SpruceID

State of West Virginia

One-Stop-Shop Permitting

Proposal Prepared by: Spruce Systems, Inc. (dba SpruceID)

SpruceID

RFI Subject:

State of West Virginia One-Stop-Shop Permitting Program

RFI Number:

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Signed,

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Elissa Litvinau 8/25/2025
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I. Executive Summary

Spruce Systems, Inc. (dba SpruceID) is pleased to submit this response to the State of West Virginia's Request for Information (CRFI 0201 SEC2600000001) regarding the establishment of a One-Stop-Shop Permitting Program. We commend the State's vision, as outlined in House Bill 2002 and Legislative Rule 148CSR25, to deliver a centralized, modern permitting experience that improves transparency, accountability, and interagency coordination for critical infrastructure and economic development projects.

SpruceID specializes in secure, scalable, and user-centric permitting and licensing solutions for the public sector. Our flagship product, **Credible**, is a production-ready platform currently deployed across state agencies in California and Utah, supporting millions of verifiable digital credentials. Credible enables the full lifecycle management of permits and licenses across agencies, with support for centralized dashboards, configurable workflows, digital issuance, financial reconciliation, and robust audit logging.

We propose to bring this proven capability to West Virginia through a modular, standards-based solution that aligns with statutory requirements and legislative goals. Our approach includes:

- A **centralized citizen portal** for applying, tracking, and managing permits and licenses across agencies;
- A **modernized digital form experience** with a simple question and answer user experience;
- A secure, configurable **backend system** for state administrators to create and manage permit types, workflows, and reporting tools;
- A phased, **agile implementation methodology** that supports incremental delivery, early wins, and alignment with legislative timelines.
- **Verifiable digital credentials** (if desired) that allow individuals and businesses to hold and share permit data securely via mobile or web wallets

SpruceID's proposed permitting platform is built to integrate seamlessly with legacy portals and existing systems, while providing the extensibility to onboard new permit types and participating agencies over time. With deep experience in public-sector digital transformation, a commitment to data privacy and cybersecurity, and demonstrated success in state-level deployments, SpruceID is uniquely positioned to support West Virginia's permitting modernization efforts.

We welcome the opportunity to partner with the Department of Administration and state leadership to design and implement a future-ready permitting solution that serves all West Virginians.

II. SpruceID Overview & Experience

Company Background

Spruce Systems Inc. (dba SpruceID) provides end-to-end digital licensing and permitting solutions for governments. Spruce handles license and permit lifecycle management in highly secure ecosystems, using verifiable digital credential technology to enable streamlined online verification and reduce government costs while maintaining privacy for individuals.

SpruceID's core product offering is Credible, a platform for creating, issuing, managing, and revoking secure and privacy-preserving digital permits and licenses in web, custom mobile, or Apple, Google, Samsung wallets. These permits and licenses can be verified online, reducing the need for expensive and inconvenient in-person verification processes. Governments use Credible for use cases such as mobile driver's licenses, professional licenses, or food handler permits. Credible is built to be customized and deeply integrated with complex government systems, and supports multiple agencies simultaneously with support for agency-specific workspaces. On top of Credible, SpruceID also provides solutions engineering and embeds directly with governments to create highly tailored solutions for both individual agencies and across agencies.

SpruceID powers the California DMV mobile driver's license program, deploying Credible within the California DMV environment and building custom integrations with DMV systems. SpruceID also additionally built the custom user-facing CA DMV Wallet application to store the mobile driver's license and other credentials such as vehicle registrations. Credible and the CA DMV Wallet feature multiple industry-leading innovations, including mobile driver's licenses issued in dual data formats (both ISO/IEC 18013-7 mDLs and W3C Verifiable Credentials) and presentation over the internet. Through this program, over 2 million mobile driver's licenses have been issued so far to Californians.

SpruceID has also successfully deployed Credible to support the State of Utah's Verifiable Digital Credential program. SpruceID integrated Credible with state-wide systems and worked directly with multiple agencies to support use cases such as off-highway vehicle and food handler permits. Tens of thousands of verifiable digital permits and certificates have been provided to users as part of the ongoing production pilot.

Our Team

SpruceID is a small team, globally distributed with headquarters in the United States. We have assembled some of the top talent in identity, and are focused on delivering success for digital credential end-to-end use cases for our customers, and growing successes with them. We are poised to scale to new applications in new industries. We welcome the opportunity to be partners with Nevada DMV, as well.

Our team combines expertise in emerging digital identity technologies, user experience design, and secure software engineering, backed by extensive experience across fields like financial technology, distributed systems, and product innovation. With backgrounds spanning senior roles at companies such as Microsoft, AWS, Visa, ConsenSys, Northwestern Mutual, Fast Enterprises, and various tech startups, team members bring a customer-centric and data-driven approach to building seamless, secure digital credential solutions. This diverse skill set uniquely equips the team to drive innovation in digital identity, enhance user trust, and lead industry standards.

The team collaborating with Nevada will include members of our core team, including (in addition to development work by our broader engineering teams):

 **Wayne Chang** Co-Founder and CEO	Wayne Chang is the CEO of SpruceID, a technology company that builds solutions for digital identity credentials that can be used across wallets and are interoperable across state, federal, and private sectors with use cases including finance, cross-border, healthcare, and more. Wayne has an engineering background and has participated directly in technical standards development as both a contributor and leader.
 **Eric Chen** Head of Engineering	Eric Chen is the Head of Engineering at SpruceID with over 13 years of experience in software engineering, product management, and project management. Eric has delivered consumer apps, backend systems, and enterprise software that serve tens of millions of users at AWS, Amazon, and Stripe. Eric's technology experience spans architecture, cloud infrastructure, AI and data, backend, web, and mobile.
	Jacob Healy is a PMP-certified project manager and product delivery leader with over 12 years of experience working in and with government agencies. Over 10 of those years have been spent on projects with state government agencies. Jacob's specific experience spans direct development, project, integration, engagement, and team management.

Jacob Healy Head of Delivery	
 **Libby Brown** Sr. Product Manager	Libby is a veteran Product Manager, specializing in digital credential issuance, management, and verification, including comprehensive customer engagement and strategic planning. With over 15 years of experience at Microsoft, she brings a data-driven, customer-focused approach to product and program management. Her expertise spans identity and access management, cloud authentication, and user security, driving product vision from ideation to launch while actively contributing to the digital identity community through standards, content creation, and cross-functional leadership.
 **Scotty Matthewman** Sr. Product Designer	Scotty Matthewman is a Senior Designer with expertise in product design focused on emerging technologies. Previously, Scotty served as a Principal Product Designer at Northwestern Mutual, contributing to development of "zero-to-one" new initiatives as a part of the Innovation Lab. With a strong foundation in UX design, Scotty combines technical skill with a collaborative approach to deliver user-centered digital experiences across business use cases.
 **Ryan Tate** Sr. Software Engineer	Ryan Tate is a Senior Software Engineer with deep expertise in distributed systems and software engineering, particularly within the Financial Services sector. Ryan's technical background includes roles such as CTO at Knox Networks and senior engineering positions at firms like M10 Networks, Token and ConsenSys. He has a strong proficiency in Rust programming and experience across diverse tech startups, combining his technical acumen with a strategic vision for innovative financial and cryptographic software solutions.

Our Value Proposition

Public Sector Experience

SpruceID focuses on delivering large-scale government licensing and permitting solutions. We have experience integrating with existing systems and infrastructure, building brand new custom applications and backends, and navigating across agencies to build highly-tailored solutions.

Technical Excellence

SpruceID has a proven track record of developing solutions using cutting-edge technology with production quality. Our team brings extensive experience from both public-sector and private-sector technology companies that support hundreds of millions of users 24/7.. Additionally, we work with global technology leaders at the forefront of

digital credentialing technology, assuming leadership, authorship, and contributing roles within prominent organizations such as ISO/IEC, W3C, IETF, and OIDF.

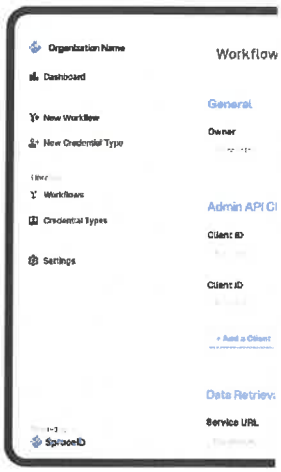
User Experience
SpruceID has extensive background in running user-experience focused delivery processes for both citizens and governments, and has developed modern and high-quality user flows. Our approach is grounded in direct user discovery, agile iteration, and a phased development cycle, ensuring alignment with West Virginia's operational requirements and stakeholder expectations. SpruceID has developed the CA DMV Wallet, a consumer mobile application that currently has 4.8 stars with over 63,000 reviews and 4.7 stars with over 11,300 reviews on the Apple App Store and Google Play Store, respectively.

Iterative Development
SpruceID is well versed in agile development and has experience piloting, implementing, testing, and deploying software in parallel. Our approach is grounded in direct user discovery, agile iteration, and a phased development cycle, ensuring alignment with West Virginia's operational requirements and stakeholder expectations.

Security and Privacy
SpruceID's government-issued licensing and permitting solutions demonstrates we have the experience and organizational knowledge to deliver a safe, secure, privacy-focused solution that solves real-world problems at scale. High-level security measures include device attestations, hardware-backed cryptographic key stores, hardware security modules, and strong user authentication methods. Privacy-enhancing features, such as selective disclosure and data minimization of credential attributes, prevention of "issuer phone-home" tracking, and "provably forgotten signatures," demonstrate SpruceID's commitment to protecting user data.

SpruceID Offerings

SpruceID's product Credible is a production-ready platform to create, issue, manage, and revoke digital licenses and permits. Credible licenses and permits are represented as verifiable digital credentials, which are based on digital signatures and public key infrastructure. Verifiable digital credentials enable citizens to prove qualifications or identity online with high trust assurance, reducing the need for in-person verification processes. Verifiable digital credentials reduce fraud and identity theft, reduce cost, improve user experience, and enhance privacy and security.



Credible

Credential issuance and management platform

Credential lifecycle management: issuance, renewal, status change, verification, trust framework management

Supporting credentials such as:

- Mobile driver's licenses (mDL)
- Vehicle titles & registrations
- Permits & business licenses
- Employee badges
- Professional licenses
- Park passes
- And more...

Credible is used for both high-assurance use cases, like driver's licenses, and low-assurance use cases, such as food handler or off-highway vehicle permits. Licenses and permits from Credible follow global standards and can be delivered to custom SpruceID-developed digital web and mobile wallets, or Apple, Google, and Samsung wallets. License and permit workflows can be configured by users or built by SpruceID to support more complex integrations. Credible is built for the public sector and enterprise, with features like isolated workspaces for multiple agencies, role-based access control, self-service administration, reporting dashboards, and audit logging.

In addition to Credible, SpruceID provides end-to-end solutions via custom engineering focusing on user experience. SpruceID works with government departments, state agencies and technology offices, and end users through an exhaustive discovery process to design the best solution for the right cost, and develops software iteratively to continuously incorporate feedback and improve. Examples of custom solutions SpruceID has delivered include deep integrations with agency data sources, mobile app wallets, or integrations with credential registries.

III. Response to Section 3.2 - Specific Questions

Ability and Methodology to Establish the One-Stop-Shop Solution (3.2.1)

SpruceID shares the State of West Virginia's commitment to enhancing transparency, efficiency, and accountability in the administration of permits, licenses, and authorizations. We welcome the opportunity to serve as a strategic partner to the Department of Administration in modernizing the State's permitting infrastructure and delivering a seamless, citizen-centric digital experience across agencies.

SpruceID brings deep public-sector experience delivering secure, scalable, and extensible permitting and credentialing solutions. Our Credible platform is currently in production in jurisdictions such as the California Department of Motor Vehicles and the State of Utah, where it supports multi-agency credential issuance, verification, and system integration. These deployments demonstrate our capacity to implement complex, statewide permitting systems that are responsive to both statutory timelines and evolving program needs.

For West Virginia, SpruceID proposes a solution built upon two integrated components:

1. **Credible**, a secure and configurable backend platform for managing permits and licenses;
2. A **Citizen Portal**, designed to streamline public access to state permitting and licensing services

These components are delivered as a cohesive solution, enabling centralized management of permits and licenses while preserving the flexibility for individual agencies to define their own workflows, forms, and business rules. The solution directly aligns with the goals and statutory framework set forth in House Bill 2002 and Legislative Rule 148CSR25.

Key capabilities of the proposed solution include:

- **Unified Citizen Portal**: Residents and businesses will have a centralized entry point to apply for, manage, and renew permits and licenses; complete payments; sign documents electronically; and communicate with agency staff. The portal is responsive across devices and supports secure authentication, status tracking, and automated notifications.

- **Self-Service Administrative Tools**: State agency staff can create, modify, and manage permit types, workflows, and approval logic using intuitive configuration tools—eliminating the need for vendor intervention for routine updates.
- **Verifiable Digital Credentials**: All permits and licenses are issued as verifiable digital credentials or documents, allowing individuals and organizations to securely store and share them via mobile or web-based digital wallets. These credentials are privacy-preserving and fully standards-compliant.
- **Flexible Integration Architecture**: Credible supports seamless integration with existing agency systems and financial management tools via secure APIs—facilitating data continuity and operational interoperability.
- **Scalable Agency Onboarding**: The system is designed to accommodate phased onboarding of additional agencies, permit types, and user groups. Agency-specific workspaces support autonomy while contributing to a unified state-level dashboard.

SpruceID will implement the One-Stop-Shop solution using an iterative, Agile methodology over a to be ready to meet the mandated dates of July 1, 2026 for first use, and Jan 1, 2027 for required use. Discovery, development, integration, and training will occur in parallel across functional areas, enabling early delivery of high-value functionality while supporting full-scale rollout. Our methodology includes:

- Department-specific discovery and backlog development;
- Phased configuration and software development aligned to priority use cases;
- Incremental data migration and validation;
- Comprehensive testing and staff training;
- Structured go-live support and post-launch stabilization.

All integrations will be implemented using industry best practices for secure communications, and the system will be deployed in a cloud-native environment with high availability, audit logging, and built-in disaster recovery protocols. Our development process incorporates feedback from both internal stakeholders and end users to ensure continuous improvement and long-term alignment with state priorities.

SpruceID's proposed solution offers West Virginia a durable, standards-based foundation for modernizing statewide permitting operations. It reduces administrative burden, improves public transparency, supports rapid onboarding of new programs, and provides

the tools necessary to meet the statutory milestones of HB 2002. We are confident in our ability to partner effectively with the State and deliver a transformative permitting platform that serves the needs of citizens, businesses, and government alike.

Previous Similar Work Products (3.2.2, 3.3.1)

SpruceID has successfully deployed secure, large-scale permitting and credentialing systems for state governments, with a proven ability to support multi-agency coordination, privacy-preserving digital credentialing, and robust system integration. The examples below demonstrate our capacity to deliver solutions aligned with the scope and complexity of West Virginia's One-Stop-Shop Permitting Program.

SpruceID is the technical lead for the **California DMV's Mobile Driver's License (mDL) initiative**, supporting over two million issued digital credentials. This solution is powered by SpruceID's Credible platform, which manages credential issuance, verification, and lifecycle management in compliance with ISO/IEC 18013-7 and W3C Verifiable Credential standards.

As part of this program, SpruceID:

- Deployed a production-grade credentialing system integrated with the DMV's backend infrastructure;
- Developed and maintains the CA DMV Wallet, a secure mobile application supporting credential storage, display, and sharing;
- Enabled credential verification online and in-person through privacy-preserving cryptographic protocols;
- Delivered high user adoption and satisfaction, with top-rated app store reviews and consistent performance at scale.

This project demonstrates our ability to meet stringent regulatory, privacy, and security requirements while delivering intuitive digital services to millions of residents.

SpruceID also serves as a strategic partner for the **State of Utah's Statewide Verifiable Digital Credential (VDC) program**. This initiative involves issuing digital credentials for permits and certifications across multiple agencies and is built on the same Credible platform proposed for West Virginia.

Key accomplishments include:

- Deployment of digital food handler permits and off-highway vehicle credentials;
- Integration with state identity infrastructure and agency-specific databases;
- Support for both web and mobile delivery of secure, verifiable credentials;
- Self-service configuration tools for agency administrators.

Utah's use of SpruceID's solution underscores our ability to support flexible, cross-agency permitting systems that scale securely and cost-effectively.

SpruceID's work in California and Utah illustrates our ability to implement high-assurance, user-friendly digital permitting solutions in diverse state environments. These deployments confirm our capacity to meet the statutory and operational goals outlined in West Virginia's House Bill 2002 and Legislative Rule 148CSR25, while supporting rapid implementation, scalable onboarding, and measurable public impact.

Contact Information (3.2.3)

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Extensibility to Add New Permits, Licenses, and Agencies (3.2.4)

The proposed solution is designed to support phased expansion across permit types, license categories, and participating agencies, in alignment with the strategic objectives of House Bill 2002 and Legislative Rule 148CSR25. SpruceID recognizes that each agency may have distinct regulatory requirements, workflows, and systems, and we approach extensibility with a combination of configurable platform components and tailored implementation services.

The solution architecture includes:

- **Agency-Specific Workspaces**: The proposed platform supports the creation of separate, configurable environments for individual agencies. These workspaces can be adapted to reflect each agency's roles, workflows, and data structures while contributing to a centralized dashboard and reporting framework at the state level.
- **Custom Implementation for New Permit Types**: Adding new permit or license types will be supported through a combination of configuration and engineering work. This may include form development, workflow design, document management, and system integration. SpruceID will collaborate closely with each agency to define and implement required functionality based on their unique operational and statutory needs.
- **Workflow and Form Design Tools**: The solution includes administrative tools for creating and modifying intake forms, approval logic, and documentation requirements. While many changes may be supported through configuration, more complex additions—particularly those involving new integrations or workflows—would be delivered through structured implementation engagements.
- **Optional Artificial Intelligence Tools:** The solution includes the ability to add AI integrations to simplify the completion, management, and operations of all permitting processes. Because each agency has unique mandates and policies around AI, we allow these features to be initiated and adjusted at an administrative level.
- **Integration Capabilities**: As new agencies are onboarded, the solution can be extended to integrate with agency-specific systems (e.g., permitting databases, GIS platforms, or financial applications) through secure APIs. SpruceID has experience delivering custom integrations as part of multi-agency rollouts in other states.
- **Phased Rollout Support**: SpruceID's implementation methodology includes reusable onboarding processes to support agencies joining the platform at different stages. This ensures that expansion efforts are planned, scoped, and executed with appropriate change management, training, and testing.

The proposed solution balances a configurable core with the flexibility to deliver custom features and integrations as needed. This approach enables the State of West Virginia to expand the One-Stop-Shop program over time—onboarding additional agencies and permit types in a structured, sustainable, and collaborative manner.

Integration with Existing Portals (3.2.5)

The proposed solution is designed to interoperate with West Virginia's existing permitting portals and digital services through a flexible integration framework. SpruceID recognizes that several state agencies may currently maintain standalone permitting systems that serve specific regulatory or operational functions. Rather than requiring immediate system replacement, our approach enables phased coexistence and integration to ensure continuity of service, preserve prior investments, and support an orderly transition.

Key integration strategies include:

- **API-Driven Interoperability**: The Credible platform supports bidirectional data exchange via RESTful APIs, enabling it to interface with existing permitting systems for data synchronization, status updates, document exchange, and workflow handoffs. This includes the potential to receive application data from legacy systems, push credential issuance updates, and reconcile financial transactions.
- **Federated Identity and Authentication**: To provide a seamless user experience, the solution can integrate with existing identity management systems, supporting shared login credentials and session continuity across state-managed portals. Single Sign-On (SSO) configurations may be implemented using standards such as SAML or OAuth 2.0.
- **External Portal Embeds and Redirects**: Where appropriate, portions of the new citizen portal or specific permit workflows can be embedded within or linked from existing state websites. This allows citizens and businesses to continue using familiar digital entry points while benefiting from a unified backend system.
- **Coexistence with Legacy Systems**: For agencies not yet onboarded to the centralized system, existing permitting portals can continue operating in parallel. SpruceID supports phased migration planning and data extraction to enable future consolidation when readiness allows.
- **Data Consolidation and Reporting**: Where legacy systems remain in use, the proposed solution can aggregate summary data or reporting metrics into a centralized dashboard, supporting cross-agency visibility without requiring full platform adoption at the outset.

SpruceID has experience implementing these integration strategies in statewide deployments where legacy systems vary in architecture, technical maturity, and ownership. Through a collaborative discovery and planning process, we work with each agency to assess existing capabilities, define integration objectives, and deliver custom technical solutions that preserve operational continuity.

This integration-first approach enables the State of West Virginia to modernize its permitting infrastructure without disruption, while laying the foundation for eventual consolidation into a single, unified platform.

Security, Privacy, and Disaster Recovery (3.2.6)

SpruceID's proposed solution is designed to meet the State of West Virginia's security, privacy, and continuity requirements within a state-hosted cloud-premises environment. Under this deployment model, the State retains full operational control over infrastructure, data residency, access policies, and compliance enforcement, while benefiting from SpruceID's modular software architecture and implementation support.

Security Architecture

The proposed solution supports secure deployment in a state-managed cloud or hybrid infrastructure and adheres to modern security standards. Core security features include:

- **Data Encryption**: All data is encrypted in transit using TLS 1.2+ and at rest using AES-256. Encryption keys and key management services can be operated directly by the State or integrated with the State's existing cloud KMS infrastructure.
- **Authentication and Access Controls**: The system supports role-based access control (RBAC), configurable user roles, and optional multi-factor authentication (MFA). It can integrate with the State's identity provider using SAML 2.0, OIDC, or Active Directory for centralized access management.
- **Audit Logging and Monitoring**: The platform produces detailed audit logs of all administrative actions, user activity, and system events. These logs can be exported to the State's preferred logging or SIEM solution for ongoing monitoring, compliance, and incident response.
- **Software Hardening and Security Updates**: SpruceID will provide regular software updates and security patches to the application layer. The State can deploy and manage these updates within their environment according to their change management and testing procedures.

Privacy Protections

SpruceID's platform is designed with **privacy-by-design principles**, giving the State precise control over how personal and business information is collected, used, and stored:

- **Configurable Data Collection**: The State determines which data fields are required for each permit or license type. No unnecessary data is collected or retained.
- **Selective Disclosure**: Permits and licenses are issued as verifiable digital credentials, which can be presented with only the attributes needed for a specific interaction, reducing overexposure of private information.
- **Data Ownership and Residency**: All data resides within the State's infrastructure or designated cloud tenancy. SpruceID has no access to or operational control over production systems unless explicitly authorized.
- **No Tracking or Phone-Home Behavior**: The platform does not rely on background connections to SpruceID infrastructure for runtime validation or monitoring, ensuring that user behavior remains private.

Disaster Recovery and Business Continuity

The proposed solution can be deployed within the State's existing cloud architecture or private tenancy with support for industry-standard disaster recovery and continuity measures:

- **State-Controlled Backup Policies**: The State may configure its own backup schedule, encryption practices, and retention policies using its preferred backup tools and storage architecture.
- **High Availability and Failover Support**: The platform can be deployed in a multi-zone or hybrid environment to support high availability configurations. SpruceID will assist in designing a fault-tolerant architecture aligned with the State's infrastructure standards.
- **Disaster Recovery Planning**: SpruceID will provide deployment documentation and architecture guidance to help the State implement a disaster recovery plan that meets defined RTO and RPO targets.

This deployment model allows West Virginia to maintain strict data sovereignty and operational control while leveraging SpruceID's proven permitting technology. Our team will work closely with the State's infrastructure, cybersecurity, and compliance personnel to ensure the solution integrates seamlessly into existing security frameworks and meets all applicable requirements.

Timeline and Operational Readiness (3.2.7)

SpruceID's implementation strategy is structured to meet the statutory milestones for West Virginia's One-Stop-Shop Permitting Program. Our proposed timeline ensures the public-facing online dashboard is available for **public use by January 1, 2027**, and that the system becomes the **exclusive method for submitting permit applications (with ADA exceptions) by July 1, 2027.**

To achieve this, our proposed approach follows an accelerated, structured, and phased rollout strategy that enables early delivery of core platform components, followed by progressive onboarding of agencies and workflows.

The program will include six key phases, pending additional requirements gathering, final scope, agency participation, and integration requirements:

Phase 1 – Discovery and Planning (November 2025 - February 2026)

- Conduct cross-agency stakeholder workshops to gather business requirements
- Define agency-specific workflows, permit types, integration needs, and onboarding priorities
- Develop project governance plan, implementation roadmap, and technical architecture
- Confirm statutory milestones and deadlines for each agency or permitting category

Phase 2 – Parallel Configuration and Development (February 2026 - November 2026)

- Configure the core permitting platform (Credible) and administrative tools
- Build the Citizen Portal and integrate identity management and payment components
- Develop agency-specific workflows, data models, and form templates
- Conduct regular sprint cycles, demos, and validation sessions with stakeholders

Phase 3 – System Integration and Data Migration (April 2026 - June 2027; rolling by agency)

- Integrate with existing agency systems (e.g., GIS, document storage, finance systems)
- Perform data mapping and migration from legacy systems into the new platform for early-adopting agencies
- Establish a dual-system strategy for agencies not immediately transitioning

- Validate migrated data and workflow configurations with agency staff

Phase 4 – Testing and Training (August 2026 - June 2027)

- Conduct accessibility, unit, integration, user acceptance, and security testing
- Deliver in-person and virtual training for state administrators and end users
- Finalize documentation, user guides, and help center materials
- Prepare ADA-compliant alternatives and support mechanisms for public access

Phase 5 – Public Dashboard Launch (December 2026)

- Launch the public-facing dashboard with the identified high priority agency workflows
- Enable residents and businesses to register, apply, and manage permits online
- Provide go-live support, issue resolution, and change management assistance
- Collect feedback and refine workflows based on live usage
- Continue onboarding additional agencies through Spring 2027

Phase 6 – Full Transition to Digital-Only Permitting (January 2027 - June 2027)

- Complete onboarding of remaining agencies and permit categories
- Finalized decommissioning of paper-based workflows, except as required under ADA
- Confirm operational readiness for full digital exclusivity by July 1, 2027
- Monitor system performance, adoption metrics, and service desk tickets
- Address enhancement requests and continuous improvement opportunities

Operational Readiness

SpruceID's implementation methodology emphasizes early alignment with agency operations and legislative deadlines. Our agile approach ensures that high-priority permit types or agencies can go live earlier in the program timeline, with lower-risk workflows used as early test cases to de-risk future rollouts. By the conclusion of the implementation period, the system will be fully operational, with:

- A secure and scalable backend deployed in the State's hosting environment
- Agency-specific workflows and forms in production
- Trained state personnel managing day-to-day administration

- Integrated support for permit application, issuance, payment, and credential delivery
- Documentation and governance processes in place for future onboarding

SpruceID is committed to working collaboratively with the State of West Virginia to meet all statutory timelines and deliver a robust, citizen-centric permitting platform that is operational, stable, and sustainable.

IV. Platform Overview: Credible and Citizen Portal

SpruceID proposes a custom implementation of its production-grade platform, **Credible**, to serve as the foundation for West Virginia's One-Stop-Shop Permitting Program. This implementation will include a tailored **Citizen Portal** designed specifically to meet the needs of the State's residents, businesses, and permitting agencies.

The Credible platform is already deployed for multiple state partners, including the California Department of Motor Vehicles and the State of Utah, where it supports secure, multi-agency credential issuance and management. For West Virginia, SpruceID will deliver a purpose-built solution, leveraging Credible's proven capabilities while customizing the configuration, workflows, integrations, and user interface to align with statutory requirements, operational processes, and the long-term goals of HB 2002 and Legislative Rule 148CSR25.

Implementation of Credible Platform

The State's solution will be built upon Credible's core components, with tailored extensions to support West Virginia's permitting environment. Credible provides the foundational capabilities to:

- **Support End-to-End Permit and License Management**
  This includes application intake, routing, review, approval, issuance, renewal, revocation, and auditing, which are customized per agency and permit type.
- **Define and Manage Workflows and Forms**
  Agencies will work with SpruceID to design workflows and intake forms. These will

be configured in the platform to reflect state-specific business rules, documentation requirements, and approval hierarchies.

- **Configure Dashboards and Reporting Tools**
  Administrative users will access real-time dashboards for monitoring application throughput, processing timelines, permit issuance, and compliance. Custom reports can be developed for agency-specific or statewide visibility.
- **Enforce Role-Based Access Controls**
  Configurable roles ensure the appropriate level of access and authority for agency staff, reviewers, and system administrators.
- **Enable Full Audit Logging and Activity Tracking**
  All actions within the platform will be logged to support accountability and compliance, and logs can be exported to the State's central logging environment.
- **Integrate with External Systems**
  Custom integrations will be developed to interface with existing state systems such as GIS platforms, financial systems, payment processors, and document repositories via secure APIs.

Modernized Form Experience

As part of the custom Citizen Portal implementation, SpruceID will deliver a modernized digital form experience designed to improve usability, reduce errors, and support completion by users of varying technical backgrounds. Rather than requiring residents or businesses to navigate long, static forms, the system will present applications through a guided question-and-answer (Q&A) format, similar to a digital interview.

Key features of the Q&A form experience include:

- **Contextual Flow:** Users are asked only relevant questions based on their previous responses, permit type, and eligibility criteria. This adaptive logic ensures applicants are not overwhelmed by unnecessary fields or regulatory language.
- **Plain Language Prompts:** Questions are written in simple, accessible language with embedded tooltips or help text where needed. This reduces reliance on external guidance or staff intervention.
- **Progress Indicators and Save Functionality:** Applicants can view how far along they are in the process, save their work, and return later, supporting flexibility for users completing forms on mobile devices or over multiple sessions.
- **Document Upload and E-Signature Integration:** Where supporting documentation or attestation is required, the Q&A experience guides users through uploading files or providing digital signatures inline with their responses.

- **Validation and Error Prevention:** Inline field validation reduces submission errors by flagging issues before submission. The system checks for missing data, formatting issues, and eligibility conflicts in real time.
- **Mobile-Responsive Design:** The Q&A experience is fully responsive and optimized for smartphones and tablets, allowing residents to complete applications from any device, at any time.

This modernized approach transforms government forms from static and intimidating paperwork into a dynamic, conversational experience. It makes the permitting process more accessible, efficient, and aligned with the digital expectations of West Virginia residents and businesses.

Verifiable Digital Credentials

If desired, all permits and licenses issued by the platform can be represented as **verifiable digital credentials**, built on widely adopted standards (e.g., W3C Verifiable Credentials). These credentials:

- Are cryptographically signed and tamper-evident
- Can be presented for online or offline verification
- Can be stored in:
    - **A state-branded mobile or web wallet**, developed and delivered by SpruceID
    - **Third-party OEM wallets**, including Apple Wallet, Google Wallet, and Samsung Wallet

This approach allows credential holders to store and present their permits securely and conveniently, while maintaining strong assurance and privacy.

Citizen Portal

The **Citizen Portal** will be developed as a custom interface for West Virginia residents and businesses. Designed for usability and accessibility, the portal will include:

- Account creation and user profile management
- Application submission and document upload
- Real-time status tracking and in-app messaging

- Payment processing with support for major methods (credit/debit, ACH, digital wallets)
- Secure access to issued permits and licenses
- Notification services (SMS, email, push) for application updates and renewals

The portal will be branded for the State, integrated with the underlying Credible platform, and aligned with state accessibility and design standards. It will support both desktop and mobile access.

Deployment Model

This custom implementation will be hosted in a **cloud-premises environment** managed by the State of West Virginia, ensuring full control over infrastructure, data residency, and operational policies. SpruceID will provide full implementation support, including configuration, engineering, integration, and onboarding, to ensure successful deployment and ongoing extensibility.

SpruceID's approach balances the maturity and reliability of a proven state-deployed platform with the flexibility to tailor every aspect of the system to West Virginia's specific permitting, licensing, and regulatory context. The result will be a modern, secure, and citizen-friendly permitting solution purpose-built for statewide scale.

V. Pricing Strategy Options (3.3.2)

SpruceID offers a flexible pricing framework that can be tailored to align with the State of West Virginia's procurement strategy, budget considerations, and long-term sustainability goals for the One-Stop-Shop Permitting Program. Our pricing model is designed to accommodate both centralized and agency-specific funding models and to support optional cost recovery mechanisms through user-based fees, as permitted by statute.

Cost Structure Components

The total cost of the program typically includes the following elements:

1. **Initial Implementation**
    - Discovery and requirements gathering

- Custom configuration of the Credible platform and Citizen Portal
- Development of permit workflows, forms, and integrations
- Data migration, testing, and training
- Program management and deployment support

2. **Annual Subscription or Licensing**
    - Ongoing use of the Credible platform and Citizen Portal
    - Access to standard platform features, security updates, and performance enhancements
    - Hosting in a state-managed environment (cloud-prem deployment) with SpruceID support

3. **Maintenance and Support**
    - Help desk support for state administrators
    - Periodic release planning, issue resolution, and platform updates
    - Optional service level agreements (SLAs) for incident response and uptime

4. **Enhancement and Expansion (Optional)**
    - Onboarding of new permit types or agencies post go-live
    - Development of new integrations or custom features
    - Additional training sessions or workflow revisions

Pricing Strategy Options

SpruceID can offer one or more of the following pricing strategies, subject to procurement preference and final scope definition:

1. **Fixed-Fee Implementation + Annual Subscription**
   A fixed cost for initial implementation, followed by predictable annual licensing and support fees. This model simplifies budgeting and cost allocation.

2. **Phased Implementation by Agency or Permit Type**
   Costs are staged based on the rollout plan, allowing the State to distribute investment over time. This model supports gradual onboarding of agencies and permits based on readiness and priority.

3. **Usage-Based or Volume-Based Licensing**
   Subscription fees may be tied to the number of permits issued, agencies onboarded, or total end users. This aligns costs with actual system utilization and provides scalability.

4. **User Fee Recovery Model**
   The system can support optional transaction-based user fees, enabling the State to offset program costs by charging small service fees per permit application, renewal, or digital credential issuance. These fees can be configured per agency or permit type in accordance with legislative authority and administrative policy.

Flexibility and Cost Control

SpruceID is committed to working with the State to develop a pricing structure that is transparent, auditable, and aligned with budgetary and legislative constraints. Our team is open to collaboration with agency leadership, the Department of Administration, and other stakeholders to explore funding models that ensure long-term sustainability without introducing undue burden to end users.

VI. Additional Supporting Materials (3.3.3)

AI-Generated Sample User Experience - https://wvot-ospp.vercel.app/

Note: This demo is an early, AI-generated concept intended to illustrate the general experience. The final implementation will be shaped by detailed requirements gathering, usability testing, accessibility standards, and collaboration with West Virginia stakeholders. The interface, functionality, and design elements are subject to change and will likely be significantly improved in the production version.