NAC Executive Insights

Temporary Works Governance

Key Points

- Temporary works (TW) are fundamental to safe, efficient construction but persistently underperform.
- A review of select U.S. construction accidents along with the latest standards, incident case histories, and best practices, reveals systemic disparities, recurring risk factors, and missed opportunities for improvement.
- This Executive Insight benchmarks temporary works governance practices against those for permanent structures, expands on previously established benchmarking frameworks, and proposes a robust, research-driven Temporary Works Governance Index (TWGI) to guide continuous improvement.
- Two tailored TWGI models are developed for (a) hyperscale data centers and (b) retrofit-heavy scopes, based on sector-specific governance challenges and risk profiles.
- This Executive Insight is complemented by “Refining Temporary Works Governance”

Introduction

Temporary works failures have costly, tragic, and widely publicized consequences but remain an underregulated and inconsistently governed domain. Twenty-nine US construction accident cases from 1990-2020 were analyzed and collectively illustrate the critical need for sector-wide harmonization of governance practices, not just at the site level but across the planning, design, execution, and operational lifecycle of construction projects. While permanent works benefit from mature standards, dedicated design procedures, and clear lines of accountability, temporary works—often addressed as afterthoughts—too frequently escape equivalent rigor.

This Executive Insight benchmarks current governance practices, highlights sectoral best practices and gaps, integrates new dimensions identified from contemporary governance theory and recent standards, and offers actionable steps to uplift the industry. It introduces the Temporary Works Governance Index (TWGI), details its construction (including element weighting), and adapts the model, for illustration, for two high-impact project types: hyperscale data centers and retrofit-heavy scopes.

This Executive Insight is complemented by "Refining Temporary Works Governance" which provides a bridge from the management system and structure changes and emphasis highlighted in this document to realization in the field.

Benchmarking Governance: Temporary vs. Permanent Works

Reviewing U.S. construction accident case histories from 1990–2020 underscores key recurrence patterns: failures in temporary works (scaffolds, shoring, and formwork) are often linked to poorly defined responsibilities, inadequate documentation, insufficient risk assessment, and lack of independent peer checks. Permanent works, in contrast, benefit from well-established governance: codified design procedures, required engineering certification, and regulatory oversight.

Temporary works *are engineered solutions used to support, protect, or provide access during construction, which may be removed or left in place after the permanent works are completed. These solutions are designed to provide stability, safety and efficiency during the construction process. Temporary works are an integral part of construction projects and often require intricate planning and engineering.*

Examples include:

- *Scaffolding*
- *Shoring and Formwork*
- *Temporary Bridges*
- *Propping*
- *Trench Boxes*
- *Temporary Platforms*

Permanent Works *in construction are the final, enduring structures designed to remain in place for the life-cylce of the project (typically decades). These include foundations, structural frames, walls, floors, roofs and installed utilites. Unlike temporary works, they are the finished, funcstional assests used by occupants.*

Notable events, including the Atlanta Botanical Garden Canopy Walkway and Florida International University pedestrian bridge collapses, highlight that weaknesses in governance, especially at the interfaces between temporary and permanent works, can lead to catastrophic failures. OSHA's

engineering investigation records and fatality maps indicate that a significant proportion of casualties, injuries, and property damages stem from lapses in TW governance.

Recent Developments and Gaps

Permanent works governance in the U.S. is framed by the International Building Code (IBC), ASCE/SEI 7, and a host of specialized standards governing design loads, material properties, and risk categorization (e.g., IBC Table 1604.5, ASCE 7-22 Importance Factors). For temporary works, a historical lack of dedicated regulations persisted until very recently. The 2024 IBC introduced Section 3103 on temporary structures, establishing minimal design, load, and operational requirements, but these remain less prescriptive than those for permanent works.

The U.K. standard BS 5975 has long offered a comprehensive procedural benchmark for managing temporary works, influencing international practice, including the recent split into BS 5975-1:2024 (management procedures) and BS 5975-2:2024 (falsework: design and implementation). Best-in-class project governance (often rooted in standards like the Gold Standard framework and Construction Playbook) prioritizes early stakeholder alignment, clear line-of-sight for responsibilities, and transparency throughout project phases.

Given the track record of temporary construction safety performance, a legitimate question arises as to whether is it advisable to consider “reinventing the wheel” as opposed to just merely reviewing existing policies, procedures and ensuring compliance with the guidance? The safety record is replete with examples of deadly failures even when safety procedures of the time were followed. (See Box as an example). A changed perspective is required.

The companion Executive Insight, “Refining Temporary Works Governance”, suggests a middle ground.

Temporary Works Failure Following All Safety Procedures in Place at the Time

Formwork

1. **Collapse at Skyline Plaza in Bailey's Crossroads, Virginia (1970s)** - Initial investigation suggested that the procedures adhered to industry standards at the time, yet a combination of factors like inadequate bracing and premature shore removal led to a catastrophic collapse.
2. **Harbour Cay Condominium Failure, Florida (1980s) -** Fformwork system design was approved, but the structural assumptions didn't fully account for the actual load conditions, leading to failure.
3. **Willow Island Disaster, West Virginia (1978)** - That collapse was one of the deadliest construction accidents in U.S. history. At the time, the crews were following the standard lift-slab construction procedures approved for the cooling tower. However, a combination of factors like the premature removal of support cables and unexpected weather conditions led to the collapse.

Each of these incidents teaches the industry something new and helps improve safety protocols over time.

Taxonomy of Governance Dimensions

A modern taxonomy for construction governance can be built drawing on literature from project governance, organizational theory, and Multi-Criteria Decision Analysis (MCDA) methods, encompassing the following domains:

- **Governance Model and Structure**: Project-specific vs. organizational approaches; clarity of oversight vs. execution responsibility.
- **Accountability & Responsibility**: Assignment and verification of roles (e.g., DI, PCTWC, TWC, TWS).

Acronym	Meaning	Contextual Notes
DI	**Design Integrity**	Used in governance indices to assess whether temporary works are PE-sealed, load-calculated, and peer-reviewed.
PCTWC	**Percent Conformance to Temporary Works Criteria**	A benchmarking metric—likely used to measure how well a project or contractor adheres to defined temporary works governance standards.
TWC	**Temporary Works Controls**	Refers to the suite of design, inspection, and monitoring protocols applied to temporary structures like scaffolding, shoring, and formwork.
TWS	**Temporary Works Score**	A composite score or index value derived from weighted governance criteria.

- **Stakeholder Engagement & Communication**: Early and ongoing involvement, information flows, and formal reporting.
- **Decision-Making Protocols**: Defined escalation paths, checks and balances (including independent peer-checks).
- **Risk Management**: Classification and management of execution, consequence, and design complexity risk.
- **Assurance (Quality and Performance Monitoring)**: Audits, metrics/KPIs, regular review, and feedback mechanisms.
- **Issue and Change Management**: Control over design revisions, site deviations, non-conformances.
- **Training & Competency Verification**: Structured programs for key personnel; role-specific requirements.
- **Document Control**: Registers, permits, checklists, and certification evidence.
- **Innovation and Learning**: Mechanisms for lessons learned, technical exchange, and improvement.

Governance Comparison

The following table offers a holistic comparative snapshot of governance domains across TW (Temporary Works) and PW (Permanent Works). The extraction of new dimensions and the requirement for both horizontal (across contractors, supply chain) and vertical (client > contractor > site) integration closes the evidence gap highlighted in both the accident analyses and evolving standards. Responsibility is not monolithic.

See Appendix C for definitions of all acronyms.

Governance Dimension	Temporary Works (Current State)	Permanent Works (Current State)	Observed Gap / Risk	New Dimension Recommended	Notes / Best Practice Source
Formal Design Standard	Variable; BS5975 often referenced, IBC 3103 emerging	IBC Ch. 16/ASCE/EN codes, mandatory	Incomplete or non-unified TW standard in U.S.	Yes	IBC 2024, BS 5975-1:2024, TWf, ASCE, OSHA
Governing Roles & Accountability	Often informal, varying levels of specificity	Engineered sign-off, clearly documented	DI, TWC, TWS roles often missing/undocumented	Yes	BS 5975-1:2024, TWf, BHC, HBF TW Guidance
Governance Committee	Rare, ad hoc or absent	Regular design, safety, and mgmt reviews	Insufficient multi-disciplinary oversight	Yes	BHC, HBF, KPMG, Gold Standard
Risk Classification & Management	Inconsistent; Execution/Consequence risk variably assessed	Load-based, risk category per occupancy/use	Lack of structured TW risk-permit system	Yes	TWf, HBF, BHC, FEMA reference retrofit, IBC 2024
Documented Procedures	Project- or org-specific, templates infrequent	Standard checklists, registers, QA forms	Site-specific inconsistencies	Yes	TWf, BS 5975-1:2024, CITB templates, OSHA
Design Review/Check	Variable independence and rigor	Mandatory peer or third-party engineered check	Peer review sometimes omitted in TW	Yes	BS 5975-2:2024, BHC, HBF
Training & Competency	Not always mandatory; variable	PE/SE license and discipline-specific required	Inconsistent role qualifications	Yes	HBF, BHC, TWf, CITB
Audit and Assurance	Ad Hoc or annual; rarely enforced	Scheduled, with QA mechanisms	Missed non-conformances/close calls	Yes	BHC, CITB, Gold Standard, ISO 21500

Governance Dimension	Temporary Works (Current State)	Permanent Works (Current State)	Observed Gap / Risk	New Dimension Recommended	Notes / Best Practice Source
Change/Issue Management	Informal; design changes not always tracked	Strictly documented; procedural discipline	Unauthorized site modifications	Yes	KPMG, BS 5975, BHC, CITB
Performance Monitoring (KPIs)	Rarely tracked beyond basic safety stats	Project, site, and component-level metrics	Lack of analytics/feedback loop	Yes	Gold Standard, PMI, ISO 21500
Stakeholder Communication	Informal or verbal	Frequent, structured, transparent	Gaps in knowledge flow, missed issues	Yes	StructureMag, KPMG, PMI, CITB
Lessons Learned / Innovation	Rarely systematized	Lessons-learned, continuous improvement loops	Missed process improvements	Yes	Gold Standard, PMI, ASCE, HBF
Integration with Digital Tools	Emerging; not standardized	Increasing digitization; BIM and QA tools used	Missed opportunities for control	Yes	FHI, Gold Standard, industry software reviews

Expanding Governance

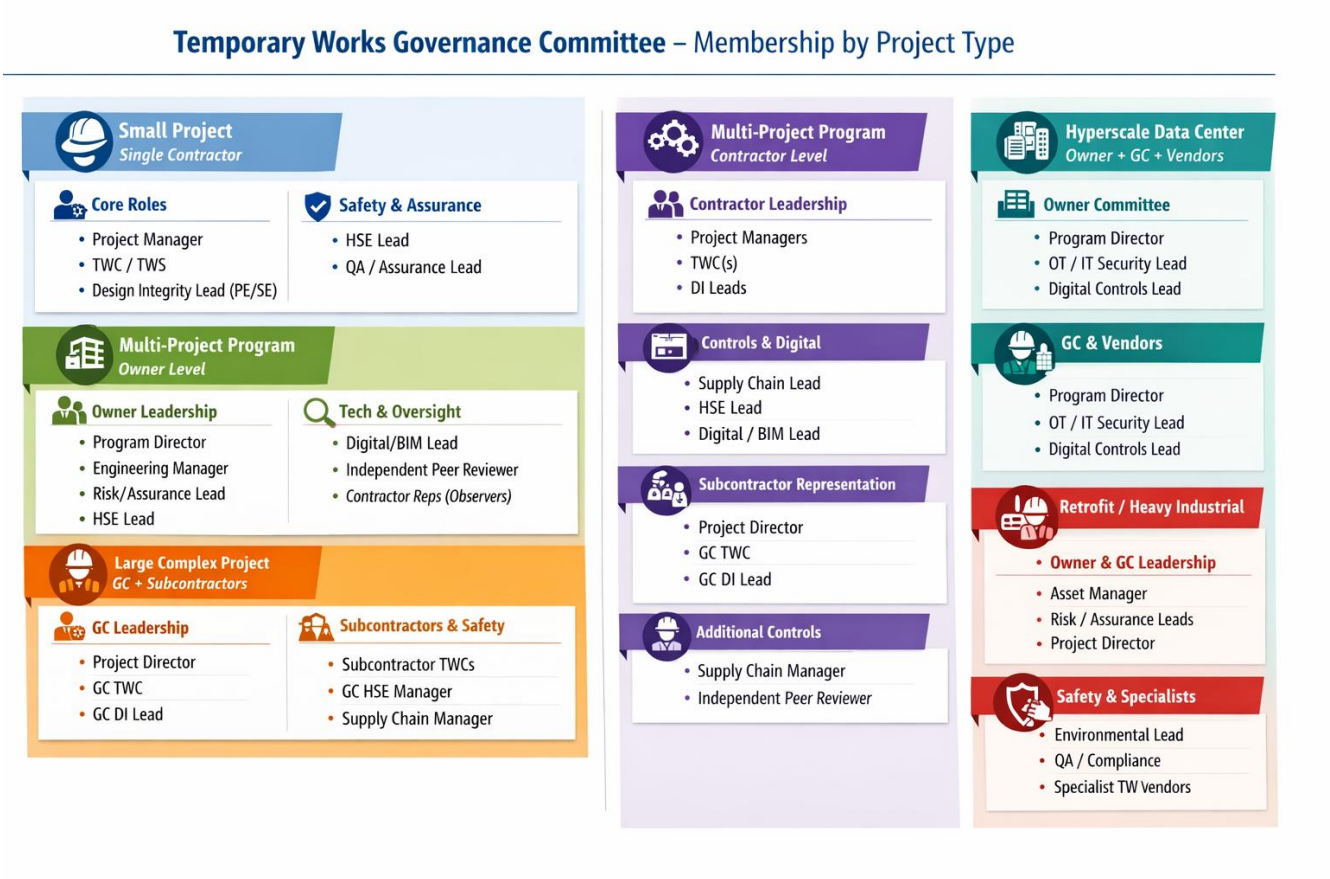
New dimensions and interim lessons can be extracted from the accident set reviewed. A more comprehensive set of lessons would result from a broader review of accidents especially those which recur with some regularity.

Recent empirical studies and standards development reveal a broader palette of governance items than previously codified. Innovations include:

- **Formal Governance Committees**: Institutionalization of a TW governance committee with audit, review, and change management authorities. Governance is not a monolithic activity or responsibility.
- **Risk-Based Permitting**: Permit systems tied to execution and consequence risk, similar to permanent works' load and risk categorization.
- **Comprehensive Competency Matrices**: Role mapping, appointment procedures, and independent verification for all personnel in the TW lifecycle.
- **Regular Independent Auditing**: Scheduled audits, with findings feeding into continuous training and procedural refinement.
- **Integration of Digital and Automated Control Tools**: Upcoming digital platforms for register management, audit trail, and performance analytics.
- **Assurance and Reporting Mechanisms**: Multi-metric KPI dashboards to measure not only safety but process health, schedule impact, and compliance level.
- **Formalization of Lessons Learned**: Requiring post-mortem reviews for all significant non-conformances or near misses, disseminated across projects.

Governance in construction*—especially in temporary works—is inherently multi-dimensional, distributed, and interdependent. Governance is not a single task, a single role, or a single procedure. Instead, it is a system of coordinated responsibilities, controls, and feedback loops spanning the entire project and organizational lifecycle. These roles, responsibilities and processes are defined in a typical RIPE (Responsibilities In Project Execution) Matrix.*

The following figure illustrate Governance Committee membership by project type.



Many of these items are expanded upon in the companion insight, *"Refining Temporary Works Governance."* Case studies underscore that, even in the presence of technical compliance, governance failures stem from missing, incomplete, or unenforced procedures. Observed patterns from accident histories include:

- Unclear assignment or verification of temporary works coordinator and supervisor roles.
- Lack of formal design peer review, especially for innovative or complex TW items.
- Poor documentation or control of design/document changes.
- Insufficient consideration of how TW interacts with or impacts PW at key interfaces.
- Failure to audit TW procedures on a scheduled basis or escalate non-conformances.
- Insufficient workforce training, especially as projects introduce new TW elements or systems.
- Gaps in communication of design intent and risk, especially between off-site engineering and on-site execution.
- Inadequate consideration of the dynamic nature of today's construction site.

Systematic benchmarking provides not just fault attribution but actionable insights for structuring governance improvement efforts.

Temporary Works Governance Index (TWGI)

In this section we will look at the rationale, design and weighting for a Temporary Works Governance Index.

Rationale for a Governance Index

Applying a formal multi-criteria governance index is now common in other sectors (finance, environmental policy, climate adaptation, corporate board governance), but remains rare in construction—particularly for temporary works. The reasons include challenges in quantifying process health, subjectivity in expert weightings, and lack of standardized governance constructs.

The TWGI provides:

- An objective, transparent, and repeatable framework for evaluating TW governance strength.
- A tool for benchmarking organizations and project teams, both internally and against industry best practice.
- An early-warning signal for governance weaknesses before they manifest as failures promoting proactive audit and action.
- A structured approach to continuous improvement, linked to sector KPIs and lessons learned.

Design and Weighting

Building from benchmark studies, eight primary governance dimensions can be adopted from contemporary construction governance literature:

- Business Operations and Strategic Alignment
- Financial Control
- Human Resource Governance
- Learning and Innovation
- Marketing/Stakeholder Environment
- Organizational Management
- Project Management Capability
- Procurement/Logistics Oversight

Each dimension is operationalized through defined indicators, such as “Formal role appointment evidence” (HR), “Documented risk classification” (PM), and “Audit frequency and scope completion” (Assurance).

Best practice in index weighting uses a hybrid approach, combining expert elicitation, analytical hierarchy process, Multi-Criteria Decision Analysis (MCDA) techniques, and objective variance-based techniques. This is managed by the governance committee and initially done of formation of the committee.

Best practice in index weighting uses a hybrid approach, combining expert elicitation, analytical hierarchy process, MCDA techniques, and objective variance-based techniques.

- **Baseline weights**: Set via expert survey with feedback loops to calibrate collective judgement and reduce bias.
- **Adjustment weights**: Objective data (e.g., actual safety outcome variance explained by each dimension) are used to normalize and validate subjective weights.
- **Dimension-specific weighting for tailored indices**: For project types with unique governance vulnerabilities, empirical risk factors and stakeholder feedback are used to adjust weights.

Sample weight allocation for the standard TWGI (sum to 1.00):

Dimension	Weight (Baseline)
Project Management (Cap-PM)	0.18
Organizational Mgmt (Cap-OM)	0.15
Risk/Assurance	0.13
Human Resource (Cap-HR)	0.13
Financial (Cap-Fin)	0.12
Procurement (Cap-Proc)	0.10
Learning/Innovation (Cap-LI)	0.10
Business/Alignment (Cap-Bus)	0.09

These weights can be modified through structured elicitation and performance-based validation as new empirical data become available.

Each indicator is scored on a 1-5 (or 1-10) scale, with definitions anchored in observable evidence. For example, “Independent Design Check Frequency” might score 5 for “always required and performed,” 3 for “performed on high-risk TW only,” and 1 for “ad hoc/never documented.” Aggregation follows MCDA principles.

New Governance-Specific Items for Temporary Works

Research and industry consultation highlight distinct governance-specific requirements for TW, which must be included in the index and organizational processes:

1. **Formal Appointment and Competency Validation** of all roles for every project phase.
2. **Risk-Based Permitting/Authorization System** aligning execution and consequence risk with approval hierarchy.
3. **Independent Peer Review / Design Check** proportional to design complexity and innovation level.
4. **Regular Governance Committee Meetings and Audit Program** to review process health, non-conformances, and opportunities for improvement.
5. **Mandatory Register and Documentation Control**: Unique TW IDs, master registers, permits-to-load and unload, document version consistency.
6. **RAMS (Risk Assessment & Method Statement) Integration and Daily/Weekly Inspection Regimes**, tied to risk classification.
7. **Stakeholder Engagement and Interface Analysis**: Early risk and scope definition at design interfaces, especially in complex/retrofit environments.
8. **Digitalization of Control Systems and Analytics**: Use of cloud/BIM tools for register and documentation management; dashboarding KPIs.

Tailoring TWGI for Project Types

To illustrate the application of TWGI for various project types, two examples follow.

Hyperscale Data Centers

Hyperscale data centers exhibit extraordinary complexity: dense, modular construction; fast-track schedules; high-value assets; overlapping scopes; and multiple prime/subcontractor layers. Governance challenges include intense interface density, modularity-induced schedule pressures, cybersecurity and access control, and power/water supply security. Temporary works here must meet not only structural but also cybersecurity, physical access, and environmental standards—requiring robust, holistic, and highly integrated governance.

TWGI Adaptations for hyperscale data centers include:

- Increased weighting for Project Management, Organizational Management, and Risk/Assurance due to the need for cross-team coordination, digital/physical security, and interface management.
- Explicit inclusion of operational technology and physical security interface governance.
- Supply chain resilience factors incorporated, with score adjustments for vendor management and e-procurement controls.

- Data privacy, visitor and access governance, and automated digital controls as scoring elements.

Retrofit-Heavy Scopes

Retrofit projects are uniquely exposed to risk: unknowns in existing conditions, complex stakeholder environments (tenants, asset owners, multiple regulatory overlays), higher probability of legacy structural and environmental weaknesses, and greater consequence of failure (damage to existing operations, heritage value, or critical infrastructure). Governance here must prioritize risk identification, design validation, coordination with existing asset management, and contingent planning.

TWGI Adaptations

- Increased weighting for Risk/Assurance and Organizational Management, recognizing the need for deep risk analysis and control over unanticipated site conditions.
- Indicators for interface management and legacy structure assessment.
- Emphasis on learning/innovation, due to variable site conditions and the high value of lessons learned from previous retrofits.
- Explicit integration of asset owner/tenant communication protocols and continuity planning.

Sample weights for each project type are included in the comparative table below.

Dimension	Weight (Baseline)	Weight (Hyperscale Data Center)	Weight (Retrofit-Heavy)
Project Management (Cap-PM)	0.18	0.19	0.16
Organizational Mgmt (Cap-OM)	0.15	0.16	0.18
Risk/Assurance	0.13	0.14	0.17
Human Resource (Cap-HR)	0.13	0.12	0.12
Financial (Cap-Fin)	0.12	0.09	0.11
Procurement (Cap-Proc)	0.10	0.12	0.08
Learning/Innovation (Cap-LI)	0.10	0.09	0.08
Business/Alignment (Cap-Bus)	0.09	0.09	0.10

See Appendices A & B for detailed index with indicators.

Both tailored indices share the same governance domains as the base TWGI, but their weights and, in some cases, specific wording of indicators, are customized. For the hyperscale data center, the index rewards cross-discipline integration, digital controls, and speed-to-value risk mitigation. In retrofit-heavy scopes, emphasis is placed on up-front risk assessment, collaborative stakeholder management, and adaptability to changing conditions.

Recommendations

- **Mandate formal governance committee structures for projects involving significant temporary works.**
    - Include Design Integrity (DI), Percent Conformance to Temporary Works Criteria (PCTWC), engineering, site, vendor, and safety representatives.
    - Meet regularly; oversee audit, training, and lessons-learned cycles.
- **Institutionalize role appointment and competency verification for all key TW-related roles.**
    - Use structured appointment letters; require evidence of training, experience, and certification.
    - Include independent verification, especially for complex/innovative designs.
- **Implement risk-based permitting and documentation solutions.**
    - Require master registers, unique TW IDs, and permit-to-load/unload logs.
    - Align risk classification with approval and inspection frequency.
- **Adopt tailored TWGI assessment for all major projects, with project-type-specific weighting.**
    - Apply the index at project kickoff, major change, and handover.
    - Use the tailored version for hyperscale data centers and retrofit-heavy scopes.
- **Integrate digital tools for document control and KPI dashboarding.**
    - Leverage software for register management, versioning, and audit trails.
    - Publish summary metrics to the governance committee.
- **Benchmark TW governance against ongoing projects and update processes annually.**
    - Use the expanded tables as the sector benchmark.
    - Collect and aggregate index scores to track improvement and drive accountability.
- **Embed regular lessons-learned reviews and require process improvement tracking.**
    - For every incident and close call, document governance gaps and solutions.
    - Feed these improvements back to the index and related procedures.
- **Champion governance improvement through sector-wide education, outreach, and leadership.**
    - Advocate for the incorporation of BS5975-1:2024 and U.S.-adapted best practices into organizational standards.
    - Participate in sector forums to develop shared resources and early-warning indicators.

Conclusion

Strengthening temporary works governance demands more than technical standards—it requires integrated, evidence-driven, and contextually adapted frameworks that extend to site, organization, and sectoral levels. The expanded benchmarking table and proposed TWGI offer a foundation for this evolution, enabling engineering and construction professionals to systematically identify governance weaknesses, benchmark performance, and drive continuous improvement. Adoption of tailored indices and actionable recommendations—rooted in accident data, case studies, and the latest governance research—are essential for closing persistent risk gaps and delivering safer, more reliable, and more efficient construction outcomes.

References

- Prieto, R. (2025) Executive Insight Temporary Works Governance Index and Benchmarking; September 2025**;** DOI: 10.13140/RG.2.2.15337.97128 (Contains extensive supporting references)
- Prieto, R. (2025) U.S. Construction Accident Case Histories (1990 – 2020); September 2025**;** DOI: 10.13140/RG.2.2.11851.45605

Appendices

Appendix A: Tailored TWGI for Hyperscale Data Centers

Dimension	Sample Indicators (Illustrative)	Weight
Project Management (Cap[1]-PM)	Formal cross-discipline interface reports; frequency of cross-team coordination	0.19
Organizational Management (Cap-OM)	Digital platform integration; security committee oversight	0.16
Risk/Assurance	Combined physical/cyber risk registers; power and cooling continuity planning	0.14
Human Resource Governance (Cap-HR)	Access control training; incident response qualification; shift handover records	0.12
Procurement/Logistics Oversight	Vendor approval processes; supply chain risk scenario reviews	0.12
Financial Control	Cost performance audits tied to schedule and supply chain resilience	0.09
Learning/Innovation	Digital twin/analytics deployment; lessons-learned from design/fabrication phase	0.09
Business/Alignment	Strategic alignment reports; stakeholder (IT/OT/client) interface management	0.09

Appendix B: Tailored TWGI for Retrofit-Heavy Scopes

Dimension	Sample Indicators (Illustrative)	Weight
Organizational Mgmt (Cap-OM)	Legacy structure interface documentation; tenant engagement tracking	0.18
Risk/Assurance	Existing condition assessment; regulatory compliance assurance	0.17
Project Management (Cap-PM)	Multiple phase handovers; integration of as-built data	0.16
Human Resource Governance (Cap-HR)	Retrofit skill certification; supervision intensity	0.12
Financial Control	Funding/contingency tracking; change order escalation controls	0.11
Business/Alignment	Asset owner/Tenant communication protocol, asset operational continuity planning	0.10

[1] Cap, capability

Dimension	Sample Indicators (Illustrative)	Weight
Procurement/Logistics Oversight	Specialized retrofit materials sourcing; alternative vendor prequalification	0.08
Learning/Innovation	Documentation of unforeseen events; rapid process update cycles	0.08

Appendix C — Acronym Glossary and Standards Cross-Reference

Purpose

This appendix consolidates all acronyms used throughout the Executive Insight and links each to the relevant standards, guidance documents, and governance frameworks referenced in the benchmarking and TWGI methodology. It is designed to support clarity, auditability, and consistent interpretation across project, organizational, and sector-level governance reviews.

C.1 Acronym Glossary (Governance-Grade Definitions)

Acronym	Meaning	Governance Context
TW	Temporary Works	Temporary structures enabling construction (scaffolds, shoring, formwork).
PW	Permanent Works	Final, enduring structure governed by mature codes (IBC, ASCE).
TWGI	Temporary Works Governance Index	Multi-criteria index for assessing TW governance strength.
DI	Design Integrity	Evidence of PE-sealed, load-justified, and independently checked TW design.
PCTWC	Percent Conformance to Temporary Works Criteria	Benchmarking metric for adherence to TW governance requirements.
TWC	Temporary Works Controls	Design, inspection, monitoring, and procedural controls for TW.
TWS	Temporary Works Score	Composite weighted score derived from TWGI indicators.

Acronym	Meaning	Governance Context
IBC	International Building Code	U.S. code governing PW and (from 2024) TW via Section 3103.
ASCE / ASCE 7	American Society of Civil Engineers / Minimum Design Loads Standard	Defines PW load criteria, risk categories, and design requirements.
EN	Eurocodes	European structural design standards referenced for PW comparison.
BS 5975-1 / BS 5975-2	Temporary Works Management / Falsework Design Standards	UK procedural and technical benchmarks for TW governance.
TWf	Temporary Works Forum	UK body issuing TW best-practice guidance.
MCDA	Multi-Criteria Decision Analysis	Methodological basis for TWGI weighting and scoring.
KPI(s)	Key Performance Indicator(s)	Metrics for governance performance, assurance, and process health.
PE / SE	Professional Engineer / Structural Engineer	Licensed engineering roles required for DI and PW sign-off.
QA	Quality Assurance	Governance assurance mechanisms (audits, registers, checklists).
RAMS	Risk Assessment and Method Statements	Integrated risk and method documentation for TW execution.
BIM	Building Information Modeling	Digital environment for registers, version control, and analytics.
Cap-PM / Cap-OM / Cap-HR / Cap-Fin / Cap-Proc / Cap-LI / Cap-Bus	TWGI Capability Dimensions	Governance domains used in TWGI weighting and scoring.
OSHA	Occupational Safety and Health Administration	U.S. regulator; TW failures documented in fatality maps and investigations.

Acronym	Meaning	Governance Context
BHC	Build Health Check	Governance and assurance framework referenced in comparison table.
HBF	Home Builders Federation	Source of TW competency and procedural guidance.
CITB	Construction Industry Training Board	Provider of TW training, templates, and competency standards.
FEMA	Federal Emergency Management Agency	Referenced for retrofit risk classification.
PMI	Project Management Institute	Source of governance, KPI, and lessons-learned frameworks.
ISO 21500	International Project Management Guidance Standard	Referenced for governance and assurance alignment.
FHI	Infrastructure Digital Governance Reference	Referenced for digital QA and control tools.
IT / OT	Information Technology / Operational Technology	Interface governance in hyperscale data center TWGI tailoring.

C.2 Standards and Best-Practice Cross-Reference Matrix

Acronym	Primary Standards / References	Governance Relevance
TW	BS 5975-1/2, TWf, IBC 2024 §3103, OSHA	Core focus of governance benchmarking and TWGI.
PW	IBC Ch. 16, ASCE 7, EN codes	Benchmark for mature governance structures.
DI	BS 5975-2, ASCE 7, IBC 2024, PE/SE licensing	Ensures technical adequacy and independent verification.
PCTWC	TWGI, MCDA	Measures conformance to TW governance criteria.
TWC	BS 5975-1, TWf, CITB, OSHA	Defines procedural controls for TW lifecycle.

Acronym	Primary Standards / References	Governance Relevance
TWS	TWGI	Aggregates weighted governance indicators.
TWGI	MCDA, PMI, ISO 21500, Prieto (2025)	Framework for governance scoring and benchmarking.
IBC	IBC 2024	Establishes TW requirements and PW design criteria.
ASCE 7	ASCE/SEI 7-22	Defines PW loads, risk categories, and design basis.
BS 5975-1/2	BS 5975-1:2024, BS 5975-2:2024	Procedural and technical TW governance standards.
TWf	TWf Guidance Notes	Best-practice source for TW procedures and risk management.
Gold Standard	Gold Standard Framework	Governance committees, KPIs, assurance.
MCDA	MCDA literature	Weighting and scoring methodology for TWGI.
KPI(s)	PMI, ISO 21500	Performance monitoring and assurance.
QA	ISO 21500, BHC	Assurance, audit, and compliance mechanisms.
RAMS	BS 5975-1, CITB	Risk-based permitting and inspection.
BIM	FHI, industry digital tools	Digital control, register management, analytics.
BHC / HBF / CITB	UK governance and training bodies	Competency, templates, and procedural guidance.
FEMA	FEMA Retrofit Guidance	Retrofit risk classification and governance.
PMI / ISO 21500	PMI Standards, ISO 21500	Governance, assurance, and lessons-learned frameworks.

For Further Reading – Other Executive Insights

- Refining Temporary Works Governance

About the Author

Bob Prieto was elected to the National Academy of Construction in 2011. He is a senior executive who is effective in shaping and executing business strategy and a recognized leader within the infrastructure, engineering, and construction industries. Bob received the 2024 ASCE OPAL Award (Outstanding Projects and Leaders) for his Outstanding Lifetime Achievement in Management.

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