



CONSERVATION DISTRICT USE APPLICATION (CDUA)

File No:	
Acceptance Date:	180-Day Expiration Date:
Assigned Planner:	
<i>for DLNR Use</i>	

PROJECT NAME: **Kihoi Residence Renovation and Site Grading**

Conservation District Subzone: Resource

Identified Land Use: P-13 Land and Resource Management (C-2); L-2 Landscaping (C-1); and P-8 Structures and Land Uses, Existing (B-1)

(Identified Land Uses are found in Hawai'i Administrative Rules (HAR) §13-5-22 through §13-5-25)

Project Address: 1551 Moani Street

Honolulu, Hawaii 96819

Tax Map Key(s): (1) 1-4-001:047

Ahupua`a: Kamanaiki

District: Kalihi

County: Honolulu

Island: Oahu

Proposed Commencement Date: 11/1/2015

Proposed Completion Date: 11/1/2018

Estimated Project Cost: \$25,000

TYPE OF PERMIT SOUGHT: **Board Permit** **Departmental Permit**

- Boundary Determination (*ref §13-5-17*)
- Emergency Permit (*ref §13-5-35*)
- Temporary Variance (*ref §13-5-36*)
- Site Plan Approval (*ref §13-5-38*)

Note: The four items on the left do not require that a full CDUA be filled out; please complete the first three pages of this application, and refer to the relevant HAR sections for the required documentation.

ATTACHMENTS *(where applicable)*

\$ 250 Application Fee (*ref §13-5-32 through 34*)

\$ 0 Public Hearing Fee (*\$250 plus publication costs; ref §13-5-40*)

- 20 copies of CDUA for Board and Departmental Permits (*5 hard + 15 hard or digital copies*)
- Management Plan *or* Comprehensive Management Plan (*ref §13-5-39 and §13-5 Exhibit 3*)
- Draft / Final Environmental Assessment *or* Draft / Final Environmental Impact Statement
- Special Management Area Determination (*ref Hawai'i Revised Statutes (HRS) 205A*)
- Shoreline Certification (*ref §13-5-31(a)(8)*) if land use is subject to coastal hazards.
- Kuleana documentation (*ref §13-5-31(f)*) if applying for a non-conforming kuleana use.
- Boundary Determination (*ref §13-5-17*) if land use lies within 50 feet of a subzone boundary.

REQUIRED SIGNATURES

Applicant

Name / Agency: Herbert Kihoi
Street Address: 41-339 Waiokeola Street
Waimanalo, Hawaii 96795

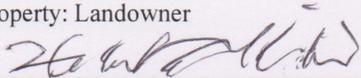
Contact Person & Title: Herbert Kihoi

Phone: 808-259-8006

Fax:

Email: herbert_kihoi@yahoo.com

Interest in Property: Landowner

Signature: 

Date: 10/17/15

Signed by an authorized officer if for a Corporation, Partnership, Agency or Organization

Landowner (if different than the applicant)

Name:

Title; Agency:

Mailing Address:

Phone:

Fax:

Email:

Signature: _____

Date: _____

For State and public lands, the State of Hawai'i or government entity with management control over the parcel shall sign as landowner.

Agent

Agency:

Contact Person & Title: Adam Mikes, P.E. or Daris Cook, P.E.

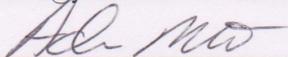
Mailing Address: 91-2105 Kaioli Street #2303

Ewa Beach, Hawaii 96706

Phone: 808-840-7402 or 808-371-4638

Fax:

Email: adam_mikes@yahoo.com or daris.cook808@gmail.com

Signature: 

Date: 17 OCT 2015

For DLNR Managed Lands

State of Hawai'i

Chairperson, Board of Land and Natural Resources

State of Hawaii

Department of Land and Natural Resources

P.O. Box 621

Honolulu, Hawaii 96809-0621

Signature _____

Date: _____

PROPOSED USE

Please provide an executive summary of the proposed land use. Attach any site plans, landscaping plans, photographs, maps, and construction plans as needed.

The 6 acre parcel of land has 2 structures, both are non-conforming having been originally constructed prior to 1964. The landowner is requesting approval for an after-the-fact CDUP Departmental Permit in accordance with the Notice of Violation OA 15-17.

The existing structure has a developed area, including the 1st and 2nd floors, of 2,780 sf. New exterior decks are being added for a total of approximately 197 sf, bringing the total developed area to 2,977sf. the allowable area is 5,000sf.

Work already performed on-site, as seen in Exhibit A includes grubbing, grading, minor excavation, construction of earth retaining walls and non-earth retaining walls, construction of concrete driveway extension, placement of 4" gravel driveway and parking area, and 4" gravel stabilized pathway.

Grading already performed includes approximately 275 cubic yards of cut and 125 cubic yards of fill. The main cut section ranges between 5 to 7 feet in height and 3 to 7 feet in width.

A section along the top of this previously graded slope requires additional grading for better slope stabilization. An additional cut of approximately 1.5 feet in height and a width between 1 to 3 feet for a length of 34 feet will remove 3.5 cubic yards of loose soil from the immediate edge of the previous cut. Additionally a cut ranging from 1.5 to 4 feet in height and a width between 3 to 8 feet is planned after demolition of the existing shed. This excavation is planned for the area immediately below the existing shed for a length of approximately 28 feet, and will remove approximately 16 cubic yards of loose soil. After each cut is performed the area will be covered and secured with a geotextile fabric and re-planted with the existing ground cover prior to the grading. Known ground cover in this area includes Laua'e, california grass, ti-leaf, and ferns. The California grass will not be re-planted.

Grading already performed along the goat path is approximately 90 cubic yards at a height between 1 to 4 feet and a width of 1 to 4 for approximately 260 ft. Additionally the homeowner cleared away brush and branches that blocked the path, mainly cutting and clearing of California grass, Christmas Berries, and dead branches from Taiwan koa trees. Medium sized (8~18 inches in diameter) boulders were placed at two locations on the downhill side of the path. The first location covers an area approximately 5 feet wide by 15 feet long and 5 feet high. The second location covers an area approximately 8 feet wide by 35 feet long and 7 feet high. The homeowner was directed (by the Civil Engineer, and with the verbal concurrence of DLNR) to relocate these boulders to the uphill side of the path and place them along any loose soil locations to a maximum height of 2 feet. This will further stabilize any loose soil areas, as well as prevent any boulders from falling down the slope onto neighboring properties.

The Main fill area consists of a 4 ~ 8 inch gravel base topover over the driveway, parking and goat path area for approximately 9800 sf. Additionally the homeowner is planning to install grass pavers over approximately 6000 sf of this area, mainly at the driveway entrance and parking area.

A 50 foot long portion of the existing concrete driveway was widened and includes a cut section ranging between 2 to 5 feet in width and approximately 2 feet in height. A load bearing grouted rock wall between 2 to 3 feet in height has been placed along the East edge of this cut section running along the driveway.

The existing rock wall bordering the North property line includes a vertical extension between 2 to 3 feet in height for approximately 170 feet. This section consists of a non-loadbearing concrete wall. This wall then continues as a grouted, non-loadbearing rock wall between 2 to 3 feet in height for an additional 130 feet along the top of the existing rock walls. The intent of this vertical extension is to act as a privacy screen for neighbors.

The remainder of the existing rock wall along the North property line, has been repaired for a length of about 230 feet. Repairs include, replacing and re-grouting of the damaged top 4 to 8 inches of rock, and placement of a 1 inch thick concrete cap.

The landowner is also performing interior and exterior repairs and renovations to the main structure. The interior renovations will not increase the living space, overall height, nor the density of structure and include:

- Replace all doors
- Replace living room floor
- Repair/Replace water damaged wall and ceiling board including studs as necessary (approx 300sf)
- Replace Kitchen sink
- Replace Bathroom Toilets
- Re-texture and paint all interior walls

Exterior renovations are expected to add approximately 197 sf to the footprint and include

- Install 2 exterior decks (121sf and 76sf) including deck railings
- Install ceramic flooring for deck
- Replace exterior double windows
- Replace all window and door screens
- Re-texture and paint exterior
- Replace exterior front door
- Install 11 Photovoltaic panels (65" x 39" each) on the house roof.

Additional future site work anticipated:

- Demolition and disposal of the existing dilapidated shed (340 sf)
- Additional grading and re-planting as indicated on plans associated with the shed demolition, and slope stabilization, approximately 19.5 cubic yards.
- Installation of grass pavers at driveway/parking area
- Replanting of existing native plants as needed such as as lauae, ti leaf, taro .
- Install 5 - (24"x36") "No Trespassing" signs along the Northern property line.

EXISTING CONDITIONS

Please describe existing conditions on the parcel (geology, ecology, cultural and recreational resources, historic resources, structures, landscaping, etc). Attach maps, site plans, topo maps, biological or archaeological surveys as appropriate.

The parcel contains 2 structures, one main house with a side storage shed, and a separate dilapidated storage shed. The majority of the lot appears to have a 12" ~ 18" layer of top soil above hard rock substrate, although a detailed geological survey has not been conducted.

The hillside is planted with ulu, niu, iron wood, Taiwan Koa, and a few Banyan trees. The low ground cover and brush includes laua'e, taro, ti leaf, christmas berries, and california grass.

While wild boars are known to be present in the Kalihi area, the homeowner has not seen any roaming the property. The only known animals seen on the property are loose chickens and various species of birds.

The homeowner and his family have been living on the property for over 30 years and have not witnessed the performance of any Hawaiian rituals or rights on the property, nor have they encountered any remains or artifacts during that time. Additionally this area does not serve as public access to any known landmarks or recreational activities. As such there are no known cultural, historic or recreational resources that will be affected by this work.

The main house structure consists of a combination of CMU block, brick and mortar, and wood construction. It has a footprint of roughly 1600 sf, consists of two floors with an internal and external set of stairs. The home has 6 bedrooms, 3 bathrooms, living, dining, and kitchen spaces.

The dilapidated shed is an un-used wood structure, roughly 340 sf in size. It sits approximately 80 ft west and 10 feet up slope from the main house.

The road/driveway leading to the home is roughly 8~10 feet wide, and climbs 15~20 feet in elevation to reach the house level. Atop the driveway is a relatively flat parking/play area approximately 7800sf.

Further West of the parking area is a narrow (2-10) foot wide and 270 ft long trail, originally created by goats, which used to be kept on property by the previous owner in the 1950's. The paths were further defined through repeated use by hikers and previous landowners.

The driveway, parking area and goat path are all bordered on the North side by large Rock retaining walls, between 2~13 ft in height. These walls were constructed in the 1950's by the original owners and associated neighbors, and run 500+ feet in the East-West direction. The Rock walls meander a bit, but mostly follow parallel to the property lines, especially near the driveway and parking area. Along the Goat path the walls meander much more, and lay between 20 and 30 feet inside the parcel.

EVALUATION CRITERIA

The Department or Board will evaluate the merits of a proposed land use based upon the following eight criteria (*ref §13-5-30 (c)*):

1. The purpose of the Conservation District is to conserve, protect, and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. (*ref §13-5-1*)
How is the proposed land use consistent with the purpose of the conservation district?

The intent of project is to stabilize and secure the property from natural degradation and other external influences such as squatting, vegrancy, and growing of illegal and non-native plants on the property by trespassers, in order to ensure the long-term sustainability, safety and welfare for landowner, their extended family, and the surrounding community.

2. How is the proposed use consistent with the objectives of the subzone of the land on which the land use will occur? (*ref §13-5-11 through §13-5-15*)

The proposed use does not degrade natural resources of the parcel, but will protect it from further erosion by placement of the stabilized rock base. Additionally it will prevent and discourage vegrancy and tresspasing on the parcel, and therefore further protect the land from misuse.

3. Describe how the proposed land use complies with the provisions and guidelines contained in chapter 205A, HRS, entitled "Coastal Zone Management" (*see 205A objectives on p. 8*).

Recreational resources: The property is privately owned and not known to have any public access, trails, or other recreational activities, and therefore no effect is anticipated.

Historic resources: The homeowner and his family have been living on the property for over 30 years and have not witnessed the performance of any Hawaiian rituals or rights on the property, nor have they encountered any remains or artifacts during that time. As such there is no anticipated impact to Historic resources.

Scenic and open space resources: The added wall heights will have a slight impact for the landowners and neighbors. The new sightline created by the wall will result in greater privacy for both.

Coastal ecosystems: The property is over 2 miles away from the shoreline, and not within Island of Oahu's Special Management Area, therefore there is no anticipated impact to coastal ecosystems.

Economic uses: The property is privately owned and therefore there is little to no impact to the State's economy.

Coastal hazards: The grading performed has been kept to a minimum, and the potential areas of concern for erosion will be mitigated by use of geotextile fabric and re-planting of existing ground cover.

Managing development: The CDUA permit process will allow for open review and communication with the public and associated agencies.

Public Participation: The CDUA permit process will allow for open review and communication with the public.

Beach Protection: The property is over 2 miles away from the shoreline, and not within Island of Oahu's Special Management Area, therefore there is no anticipated impact to any beaches.

Marine resources: The property is over 2 miles away from the shoreline, and not within Island of Oahu's Special Management Area, therefore there is no anticipated impact to marine resources.

4. Describe how the proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.

The proposed land use does not significantly change any of the existing conditions with respect to overall slope/grade of the property, nor does it reduce the existing natural resources.

5. Describe how the proposed land use, including buildings, structures and facilities, is compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.

The proposed land use does not change the original footprint or use of the structures that existed prior to 1964. The stabilized parking area has only a 6% increase in size, and the goat path has only been widened 1~4 along its length. The goat path has also been cleared of brush and branches that blocked the path and provided with stabilized base.

6. Describe how the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon.

The existing natural landscaping has been maintained and unaltered. The landowner removed one coconut tree, which was causing a safety concern to the downslope property, due to falling coconuts.

7. If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.

The proposed land use does not include subdivision, and therefore increased intensity of land use is not anticipated.

8. Describe how the proposed land use will not be materially detrimental to the public health, safety and welfare.

The proposed land use is the same as has been in place for the past 50 plus years, with exception of a stabilized base course along the parking area and existing goat path/trail. The stabilization of this area will increase the safety for the downhill community by decreasing the likelihood of a slope destabilization or mudslide. The addition of the 2~3 foot extension to the existing rock walls will create a slight visual barrier between neighbors, and therefore increase their overall sense of privacy and safety. Additionally this wall will create an additional physical barrier and layer of protection for the downhill community from falling rocks, trees, and significantly reduce potential for vehicle to accidentally roll off the edge.

CULTURAL IMPACTS

Articles IX and XII of the State Constitution, other state laws, and the courts of the State require government agencies to promote and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups.

Please provide the identity and scope of cultural, historical and natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

The homeowner and his family have been living on the property for over 30 years and have not witnessed the performance of any Hawaiian rituals or rights on the property, nor have they encountered any remains or artifacts during that time.

Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.

Traditional or customary Native Hawaiian rights will not be affected

What feasible action, if any, could be taken by the BLNR in regards to your application to reasonably protect native Hawaiian rights?

Not applicable

OTHER IMPACTS

Does the proposed land use have an effect (positive/negative) on public access to and along the shoreline or along any public trail?

The parcel is located over 2 miles from the shoreline and is known to have a single, non-public trail. Therefore, the project will not have an effect on public access to the shoreline or any public trail.

Does the proposed use have an effect (positive/negative) on beach processes?

The parcel is located over 2 miles from the shoreline and does not involve construction in the shoreline setback area. Therefore, the project will not have an effect on beach processes.

Will the proposed use cause increased runoff or sedimentation?

The proposed land use is to maintain the stabilized base course or place grass pavers as the permanent ground cover for the driveway and parking areas. This base course has an estimate infiltration rate "C" factor between 0.05 and 0.10, and the pavers have a "C" factor between 0.10 and 0.15. The existing ground has a "C" factor of 0.10, therefore there is expected to be a negligible increase in runoff for this area.

The portion of the driveway that was widened with concrete was previously a hard rock area, and therefore the before and after condition had nearly identical infiltration rates, therefore again resulting in a negligible increase in runoff.

The placement of the 2~3 foot addition to the existing wall could be considered as funneling the runoff from hillside, however the top of the existing wall was originally 4"~6" above the existing grade, and therefore unless the sheet flow from hillside increased beyond this depth, there is no increased funneling effect caused by the proposed land uses. Additionally, over time this added wall height may actually reduce potential sedimentation as it will continue to act as a barrier, preventing any soil or rocks to fall over this leading edge and down onto neighboring properties.

Will the proposed use cause any visual impact on any individual or community?

The added wall heights will have the greatest visual impact for the landowners and neighbors. The new sightline created by the wall will result in greater privacy for both.

Please describe any sustainable design elements that will be incorporated into the proposed land use (*such as the use of efficient ventilation and cooling systems; renewable energy generation; sustainable building materials; permeable paving materials; efficient energy and water systems; efficient waste management systems; et al.*).

The landowner has applied for, but yet to receive approval for the installation of a Photovoltaic (PV) system. They expect to receive approval in the next few months, and intend to install the system sometime within the next 2 years. The landowner is requesting that this CDUA include provisions for that system installation as well.

The landowner is proposing to use permeable grass pavers as the final surface for the parking lot, after approval of the after-the-fact CDUP. In the mean-time the surface is covered with a 4 to 8 inch thick layer of 3 inch diameter gravel. This gravel layer will act as a structural fill to support the vehicles, and allow rain water to permeate the surface, maintaining the existing travel path for surface runoff.

If the project involves landscaping, please describe how the landscaping is appropriate to Conservation District (*e.g. use of indigenous and endemic species; xeriscaping in dry areas; minimizing ground disturbance; maintenance or restoration of the canopy; removal of invasive species; habitat preservation and restoration; et al.*).

The existing property is a well vegetated parcel containing many species of plants including ulu, niu, iron wood, Taiwan Koa, and a few Banyan trees. The low ground cover and brush includes laua'e, taro, ti leaf, christmas berries, and california grass. The owners intent is to re-plant known indigenous plants such as Laua'e, ti leaf, and taro as necessary for slope stabilization after any grading work.

Please describe the Best Management Practices that will be used during construction and implementation of the proposed land use.

Any additional grading, or placement of basecourse will require some erosion control procedures and BMPs to be in place prior to work beginning. The BMPs will include placement of erosion control "socks" or sand bags at downhill side of the work, and placement of geotextile fabric and re-planting of low ground cover at newly cut areas. During the work, the site will require dust control in the form of water spray, until permanent ground cover is established.

Please describe the measures that will be taken to mitigate the proposed land use's environmental and cultural impacts.

The proposed land use is not expected to have any environmental or cultural impacts. If any impacts arise during the construction, the landowner will cease work for the affected area and contact DLNR authorities as necessary.

CHAPTER 205A, COASTAL ZONE REQUIREMENTS

Land uses are required to comply with the provisions and guidelines contained in Chapter 205A, Hawaii Revised Statutes (HRS), entitled "Coastal Zone Management," as described below:

- **Recreational resources:** Provide coastal recreational opportunities accessible to the public.
- **Historic resources:** Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.
- **Scenic and open space resources:** Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.
- **Coastal ecosystems:** Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.
- **Economic uses:** Provide public or private facilities and improvements important to the State's economy in suitable locations.
- **Coastal hazards:** Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.
- **Managing development:** Improve the development review process, communication, and public participation in the management of coastal resources and hazards.
- **Public participation:** Stimulate public awareness, education, and participation in coastal management.
- **Beach protection:** Protect beaches for public use and recreation.
- **Marine resources:** Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

MANAGEMENT PLAN REQUIREMENTS

Certain land uses require a that a Management Plan be approved by the Board of Land and Natural Resources. The Management Plan can be processed concurrently with the Conservation District Use Application, and must be consistent with the Hawaii Administrative Rules Chapter 13-5, Exhibit 3.

Pursuant to the above, Management Plans should include:

- Project location (e.g., island map, location map, site plan (drawn to scale))
- Natural resource assessment including descriptive information about the natural resources in the project vicinity such as biological, archaeological, cultural, geological, coastal, recreational, and scenic resources, where applicable. The presence of any threatened or endangered species shall be disclosed.
- Natural hazard assessment including descriptive information of erosion, flooding, slope, tsunامي, and volcanic hazards, where applicable.
- A description of best management practices used during project construction and implementation (e.g., mitigation measures).
- A description of the best management practices to be used during the lifetime of the project (e.g., mitigation measures).
- A description of the conservation methods and applications to be used in the short term and long term (e.g., mitigation measures).
- Description of existing uses and facilities, if any.
- Description of proposed facilities and uses, including phases, if applicable.
- Project schedule including description of project sequencing from project construction to project completion and on-going maintenance plans, including a description and timing of natural resource monitoring and maintenance plans.
- A description of the annual reporting requirements.
- Any other information or data, as required by the department.

Please attach the proposed Management Plan as a separate document.

CERTIFICATION

I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application and all attachments and exhibits is complete and correct. I understand that the failure to provide any requested information or misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, or for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the Land Board.

I hereby authorize representatives of the Department of Land and Natural Resources to conduct site inspections on my property. Unless arranged otherwise, these site inspections shall take place between the hours of 8:00 a.m. and 4:30 p.m.



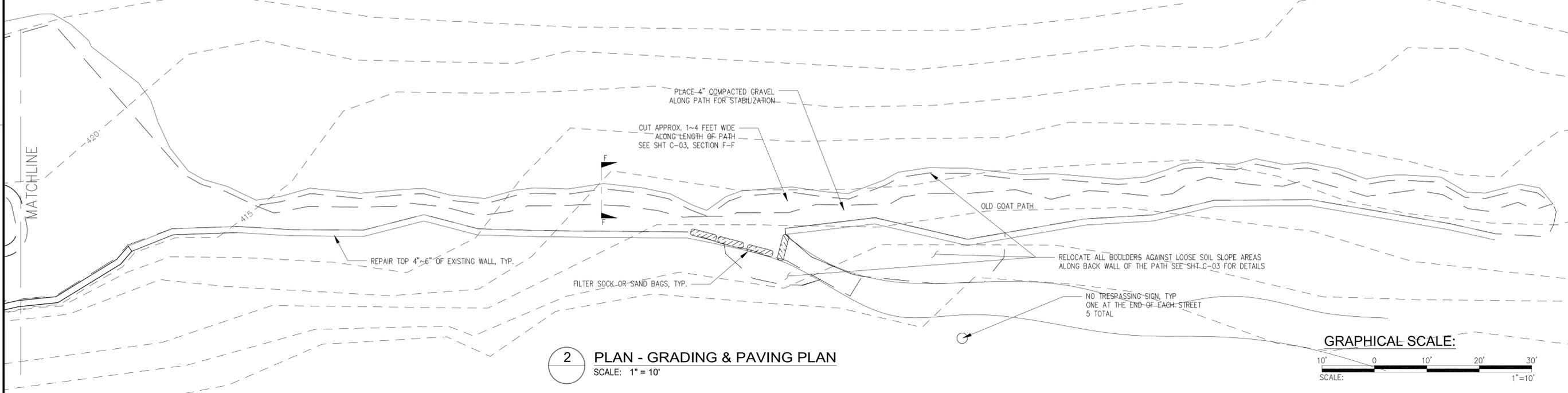
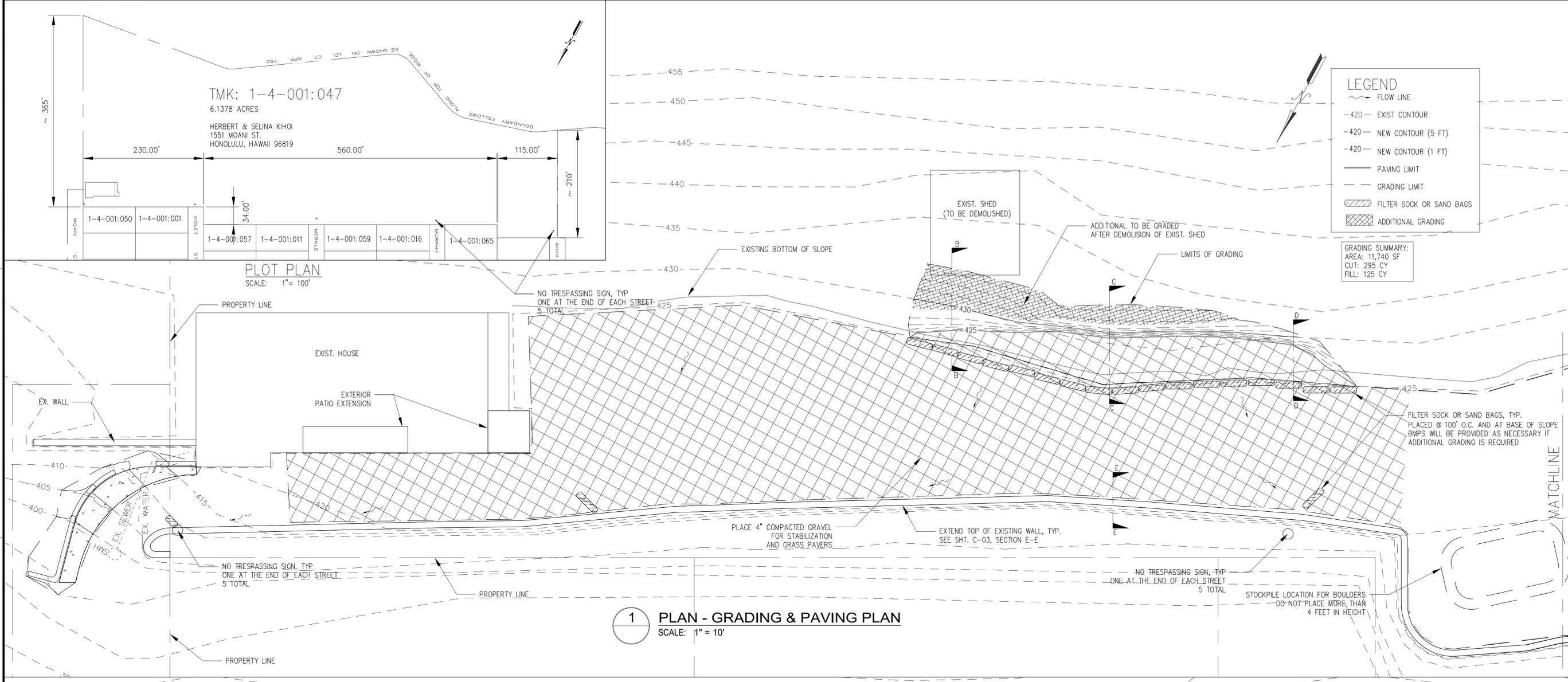
Signature of authorized agent(s) or if no agent, signature of applicant

AUTHORIZATION OF AGENT

I hereby authorize Adam Mikes to act as my representative and to bind me in all matters concerning this application.



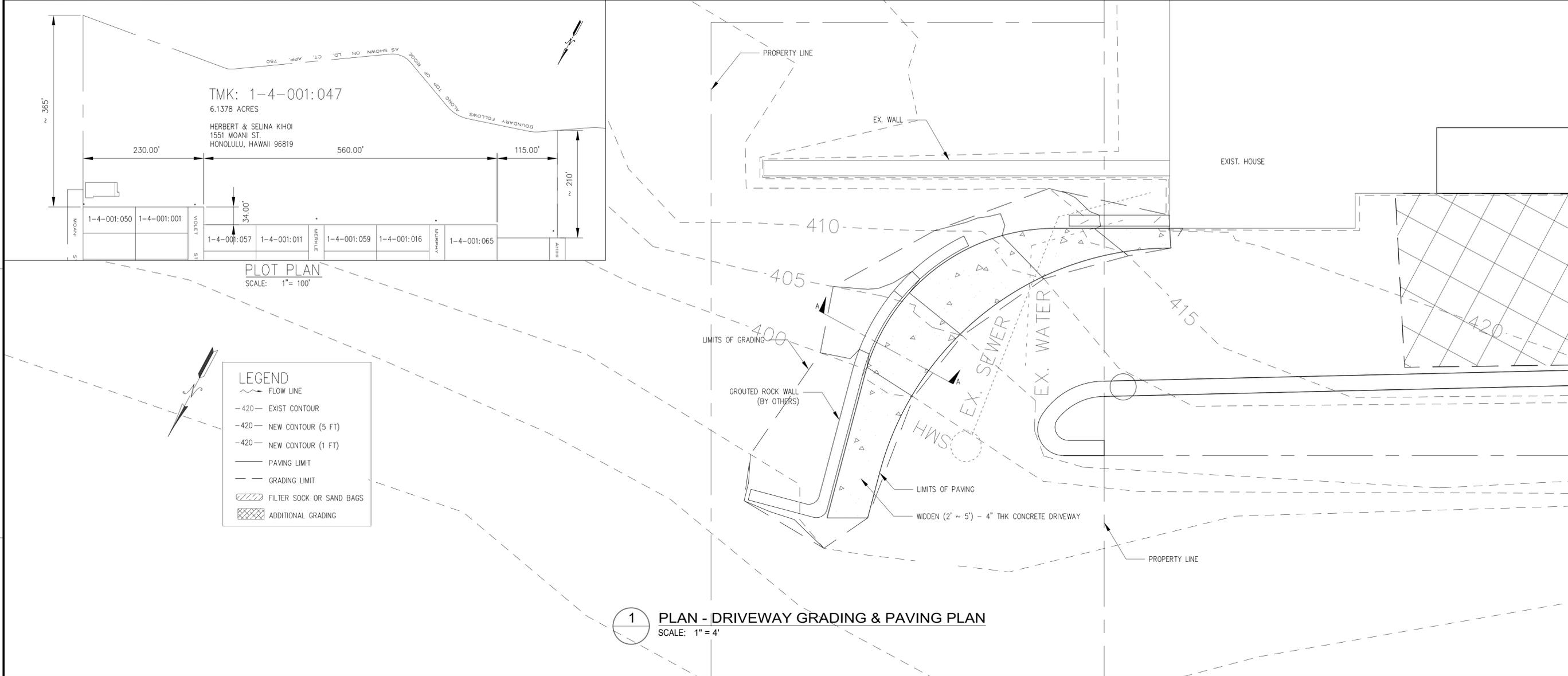
Signature of applicant(s)



DATE	
REV.	DESCRIPTION
APPROVED	
APPROVED	
DES: AJM	DRW: AJM
ARCH:	ELEC:
STRUCT:	MECH:
CIV: DEC	FPE:
CNV:	
OAHU, HI	
KIHOI RESIDENCE	
AS-BUILT GRADING PLAN	
GRADING AND PAVING PLAN	
KALHI	
SCALE:	AS NOTED
PROJECT NO.:	
CONTRACT NO.:	
DRAWING NO.:	
SHEET	2 OF 4
C-02	

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK AMONG THE VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO INSURE THE INSTALLATION OF ALL WORK WITHIN THE AVAILABLE SPACE.

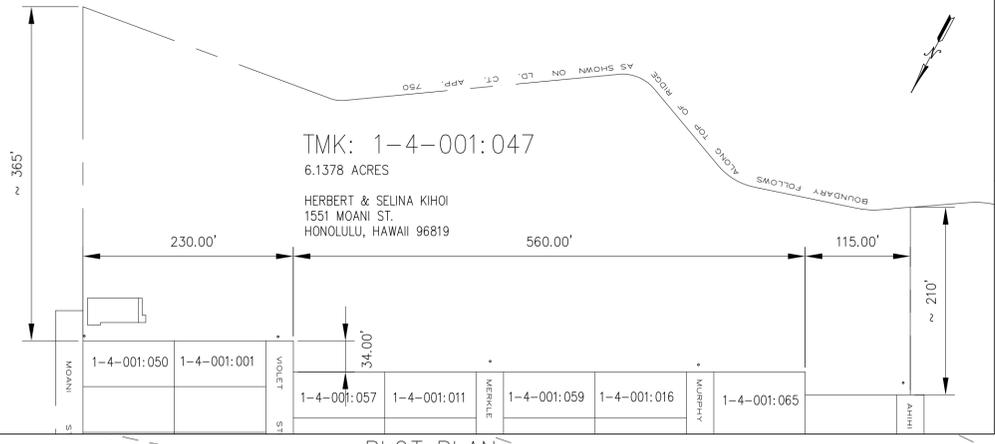
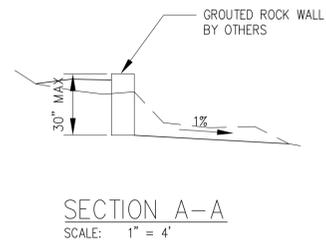
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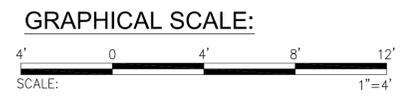
1 PLAN - DRIVEWAY GRADING & PAVING PLAN
SCALE: 1" = 4'

LEGEND

- ~ FLOW LINE
- 420 - EXIST CONTOUR
- 420 - NEW CONTOUR (5 FT)
- 420 - NEW CONTOUR (1 FT)
- PAVING LIMIT
- GRADING LIMIT
- ▨ FILTER SOCK OR SAND BAGS
- ▩ ADDITIONAL GRADING



	DATE
	REV. DESCRIPTION
APPROVED	
APPROVED	
DES: AJM	DRW: AJM
ARCH:	ELEC:
STRUCT:	MECH:
CIV: DEC	FPE:
ENV:	
KIHOI RESIDENCE AS-BUILT GRADING PLAN GRADING AND PAVING PLAN	
SCALE: AS NOTED	
PROJECT NO.:	
CONTRACT NO.:	
DRAWING NO.:	
SHEET 3 OF 4	
C-03	



THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK AMONG THE VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO INSURE THE INSTALLATION OF ALL WORK WITHIN THE AVAILABLE SPACE.

IF SHEET IS LESS THAN 22" X 34" REDUCED PRINT - USE GRAPHIC SCALES

