

SECTION 01 32 33  
PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes comprehensive documentation of digital photographic documentation of the construction progress progressively and at selected milestones.
1. Documentation inclusive of electronic indexing, navigation, hosting, storage and remote access, as applicable, throughout construction.
  2. Contractor support, security of information and technological requirements related to the documentation.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For photographic documentation service provider.

1.4 QUALITY ASSURANCE

- A. Photographic Documentation Service Provider Qualifications:
1. Demonstrable minimum experience of five (5) years in operation providing expert and independent third party digital photography construction documentation using advanced indexing/navigation systems.
  2. Proficiency in the execution of digital photography, including use and knowledge of associated equipment.
  3. Representative portfolio of *completed* construction projects of similar type, size, duration and complexity as the Project.
  4. In-house programming division for customizable documentation solutions required.
  5. Provide at least three (3) references.

6. Local office within 200 miles of the Project site and be able to respond to site visit requests with qualified personnel within 4 hours.

7. Field personnel shall be OSHA certified, if applicable, per the Project-specific safety programs.

#### **1.5 USAGE RIGHTS**

A. Upon completion of the Project, final copies of the documentation (the "Permanent Record") will be provided in a digital media format. On-line access terminates upon delivery of the Permanent Record or as agreed between Contractor and Client. Intellectual property rights associated with the digital media prepared in direct service of the Project shall transfer, along with the media itself, to the Client.

1. Photographic Documentation: The Permanent Record will be provided with the underlying housing software, indexing and navigation system, typically as a DVD or external hard-drive. One multiple-user license for use of the underlying housing software, indexing and navigation is included for accessing the digital media.

#### **1.6 COORDINATION**

A. Coordination with project teams will be accomplished through a designated representative on-site at the Project, typically a Superintendent or Project Manager.

1. Contractor will also attend OAC or construction team meetings as necessary.

2. Contractor's operations team will provide regular updates regarding the status of the documentation, including completed elements of the documentation, the availability of recent documentation on-line and anticipated future shoot dates.

### **PART 2 - PRODUCTS**

#### **2.1 PHOTOGRAPHIC DOCUMENTATION**

A. Documentation Platform and Delivery Method:

1. Documentation indexing and navigation system will utilize actual construction drawings (project plans) or equivalent as the basis for an interactive on-line interface.

2. For all photographic documentation referenced herein, indexing and navigation must be organized by both time (date-stamped) and location throughout the Project.
3. Access interface will include multiple active projects per user, if applicable.
4. Access interface will provide recent documentation activity summaries per project. Direct access to project plans and shoots will be possible from summary display.
5. Access interface will provide a map view that pinpoints the physical location of each project accessible by the user. Direct access to project plans and shoots will be possible from the map view.
6. Documentation activity can be queried by date range via activity searches.
7. Documentation will combine indexing and navigation system with inspection-grade high- resolution digital photography performed by Contractor, designed to capture actual conditions throughout construction and at critical milestones.
8. Contractor documentation will be accessible on-line within 24 hours after each shoot, through the use of an Internet connection.
9. Documentation will allow for multiple-user access, simultaneously, on-line.
10. Access shall adhere to industry standards for information security and protection of data.
11. Multi-tiered access levels shall be achievable through use of individual passwords, if applicable. Users of a sufficient tier will be able to identify other authorized users on each project.
12. Online interface will provide a summary view of the documentation within a project by project plan and by shoot. Direct access to project plans and shoots will be possible from each project summary view.
13. Online interface will allow users to upload Client's own digital photographic images to the documentation indexing and navigation system.

- a. Users will be able to link images to the project floor plans for customized location-based indexing.
  - b. The acting user will be able define permissions and access to uploaded images. Access, per image, can be set to (1) the acting user only, (2) all project users or a (3) subset of project users.
14. Online interface will allow users to upload files to the documentation indexing and navigation system. Supported file formats will include, at minimum, PDF, Microsoft Word documents, and Microsoft Excel spreadsheets, Microsoft PowerPoint presentations, JPEG, PNG, GIF, MPEG and Folders.
- a. Users will be able to link files to the project floor plans for customized location- based indexing.
  - b. The acting user will be able define permissions and access to uploaded files. Access, per file, can be set to (1) the acting user only, (2) all project users or a (3) subset of project users.
15. Online interface will provide a repository where users can upload and store digital photographic images and other files for the Project, separate from the construction drawings.
16. Online interface will allow users to comment (privately or publically) on images, shoots and projects.
- a. Through integrated reporting functionality, users can generate custom reports per image or on a collection of images ("image reports"), including their associated comments. Image reports are exportable in PDF format or as a standalone hyperlink.
  - b. All image reports will identify the time, date and location of each image, and will include associated comments that can be archived indefinitely.
  - c. The administrator user will be able to restrict commenting functions. Commenting permissions, per user, can be set to (1) read/write, (2) read only or (3) no read/no write permissions.

17. Online interface will allow users to create customizable tags that can be utilized with the integrated reporting functionality to generate issue-specific image reports.
  - a. These reports must be made available through PDF export and a standalone link.
  - b. All image reports will identify the time, date and location of each image, and will include associated comments that can be archived indefinitely.
18. Online interface will allow users to mark-up images using integrated annotation functionality.
19. Online interface will allow users to sort specific sets of images into custom albums.
  - a. Users will be able to select one or more images to create new custom albums.
  - b. Users will be able to add images to their existing custom albums.
  - c. Custom albums can contain a combination of Contractor and Client images.
20. Online interface will support batch actions by allowing users to multi-select images and other files for viewing, exporting and saving.
21. Online interface will allow users to tag images as "Favorites". Users will be able to view all of their "Favorite" images from a centralized location.
- B. Provide on-line domain/web hosting, industry standard security measures and redundant server back- up of the documentation for the duration of the contract.
- C. Provide software required for all indexing, navigation, hosting and remote access (excepting web browsers), including user license.
- D. Provide technical support related to using the system or service, including site visits when required and/or requested.

- E. Provide off-line or stand-alone (on-site) version of documentation platform required by this specification, if applicable, for high security or sensitive facilities, as directed by Client.
- F. Mobile Access to Documentation: All documentation that is accessible online through an Internet connection will be accessible via mobile devices, such as tablets and smart phones, in a format optimized for mobile viewing and navigation. It is acknowledged that not all software features will be enabled on the mobile version/functionality may vary to optimize the mobile experience.
  - 1. Mobile access must be supported for at least the following mobile operating systems: Apple iOS, Android OS and Blackberry OS.

### **PART 3 - EXECUTION**

#### **3.1 PHOTOGRAPHIC DOCUMENTATION**

- A. Prior to mobilization, all existing conditions of streets, roadways, parkways, driveways, curbs, sidewalks, landscaping and structures surrounding the building pad and site will be documented using overlapping photographic techniques.
  - 1. This documentation may be required at multiple intervals prior to commencing vertical construction.
  - 2. Indexing and navigation shall be accomplished through interactive architectural drawings.
  - 3. Integrated commenting and tagging will allow for indication and isolation of issues on the interactive plan and for report generation including, per report, issue image, index number, date and depiction of issue location on the floor plan or site plan.
- B. Construction progress for all trades will be tracked at pre-determined intervals, but not less than twice every thirty (30) calendar days ("Progressions").
  - 1. Progression documentation will comprehensively track both the exterior and interior construction of the building.
  - 2. Exterior Progressions will track 360 degrees around the site and each building.
  - 3. Interior Progressions will track interior improvements beginning when stud work commences and continuing until Project completion.

4. Indexing and navigation accomplished through interactive architectural drawings.
  5. Integrated commenting and tagging will allow for indication and isolation of issues on the interactive plan and for report generation including, per report, issue image, index number, date and depiction of issue location on the floor plan or site plan.
- C. As-built condition of pre-slab utilities and site utilities will be documented prior to pouring slabs, placing concrete and/or backfilling.
1. This process will include all underground and in-slab utilities within the building(s) envelope(s) and utility runs in the immediate vicinity of the building(s) envelope(s). This may also include utilities enclosed in slab-on-deck in multi-story buildings.
  2. Overlapping photographic techniques will be used to insure maximum coverage. Indexing and navigation accomplished through interactive site utility plans.
  3. Integrated commenting and tagging will allow for indication and isolation of issues on the interactive plan and for report generation including, per report, issue image, index number, date and depiction of issue location on the floor plan or site plan.
- D. As-built conditions of mechanical, electrical, plumbing and all other systems will be documented post-inspection and pre-insulation, sheet rock or dry wall installation or as near to this milestone as is reasonably possible.
1. This process will include all finished systems located in the walls and ceilings of all buildings at the Project.
  2. Overlapping photographic techniques will be used to insure maximum coverage. Indexing and navigation accomplished through interactive architectural drawings.
  3. Integrated commenting and tagging will allow for indication and isolation of issues on the interactive plan and for report generation including, per report, issue image, index number, date and depiction of issue location on the floor plan or site plan.

- E. As-built conditions of exterior skin and elevations shall be documented with an increased concentration of digital photographs as directed by Client in order to capture pre-determined focal points, such as waterproofing, window flashing, radius steel work, architectural or EIFS detailing.
1. Overlapping photographic techniques will be used to insure maximum coverage. Indexing and navigation accomplished through interactive elevations or elevation details.
  2. Integrated commenting and tagging will allow for indication and isolation of issues on the interactive plan and for report generation including, per report, issue image, index number, date and depiction of issue location on the floor plan or site plan.
- F. As-built finished conditions of the interior of each building including floors, ceilings and walls shall be documented at certificate of occupancy or equivalent, or just prior to tenant/owner occupancy, or both, as directed by Client.
1. Overlapping photographic techniques will be used to insure maximum coverage. Indexing and navigation accomplished through interactive architectural drawings.
  2. Integrated commenting and tagging will allow for indication and isolation of issues on the interactive plan and for report generation including, per report, issue image, index number, date and depiction of issue location on the floor plan or site plan.
- G. Miscellaneous events that occur during any Contractor site visit, or events captured by the Client independently, will be dated, labeled and inserted into a Section in the navigation structure entitled "Slideshows," allowing this information to be stored in the same "place" as the formal scope.
- H. Customizable project-specific digital photographic documentation of other details or milestones. Indexing and navigation accomplished through interactive architectural plans.

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