

CLEARWORKS FIELD GUIDE / 91 PRACTICAL WORKFLOWS

AEC AI Workflow Atlas

Find one piece of familiar work worth making easier, clearer, or more reliable.

DESIGNED ATLAS + WORKFLOW-SELECTION AND BUILD-BRIEF TOOLKIT



CLEARWORKS.AI / AEC OPERATING SYSTEMS, WORKFLOW DESIGN & RESPONSIBLE AI



Look for familiar work—not the flashiest tool

Choose something repeated, slow, hard to find, hard to hand off, or important enough that missing it creates risk.

91 PRACTICAL WORKFLOW EXAMPLES	14 CONNECTED OPERATING MODULES	12 REUSABLE WORKFLOW PRIMITIVES
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- 01 **Start with the trigger.** Name the event that begins the work.
- 02 **Find the trusted inputs.** Identify the records and instructions that govern this case.
- 03 **Bound the action.** Define what the system may retrieve, extract, compare, draft, assemble, route, or update.
- 04 **Keep a human gate.** Name the person accountable for consequential judgment.
- 05 **Define the accepted result.** Decide what complete looks like and where the reviewed record belongs.

READINESS
LABELS

'Available now' means the capability exists, not that every firm is ready. 'Operationalizing' requires workflow, integration, ownership, and testing. 'Emerging' means capability or evidence is still early.

Twelve primitives behind the workflows

Most useful systems recombine a small number of actions. The operating design around them determines whether they become dependable work.

Capture

Turn email, chat, voice, forms, meetings, and field observations into structured candidate records.

Retrieve

Find the right project, model, detail, precedent, contract clause, or firm standard with source links.

Extract

Pull entities, dates, quantities, commitments, selections, requirements, and exceptions from messy files.

Classify

Identify document type, urgency, discipline, project, pursuit, risk, or responsible role.

Compare

Check versions, requirements, models, drawings, specifications, budgets, schedules, and current state.

Draft

Create a reviewable first pass of proposals, reports, correspondence, narratives, and checklists.

Assemble

Combine approved content and data into a complete package, dashboard, report, or handoff.

Route

Assign the next action, request missing information, notify owners, and respect escalation rules.

Review

Present evidence, confidence, changes, and exceptions so a human can make the consequential decision.

Write back

Update the CRM, PM, finance, document, or model record only after the required approval.

Observe

Measure time, quality, aging, rework, adoption, and exceptions so the workflow can improve.

Remember

Preserve accepted corrections, decisions, examples, and outcomes as firm-owned operating knowledge.

Connected modules / 01–07

These are operating patterns, not a requirement to replace the firm's existing stack.

01 Lead Desk / Win work

Trigger: A new lead, referral, or opportunity appears.

Action: Extracts the opportunity, enriches the account, identifies next steps, and drafts follow-up.

Human gate: A principal confirms fit, relationship context, and the next move.

Accepted result: A complete lead record, owner, follow-up, and visible pipeline state.

02 Proposal Automator / Win work

Trigger: The firm decides to pursue an opportunity.

Action: Builds a compliance matrix, retrieves evidence, and assembles a cited first draft.

Human gate: The pursuit lead chooses the story, verifies claims, and approves the package.

Accepted result: A stronger proposal assembled from approved firm knowledge.

03 Authority Machine / Build authority

Trigger: A podcast episode is scheduled, recorded, or delivered by the producer.

Action: Coordinates prep, preserves source media, assembles an edited transcript, identifies transcript-grounded moments, drafts channel-specific assets, packages show notes, and tracks every output through review.

Human gate: The hosts and producer approve the edit, claims, clips, copy, episode package, publish timing, and any external release.

Accepted result: One recorded conversation becomes a governed authority system: episode, transcript, clips, posts, newsletter material, resource pages, and reusable firm knowledge.

04 Project Start / Deliver work

Trigger: A project moves from pursuit to contract and kickoff.

Action: Creates the kickoff record, task structure, responsibility map, and missing-information list.

Human gate: The PM confirms scope, owners, milestones, risks, and client protocol.

Accepted result: A clean handoff from winning the work to delivering it.

05 Firm Knowledge Desk / Shared memory

Trigger: Someone needs a precedent, standard, decision, or prior example.

Action: Finds source-linked answers and packages reusable evidence for the current task.

Human gate: A qualified person verifies relevance, currency, and project applicability.

Accepted result: Faster reuse without turning old work into untraceable folklore.

06 Chat Control Plane / Shared interface

Trigger: A person asks for work in Slack, Teams, or another familiar channel.

Action: Routes the request to the right workflow and returns status, previews, and exceptions.

Human gate: Named reviewers approve consequential actions before systems are updated.

Accepted result: One front door across firm skills without another dashboard to monitor.

07 Visualization Studio / Design production

Trigger: A team needs controlled visual options from an existing design.

Action: Generates bounded iterations, batches views, and records settings and references.

Human gate: The designer selects direction and confirms that geometry and intent were preserved.

Accepted result: Faster visual iteration that begins with the design rather than replacing it.

Connected modules / 08–14

These are operating patterns, not a requirement to replace the firm's existing stack.

08 Production Desk / Design production

Trigger: A repeatable documentation task enters the work queue.

Action: Prepares views, sheets, tags, schedules, exports, and structured production checklists.

Human gate: The project team reviews the model and every issued deliverable.

Accepted result: Less repetitive setup and more consistent documentation.

09 Drawing Intelligence / Quality

Trigger: A package approaches coordination, review, or issue.

Action: Compares records and flags omissions, inconsistencies, revision drift, and open questions.

Human gate: Qualified professionals evaluate each finding and own the final documents.

Accepted result: Earlier QA/QC with source-located findings and a review trail.

10 Delivery Desk / Project delivery

Trigger: An RFI, submittal, field report, meeting, or decision changes project state.

Action: Extracts issues, routes responsibility, drafts reports, and tracks open loops.

Human gate: The PM or contract administrator verifies direction and contractual meaning.

Accepted result: Fewer dropped handoffs and a current, queryable delivery record.

11 Commercial Control / Run the firm

Trigger: New financial, contract, cost, or procurement information arrives.

Action: Reconciles records, detects exceptions, projects impact, and prepares decision-ready views.

Human gate: Firm leaders and accounting staff approve commercial decisions and system writeback.

Accepted result: Earlier visibility into margin, cash, exposure, and change.

12 Visibility Center / Run the firm

Trigger: Leaders need a current view of delivery, capacity, finance, or growth.

Action: Combines metrics into role-specific scorecards, bar charts, queues, and drill-downs.

Human gate: Owners confirm definitions, source quality, and what each metric should trigger.

Accepted result: Operational and growth visibility that leads to action, not dashboard theater.

13 State & Exception Tracker / Shared state

Trigger: A decision, promise, selection, deadline, or condition changes.

Action: Extracts candidate state, compares it with the record, and surfaces conflicts or aging items.

Human gate: The accountable owner accepts, corrects, assigns, or closes the change.

Accepted result: A living record of what is true, what changed, and what needs attention.

14 Adoption & Governance / Adopt safely

Trigger: A firm introduces AI accounts, workflows, or connected data.

Action: Assesses the operating environment, records controls, plans enablement, and monitors adoption.

Human gate: Firm leadership approves risk boundaries, access, support, and review expectations.

Accepted result: AI that people can use responsibly—and that the firm can actually support.

Growth & pursuits

Each item is a candidate pattern. Verify the source, permissions, judgment, acceptance, and writeback for your firm before implementation.

WORKFLOW	WHAT IT HELPS WITH	READINESS
Podcast-to-authority pipeline	Run a producer-owned SOP across topic research, Riverside capture, edit handoff, transcript-grounded agent processing, host review, Transistor publishing, clips, posts, newsletter material, resource pages, and reusable knowledge.	NEEDS SETUP
Lead capture and enrichment	Convert referrals, inbox leads, web inquiries, and event contacts into complete CRM records with source and owner.	DOABLE NOW
Relationship-aware follow-up	Draft the next touch using relationship history, last contact, project context, and a human-approved reason to reach out.	DOABLE NOW
Opportunity qualification	Score fit against market, geography, service, relationship, fee, schedule, and strategic criteria.	DOABLE NOW
RFP intake and compliance matrix	Extract deadlines, forms, page limits, evaluation criteria, required attachments, and unresolved questions.	DOABLE NOW
Pursuit research brief	Build a cited brief on client, site, stakeholders, funding, partners, competitors, and relevant firm experience.	DOABLE NOW
Proposal content retrieval	Find approved project sheets, staff experience, metrics, references, and proof matched to the pursuit.	DOABLE NOW
Proposal assembly	Draft a compliant package from selected evidence while preserving source links and required review.	NEEDS SETUP
Interview preparation	Turn the RFP, proposal, research, and likely concerns into roles, questions, proof points, and rehearsal prompts.	DOABLE NOW
Marketing activity visibility	Combine campaigns, events, content, referrals, relationships, pursuits, and wins into one actionable view.	NEEDS SETUP
Win/loss learning loop	Capture debrief evidence, classify patterns, and feed accepted lessons back into go/no-go and proposal systems.	NEEDS SETUP

Intake & project start

Each item is a candidate pattern. Verify the source, permissions, judgment, acceptance, and writeback for your firm before implementation.

WORKFLOW	WHAT IT HELPS WITH	READINESS
Client inquiry triage	Route new work by service, urgency, location, project type, relationship, and response owner.	DOABLE NOW
Contract and scope extraction	Structure services, exclusions, deliverables, milestones, fee, assumptions, and client obligations.	DOABLE NOW
Pursuit-to-project handoff	Carry accepted promises, team knowledge, risks, and client context into the project record.	NEEDS SETUP
Project setup checklist	Create system folders, numbers, templates, permissions, communication rules, and kickoff tasks.	DOABLE NOW
Responsibility matrix	Draft who owns decisions, deliverables, coordination, approval, and communication across the team.	DOABLE NOW
Client requirement register	Extract confidentiality, platform, naming, BIM, reporting, sustainability, and review requirements.	DOABLE NOW
Kickoff brief	Assemble scope, schedule, team, risks, open questions, decision protocol, and first actions.	DOABLE NOW
Baseline schedule assembly	Translate milestones and dependencies into a reviewable project plan tied to responsibility.	NEEDS SETUP
Project knowledge space	Index the approved contract, proposal, standards, kickoff decisions, and source documents for retrieval.	NEEDS SETUP
Early warning setup	Define the conditions that should flag scope, schedule, staffing, decision, or commercial risk.	NEEDS SETUP

Site, planning & analysis

Each item is a candidate pattern. Verify the source, permissions, judgment, acceptance, and writeback for your firm before implementation.

WORKFLOW	WHAT IT HELPS WITH	READINESS
Site research brief	Assemble parcel, jurisdiction, climate, mobility, context, hazards, precedent, and source-linked constraints.	DOABLE NOW
Zoning and code research	Retrieve candidate requirements, cite sections, and frame questions for professional verification.	DOABLE NOW
Program requirement extraction	Turn briefs, spreadsheets, interviews, and standards into structured spaces, quantities, and adjacencies.	DOABLE NOW
Program option comparison	Compare options against area, adjacency, cost, schedule, and stakeholder priorities.	NEEDS SETUP
Precedent discovery	Find relevant internal and external precedents by typology, material, climate, detail, and performance.	DOABLE NOW
Meeting-to-design criteria	Extract accepted goals, constraints, preferences, conflicts, and unanswered questions from stakeholder sessions.	DOABLE NOW
Planning submission checklist	Map jurisdiction requirements to the evolving package and flag missing evidence.	NEEDS SETUP
Site-photo intelligence	Organize observations by location, condition, discipline, risk, and required follow-up.	DOABLE NOW
Option decision record	Preserve the compared alternatives, evidence, decision, owner, and downstream implications.	DOABLE NOW
Early feasibility synthesis	Combine program, planning, site, cost, schedule, and risk evidence into a reviewable brief.	NEEDS SETUP

Visualization & design

Each item is a candidate pattern. Verify the source, permissions, judgment, acceptance, and writeback for your firm before implementation.

WORKFLOW	WHAT IT HELPS WITH	READINESS
Sketch-to-visual study	Develop controlled visual directions from a hand sketch while preserving its underlying composition.	DOABLE NOW
Model-grounded rendering	Use Revit, Rhino, SketchUp, or Enscape views as geometry anchors for material and atmosphere studies.	DOABLE NOW
Material option batch	Generate comparable finish and facade variations using approved materials and locked viewpoints.	DOABLE NOW
Lighting and time-of-day study	Test controlled daylight, evening, interior, and seasonal conditions from the same design view.	DOABLE NOW
Landscape and entourage study	Explore bounded landscape, occupancy, and context treatments without altering the architecture.	DOABLE NOW
Visual consistency review	Compare a batch for geometry drift, material inconsistency, impossible conditions, and brand mismatch.	NEEDS SETUP
Presentation image cleanup	Remove artifacts, upscale, extend, or retouch selected images with an approval record.	DOABLE NOW
Storyboard and diagram draft	Translate design logic into presentation sequences, explanatory diagrams, and reviewable narrative arcs.	DOABLE NOW
Design option comparison board	Assemble consistent views, criteria, tradeoffs, and decision prompts for team or client review.	DOABLE NOW
Visualization recipe library	Preserve accepted inputs, settings, references, exclusions, and examples for repeatable firm use.	NEEDS SETUP

BIM, drawings & specifications

Each item is a candidate pattern. Verify the source, permissions, judgment, acceptance, and writeback for your firm before implementation.

WORKFLOW	WHAT IT HELPS WITH	READINESS
View and sheet setup	Prepare repeatable views, sheets, naming, browser organization, and package structure from firm rules.	NEEDS SETUP
Tag and annotation assistance	Populate candidate tags, dimensions, notes, and identifiers for project-team review.	NEEDS SETUP
Schedule generation and checks	Create or audit room, door, finish, equipment, and model-data schedules against requirements.	NEEDS SETUP
Family and detail retrieval	Find approved families, assemblies, details, and prior applications with source and suitability notes.	DOABLE NOW
Specification research	Retrieve candidate product and standard information with sources, dates, and unresolved requirements.	DOABLE NOW
Drawing-to-spec coordination	Compare key products, assemblies, references, and selections across drawings and specifications.	NEEDS SETUP
Markup-to-task extraction	Turn redlines and review comments into assigned, traceable production actions.	DOABLE NOW
Revision propagation check	Flag places where an accepted change may not have reached related views, schedules, notes, or specifications.	STILL EARLY
Model data query	Answer plain-language questions over parameters, schedules, quantities, and element state with traceable results.	NEEDS SETUP
Issue package assembly	Collect expected sheets, reports, exports, transmittal data, and completion checks into a review queue.	NEEDS SETUP

QA, code & firm knowledge

Each item is a candidate pattern. Verify the source, permissions, judgment, acceptance, and writeback for your firm before implementation.

WORKFLOW	WHAT IT HELPS WITH	READINESS
Drawing-set completeness review	Check expected sheets, views, notes, dimensions, tags, references, and unresolved placeholders.	NEEDS SETUP
Accessibility review assistance	Evaluate geometry against bounded criteria and return source-located candidate findings.	STILL EARLY
Code research with citations	Find relevant code sections, surface conflicts, and preserve professional interpretation as the gate.	DOABLE NOW
Selection and decision gap check	Find missing owner, due date, basis, approval, or downstream action for project selections.	DOABLE NOW
Redline pattern analysis	Group recurring corrections by issue, team, phase, detail, and root-cause opportunity.	NEEDS SETUP
Approved-detail search	Retrieve similar details with project, author, date, performance history, and review caveats.	DOABLE NOW
Project precedent search	Find comparable work by type, scale, location, system, client concern, and outcome.	DOABLE NOW
Lessons-learned capture	Turn closeout and retrospectives into accepted, reusable guidance tied to evidence.	DOABLE NOW
Standard change watch	Monitor selected codes, standards, products, and internal requirements for review-worthy changes.	NEEDS SETUP
Knowledge gap map	Identify recurring unanswered questions, duplicated searches, missing owners, and high-risk key-person knowledge.	NEEDS SETUP

Delivery, CA & field

Each item is a candidate pattern. Verify the source, permissions, judgment, acceptance, and writeback for your firm before implementation.

WORKFLOW	WHAT IT HELPS WITH	READINESS
Meeting action extraction	Convert project meetings into decisions, actions, owners, dates, and source-linked open questions.	DOABLE NOW
RFI intake and routing	Classify RFIs, retrieve related evidence, suggest ownership, and track response aging.	DOABLE NOW
Submittal intake and comparison	Extract requirements, compare against schedule and specification data, and route review.	NEEDS SETUP
Change-event tracker	Connect potential change, source, scope, cost, schedule, decision, and contractual status.	NEEDS SETUP
Field report assembly	Turn observations, photos, weather, attendees, and follow-up into a consistent reviewed report.	DOABLE NOW
Site observation routing	Classify field conditions by location, discipline, severity, owner, and required response.	DOABLE NOW
Open-loop aging report	Show unanswered RFIs, submittals, decisions, selections, and actions by owner and impact.	DOABLE NOW
Weekly project report	Assemble current progress, decisions, risks, look-ahead, commercial events, and required attention.	DOABLE NOW
Closeout requirement tracker	Track manuals, warranties, training, commissioning, record documents, and unresolved items.	NEEDS SETUP
Handoff and turnover brief	Package accepted project state, operating knowledge, obligations, and next owners at each transition.	DOABLE NOW

Cost, contracts & procurement

Each item is a candidate pattern. Verify the source, permissions, judgment, acceptance, and writeback for your firm before implementation.

WORKFLOW	WHAT IT HELPS WITH	READINESS
Fee and labor baseline	Connect contracted scope, planned effort, staffing, rates, milestones, and assumptions.	DOABLE NOW
Project margin visibility	Reconcile labor, invoices, commitments, progress, and forecast to surface margin movement.	NEEDS SETUP
Invoice preparation	Assemble progress, billing backup, consultant data, contract terms, and exceptions for review.	DOABLE NOW
Consultant invoice reconciliation	Match consultant bills to commitments, phase, project, prior billing, and approval state.	DOABLE NOW
Change-order evidence assembly	Collect notices, decisions, scope evidence, pricing, schedule impact, and contractual status.	NEEDS SETUP
Estimate and takeoff assistance	Extract quantities and compare assumptions while keeping estimator validation explicit.	STILL EARLY
Procurement requirement extraction	Structure package requirements, lead times, approvals, alternates, constraints, and responsible parties.	DOABLE NOW
Bid comparison	Normalize bidder scope, exclusions, allowances, qualifications, and pricing for human evaluation.	DOABLE NOW
Contract obligation tracker	Monitor notices, deliverables, approvals, insurance, reporting, and time-sensitive obligations.	NEEDS SETUP
Cash and backlog forecast	Combine pipeline confidence, contract backlog, invoicing, collections, staffing, and delivery assumptions.	NEEDS SETUP

Visibility, control & adoption

Each item is a candidate pattern. Verify the source, permissions, judgment, acceptance, and writeback for your firm before implementation.

WORKFLOW	WHAT IT HELPS WITH	READINESS
Executive operating view	Show pipeline, backlog, staffing, delivery, finance, growth, and exceptions from trusted sources.	NEEDS SETUP
Project health scorecard	Combine schedule, labor, fee, open loops, decisions, quality, and client signals with drill-down evidence.	NEEDS SETUP
Capacity and staffing view	Compare demand, assignments, skills, availability, deadlines, and hiring scenarios.	NEEDS SETUP
State extraction and reconciliation	Turn changing messages and documents into candidate state and compare it with the official record.	NEEDS SETUP
Exception queue	Prioritize missing, late, conflicting, high-impact, or low-confidence items for accountable review.	DOABLE NOW
Workflow performance dashboard	Measure cycle time, rework, aging, intervention, acceptance, quality, and value by workflow.	NEEDS SETUP
AI account and access review	Inventory tools, owners, seats, settings, data controls, permissions, and unsupported use.	DOABLE NOW
Client and project AI constraint register	Record confidentiality, recording, training-data, model, platform, and approval requirements.	DOABLE NOW
Role-based training and office hours	Deliver scenario-specific enablement, capture questions, and improve approved workflows from use.	DOABLE NOW
Adoption and value review	Track supported use, repeat activity, corrections, outcomes, risks, and the next implementation decision.	NEEDS SETUP

A practical selection path

The atlas is a possibility map. A useful first implementation has observable value, usable evidence, bounded risk, and a real owner.

- 01 Inventory recurring coordination, assembly, checking, searching, and follow-up.
- 02 Score frequency, delay, error cost, data readiness, judgment, and reversibility.
- 03 Map one real workflow from trigger to accepted outcome before choosing a platform.
- 04 Pilot one thin slice with one team, one review owner, and real evaluation cases.
- 05 Keep it only if the team chooses to use it and the accepted record becomes easier to trust.

PROFESSIONAL BOUNDARY

AI can surface, compare, draft, flag, and assemble. Qualified professionals remain responsible for design intent, code interpretation, contractual meaning, client commitments, approval, and issued work.

Canonical web edition: <https://clearworks.ai/resources/aec-ai-workflow-atlas>

Source snapshot SHA-256: da05e7be60584963837c711c280d3346f57bb1c60ea32775aee04238bdbd1e44