

## CASE STUDY

## 15 TB AEC Data Recovery: Restoring RAID 50 Server After Multi-Disk Failure

How a Leading AEC Firm Successfully Recovered Critical CAD, BIM, and Project Data from a Failed RAID 50 Array Using Stellar Data Recovery Technician



### Introduction

The client is a prominent Architecture and Engineering firm specializing in large-scale urban infrastructure and civil engineering projects. The firm's centralized production environment relies on a high-performance RAID 50 storage array to host mission-critical AutoCAD drawings, Revit (BIM) models, and massive project management databases.

### The Challenge

The firm's primary server experienced a catastrophic failure when two drives across separate RAID sets developed bad sectors simultaneously, while a third drive became completely unreadable.

- **Complex Failure:** Because RAID 50 stripes data across multiple RAID 5 groups, the combination of a total drive loss in one group and read errors in another made the array unstable.
- **Asset Risk:** The server contained 15 TB of active project data, including structural blueprints and 3D renderings for several multi-million dollar construction projects currently in the "break-ground" phase.
- **Operational Paralysis:** Over 50 engineers and architects were "locked out" of their files. Any delay in accessing these blueprints threatened to halt on-site construction, leading to massive daily labor costs and potential liquidated damages for missed deadlines.
- **Rebuild Risks:** The internal IT team's attempts to rebuild the array via the hardware controller failed repeatedly due to the bad sectors, risking a permanent "parity collapse."

### CONFIDENTIAL Engineering Firm

"Stellar® Data Recovery Technician allowed us to recover critical server data from our failed RAID 50 system without risking further damage to the disks. The recovery process was efficient and helped us restore our architectural operations before construction site deadlines were impacted."

#### Client

✔ Confidential Engineering Firm

## The Business Impact

The inability to access the RAID volume created an immediate crisis:

- **Project Stagnation:** Without structural files, engineering teams could not issue "Issued for Construction" (IFC) drawings.
- **Financial Exposure:** The firm faced significant financial penalties for project delays and the potential loss of proprietary design data worth years of man-hours.
- **Reputational Damage:** The risk of missing critical delivery milestones for government infrastructure contracts was high.

### Solution:

The firm deployed Stellar® Data Recovery Technician to perform a non-destructive, software-level recovery. This approach avoided the physical stress of a hardware rebuild.

The recovery process included:

1. **Disk Imaging:** The software was first used to create images of the drives with bad sectors to prevent further physical degradation.
2. **Virtual RAID 50 Reconstruction:** Using the "RAID Reconstruction" module, the software analyzed the disk images to automatically detect the stripe size, parity structure, and disk sequence of the complex RAID 50 configuration.
3. **Deep Scanning:** Stellar® performed a deep scan of the virtual volume, specifically targeting specialized AEC file extensions such as .dwg, .rvt, and .dgn.
4. **Secure Extraction:** The recovered data was then moved to a secondary secure storage location, ensuring the original drives remained untouched.

## Results

Using Stellar® Data Recovery Technician, the firm achieved an exceptional outcome:

- **Full File Restoration:** Successfully recovered nearly 100% of the active project files, including all Revit Central Models and historical archive data.
- **Immediate Resumption:** The firm restored access to the engineering teams within 72 hours, minimizing the ripple effect on construction site schedules.
- **Data Integrity:** The recovered 3D models were tested and found to be fully functional with no corruption in the complex metadata links.
- **Strategic Savings:** The firm avoided the exorbitant costs of manual re-drafting and the legal liabilities associated with project delays.

## Conclusion

Stellar® Data Recovery Technician proved to be the definitive solution for this AEC firm. By virtually reconstructing a complex RAID 50 environment, the software bypassed failing hardware and bad sectors to save years of engineering work. This case underscores the necessity of advanced recovery tools in protecting the high-value intellectual property of the Architecture and Engineering sectors.

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## Solution

### Stellar® Data Recovery Technician

## Benefits

- Software-based reconstruction of complex RAID 50 arrays
- Recovery of critical AEC project files including CAD and BIM models
- Safe recovery from disks with bad sectors and partial failures
- Enables quick restoration of engineering and construction workflows