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1		01/11/2021	Cable Car House damage from the collapse.	Thornton Tomasetti
2		03/26/2021	The Cable Car House was retained with minor repairs. Debris was removed and the area was seeded to promote revegetation.	Thornton Tomasetti
3		12/11/2021	This view of the damages shows the original line feed to the radio telescope, formerly on display near the Learning Center, tipped over the building after the collapse.	Jacobs
4		03/02/2021	By March 2021, the cleanup team had removed the debris around the Learning Center and prepared the structure for installation of a temporary roof.	Thornton Tomasetti




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5		03/26/2021	By the end of March 2021, the team was well underway with the installation of the hurricane-proof temporary roof on the Learning Center to avoid further damage.	Thornton Tomasetti
6		8/25/2021	The temporary roof on the Learning Center was completed in August 2021.	Thornton Tomasetti
7		12/11/2020	The cleanup team was on site shortly after the collapse to assess the damage. The team developed safe and environmentally sound plans to complete the cleanup.	Jacobs
8		12/11/2020	Soon after the collapse, the cleanup team began debris removal to gain access to the site and assess the damage to the reflector dish structure and surrounding environment.	Jacobs





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9		12/11/2020	The platform collapse damaged approximately 35 to 55 percent of the reflector dish area, as well as the ground screen.	Jacobs
10		12/11/2020	Using work vehicles and equipment, the cleanup team removed debris and components of the platform that fell onto the dish and down the mountainside. The cleanup team set up erosion control measures to keep stormwater away from sensitive areas as the emergency cleanup work continued.	Jacobs
11		01/13/2021	A view of the damage from the bottom of the reflector dish up to Tower 12 on top of the mountain.	Thornton Tomasetti
12		03/22/2021	Overview of the site in March 2021, when the platform and damaged panels in the reflector area were being removed.	Thornton Tomasetti




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13		09/07/2021	By September 2021, the area under the reflector had been stabilized. This view shows vegetation regrowth and the beginning of rim wall repair work.	Thornton Tomasetti
14		09/07/2021	In the reflector area, debris removal operations were coming to a close in September 2021.	Thornton Tomasetti
15		10/16/2021	Ten months after the radio telescope collapsed, the platform and damaged sections of the reflector dish had been removed and vegetation was taking over the site.	Thornton Tomasetti




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16		03/22/2021	The platform fell more than 300 feet, damaging the rim wall and ground screen and impacting the mountainside. Tower 8, in the background of the photo, also sustained damage.	Thornton Tomasetti
17		02/23/2021	An aerial view of the collapsed platform shows work crews removing pieces of the platform. The crews spent several months carefully dismantling the structure to maintain integrity and stability of the area and ensure safety while performing the work.	Thornton Tomasetti
18		03/23/2021	This view shows the damage to the rim wall, the damaged platform, and fallen panels from the reflector dish underneath the platform.	Thornton Tomasetti




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19		10/15/2021	Once the platform structure was removed, the team commenced in-kind repairs to the rim wall.	Thornton Tomasetti
20		10/26/2021	The rim wall repair included placing new reinforcement and pouring concrete, which will approximate the original color of the wall once the concrete weathers over time. Rim wall repairs were completed in early November 2021.	Thornton Tomasetti
21		06/29/2021	The cleanup team safely removed damaged panels from approximately 35 to 55 percent of the reflector area.	Thornton Tomasetti





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22		06/24/2021	Some of the damaged panels recovered from the dish were stored onsite as part of the Salvage Survey Committee efforts. Others, many of which were part of the commingled debris, were recycled, with the proceeds used to fund projects at the Observatory.	Thornton Tomasetti
23		04/24/2021	In April and May 2021, scaffolding was installed around Tower 12 so the team could clean up the top of the tower and evaluate the damage sustained by the tower as the top broke off during the collapse.	Thornton Tomasetti
24		07/29/2021	At Tower 12, a large crane was used to remove debris after the tower top was wire saw cut, to lift materials and equipment, and to serve as a second mean of egress for the workers on the scaffolding.	Jacobs





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25		12/07/2020	The collapse resulted in damage to Tower 12. A structural evaluation was performed to determine needed repairs to the concrete structure to make the tower structurally sound and safe.	Thornton Tomasetti
26		09/15/2021	In September 2021, repairs to cracks and spalled concrete on Tower 12 were underway.	Thornton Tomasetti
27		05/26/2021	Workers began installing scaffolding at Tower 4 in May 2021.	Thornton Tomasetti
28		09/07/2021	Scaffolding was installed around Tower 4 to perform cleanup and repairs to the structure. Installation of the scaffolding was resumed in July 2021 and completed in September 2021.	Thornton Tomasetti





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29	 An aerial photograph showing a tall, lattice-structured tower (Tower 4) surrounded by dense green forest. The tower is heavily encased in a complex network of metal scaffolding, which extends from the base up to the top of the structure. A small white building or platform is visible at the top of the tower.	09/10/2021	The Tower 4 scaffolding allowed crews to clean, perform wire saw cutting, and then level the top of the tower to create a workable waterproof surface after the loss of the top quarter of the tower during the collapse. Structural studies were performed to determine tower stability and needed repairs.	Thornton Tomasetti
30	 A photograph of a tall, slender tower (Tower 8) situated on a steep, forested hillside. The tower is made of a lattice of metal. The surrounding area is lush with green trees and vegetation. A dirt road or path is visible at the base of the tower.	04/30/2021	Tower 8 underwent a similar cleanup and repair process as the other towers. Fallen concrete pieces and broken cables and sockets were cleaned up from the area around the tower and the hillside was stabilized to allow work vehicles and equipment to access the tower.	Thornton Tomasetti
31	 A photograph showing Tower 8 from a lower angle, emphasizing its position on a very steep, rocky hillside. The tower is a tall, vertical structure made of metal lattice. The hillside is covered in green vegetation and some exposed rock faces. A road or path is visible at the bottom of the frame.	06/28/2021	Tower 8 is on a steep hillside, which presented a challenge for heavy equipment to reach the structure.	Thornton Tomasetti

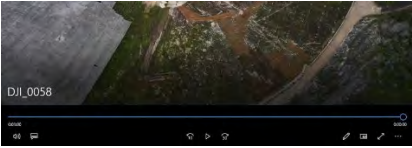
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32		10/20/2021	Once the top of Tower 8 was cleaned, leveled, and resealed, structural studies and repairs were performed, and the scaffolding was removed. The hillside was stabilized with coconut matting to inhibit further erosion and loss of groundcover.	Thornton Tomasetti
33		10/15/2021	An overview of the work being performed on the towers during October 2021. Tower 4 with hoist is in the foreground, Tower 8 is to the left, and Tower 12 is to the right.	Thornton Tomasetti
34		09/17/2021	Workers evaluating the concrete at Tower 4.	Thornton Tomasetti

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35		03/22/2021	Tower 8 before scaffolding installation. The top third of the tower broke off during the collapse.	Thornton Tomasetti
36		06/28/2021	Installation of Tower 8 scaffolding was completed in May 2021 and work on the tower began.	Thornton Tomasetti
37		10/20/2021	The top of Tower 8 was cleaned and leveled, and a waterproof sealant was applied to protect the reinforcing steel from corrosion. Work was completed in October 2021 and the team began to remove the scaffolding.	Thornton Tomasetti

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38		04/13/2021	Two pieces of concrete fell off of the top tier of Tower 4 and were recovered to avoid them sliding down the hillside.	Thornton Tomasetti
39		04/13/2021	Close up of one of the concrete pieces of Tower 4 that fell down the hillside.	Thornton Tomasetti
40		04/13/2021	Closeup of the other concrete piece of Tower 4 that fell down the hillside.	Thornton Tomasetti
41		09/08/2021	View of erosion control measures along the temporary road constructed behind Tower 4 to recover the two pieces of concrete that fell off Tower 4.	Thornton Tomasetti

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42		06/29/2021	A failed cable and socket recovered from the debris. Some of the cables and sockets were tested and evaluated to help determine the cause of the collapse.	Thornton Tomasetti
43		06/14/2021	Recovered cable and sockets were moved to an onsite staging area, classified, labeled for analysis, and stored.	Thornton Tomasetti
44		05/19/2021	Thanks to the Salvage Survey Committee's work with the onsite contractors, parts like this platform rotary joint were recovered for potential future displays.	Arecibo Observatory
45		05/13/2021	A piece of the platform was recovered by the onsite contractors, working with the Salvage Survey Committee.	Arecibo Observatory

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46		07/15/2021	Another piece of the platform that was recovered by the onsite contractors, working with the Salvage Survey Committee.	Jacobs
47		08/24/2021	The 4-person cable car used to access the platform was recovered by the onsite contractors working with the Salvage Survey Committee and it will be stored for potential future display.	Salvage Survey Committee
48		07/15/2021	Many pieces of the radio telescope were recovered from the debris and cataloged. These pieces will be stored for potential future reuse or display.	Jacobs
49		07/15/2021	Another view of various pieces of the radio telescope that were recovered from the debris and cataloged. These pieces will be stored for potential future reuse or display.	Jacobs

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50		09/28/2021	Drone video of the dish area filmed in September 2021.	Thornton Tomasetti