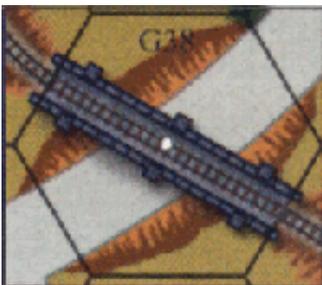
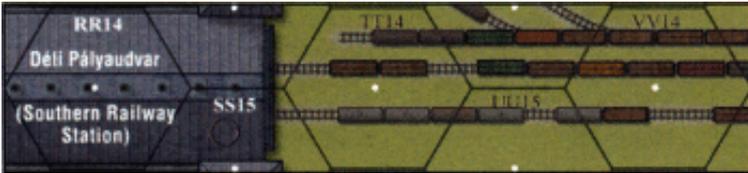




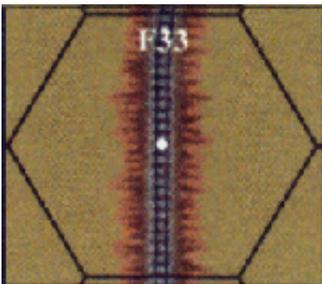
6. FB RAILROADS & TRAM LINES²¹

6.1 All RR ([B32.](#)) rules apply except as modified below in Rail & Tram Cars ([6.2](#)) and Tram Lines ([6.3](#)).

6.11 SOUTHERN RAILWAY STATION (DÉLI PÁLYAUDVAR) RAILWAY: All RR hexes located on Level 1 leading to/from the Southern Railway Station (building RR14) are Ground Level RR (GLRR) hexes ([B32.1](#)).



6.12 COGWHEEL RAILWAY (FOGASKEREKŰ VASÚT): Hexes F32 through F37, H38, and H39 of the Cogwheel Railway are Embankment RR (EmRR) hexes ([B32.1](#)). Hex G38 is a RR Bridge ([B32.14](#)) [*EXC: the bridge is at Level 2½, the same level as the two adjoining EmRR hexes F37 and H38*] over a Sunken Road ([B4.](#)). Hexes G32, H30, and H31 are Ground Level RR (GLRR) hexes.



6.121 EmRR portions of the Cogwheel Railway are a somewhat different type of Half-Level Obstacle. Units on the EmRR portion of the Cogwheel Railway are subject to all EmRR rules ([B32.1](#)). An EmRR hex is a type of Inherent Terrain ([B.6](#)), and does not contain a hill Crest Line.

6.1211 SMOKE GRENADES: SMOKE grenades placed onto an EmRR hex from an ADJACENT lower-level Location are not subject to the subsequent dr specified in [A24.1](#).

6.122 MOVEMENT & WEATHER: Rain ([E3.54](#)) and Ground Snow ([E3.723](#)) movement penalties do not apply when entering a Cogwheel Railway EmRR hex [*EXC: Infantry entering/exiting an EmRR hex (EX: F37 or H38) from the Sunken Road in G38*].

6.123 LOS: LOS to/from/past/over ([B.4](#)) an EmRR is determined by the elevation and entrenched/Emplaced status of the viewing and viewed units. An EmRR hex does not block LOS to other hexes of the same EmRR. For LOS purposes, a unit is considered “adjacent” to an EmRR only if the LOS in question to/from that unit crosses/touches a hexside/hexspine that is common to both an EmRR hex and the unit’s hex, and that EmRR hex’s topmost height along that LOS is exactly a half-level higher than that unit’s elevation.

6.123 EX: EmRR Line of Sight

Squad A has a LOS to units B, C, D, E, F, G, H, J, L, M, N†*, O, Q*, S, T*, U, and Z.

Squad B has a LOS to units A, C, D, E, F, G, H, J, K, L, M, N†*, Q*, S, U, and Z.

Squad C has a LOS to units A, B, D, E, F, G, H, I, J, K, L, M, N, O, Q, R, S, T, U, V, X, Y, Z, AA, and BB.

Squad D has a LOS to units A, B, C, E, F, G, H, J, K, L, M, N†*, Q*, S, U, and Z.

Squad E has a LOS to units A, B, C, D, F, G, H, K, L, M, N†*, S, and U.

Squad F has a LOS to units A, B, C, D, E, G, H, J*, K, L, M, N†*, O, S, T*, and U.

Squad G has a LOS to units A, B, C, D, E, F, H, J*, K, L, M, N†*, and Z.

Russian 57LL AT Gun H (Emplaced) has a LOS to units A, B, C, D, E, F, G, J*, K, L, M, and Z.



Russian 57LL AT Gun H (non-Emplaced) has a LOS to units A, B, C, D, E, F, G, J*, K, L, M, N†*, Q*, X, and Z.

Squad L has a LOS to units A, B, C, D, E, F, G, H, I, J, K, M, N, O, Q, R, S, V, W, X, Y, and Z.

Squad M has a LOS to units A, B, C, D, E, F, G, H, I, J, K, L, N, Q, R, V, W, X, Y, and Z.

German 75L AT Gun N (Emplaced) has a LOS to units C, K, L, M, R, and Z.

German 75L AT Gun N (non-Emplaced)

has a LOS to units A, B, C, D, E, F, G, H† †*, I, J*, K, L, M, Q, R, and Z.

Squad O has a LOS to units A, C, F*, I, J, K, L, P, S, T*, U, V, and Z.

Squad P has a LOS to units J, K, O, S, and U.

Squad Z has a LOS to units A, B, C, D, G, H, I, J, K, L, M, N, O, Q, R, S, T, U, V, W, X, Y, AA, and BB.

Notes:

† Denotes that this unit has a LOS to the German 75L AT Gun/crew in F31 assuming the 75L AT Gun is non-Emplaced ([C11.2](#)). If the 75L AT Gun is Emplaced, then no LOS exists per [6.1233](#).

†† Denotes that this unit has a LOS to the Russian 57LL AT Gun/crew in E33 assuming the 57LL AT Gun is non-Emplaced ([C11.2](#)). If the 57LL AT Gun is Emplaced, then no LOS exists per [6.1233](#).

* Denotes that this unit *may* claim the EmRR TEM (or HD status) vs Direct Fire from the viewing unit (see [6.124](#)).

6.1231 ON: A unit (whether entrenched/Emplaced or not) on an EmRR has LOS over ([B.4](#)) that EmRR, and also over the next EmRR its LOS encounters. The viewing unit can also see along that same LOS past yet another EmRR — but only to Locations that are behind but “adjacent” ([6.123](#)) to this other EmRR, and beyond such Locations to ≥ the viewing unit’s elevation [*EXC to all:* [6.1233](#)]. See the “**Squads L and M**” entries in the [6.123](#) EX.

6.12311 A unit (whether entrenched/Emplaced or not) on an EmRR has a LOS past all walls/hedges whose topmost height along that LOS is < the viewing unit’s elevation. Such a viewing unit also has LOS past the first wall/hedge whose topmost height along that LOS equals the viewing unit’s elevation — and can also see along that same LOS past a second such wall/hedge but only to Locations that are behind but adjacent to this second wall/hedge, and beyond such Locations to ≥ the viewing unit’s elevation. See the “**Squads V and Z**” entries in the [6.123](#) EX.

6.12312 A unit (whether entrenched/Emplaced or not) on an EmRR has a LOS over ([B.4](#)) all Rubble whose topmost height along that LOS is < the viewing unit’s elevation. However, the LOS of such a

viewing unit is affected by rubble whose topmost height along that LOS equals the viewing unit's elevation as if the rubble were instead a hedge along the second hexside of the rubble hex through which that LOS is traced; hence [6.12311](#) applies to that LOS, and a unit properly positioned behind such a "hedge" hexside could claim hedge TEM in the normal manner vs that viewing unit on the EmRR. See the "Squad L" entry in the [6.123](#) EX. In the [6.123](#) EX, Squad Y can see Squad L and would also receive a +1 TEM if fired on by Squad L, even if there were no hedge along the K33/J33 hexside.

6.1232 ABOVE: A unit (whether entrenched/Emplaced or not, and whether on an EmRR or not) at a higher elevation than the topmost height of an EmRR hex has a LOS over ([B.4](#)) that EmRR hex. See the "Squad C" entry in the [6.123](#) EX.

6.1233 A unit must be higher than the topmost height of an intervening EmRR hex in order to have a LOS past that EmRR hex to an elevation one or more full levels lower than that EmRR hex's topmost height. A unit must be at least as high as the topmost height of an intervening EmRR hex in order to have a LOS past that EmRR hex to entrenched/Emplaced units behind but "adjacent" to that EmRR hex.

6.1234 BEHIND: In addition to the applications of Reciprocity ([A6.5](#)) for the LOS given in [6.123-.1233](#), a non-entrenched, non-Emplaced unit that is "adjacent" ([6.123](#)) to an EmRR has a LOS past that EmRR — and can also see along that same LOS past another separate EmRR to Locations that are behind but "adjacent" to this other EmRR [*EXC to all: [6.1233](#)*]. (See the "Squad F" entry in the [6.123](#) EX.) For an "adjacent" viewing unit that is entrenched/Emplaced, apply Reciprocity to the LOS given in [6.1231-.1233](#) and see the "Squad E" entry in the [6.123](#) EX. For a unit (whether entrenched/Emplaced or not) that is neither on, above nor "adjacent" to an EmRR, apply Reciprocity to the LOS given in [6.1231-.1234](#) and see the "Squads B and D" entries in the [6.123](#) EX.

6.124 TEM: Non-PRC unit(s) may claim a +1 TEM (or HD status) vs Direct Fire that is traced across/along a hexside of an EmRR as it enters their hex, provided that EmRR hex's topmost height along that LOF is a half-level higher than the elevation of the target and the LOF did not go over ([B.4](#)) that EmRR hex. The +1 TEM vs Direct Fire provided by the EmRR is not cumulative with any other applicable in-hex or hexside TEM. An EmRR (hex) provides no TEM or HD status vs Indirect Fire. Being on an EmRR does not by itself negate FFMO or Interdiction. See the entries in the [6.123](#) EX with asterisked IDs.

6.1241 HEIGHT ADVANTAGE: A unit on an EmRR can claim Height Advantage vs Direct Fire ([B10.31](#); [D4.22](#)) if at least one full level higher than the attacker, but cannot be HD to that attack.

6.1242 ARTIFICIAL TERRAIN: There are three types of Artificial Terrain ([B.9](#)) that may exist in a FB EmRR hex: an AFV/wreck ([D9.4](#)), Debris ([2.1](#)), and Stone Rubble ([B24.1](#); [3.1](#)).

6.1242 EX: EmRR with Artificial Terrain

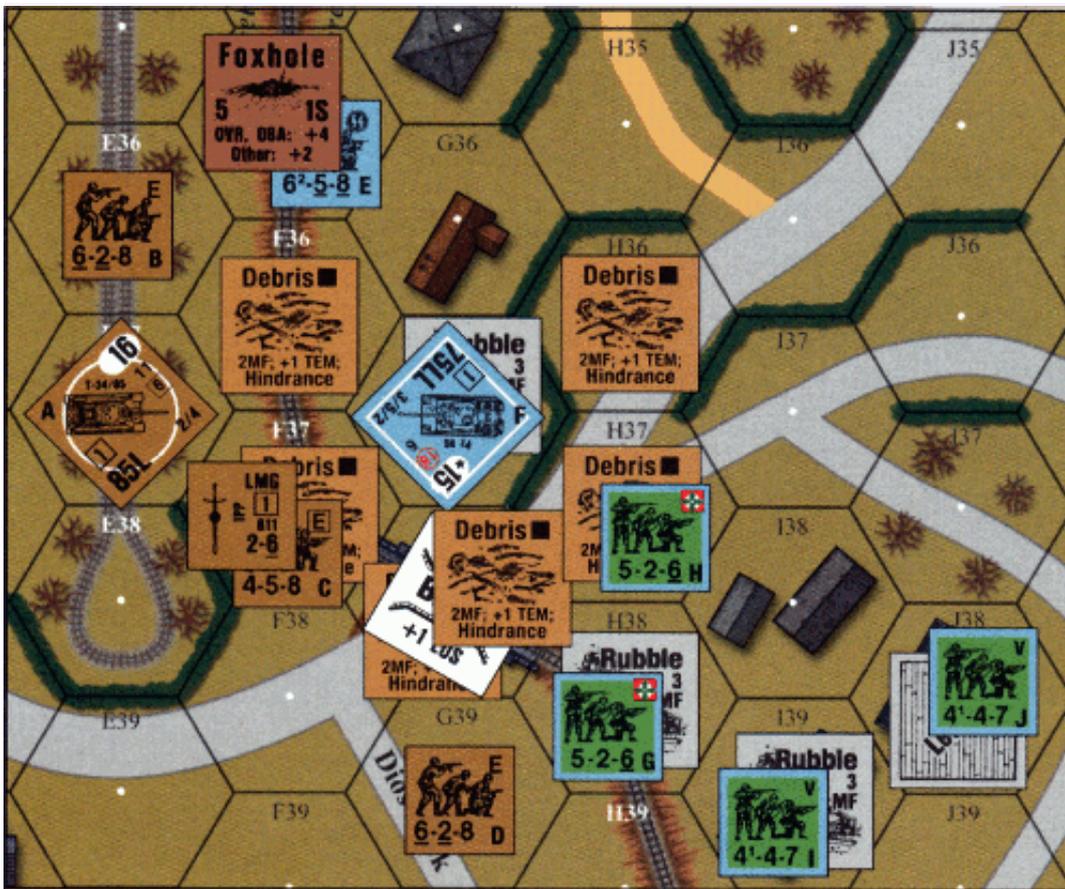
EX: This example serves to illustrate various LOS possibilities when the area around the EmRR contains Rubble ([B24.1](#); [3.1](#)) and Debris ([2.1](#)).

Russian T-34/85 A (E37) has a LOS to all Russian squads, both German units, and Hungarian squad G. There is a +1 Hindrance to the LOS from the T-34/85 to Russian squad D from the Debris on the EmRR in F37, a +1 Hindrance to the LOS to German units E and F, and a +2 Hindrance to the LOS to Hungarian squad G in H38 from the Debris in F37 and the Debris on the RR Bridge ([6.12](#)) in G38. German Pz VG F has its choice of either claiming Hull Down status ([D4.2](#); [6.124](#)) from the adjacent EmRR or using the +3 TEM from the Rubble (in-hex Case Q TH DRM) against any Direct Fire from the T-34/85. In both cases, the Pz VG would also receive a +1 Hindrance DRM from the intervening Debris on the EmRR.

Russian squad B (E36) has the same LOS as T-34/85 A.

Russian squad C (F37) has a LOS to all units except Hungarian squads I and J. There is a +1 Hindrance to the LOS to Russian squad B and German squad E because of the Debris in F36. There is no Hindrance to Russian squad D as neither the Debris IN-the-Sunken-Road/at-ground-level in G38 nor the Debris on the RR Bridge creates a LOS Hindrance. There is a +1 Hindrance to Hungarian squad G because of the Debris on the RR Bridge. There is a +1 Hindrance to Hungarian squad H in H37 because of German Pz VG F in G37. This Hindrance exists because Russian squad C and Hungarian squad H both have elevations that are within a half-level of the AFV, and the elevation of Hungarian squad H is \leq that of the Pz VG's Base Level height.

Russian squad D (G39) has a LOS to all of the other Russian units, the German Pz VG in G37, and Hungarian squad G. The Rubble in H38 on the EmRR blocks the LOS to the three other Hungarian squads. The Debris beneath the bridge at ground level



in G38 also adds a LOS Hindrance between Russian squad D and the Pz VG in G37.

German squad E (F35) has a LOS to all units except Hungarian squads H, I, and J. There is a +3 Hindrance to the LOS to Russian squad D because of the Debris in F36, F37, and on the RR Bridge in G38 (per 2.63, the RR Bridge Hindrance is not cumulative with the Debris Hindrance).

German Pz VG F (G37) has a LOS to the four Russian units, plus German squad E and Hungarian squads G and H. The Russian T-34/85 automatically gains Hull Down status (D4.2; 6.124) against any Direct Fire from the Pz VG. The T-34/85 may not claim the +1 TEM from the adjacent EmRR since it does not qualify as an in-hex Case Q TH DRM. The T-34/85 would also receive a +1 Hindrance DRM from the intervening

Debris on the EmRR.

Hungarian squad G (H38) has a LOS to all units.

Hungarian squad H (H37) has a LOS to Russian squad C and the German Pz VG F.

Hungarian squad I (I39) has a LOS to Hungarian squads G and J.

Hungarian squad J (J38) has a LOS to Hungarian squads G and I.

EX: Hungarian squad Z (see the 6.123 EX illustration) at Level 2 of building hex L33 would have a LOS clear of Hindrances to Russian squads B, C, and D since its LOS/LOF across an EmRR hex is not within a half-level of the Debris' Base Level of a Half-Level. Additionally, Russian squads B and D would not receive any hexside TEM (6.124) from the adjacent EmRR because the LOF is over (B.4) the intervening EmRR.

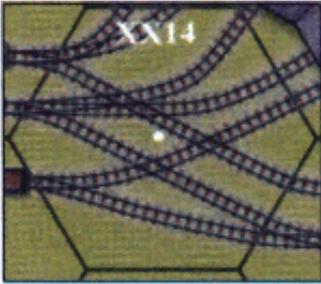
6.12421 AFV/WRECK: An AFV/wreck on an EmRR can provide a +1 TEM (D9.3) in the normal manner. An AFV/wreck (in LOS as per D9.4) whether on an EmRR or not, can effect LOS/LOF to/from/across an EmRR hex only if both the firer's and target's elevations are within a half-level of, and the elevation of at least one of those units is \leq that of the AFV's/wreck's Base Level. See the entries for "Squads C, L, M, and R" and "AFV Q" in the 6.123 EX on the previous page.

6.12422 EmRR-DEBRIS HEXES: Debris (2.1) on an EmRR hex provides a +1 TEM (2.2). Debris on an EmRR causes a +1 Hindrance for LOS/LOF across/along such an EmRR hex only if both the firer's and target's elevations are within a half-level of, and the elevation of at least one of those units is \leq that of the Debris' Base Level of a Half-Level. The EmRR's hexside TEM is unaffected by Debris. A Gun may be Emplaced (C11.2) in such a hex. Minefields may set up using HIP per B32.11.

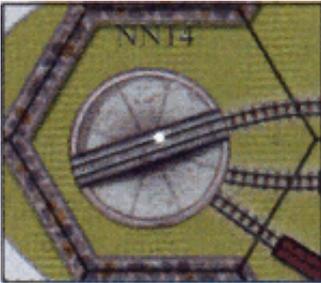
6.12423 EmRR-STONE RUBBLE HEXES: Stone Rubble (B24.1; 3.1) on an EmRR hex provides a +3 TEM (B24.3). Rubble on an EmRR is an obstacle for LOS/LOF across/along such an EmRR hex only if both the firer's and target's elevations are within a half-level of, and the elevation of at least one of those units is \leq that of the Rubble's Base Level of a Half-Level. Guns eligible to set up in rubble (B23.423; C2.7) may be Emplaced (C11.2) in such a hex. Minefields may not be set up in such a Location unless Cleared (B24.71) in which case they may be set up using HIP per B32.11.

6.1243 FIRE LANE: A Fire Lane has no effect on units (including Vulnerable PRC) that are at least a "half-level" lower than the Fire Lane in their hex, nor does a "half-level" Hindrance (as defined in

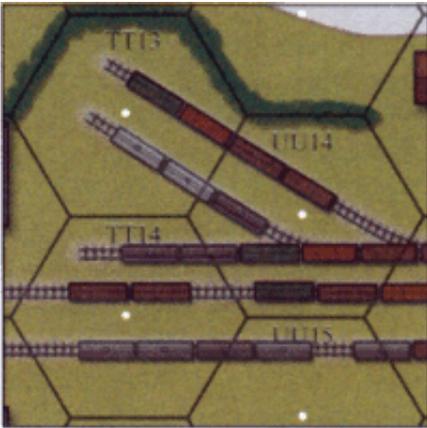
[6.1242](#)) whose Base Level is at least a half-level lower than a Fire Lane in its hex affect that Fire Lane.



6.13 RR ROUNDHOUSE ENTRANCE: Regardless of which hexside is used to enter hex XX14, vehicles are always considered to be crossing a non-RR hexside.



6.14 RR TURNTABLE: Hex NN14 contains a RR Turntable. A RR Turntable is considered an Anti-Tank (A-T) Ditch ([B27.56](#)) for all purposes. Place units IN the RR Turntable underneath a RR Turntable counter.



6.2 RAIL & TRAM CARS: Rail Cars (EX: TT14) and Tram Cars (EX: Q9) are treated the same and are hereafter referred to as Rail Cars. Any hex containing ≥ 1 Rail Car depiction is a Rail Car hex.

6.21 TERRAIN: Each Rail Car depiction is a 1 Level obstacle to LOS [*EXC: if Wrecked* ([6.29](#))]. A Rail Car hex has a +2 TEM, has a Spreading Fire number of 9, is considered directly attached ([B25.62](#)) if ≥ 1 Rail Car depiction straddles an adjoining hexside, and is Concealment Terrain ([A12.12](#)).

6.22 MOVEMENT: Infantry enter a Rail Car hex at a cost of 2 MF [*EXC: if Wrecked*]. Infantry may also use Bypass Movement ([A4.3](#)) to enter a Rail Car hex as if a building [*EXC: if Wrecked*]. Vehicles may only enter a Rail Car hex using Vehicular Bypass Movement ([D2.3](#)) as if entering a building hex [*EXC: if Wrecked*]. VBM along a hexside that crosses/moves along a RR depiction must pay the associated MP costs.



A fully-tracked AFV pays 4 MP ($2 \times [1 + \text{COT}]$) to use VBM around the Rail Cars in YY15 along the XX14-YY15 hexside; it would pay only 2 MP to use VBM around the same Rail Cars along the YY14-YY15 hexside.

6.23 GUNS: The only Guns allowed in a Rail Car hex are Small Target Size Guns, AT/INF Guns that are not Large Targets, and Mortars. Guns may set up Emplaced in a Rail Car hex.

6.24 CA CHANGE: The Case A TH DRM ([C5.11](#)) is doubled for Guns in a Rail Car hex.

6.25 FORTIFICATIONS: The types of Fortifications allowed in a Rail Car hex are the same as those allowed in a GLRR hex ([B32.11](#)).

6.26 RUBBLE: Stone Rubble falling ([B24.12](#); [3.4](#)) into any Rail Car hex turns it into a Stone Rubble (not Rail Car) hex.

6.27 AMBUSH: Rail Car hexes are treated as buildings for Ambush ([A11.4](#)) and Street Fighting ([A11.8](#)) purposes.

6.28 AERIAL: There is a +2 DRM to a Sighting TC vs a unit in [EXC: DRM does not apply if in Bypass] a Rail Car hex [EXC: if Wrecked].

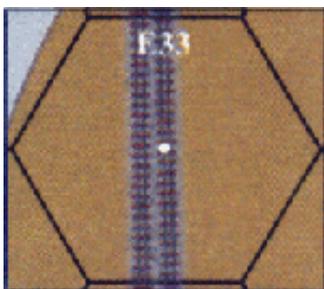
6.29 WRECKED RAIL CAR: Any HE attack of ≥ 70 mm against a Rail Car hex in which the Original IFT DR results in a KIA can possibly cause the Rail Car hex to become Wrecked. Before resolving the HE attack against any affected occupants, make a subsequent dr; if the result is \leq the KIA# of the Original DR, the Rail Car hex is Wrecked, and all occupying Infantry/Guns/SW/Unarmored-Vehicles are eliminated; any occupying AFV that is currently performing-its-MPh/in-Motion must undergo an immediate Bog Check ([D8.2](#)). A Rail Car hex may also become Wrecked (eliminating its occupants) by failing a Bombardment Morale Check ([C1.822](#)); a Rail Car hex has a Morale of 9 for Bombardment purposes.

6.291 TERRAIN: A Wrecked Rail Car is denoted by placement of a Wooden Rubble counter. All rules pertaining to Wooden Rubble ([B24.](#)) apply to a Wrecked Rail Car hex [EXC: during the Refit Phase, a Wrecked Rail Car marked with a Blaze becomes Debris per [17.6093](#)].

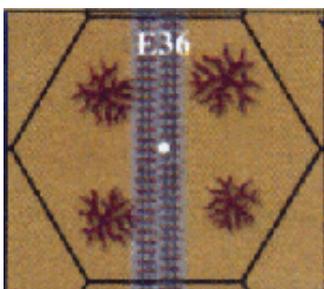
6.3 TRAM LINES: There are several different types of Tram Lines in FB.



6.31 ROAD TRAM LINES: Tram Lines that are located within a paved road symbol (EX: LL14) are considered road/Wide-City-Boulevard ([4.](#)) hexes for all purposes. RR rules ([B32.](#)) do not apply in such hexes.



6.32 OPEN GROUND TRAM LINES: Tram Lines that are located within an Open Ground hex (EX: E33) are considered Ground Level RR (GLRR) hexes ([B32.1](#)) for all purposes. All RR rules ([B32.](#)) apply in such hexes.

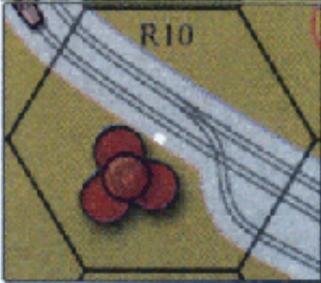


6.33 ORCHARD TRAM LINES: A hex containing both orchard and tram line symbols (EX: E36) is actually a tree-lined tram. Entrance of such a hex through a tram line hexside is identical to movement along a railroad. Hindrance rules do not apply to such hexes if that portion of the LOS from firer to target within those hexes never leaves the tram line depiction regardless of the relative elevations of the firer/target; in such cases, the -1 FFMO DRM applies to Infantry using the tram line to move. Entrance of such a hex through a non-tram line hexside is identical to movement across a railroad. Otherwise, orchard tram

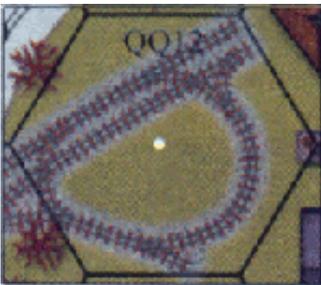
lines are identical to orchards in every respect.



6.4 BUILDING-RAILROAD: Several hexes on the FB maps contain a building with a railroad running through the hex (EX: OO14). For all purposes, the building is treated as a normal Single-Story house ([B23.21](#)). The only exception to the above is that VBM ([D2.3](#)) costs along a hexside crossing a RR depiction (EX: NN14-OO14 hexside) and VBM along a RR depiction (EX: OO14-OO15 hexside) must pay the appropriate additional MP costs.



6.5 BUILDING-TRAM LINE: Hex R10 is unique in that it contains a building with a road running through the hex. For all purposes, the building is treated as a normal Single-Story house ([B23.21](#)). Because of the relatively small size of the building compared with the broad width of road in this hex, both Infantry and vehicles qualify for normal road movement usage ([B3.](#)) when moving along the road to/from either hex Q10 or S11. Vehicles may use normal VBM ([D2.3](#)) to bypass any of the six hexsides in the hex.



6.6 TRAM LINE TERMINALS: Hexes E38, R11, and QQ12 represent terminals along the FB tram lines. Regardless of which hexside a vehicle uses to enter any of these hexes they are always considered to be crossing a non-RR hexside.