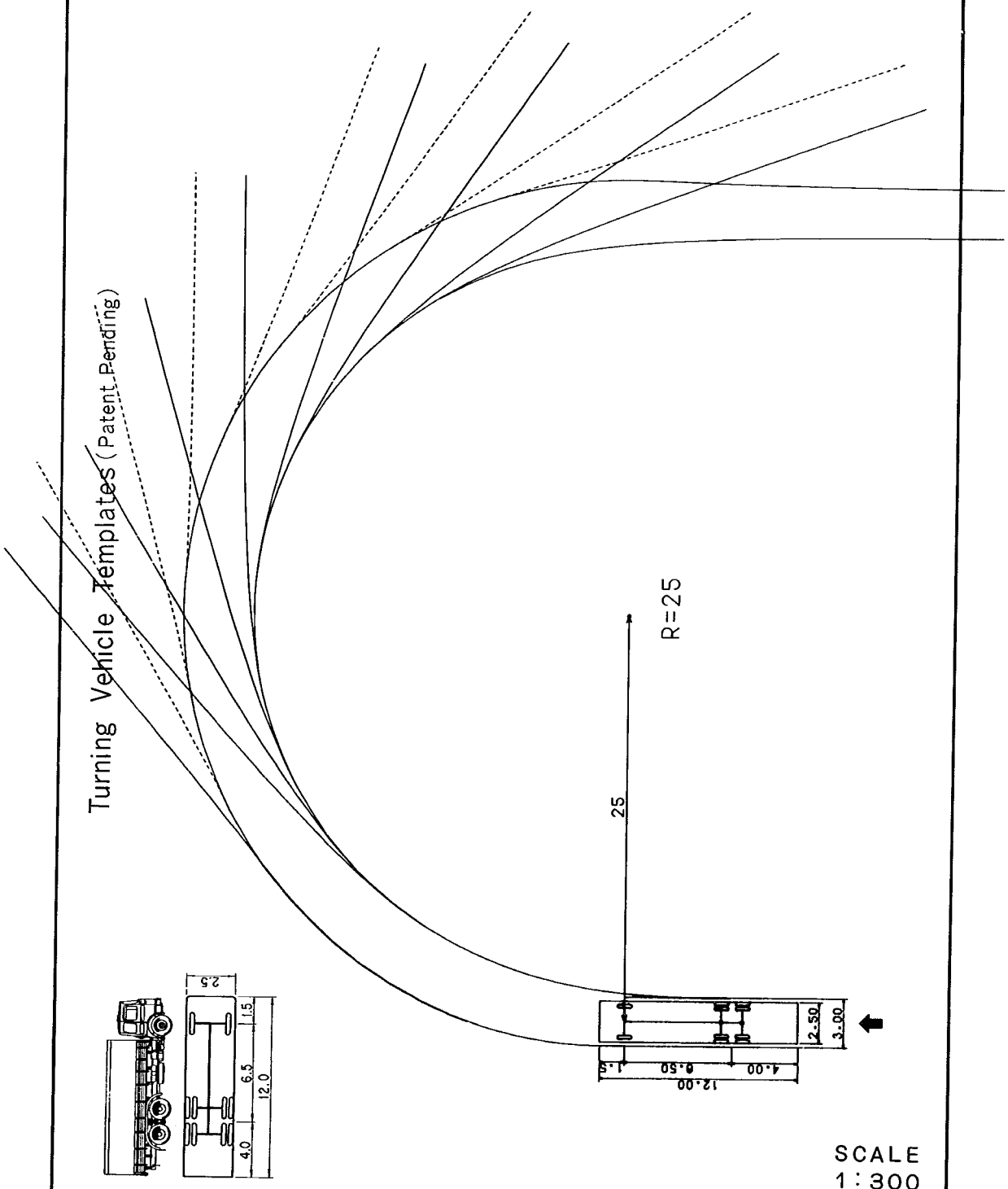
T – 93


W = 3.00 m
R_T = 24 m
Turning Vehicle Templates (Patent Pending)
R=24
24
2.5
1.5
6.5
12.0
4.0
2.50
3.00
1.5
4.00
6.50
12.00
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T - 94

W = 3.00 m

R_T = 25 m

Turning Vehicle Templates (Patent Pending)



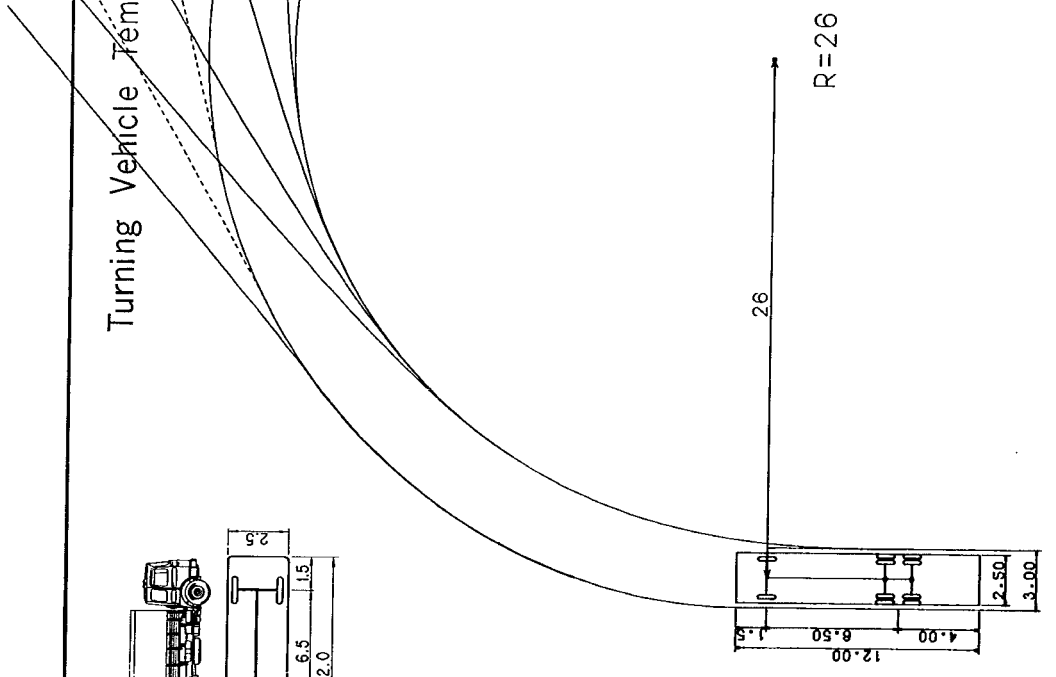
SCALE
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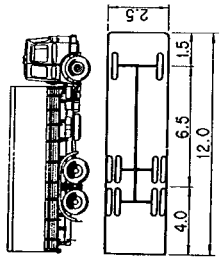
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.00 m

R_T = 26 m

Turning Vehicle Templates (Patent-Pending)

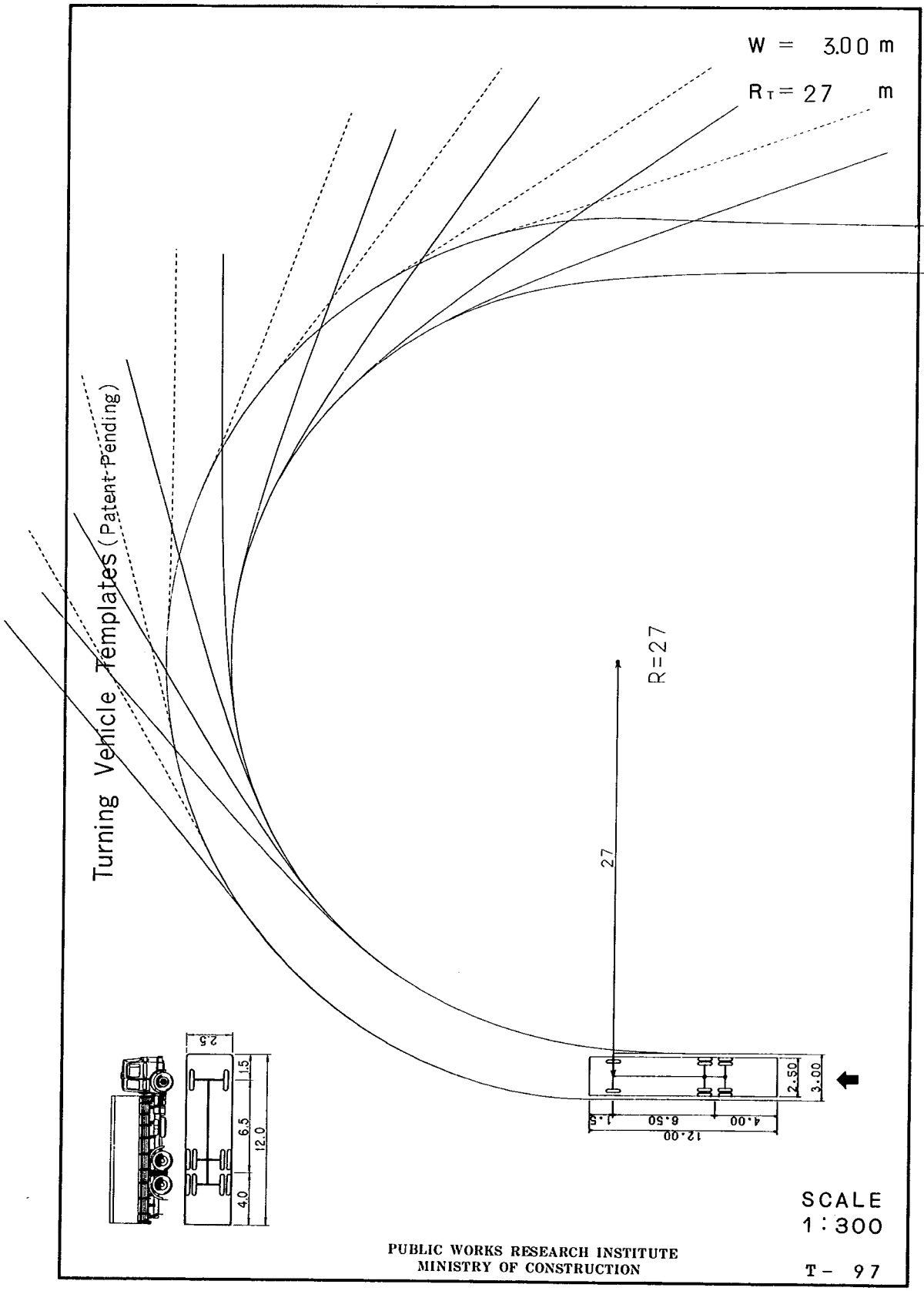


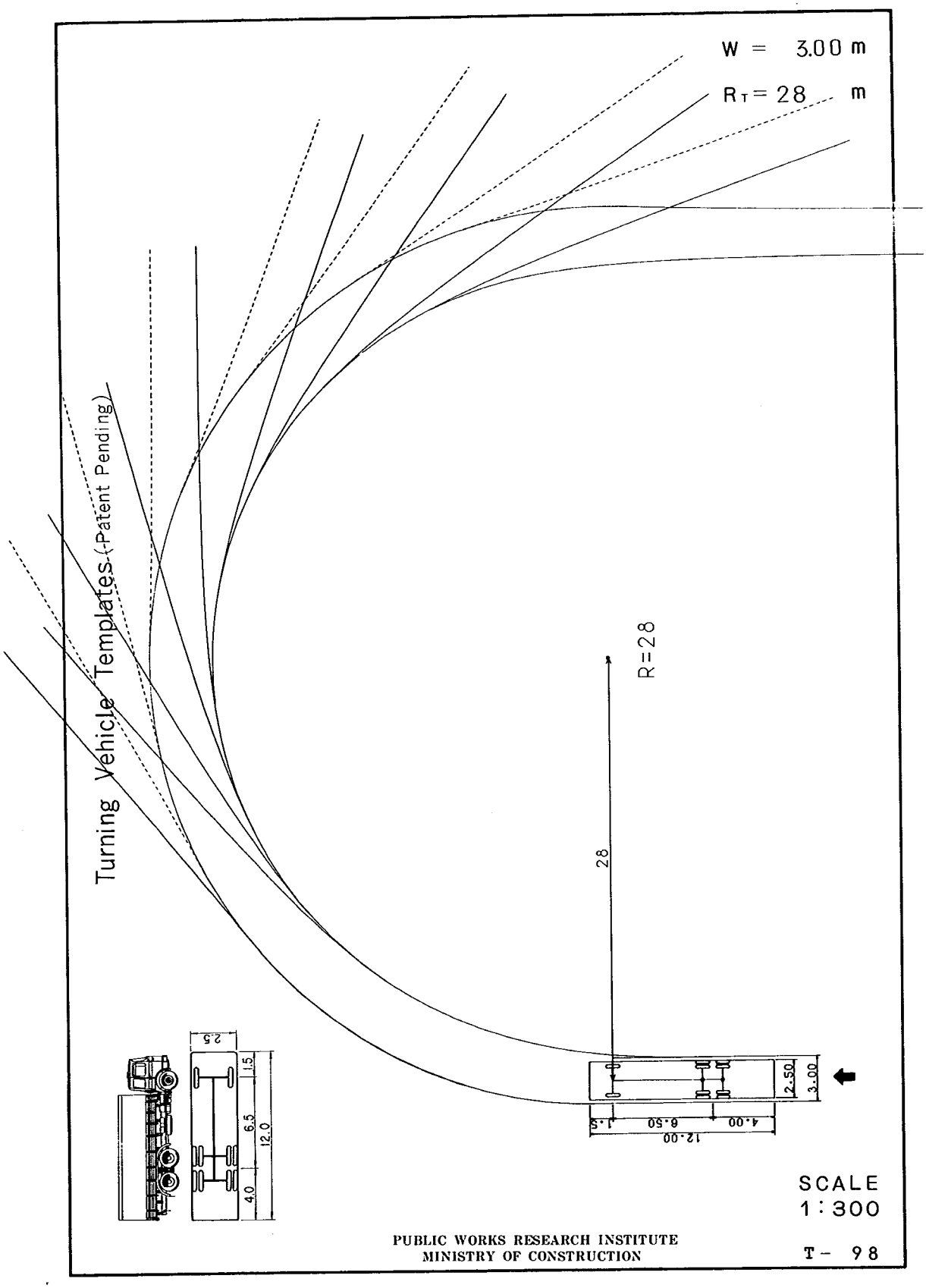


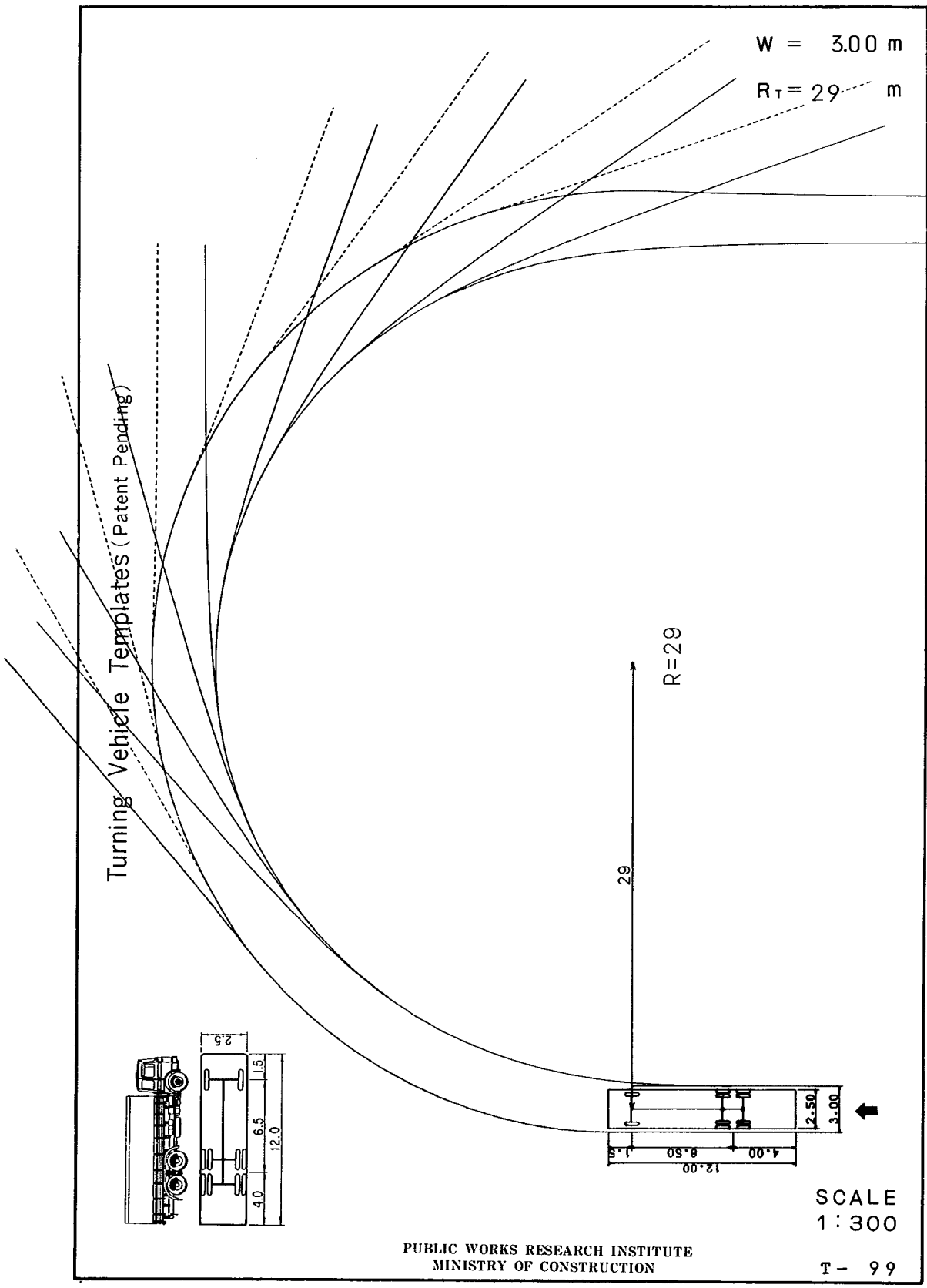
SCALE
1 : 300

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MINISTRY OF CONSTRUCTION

T - 96

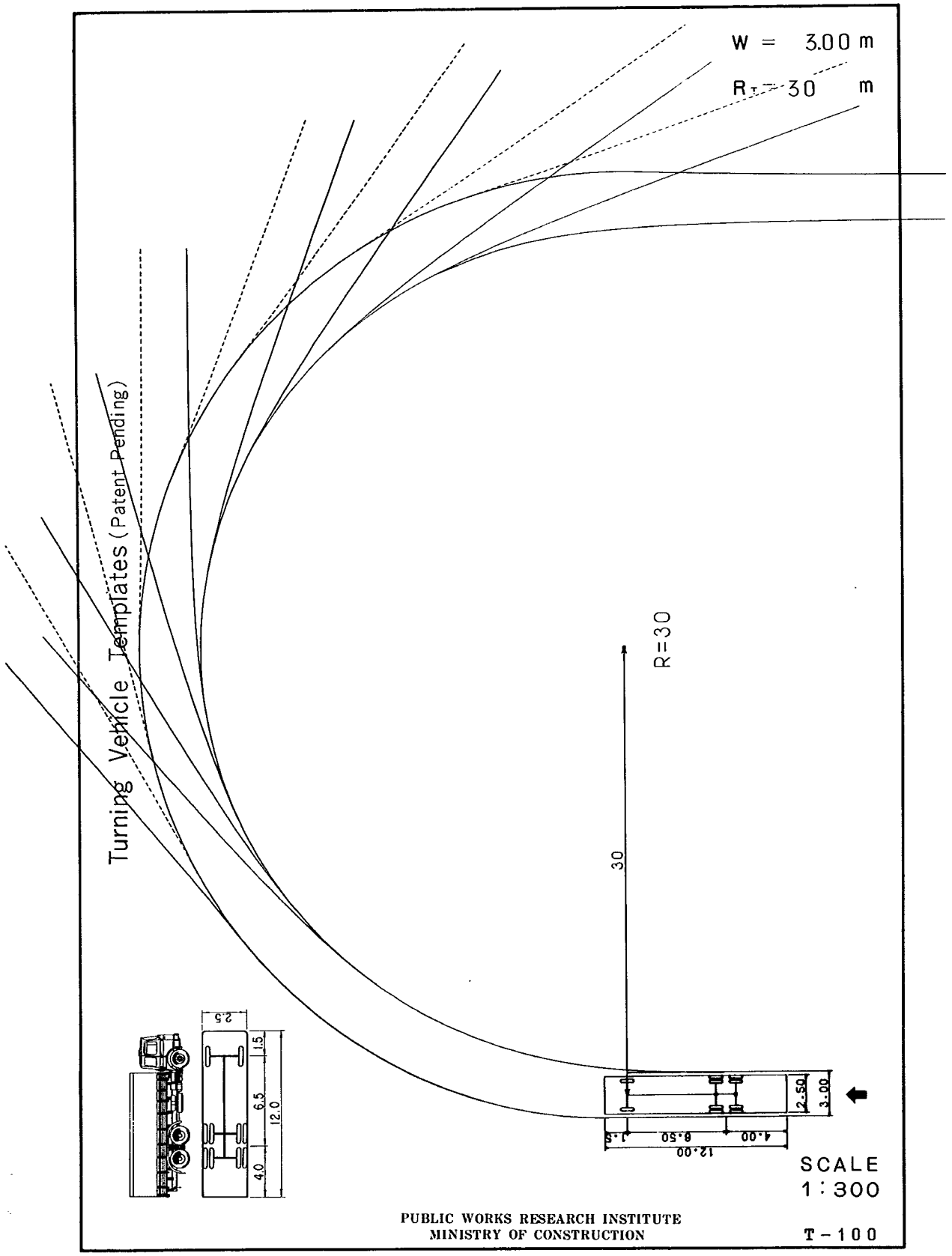

W = 3.00 m
R T = 27 m
Turning Vehicle Templates (Patent Pending)
R=27
27
2.5
1.5
6.5
12.0
4.0
2.50
3.00
1.5
8.50
4.00
12.00
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T- 97


W = 3.00 m
R_T = 28 m
Turning Vehicle Templates (Patent Pending)
R=28
28
2.5
1.5
6.5
12.0
4.0
2.50
3.00
1.5
6.50
4.00
12.00
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T- 98



PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

T - 99



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MINISTRY OF CONSTRUCTION

T-100

縮尺（SCALE）　1：300

車線幅員（W）　3.25m

Turning Vehicle Templates (Patent Pending)

W = 3.25 m

R_T = 9 m

R_T = 8 m

SCALE
1 : 300

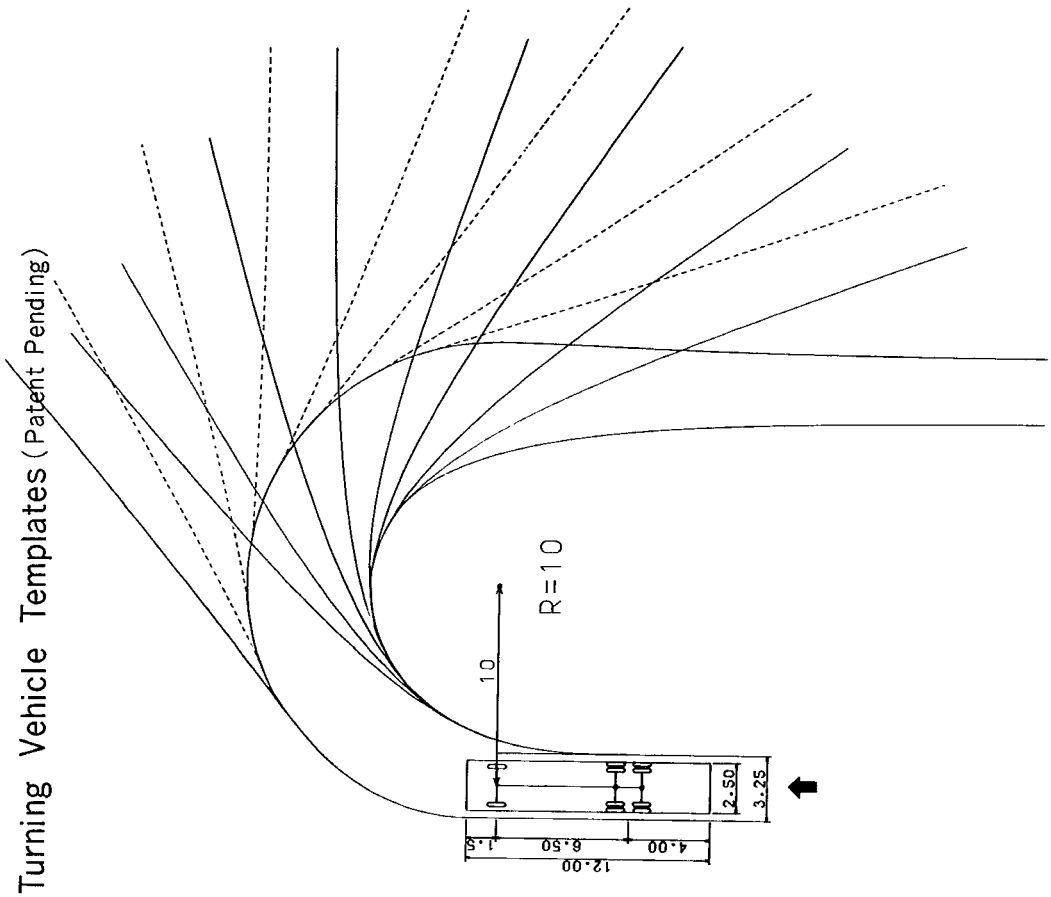
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

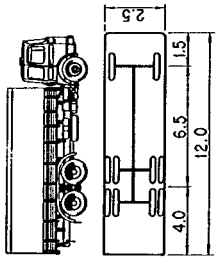
T－101

W = 3.25 m

R_T = 10 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

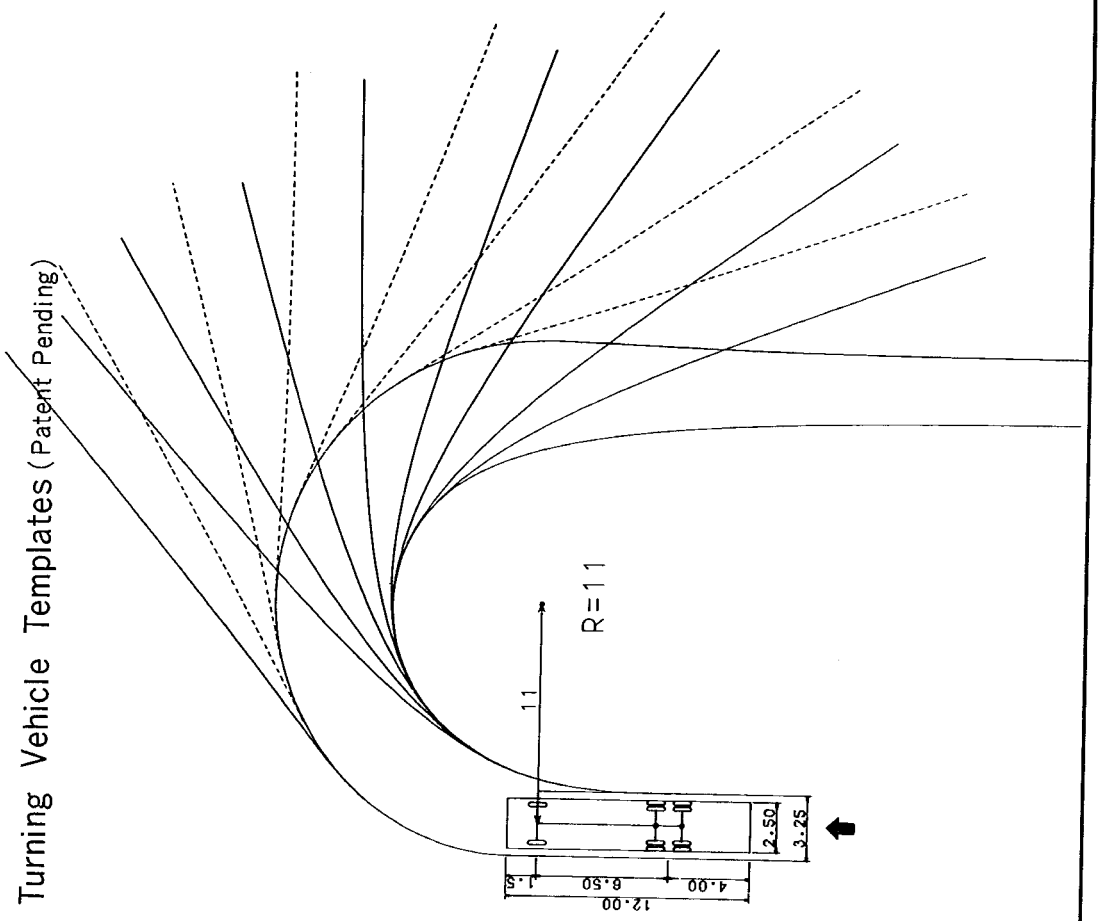
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

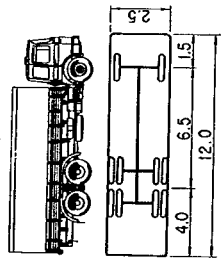
T－102

W = 3.25 m

R_T = 11 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

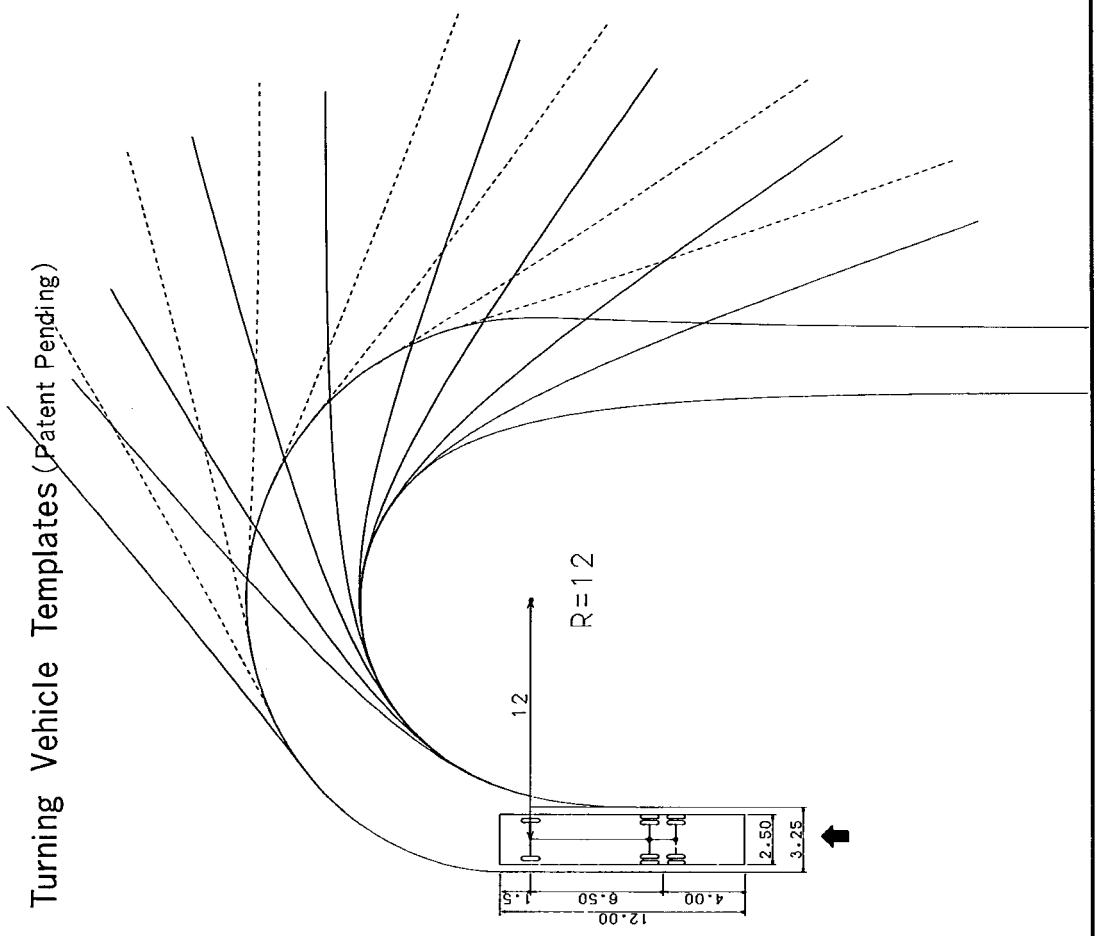
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MINISTRY OF CONSTRUCTION

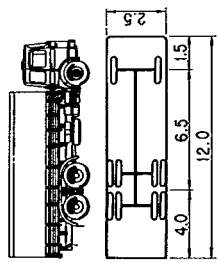
T－103

W = 3.25 m

R_T = 12 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

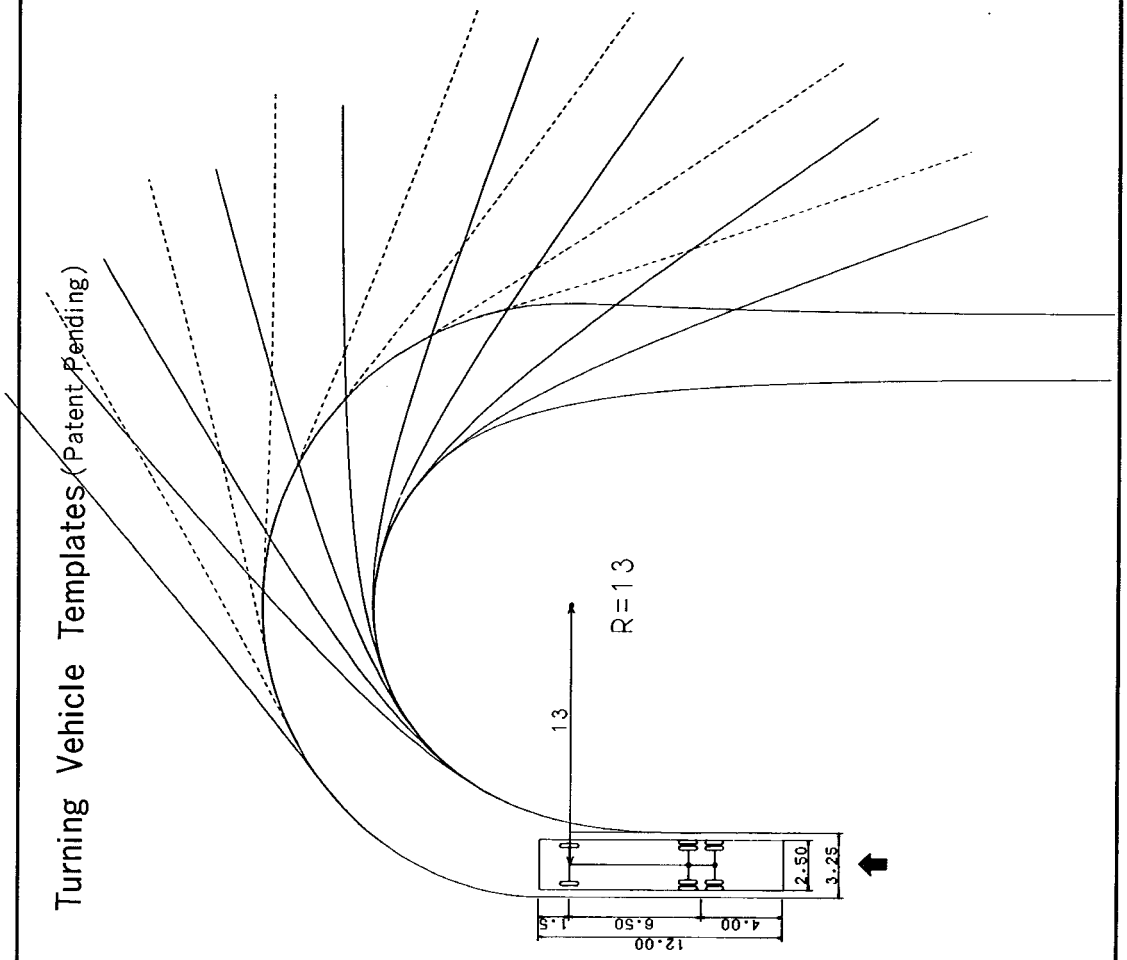
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MINISTRY OF CONSTRUCTION

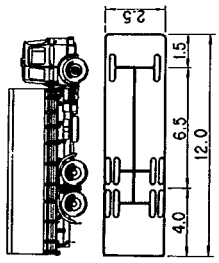
T－104

W = 3.25 m

R_T = 13 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

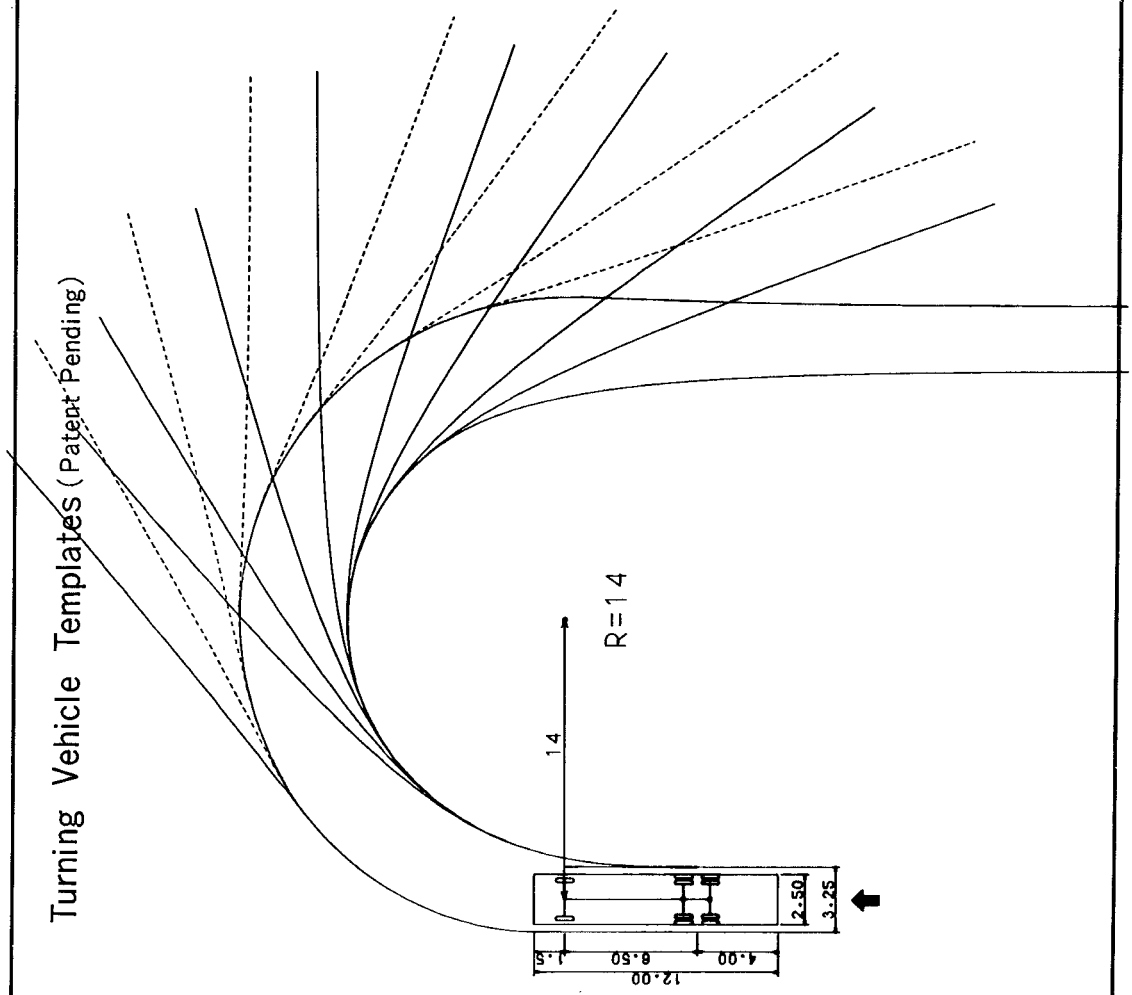
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MINISTRY OF CONSTRUCTION

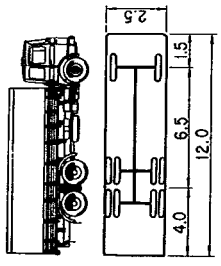
T－105

W = 3.25 m

R_T = 14 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

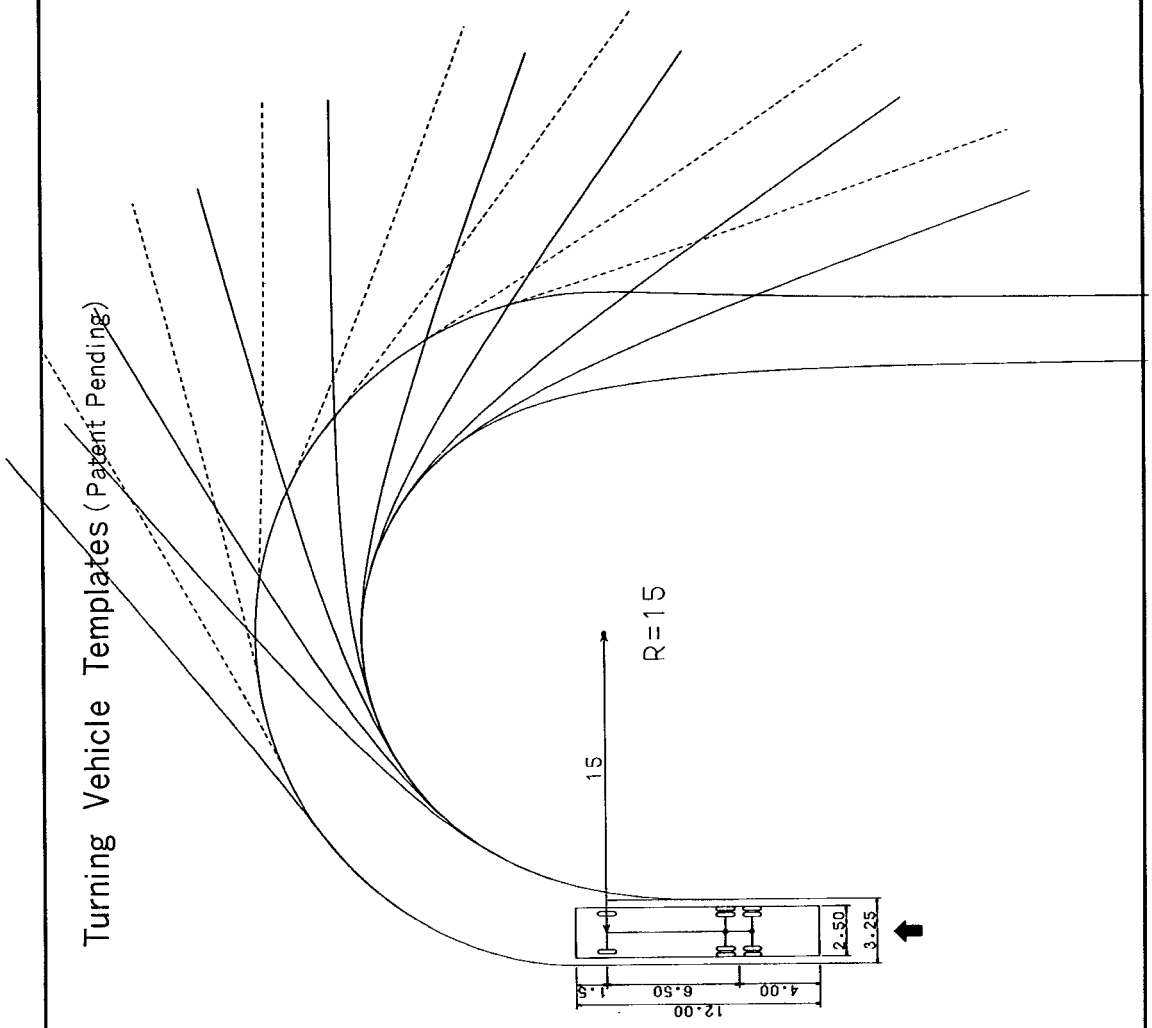
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

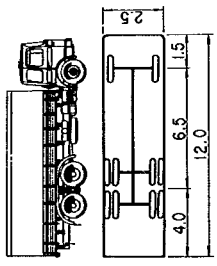
T-106

W = 3.25 m

R_T = 15 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

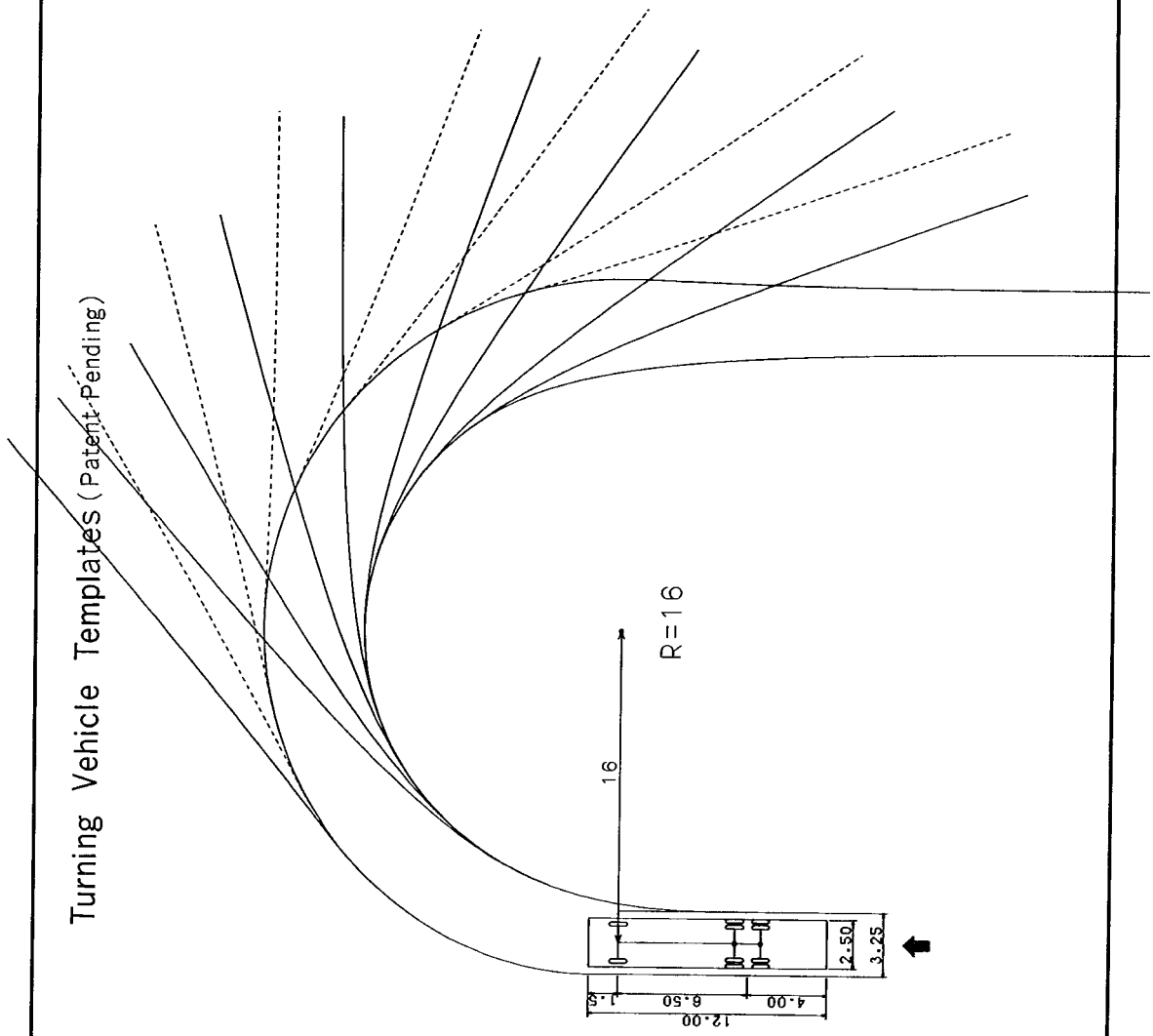
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MINISTRY OF CONSTRUCTION

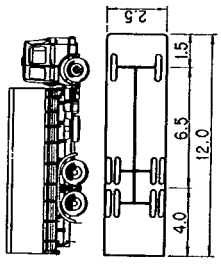
T－107

W = 3.25 m

R_T = 16 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

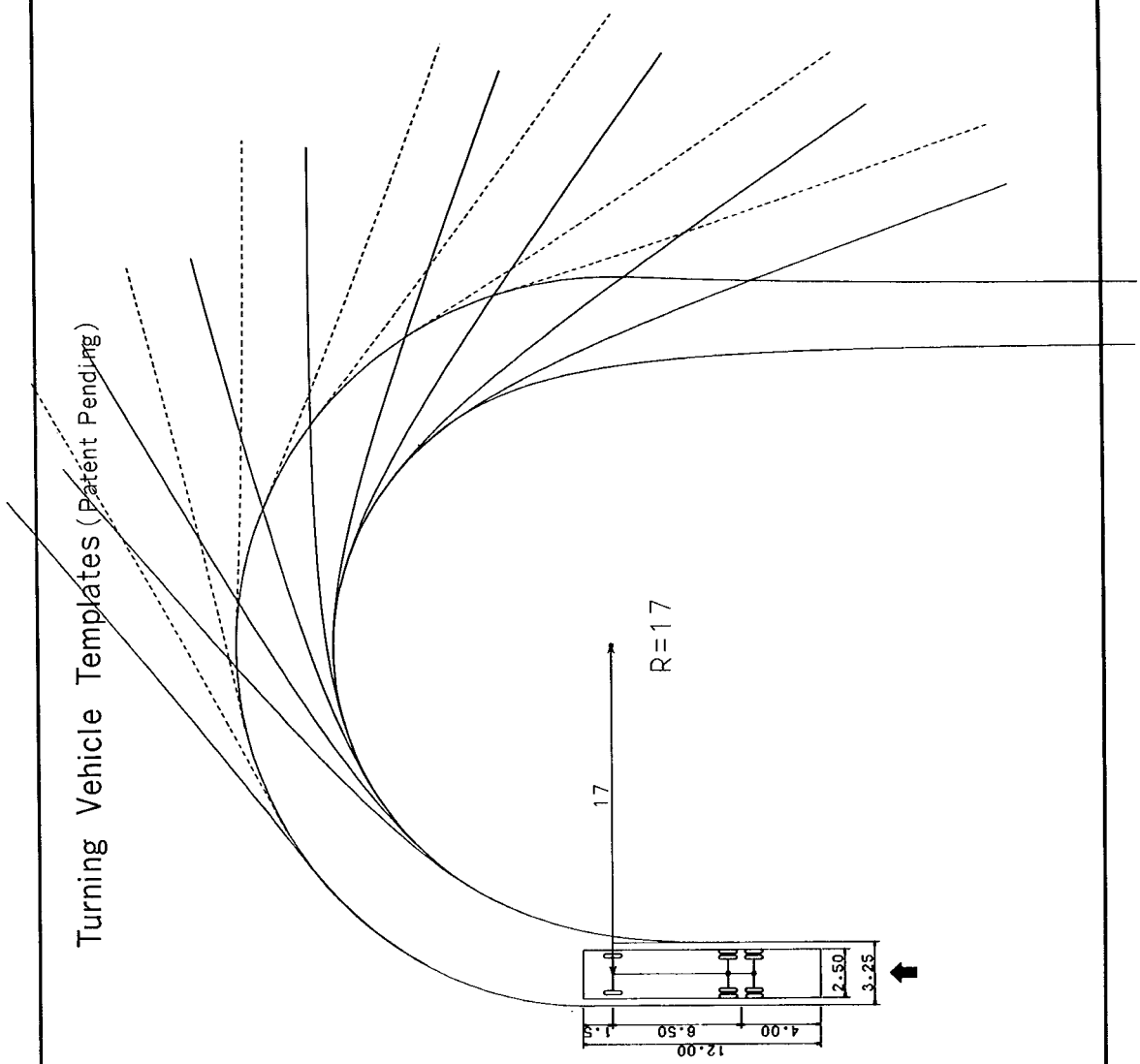
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

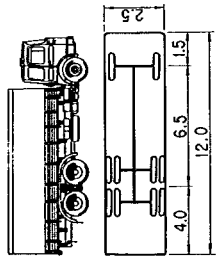
T－108

W = 3.25 m

R_T = 17 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

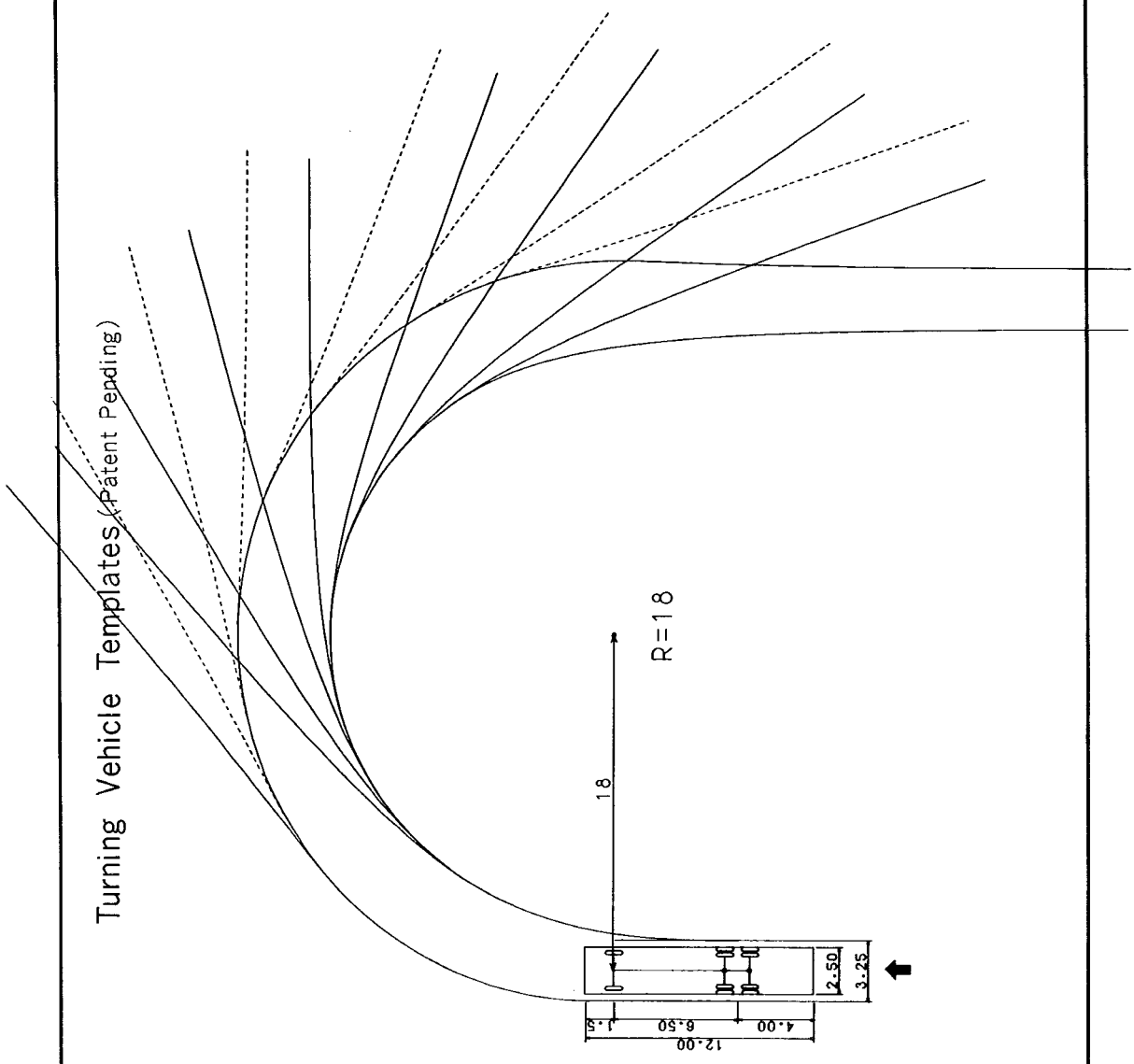
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

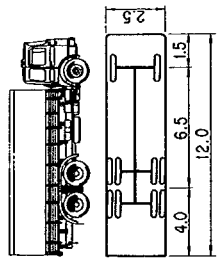
T－109

W = 3.25 m

R_T = 18 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

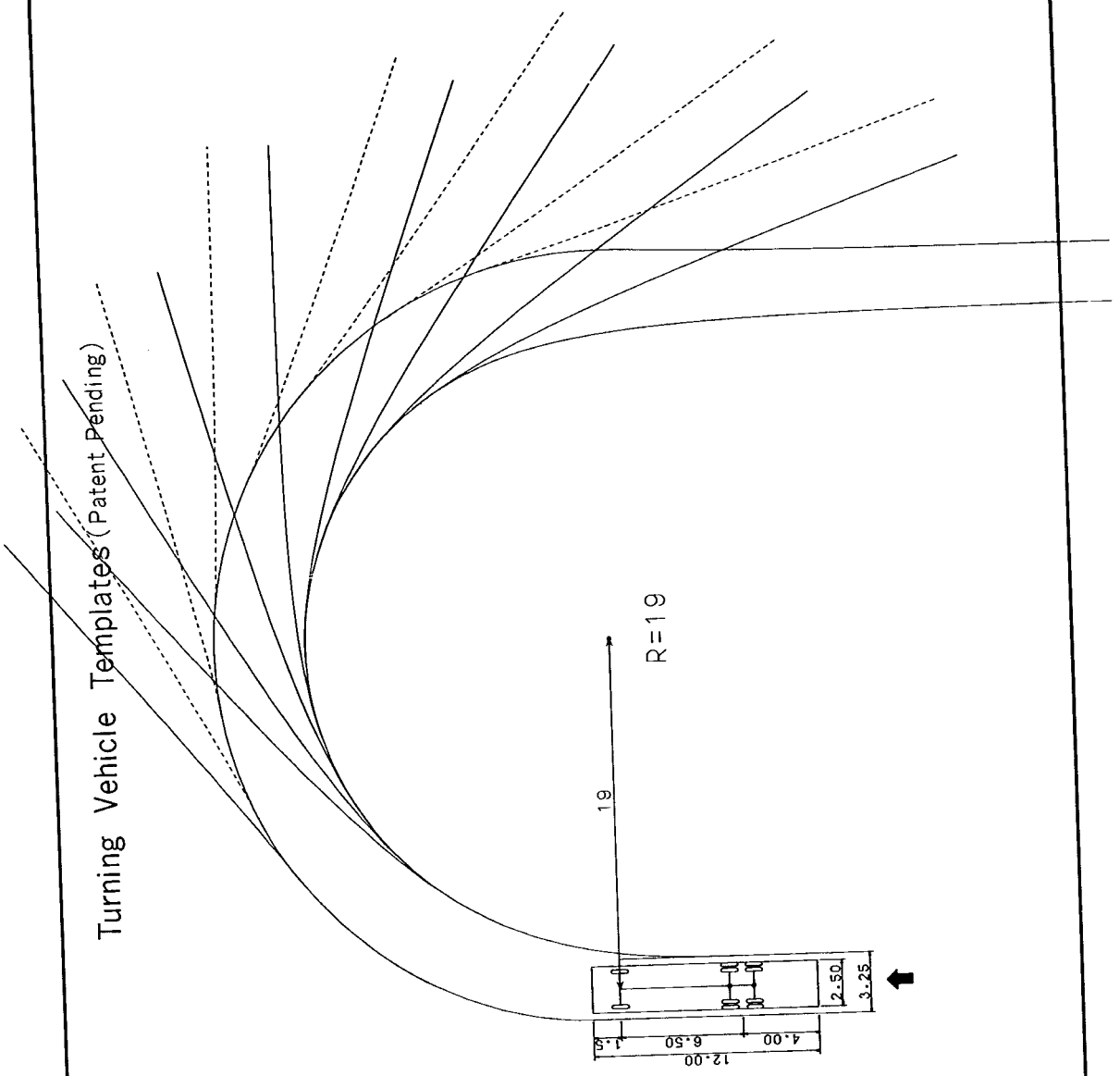
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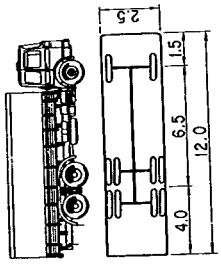
T - 110

W = 3.25 m

R_T = 19 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

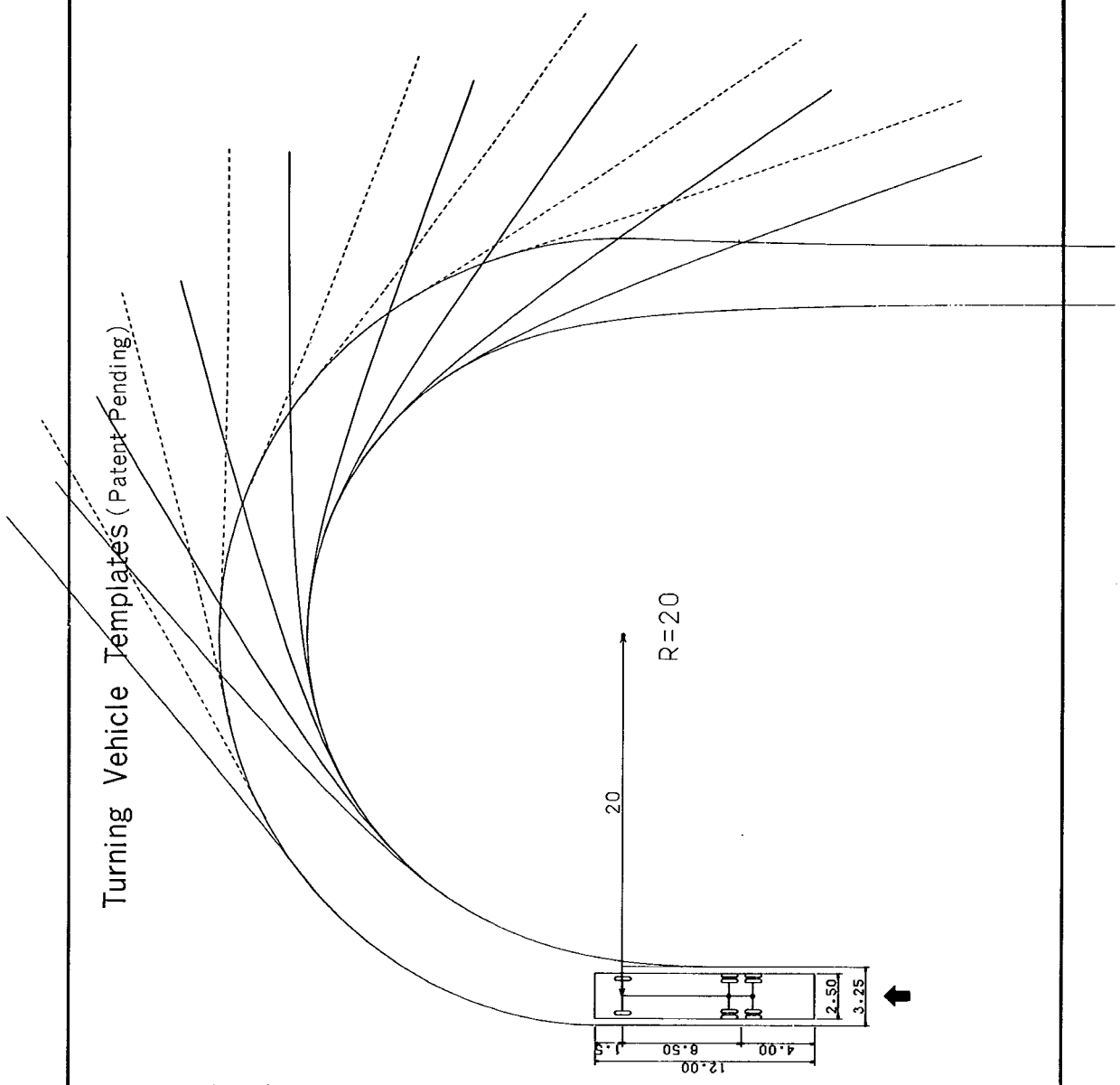
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MINISTRY OF CONSTRUCTION

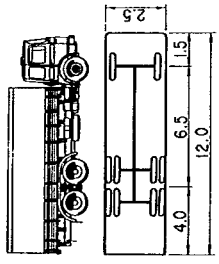
T－111

W = 3.25 m

R_T = 20 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

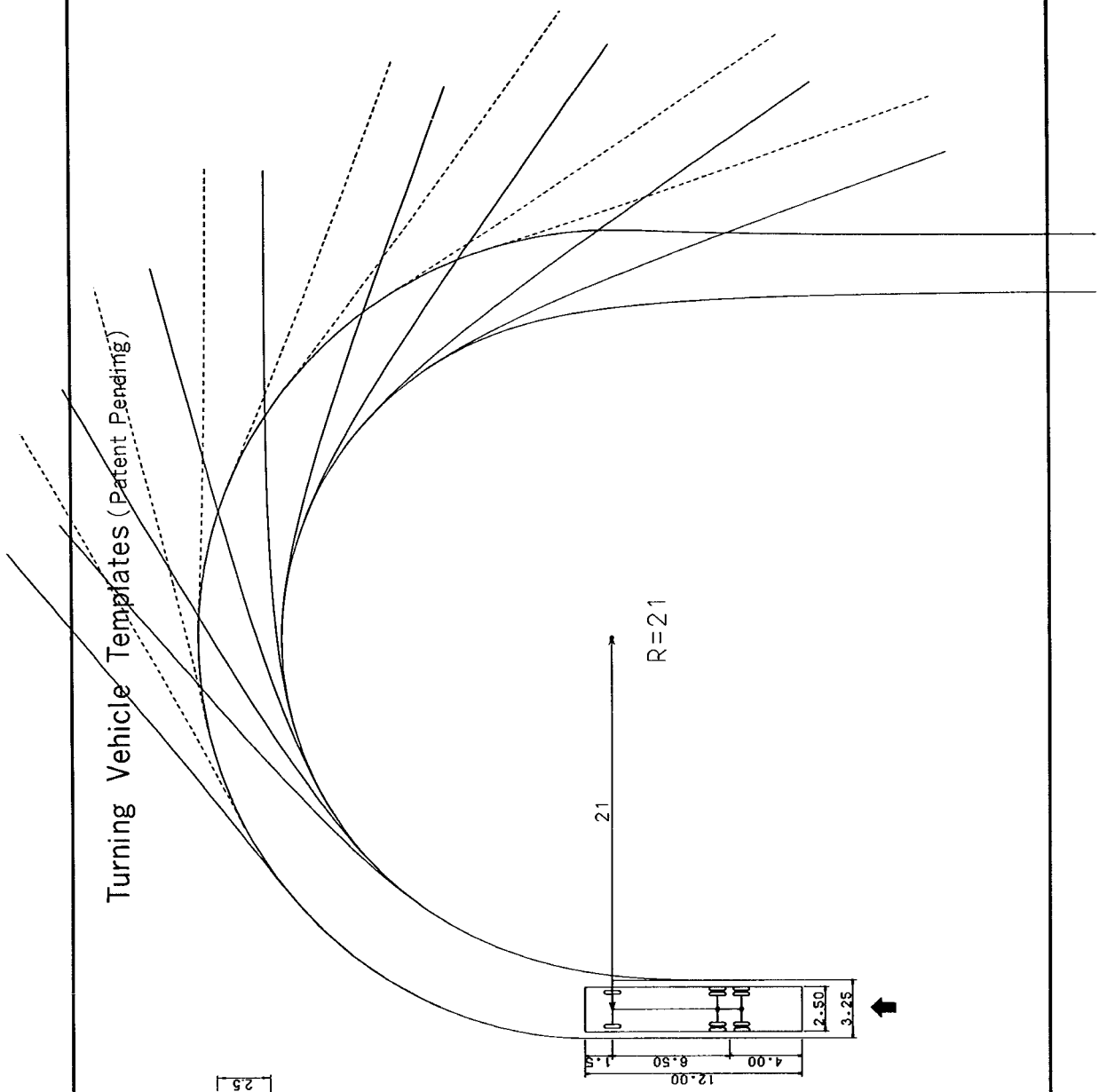
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MINISTRY OF CONSTRUCTION

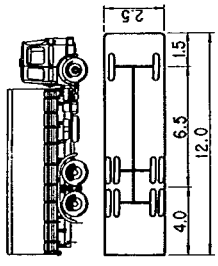
T－112

W = 3.25 m

R_T = 21 m

Turning Vehicle Templates (Patent Pending)





SCALE
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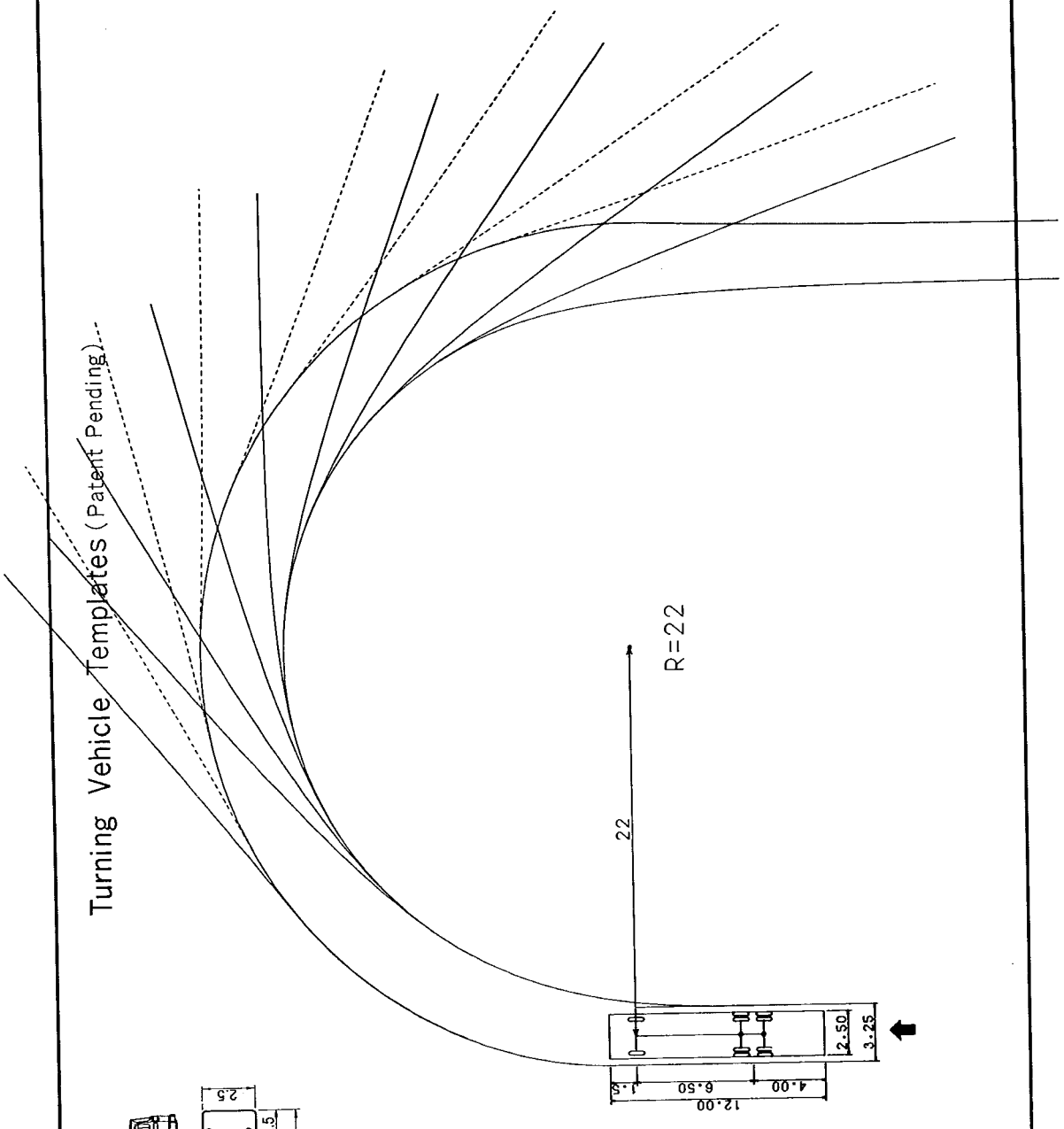
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MINISTRY OF CONSTRUCTION

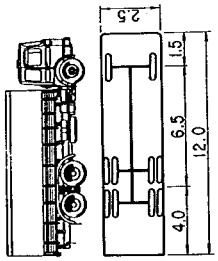
T－113

W = 3.25 m

R_T = 22 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

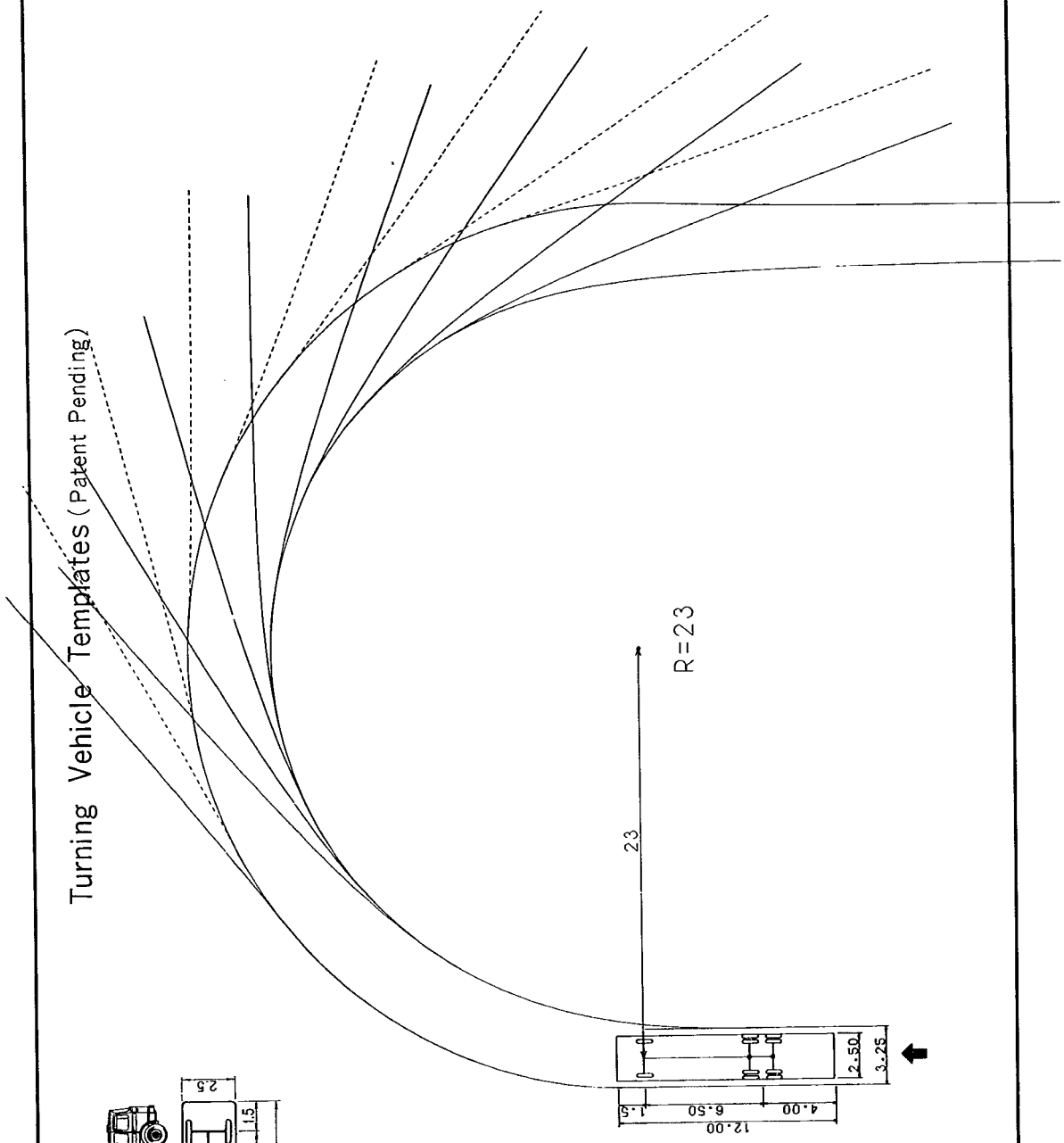
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

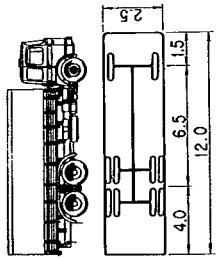
T－114

W = 3.25 m

R_T = 23 m

Turning Vehicle Templates (Patent Pending)

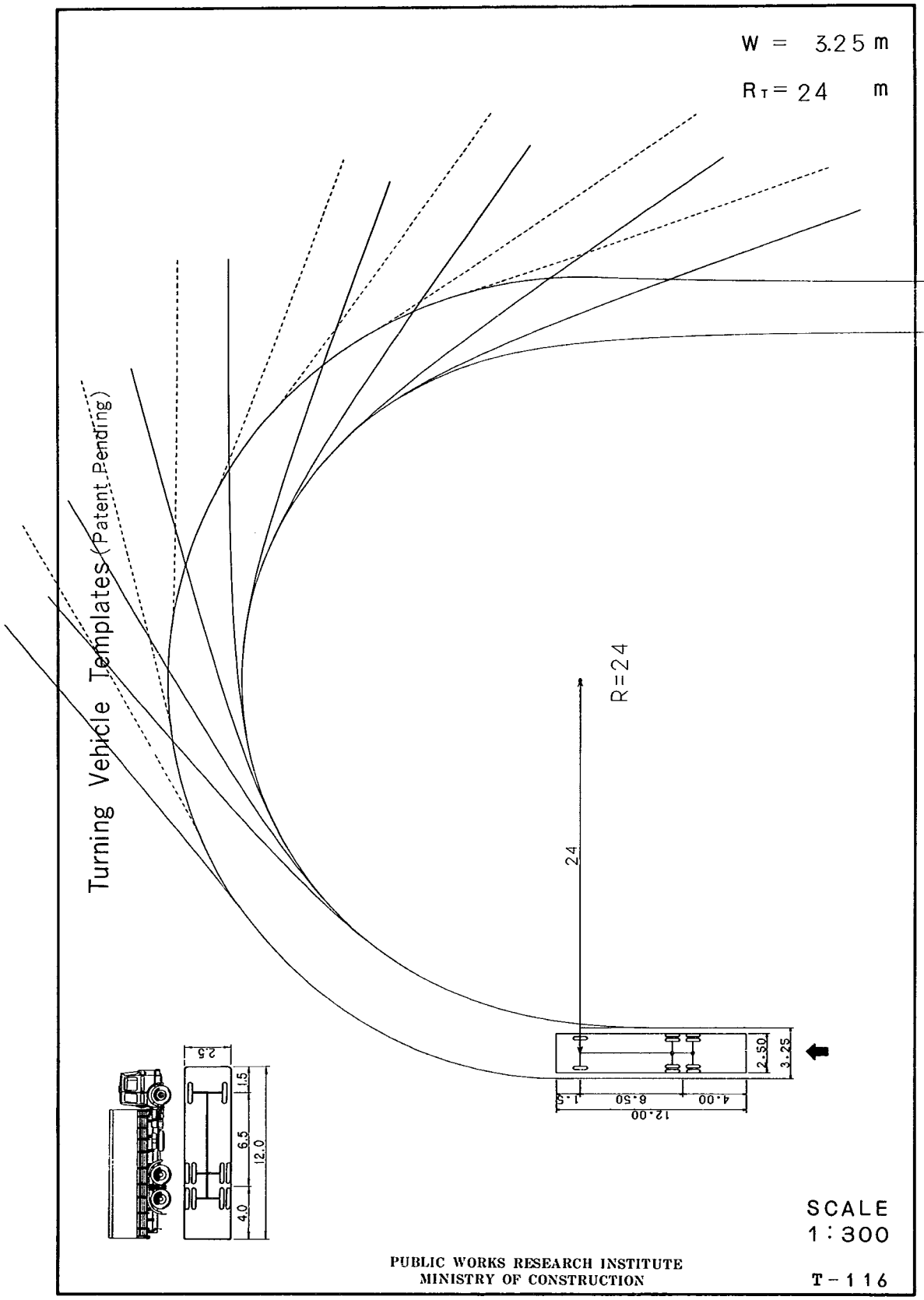




SCALE
1 : 300

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MINISTRY OF CONSTRUCTION

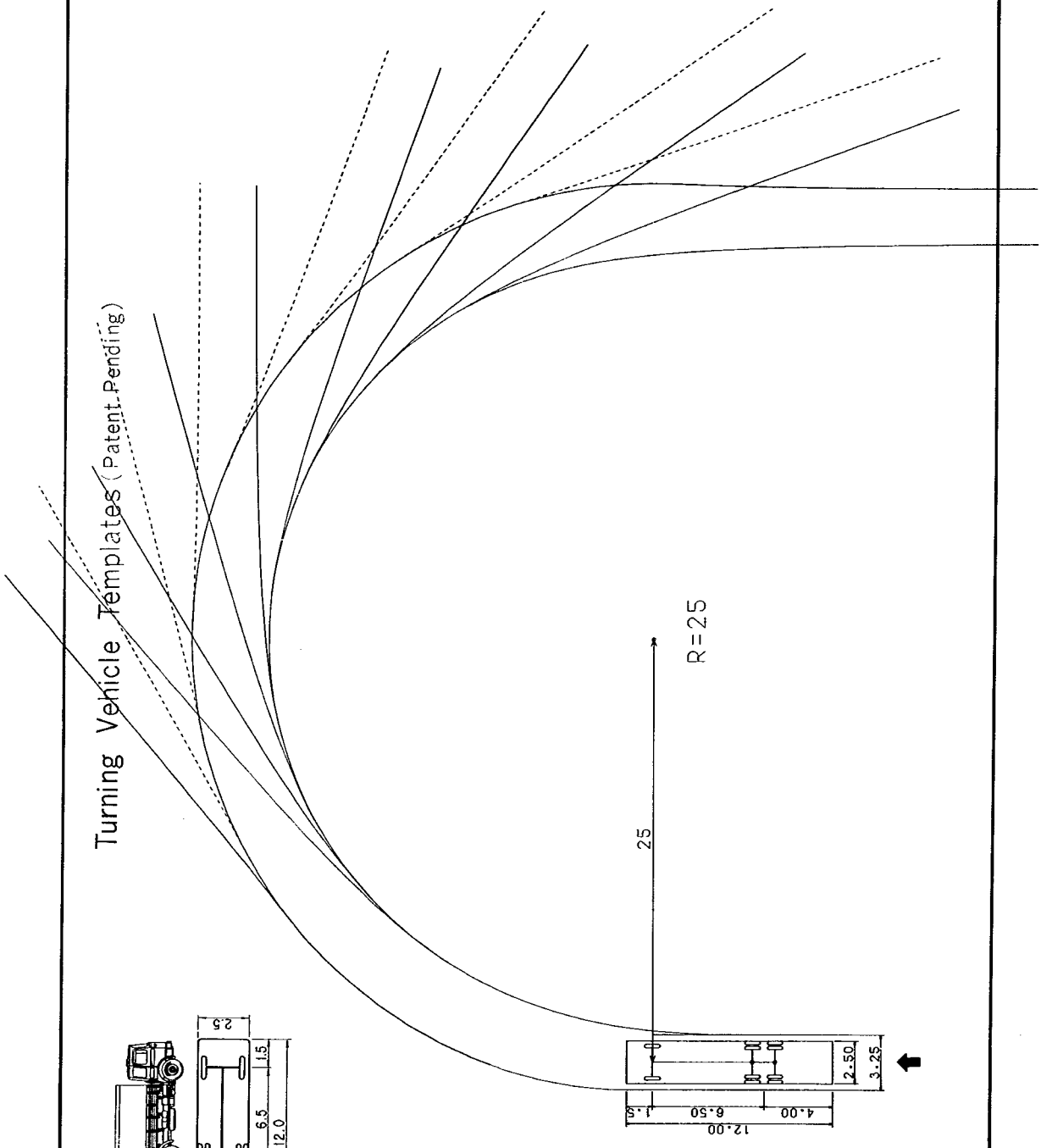
T-115

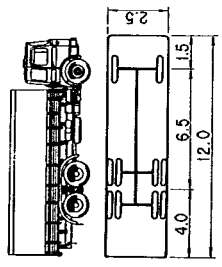

W = 3.25 m
R_T = 24 m
Turning Vehicle Templates (Patent Pending)
R=24
24
2.5
1.5
6.5
12.0
4.0
2.50
3.25
1.5
6.50
4.00
12.00
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T－116

W = 3.25 m

R_T = 25 m

Turning Vehicle Templates (Patent Pending)

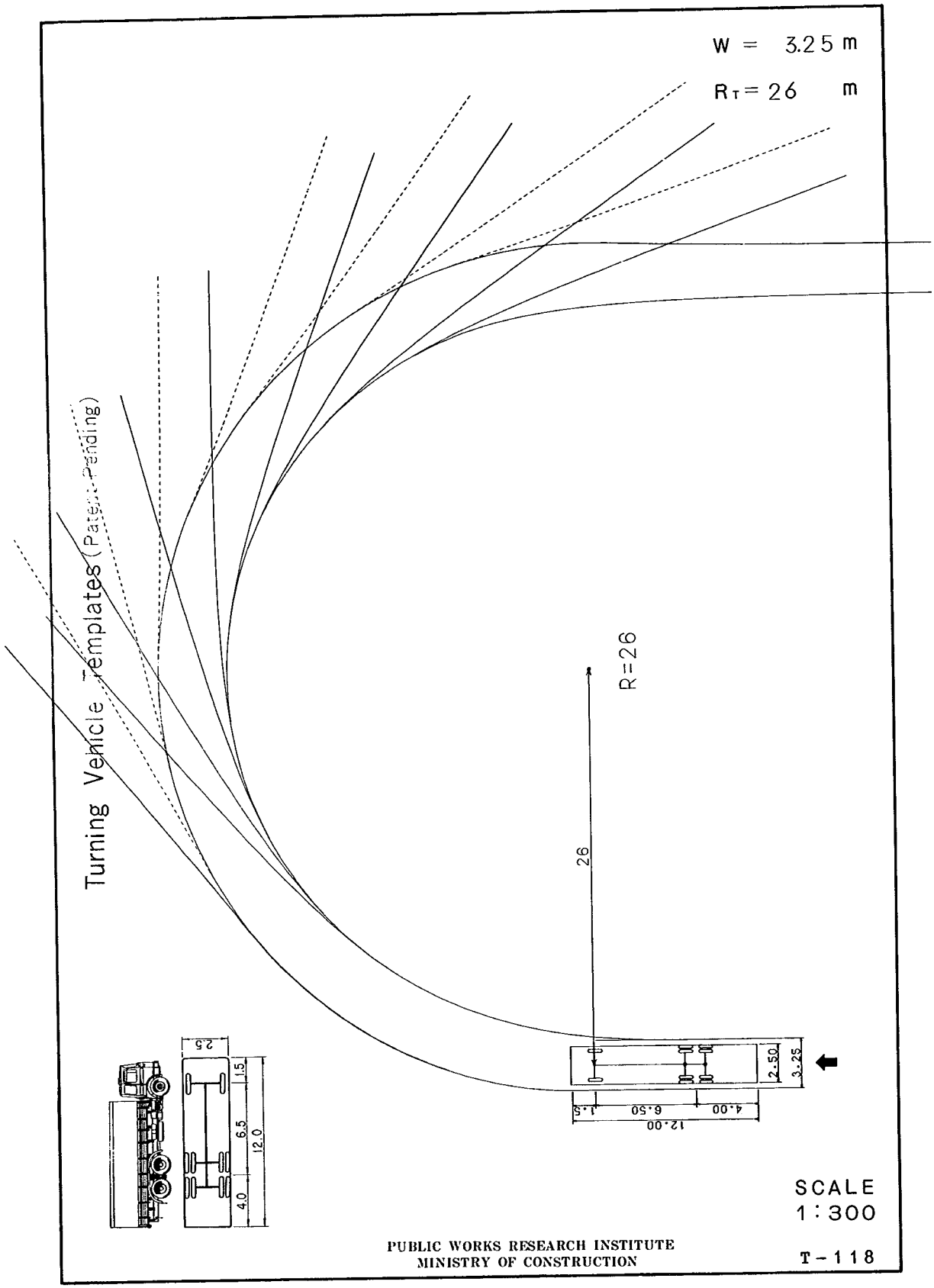


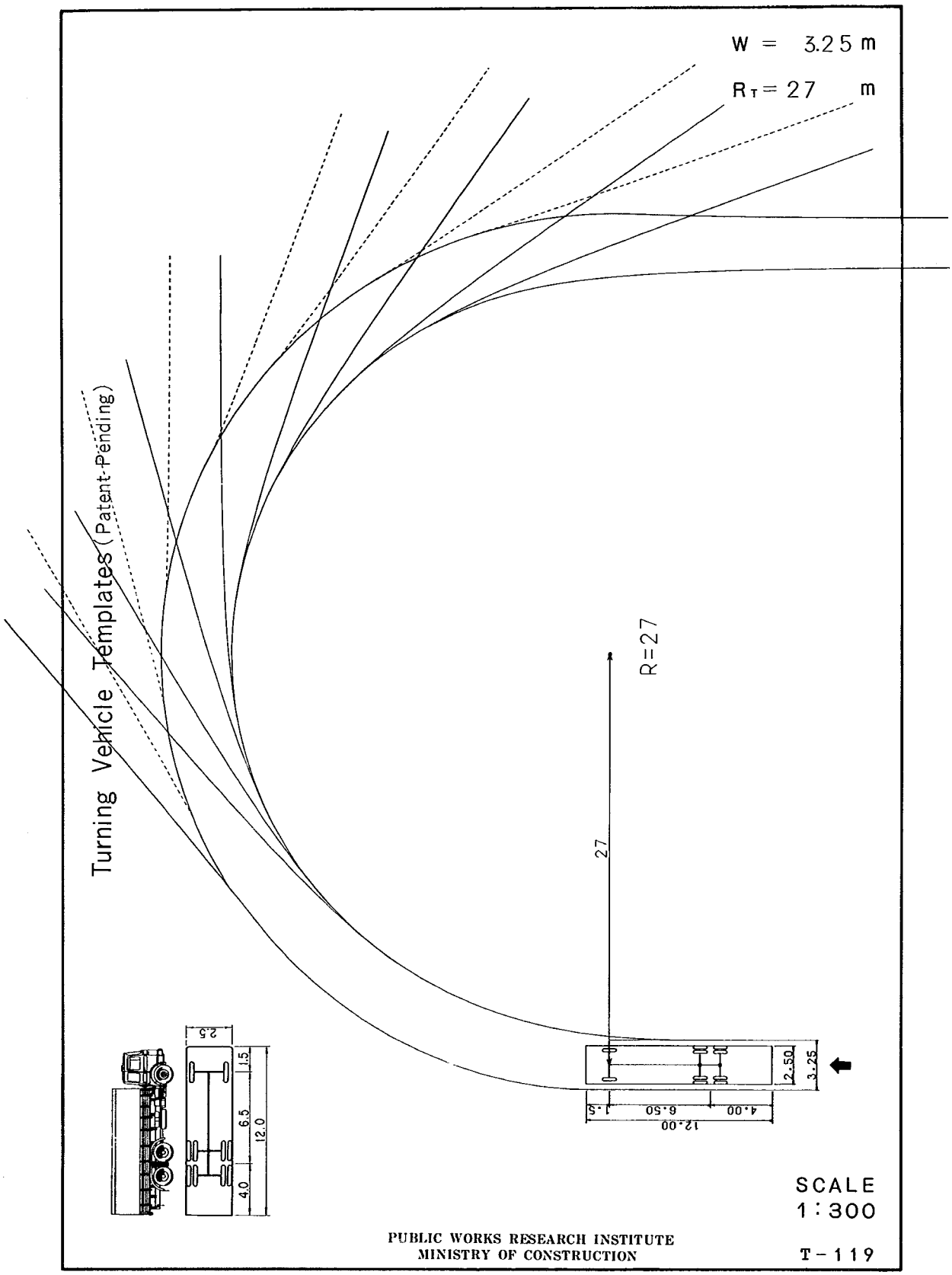


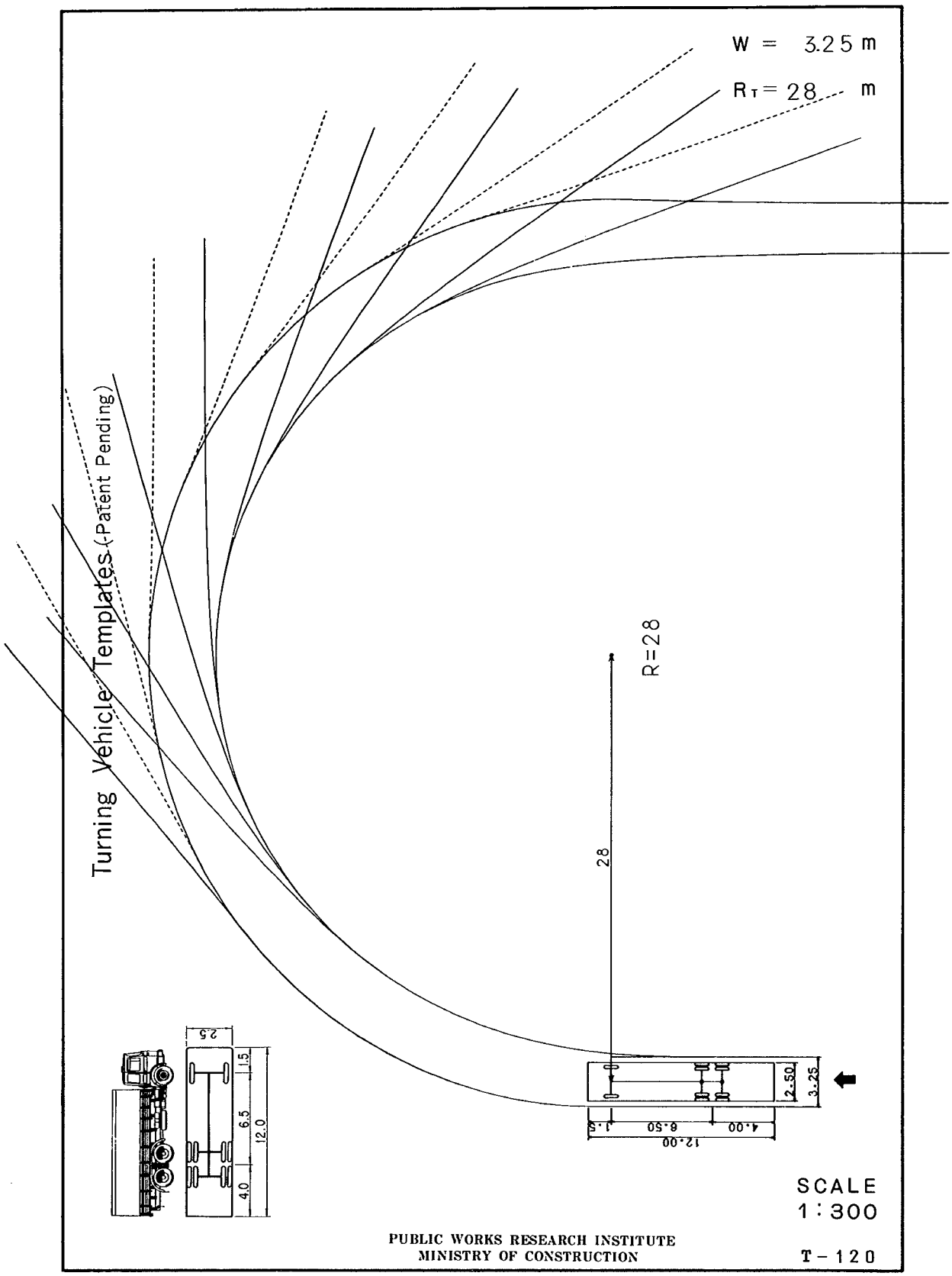
SCALE
1 : 300

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MINISTRY OF CONSTRUCTION

T-117

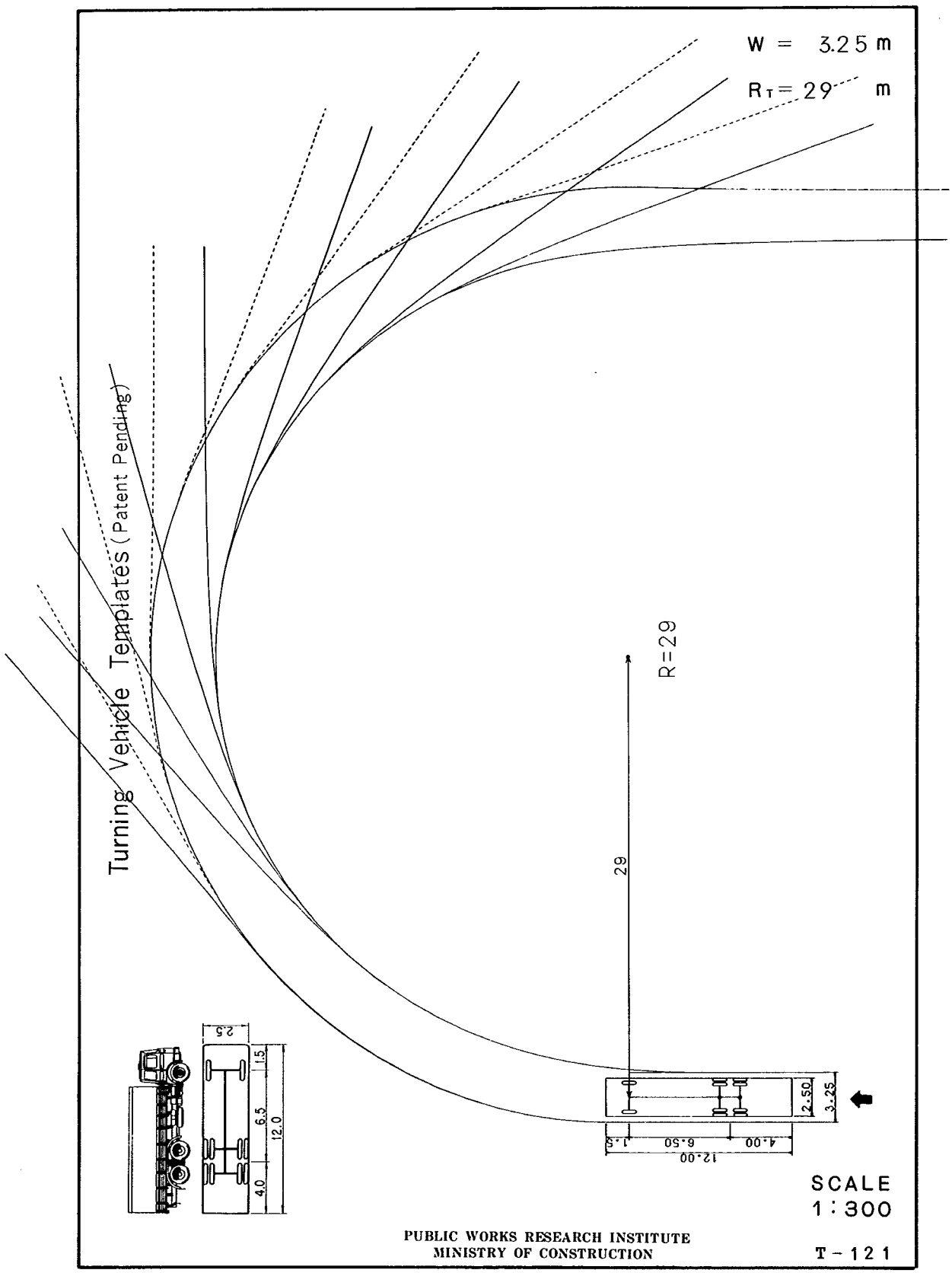

W = 3.25 m
R$_T$ = 26 m
Turning Vehicle Templates (Patent Pending)
R=26
26
2.5
1.5
6.5
12.0
4.0
2.50
3.25
1.5
6.50
4.00
12.00
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T-118


W = 3.25 m
R T = 27 m
Turning Vehicle Templates (Patent-Pending)
R=27
27
2.5
1.5
6.5
12.0
4.0
2.50
3.25
1.5
6.50
4.00
12.00
SCALE
1 : 300
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MINISTRY OF CONSTRUCTION
T - 119



PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

T－120


W = 3.25 m
R T = 29 m
Turning Vehicle Templates (Patent Pending)
R=29
29
2.5
1.5
6.5
12.0
4.0
2.50
3.25
1.5
6.50
4.00
12.00
SCALE
1 : 300
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MINISTRY OF CONSTRUCTION
T - 121

Turning Vehicle Templates (Patent Pending)

W = 3.25 m

R_I = 30 m

R=30

30

SCALE
1 : 300

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MINISTRY OF CONSTRUCTION

T-122

縮尺（SCALE）　1：300

車線幅員（W）　3.50m

Turning Vehicle Templates (Patent Pending)

W = 3.50 m

R_T = 9 m

R_T = 8 m

SCALE
1 : 300

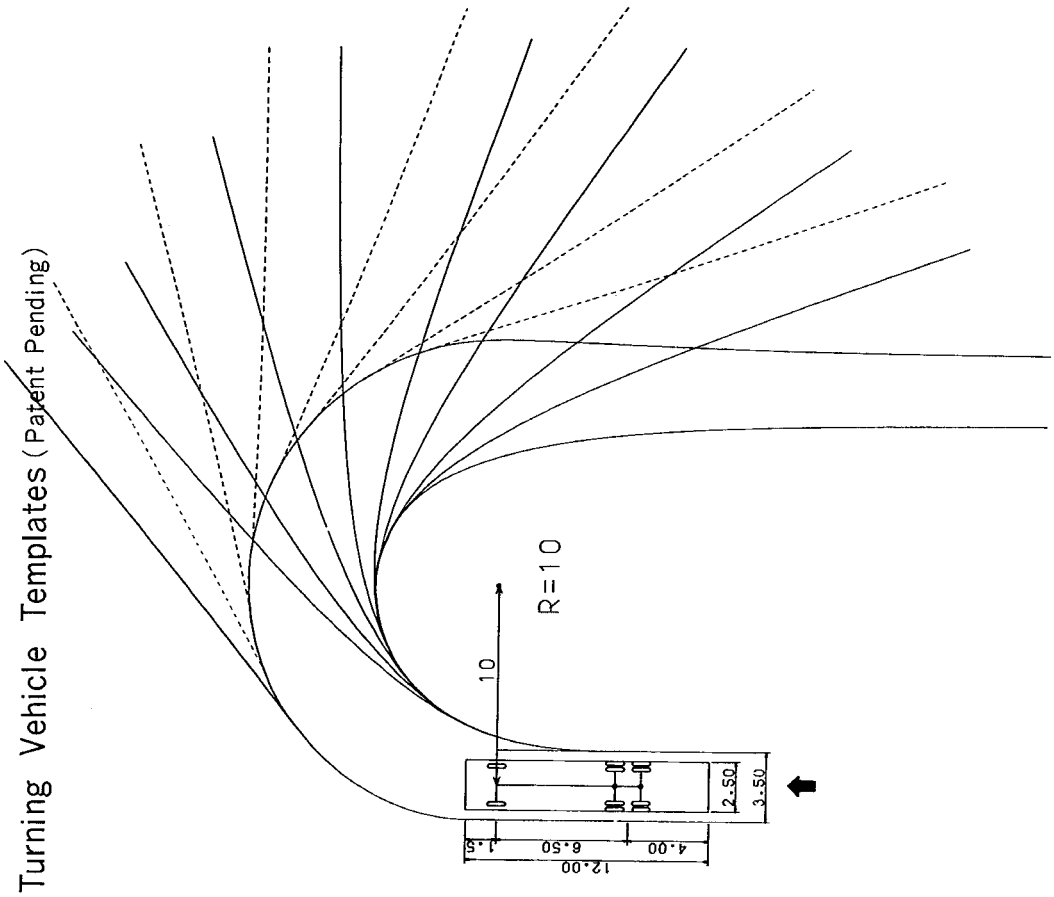
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MINISTRY OF CONSTRUCTION

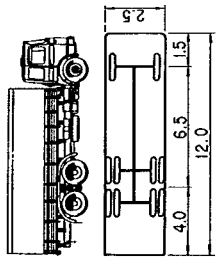
T – 123

W = 3.50 m

R_T = 10 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

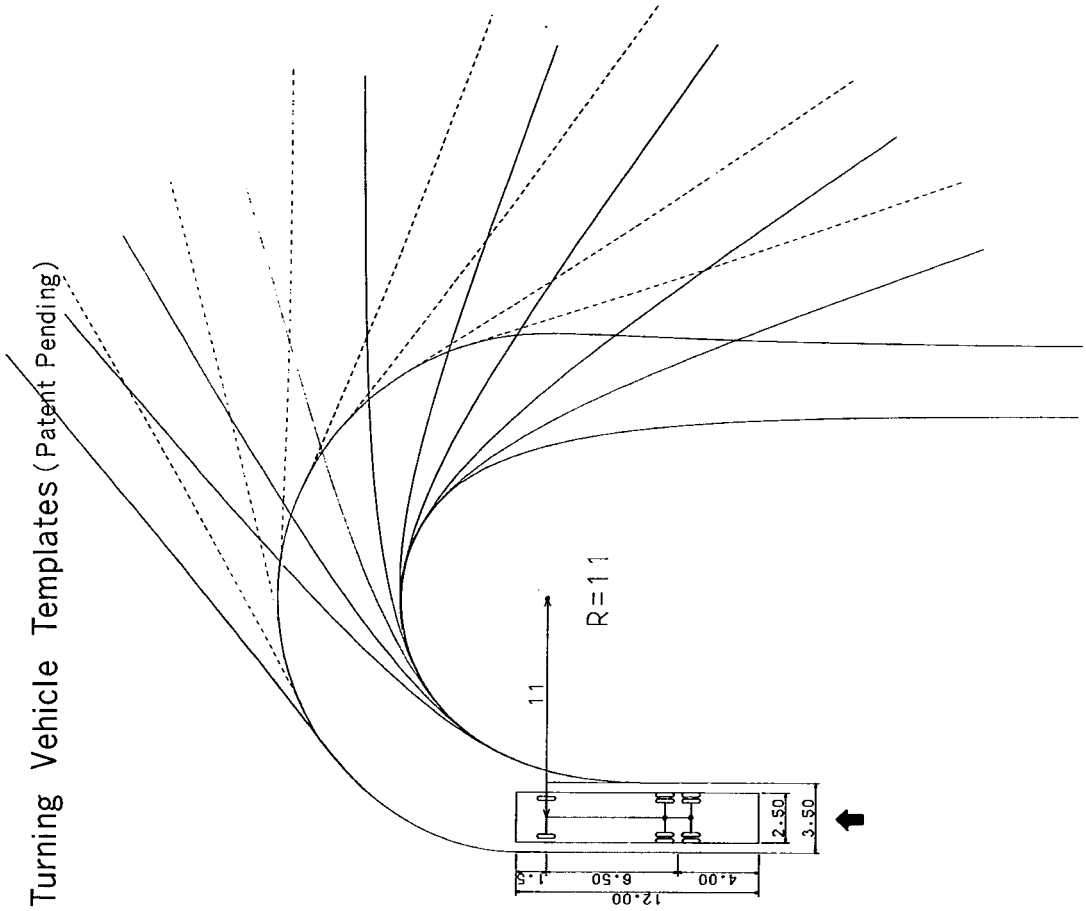
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MINISTRY OF CONSTRUCTION

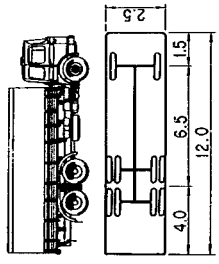
T－124

W = 3.50 m

R_T = 11 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

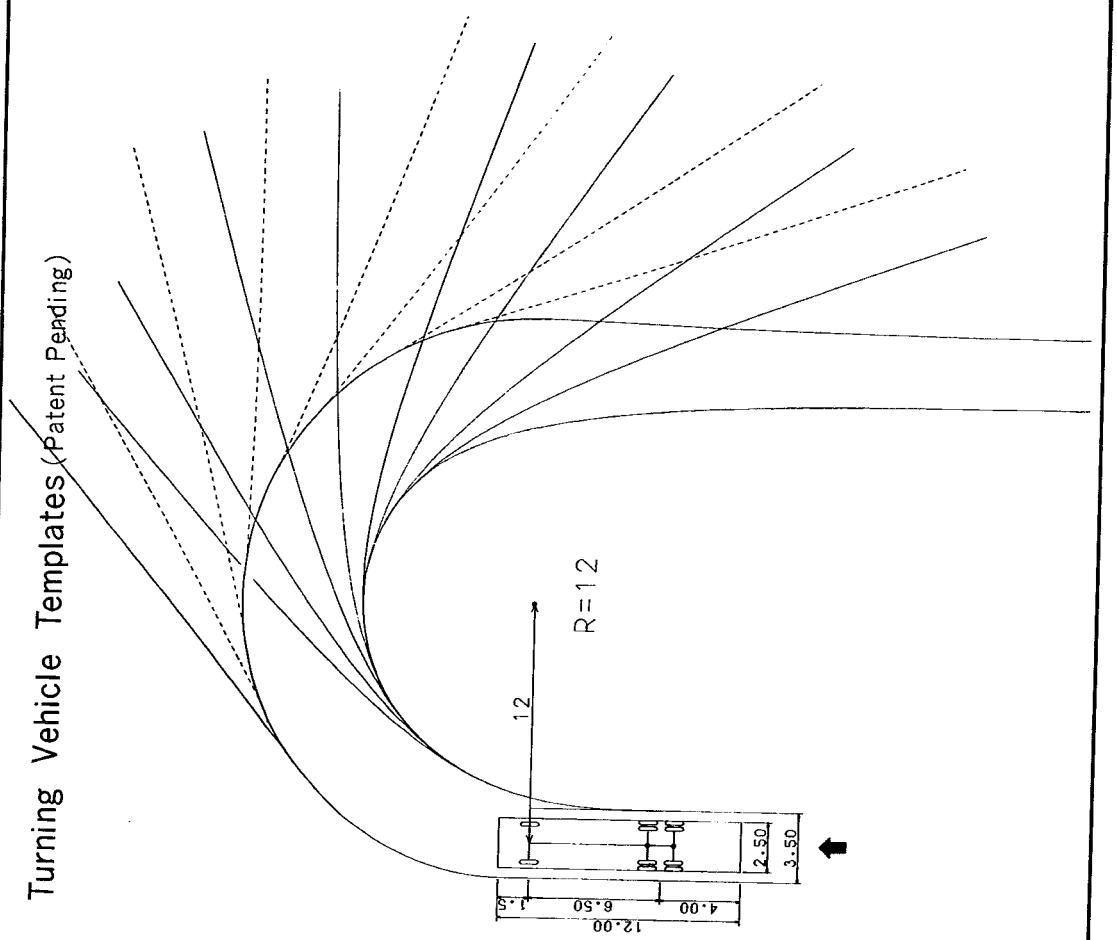
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MINISTRY OF CONSTRUCTION

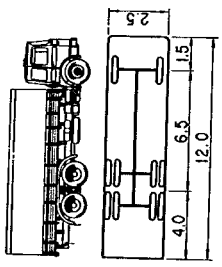
T－125

Turning Vehicle Templates (Patent Pending)

W = 3.50 m

R_T = 12 m





SCALE
1 : 300

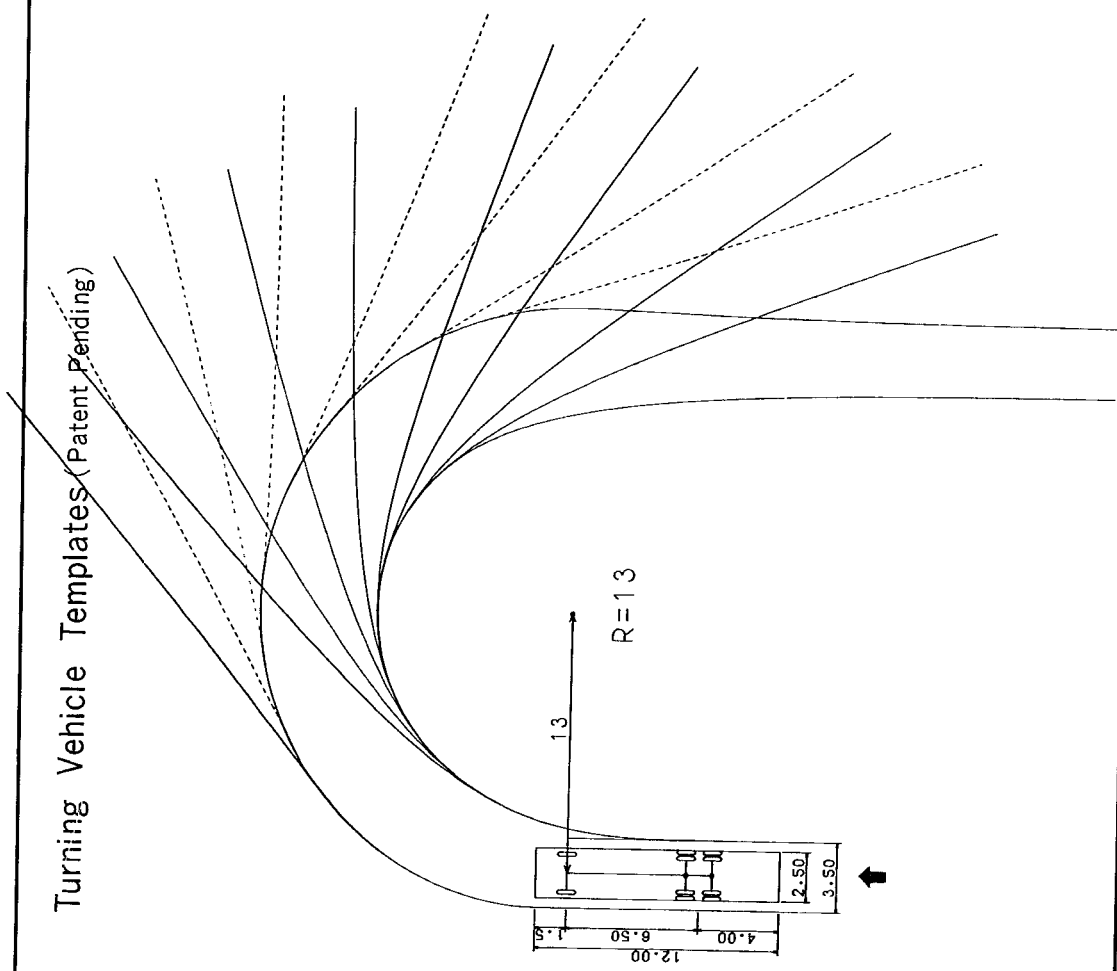
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MINISTRY OF CONSTRUCTION

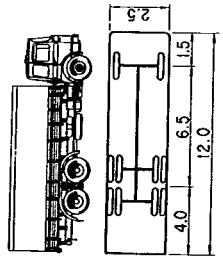
T - 126

W = 3.50 m

R_T = 13 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

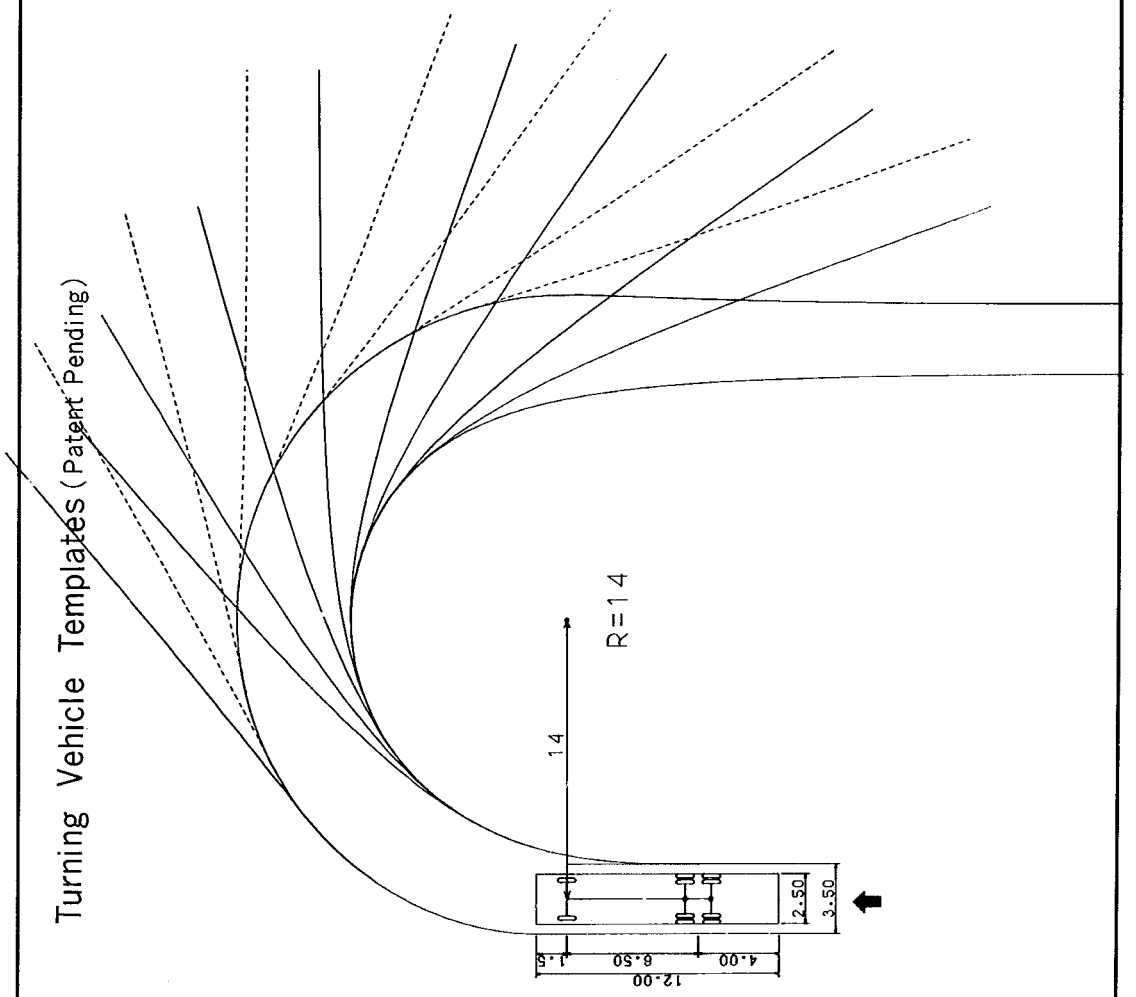
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MINISTRY OF CONSTRUCTION

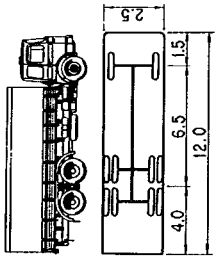
T - 127

W = 3.50 m

R_T = 14 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

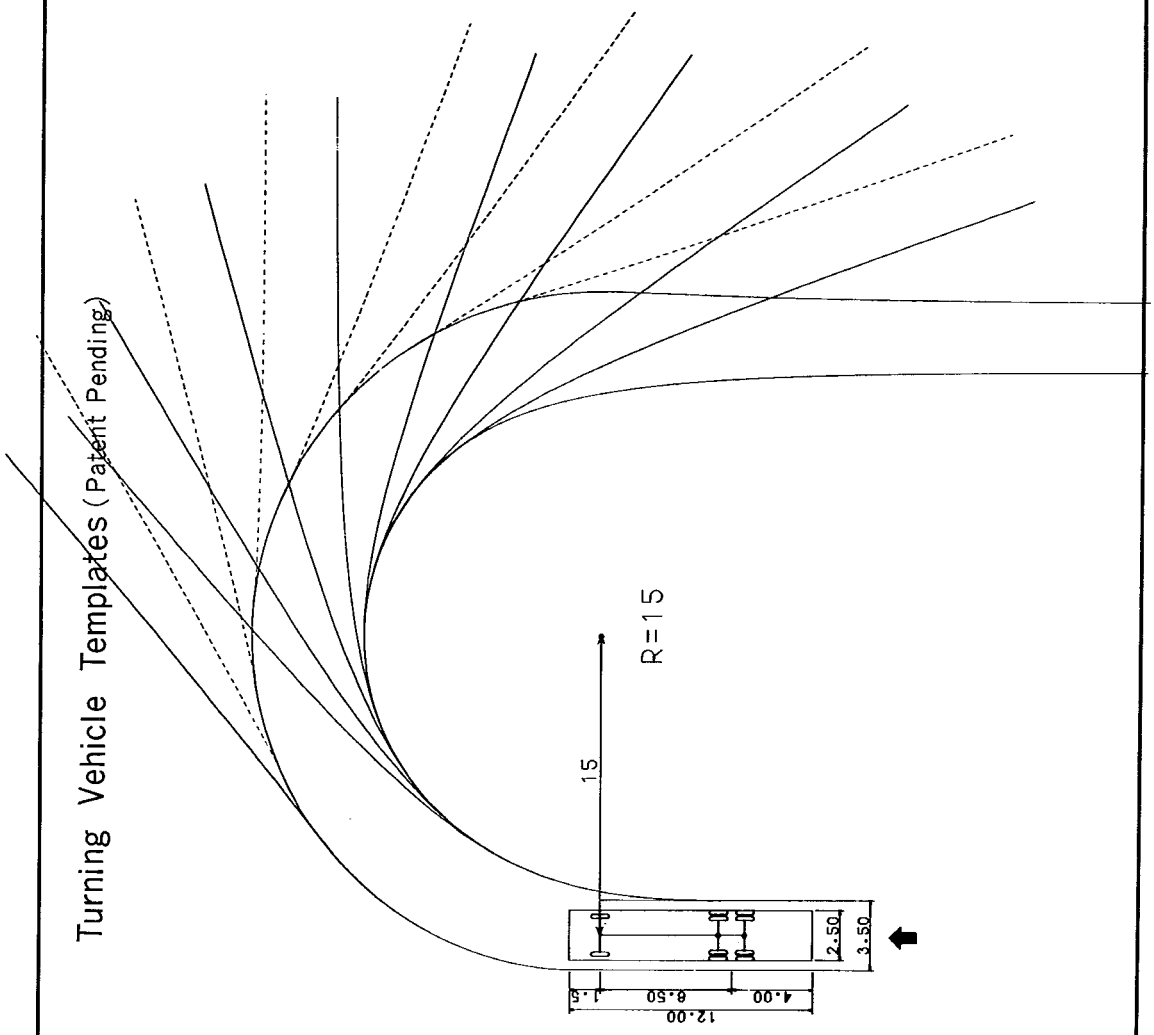
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

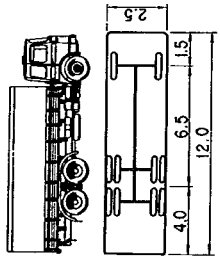
T - 128

W = 3.50 m

R_T = 15 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

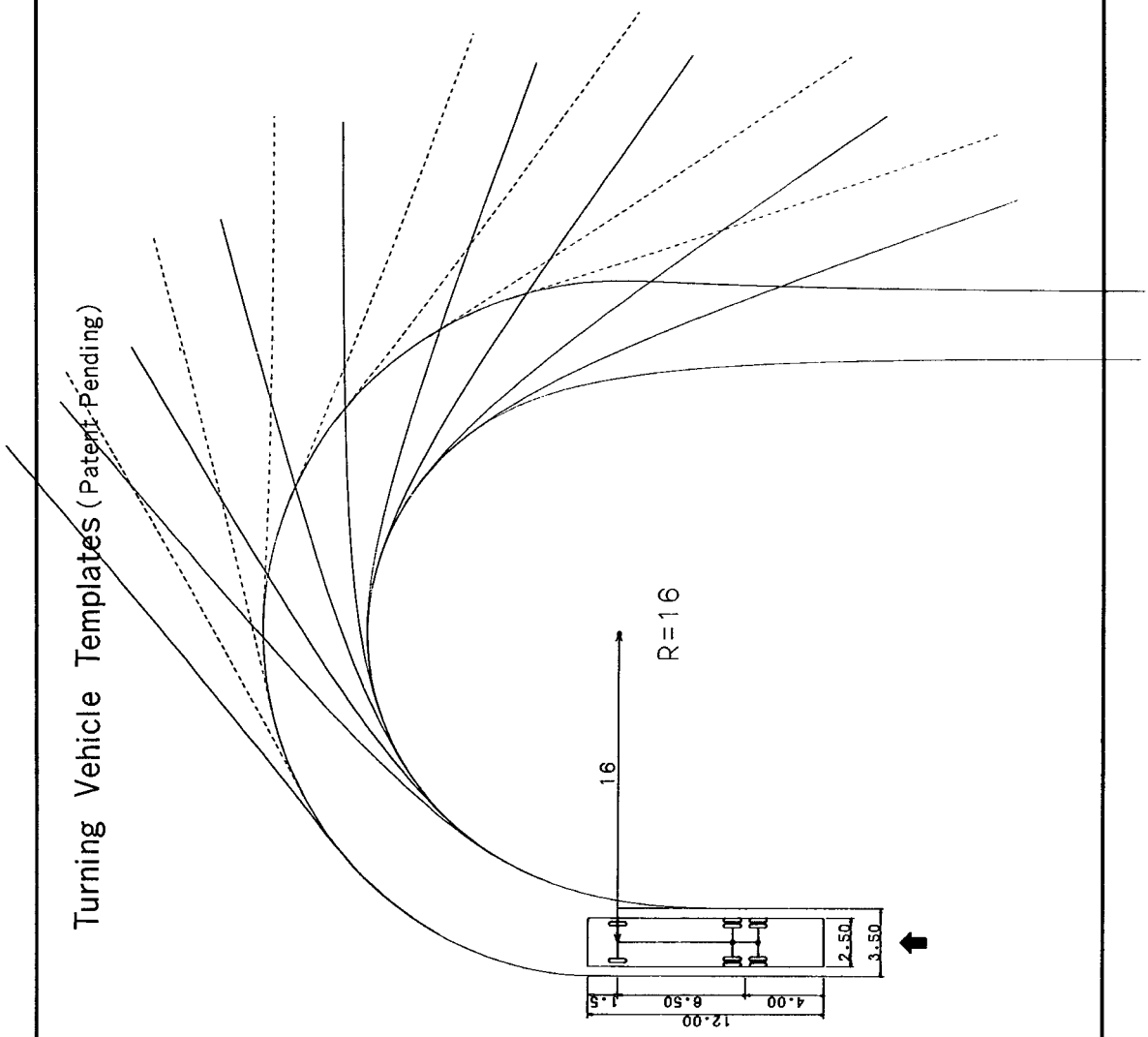
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MINISTRY OF CONSTRUCTION

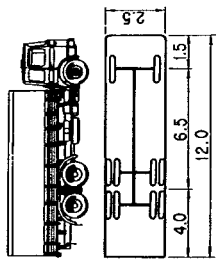
T－129

W = 3.50 m

R_T = 16 m

Turning Vehicle Templates (Patent Pending)





SCALE
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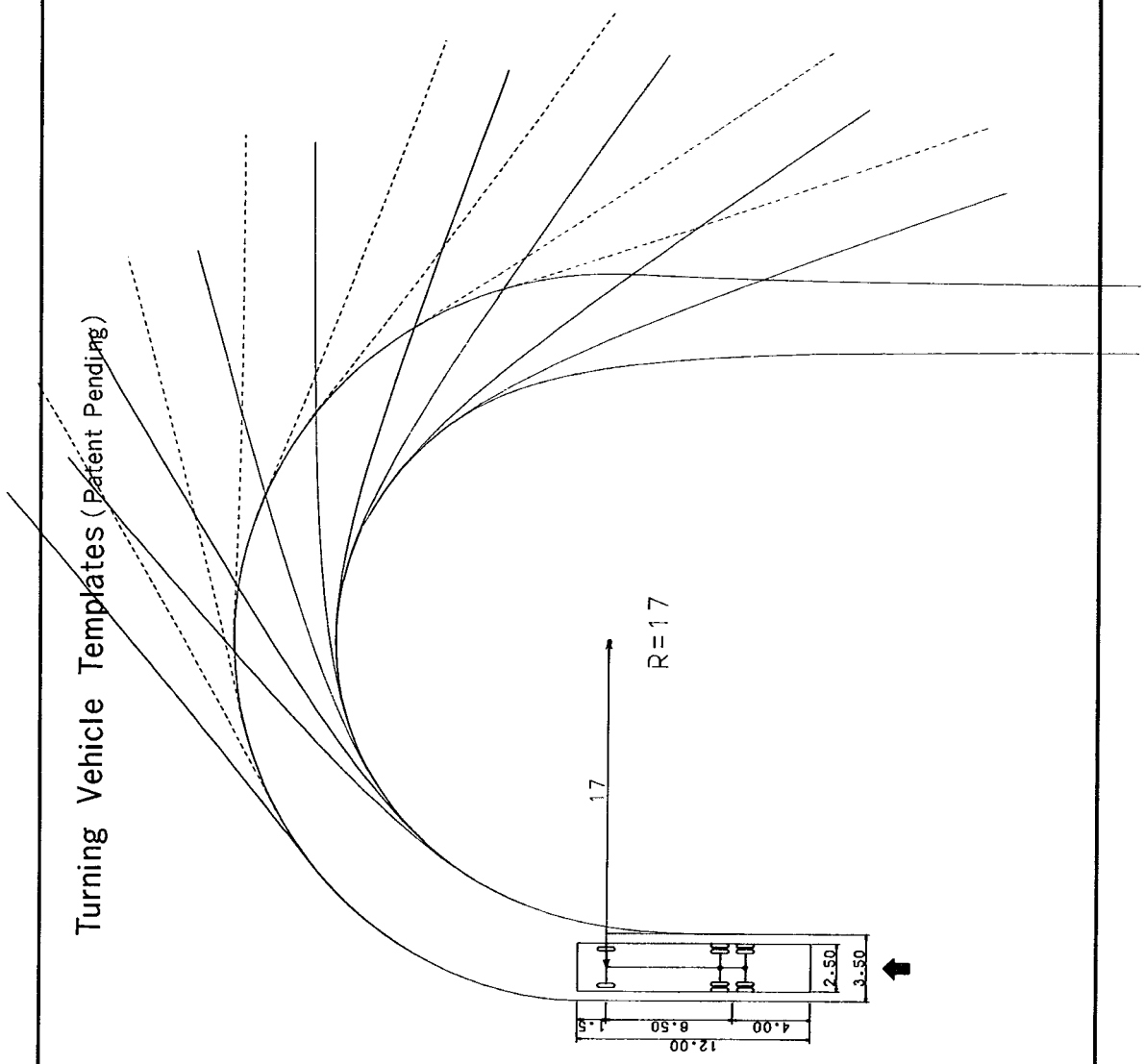
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MINISTRY OF CONSTRUCTION

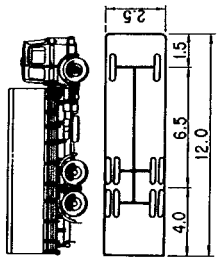
T－130

W = 3.50 m

R_T = 17 m

Turning Vehicle Templates (Patent Pending)





SCALE
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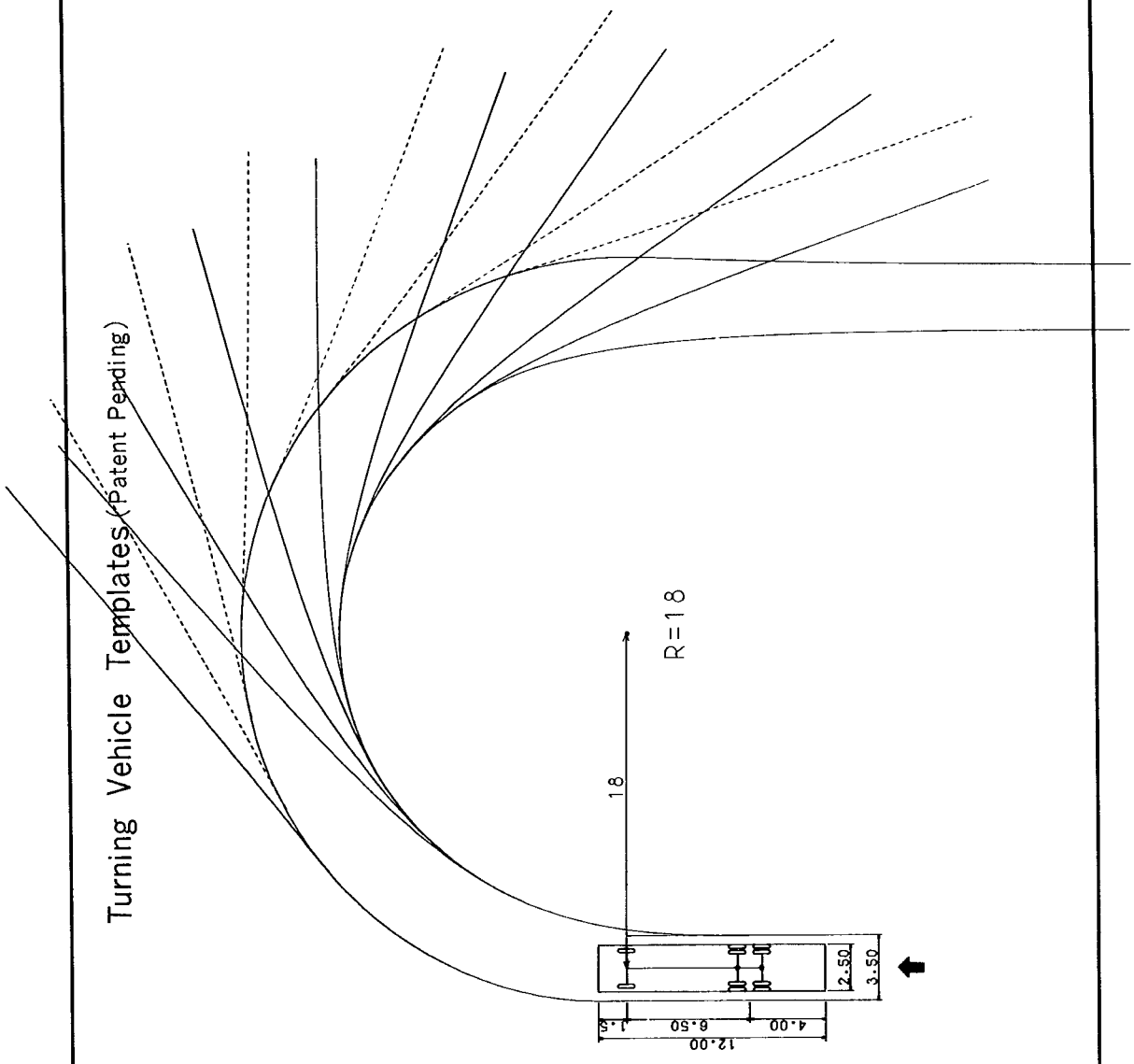
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MINISTRY OF CONSTRUCTION

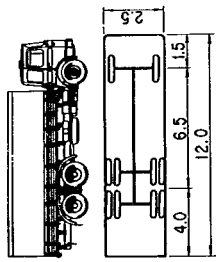
T－131

W = 3.50 m

R_T = 18 m

Turning Vehicle Templates (Patent Pending)





SCALE
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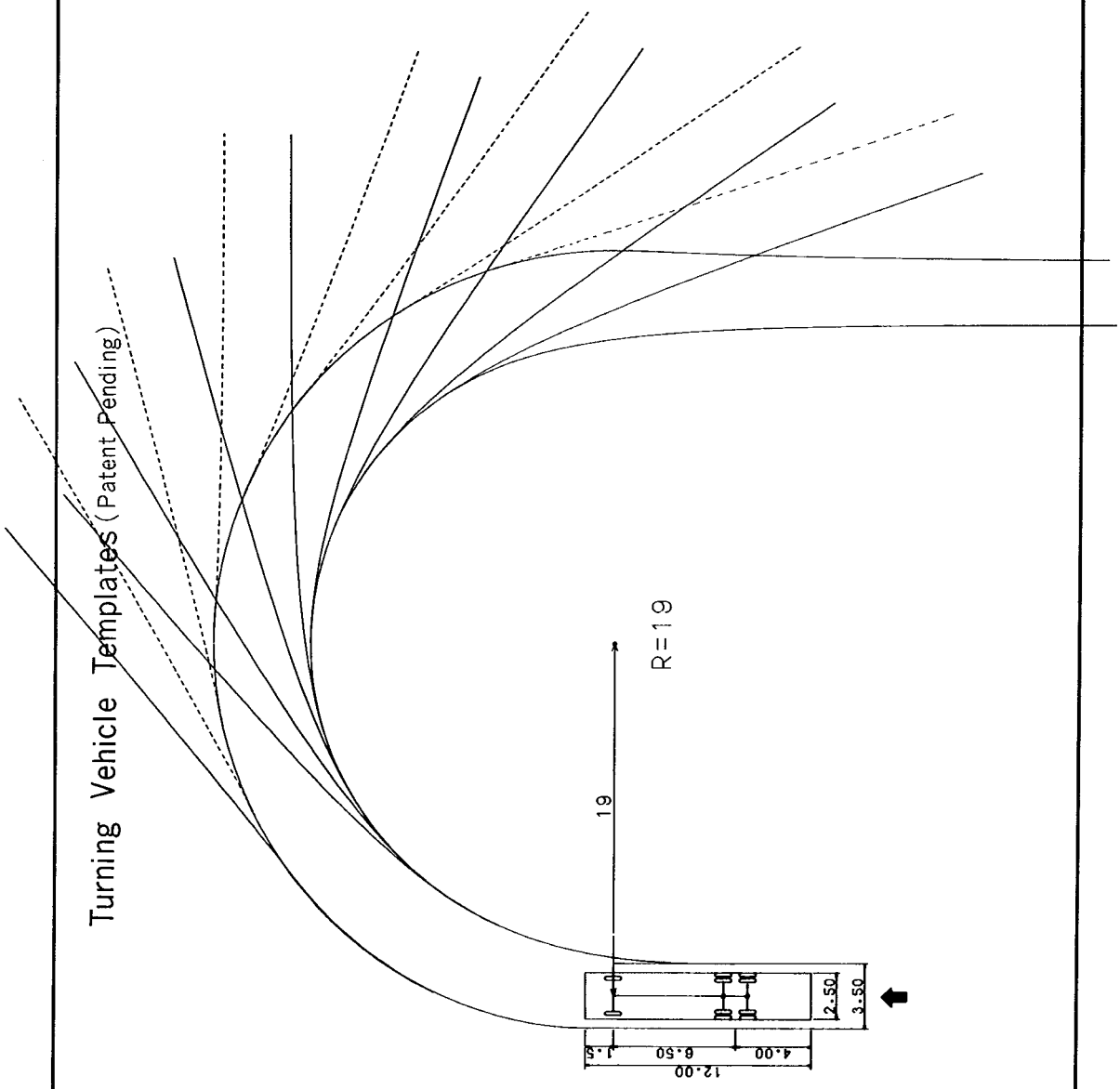
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

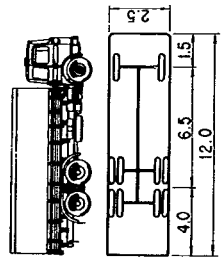
T－132

W = 3.50 m

R_T = 19 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

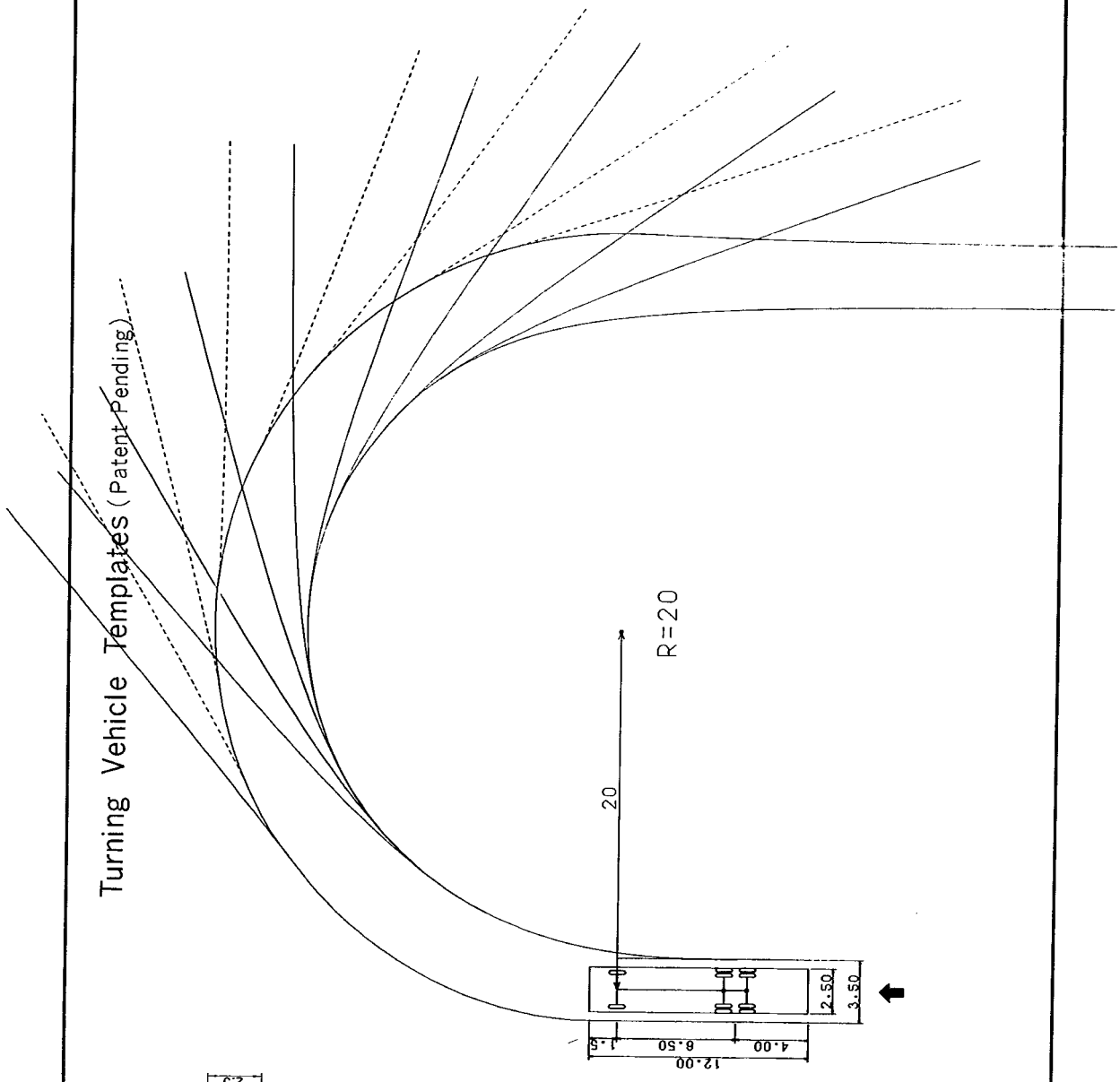
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MINISTRY OF CONSTRUCTION

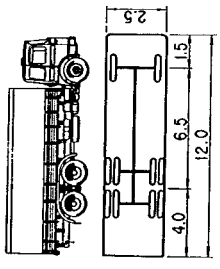
T－133

W = 3.50 m

R_T = 20 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

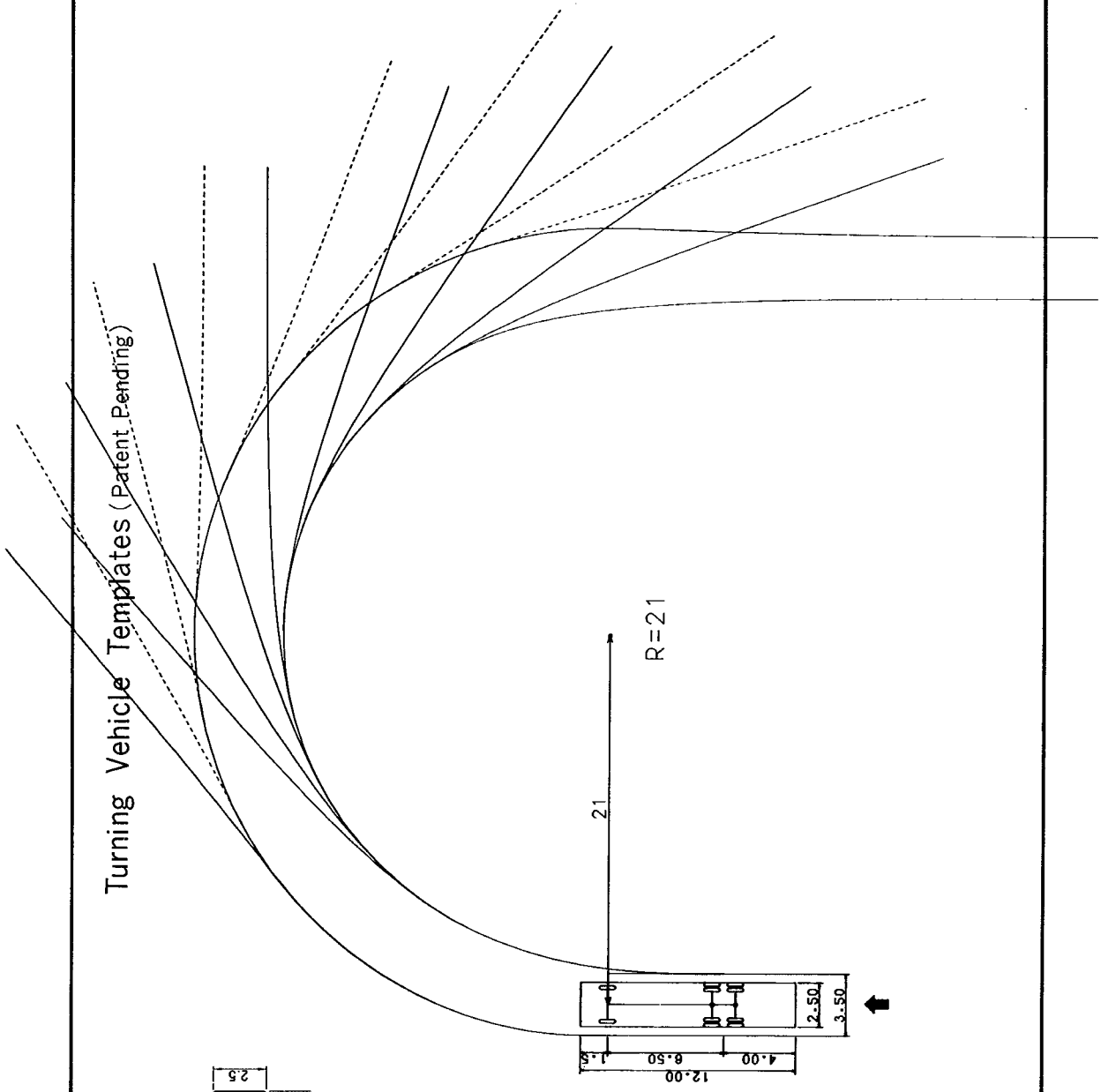
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

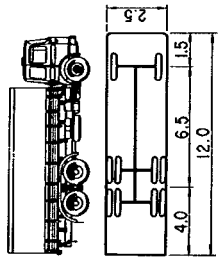
T - 134

W = 3.50 m

R_T = 21 m

Turning Vehicle Templates (Patent Pending)

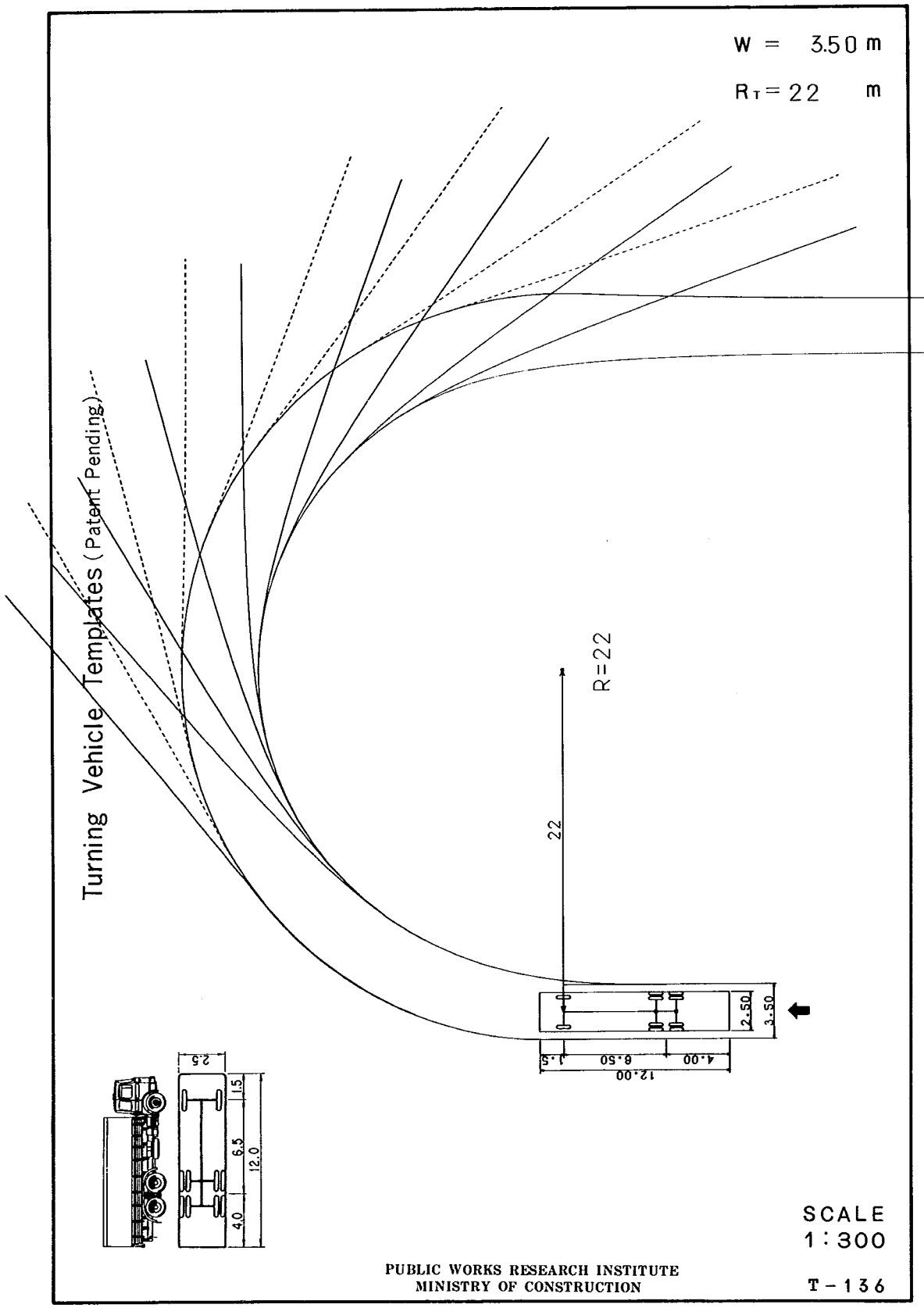




SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

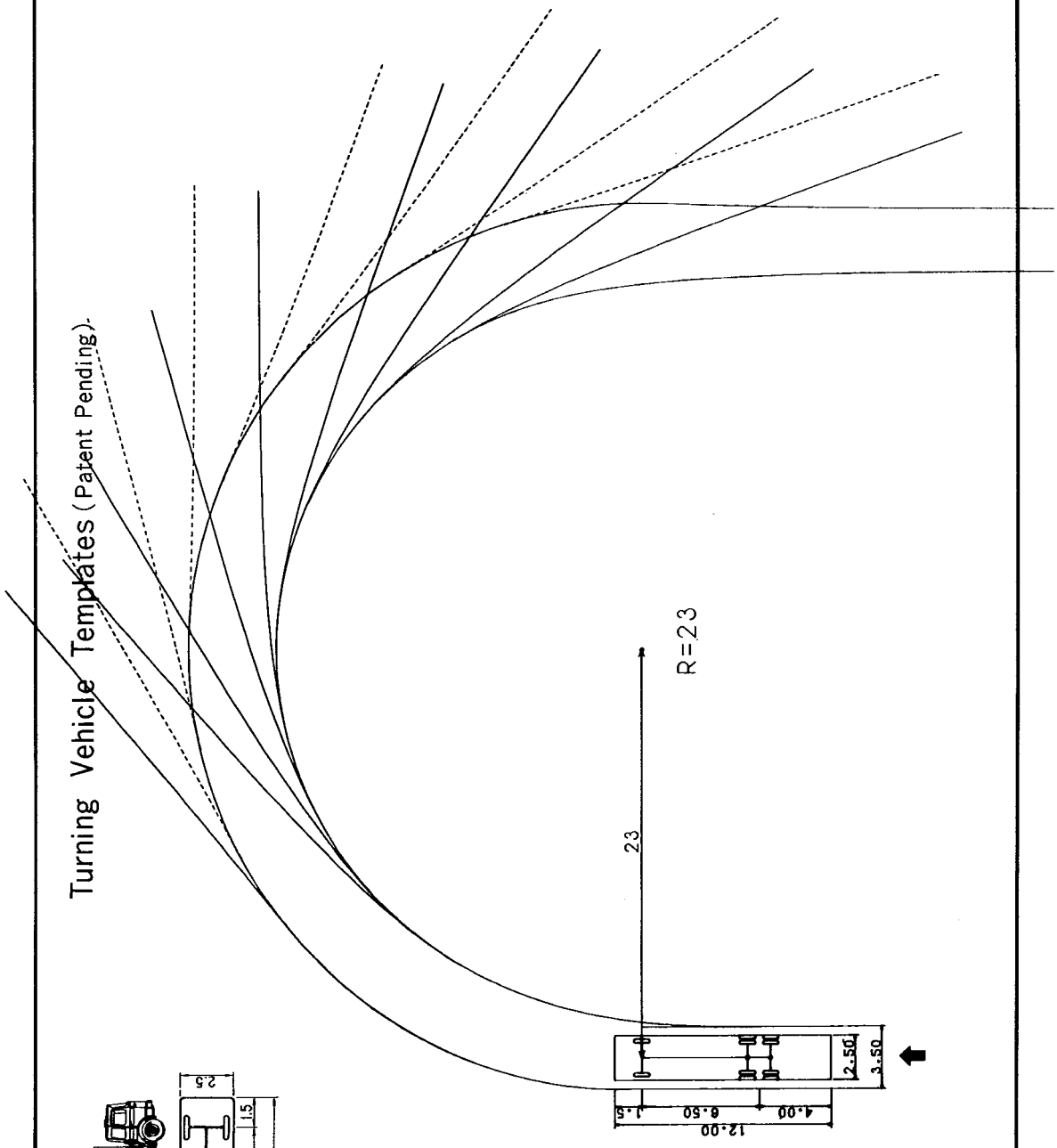
T-135

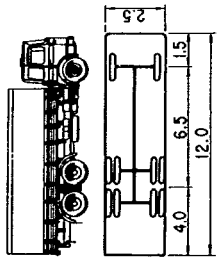

W = 3.50 m
R T = 22 m
Turning Vehicle Templates (Patent Pending)
R=22
22
2.50
3.50
1.5
6.50
4.00
12.00
2.5
1.5
6.5
12.0
4.0
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T - 136

W = 3.50 m

R_T = 23 m

Turning Vehicle Templates (Patent Pending).





SCALE
1 : 300

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MINISTRY OF CONSTRUCTION

T - 137

W = 3.50 m

R_T = 24 m

Turning Vehicle Templates (Patent Pending)

SCALE
1 : 300

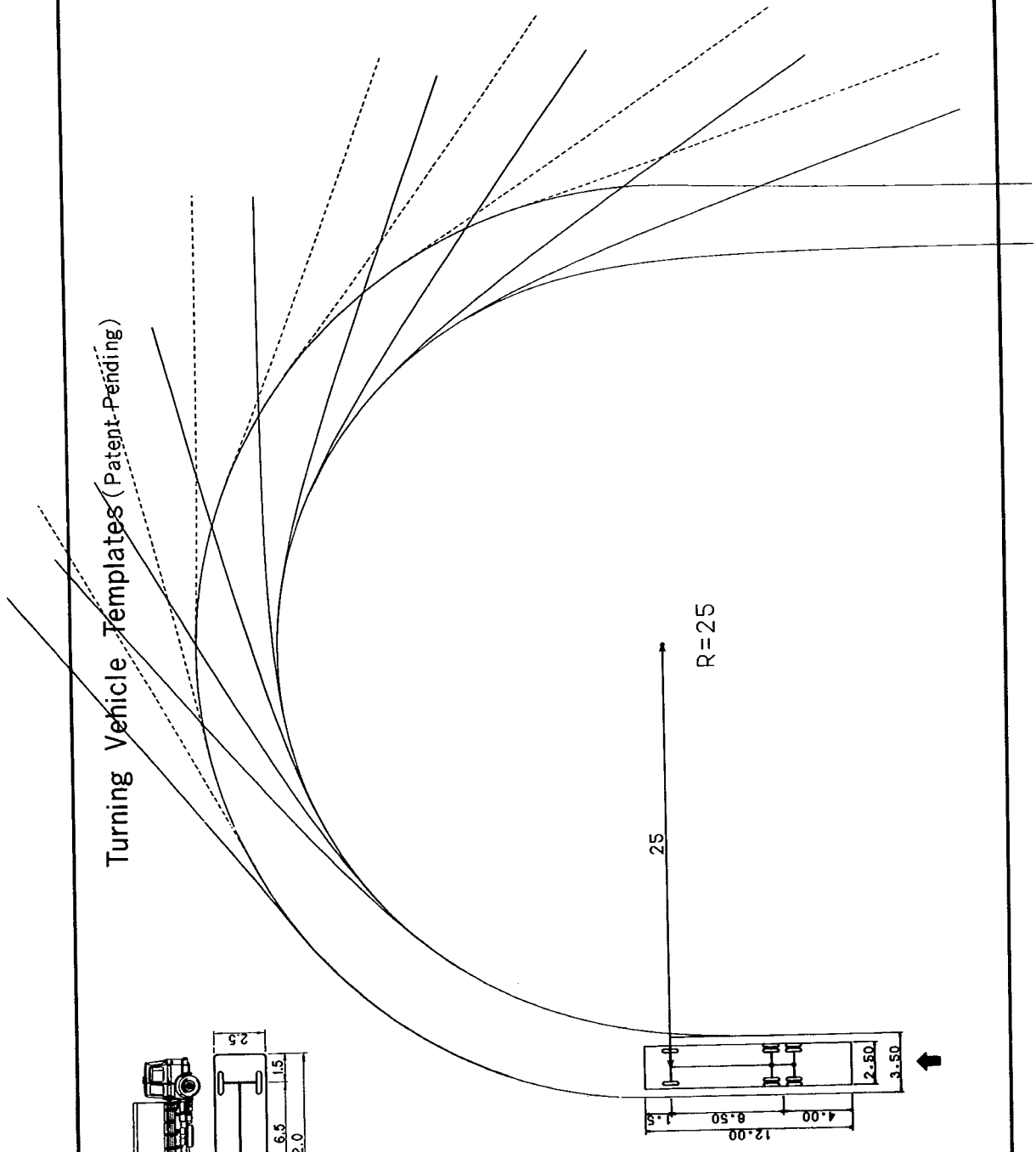
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MINISTRY OF CONSTRUCTION

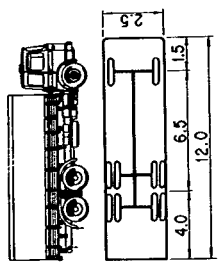
T-138

W = 3.50 m

R_T = 25 m

Turning Vehicle Templates (Patent-Pending)

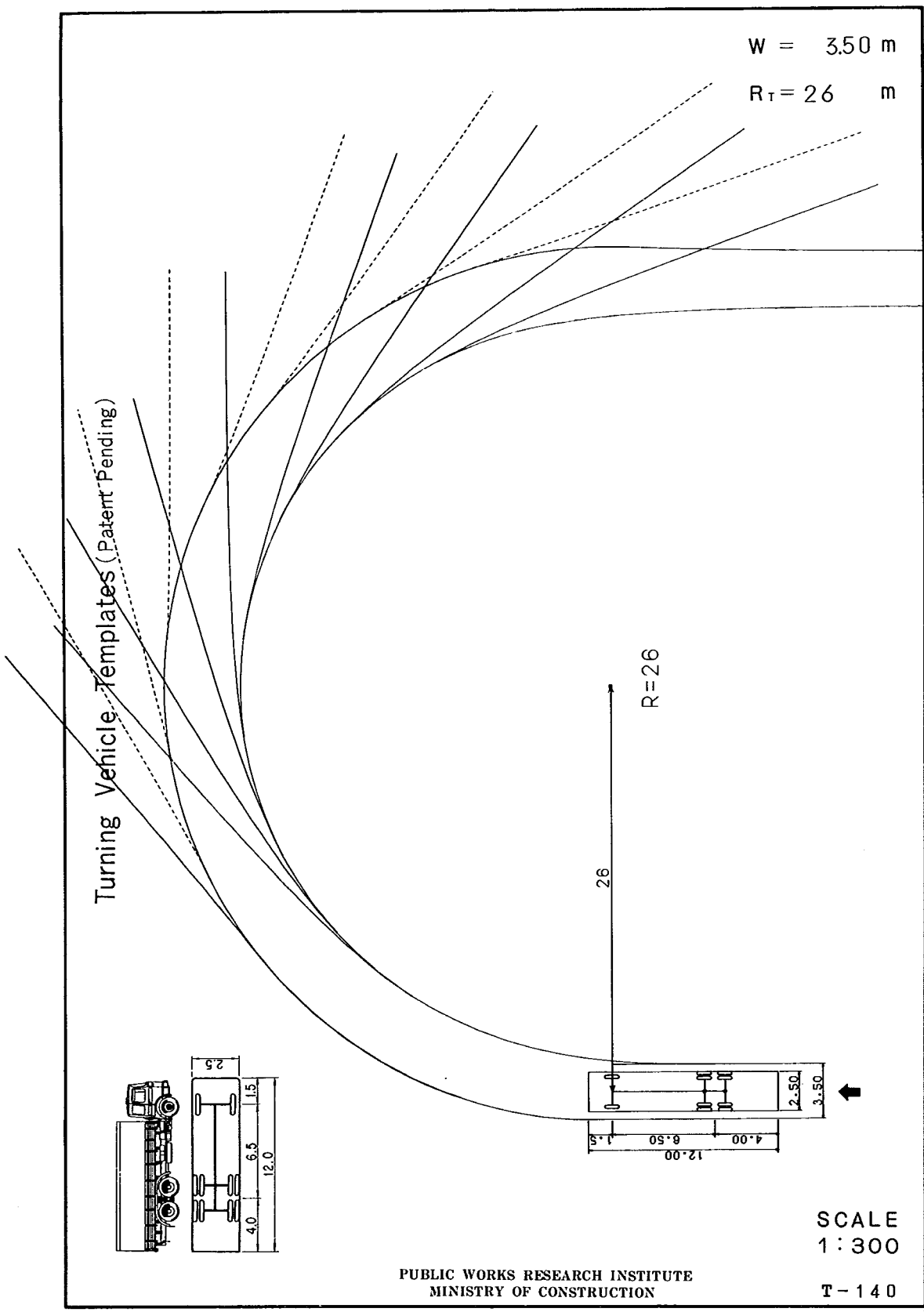


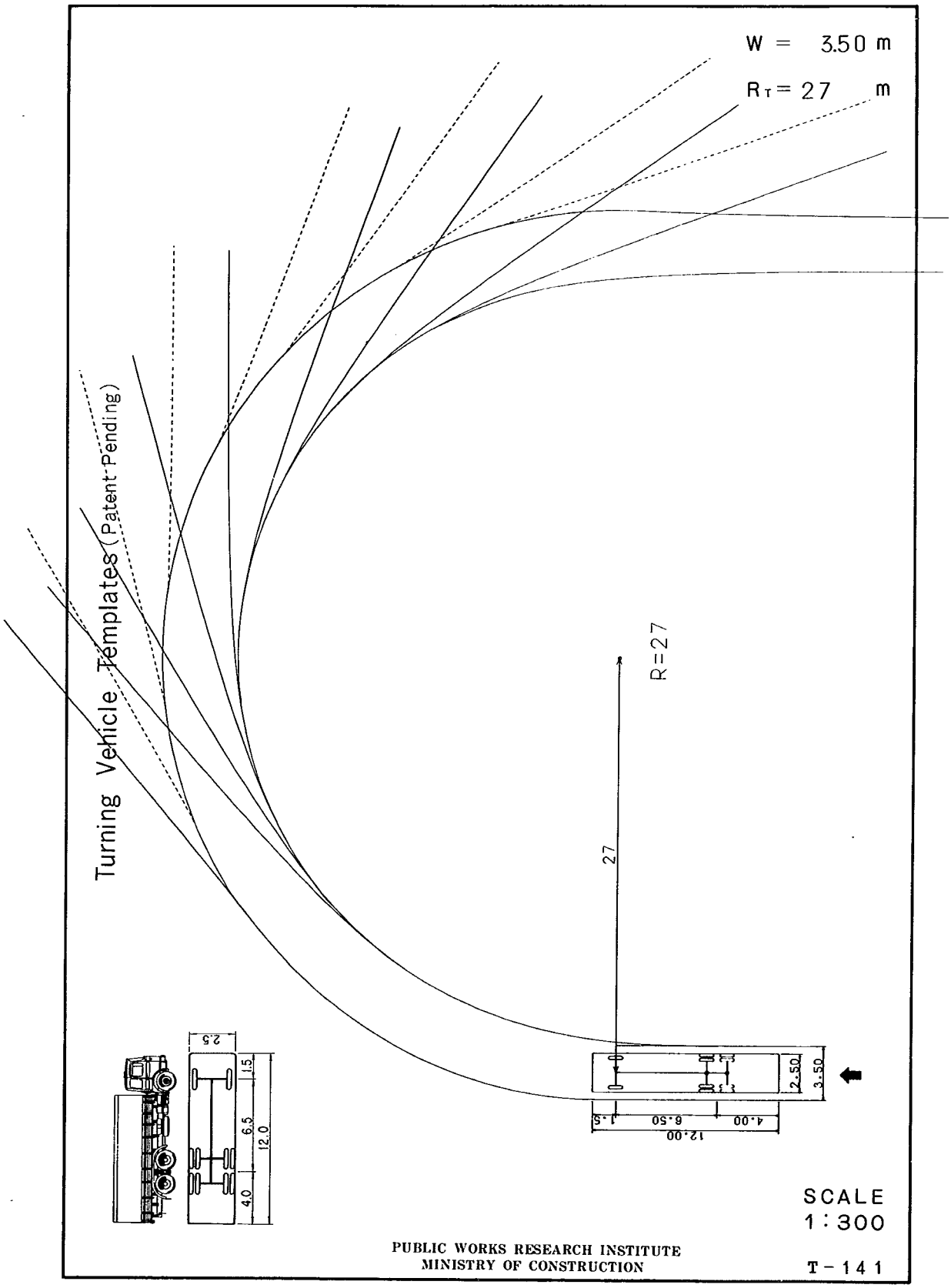


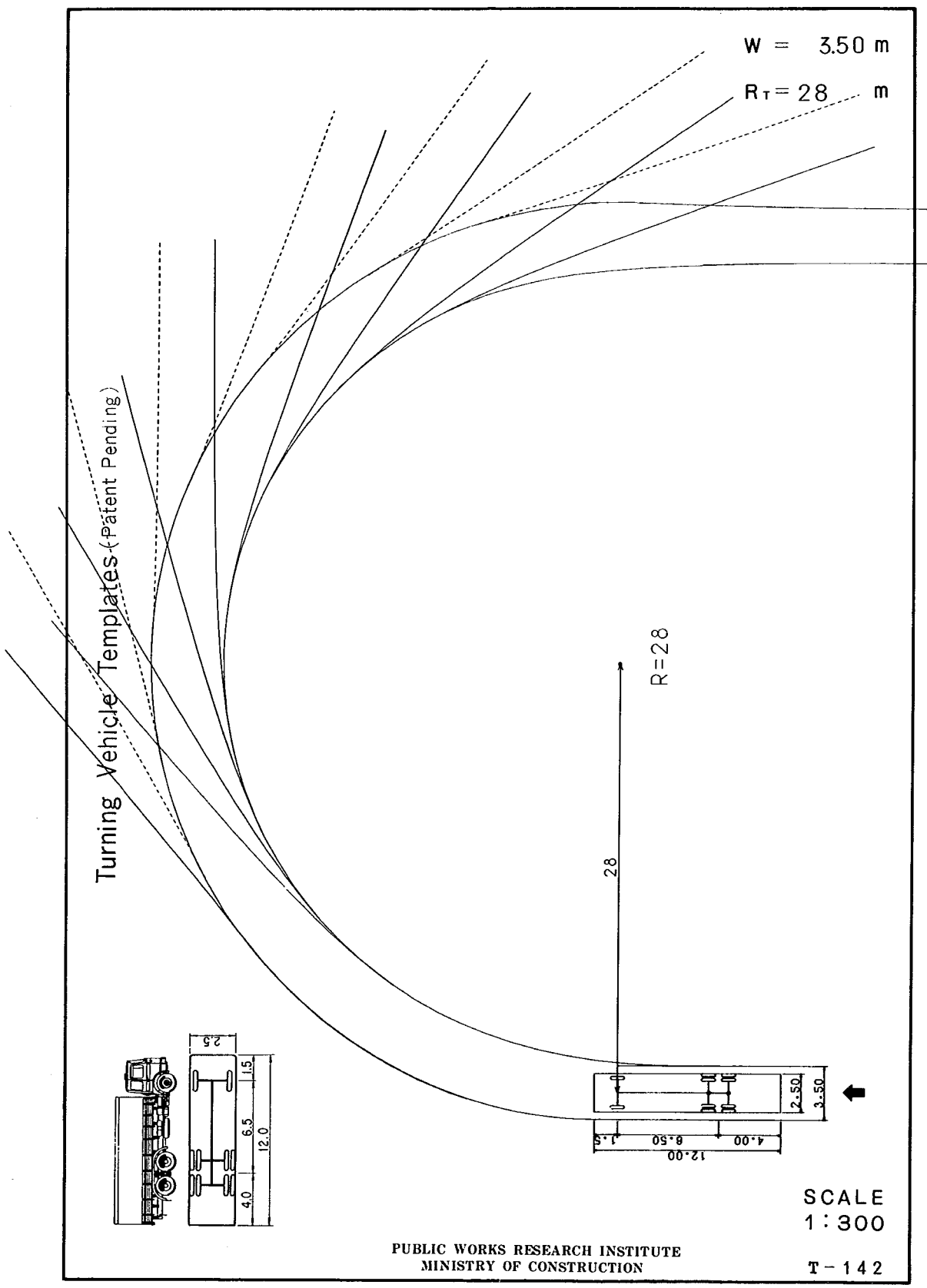
SCALE
1 : 300

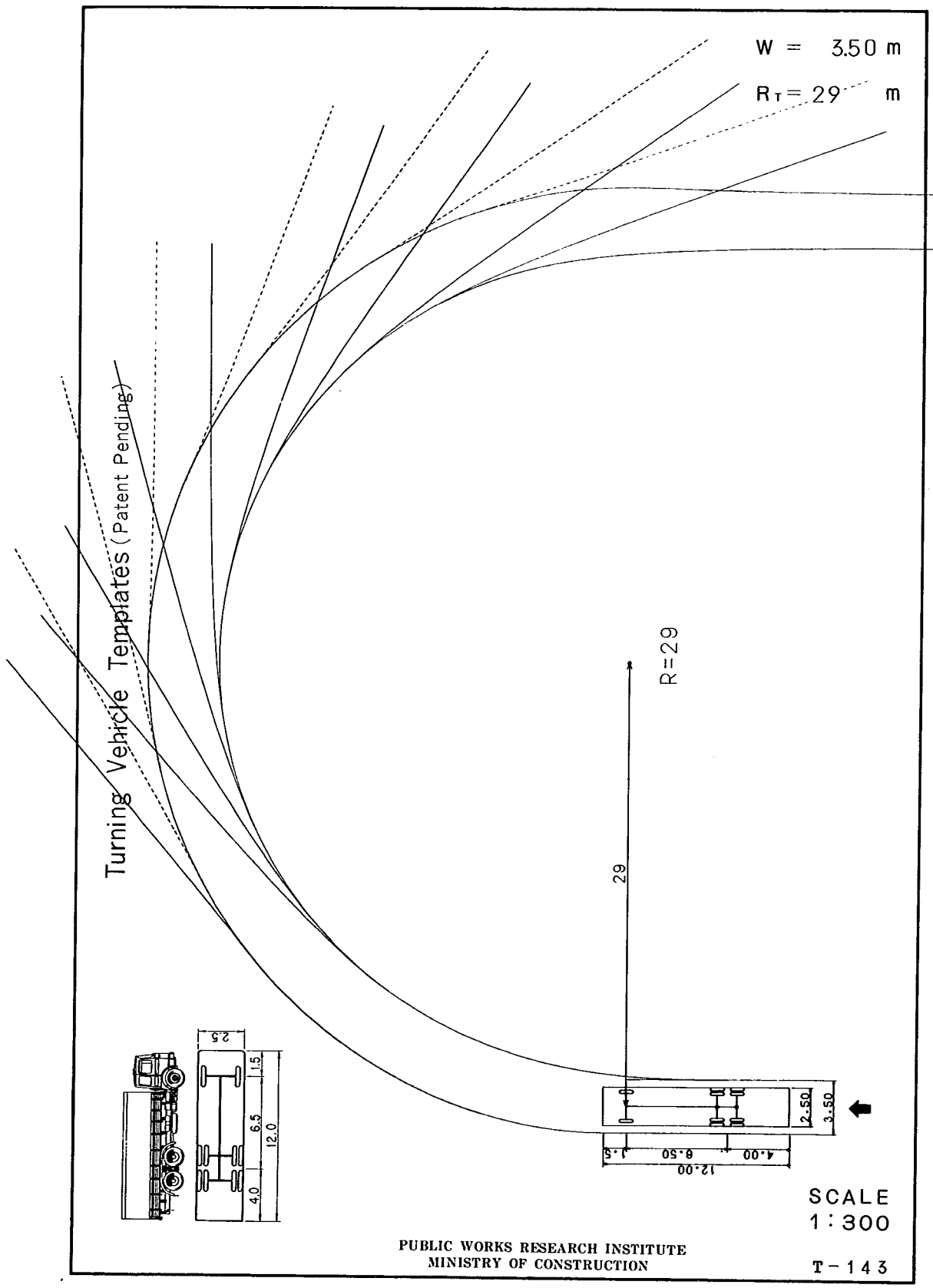
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MINISTRY OF CONSTRUCTION

T－139


W = 3.50 m
R T = 26 m
Turning Vehicle Templates (Patent Pending)
R=26
26
2.5
1.5
6.5
12.0
4.0
2.50
3.50
1.5
6.50
4.00
12.00
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T-140


W = 3.50 m
R_T = 27 m
Turning Vehicle Templates (Patent-Pending)
R=27
27
2.5
1.5
6.5
12.0
4.0
2.50
3.50
1.5
6.50
4.00
12.00
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T－141


W = 3.50 m
R_T = 28 m
Turning Vehicle Templates (Patent Pending)
R=28
28
2.5
1.5
6.5
12.0
4.0
2.50
3.50
1.5
8.50
4.00
12.00
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T－142


W = 3.50 m
R_T = 29 m
Turning Vehicle Templates (Patent Pending)
R=29
29
2.5
1.5
6.5
12.0
4.0
2.50
3.50
1.5
8.50
4.00
12.00
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T－143

W = 3.50 m
R = 30 m
Turning Vehicle Templates (Patent Pending)
R=30
30
2.5
1.5
6.5
12.0
4.0
2.50
3.50
1.5
0.50
4.00
12.00
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
T-144

セミトレーラ連結車

縮尺（SCALE）　1：500

車線幅員（W）　2.75m

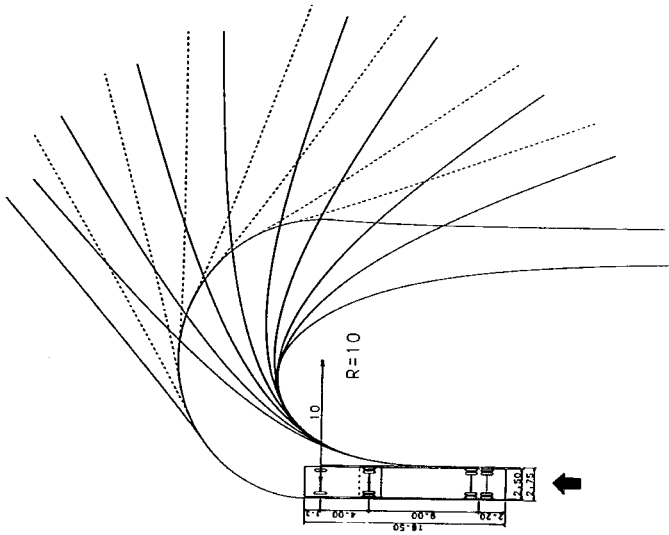
Turning Vehicle Templates (Patent Pending)

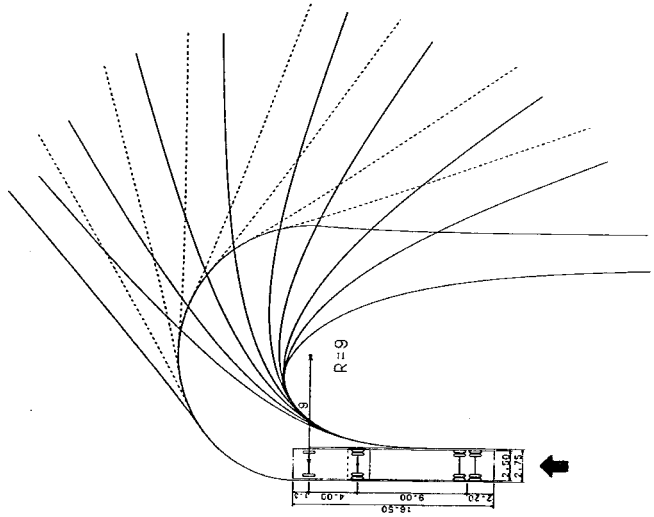
W = 2.75 m

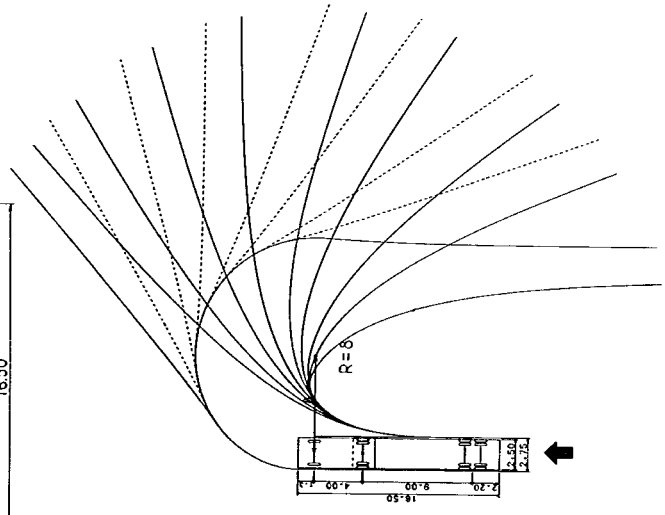
Rs = 10 m

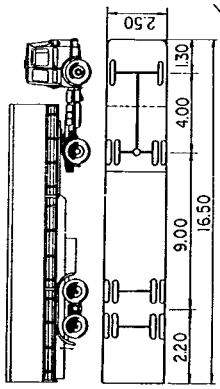
Rs = 9 m

Rs = 8 m









SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

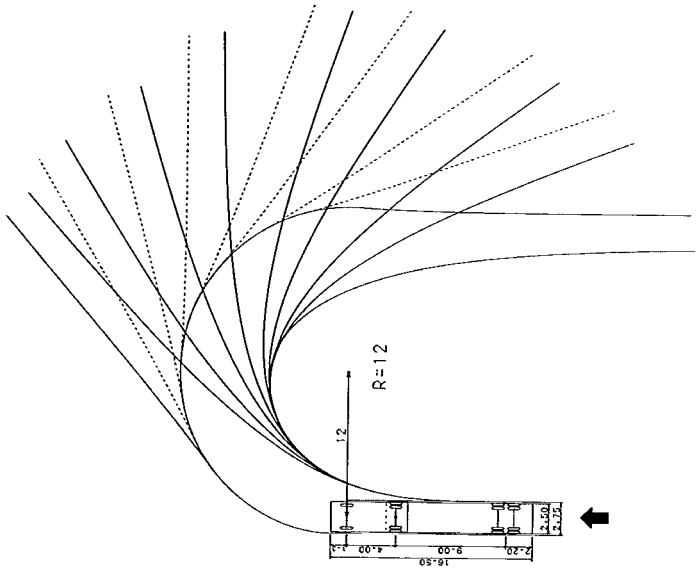
S- 1

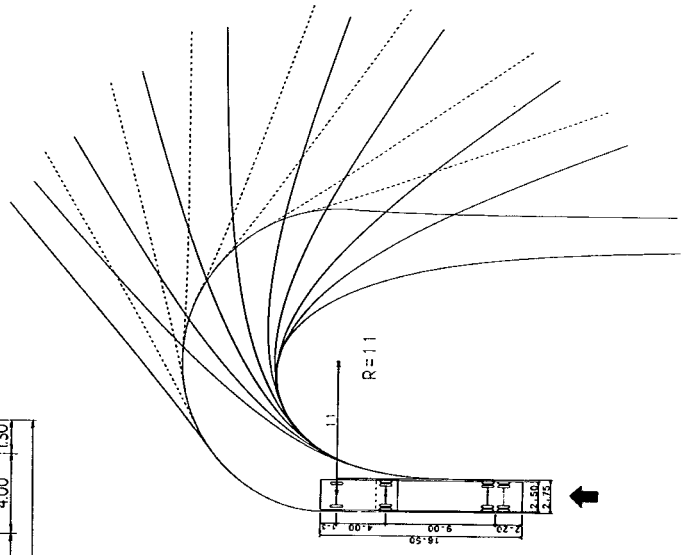
Turning Vehicle Templates (Patent Pending)

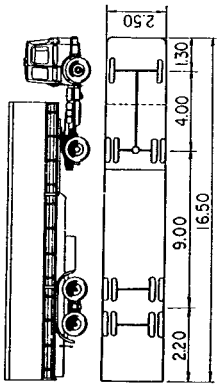
W = 2.75 m

Rs = 12 m

Rs = 11 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

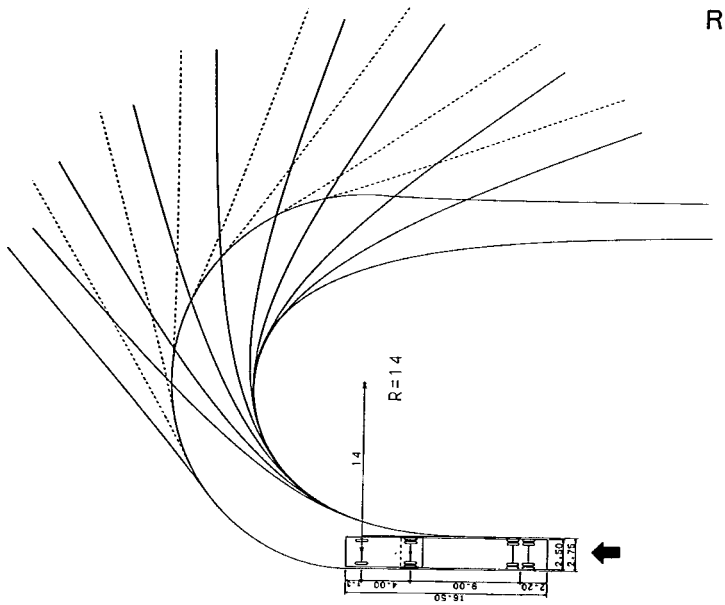
S - 2

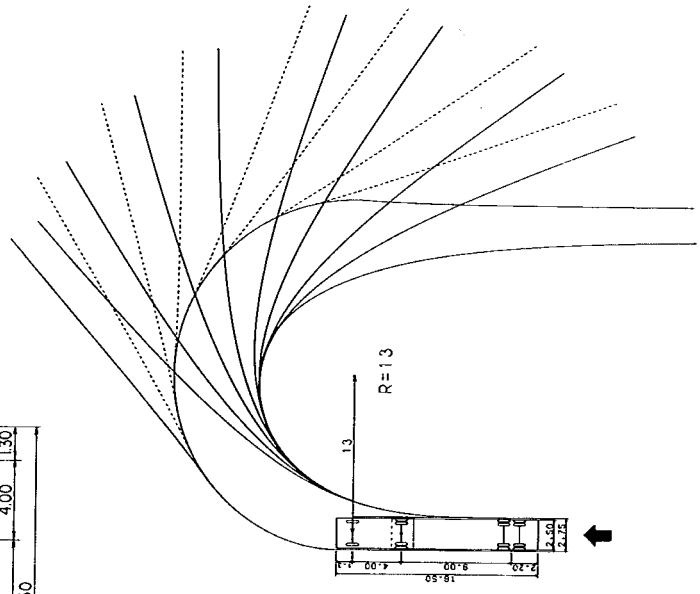
Turning Vehicle Templates (Patent Pending)

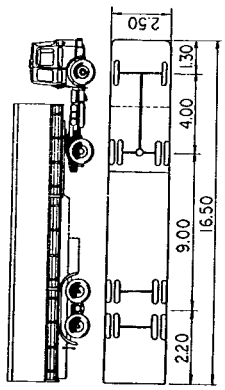
W = 2.75 m

Rs = 14 m

Rs = 13 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

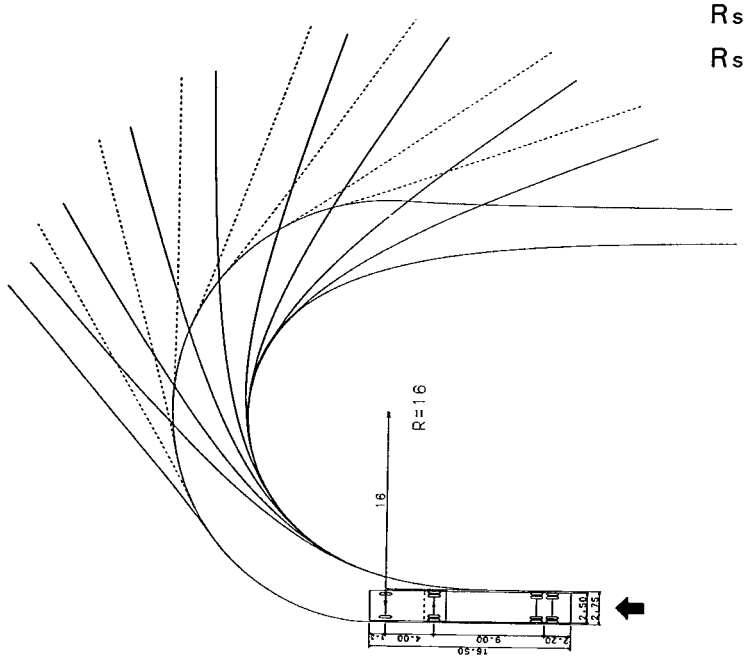
S－ 3

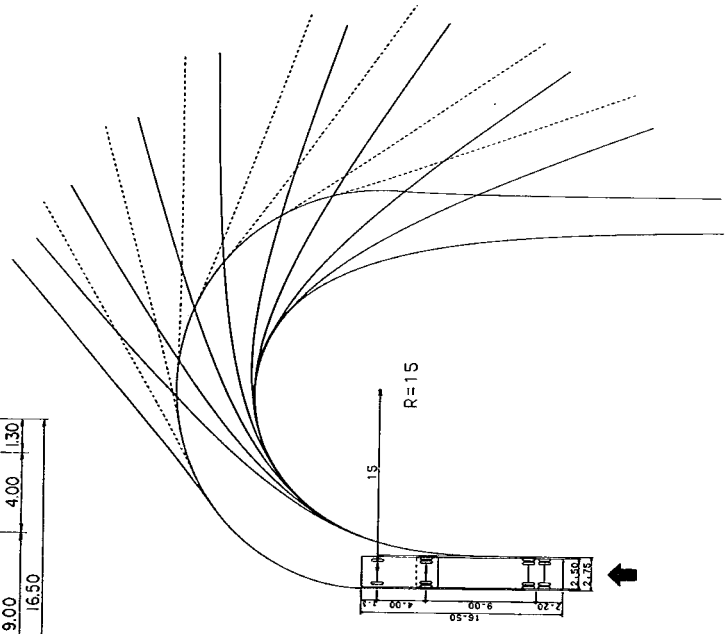
Turning Vehicle Templates (Patent Pending)

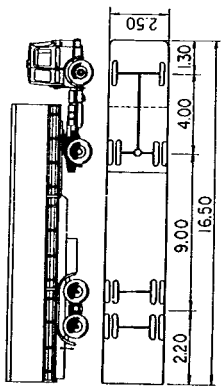
W = 2.75 m

Rs = 16 m

Rs = 15 m







SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

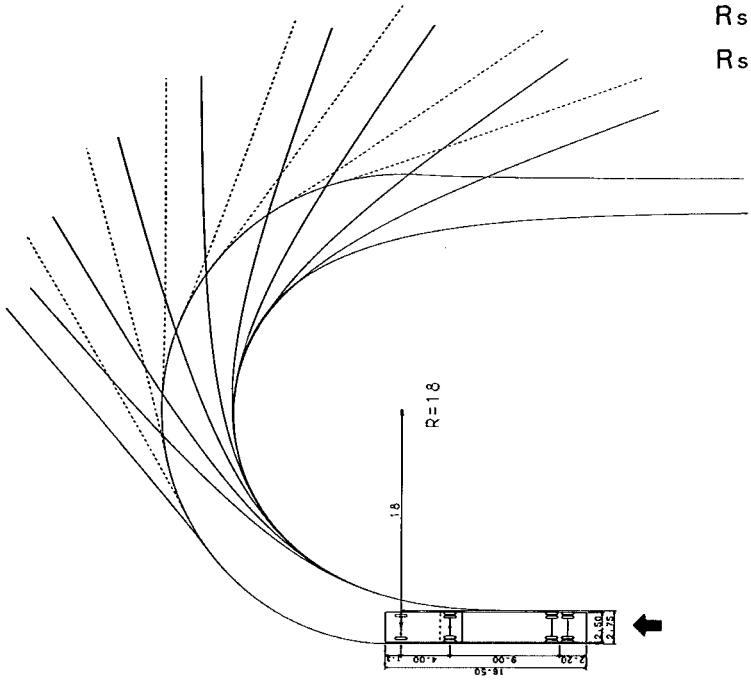
S- 4

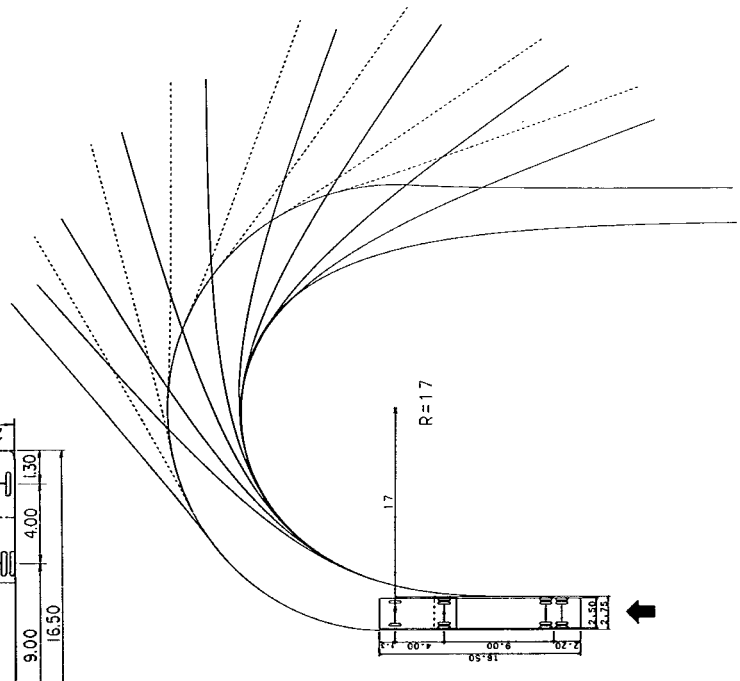
Turning Vehicle Templates (Patent Pending)

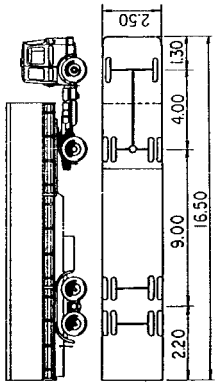
W = 2.75 m

Rs = 18 m

Rs = 17 m







SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

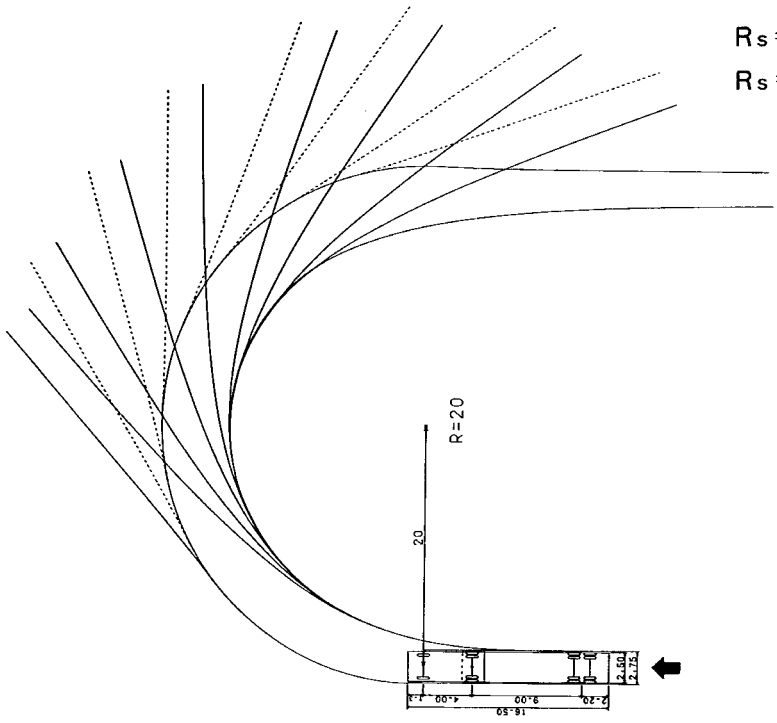
S - 5

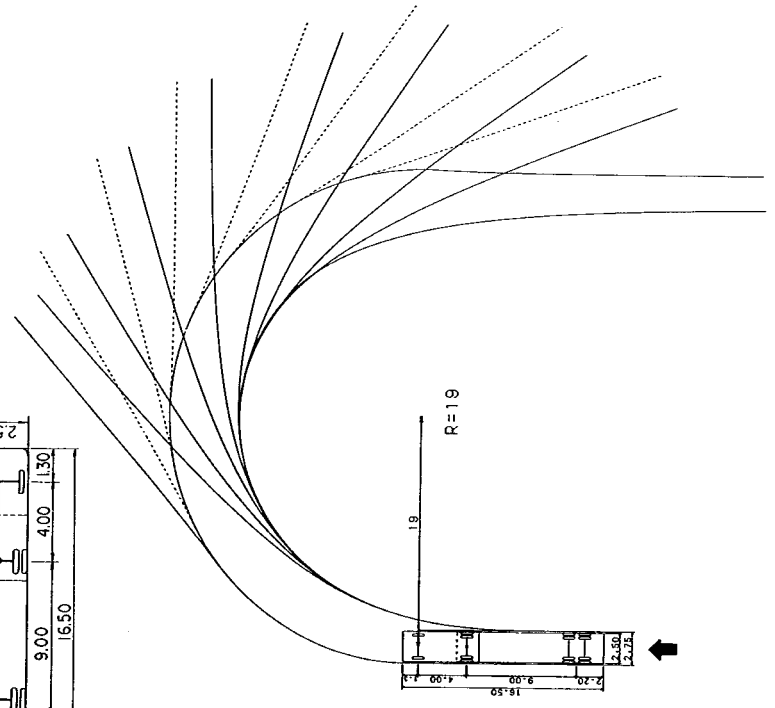
Turning Vehicle Templates (Patent Pending)

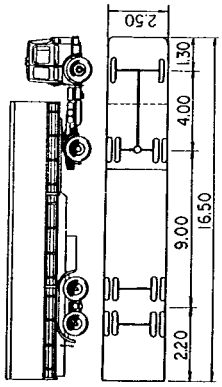
W = 2.75 m

Rs = 20 m

Rs = 19 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

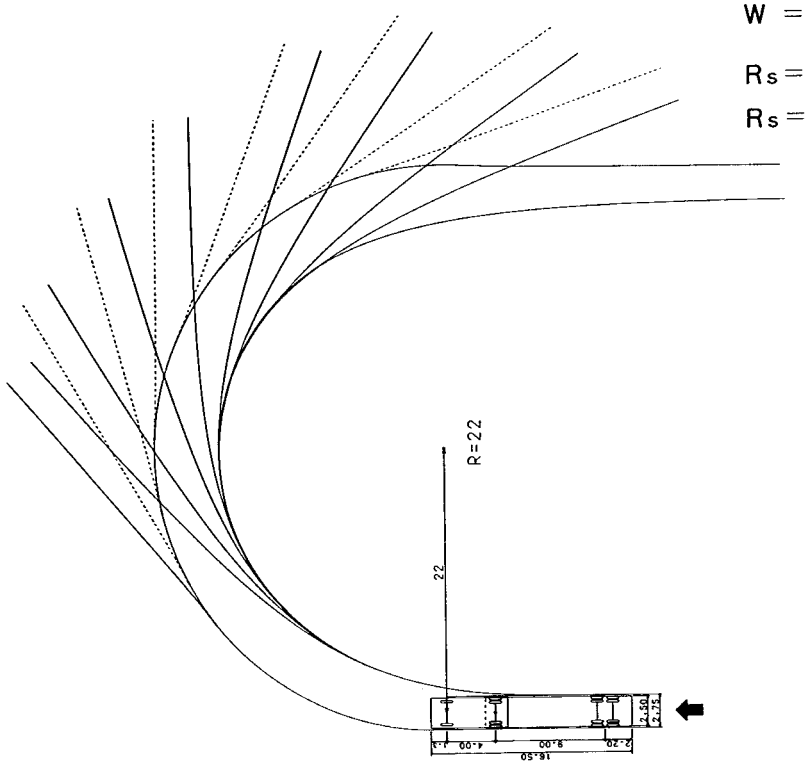
S - 6

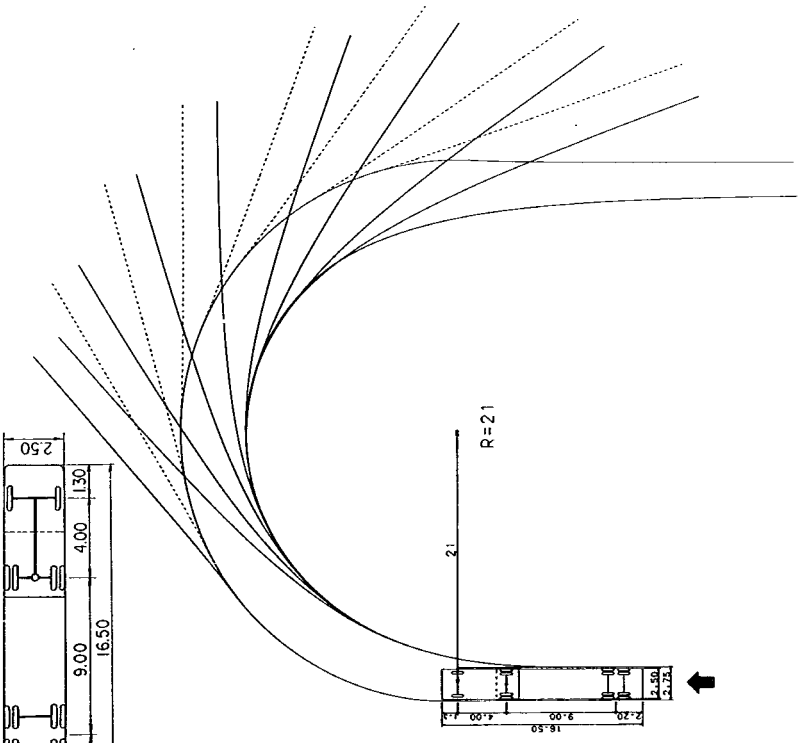
Turning Vehicle Templates (Patent Pending)

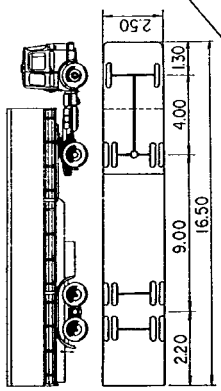
W = 2.75 m

Rs = 22 m

Rs = 21 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

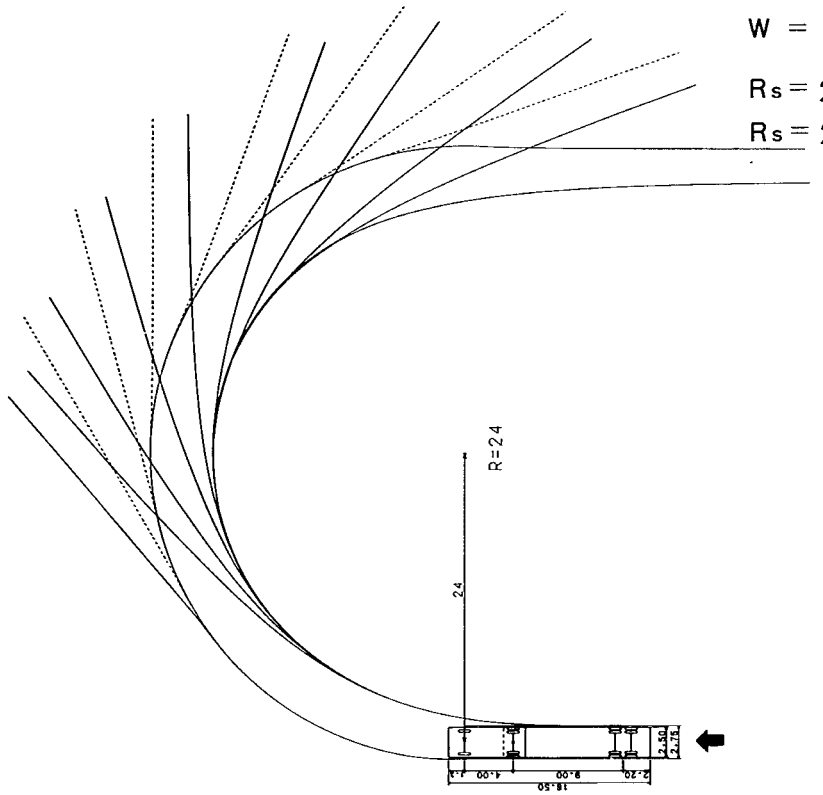
S - 7

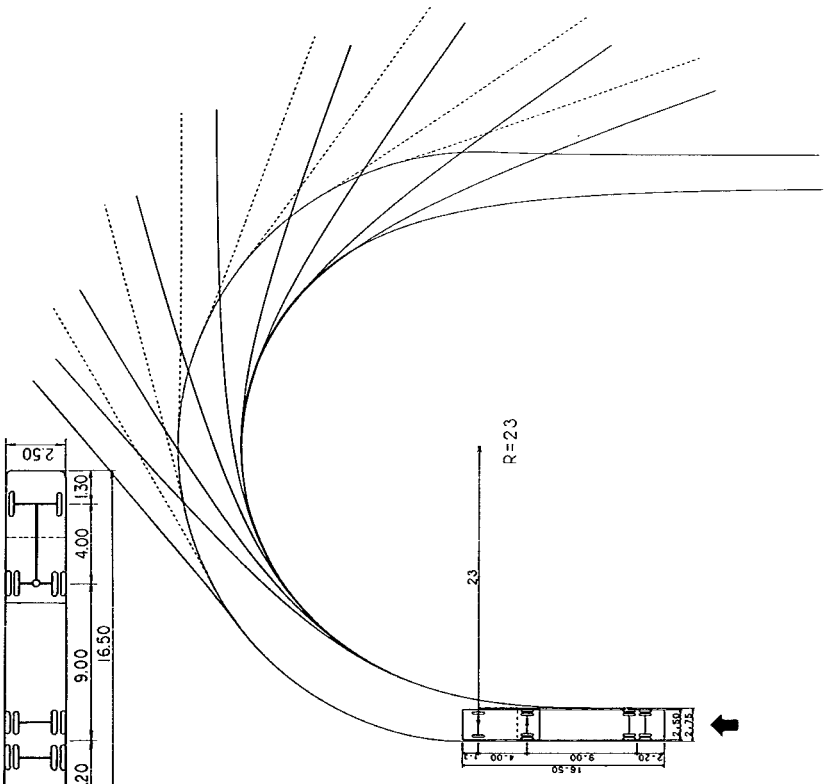
Turning Vehicle Templates (Patent Pending)

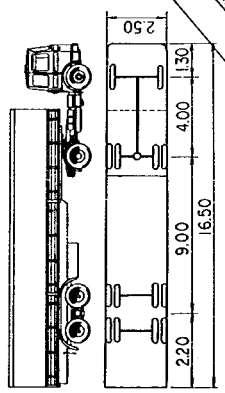
W = 2.75 m

Rs = 24 m

Rs = 23 m







SCALE
1 : 500

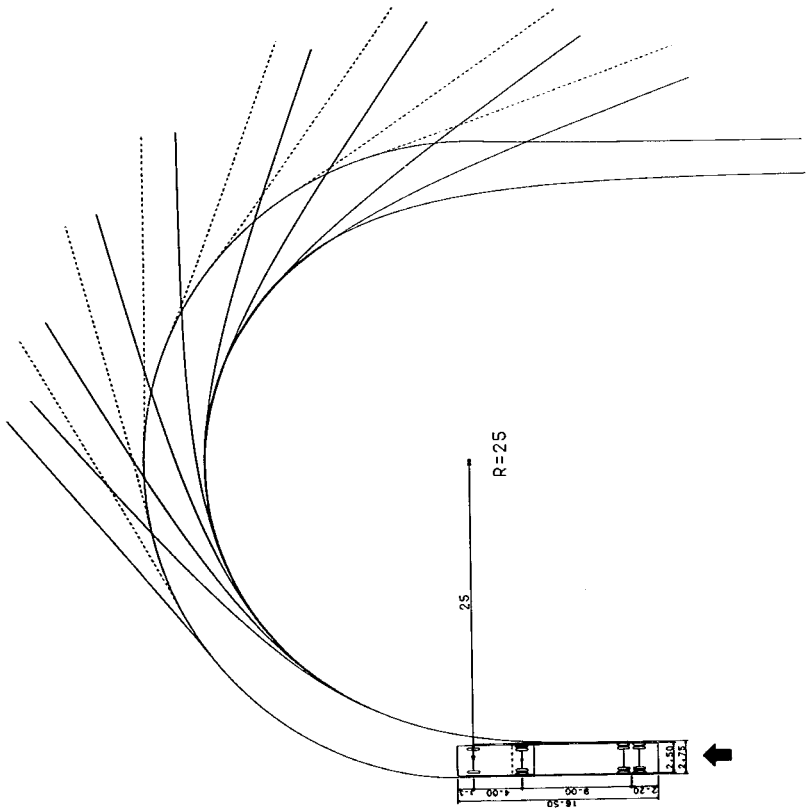
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

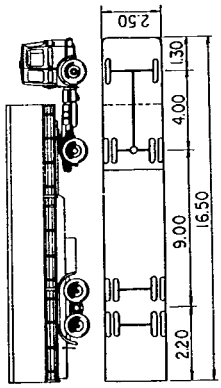
S - 8

W = 2.75 m

Rs = 25 m

Turning Vehicle Templates (Patent Pending)





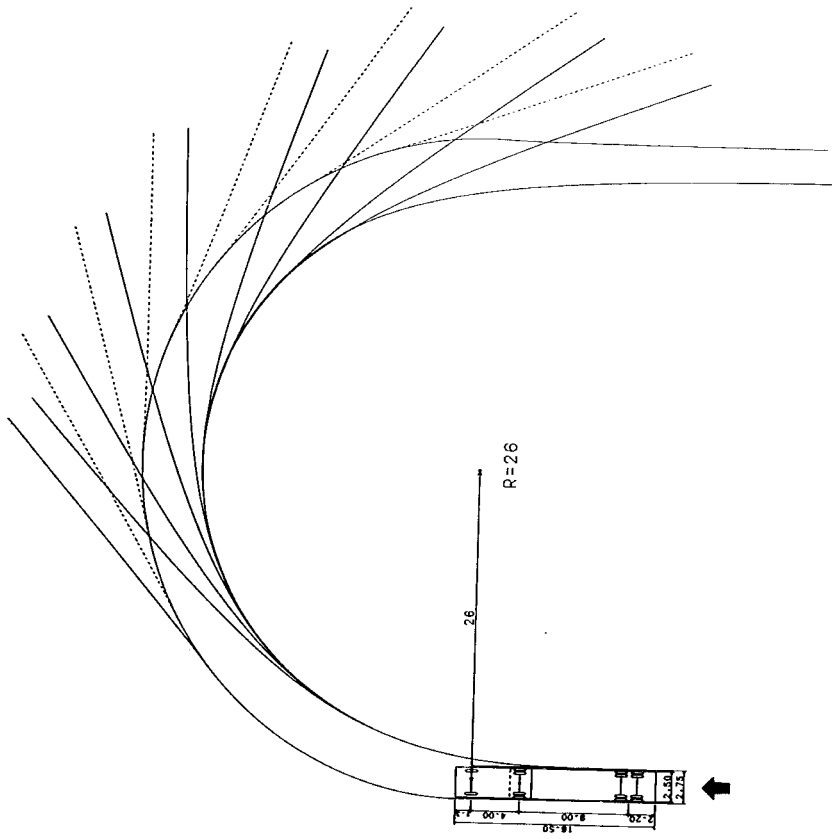
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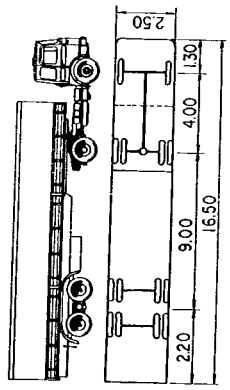
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 2.75 m

Rs = 26 m

Turning Vehicle Templates (Patent Pending)





SCALE
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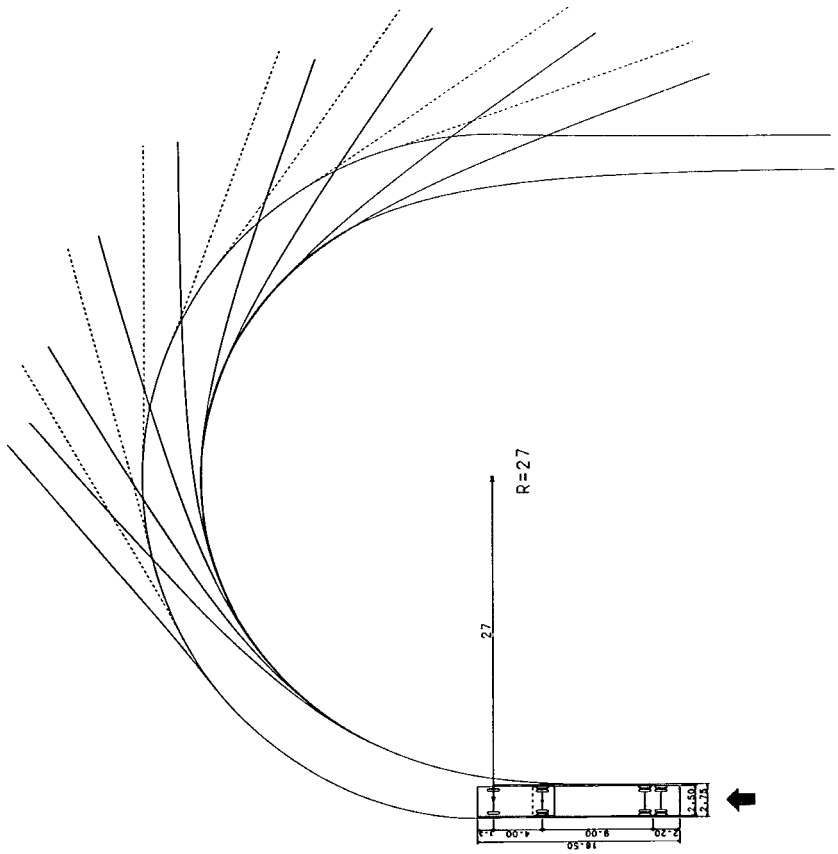
S - 10

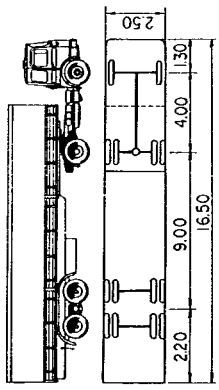
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 2.75 m

Rs = 27 m

Turning Vehicle Templates (Patent Pending)





SCALE
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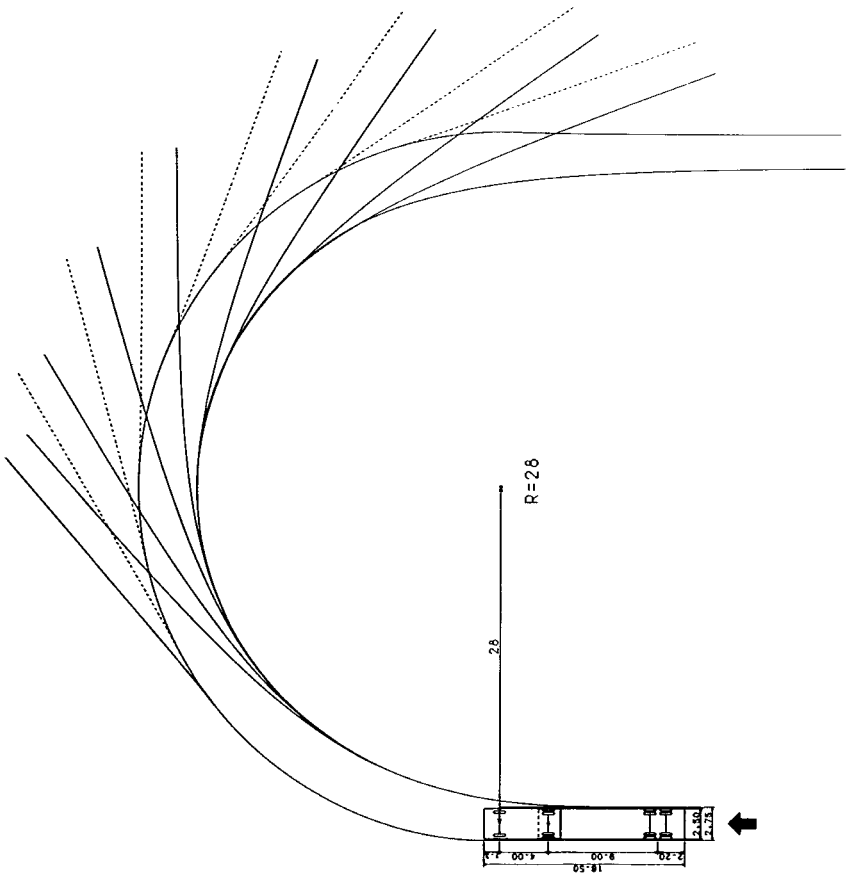
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MINISTRY OF CONSTRUCTION

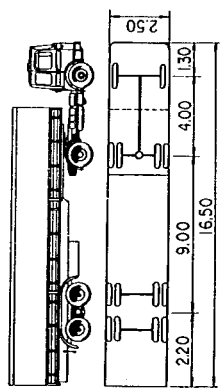
S - 11

W = 2.75 m

Rs = 28 m

Turning Vehicle Templates (Patent Pending)





SCALE
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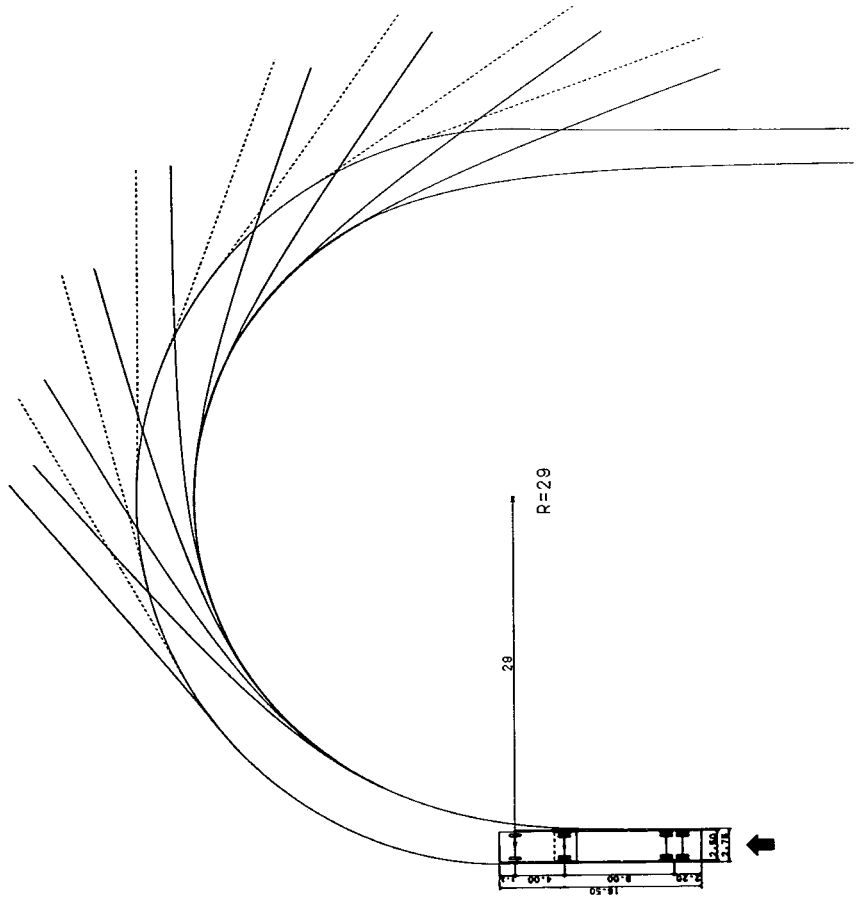
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MINISTRY OF CONSTRUCTION

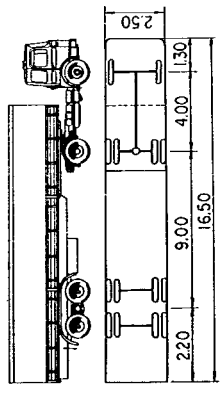
S – 12

W = 2.75 m

Rs = 29 m

Turning Vehicle Templates (Patent Pending)





SCALE
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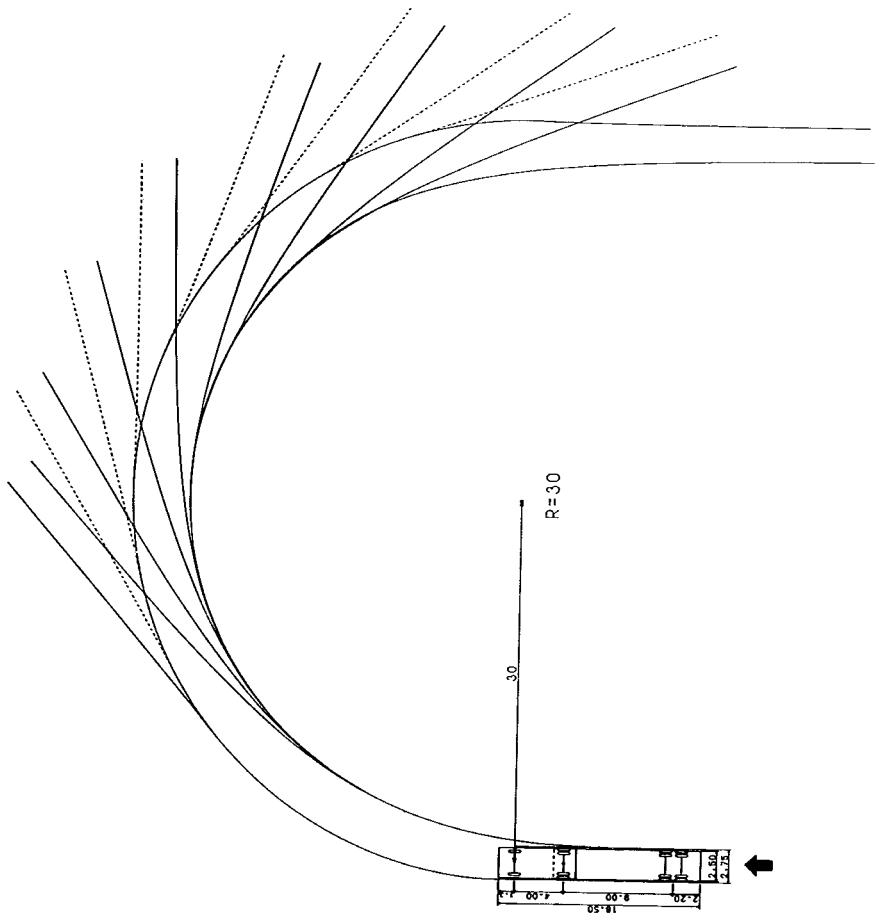
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MINISTRY OF CONSTRUCTION

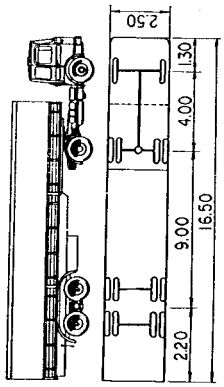
S - 13

W = 2.75 m

Rs = 30 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S - 14

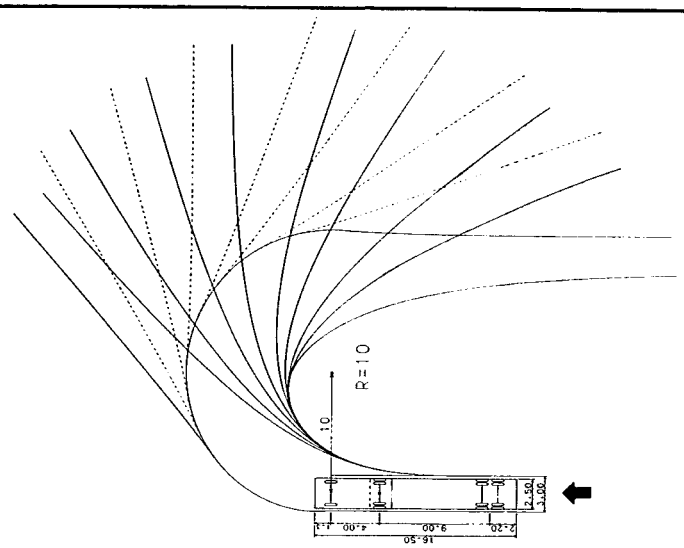
縮尺（SCALE）　1：500

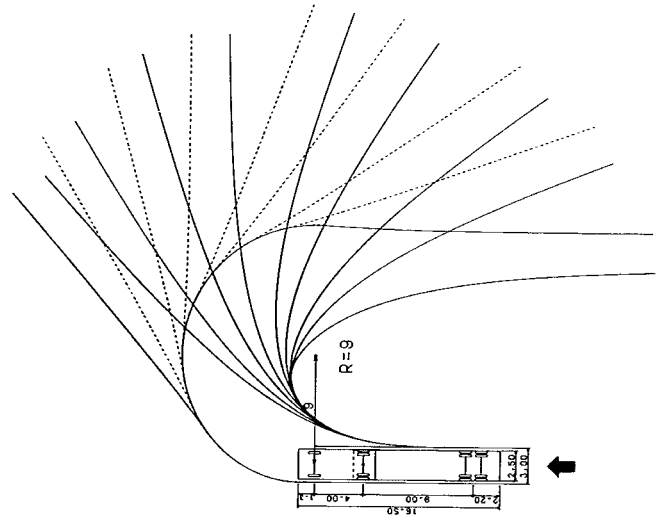
車線幅員（W）　3.00m

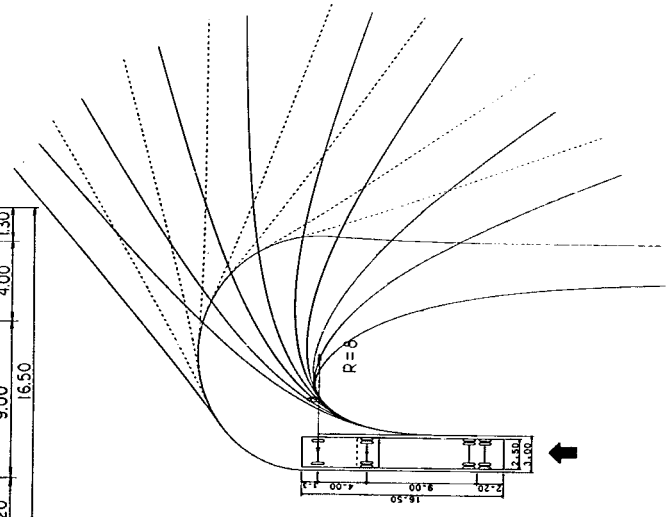
Turning Vehicle Templates (Patent Pending)

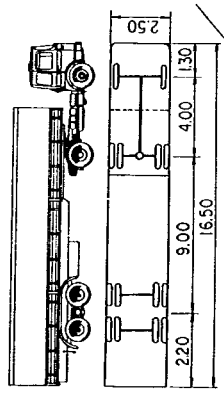
W = 3.00 m

Rs = 10 m
Rs = 9 m
Rs = 8 m









SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

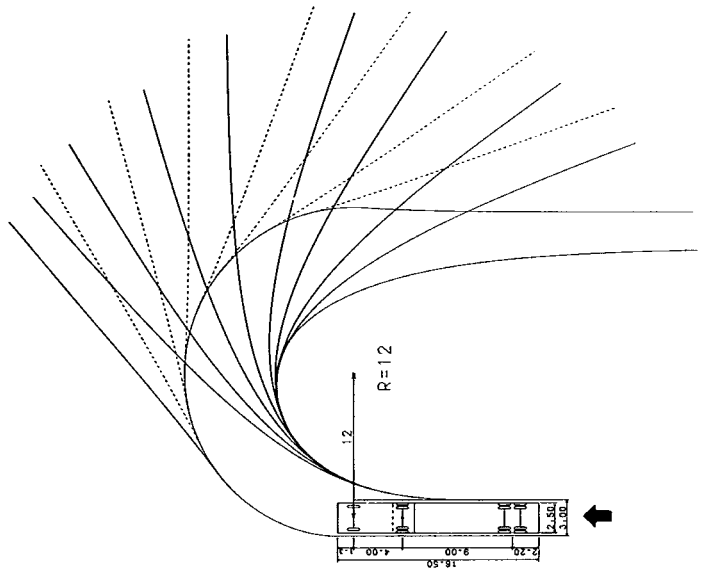
S - 15

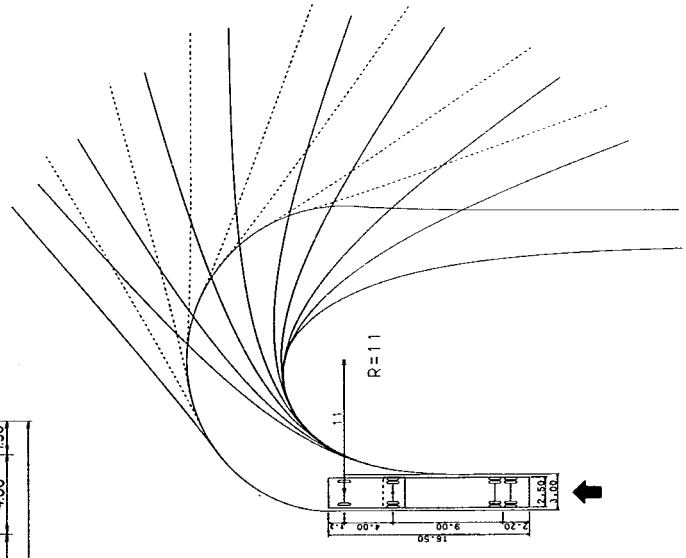
W = 3.00 m

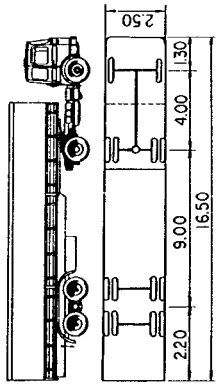
Rs = 12 m

Rs = 11 m

Turning Vehicle Templates (Patent Pending)







SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

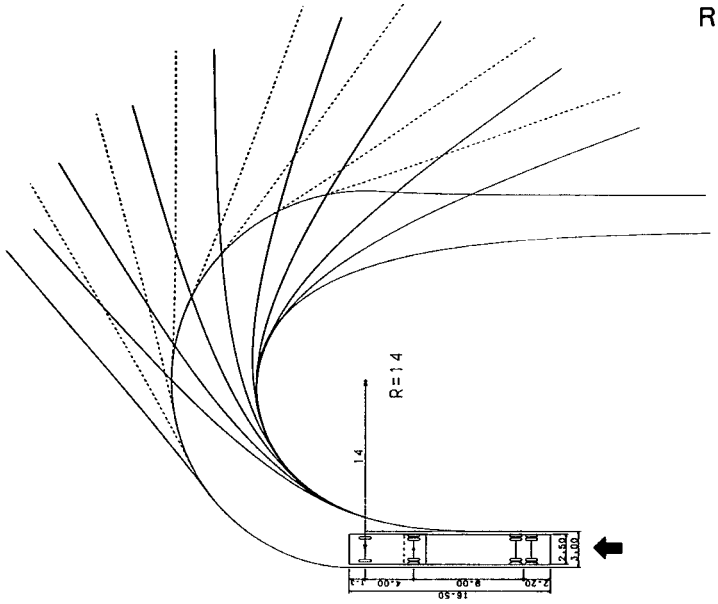
S－ 16

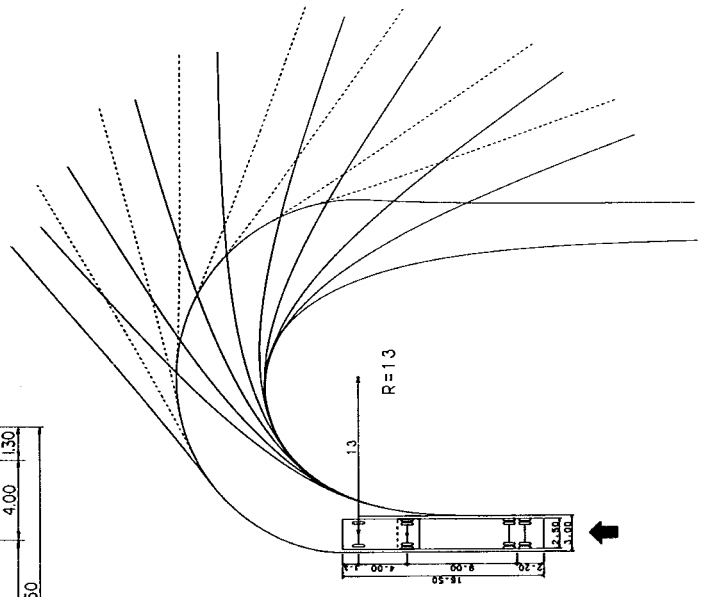
Turning Vehicle Templates (Patent Pending)

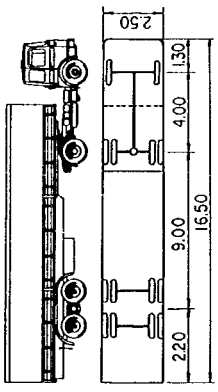
W = 3.00 m

Rs = 14 m

Rs = 13 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

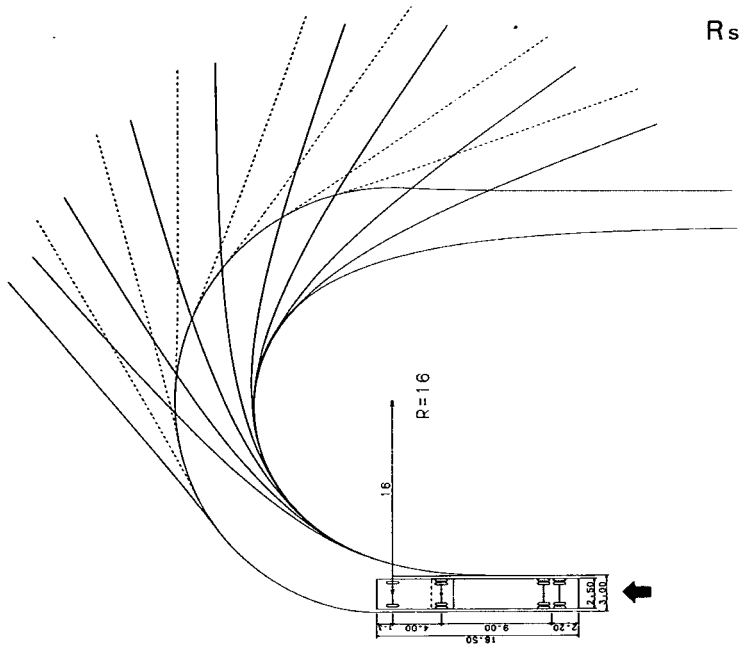
S - 17

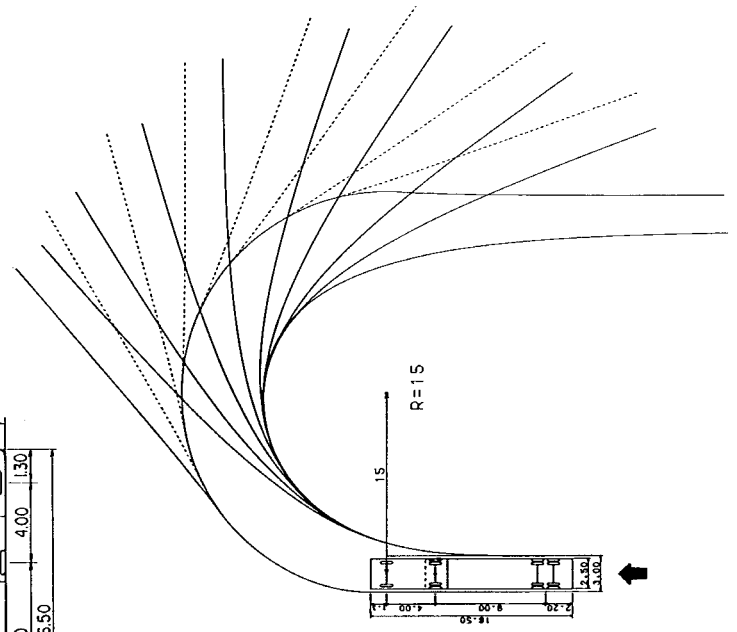
Turning Vehicle Templates (Patent Pending)

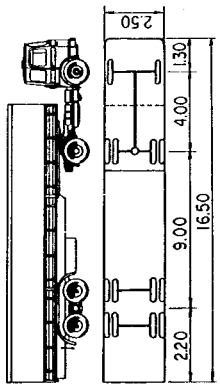
W = 3.00 m

Rs = 16 m

Rs = 15 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

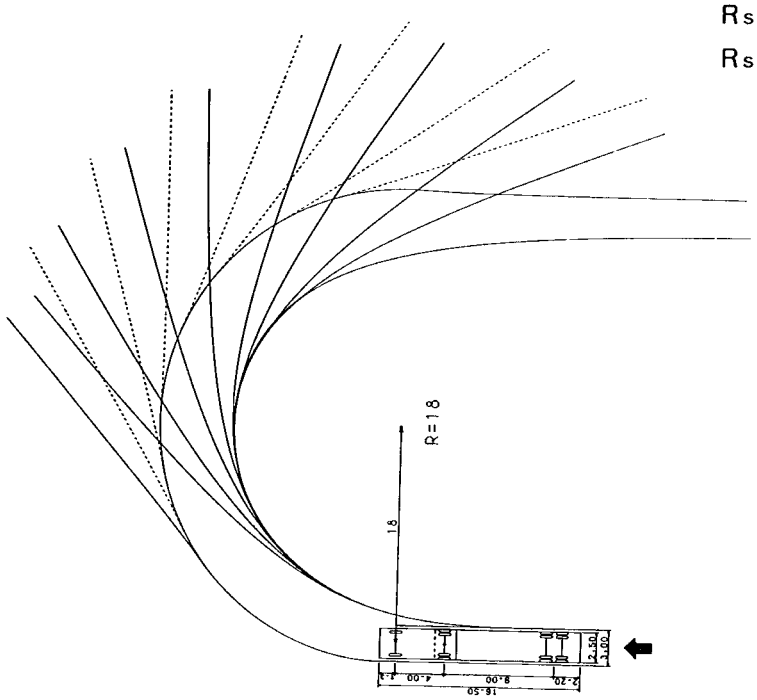
S - 18

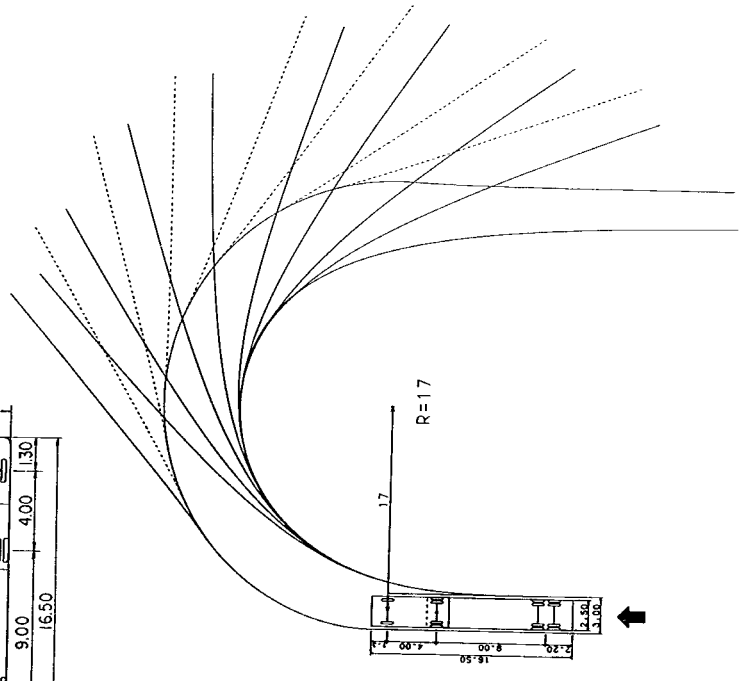
Turning Vehicle Templates (Patent Pending)

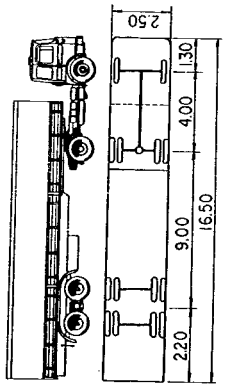
W = 3.00 m

Rs = 18 m

Rs = 17 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

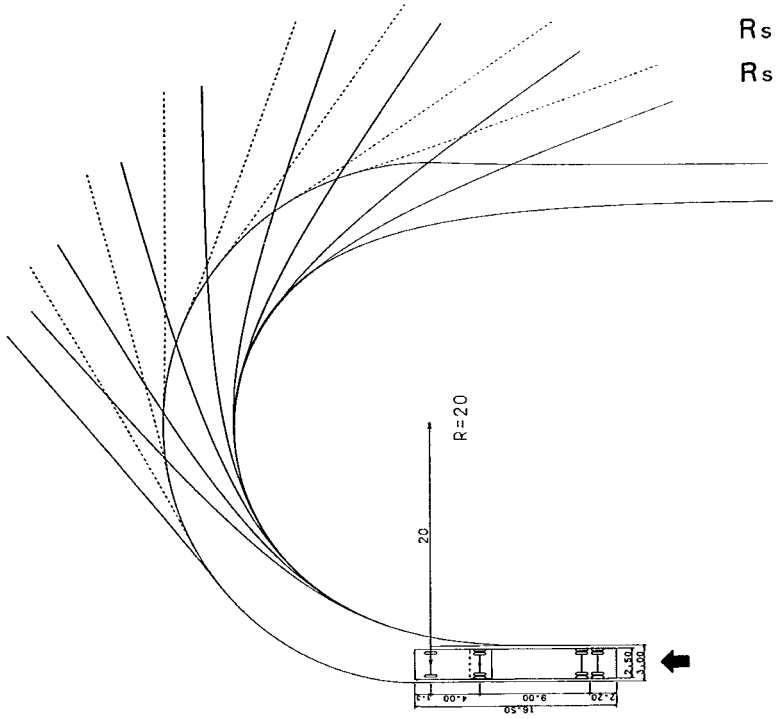
S - 19

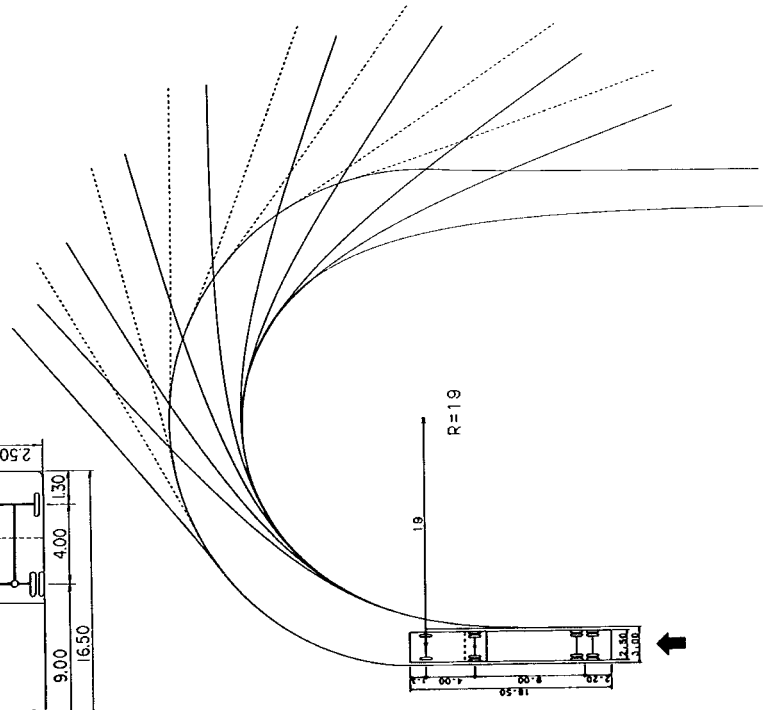
Turning Vehicle Templates (Patent Pending)

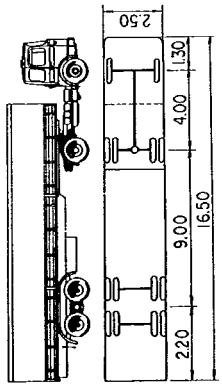
W = 3.00 m

Rs = 20 m

Rs = 19 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

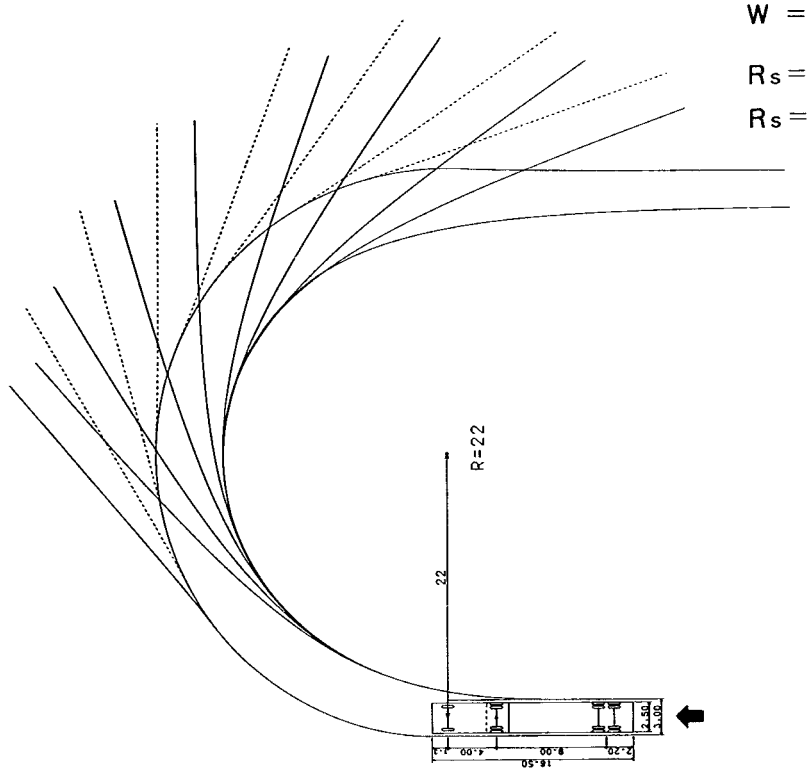
S - 20

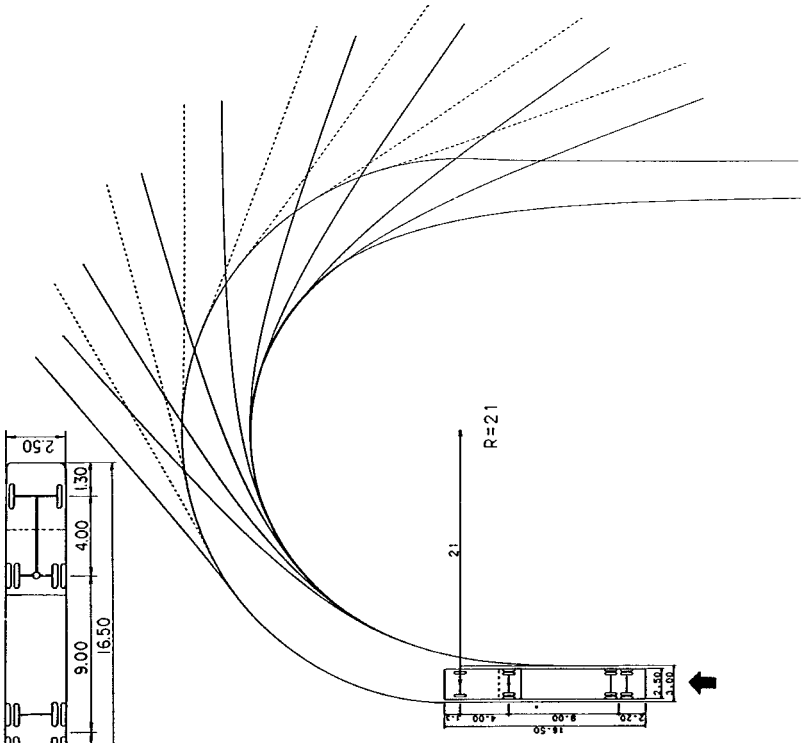
Turning Vehicle Templates (Patent Pending)

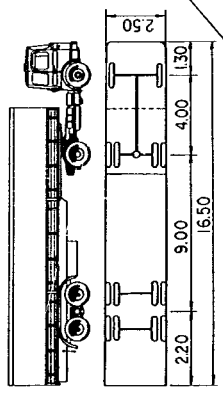
W = 3.00 m

Rs = 22 m

Rs = 21 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

S - 21

Turning Vehicle Templates (Patent Pending)

W = 3.00 m

Rs = 24 m

Rs = 23 m

SCALE
1 : 500

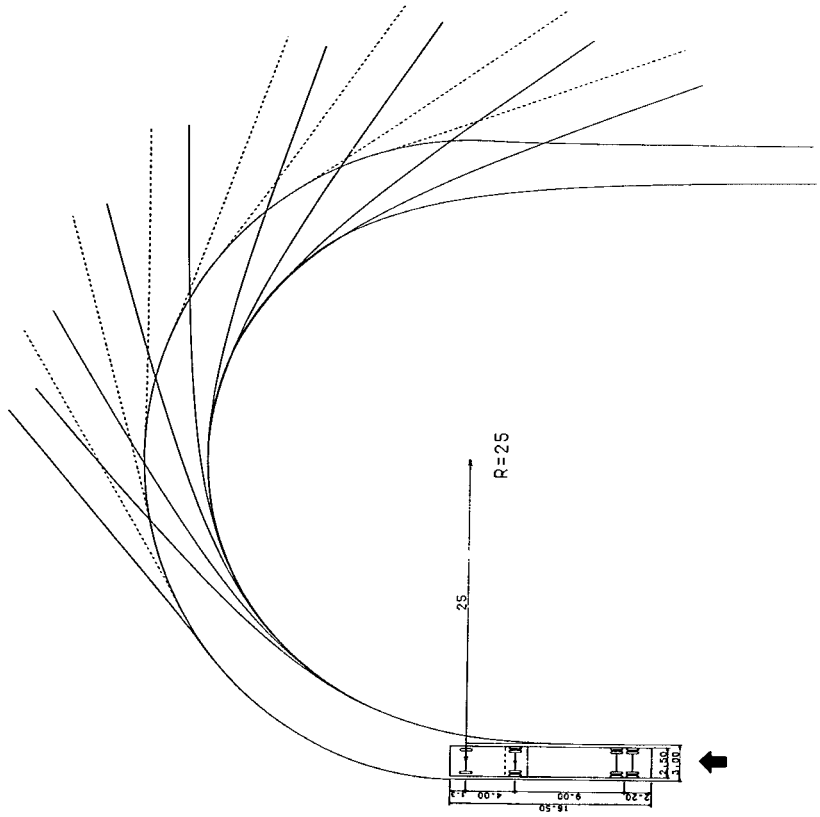
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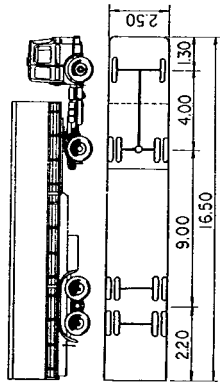
S - 22

W = 3.00 m

Rs = 25 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

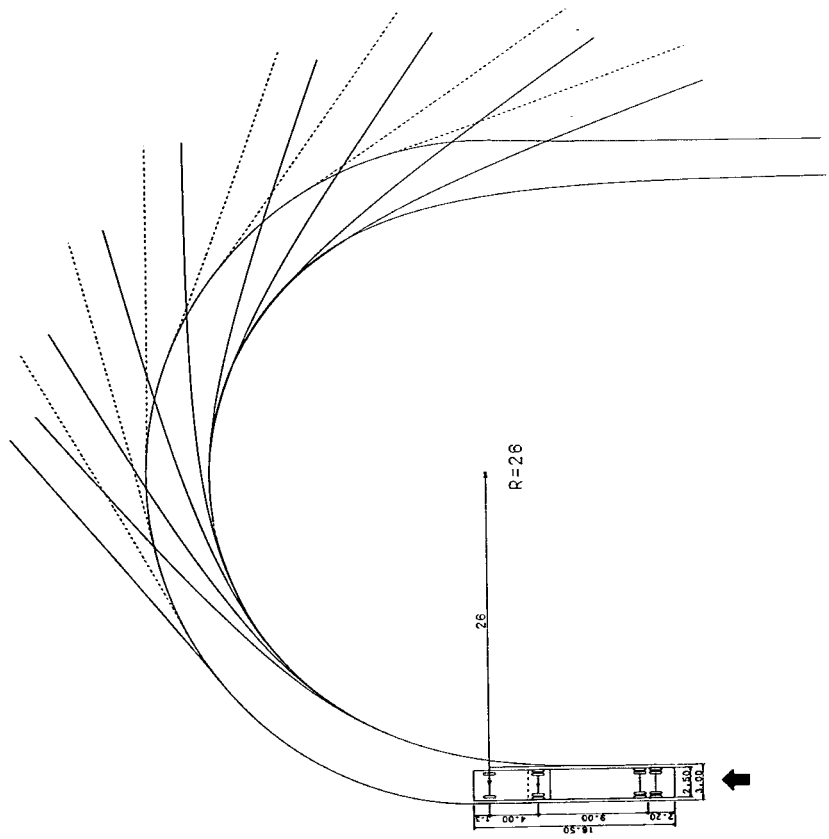
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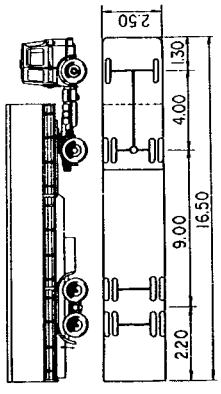
S - 23

W = 3.00 m

Rs = 26 m

Turning Vehicle Templates (Patent Pending)





SCALE
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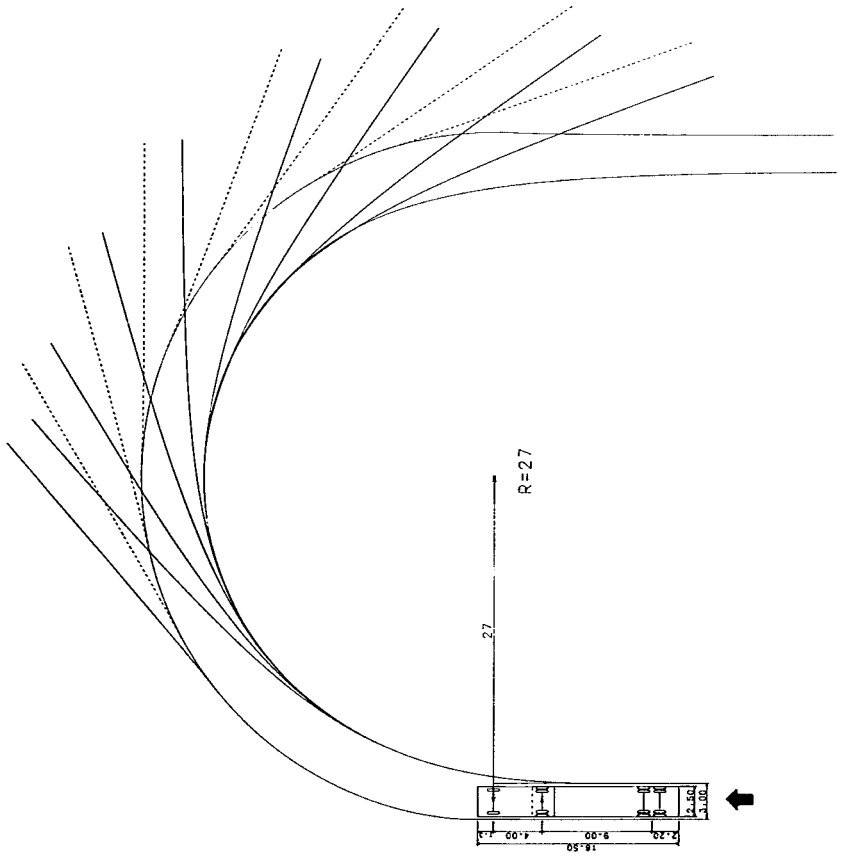
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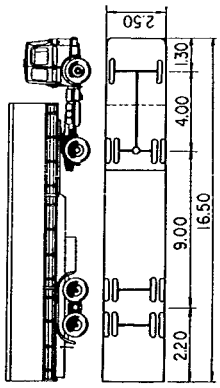
S - 24

W = 3.00 m

Rs = 27 m

Turning Vehicle Templates (Patent Pending)





SCALE
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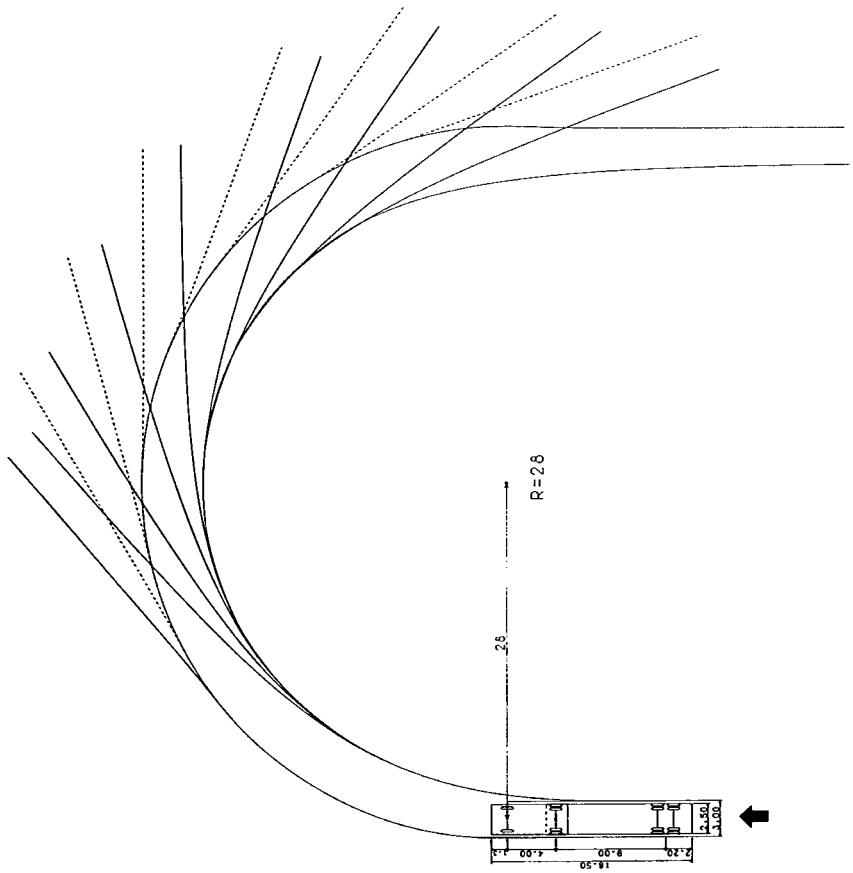
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MINISTRY OF CONSTRUCTION

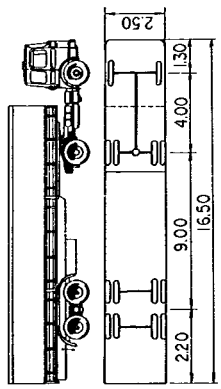
S - 25

W = 3.00 m

Rs = 28 m

Turning Vehicle Templates (Patent Pending)





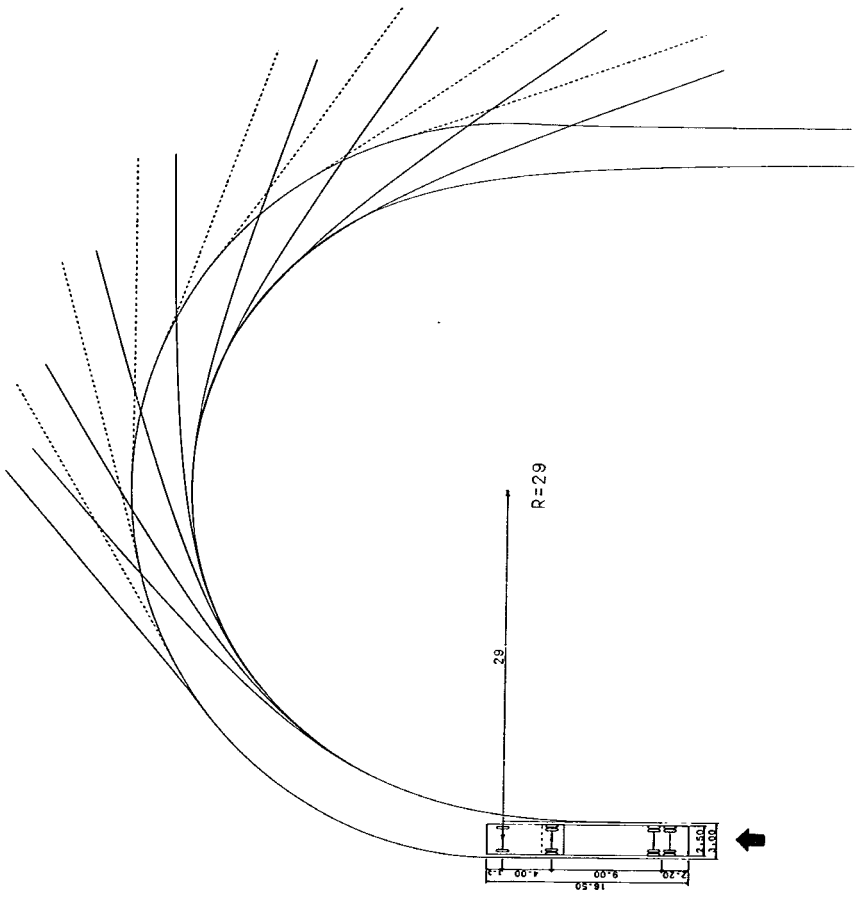
SCALE
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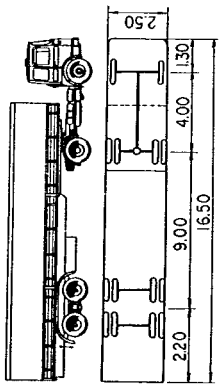
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.00 m

Rs = 29 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

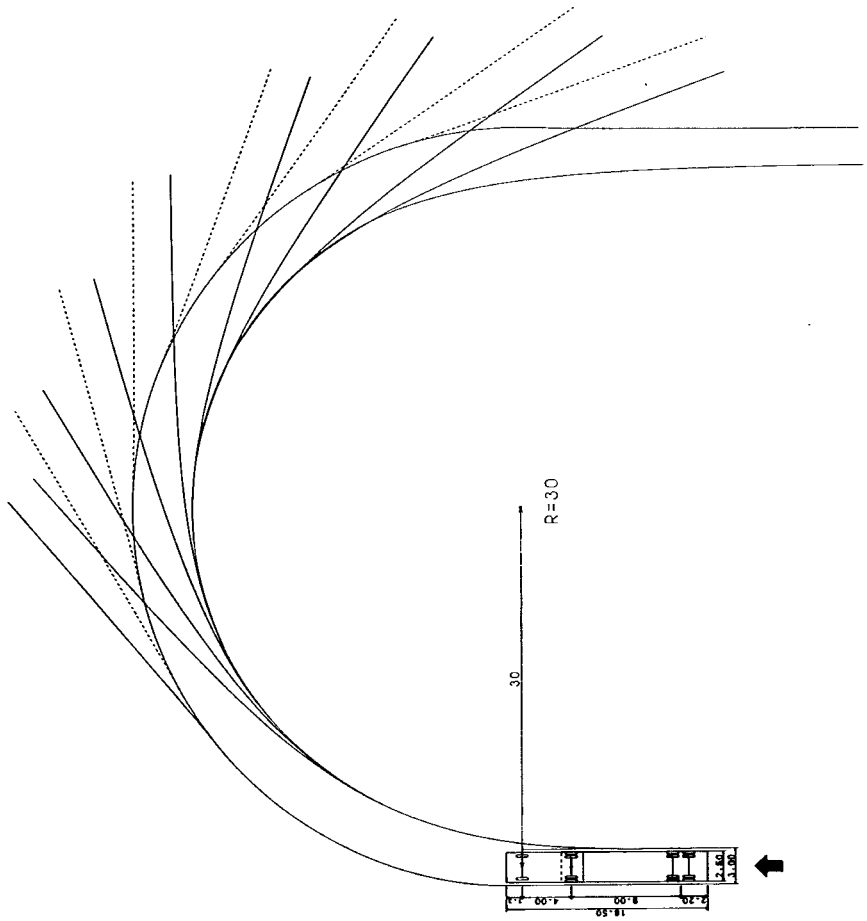
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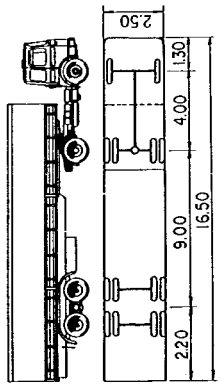
S - 27

W = 3.00 m

Rs = 30 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

縮尺（SCALE）　1：500

車線幅員（W）　3.25m

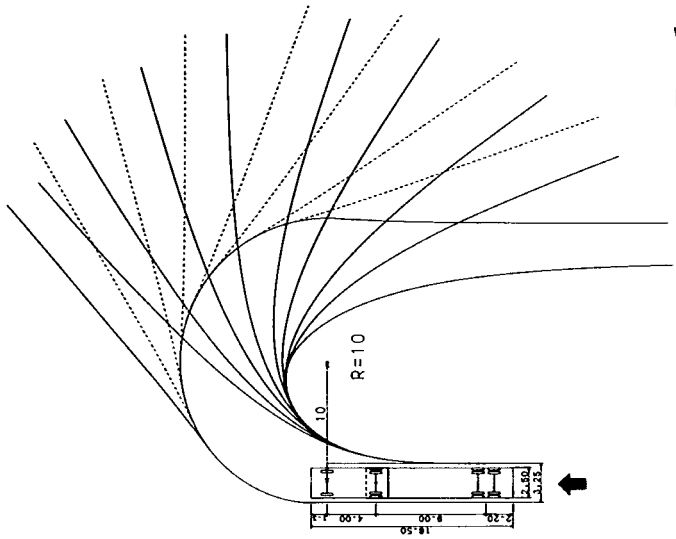
Turning Vehicle Templates (Patent Pending)

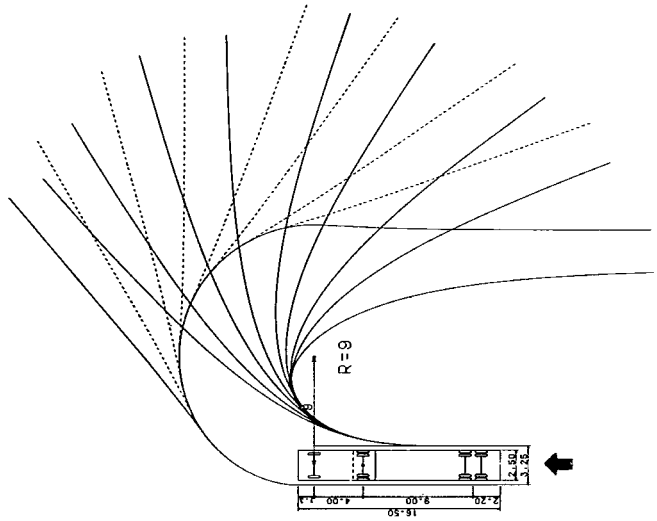
W = 3.25 m

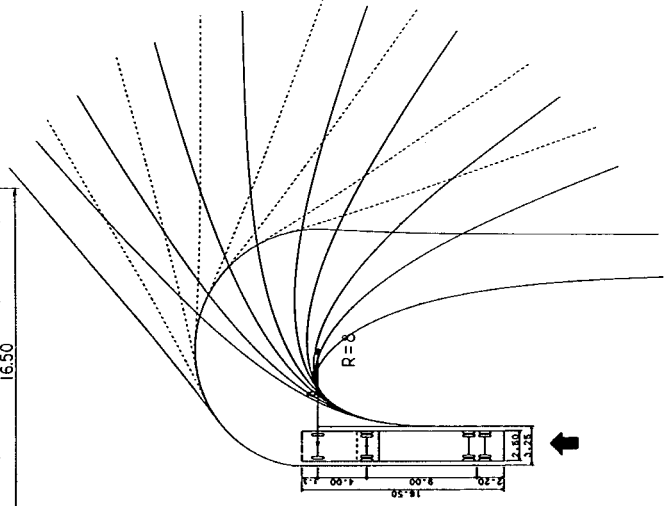
Rs = 10 m

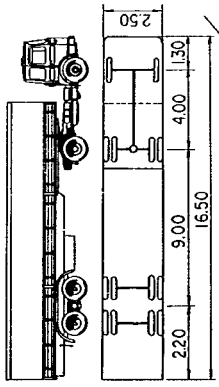
Rs = 9 m

Rs = 8 m









SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

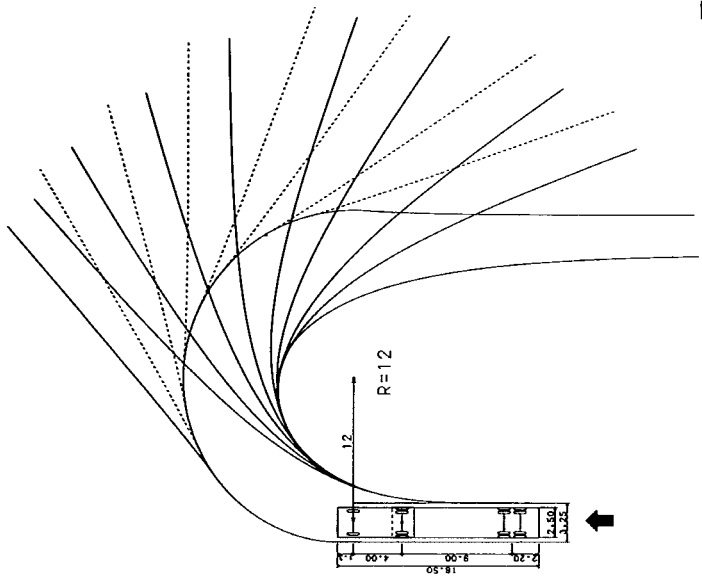
S - 29

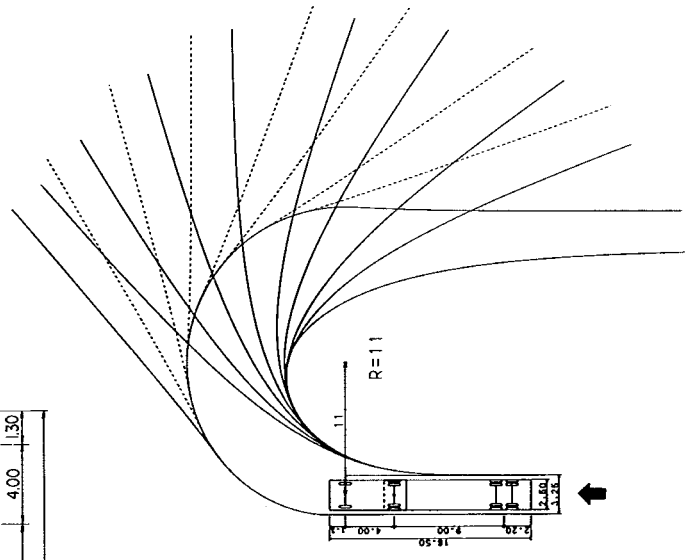
Turning Vehicle Templates (Patent Pending)

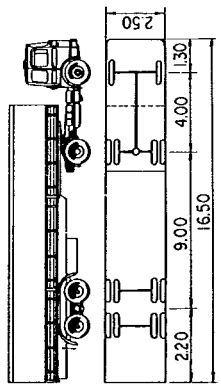
W = 3.25 m

Rs = 12 m

Rs = 11 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

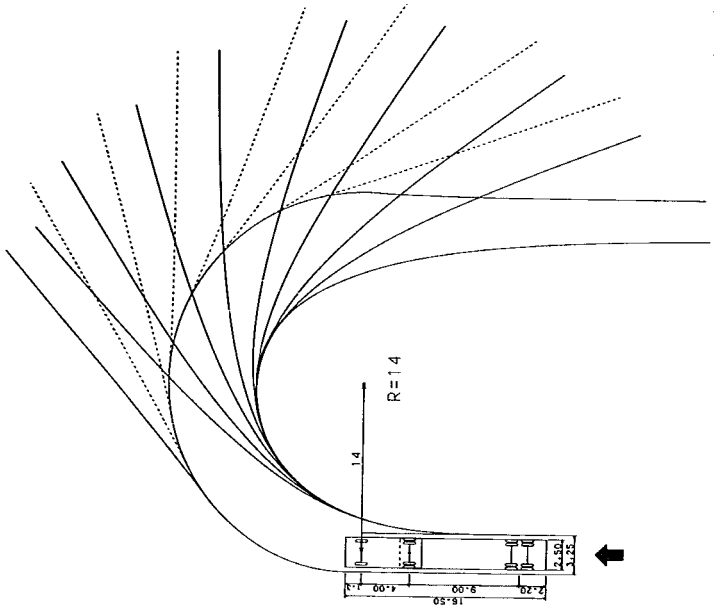
S－ 30

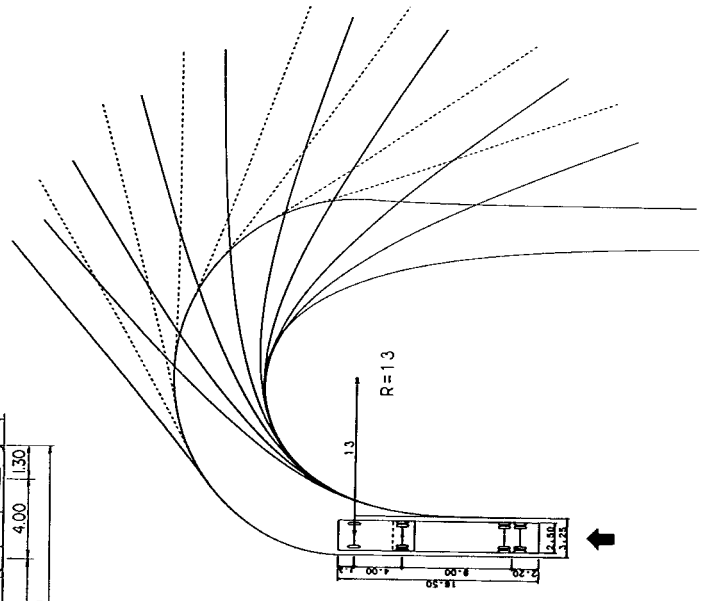
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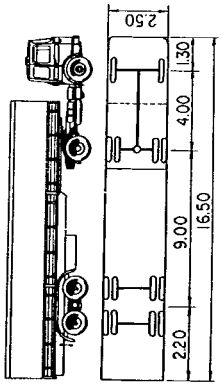
W = 3.25 m

Rs = 14 m

Rs = 13 m







SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

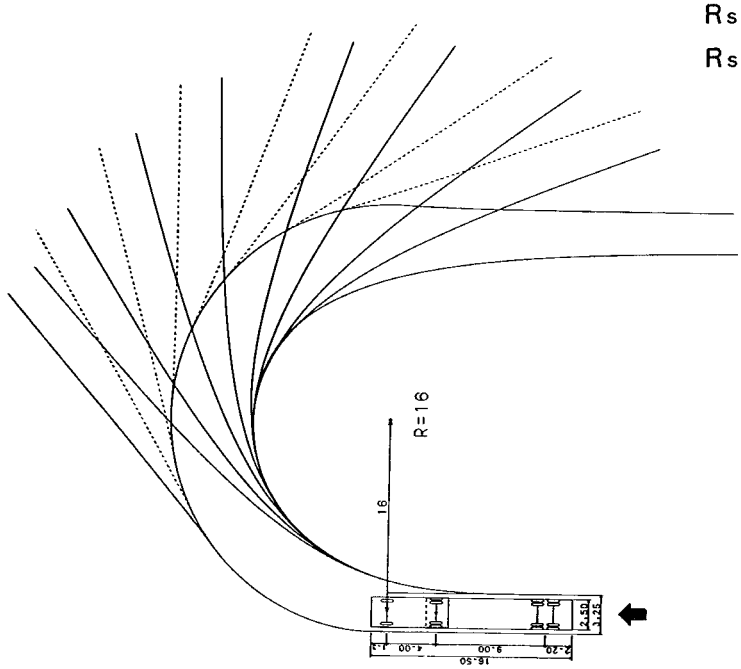
S - 31

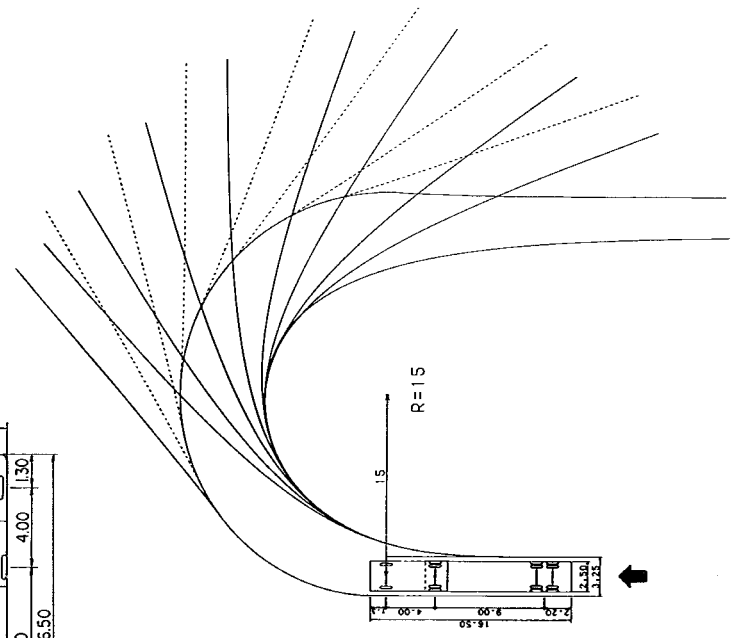
Turning Vehicle Templates (Patent Pending)

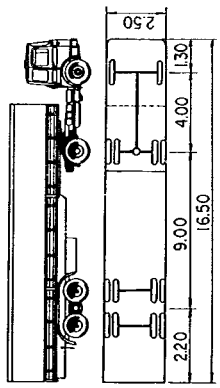
W = 3.25 m

Rs = 16 m

Rs = 15 m







SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

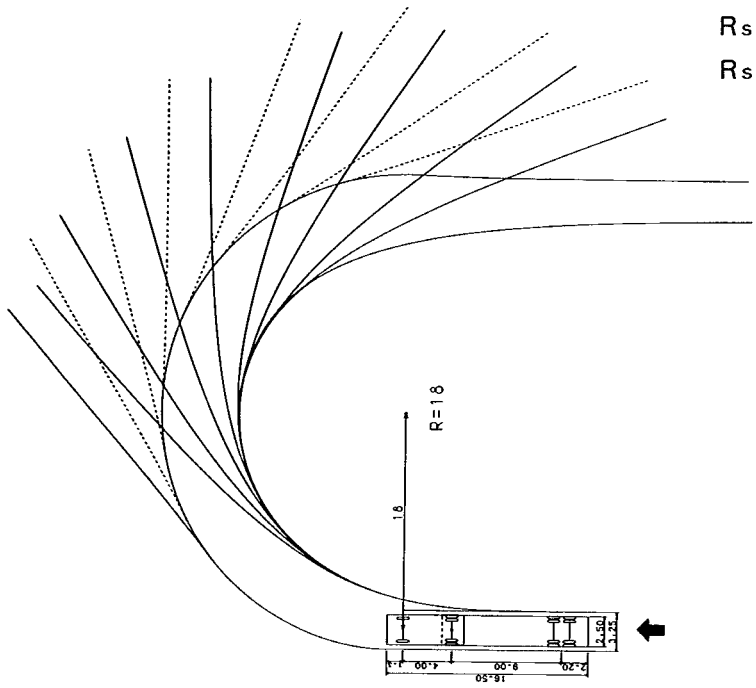
S - 32

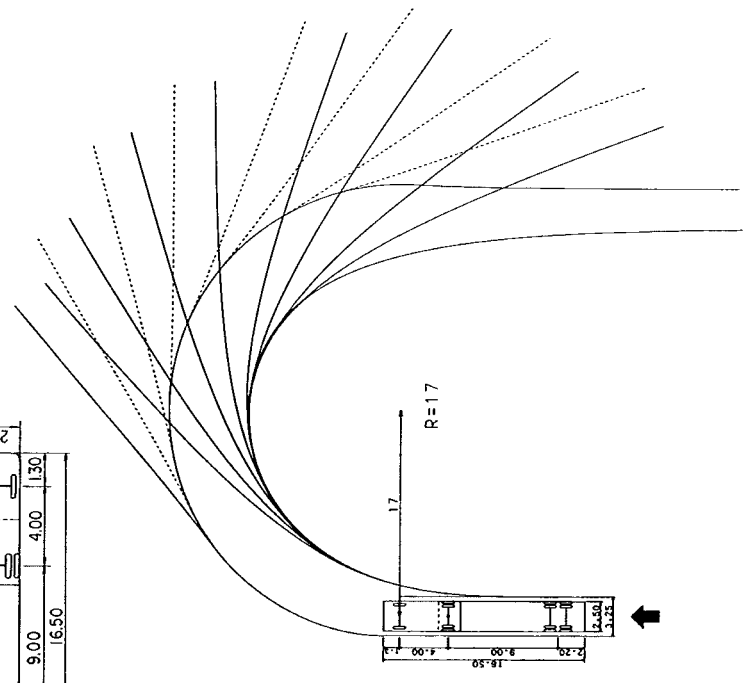
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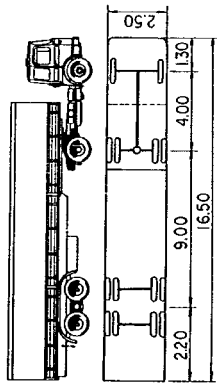
W = 3.25 m

Rs = 18 m

Rs = 17 m







SCALE
1 : 500

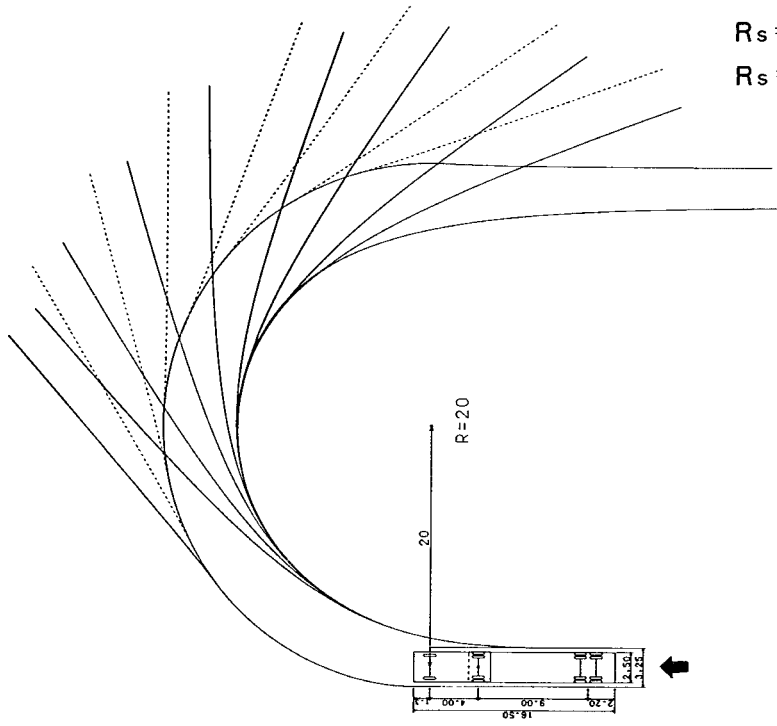
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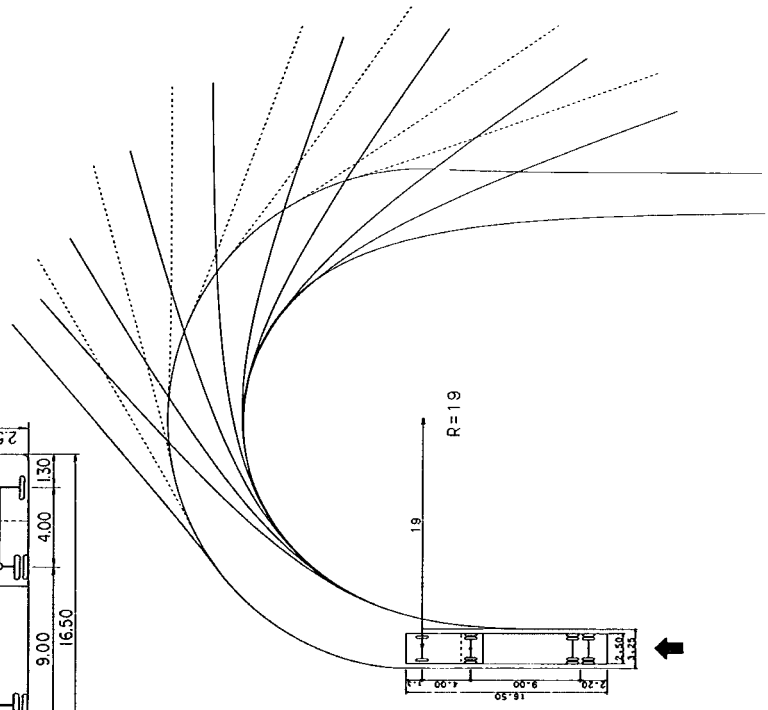
Turning Vehicle Templates (Patent Pending)

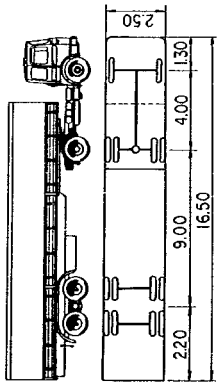
W = 3.25 m

Rs = 20 m

Rs = 19 m







SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

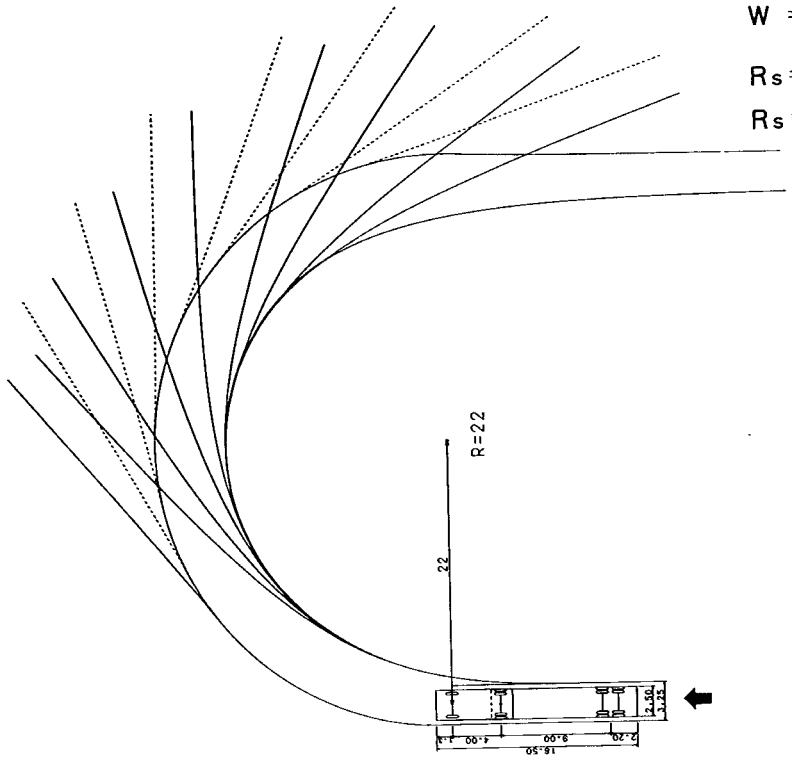
S - 34

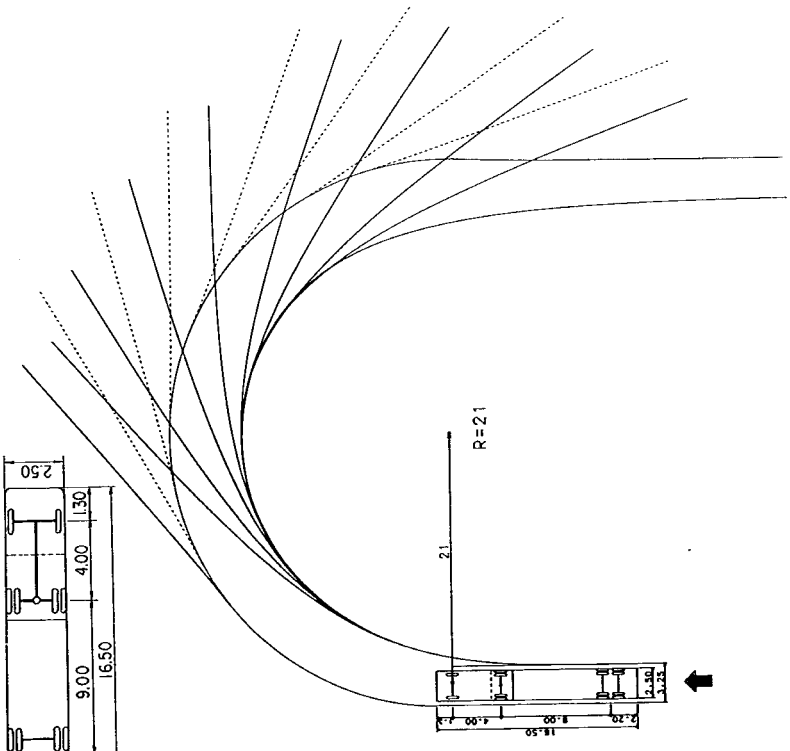
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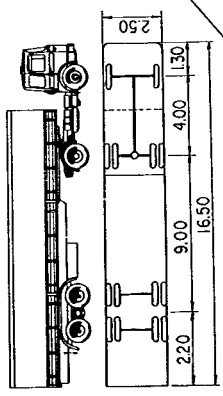
W = 3.25 m

Rs = 22 m

Rs = 21 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

S - 35

Turning Vehicle Templates (Patent Pending)

W = 3.25 m

Rs = 24 m

Rs = 23 m

SCALE
1 : 500

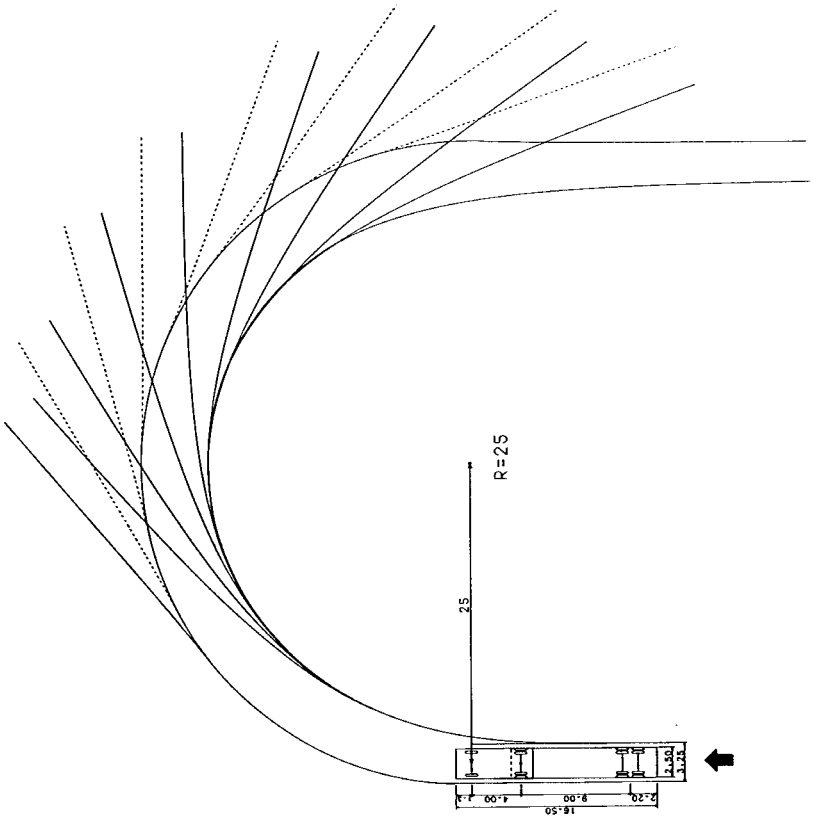
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MINISTRY OF CONSTRUCTION

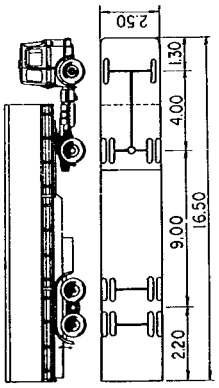
S - 36

W = 3.25 m

Rs = 25 m

Turning Vehicle Templates (Patent Pending)





SCALE
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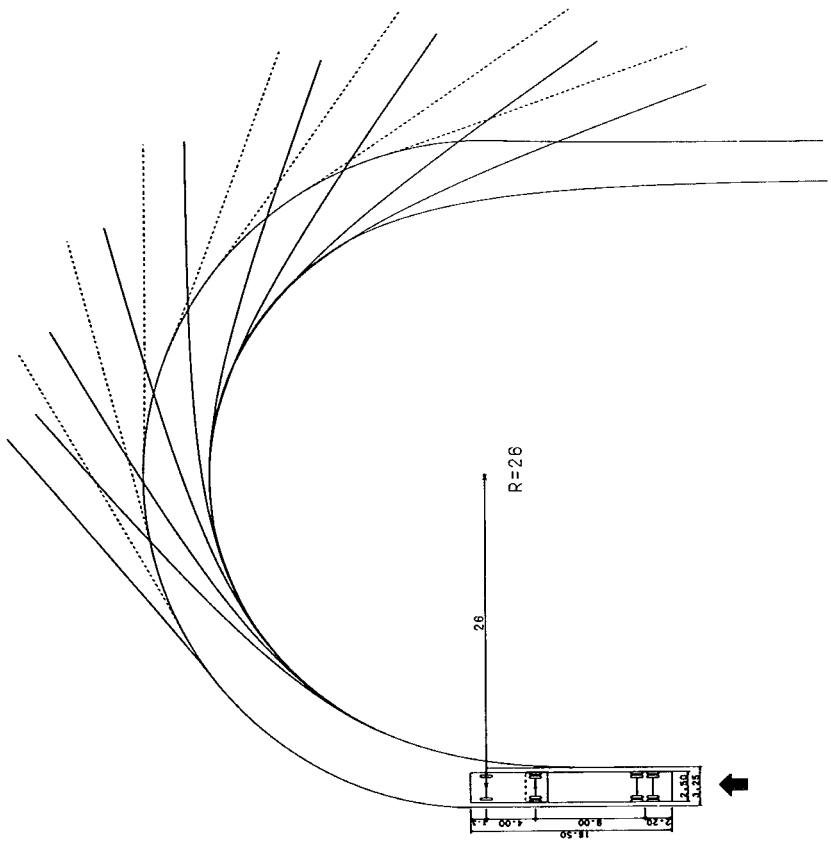
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MINISTRY OF CONSTRUCTION

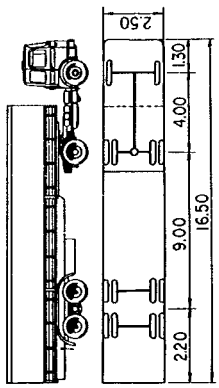
S - 37

W = 3.25 m

Rs = 26 m

Turning Vehicle Templates (Patent Pending)





SCALE
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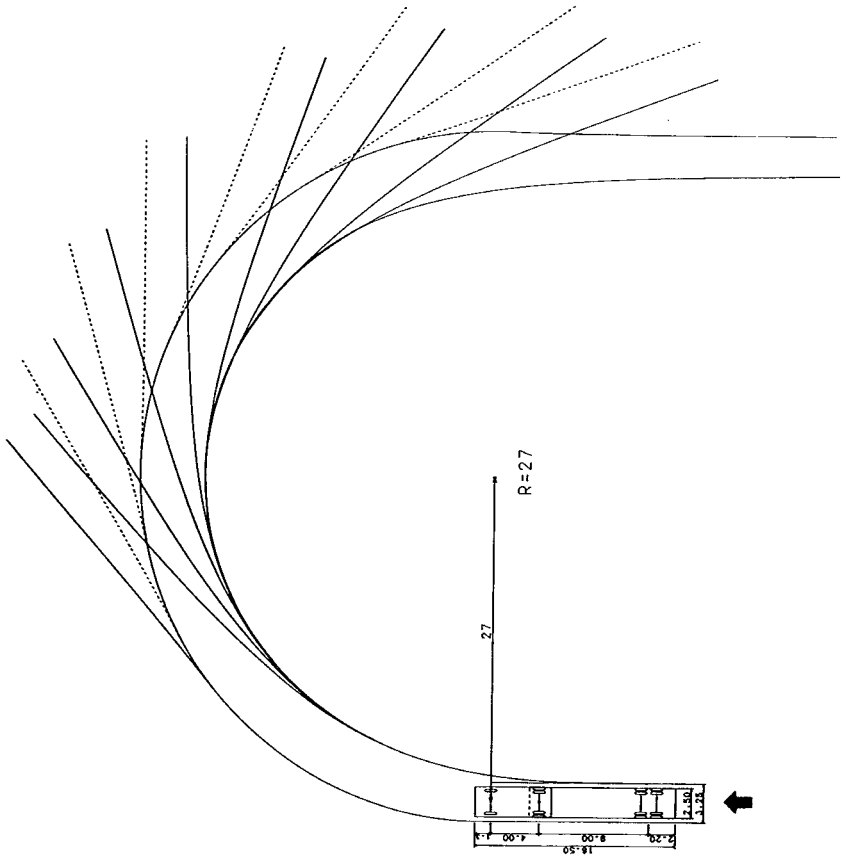
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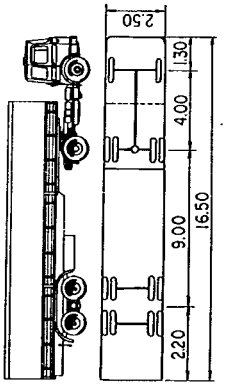
S - 38

W = 3.25 m

Rs = 27 m

Turning Vehicle Templates (Patent Pending)





SCALE
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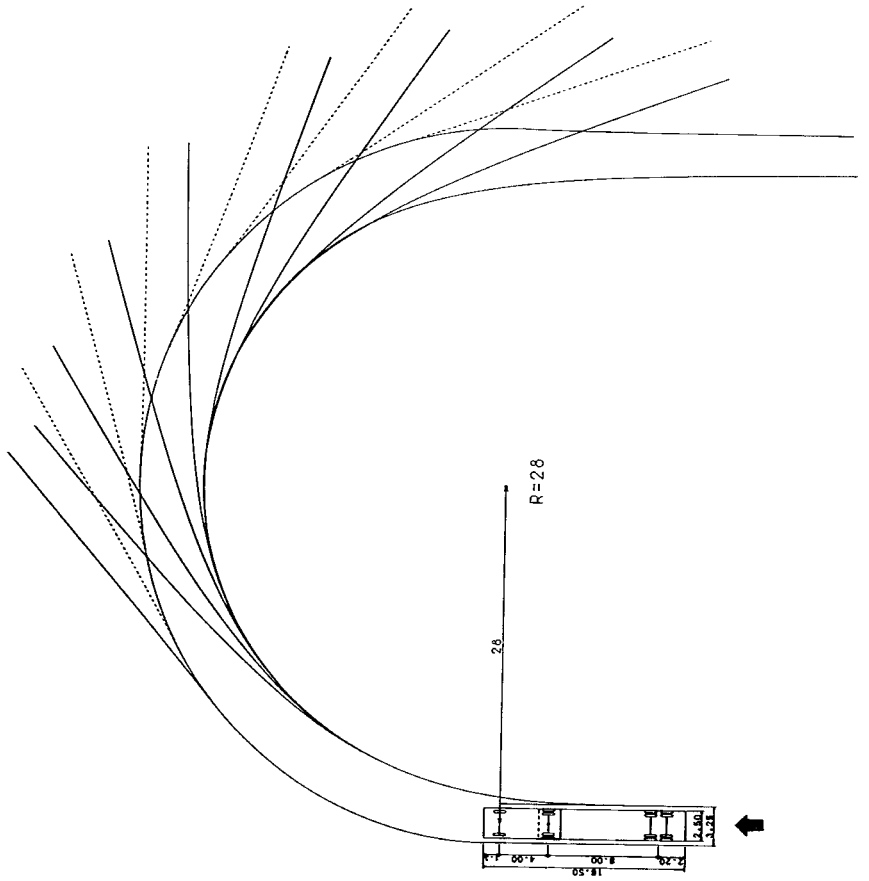
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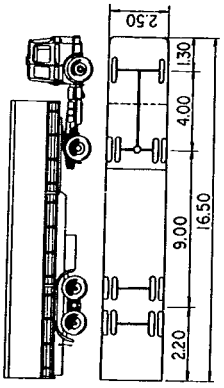
S- 39

W = 3.25 m

Rs = 28 m

Turning Vehicle Templates (Patent Pending)





SCALE
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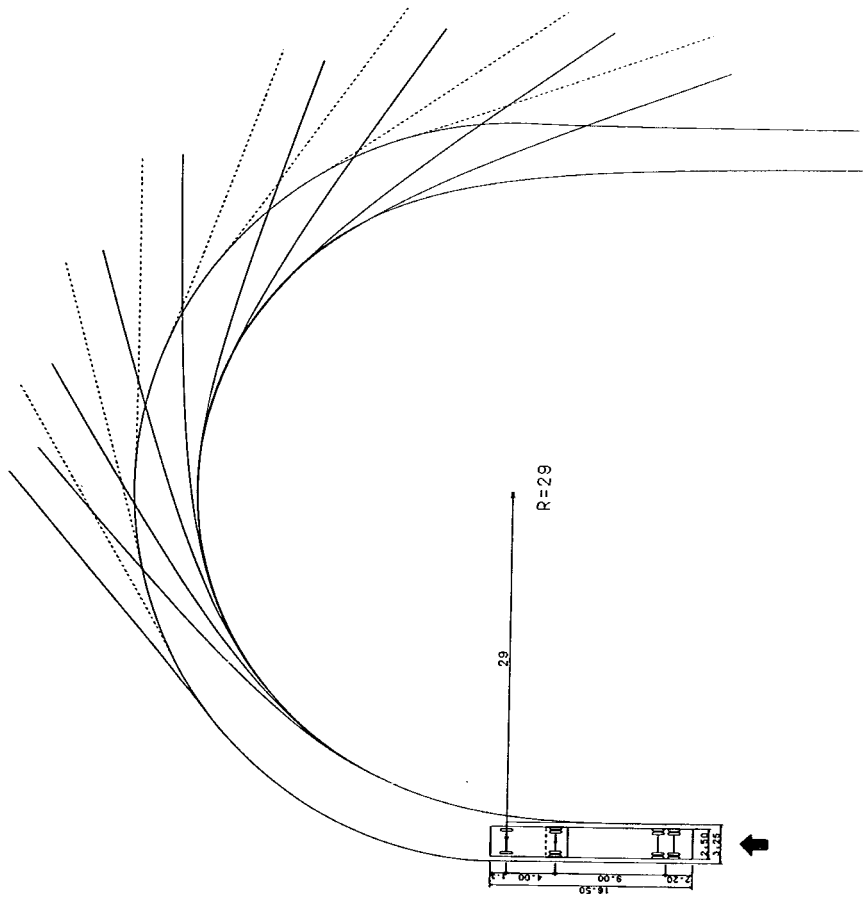
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MINISTRY OF CONSTRUCTION

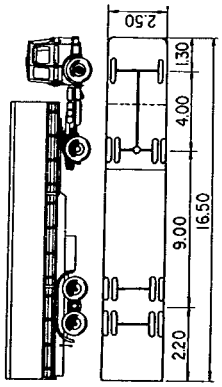
S - 40

W = 3.25 m

Rs = 29 m

Turning Vehicle Templates (Patent Pending)





SCALE
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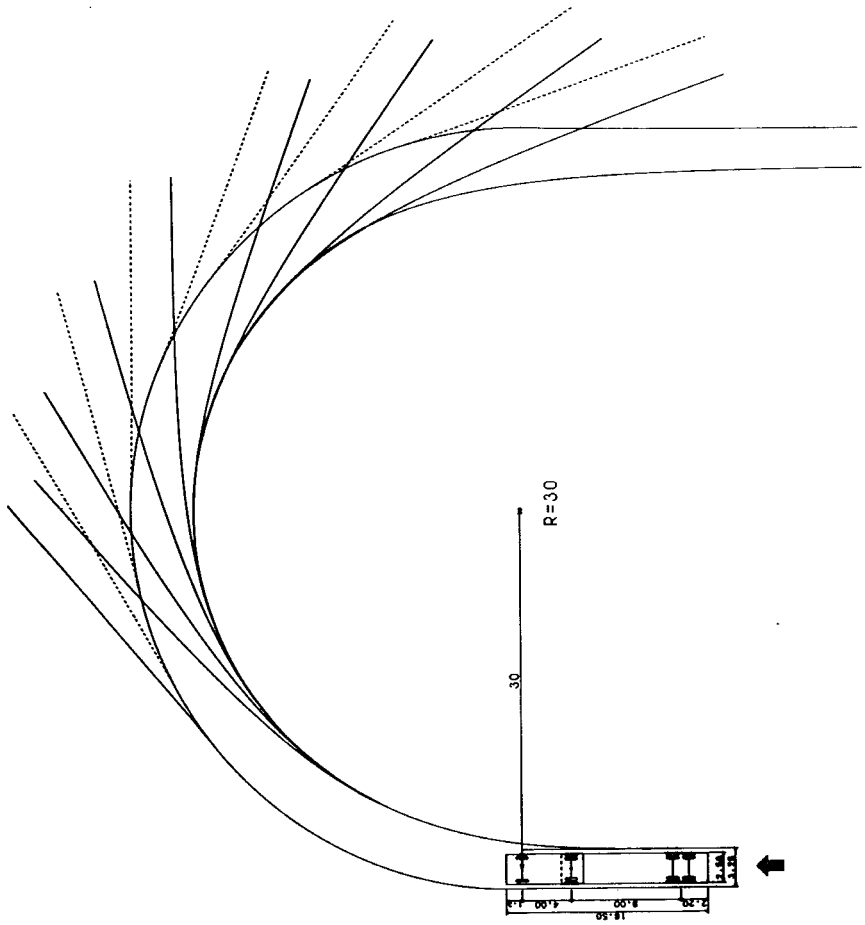
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MINISTRY OF CONSTRUCTION

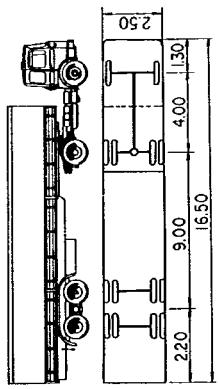
S - 41

W = 3.25 m

Rs = 30 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

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縮尺（SCALE）　1：500

車線幅員（W）　3.50m

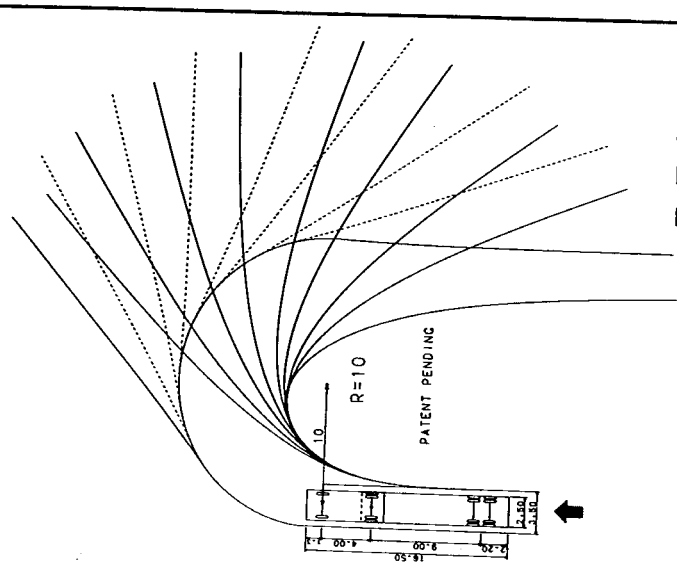
Turning Vehicle Templates (Patent Pending)

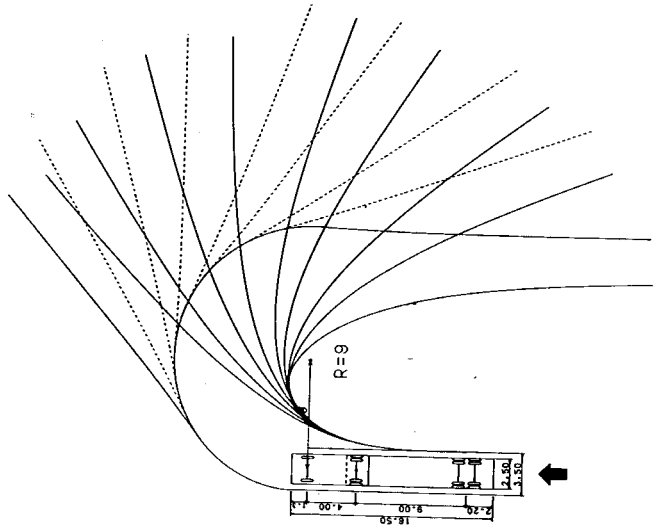
W = 3.50 m

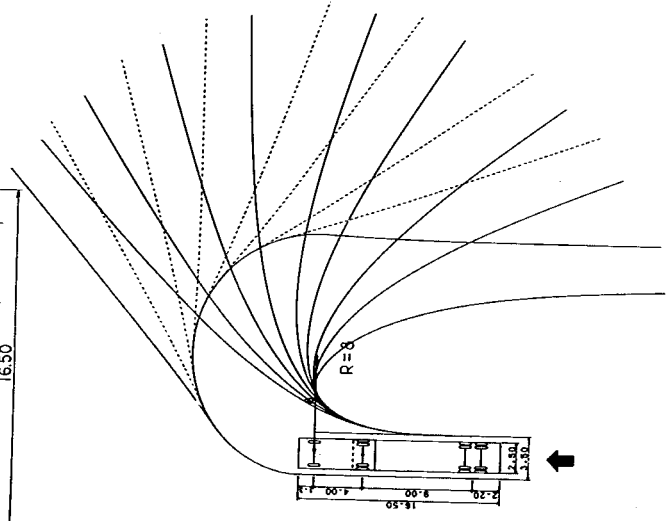
Rs = 10 m

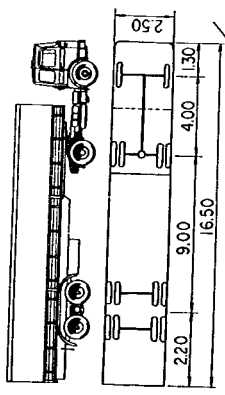
Rs = 9 m

Rs = 8 m









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SCALE
1 : 500

S - 43

Turning Vehicle Templates (Patent Pending)

W = 3.50 m

Rs = 12 m

Rs = 11 m

SCALE
1 : 500

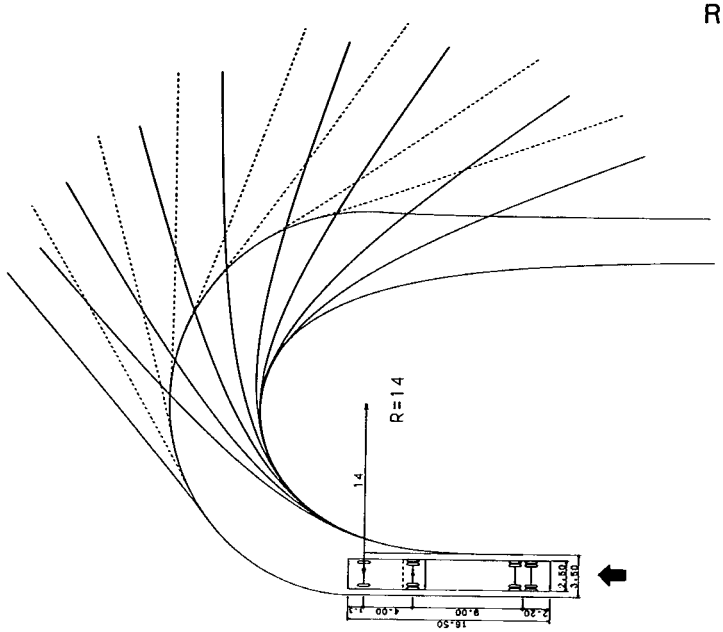
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

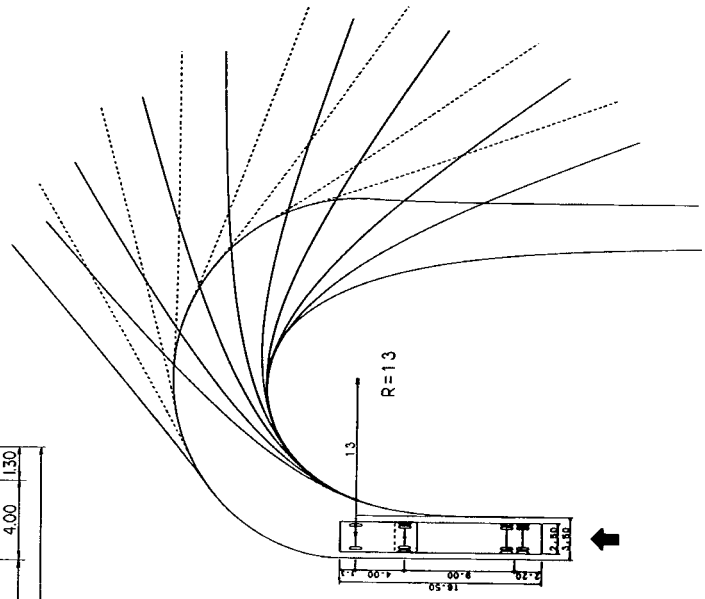
Turning Vehicle Templates (Patent Pending)

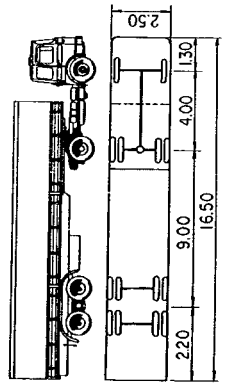
W = 3.50 m

Rs = 14 m

Rs = 13 m







SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

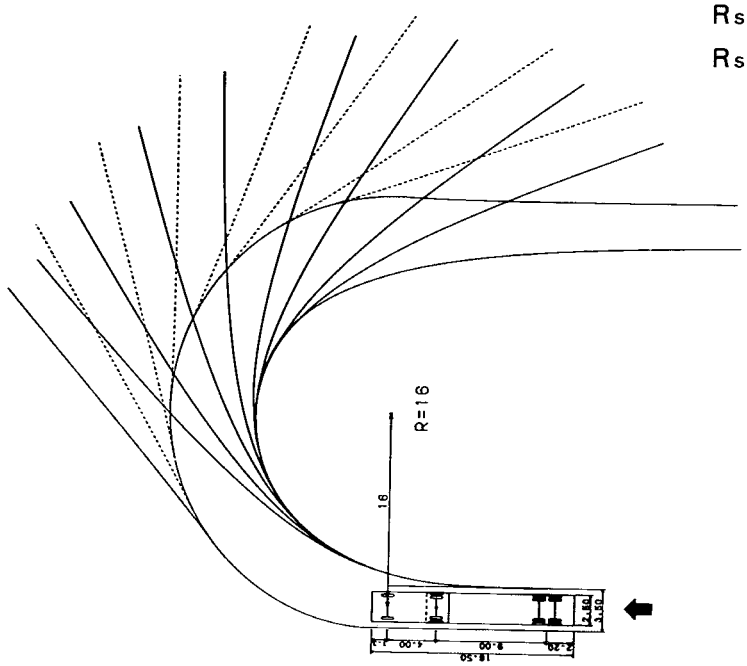
S－ 45

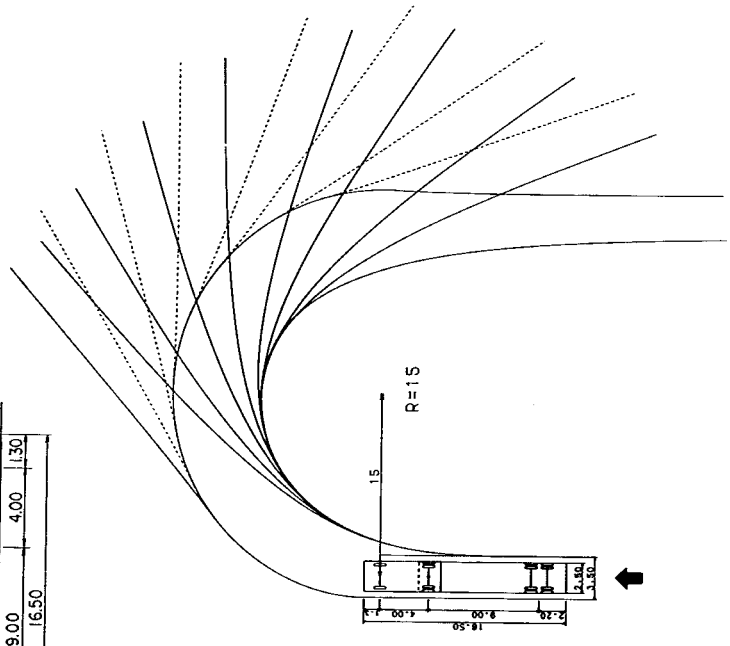
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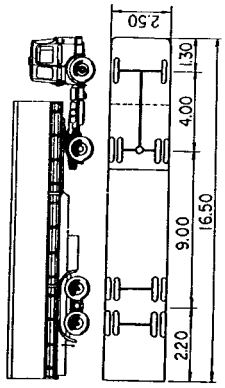
W = 3.50 m

Rs = 16 m

Rs = 15 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

S - 46

Turning Vehicle Templates (Patent Pending)

W = 3.50 m

Rs = 18 m

Rs = 17 m

SCALE
1 : 500

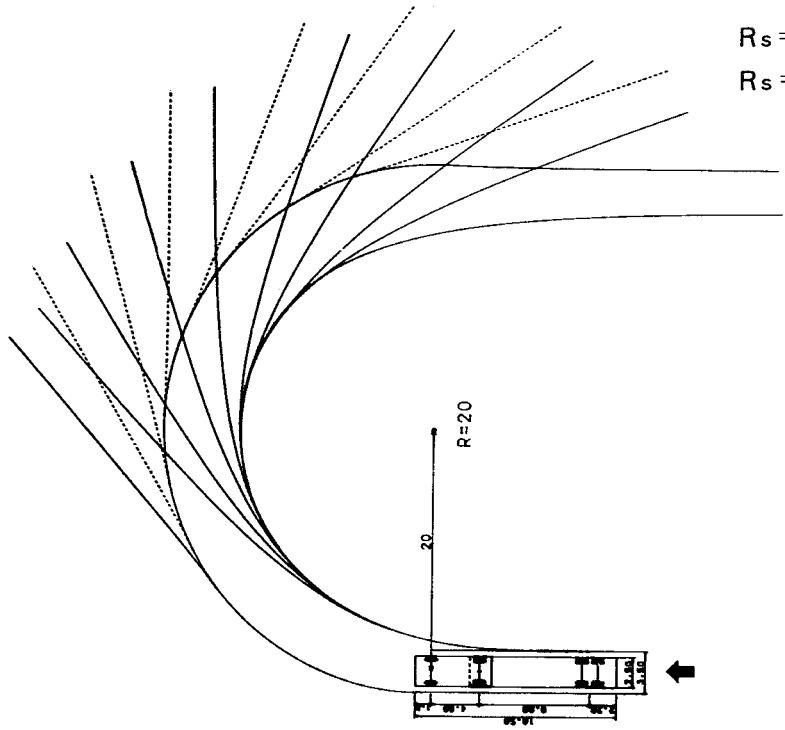
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MINISTRY OF CONSTRUCTION

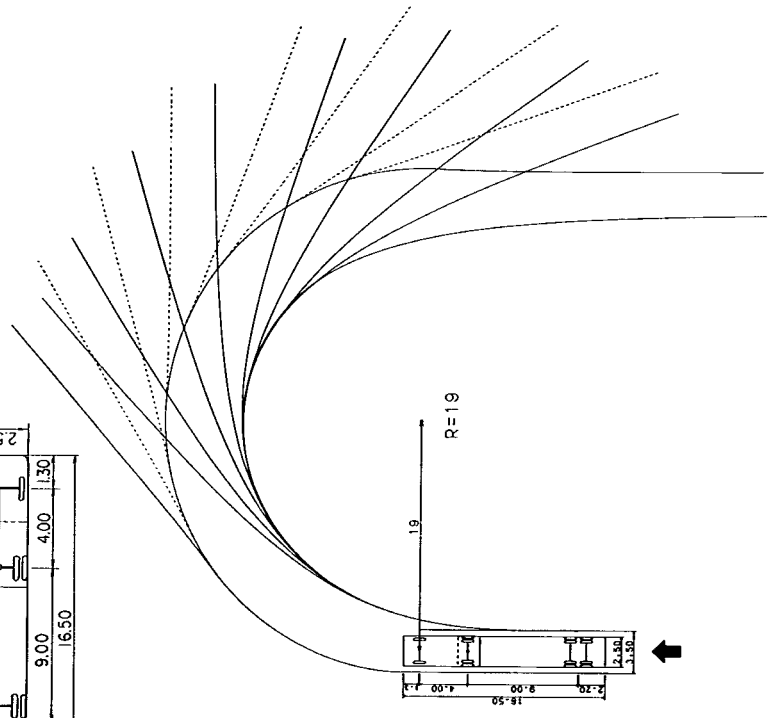
Turning Vehicle Templates (Patent Pending)

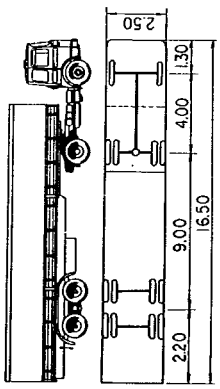
W = 3.50 m

Rs = 20 m

Rs = 19 m







SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

S－ 48

Turning Vehicle Templates (Patent Pending)

W = 3.50 m

Rs = 22 m

Rs = 21 m

SCALE
1 : 500

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MINISTRY OF CONSTRUCTION

S - 49

Turning Vehicle Templates (Patent Pending)

W = 3.50 m

Rs = 24 m

Rs = 23 m

SCALE
1 : 500

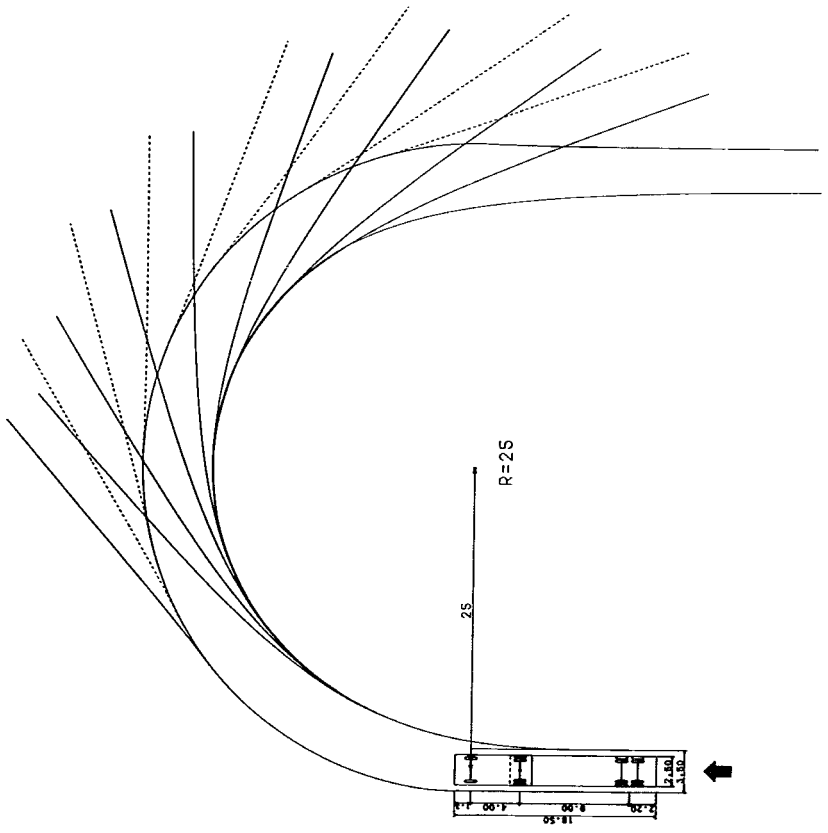
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MINISTRY OF CONSTRUCTION

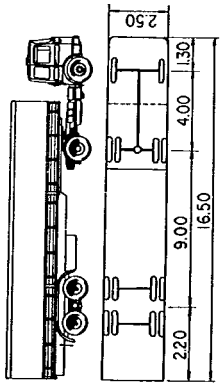
S－ 50

W = 3.50 m

Rs = 25 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

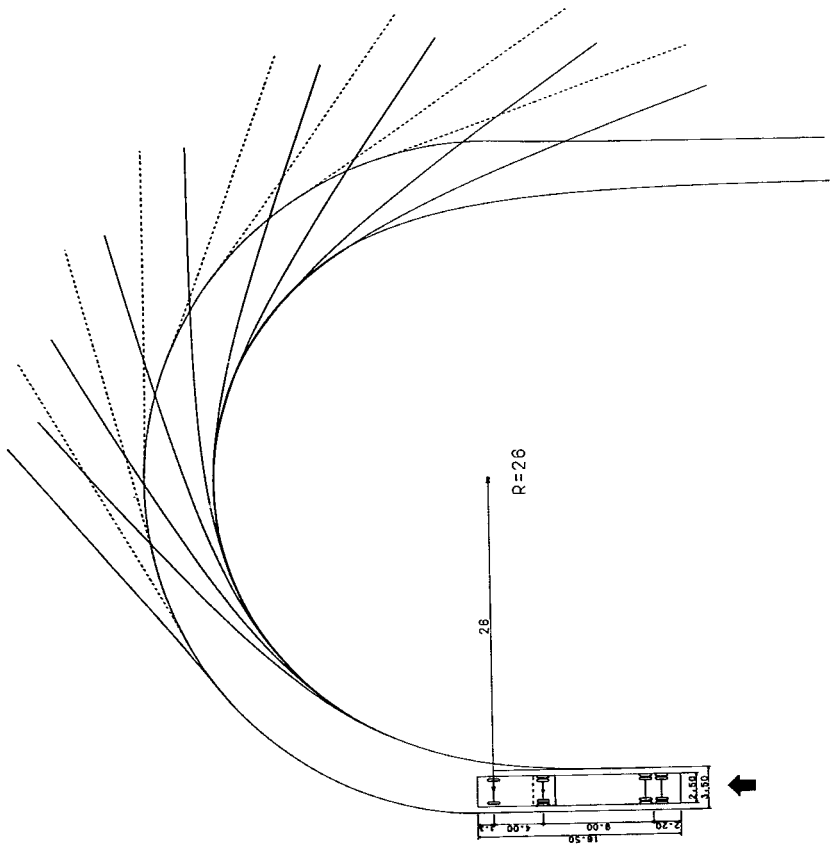
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MINISTRY OF CONSTRUCTION

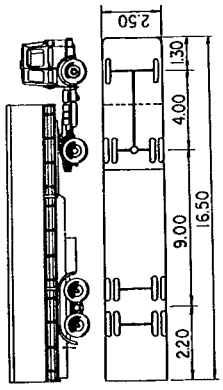
S - 51

W = 3.50 m

Rs = 26 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

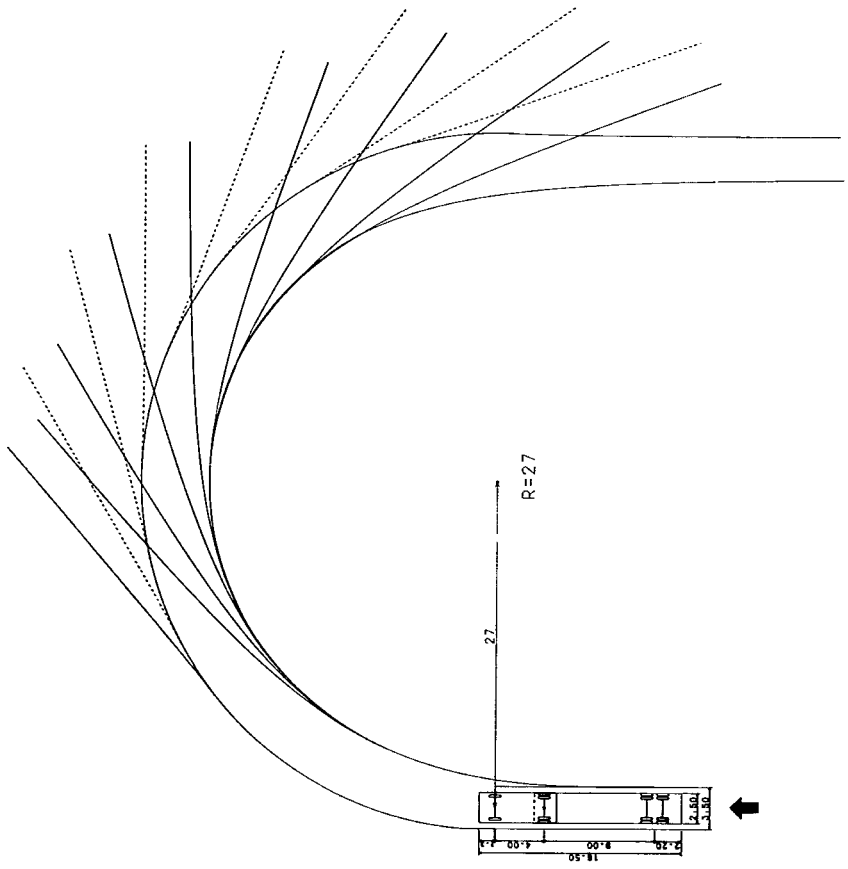
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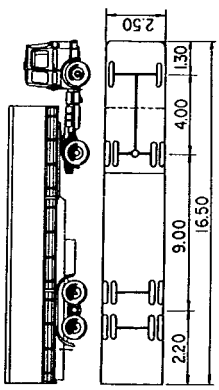
S- 52

W = 3.50 m

Rs = 27 m

Turning Vehicle Templates (Patent Pending)





SCALE
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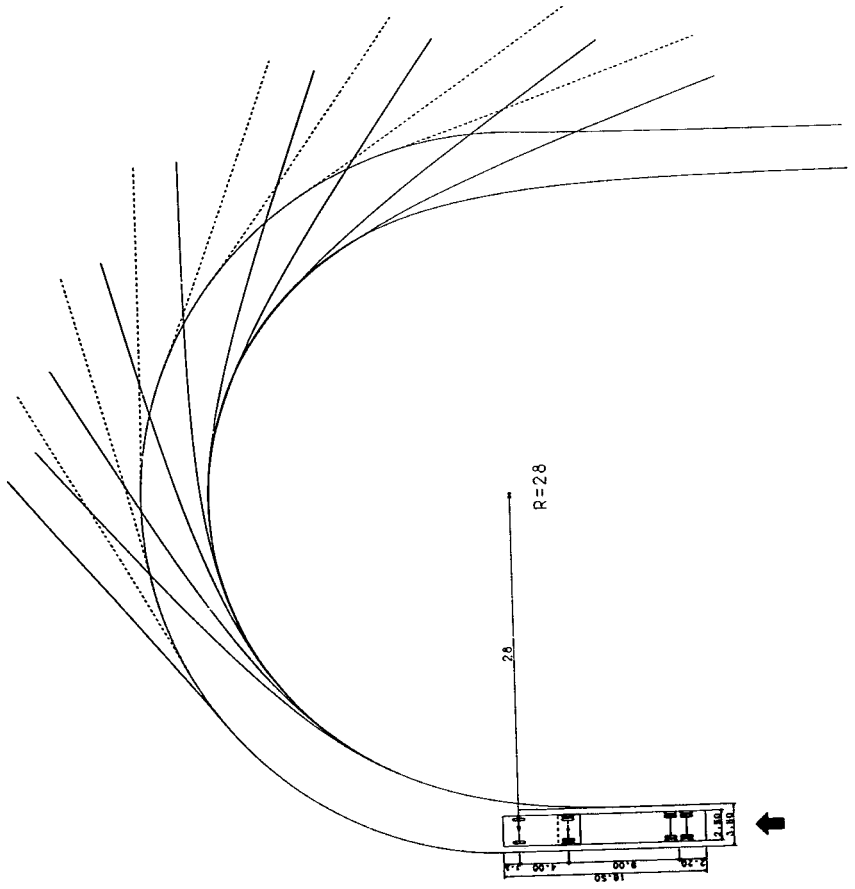
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

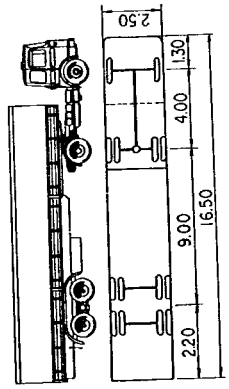
S- 53

W = 3.50 m

Rs = 28 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

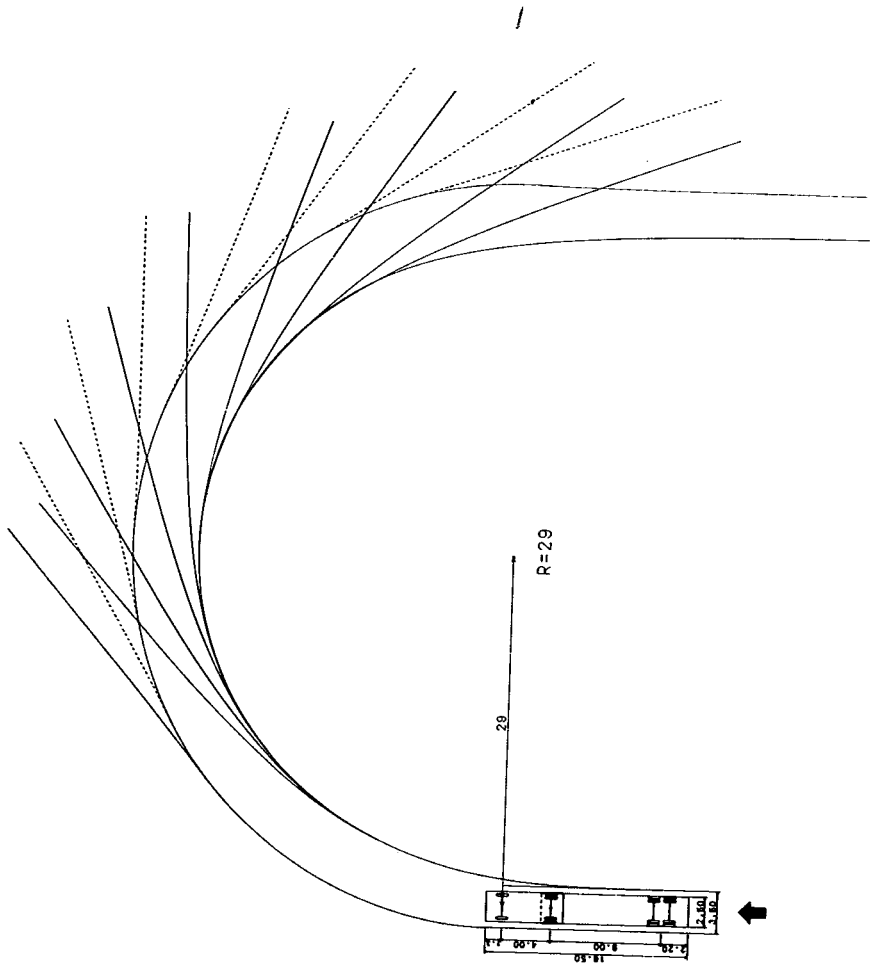
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MINISTRY OF CONSTRUCTION

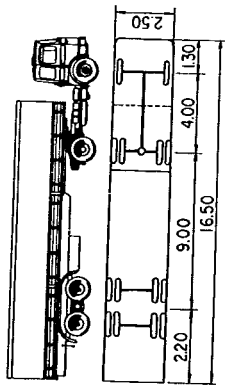
S - 54

W = 3.50 m

Rs = 29 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 500

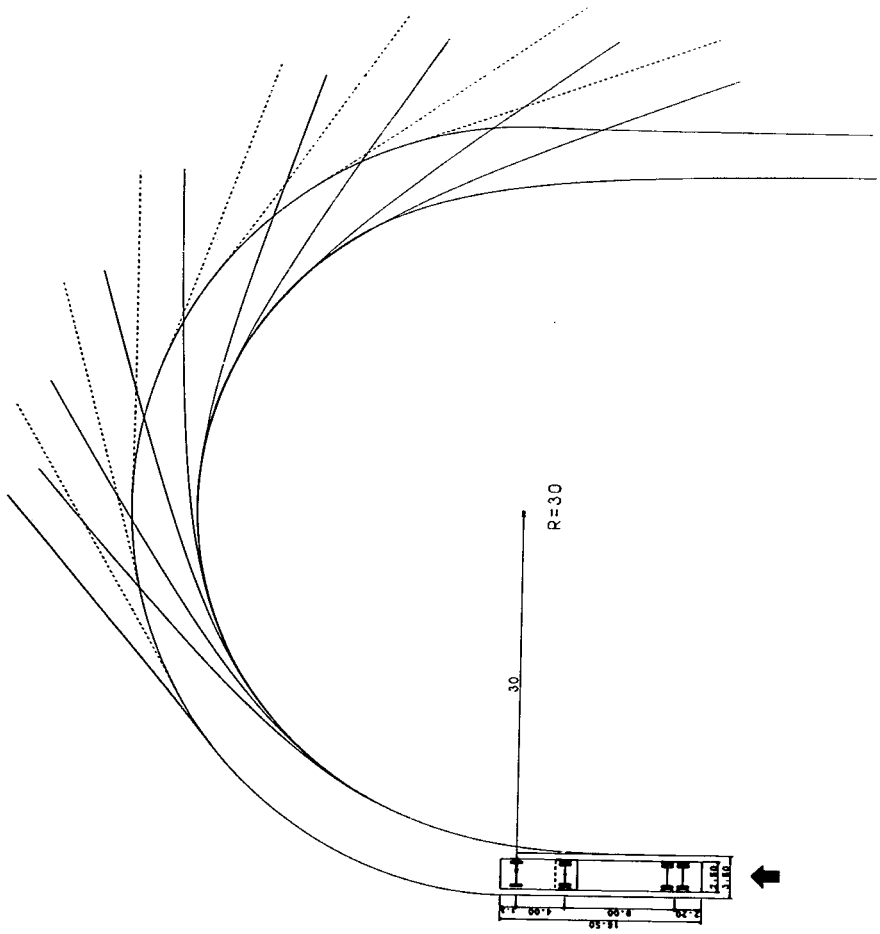
S - 55

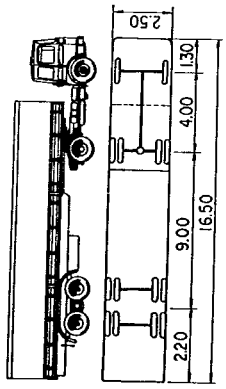
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

W = 3.50 m

Rs = 30 m

Turning Vehicle Templates (Patent Pending)





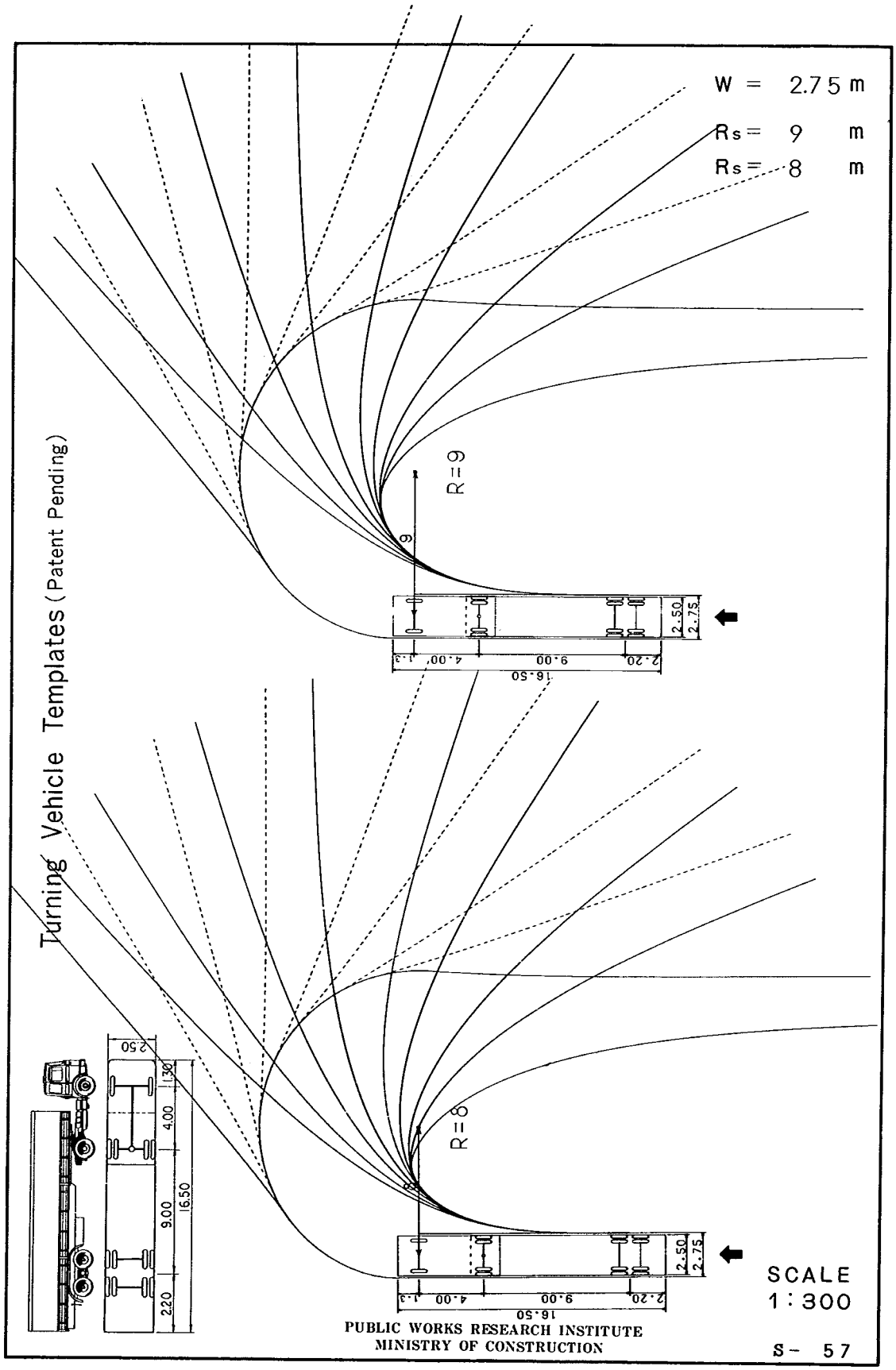
SCALE
1 : 500

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S - 56

縮尺（SCALE）　1：300

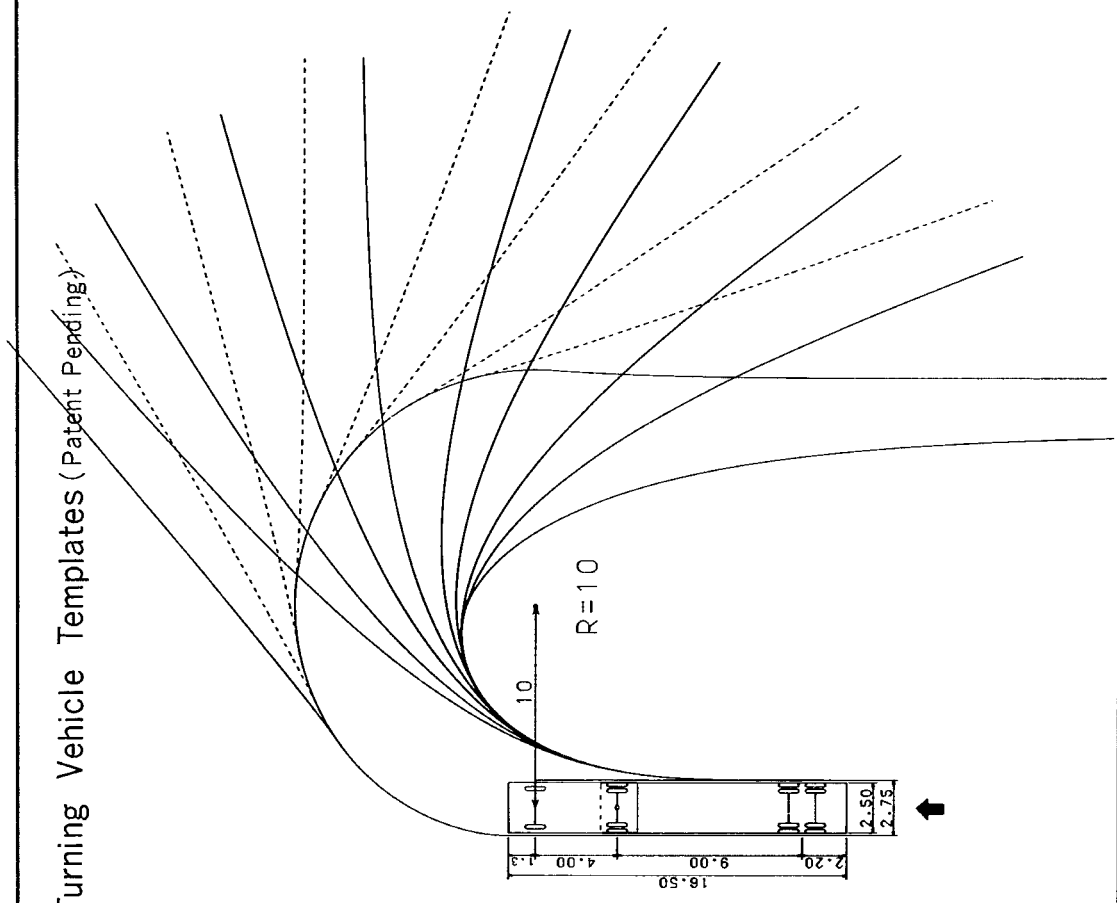
車線幅員（W）　2.75m

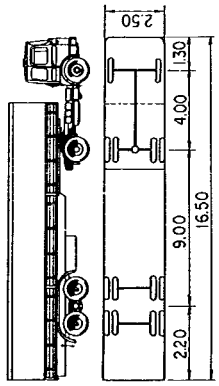

Turning Vehicle Templates (Patent Pending)
W = 2.75 m
Rs = 9 m
Rs = 8 m
R=9
R=8
2.50
2.75
16.50
2.20
9.00
4.00
1.30
2.50
4.00
9.00
16.50
2.20
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S- 57

W = 2.75 m

Rs = 10 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

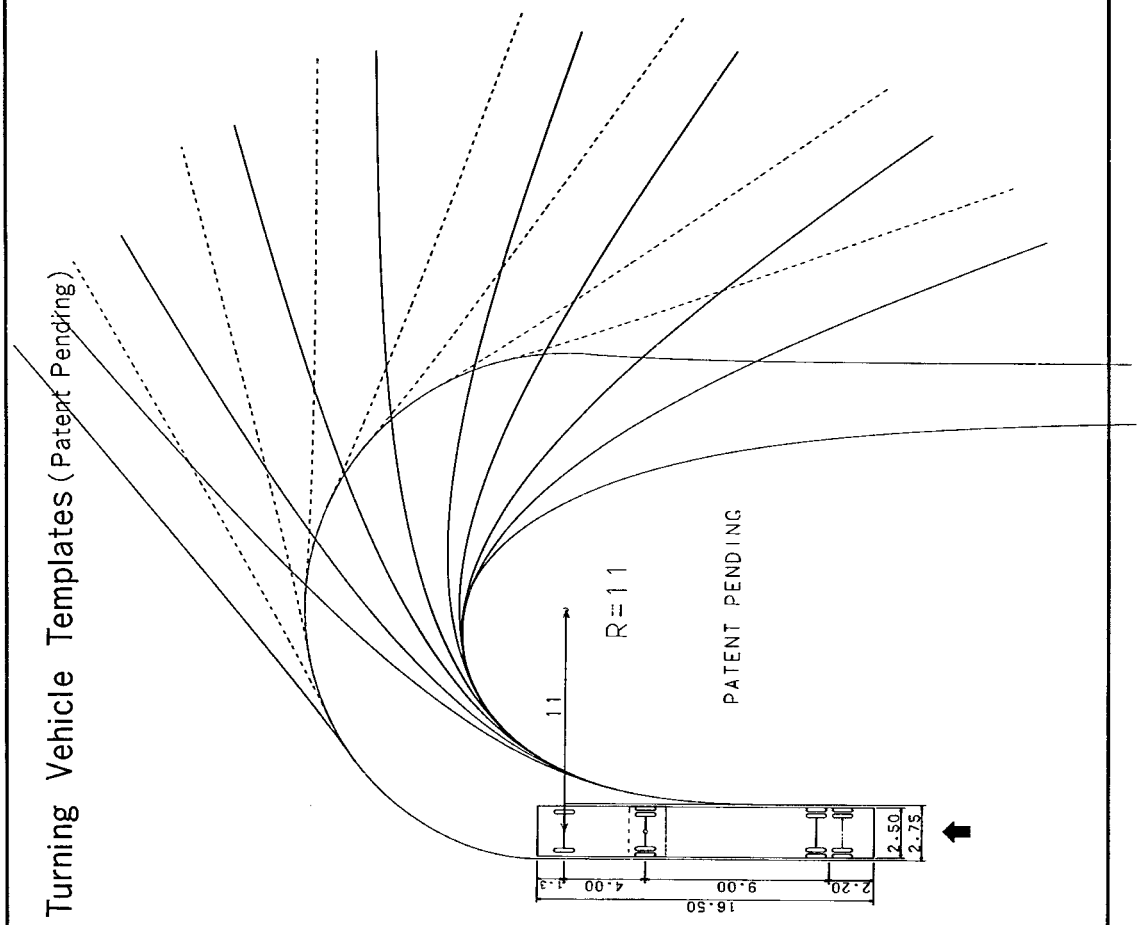
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

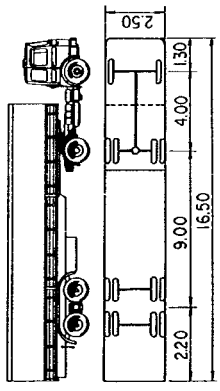
S - 58

W = 2.75 m

Rs = 11 m

Turning Vehicle Templates (Patent Pending)





SCALE
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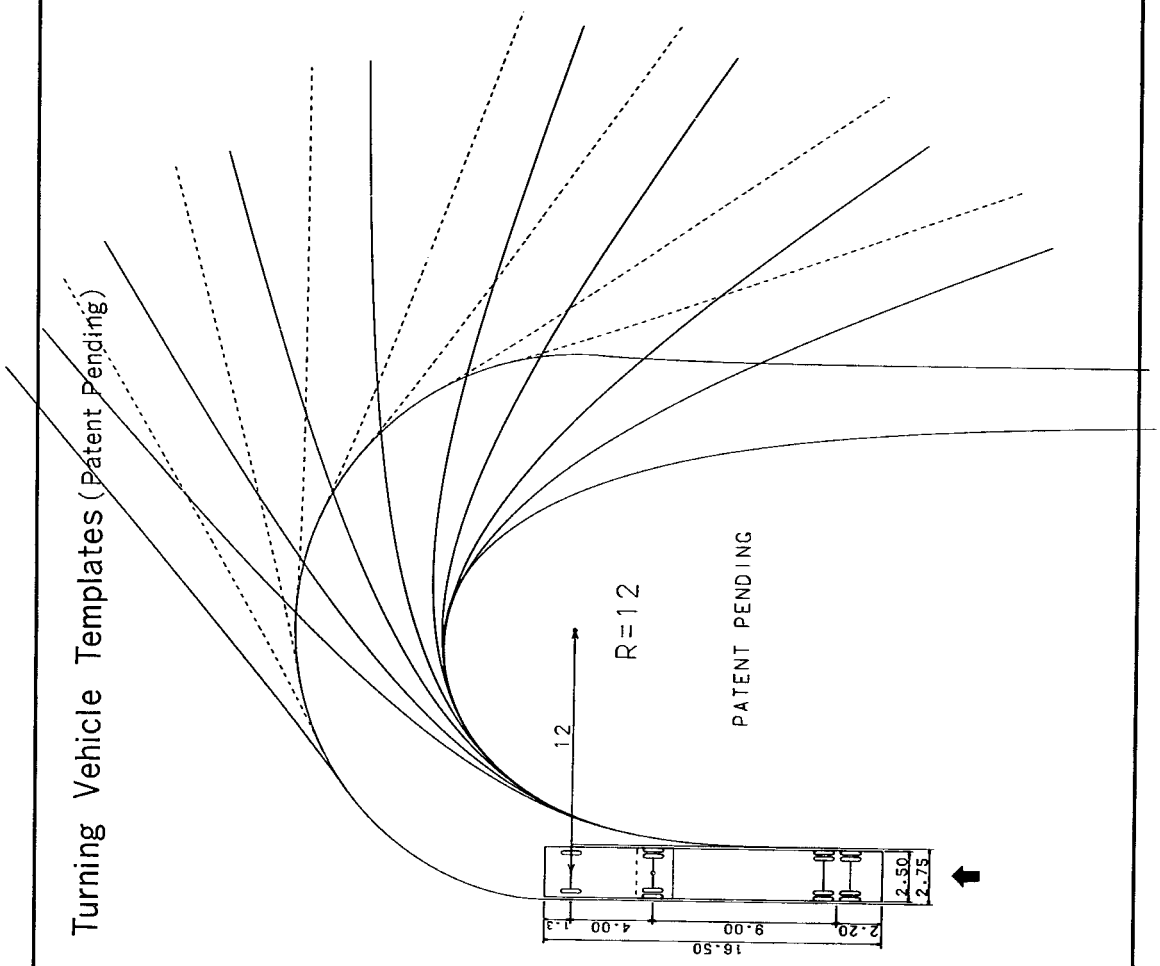
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MINISTRY OF CONSTRUCTION

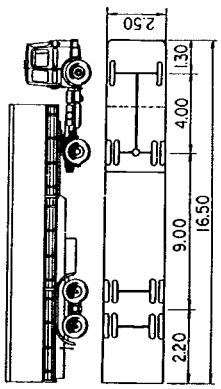
S - 59

W = 2.75 m

Rs = 12 m

Turning Vehicle Templates (Patent Pending)





SCALE
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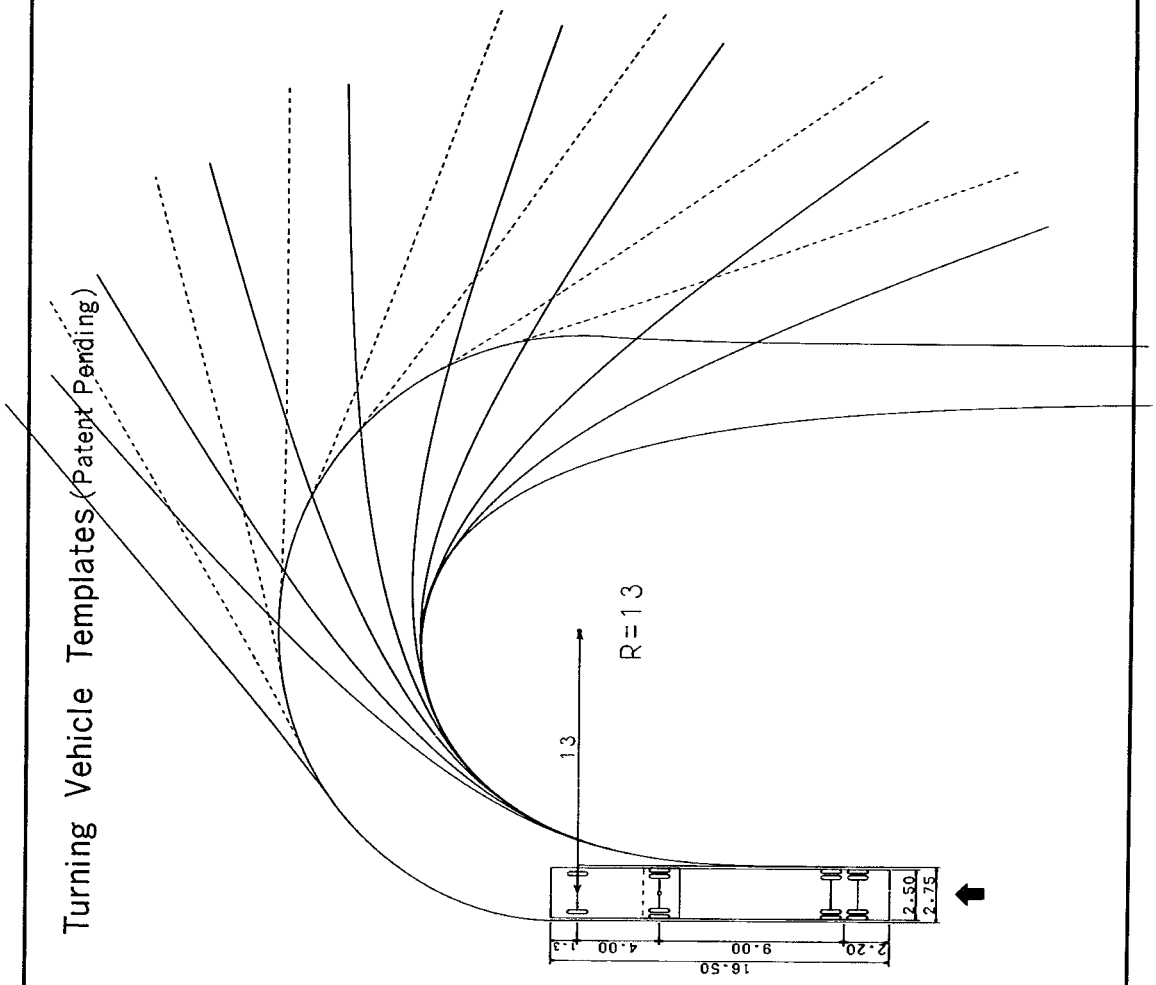
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MINISTRY OF CONSTRUCTION

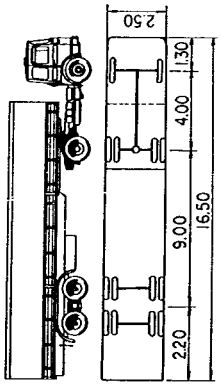
S - 60

W = 2.75 m

Rs = 13 m

Turning Vehicle Templates (Patent Pending)





SCALE
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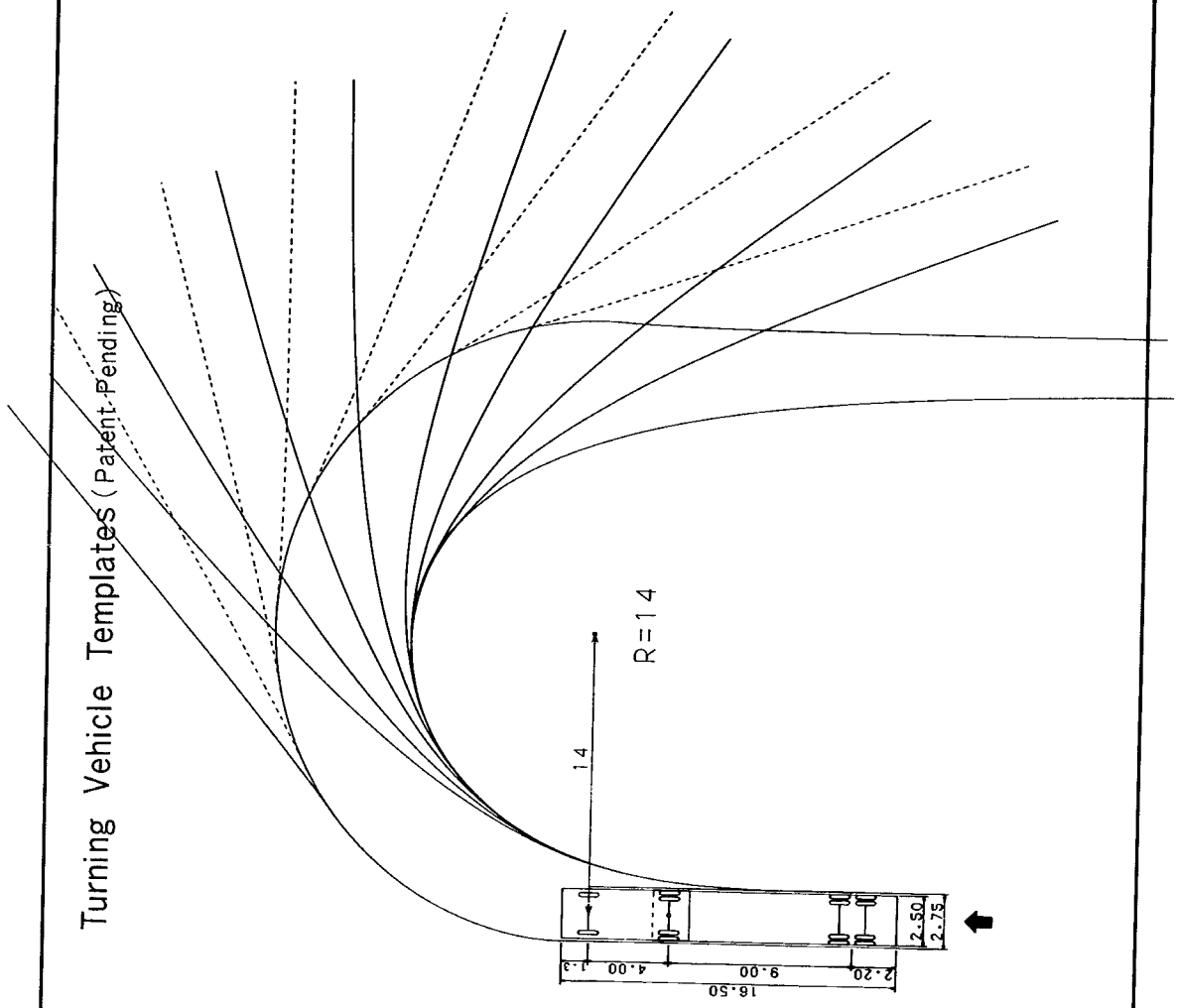
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MINISTRY OF CONSTRUCTION

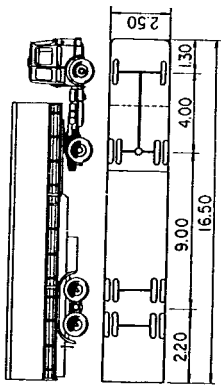
S - 61

W = 2.75 m

Rs = 14 m

Turning Vehicle Templates (Patent Pending)





SCALE
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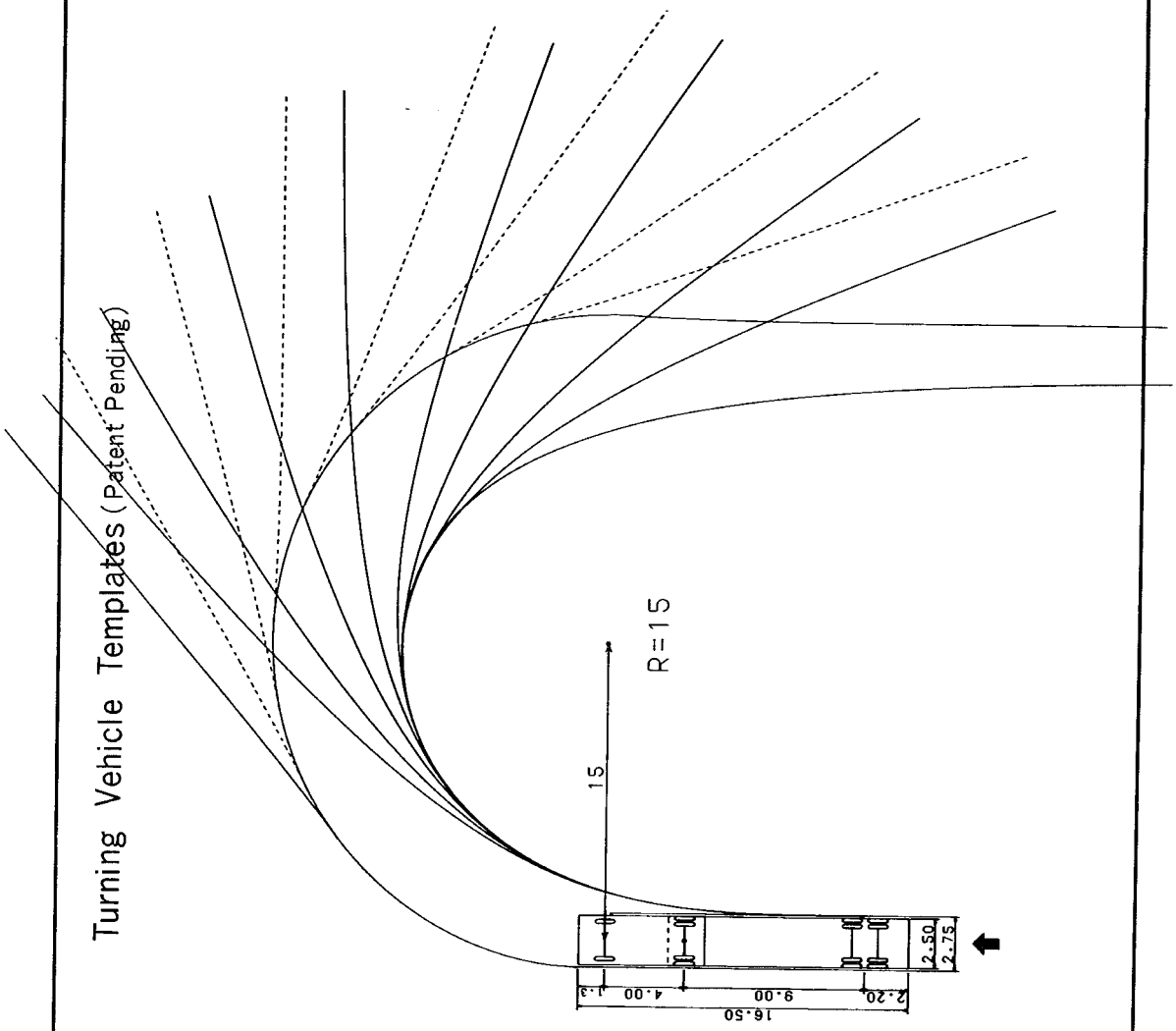
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

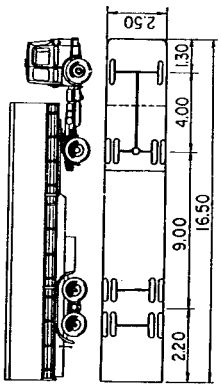
S- 62

W = 2.75 m

Rs = 15 m

Turning Vehicle Templates (Patent Pending)





SCALE
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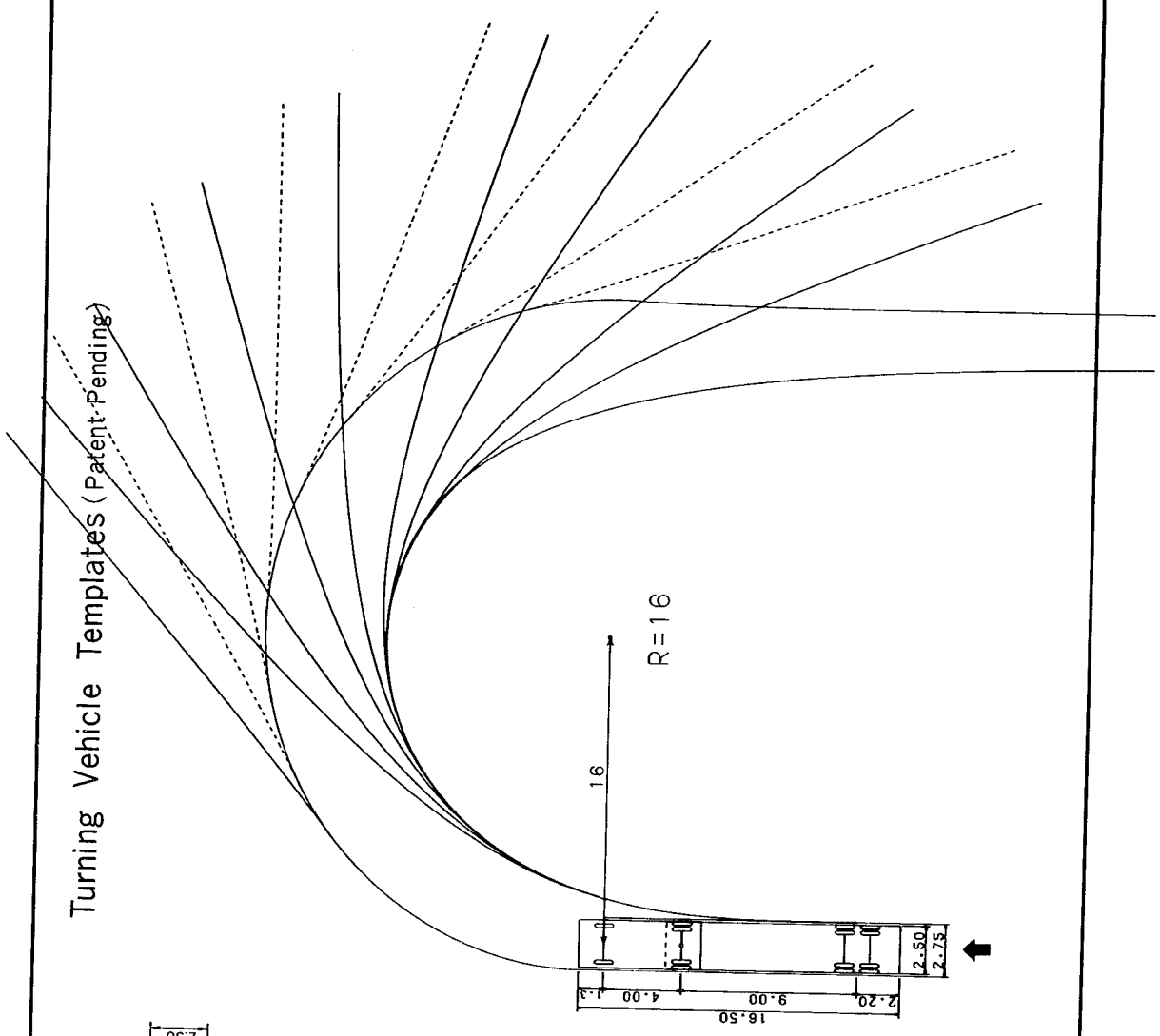
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

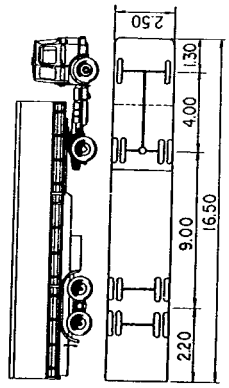
S- 63

W = 2.75 m

Rs = 16 m

Turning Vehicle Templates (Patent Pending)





SCALE
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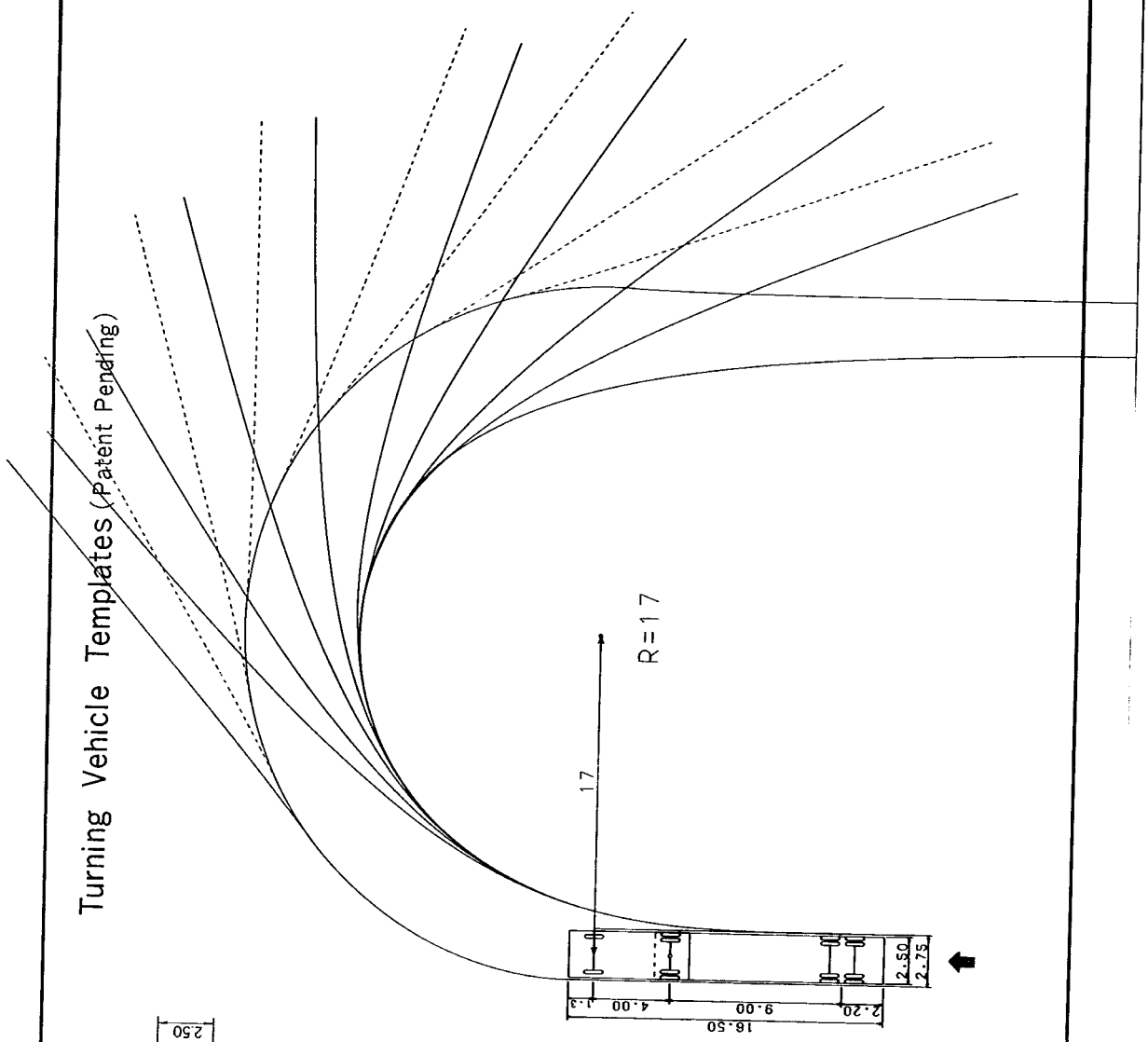
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

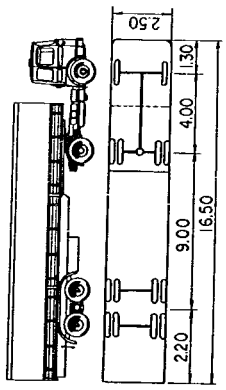
S- 64

Turning Vehicle Templates (Patent Pending)

W = 2.75 m

Rs = 17 m





SCALE
1 : 300

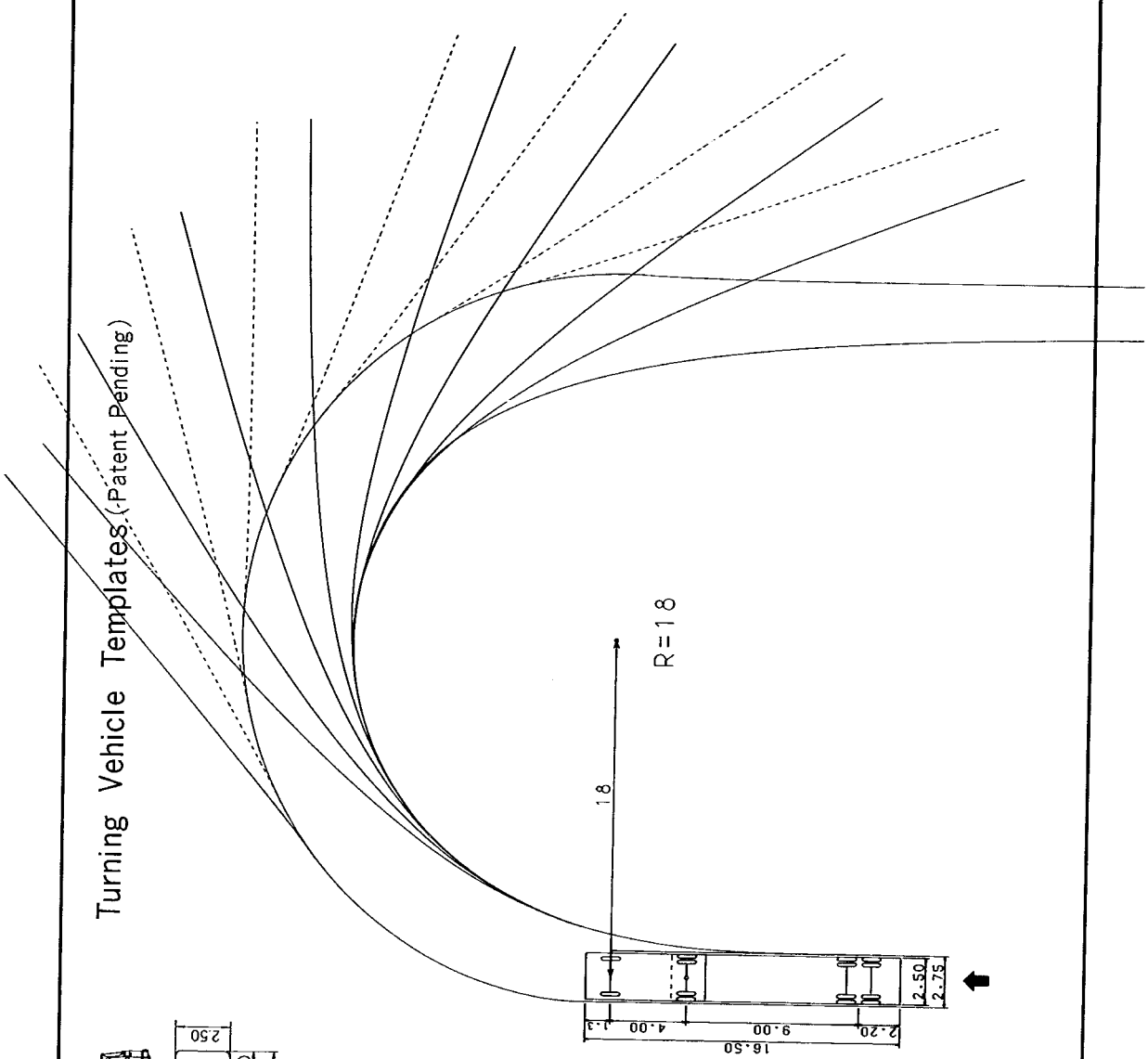
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

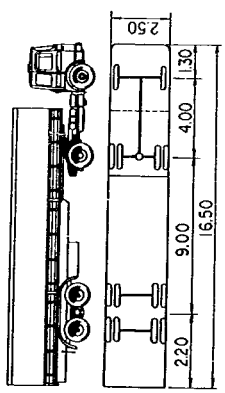
S - 65

W = 2.75 m

Rs = 18 m

Turning Vehicle Templates (Patent Pending)





SCALE
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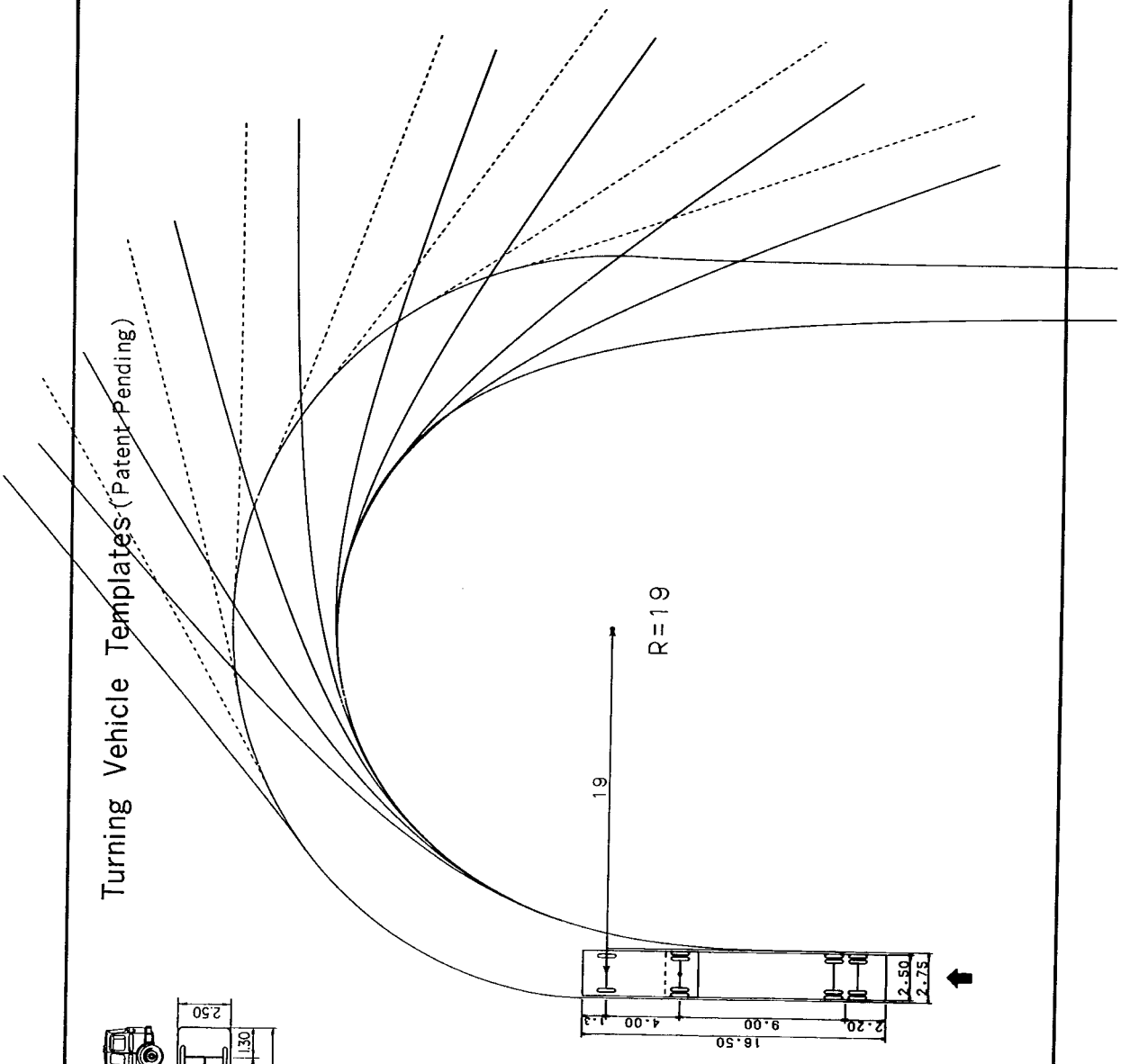
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

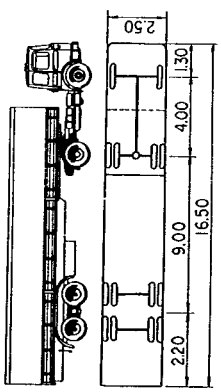
S - 66

W = 2.75 m

Rs = 19 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

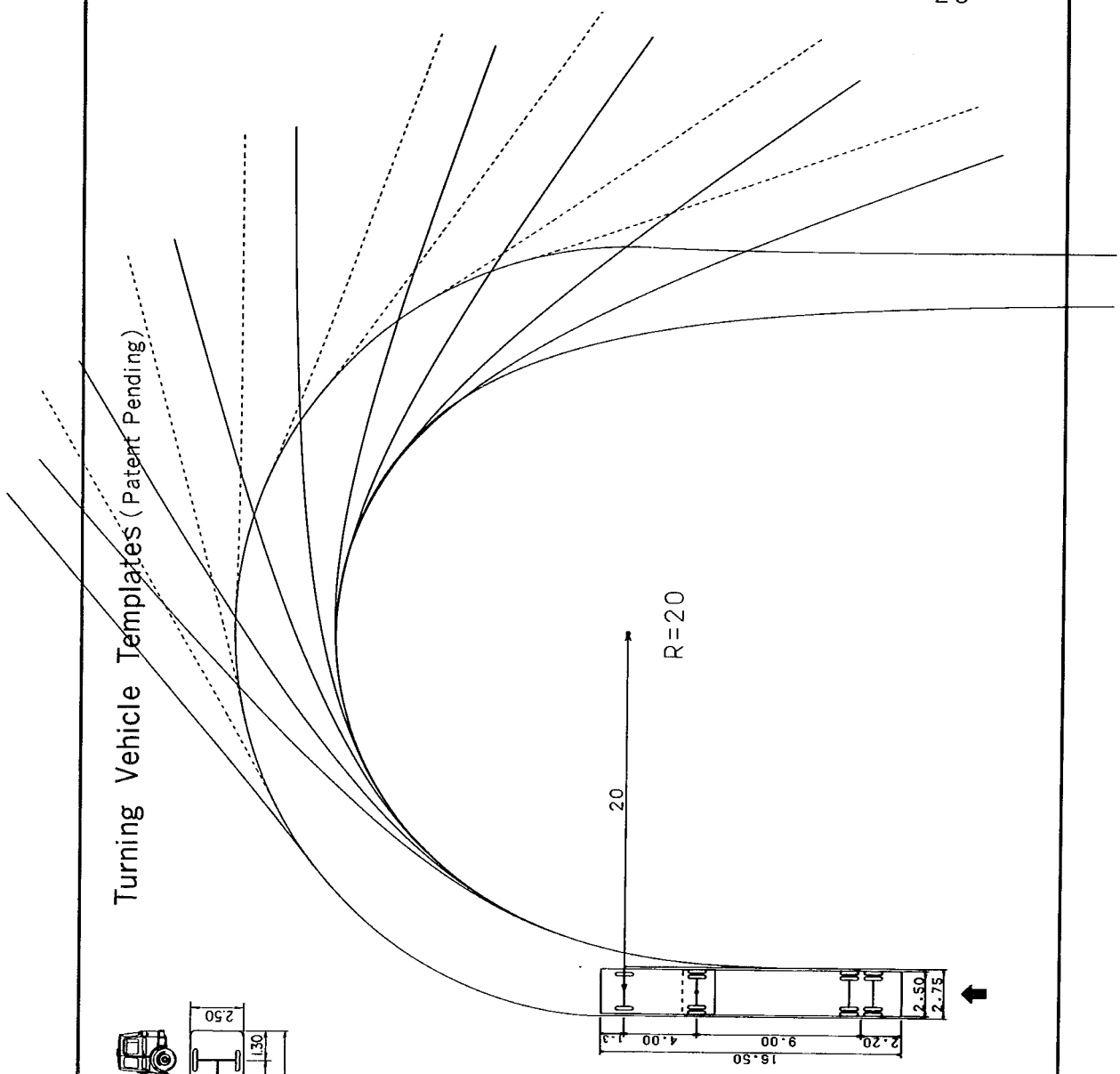
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

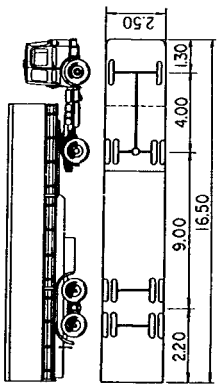
S - 67

W = 2.75 m

Rs = 20 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

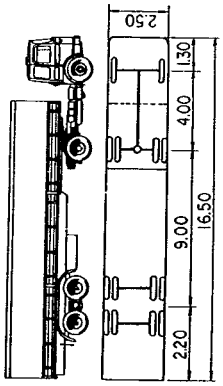
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

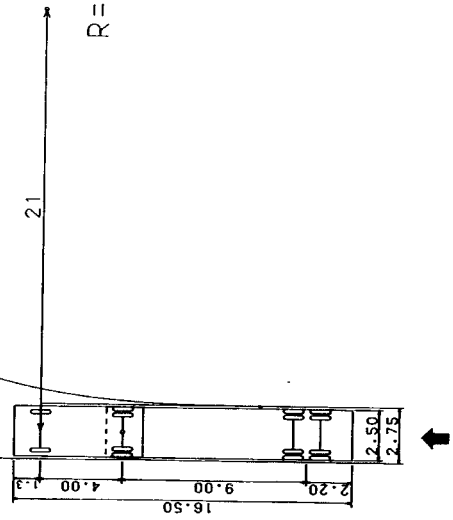
S- 68

W = 2.75 m

Rs = 21 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

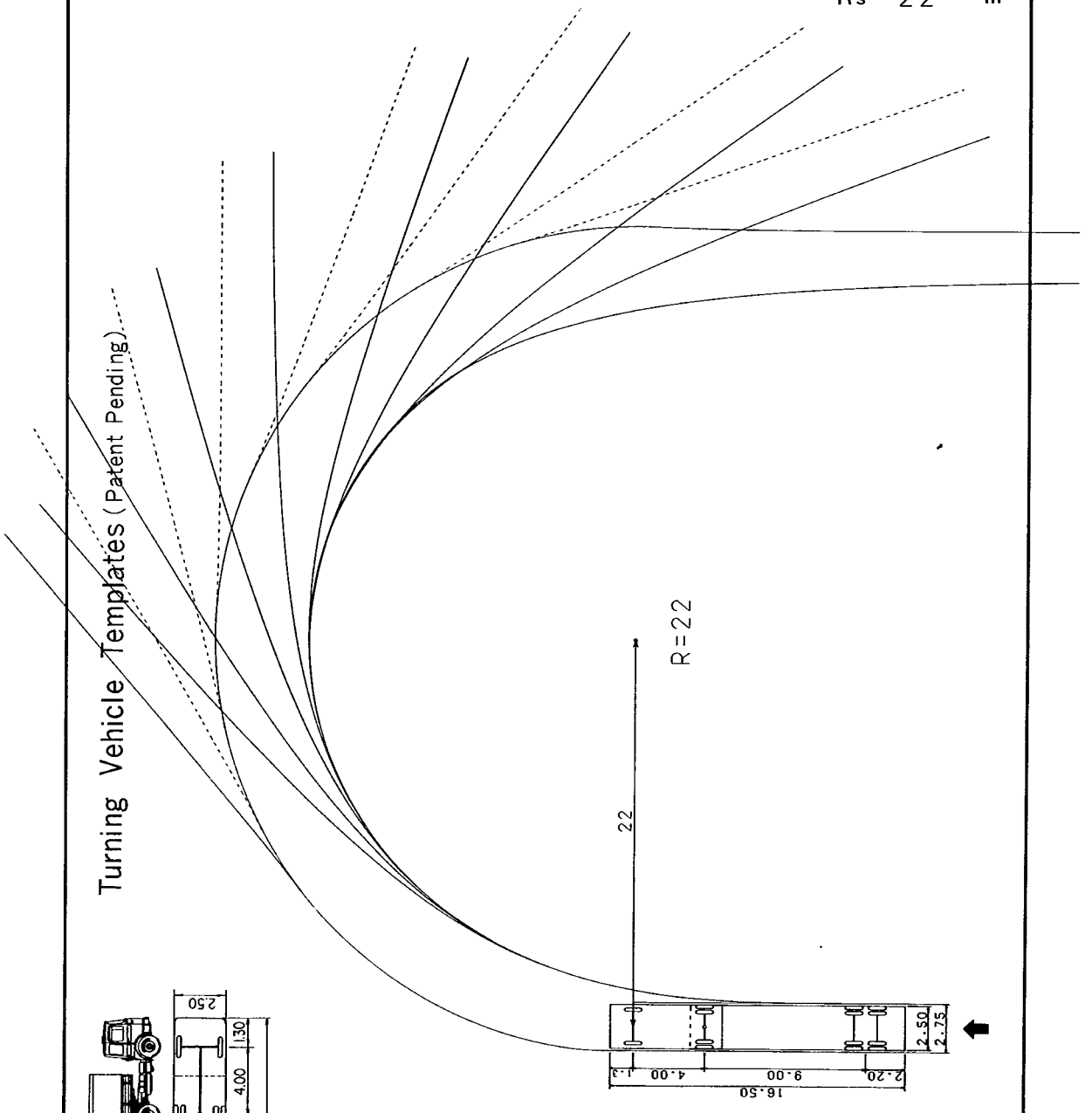
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S- 69

W = 2.75 m

Rs = 22 m

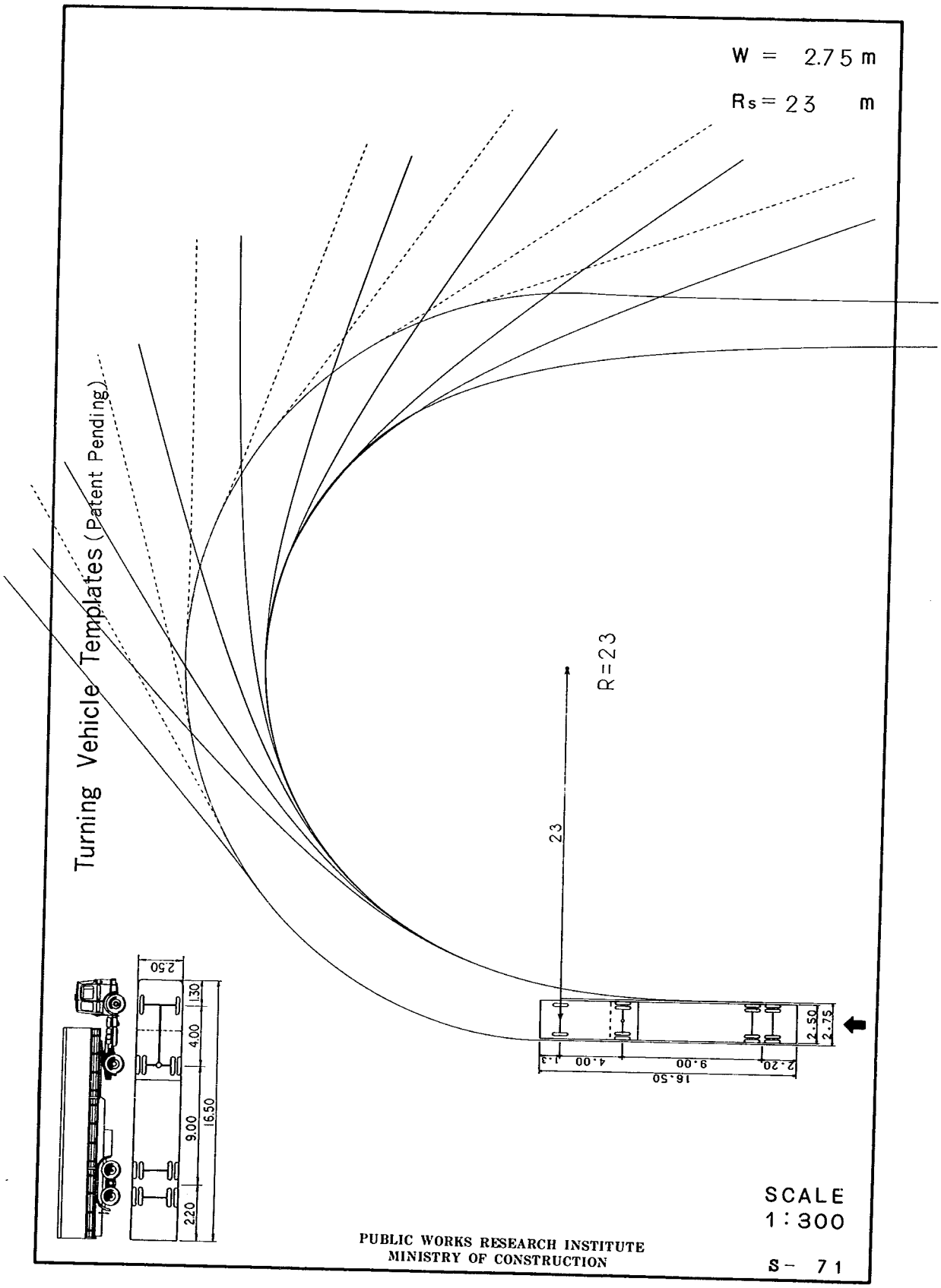
Turning Vehicle Templates (Patent Pending)

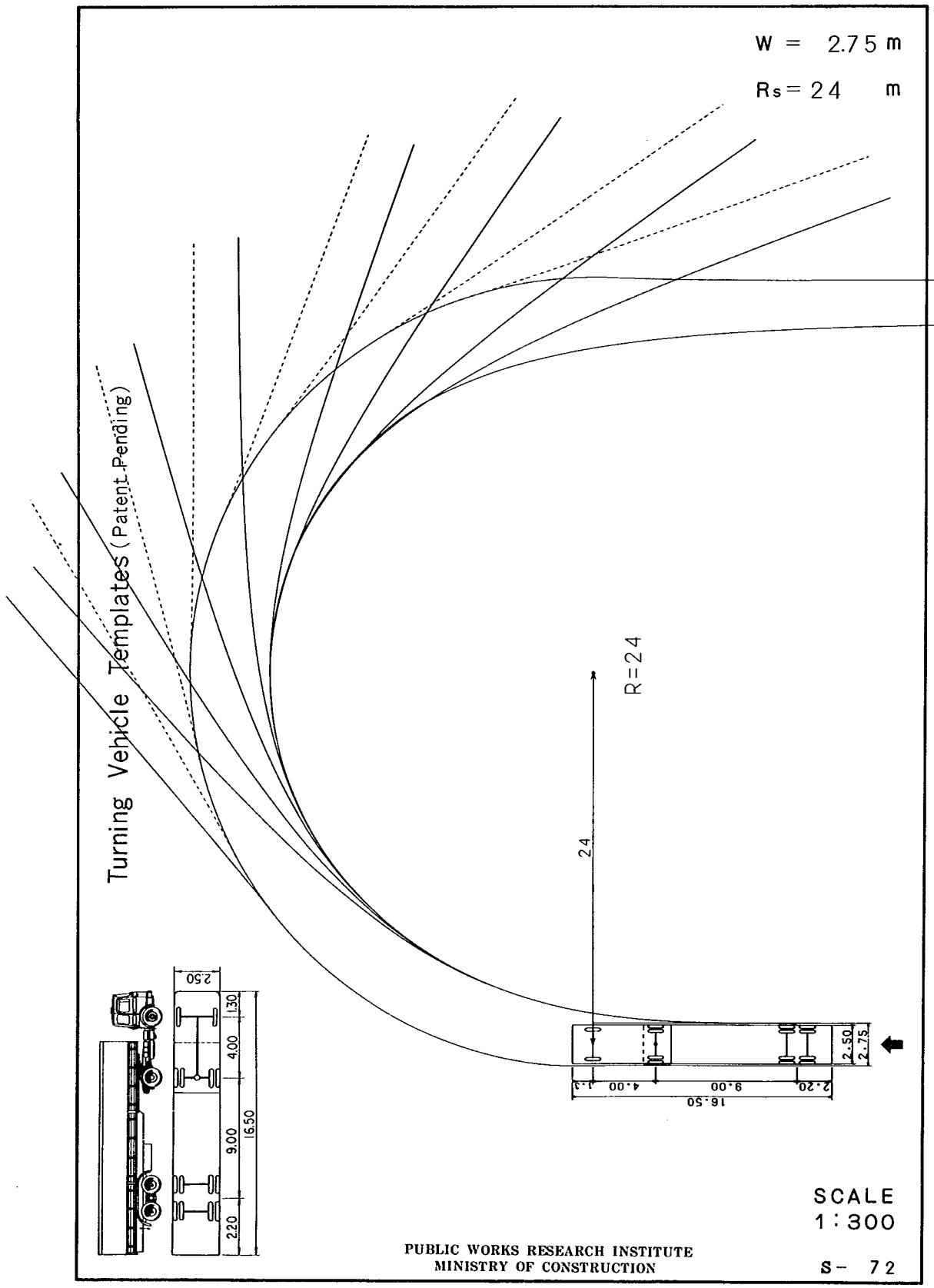


SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S- 70


W = 2.75 m
Rs = 23 m
Turning Vehicle Templates (Patent Pending)
R=23
23
2.50
1.30
4.00
9.00
16.50
2.20
2.50
2.75
1.3
4.00
9.00
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S－ 71


W = 2.75 m
Rs = 24 m
Turning Vehicle Templates (Patent Pending)
R=24
24
2.50
2.75
1.30
4.00
9.00
16.50
2.20
16.50
9.00
4.00
2.20
1.3
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S- 72

W = 2.75 m

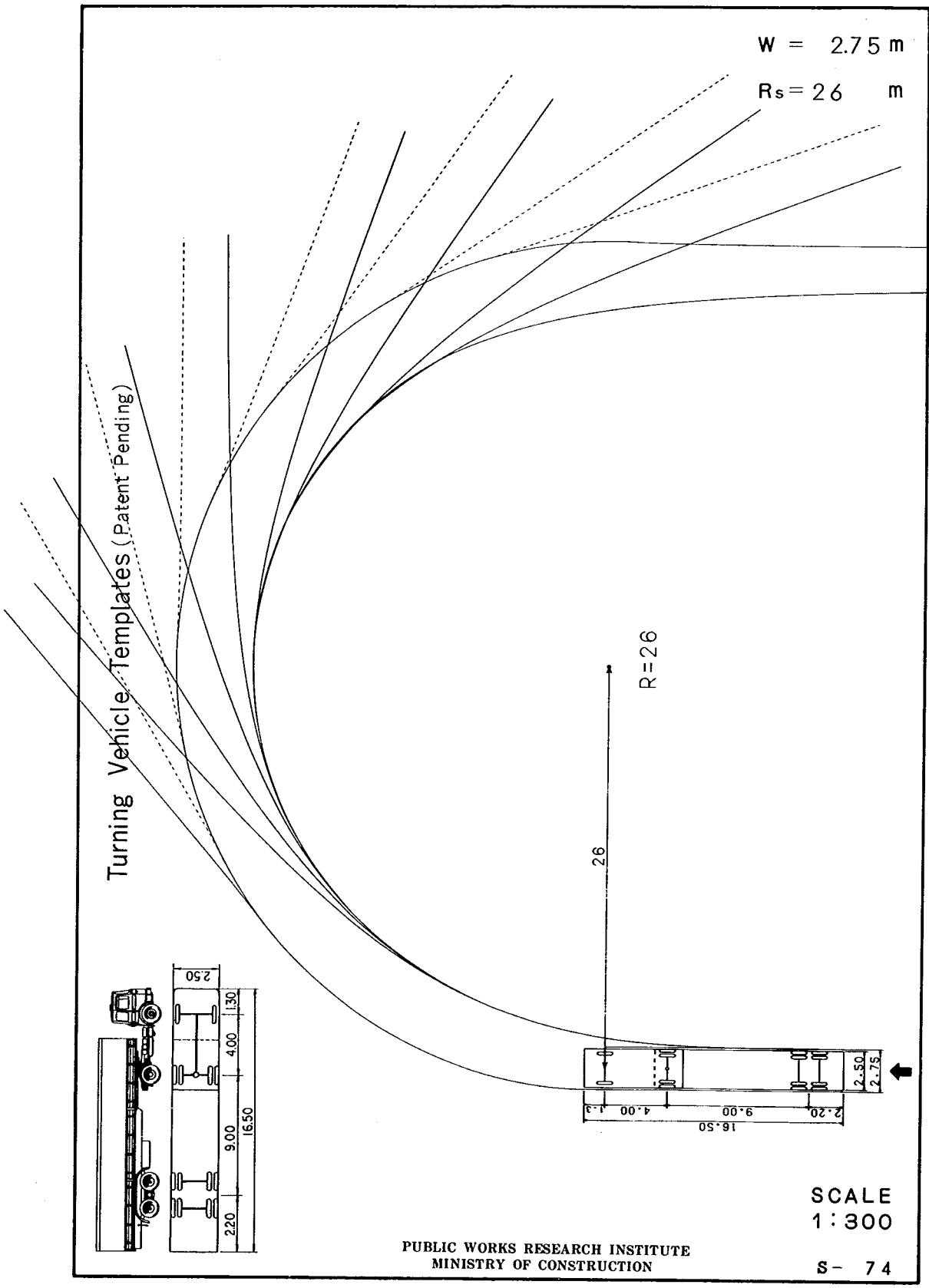
Rs = 25 m

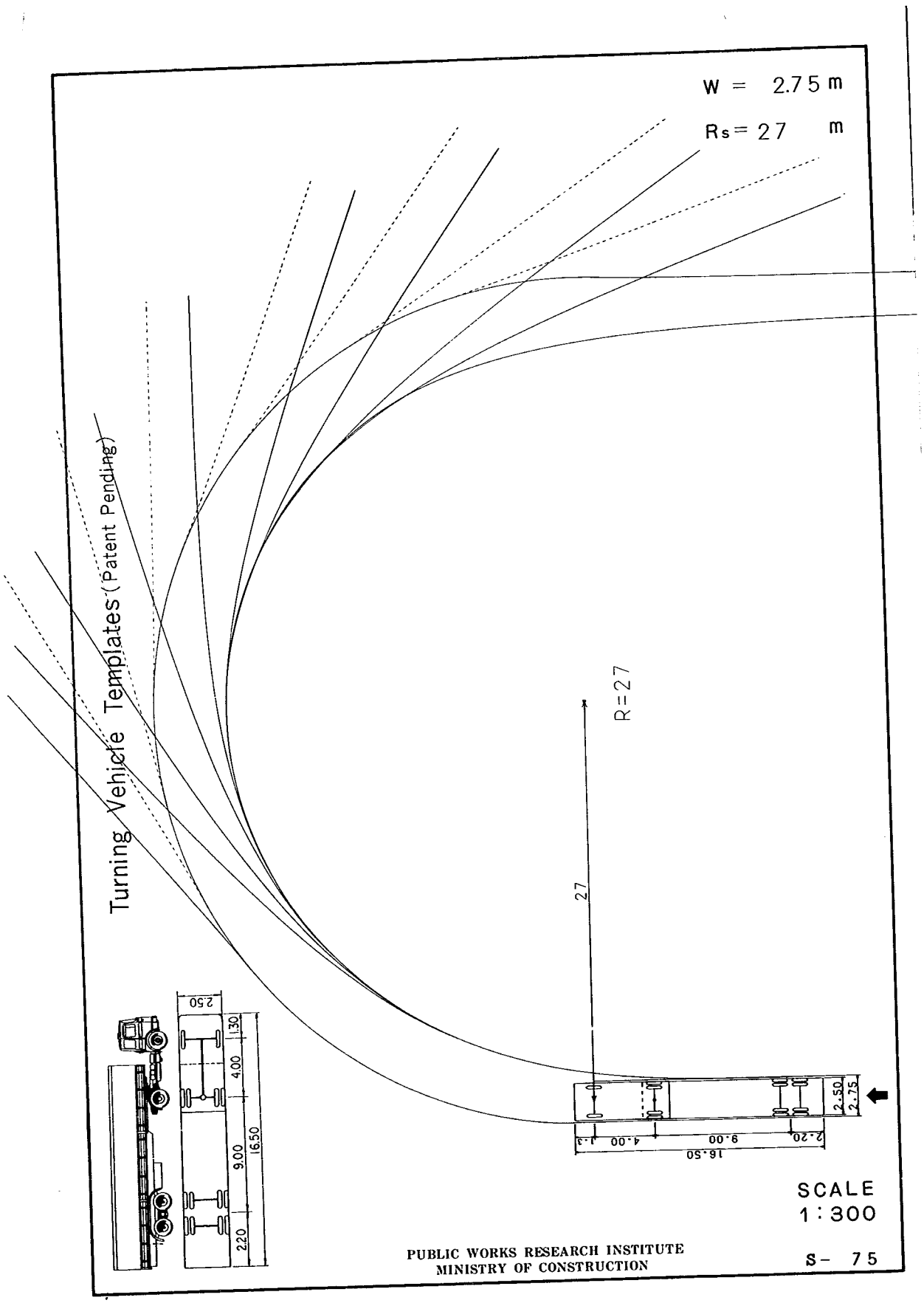
Turning Vehicle Templates (Patent Pending)

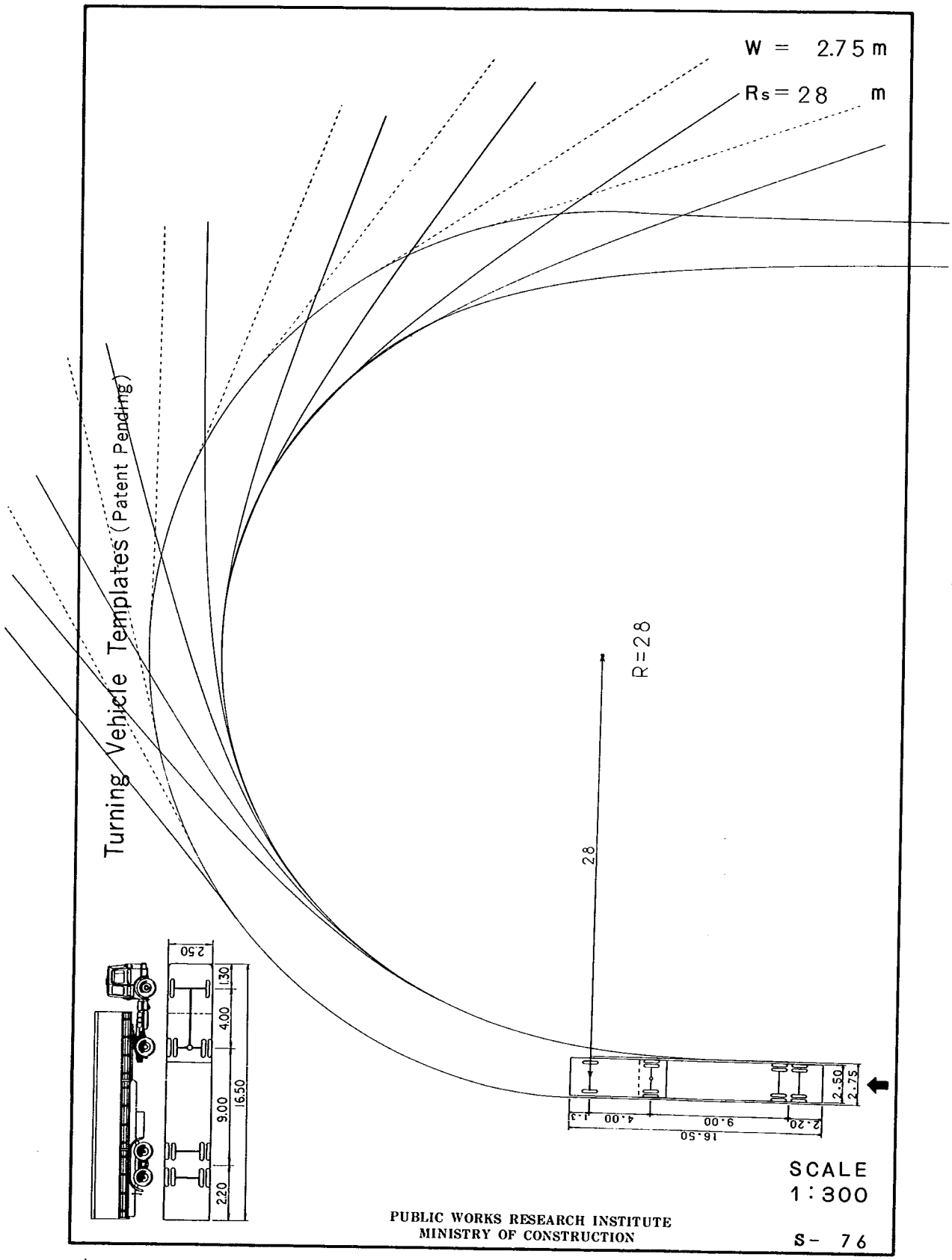
SCALE
1 : 300

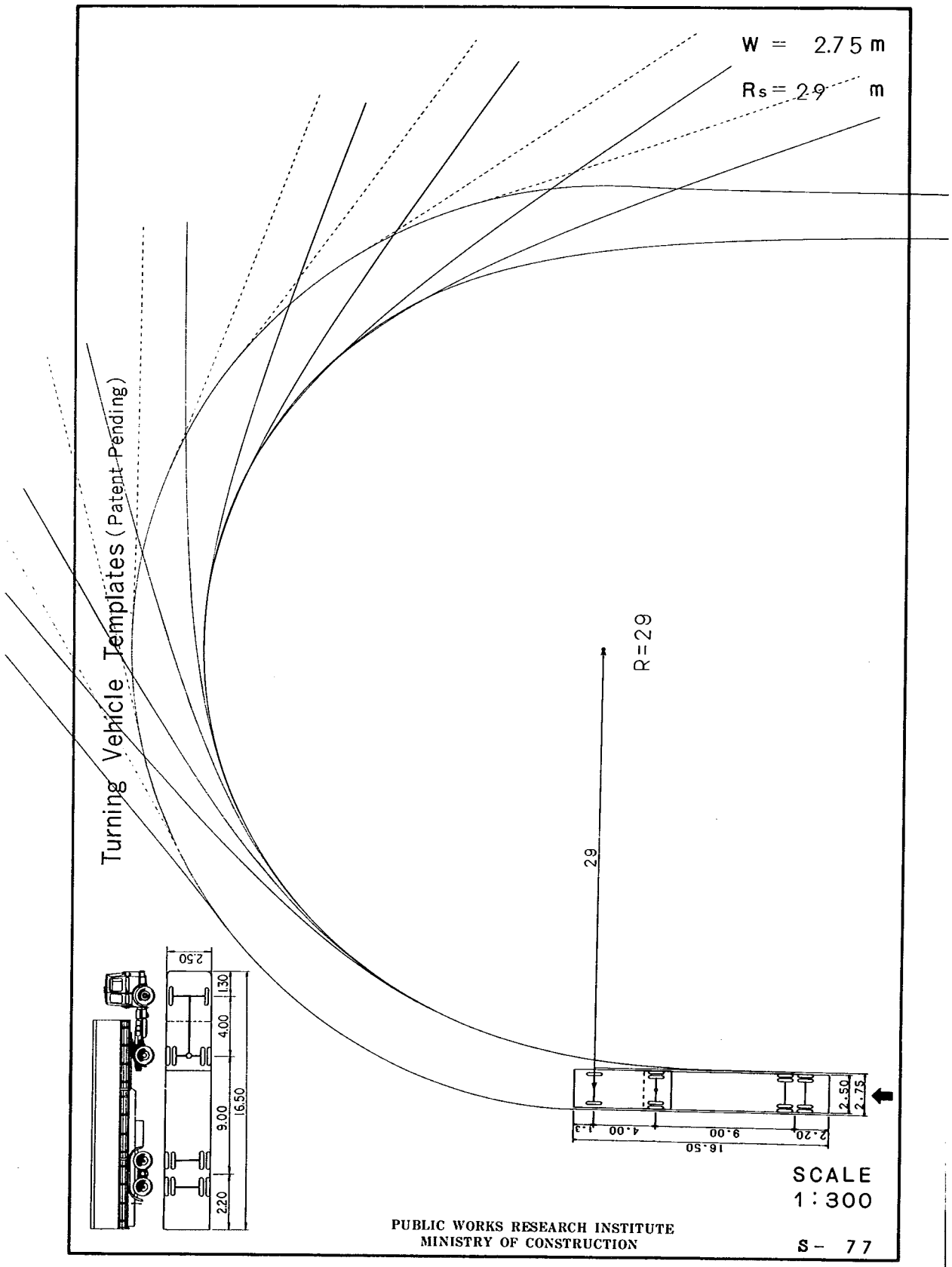
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S－ 73


W = 2.75 m
Rs = 26 m
Turning Vehicle Templates (Patent Pending)
R=26
26
2.50
1.30
4.00
9.00
16.50
2.20
2.50
2.75
16.50
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S- 74


W = 2.75 m
Rs = 27 m
Turning Vehicle Templates (Patent Pending)
R=27
27
2.50
1.30
4.00
9.00
16.50
2.20
2.50
2.75
1.3
4.00
9.00
2.20
16.50
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S- 75

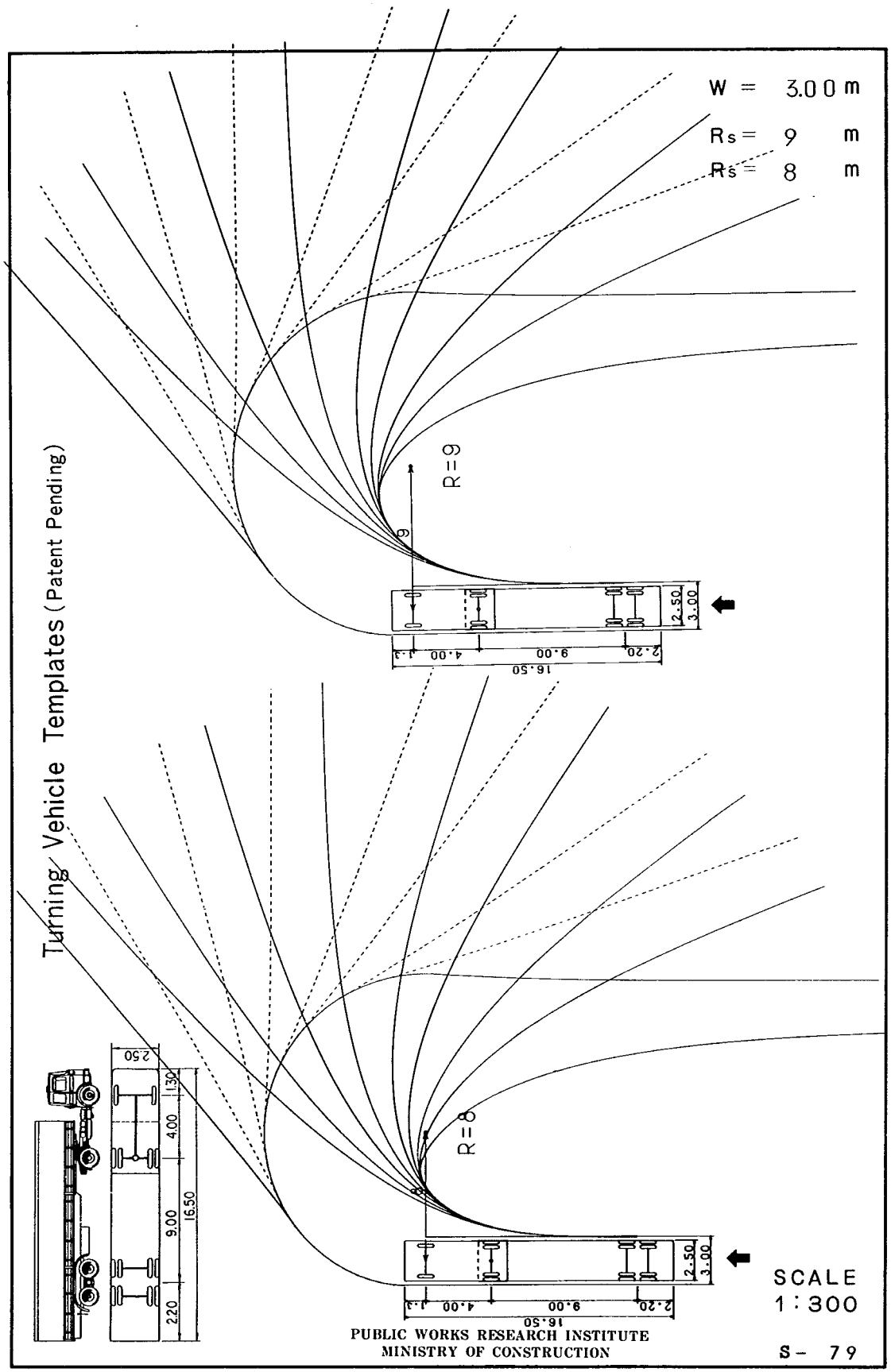

W = 2.75 m
Rs = 28 m
Turning Vehicle Templates (Patent Pending)
R=28
28
2.50
1.30
4.00
9.00
16.50
2.20
2.50
2.75
1.3
4.00
9.00
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S- 76


W = 2.75 m
Rs = 29 m
Turning Vehicle Templates (Patent Pending)
R=29
29
2.50
1.30
4.00
9.00
16.50
2.20
2.50
2.75
1.3
4.00
9.00
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S - 77

W = 2.75 m
Rs = 30 m
Turning Vehicle Templates (Patent Pending)
R=30
30
2.50
1.30
4.00
9.00
16.50
2.20
2.50
2.75
4.00
9.00
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S- 78

縮尺（SCALE）　1：300

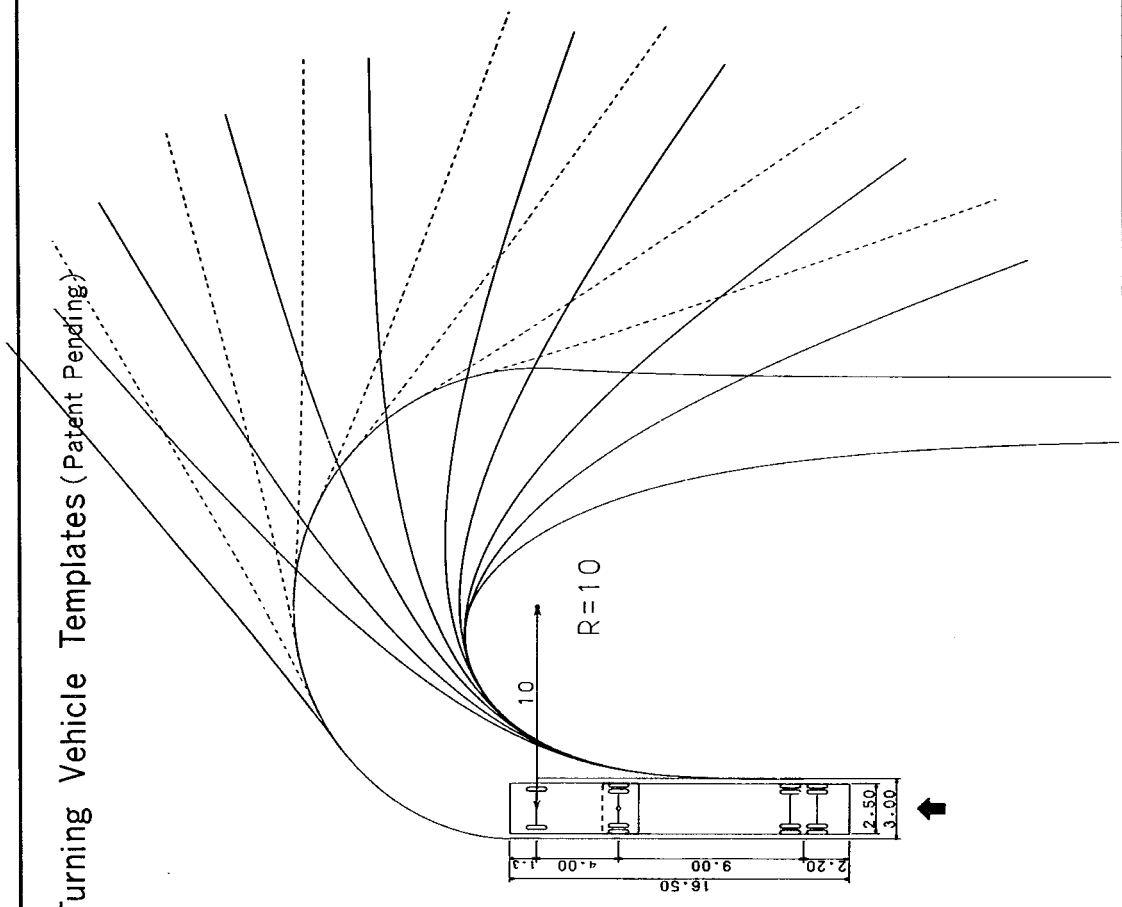
車線幅員（W）　3.00m

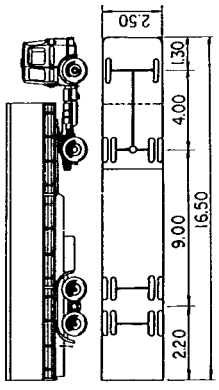

Turning Vehicle Templates (Patent Pending)
W = 3.00 m
Rs = 9 m
Rs = 8 m
R=9
R=8
2.50
1.30
4.00
9.00
16.50
2.20
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S - 79

W = 3.00 m

Rs = 10 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

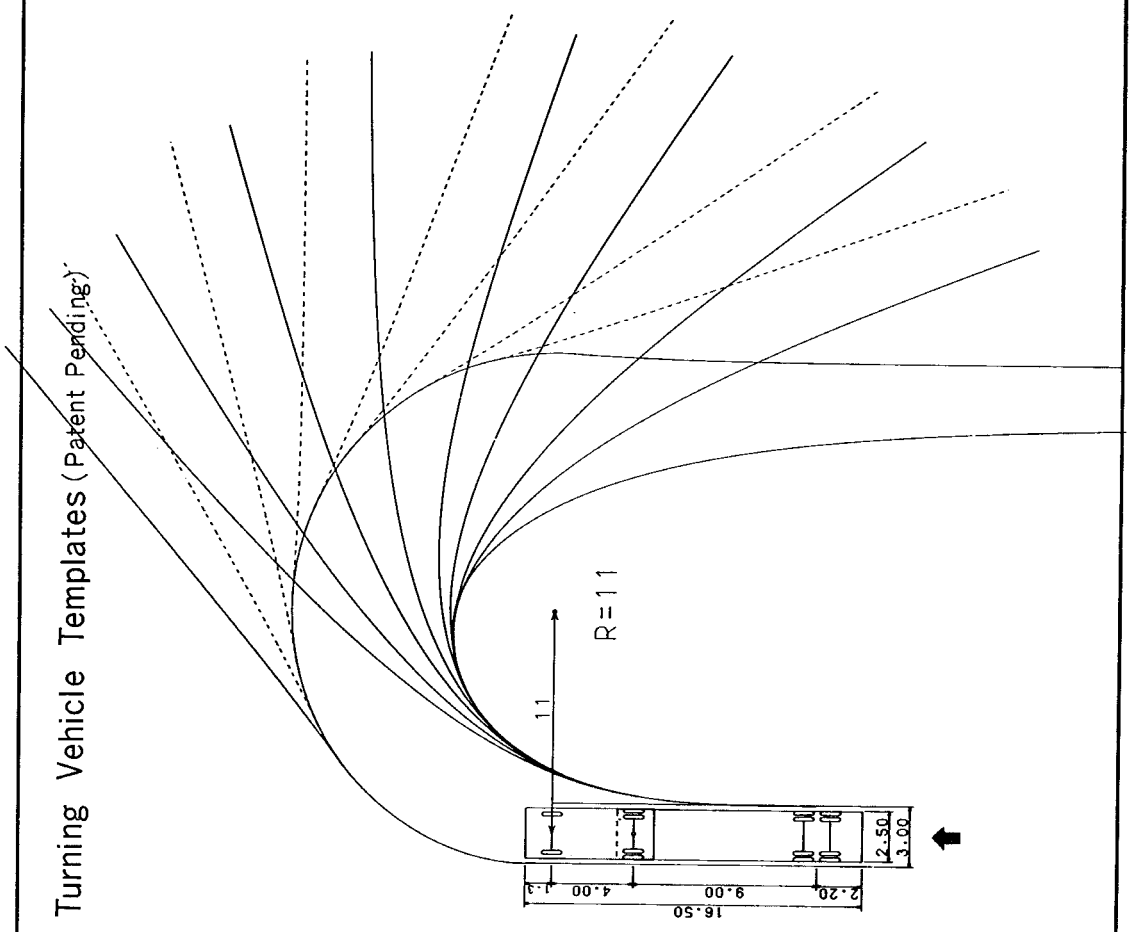
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MINISTRY OF CONSTRUCTION

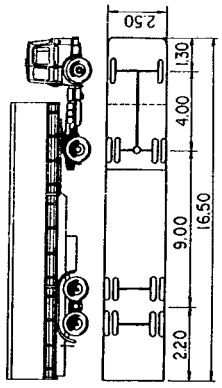
S - 80

W = 3.00 m

Rs = 11 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

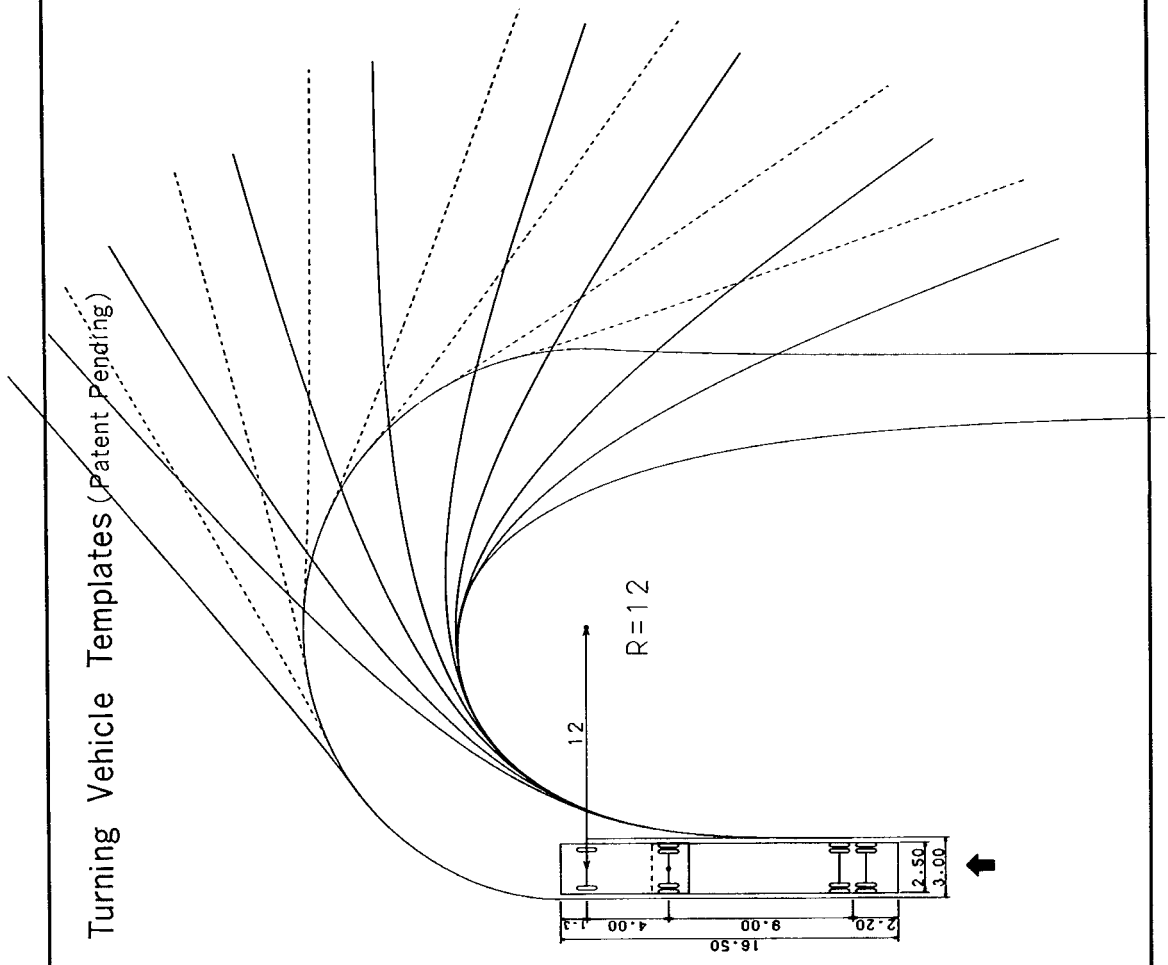
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MINISTRY OF CONSTRUCTION

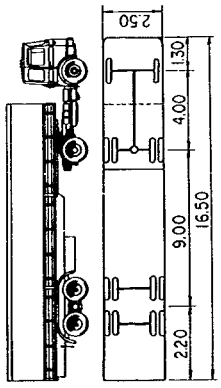
S - 81

W = 3.00 m

Rs = 12 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

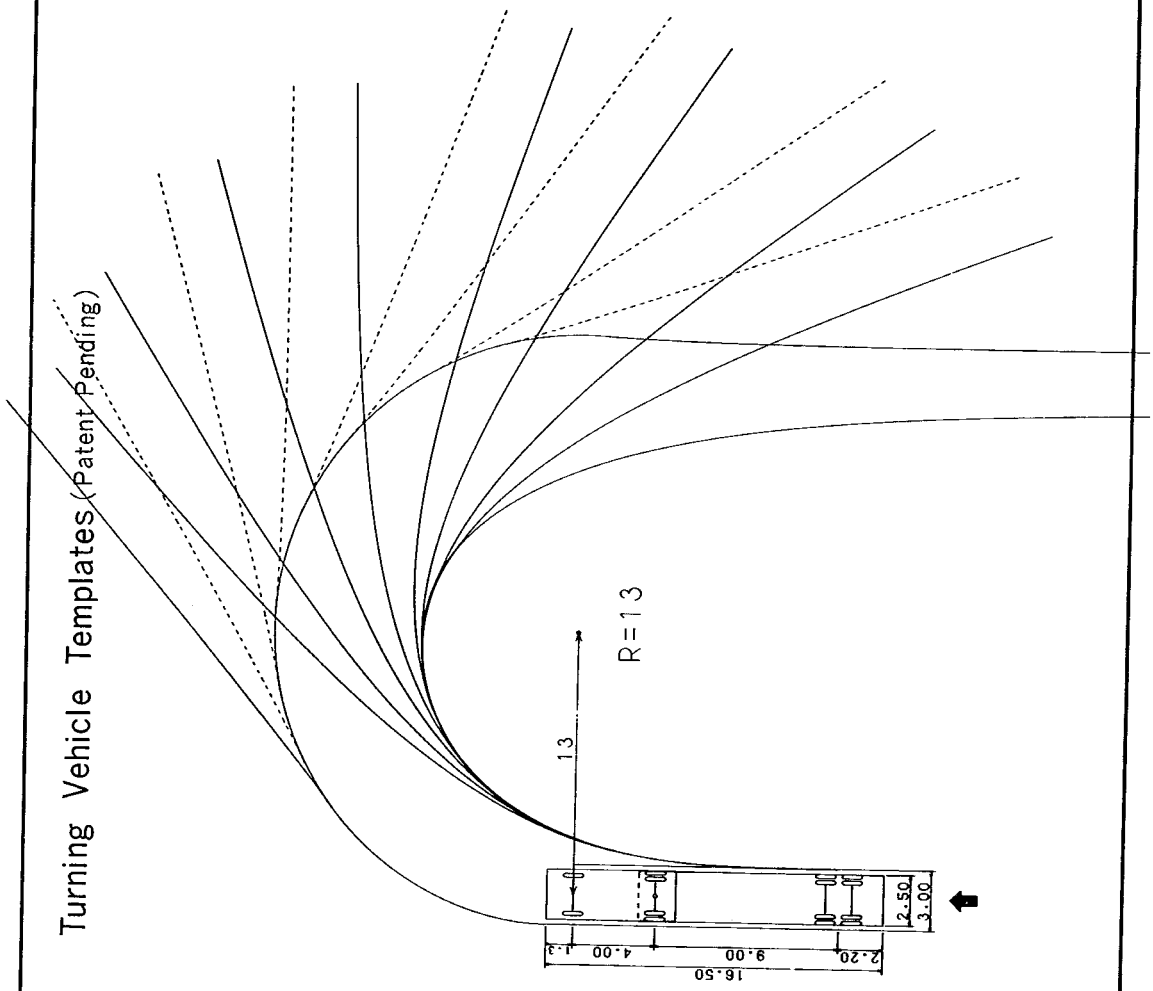
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

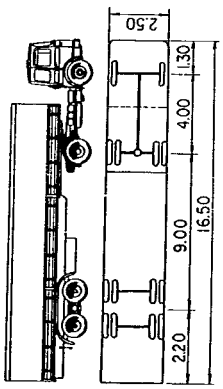
S - 82

W = 3.00 m

Rs = 13 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

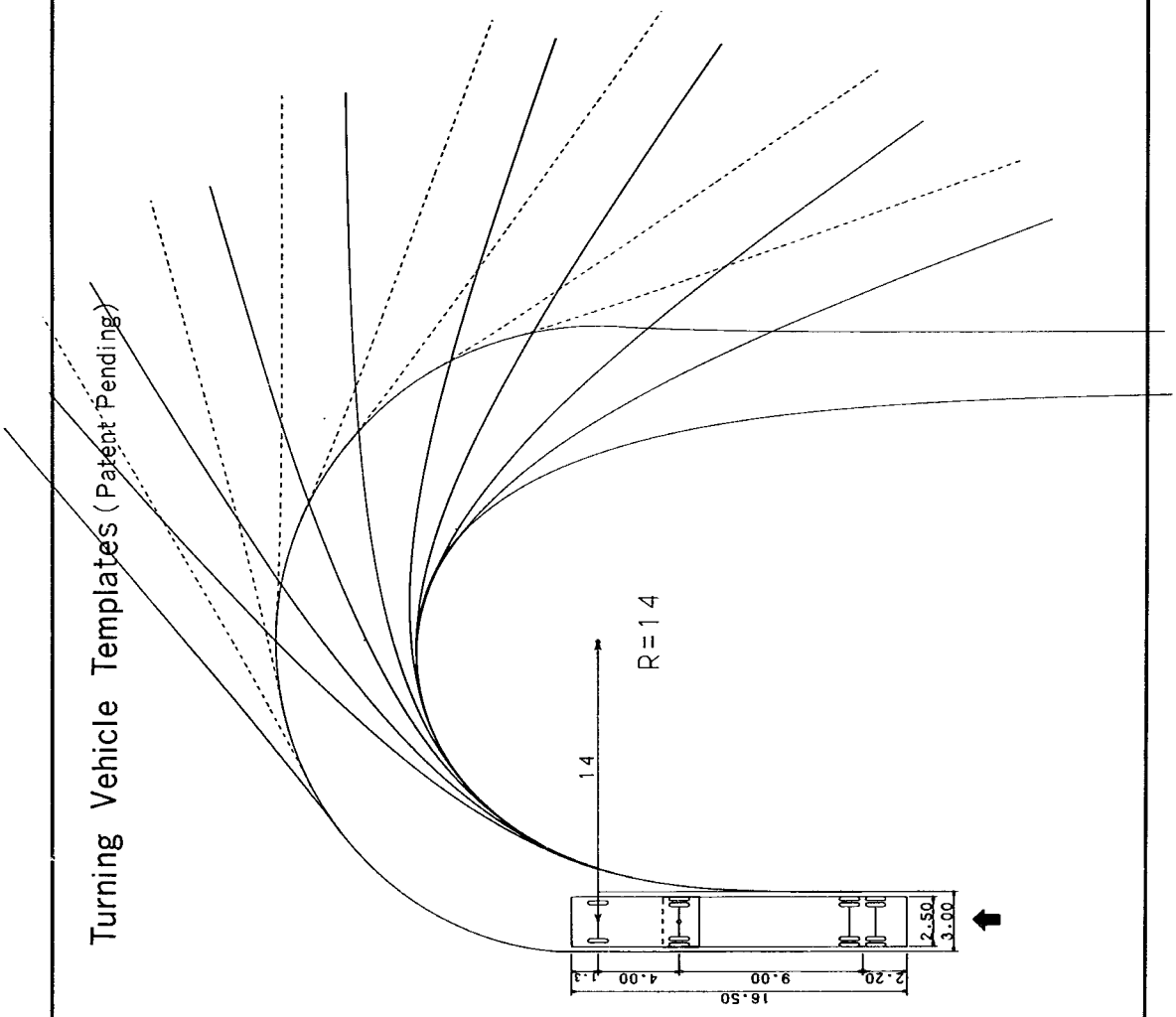
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MINISTRY OF CONSTRUCTION

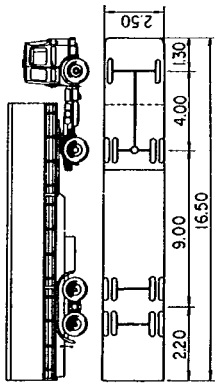
S - 83

W = 3.00 m

Rs = 14 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S - 84

W = 3.00 m

Rs = 15 m

Turning Vehicle Templates (Patent Pending)

SCALE
1 : 300

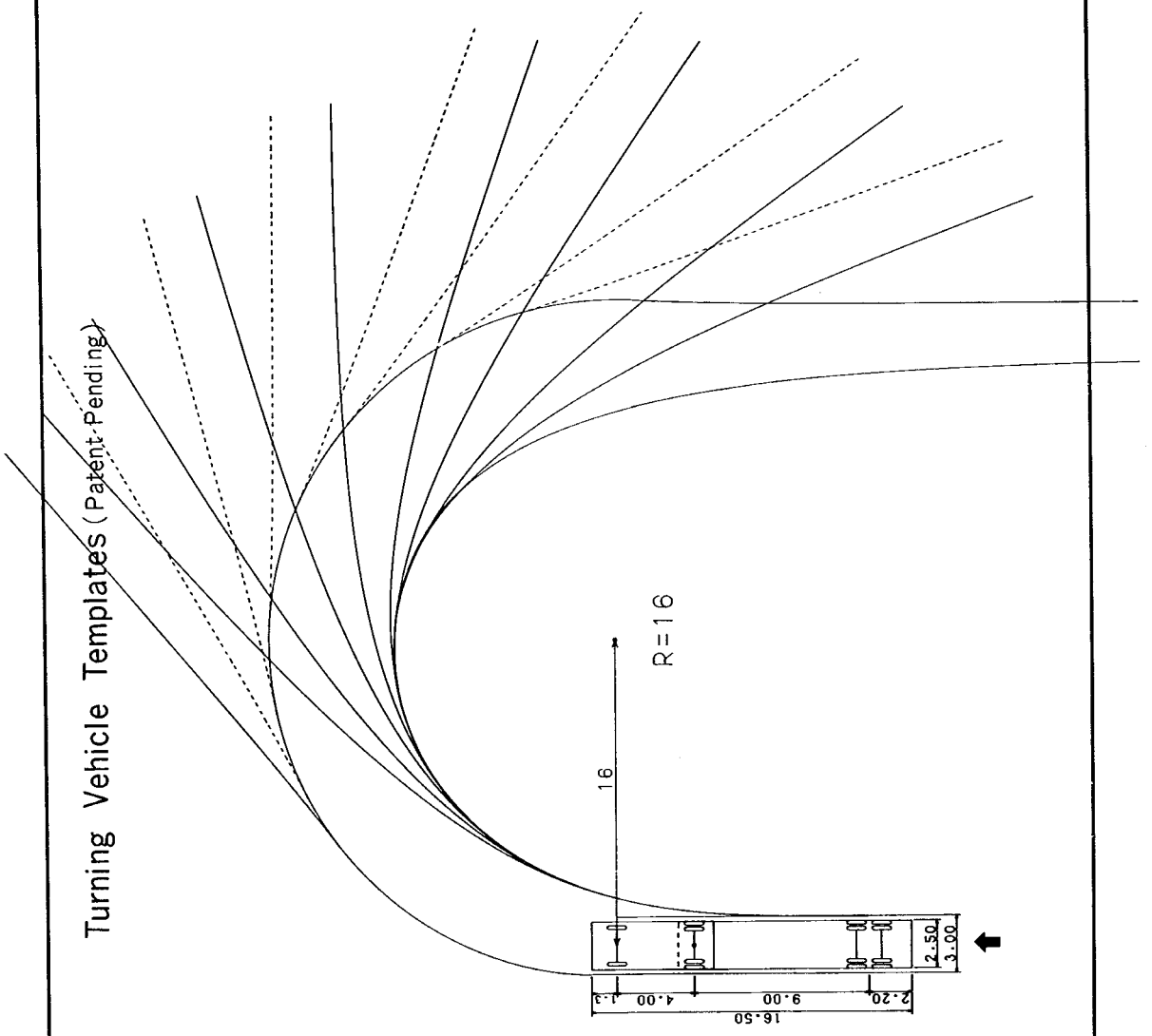
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MINISTRY OF CONSTRUCTION

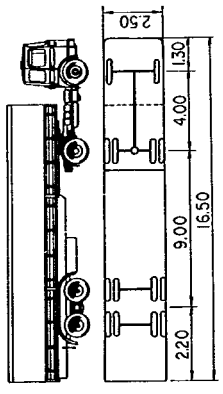
S－ 85

W = 3.00 m

Rs = 16 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

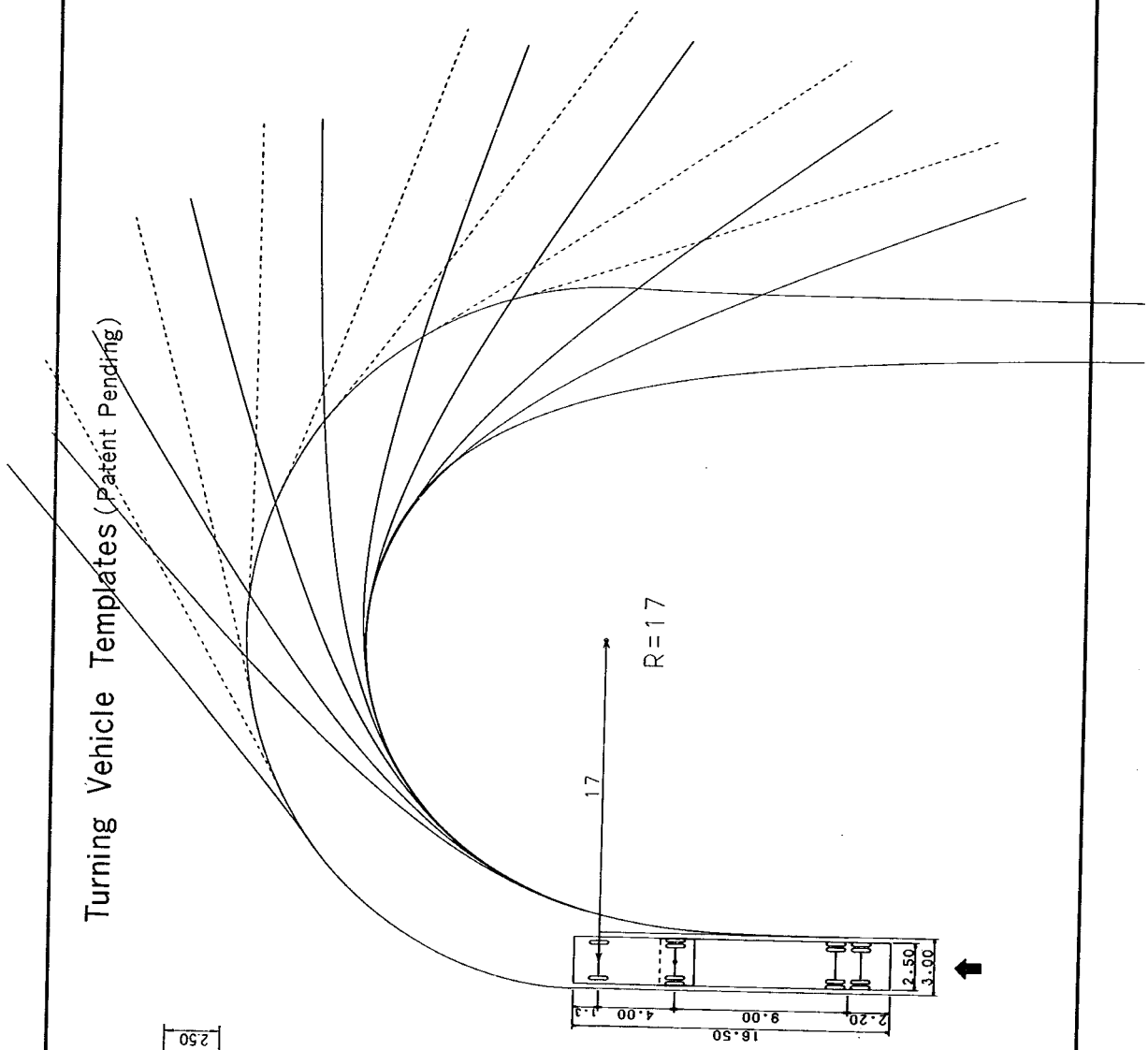
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MINISTRY OF CONSTRUCTION

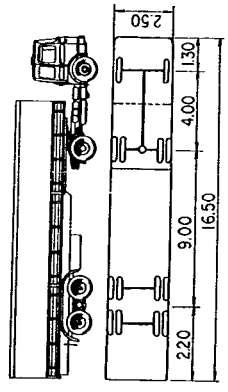
S - 86

W = 3.00 m

Rs = 17 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

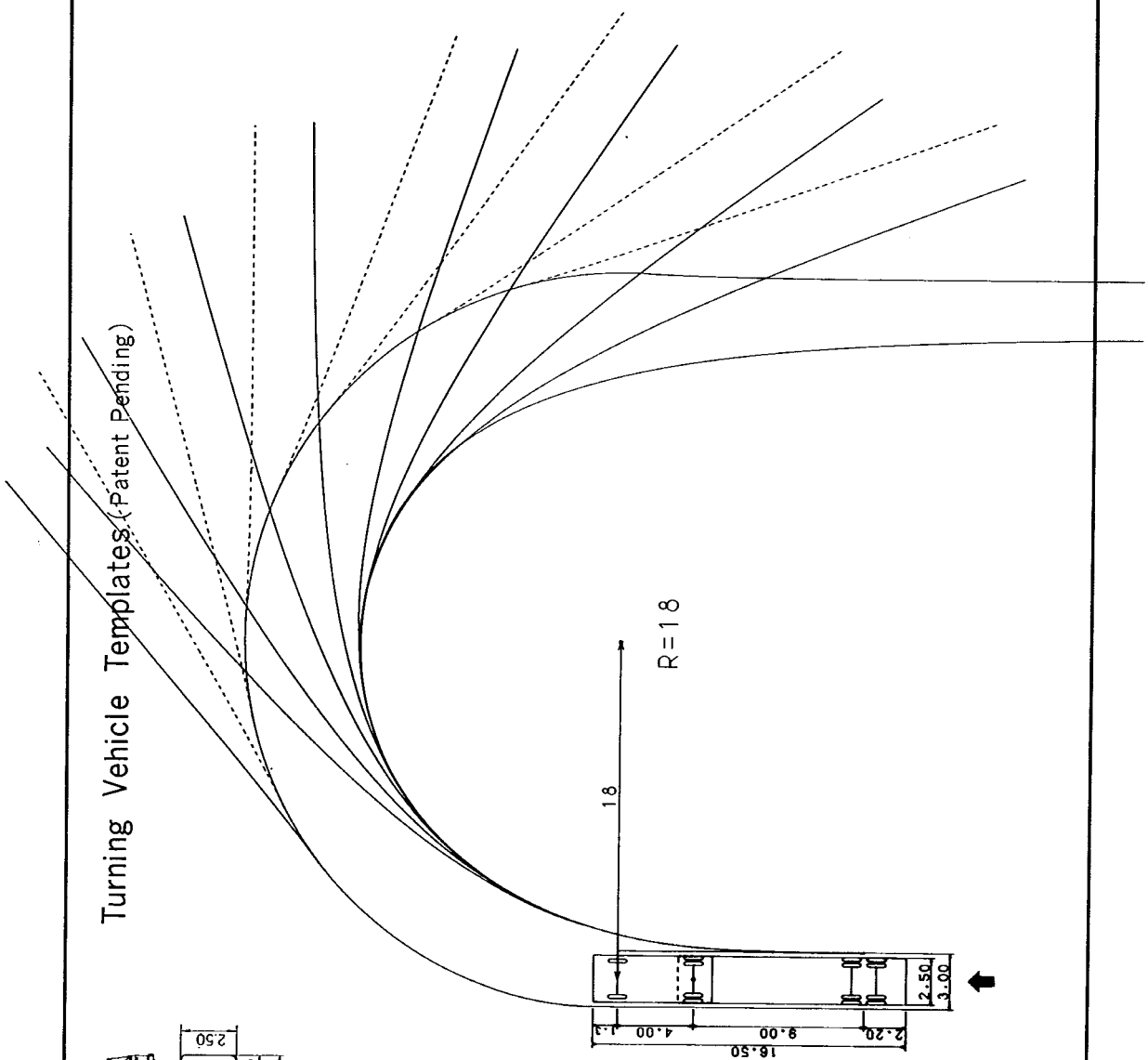
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

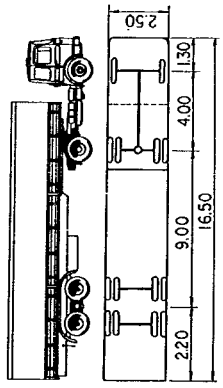
S - 87

Turning Vehicle Templates (Patent Pending)

W = 3.00 m

Rs = 18 m





SCALE
1 : 300

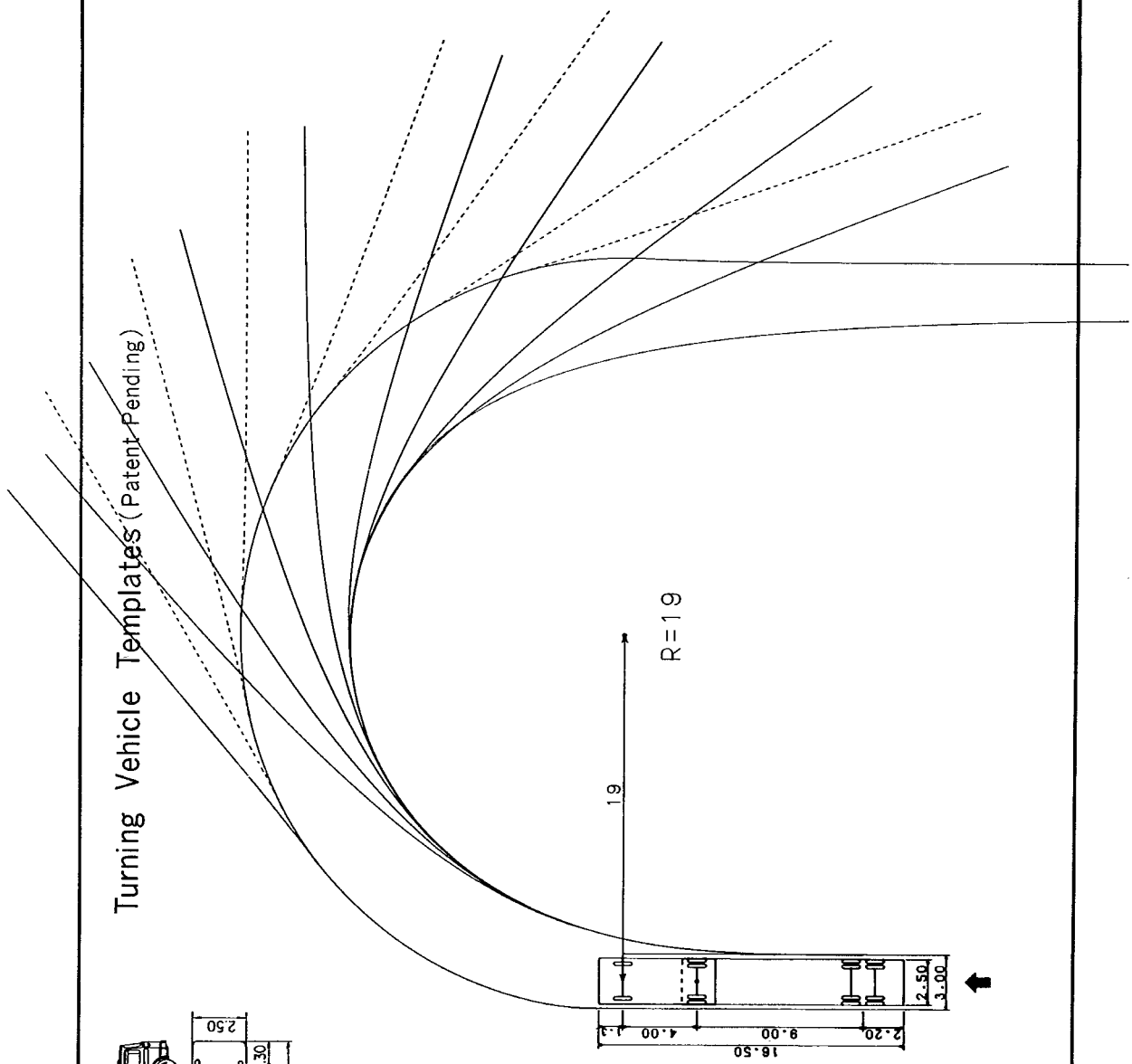
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S- 88

W = 3.00 m

Rs = 19 m

Turning Vehicle Templates (Patent Pending)



SCALE
1 : 300

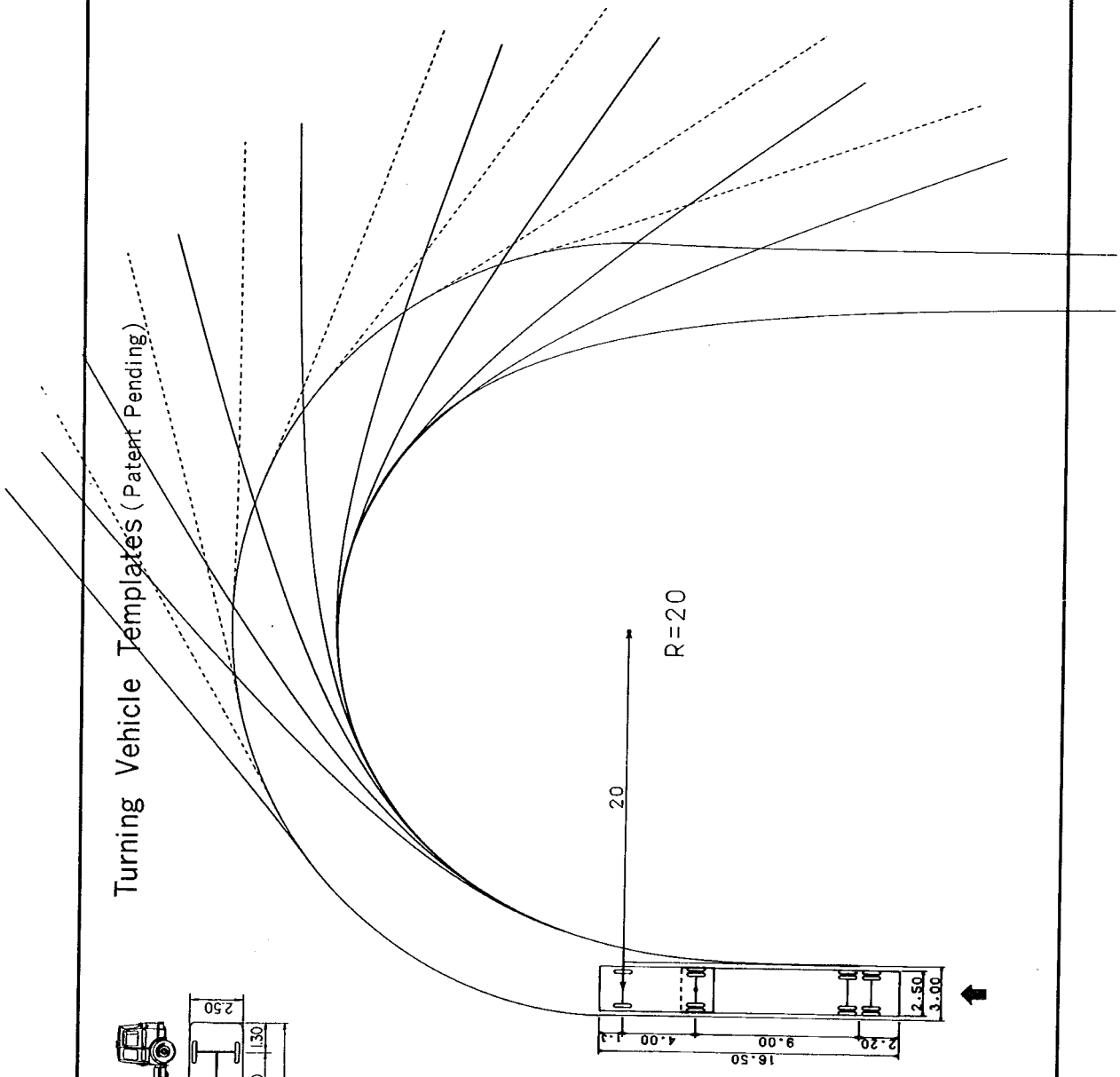
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MINISTRY OF CONSTRUCTION

S - 89

W = 3.00 m

Rs = 20 m

Turning Vehicle Templates (Patent Pending)



SCALE
1 : 300

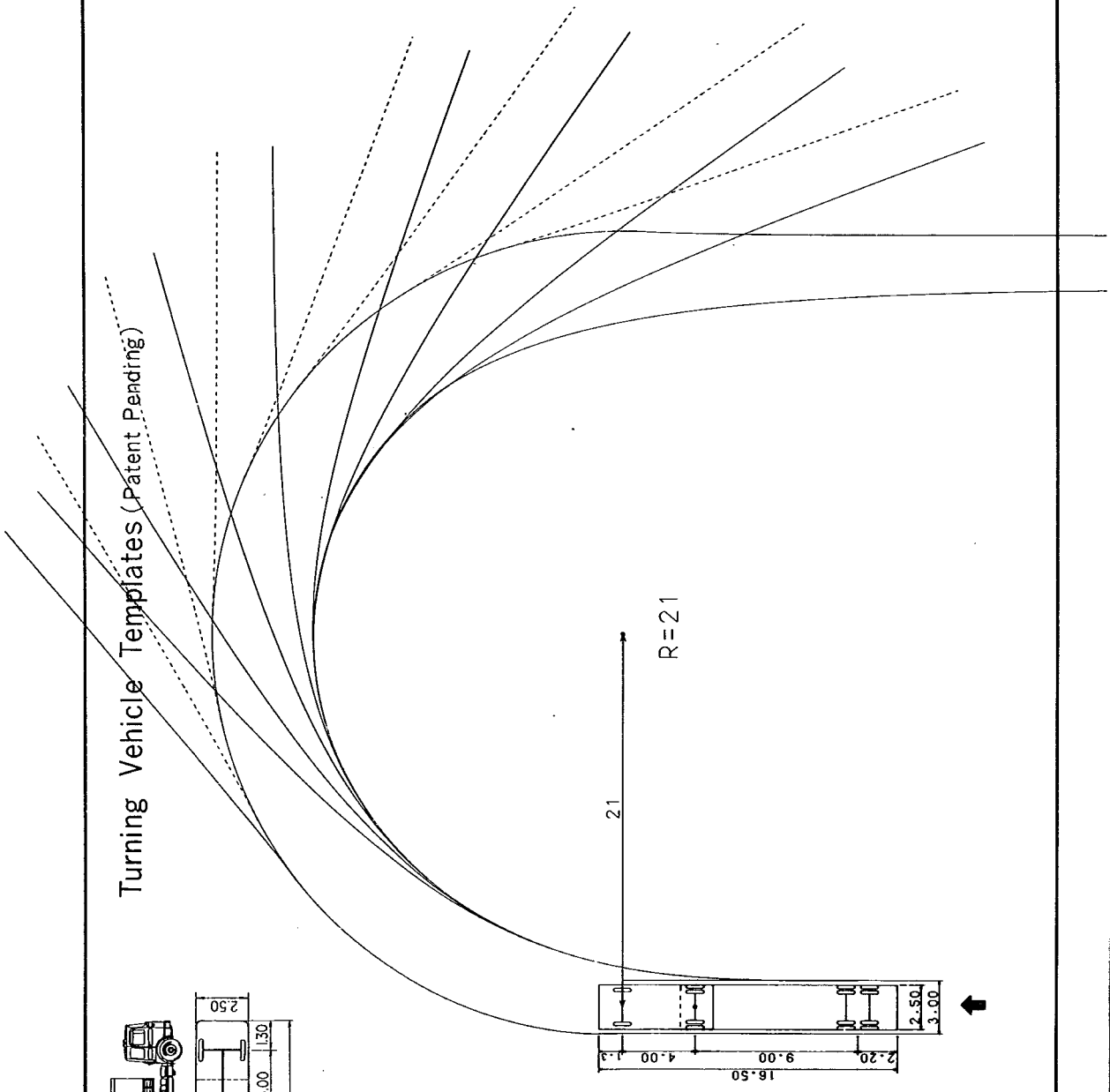
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

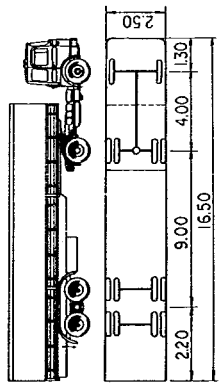
S - 90

W = 3.00 m

Rs = 21 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

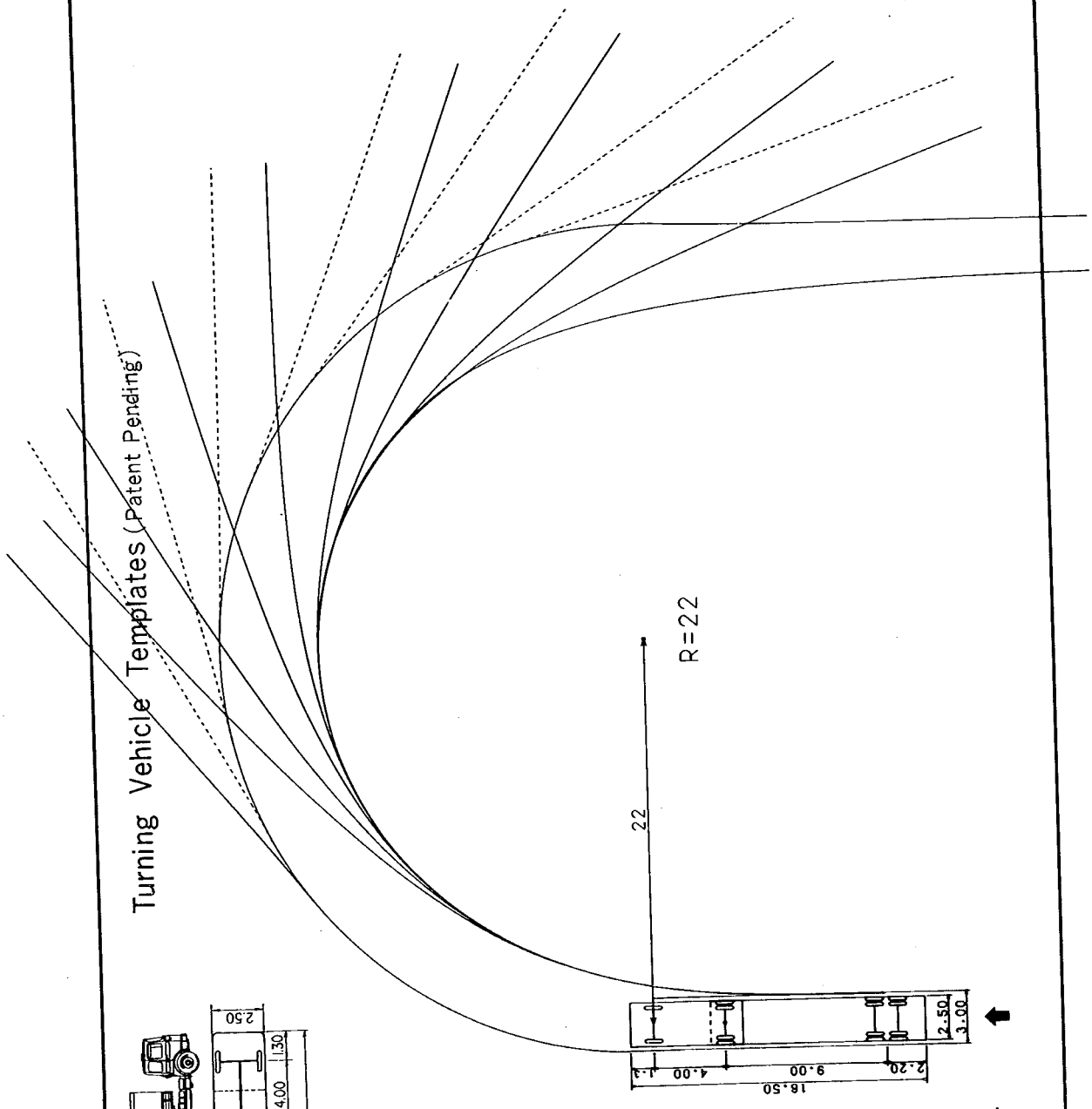
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

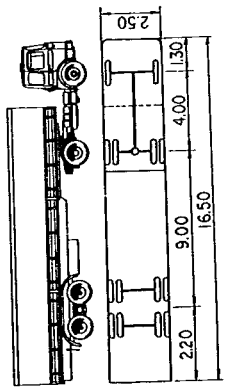
S- 91

W = 3.00 m

Rs = 22 m

Turning Vehicle Templates (Patent Pending)

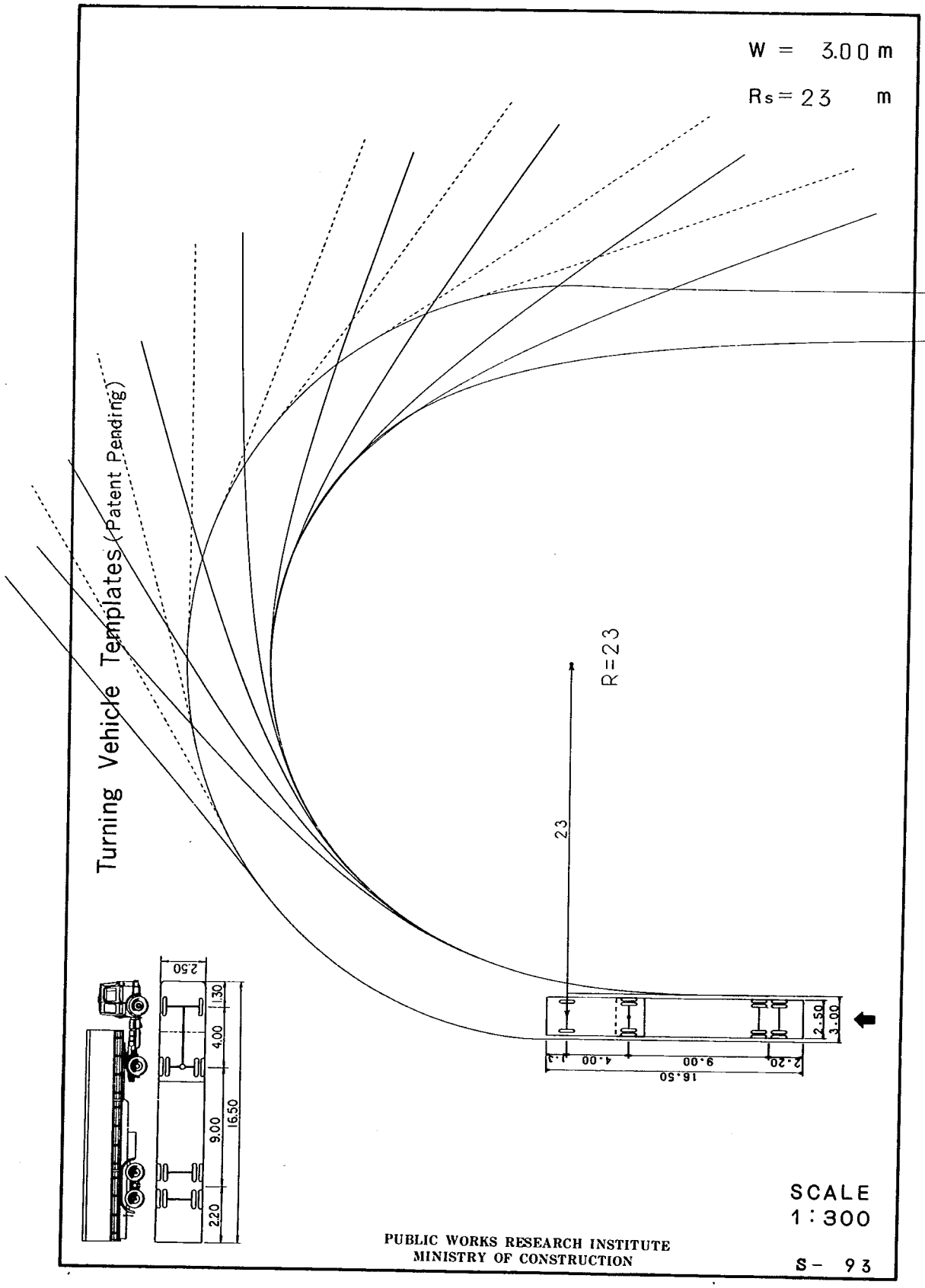


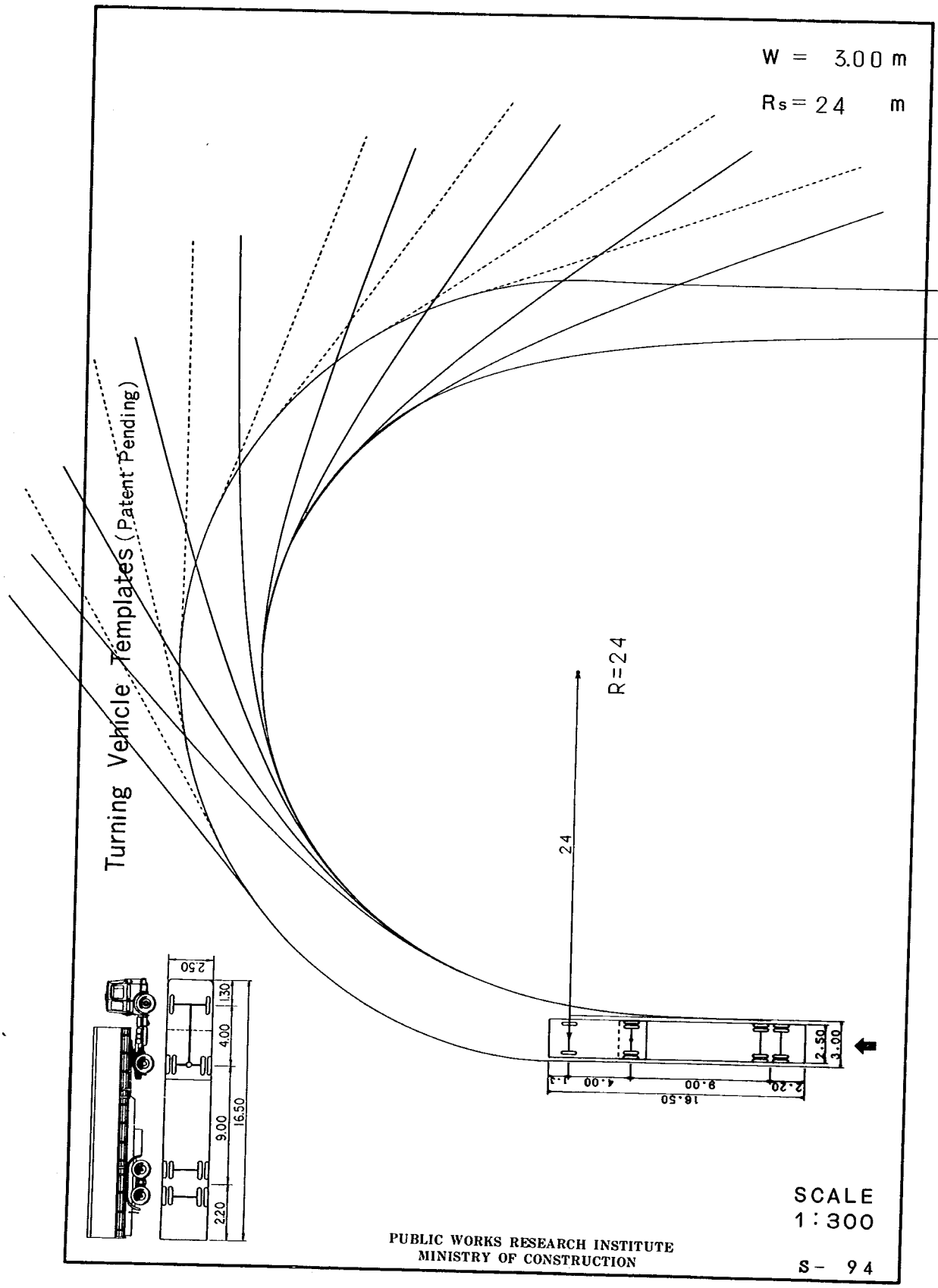


SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S - 92


W = 3.00 m
Rs = 23 m
Turning Vehicle Templates (Patent Pending)
R=23
23
2.50
1.30
4.00
9.00
16.50
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S- 93



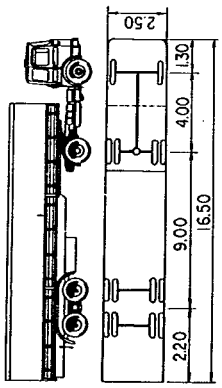
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

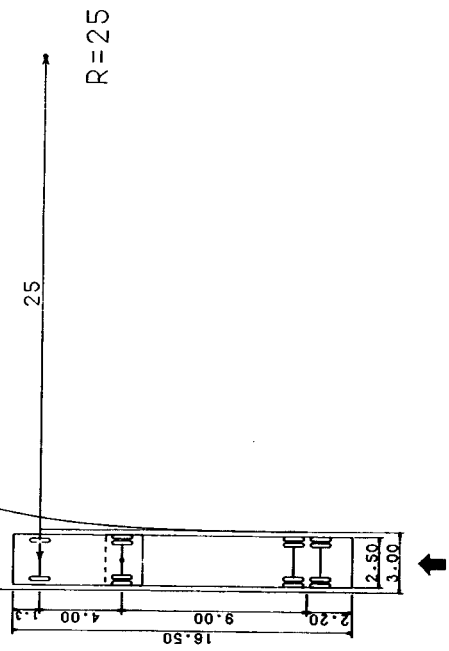
S- 94

W = 3.00 m

Rs = 25 m

Turning Vehicle Templates (Patent Pending)

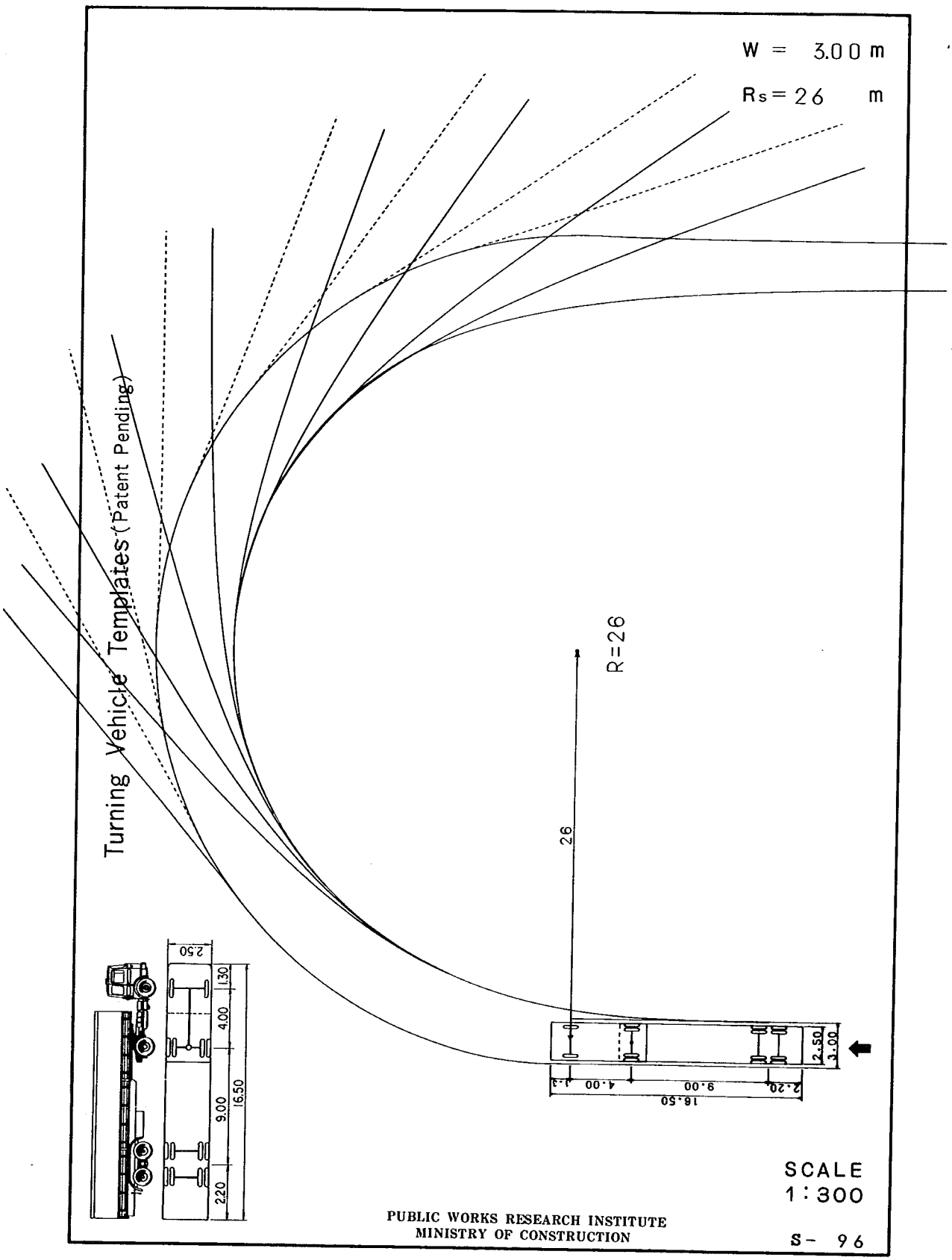




SCALE
1 : 300

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MINISTRY OF CONSTRUCTION

S - 95


W = 3.00 m
Rs = 26 m
Turning Vehicle Templates (Patent Pending)
R=26
26
2.50
1.30
4.00
9.00
16.50
2.20
16.50
9.00
4.00
1.30
2.50
3.00
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S- 96

W = 3.00 m

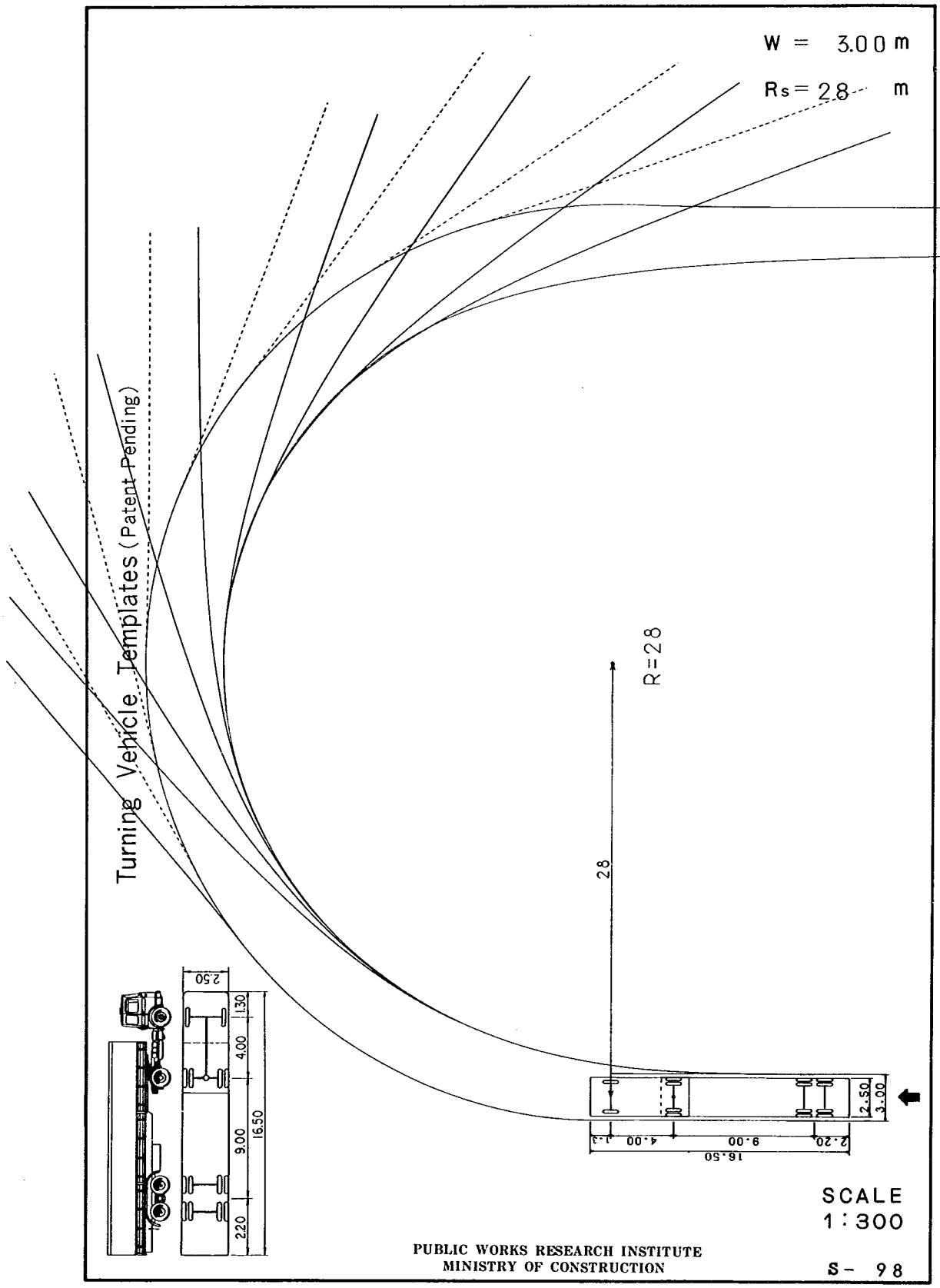
Rs = 27 m

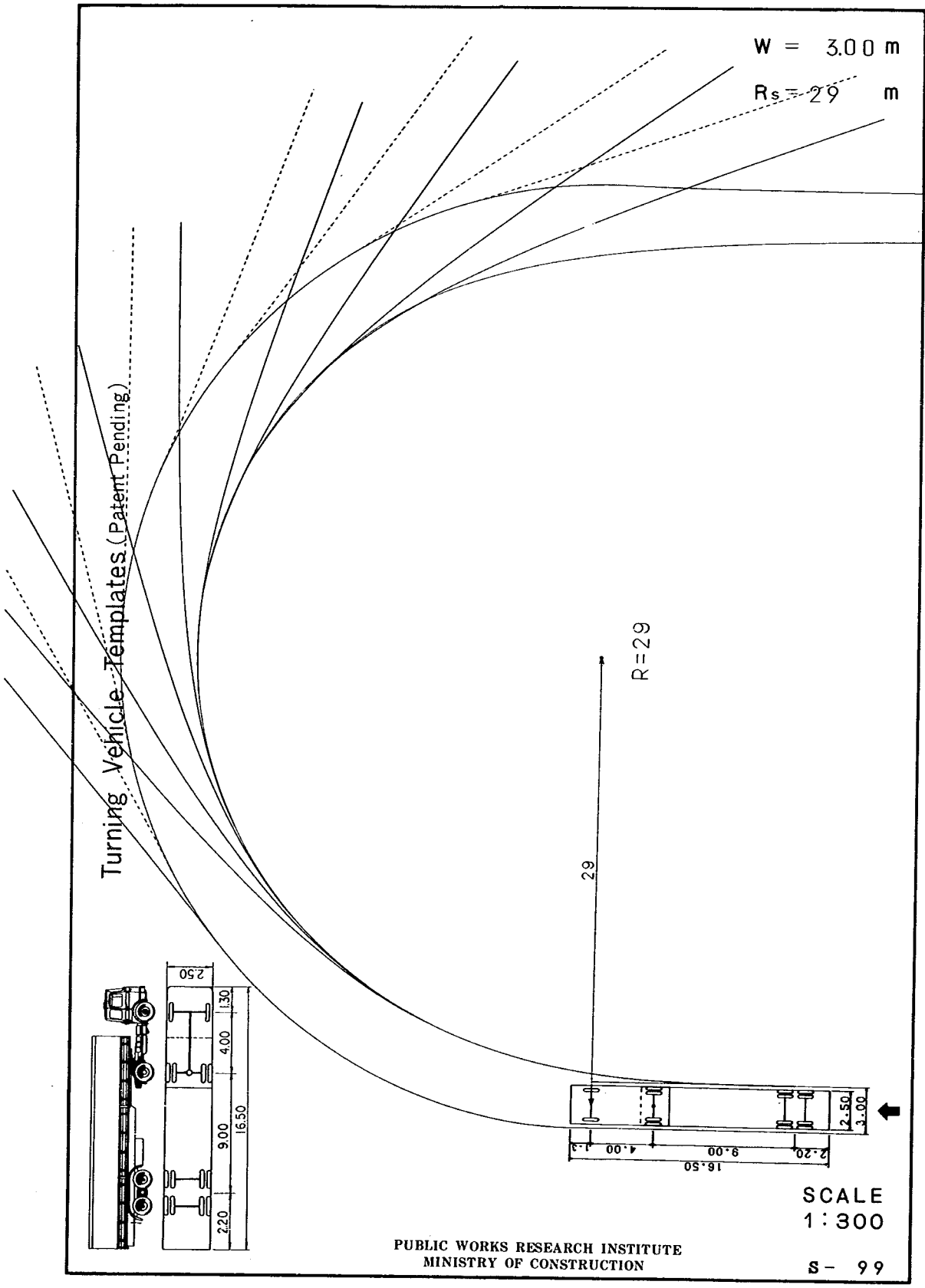
Turning Vehicle Templates (Patent Pending)

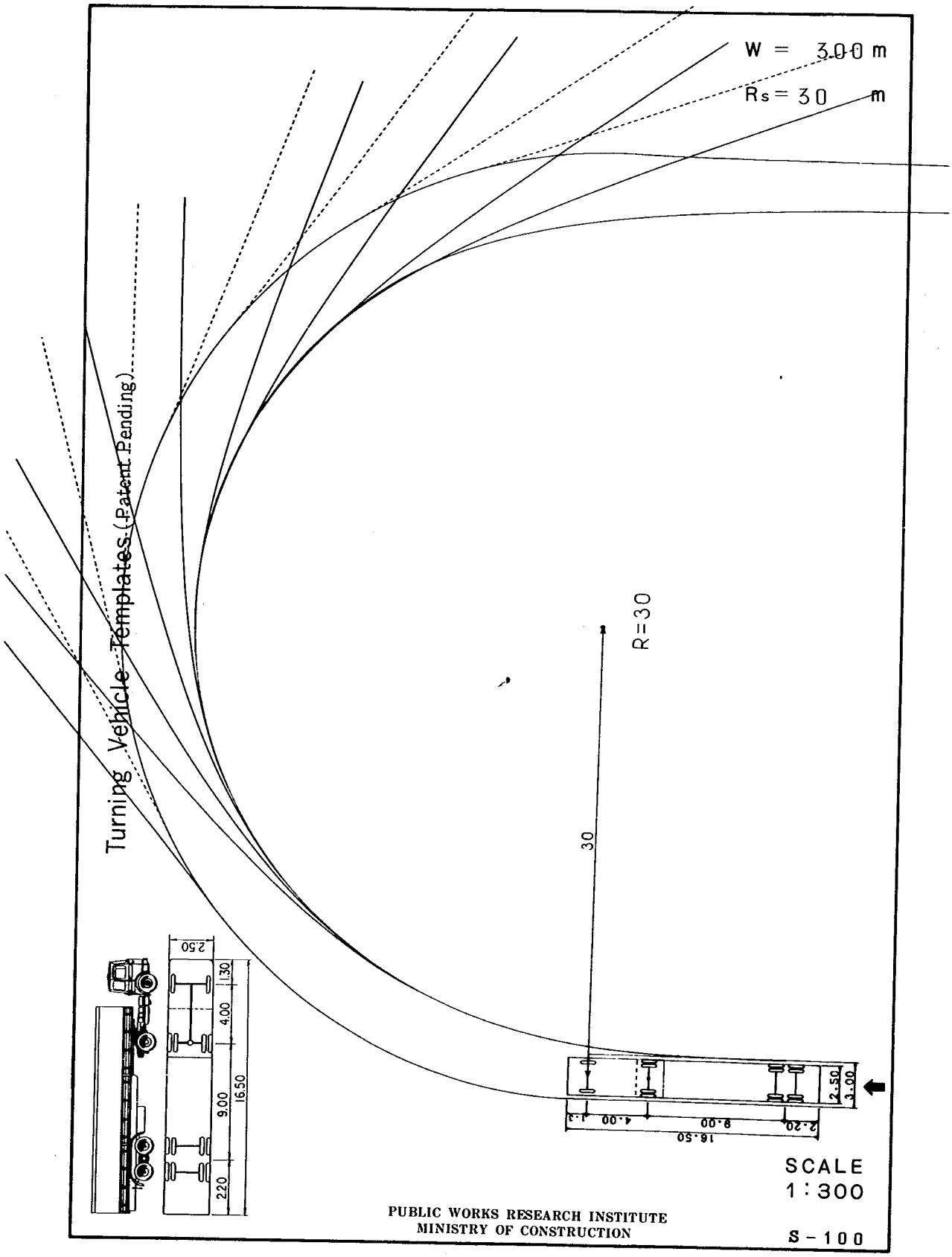
SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S - 97

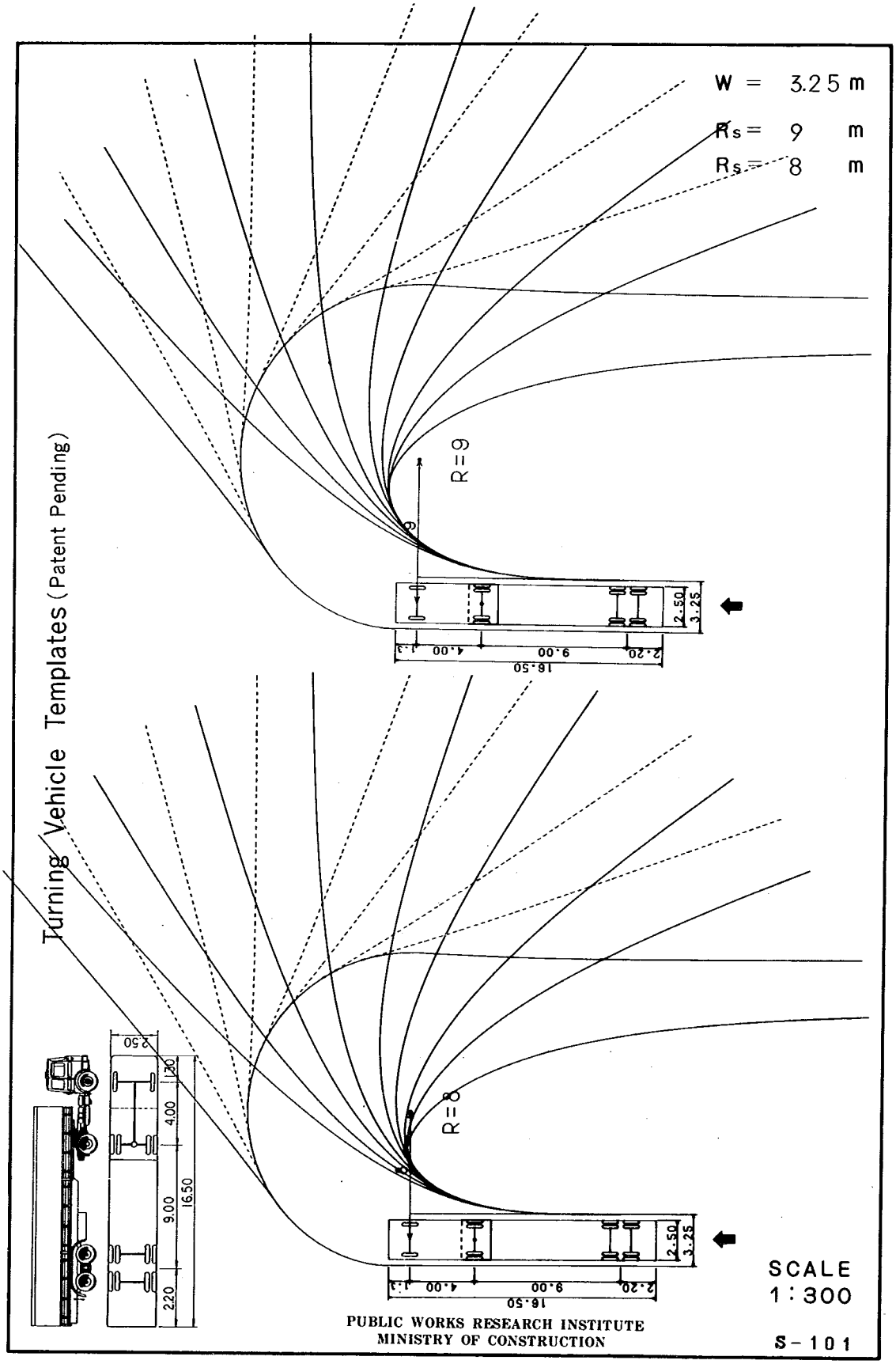

W = 3.00 m
Rs = 28 m
Turning Vehicle Templates (Patent Pending)
R=28
28
2.50
1.30
4.00
9.00
16.50
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S- 98


W = 3.00 m
Rs = 29 m
Turning Vehicle Templates (Patent Pending)
R=29
29
2.50
1.30
4.00
9.00
16.50
2.20
2.50
3.00
1.3
4.00
9.00
2.20
16.50
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S- 99


W = 3.00 m
Rs = 30 m
Turning Vehicle Templates (Patent Pending)
R=30
30
2.50
1.30
4.00
9.00
16.50
2.20
2.50
1.00
4.00
9.00
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S - 100

縮尺（SCALE）　1：300

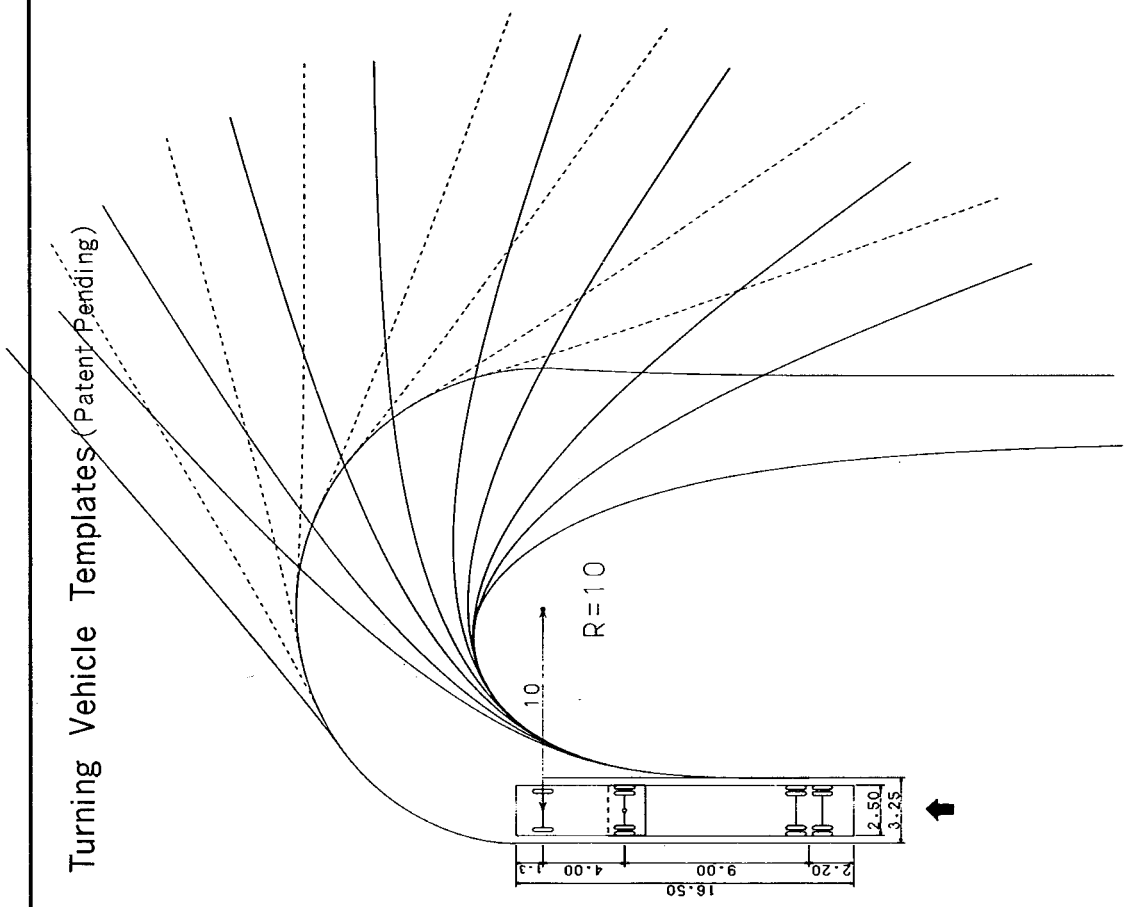
車線幅員（W）　3.25m

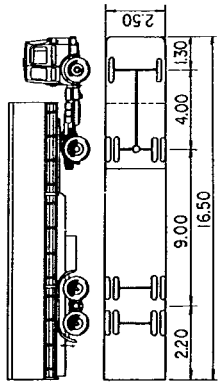

Turning Vehicle Templates (Patent Pending)
W = 3.25 m
Rs = 9 m
Rs = 8 m
R=9
R=8
2.50
3.25
1.30
4.00
9.00
16.50
2.20
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-101

W = 3.25 m

Rs = 10 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

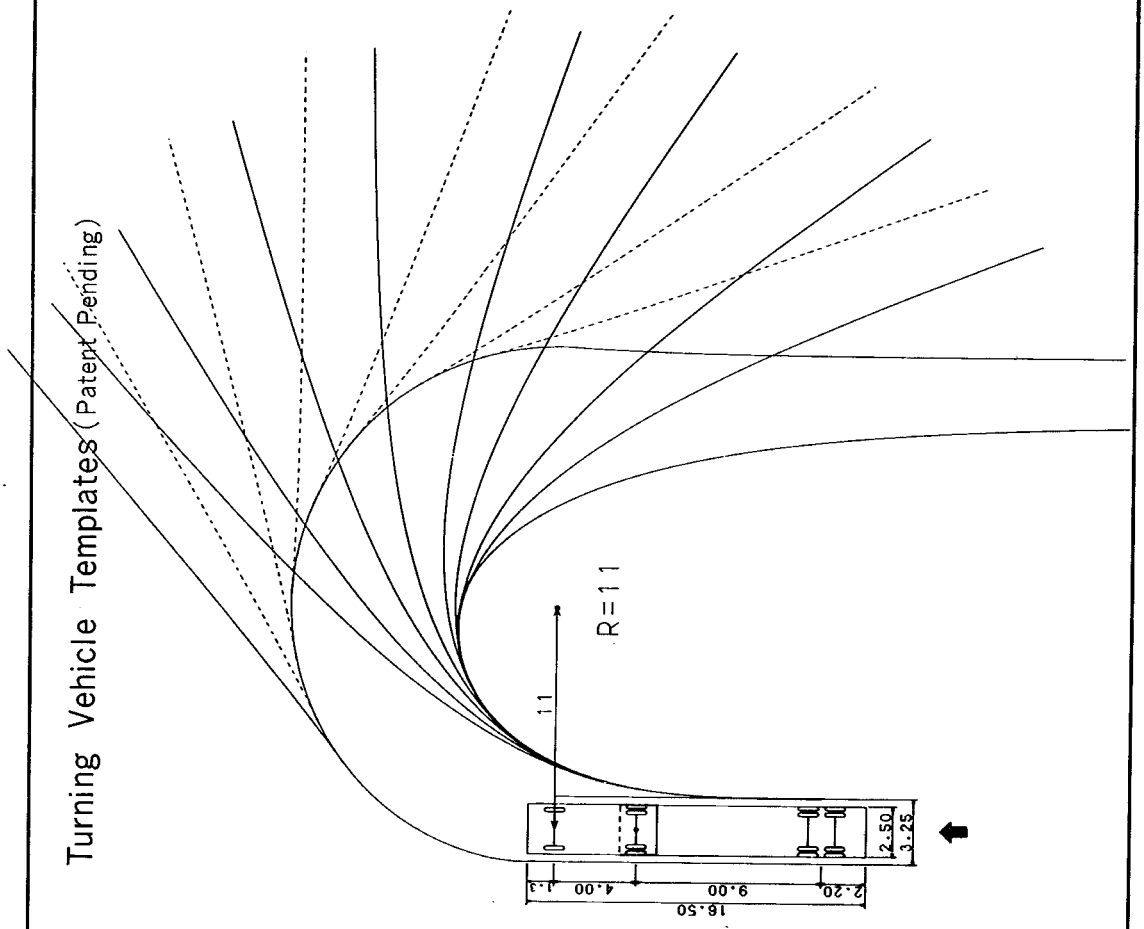
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

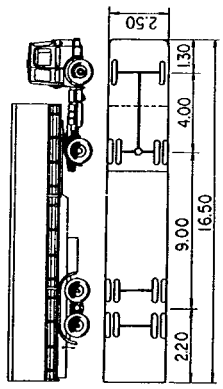
S-102

W = 3.25 m

Rs = 11 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

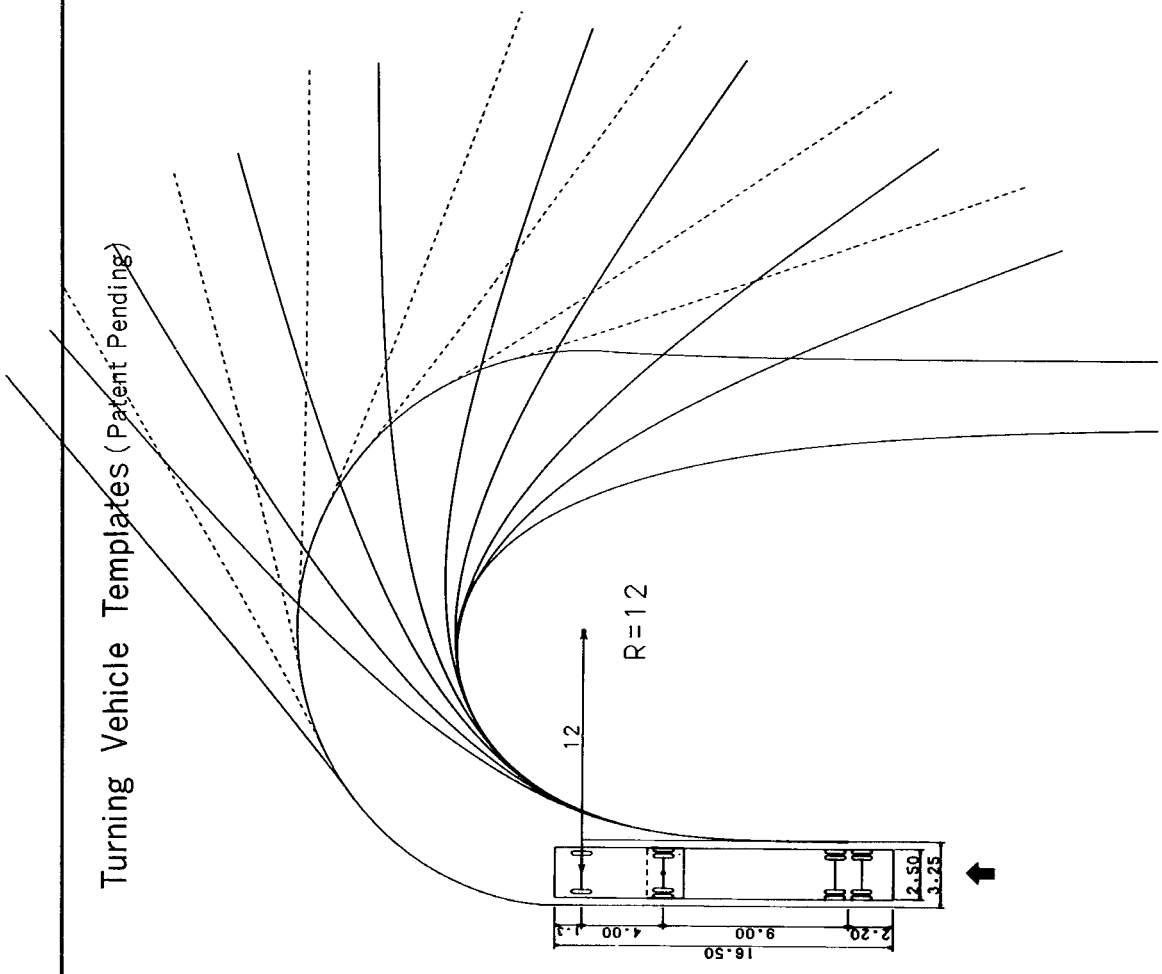
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

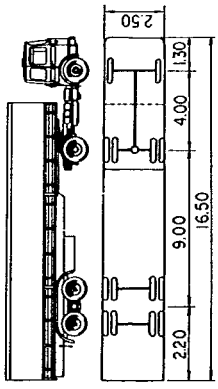
S - 103

W = 3.25 m

Rs = 12 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

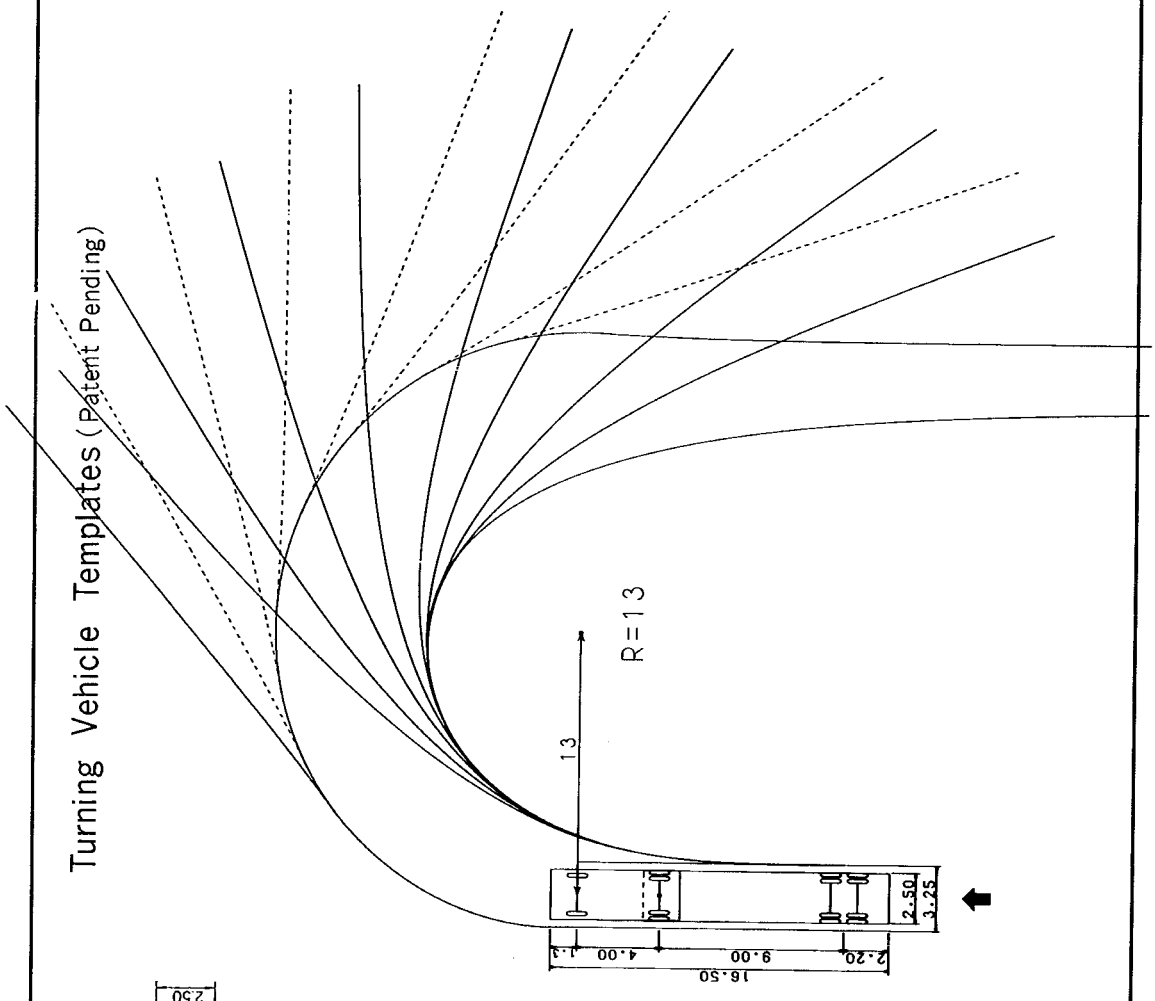
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

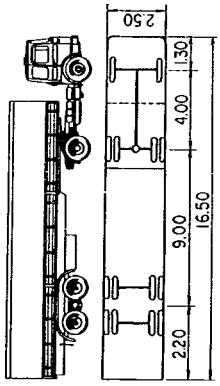
S-104

W = 3.25 m

Rs = 13 m

Turning Vehicle Templates (Patent Pending)





SCALE
1:300

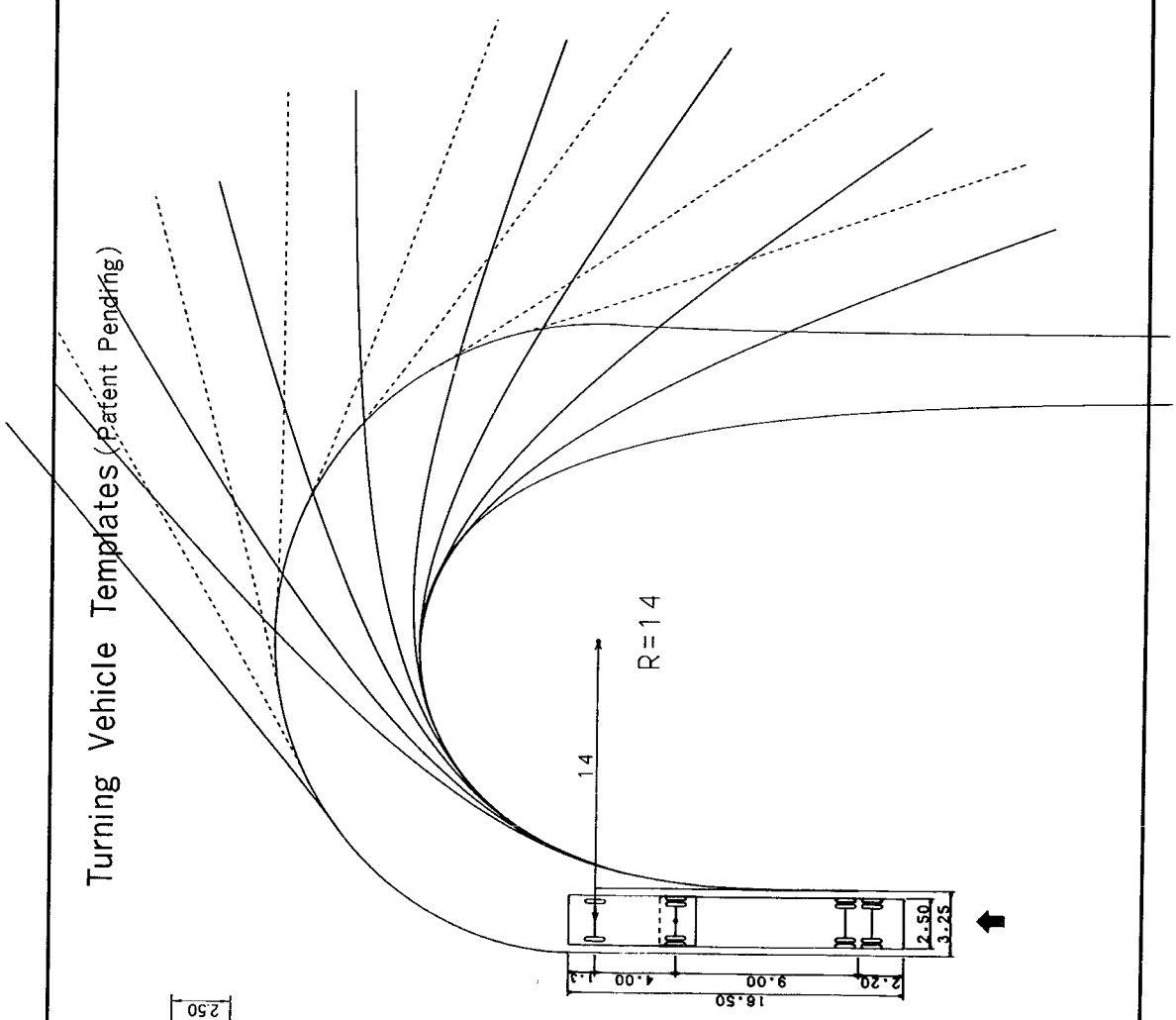
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

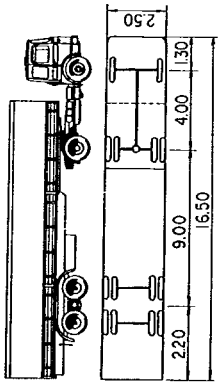
S-105

W = 3.25 m

Rs = 14 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

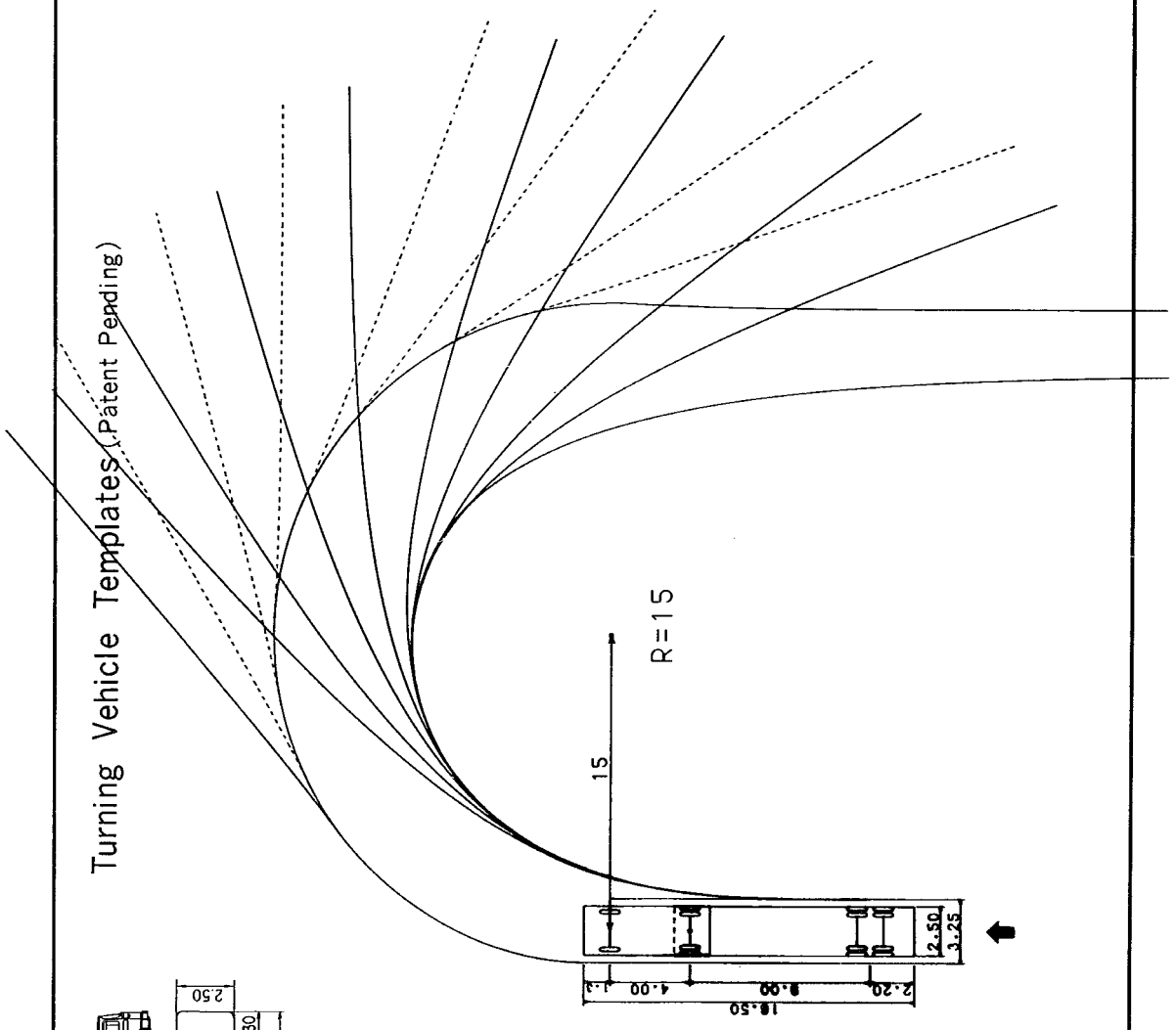
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S-106

W = 3.25 m

Rs = 15 m

Turning Vehicle Templates (Patent Pending)



SCALE
1 : 300

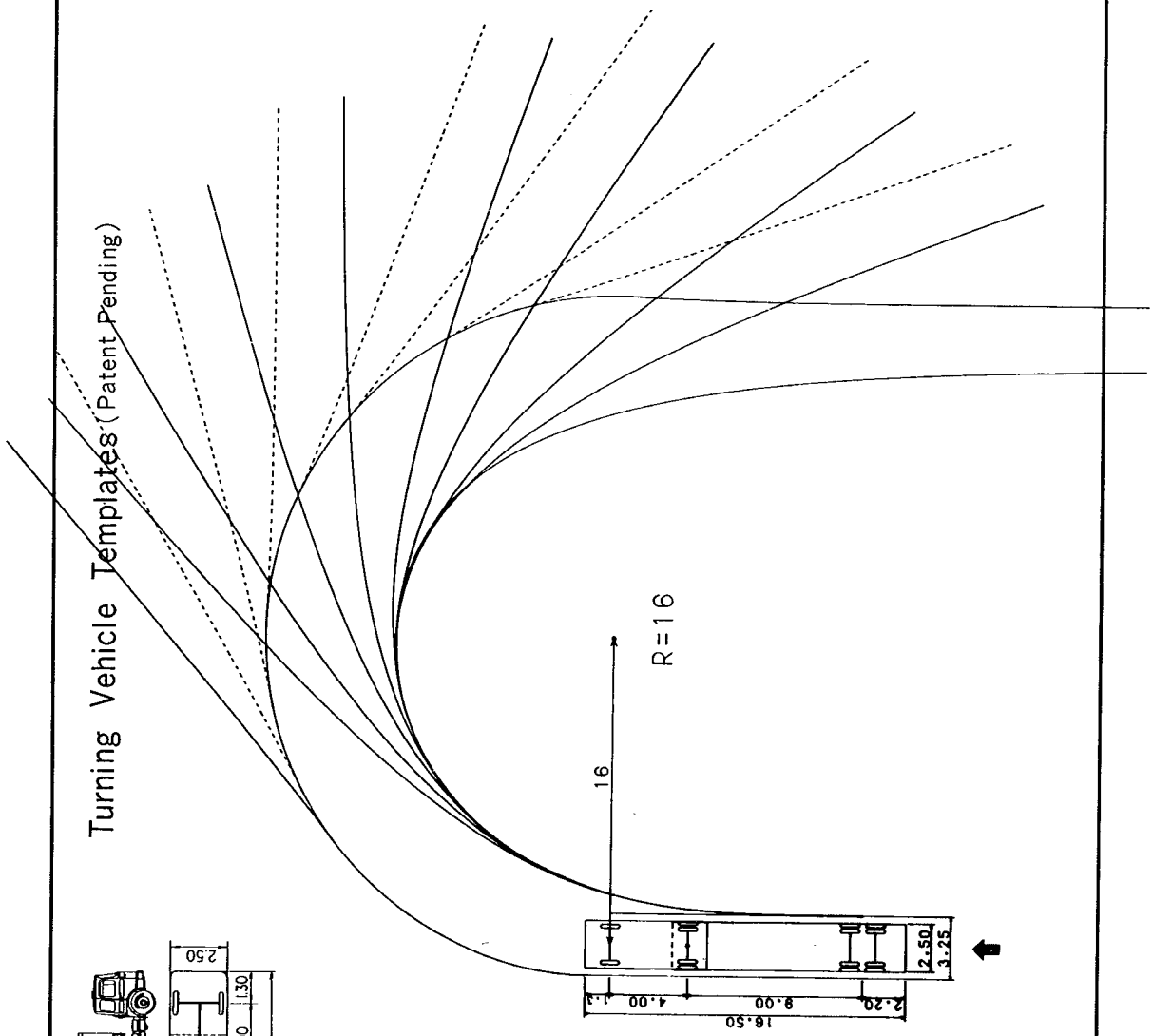
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S－107

W = 3.25 m

Rs = 16 m

Turning Vehicle Templates (Patent Pending)



SCALE
1 : 300

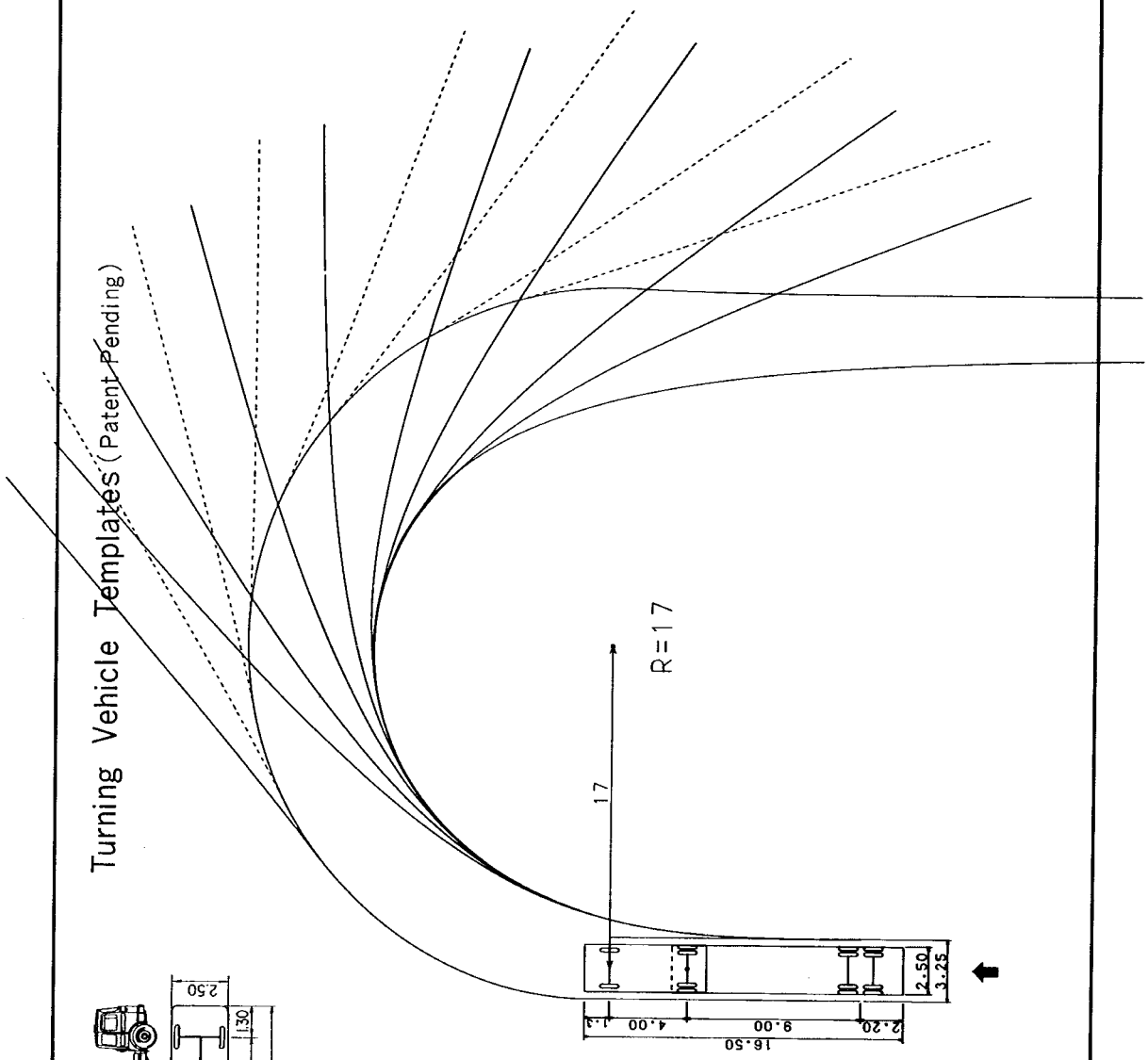
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S-108

W = 3.25 m

Rs = 17 m

Turning Vehicle Templates (Patent Pending)



SCALE
1 : 300

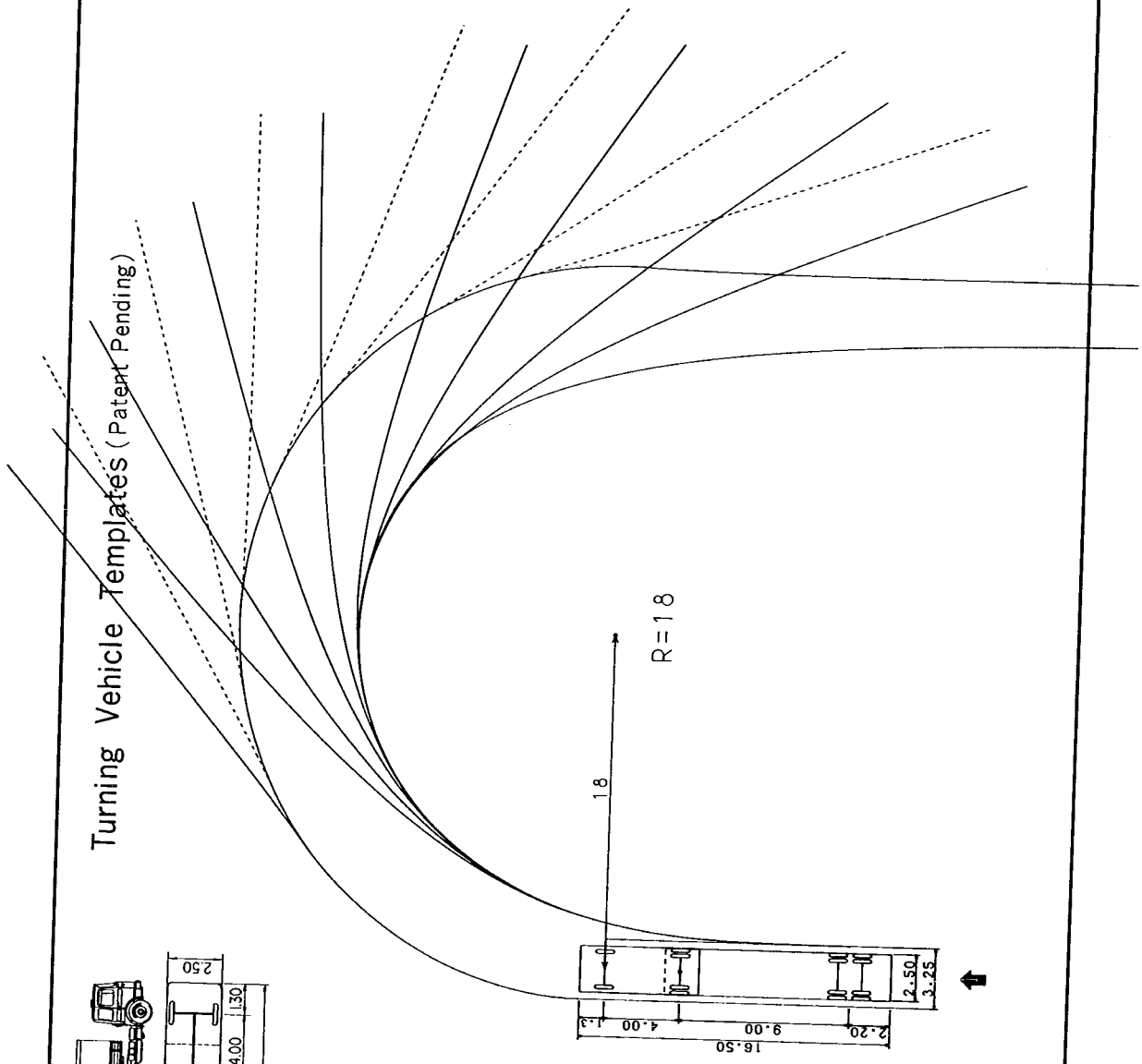
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S-109

W = 3.25 m

Rs = 18 m

Turning Vehicle Templates (Patent Pending)



SCALE
1 : 300

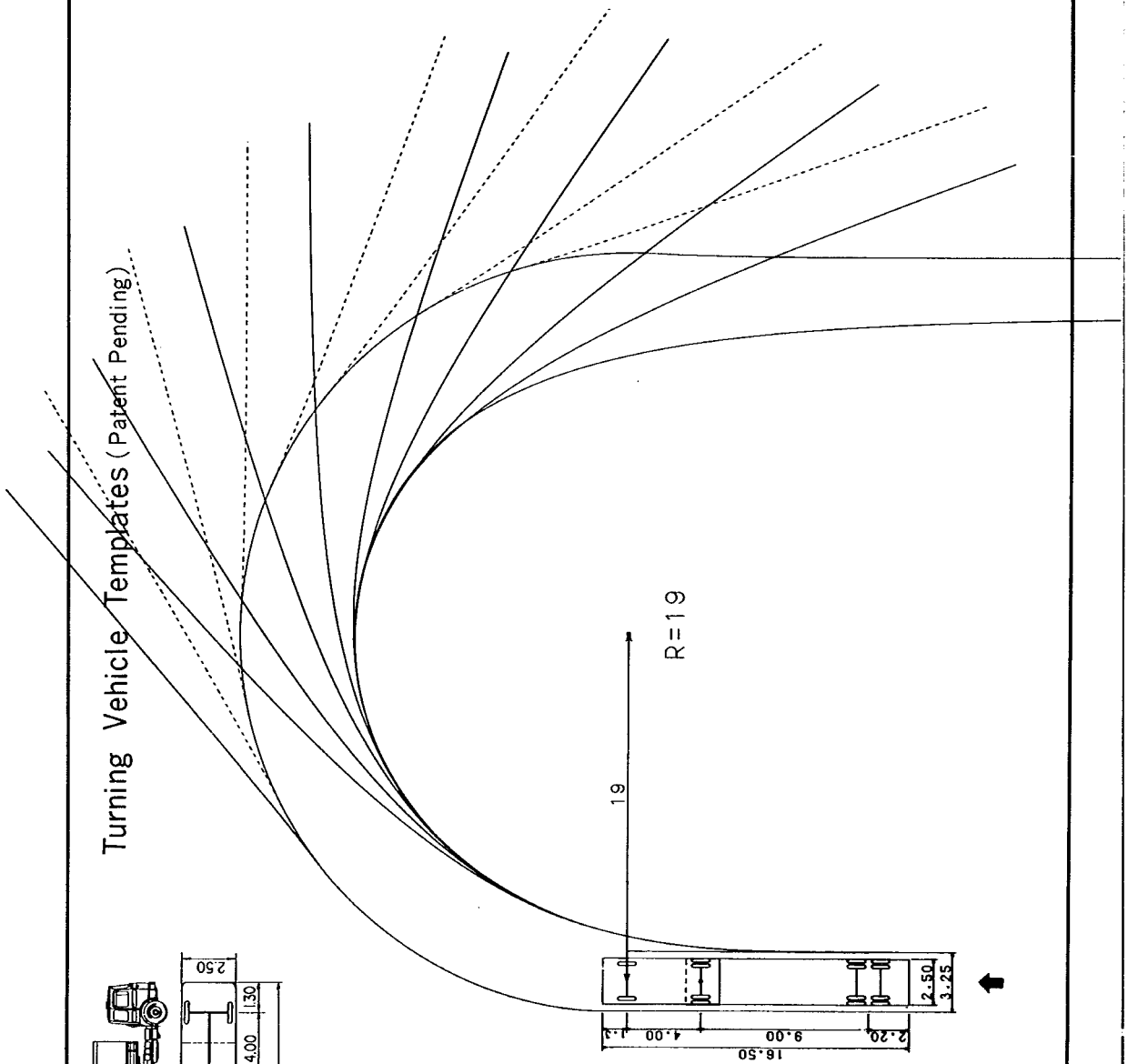
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S-110

W = 3.25 m

Rs = 19 m

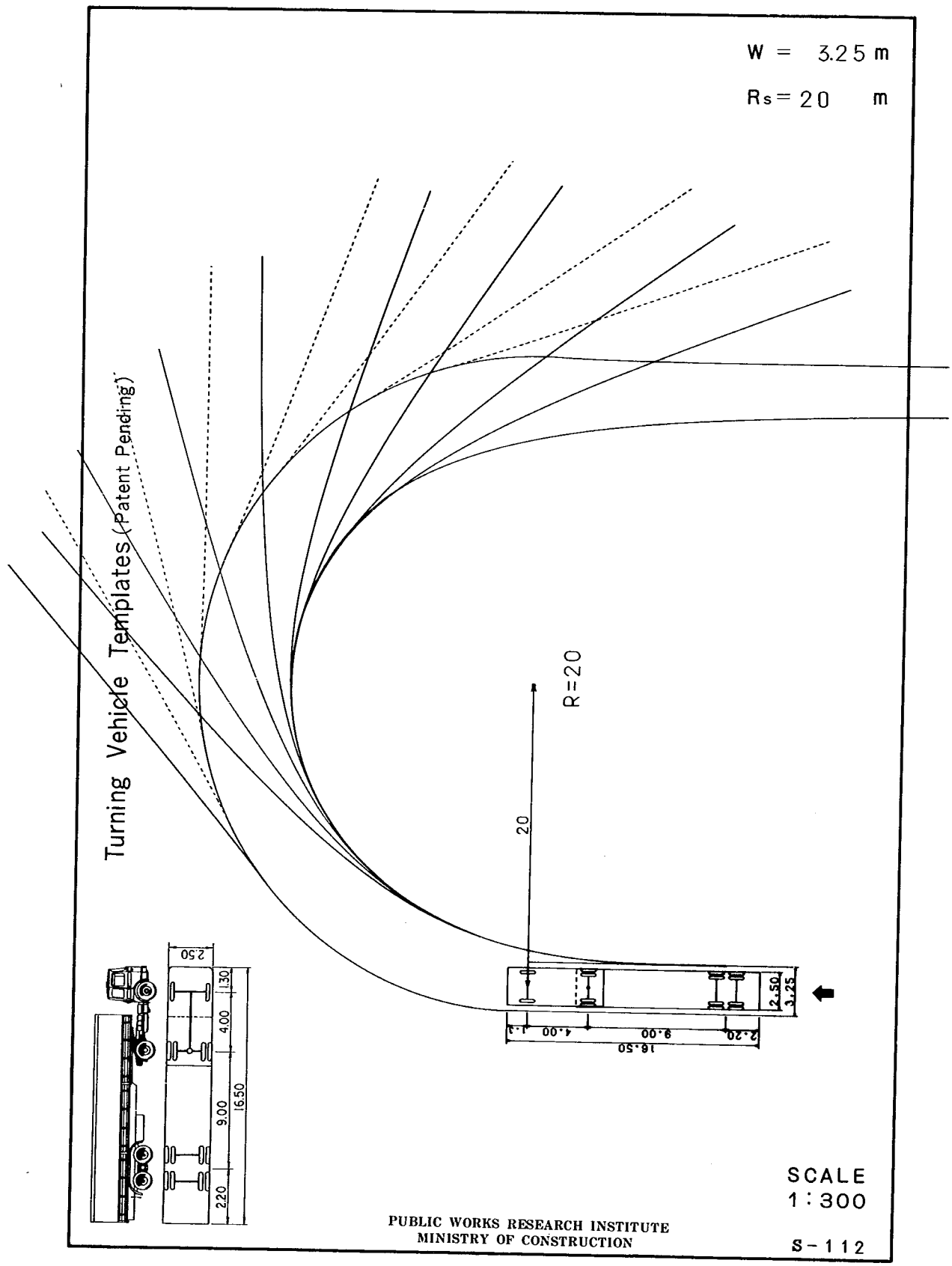
Turning Vehicle Templates (Patent Pending)



SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

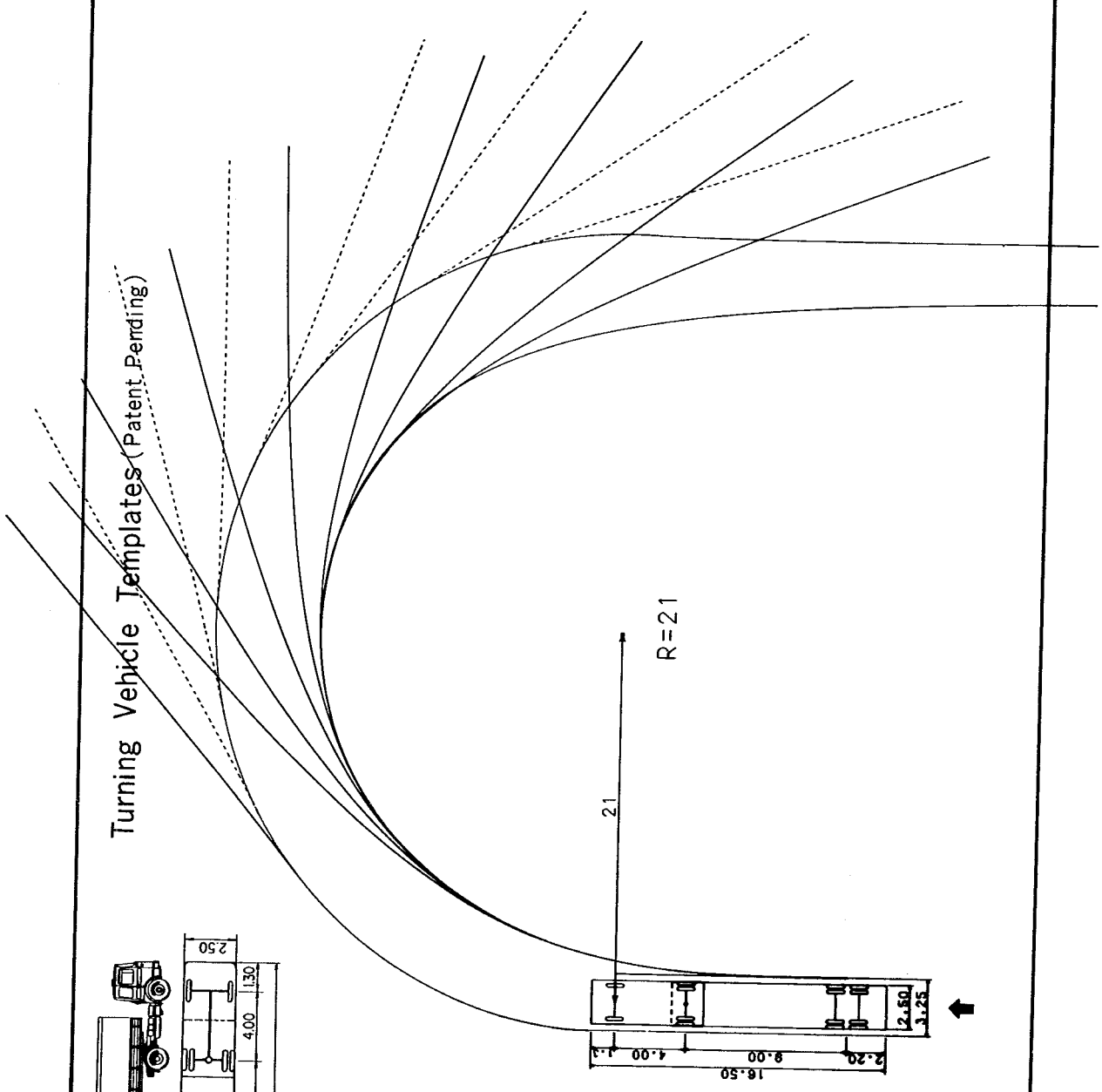
S－111


W = 3.25 m
Rs = 20 m
Turning Vehicle Templates (Patent Pending)
R=20
20
2.50
1.30
4.00
9.00
16.50
2.20
2.50
3.25
1.3
4.00
9.00
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-112

W = 3.25 m

Rs = 21 m

Turning Vehicle Templates (Patent Pending)



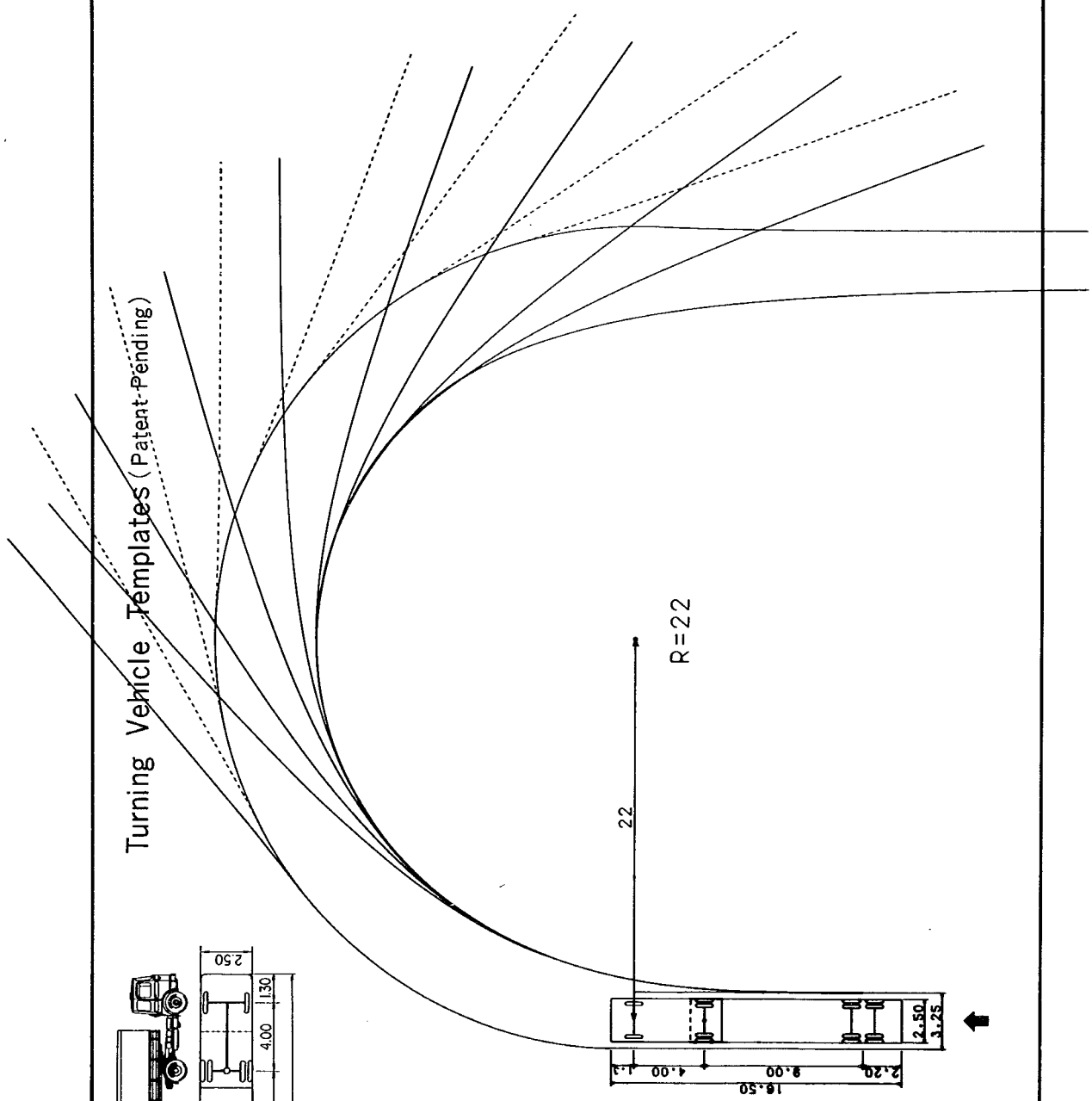
SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S-113

W = 3.25 m

Rs = 22 m



SCALE
1 : 300

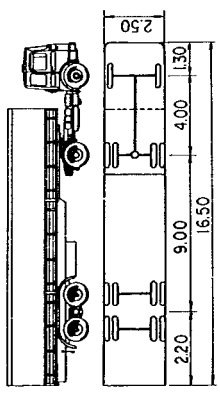
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

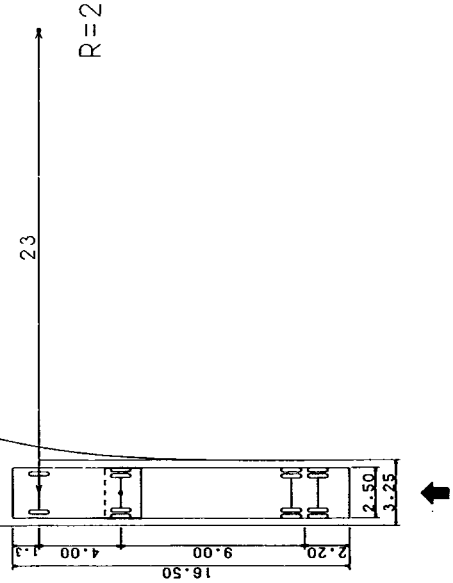
S-114

W = 3.25 m

Rs = 23 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

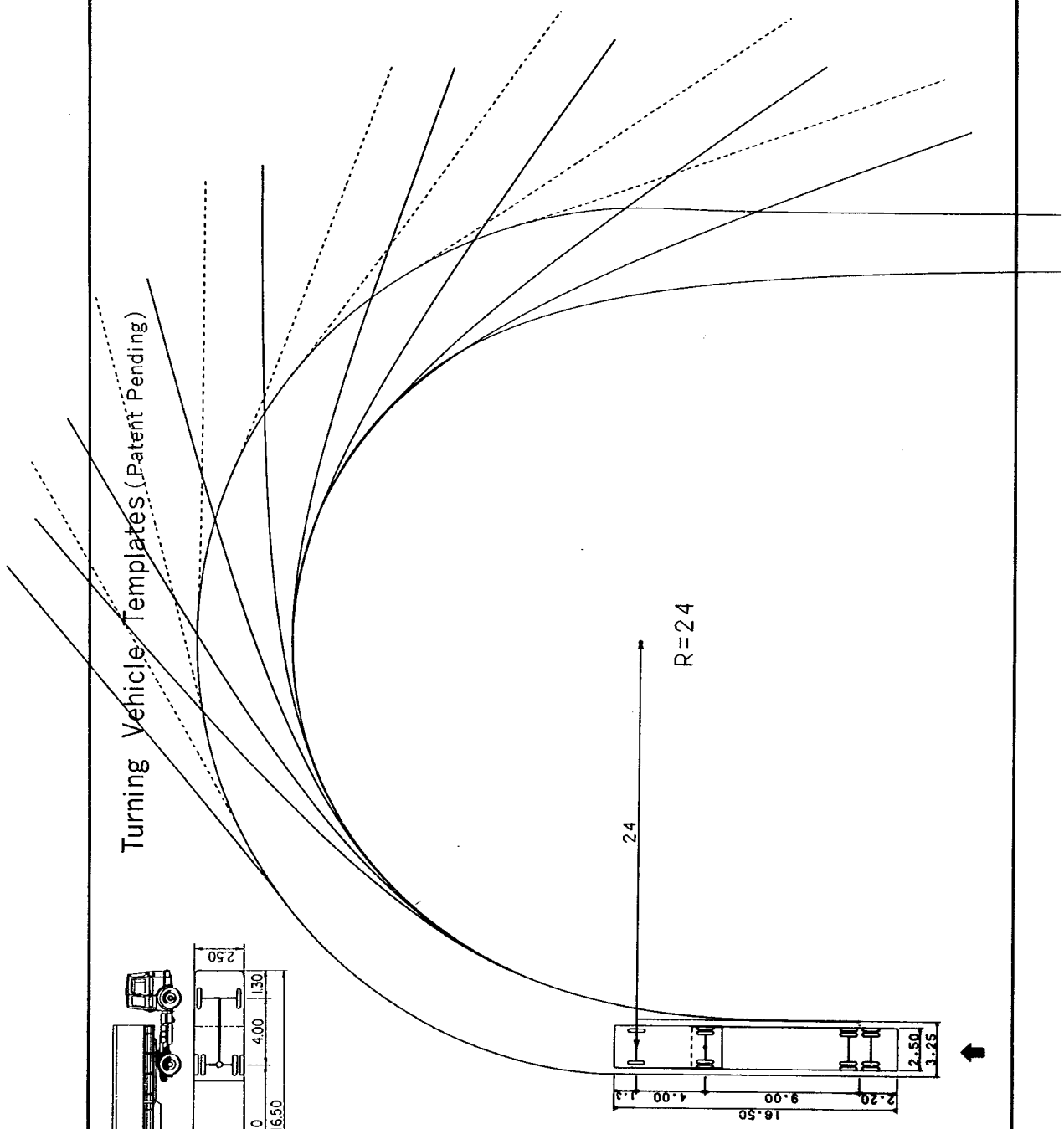
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S-115

Turning Vehicle Templates (Patent Pending)

W = 3.25 m

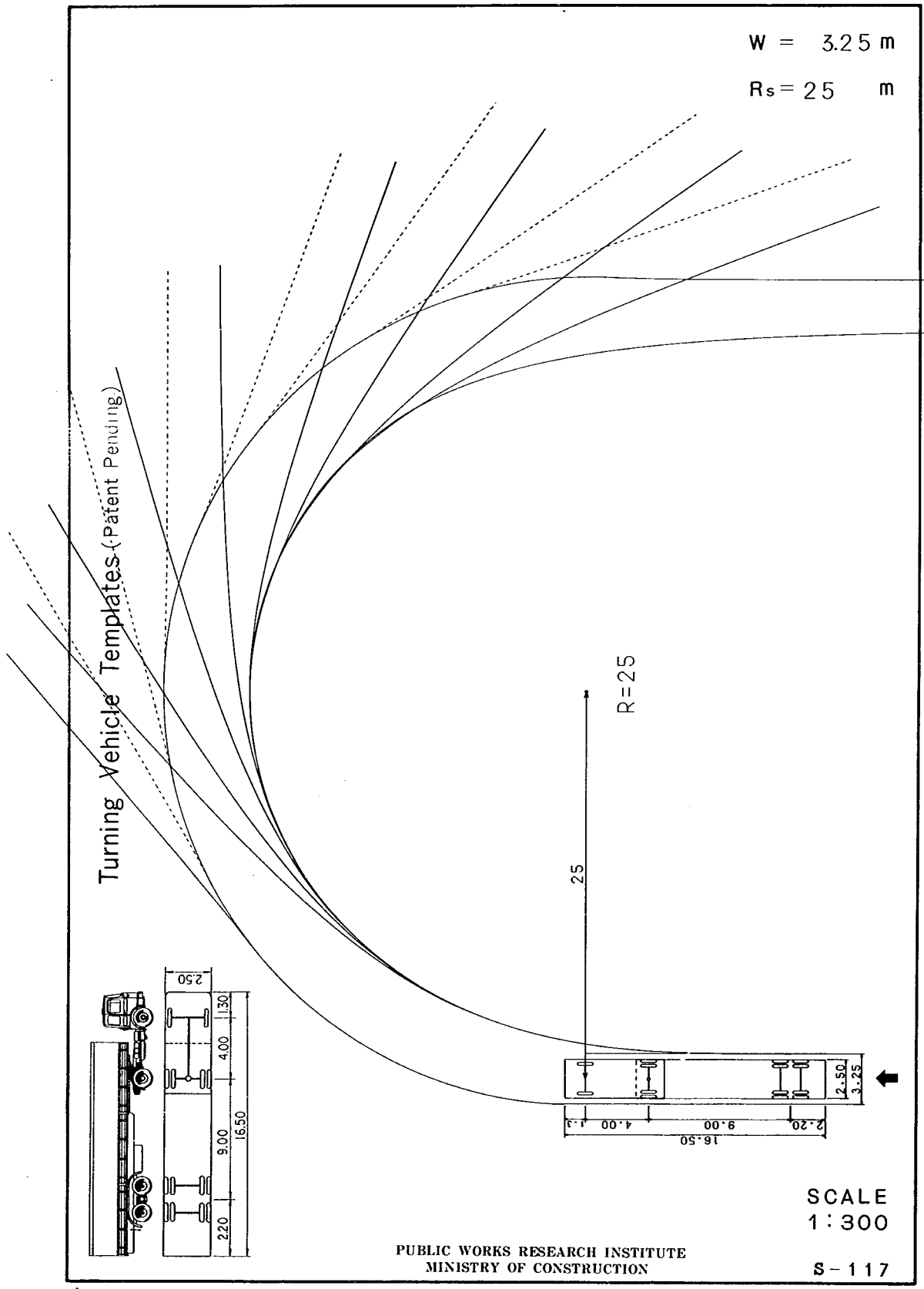
Rs = 24 m



SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

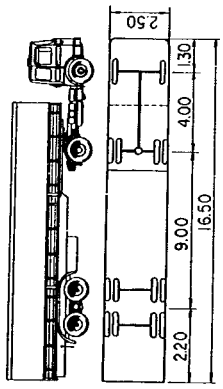
S-116

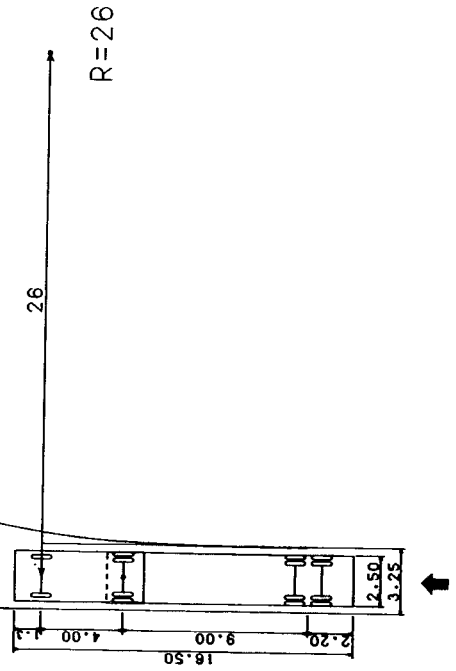

W = 3.25 m
Rs = 25 m
Turning Vehicle Templates (Patent Pending)
R=25
25
2.50
1.30
4.00
9.00
16.50
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-117

W = 3.25 m

Rs = 26 m

Turning Vehicle Templates (Patent Pending)

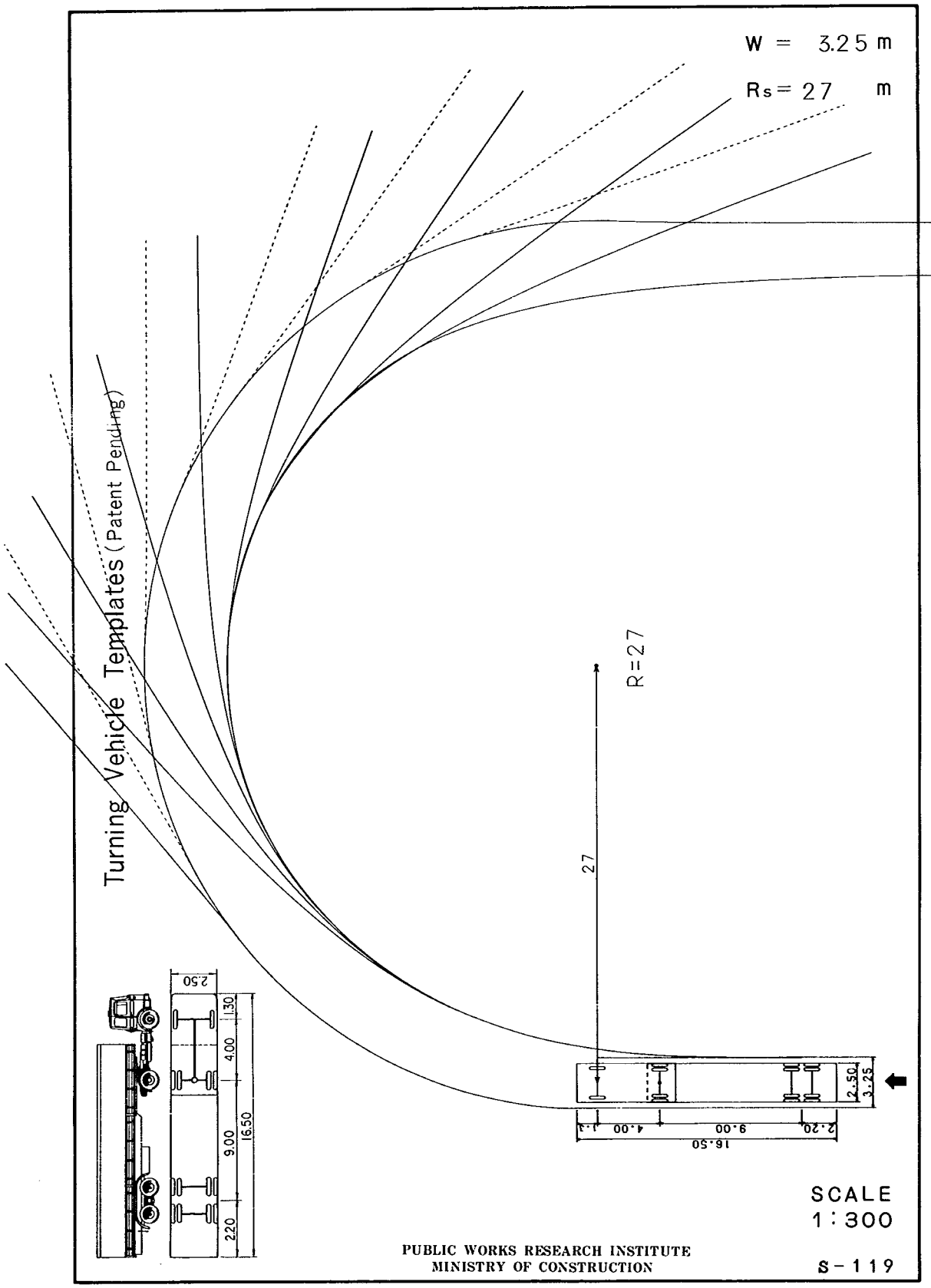




SCALE
1 : 300

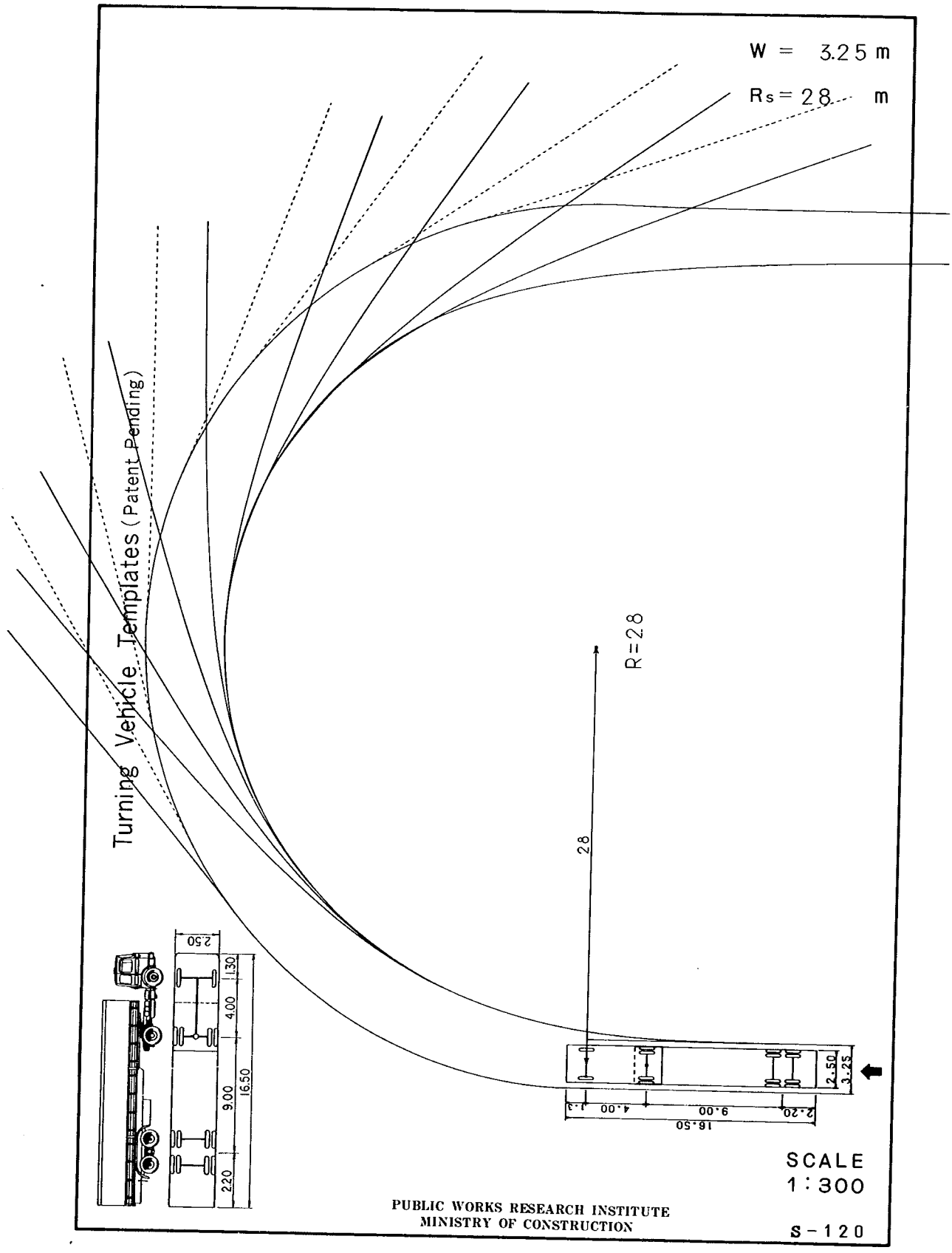
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

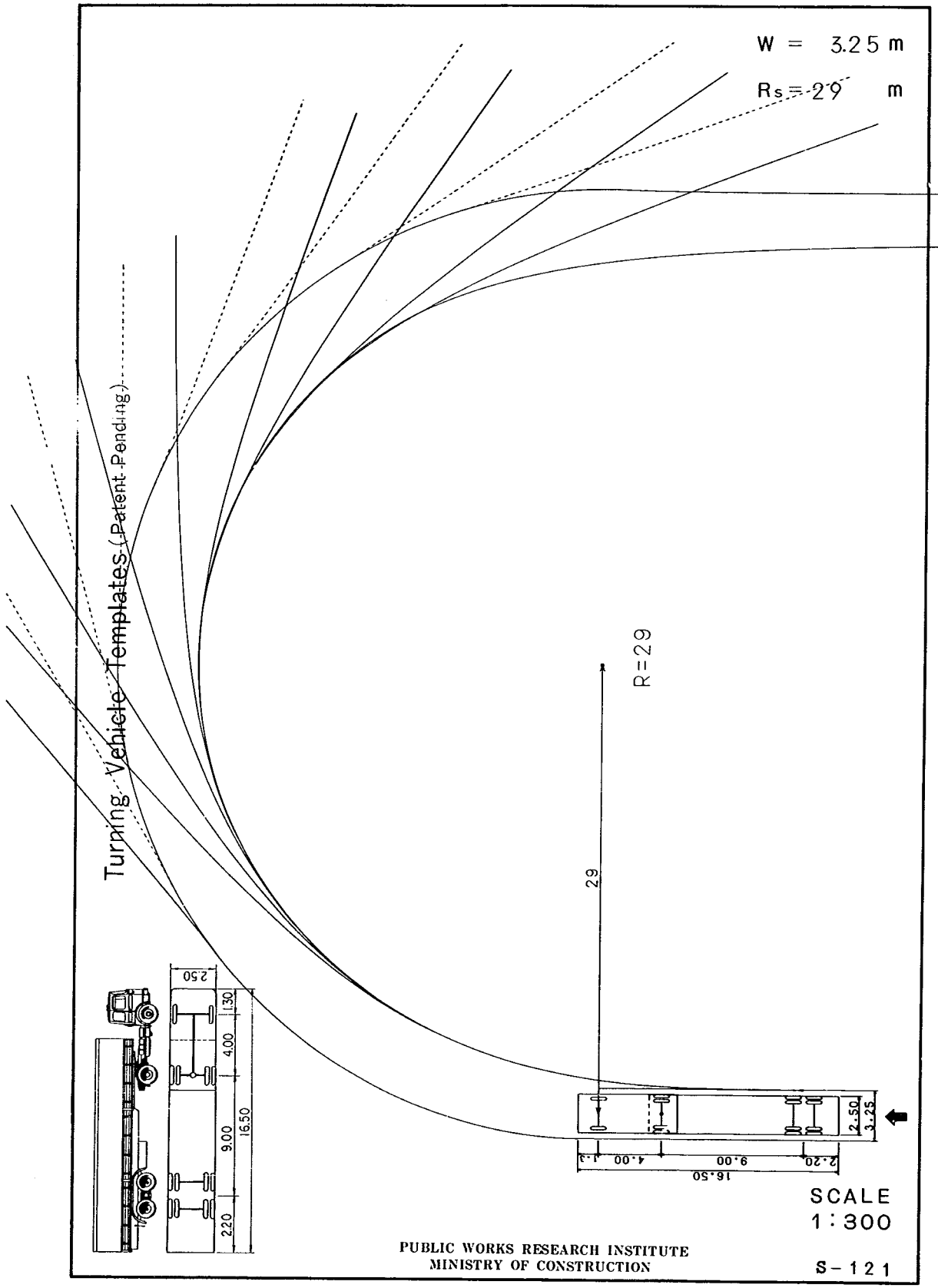
S-118

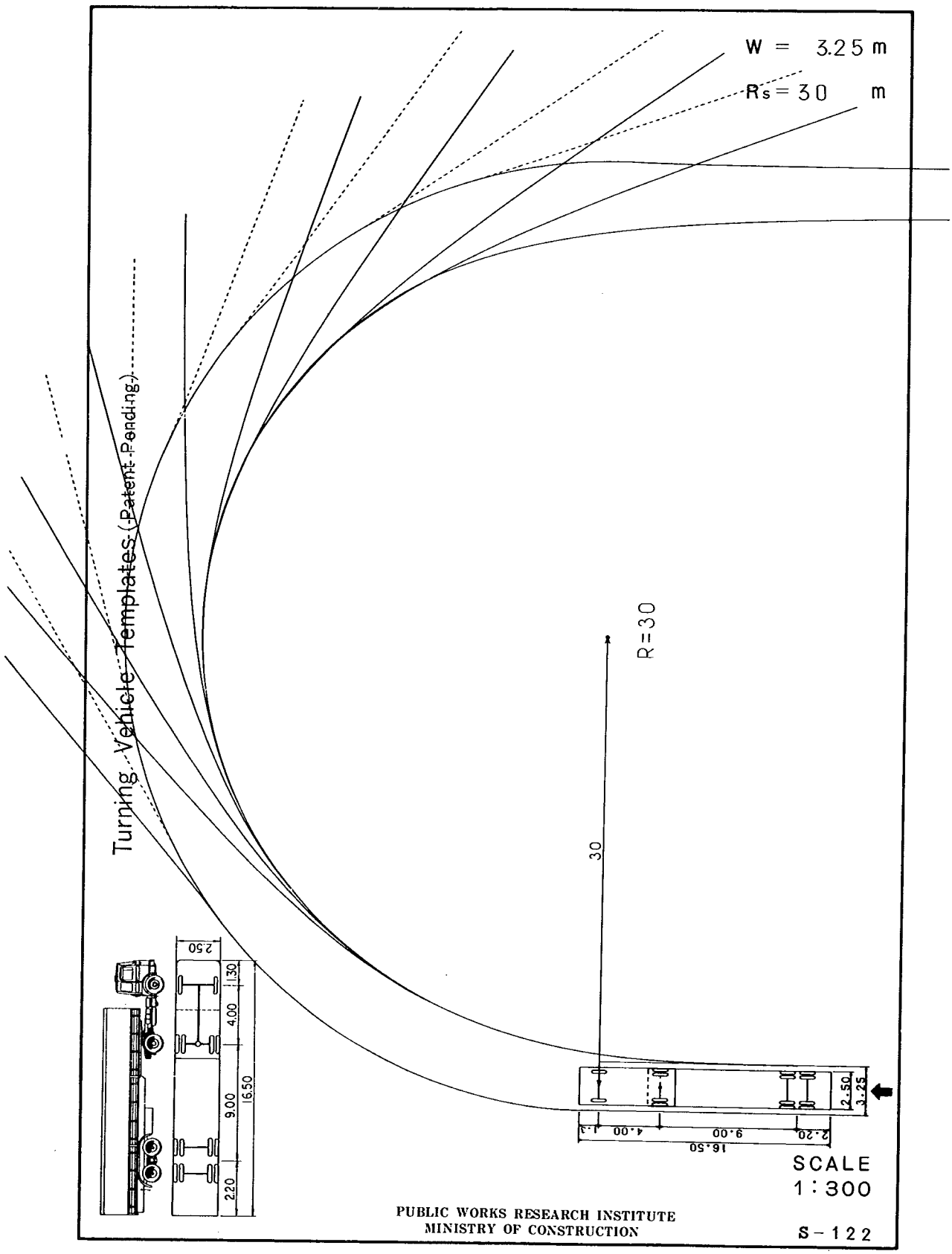


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MINISTRY OF CONSTRUCTION

S-119

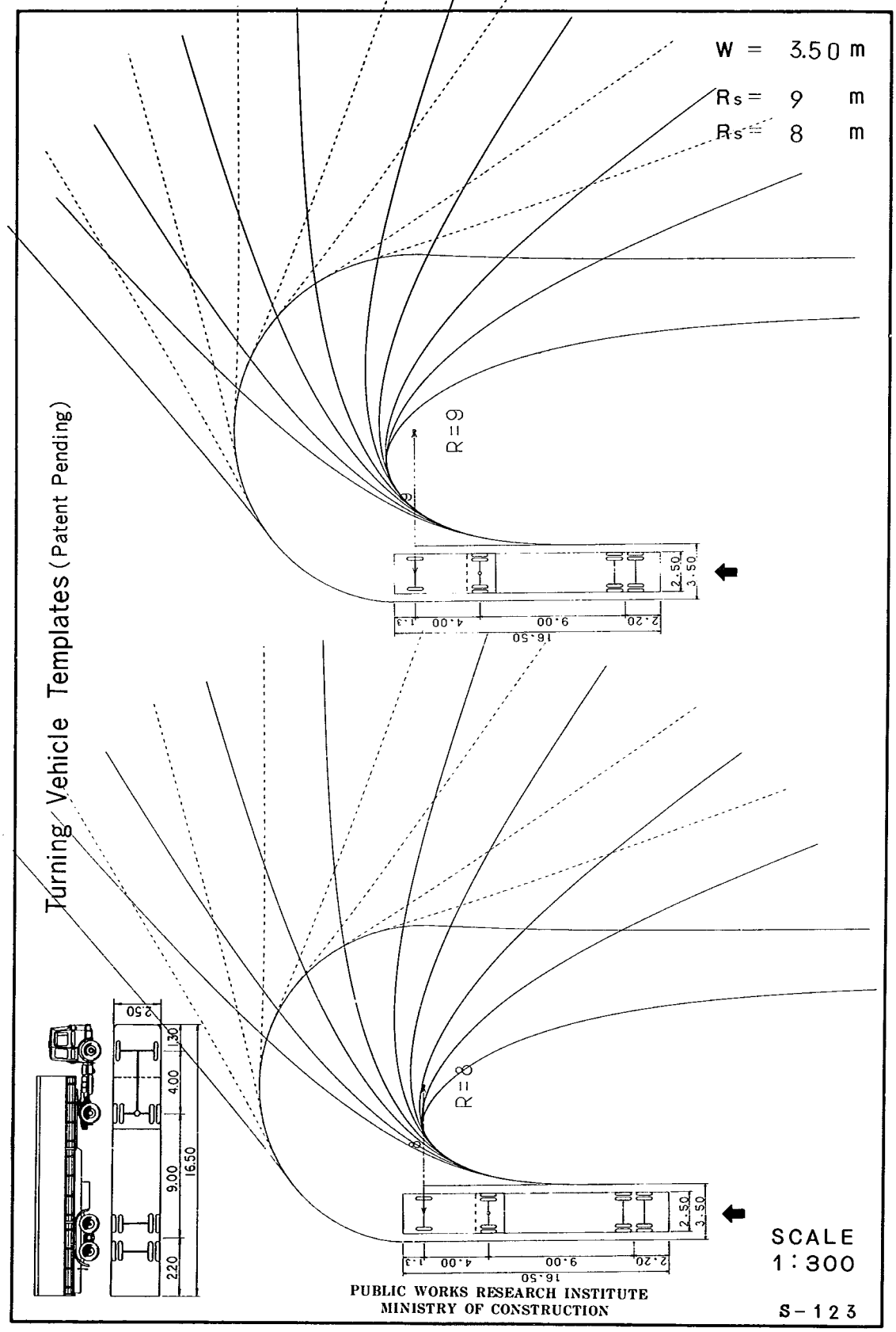

W = 3.25 m
Rs = 28 m
Turning Vehicle Templates (Patent Pending)
R=28
28
2.50
1.30
4.00
9.00
16.50
2.20
16.50
2.20
9.00
4.00
1.3
2.50
3.25
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-120


W = 3.25 m
Rs = 29 m
Turning Vehicle Templates (Patent Pending)
R=29
29
2.50
1.30
4.00
9.00
16.50
2.20
2.50
3.25
1.3
4.00
9.00
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-121


W = 3.25 m
Rs = 30 m
Turning Vehicle Templates (Patent Pending)
R=30
30
2.50
1.30
4.00
9.00
16.50
2.20
2.50
3.25
1.3
4.00
9.00
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-122

縮尺（SCALE）　1：300

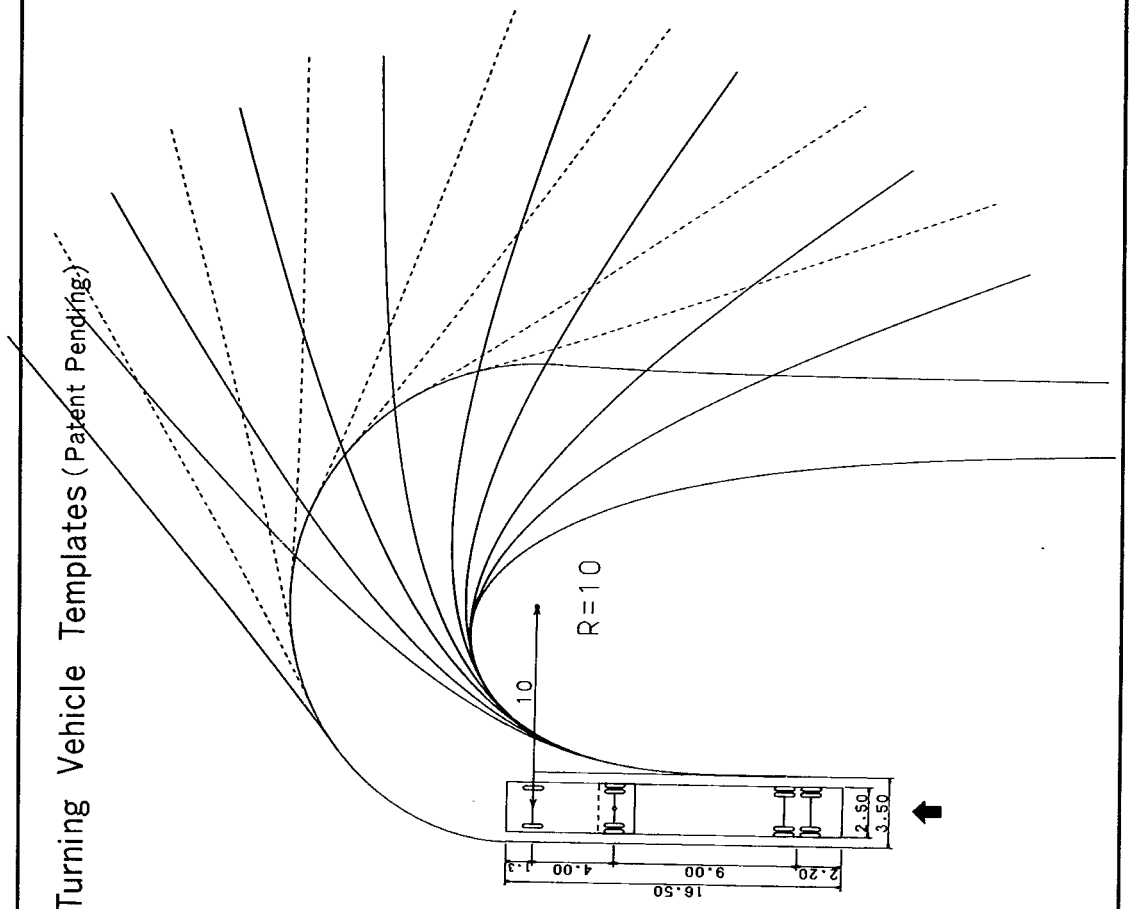
車線幅員（W）　3.50m

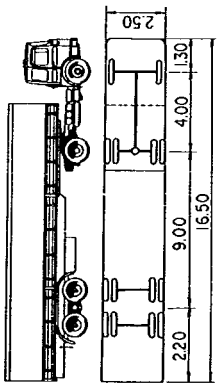

Turning Vehicle Templates (Patent Pending)
W = 3.50 m
Rs = 9 m
Rs = 8 m
R=9
R=8
2.50
3.50
16.50
2.20
9.00
4.00
1.30
2.50
4.00
9.00
16.50
2.20
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-123

W = 3.50 m

Rs = 10 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

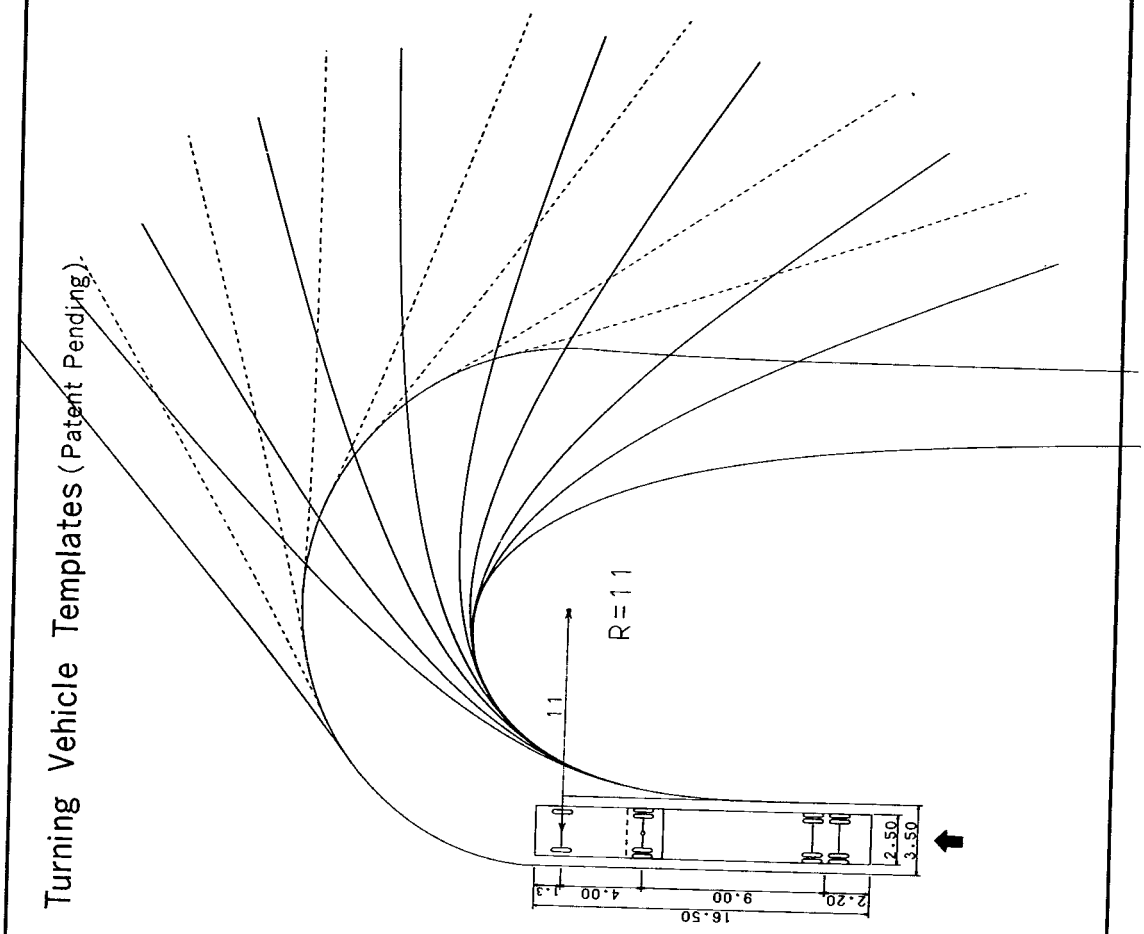
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

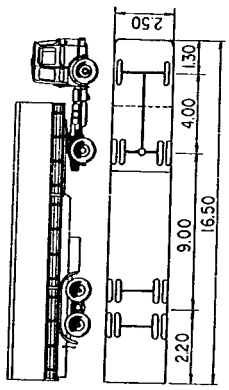
S-124

W = 3.50 m

Rs = 11 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

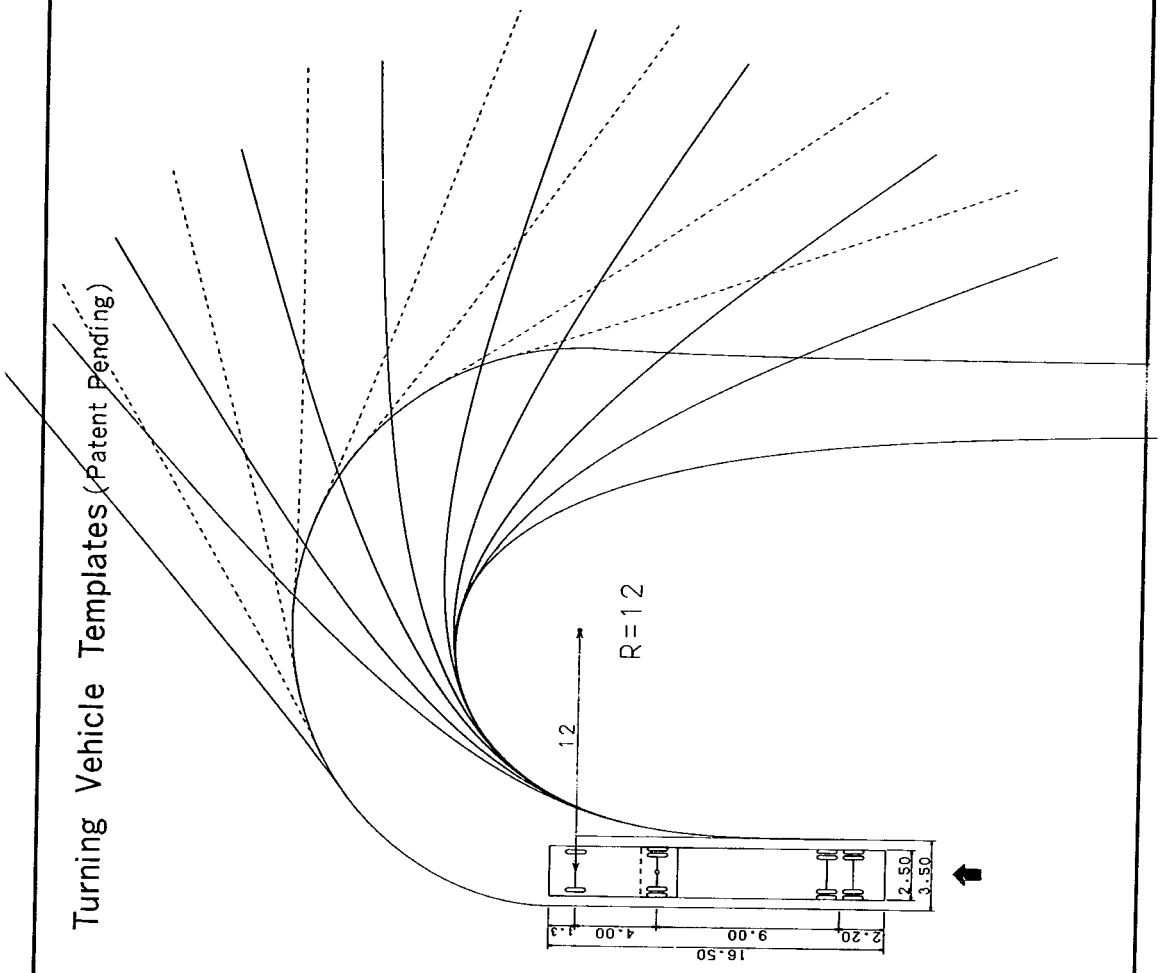
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S-125

W = 3.50 m

Rs = 12 m

Turning Vehicle Templates (Patent Pending)



SCALE
1 : 300

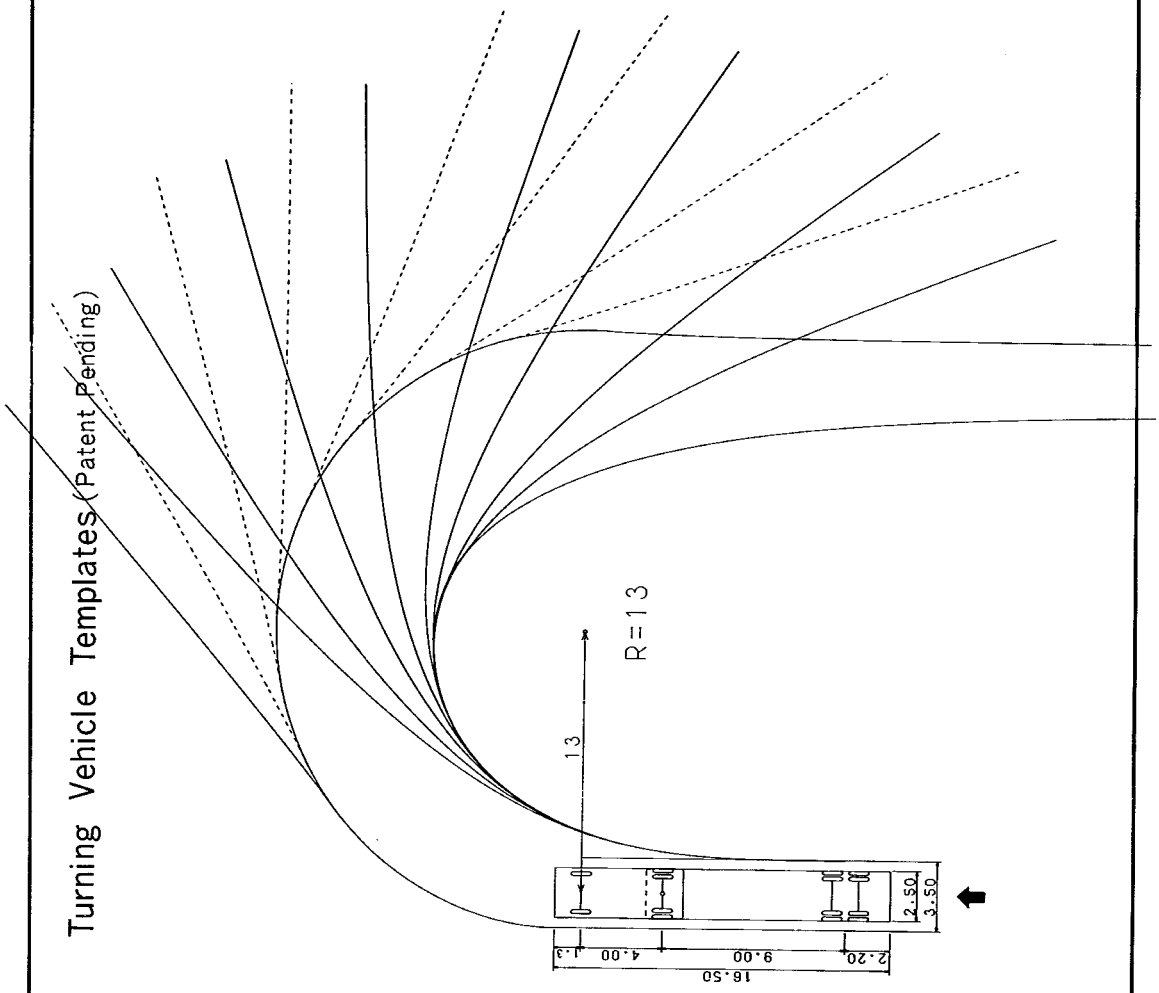
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MINISTRY OF CONSTRUCTION

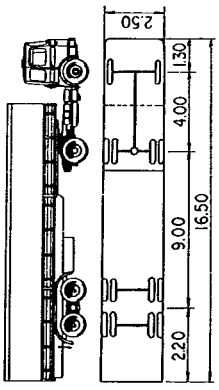
S-126

W = 3.50 m

Rs = 13 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

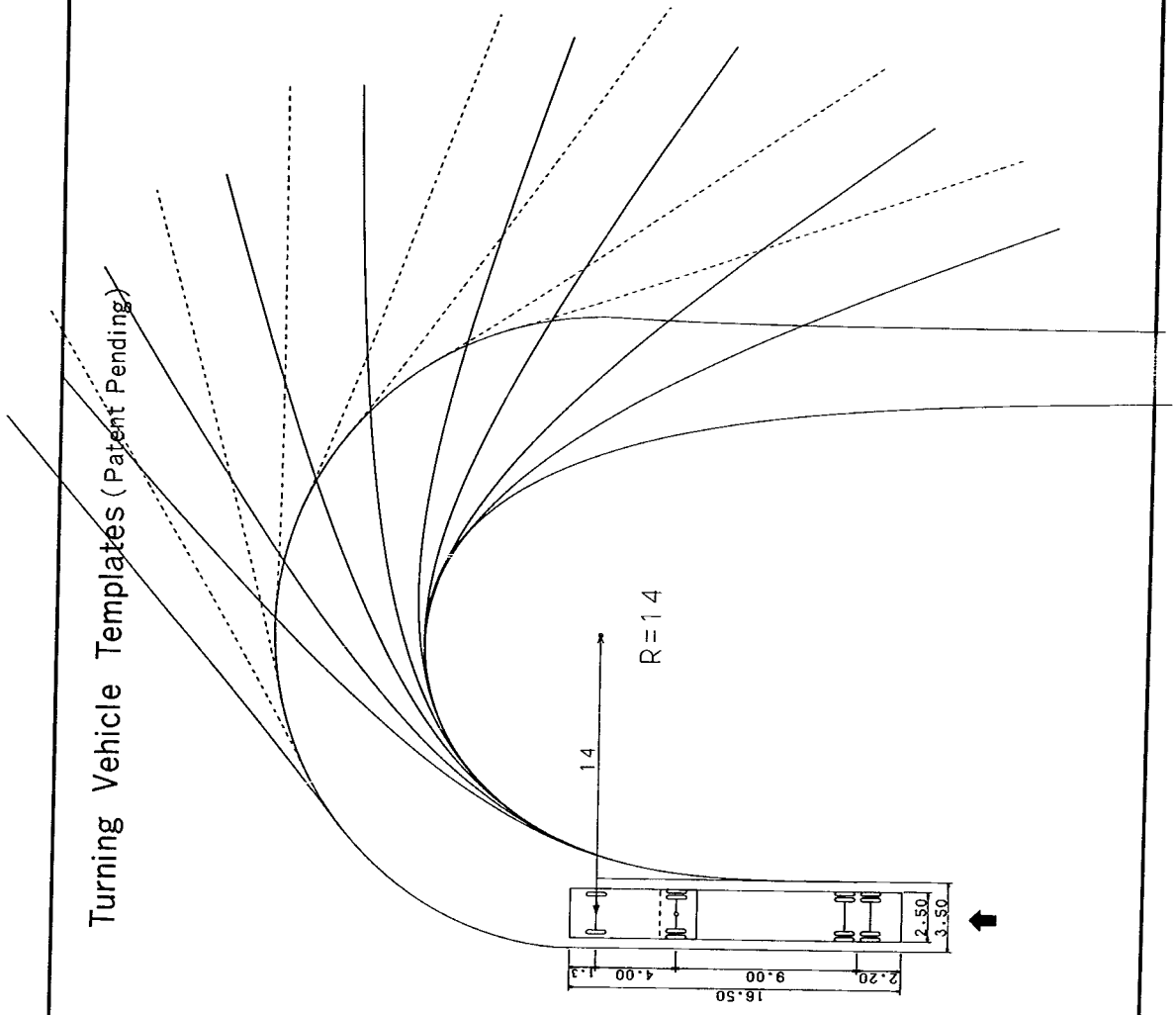
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

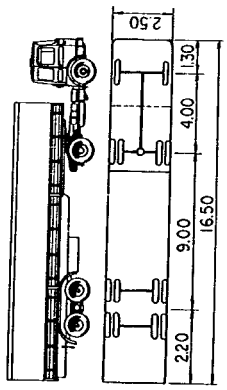
S－127

W = 3.50 m

Rs = 14 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

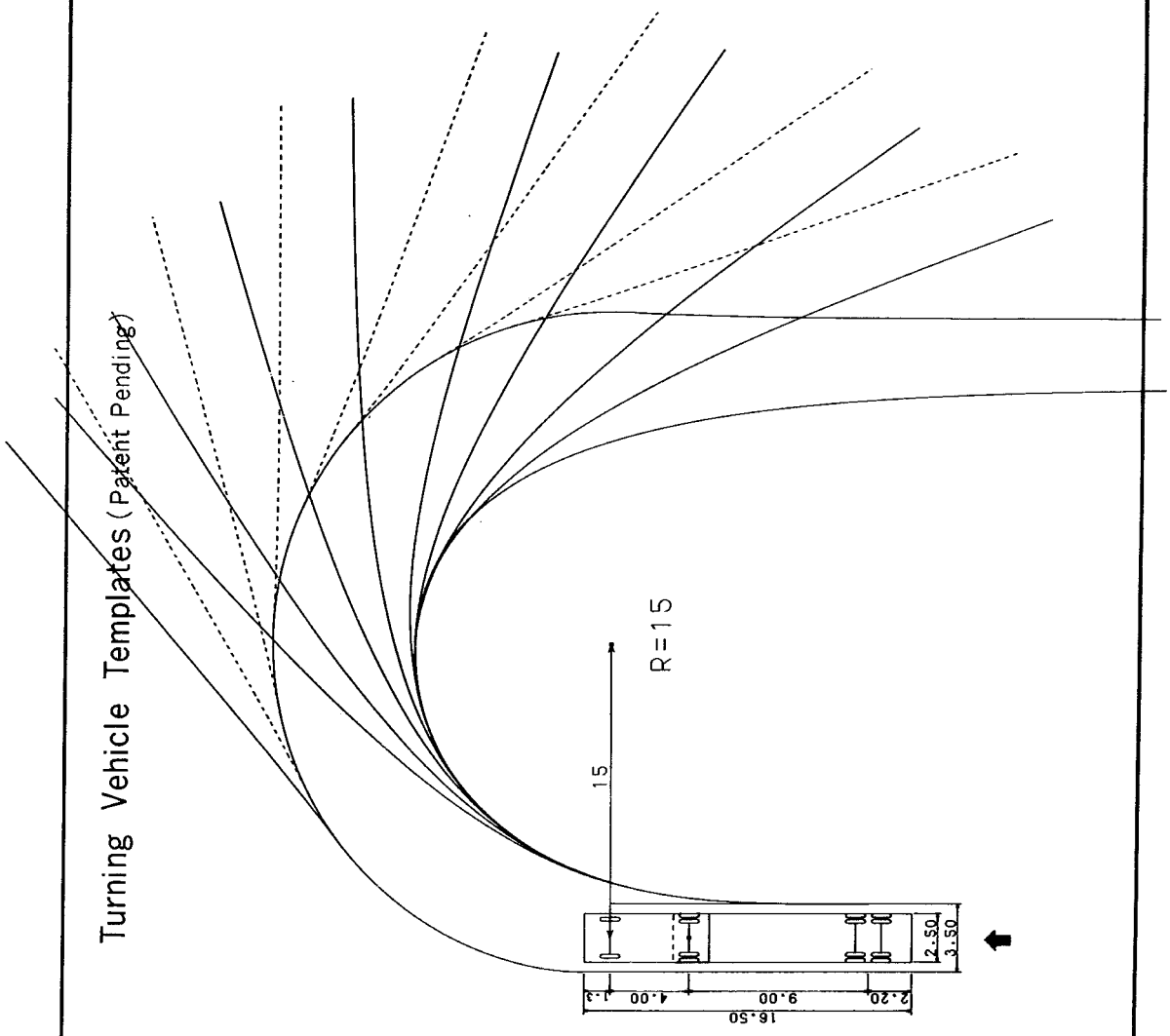
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MINISTRY OF CONSTRUCTION

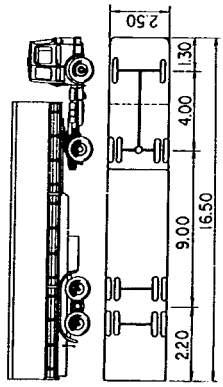
S-128

W = 3.50 m

Rs = 15 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

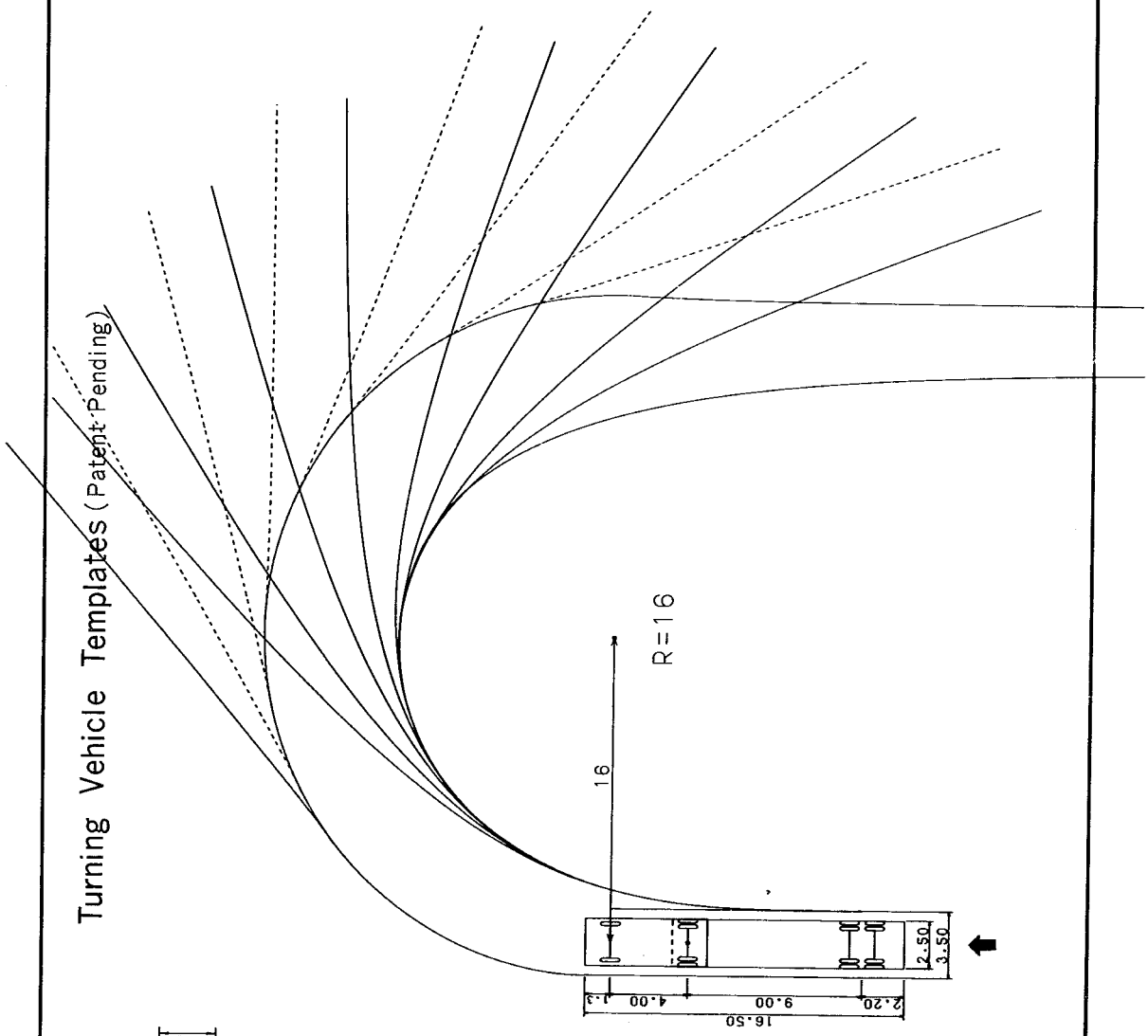
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

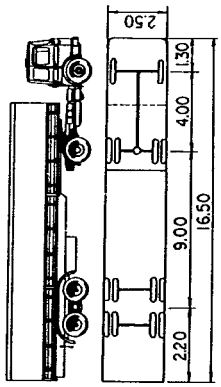
S-129

W = 3.50 m

Rs = 16 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

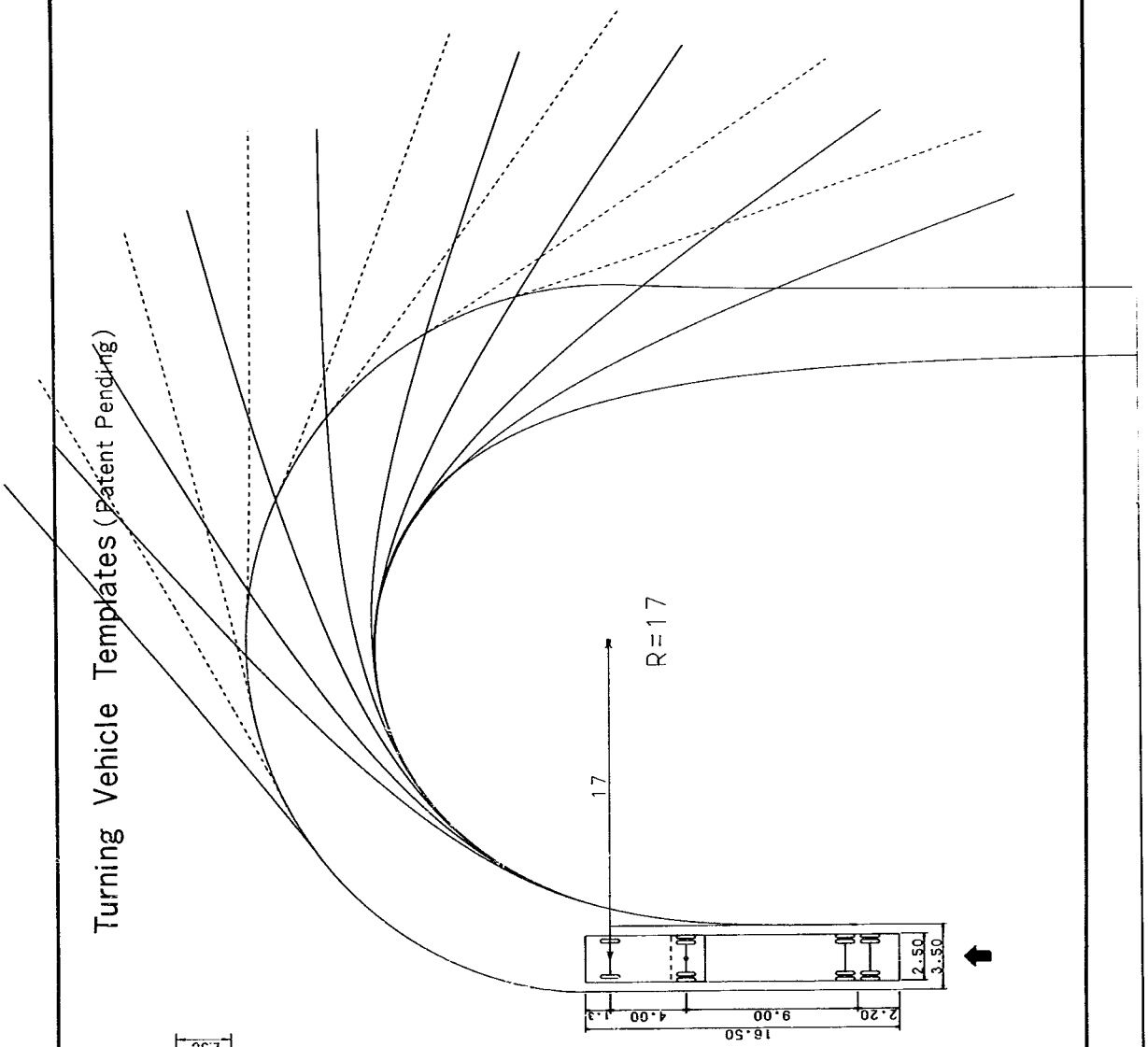
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MINISTRY OF CONSTRUCTION

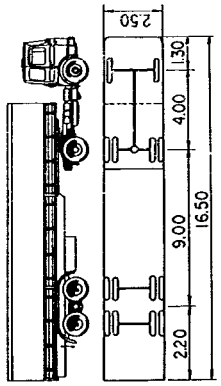
S-130

W = 3.50 m

Rs = 17 m

Turning Vehicle Templates (Patent Pending)





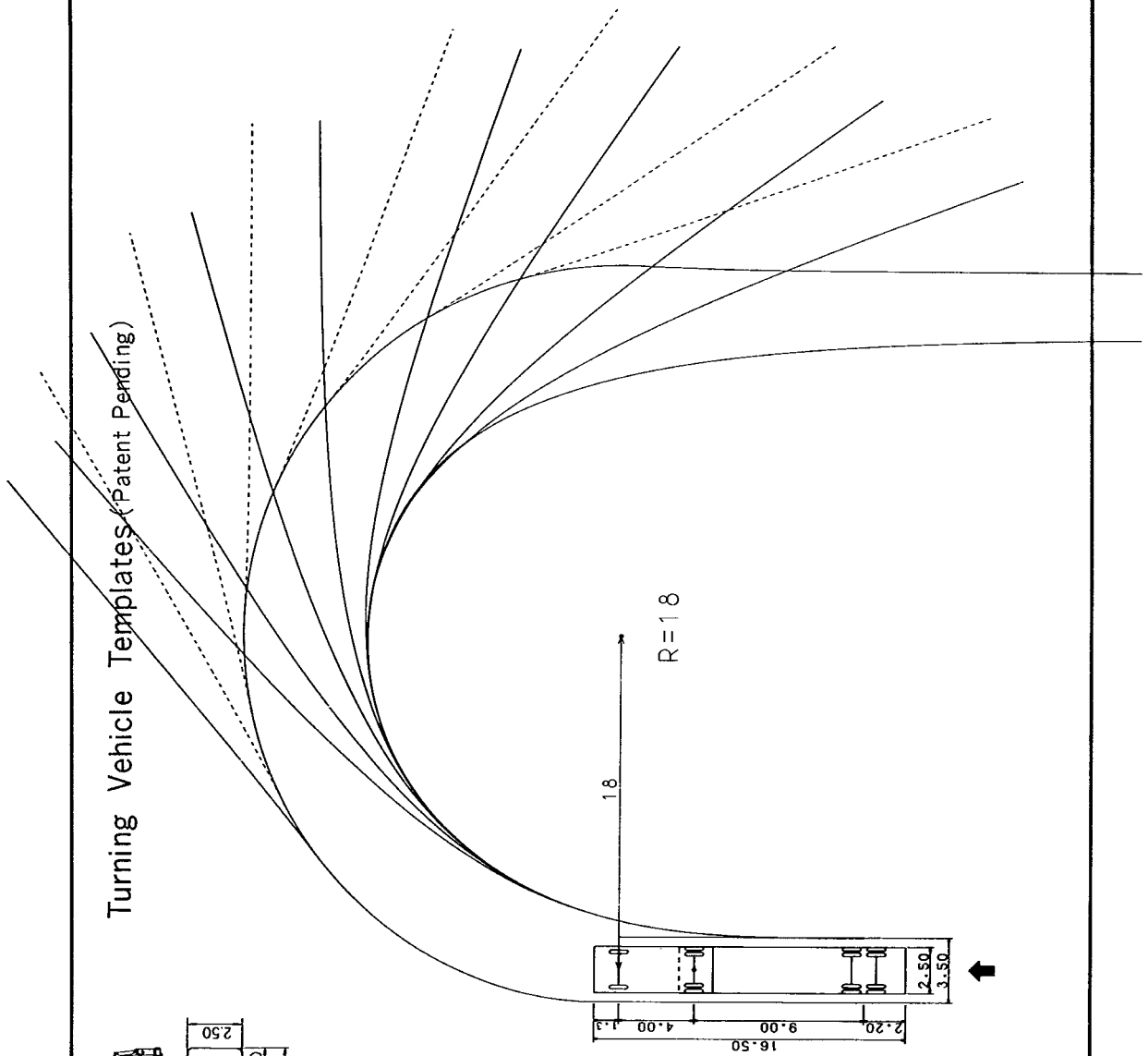
SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

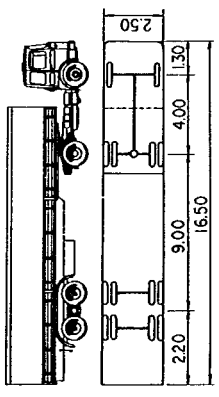
S－131

W = 3.50 m

Rs = 18 m



Turning Vehicle Templates (Patent Pending)



SCALE
1 : 300

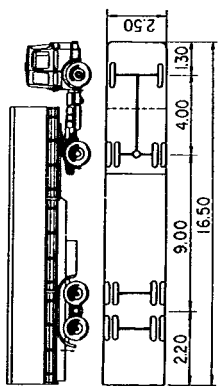
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

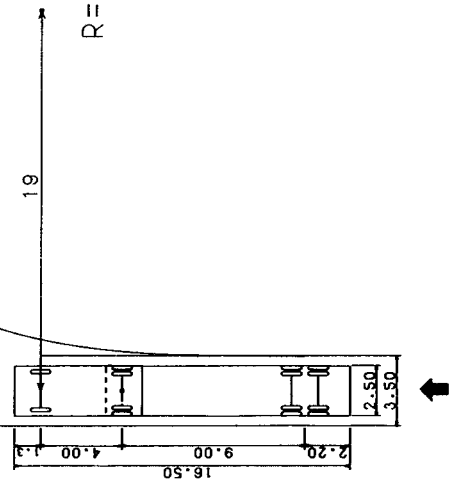
S-132

W = 3.50 m

Rs = 19 m

Turning Vehicle Templates (Patent Pending)

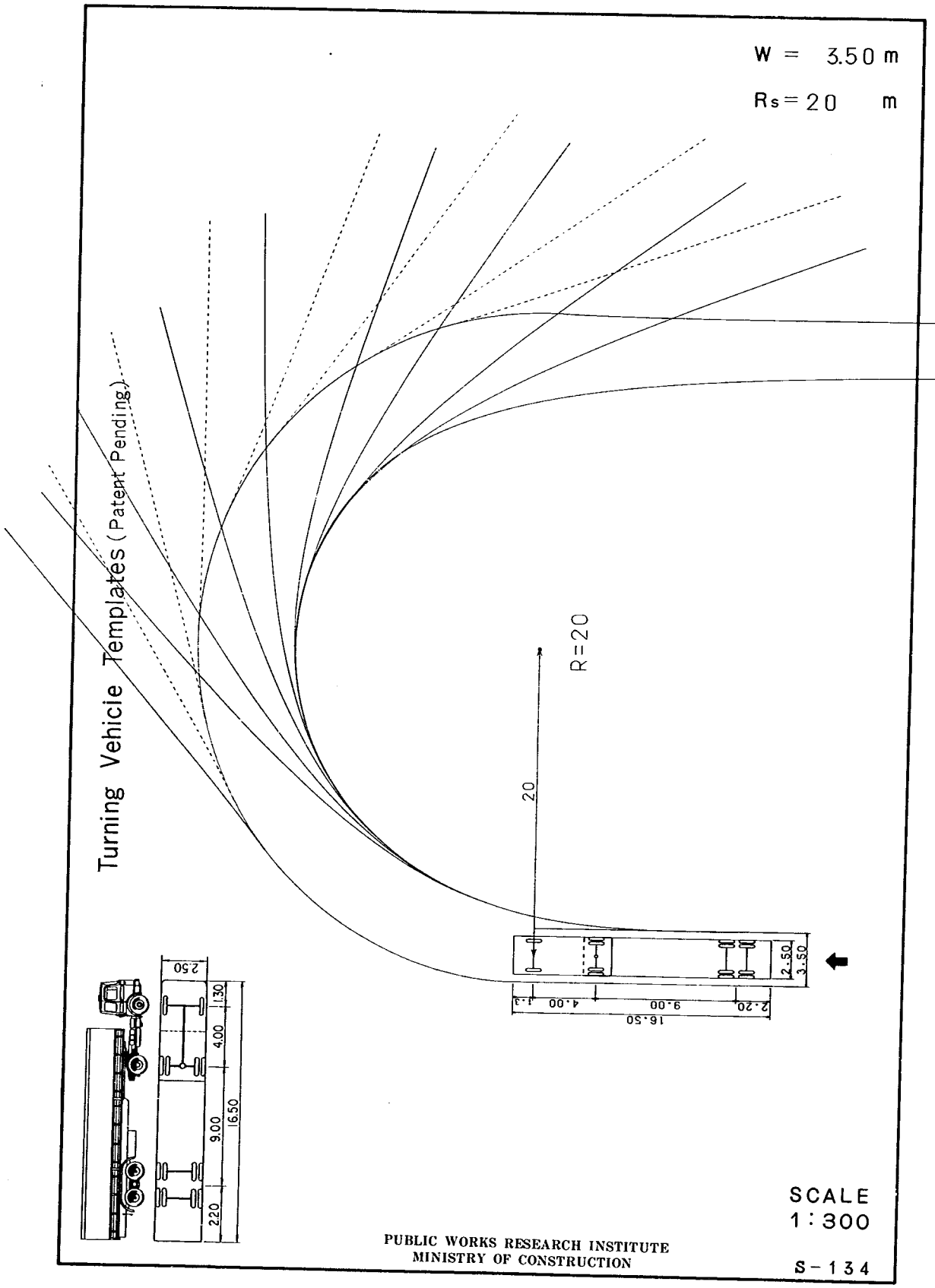




SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

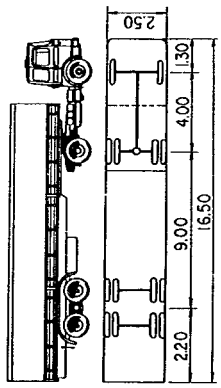
S-133

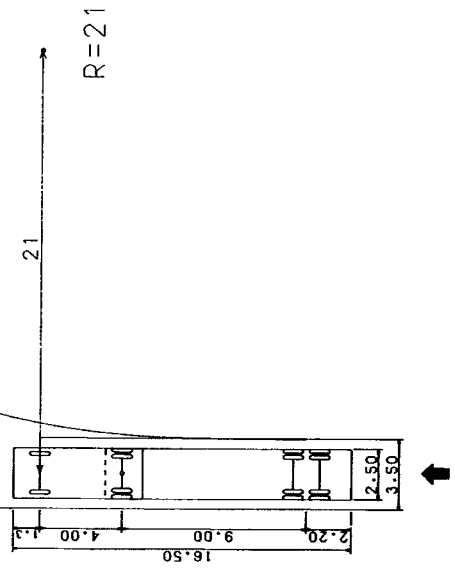

W = 3.50 m
Rs = 20 m
Turning Vehicle Templates (Patent Pending)
R=20
20
2.50
3.50
1.3
4.00
9.00
2.20
16.50
2.50
1.30
4.00
9.00
16.50
2.20
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-134

W = 3.50 m

Rs = 21 m

Turning Vehicle Templates (Patent Pending)





SCALE
1 : 300

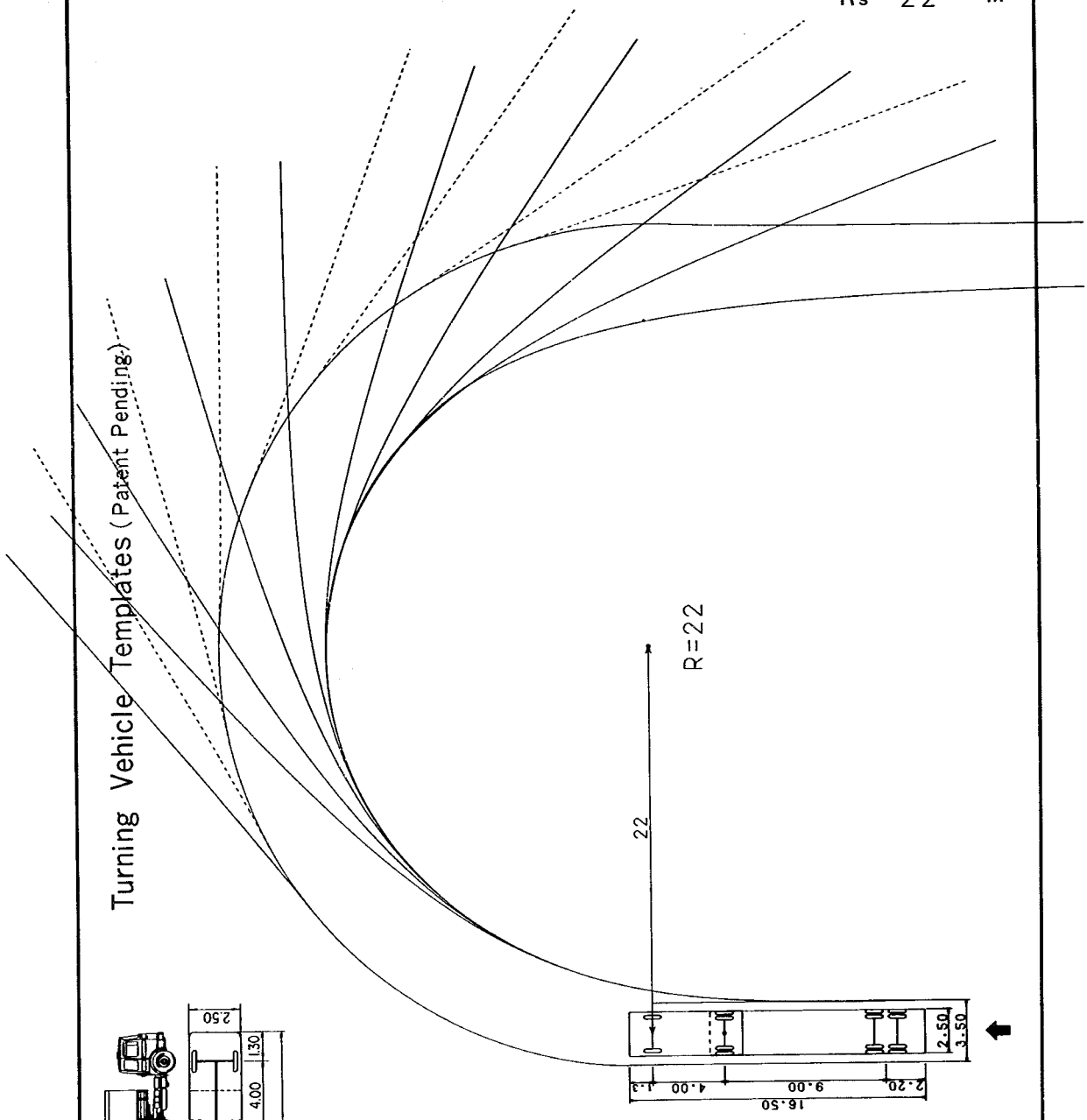
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

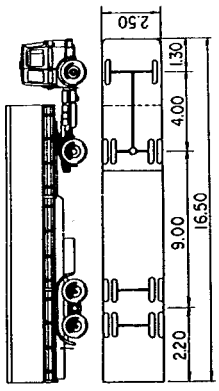
S-135

W = 3.50 m

Rs = 22 m

Turning Vehicle Templates (Patent Pending)

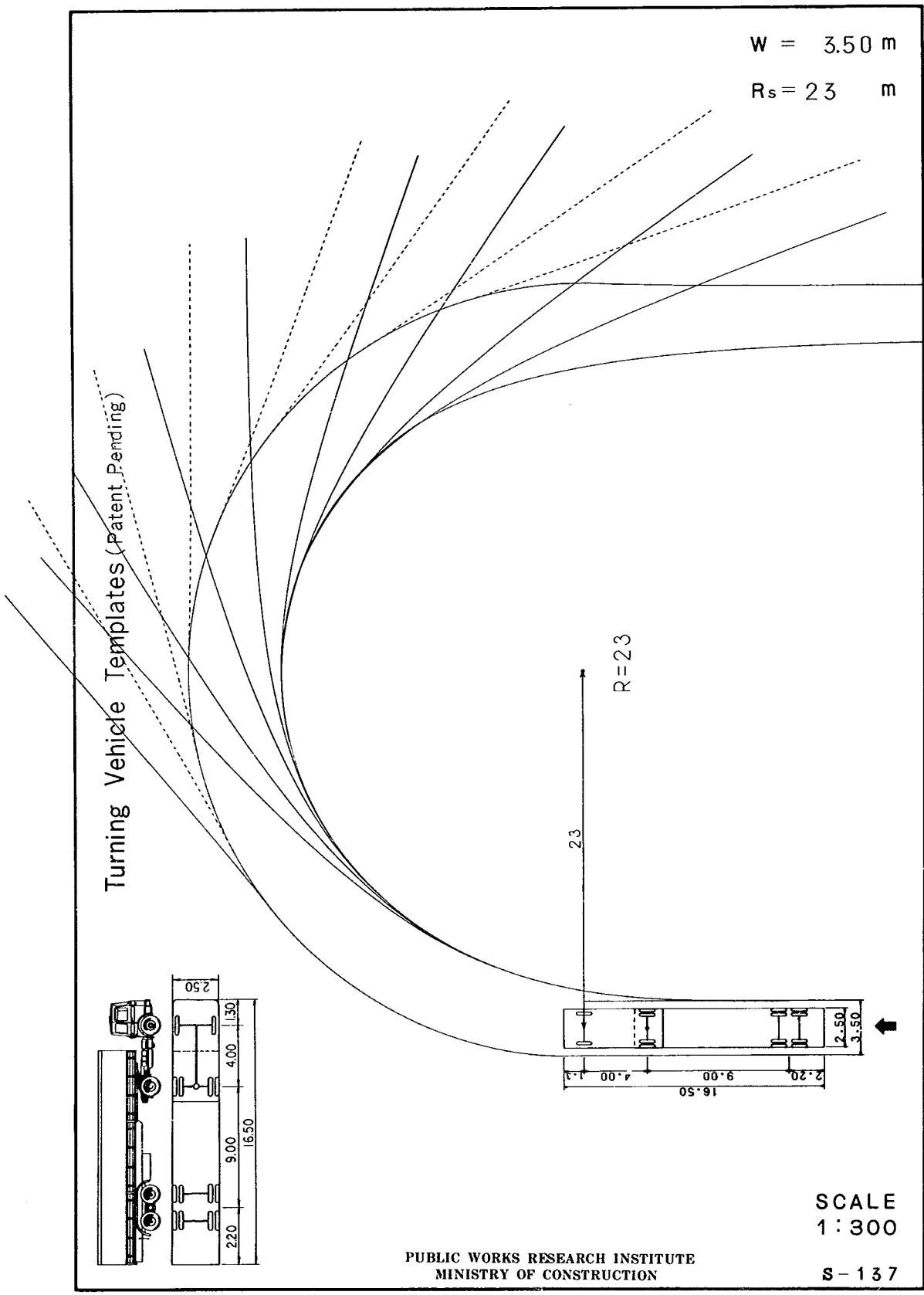




SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

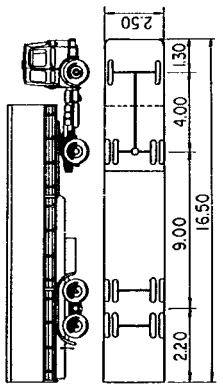
S-136

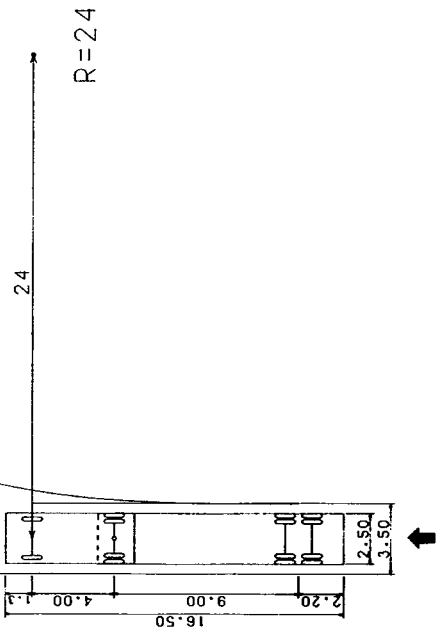

W = 3.50 m
Rs = 23 m
Turning Vehicle Templates (Patent Pending)
R=23
23
2.50
1.30
4.00
9.00
16.50
2.20
2.50
3.50
2.20
9.00
4.00
1.3
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S－137

W = 3.50 m

Rs = 24 m

Turning Vehicle Templates (Patent-Pending)





SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S-138

W = 3.50 m

Rs = 25 m

Turning Vehicle Templates (Patent Pending)

R=25

PATENT PENDING

SCALE
1 : 300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S-139

W = 3.50 m
Rs = 26 m
Turning Vehicle Templates (Patent Pending)
R=26
26
PATENT PENDING
2.50
1.30
4.00
9.00
16.50
2.20
2.50
3.50
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-140

Turning Vehicle Templates (Patent Pending)

W = 3.50 m

Rs = 27 m

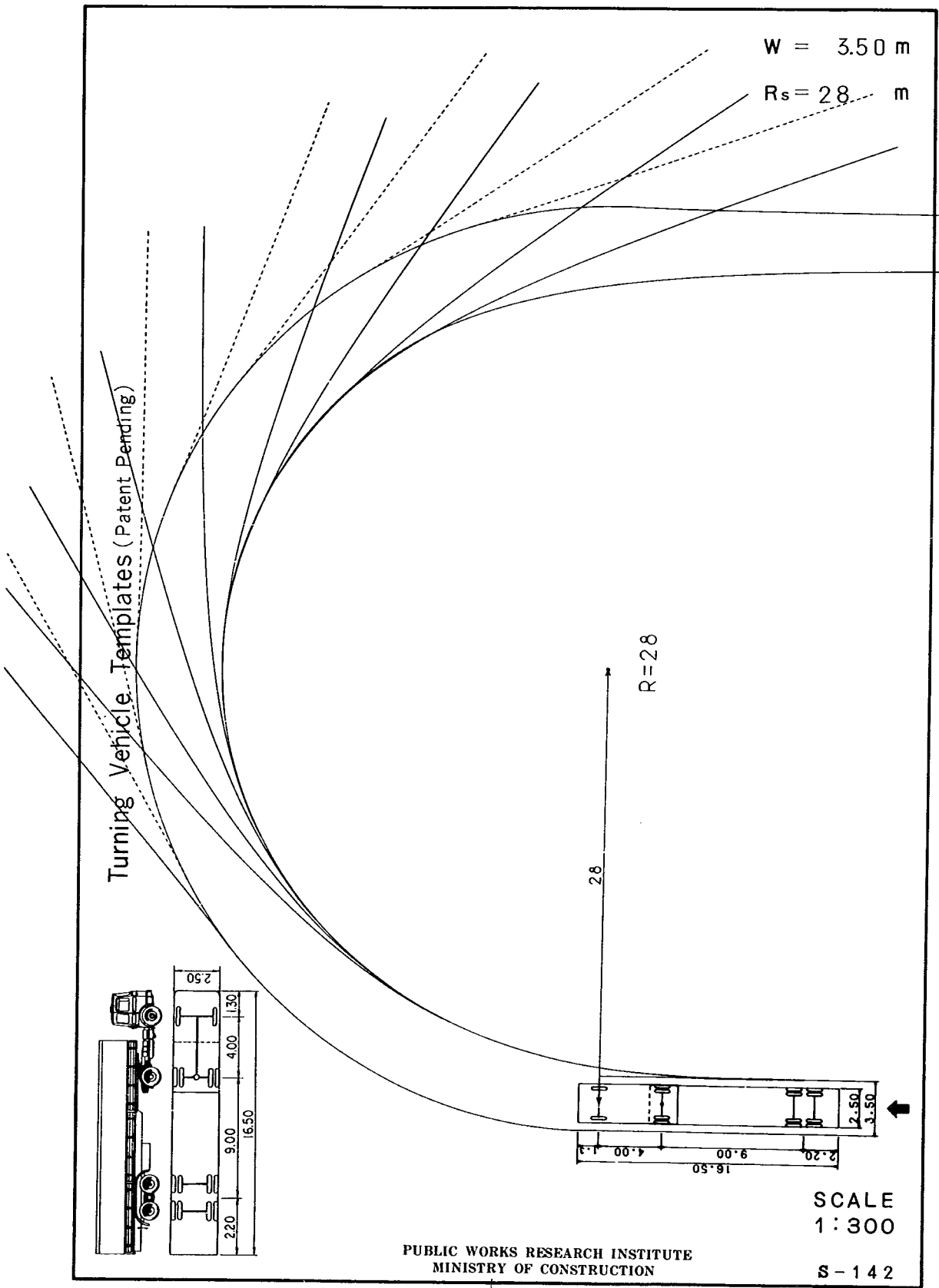
R=27

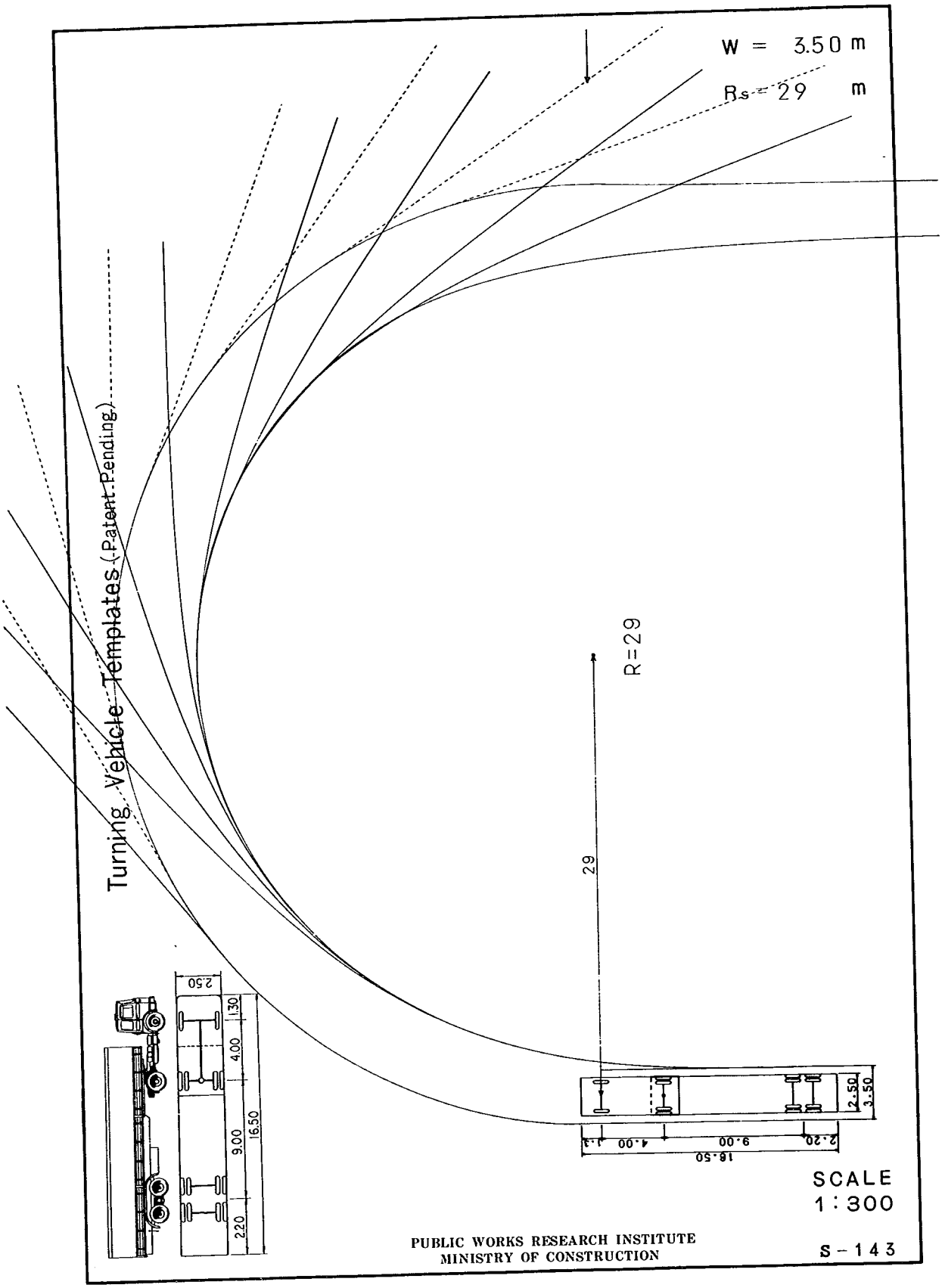
27

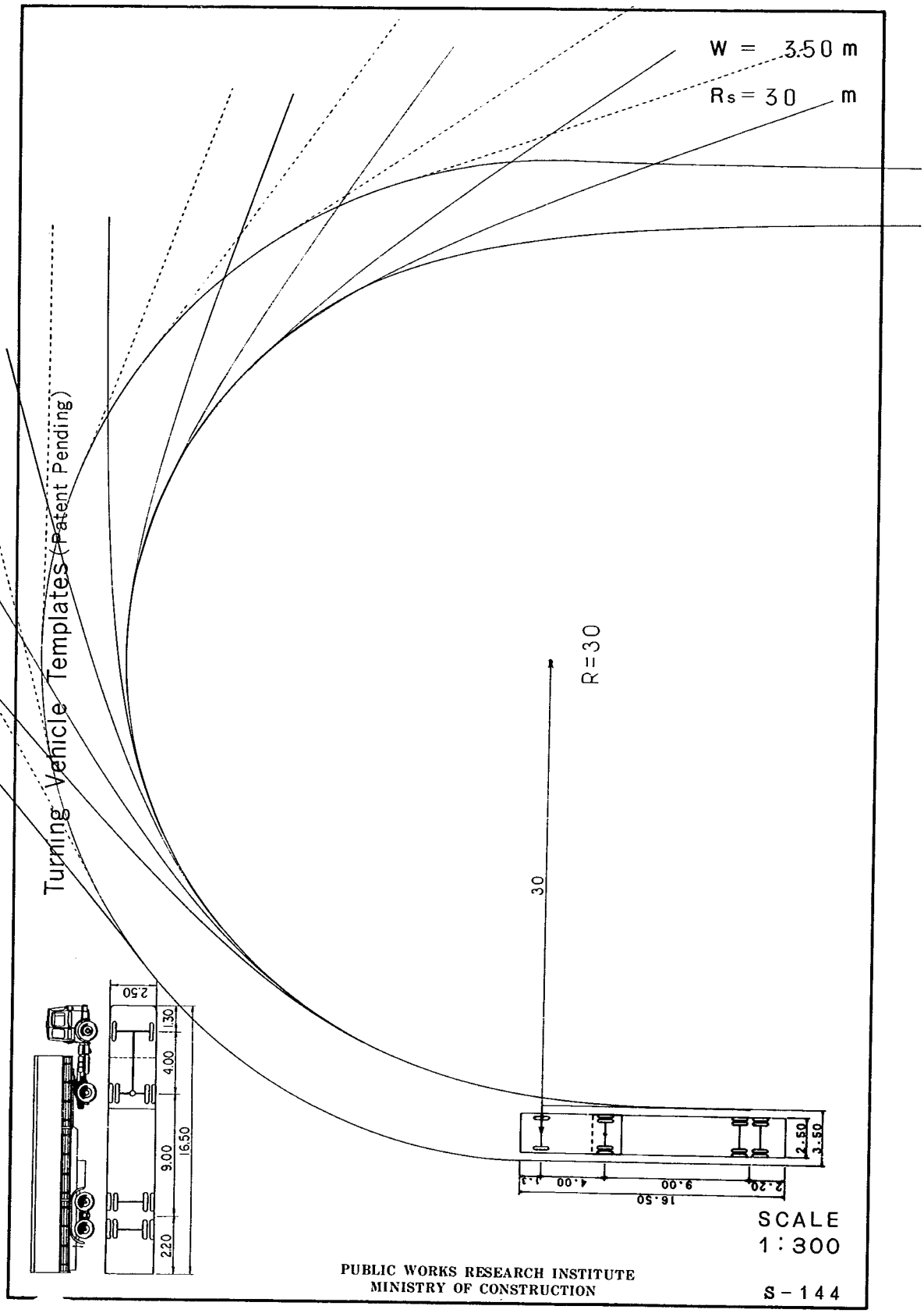
SCALE
1:300

PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION

S-141


W = 3.50 m
Rs = 28 m
Turning Vehicle Templates (Patent Pending)
R=28
28
2.50
1.30
4.00
9.00
16.50
2.20
2.50
3.50
1.3
4.00
9.00
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-142


W = 3.50 m
Rs = 29 m
Turning Vehicle Templates (Patent Pending)
R=29
29
2.50
1.30
4.00
9.00
16.50
2.20
2.50
3.50
1.30
4.00
9.00
2.20
16.50
SCALE
1:300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-143


W = 3.50 m
Rs = 30 m
Turning Vehicle Templates (Patent Pending)
R=30
30
2.50
1.30
4.00
9.00
16.50
2.20
2.60
3.60
1.3
4.00
9.00
2.20
16.50
SCALE
1 : 300
PUBLIC WORKS RESEARCH INSTITUTE
MINISTRY OF CONSTRUCTION
S-144