Special Projects

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Special Projects

1. Basement-Garage Addition - Utah
2. Historic Hotel Reconstruction – Main Street Park City Utah
Basement-Garage Addition

- Non Disclosure Agreement – High Profile Project
- Project located in Utah
- Project to be featured in future tv show
Basement-Garage Addition

► Client Requirements – Problem Statement

• Owns over two million dollars of “art”.
• Wants to showcase “art” in dramatic fashion.
• Wants to install custom lifts, i.e. wants a two story garage.
• Wants minimal viewing obstruction
• Wants it done in four months.
Basement-Garage Addition

**Our Approach**

- Secure as-built structural drawings
  - Review load path
  - Determined optimum solution by incorporating helical piers
  - Determined critical pier locations
  - Review structural impact of altering existing basement walls for optimum panorama
- Consult with Geotechnical Engineer
  - Soil stability during excavation
  - Soil parameters
- Consult with Helical Pier Specialist
  - Feasibility study, Cost study
  - Coordinate pier requirements
  - Solution leads to installation of 10 piers
- Review and coordinate custom lift requirements
Basement-Garage Addition

BEFORE...
Basement-Garage Addition

DURING CONSTRUCTION...

FIRST...EXCAVATE EXISTING GARAGE IN LIFTS...ASSESS SOIL STABILITY...
DIGGING TO NEW BOTTOM ACCEPTABLE WITHOUT ANY TYPE OF SOIL RETENTION SOLUTIONS.
Basement-Garage Addition

DURING CONSTRUCTION...

THEN...INSTALL ALL 10 HELICAL PIERS
IN LESS THAN A DAY’S WORK.
Basement-Garage Addition

DURING CONSTRUCTION...

INSTALLED HELICAL PIERS

...INSTALL REINFORCEMENT FOR NEW BASEMENT WALLS
Basement-Garage Addition

DURING CONSTRUCTION...

CUSTOM LIFTS DELIVERED AND READY FOR INSTALLATION

COMPLETED BASEMENT GARAGE
Basement-Garage Addition

DURING CONSTRUCTION...

- Crown Steel Plate Reinforcement Installation Completed
- Custom Wall Openings in Existing Basement Walls Completed
- Base Foundation to Stabilize and Crown the Existing Foundation Wall Completed
Basement-Garage Addition

FINAL PRODUCT
Client Requirements – Problem Statement

- 130 yr old structure. Originally family cottage style house from 1889
- Up to now exterior façade from 1975 renovation
- Demolition required after public safety hazard discovery
- Park City required for historic structure to be “replicated”
- Very tight Floor to floor height
- 25 ft floor girders with 12" total depth available
- 36 ft common cambered wood trusses (8" coffered ceiling)
- Flat roof 12” total depth available
- 22ft tall cantilevered retaining walls with stacked conditions
- Interior space is column free, except for mechanical chase
- Existing buildings to the North, South, and West boundaries
STAR HOTEL RECONSTRUCTION

Our Approach

- As-built drawings non existent
  - Review Safety issues related to:
    - Existing building proximities
    - Terrain grading
    - Soil stability during construction of retaining walls
  - Determined optimum solution by utilizing ICF product for the retaining walls

- Consult with Geotechnical Engineer
  - Soil stability during excavation
  - Soil parameters for retaining wall design

- Roof and Floor framing Development
  - Scenarios with different materials – Cost study
  - Determined composite floors and mix of wood trusses and steel beams at the roof
  - Utilize the elevator shaft as interior support
STAR HOTEL RECONSTRUCTION

BEFORE DEMOLITION...
STAR HOTEL RECONSTRUCTION

DEMOLITION UNDER WAY...
STAR HOTEL RECONSTRUCTION

AFTER DEMOLITION... EXCAVATION BEGINS...
STAR HOTEL RECONSTRUCTION

CONSTRUCTION BEGINS...
STAR HOTEL RECONSTRUCTION
Retaining Walls Construction
Special Projects

THE END