**EarthCam GigapixelCam X1 Model #ECPN9851-1 A&E Specifications**

**01.32.36 Video Monitoring and Documentation**

1. **CAMERA SPECIFICATIONS**
   1. **Contractor Contact Information**

The Contractor shall provide a High Definition Robotic Streaming Video Webcam for users to remotely control and view a live feed via a secure connection via a network connection. The camera will provide a full view of the work area on the construction site.

CONTACT SYSTEM VENDOR: EarthCam Inc. / Brian Cury +1 201.488.1111

Email: WWW.EARTHCAM.NET/CONTACTUS

* 1. **Camera System for Highest Precision Monitoring and Documentation**
     + 1. Thermostatically controlled IP66/IP67 rated environmentally sealed black powder coated enclosure with stainless steel hardware
       2. Professional photo grade glass enclosure window
       3. Ultra-precise, Pan/Tilt robotic base designed to provide consistent imaging in all environments
       4. Pan/Tilt: Pan Range 360° continuous pan, Tilt: +90° to -90° pan mode
       5. Capable of maintaining multiple preset compositions
       6. 4K Broadcast Quality H.265 Streaming Video, 1/25 CMOS Sensor
       7. Live streaming video with 4K broadcast quality video recording capability
       8. Lens: Ultra-expanded field of view, 20x optical zoom (30x with StableZoom™ technology)
       9. Auto Features: ISO, Shutter, White Balance, Focus, and Day/Night IR
       10. Advance Picture Control: Gamma Correction, Defog Mode, Noise Reduction, Chroma Suppress and Color Phase
       11. Up to 5 Gigapixel (5000 megapixels) auto-generated 360° multilayer panoramas
       12. 12 Megapixel archives
       13. Communications: 10base-T/100base-TX Ethernet, IP Adressing: Dynamic or Static
       14. 4G cellular modem
       15. Secure 256-bit AES encrypted onboard storage
       16. Fail safe – 256GB on-board backup storage
       17. Industrial grade solid state embedded Linux OS Platform with an ultra-efficient 64-bit ARMv8-A CPU
       18. Smart diagnostic LED multi-color power indicator lamp
       19. Short term power device to send alerts if camera goes offline
       20. 120VAC, 220-230VAC or 12VDC power
       21. Designed for EarthCam Control Center

1. **SERVICE SPECIFICATIONS**
   1. **Internet Based Online Interface**

The camera will be accessible via an internet based Software as a Service (SaaS) solution. This online interface will be managed and supported by the System Vendor. The service will be available for the term of the project and allow the viewing of live video and High Definition digital still images captured and stored of the project on both mobile and desktop platforms.

The Internet Based Online Interface shall include the following features:

* + 1. Responsive HTML5 design for cross-platform access on desktop and mobile devices
    2. Secure HTTPS compliant with live stream secured & encrypted via https transport
    3. Display project name and logo
    4. Project Dashboard allows easy navigation between multiple cameras and projects
    5. Security Interface offers flexible multi-view camera grid selective up to 9 cameras per screen streaming simultaneously
    6. Edge Video Recorder features searchable intuitive visual timeline interface for fast incident footage retrieval and sharing
    7. Real-time live video viewing with user-controllable Robotic Pan, Tilt and Zoom
    8. User-controllable settings for creating and editing multiple preset compositions, each preset will be displayed as a thumbnail image
    9. Daily auto-generated 360° multilayer panoramas up to 5 Gigapixel (5000 megapixels)
    10. Instant live snapshot capability in addition to preset scheduled archives
    11. Visual timeline with quick thumbnail view allows image navigation by year, month, day and hour
    12. AI-edited time-lapse technology removes frames obscured by foreign objects or weather elements, with music and graphics then added for downloadable presentations
    13. Full Screen Mode for displaying complete image without any graphical frame
    14. Photo Filters and Graphical Markup Tools for detailing and creating notes with graphical overlays on images, including project title, logo and time date stamp
    15. Image Comparison Tool for comparing two images taken at different times, overlayed on top of each other
    16. Project Management Software integration (Autodesk Construction Cloud, Autodesk Build, CmiC, Esri, InEight, Infotech, Procore, Projectmates, Raken, Salesforce)
    17. 3D/4D Model Integration (Autodesk Navisworks, Autodesk Revit, Bentley Synchro)
    18. Social Media Integration Tools for sharing project images and notes
    19. Automatically generated daily/weekly project progress update email with camera image and weather
    20. AI Media Dashboard – Interactive charts display AI-detected events and observations
    21. Graphical Weather applet displaying local weather data with satellite and updating radar imaging
    22. Integration of maps, aerial and satellite imagery
    23. Graphical Data Management Tools showing archived and current system status of solar amperage, battery power remaining, wireless radio connectivity and device location
  1. **Security and Management**
     1. Access to account protected by Account Security feature which includes four levels of password protection, IP address block/permission and SSL protection of user login password.
     2. The system shall capture and upload images every 5 minutes, 24 hours per day.
     3. The system shall have M2M – Machine to Machine 24/7 Support with active self-healing technology and automatic software upgrades to maintain the quality, consistency and reliability of all images.
     4. Images will be maintained on the System Vendor’s servers for reference available at all times during the life of the project and for no less than 60 days after completion. All images will be protected on servers owned and operated by the System Vendor and located in a secure area at the System Vendor’s location.

1. **CONTRACTOR REQUIREMENTS** 
   1. **Jobsite Requirements**

The Contractor shall secure a nearby structure for camera mounting or provide a fixed pole (40 foot / 12 meters height recommended) and 3 inch / 8 centimeters minimum diameter as per System Vendor’s instruction. The Contractor shall supply all equipment required for safe and secure access to the camera location for technicians performing installation and maintenance services, including building access, bucket truck and/or lift. The System Vendor will consult on and provide recommendations for optimal camera placement and provide professional installation services as required.

* 1. **Camera Maintenance**

The Contractor shall provide all service and maintenance, including cleaning, of the camera system throughout the life of the project including making appropriate arrangements for camera to remain in operation up to and through finalization of all structural, landscaping and “completed state” condition necessary for beginning-to-end time-lapse record.

1. **DELIVERABLES** 
   1. **Responsive, Cross-Platform Camera Media Viewer**

The System Vendor shall provide a scalable, responsive, cross-platform camera media viewer. Camera viewer to include 40 features with capability to be personalized based on client preference for a total of 720 customizable options. Viewer shall be delivered via embed code or in a standalone web page. Additional features include instant access to AI-Edited, presentation-ready videos, Facebook and Twitter social media integration, full screen mode, image comparison, weather data, multiple logos, graphical background images and customizable project description.

* 1. **End of Project Digital File**

The System Vendor at the end of the project shall provide a comprehensive archive package that includes all images, historical weather data, AI-edited time-lapse videos and a royalty-free web-based viewer software. The software shall include the same interactive interface as the live camera during the project.

* 1. **End of Project** **Hand Edited Time-Lapse Movie**

The System Vendor shall provide hand edited time-lapse movie(s) at the end of the project. Time-lapses shall be professionally edited by a video editor using image stabilization software. The movie will start with a graphic and music, incorporating project title, date and logo. Periods of bad weather or inactivity shall be removed to produce a compelling and consistent movie. A machine edited movie will not be acceptable.