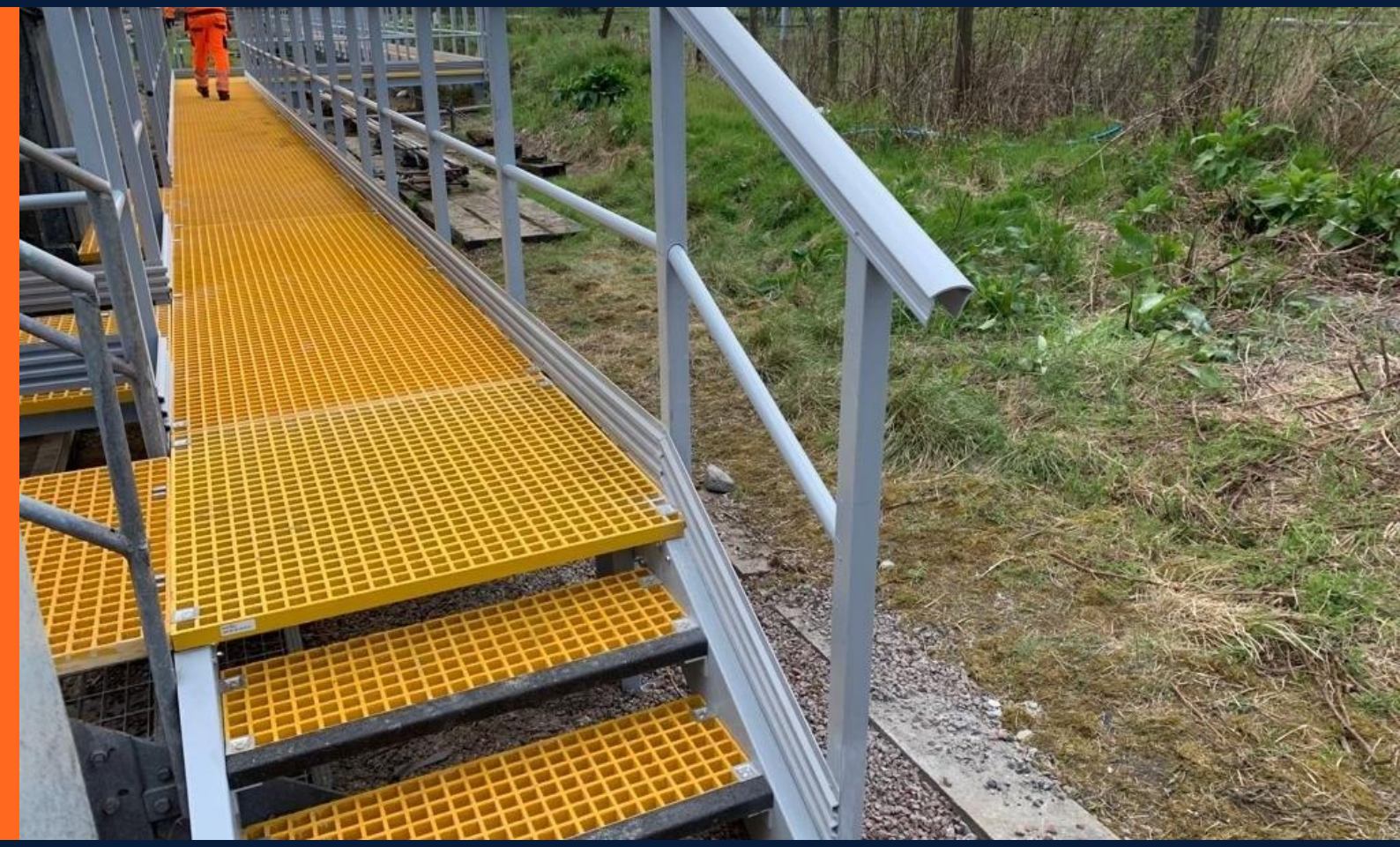
VITAL GRP
TECHNICAL GUIDE SERIES

GUIDE 02

How to specify GRP trackside walkways

Technical guide to lineside, cess and rail depot access



TrackSafe® walkway in Scottish woodland

Kevin Webb and Andy Mason

ROUTE DRAWINGS / DESIGN INPUTS / SPECIFICATION CHECKLIST

REV C / 24 NOVEMBER 2026

READER GUIDE

Start with the walking route

A technical guide for rail asset owners, designers, contractors and specifiers. Use it to turn a route survey into a coordinated brief for the walkway, its supports and its interfaces.

Survey the route

Start with the authorised gate and follow the people, loads and tasks to their destination.

Worked route plan / p. 04

Choose a TrackSafe system

Compare ground-level, raised, heavy-duty and track crossing arrangements.

TrackSafe system selection / p. 07

Resolve rail interfaces

Use the operator's clearance, electrification and access requirements to shape the arrangement.

Railway interfaces / p. 08

Write the brief

Use the evidence schedule and adaptable clauses for tender, review and fabrication release.

Specification and handover / p. 12

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03	Design basis and approvals
04	Worked route plan and survey
05	Detail the drainage crossing
06	Choose and size the walkway
07	Choose a TrackSafe system
08	Coordinate railway interfaces
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CHAPTER 01

Set the design basis

Write down what the route is for, who will use it and how the operator will accept it. Assign the decisions about the railway, ground, structure and operations before the layout is priced.

Why we wrote this guide

A straight bay is usually the easy part. The design work sits at the gate, the drain, the lineside cabinet and the last step onto the working area. We wrote this guide to show what to put on the drawing and what evidence to ask for at each of those points.

DECISION	WHAT TO PUT IN THE DESIGN BASIS
Use and ownership	Name the asset owner, permitted users and destination. Record whether the route serves inspection staff, train crew, maintainers carrying tools or staff using a trolley. Define normal use, maintenance access and access at either end.
Rail safety and operator rules	Use the operator's safety management and engineering acceptance arrangements. ORR explains how ROGS applies to railway operators and infrastructure managers in Great Britain [1]. Agree the project's asset owner standards, document issues and acceptance route.
Design duties	For work in scope of CDM 2015, coordinate design risk, eliminate foreseeable risks so far as reasonably practicable and reduce or control remaining risks. Share relevant design information with the project team [2,3].
Clearance and assurance	Agree the approved clearance assessment and railway datum with the rail designer. Use the RSSB clearances catalogue and asset-owner requirements for the site [4]. For Network Rail, establish whether the proposed product and use require Product Acceptance [5].

Keep two records

Record the evidence for the system configuration and the operator's acceptance of its use at the site. Give each record an owner and a drawing or document reference.

CHAPTER 02

Walk the route on paper

Trace the route from the authorised gate to the task. Mark walking and working space on one coordinated plan. Add sections at the points where ground level, support, clearance or use changes.

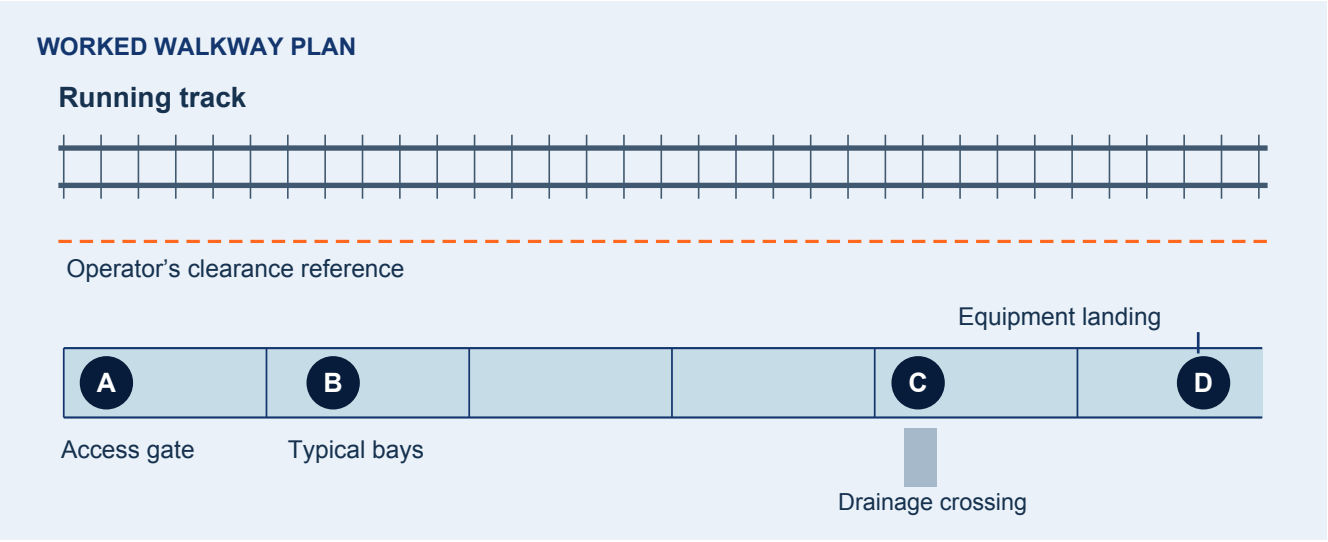


Figure 1. Schematic from access gate to equipment landing. Use the project survey to set the geometry.

ROUTE POINT	SURVEY AND DRAWING INPUT
A Gate and approach	Record the access direction, clear opening, gate swing, threshold and landing levels. Show the transition from the existing path and how the operator controls entry.
B Typical walkway bay	Survey track and walkway to the datum agreed with the railway designer. Mark effective clear width between obstructions, plus access to points where inspection and passing are required.
C Drainage crossing	Locate the drain and the support limits. Agree how water continues to flow and who needs to inspect or clear the drain. Give the crossing a separate bay reference.
D Equipment landing	Plot the cabinet door swing, working position and removal envelope. Review access while the cabinet is open. Carry the landing, guarding termination and step or ramp onto the same plan.

See the plan and section for route point C / p. 05

WORKED DETAIL / ROUTE POINT C

Detail the drainage crossing

Show the drain and its working space on the same drawing as the walkway. Use the plan to place the bay and the section to agree what spans the channel and where it bears.

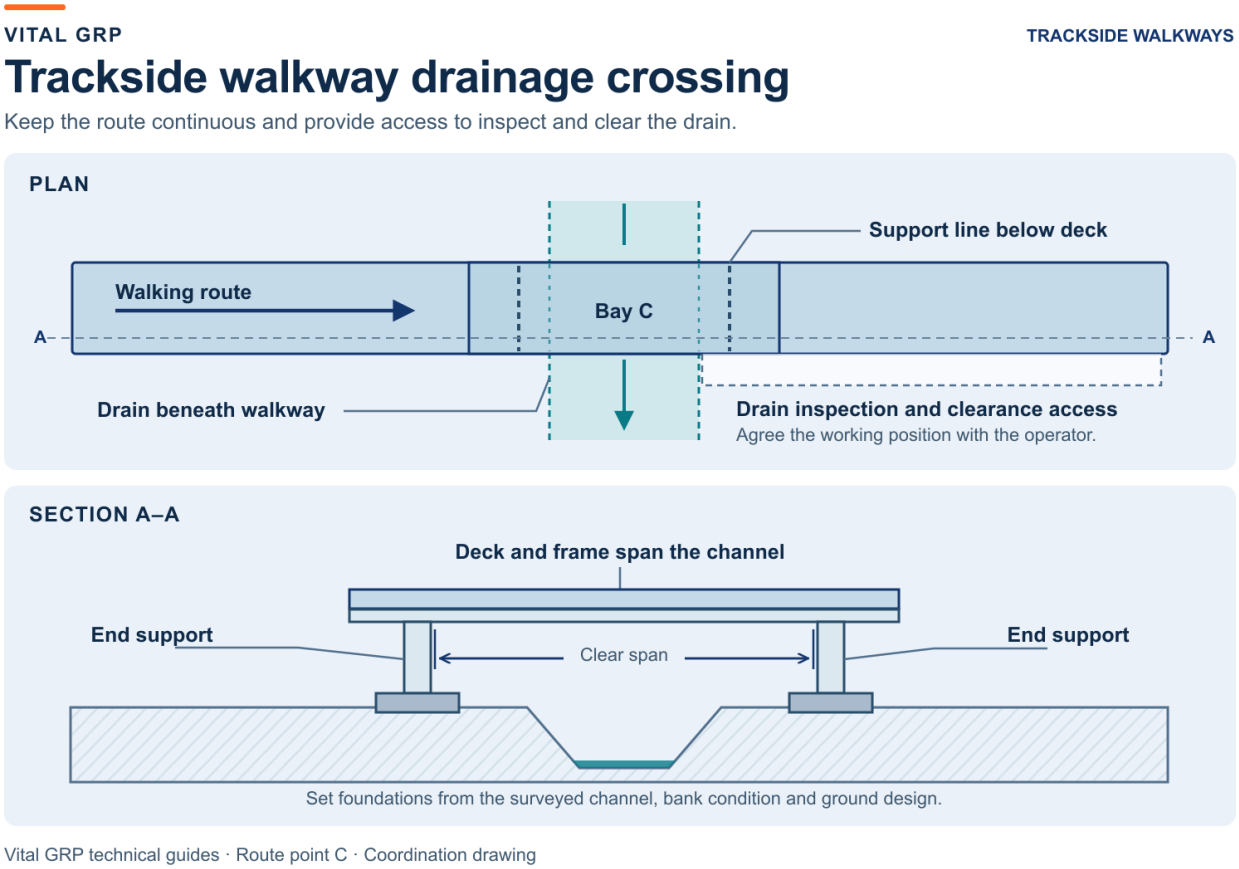


Figure 2. Plan and section of a raised walkway bay over an open drain.

DESIGN DECISION	SHOW IT IN THE PROJECT BRIEF
Survey the channel	Record the bank profile, invert, flow direction and the ground available for supports. Mark the waterway and the clearance needed to maintain it.
Schedule the special bay	Show the clear span, end supports and reactions. Give the crossing its own bay reference so it carries through to fabrication, packing and inspection.
Give the operator access	Show where staff reach the drain, where they stand and how they remove debris. Agree the working space and access route with the operator.

CHAPTER 03

Choose and size the assembly

Specify the load path from foot contact to the supporting ground or structure. Set the design actions and serviceability criteria with the appointed designer.

ARRANGEMENT	WHAT TO COORDINATE
Ground-level cess route	Survey the formation, crossfall, drainage and edges. Specify preparation, restraint and transitions. Match the system to the expected ground movement and give the operator a method for inspecting it.
Raised modular route	Agree the bay spans, supports, bracing and reactions. Coordinate local changes in support height and the load from guarding at the deck edge. Identify access for foundation work and future inspection.
Depot walkway or landing	Record the step and reach from the train or working point, the usable route with equipment in place and staff movement during normal operations. Send fleet and operating constraints to the depot team.

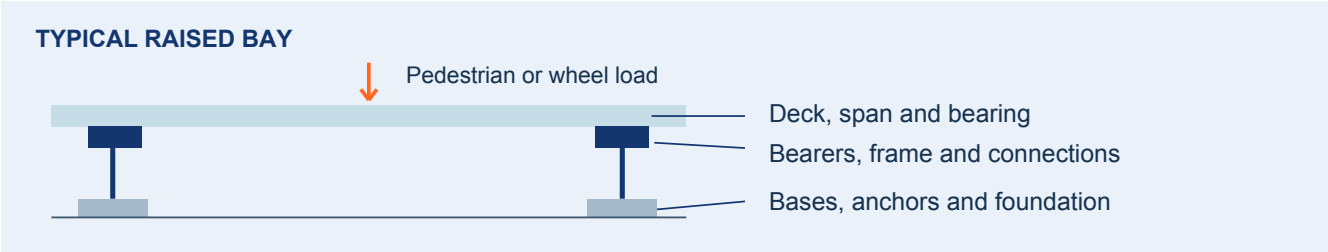


Figure 3. Section through a typical raised bay showing the load path.

Load path for one bay

Surface and clips → deck bearers → frame and bracing → legs or brackets → base fixings → foundations or existing structure. Ask for evidence of the complete configuration, including the bearing over each support and the deck's load direction.

From pedestrian load to wheel load

Record any trolley, tooling or maintenance equipment. Send the loaded mass, wheel arrangement and contact details. The designer checks local effects, support reactions and deflection with the wheel at the critical position, including a deck edge or joint. Review moving and concentrated loads alongside the intended pedestrian use.

Specify serviceability

Define acceptable deflection and movement at joints, steps and landings. Record support settlement and how levels, gaps and restraint will be checked after installation.

SYSTEM SELECTION

Choose a TrackSafe system

Choose the arrangement by what the route has to do and what supports it. These are standard range configurations from the November 2026 TrackSafe planning guide [12].

TRACKSAFE RANGE	WHEN TO SELECT IT
TS-50 Ground level	Use for a defined walking route over prepared hardstanding or suitable soft ground. The standard range uses a 50 mm box frame and 38 mm mesh flooring. Check formation, restraint, drainage and end levels.
TS-150 Raised	Use where the walking surface needs to bridge uneven levels or pass above existing services. The range uses a 150 or 200 mm channel frame with 38 mm mesh flooring. Check bay span, supports, settlement and guarding.
TS-HD Heavy-duty raised	Consider for a raised route with higher design actions. The range uses a 200 × 100 mm I-beam frame and 50 mm mesh flooring. Define the actual load cases and check concentrated wheel loads, connections and reactions.
TS-X Track crossing	Use for a track crossing agreed with the railway operator. The range uses pedestal supports and 38 mm mesh flooring. Review track geometry, clearances, electrical interfaces and the exact pedestal and attachment detail.

Systems that complete the route

QuickStage® LOC platforms create a working position at lineside cabinets [13]. End-of-platform steps connect a raised deck to the approach [14]. SafeClamp® handrail and guarding define exposed edges and transitions where the project calls for them [15]. Specify optional TrackSafe LUX lighting with the electrical and maintenance team [8].

> **Price the crossing supports separately**
>
> For TS-X, the stock budget uses a box-section allowance. Use the reviewed quotation for the track pedestals and attachments. Schedule the actual span, bearing, restraint and design evidence for every variant [12].

Open the TrackSafe system selection and budget guide

CHAPTER 04

Coordinate the railway interfaces

Use the same route and section references for railway, civils, electrical and access design. Close the interfaces that determine position, height and fabrication before releasing the layout.

INTERFACE	INFORMATION TO CLOSE
Track and clearances	Record the survey datum, track and alignment information, the operator's clearance envelope and allowed construction or maintenance tolerances. Include handrails, gates, supports, drainage fixtures and equipment in the assessment [4].
Trackside equipment	Locate signal and control equipment, cables, point equipment and existing structures. Plot access for inspection, cable pulling and replacement. Keep the route clear of the equipment working envelope.
Electrification	Identify the traction and power systems and the electrical designer's requirements. Record clearances, bonding and earthing decisions for metallic fixings, frames or adjacent assets. Agree access and isolation arrangements with the operator [11].
Crossings and boundaries	Treat an interface with a crossing, access gate or change of operating area as a separate decision. Use the operator's agreed arrangement and record who can use it, from where and under what operating conditions.
Construction access	Agree the route to the workface, handling method, temporary access, delivery units and working windows with the responsible railway team. Record how the permanent works interfaces are checked during installation.

Drawing review

Overlay the walkway, rail clearance envelope, drainage and equipment access on the latest surveyed section. Number each pinch point and put the decision, owner and revision on the same schedule.

CHAPTER 05

Specify the surface and evidence

Ask for evidence for the exact deck, finish, support and fixing arrangement. Match the test conditions and the acceptance criteria to how the route will be used.

SPECIFICATION ITEM	WHAT TO ASK FOR
Mesh and orientation	Choose the aperture and opening orientation for the boots, wheels, loose parts and debris on the route. Define drainage and any duty to retain dropped objects. Specify how cut openings and edges are supported.
Slip and visibility	Set the surface test method, condition and acceptance criterion with the client. Request results for the proposed finish and representative conditions. Write cleaning, inspection and visibility needs into the brief. HSE GEIS2 and BS EN 16165 provide test-method context [6,7].
Guarding and transitions	Show guarding, gates and toe protection where required by the project. Agree the design action on guarding, its continuity and termination, and the connection that takes its load into the supporting structure. Set walking widths clear of posts and fixtures.
Exposure and materials	Record UV, temperature, wetting, coastal exposure, oils and cleaning chemicals. Set any fire performance requirement with the project team. Ask for evidence for the specific GRP and finish and agree compatibility of metal fixings and supports.
Modular supply	Record module length, joint positions, bearing, restraint and part marks on the accepted schedule. Identify special bays, removable sections and the delivery sequence [8,12].

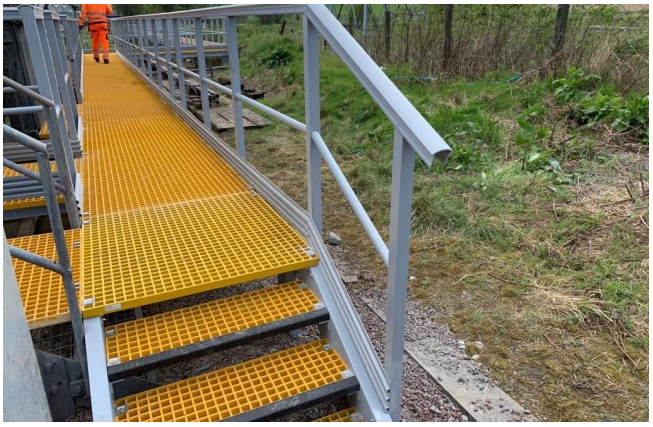
Put the product evidence on the schedule

List each panel, support and guard detail against the relevant drawing revision, design evidence and finish. Review the evidence again when the panel span, aperture, support or fixing changes.

CHAPTER 06

Read the project details

These Vital projects show two different access problems. Look at how the walking line connects to existing assets, terrain and the working position.





Scottish woodland [9]

The photographed TrackSafe route uses repeated open-mesh bays, guarding and local adjustment to follow uneven terrain. At changes in level, read the steps, landing and adjacent guarding as a single detail.

Middlesbrough rail depot [10]

A defined driver route sits alongside depot infrastructure. The walking line depends on where staff step onto it, the end transitions and how people approach equipment in the operating environment.

What to show in your brief

On a long route, number the repeated bays and give each altered support, drain crossing, tight clearance and landing its own reference. On a depot route, put the actual task and the operator's permitted working space on the plan before finalising the width.

View the Scottish woodland TrackSafe project

View the Middlesbrough driver walkway project

CHAPTER 07

Prepare the quote and release pack

Use the schedule to compare offers and track what has to be closed before fabrication. Give each unresolved line a named owner and a date.

PROJECT _____ **DRAWING / REV** _____

- [ ] **Define the route**
  Provide a referenced plan and sections, start and finish, survey datum, station or bay references, access constraints and known exceptions.
- [ ] **List the duty and loads**
  Record permitted users, frequency, equipment carried or wheeled, and any maintenance or abnormal loading. Set the project's deflection and movement criteria.
- [ ] **Show support and drainage**
  Include levels, ground data or existing structure, buried service information, drainage paths and defined support or fixing zones.
- [ ] **Confirm the rail interfaces**
  Record applicable standards and revision, the railway clearance assessment, electrical and operational constraints and the agreed assurance route.
- [ ] **Compare what the quote covers**
  Separate survey, engineering, modules, special bays, civils, freight, installation, site verification and handover. State quantities and boundaries of responsibility.
- [ ] **Release one coordinated revision**
  Match accepted drawings to calculations, panel and support schedules, drawings for each exception, site interface decisions and the installation programme.
- [ ] **Carry the references through**
  Use the same bay tags on the drawing, cut list, pack labels and inspection record so the site team and operator can identify each part.

CHAPTER 08

Write the specification

Adapt these clauses to the project schedule and operator's requirements. Use bay references to connect the scope, submissions, fabrication and handover.

CLAUSE	SUGGESTED WORDING
Scope	Provide an engineered GRP walking route to the accepted alignment and levels. Include decks, restraint, frames, connections, access transitions and specified guarding. Allocate foundations and existing-asset works in the responsibility schedule.
Design submission	Provide dimensioned plan and sections, a bay schedule, design checks with load cases and reactions, material and slip evidence, fixing details and access for inspection. Show all deviations against the project requirements.
Fabrication release	Use the accepted drawing revision for the bill of materials, cutting, preparation and labels. Identify any different end bay, support, gate, crossing or removal panel by its own reference. Submit substitutions or site changes for review before release.
Installation and handover	Check setting-out, supports, bearing, restraint, levels, deck joints, guarding and connection to the existing route. Hand over as-built drawings, inspection records, maintenance information and permitted use linked to bay references.

A complete brief starts with one representative bay

Send the route drawing, a section at the hardest interface, operator requirements, expected use and the planned delivery window. Tell us which design, fabrication and installation responsibilities you want Vital to include.

Explore the TrackSafe walkway system and project enquiry

AUTHORS AND REFERENCES

About the authors and sources

Kevin Webb and Andy Mason, Vital GRP

Why we share this guidance

Our experience spans flooring safety, specification, engineering, manufacturing and construction. We want to help make the world a safer place by making practical engineering guidance freely available. We used published sources, Vital project records and a new worked drawing. AI helped us find and compare sources and draft parts of the text.

[1] ORR. Railways and Other Guided Transport Systems (Safety) Regulations overview.

[2] HSE. CDM 2015 designer roles and responsibilities.

[3] UK legislation. CDM Regulations 2015, regulation 9.

[4] RSSB. GIRT7073, position of infrastructure and defining and maintaining clearances.

[5] Network Rail. Product Acceptance process and guidance.

[6] HSE. GEIS2, assessing the slip resistance of flooring.

[7] BSI. BS EN 16165, methods for evaluating slip resistance of pedestrian surfaces.

[8] Vital GRP. TrackSafe range, route planning and engineering information.

[9] Vital GRP. TrackSafe GRP rail walkway in Scottish woodland.

[10] Vital GRP. GRP driver access walkways at Middlesbrough Rail Depot.

[11] UK legislation. Electricity at Work Regulations 1989.

[12] Vital GRP. TrackSafe System Selection and Budget Guide, November 2026.

[13] Vital GRP. QuickStage LOC equipment platforms.

[14] Vital GRP. GRP end-of-platform access steps.

[15] Vital GRP. SafeClamp handrail systems and guarding.