



METHODOLOGY

Standardized Operational Model for Residential Renovation (QC / Budget Optimization)

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I. Introduction

1.1. Concise statement of Klubov's professional specialization & qualifications

This technical guide has been prepared to provide a detailed and comprehensive description of Andrii Klubov's contribution to the field of residential renovation and property upgrades project management, as well as to promote his **innovative STQC Renovation Workflow operational model** as a standard for improving transparency and financial discipline in the US market. Andrii Klubov is the founder and CEO of Quality House LLC and works as a project manager specializing in the full cycle of renovation and refurbishment works.

His professional experience is based on strong operational leadership, combining in-depth technical knowledge in construction with skills in process standardization and transparency. An important feature of Klubov is his academic background, where he received a master's degree in computer systems and software in 2006. This education, atypical for the traditional construction industry, plays a decisive role in shaping his approach to project management. Unlike specialists whose approaches are based solely on individual experience, the client applies algorithm-oriented, systematic, and data-driven thinking to construction. His experience in logistics and retail (2007-2022) further enhanced his understanding of operational efficiency and the critical importance of supply chain management in preventing delays and financial overspending. This combination of technical engineering logic and practical management experience has enabled the Client to develop a highly structured and repeatable operating model.

1.2. The Original Contribution Thesisization

Andrii Klubov's original idea, which constitutes his unique contribution, is formulated as: The Scalable Transparency & Quality Control (STQC) Renovation Workflow.

STQC Renovation Workflow is a unique, documented, repeatable 8-step operational model designed to minimize critically high budget overruns and address the issue of low transparency in the US residential renovation market. First and foremost, this model standardizes Pre-Construction Assessment, Procurement Management, and Multi-Point Quality Control, providing a solid foundation for regional business expansion in the US.

Klubov's contribution is to transform the fragmented renovation process, which often depends on individual craftsmanship, into a clearly documented, algorithmic process where quality and financial discipline are supported by systematic control points.

II. Analysis of systemic problems in the U.S. market & the rationale for innovation

2.1. Economic pressures & a crisis of trust

The home repair and renovation market in the United States is a significant but highly fragmented industry with an annual turnover exceeding \$600 billion. Despite large investments, the industry faces deep systemic flaws that undermine consumer confidence [1].

Systemic problem #1: Uncontrolled cost overruns.

The most significant problem is the high level of budget overruns. Studies have shown that nearly 40% of homeowners exceeded their initial renovation budget, while a total of 80% exceeded it by at least \$500 [4]. The main reasons for these overruns are design complications and additional costs that go beyond the initial cost estimate, indicating poor management and a lack of a proper systematic risk assessment and financial coordination process prior to the start of construction. Standard approaches are often based on preliminary assessments that do not take into account structural or regulatory issues (Feasibility & Code Checks) until work has already begun [2].

Systemic problem #2: Low transparency and logistical disruptions.

Unstructured procurement and contractor management procedures lead to delays, downtime, and unexpected changes in material costs. In a fragmented market, communication gaps between the client, designer, and subcontractors (Scope Gaps) are common, which in turn exacerbates the crisis of confidence as homeowners feel they have no control over their budget and deadlines [3].

2.2. The problem of inconsistent quality & the absence of process standardization

The increase in the average age of the US housing stock to 44 years requires complex and high-quality renovation work, especially in the high-end segment. However, the industry suffers from a shortage of skilled workers and inflation, which makes it difficult to maintain high quality standards.

Traditional subcontractors rely on the individual skills of specific specialists, which makes the quality of the result subjective and geographically dependent. In response to this dependency, STQC Workflow Client implements an objective, documented quality control (QC) process.

This approach minimizes dependence on individual experience. It transforms the art of construction into a "science" of execution, where quality is ensured by strict adherence to unified, standardized work processes, which is the only way to achieve the reliable, repeatable high-end quality required to scale the business itself.

2.3. Positioning the STQC Workflow as a strategic industry solution

Andrii Klubov's STQC Workflow is a direct response to these challenges. His technical and algorithmic approach to the process (resulting from his education in computer systems) allows him to create an Early Warning System for risks and financial deviations.

First and foremost, Klubov's systematic approach focuses on two key mechanisms, namely:

- **Proactive risk reduction at the initial stages.** Financial transparency is achieved not at the implementation stage, but at the planning stage, when all possible costs are identified and agreed upon.
- **Built-in quality control.** Quality is not an end result, but an integrated part of the process, verified at several critical control points (QC Checkpoints), which minimizes costly rework.

The following table illustrates the relationship between systemic problems in the US market and the innovative solutions offered by STQC Workflow.

Table 1. Analysis of Systemic Problems in U.S. Renovation and Klubov’s Solutions

Industry Challenge	Evidence / Implications	Solution: STQC Workflow (Andrii Klubov)	Control Mechanism / Artifact
Uncontrolled budget overruns	40% of homeowners exceed the budget; typical drivers include design complexity and add-on costs	Emphasis on Stage 0 (Risk Assessment, Feasibility Checks) and Stage 1 (Final Budget Confirmation)	Initial Risk Disclosure letter; final written Budget Approval

Continued on next page

Industry Challenge	Evidence / Implications	Solution: STQC Workflow (Andrii Klubov)	Control Mechanism / Artifact
Low transparency and lack of reporting	Delays caused by logistics disruptions; unexpected price changes	Standardized Procurement Management and proactive client communication	Delivery-tracking sheet with ETAs; regular progress reports
Inconsistent workmanship quality	Fragmented market; high dependence on individual trades	Multi-layer, documented Quality Control (QC) at critical phases (Rough-in, Installation)	Interim QC checklists; final Handover inspection

III. The author's idea — STQC Renovation Workflow

The author's STQC Workflow is a key element of the methodology, ensuring structured and transparent project implementation. It is an 8-step system that covers all phases of the project in detail, from thorough risk analysis before the start of design to standardized handover of the object to the client. Each stage has clearly defined control markers that require the formation of audit artifacts (Audit Trail), which are the basis for financial a quality transparency. This Roadmap transforms the project management process from chaotic and dependent on manual control to algorithmic and controlled, ensuring repeatable results that meet high-end standards. The image below shows a step-by-step visualization of the eight stages of the STQC methodology with key action items and control points (Audit Trail). The illustration serves as a working template for the project team during planning, procurement, and handover.

Roadmap (Exhibit A)

Stage №	Stage Name & Primary Focus	Key Tasks (Action Items)	Expected Artifact / Result	Transparency Control Point (Audit Trail)
Stage 0	Pre-Construction Assessment (Initial Risk & Scope)	Detailed site survey; feasibility & code checks; preliminary budget range; hazardous-materials testing (asbestos / lead)	As-Is / As-Built plans; structural feasibility report; preliminary financial review; initial Risk Disclosure letter	100% of potential risks identified and documented before design starts
Stage 1	Design, Engine...	Material finalizatio...	Final drawing set...	100% approval...

STQC Renovation Workflow is a comprehensive, documented, and reproducible operating model designed to make the home renovation process transparent, predictable, and scalable. The implementation of an eight-step roadmap makes it possible to shift the focus from reactive defect elimination to proactive risk management and quality control at all levels of the project. The result of applying STQC is a reduction in the likelihood of budget overruns, reduced downtime, increased customer confidence, and the assurance of reproducible high-end quality.

In practical terms, this means that any project that goes through STQC has and will have a clear audit trail. This transparency is a competitive advantage for Quality House LLC and, at the same time, the basis for corporate scaling of the methodology at the regional level.

IV. Expert description of the STQC Workflow

4.1. Reducing financial risk at the planning phase (Stages 0–1)

The key difference of STQC Workflow is its focus on preventive actions before significant capital is spent. Stages 0 (Risk Assessment) and 1 (Financial Agreement) function as a necessary and essential control designed to minimize the very construction difficulties that cause budget overruns in 40% of cases in the US market.

At Stage 0, instead of a superficial assessment, a detailed assessment of the property and feasibility and code checks are carried out, including a full analysis of structural elements, the condition of utilities (plumbing, electrical), and the need for permits.

Identifying, for example, the need to move a load-bearing wall or replace outdated electrical wiring after demolition has begun is a typical cause of unexpected costs. Klubov's methodology requires these risks to be identified in advance. Synchronization of the initial Risk Disclosure letter allows potential problems to be identified at the planning stage, rather than during implementation, when it is already expensive, critical, and causes delays. In fact, this approach undoubtedly provides an opportunity to adjust the budget and action plan in advance.

Stage 1 ends with the signing of the Final Budget Confirmation after full approval of the design, materials (especially those with long delivery times), and engineering plans. This ensures that both the client and the contractor proceed with construction with a clearly defined budget based on actual technical data rather than preliminary estimates.

4.2. An innovative method for resource & logistics management (Stages 2–3)

Andrii Klubov's professional experience in logistics and BPO is the basis for innovation in resource management, eliminating downtime and inefficiency. The process begins with a precise definition of the SOW (Scope of Work) for each subcontractor (Painter, Tiler, Plumber, Carpenter). In practice, insufficient clarity in the distribution of tasks leads to gaps in the scope of work (it is unclear who is performing the task) or overlapping tasks (subcontractors get in each other's way), causing significant downtime and conflicts.

STQC Workflow requires that each team member has a signed SOW document and is familiar with the overall schedule at the Kickoff Meeting, which minimizes downtime and ensures efficiency.

The third stage, on the other hand, is a direct application of Klubov's logistics experience to construction, as it requires the implementation of standardized Procurement Management. Delays caused by the absence of critical or long-lead materials (such as kitchen cabinets or tiles) are a common cause of missed deadlines.

STQC Workflow requires the project manager to coordinate deliveries with vendors and use an ETA (Estimated Time of Arrival) tracking table. The main control point of this stage is confirmation of the availability of 90% of critical materials before the start of demolition work, which would ensure that physical work begins only when all the prerequisites for a continuous process are in place.

4.3. Multi-layer quality control (Stages 4–6)

Quality at STQC Workflow is built-in and verified in several layers, reflecting a technical approach to module testing. The manager ensures “daily progress monitoring at all stages of renovation” and performs “interim quality checks to ensure compliance with standards.”

Quality control is performed during hidden work, such as electrical, plumbing, and ventilation, and before walls and floors are covered with finishing materials. Checking the “functionality of all systems” at this stage prevents the need for costly dismantling and reworking later, which is a critical aspect that distinguishes a systematic approach from a chaotic one.

In stage 5, the team assesses the quality of the final work: painting, tiling, installation of plumbing fixtures and furniture. Particular attention is paid to aesthetic and installation requirements, such as the accuracy of cabinet installation, the evenness of joints, and the matching of patterns and textures.

The final inspection is carried out before the facility is handed over. The team conducts comprehensive functional testing, checking the operation of all devices, lighting, plumbing systems, and safety equipment.

4.4. Ensuring transparency & scalable documentation (Stage 7)

The final stage, handover, is the culmination of Klubov's transparency policy. It is not limited to a final inspection and professional cleaning, as STQC Workflow requires the provision of a "final project report for the client."

This report is the main audit artifact, which essentially serves as a report on financial and quality compliance. Throughout the project, Klubov maintains "communication with the client regarding adjustments or clarifications."

The final report includes:

- Final financial report (comparison of actual costs with the final agreed budget).
- Before/after photos (for visual assessment).
- Warranty documentation and maintenance instructions.

This high level of transparent documentation sets the industry standard, increases customer confidence, and creates a repeatable business process that is scalable, as each project is a fully documented precedent.

4.5. Contractual discipline as an operational artifact of STQC

Contracts within the STQC (Seamless, Transparent, Quality-Controlled) Renovation Workflow function as both legal documents and operational tools. Their main purpose is to ensure transparency, link payments to quality control points, and create an audit trail for each project.

Elements of a composite contract:

- Detailed description of work (Scope of Work, SOW);
- Milestones & Schedule;
- QC-linked payment structure;
- Reporting and communication protocols;
- Change Order Process.

Within the STQC, the contract serves as a legal document and a full-fledged operational artifact, formalizing the scope of work (SOW), key stages and milestones, quality control checkpoints (QC Checkpoints), the change approval procedure (Change Order), as well as insurance and warranty requirements. The document is integrated with the project documentation in the form of Exhibits B-H and becomes the basic tool for performing work, replacing a scattered set of verbal agreements with a single reproducible procedure.

As a risk management mechanism, the contract establishes preventive procedures provided for in stages 0-1 STQC: detailed initial assessment of the facility, compliance check, testing of hazardous materials, and final budget approval. Requirements for the provision of Certificates of Insurance (COI), retention conditions, and Lien Waivers¹ are

¹ A legal document signed by a contractor, subcontractor, or supplier to waive their right to file a mechanical (construction) lien on real estate after receiving payment for services or materials.

included in the contract as mandatory conditions for mobilization and payments, which significantly reduces the likelihood of unforeseen expenses and legal claims during the project implementation process.

The contract also serves as a source of data and a basis for auditing. All grounds for payments approved by Change Orders, acceptance certificates, and possible claims are documented and stored in the project folder (ProjectID/Contracts). Undoubtedly, this practice ensures the transparency of financial and technical decisions, allows for quick reconstruction of the decision-making logic, and serves as evidence during internal or external audits.

V. Practical implementation & evidence of impact

5.1. Proof of model regularity in high-end projects

STQC Workflow is not only a structured methodology for managing construction processes, but also a flexible, reproducible operating model that helps achieve consistently high performance in complex high-end projects. Its effectiveness is confirmed by a number of large-scale projects implemented by Andrii Klubov, each of which demonstrates a clear sequence of planning, control, logistics, and final quality audit stages.

Within the portfolio, we can see projects with budgets ranging from \$80,000 to \$150,000, carried out in various US states, requiring a systematic approach independent of local contractors and external factors. This is the main proof of the consistency of STQC Workflow.

Let's take a closer look at the projects:



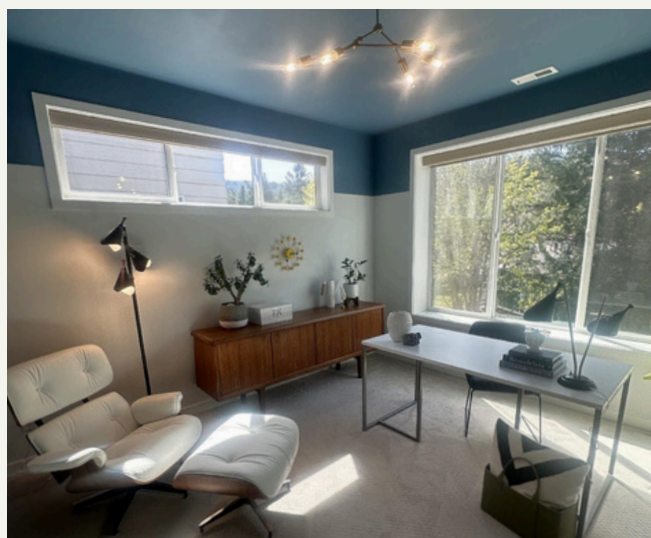
Project No.1, \$90,000

Comprehensive Residential Space Renovation

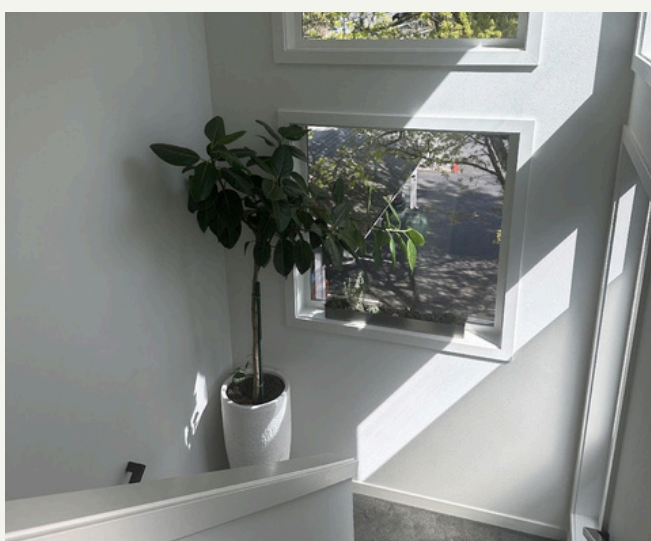
The first project demonstrates a classic example of a comprehensive renovation of a living space — a bedroom, home office, stair hall, and bathroom. Four specialists were involved in the project, each performing a clearly defined function in accordance with stage S (Scope Definition) in the STQC Workflow.



Bedroom



Home Office



Stair Hall



Bathroom

At the initial stage, a detailed renovation plan was developed, taking into account the sequence of construction work and micro-logistics, including paint drying time, intermediate plumbing inspections, and material delivery schedules. This is where the effectiveness of stage T (Timeline Mapping) first became apparent, ensuring the necessary integration of all sub-stages and contractors into a single system. During implementation, the bedroom area was given a new lease of life through a harmonious combination of color, light, and texture.



In the picture, we see the warm color scheme of the accent wall, the soft light of the ceiling lamp, carefully selected side tables, and lighting that creates a feeling of home comfort. The Q (Quality Control) stage was particularly important, such as daily monitoring of painting, checking joint lines, and the cleanliness of tile seams.

The effectiveness of STQC Workflow is confirmed by Klubov's consistent success in executing complex high-end projects with budgets ranging from \$80,000 to \$150,000, as seen in his portfolio. Managing these significant investments across multiple states requires a repeatable system that is independent of the local team.

Project No.3, \$95,000

Full Kitchen Reconstruction

This project required precise coordination of complex installations (cabinets, built-in appliances, quartz countertops) and complete replacement of utilities. The use of STQC Workflow ensured a high level of procurement management, which helped coordinate the delivery of kitchen furniture and appliances, avoiding delays. The success of this project depended on strict adherence to QC Checkpoint 2 (testing the functionality of all appliances, lighting, and plumbing) before final handover.



In the picture, we see a bright, modern kitchen with perfectly integrated built-in appliances, stylish quartz countertops, and well-designed cabinets that decorate the space to the maximum. Every detail, from the lighting to the fittings, looks harmonious and emphasizes the attention to quality and functionality that was key to the success of this project.

Particularly noteworthy is QC Checkpoint 2, which is the moment when the functionality of household appliances and lighting is checked before delivery. This made it possible to prevent the slightest malfunctions during the final handover. Procurement Management in this project became the benchmark for consistency: the delivery of furniture, appliances, and finishing materials was coordinated down to the day.



Thanks to STQC Workflow, all logistics were integrated into the production calendar, minimizing downtime. In fact, the kitchen, where the aesthetics of white quartz, light, and natural wood come together, has become a symbol of technological precision. In the final visualization, we see a space where design and technology function as a single entity.

Project No.4, \$110,000

Laundry Room, Master Bathroom, and Bedroom Renovation

In this project, Klubov oversaw the renovation of three spaces: the laundry room, master bathroom, and master bedroom. It was here that STQC Workflow proved itself as a model for parallel zone management.



Laundry Room



Master Bathroom



Master Bedroom

The illustrations show a clear stylistic unity: light tones, large-format tiles, black sanitary ware, wooden texture — all elements are united by a common design rhythm.

An important feature was the combination of different functional areas with a high degree of logistical interdependence. The laundry room and bathroom are located next to each other, so control over water supply and ventilation required coordination between plumbers and tilers.

Klubov implemented the Synchronized Task Control principle inherent in STQC Workflow. While waterproofing was being checked in one area, furniture was being installed in another. Thus, the project progressed without any delays.



In the laundry room, we see stylish wall cabinets, a new stone countertop, large tiles, and minimalist lighting. Cleanliness and functionality are combined with home comfort here, thanks to attention to detail. The master bathroom is an example of a high level of harmony between aesthetics and engineering. The bathtub, two illuminated sinks, and black faucets all create an undeniable image of calm luxury. Each element was checked against STQC control cards, such as tile evenness, mirror symmetry, and lighting accuracy.

5.2. Reproducibility & scaling of STQC

The effectiveness of the STQC Workflow operational model is evident in its ability to maintain consistent quality of work and its scalability to projects of varying complexity, budget, and structure. Within the framework of high-budget master projects, this management system demonstrates flexibility, precision, and consistency across all production and design processes.

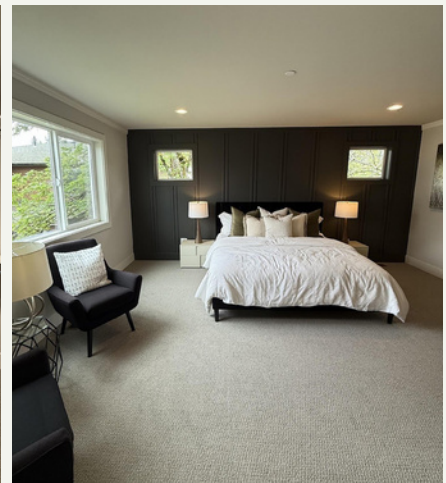
A prime example of the reproducibility of STQC Workflow was the master suite renovation project (Project No.5), which had a budget of \$140,000. This project involved a complete renovation of the master bathroom, walk-in closet, and master bedroom. This particular set of works required special attention to the synchronization of several teams and strict adherence to the schedule, which corresponds to phase S (Strategic Integration) within the STQC Workflow.



Master Bathroom



Walk-In Closet



Master Bedroom

The picture shows a space that combines aesthetic perfection and technological precision: a panoramic shower cabin with individual tile layout, a freestanding bathtub as a central sculptural element, mirrors with integrated lighting, and a double pedestal

with a unique lighting system. The walk-in closet is designed as a complex system with shelves, pull-out baskets, and mirrored panels that create an impression of depth and space. The master bedroom is decorated in neutral tones with a decorative panel wall behind the headboard and spot lighting, which unquestionably supports the overall concept of calm and spatial harmony.



The implementation of this project demonstrates how STQC Workflow clearly combines the stages of planning, quality control, and communication between construction participants. In the T (Task Control) phase, Klubov developed a step-by-step performance monitoring system that included daily control rounds. During these inspections, the horizontal and vertical lines of tile laying, the evenness of the joints, and the accuracy of the installation of sanitary equipment and electrical elements were checked. Phase Q (Quality Checkpoints) included intermediate tests for tightness, electrical safety, and the accuracy of connecting furniture to communication systems.

The key feature of this project was rational procurement management. All materials were ordered within a strictly defined logistics schedule, which minimized the risk of delays and ensured the continuity of the production process. Thus, STQC Workflow functions as a risk prediction system that allows you to optimize resources without compromising quality.

5.3. Analytical synthesis: the practical effect of STQC

An analysis of Andrii Klubov's portfolio shows that the implementation of STQC Workflow is not random or situational, but structurally consistent. The model can be replicated regardless of scale, budget, or team composition, proving its versatility.

All projects demonstrated a repeatable logic:

- **S (Scope / Strategy)** — clear definition of areas, tasks, materials, responsibilities;
- **T (Timeline / Task Control)** — step-by-step planning and no downtime;
- **Q (Quality Checkpoints)** — a multi-layered verification system;
- **C (Coordination)** - integration of design, technical, and human factors.

Thanks to this structure, Klubov does not simply develop and execute a project, but clearly and qualitatively creates an environment of perfection, where design, materials, light, and function interact as parts of a single system.

The illustrations in his portfolio show not only finished spaces, but also the embodiment of the STQC philosophy:

- in the kitchen renovation — technological discipline that gives rise to aesthetics;
- in the master suite renovation — a balance of form and function;
- in the bathroom with stairs — movement and harmony, subordinated to precision.

Each of these projects is visual proof that quality is not an end point, but a continuous process. STQC Workflow creates conditions in which the result is always predictably high, regardless of external changes. Klubov's management model demonstrates a level of professional maturity characteristic of international practices in high-end construction management. He acts not as an intuitive leader, but as an architect of the process, forming a clear, controlled system from chaotic elements. That is why his approach can be scaled and used in broader contexts.

5.4. Consolidation of operational standards

In fact, the actions described in the Client's portfolio demonstrate that STQC Workflow is not a theoretical model, but a set of regularly applied operational standards. Each action documented in its work confirms the functionality of one of the stages of the methodology.

Table 2. Summary of client operating standards and their evidence base

Operational Pillar	Client's Specific Action (evidence phrasing)	Methodology Stage	Result / Impact
Downtime Minimization	"Organized work schedules to minimize downtime and task overlaps"	Stage 2: Team Formation	More efficient use of working hours; on-time delivery against deadlines
Multi-Point Quality Control	"Inspected the quality of painting, tile installation, plumbing work..."; "Conducted interim quality checks"	Stages 4–6	Assures high-end workmanship; reduces need for rework
Proactive Procurement Management	"Ensured timely delivery of materials to avoid workflow delays"	Stage 3: Logistics	Prevents delays caused by missing critical materials
Transparent Final Documentation	"Prepared a final project report for the client"; "Maintained communication with the client regarding adjustments"	Stage 7: Handover	Builds client trust; provides an auditable trail of work performed and financial decisions

5.5. Model scalability & contribution to the future of the U.S. market

One of the most key characteristics of STQC Workflow is its scalability. As noted, it is a “repeatable model for reliable expansion at the regional level in the United States” [1].

In an industry that suffers significantly from fragmentation and dependence on individual expertise, the Client's model is a “plug-and-play” system, meaning that the success of a project does not depend on whether a particular subcontractor has 30 years of experience, but rather on adherence to a documented, standardized process.

This model allows Quality House LLC to:

- Quickly form new project teams in different geographic locations.
- Maintain a single standard of quality and transparency, regardless of state.
- Effectively train staff by focusing on adherence to the STQC process rather than individual improvisation.

Thus, STQC Renovation Workflow not only solves the problems of individual homeowners (budget, quality), but also offers a strategic solution for improving the overall standards and reliability of the entire American home renovation market.

VI. Conclusion

The analysis confirms that STQC Renovation Workflow, developed and implemented by Andrii Klubov, is a systematic, engineering-oriented approach to project management for residential renovation. This methodology goes beyond the usual best practices, offering a structured system that directly addresses key systemic issues dominating the US renovation market, such as significant budget overruns and a crisis of confidence caused by a lack of transparency.

A key element of STQC Workflow's uniqueness is the shift in focus from performance control to proactive risk and process management. Through the innovative application of logistics experience and engineering thinking (Master's Degree in Computer Systems), Andrii Klubov has created a system that significantly minimizes downtime, ensures financial discipline through strict control points at stages 0 and 1, and guarantees high-quality results through multi-layered, documented control (QC Checkpoints).

This standardized, scalable model allows Andrii Klubov to successfully implement expensive and complex projects (\$90,000-\$150,000) and also offers the industry a universal mechanism for improving overall reliability and transparency. STQC Renovation Workflow is a significant, documented, and practical contribution that sets new standards of operational excellence in the American home renovation industry.

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Exhibit A. Template: “Transparent Renovation Roadmap” (STQC Workflow)

Stage №	Stage Name & Primary Focus	Key Tasks (Action Items)	Expected Artifact / Result	Transparency Control Point (Audit Trail)
Stage 0	Pre-Construction Assessment (Initial Risk & Scope)	Detailed site survey; feasibility & code checks; preliminary budget range; hazardous-materials testing (asbestos / lead)	As-Is / As-Built plans; structural feasibility report; preliminary financial review; initial Risk Disclosure letter	100% of potential risks identified and documented before design starts
Stage 1	Design, Engineering & Final Budget	Material finalization (selection sign-off); engineering plans (HVAC, electrical, plumbing); permit applications; final budget confirmation	Final drawing set; detailed work schedule (incl. long-lead items); final written approval of budget & schedule (Client sign-off)	100% approval of the budget and final drawings
Stage 2	Team Formation & SOW	Assemble team (carpenter, plumber, tiler); define Scope of Work (SOW) per subcontractor; kickoff meeting; communications plan alignment	Signed subcontracts with defined SOW; kickoff-meeting minutes	Responsibility-allocation report eliminating execution gaps

Stages 3-7 → continued on next page

Stage №	Stage Name & Primary Focus	Key Tasks (Action Items)	Expected Artifact / Result	Transparency Control Point (Audit Trail)
Stage 3	Procurement Management	Order long-lead items; coordinate with vendors and suppliers; on-site delivery quality / quantity checks	Delivery-tracking sheet with ETAs; financial invoices	Confirmation that $\geq 90\%$ of critical materials are on site or in the logistics pipeline before demolition
Stage 4	Rough-In Phase (Demolition, Structural & Rough Works)	Demolition of old systems; MEP works (electrical / plumbing / HVAC); inspection of concealed works	Photo documentation of concealed works; engineer's inspection report	Multi-point QC checklist for concealed works (QC Checkpoint 1) prior to wall closure
Stage 5	Installation & Finishes	Install tile and flooring; paint walls; assemble and install cabinets; interim site cleaning	Progress photo report; interim QC checklist (e.g., cabinet levelness, tile joints)	Deviation-from-schedule report (if any) and corrective plan
Stage 6	Final Fixes & Testing	Install fixtures, lighting, plumbing; functional testing of all systems; remediate minor defects	Functional testing checklist (lighting / plumbing / HVAC); punch-list closeout record	Comprehensive functional checklist (QC Checkpoint 2), signed by PM
Stage 7	Handover	Final client walkthrough; professional deep cleaning; provide warranty documentation	Final project report; handover / acceptance certificate; maintenance documentation	Report on final-budget compliance and client feedback

Exhibit B. Scope of Work (SOW Form)

Purpose:

To establish the detailed scope of work for each subcontractor in accordance with Stages 2–3 of the STQC Workflow.

Contents:

- Project identification data: Project ID, address, start date, expected duration.
- Full description of work by area (Room / Area / Task).
- Materials used (with item numbers and suppliers).
- Responsible persons (PM / Subcontractor / Inspector).
- Connection to QC Checkpoints (e.g., Rough-In Inspection, Finishing QC).
- Signatures of the parties: Project Manager and Subcontractor.

STQC artifact:

Signed SOW form with a unique ID → included in the Audit Trail of stage 2.

Exhibit C. Project Milestones & Payment Schedule

Purpose:

To unify the payment schedule with quality control points.

Structure:

No	Milestone	Deliverables	QC Checkpoint	Payment (%)	Document
1	Deposit	Mobilization / Schedule Approval	QC-0 (Planning)	10 %	Signed Agreement
2	Project Start	Demolition / Framing / Rough-In	QC-1	20 %	Site Report №1
3	Interior Work	Drywall / Painting / Installation	QC-2	30 %	Progress Report №2
4	Finishing	Cabinetry / Testing / Corrections	QC-3	30 %	QC Checklist
5	Handover	Cleaning / Client Walkthrough	QC-Final	10 %	Final Report & Sign-Off

STQC artifact:

Payment table → stored in Project Binder / Contracts folder.

Exhibit D. Quality Control Checkpoint Protocol

Purpose:

Standardize quality-inspection procedures and link them to contractual obligations.

Contents:

- QC Stages: QC-1 Rough-In; QC-2 Installation; QC-3 Testing; QC-Final Handover.
- Inspection Parameters: Electrical; Plumbing; Level / Plumb; Symmetry / Alignment; Painting / Finishes.
- Responsible Parties: QC Inspector / Project Manager (PM) / Client (or Client Rep).
- Record: Inspection date, concise findings, pass/fail per parameter, required corrective actions.
- Evidence: Photo log with timestamps and location tags.

STQC artifact:

Signed QC Protocol → forms part of the Audit Trail for Stages 4-6.

Exhibit F. Change Order (CO) Form

Purpose:

Document every project change affecting budget, schedule, or materials.

Contents:

- Change Description: Scope of work added / removed; reason for change (design, site condition, client request, compliance).
- Discovery: Date and project stage when change was identified.
- Impact Assessment: Budget impact (+/- USD) and schedule impact (+/- days).
- Approvals: PM signature and Client (or Authorized Representative) signature; date of approval.
- Contract Reference: CO number and attachment number linked to the Master Agreement.

STQC artifact:

Fully executed Change Order (with signatures) → Audit Trail, Stage 5 (Installation Phase).

Exhibit G. Insurance & Liability

Certificates

Purpose:

Verify compliance with safety and insurance requirements pursuant to Contract Sections V–VI.

Contents:

- Certificates of Insurance (COI): Minimum limit USD 1,000,000; additional insured endorsement where required.
- Licenses & Permits: Contractor License ID; permit approvals and inspection sign-offs.
- Lien Waiver: Contractor's statement of no outstanding claims upon payment (conditional / unconditional as applicable).

STQC artifact:

Copies of all COIs and executed Lien Waivers → appended to the Project Close-Out Package.

Exhibit H. Warranty & Final Handover Documents

Purpose:

Ensure post-project responsibility and transparent close-out.

Contents:

- Written Warranty: 12-month warranty covering workmanship and materials (or longer if specified by manufacturers).
- Punch-List Completion Form: Documented defects, dates of correction, and final acceptance.
- Operation & Maintenance (O&M): Care instructions, maintenance schedule, and support contact details.
- Final PM Report: Budget vs. actuals; list of approved Change Orders; summary of QC outcomes and permit closures.

STQC artifact:

Warranty Certificate and Final Handover Report → Audit Trail for Stage 7.