GEORGE RANCH MUTUAL WATER COMPANY

20000 Elderberry, Sonoma California 95476

Emergency Procedures Manual

The George Ranch Mutual Water Company (GRMWCo) faces several natural threats, such as electrical power failure, water line breaks or significant leaks, wildfires and/or earthquakes.

This Emergency Procedures Manual addresses responses to each threat, and documents resources available to assist in responding.

The four identified threats each have a chapter for procedures to respond and mitigate the loss of stored water in the two storage tanks.

Attached to this document are the key contacts and emergency telephone numbers and an description of the GRMWCo's assets and a utility map of the water system.

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In case of a power outage (planned or unplanned)

In the event of a planned power outage by PG&E (or "Public Safety Power Shutoff") or the National Oceanic and Atmospheric Administration (NOAA) issues a "Red Flag warning", the George Ranch Mutual Water Company will follow the following procedures to protect its assets and preserve what services it can provide to our community.

First step is communication to the Community of a planned Public Safety Power Shutoff. The Board President or their designate (Collins Management) should send an email the whole Community advising them of the Public Safety Power Shutoff and our policy to conserve water in the event we do lose power to our well houses. (See Appendix 1 draft email communication by the Board President or Collins Management)

Second step is GRCA Volunteers will shut the transfer switches to OFF in the Hawks Beard well house as soon as power is cut off. This is to protect our electrical equipment. The Brooklime well house is on an automatic transfer switch to the generator, thus there is nothing to shut OFF.

During the power outage, the Hawks Beard well house has its own set of procedures for GRMWCo Volunteers to bring the generator to the well house and provide power to the well house to pump water. (See Appendix 2 for manual generator procedures by GRMWCo Volunteers)

The Brooklime wellhouse is on a fully automatic transfer switch. In the case the PG&E power is interrupted, the automatic switch will switch on the generator engine and switch its power source to the generator. Once power is restored by PG&E, the automatic switch reverts to PG&E power and the generator will automatically shutdown. (See Appendix 3 for manual shutdown procedures by GRMWCo Volunteers)

Finally, the tanks need to be monitored for water levels by both the XIO System (this presumes the backup power to both monitoring units is giving us real data to the web and we are able to access the website and/or app) and/or physical observation of the tanks levels (and keeping a log of the tank levels during the power outage).

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APPENDIX 1

Draft of communication to the community upon either NOAA issuance of a "Red Flag warning" OR PG&E announces a planned Public Safety Shutoff

Neighbors: The National Weather Service has issued a red flag warning this week, beginning at [TIME?], for very hot, low humidity conditions, and possibly high winds coming from the northeast (the "Diablo winds"). And with that, PG&E has issued a service advisory that power maybe cut in several North Bay counties to avoid their lines starting wildfires.

In the event PG&E does cut power to our community, we want to strongly recommend that we all conserve our water and use water only for domestic purposes. This means shutting off all irrigation systems and not filling pools/spas etc. We realize if the power is shut off, many irrigation timers may not work, but many have battery backups or are battery powered and it is imperative the water to all irrigation systems be shut off at the water valve. The conservation use of water is particularly critical for the Brooklime tank as it supplies two thirds of our community.

If you are away from your home here in the George Ranch, please have your property manager or neighbor shut the irrigation systems off.

If PG&E does cut power, we will take our pumps off line to protect the sensitive electrical systems from surge power on reestablishing power.

Our tanks should supply us water for up to three days if we all conserve and use water for domestic purposes only. We have back-up generators for the Hawks Beard well house (manually operated), and the Brooklime well house (on an automatic transfer switch).

And obviously, we remind everyone we also need a reserve of water in our tanks for a potential fire.

Once power is restored, we will put the pumps back online and advise you of the status of the tanks before lifting the ban on irrigation systems and pools and spas.

Thank you and stay safe,
Board President or delegate

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APPENDIX 2

GENERATOR POWER PROCEDURE FOR HAWKS BEARD WELL #2 by GRMWCo VOLUNTEERS

Check generator for engine oil level (uses 30W SAE engine oil) and fuel using the three 5-gallon gas containers (marked Generator gas only). Generator should run up to 10 hours on a full tank. Bring generator from George Ranch work shed to Well #2 on a Gator or pickup and park outside just below well house door. (NOTE: leave enough space between the engine exhaust and the wellhouse)

At well house:

- Open well house with combination (available through management)
- Turn on interior light in well house
- **Turn off PG&E power** on north wall transfer switch by moving switch from bottom position (**PG&E power**) to middle neutral (**OFF**) position
- Check to see that interior light is now off

Generator Startup:

- Plug pigtail cord from the transfer switch in wellhouse into the outlet on the generator (using the four-pronged outlet and lock plug into generator outlet)
- Open generator fuel line (under the fuel tank, left side)
- Switch on generator choke (near the carburetor)
- Turn generator start switch to ON
- **Ensure PG&E power is OFF on Transfer Switch** (and interior light is off)
- Pull cord to start generator (should start easily)
- When generator is running, turn off choke within 5 seconds
- Put electrical panel switch on generator to ON

Note: On restarting generator after a brief run, choke may be required.

In well house:

- Transfer switch power to upper **Generator** position
- Manually turn the well pump on. Switch the well pump automatic override switch UP (on east wall, below the electrical conduit tray) to **ON**
- Well pump noise and chlorine pump will confirm that pump is on
- This is only to test the generator and pumps are working
- **Then switch the override switch to OFF** – this puts the system back to automatic and the pump will shut off when the tank is full

It is advised to run the generator during daylight hours so it can be watched, and periodically check fuel and oil every 5 hours. Turn off pump and then generator when refueling. Do NOT overfill the tank.

APPENDIX 3

GENERATOR MANUAL POWER PROCEDURE FOR BROOKLIME WELL #1B by GRMWCo VOLUNTEERS

In the event of a power outage by PG&E, the Kohler generator installed at the Brooklime wellhouse is fully automatic to both come ON during a power outage, and SHUTDOWN once PG&E power is restored.

For prolonged PG&E service outages (assume longer than 24 hours) it is recommended the generator be manually shutdown during the evening hours and turned back on during daylight hours to conserve fuel, provided the storage tank is full at shutdown.

This procedure addresses the manual process to SHUTDOWN the generator during a power outage to conserve fuel. Therefore, if PG&E power is out AND the generator is ON, do the following to manually shut the generator OFF:

The shutdown procedures are:

- first, turn the two selector switches in the well house to the well and the transfer pumps to "OFF" – there is no special sequence required (stops any call for power to the pumps). Both switches are marked on the electrical panel.
- then push the "OFF" switch to power down the generator engine inside the generator cabinet (key to opening the generator cabinet is above the Kohler Transfer switch in the wellhouse, south wall. Please return key to well house after locking the generator cabinet)

The procedures to turn the generator back on are (it is the reverse order of above):

- push on the generator engine "AUTO" switch to start the generator engine to red light showing on the switch (this is in the generator cabinet, middle switch of three)
- turn "ON" the two selector switches to the well and transfer pumps to "AUTO" This sets the generator to respond to the automatic transfer switch and will automatically shutdown if PG&E power is restored to the well house

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In case of a significant leak or break in the water delivery (pipes) system

Usually, the first indication of a major leak or break in the water pipe delivery system will be a low tank alarm from the XIO System, announced by email and text to listed persons on XIO's notifications list, including JDY Pump, Collins Management and at least two resident volunteers (currently Harold Marsh and Randy Cox).

The first step is to check the wellhouses and confirm the electrical power is on and the pumps are working.

Next step is to ask JDY Pump if they see any major leaks reported through the "EyeOnWater" system – this is the Automated Meter Readers (AMR) on every household connection. Be aware it may take EyeOnWater a while to calculate and report a leak.

If there are no leaks being reported by EyeOnWater, then presume the leak is a line break in our pipe system, and must be found visibly by driving the system's water lines under the Common Area roads.

Once the leak is been identified, the process is to isolate the leak by shutting off water valves closest to the leak (either the homeowners water meter if it is on the homeowners Lot or under street valves in our water pipe system. Tools for shutting off water meters, major street valves are in both well houses (lock code available through management) and the workshop beside the cottage (lock code available through management)

Collins Management is responsible for calling appropriate service providers to address the leak: the Member/resident is responsible for leaks beyond the water meter on private Lots, and/or JDY Pump or Broderick General Engineering for system water pipe leaks.

Finally, Collins Management will coordinate with JDY Pump to notify all GRMWCo Member/residents of the situation to comply with regulatory notice procedures.

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In case of a wildfire event

A wildfire event is most likely to follow a "Red Flag" warning detailed above in the power outage section. We should assume PG&E electrical power is interrupted and the well houses are on their respective generators.

And also assume evacuation warnings or orders are in place and all residents and volunteers evacuate the area.

It is best to leave the Brooklime well house on its automatic generator to supply water to fire services, if needed.

And GRMWCo Volunteers are NOT leave the manual generator on at the Hawks Beard well house as it will be unattended (if residents are evacuated).

After evacuation order are lifted and upon returning to the George Ranch, follow the procedures for earthquake (below) to assess any damage and restart the water system.

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In case of an earthquake

First step is to drive the water pipe system under the Common Area roads to visible inspect for any damage to the roads, pipe system and/or apparent leaks.

If significant leaks are found, the first action is to shut off the 6” inch valves at the base of both storage tanks supplying water to the water pipe system immediately (and if safe to do). This is to preserve the water we have in the storage tanks. There is a 2” valve shutoff tool on each storage tank’s ladder and behind the covers over the ladder (lock code is available through management)

Then, if the electrical power is off, follow the electrical power outage procedures above to restore power.

If the electrical power is not off, then reopen the storage tank valves (slowly) and listen for water rushing into the pipes. Then reinspect the water pipe system for leaks and actively monitor the tank levels using both the XIO System (if working) and analog tank readings (and keep a log).

If a leak is found, follow the major leak procedures above.

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CONTACTS and RESOURCES LIST

The key service providers to the GRMWCo water system are:

Collins Management for all matters addressing both the Association and Water Company and its residents/members.

Brad Bowles: mobile 510.592.9685 email brad@collins-mgmt.com
Collins general office is 800.557.5179, or after 5pm and/or in an emergency call 510.381.5016 (leave a message)

JDY Pump & Well Service is our water company certified water system service provider, for all operational and regulatory services.

Main office is 707.762.1473 and ask for Shannon, service manager. Shannon's email is Shannon@jdypumpwell.com After hours, the answering service will connect through to an on call service person

Broderick General Engineering is the local general contractor familiar with our system and provides heavy equipment and personnel for underground pipe repairs (major leaks).

Main number is 707.996.7809. Leave a message for either Jeff Carlson (also mobile 707.290.8974) or Sean Martin (mobile 707.732.3578)

The GRMWCo Volunteers are:

Randy Cox – m.303.906.3120
email: randy@virtjoule.com

Harold Marsh – m. 415.713.0797
email: haroldmarsh3@gmail.com

Rodney Ross – m. 213.798.1121
email: rross@rpmia.us

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COMMUNICATIONS PLAN

If the GRMWCO faces any of the above events, it is important that all parties follow this communications plan.

First, assuming the first notice of a threat is an alarm from the XIO System for low water in a storage tank. There are 7 persons on XIO System's text/email alarm notice list (4 at JDY Pump, 1 at Collins Management and 2 GRMWCo Volunteers). If any of the 7 get an alarm, the assumption is JDY Pump will respond with an on-call service person to investigate. If either of the GRMWCo Volunteers get the alarm message, and will take action to investigate the situation, they are to call JDY Pump and confirm if they will take action and cancel the service call. The default will be if no call from either the GRMWCo Volunteers, JDY Pump will respond as JDY have resources available to respond to investigate and/or address an issue, they also have regulatory requirements to administer to both the Members (water users) and the state regulator.

Second, Collins Management should be contacted and made aware of the situation being addressed. Collins maintains the community email list and has the ability to communicate with Member residents to have them aware of the situation and what steps (if any) they should take to conserve water resources.

Third, the Board of the GRMWCo should be made aware of the situation, to assist in communicating to the Members (through Collins Management)

Depending on the event, and time of day the event occurs (business hours or non-business hours) and who is responding first (Collins Management, JDY Pump & Well or GRMWCo Volunteers), control or lead communications responsibility should reside with Collins Management (default mode).

Finally, Collins Management has the responsibility to organize service providers/contractors to respond to the event, including Broderick General Engineering for major water line leaks.

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DESCRIPTION OF THE GRMWCo ASSETS

Well houses and related pump equipment

There are two well houses, one on Brooklime and another Hawks Beard, with wells, well pumps, electrical controls and an XIO SCADA System monitoring pumps and tank levels

The Brooklime well house is on Lot #4 and has a 640 foot well (depth) with a 15 hp pump set at 588 feet. The well house has a Lenze VFD drive providing three phase power to the 15 hp well pump and single phase 5 hp transfer pump

The Hawks Beard well house is located on Lot #55 and has a 380 foot well (depth) and a 5 hp well pump set at 260 feet

Both well houses have chlorine tanks feeding a chlorination system on the well water

There is a third well house on Lot #1-B that has a 185 foot well (depth) and a well pump (size not known, but assumed 5 hp). The well and pump have not been used for many years (over 35 years) and is inoperable. The well house and pump are considered abandoned. The well water is also known not to be potable without treatment

Storage and transfer tanks

There are two steel storage tanks, also on Brooklime and Hawks Beard

The Brooklime tank is on Lot #4 and is a 163,000 gallon steel storage tank, which well #1-B feeds water

The Brooklime well house has a 5,000 gallon transfer tank, that the pump feed directly and then transferred to the main storage tank at a higher elevation

The Hawks Beard tank is on on Lot #55 and is a 110,000 gallon steel storage tank, which well #2 feeds water

Both tanks have cathodic corrosion protection provided by a Corrpro system

There is also a 20,000 gallon redwood storage tank on Lot #14 that is tied into well #3. It is empty and considered abandoned

Water lines and related control valves

There are 19,201 lineal feet of 6-inch water mains, and 6,234 lineal feet of 4-inch lateral water mains, all basically under the Common Area roads. The water mains are controlled by 35 6-inch main valves, 10 4-inch lateral main valves and 8 2-inch blow-off valves. The system also has 5 pressure reducing valves and 7 air relief valves on the end of the 2-inch laterals

The system is linked by the 6-inch mains from The Brooklime storage tank, down Brooklime and White Alder and from the Hawks Beard storage tank down Hawks Beard and up White Alder. The system is divided into two zones, by shutting off a 6-inch main valve just above the Cottage on White Alder (closed 9.3.20). The is no water service to the front gate area from the GRMWCo system.

Water meters and related service lines

Water service to the individual Lots is provided through 964 feet of 1 inch lines off the mains to 54 water meters (this includes the Cottage and GRCA Clubhouse). In September 2022, all meters were replaced for Badger Automated Meter Reading (AMR) meters connected to the cloud by cellular service and reporting water usage (and leak detection) through the internet or on individual apps to each user (EyeOnWater)

Fire hydrants

There are 27 fire hydrants, all with shut off valves and color-coded paint to fire department regulations (for GPM flow and static psi)

Generators

Both well houses have electrical transfer switches for generators. The Brooklime well house has an automatic transfer switch with a permanent propane fueled standby Kohler 48kW generator and a propane tank (for the generator). The Hawks Beard well house has a manual transfer switch and uses a 6500 W portable (contractor style) generator, kept in the GRCA workshop. There are documented procedures for operating the generators on manual, when required

XIO SCADA System

Both well houses have an XIO SCADA system installed that monitors storage and transfer tank levels, chlorine tanks, and the pumps. The system communicates via cellular to XIO cloud databases and the GRMWCo system can be monitored through the internet or an app, including sending alarms if preset values are exceeded (such as low water in the storage tanks).

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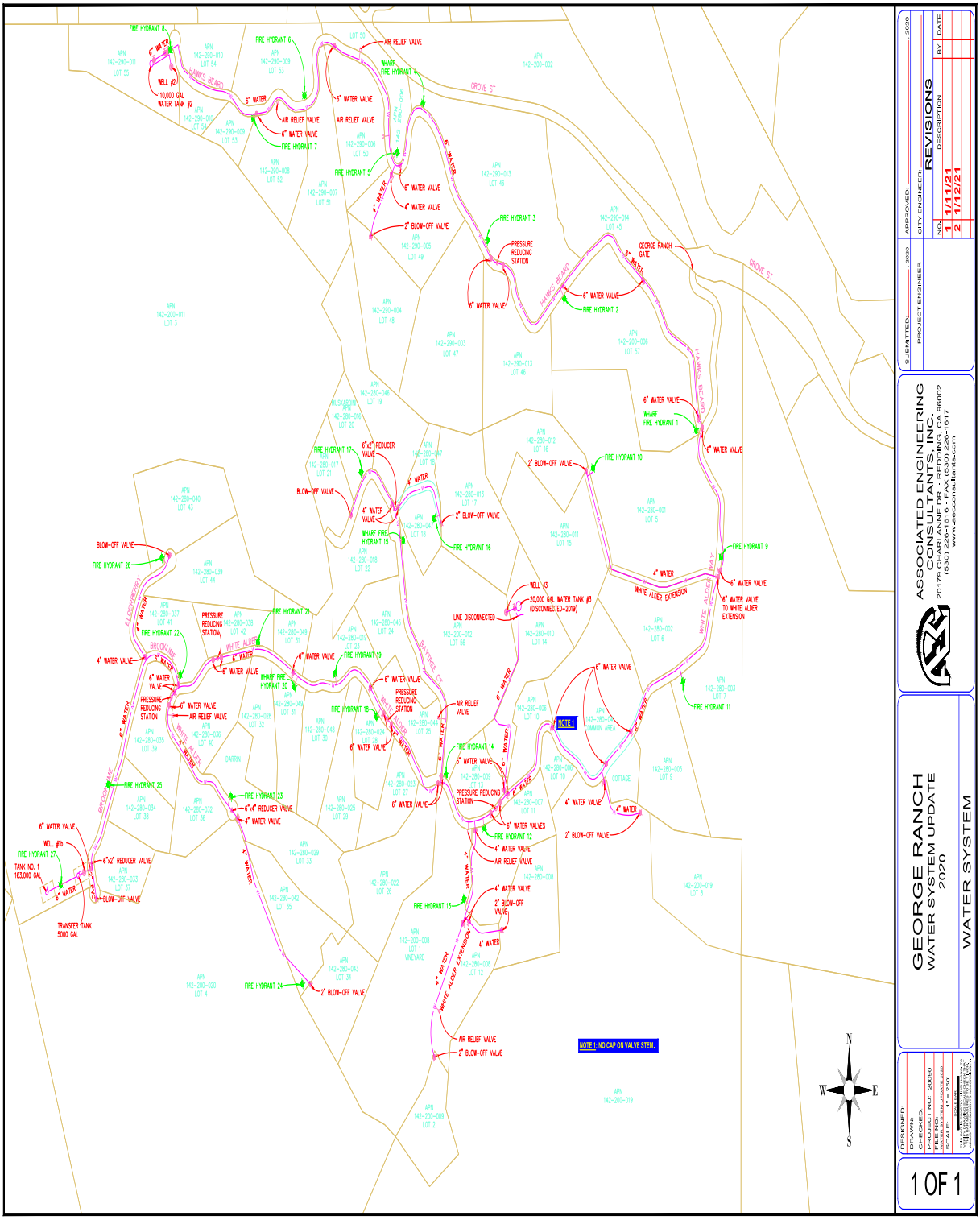

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PUBLICATION

Once this Emergency Procedures Manual is approved by the GRMWCo Board, the document will be published to JDY Pump, Collins Management, the GRMWCo Board and designated GRMWCo Volunteers.

Also, copies of this Manual will be kept in both well houses and clearly marked, to include a large format 2020 Utility Map.

Lastly, this Emergency Procedures Manual should be reviewed at least annually by the GRMWCo Board for updating, or earlier if required.

Approved by the Board of GRMWCo December 20, 2023