

WORK PLAN
PĀHALA COMMUNITY
LARGE CAPACITY CESSPOOL (LCC) REPLACEMENT PROJECT
ADMINISTRATIVE ORDER OF CONSENT (AOC)
Pāhala, District of Ka‘ū, County of Hawai‘i, Hawai‘i
April 21, 2017

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I. Background

The majority of the Pāhala Community, a historical sugar farming and processing operation which shut down in 1996, is currently served by two (2) LCCs. C. Brewer previously owned and operated the sugar enterprise and community wastewater systems/infrastructure.

In 2003, C. Brewer requested assistance from the County to close their LCCs. Subsequently, the County held a community meeting to present sewer system replacement alternatives. Voting took place to choose the preferred sewer improvement alternative resulting in 87% of returned ballots in favor of the installation of a new sewer collection, treatment and disposal system to be operated and maintained by the County.

In 2006, C. Brewer asked the County, who agreed by way of a County Council Resolution, to construct and maintain a new and improved community sewer system. In anticipation of C. Brewer's dissolution, C. Brewer proposed, and the County agreed, to enter into a formal agreement to not only construct and maintain a new and improved community sewer system but to assume ownership of the existing system including the LCC's by April 30, 2010.

In 2007, the proposed wastewater treatment and disposal were large capacity septic tanks and conversion of the LCC's to seepage pits. In 2008, the combination of the LCC's being in poor and failing condition, and poor results from soil percolation tests in the field influenced the County to consider looking at larger land to construct a secondary treatment system to fulfill a longer term vision of a higher level of wastewater treatment and options of plant expansion for possible community growth.

Project efforts and therefore the EPA Grant funds were focused on Nā'ālehu because land seemed to be more identifiable. In 2011, time was spent on identifying and exploring thirteen land options and ranked in accordance to least negative impact. The amended Draft Environmental Assessment for the Nā'ālehu Wastewater Transmission, Treatment and Disposal System that was issued in 2013 drew a number of concerns and objections over the proposed land location for the future wastewater treatment and disposal facility.

In July 2016, a meeting was held for the Nā'ālehu Community to provide an update to the conceptual plan for the future wastewater treatment and disposal system including the proposed location. The resulting conclusion was that the County would need to expend additional time and effort to achieve community acceptance of not only the proposed land location, but also the proposed type of wastewater treatment and disposal system.

In September 2016, the County decided that while working on an approach strategy for moving ahead for the Nā'ālehu LCC Closure project, it would be beneficial to restart efforts to identify a suitable site in Pāhala for the installation of a wastewater treatment and disposal system to serve the Pāhala Community. This would enable the closure of the existing LCCs. Similarly to Nā'ālehu, the concept involves constructing a secondary treatment system to fulfill a longer term vision of better treatment and possible growth of the community.

In January 2017, it was proposed by the County in discussion with the EPA to shift the EPA Grant funds from Nā'ālehu to Pāhala as the probability of LCC closure in the latter community would be higher.

The Pāhala Community within the District of Ka'ū in the County of Hawai'i (Figure 1). The District of Ka'ū is situated at the southern tip of the Island and extends across the southern and southeastern flanks of Mauna Loa. With a land area of over 630,000 acres and an estimated population of over 5,000 persons, the District of Ka'ū is relatively isolated and unspoiled. The Pāhala Community is one of two major population centers in the District of Ka'ū with a population of 1,378 according to the year 2000 census. Since the closing of the Ka'ū Sugar Company in 1996, many of the residents within the community are former sugar workers and their descendants.

The initial site reconnaissance involved exploring possible properties southwest of Pāhala that are currently owned by the Department of Land and Natural Resources and Kamehameha Schools. While the properties would be suitable in size and distance from the town, it was decided that the topographic challenges would make extending the collection system to these areas very cost prohibitive.

Upon further exploration closer to town, it became evident that another property also owned by Kamehameha Schools and currently being leased by a local macadamia nut grower was a strong possibility for a wastewater treatment and disposal facility. The treated effluent would be treated to reuse quality and used to irrigate the macadamia nut trees. The archaeological field inspection conducted in November 2016 showed that while some relevant surface artifacts were found, the property was still considered a strong possibility for siting a wastewater treatment facility. The County has hired a designer who will help the County with acquiring the necessary acreage of property upon completion of further archaeological studies and interfacing with the landowner and concerning agencies.

Since the intent is to shift the federal funds from Nā'ālehu to Pāhala to be utilized in the LCC replacement effort, federal NEPA requirements apply. No construction related to the project can begin until NEPA is completed. A new EA will be done for Pāhala as the 2007 EA does not describe the type of wastewater treatment and disposal system envisioned for Pāhala.

II. Purpose

Per Federal regulations, all existing LCCs must be closed and the Pāhala Community must be serviced by an acceptable wastewater collection, treatment and disposal system. There are no existing County of Hawai'i (County) wastewater treatment plants in the Ka'ū District. The closest County wastewater treatment plant is located in the town of Hilo which is approximately 60 miles north of Nā'ālehu.

The residential community is served by a sewer system comprised of substandard gravity lines that convey sewage to two (2) large capacity cesspools (LCCs) which were previously owned and operated by C. Brewer and Company, Ltd. (C. Brewer) and are approximately 60 years old. Per an agreement between the County and C. Brewer, the

County assumed ownership of the sewer system in 2010. The existing Pāhala Sewer System is as shown in [Figure 2](#) herein.

III. Objectives

The objective is to replace and close two (2) LCCs currently servicing the Pāhala Community.

The existing Pāhala Community sewer system servicing 109 properties will be replaced with a collection system meeting County standards; and a Secondary Wastewater Treatment and Disposal facility meeting State Department of Health standards. An additional 65 properties, including the Pāhala Elementary School, that are not currently being served by the C. Brewer system will be made accessible to the County Sewer system as required by Hawai'i County Code Chapter 21, Sewers, and Hawai'i Administrative Rules (HAR) Section 11-62-06, Wastewater Systems. The result is a total of 174 properties serviced by the new Pāhala Collection, Treatment, and Disposal system. The new Pāhala Collection System is as shown in [Figure 3](#) herein and the new Wastewater Treatment and Disposal System is as shown in [Figure 4](#) herein.

IV. Methods

To meet the objective, the County will contract the services of an engineering design consultant to carry out the requirements of the State of Hawai'i Revised Statutes (HRS) 343; prepare the Environmental Information Document (EID) for EPA's review; prepare a NEPA EIS; plan and design a wastewater treatment and disposal system for the Pāhala Community; and close the existing LCCs after the existing collection system is connected to the wastewater treatment plant.

The sequencing of tasks required to meet the objective is shown on the Project Schedule as Task Nos. 1 through 9 (Table 1). Task No. 7 will be funded by EPA Grant XP-96942401. All tasks with the exception of Task No. 7 are anticipated to be funded by the Clean Water State Revolving Fund Loan Program. The completion of Task No. 7 is contingent upon the progress made in Task Nos. 1 through 6.

The methods specific to accomplishing the objectives include a design that is to address abandonment of the substandard sewer lines that run within private properties, and installing new sewer lines that will reside in the County-owned roadways. The new Wastewater Treatment and Disposal system will be constructed first, which upon completion the existing collection system will be separated from the existing LCCs. The existing collection system will be serviced by the new treatment/disposal system via a new gravity line(s) that will also be installed during the first phase of construction. The separation of the existing collection system will enable expedited closure of the LCCs currently serving the Pāhala Community. The final phase of construction will consist of replacing the existing collection system with approximately 12,000 linear feet (LF) of 8-inch sewer lines with sewer laterals.

The engineering design consultant will produce the required archaeological documents and flora/fauna inventories to assist the EPA with coordination with the State Historic Preservation Office and the US Fish and Wildlife Service.

V. Project Schedule/Milestones

The Project Schedule (Table 1) shows nine (9) major tasks (Task Nos. 1 through 9) that directly results in closure of LCCs that currently serves the Pāhala Community.

Task 1: Consultant Contract & Additional Archaeological Study

Task 2: Land Acquisition for Wastewater Treatment Plant

Task 3: Preliminary Engineering Report

Task 4: NEPA & HRS 343 Environmental Assessment (EA)

Task 5: Design - Wastewater Treatment and Disposal System

Task 6: Construction - Wastewater Treatment and Disposal System

The County anticipates that this task will be partly funded by EPA Grant XP-96942401.

Task 6.1 Bidding period by Contractors.

Task 6.2 Bid evaluation period by County.

Task 6.3 Bid Award and Contract Execution.

Task 6.4 Construction of the Wastewater Treatment and Disposal System.

Task 6.5 Secure DOH Approval to Operate the new WWTP.

Task 7: (Marker for EPA Grant XP16942401-6 Expiration)

Task 8: Connect Existing Collection System to Wastewater Treatment and Disposal System & Close LCCs

Task 9: Design – New Collection System

Task 10: Design - Connection of Private Properties to New Collection System

Task 11: Construction Contract for New Collection System & Connection of Existing Private Properties

Task 12: Connection of Additional Properties not currently served by LCC's

VI. Project Costs

It is intended that financing under EPA Grant XP-96942401 be utilized for construction of the wastewater treatment and disposal system under Task No. 7. Estimated Costs and proposed funding sources are as provided under Table 2 of Section XI, Attachments unless additional State or Federal funds become available.

The total construction cost of the Pāhala Wastewater Treatment and Disposal System is currently estimated at \$7.2M. The cost for consultant services to perform planning, land acquisition, design services and services during construction is estimated at \$1.84M. Table 2 of Section XI indicates the allocation of funding resources unless additional State or Federal funds become available and Table 3 of Section XI provides Budget Information for Federal Funds to be used for the project.

VII. Performance Evaluation

The following will be used to evaluate the success of the project:

1. Timely completion of the project in accordance with the plans and specifications.
2. Elimination of County-owned large capacity cesspools.
3. Compliance with the EPA regulations, 40 CFR 144 & 145.

VIII. Reporting Schedule to EPA

The County will participate in quarterly meetings with the USEPA in order to provide updates to the project and will provide semi-annual reports regarding project status.

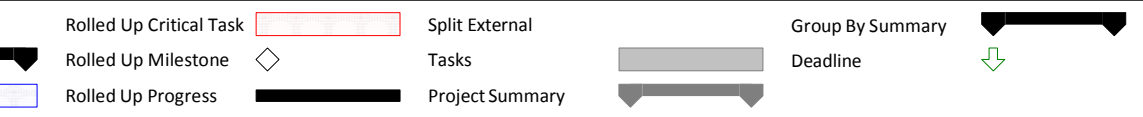
IX. Project Benefits to the Public

The expected output and outcome is a design and construction project that will produce a new wastewater collection system that will replace C. Brewer's Sugar Plantation Sewer System consisting of 60-year old sewer lines and LCCs that are in poor condition. The benefit is to the Pāhala residents will no longer need to be concerned about the reliability of their sewer system from a health and welfare standpoint. Dependable sewer service will be available to 109 residential properties currently served by the existing sewer system in the Pāhala Community, and to an additional 65 properties that are not currently being served by the existing sewer system will receive the new sewer service.

X. Attachments

TABLE 1 PAHALA
PROJECT SCHEDULE
(4/21/2017 REVISION 4 - FINAL)

ID	Task Name	Duration	Start	Finish	Predecessors	'16	'17	'18	'19	'20
0	Pāhala Work Plan	1943 days?	Sat 10/1/16	Tue 1/25/22						
1	1 Consultant Contract - B&C (Contract 1)	148 days	Tue 10/4/16	Tue 2/28/17						
2	1.1 Consultant Contract for WWTP - B&C (PER & Phase I ESA)	148 days	Tue 10/4/16	Tue 2/28/17						
3	2 Land Acquisition for WWTP - B&C/County	643 days	Sat 10/1/16	Thu 7/5/18						
4	2.1 Discuss Land Acquisition with Owner of TMK 9-6-002:018	30 days	Sat 10/1/16	Sun 10/30/16						
5	2.2 Perform Phase 1 ESA (Contract 1)	180 days	Wed 3/1/17	Sun 8/27/17	2					
6	2.2.1 80% Completion of Phase 1 ESA	144 days	Wed 3/1/17	Sat 7/22/17						
7	2.2.2 100% Completion of Phase 1 ESA	36 days	Sun 7/23/17	Sun 8/27/17	6					
8	2.3 Phase 2 ESA of TMK 9-6-002:018 (Contract 2)	300 days	Sun 7/23/17	Fri 5/18/18						
9	2.3.1 Consultant Contract for Phase 2 ESA	90 days	Sun 7/23/17	Fri 10/20/17	6					
10	2.3.2 Perform Phase 2 ESA	210 days	Sat 10/21/17	Fri 5/18/18	9					
11	2.3.2.1 80% Completion of Phase 2 ESA	168 days	Sat 10/21/17	Fri 4/6/18						
12	2.3.2.2 100% Completion of Phase 2 ESA	42 days	Sat 4/7/18	Fri 5/18/18	11					
13	2.4 Condemnation of Kamehameha Schools Property	90 days	Sat 4/7/18	Thu 7/5/18	11					
14	3 Preliminary Engineering Report - B&C (Contract 1)	180 days	Wed 3/1/17	Sun 8/27/17						
15	3.1 PER 60% Completion	110 days	Wed 3/1/17	Sun 6/18/17	2					
16	3.2 PER to Reflect new WWTP	70 days	Mon 6/19/17	Sun 8/27/17	15					
17	4 NEPA & HRS 343 EA for Pāhala - B&C (Contract 3)	570 days	Mon 6/19/17	Wed 1/9/19						
18	4.1 Consultant Contract for NEPA & 343 EA/Design/Program Mgmt	90 days	Mon 6/19/17	Sat 9/16/17	15					
19	4.2 Initiate discussions with SHPD for AIS	30 days	Sun 9/17/17	Mon 10/16/17	18					
20	4.3 Community Outreach - B&C/County	157 days	Sun 9/17/17	Tue 2/20/18	18					
21	4.3.1 Initial Consultation with Appropriate Public Officials	30 days	Sun 9/17/17	Mon 10/16/17	5					
22	4.3.2 Site visit of Honokaa WWTP (Similar Process)	5 days	Tue 10/17/17	Sat 10/21/17	21					
23	4.3.3 Initial Public Outreach & Public Meetings (2)	60 days	Tue 10/17/17	Fri 12/15/17	21					
24	4.3.4 Address Public Comments	60 days	Sat 12/16/17	Tue 2/13/18	23					
25	4.3.5 Final Public Meeting	7 days	Wed 2/14/18	Tue 2/20/18	24					
26	4.4 EID for WWTP/Collection Sys. (to EPA)	270 days	Sat 12/16/17	Tue 9/11/18	1,14,23					
27	4.4.1 50% NEPA and EA	140 days	Sat 12/16/17	Fri 5/4/18						
28	4.4.2 90% NEPA and EA Completion	70 days	Sat 5/5/18	Fri 7/13/18	27					
29	4.4.3 100% NEPA and EA	60 days	Sat 7/14/18	Tue 9/11/18	28					
30	4.5 Publish NEPA & HRS 343 EA for Public Review	30 days	Wed 9/12/18	Thu 10/11/18	25,29					
31	4.6 EPA Complete Review and NEPA Determination	90 days	Fri 10/12/18	Wed 1/9/19	30					
32	4.7 HRS 343 EA Process (in parallel with NEPA)	365 days	Sun 9/17/17	Sun 9/16/18	18					
33	5 WWTP Design - B&C (Contract 3)	432 days	Sat 7/14/18	Wed 9/18/19	1					
34	5.1 WW Treatment & Disposal 90% Design Completion	270 days	Sat 7/14/18	Tue 4/9/19	16,18,28					
35	5.2 WW Treatment & Disposal Design Completion	95 days	Wed 4/10/19	Sat 7/13/19	34					
36	5.3 Submit WWTP design to DOH for Approval	7 days	Sun 7/14/19	Sat 7/20/19	35					
37	5.4 DOH approval to Construct	60 days	Sun 7/21/19	Wed 9/18/19	36,31,32					
38	6 WW Treatment & Disposal Construction - Phase II	610 days	Thu 9/19/19	Thu 5/20/21	33					
39	6.1 Bidding Period	90 days	Thu 9/19/19	Tue 12/17/19	31,37					
40	6.2 Bid Evaluation	30 days	Wed 12/18/19	Thu 1/16/20	39					
41	6.3 Bid Award and Contract Execution	60 days	Fri 1/17/20	Mon 3/16/20	40					
42	6.4 Construction	400 days	Tue 3/17/20	Tue 4/20/21	41					
43	6.5 DOH Approval to Operate	30 days	Wed 4/21/21	Thu 5/20/21	42					
44	7 EPA Grant XP16942401-6 EXPIRATION	0 days	Fri 10/30/20	Fri 10/30/20						
45	8 Conn. Exist Coll. Sys to WWTP and Close LCC's	471 days?	Tue 3/17/20	Wed 6/30/21						
46	8.1 LCC on TMK 9-6-002:016 (LCC NO. 1)	451 days?	Tue 3/17/20	Thu 6/10/21						
47	8.1.1 Install new sewer line from LCC-1 to new WWTP wo Conne	60 days	Tue 3/17/20	Fri 5/15/20	41					
48	8.1.2 Connect new sewer line to Existing Collection System	1 day?	Fri 5/21/21	Fri 5/21/21	43					
49	8.1.3 Close LCC	5 days	Sat 5/22/21	Wed 5/26/21	48					
50	8.1.4 Submit LCC Closure Report to DOH and EPA	15 days	Thu 5/27/21	Thu 6/10/21	49					
51	8.2 LCC on TMK 9-6-016:041 (LCC NO. 2)	41 days	Fri 5/21/21	Wed 6/30/21						
52	8.2.1 Install temporary sewer line to bypass LCC	21 days	Fri 5/21/21	Thu 6/10/21	43					



Project: Pāhala Work Plan
Date: Fri 4/21/17

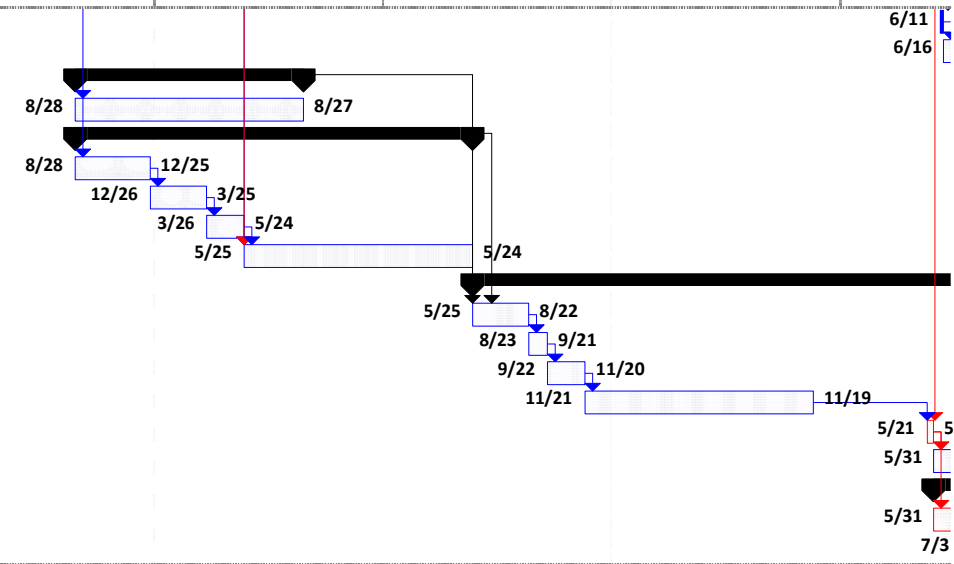
Task Critical Milestone
 Task Summary
 Progress Rolled Up Task

Rolled Up Critical Task Split External
 Rolled Up Milestone Tasks
 Rolled Up Progress Project Summary

Group By Summary
 Deadline

TABLE 1 PAHALA
PROJECT SCHEDULE
(4/21/2017 REVISION 4 - FINAL)

ID	Task Name	Duration	Start	Finish	Predecessors	'16	'17	'18	'19	'20
53	8.2.2 Close LCC	5 days	Fri 6/11/21	Tue 6/15/21	52					6/11
54	8.2.3 Submit LCC Closure Report to DOH and EPA	15 days	Wed 6/16/21	Wed 6/30/21	53					6/16
55	9 Collection System Design - F&A (Exg. Contract)	365 days	Mon 8/28/17	Mon 8/27/18						
56	9.1 Collection System Design - F&A	365 days	Mon 8/28/17	Mon 8/27/18	16					
57	10 Design Conn of Private Prop - F&A (Contract 4)	635 days	Mon 8/28/17	Fri 5/24/19						
58	10.1 Obtain County Council Approval for Work on Private Properties	120 days	Mon 8/28/17	Mon 12/25/17	16					
59	10.2 Consultant Contract for Design of Private Connections	90 days	Tue 12/26/17	Sun 3/25/18	58					
60	10.3 Obtain Right of Entries for Surveying	60 days	Mon 3/26/18	Thu 5/24/18	59					
61	10.4 Design Connection of Residential Properties.	365 days	Fri 5/25/18	Fri 5/24/19	16,60,27					
62	11 Constr. Contract for Coll. Sys & Exg. Private Properties	937 days	Sat 5/25/19	Thu 12/16/21						
63	11.1 Bidding Period	90 days	Sat 5/25/19	Thu 8/22/19	55,57					
64	11.2 Bid Evaluation	30 days	Fri 8/23/19	Sat 9/21/19	63					
65	11.3 Bid Award and Contract Execution	60 days	Sun 9/22/19	Wed 11/20/19	64					
66	11.4 Construction of Collection System wo Connect	365 days	Thu 11/21/19	Thu 11/19/20	65					
67	11.5 Connection of Collection System to WWTP	10 days	Fri 5/21/21	Sun 5/30/21	43,66					
68	11.6 Connection of Private Properties	200 days	Mon 5/31/21	Thu 12/16/21	67					
69	12 Connection of Additional Properties	240 days	Mon 5/31/21	Tue 1/25/22						
70	12.1 Issue Connection Notice to Additional Properties	60 days	Mon 5/31/21	Thu 7/29/21	67					
71	12.2 Properties to connect with 180 days of Notification	180 days	Fri 7/30/21	Tue 1/25/22	70					



Project: Pähala Work Plan
Date: Fri 4/21/17

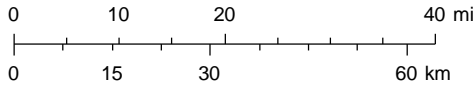
Task Critical		Milestone		Rolled Up Critical Task		Split External		Group By Summary	
Task		Summary		Rolled Up Milestone		Tasks		Deadline	
Progress		Rolled Up Task		Rolled Up Progress		Project Summary			

Figure 1 - Project Area Map



January 31, 2017

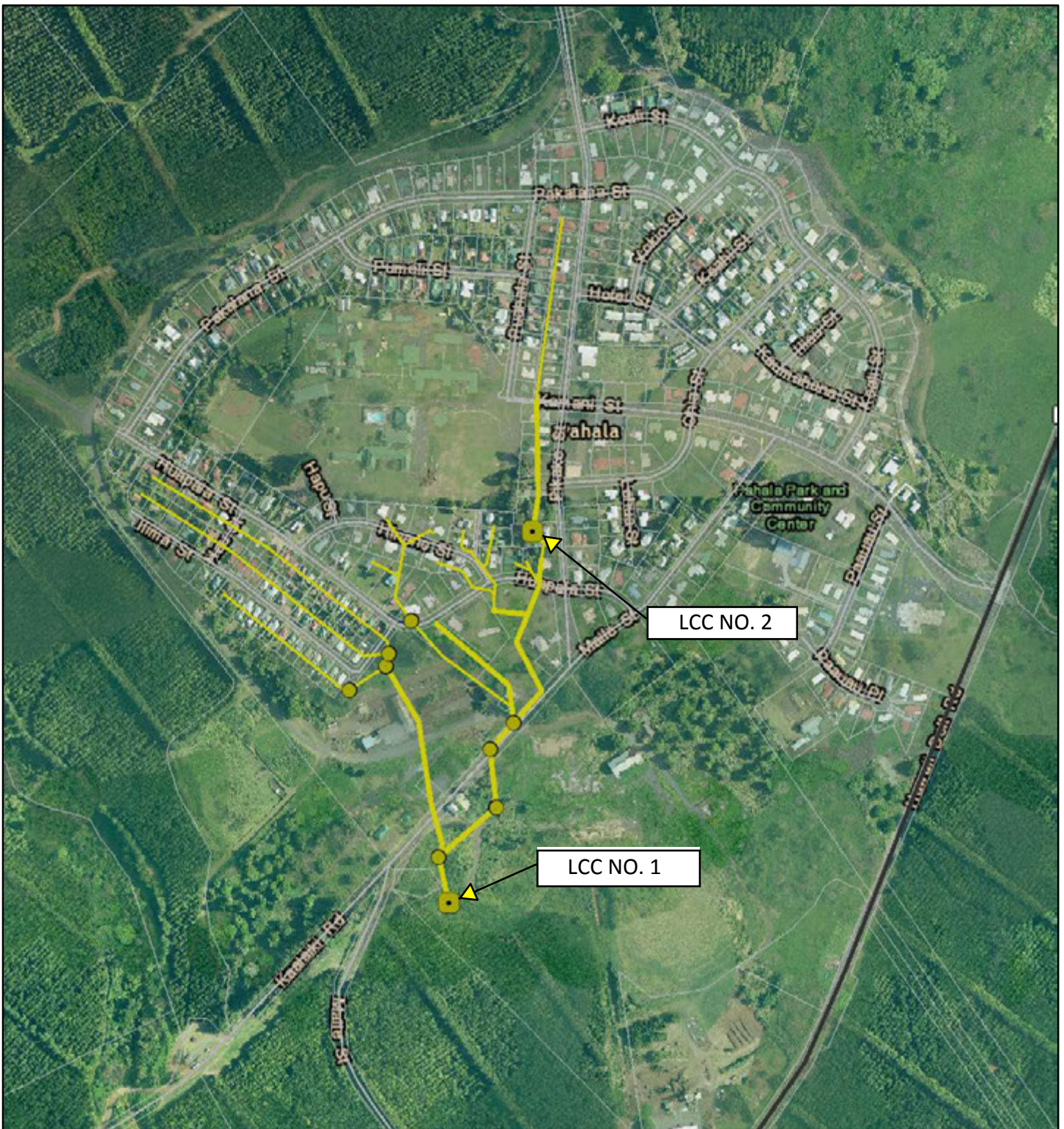
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- Towns
- Major Roads

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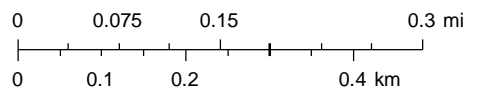
Figure 2 - Existing Pahala Sewer System



January 31, 2017

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- Naalehu-Pahala LCCs
- Naalehu-Pahala Sewer Manholes
- 4"
- 3"



Naalehu-Pahala Sewer Lines

- 8"
- 6"

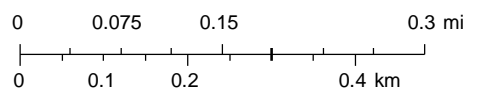
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Figure 3 - New Pahala Collection System



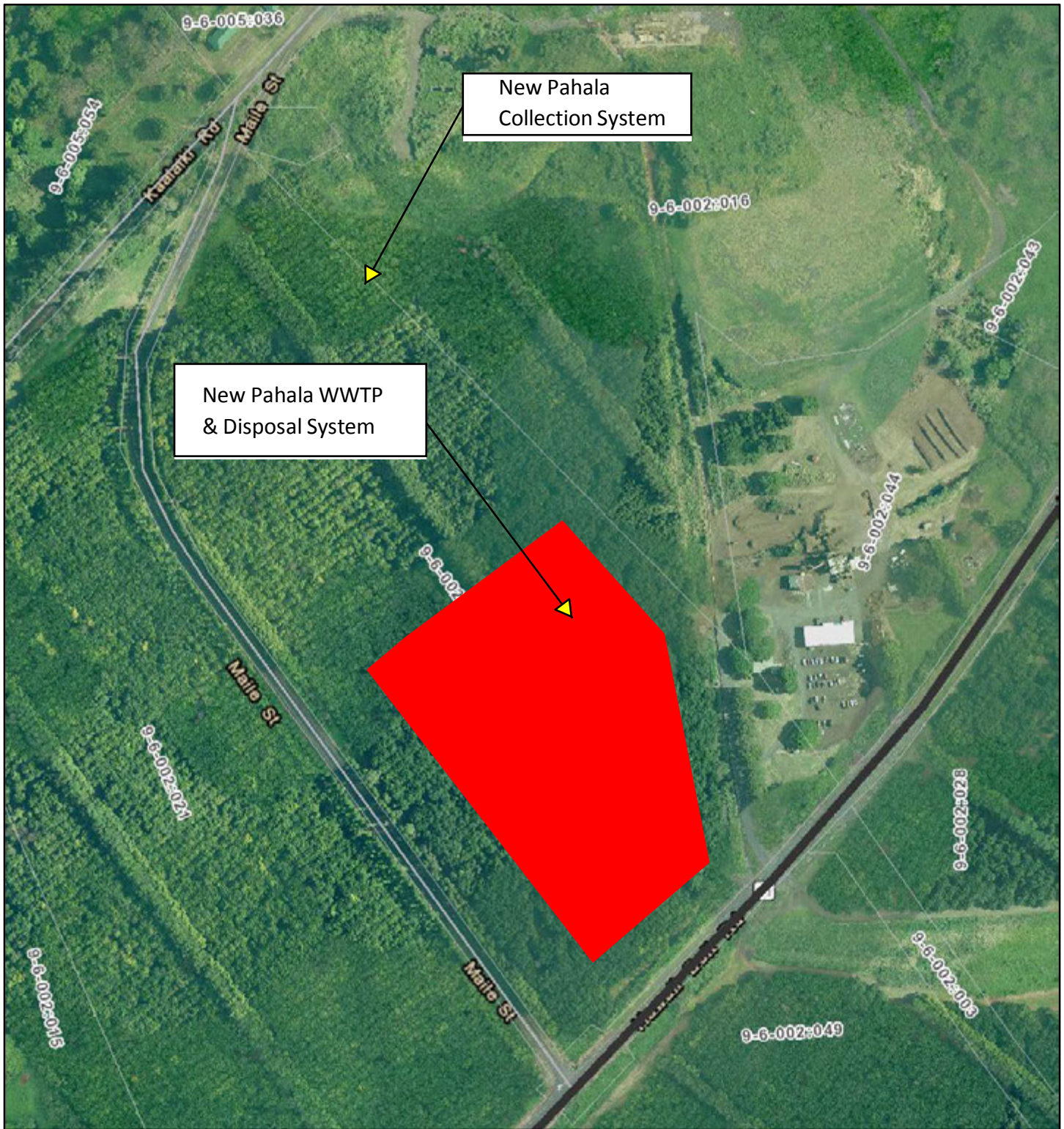
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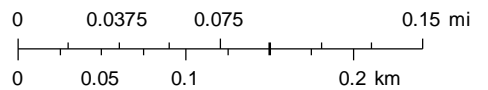
Figure 4 - New Pahala WWTP & Disposal System



January 31, 2017

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- Major Roads
- Other Roads
- * TMK Number Labels
- Parcels



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