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GOLDEN GATE
FORTS BAKER, BARRY, CRONKHITE



NATIONAL RECREATION AREA / CALIFORNIA

HISTORIC RESOURCE STUDY
FORTS BAKER, BARRY, CRONKHITE
OF
GOLDEN GATE NATIONAL RECREATION AREA
CALIFORNIA

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P R E F A C E

The histories of Forts Baker, Barry, and Cronkhite are the third volume of a Historic Resource Study of Golden Gate National Recreation Area, California. This study has been based on a task directive that was prepared in 1975 but which did not receive a final approval. It has been prepared in accordance with the existing guidelines and standards that concern such a report. The objective has been to complete a document that will prove useful to planning, managing, preserving, and interpreting the historic resources to be found within the three military posts on the north shore of the Golden Gate.

The great bulk of the research on these forts was accomplished at the National Archives, Washington, D.C.; the Federal Archives and Records Center, San Bruno, California; and the General Archives Division, Washington National Records Center, Suitland, Maryland. The Library of Congress, Washington, D.C., was another lode of information. Much assistance in the preparation of this study was given by the superintendent and staff of Golden Gate National Recreation Area. The Presidio Army Museum, Presidio of San Francisco, and the Western Regional Office, National Park Service, San Francisco, gave generously of their resources. Ron Treabess, Project Manager, and Harold LaFleur, Historical Architect, both of the Denver Service Center, contributed mightily to the study. Historian Anna Coxe Toogood, my collaborator in the historical study of Golden Gate National Recreation Area, and Historian Edwin C. Bearss, a specialist on coastal fortifications, both with the Denver Service Center, made countless contributions to the study

over the months. Dr. E. Raymond Lewis, Librarian, House of Representatives, who did the original spadework on these three forts, deserves a special thanks.

To all these people, and to many more, I owe a great debt of thanks.

I. Lime Point Military Reservation

A. Acquisition

1. Introduction

From the City of San Francisco, one's gaze toward the Golden Gate is met with the green and gold Marin Headlands. These headlands are remarkably free from "development" considering their location within a great metropolitan area. That this is so, is due to their being acquired by the United States in 1866 and established as the Lime Point Military Reservation. The name came from the guano-covered rocks and cliff at the point across from Fort Point (on the south shore of the Golden Gate)--the narrowest part of the entrance to San Francisco Bay from the sea. Much later the reservation became two important army posts, Forts Baker and Barry, both concerned with the coastal defenses of San Francisco. In the 1930s additional land north of Fort Barry became Fort Cronkhite, whose huge 16-inch guns contributed greatly to the defense of the magnificent harbor.

All the military reservations in the Bay area set aside by President Millard Fillmore in 1850--the Presidio of San Francisco, Point San Jose (Fort Mason), Alcatraz Island, Angel Island (Fort McDowell), Yerba Buena Island, and Lime Point--found themselves beset with citizens' claims on the land. Of them all, Lime Point caused the greatest difficulty to the Army. Sixteen long years, years beset with political intrigue and accusations of corruption, would pass before the United States acquired title to the 1,900 acres that comprised the reservation.

First Pilot Jose Carnizares, San Carlos, made the first survey of San Francisco Bay in 1775. He gave his ship's name to the point, and so it remained Punta de San Carlos throughout the Spanish and Mexican regimes. The Americans readily changed it to Lime Rocks and Lime Point soon after the

capture of California. Other Spanish names applied to the north shore of the Golden Gate have, however, been retained: Point Bonita (originally Punta de Santiago, 1775; later, Punta Bonete and Punta de Bonetas), at the outer end of the Gate; Point Diablo, between Bonita and Lime Points; and Point Cavallo (Punta de los Caballos), across Horseshoe Bay from Lime Point.

Lime Point itself had an elevation of over 450 feet, with sheer cliffs dropping down to the water. This great height posed a serious problem to the army engineers charged with planning its fortifications before the Civil War--a period when a good fortification consisted of a multi-tiered masonry fort constructed at or near water level. Along the northern shore of the Golden Gate the cliffs give way to valleys at only two places. To the east of Lime Point lies Horseshoe Bay; the large valley at its head eventually became the location of the post of Fort Baker. To the west, half way between Lime Point and Point Diablo, there is a smaller valley that the Army named Gravelly Beach, because of the large amounts of gravel there suitable for use in the construction of fortifications around the bay.

Even an amateur could see at a glance that both the north and the south sides of the Golden Gate, one mile apart between Lime Point and Fort Point, would have to be armed with the artillery of the day if San Francisco Bay were to be defended against an enemy fleet. The Spanish had recognized this as early as 1796. But not until the American period was there a serious effort to fortify Lime Point.¹

1. Frank M. Stanger and Alan K. Brown, Who Discovered the Golden Gate? The Explorers' Own Accounts, How they discovered a hidden harbor and at last found its entrance (San Mateo Historical

2. A Strong Battery

In 1849-50, a Joint Commission of Army and Navy Engineer Officers visited the Pacific Coast to examine it relative to future fortifications. Writing from San Francisco, the senior officer of the Board, Maj. (Brevet Col.) John Lind Smith, wrote the Secretaries of War and Navy recommending that the north shore of the entrance be reserved for "public use." Its northern boundary would be "from the southern boundary of [the village of] Sausalito, by a line parallel to the channel entrance, to the Pacific." The final report of the Board, written a few months later, confirmed Lime Point's importance in a defensive system:

San Francisco Bay is the most important point in the United States on the Pacific. As a naval and military position it must always maintain a controlling influence over other parts of the coast and the interior. . . . Its wealth and the resources incident to it would furnish abundant means for prosecuting war that an intelligent enemy would attempt with all the force at his disposal to get possession of or to destroy or neutralize, if adequate defences for them should not be provided in time.

The first consideration in connection with defence would be to prevent the passage of hostile vessels

Association, 1969), pp. 56-59; Lawrence Kinnaird, "History of the Golden Gate and its Headlands," MS, typescript, 1967, p. 216; Erwin G. Gudde, California Place Names, The Origin and Etymology of Current Geographical Names (Berkeley: University of California Press, 1962), pp. 33 and 55; National Archives, Cartographic Archives Division, Record Group 77, Fortifications File, Drawer 189, Cal. 3-1, "Military Lands, California, Fort Baker." Hereinafter, National Archives is cited as NA, and Record Group, as RG.

through the channel of entrance. This would be difficult as the narrowest part of the entrance is about a mile wide and vessels might pass through with the speed of 10 or 12 knots if favored by strong fair wind, not unusual there, and the flood tide, estimated at 3 knots. The difficulty might be obviated by having, in addition to a strong battery on each shore, at the narrowest part [Fort and Lime Points] . . . a third battery on Alcatraz Island.

Even before he received this report, President Fillmore, on November 6, 1850, issued an executive order reserving Lime Point "from the southern boundary of Saucilito Bay a line parallel to the channel of entrance to the Pacific."²

Two years later, a Board of Army Engineers for the Pacific Coast reached the same conclusions regarding the defense of the Golden Gate as had the Joint Commission. The Board recommended for "Lime Bluff Point" a permanent work having eighty guns at a cost of \$600,000. In the spring of 1854, Chief Engineer Joseph Totten forwarded drawings for the Lime Point project to the engineers in San Francisco, saying that they had not yet been approved: "Your Board has therefore a latitude as to the projects

2. NA, RG 77, Office of the Chief of Engineers, Letters Received, 1838-66, Smith, Mar. 31, 1850, to Secretaries of War and Navy; and "Report relative to an examination of the Coast of the U.S. on the Pacific . . .," San Francisco, Nov. 1, 1850; NA, Cartographic Archives Div., RG 77, Fortifications File, Dr. 189-7, Calif. Hereinafter, Office of the Chief of Engineers is cited as OCE.

to be submitted for that portion of the defences, which it had not for the approved projects for Fort Point and Alcatraz Island."³

3. Samuel R. Throckmorton Owns Lime Point

In September 1854, Capt. John G. Barnard, the senior engineer on the Pacific Coast, casually informed Totten that the United States land commissioners in California had confirmed that a naturalized Mexican, William A. (Guillermo Antonio) Richardson, had a valid title to Lime Point, but that he was willing to sell it. Richardson had first petitioned the Mexican government on February 18, 1835, for a grant of the Sausalito Rancho, of which Lime Point was a part. In February 1838, the land was granted to him. Barnard now proposed that the Pacific Board negotiate with Richardson to purchase 640 acres that would include Lime Point, Point Cavallo, and Gravelly Beach.⁴

When Samuel R. Throckmorton, a San Francisco land speculator, learned that the Army was planning fortifications for Lime Point, he succeeded in purchasing the Sausalito Rancho from Richardson and his family. In October 1855 he proposed to

3. NA, RG 77, OCE, Letters Received, 1838-66, Maj. J.L. Smith, Feb. 8, 1853, to Totten; Letters to Officers of Engrs., No. 21, Totten, Apr. 18, 1854, to Maj. J.G. Barnard, San Francisco.

4. Ibid., Letters Received, 1838-66, Barnard, Sept. 14, 1854, to Totten; Charmaine Burdell Veronda, Marin County, California, Including Its Geography, Geology, Topography and Climatography (Reprint ed., Petaluma, Calif., 1972), pp. 386-87. Richardson was born in England. He went to sea at the age of twelve. In 1822 he arrived in San Francisco Bay on board a whaler. He decided to remain in California and, in 1825, he married Maria Antonia Martinez. In 1835 the Mexican government appointed him Captain of the Port of San Francisco, a position he held until 1844. He died in 1858, leaving his wife and two children.

Barnard's replacement, Col. Rene De Russy, to sell the southern portion of the property (about 2,500 acres) to the federal government for \$200,000. Chief Engineer Totten informed De Russy that the Secretary of War had directed that the Pacific Board of Engineers designate a smaller tract of land than Throckmorton's proposal, enough only for the fortifications, and to ask the new owner to furnish abstracts and evidences of title. The land selected was essentially the same 640 acres proposed earlier by Barnard. De Russy thought it might be worth \$90,000 at the most.⁵

The U.S. Congress, in March 1857, appropriated \$300,000 for the purchase of land at Lime Point and for the construction of the fortifications thereon. The act did not proportion the money between the two. Throckmorton, however, was quite sure that two-thirds of it was to come to him. Writing to a friend back East, he said:

I will now confide to you that which I have told no one and which I wish you to keep litterally [sic] to yourself. For Eighteen months I have been in negotiation [sic] with the government for the sale of a piece of my land lying on the harbors for the purposes of Fortifications. One year ago I closed this bargain and the secretary of war asked for the appropriation from Congress to pay for it but owing to the neglect of my agent in Washington, the amount was left out of the general appropriation bill & I was compelled to wait over another season. This past winter I sent on another

5. NA, RG77, OCE, Land Papers, De Russy, Nov. 3, 1855, to Totten; Letters to Officers of Engrs., No. 24, Totten, Jan. 24 and Feb. 5, 1856, to De Russy; Kinnaird, "Golden Gate," p. 217; U.S. Congress, Senate Documents, Rep. Com. No. 389, 35th Cong., 2d Sess., 1859, pp. 12-18.

agent. . . . On the last day of the session my appropriation [sic] was passed by both houses and signed by the president. If this had been done last year . . . I would have received the money last October as it is it now passes into the hands of the new secretary of war [John B. Floyd] and it will take this summer to get it completed. The old secretary [Jefferson Davis] was familiar with the details of the whole transaction as Regards title and everything connected with it. . . . I get a fair price for it--not much more [than] it is worth, but the sum will put me in good condition. . . . I would not wish you to name a word of this to anybody for no man knows what harm his words may do in any quarters in matters connected with the government . . . burn this letter. . . . ⁶

Senator John B. Weller, California, had introduced the motion that had resulted in the Act of March 3, 1857. He now wrote Secretary Floyd urging him to purchase the entire tract at Throckmorton's price: "I have no pecuniary interest in this matter, but write you now because of my anxiety to have this harbor fortified as soon as possible." Throckmorton also wrote Floyd, indicating that he would not break up the larger tract in order to sell the smaller one to the government, and that he still wanted \$200,000 for it ("the amount contemplated in the bill"). At this point the U.S. District Attorney for Northern California, P. Della Torre, suggested to Secretary Floyd that the federal government obtain from the State of California its consent to purchase the land and a cession of its jurisdiction over it. This

6. Throckmorton, May 5, 1857, to Peter R. (Rosey) Roach, Letters to Peter R. Roach, 1850-68, Bancroft Library, University of California, Berkeley.

would allow a politic means of the federal officials acquiring the property through condemnation.⁷

Chief Engineer Totten promptly informed Capt. Z. B. Tower at San Francisco to "endeavor to procure from the Legislature, at its next session the passage of an amendment to the Act . . . which will permit the U. States to purchase, and acquire jurisdiction over, so much of the land at Lime Point" as might be acquired from Throckmorton through negotiations.⁸ Throckmorton was growing impatient. He informed his eastern friend: "It takes fully two months to exchange a single idea, and all officials are so terribly thin skinned and afraid of their shadows."⁹

Throckmorton's persistence began to bear fruit, or so it seemed. In January 1858, the Engineer Department informed U.S. District Attorney Torre that the Secretary of War requested him "to conclude the purchase for the United States of the tract of land on the north side of the entrance to the bay of San Francisco . . . at the lowest price at which it can be obtained, not exceeding . . . two hundred thousand dollars." Torre promptly contacted

7. U.S. Congress, Senate Documents, Rep. Com. No. 389, 1859, pp. 20-25. Senator Weller said at this time (July 1857) that he too had expected \$200,000 to go to the purchase.

8. The act referred to for amendment was one that the State of California had recently enacted "for the purchases by the United States of land for fortifications etc. and for arbitration to assess its value, when an agreement could not be made." The amendment was necessary because the act had limited the quantity of land in any one case to fifty acres. See NA, RG77, OCE, Letters to Officers of Engrs., No. 27, Totten, July 29, 1857, to Tower.

9. Throckmorton, Sept. 19, 1857, to Roach, Bancroft Library, Berkeley.

Throckmorton and reached an agreement to purchase the larger tract for the full sum asked for, pointing out that the purchase could not be perfected nor the money paid until the question of the title had been approved by the Attorney General of the United States. In March 1858, the Secretary of War forwarded to the Attorney General, Jeremiah S. Black, such papers pertaining to Throckmorton's title as had been received from San Francisco. The Attorney General lost no time in listing a considerable number of apparent defects in the title that Throckmorton proposed to convey--defects that later proved to be non-existent.¹⁰

At this point, the entire matter of Lime Point came up in debate in the U.S. Senate. The political feud that brought this about has been admirably discussed by Dr. Lawrence Kinnaird, from whose work the following is recounted. The two U.S. senators from California were, in 1858, William M. Gwin and David C. Broderick, Weller having become governor of California. Gwin and Broderick were both Democrats, but they also had been bitter rivals for control of the state legislature before going to Washington. They had patched up their differences--each needing the support of the other; but once in the U.S. Senate they renewed their political quarrel. Broderick now grasped the opportunity to attack Gwin by bringing up Senator Weller's 1857 motion to appropriate \$300,000 for Lime Point--Weller was one of Gwin's staunchest supporters. Broderick charged that the whole scheme was an attempt to swindle the government. California newspapers picked up the story with glee.

10. U.S. Congress, Senate Documents, Rep. Com. No. 389, 1859, pp. 32-43. The Attorney General found the title to be "good and valid" in July 1860.

On May 17, 1858, Secretary Floyd wrote to U.S. Attorney Torre, directing him to stop all proceedings in relation to the purchase of Lime Point. Torre did so. A much discomfited Throckmorton wrote Floyd denying that either Weller or Gwin had acted from "improper and interested motives." He said that he had not been in contact with either man until after the appropriation had been made: "I will further add, that I had no personal acquaintance with those gentlemen until quite lately, and even that will scarcely exceed a mere introduction." Writing to a friend, he was more explicit:

I have been sadly disappointed. I thought that after three years of labor and ceaseless trial, I had entirely retrieved my fortune [lost in the crash of 1855]. My sale was made. The money lay ready for me and was to have been sent to me by the very steamer that brot me the news that Broderick had attacked the . . . purchase. [This was not so; the U.S. Attorney General had not yet approved the title.] You have no idea of the importance of the sale to me. It was fairly made. It was without the smallest taint of any kind and the land is worth all the money that I sold it for. The attack was made solely for political purposes.¹¹

11. Kinnaird, "Golden Gate," pp. 219-21; NA, RG77, OCE, Land Papers, Torre, June 19, 1858, to Floyd; U.S. Congress, Senate Documents, Rep. Com. No. 389, 1859, pp. 43-47; Throckmorton, Oct. 4, 1858, to Roach, Letters to Peter R. Roach, Bancroft Library, Berkeley. Four years later, Throckmorton, referring back to this period, made an astounding allusion, but to whom remains unknown: "The political harpies came and demandd one third of the purchase money; I was indignant. I had had no connection with them I did not know them I did not even know their names. I could not believe that high officials would aid in or tolerate the open robbery of a citizen. But it was true as they told me 'everybody has to stand it' those were their words." See Throckmorton, June 6, 1862, to Roach in the Letters to Peter R. Roach, Bancroft Library, Berkeley.

The dispute between Broderick and Gwin continued on in the Senate for several more months. Meanwhile, the Engineer Department pursued the earlier idea of securing California's authorization for condemnation of land in the event that owners refused to sell. The Army even went so far as to prepare a draft of an act based on earlier experiences in Massachusetts and New York. Capt. J. F. Gilmer, in San Francisco, formally requested Governor Weller to obtain passage of the act and, in March 1859, the California State Legislature passed the bill and the governor approved it in April.¹²

In 1859 an international crisis arose between Great Britain and the United States over the ownership of San Juan Island in Washington Territory. The President dispatched the aged but respected commander in chief of the army, Maj. Gen. Winfield Scott, to the Pacific Coast to reduce tensions and tempers. Chief Engineer Totten was to meet Scott in San Francisco where the two of them were to look into the Lime Point matter and, apparently (because of the British war ships at San Juan Island?), conclude the purchase. Throckmorton delightly wrote: "My sale is now made, and on the arrival of the government agent here the money will be paid."

12. NA, RG77, OCE, Letters to Officers of Engrs., No. 29, Capt. H.G. Wright, Dec. 3, 1858, to Col. S. Thayer, Actg. Chief Engr.; and No. 30, De Russy, Apr. 18, 1859, to Gilmer; Land Papers, Gilmer, Mar. 15, 1859, to De Russy; Letters Received 1838-66, Gilmer, Apr. 19, 1859, to De Russy; Federal Archives and Records Center, San Bruno, RG77, OCE, San Francisco District, Letters Sent, July 1858-February 1861, Gilmer Mar. 5, 1859, to Governor J.G. Weller, California. Hereinafter, Federal Archives and Records Center is cited as FARC, and San Francisco District, as SF Dist.

Once again, Throckmorton was disappointed. Totten missed meeting Scott in San Francisco. Not being authorized to act alone, Totten "could do nothing . . . towards the actual purchase of Lime Point." After visiting the property, he wrote: "I remain of the opinion I have entertained from the first, namely that the erection of fortifications on that point is necessary to a good defence of the entrance into San Francisco Bay; and that, therefore, the ground should belong to the United States; at the same time, I cannot advise the procurement of the land by purchase at the large price demanded by Mr. Throckmorton."¹³

By mid-summer 1860, the War Department had decided to proceed on acquiring Lime Point under condemnation procedures. At this same time the engineers at San Francisco put the final touches to a plan that called for an immense, three-tiered masonry fort having 258 guns and twenty-four magazines. Because of sickness and other delays, Captain Gilmer did not apply to the District Court of the Seventh Judicial District, Marin County, for the necessary "Order of Notice" for condemnation until November 1860. The judge gave the order on November 12, and Gilmer promptly had it published in the San Francisco Herald. Parties having objections to the proposed purchase had until March 15, 1861 to file such. Throckmorton let it be known immediately that he would object and that he was asking for a writ of prohibition on several grounds: "One is, that the State law is unconstitutional; another is, admitting the law to be constitutional, the U. States have not made out a case . . . that can come under such a law,

13. Throckmorton, Oct. 19, 1859, and Jan. 6, 1860, to Roach, Letters to Peter R. Roach, Bancroft Library, Berkeley; NA, RG77, OCE, Letters Received, 1838-66, Totten, San Francisco, Jan. 23, 1860, to De Russy. At that same time Throckmorton's son died; but he remained determined to win his cause.

and [that?] the District Court has no jurisdiction." Since Throckmorton claimed that the United States had already purchased the land, Gilmer pointed out to the Engineer Department that it would be important "to have legal evidence of the fact that the President refused to approve the steps that had been taken to purchase the land . . . and that consequently the purchase was not made."¹⁴

Throckmorton won the first round. On March 15, 1861, District Judge E. W. McKinstry dismissed Captain Gilmer's application for a jury to assess the value of the Lime Point land. Gilmer notified Totten that he would appeal the judgement to the California Supreme Court.¹⁵

The Civil War came and Captain Gilmer prepared to resign from the United States Army in order to join the Confederacy. Before he left San Francisco, however, he had the duty of informing Totten that the California Supreme Court had reversed the decision of the District Court and that a jury had assessed the value of the land at Lime Point at \$125,000. He added: "Mr. Throckmorton . . . is now suing out an Injunction, forbidding further proceedings, on the ground that the purchase

14. NA, RG77, OCE, Letters to Officers of Engrs., No. 31, Capt. H.G. Wright, July 25, and 31, and Aug. 8, 1860, to Gilmer; De Russy, Sept. 25 and Nov. 16, 1860, to Gilmer; Land Papers, Box 9, Wright, July 31, 1860, to Gilmer; and Gilmer, Nov. 20, 1860, to De Russy; Letters Received, 1838-66, Gilmer, Aug 31 and Sept. 10, 1860, to De Russy; Daily Alta California, San Francisco, Nov. 14, 1860.

15. NA, RG77, OCE, Land Papers, Gilmer, May 10, 1861, to Totten; Seventh District Court, Marin County, California, "Proceedings to Condemn a Site for a Fort for the United States under a State Law."

[already] was made by the United States and that they are acting in bad faith by refusing to pay the \$200,000."¹⁶

The new acting senior engineer in San Francisco, Lt. George Elliot, notified the Engineer Department that Throckmorton had appealed to the State Supreme Court for a new trial on the grounds that "certain testimony ruled over by the District Judge may be admitted." In October 1861, Elliot regretfully informed Totten that the court's decision in this appeal was against the United States.¹⁷

A new development in the matter of Lime Point ownership now occupied everyone's attention. A certain Barton Ricketson made a claim against the estate of William Richardson for \$45,000, foreclosing a mortgage that had originated before Throckmorton acquired the property. The Daily Alta California carried an advertisement in its November 3, 1862 edition that the Sheriff of Marin County would sell the Sausalito Rancho at auction that month. Presumably, it was Throckmorton who succeeded in getting an injunction against that particular sale. At any rate the auction was not held on schedule. But this claim by Ricketson, and others, brought a temporary halt to the Army's efforts to acquire the land. Meanwhile, the Civil War dragged on, and the north shore of the Golden Gate remained undefended. The army commanders worried about Southern sympathizers in California, Confederate raiders in the Pacific, and the superior naval force that the British maintained at Vancouver Island. The permanent

16. Ibid., Gilmer, June 26 and July 13, 1861, to Totten; Daily Alta California, June 23 and July 14, 1861.

17. NA, RG77, OCE, Land Papers, Elliot, Aug. 21 and Oct. 16, 1861, to Totten; Daily Alta California, Oct. 18, 1861.

works at Fort Point and on Alcatraz Island were buttressed by temporary batteries at Point San Jose and Angel Island. But not a single gun covered the waters from Lime Point.¹⁸

Ricketson's attorneys finally cleared the way to selling Sausalito Rancho on June 5, 1863. The purchaser was Edward F. Stone. General Totten notified De Russy in February 1864 that he was to negotiate with the new owner: "Mr. Billings, of the late firm of Halleck, Peachy & Billings [San Francisco], informs this office that he has been told that the law proceedings in California relative to the property at Lime Point have been terminated in such a way, that the property is now in the hands of persons who are willing to sell it to the United States at a fair price, and can probably give a good title. You will therefore, without delay take the necessary steps to make a conditional bargain for the land, and to have the title properly investigated."¹⁹

De Russy obeyed his orders and offered Stone \$125,000 for the Lime Point property, which had by then been accurately surveyed and had been found to contain 1,898 66/100 acres. That was in March 1864. In December 1864, a still-unbeaten Throckmorton had his day in the District Court,

18. NA, RG77, OCE, Land Papers, Elliot, Nov. 4, 1862, telegram, to Totten; De Russy, Nov. 20, 1861, to Totten. DeRussy had by then returned to San Francisco as senior engineer. Much of the emergency fortification work was paid for from the \$300,000 originally appropriated for Lime Point.

19. Ibid., Frederick Billings, Jan. 21, 1864, to Totten; Throckmorton, June 10, 1865, to Chief of Engrs. Richard Delafield; Letters to Officers of Engrs., No. 26, Totten, Feb. 24, 1864, to De Russy.

Fifteenth Judicial District, the City and County of San Francisco. The judge, Samuel H. Dwinelle, declared the sheriff's sale of the Sausalito Rancho "fraudulent and void." The deed that Edward Stone had acquired was "null and void." Throckmorton was to recover his costs from Stone and the sheriff. Once again the undisputed owner, Throckmorton wrote Secretary of War Edwin M. Stanton in June 1865, urging the completion of the purchase of Lime Point on his original terms, \$200,000.²⁰

Chief of Engineers Richard Delafield was in no hurry now to acquire Lime Point. The Civil War was over. The existing fortifications at Fort Point and Alcatraz Island were being improved and modernized. And the lessons learned during the late war had cast serious doubts about a future use of masonry forts--the kind proposed for Lime Point. Delafield also pointed out to Secretary Stanton that Lime Point had decreased in potential commercial value because the railroad reached San Francisco from the south, not from the north. Further, land was increasing in value, not in Marin County, but in the Oakland area.

Throckmorton, too, realized that would never get his price. He had gone greatly into debt over the years in order to retain the property; his monthly interest payments alone amounted to about \$1,000. On September 30, 1865, he notified the Secretary of War that he was willing to accept the sum of \$125,000.²¹

20. Ibid., Land Papers, "In the District Court of the Fifteenth Judicial of the State of California . . .," Samuel R. Throckmorton, Et als, Plaintiffs, Edward F. Stone, et als, Defendants, Dec. 12, 1864, and Mar. 7, 1865; Throckmorton, June 7, 1865, to Stanton.

21. Ibid., Delafield, July 31, 1865, to Stanton; Throckmorton, Sept. 30, 1865, to Stanton; Letters Received, 1838-66, Elliot, May 30, 1866, to Delafield.

The War Department immediately notified De Russy in San Francisco to ask the U.S. District Attorney to prepare a deed and to gather data on the title. One last doubt was cast in February 1866 when U.S. Senator-elect C. C. Cole wrote Stanton that he had learned that Richardson's original claim to the Sausalito Rancho was fraudulent. He was in error. U.S. District Attorney Delos Lake confirmed the next month that the title was complete in Throckmorton. The purchase of Lime Point by the United States was made July 24, 1866. Referring to the long struggle to sell his land, Throckmorton wrote: "I feel that a man ought to be done fighting for money after he is past forty five."²²

B. Lime Point and the Engineers, 1866-1890

(A separate volume of the historic resource study for Golden Gate National Recreation Area gives the history of the coastal fortifications in the Bay Area. That history will not be repeated herein. However, a brief recapitulation of these fortifications is presented in this study in that most of them are historic structures. As such, they should be accounted for inasmuch as this study will include lists of historic structures and a revised nomination form for the National Register of Historic Places for the historic district of Forts Baker, Barry, and Cronkhite will be prepared.)

1. Mendell and the Fortifications

a) Blasting at Lime Point

The first army correspondence concerning the newly-acquired military reservation concerned the need to fence the

22. Ibid., Letters to Officers of Engrs., No. 38, Delafield, Oct. 2, 1865, to De Russy; Land Papers, Cole, Feb. 17, 1866, to Stanton; Lake, Mar. 30, 1866, to Stanton; Elliot, Aug. 22, 1866, to Delafield; Letters Received, Elliot, Mar. 30 and Apr. 2, 1866, to Delafield; Throckmorton, n.d., to Roach, Letters to Peter R. Roach, Bancroft Library, Berkeley.

boundary between it and the rest of the Sausalito Rancho. A large number of cattle grazed on the ranch, and the engineers desired to keep them off the military land. The engineers estimated that a substantial post and rail fence of rough lumber would cost \$3,600. Throckmorton wanted the fence too, saying that the Chief of Engineers had promised to build it immediately. The Engineer Department could find no record of any promise to Throckmorton. At first, the Department approved of the fence only if Throckmorton would pay for half of it. Later, in 1867, the Chief of Engineers approved the expenditure of the \$3,600, leaving it up to the local engineer to decide whether or not Throckmorton should bear part of the cost. The final resolution of this matter remains unknown; but the rail fence was built. At the same time, Humphreys approved of the construction of a temporary shelter at Gravelly Beach. This shelter was to be occupied by a civilian or a soldier who was to guard the beach inasmuch as unauthorized persons were hauling away the gravel by the boatload.²³

Maj. George Mendell, recently returned to the Pacific Coast from Civil War assignments in the East, wrote the Chief of Engineers in January 1867, asking that he be given charge of the fortification construction at Lime Point along with the work on Alcatraz Island: "This is my first and almost my only wish." If the Department approved, he hoped "to remain here for some years, & I would like the assurance of permanence which the charge of

23. NA, RG77, OCE, Letters Received, 1838-66, Elliot, Aug. 1, 1866, to Delafield; Correspondence Relating to Fortifications, Letters Received, 1866-67 (3d Div.), Elliot, Apr. 17, 1867, to Chief of Engrs. A.A. Humphreys; Correspondence Relating to Fortifications, Letters Sent, 1866-70 (3d Div.), Humphreys, May 15 and July 9, 1867, to Maj. George Mendell. Granite posts were installed at the angles of the boundary line.

Lime Point would give and which Alcatraz alone would not. Added to this I have the natural ambition to begin a work of importance." Humphreys readily agreed. Thus began Mendell's long career supervising the construction of San Francisco's postwar coastal fortifications, a career lasting down to the 1890s when he oversaw the building of the first Endicott batteries.²⁴

In 1867 the reconstituted Board of Engineers for the Pacific Coast prepared a new set of plans for the fortifications. Although the Civil War had shown that the latest rifled guns could destroy the prewar masonry forts with ease, the Board retained this form of design in its plans. The completed work, consisting of a three-tiered fort and a two-tiered battery, would have a total of 109 guns. It would be located at near water level on the end of Lime Point. This location would require the removal of over one million cubic yards of rock from the cliff.

Well aware that there were many questions yet to be answered concerning the effect of large projectiles on masonry scarp walls, the Board recommended that only preliminary work be commenced for the present. This would include the construction of a wharf, quarters (220 men) and mess houses for civilian employees, workshops and storehouses, and roads. Mendell received instructions in August 1867 to begin this preliminary work.²⁵

24. *Ibid.*, Letters Received, 1866-67, Mendell, Jan. 16, 1867, to Humphreys; Letters Sent, 1866-70, Humphreys, Apr. 25, 1867, to Mendell.

25. *Ibid.*, Letters Sent, 1866-70, Humphreys, Apr. 8, 1867, to Stanton; Letters Received, 1866-67, Lt. Col. B.S. Alexander, San Francisco, May 29, 1867, to Humphreys; Mendell, Annual Report, Lime Point, for FY 1879.

The civilian employees began work in October. The engineer camp was located in a small valley on the west side of Horseshoe Bay (directly under the Golden Gate Bridge today). Mendell had chosen this site so as to leave the larger valley at the head of Horseshoe Bay available for troops, whenever a post was established. Although all these buildings were considered to be temporary in nature, most of them lasted for many years. Evidence still remains of some of them. A short distance out in the bay stood several tall rocks, called the Needles. The engineers built a rock breakwater from the shore to the largest of these. On the lee side they constructed a small wharf having a sixty-foot front of crib work covered with plank. From then until today a wharf has stood at this same site. An eighty-foot steamer was purchased to carry personnel, while supplies and materials were barged in from San Francisco. The site for the fortifications could at first be reached only by "a weary climb over the hills and in this way was accessible only to a sure footed person." An early undertaking was the hewing out of a road from the wharf, along the base of the cliff, to the fort area. When the senior engineer inspected the site in the spring of 1868, he wrote: "This road is now essentially finished, being passable throughout its entire length for carts." This of course, was the origin of today's dirt road out to the end of Lime Point.²⁶

26. Ibid., Letters Received, 1867-70, Mendell, Annual Report of Operations for FY 1868; Alexander, Apr. 8, 1868, to Humphreys; Letters Received, 1871-86, Mendell, Annual Report of Operations for FY 1879; FARC, San Bruno, RG 77, OCE, SF Dist., Journal of Operations, Lime Point, 1867-76. In addition to the steamer Katy, Mendell had the services of a sloop, General Wright, and a schooner, Alcatraz. The quartermaster steamer at that time was the General McPherson.

The major undertaking at Lime Point in 1868-69 was the large-scale blasting that was necessary to reduce the high cliff so as to create a platform of solid rock for the fortifications. The cliff at that point was 250 feet high and it had to be cut back to a depth of 230 feet. After experimenting with nitroglycerin, Mendell decided to use gunpowder. The blast from gunpowder, said Mendell, confined itself to the direction of least resistance, while the blast from nitroglycerin extended impartially in all directions. Thus, by packing large amounts of gunpowder in a chamber deep within the cliff, its blast would tend to throw the rock away from the cliff, which was the effect Mendell wanted. The blasting at Lime Point was the largest noncombat undertaking of its kind yet carried out by army engineers. Mendell was proud of his work, and his report was published by the Government Printing Office.

The first two blasts occurred in May 1868. The first consisted of 7,500 pounds of powder, the second, 2,650 pounds. The effect, said Mendell was to move 50,000 cubic yards of rock. The largest blast occurred in October. No less than twelve tons of powder were exploded. The third, and final, operation took place in April 1869. In contrast to the first two, which used good nitrate of soda powder, this last operation made use of saltpeter powder that the Ordnance Department had condemned. Three separate charges, 3,000, 6,000, and 7,500 pounds were used with success.²⁷

27. *Ibid.*, Letters Received, 1867-70, Mendell, June 1, 1868, to Humphreys; Report of Operations, Lime Point, for October 1868, and for April 1869. Mendell did use nitroglycerin to complete the tunnels into the cliff.

Workmen continued to excavate broken rock from the site until the end of June 1869. At that time all work was suspended. This cessation was caused not by any failure of the blasting efforts, although Mendell estimated that it would take several years and \$300,000 to complete the excavation, but by the growing realization that masonry scarps were obsolete. The project was not canceled at this time--there was still a hope of employing iron plates on the front of masonry walls--but it never would be resumed.

b) The First Batteries

Before Mendell's last effort at blasting, the Engineer Department directed the Pacific Board to take up the matter of barbette and mortar batteries at Lime Point. The sites selected for these works originally included Cavallo Point, the ridge on top of Lime Point Bluff, Gravelly Beach, Point Diablo, and Point Bonita. The first two had already been well surveyed, but additional knowledge was needed on the other three. In April 1870, young Lt. Thomas H. Handbury turned in a report of his survey of these three areas. Concerning Gravelly Beach, Handbury said that it contained about twenty-five acres available for defensive and building purposes. He noted that the valley was still nameless: "It is suggested that it be called 'Gravelly Beach Valley' on account of the large quantity of concrete gravel that is obtained from the beach in its front." In his opinion, "a battery which would afford emplacements for say six of our largest guns, could be constructed here at very little expense."

Concerning Point Diablo, he wrote: "This is a bold rocky point, situated about 1 1/4 miles to the westward of Lime Point. It puts out from the mainland about eight hundred (800) feet, and commands a splendid view of the entire entrance to San Francisco Harbor." However, the available area was too small

for a battery unless it were cut down to an elevation of 100 or 120 feet. In that case, "something similar to a monitor turret [could] be placed there."

His most interesting observations concerned Point Bonita. Not only did light keepers live there, a few ranchers occupied the area--presumably north of the reservation boundary: "Among the old native residents and shippers of that vicinity [Point Bonita] . . . is known by the name 'North Point.' It is a long narrow ridge putting far out from the main-land and terminating in an 'L'-shaped mass of rocks." Observing that the area offered many eligible sites for batteries, Handbury continued: "The North-west portion of the ground is a very good location for quarters, barracks and store houses. It is sheltered from the winds and entirely out of view of an enemy. In this vicinity, or in a little valley just north of it, ground may be found which will answer very well for drill purposes. There are two or three never-failing springs of excellent water. . . ." He found the water of Rodeo Lagoon to be brackish; and he noted that an enemy could land on Rodeo Beach in calm weather. However, "a short range gun or two, placed upon either of the adjacent slopes would be sufficient." Continuing his description, he wrote:

"The means of communication with Point Boneta are very limited. There is a road leading from there to Rodea Valley, but there it ends, or rather degenerates into a trail which leads to Sausilito. The few persons who live in this valley and cultivate the ground communicate . . . by means of this trail. There is no road, nor semblance of a road, leading over the hills . . . excepting a very imperfect and poorly located one leading to Tennessee Valley.

In early fall, when the surplus produce is ready to be disposed of, it is hauled to a landing or platform made on the edge of the bluff to the south-east of the Light-keeper's dwelling [Bonita Cove]. From here it is lowered into a sloop by means of a rude derrick, and conveyed to the city.

At this landing, or perhaps further along the bluff to the Eastward, suitable arrangements could be made for disembarking large guns. . . . They could also be landed on the beach [Rodeo Cove] at the lower end of the Lagoon. . . .²⁸

Work on the batteries commenced in September 1870. Mendell's first task was to construct a road to Gravelly Beach. His immediate plan was to extend the road around the base of Lime Point; but the precipitous slopes and the refractory character of the rock caused him to change the route to cross over the ridge from Horseshoe Bay to Gravelly Beach. (This road may still be traveled.) At Gravelly Beach the work commenced with the building of a large brick and concrete culvert that would carry the valley runoff under the battery and on to the sea. This handsome piece of work remains.

The battery itself consisted of twelve emplacements arranged in pairs and designed for 15-inch Rodman smoothbores. The pairs were separated from one another by large earthen traverses, under each of which was a brick and concrete

28. *Ibid.*, Letters Sent, 1866-70, Humphreys, Mar. 25, 1869, to Alexander; Letters Received (A File), 1867-70, Board of Engineers for Fortifications, New York, Apr. 3, 1869, Report on the Defenses of Lime Point; Alexander, transmitting Handbury's report, Apr. 6, 1870, to Humphreys.

magazine. The parapets were formed of thick earthen embankments. The breast height walls were temporary affairs made of timber. The wooden gun platforms were completed by the spring of 1873. Only one 15-inch Rodman was mounted here at that time. It would be the only gun mounted at Lime Point for the next twenty years. This work was informally named Gravelly Beach Battery.

Construction of Battery Kirby at this same site in the 1890s resulted in the destruction of most of Gravelly Beach Battery. However there remain today the drainage culvert and at either end of Kirby one of the original traverses and its magazine. The surviving elements of Gravelly Beach Battery and Battery Kirby are today regarded as one structure, FB-700.²⁹

The engineers originally considered the work on top of Lime Point Ridge to be one battery. But as Mendell began working on it he came to regard it as two batteries: Cliff, at the end of the ridge and which had five emplacements for 15-inch Rodmans and one mortar bed; and Ridge, located on the ridge itself to the north of Cliff and having four Rodman emplacements and five mortar platforms. Each work had two earthen traverses with brick and concrete magazines underneath. The gun platforms at Ridge Battery were stone, but no platforms were constructed at Cliff Battery. Work began on the ridge in March 1871 and the works were completed by the fall of 1872. No guns were mounted at this time; not until 1893 were four 15-inch Rodmans transferred from Fort Point and mounted in Ridge Battery, where they remained throughout the Spanish-American War. Cliff Battery was destroyed

29. FARC, San Bruno, RG77, OCE, SF Dist., Journal of Operations, Lime Point, 1867-1876. This journal gives a month-by-month, detailed account of the construction of this and the other batteries built during this period.

during the construction of Battery Spencer in the 1890s. However, Ridge Battery, less the mortar emplacements, remains standing in good condition except that the earthen traverses have been partly cut away in recent times. It is identified as FB-704.

Mendell's third battery at Lime Point was constructed on Cavallo Point. Like Gravelly Beach, this large battery stood near water level and consequently had large earthen parapets for protection. The main work consisted of fifteen emplacements for 15-inch Rodmans. An outwork, located on the tip of the point and sometimes referred to as a separate battery, contained two 15-inch gun emplacements. Due to differences of opinion between the Pacific Board of Engineers and the New York Board, Cavallo Battery was the last of the three to be undertaken. Not until June 1872 did laborers begin constructing a road from the wharf to the battery site. In August work on the battery itself began. With the sodding of the battery in February 1876, it was considered completed. Like Ridge Battery no armament was placed in this work during the 1870s. Cavallo Battery would see several different uses in future years, including guarding a mining casemate within its parapets. During the Spanish-American War three 8-inch converted rifles (Rodman) on iron carriages were mounted on concrete platforms in emplacements nos. 10, 11, and 13. The outwork was later destroyed; but the main battery exists and it is the best surviving example of the post-Civil War works in San Francisco. It is identified as structure no. FB-575.

The two proposed works at Point Diablo and Point Bonita were not constructed. However, a start was made in 1874 on constructing a road to Point Bonita. By June 1875 over one mile of this road had been built westward from its junction with the Gravelly Beach road.

All work on fortifications at Lime Point and elsewhere came to a halt in 1876, when the Congress refused to pass any appropriations for further construction. The one 15-inch Rodman mounted on a wooden platform at Gravelly Beach was the sole gun guarding the north shore of the Golden Gate until the 1890s.³⁰

During the late 1870s and 1880s, two civilian "fort keepers" maintained a watch over the empty batteries and the engineer buildings. Mendell continued to make inspection visits. The biggest maintenance problem was controlling gophers: "A little rodent called the Gopher is the worst enemy we have. He burrows in the parapets and destroys their shape and compactness." Poisoning them made no difference because "recruits from outlying country come in." Another problem was the teredo, a ship worm that ate the pilings of the wharf.³¹

A reporter from the Sausalito Herald visited Lime Point in 1872 and described it from a civilian's point of view. He first went out to the lighthouse at Point Bonita, then worked his way back eastward toward Lime Point:

After a hard ride over the hills we first came to the "gravelly beach batteries," which, of the Lime Point fortifications, are the furthest advanced toward completion; in fact, little remains to be done here, except place the guns in position. There

30. FARC, San Bruno, RG 77, OCE, SF Dist., Journal of Operations, Lime Point, 1867-76; NA, RG77, OCE, Mendell, Annual Reports of Operations, Lime Point, FY 1870-76.

31. NA, RG77, OCE, Letters Received, 1871-86, Mendell, annual Report, Lime Point, FY 1878.

was no one here to give us any information, but judging from the magazines, seven in number a like number of guns will be mounted. This battery is situated on the beach, which, at this point, makes into a little cove. . . . From this point there is a good road, winding up by the fortifications on the hill, and down again, to the headquarters on the beach below. Here we again stopped, took a hasty glance at the work-shops, the quarters of the officers and men.³²

2. Fog Signal Station, 1883

In 1882, Congress appropriated \$20,000 for the establishment of a steam-operated fog signal at Lime Point. The Treasury Department approached the Army concerning the use of Mendell's spring and reservoir at the engineer camp as a source of water for operating the signal. Mendell had no objection to this use since he had no construction operations underway at the time. He urged, however, that the Lighthouse Board eventually develop its own supply of water. The site selected for the signal was a large rock (or tiny island) at the foot of Lime Point, a rock that the engineers had unofficially called Sugar Loaf. This rock which was fifty-four feet high, would be blasted to make a flat shelf for the buildings.

The fog signal station was constructed in 1883. It had twin twelve-inch steam whistles. A two-family residence was located behind the single-story station, both buildings being brick. In 1900, an acetylene light was placed on the wall of the station. The Army constructed a search light shelter on the rock in 1910, its light playing a role in the seacoast defenses. When the U.S.

32. Veronda, Marin County, p. 395.

Coast Guard took over the operation of the station, in 1939, it added a third story to the residence. The station was electrified in 1932; then, in 1961, the station was automated and has been unmanned since that time. Two unusual events occurred here in recent times: In 1959 the station was held up by bandits. A year later, a freighter, India Bear, crashed into the lighthouse.

A newspaper account of the station in 1890 noted that all the structures at the station were whitewashed; even the rocks had received "a liberal coating." The reporter continued his description: "Here the sight-seer can slack [sic] his thirst at a flume of cool water and view the machinery by which the whistles are blown at regular intervals during the times of fog. Steam is kept up in the boilers all the time and an engineer is in constant attendance and readiness for the possible emergency of a sudden and stealthy creeping in of the fog, which may suddenly fill the whole bay region. . . . The engine room of the station extends to the very edge of the rocky point and the view from its windows commands an uninterrupted sweep of the bay and entrance to the harbor." Both the fog signal and the light are still in operation, and the original station still stands. Also yet to be seen are the concrete foundation for the searchlight shelter and, at the base of Lime Point, a half-buried artillery fire control station. The searchlight shelter and the residences have been demolished. The area is administered by the U.S. Coast Guard, while the Golden Gate Bridge Authority maintains a storage area on the approach to the fog station. Both are fenced off and they are not open to visitors. (However, Sunday fishermen have found ways to gain access to the area.)³³

33. NA, RG77, OCE, Letters Received, 1871-86, W. Ludlow, Office of the Lighthouse Board, Treasury Dept., Dec. 19, 1882; Mendell, Feb. 27, 1883, to Chief of Engrs.; San Francisco Morning Call,

3. Road from Sausalito

In 1886 the citizens of Sausalito proposed to Colonel Mendell the construction of a road at their own expense from the town, through the east side of the military reservation, to the fog signal station. Their main argument was that such a road would be a great convenience to the Lighthouse Service. Mendell was not convinced: "It will be understood that the promoters have in mind other points than the convenience of the Light House Service. It is safe to assume the object to be a pleasure drive to attract visitors. . . ." Another engineer observed: "The reservation is quite a resort on Sundays and holidays for parties visiting Sausalito for recreation, and no objection has been made to its use by well disposed people, but no hunting or shooting is allowed."

Mendell convinced the Chief of Engineers that such a road would "be a never ending source of conflict, annoyance, and interference with public operations." If a road were to be built, it should be constructed by the government. The citizens were undaunted. Several times over the next few years they persuaded their congressman to introduce a bill in the House that called for the army's ceding the northeast corner of the reservation to Sausalito. The land involved amounted to forty acres and included a strip from the north boundary, along the bay, south to Yellow Bluff. (The engineers had already built a road from Battery Cavallo at Yellow Bluff to their wharf on the west side of Horseshoe Bay). The Engineer Department fought off all these attempts, until 1894. That year the War Department announced that it had no objections to a citizens' road. Congress approved a bill for the road on July 2, 1894.

June 22, 1890; Ralph C. Shanks, Jr. and Janetta Thompson Shanks, Lighthouses of San Francisco Bay (San Anselmo: Costano Books, 1976), pp. 69-75.

The citizens of Sausalito failed to raise the necessary funds to construct the road. As the years passed and Fort Baker became a reality, the Army gradually changed its mind about the need for a means of communications with Sausalito. In 1901 the commanding general of the Department of California, Maj. Gen. S. B. M. Young, said that a good road between the town and the garrison was a necessity, owing to those times when the tide and the wind made landing at the Fort Baker wharf impracticable. The Secretary of War authorized the expenditure of a few hundred dollars for the project. Alcatraz Island made available 200 military prisoners for the work. The new road had a total length of 5,800 feet and a width of eighteen feet. A post and rail fence protected part of it from the steep cliffs of the bay.³⁴

C. The Endicott Batteries

In 1890 the Board of Engineers for Fortifications in New York prepared a "General Project for Defense" for San Francisco Harbor. This massive modernization program, which grew out of the then recent Endicott Board's recommendations for the seacoast defense of the United States, called for a number of new works on the Lime Point Military Reservation. At Point Bonita there were to be three batteries containing three 12-inch guns on lifts, four 10-inch guns on disappearing carriages, and sixteen 12-inch rifled mortars. Point Diablo was to be armed with two massive 16-inch guns mounted in a turret. Another turret, also containing two 16-inch guns, was to be constructed at the base of Lime Point, where Mendell had done his blasting in the 1860s. On top of Lime Point Ridge the old batteries would be replaced by a new one

34. NA, RG77, OCE, Land Papers, Mendell, May 21, 1866, and Apr. 14, 1890, to Chief of Engrs.; Lt. Col. W.H.H. Benyaard, Mar. 8, 1892, and Sept. 3, 1895, to Chief of Engrs.; RG 92, Office of the Quartermaster General (hereinafter cited as OQMG) General Correspondence, 1890-1914, Lt. J. McKinley, Dept. of Calif., Aug. 19, 1901, to AG.

containing five 12-inch guns on nondisappearing carriages. A battery containing four 12-inch guns on lifts would be constructed at Gravelly Beach. Point Cavallo was to be armed with five 10-inch guns on disappearing carriages. Between it and Sausalito would be two batteries containing two 8-inch guns on disappearing carriages and three 8-inch guns on nondisappearing carriages respectively.

These plans for thirty guns and sixteen mortars would not be fulfilled, but during the next fifteen years a considerable number of batteries would be constructed on this reservation:

Eastern Lime Point (Fort Baker)

Battery Spencer. (FB-705) Three 12-inch rifles, model 1888, on nondisappearing carriages. Constructed on the site of Cliff Battery on Lime Point Ridge. The battery was turned over to the Artillery on September 24, 1897. Its cost of construction to that date amounted to \$110,353. A number of supplementary structures, including a powerhouse, guardhouse, officer's room, and latrine were also constructed at the site.

Battery Kirby. (FB-700) Two 12-inch rifles, model 1895, on disappearing carriages. Constructed on the site of Gravelly Beach Battery. The battery was turned over to the Artillery on August 5, 1900. Its cost to that date was \$70,334.

Battery Duncan. (FB-573) Two 8-inch rifles, model 1888, on nondisappearing carriages. Constructed on top of a hill at Yellow Bluff, north of old Cavello Battery. It was turned over to the Artillery on May 5, 1900. The cost of construction to that date was \$57,535.

Battery Orlando Wagner. (FB-703) Two 5-inch guns, model 1897, mounted on balanced-pillar mounts. Constructed on the face

of a slope between Lime Point and Gravelly Beach. The battery was turned over to the Artillery on August 21, 1901. Its cost to that date amounted to \$25,000.

Battery George Yates. (FB-571) Six 3-inch guns, model 1902, on pedestal mounts. Constructed on Cavallo Point, south of old Cavallo Battery. It was turned over to the Artillery on June 6, 1905. The construction costs to that date were \$41,407.

Western Lime Point (Fort Barry)

Battery Mendell. (FA-1364) Two 12-inch guns, model 1895, mounted on disappearing carriages. Constructed about halfway between Point Bonita and Bird Island, near the edge of the cliff facing seaward. The battery was turned over to the Artillery on June 8, 1905. Its cost to that date amounted to \$128,016.

Battery Alexander. (FA-1356) Eight 12-inch mortars, model 1890, mounted on carriages, model 1896. It was located to the northeast and rear of Battery Mendell. The battery was turned over to the Artillery on June 8, 1905. Its construction costs to that date came to \$100,382.

Battery Edwin Guthrie. (FA-1354) Four 6-inch guns, model 1900, mounted on nondisappearing carriages. The battery was constructed to the northwest of an parallel to Battery Alexander. It too was turned over to the Artillery on June 8, 1905. Its construction costs to that date amounted to \$69,194. Later the battery was divided in two. Two emplacements retained the name Guthrie; the other two were designated Battery Hamilton A. Smith.

Battery Patrick O'Rorke. (FA-1351) Four 3-inch guns, model 1903, on pedestal mounts. It was located to the northwest of and parallel to Batteries Alexander and Guthrie. The battery was

turned over to the Artillery on June 8, 1905, before its guns were received. Its construction costs to that date were \$24,463.

Battery Samuel Rathbone. (FA-911) Four 6-inch guns, model 1900, mounted on nondisappearing carriages. This battery was located toward the eastern end of Bonita Cove, its guns facing generally to the south in the direction of Point Lobos. As with the other Endicott batteries in this area, it was turned over to the Artillery on June 8, 1905. Its construction costs amounted to \$92,511. Later the battery was divided in two, two of the emplacements retaining the name Rathbone and the other two being called James F. McIndoe.³⁵

Colonel Mendell, now the senior engineer at San Francisco, oversaw all construction of the new works on both sides of the Golden Gate. Lt. Col. William H. H. Benyard had direct charge of the construction on the Lime Point Reservation. He renovated the old engineer buildings at Horseshoe Bay for the civilian labor force employed at that area. A similar group of temporary structures was erected at Point Bonita for the employees there. The wharf in Horseshoe Bay was now in an advanced state of decay, but it was repaired and again pressed into service. Work on the new construction began in February 1893, with the demolition of old Cliff Battery on Lime Point Ridge, preparatory to the construction of Battery Spencer.³⁶

35. FARC, San Bruno, RG77, OCE, SF Dist., Letterbook, Jan. 1-May 18, 1907, Maj. C.H. McKinstry, "Report of Completed Batteries, Etc., Defenses of San Francisco, Cal.," Dec. 31, 1906; NA, Cartographic Archives Div., RG77, Fortifications File, map, Board of Engineers, Sheet B, San Francisco Harbor, "General Project for Defense."

36. NA, RG77, OCE, Gen. Correspondence, 1893-94, Mendell, Apr. 13, 1893, to Chief of Engrs.; Benyard, Annual Report, Lime Point, FY 1893.

The new fortifications north of the Golden Gate demanded protection and maintenance. The time was coming close when a new post would have to be established there. In 1896, the Adjutant General of the Army wrote: "As high power guns are being erected at Lime Point . . . and as additional batteries of modern guns and mortars will soon be erected there, it is important that there should be a strong garrison on that side of the harbor, as that is really the Gibraltar of the Pacific Coast." The post would soon be established and it would be named Fort Baker.³⁷

37. NA, RG92, OQMG, Gen. Correspondence, 1890-1914, Asst. AG Samuel Breck, Dec. 30, 1896, to commanding general, Dept. of California.

