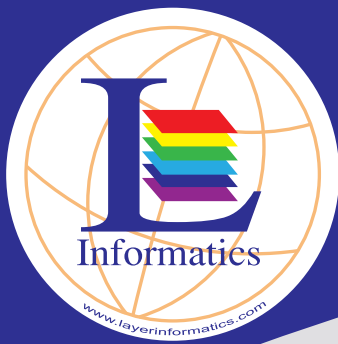




HFC AS-BUILT UPDATING – 1500 MILES RF NETWORK

A Case Study



PROJECT OVERVIEW

The project involved As-Built updating for approximately 1500 miles of HFC RF network and 300 miles of associated fiber backbone network following the completion of construction activities. The objective was to update the engineering records to accurately reflect the network as constructed by incorporating all field changes documented by the construction team. The final As-Built deliverables ensured that the GIS and design records matched the installed network, supporting future operations, maintenance, troubleshooting, and network expansion.

SCOPE OF WORK:

Review construction redlines and marked-up design drawings.
Validate field modifications against the approved design.
Update RF and Fiber network records based on construction changes.
Revise equipment locations, cable routes, splice information, and network connectivity.
Update GIS records, construction drawings, and engineering documentation.
Generate final As-Built deliverables.
Perform Quality Control (QC) and Quality Assurance (QA).

AS-BUILT UPDATING PROCESS:

► Construction Document Review -

The engineering team reviewed construction redlines, marked-up drawings, field notes, and supporting documentation provided by the construction team. All field changes were analysed to determine their impact on the final network records.

► Design Record Update -

The approved design was updated to reflect the actual field installation. This included revisions to:

- RF cable routes
- Fiber routes
- Strand and underground plant
- Equipment locations
- Splice closures and splice records
- Power supplies and passive devices
- Cable and equipment identifiers

► **Network Validation** - The updated design was verified to ensure the installed network maintained complete connectivity and accurately represented the field conditions. Equipment attributes, labels, cable IDs, and engineering information were updated to match the constructed network.

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Layer Informatics Pvt. Ltd.
Vision Through Mapping



► Documentation Update

All supporting engineering documents were revised to reflect the final installation, including:

- As-Built network maps
- Construction drawings
- Fiber splice schematics
- Fiber assignment records
- Bill of Materials (where required)
- Engineering notes and design exceptions

► Quality Control

Each As-Built package underwent a comprehensive QC review to verify:

- All construction redlines were incorporated.
 - RF and fiber routes matched the installed network.
 - Equipment additions, removals, and relocations were updated correctly.
 - Cable IDs, equipment IDs, and attributes were accurate.
 - Splice records and fiber assignments reflected field construction.
 - Network connectivity was complete with no missing or disconnected features.
 - Construction drawings and documentation were complete and accurate.
 - All customer engineering standards and drafting requirements were met.
- Any identified discrepancies were corrected before proceeding to Quality Assurance.

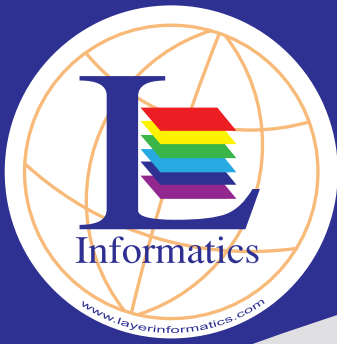
► Quality Assurance

A final engineering review ensured the As-Built records accurately represented the completed network and complied with customer specifications. All deliverables were validated prior to final submission.

► Deliverables

The completed project included:

- As-Built RF Network Maps
- As-Built Fiber Route Maps
- Updated GIS Database
- Revised Construction Drawings
- Updated Splice Schematics and Fiber Assignment Sheets
- Updated Bill of Materials (where applicable) • QC and QA Reports
- Final As-Built Design Package



► Key Considerations

- Accurately incorporated all construction changes into the engineering records.
- Ensured the GIS database matched the installed field network.
- Updated RF and fiber connectivity without introducing inconsistencies.
- Maintained accurate equipment, cable, and splice records.
- Ensured all documentation complied with customer engineering and drafting standards.
- Produced reliable As-Built records to support future maintenance, troubleshooting, upgrades, and network expansion.

► Outcome

The As-Built update for the 1500-mile HFC RF network and 300-mile fiber backbone was completed successfully by incorporating all field modifications documented during construction. The final As-Built package accurately represented the installed network, ensuring engineering records, GIS data, construction drawings, and supporting documentation were fully synchronized with field conditions. These updated records provided a reliable foundation for ongoing operations, maintenance, asset management, and future network enhancement projects.