The Kehlsteinhaus – Hitler's Eagle's Nest

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An exposé on the successful engineering feats of a remarkable building program that battled against time, snow, and rugged terrain.

COA 4010
History of Building Construction
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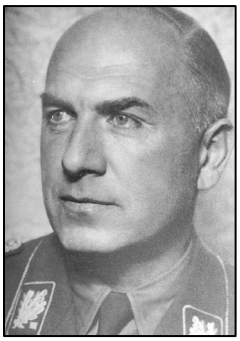
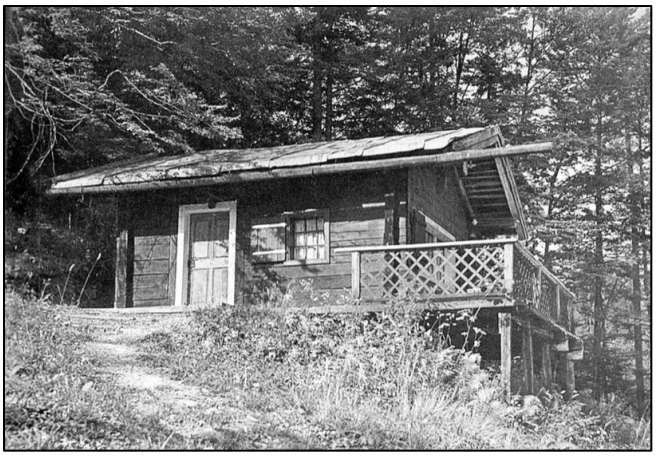
Sitting atop the Bavarian Alps of Berchtesgaden at 6017 feet, the construction of the Kehlsteinhaus commenced in April of 1937. Hitler's private secretary, Martin Bormann, initiated the massive building program aimed to be complete for Hitler's 50th birthday celebration on April 20, 1939. Successfully overcoming the time constraint and intense weather conditions, Bormann and his crew of around 3,000 men completed the construction project of Hitler's Kehlsteinhaus in only 13 months.



Pictured (above): *Martin Bormann*
Pictured (below): *Dr. Ing. Fritz Todt*

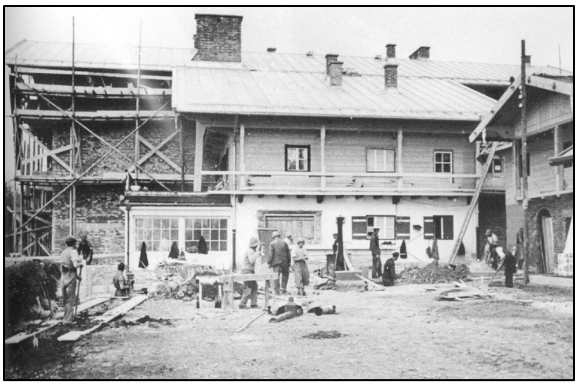
The project was led under a multitude of inspectors, engineers, and military leaders in addition to the project visionary, Martin Bormann. General Inspector for German road maintenance Dr. Ing. Fritz Todt worked alongside Bormann starting in 1937, where an initial phase of material transportation was made possible through an extensive roadway system up the Kehlstein Mountain. Complex systems of cables, pulleys, and hoists were designed and implemented under Todt and Bormann's laborers. These mechanisms were created on-site to transport stone and other materials both on and off steeper portions of the mountainside throughout multi-lateral construction phases. Bormann's laborers, mostly consisting of Italian stonemasons, who used the simplest of tools to work the stones for this project. Obsessed with the project representing the Third Reich, Bormann considered this site as the symbolic beginning of a new era in the field of construction (Fabritius, 10).

From 1877 until 1936, the Obersalzberg mountainside within the Berchtesgaden Alps became one of the best resorts in all of Bavaria. Before the Third Reich, the Kehlstein was a favorite location for mountaineers and nature lovers to retreat to. Its view overlooked the Berchtesgaden Alps and the neighboring city of Salzburg, Austria (Fabritius, 10). After World War One, attempts to overthrow the Bavarian government in a "putsch" - or coup d'état - were rampant. Promotion of German pride and anti-Semitism were values that sprouted from the resulting peace settlements of the Great War in the Treaty of Versailles. These promoters of such values were a small group of German nationalists that called themselves the German Workers Party. The National Socialist German Workers Party (NSDAP) was an early party led by radical activists. Some of the major leaders of this newly established organization, mainly led by Dietrich Eckart – later assuming the name "Dr. Hoffman" – and Christian Weber, convinced Hitler to travel to Berchtesgaden in 1923. Impressed by its landscape and the surroundings, it was here where Hitler retreated to in order to complete the writing of "Mein Kampf" after being released from prison in 1925 after the failed 1923 Beer Hall Putsch by the NSDAP in Munich (Beierl, 7). Spending his time writing "Mein Kampf" in Berchtesgaden, Hitler rented out this cottage pictured to the left to complete his autobiography. Later calling the cottage the Kampfhaus, Hitler decided



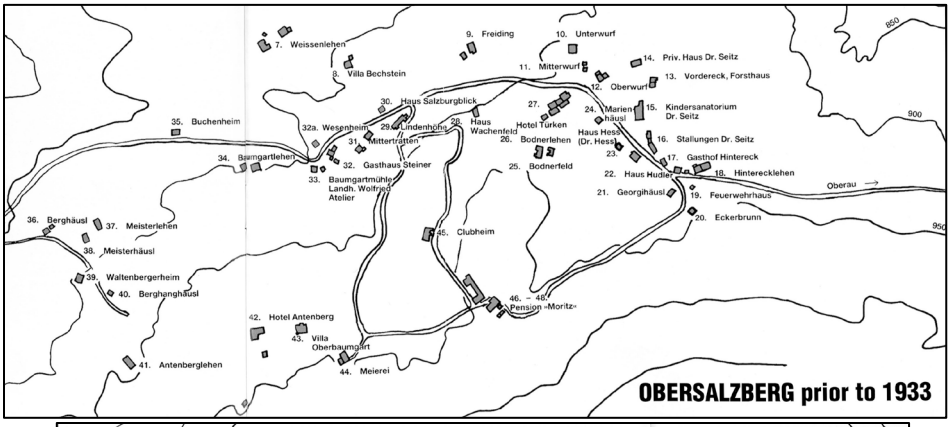
Pictured (above): *Hitler's Kampfhaus, where he completed Mein Kampf*

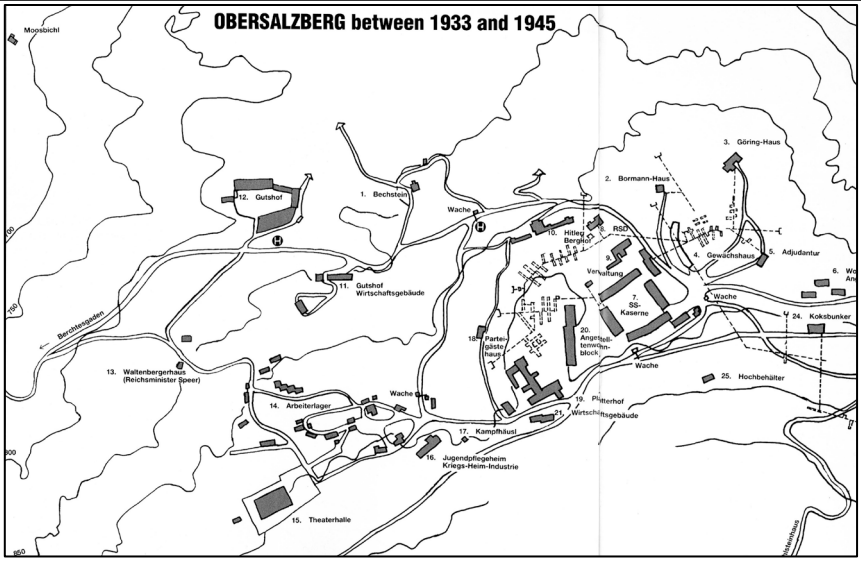
to dedicate this retreat and the area as the cornerstone of his newly founded regime for the German people. Purchasing it and then building a massive palace around it as his personal headquarters for the Third Reich, Hitler called the newly constructed building the Berghof. After taking power in 1933, Hitler began to rebuild the Obersalzberg region as his expansive private residency. Martin Bormann acquired the land necessary for the construction, a process that forcefully evicted townspeople and farmers of the Obersalzberg area. 670 hectares of forested Kehlstein parkland was also acquired by Bormann to complete the land acquisition phase of construction (Fabritius, 10).



Pictured (above): *Hitler's Berghof, during construction*
Pictured (below): *Hitler's Berghof, after construction*

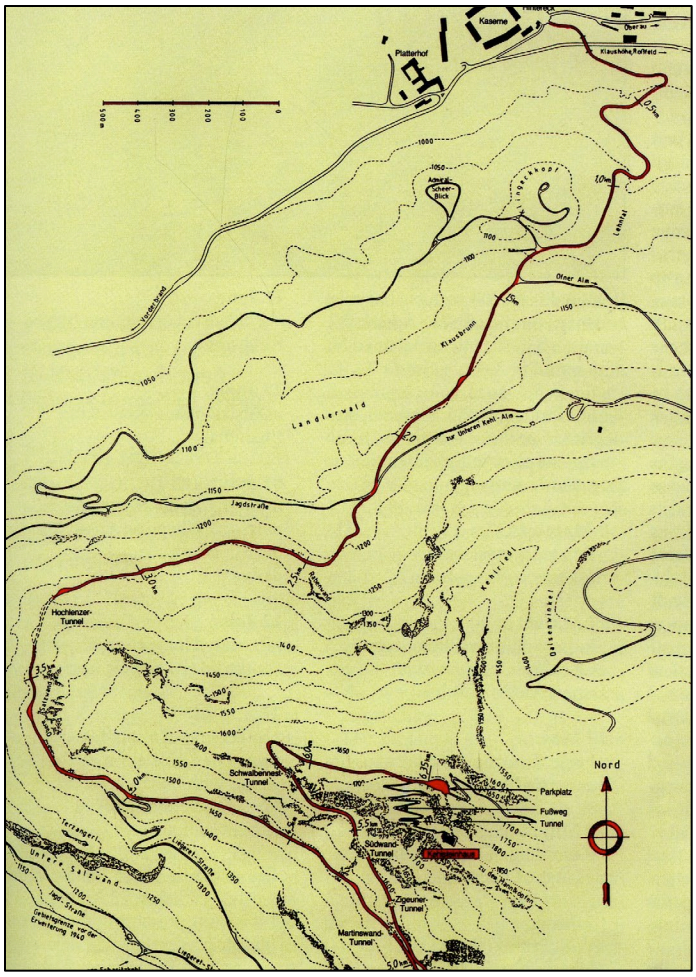
On July 7th, 1936, Hitler officially took possession of Obersalzberg, renaming its headquarters as the Berghof. Later becoming his home in the Obersalzberg region of the Bavarian Alps, planning for the future construction of military barracks and the resort-like headquarters for SS officials in that area ensued (Frank, 16). As shown in the images below, the Obersalzberg region expanded vastly from its original localized mountaineer region to one that heavily emphasized commercialized industry and barrack-influenced underground bunker networks.





In the same year of 1936, Bormann invited Dr. Ing. Fritz Todt to his country home in Obersalzberg. Dr. Todt, member of the NSDAP since 1922 and then lead project engineer for the construction of the Autobahn, was titled as General Inspector for German road maintenance in 1933 (Fabritius, 17). The two met to develop a plan to make the northern part of the Kehlstein mountain and the lower part of the Kehlalm mountainside to be accessible by means of an extended circular road. After discussing the difficult characteristics of the area to Bormann, Dr. Todt agreed to work alongside him in the careful planning of the project-at-hand. After assuring Bormann of his personal support for the project, Dr. Todt assigned the planning of the Kehlstein road to the state engineer, August Michahelles. Responsible for the project during Dr. Todt's absence, Bormann and Michahelles began designing projected roadway blueprints on November 8th, 1936. Occurring almost immediately after Bormann's meeting with Dr. Todt, Michahelles designed roadway plans based off the safest travel route possible. Rather than surveying the landmass' topography initially, Michahelles based his roadway design off a skiing route from the mountain's peak to its base – a journey he himself made in half a day of ski-trailing. Bormann, a man who emphasized the importance of completing this project without any delay, found Michahelles' proposal fascinating. The plans drafted out by Michahelles were immediately pursued (Beierl, 18).

Pictured (above): *August Michahelles*



Pictured (above): *August Michahelles' drafted roadway design*

In the following weeks, Bormann frantically began purchasing land lots on the north side of the Kehlstein. On November 13th, 1936, Bormann inspected the Kehlstein alongside Dr. Todt. On December 13th, Bormann inspected its road course outline (Frank, 16). By December 14, 1936, Bormann purchased 922 acres of land formerly owned by the Bavarian State Forest Administration for a staggering 800,000 Reichmarks – today's equivalent of 4 million euros – all land used in the later construction phases of the Kehlstein road (Beierl, 18).

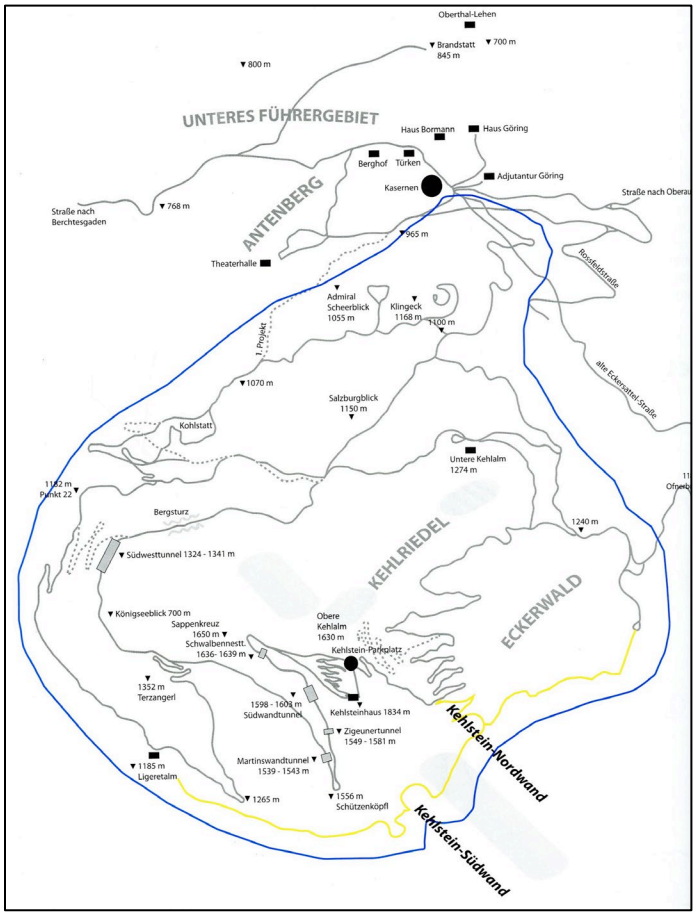
With land purchased and final roadway proposals by Michahelles made, approval was given by both Dr. Todt and Bormann to initiate the first stages of roadway construction. The drafted concept of the Kehlstein road was planned to start at the Hintereck and intended to end at the Parkplatz. The plan called for a road stretched to a total length of 6.39 kilometers with an

elevation of nearly 1700 meters. The construction concept called for the drilling of five tunnels altogether. The roadway plans featured soft bends and an extensive degree of natural environment preservation (Frank, 16).

In one of Dr. Todt's directives, he stipulates the following principle:

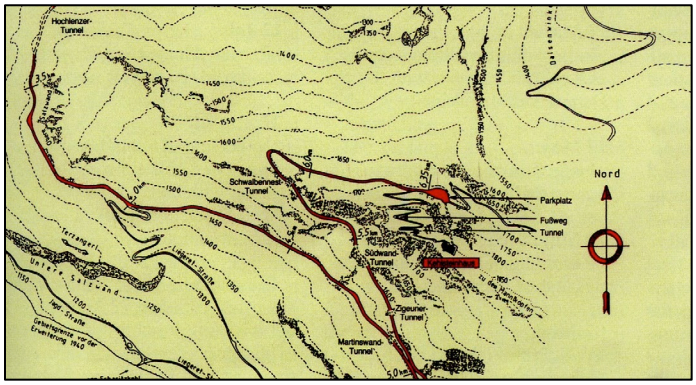
"I consider as a minimum requirement that the angles of slope along the road be prepared in a flat and well-rounded manner and that they be integrated into the terrain in such a way that the necessary constructional intervention with nature is to be kept at a minimum. As far as the growth of trees is concerned, I want everything preserved to the maximal possible extent. Large trees, forest and forest sections take many decades to be replaced. In the meantime there is emptiness. The precondition for re-cultivation is the availability of a natural and viable soil. It is a task of utmost importance to all construction agencies to ensure that this soil is recovered completely and kept alive, intact, and un-weakened by storing it in an appropriate manner." (Frank, 17)

The first construction phase began in the winter of 1936, which started with the discontinuation of inspection tours to the Kehlstein. The time lost was instead used for the fixation of trig-points on drawing boards. Plans were made to combine the Kehlstein road ending at an elevation of 1700 meters to that of the Kehsteinhaus that rested at an elevation of 1834 meters (Frank, 16). Integrating the Kehlstein roadway plans with the Kehlsteinhaus plans as much as possible, Dr. Todt successfully attempted to keep the natural setting of the mountain unharmed during the final design phases of the project. Todt demanded to workers, "Whenever possible, trees are to be left standing. Large trees, woods, and thickets take decades to replace…a prerequisite for vegetation to grow is the top-soil with its life-force." In order to preserve the outline of the mountainside, Todt promoted the building of a luxurious elevator to be installed at the end of the Kehlstein road to enter into the Kehlsteinhaus (Hanisch, 19). This luxurious elevator entrance would be at the end of the 6.39-kilometer long road to the Parkerplatz that connected the two together, rather than risking the destruction of the mountainside for a very risky roadway connector to the house's entrance point (Frank, 16). In order to protect the mountain, a security fence of approximately 6 miles long was later installed as well (Hanisch, 19). The roadway's topographic outline can be seen in the previous page's outlined figure, traced in red starting from the Hintereck base to its end at Parkplatz at an elevation of 1700 meters. The figure to the right characterizes the fenced perimeter of Hitler's Kehlsteinhaus, outlined in blue for reference (Frank, 17).



Pictured (in blue): *Kehlsteinhaus' fenced perimeter*

As the spring warmth of 1937 melted snow away, work on the Kehlstein road continued at the south side of Kehlstein near the Scharitzkehl alp and ending at the 4 km distance of the Ligeret alp, as labeled in the right figure (Frank, 18). Possessed by the grandeur of National Socialism and the delusions of heroic construction, Bormann initiated the first treacherous phases of building construction with a multitude of German soldiers and engineers readily at-hand to deliver such an undertaking for Hitler. Working night and day, Bormann pushed workers to blast a road out of solid rock, to drill tunnels, to build a materials cable car, and to blaze transportation access trails for goods to be easily transported in a multi-networked system up and down the Kehlstein mountainside (Hanisch, 19).



Pictured (above): *Second construction phase of the Kehlstein road*

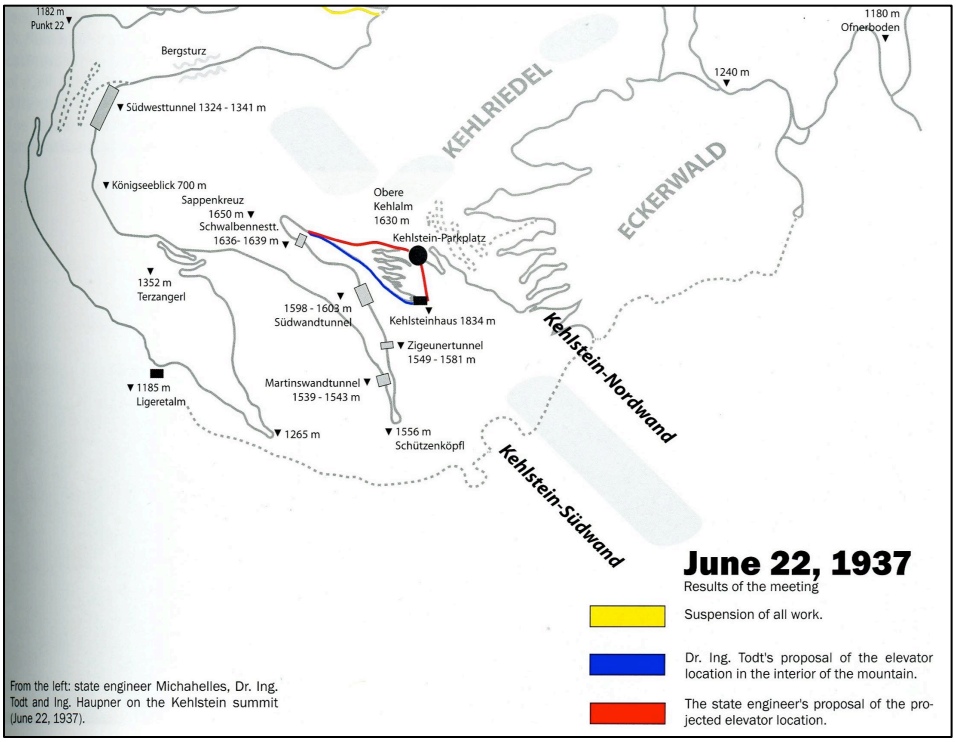
Pictured (above): *Hans Haupner*
Pictured (below): *Prof. Roderich Fick*

Ordered by Bormann to start the project on January 18th, 1937, the Sager & Woerner construction company began the roadway construction. With the aid of clearing timber and blasting stone, the Polensky & Zöllner Company helped expedite the process of roadway laying for the Kehlstein. In April of 1937, the coordination of construction activities and discourse between designers/engineers and their construction contractors was made possible under Hans Haupner. Through his efforts, Bormann and Dr. Todt were reassured that the deadlines sought after for construction completion were made in a professional manner and on a proper budget (Beierl, 18).

In that same year Bormann developed final design ideas to erect a building, later to be known as the Kehlsteinhaus, at the top of the summit. At the end of April in the same year, Bormann requested architect and professor Roderich Fick to design and construct the Kehlsteinhaus. This request gave the architect a deadline of one month to submit plans back to him. Given deliverables of designing a building with an architectural style that would not detract from the natural beauty of the landscape, Fick integrated his designed building into the natural scenery as much as possible. The submitted initial construction design was successfully made for Bormann on June 8th, 1937. Consisting of a massive, square structure of granite facing, Fick's initial design blended in very well with its surroundings. Its main room was defined in the shape of an octagon. Once the design was approved, Bormann came to the realization that the roadway leading to the Kehlsteinhaus would need to be changed in order to extend and reach the summit of the mountain from the road's end at the Parkerplatz.

After having engineers meet to discuss the changes in roadway design on June 22th, 1937, Dr. Todt and his team concluded to again produce an alternate roadway system. This alternate design incorporated the subterranean lift-system previously mentioned from the roadway to the Kehlsteinhaus from the Parkerplatz. Bormann, furious with the design change, discussed with Dr. Todt and Haupner the project addendums. Todt and Haupner explained to Bormann that, "the cost

for the continuation of the road to the summit would certainly not be less than the cost of a tunnel and elevator. The course of the road leading to the plateau could be traveled quickly, but the travel from the plateau to the summit would be slow and inconvenient because it would repeatedly traverse the mountain. Finally, the summit would be completely destroyed by the road, with only the road left to be seen" (Beierl, 24). Influenced by Dr. Todt's ambition to preserve as much of the terrain as possible throughout the construction phases, Bormann agreed to the terms address by Haupner and Dr. Todt. Plans for a tunnel and elevator system instead of Bormann's revised roadway system were thus initiated. The diagram below shows the change in roadway plans after Todt's and Haupner's revision to Bormann's plans.



Pictured (above): *Todt's and Haupner's new elevator plan*

Diary entries from Martin Bormann detailed the dates of specific inspections of the roadway construction starting from March 9th, 1937 with a trip to Obersalzberg to inspect the Kehlstein. This trip lasted until August 22th, 1937 when the planning phase of the Kehlstein road ended. In between these dates were a multitude of other inspections and land surveys initiated by construction engineer Mr. Max Hartmann, Bormann, Dr. Todt, and architect Roderick Fick. These inspections included that of the southern slope of the Kehlstein, the Darges, and the Michelaelis alps on March 14, an inspection of the planned road on May 19, a recording of estate boundaries at the Ofner alp on May 29, a meeting with Professor Fick and Dr. Todt on June 7, a Kehlstein surveyor inspection on June 11, a visit to the construction sites of the Dalsenwinkel, the Kehlstein, and the Ligeret alps on June 27, and repeated daily inspections of the road construction schedule between July 12 and August 22, 1937 (Frank, 18).

Pictured (left): *Surveyor and recorder*

Pictured (right): *Surveying team walking in between datum recordings*

From the project's financial standpoint, money was not a problem. Labor and technical competences were readily available, and passion to build such a bold undertaking was very present in all those involved. The people involved in this projected wanted to offer something out of the ordinary to Hitler (Hanisch, 19). A whole mountain and more than 1000 hectares of land, forest, rock, and countryside were assembled in a net of technology to build and maintain a house on top of the Kehlstein (Frank, 34). In the beginning, laborers carried sand and cement on their backs up the mountainside. Spring snow, which tends to be several meters thick in this geographical location, was cleared away to make trails for such material migration. Avalanches were a risk laborers ran into during the initial phases of construction (Hanisch, 19).

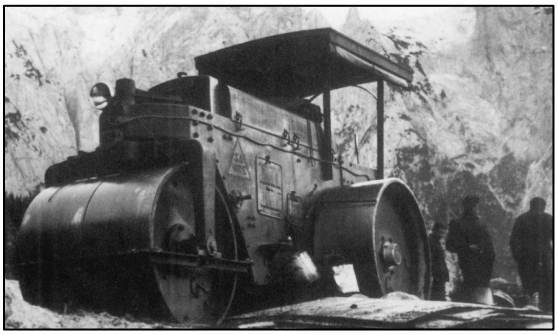
Pictured (above): *Laborers carrying materials up the Kehlstein mountainside*

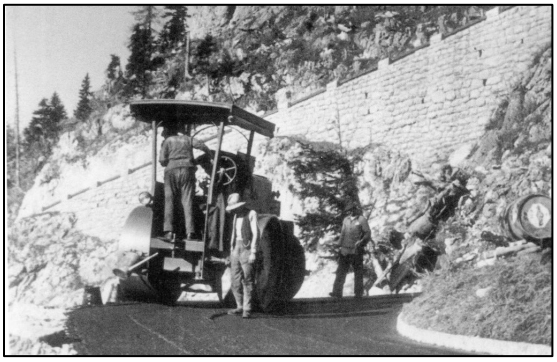
During the time of construction, the Kehlstein region boasted of hammering, shouting, and blasting everywhere on-site (Frank, 34). It is said that these construction noises could be heard 300 horizontal meters away from the road's base of Hintereck. Primitive access trails connected sectors of workers together with material traveling to and fro, resembling an anthill-like construction site. Tools, equipment, supplies, and parts of wooden barracks were almost always carried uphill and downhill (Frank, 19).

Pictured (above): *Laborers working on the road*

Approximately 3000 men, mostly Italian stone masons and Austrian engineers, worked on this project with hammer and chisel to form the rocks to be used to build the bridges and retaining walls of the Kehlsteinhaus (Fabritius, 28). Many of the workers and engineers who came from Austria had gained experience in high-mountain construction from building a nearby mountainous road to the Kehlstein, the Grossglockner (Hanisch, 19). The Austrian engineer Hans Haupner ended up becoming the Kehlstein's project forerunner, directly communicating unexpected technical problems almost immediately with Dr. Todt and his team to be resolved on-site and at those very moments of conflict (Fabritius, 28). Haupner's team consisted of the two major companies that were contracted under Bormann for construction - Polensky & Zöllner as the main building contractor, and Sager & Woerner as the civil engineering consultant for the project (Hanisch, 19).

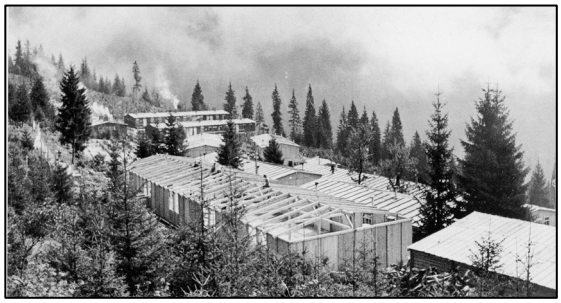
The terrain of the roadway leading up to the Kehlsteinhaus allowed for the employment of road construction machines to take place. The lower parts of the road were the first to become trafficable, with completed road sections acting as the uphill transportation arteries for materials. The road permitted one-way traffic, with a ring-like traffic system of goods shipped uphill to the Parkplatz via the Urschenloch auxiliary road. This helped limit potential risky collisions of trucks and cliff-side accident occurrences (Frank, 26). In addition to such precautions, supporting walls - known to Bormann as "blind walls" – were later installed both uphill and downhill to protect the roadway from sliding downhill. The quantity of supporting walls downhill outnumbered those uphill, where the techniques used by laborers at the time were either drilling into rocks with compressing machines or by-hand depending on the brittleness of the given location's supportive terrain (Frank, 26). The Kehlstein road was equipped with a final touch of telephone pillars for 24/7 telephone access that Hitler could use at any time.

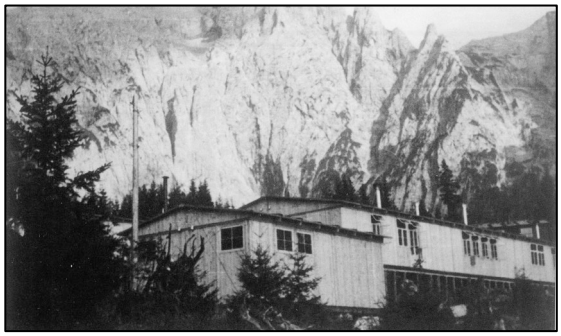




Pictured (above): *Rolling and tarring equipment used by laborers during roadway construction*

Calculations were made down to the minute of how the respective work phases would flow into each other (Frank, 19). Bormann emphasized the collective labor effort to work around the clock until the job was done. To ensure the most efficient means of time management and limited wasted travel time to and from work, kitchen and sleeping quarters were set up on rock piles and under hanging cliffs (Fabritius, 28). A breakdown of recorded work ours can bee seen in the Appendix section. The labor camp could hold up to 1000 workers at a time and was established where the Parkplatz rested, at an altitude of 1700 meters (Frank, 19). Although the number of laborers ranged between 3000 and 3500 men, isolation of their barrack settlements caused communication problems and isolated the male workers from the luxuries of regular society. To help alleviate the worker's woes of such expansive times of working in isolation, a brothel was made in top secret with 20 French and Italian prostitutes present at all times for workers (Hanisch, 19). But since the demand for such jobs were so high, it was very typical for workers to quit their job only after a few weeks, where new employees were easy to find. It was never and issue to fill in the constantly altering fluctuation in readily-available laborers.





Pictured (above): *Labor worksites used by laborers throughout construction*

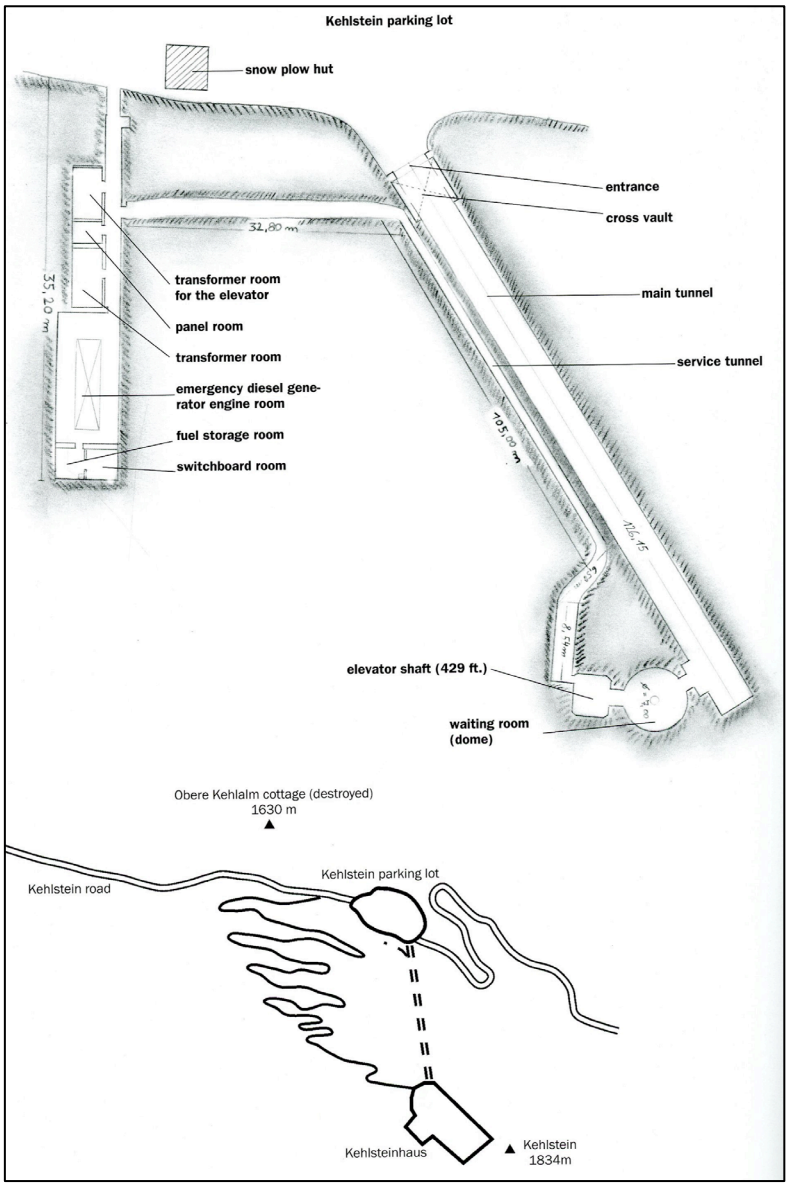
On August 28th, 1938, workers began to tar the road. Taring began just one year after the official start to its construction. Bitumen was applied to the gravel-based roadway, with sanding and roadside fortification of natural stones supported by wooden beams for the roadway. In all, the 6.39-kilometer long roadway extended to a total elevation of 905 meters from the Hindereck up to the Kehlstein's Parkplatz and was completed within one year. This phase of the project was performed under 2500 laborers and specialists, a carrier crew, and craftsmen (Frank, 29).

Diary entries from a construction engineer, Mr. Max Hartmann, explained the day-to-day activities of the workers as well as their levels of stress and hunger:

"Provisions were made to ensure that during working hours tea was available in unlimited quantities. On hot summer days the sun burnt down mercilessly. The thirst was unbearable. The distribution of sausages in addition to regular meals was to keep the hard-working men fit to carry on…the wages were high and contained so many extra work benefits that working on the Kehlstein project was quite an incentive for construction personnel normally used to a quite moderate way of life. They received separation, hardship, and mud allowances as well as extra payments for working at high altitude, underground, and in dangerous environments" (Frank, 12, 26).

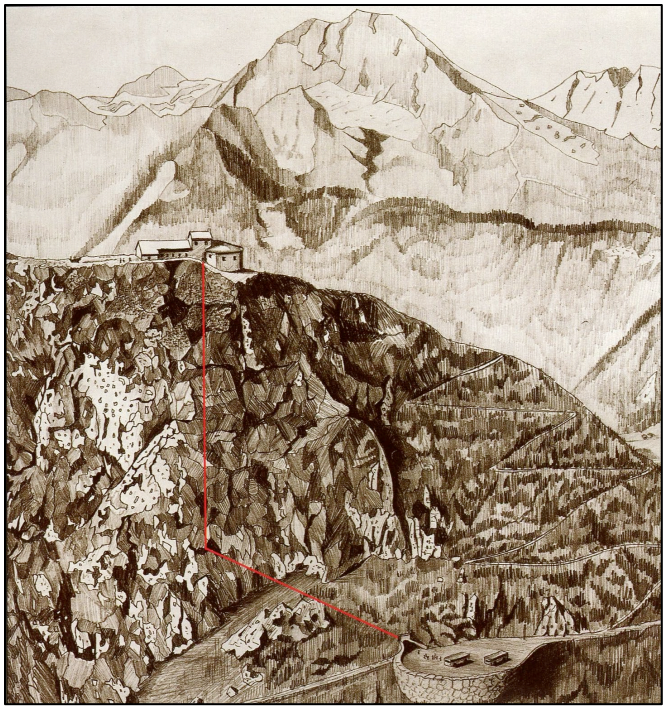
With the road complete, preservation of the Kehlstein peak was of utmost importance when Bormann and Dr. Todt realized there must be an elevator to connect the road that led to the Parkplatz to that of the Kehlsteinhaus.

The development of plans for an elevator system also played a dual role as a security precaution for Hitler. An elevator ending in the center of the house would afford additional protection against undesired visitors. Engineers who specialized in mountain-site construction were thus consulted for plans to drill an access tunnel from the Parkerplatz into the summit's base. A tunnel 100 meters in perpendicular length was made to connect the Kehlsteinhaus to the road, which reduced the completion of a potential roadway to the top of the Kehlsteinhaus by another steep and dangerous 1.3 kilometers.



Pictured (above): *Diagram of the Kehlsteinhaus Tunnel*

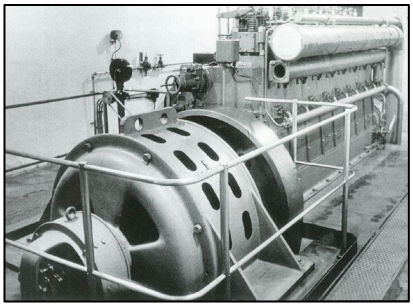
Engineers managed to successfully cut horizontally into the mountainside by providing a 130-meter deep vertical excavation shaft carried downward from the mountain's peak, designed to be the Kehlsteinhaus' center. Utilizing the cable lifts initially established to transport materials up and down the Kehlstein, the excavated materials sent upward the vertical shaft were transported from the mountain's peak to its base. In addition to limiting the extension of the roadway along the steeper mountainside, the elevator shaft excavation allowed work to prolong throughout the wintertime given the interior protection it provided workers from extreme weather conditions. Segments of reinforced concrete were applied to the shaft-walls to insulate the shaft's interior from water penetration. Once the vertical shaft was complete, work on the 124-meter long horizontal shaft began. Under the leadership of the Reck brothers – both specialized miners from Bolzano in southern Tyrol – the horizontal access tunnel was covered with marble tiles only to be connected with the vertical shaft with an arched ceiling and platform that introduced visitors to a marvelously decorated elevator entrance (Frank, 30).



Pictured (above): *Diagram of the Kehlsteinhaus Tunnel and Elevator Shaft*

Pictured (above): *Kehlsteinhaus' Brass Elevator Interior*

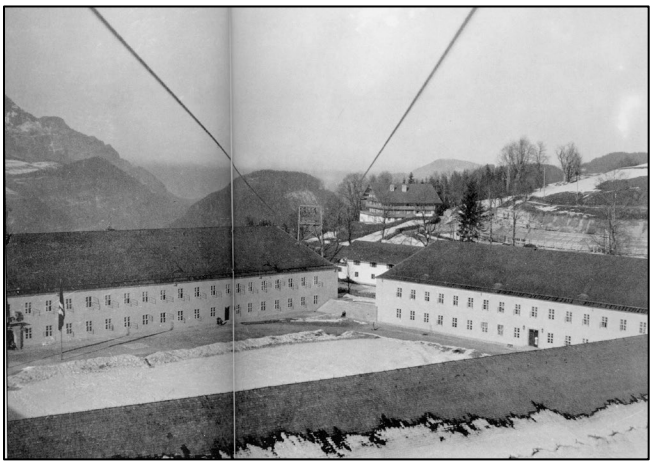
Architect Fick designed the elevator that the vertical shaft carried - consisting of 95% brass, emerald green leather chairs, and Venetian mirrors surrounding all three interior elevator walls. Ran by a motor located on the top floor of the Kehlsteinhaus, the elevator still operates reliably and almost without any noise to this day. The motor and elevator supplier of the day was the German company Flohr, later bought out by Otis Company of New York after the war (Frank, 31). In a separate engine room there is an emergency generator run by a U-boat diesel engine, which is still used today to supply the Kehlsteinhaus with electricity during blackouts (Fabritius, 44-45). A cave some 40 meters from the right of the horizontal tunnel houses an emergency power generator formerly known as a MAN submarine engine. Mounted in 1940, this backup generator still operates at 300 horsepower and 600 rpm to this day (Frank, 32).

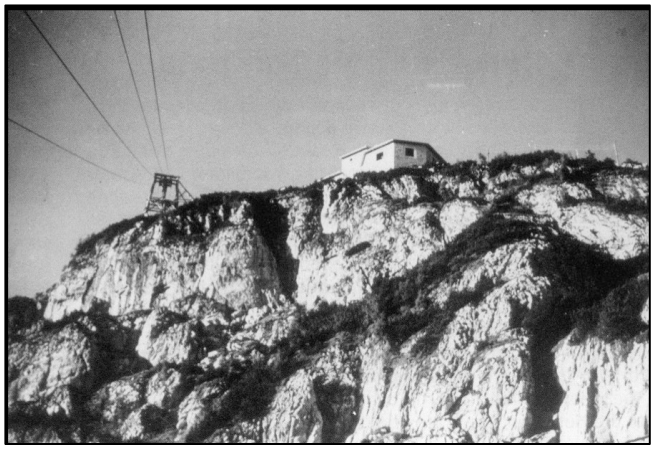


Pictured (upper right): *Elevator Shaft Interior*
Pictured (lower right): *Elevator MAN Engine*

The elevator shaft tunnel that leads from the Parkerplatz into the Kehlstein mountainside was made of Untersberg marble. Leading to an impressive round hall, the tunnel opens up to Fick's luxuriously designed elevator. Next to the tunnel is a separate shaft running parallel to it, provided preconditioned opportunities for easily transported water and power supply systems (Fabritius, 44). Water collected from the creeks of the Scharitzkehl alps were collected and pumped uphill 700 meters through a pipeline operated via remote control from the cave (mentioned above) as well. All supply lines included air-conditioned systems leading up to the Kehlsteinhaus through a supply tunnel that still runs parallel to the mountain's access tunnel. Warm air was then blown into the access tunnel from the vertical shaft, transported from the Kehlsteinhaus through ventilation flaps (Frank, 32). To this day, the intricate systems used at the time to disperse water, power, and air control to the facilities of this house were far ahead of its time (Frank, 30-32).

The Kehlsteinhaus, which the elevator shaft opened into at the top, was built at an elevation of 1834 meters. The narrowness of the construction site, the cliff's steep descents, the weather conditions, and the extreme altitude of the site provided no former precedent for Architect Fick to recourse to (Frank, 34). A cable-system was assembled for the safe transportation of heavier materials to different sub-sites. This cale started at the Unterau and ran via the Larosbach valley up to the Hinereck. From there, another cable-lift system was installed to directly transport materials to the site's peak. High masts that ran directly across the Obersalzberg region supported these wire ropes. Unable to limit the frequencies of cable vibrations at the time of specific transportation times, the cables tended to create thunderous infernos of screeching heard throughout the region (Frank, 20).





Improv became the on-site practice at times in the construction phases of the house. The northern and southern walls had to be built on the ground at a 45-degree angle, ending approximately 7 meters on either side of the respective mountainsides. Protected only by extensive networks of scaffolding,

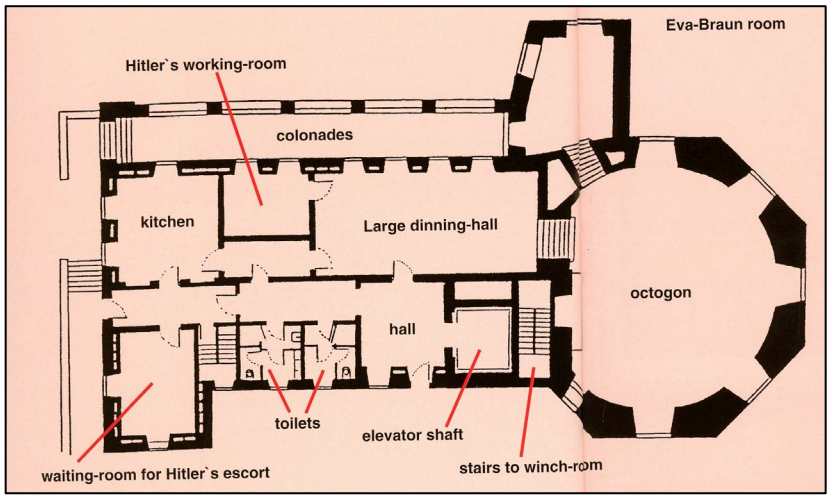
Pictured (upper right): *Unterau Cables*

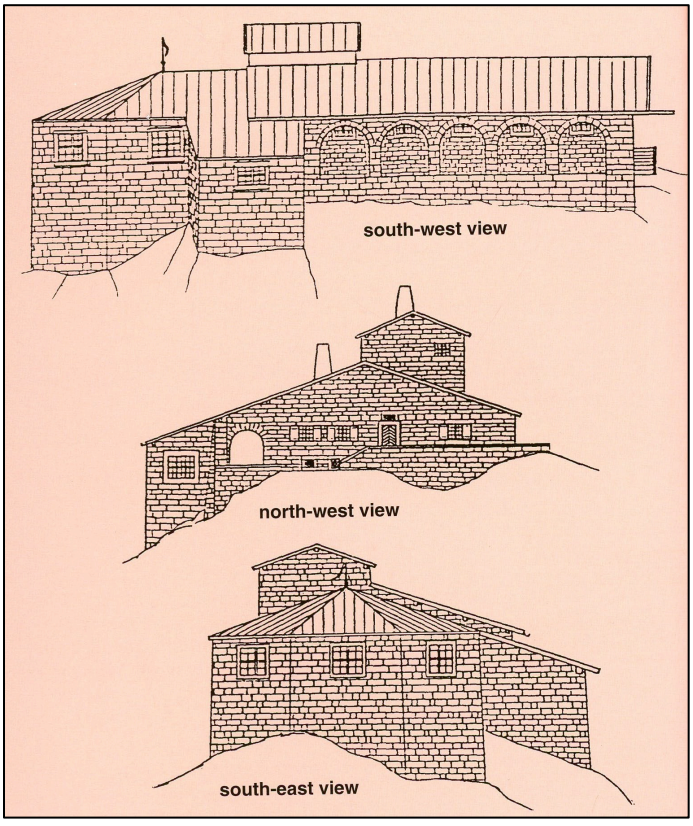
Pictured (middle right): *Kehlsteinhaus Cables*

Pictured (lower right): *Kehlsteinhaus Worksite*

workers on the house had to incorporate their limited workspace with that of the blasting and excavation attempts brought out by those working at the same time in the elevator shaft. The utilization of the cable lifts enabled house laborers to optimize their limited workspace, alternating the transportation of working materials uphill while transporting unearthed debris downhill in a one-way circular fashion (Frank, 34). Before the home could be built, the peak of the ridge was leveled in order to create a substructure made of granite that was then squared by stonemasons. Each stone block was dimensioned exactly to ensure a perfect fit. These stones were transported by the cable-lift up to the peak, and laid by bridgelayers who were employed by the Philipp Holzmann Company. The foundation of the 20 by 52 meter house consisted of double walls, bricks on the inside, and solid granite on the outside (Frank, 36).

Consisting of 7 major rooms, two bathrooms, and a colonnaded patio, the western part of the Kehlsteinhaus (the most expensive and important part) was situated closest to the steep Kehlstein cliffs. Facing to the north was a social hall designed in the shape of an octagon by the architect, supposedly inspired by the palatinate chapel of Charlemagne in Aachen (Frank, 36). A large Carrara-marble fireplace gifted to Hitler by Mussolini is situated in the octagon as a birthday gift, surrounded by six windows and covered with a heavy log ceiling. The house also contained a dining room completely covered with square-paneled wooden walls and a square-paneled wooden ceiling that could fit up to 30 guests at once (Frank, 54). The Scharitzkehl room, later called the Eva-Braun room, was completely covered with panels of noble stone-pine. It overlooked the western Schritzkehl alps, the Hoher Göll, and lake Königssee (Frank, 54). This space was the most visited room by guests and most attractive room to visitors. However, Hitler rarely retreated to this room. Continuously suffering from dizziness and vertigo from the high altitude, as well as suffering extreme eye sensitivity to daylight from injuries in WW1, Hitler avoided the room to the dismay of Bormann and Eva Braun. Even the



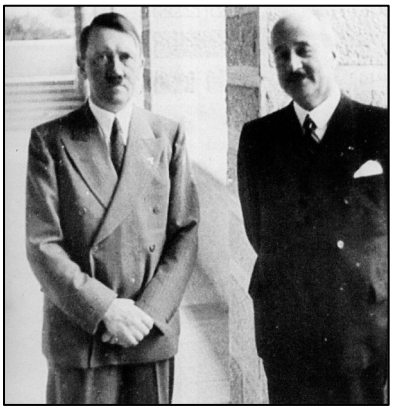


Pictured (upper right): *Kehlsteinhaus Floorplan*
Pictured (lower right): *Kehlsteinhaus Exterior Views*

dining hall was limited in use. The dining room was only used twice before diplomatic tensions rose to the brink of war and start of WW2 (Frank, 55). In fact, Hitler only officially visited the site 13 times for diplomatic purposes and about 4 other leisurely-focused daytime visitations (Frank, 64). Limited by his fear of heights and suspicions of lighting attraction to the motor that operated the elevator lift, Hitler avoided entering the Kehlsteinhaus to great extents. On the other hand, Eva Braun and Hitler's entourage of Nazi officials utilized the resort much more freely during their frequent visits to Obersalzberg and the Berchtesgaden region.

During the entire course of construction, only four accidents involved the deaths of eight workers. About 177,000 cubic feet of rocks slid onto the Kehlstein road construction zone below the Südwest tunnel. Five of these roadway workers were buried alive and were killed in a landslide on August 10th, 1937. One truck driver fell 200 meters to his death and was crushed by his vehicle. One worker fell down the 130-meter long elevator shaft during its construction phase, and one worker was stabbed to death by a co-worker for not paying a debt he owed the co-worker in the sleeping quarters (Beierl, 103). With such a difficult and dangerous project completed with mostly elementary and basic tools, it is a shock to have such a low death count of only eight employees during the timeframe this project took place.

The bold building project was finally complete in the summer of 1938, plenty of time before Hitler's 50th birthday on April 20th, 1939. Costing about 30 million Reichsmarks, this project was completed with the help of roughly 3000 to 3500 men within two and a half years (Hanisch, 21).



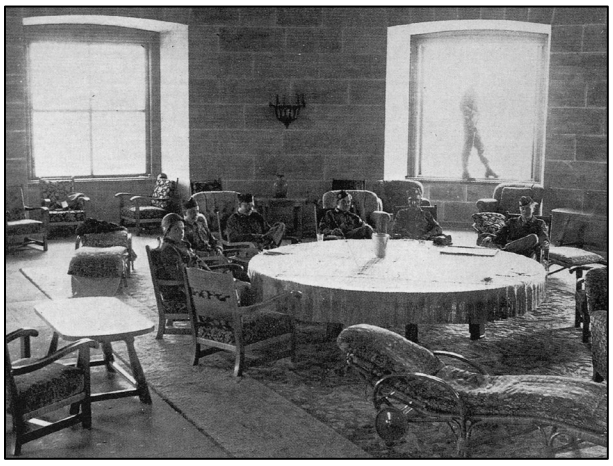
Pictured (above): *Adolf Hitler (left) with French Ambassador François-Poncet (right)*

On October 18th of 1938, the French ambassador André François-Poncet visited the Kehlsteinhaus in a diplomatic manner. He spoke of the building as a Montserrat castle of the Holy Grail legend and of Mount Athos. He described it as a building floating in space. He said, "It is the work of a normal mind or of a person pursued by megalomania and who, obsessed by greed for power, seeks solitude; perhaps a victim of fear" (Hanisch, 18). He goes on to admire the work by pointing out the abilities of the hard-working Germans by noting their brilliant construction techniques achieved to produce such a carefully designed esthetic solidity to fit into nature, that which reflected the discrete charm of Hitler's absolute power.

The Kehlsteinhaus was one of the Third Reich's affective ways of inspiring awe to specifically chosen foreign visitors. The intention of these German officials to their constituents was a success, who were to be impressed by the beauty of the Bavarian Alps, the feat of German engineering, and the esthetic aspects of National Socialism. It was, as well, far from the locations of any arms industry, tanks or aircraft fields, or any concentration camps. The Kehlsteinhaus was given the official name D-Haus under Nazi officials to help characterize it as a retreat for diplomatic discussions to occur. The Americans alternatively designated this retreat as the "Eagle's Nest." All variations of the Kehlsteinhaus actually enhanced the National Socialist propaganda of legitimizing the German regime. All of the propagandized forms of Bormann's gift of the German people to Hitler had correlations to the symbolism of an eagle. The eagle derives from Ancient Roman rulers as the symbol of strength, courage, and immortality (Hanisch, 18).

The irony of such a symbolic comparison to the Third Reich is its eventual downfall. In March and April of 1945, allied intelligence confirmed that Hitler seriously considered retreating to

Obersalzberg and the Kehlsteinhaus to avoid the surrender of the regime over Allied Forces (Hanisch, 36). Anticipating Hitler's last fight from this "Alpine Fortress," the Americans suspected this large headquarters to be the location of Hitler and his last stand in WW2. An official US Military un-classified document can be thoroughly looked through in the Appendix section, detailing this warrant. However this US Intel-based verdict was not the case. Instead, the Paratrooper Easy Company and other Allied officials occupied the territory towards the end of WW2, embracing the leftover treasures Hitler abandoned until his downfall in Berlin. The National Socialist German defeat was officially dubbed an unconditional surrender once the Allied Commanding General Dwight D. Eisenhower visited the Kehlsteinhaus (Hanisch, 21).



Pictured (above): *Allied Officers and soldiers occupying "Hitler's Eagle's Nest" immediately before and following VE Day*

The Berchtesgaden area was kept in the hands of the US military during and after WW2 until the Spring of 1951. It wasn't until then that the US military handed over what was left of the Kehlsteinhaus, its road, and its surrounding territories to the newly established German administration. On June 12th of 1951, the Bavarian country obtained exclusive rights to utilize the state-owned roads surrounding the Kehlstein in an agreement between the State of Bavaria and the county of Berchtesgaden. With an aim to reestablish local tourism in the Berchtesgaden area from its former NSDAP occupation, the Bavarian Prime Minster Ehard and the American Land Commissioner for Bavaria George Shuster approved these concepts brought to them by concerned locals. Later to be called the "Teehaus," the Kehlsteinhaus would be preserved and leased out initially to the Berchtesgaden section of the German Alpine Club (GAC) to raise restoration funds from resultant allied bombing raids. Under the GAC, a 10-year-lease contract produced repairs and construction rehabilitation to the Kehlsteinhaus. After this lease expired, the former area that glorified a now-dead tyrant was handed back over to the German administration only to be placed in the control of the Berchtesgadener Landesstiftung Foundation. This foundation is a public entity that leased the "Teehaus" to the Tourism Association of Berchtesgaden in 1962. Since then, the Kehlsteinhaus has been subleased to different restaurant owners to use the mountain house as a restaurant and souvenir shop (Beierl, 150-154). Maintenance and restoration work on Hitler's Eagle Nest are made possible from the tourists who visit the site and eat at the restaurant in it. The amount of restoration and reparation work done each year on this site is dependent on the number of tourists who buy tickets to ride up the Kehlstein road and the Kehlsteinhaus' elevator passage. To this day, the fully functional Kehlsteinhaus shows the ambition the Germans had to create such a complex multi-laterally designed system to commemorate one person in such a dark time of human history.

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Information will also be obtained from various website information both relating to the event at that time, and relating to the construction or post-Allied Occupation phases

Respectfully submitted by George Doyle, Undergraduate Student, Building Construction and Facility Management Program, College of Architecture, Georgia Institute of Technology, Atlanta, GA, US

Appendix:

1.) Front page of US-military unclassified document, detailing air-raid strategies of the surrounding Obersalzberg region before the Allied invasion of Berchtesgaden (Frank)
2.) Back page of US-military unclassified document, detailing air-raid strategies of the surrounding Obersalzberg region before the Allied invasion of Berchtesgaden (Frank)
3.) Interior Decorating Cost Breakdown of the Kehlsteinhaus following completion (Beierl)
4.) Total Cost Breakdown of the Kehlsteinhaus project (Beierl)
5.) Summary of all hours worked at the Polensky & Zöllner Company (Beierl)

SECRET
U.S. SECRET

NOT TO BE TAKEN INTO THE AIR

Date 5th October 1944

TARGET INFORMATION SHEET

GERMANY

Op. No. GN 3770
A.M. No. 3(k)20
D.T.M. No. -

Place BERCHTESGADEN
Nr. SALZBURG
Category LAND ARMAMENTS
Sub-catgy. Military Establishments

Lat. : 47° 37' N
Long. : 13° 02' E
Alt. : 6,050 ft. Target
3,200 ft. Target

ALL PREVIOUS INFORMATION SHEETS AND AMENDMENTS THERETO ARE CANCELLED.

TARGET MAP	STANDARD 1941 (MAGNETIC) TYPE MAP DATED JULY 1944.
DESCRIPTION	(i) The TARGET comprises a complex of two individual targets as follows:-

A. The EAGLE'S NEST on the OBER KEHL ALP

B. WACHENFELS at the village of OBER SALZBURG.

Target A is 2 miles S.E. of BERCHTESGADEN, 13 miles S. of SALZBURG

Target B is 2 miles E. of BERCHTESGADEN, and 12 miles S. of SALZBURG Both targets are situated in a remote part of the mountainous country lying to the S. of Salzburg. Target A is situated on the extreme top of the Ober Kehl Alp, which is a spur 6,000 ft. high running N.W. from 8,300 ft. high Hoher Goll, which forms the frontier between Germany and Austria. Further S. still, beyond the 6 mile long lake of the Königs-See, is the 8,800 ft. range of the Steinernes Meer.

Neither target is adjacent to any built up area, but to the E. of Target B are several hutted camps.

(ii) Target A, sometimes also known as the "Tea-House", was built by Hitler as an observation post and place of entertainment for guests. It is stated to be inaccessible from the outside, and a considerable part of the building is believed to be buried in the top of the mountain. The approach to the Eagle's Nest is by way of a road (not shown on the G.S.G.S.100,000 scale map) which leads to a point on the mountain side from which a tunnel is driven in to the mountain to a point immediately below the Eagle's Nest itself. From this point a lift rises some 400 ft. to the Eagle's Nest. The building contains kitchens, sitting-rooms etc., but before the war was not normally used as a place of residence. Outside the building, which has six large windows, is a broad covered stone balcony, from which views of the Hoher Göll and the Königs See can be obtained.

Target B is an area containing the Führer's residence, Wachenfels. The area is approached by a winding road from Berchtesgaden and includes extensive barracks and other buildings for guards and servants. The actual Haus Wachenfels is the building marked 1 on illus. 3(k)20/4.

(iii) Target A (See illus. 3(k)20/2) is an extremely small objective apparently measuring about 17 yds. square.

Target B (See illus. 3(k)20/4) is about 915 x 415 yds. with the major axis in an E.N.E. direction. It contains 6 principal groups of buildings of which Nos. 1-3 are residential and No. 1 is the Führer's residence. Nos. 4-6 are respectively a hospital, a garage and a group of S.S. barracks. The area is evidently closely guarded, and some parts of it are surrounded by a substantial wall.

Attention is drawn to the difference in altitude between targets A & B., and to the fact that Target B is situated in a narrow valley.

The most conspicuous landmarks are the N/S water area of the Königs See, the foot of which is 2¾ miles S.W. of Target A and 3 miles S.S.W. of Target B: and the mountain range of the Hoher Göll to the SE and S.S.E. of the two targets respectively.

VITAL PARTS

Instructions with regard to aiming points on particular targets are usually given in Operational Orders, but for guidance purposes in the absence of such specific instructions and to assist Planners in considering this problem in relation to other operational factors involved, the following notes are given, the reference being related in all cases to Illustration 3(k)20/2 and /4.

TARGET	VITAL PARTS		GENERAL AIMING POINT
	Primary	Secondary	
A ill.3(k)20/2	Whole target area	None	Whole target area
B ill.3(k)20/4	Building 1	Undetermined	Undetermined

DECOYS

For all particulars of Decoys refer to "Gazetteer of Decoys" and subsequent amendments thereto as issued by H.Q., R.A.F. Bomber Command.

CAMOUFLAGE

On the basis of the latest available photography dated 3 May 1944 the groups of buildings numbered 4, 5 and 6 on Illustration 3(k)20/4 have been disruptively painted with a tree pattern, with the object of merging the structures into the background of wooded area. Dummy trees have been painted on the slope N.E. of the group of buildings numbered 6, and in the area S.W. of these buildings. The groups of camp huts further up the valley to the E. of the target are also disruptively painted. There is some evidence from photographs of the existence of a smoke screen, but existing cover is not sufficient to complete the layout of the screen.

FURTHER INFORMATION

ILLUSTRATIONS

3(k)20/1 - 1:32,000 scale vertical aerial covering target area and general surroundings.
3(k)20/2 - 1:6,000 scale vertical aerial of Target A.
3(k)20/3 - 1:6,000 scale annotated vertical aerial of Target B. (Cancelled, having been superseded by /4)
3(k)20/4 - 1:6,000 scale annotated vertical aerial of Target B.
3(k)20/5 - Oblique view over Berchtesgaden, looking S.S.W. and showing Target B.
3(k)20/6 - Ground view of Target B, looking S.S.E.
3(k)20/7 - Ground view of Target B, looking W.

Interior decorating expenses of the "Teehaus"

Documented expenses between 1939 and 1942:

Date:	Company:	Items:	Costs:
03-14-39	Strunkmann & Meister	Stitching of the monogram "AH" on the napkins	63,00 RM
03-31-39	Pössenbacher	Tea cart with tiles	299,25 RM
03-31-39	Pössenbacher	Hanging of the tapestries	9,00 RM
03-31-39	Prof. Michaelis	2 tapestries	56.000,00 RM
05-30-39	Pössenbacher	Elm chest of drawers	663,00 RM
05-30-39	Deisz	Table cloth 900cm x 200cm	2.600,00 RM
06-02-39	Julius Mosler	6 deck chairs	749,80 RM
07-15-39	Julius Mosler	covers for deck chairs	336,60 RM
08-30-39	Meissener	10 finger bowls, dragon design	218,80 RM
08-31-39	Paul Wauer	Cembra pine chest of drawers	256,00 RM
09-14-39	Heinrich Böhler	3 piece table 450cm x 300cm	275,00 RM
10-01-39	F. H. Wandinger	24 tomato knives, Führer design	129,60 RM
10-19-39	Lehnert	Delivery charges	18,00 RM
07-29-40	Kurt Goebel	Savonnerie rug 650cm x 925cm	48.000,00 RM
09-24-40	Pössenbacher	2 piece table, round	1.888,00 RM
01-28-41	Böhm & Wiedemann	Bronze door knobs	92,50 RM
10-31-41	Steigerwald	96 versch. Kristallgläser	763,40 RM
11-18-41	Joseph Sechser	Black-out curtains	443,62 RM
07-12-42	Paul Wauer	Cembra pine telephone table	64,00 RM
07-15-42	Josef Quercher	6 painted deck tables	264,00 RM
		Subtotal	113.134,00 RM

Estimated, non-documented expenses:

750-pc set of silver cutlery, Führer design, as per delivery note Fa. F. H. Wandinger	11.250 RM
24 regular chairs and arm chairs for the reception hall	3.840 RM
8 walnut wood tables with marble tops	2.240 RM
8 sconces	1.600 RM
450-pc Meissener porcelain, dragon design	18.000 RM
6 cembra wood arm chairs	760 RM
1 long cembra pine sofa	700 RM
Interior wall panels	3.395 RM
Wooden ceiling in the reception hall	3.000 RM
Dining room an interior decoration	14.300 RM
Führer study	3.400 RM
Guard room	1.200 RM
Kitchen and equipment	11.000 RM
Elevator system	50.000 RM
Emergency power generator	13.000 RM
Brass elevator cabin	17.000 RM
Heating system Teehaus and partial floor heating	13.800 RM
Subtotal	168.485 RM

Estmated construction costs of the building:
Unfortunately the precise cost calculation of the building is not available anymore;
therefore, the amount can only be estimated, 6.350.000 RM

Total:
Exterior and interior expenses tatalled:

6 631 619 RM

Total cost of the Kehlstein Project

The Teehaus and the Kehlstein Road were a present from the NSDAP party for Hitler's 50th birthday. All costs associated with these projects were absorbed by the party. Accounting was done by the "Obersalzberg Administration". In Bormann's behalf, they supervised all technical affairs and financial transactions along with the property of the party on the Obersalzberg. The following table shows the accumulated cost for the Kehlstein project. Some can be documented, others were estimated. Precise records for the construction of the roads, the elevator, and the tunnels are available. The cost of the furniture in the Teehaus can be documented by original invoices. The cost for the construction of the Teehaus was estimated by architect Gert Schuster, based on the existing construction plans.

Purchase costs for real estate:		
Kehlstein-north side,	369,669 ha, purchased: 12-14-1936	800.000 RM
Kehlstein-south side,	194,800 ha, purchased: 03-28-1940	103.950 RM
Scharitzkehl area,	134,100 ha, purchased: 03-28-1940	155.000 RM
Total:		1.058.950 RM
Road construction costs:		
Total Sager & Woerner		6.199.319 RM
Total Polensky & Zöllner		15.200.754 RM
Other companies		569.236 RM
Danneberg & Quandt company		36.254 RM
Total:		22.005.563 RM
Costs for the Teehaus:		
Total construction costs (estimate Dipl. Ing. Schuster)		6.350.000 RM
Verifiable interior furnishing costs		113.134 RM
Estimated interior furnishing costs		168.485 RM
Verifiable consultation fees Prof. Fick, Prof. Michaelis		31.463 RM
Total:		6.631.619 RM

Total Cost Of The Kehlstein Project:
29 696 132 Reichsmarks

If multiplied by a current conversion factor
the cost today would be about
150 Million Euros

Summary of all hours worked at the Polensky & Zöllner Company

1.	Construction of the Kehlstein Road including the construction of tunnels, brick laying at the rocks slide location, protection construction for avalanches, filling rock gaps with bricks, installation of the telephone sites, operation of the quarries and all snow removal work	4,193,619.5 hours
2.	Installation of the quarry, emergency braking track and the rock crushing site in Hintereck	349,474"
3.	Construction and maintenance of the southern connection roads: Vorderbrand Road and road from Scharitzkehl, Liegeretalm, Terzangerl to the Kehlstein Road	104,306.5 "
4.	Rock breaking and timber clearing in the area between Rabenwand and Kohlstatt from fall 1936 to spring 1937	49,073.5"
5.	Removal of rock and securing of the Hochtief dump between the Kehlstein peak and Zigeunertunnel	69,227.5"
6.	Installation and maintenance of the water pipes, compressed air lines and construction site telephones	79,401.5"
7.	Operation of machinery and equipment	88,244.5"
8.	Transportation and installation of machinery and equipment	43,672"
9.	Machinery and equipment repairs	11,503"
10.	Tool repairs and other blacksmith work	49,317"
11.	Dump work	57,306"
12.	Construction and reconstruction of shelters and depots	15,090.5"
13.	Laying of telephone	28,975.5"
14.	Construction of the security fence path from Liegeretalm to the Mannlköpfe	19,267.5"
15.	Construction and repair work on the wooden protection fence above Scharitzkehl	17,612.5"
16.	Stone cutter work in the quarry Fürstenbrunn (near Untersberg) for the Kehlstein tunnel entry plaque and side walls	4,578.5"
17.	Work on the fence, the path and walls at the Mannlgrat and Ofnerkirchl	14,250"
18.	Construction and repair work on the fence at Liegeretalm	2,112"
19.	Transportation and construction of the Liegeretalm camp	66,069.5"
20.	Operation of the Liegeretalm camp	13,888"
21.	Construction of the Ludwigshöhe camp	2,902.5"
22.	Operation of the Ludwigshöhe camp	9,852"
23.	Construction of the forester's hut near the lower Salzwand	1,495.5"
24.	Work on the deer feeder and haystack below the Kehlstein parking lot	667.5"
25.	Road construction work in the area Rabenwand - Salzwand, Terzangerl - Kehlstein Road reference point 22 - Berchtesgadener Blick, work associated with integrating the roads into the landscape, erection of high-power lines between the Obersalzberg and the Kehlstein parking lot, work at the fence, snow removal work and miscellaneous work for the Obersalzberg administration in the area around the "unteren Führergebiet"	1,748,039"
26.	Construction of the cable system, its extension and disassembly, studies for the construction of a second cable system at the Dalsenwinkel	112,776"
27.	Laying of the high-power lines to the Kehlstein parking lot	1,809.5"
28.	Operation of the Kehlstein camp between fall 1937 and August 1938	107,827.5"
29.	Disassembly and removal of the Liegeretalm camp	10,756.5"
30.	Snow removal work on the Salzberg Road and on the section leading to the cable system station	46,698"
31.	Projection work for the Kehlstein Road	419"

Total hours worked: 7.320.232 hrs