Technical Proposal

CRFP 0313 DEP2600000003
Agentic AI & E-Permitting Platform

WV Dept. of Environmental Protection • DWWM

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1. Executive Summary

Vanguard proposes a FedRAMP High, fully in-boundary agentic AI e-permitting platform on AWS GovCloud (US) that accelerates WVDEP's Class I and Class VI permit review while preserving mandatory human authority over every decision. Three coordinated AI agents automate the standard, repetitive portions of the review cycle, each producing an explainable, cited finding that a WVDEP reviewer accepts, edits, or overrides. No AI determination becomes a permit action without staff sign-off.

The solution answers the solicitation's hardest constraint directly: the entire system, including AI models and inference calls, runs inside one FedRAMP boundary via Amazon Bedrock, with zero public-internet egress. Value lands early through a phased delivery plan that ships the Digital Intake Specialist first, and an Engineering-with-AI approach compresses the build schedule enough to target go-live April 1, 2027, roughly three months ahead of the July 1, 2027, contractual date.

About Vanguard

VGD is a New York-based digital agency and system integrator with more than 15 years delivering public-sector technology and a vital division of Vanguard Direct Enterprises. A subsidiary of The Sourcing Group, Vanguard brings five core disciplines to every engagement: Design, Development, Data, Digital Marketing, and Deployment, the "Five D's" that govern how we scope, build, and sustain solutions. Our public-sector footprint spans environmental agencies, workforce development, education, transportation, and municipal government, with confirmed project wins at the Delaware Department of Health and Social Services, Delaware DNREC, Delaware State Parks, NCcareers.org, Grand Central Partnership, Baltimore City Public Schools, NYC Department of Finance, and NYC Department of Education. Vanguard holds SOC 2 Type II certification on its own AWS instance, and our project management practice is grounded in PMI/PMBOK standards with PMP-certified leadership.

On this engagement, Vanguard serves as the prime contractor and project management lead, responsible for overall delivery governance, client communication, risk management, and contractual accountability. Our engineering team, a specialist AI and cloud engineering firm, brings purpose-built agentic AI capability and AWS GovCloud delivery experience.

Vanguard clients include Delaware, New York State, City of Philadelphia, Connecticut, Comcast, CUNY, JetBlue, and others.

- Value delivered early: Digital Intake Specialist in production pilot by December 2026, ROI months before full go-live.
- Aggressive but credible schedule: ~3-month buffer built into the plan before the July 1, 2027 contractual not-later-than date.
- Cost discipline: serverless baseline, 20/80 onshore/offshore blend with VDI-secured access, and firm-fixed token pricing for the life of the contract.

2. Understanding of Requirements

WVDEP has no dedicated plan-review software for the Class I/VI programs today. Permits are currently managed as large PDF packages through manual review, stored in AppExtender and ERIS for records retention. Class VI demand, tied to carbon sequestration, is expected to grow. The Agency needs to speed review and reduce reviewer workload without ceding regulatory judgment to automation.

2.1 Core Program Context

Class I wells accept industrial, municipal, and hazardous waste via deep injection. Class VI wells are used for geologic carbon sequestration, subject to EPA UIC program requirements and WV-specific regulations. Both programs are new in West Virginia; there are no historical permit application records in state systems, which shapes the cold-start training approach described in Section 3.

2.2 Key Requirements Understood

- Automate the standard, keep judgment human: AI screens completeness and drafts findings; staff review, edit, and approve all outputs (Q34, Q39).
- One FedRAMP boundary, no exceptions: all agentic components and any third-party AI APIs operate inside it (Q22, Q26).
- Integrate forward, not backward: OSSP, OneLogin, Active Directory only. No integration with or write-back to AppEnhancer, ERIS, or ESS (Q6, Q7, Q18).
- Defensibility: explainable findings, captured overrides, immutable reasoning logs retained at least 5 years (Q46).
- Phase value: Digital Intake Specialist first (Q24); full system operational before go-live (Q29).
- Low-volume throughput: 5 to 20 applications per year; system right-sized, not over-engineered (Q27).

3. Proposed Solution

Three specialist agents operate under a supervisor that enforces mandatory human-in-the-loop (HITL) gates and a confidence threshold. Low-confidence determinations auto-escalate to a senior reviewer rather than being presented as findings (Q33). The diagram below shows the full permit workflow, the three mandatory Gates, and the override/audit log path.

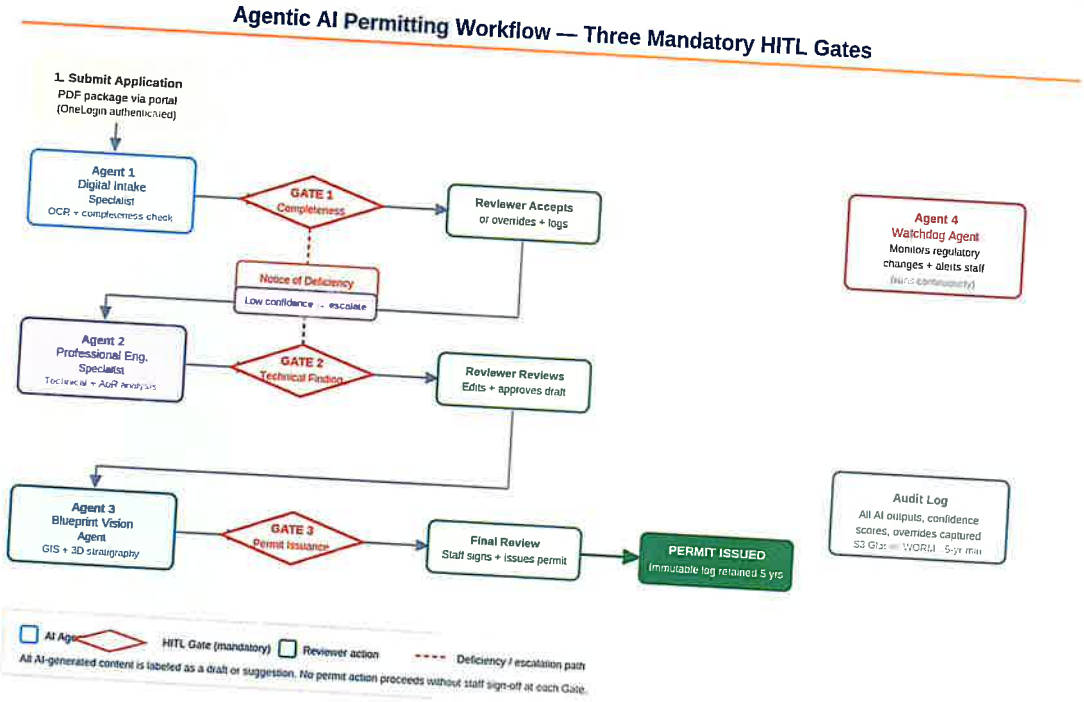


Figure 1: Agentic AI Permit Workflow — Three Mandatory HITL Gates

3.1 Agent Architecture

#	Agent	Role
1	Digital Intake Specialist	Automated administrative completeness review against configurable Class I/VI checklists. Flags missing or insufficient items with confidence score and rationale. Phase 1 priority per Q24.
2	Professional Engineering Specialist	Drafts suggested edits and permit sections from Agency regulatory material. Accounts for stated Class VI modeling parameters only (no plume modeling per Q2). Proposes AoR delineation output (Q35).
3	Blueprint Vision Agent	3D subsurface stratigraphy and AoR/ZEI spatial context from Agency-supplied baseline GIS data, linked to source findings. Advanced modeling remains with human reviewers in the ESRI environment (Q68).
4	Watchdog Agent	Continuously monitors regulatory and guidance changes at the federal and state level, alerts staff to updates that may require compliance-engine revision, and logs all alert-to-action events. Implementation approach detailed in our technical response.

3.2 Permit Lifecycle Coverage

The system covers the full permit review lifecycle independently of any legacy system:

- Submission and portal intake (registered users only; no anonymous access per Q75)
- Document ingestion and OCR of PDF packages via Amazon Textract
- Administrative completeness review by the Digital Intake Specialist
- Technical review and engineering analysis by the Professional Engineering Specialist
- Notice of Deficiency generation and resubmittal tracking (Q43)
- Public comment intake and management, 50 to 1,000 comments per application (Q41)
- Regulatory response drafting from Agency-provided reference library (Q42)
- Permit section drafting with mandatory HITL approval before any permit action (Q39)
- Permit issuance workflow
- Post-approval modifications for the life of the permit (Q47)

3.3 Human-in-the-Loop (HITL) Design

Three mandatory human gates apply: (1) completeness determination before technical review begins, (2) engineering finding approval before a Notice of Deficiency or approval recommendation is generated, and (3) final permit action before issuance. No AI output advances without reviewer sign-off.

All reviewer overrides are captured in an immutable log. The system presents WVDEP with options for using override data to improve the model over time (Q34). AI-generated content is explicitly labeled as a draft or suggestion throughout the interface to reinforce staff authority.

3.4 Cold-Start Strategy

There are no historical Class I/VI WV permits to use as training data (Q65). The knowledge base is seeded in three layers:

- EPA UIC program guidance, technical standards, and available reference permit materials (publicly accessible)
- WVDEP-provided SOPs, regulatory requirements, and Class I/VI review criteria (per Q23, Q25, Q70)
- Synthetic permit generation: representative application packages constructed from regulatory parameters, reviewed and validated by WVDEP staff, used for initial model calibration

Confidence thresholds are set conservatively at go-live and tuned upward as reviewer feedback accumulates. The override feedback loop continuously improves accuracy through normal operations.

4. Technical Architecture & AWS GovCloud Deployment

The platform deploys in a single multi-AZ VPC inside AWS GovCloud (US), FedRAMP High. All components, including AI inference, data storage, and third-party integrations, operate inside this boundary with no public-internet egress (Q22, Q26). The architecture diagram below shows every tier and the three confirmed integration points.

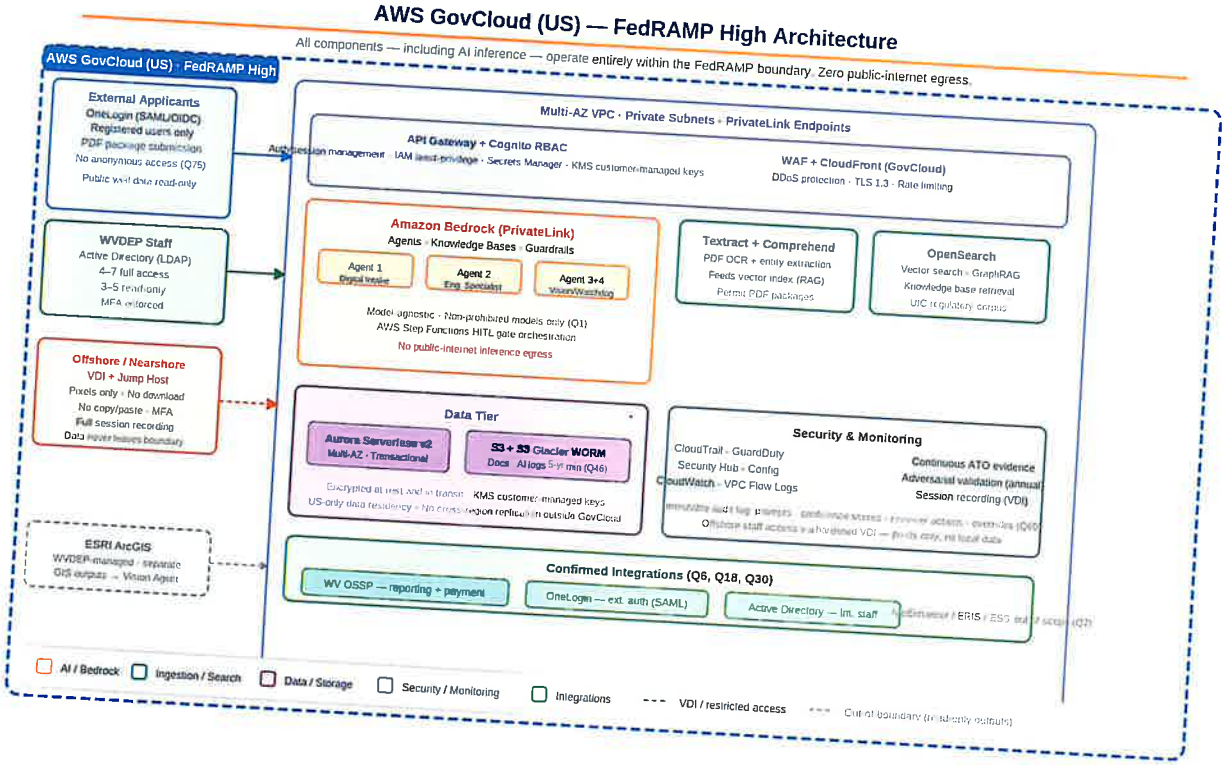


Figure 2: AWS GovCloud FedRAMP High Architecture — Full System

4.1 Core AWS Services

- Amazon Bedrock: in-boundary model and agent runtime (Agents, Knowledge Bases, Guardrails, Model Evaluation). Model-agnostic, reached only via PrivateLink endpoints. Non-prohibited models only (Q1, Q21).
- Aurora Serverless v2 (multi-AZ): transactional data tier
- OpenSearch: vector search and GraphRAG for knowledge retrieval
- Amazon S3 with Object Lock + S3 Glacier WORM: document storage and immutable reasoning log retention (minimum 5 years, Q46)
- Amazon Textract + Comprehend: OCR and entity extraction for PDF permit packages
- AWS Step Functions: HITL gate orchestration
- Amazon Cognito + IAM: RBAC layer, least-privilege role assumptions, MFA enforced
- CloudTrail, GuardDuty, Security Hub, Config, CloudWatch: continuous monitoring and ATO evidence base

4.2 Integrations

Automated API integrations are limited to the three systems confirmed in Q6, Q18, and Q30. Legacy systems (AppEnhancer, ERIS, ESS) are explicitly out of scope (Q7, Q17, Q18).

System	Type	Purpose
WV One-Stop Shop Permitting (OSSP)	API	Reporting and payment processing
OneLogin	SAML/OIDC	External applicant authentication
Active Directory	LDAP	Internal WVDEP staff authentication

4.3 GIS Integration

WVDEP uses ESRI desktop and enterprise software (Q67). The Blueprint Vision Agent ingests Agency-supplied baseline GIS and stratigraphic data in ESRI-native formats. Advanced geospatial modeling and analysis is performed by reviewers in the ESRI environment; the agent integrates GIS review outputs into the permitting workflow rather than replacing ESRI (Q68).

4.4 Sizing Basis

Ref	Parameter	Range	Used	Drives
A	Applications per year	2 to 20	20	Throughput, support sizing
B	Document pages per application	500 to 1,500	1,500	Ingestion/OCR, storage
C	Storage per application	0.5 to 3 GB	3 GB	S3 sizing
D	AI-analysis pages per application	500 to 1,500	1,500	Token consumption
E	GIS data per application	0.1 to 1 GB	1 GB	OpenSearch/GIS sizing
F	Database storage per application	3 to 5 GB	5 GB	Aurora sizing

Token bottoms-up: 20 applications x 1,500 AI-analysis pages x ~700 tokens/page x 8x agentic pipeline multiplier = approximately 168 MTok/year at peak, within the 250 MTok estimate with ~82 MTok headroom. Overages bill at the same firm-fixed unit price (Q5).

5. Security & FedRAMP Compliance

The proposed solution exceeds the FedRAMP Moderate requirement by building on FedRAMP High-authorized AWS GovCloud services, inheriting their authorizations to shorten the ATO path. FedRAMP High authorization documentation from AWS as the SaaS platform provider is sufficient; the entire application and its workflows reside and operate inside that boundary (Q57, Q58).

5.1 FedRAMP Compliance Approach

- Hosting infrastructure: AWS GovCloud (US), FedRAMP High authorized
- AI inference: Amazon Bedrock via PrivateLink endpoints, fully in-boundary — no public-internet egress
- AI models: non-prohibited commercial or open-source models deployed within the boundary (Q1, Q21, Q59)
- Certifications not yet finalized completed concurrently with project work and finalized before go-live, with a plan of action submitted with this proposal (Q4)

5.2 Data Protection

- All permit data treated as Controlled Unclassified Information (CUI)
- Customer-managed KMS keys; encryption at rest and in transit
- Data residency: US regions only; no data processed outside the FedRAMP boundary
- AI reasoning logs retained in S3 Glacier WORM for minimum 5 years (Q46)
- Comprehensive audit records including prompts, extracted data, confidence scores, reviewer actions, and overrides (Q60)

5.3 Personnel and Access Controls

Internal and external users authenticate through Active Directory and OneLogin respectively. All persons with access to State data undergo background checks per W. Va. Code Section 15-2D-3.

Nearshore and offshore personnel access the production GovCloud environment exclusively through hardened Virtual Desktop Infrastructure (VDI) and jump hosts: sessions stream pixels only with no local data, no copy/paste, no download, MFA enforced, full session recording. The data never leaves the FedRAMP boundary.

6. Project Plan & Delivery Schedule

Delivery runs as time-boxed agile phases with fixed-scope, fixed-price discipline: phase gates and contractual accountability at the waterfall level, sprint-based delivery within each phase. The Agentic AI SDLC approach, where AI assists with requirements, design generation, coding, test generation, and ATO documentation, compresses the build enough to target go-live April 1, 2027, three months ahead of the July 1, 2027 contractual date. That buffer is held as schedule reserve to absorb ATO and UAT risk.

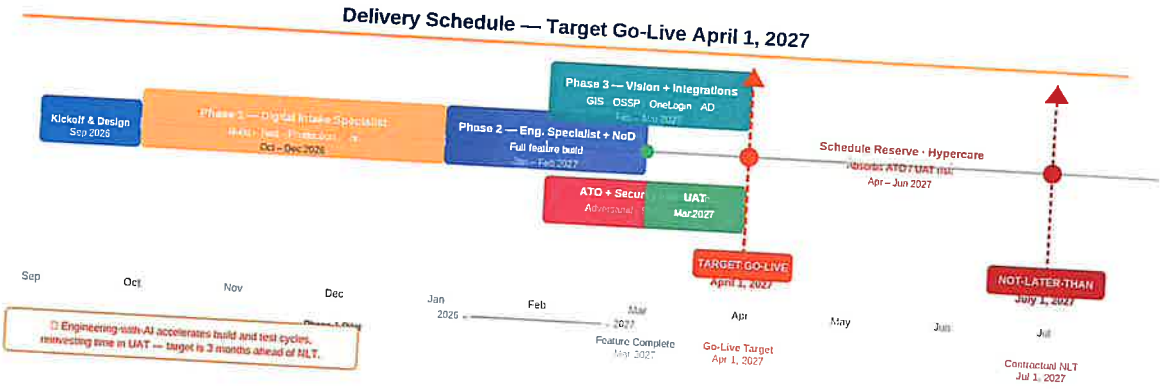


Figure 3: Delivery Timeline — Sep 2026 to Jul 2027

6.1 Structured Delivery: Blending Agile and Waterfall

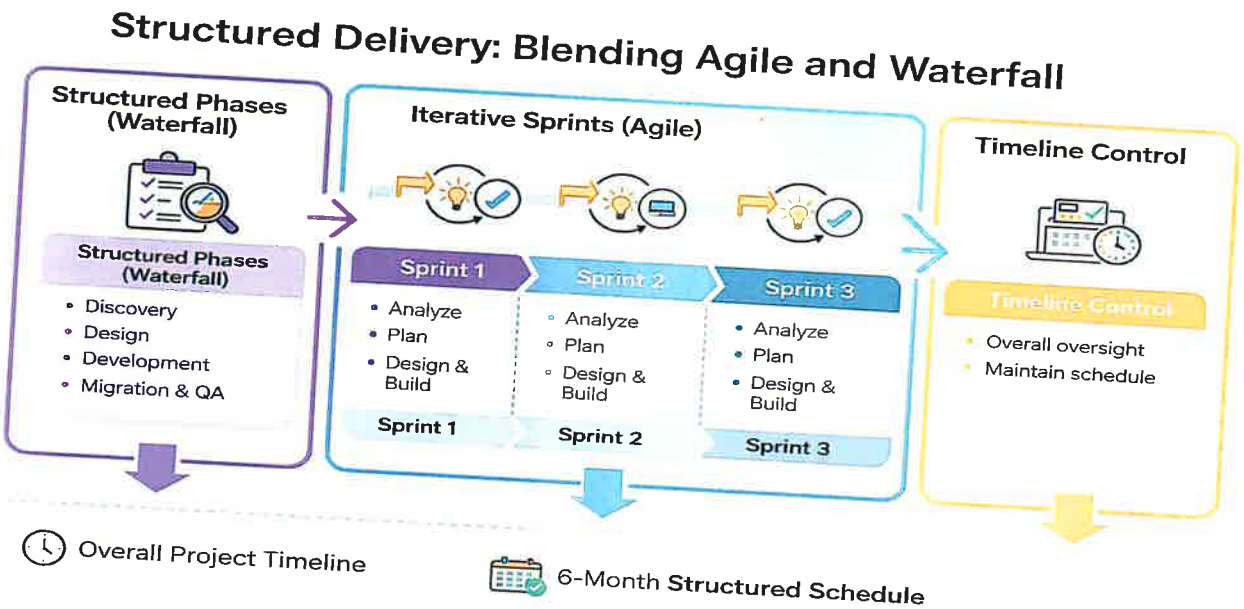


Figure 4: Vanguard Delivery Methodology — Structured Phases with Iterative Sprints

6.2 Milestone Summary

Milestone	Target	Exit Criteria
Kickoff and Notice to Proceed	Sep 2026	Team mobilized; GovCloud landing zone requested; backlog seeded.
Design Baseline	End Sep 2026	Architecture approved; ATO baseline started.
Phase 1 Pilot: Digital Intake Specialist	Dec 2026	Completeness agent in production pilot with HITL functioning.
Feature Complete	End Jan 2027	All epics code-complete; AI-generated test suite green.
ATO Ready	Feb 2027	SSP and control evidence submitted; adversarial validation underway.
UAT Exit	Mar 2027	WVDEP reviewer acceptance sign-off.
Target Go-Live	Apr 1, 2027	Staged cutover; ~3-month buffer to contractual not-later-than.
Contractual Not-Later-Than	Jul 1, 2027	RFP-specified date; buffer absorbs ATO/UAT risk.

6.3 How Engineering with AI Compresses Each Stage

SDLC Stage	Conventional	Agentic-AI SDLC	Effect
Discovery	Manual elicitation	AI mines requirements baseline; humans validate.	Faster start
Architecture/Design	Manual specs	AI generates design options and IaC stubs; architects decide.	Reduced design time
Development	Hand-coded	AI pair-programming; humans own design and review.	Reduced build time
Unit Testing	After code	AI generates tests in-sprint; humans curate edge cases.	Test debt removed
QE/Integration	Manual passes	AI test-case generation from acceptance criteria.	Shorter QE cycle
Docs and ATO	Manual	AI-assisted SSP drafting and traceability matrices.	ATO accelerated
UAT and Rollout	Squeezed	Time reinvested in unhurried, human-led UAT.	Lower go-live risk

AI accelerates our internal engineering. It does not replace WVDEP's UAT or the product's mandatory HITL workflow.

7. Project Management & Staffing

Delivery is governed under PMI/PMBOK principles with an Agile Under the Waterfall hybrid model. The Vanguard Project Manager maintains the master schedule, risk register, and stakeholder communication cadence; our engineering team provides the technical delivery lead and all engineering resources.

7.1 Key Personnel

Name / Role	Organization	Qualifications
Devin Cox — Project Manager / PMP	Vanguard	PMP-certified; leads PMO at Vanguard; veteran of Delaware DHSS, DNREC, State Parks, and BCPS engagements. Maintains master schedule, risk register, and WVDEP stakeholder cadence.
Lakshmi Anantharamu — AI/Environmental SME	Vanguard (consulting)	Subject matter expert in environmental permitting workflows and AI/ML applications to regulatory review. Advises on UIC Class I/VI review logic, AI prompt design, and HITL workflow configuration.
Technical / Delivery Lead	Engineering Team	Leads solution architecture, Bedrock agent design, AWS GovCloud delivery, and ATO documentation.
Solution Architect	Engineering Team	Designs multi-agent orchestration, Step Functions HITL gates, PrivateLink connectivity, and data tier.
Security / Compliance Lead	Engineering Team	Owns ATO package, SSP, adversarial validation plan, and FedRAMP control evidence.

7.2 Staffing Model

The build uses a 20% onshore / 80% offshore blended model at approximately $60/hour blended. The compliance boundary is drawn on data access, not geography: offshore personnel access the GovCloud environment exclusively through hardened VDI and jump hosts (Section 5.3).

7.3 24x7 Follow-the-Sun Support (Years 1 through 6)

Role	Shore	Coverage
Service Delivery Manager	Onshore (US)	Accountable owner; escalation; WVDEP interface
L3 and Security On-Call	Onshore (US)	Deep fixes; security, compliance, ATO renewals
L1/L2 Americas Shift	Nearshore	Business-hours triage and resolution
L1/L2 India Shift A	Offshore	Follow-the-sun coverage
L1/L2 India Shift B	Offshore	Follow-the-sun coverage

A lighter 16x5 plus on-call tier is available, reducing annual support cost by approximately $88,000 per year (see Appendix E).

7.4 Governance Cadence

Forum	Frequency	Purpose
Weekly Status and Sprint Review	Weekly	Progress, blockers, increment demo
Steering Committee	Monthly	Milestones, risks, decisions, budget
Change Control Board	As needed	Scope, schedule, cost change requests
Phase Gate Reviews	Per phase	Design baseline, ATO, UAT entry/exit, go/no-go
Live Dashboards	Continuous	Queue, cycle time, throughput, token/cost telemetry

8. Mandatory Requirements Compliance

#	Requirement	Source	Status	How / Where
1	Entire system including third-party AI APIs inside FedRAMP boundary	Q22, Q26	Comply	GovCloud + Bedrock PrivateLink; Sections 4 and 5
2	FedRAMP Moderate minimum	RFP	Exceeds	GovCloud + Bedrock are FedRAMP High; Section 5
3	Non-prohibited AI models; vendor discretion in-boundary	Q1, Q21	Comply	Bedrock model-agnostic; Section 4
4	Mandatory HITL; AI is never the final authority	Q34, Q39	Comply	Step Functions HITL gates; Sections 3 and 4
5	Reviewer override of any AI finding; overrides captured	Q34	Comply	HITL workbench; immutable override log; Section 3
6	Low-confidence findings auto-escalate to senior reviewer	Q33	Comply	Confidence-threshold gate; Section 4
7	Digital Intake Specialist delivered first	Q24	Comply	Phase 1 pilot Dec 2026; Sections 3 and 6
8	Support both Class I and Class VI	RFP	Comply	Class-specific checklists and knowledge base; Section 3
9	Class VI: stated parameters only; no plume modeling	Q2	Comply	Professional Engineering Specialist scope; Section 3
10	Propose AoR delineation approach	Q35	Comply	Vendor-proposed output; Section 3
11	3D subsurface and geospatial visualization	Q19	Comply	Blueprint Vision Agent; Sections 3 and 4
12	Integrate WV OSSP, OneLogin, Active Directory	Q6, Q18, Q30	Comply	Integration brokers; Section 4
13	No integration or write-back to AppEnhancer, ERIS, ESS	Q7, Q17, Q18	Excluded	Out of scope; Appendix B
14	PDF package ingestion with OCR	RFP	Comply	Textract pipeline; Section 4
15	Notice of Deficiency plus resubmittal with change accounting	Q43	Comply	NoD workflow; Section 3
16	Public comment intake and management (50 to 1,000 per application)	Q41	Comply	Comment service; Section 3

#	Requirement	Source	Status	How / Where
17	Permit modifications post-approval for life of permit	Q47	Comply	Modification workflow; Section 3
18	AI reasoning logs retained 5 years minimum	Q46	Comply	S3 Glacier WORM; Sections 4 and 5
19	Explainable AI rationale for determinations	RFP	Comply	Findings carry rationale and citations; Section 3
20	RBAC: 4 to 7 full access plus 3 to 5 read-only internal users	Q9, Q28	Comply	Cognito/AD RBAC; Section 4
21	250 MTok firm-fixed unit price for life of contract	Q5	Comply	Token pricing; Section 9, Appendix G
22	Certifications concurrent; finalized before go-live	Q4	Comply	ATO plan; Sections 5 and 6
23	Hard-copy submission; technical and cost in separate sealed envelopes	RFP Sect. 2	Comply	Submission packaging
24	Personnel background checks for State data access	WV Code 15-2D-3	Comply	Onshore screened; VDI for offshore; Sections 5 and 7
25	Pricing reflects Section 1.3 estimated volumetrics	RFP Sect. 1.3	Comply	Sizing basis and token bottoms-up; Section 4, Appendix G

9. Cost Approach

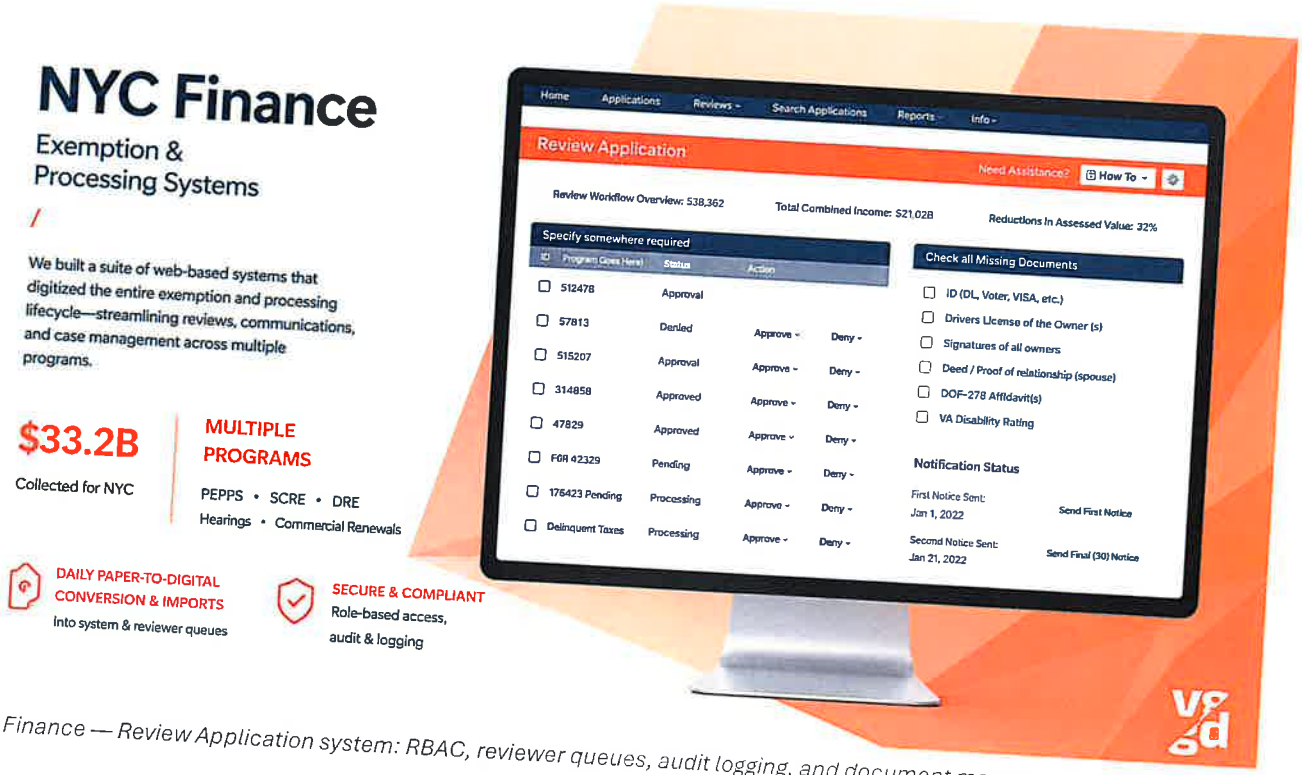
All 11 Attachment A line items are addressed in the separate, printed PDF. The 20/80 onshore-offshore build blend, plus an AI build-acceleration factor of approximately 30% effort reduction, keeps implementation cost lean. Recurring cost reflects a staffed 24x7 follow-the-sun support model.

10. Why Vanguard

- Cleanest answer to the hardest requirement: a single FedRAMP High boundary with fully in-boundary AI inference, not a patchwork of compliant hosting and non-compliant inference.
- Defensibility built-in: explainable findings, captured overrides, immutable reasoning logs, mandatory human authority at every permit action.
- Aggressive but credible schedule: Engineering-with-AI compresses build and test cycles and reinvests the time in UAT and rollout; July 1, 2027, is the contractual backstop, not the target.
- Cost discipline: serverless baseline minimization, onshore/offshore blend with VDI-secured access, and firm-fixed token pricing.
- Value early: the Digital Intake Specialist ships in a production pilot by December 2026, demonstrating ROI months before full go-live.
- Proven public-sector track record: Delaware DHSS, DNREC, State Parks, NCcareers.org, Grand Central Partnership, Baltimore City Public Schools, NYC DOF, NYC DOE.

10.1 Past Performance Reference — Delaware DNREC

Vanguard served as prime contractor for the Delaware Department of Natural Resources and Environmental Control (DNREC) on a multi-phase digital modernization engagement. Deliverables included public-facing web properties, CMS implementation, and workflow automation for permitting-adjacent processes. This engagement gives the team direct familiarity with environmental agency operations, regulatory documentation requirements, and the data governance expectations that mirror WVDEP's UIC program needs.



NYC Finance — Review Application system: RBAC, reviewer queues, audit logging, and document management. Vanguard-built.

NYS DMV

Digital Modernization for Vehicle Services

We designed and built VERIFI, a digital ecosystem that transformed how vehicle services are delivered across New York State—making it faster, easier, and more secure for millions of users.

- **3M+** Transactions a year
- **11,000** Registered Dealers
- **260,000** NYS Dealer Users
- **8,000+** NYS DMV Users
- NYS Police, NYPD, Department of Justice
- Integration with DMS
- **100%** Adoption (revoked Exemptions)
- System Integrations

NYS DMV / VERIFI — 3M+ annual transactions, government digital modernization with system integrations and role-based access.

NC Department of Commerce - NCCareers

North Carolina's central online resource for students, parents, educators, job seekers and career counselors looking for high quality job and career information.

- NC Governor, NC Commerce & DPI top initiative for multiple years
- Data-driven content
- Registered users
- Extensible platform
- Career Development Plans
- Assessments and Interest Finders
- Tools and features that help students, educators, job seekers

NCcareers.org – A comprehensive, data- and integration-laden site with advanced assessments and features.

Client	Engagement	Relevance to WVDEP UIC
Delaware DNREC	Digital modernization, permitting-adjacent workflows	Environmental agency; regulatory documentation; workflow automation
Delaware DHSS	Multi-phase CMS and portal delivery	Complex government portal; phased delivery; stakeholder governance
NCcareers.org	Public-sector workforce portal	High-availability public portal; RBAC; CMS; large document management
Baltimore City Public Schools	Website and digital platform rebuild	Large public agency; accessibility; content migration; go-live discipline

Appendix A: Requirements Compliance Matrix

Please ee Section 8 for the full compliance matrix. This appendix will be updated line-for-line against Sections 4 and 5 of the full solicitation specification once those are confirmed.

Appendix B: Assumptions, Dependencies & Exclusions

Assumptions

#	Assumption
A1	WVDEP provides SOPs, regulatory requirements, and Class I/VI review criteria to seed the knowledge base.
A2	WVDEP provides baseline GIS and stratigraphic data and Class VI learning documents post-NTP.
A3	Applications and well-construction diagrams arrive as PDF packages per Section 1.3 volumetrics (Q38).
A4	Public well data (WVGES, Office of Oil and Gas) is publicly accessible for read-only context (Q36).
A5	OSSP exposes a documented interface for reporting/payment; OneLogin and AD support SAML/OIDC.
A6	Volumetrics in Section 1.3 represent the sizing basis; pricing uses the high end for headroom.

Dependencies on WVDEP/WVOT

#	Dependency	Needed By
D1	Timely delivery of SOPs, regulatory material, GIS and Class VI data	Discovery and Phase 1
D2	OSSP API specifications and a technical point of contact	Integration phase
D3	IdP configuration (OneLogin and AD) and test accounts	Integration phase
D4	Security and ATO liaison; access to the authorization process	Day 1 through pre-go-live
D5	Named UAT reviewers and scheduled UAT availability	UAT (Feb through Mar 2027)
D6	Timely decisions at gate reviews (design, ATO, go/no-go)	Each phase gate

Exclusions

#	Excluded / Pass-Through
E1	Esri/ArcGIS software licensing (priced as pass-through if required).
E2	Reservoir simulation or CO2 plume modeling by the vendor (Q2).
E3	Integration with or write-back to AppEnhancer, ERIS, or ESS (Q7, Q17, Q18).
E4	Scanning of paper documents on the Agency's behalf.
E5	WVDEP-side hardware, network, or end-user devices.

Appendix C: Risk Register

#	Risk	Likelihood	Impact	Mitigation	Owner
R1	GovCloud Bedrock model version lags commercial	Medium	Low	Model-agnostic abstraction; validate roster at bid; swap without rework	Vendor
R2	ATO/authorization timing slips	Medium	High	Inherit FedRAMP High authorizations; start ATO day one; 3-month buffer	Joint
R3	Sparse training data lowers early automation accuracy	Medium	Medium	Seed from SOPs; confidence escalation; feedback loop from overrides	Joint
R4	Scope creep toward legacy integration	Low	Medium	Hold out-of-scope boundary; formal change control	Vendor
R5	Token consumption exceeds estimate	Low	Low	Model tiering, grounding, caching; overages at same firm-fixed rate	Vendor
R6	Accelerated schedule pressures quality	Medium	Medium	AI compresses build/test only; protected UAT window; 3-month buffer	Vendor
R7	Hard US-person rule limits offshore data access	Medium	Medium	VDI keeps data in-boundary; onshore can flex up; confirm Section 4	Joint
R8	Delayed Agency inputs or decisions	Medium	High	Dependency tracking; weekly status; formal escalation path	WVDEP
R9	Key-person availability	Low	Medium	Named backups; documented runbooks; onshore continuity	Vendor
R10	Data migration quality (historical and GIS)	Medium	Medium	Profiling, validation, reconciliation; HITL review of migration outputs	Joint

Appendix D: Governance, RACI & Reporting

Activity	Vendor	WVDEP	WVOT
Requirements validation	R	A	C
Architecture and design	R/A	C	C
Build, unit and system QE	R/A	I	I
Security and ATO package	R	A	C/A
UAT	C	R/A	I
Go-live decision	C	A	C
Change requests	R	A	C
Operations and support	R/A	I	C

R = Responsible A = Accountable C = Consulted I = Informed

Appendix E: Service Levels (SLA) & Support Tiers

Severity, Response & Resolution Targets

Severity	Definition	Response	Resolution Target
Sev 1 Critical	System down; no permit processing possible	15 minutes	4 hours
Sev 2 High	Major function impaired; workaround available	30 minutes	1 business day
Sev 3 Medium	Minor function or single-user impact	4 hours	3 business days
Sev 4 Low	Cosmetic issue or enhancement request	1 business day	Enhancement bank backlog

Support Tier Options

Tier	Coverage	Annual Support (Y1)
24x7 Follow-the-Sun (Proposed)	US SDM + nearshore + two India shifts	~$607,705
16x5 + On-Call (Option)	US SDM + nearshore + one India shift + 24x7 monitoring	~$519,955

Difference is approximately $88,000 per year. Both tiers derive from the same cost model.

Appendix F: Deliverables & Acceptance Criteria

Phase	Key Deliverables	Acceptance Criteria
Discovery and Design	Architecture baseline, prioritized backlog, ATO baseline plan	WVDEP approval at design-baseline gate
Phase 1: Digital Intake	Completeness agent, intake/ingestion pipeline, HITL workbench (pilot)	Successful pilot on representative packages; HITL functioning
Phase 2: Eng. Specialist + NoD	Drafting agent, NoD workflow, comment and modification workflows	Feature tests pass; HITL gates enforced throughout
Phase 3: Vision + Integrations	Geospatial visualization; OSSP, OneLogin, AD integrations; dashboards	Integration tests pass; dashboards live
QE and Security	Test reports, SSP and control evidence, adversarial validation results	Coverage targets met; ATO package submitted
UAT	UAT plan, executed test cases, defect log	WVDEP reviewer acceptance sign-off
Go-Live and Hypercare	Cutover runbook, production system, 90-day hypercare	Cutover complete; agreed entry criteria met
Operations (Y1 to Y6)	SLA reporting, continuous monitoring evidence, enhancement releases	SLAs met; annual security validation passed

Appendix G: Cost Basis of Estimate & Transparency

Driver	Value	Applies To
Onshore loaded rate	$165/hr	Critical and production roles
Nearshore loaded rate	$50/hr	Americas support shift
Offshore loaded rate	$33.75/hr	Dev, QE, India support shifts
Onshore/offshore build mix	20% / 80%	Blended ~$60/hr
AI build acceleration	30% effort reduction	Turnkey and migration labor
Target margin	25%	All priced lines
Cloud contingency/buffer	15%	Cloud run cost
Annual escalation	3% per year	Years 2 through 6

Appendix H: Open Items for WVDEP Confirmation

#	Open Item	Why It Matters
1	Confirm content of Sections 4, 5, 6 and Attachments A/B of the full solicitation spec	Final proposal format, scoring weights, and pricing schedule
2	Confirm any hard US-person or citizenship requirement for data access	Determines offshore scope vs. VDI-only access (Risk R7)
3	Confirm support tier preference: 24x7 vs. 16x5 plus on-call	Approximately $88,000/yr cost difference (Appendix E)
4	Confirm token line basis: per-year vs. total-contract for 250 MTok	Affects token line presentation in cost proposal
5	Confirm acceptable go-live date: April target vs. July not-later-than	Schedule buffer positioning (Section 6)
6	Confirm OSSP interface specs and GIS/Class VI data format and availability	Integration and migration scope (Appendix B)
7	Confirm CUI/data-classification determination for permit data	Drives control selection and personnel access rules

Appendix I: Addendum Acknowledgement Form

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFP DEP26*03

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

[✔] Addendum No. 1	[ ] Addendum No. 6
[ ] Addendum No. 2	[ ] Addendum No. 7
[ ] Addendum No. 3	[ ] Addendum No. 8
[ ] Addendum No. 4	[ ] Addendum No. 9
[ ] Addendum No. 5	[ ] Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Vanguard Direct Enterprises, LLC
Company

Preeti Sharma. CDO/CIO
Authorized Signature

6/9/2026
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Revised 6/8/2012