

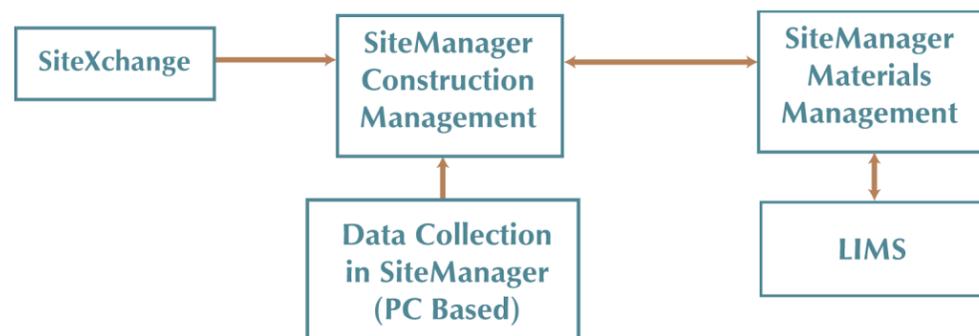
the lab is qualified to perform the test. The test is then conducted and the test results are entered. Lab supervisors can review the test results prior to progressing to the approval of the sample by an authorized manager. During the review and approval process, a test can be reordered or re-queued for corrections if needed. Test reviews and sample approvals are again performed according to role-based user permissions, and all related data is recorded in the system in compliance with electronic signature guidelines.

The lifecycle tracking of samples and tests in LIMS expedites the overall testing process. At any point, it is easy to see what samples are waiting to be tested, which have the highest priority, and who is responsible for each samples current stage of progress. Tests can be assigned (or re-assigned) to specific labs, and to specific testers within those labs, based on qualifications and workload.

The functionality of LIMS allows for a test environment that is interactively managed and responsive to a material lab's changing needs. This process complements the functionality of AASHTOWare Project SiteManager construction and materials management, making it an even more robust application for the agency.

System Specifications

For details about system specifications for all AASHTOWare Project products, please refer to: www.aashtoware.org.



For more information about this product contact AASHTO or the AASHTOWare® contractor:



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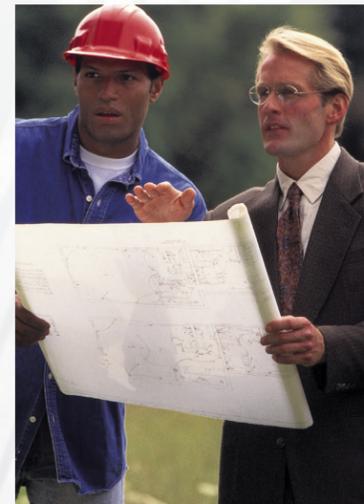
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AASHTOWare Project SiteManager™



Effectively managing the volume of information involved in a transportation construction project can be a challenge. To assist, AASHTO has developed the AASHTOWare Project SiteManager™ software, a comprehensive construction management software product. AASHTOWare Project SiteManager covers the complete construction and materials management process, including Laboratory Information Management System (LIMS) functionality. It is a key tool for use after contract award through contract finalization.

AASHTOWare Project SiteManager is one of the most powerful computer systems a transportation agency will install. It can be used by all levels of construction personnel, from field inspectors and project managers to project clerks, auditors and the Federal Highway Administration (FHWA). It seamlessly integrates field based data collection, administration of contract records, contractor payments, civil rights monitoring, and materials management.



Construction Management

AASHTOWare Project SiteManager is fully integrated with the other AASHTOWare Project™ components allowing import and export functions as shown below:

- Import contract award data from AASHTOWare Project Preconstruction™
- Export payment, change order data and contract related information to AASHTOWare Project BAMS/DSS™ and AASHTOWare Project Civil Rights & Labor™

AASHTOWare Project SiteManager can also accept contract data from agency specific pre-construction systems via a customized interface.

AASHTOWare Project SiteManager automates transportation construction project record keeping through the following functions:

- The AASHTOWare Project SiteXchange™ component enables contractors to enter subcontractor information once a contract is awarded.
- Data can be electronically transferred to and from the field to minimize data entry and reduce errors.
- Extensive creation, review, and approval of contract changes.
- Estimates are automatically generated and reviewed.
- Sophisticated adjustments and calculations are provided in the estimate along with reported discrepancies.



- Data can be passed to an agency's financial management system.
- Civil rights wage and labor compliance monitoring and tracking of Disadvantaged Business Enterprise (DBE) commitments and goals is performed at several levels.

AASHTOWare Project SiteManager generates a number of reports that provide a variety of project information. AASHTOWare Project SiteManager reports include:

- **Contract Status**—displays the current stage of the contract's construction activity including critical dates, percentage of work completed and history of individual payments to the contractor.
- **Daily Work Report (DWR) History**—lists DWR activities by individual DWR, work items and contractor activities.
- **Installed Work Report**—documents the installed quantities by project and item that will be paid by the next estimate.
- **Change Order Report**—details the comprehensive specifics of a contract change including time extensions, modification of existing item quantities and addition of new items.

Additionally, AASHTOWare Project SiteManager decreases time needed for approval of change orders and estimates, while providing more timely, accurate and easier to access statewide information for management decision-making and historical analysis.



Field Data Collection

To keep tabs on a project, regular supervision from field inspectors is vital. These key individuals monitor progress and record and report important data. SiteManager provides both on-line and off-line field data collection (PC based).

Field data is collected in AASHTOWare Project SiteManager as Daily Work Reports (DWRs). The DWRs track detailed item and material progress for the prime contractor and all of the subcontractors, record weather and temperature data, track contractor personnel and equipment, track agency staff, and provide space for a large number of user classified remarks. For added efficiency, DWR data from one day can be automatically carried over to the next day's DWR, thereby saving valuable time recording information. These reports allow inspectors to collect information swiftly, while ensuring that it is done in a uniform manner across all inspectors and projects.

Data transfer of AASHTOWare Project SiteManager's on-line and off-line field collection system is simple. Information is automatically kept in sync between the off-line system and a host computer. The updated data is then periodically uploaded via a AASHTOWare Project SiteManager process that both imports the new data and exports any new contract reference information back to the off-line system, all in one simple execution.

Similar to the AASHTOWare Project SiteManager on-line application, all data shared between the on-line system and the off-line system is user specific and password protected. This ensures that any data recorded by an inspector is auditable to the individual who originally recorded it.

Materials Management

Accurate management of the materials used for a highway construction project is vital to the success of the task. The Materials Management component of AASHTOWare Project SiteManager assists the construction management process by providing materials-related information. The Materials Management component also assists materials laboratory operations for sampling and testing and reporting for all materials, not just those that are contract-specific. AASHTOWare Project SiteManager's Materials Management provides key functionality in the following areas:

- Approved lists for inspectors, labs, testing personnel, materials sources and calibrated equipment
- Material and contract-specific testing requirements
- Sample identification, logging, approval, tracking and reporting
- Mix designs (SuperPave, HVEEM, Marshall, Concrete)
- Customizable material test method template facility
- Sampling Checklist—indicates the current materials sampling and testing of items on a contract, including discrepancies between

the required number of samples and the number actually taken.

- Outstanding Item List—reports the contract item materials of a new contract that do NOT have their sampling and testing requirements assigned.
- Failing Samples Report—lists failing samples by contract and sample type.

Agencies experience many benefits when implementing the Materials Management functionality of AASHTOWare Project SiteManager. It stores material inventory data, including the material used, specification limits, and the testing required. Comments are available for each test and the sample, and external documents (i.e., drawings) can also be attached to the sample. It monitors that adequate testing is performed on materials. It allows for increased quality assurance of pre-tested and on-site inspected materials. It also expedites the materials certification process and provides the ability to analyze testing quality across the agency. In addition, it

- Provides information to personnel working in the lab and on the job centrally, regionally and remotely
- Provides materials management capabilities for a variety of items
- Maintains detailed contract testing requirements and results information at a variety of levels
- Improves sample lifecycle monitoring
- Provides an automated sampling and testing guide that is easy to update and maintain
- Provides a statewide database of approved lists
- Reduces data entry errors by providing edits and drop down lists
- Allows project managers to be more proactive due to material discrepancy flagging

Throughout the entire project, the Materials Management functionality of AASHTOWare Project SiteManager is a valuable tool. At the beginning of the construction project, the contract-specific materials testing requirements can be automatically generated within AASHTOWare Project SiteManager. At the time of estimate generation, a report is available that shows information regarding the current test status of material items in a contract based on the contract specific testing requirements. During project finalization, a report of failing samples is available by contract, and the agency can document the way in which these materials were handled on the job.

Many agencies are already using the Materials Management functionality of AASHTOWare Project SiteManager to make their construction management system a true enterprise-wide solution. It is a robust application, capable of handling even the most complex projects. Implement the Materials Management component of AASHTOWare Project SiteManager today and begin reaping the benefits of a complete construction management solution.

Laboratory Information Management System (LIMS)

The Laboratory Information Management System (LIMS) that is seamlessly integrated into SiteManager sets an AASHTO standard for lab management software. LIMS gives an agency the ability to manage and track progress through each critical step of the sample lifecycle. AASHTOWare Project SiteManager allows an agency to configure LIMS to meet the specific needs of the agency's material labs.

First, a material sample is collected and logged in to the system and appropriate test methods are automatically assigned to the material based on agency configurations. Next, the samples are received at the lab for testing, or the test may be performed on-site at the sample collection point. LIMS has role-based security settings to ensure that assigned lab personnel only have access to the data and information needed to complete their specific tasks. Varying levels of access are available for the different roles within the lab.

To assign a test to a lab technician, the system verifies the user assigned to

