



BROCHURE

TOTAL TRACK MONITORING

WILD IV

Installation & Operation Requirements

WILD SITE CONSIDERATIONS



NETWORK TRAFFIC

The more wheels a WILD sees, the more effectively it can identify wheel defects for targeted removal. Ideal WILD sites maximize the portion of the vehicle fleet that it sees on a regular basis.

TANGENT TRACK

Track curvature and superelevation common in curved track create uneven loading and wheel positions from rail to rail, skewing force measurement results. Ideal sites are tangent for at least the length of the longest expected consist.

TRACK COMPONENTS

Common track components such as joints, switch points, turnouts, frogs, and crossings present uneven riding surfaces for wheels or gaps in the rail, resulting in higher measured forces. Ideal WILD sites will have no track transitions or welds near the instrumented zone.



TRACK SPEED

The faster a train is traveling when it passes a WILD site, the more pronounced a wheel defect's presence will be. Operating speeds at 30 MPH or greater are ideal to ensure that wheel defects produce a measureable increase in load compared to the nominal load of a wheel (which is attributed to vehicle weight).

GRADE

Significant grade often results in higher traction or braking, introducing new forces to the rail and reducing the likelihood of stable operation through a WILD site. Ideal sites have minimal grade.

CIVIL WORK

TAG READER SUPPORTS

While AEI tag reader systems are not required for WILD operation, they greatly enhance the effectiveness of the systems. Tag readers required support posts to correctly position them at precise locations within a WILD site, which can be advised by L.B. Foster.

BUNGALOW

WILD systems are equipped with a control cabinet that should be housed in a nearby bungalow or equipment building. The bungalow should be within 50ft. of either end of a WILD site and equipped with Unistrut or similar for rack mounting of the cabinet.

SURGE PROTECTION

Trackside WILD components can withstand voltages exceeding 1,000 V. However, equipment may be damaged in high voltage events like lightning strikes. It is recommended to install surge arrestors on the outer bounds of a WILD site to protect from such events. It is also recommended to ground the bungalow in which the control cabinet is housed to protect from similar high voltage events.

TRACKWORK



POWER & COMMUNICATIONS

The WILD is always on and requires a constant power source to operate. While solar power is an option, the most reliable method is hardwired power to the bungalow. Similarly, OTA communications like cellular and satellite are acceptable, but the optimal communication method for WILD sites is hardwired ethernet or fiber backbone. Battery back-up systems are recommended for maximum reliability.

RAIL REPLACEMENT

In most cases, rail replacement is not necessary. However, WILD installations require many sensors to be permanently welded to the rail. As such, if rail ever needs to be replaced, the sensors must be replaced as well. Ensuring that the rail at a WILD site has a significant remaining service life means that sensors will not need to be replaced well before their useful life is reached.

FASTENER SPACING

The WILD can be installed on many fastener types including wood ties, concrete ties, and DF fasteners. However, WILD sites require fixed and precise fastener spacing that is not typical of most track infrastructure. Adjusting fastener positioning to suit the required spacing of the WILD is often necessary.

Trackside Equipment & Operating Specifications

Operating Speed	30 – 180 mph (50 – 300 km/h)
Measurement Range	3 – 250 KIPs (13.35 KN –1,112 KN)
Resolution	100 lb. (445 N)
Measurement Zone	50 ft. (16 m) standard Other configurations available.
Rail Fastener Spacing	24" ± 0.125" 26" ± 0.125"
Power	100 watts (~4 amps @ 24 VDC)
System Operating Temperature	-40° to 158°F (-40° to 70°C)
Suitable Rail Types	115RE, 133RE, 136RE, 141RE Standard. Other rail types available upon request.
IP Rating	IP67

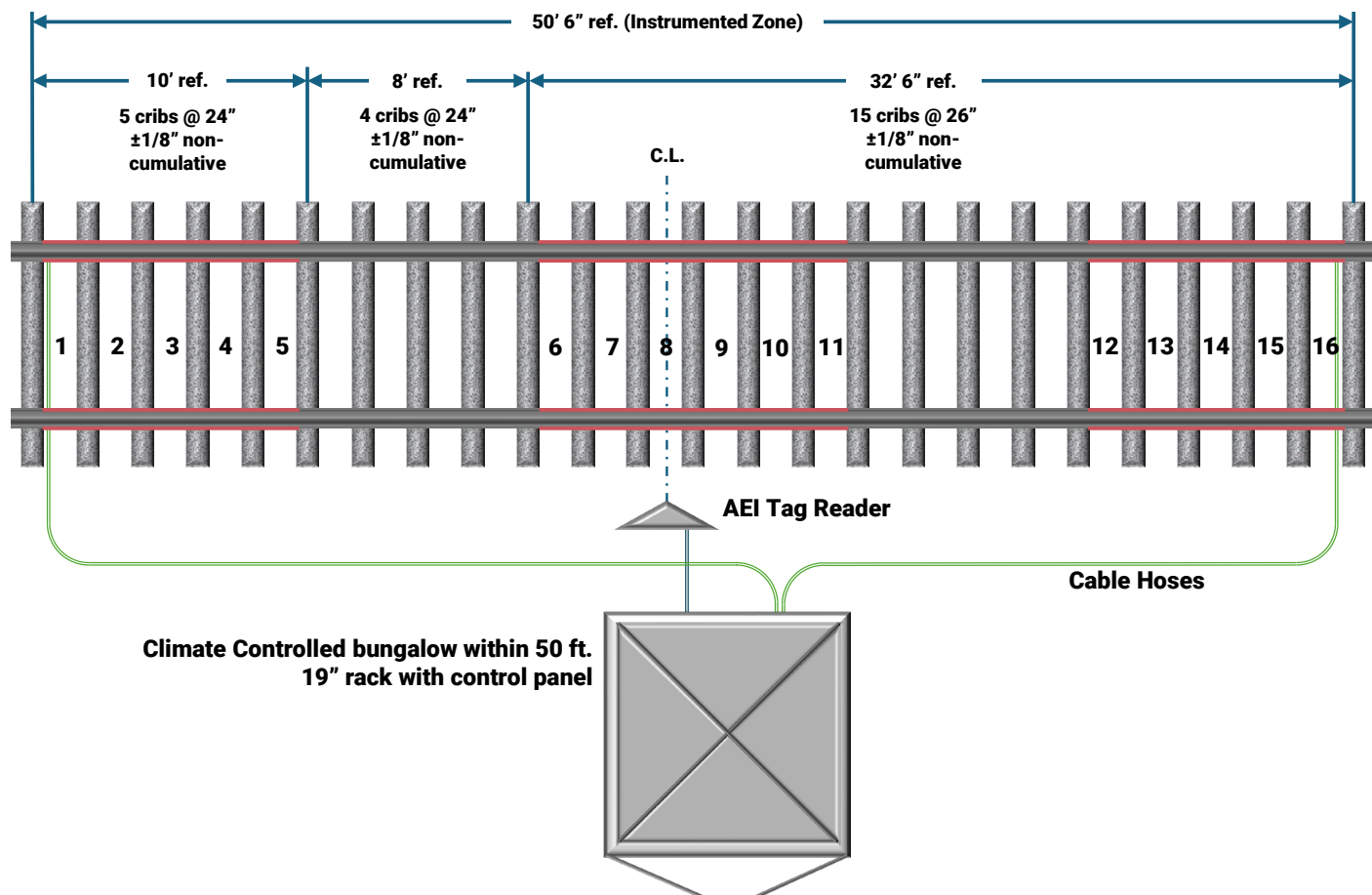


Bungalow & Control Cabinet Specifications

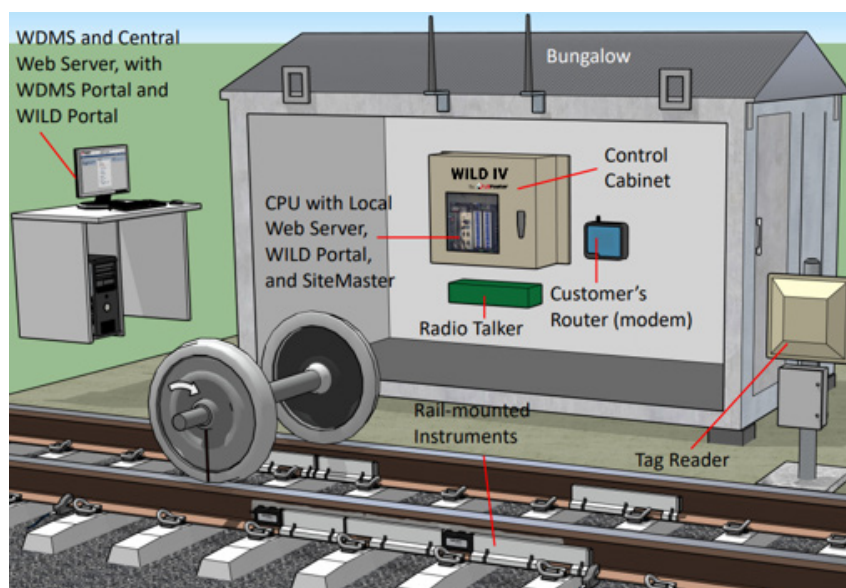
Recommended Minimum Bungalow Dimensions	6' x 8'
Distance from Tracks	<50 ft. from either end of WILD site.
Input Voltage	24 VDC (120/220 VAC upon request).
Control Cabinet Dimensions	20"H x 16"W x 8"D
Control Cabinet Operating Temperature	-4° to 131°F (-20° to 55°C)
Control Cabinet Mount Dimensions	14.5" to 17," 0.0625" increments
Communication Protocol	Ethernet port to user communications network
IP Rating	IP65



Example Site Layout



Note: Site layout shown is for a typical system. Number, location, and spacing of instrumented cribs, tag reader location, and other dimensions may be subject to change following a site survey.





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