

ANNUAL COMPLIANCE REPORT

Makakilo Quarry, Hawaii

2010

APPENDIX D:

THE APPROVED FIRE PROTECTION AND CONTROL PLAN DATED
FEBRUARY 17, 2010 AND ADDITIONAL SUPPORTING DOCUMENTS
FOR REFERENCE

Makakilo Quarry Fire Control Plan

<u>HAZARD</u>	<u>RISK</u>	<u>CURRENT CONTROLS</u>	<u>RECOMMENDED ACTION</u>
Main Entry Road Palehua Road	Accidental fire to vegetation on each side of the road	The access road is watered down for dust control	Recommend extending the wetting pattern to include the vegetation on both sides of the road
			If access is lost from the main entry road, there is an alternate access road from Pueonani Street
Refueling Trucks	Accidental fire while refueling	Refuel in area clear of vegetation	Portable FE shall be accessible while refueling
		Trucks are equipped with portable FE (minimum 4A60BC)	Service portable FE annually and after each use
		Personnel are trained in the use of portable FE	Maintain training in the use of FE
		"No Smoking" on vehicles	Maintain strict compliance to "No Smoking" rule
Heavy Equipment**	Accidental fire while refueling Accidental mechanical or electrical fire	Heavy equipment are equipped with portable FE (minimum 4A60BC)	Portable FE shall be accessible Service portable FE annually and after each use
		Personnel are trained in the use of portable FE	Maintain training in the use of FE
		"No Smoking" on vehicles	Maintain strict compliance to "No Smoking" rule
Generator for Plant 3500 Gallon Diesel AST	Accidental fire while refueling	Generator site provided with portable FE (rating)	Portable FE shall be accessible Service portable FE annually and after each use
<u>HAZARD</u>	<u>RISK</u>	<u>CURRENT CONTROLS</u>	<u>RECOMMENDED ACTION</u>

Grace Pacific (GP) mines and extracts basalt rock. GP produces 1,000,000 tons of aggregate in an average year.
 MSHA requires portable fire extinguishers in all occupancies and on all equipment.

Makakilo Quarry Fire Control Plan

Generator for Plant 3500 Gallon Diesel AST (continued)		Personnel are trained in the use of portable FE	Maintain training in the use of FE
		180' clearance to vegetation	Maintain clearance to vegetation
***Explosive Magazines (5)	Accidental fire explosion hazard to ANFO magazine	Magazines surrounded by 12' high berms Magazines are a 10' minimum distance apart 6' fence with 2' barbed wire on top surrounds the magazines Magazines are also equipped with padlocks	Maintain all magazine safe guards
		Vegetation is cleared twice a year or as needed	Maintain clearance to vegetation
		Magazines provided with portable FE (rating)	Portable FE shall be accessible Service portable FE annually and after each use
		Personnel are trained in the use of portable FE	Maintain training in the use of FE
		Documented Emergency Procedure Manual (EPM)	Educate employees of the EPM
Existing Trailer Offices	Accidental fire	Offices provided with portable FE (rating)	Portable FE shall be accessible Service portable FE annually and after each use
		Personnel are trained in the use of portable FE	Maintain training in the use of FE
		"No Smoking" in offices	Maintain strict compliance to "No Smoking" rule Designate smoking areas
<u>HAZARD</u>	<u>RISK</u>	<u>CURRENT CONTROLS</u>	<u>RECOMMENDED ACTION</u>

**Grace Pacific (GP) mines and extracts basalt rock. GP produces 1,000,000 tons of aggregate in an average year.
 MSHA requires portable fire extinguishers in all occupancies and on all equipment.**

Makakilo Quarry Fire Control Plan

Existing Trailer Offices (continued)		Documented Emergency Procedure Manual (EPM)	Educate employees of the EPM
			Maintain "EXITS"
			Remove combustibles daily to an approved waste disposal depot
Existing Repair Shop	Accidental fire	Repair Shop provided with portable FE (rating)	Portable FE shall be accessible Service portable FE annually and after each use
		Personnel are trained in the use of portable FE	Maintain training in the use of FE
		"No Smoking" in Repair Shop	Maintain strict compliance to "No Smoking" rule Designate smoking areas
		Flammable and combustible liquids stored in approved Flammable Liquid Cabinet	Strict compliance to storage of flammable and combustible liquids
		Documented Emergency Procedure Manual (EPM)	Educate employees of the EPM
			Maintain "EXITS"
			Remove combustibles daily to an approved waste disposal depot
Existing Manufacturing Plant	Accidental fire	Manufacturing Plant provided with portable FE (rating)	Portable FE shall be accessible Service portable FE annually and after each use
		Personnel are trained in the use of portable FE	Maintain training in the use of FE
<u>HAZARD</u>	<u>RISK</u>	<u>CURRENT CONTROLS</u>	<u>RECOMMENDED ACTION</u>
Existing Manufacturing Plant		"No Smoking" in Manufacturing Plant	Maintain strict compliance to

Grace Pacific (GP) mines and extracts basalt rock. GP produces 1,000,000 tons of aggregate in an average year.
 MSHA requires portable fire extinguishers in all occupancies and on all equipment.

Makakilo Quarry Fire Control Plan

(continued)			"No Smoking" rule Designate smoking areas
		Documented Emergency Procedure Manual (EPM)	Educate employees of the EPM
			Maintain "EXITS"
			Remove combustibles daily to an approved waste disposal depot
Residences Along Pueonani Street	Accidental fire to vegetation along perimeter to these residences	30-foot buffer from residential property lines, cut every month or as necessary	Maintain 30-foot buffer
		GP water tankers can assist HFD vehicles	Develop a pre-fire plan with HFD
		GP heavy equipment can assist HFD in creating fire breaks	Develop a pre-fire plan with HFD
Wildland	Accidental fire	GP water tankers can assist HFD vehicles	Develop a pre-fire plan with HFD
		GP heavy equipment can assist HFD in creating fire breaks	Develop a pre-fire plan with HFD
		GP water tanks may be source of water for HFD vehicles	Develop a pre-fire plan with HFD
		Proposed GP helipads to assist HFD in wildland fires	Coordinate with HFD the locations of helipads, locate near water source
<u>HAZARD</u>	<u>RISK</u>	<u>CURRENT CONTROLS</u>	<u>RECOMMENDED ACTION</u>
Quarry Resources	Any fire emergency	No on-site fire hydrants Off-site fire hydrants are a great distance away	GP water tankers can assist HFD vehicles

**Grace Pacific (GP) mines and extracts basalt rock. GP produces 1,000,000 tons of aggregate in an average year.
 MSHA requires portable fire extinguishers in all occupancies and on all equipment.**

Makakilo Quarry Fire Control Plan

5,000 Gallon Water Tanker		(2) water tankers are equipped with	GP water tankers can assist HFD vehicles
9,000 Gallon Water Tanker		2 1/2" outlets with National Standard	
		Thread connections	
(6) Existing Water Tanks (77,273 gallons)	Any fire emergency	May be source of water for HFD vehicles	HFD vehicle tanks can be filled from the top
Future Residences Affected by Quarry Expansion	Accidental fire		Provide a 30-foot buffer from property lines of residences
Future Office Building	Accidental fire	No on-site fire hydrants	Recommend installation of an approved
Future Repair Shop	Accidental fire	Off-site fire hydrants are a great distance away	automatic fire sprinkler systems in
Future Manufacturing Plant	Accidental fire		accordance with NFPA 13
Future Water Tank (30,000 gallons)		Location to be determined	Water demand for automatic fire sprinkler systems for future buildings supplied by existing water tanks and/or future water tank
			Automatic fire sprinkler systems demand shall be dedicated from existing water tanks and/or future water tank
			Other water tank demands shall come from above amount dedicated for automatic fire sprinkler systems demand
			Fire Department Connections for the automatic fire sprinkler systems shall be located no more than 20 feet from a fire apparatus access road
<u>HAZARD</u>	<u>RISK</u>	<u>CURRENT CONTROLS</u>	<u>RECOMMENDED ACTION</u>
Makakilo Quarry In General		GP policy, no fire fighting by employees beyond the use of portable FE	Any fire emergency, call 911 first, then execute evacuation procedures

**Grace Pacific (GP) mines and extracts basalt rock. GP produces 1,000,000 tons of aggregate in an average year.
 MSHA requires portable fire extinguishers in all occupancies and on all equipment.**

Makakilo Quarry Fire Control Plan

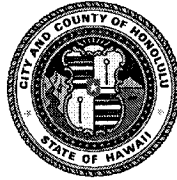
			GP personnel to meet HFD at Guard Shack
			Direct to site of emergency
			Recommend doing a pre-fire plan
			with (HFD)
			Recommend all equipment powered by
			internal combustion engines operating
			on forest, brush or grass-covered land
			be fitted with properly functioning
			spark arresters
**Heavy Equipment	(excavators, wheel loaders,	dozers, back hoes, graders, haul trucks, water	trucks, skid steers, rock drills, compactors)
***Explosive Magazines	(2) Blasting Caps,	(2) ANFO, and (1) Kinepak (Primer)	
Fire Extinguisher List			

**Grace Pacific (GP) mines and extracts basalt rock. GP produces 1,000,000 tons of aggregate in an average year.
 MSHA requires portable fire extinguishers in all occupancies and on all equipment.**

HONOLULU FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

MUFI HANNEMANN
MAYOR



KENNETH G. SILVA
FIRE CHIEF
ROLLAND J. HARVEST
DEPUTY FIRE CHIEF

April 14, 2010

Mr. Boyd Nobriga
Project Coordinator
Grace Pacific Corporation
P.O. Box 78
Honolulu, Hawaii 96810

Dear Mr. Nobriga:

Subject: Emergency and Evacuation Procedures (EEP) and
Fire Protection and Control Plan (FPCP) for the Makakilo Quarry

In response to your letters of March 16, 2010, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material provided and approves the FPCP.

With regard to the EEP, we recommend the following:

1. Include diagrams and illustrations of escape routes and the location of the safe refuge/meeting area(s).
2. Designate, by job description, the responsible party for each emergency function and include an emergency responder liaison.
3. Include an accountability check (roll call) procedure.
4. Review and update the EEP annually.

Additionally, for future improvements and construction, the following requirements regarding fire department access and water supply shall be met:

1. Provide a fire apparatus access road for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction when any portion of the facility or any portion of an exterior

Mr. Boyd Nobriga

Page 2

April 14, 2010

wall of the first story of the building is located more than 150 feet (45 720 mm) from a fire apparatus access road as measured by an approved route around the exterior of the building or facility. (1997 Uniform Fire Code, Section 902.2.1.)

2. Provide a water supply, approved by the county, capable of supplying the required fire flow for fire protection to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed or moved into or within the county.

On-site fire hydrants and mains capable of supplying the required fire flow shall be provided when any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building. (1997 Uniform Fire Code, Section 903.2, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have any questions, please call Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151.

Sincerely,



KENNETH G. SILVA
Fire Chief

KGS/SY:cn



*C: Boyd N.
Bob C. 3/19/10 do
Sent certified/return
receipt*

3-16-10

Fire Chief Kenneth G. Silva
Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

Chief Silva,

This letter is in response to Chief Roland Harvest's letter to Mr. Robert Creps (Sr VP Administration for Grace Pacific) dated June 4, 2009 requesting that Grace Pacific Corporation (GP) submit a first draft of the Fire Protection and Control Plan. Following the June 4, 2009 letter GP has been working with Hawaii Fire Dynamics to create and implement a Fire Protection and Control Plan for the Makakilo Quarry and its' buffering area. The plan is in response to a requirement set out in the "Decision and Order" from the Land Use Commission (Docket No. SP73-147, pages 23-24) copied below.

1. Within six (6) months of the Land Use Commission's Decision and Order approving the Special Use Permit, the Applicant shall submit:
 - b. A fire protection and control plan to Honolulu Fire Department for review and approval. A copy of the approved plan shall be submitted to the Director of Planning and Permitting within 30 days of approval.

A first draft of the Fire Protection and Control Plan for the existing site and conditions is included with this letter. Also included with this plan is a list of fire extinguishers their current location in the quarry. Please review these documents at your convenience and provide comments.

A copy of Bob Creps's May 5, 2009 letter is also included for your reference.

Should you have any questions or would like to visit the quarry site please contact me on my cell at 216-2435.

Sincerely,

Boyd Nobriga
Project Coordinator
Grace Pacific-Makakilo Quarry



*c: Boyd N.
Bob C. 3/19/10
dd*

3-16-10

Fire Chief Kenneth G. Silva
Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

Chief Silva,

Grace Pacific is in the process of updating and improving our Emergency and Evacuation procedures for the Makakilo Quarry. The Mine Safety and Health Administration requires such a plan to be implemented in all mining operations as outlined in the Federal Mine and Safety & Health Act of 1977. Coordination with local fire and emergency response personnel is also required.

Captain Walter from the Kapolei Station did come out for a site visit on 2/17/10. After touring the area it was agreed that his crew of Fire Fighters should all visit the location to become familiar with it. Our intent is to accomplish this within the next month or two.

Included with this letter is a copy of our current procedures. I would like to request that you review and provide comment as you feel necessary. Our intent is to utilize your feedback and guidance to improve our procedures.

If a site visit would help assess the conditions please let me know. My cell number is 216-2435.

Sincerely,

Boyd Nobriga
Project Coordinator
Grace Pacific-Makakilo Quarry

Makakilo Quarry

Mine ID # 51-00173

Fire Prevention and Control Plan

The Grace Pacific Makakilo Quarry is governed by the Mine Safety and Health Administration (MSHA), this plan incorporates the requirements contained in the 30 CFR Standards and Regulations; specifically Parts 46 and 56 as well as Grace Pacific Corp policies.

Per the MSHA the Makakilo Quarry is required to undergo a minimum of two compliance inspections per year.

1) Fire Prevention and Control Plan

a) Responsibilities:

- i) The Quarry Manager will implement and enforce the requirements of this plan,
- ii) Foremen for the Processing, Excavation, and Shop sections will conduct required regular housekeeping and monthly inspections, discrepancies will be corrected immediately.

b) Pre-Planning and Fire Department Involvement

- i) The Quarry, Excavation, and Safety Managers will meet as needed to develop and review this program,
- ii) HFD will be invited, at least annually, to tour the quarry facilities and operations to coordinate emergency actions involving fire fighting, evacuation, and rescue procedures specific to the unusual events and conditions found at the quarry site.

c) Potential Operations/Locations where fires may be expected to occur

- i) Structure Fires: Offices Trailers and Scalehouse,
- ii) Refueling Operations,
- iii) Welding and Cutting Operations,
- iv) Recycle Plant Fuel tank,
- v) Recycle Plant Generator,
- vi) Mobile equipment, (a.k.a Rolling Stock or Heavy Equipment),
- vii) Processing Plants (Primary Crusher, Recycle Plant, Lippman Screen),
- viii) Explosives Magazine,
- ix) Anfo Bag Burning, and
- x) Landscape – Wildfires.

d) Prevention - General

i) No Smoking or Open Flame Policy

- (1)** No one shall smoke or use an open flame where flammable or combustible liquids, including greases, or flammable gases are used, stored, or handled,
- (2)** “Non Smoking “and “No Smoking or Open Flame” signs shall be posted in all applicable locations,
- (3)** Smoking is allowed only in designated smoking areas,
- (4)** Smoking is not allowed in any building or within 25 feet of any building entrance.
- (5)** Magazine Storage Area: In addition to the above, no person is allowed to have matches or lighters on their person when entering into the fenced in magazine area.

ii) Housekeeping

- (1)** All offices, scalehouses, lunchrooms and quarry properties will be maintained in a clean and neat condition,
- (2)** Scrap materials and debris will be removed from floors, walks, yards, and work areas,
- (3)** All refuse will be disposed of in the proper receptacles,
- (4)** Combustible waste will only be stored or deposited in approved containers,
- (5)** Flammable liquid will not be used for cleaning purposes,
- (6)** All spills or leaks of flammable and combustible materials will be cleaned up and properly disposed of immediately,
- (7)** Combustible material waste, to include liquids, will not be allowed to accumulate in quantities that could create a fire hazard,
- (8)** Until disposed of properly, waste or rags containing flammable or combustible liquids that could create a fire hazard shall be placed in covered metal containers,
- (9)** All exits, electrical panels, rescue equipment, and fire fighting equipment locations will be kept free from obstruction.

iii) Explosives Magazine

- (1)** Are constructed and maintained in accordance with IAW 30 CFR Subpart E – Explosives; they have been constructed to the following specifications:
 - (a)** Structurally sound;
 - (b)** Noncombustible or the exterior covered with fire-resistant material;
 - (c)** Bullet resistant;
 - (d)** Made of nonsparking material on the inside;
 - (e)** Ventilated to control dampness and excessive heating within the magazine;
 - (f)** Posted with the appropriate United States Department of Transportation placards or other appropriate warning signs that indicate the contents and are visible from each

approach, so located that a bullet passing through any of the signs will not strike the magazine;

- (g)** Kept clean and dry inside;
 - (h)** Unlighted or lighted by devices that are specifically designed for use in magazines and which do not create a fire or explosion hazard;
 - (i)** Unheated or heated only with devices that do not create a fire or explosion hazard;
 - (j)** Locked when unattended; and
 - (k)** Used exclusively for the storage of explosive material except for essential nonsparking equipment used for the operation of the magazine.
 - (l)** Metal magazines shall be equipped with electrical bonding connections between all conductive portions so the entire structure is at the same electrical potential. Suitable electrical bonding methods include welding, riveting, or the use of securely tightened bolts where individual metal portions are joined. Conductive portions of nonmetal magazines shall be grounded.
 - (m)** Electrical switches and outlets shall be located on the outside of the magazine.
- (2)** Vegetation, rubbish, dry grass, and trees - Will be removed within a distance of 25 feet in all directions, with the exception of live trees 10 feet or taller need not be removed,
- (3)** Other combustible materials shall not be stored or allowed within 50 feet of explosive material. Combustible liquids shall be stored in a manner that ensures drainage will occur away from the explosive material magazine in the event of a leak or spill.
- iv) Flammable and Combustible Materials:**
- (1)** All flammable liquid containers shall be stored in approved flammable cabinets,
 - (2)** Safety cans are to be used to transport flammable liquids,
 - (3)** All sources of ignition shall be prohibited in areas where flammable liquids are stored, handled or pumped.
 - (4)** Compressed Gas Cylinders - Typically compressed gas cylinders are removed from the quarry boundaries at the end of the day; however if they should be kept within the quarry limits they:
 - (a)** Will be stored and secured from tipping/falling in an upright position,
 - (b)** When not in use oxygen and acetylene cylinders will have their regulators removed, safety cap installed, and be separated from each other by 20'. Oxygen cylinders will not be stored within 20' feet of flammable materials, or will be separated by at least a 5' high one hour fire rated wall,
 - (c)** Cylinders, torch sets and hoses shall be stored in well-ventilated locations,
 - (d)** Cylinders containing the same gas shall be stored in a segregated group. Empty cylinders shall be labeled as empty and stored in the same manner,

- (e)** Cylinders in storage shall be separated from flammable or combustible liquids and from easily ignitable materials (such as wood, paper, packaging materials, oil, and grease) by at least 20 ft or by a fire resistive partition having at least a 1-hour rating,
- (f)** Cylinders containing oxygen or oxidizing gases shall be separated from cylinders in storage containing fuel gases by at least 20 ft or by a fire resistive partition having at least a 1-hour rating,
- (g)** Areas containing hazardous gases in storage shall be appropriately placarded,
- (h)** Smoking shall be prohibited wherever cylinders are stored, handled, or used,
- (i)** Cylinders shall be protected from physical damage, electric current, and extremes of temperature. The temperature of cylinders shall not be allowed to exceed 130 degrees F,
- (j)** Cylinders containing oxygen and acetylene (or other fuel gas) shall not be taken into confined spaces,
- (k)** Cylinder valves and valve caps,
 - (i)** Cylinder valves shall be closed when cylinders are in storage, in transit, not in use, or empty,
 - (ii)** Cylinder valve caps shall be in place when cylinders are in storage, in transit, or whenever the regulator is not in place,
- (l)** All compressed gas cylinders in service shall be secured in substantial fixed or portable racks or hand trucks,
- (m)** Compressed gas cylinders transported by crane, hoist, or derrick shall be securely transported in cradles, nets, or skip pans, and never directly by slings, chains, or magnets,
- (n)** Compressed gas cylinders shall be secured in an upright position at all times, except when being hoisted (except acetylene cylinders shall never be laid horizontal). Horizontal storage configurations approved for transportation are permitted for cylinders other than acetylene,
- (o)** Valve wrench or wheel shall be in operating position when cylinder is in use,
 - (i)** Valves shall be opened slowly,
 - (ii)** Quick closing valves on fuel gas cylinders shall not be opened more than 1 - 1/2 turns,
- (p)** Cylinders shall be used only for their designed purpose of containing a specific compressed gas,
- (q)** Cylinders shall be handled in a manner that will not weaken or damage the cylinder or valve,
- (r)** Leaking cylinders shall be moved to an isolated location out of doors, the valve shall be cracked and the gas shall be allowed to escape slowly,

- (i) Personnel and all sources of ignition shall be kept away,
- (ii) The cylinder shall be tagged "DEFECTIVE."
 - 1. Cylinders containing different gases shall not be bled simultaneously in close proximity of each other,
 - 2. Bleeding of cylinders containing toxic gases shall be accomplished only under the direct supervision of qualified personnel,
- (iii) Oxygen cylinders and fittings shall be kept away from oil or grease,
- (iv) Cylinders, cylinder valves, couplings, regulators, hose, and apparatus shall be kept free from oil or greasy substance and shall not be handled with oily hands or gloves,
- (v) Oxygen shall not be directed at oily surfaces, greasy cloths, or within a fuel oil or other storage tank or vessel,
- (vi) Oxygen and fuel gas pressure regulators, including their related gauges, shall be in proper working order while in use,
- (vii) Not in use Oxy/Act torch sets:
 - a. Torch sets shall be deemed not in use if the unit is not expected to be used with in a 24 hour period,
 - b. Not in use torch sets will be broken down with regulators removed, protective caps installed, and cylinders placed in to proper storage areas.

(5) Welding and Cutting Operations

- (a)** Welding and cutting operations will not commence until competent person has conducted a survey of the area.
- (b)** All combustibles within 35' of the hot work operation will be removed or appropriately covered.
- (c)** All flammable materials within 50' are to be removed.

e) Training: Fire prevention and control training is conducted at the following intervals:

- i) New Miner Training
- ii) Miner Annual Refresher

f) Fire Drills – Will be conducted on an annual basis.

g) Fire Fighting Equipment:

- i) Fire Extinguishers

(1) Minimum rating and locations

- (a)** 2A:10-BC Office buildings, scale houses, and lunchrooms,
- (b)** 3A:40-BC Rolling stock, excluding cranes and powder truck,

- (c) 2A:10 BC Cranes
- (d) 2- 2A:10-BC Powder Truck:
- (e) 20A:120-BC Magazine
- (f) 2A:10-BC Flammable and combustible storage areas

(2) Inspections/Servicing/Repair

- (a) Monthly – Will be inspected by the responsible individual,
- (b) Annually – Will be inspected and repaired by certified third party,
- (c) Hydrostatic Testing – Will be conducted by certified third party per the manufacture’s recommendations.
- (d) Defective Fire Extinguisher – will be tagged out of service, taken to the foreman’s office, and repaired or replaced immediately.

(3) Standby Fire Fighting Equipment. Grace Pacific employees are not trained or required to fight fires beyond the use of portable fires extinguishes. In the event that HFD responds to a quarry fire, the following equipment is available as needed to support the HFD efforts:

- (a) 1-9000 gallon water truck with water cannon that can shoot 150’ fitted with 2.5” National Standard Thread Connections. The approximate cycle time is one hour.
- (b) 1-5000 gallon water truck with pressurized sprayers fitted with 2.5” National Standard Thread Connections. The approximate cycle time is 45 minutes.
- (c) 4 above ground water tanks with a combined capacity of 70,000 gallons of non-potable water on site. The tanks are feed via underground well at a rate of 600-800 gpm.
- (d) 2 – Elevated water tanks capable of gravity filling trucks or water mules from above.

h) Evacuation Routes, Procedures, and Fire Fighting

In the event of an emergency within the quarry all employees are instructed to meet at the lunch room. A message will be sent over the radio by the foreman instructing all employees to stop work immediately and report to the lunch room.

In the event of a fire inside the magazine or inside the magazine berm employees are instructed to call 911 and leave the area immediately. All employees are instructed to report to the China wall area as instructed by the foreman.

Evacuation Routes

The primary evacuation route is to exit the quarry by way of the entrance/exit road which leads to Palehua Road. The secondary exit route for the quarry is up through the west road towards the nursery area following the road leading to the gate at Pueonani Street.

911 Procedures

In the event of an injury, fire, or other emergency or possible emergency needing the assistance of outside personnel employees are instructed to dial 911 or radio to a person with a phone to call 911. The foreman or manager on site will determine if evacuation is necessary. Employees are instructed to park machinery and meet at the lunch room. Once all employees are accounted for the foreman or manager on site will determine if an evacuation is necessary.

When emergency responders are headed to the quarry and the employees have not been instructed to evacuate, one or more employees will be sent to the guard shack near North/South Road & H1 to guide the responders to the area of the incident. The foreman or manager on site will be responsible for dispatching these employees.