Edwin Barahona Property
Inspection Date December 6, 2017
CIWQS Place ID: 843667

Assessor's Parcel Number and Location	**Responsible Party & Mailing Address**
Humboldt County Assessor's Parcel Number (APN): 208-112-023 Address: 27690 Hwy 36, Bridgeville, Ca Coordinates: N 40°28'39.60" W 123°45'34.10	Edwin Barahona 2738 Kollmar Drive, APT 41 San Jose, CA 95127 **Property Ownership & Mailing Address:** 27690 State Highway 36 Bridgeville Ca Rev Trust 117 Bernal Road #70543 San Jose, CA 95119

Watershed

Little Larabee Creek, Van Duzen River
Located in the Bridgeville Hydrologic Subarea of the Van Duzen River Hydrologic Area

Section 303d Listing and Total Maximum Daily Load:

Watershed: Van Duzen River

303(d) Listing: YES; sediment

TMDL: Sediment technical TMDL approved by US EPA December 1999. The TMDL generally emphasized the importance of controlling and reducing the amount of sediment delivery into the watershed in order to protect the "primary beneficial use of concern," in the watershed, salmon and steelhead habitat.

TMDL Implementation: The April 8, 2008, *Regional Water Board Staff Work Plan to Control Excess Sediment in Sediment-Impaired Watersheds*, approved by the RWB on June 12, 2008, indicates in part that staff will "[i]dentify [the] most egregious sources of excess sediment and highest priority sites using aerial and road-based reconnaissance, complaints, staff observations, general knowledge, and other information," with a focus on subwatersheds of the Van Duzen River including Little Larabee Creek, and use progressive enforcement or develop Waste Discharge Requirements or conditional waivers to direct control of excess sediment.

Beneficial Uses of Waters of the Bridgeville Hydrologic Subarea 111.22

MUN; AGR; IND; PROC; GWR; FRESH; NAV; POW; REC-1; REC-2; COMM; WARM;COLD; WILD;RARE; MIGR; SPWN; AQUA

Inspection Details	
Date and Time of Inspection: December 6, 2017 ~1-4 PM	**Present for Inspection:** • Water Boards: o Adona White, Water Resource Control Engineer, North Coast Regional Water Quality Control Board (Regional Water Board) o Ramzi Ibraham, Environmental Scientist (ES), State Water Resources Control Board (State Water Board), Office of Enforcement • California Department of Fish and Wildlife (CDFW), Watershed Enforcement Team (WET): o Scott Bauer and Ryan Bourque, Senior Environmental Scientists o Steve White and Josh Zulliger, Wardens o Other WET Wardens • Humboldt County o Karen Quenell, Department of Planning and Building, Code Enforcement Unit • Humboldt County Sheriff Office o Kerry Ireland, Humboldt County Sheriff Office o Other Sheriff Office personnel
Weather: Sunny and dry, cold	
Inspection access: Search Warrant obtained by CDFW Watershed Enforcement Team from Humboldt County Superior Court	**Cause for inspection:** Suspected water quality and environmental impacts associated with potentially commercial cannabis cultivation. On November 21st, 2017, CDFW wardens conducted a ground recon. of the area. Environmental violations were observed along with harvested outdoor marijuana operations. Follow up investigation determined that the parcel is no longer in the Humboldt County permitting process for commercial cultivation of marijuana. Areal imagery of the parcel revealed three cultivation areas on the parcel.

Inspector's Signature

Adona White
Digitally signed by Adona White
Date: 2018.05.04 15:42:18 -07'00'
Water Boards

Adona White, PE, Water Resource Control Engineer

Site Maps

Figure 1. Topography and location of APN 208-112-023 near the mouth of Little Larabee Creek near State Highway 36, east of Bridgeville. The property spans a slope above Little Larabee Creek.

Figure 2. 2016 Aerial photograph and parcel boundaries. Note the greenhouse complex in northern portion of parcel; this is the primary area of cultivation in the upper area near the house. In the southern portion of the property I observed a 50,000 gallon water bladder (see graded area), and outdoor cultivation with some greenhouses and associated pads.

Site Inspection Map

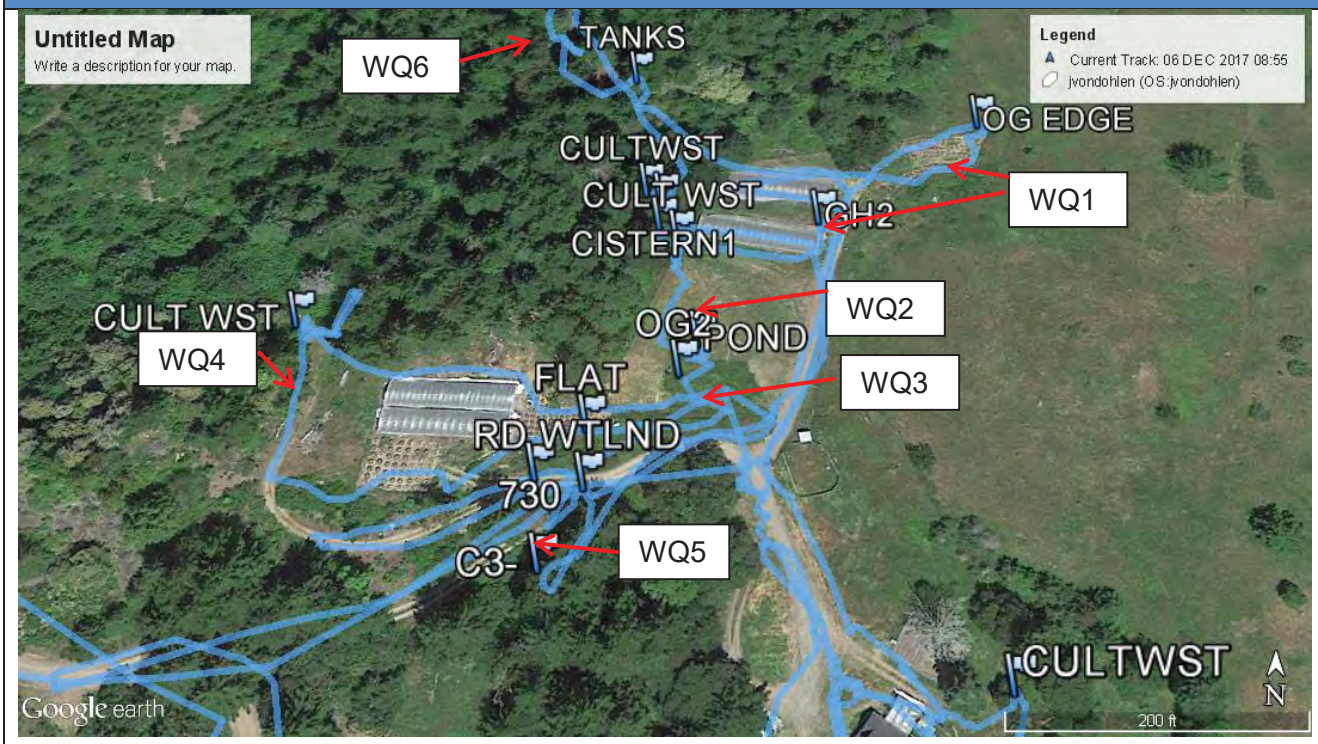

Figure 3. *Inspection Map – Upper Property. Blue track identifies inspection route as recorded on Garmin GPS. Way points indicate features of interest with respect to water quality. WQ numbers (WQ-X) indicate a water quality violation or recommendation.*

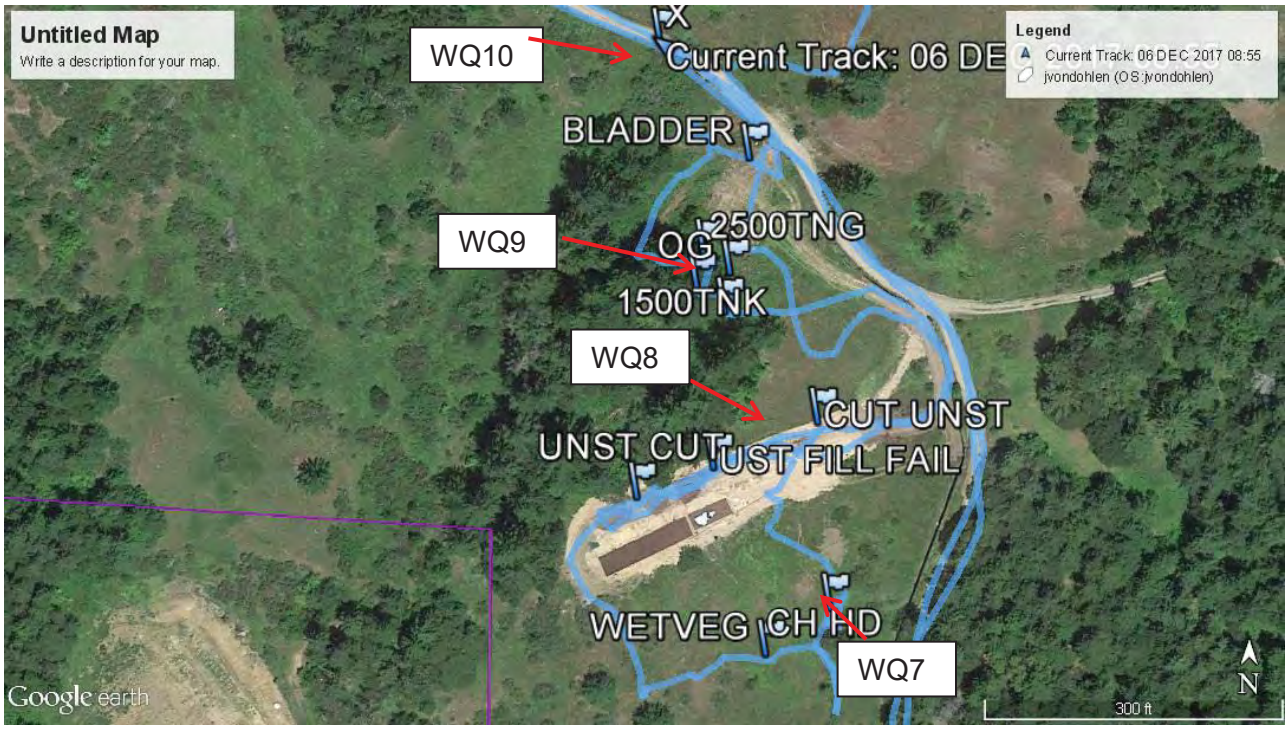

Figure 4. *Inspection Map – Lower Property. Blue track identifies inspection route as recorded on Garmin GPS XXX. Way points indicate features of interest with respect to water quality. WQ numbers (WQ-X) indicate a water quality violation or recommendation.*

Inspection Observations:

1. Disturbed or destroyed wetlands, associated with pond construction, hydrologic modification by intercepting and daylighting seepage, and nutrient and potting soil waste discharges (WQ-2).
2. Evidence of an acre or more of land disturbance associated with site development.
3. Improperly installed and/or maintained roads and stream crossings on the property, resulting in sediment discharges to watercourses (WQ-5, WQ-10).
4. Cannabis cultivation in and near wetlands (WQ-2) and watercourses (WQ-1, WQ-7) with actual and potential discharge of nutrients, potting soil, and sediment to waters of the state. As noted in the pictures below, I observed a number of holes as close as 5 feet to a watercourse at WQ-1.
5. Potting soil, cultivation waste, and plastic placed where it can enter a watercourse (WQ-1, WQ-5, WQ-7, WQ-10).
6. Significant irrigation water demand. In addition to a pond built in a wetland (WQ-2), water source appears to be a well with storage in a combination of bladders and poly tanks. Water storage facilities are poorly installed with the potential for failure. (WQ-9, WQ-6).
7. Excess fertilizers where they can impact surface waters and groundwater (WQ-7, WQ-8, WQ-9).
8. No record of correspondence with Regional Water Board for regulatory coverage for waste discharges associated with cannabis cultivation.
9. No record of correspondence with Division of Water Rights for regulatory coverage for water diversion or storage.

Inspection Findings/Summary:

1. Site development has impacted or threatens to impact surface waters and water quality.
2. Roads and stream crossings have impacted or threaten to impact surface waters and water quality.
3. Cannabis cultivation and associated activities on the site do not comply with applicable state or county requirements, and have impacted or threaten to impact surface waters and water quality.

Potential Violations*:

1. Porter Cologne Water Quality Control Act sections 13260, and 13376 – discharge of waste to receiving waters without filing a report of waste discharge.
2. Federal Clean Water Act Sections 301, 404, and 401: disturbance/placement of fill in waters of the United States.
3. Basin Plan Sediment Prohibitions in the *Action Plan for Logging Construction, and Related Activities:* discharges and threatened discharges of earthen and organic material into waters of the state.
4. Construction General Permit (2009-009-DWQ): disturbance of more than an acre of land in the development of the property.
5. Order R1-2015-0023: 2,000 square feet or more of cannabis cultivation and discharges/threatened discharges of waste to receiving waters without regulatory coverage.

*this list is a summary of potential violations observed by staff, but may not comprise all water quality violations present on the site.

Recommendations

1. Remove cultivation waste from within 150' of surface waters (wetlands and watercourses) in a manner to ensure that there is no potential for discharge of waste (WQ-1, WQ-2, & WQ-7).
2. Remove excess fertilizers from the property (WQ-9) and contain and/or dispose of in a manner that i protective of water quality.

3. Remove and properly contain/dispose of refuse from throughout the Property, including potting soil and cultivation waste (e.g., stems, seedling cubes, grow bags, plastic fencing, dep tarps) from areas with a potential to discharge or blow into to surface waters.
4. Engage appropriately qualified and licensed professional(s) to conduct a U.S. Army Corps verified forensic wetland delineation of the entire Property and to assess the entire Property for controllable sediment discharge sites and evaluate the geological/geotechnical stablity of the upper bladder pad (WQ-6) and the lower greenhouse cultivation flats (WQ-8).
5. Engage appropriately qualified professional(s) with relevant experience in restoration of wetlands and controllable sediment delivery sites to develop workplan(s) and schedule to make appropriate corrective measures to restore slope stability, prevent/minimize sediment discharges to surface waters, and to restore hydrology and diversity associated with impacted wetlands and watercourses throughout the Property. This should include but not be limited to, a project description, goal of restoration, implementation plan and schedule, plan for monitoring and site maintenance following restoration, and contingency measures addressing the diversity index of wetland/ non-wetland native plant species occurring on the Property. The plan should include proposed mitigation to address the temporal and permanent losses of wetland value and function. Site restoration pursuant to the plan, once approved, should be conducted under the guidance of a qualified professional with wetland restoration experience. Plan implementation will need to include considerations to address the requirements of other applicable agencies.

Inspection Photos

Upper Site

Figure 5. WQ-1. Cannabis cultivation is occurring in an outdoor area and two greenhouses adjacent to a watercourse that runs through the middle of the parcel. There are outdoor cultivation holes within ten feet of the watercourse in several areas and within five feet in some places.

Figure 6. Evidence of minor terracing.

Figure 7. A ditch along the backside of the greenhouse runs directly to the nearby watercourse.

Figure 8. Cultivation waste in a wetland. At the back of the photo, one of two concrete cisterns in the wetlands is visible. The structures are 18" in diameter and installed to a depth of six feet below the ground surface.

Figure 9 Road at the base of the wetland, leading to the other upper greenhouse area. The road is saturated and rutting, and I observed potting soil spread over the surface.

Figure 10. Small excavated area and berm in the wet slope. I observed ponded water, apparently due to hillside seepage from the wetland. This feature does not have a controlled outlet structure. The berm is small and well-vegetated. I did not observe evidence of erosion at the pond. Vegetation indicated fluctuating water levels.

Figure 11. Road at the base of the wetland, leading to the other upper greenhouse area. The road is saturated and rutting, and I observed potting soil spread over the surface.

Figure 12. Evidence of cultivation within the wetland area.

Figure 13. Potting soil in grow bags; one of several piles I observed around the edges of the cultivation flat at WQ-4.

Figure 14. A bladder on a graded flat. Fill pad for bladder is relatively small. I observed water storage tanks above the upper cultivation area.

Figure 15. Trees had been harvested and stock piled, likely cleared to construct the fill prism for the bladder.

Figure 16. Cultivation waste at a location where it can discharge to the watercourse adjacent to the house.

Figure 17. A septic tank adjacent to the house.

Lower Property

Figure 18. Plastic light deprivation plastic next to a watercourse (WQ-9).

Figure 19. Water storage tank on an incline.

Figure 20. Water tank above outdoor grow

Figure 21. Outdoor cultivation area covers approximately 2.5 acres on slopes that lead to a watercourse at WQ-6.

Figure 22. Two graded flat areas on the hillside. The cuts appear oversteepened, with emergent water, showing evidence of developing unstable features/conditions. Water has collected on the flats and the cultivation holes are saturated (WQ-7).

Figure 23. Two graded flat areas on the hillside. The cuts appear oversteepened, with emergent water, showing evidence of developing unstable features/conditions. Water has collected on the flats and the cultivation holes are saturated (WQ-7).

Figure 24. Cut bank failure at WQ-7.

Figure 25. Fill failure on terraces at WQ-7.

Figure 26. Greenhouse terraces.

Figure 27. Greenhouse terraces.

Figure 28. The cultivation on the lower property coalesces at the head of a watercourse. I observed cultivation waste at the head of the watercourse at WQ-6.

Figure 29. Algae on the cultivation holes suggesting that excess nutrients remain after harvest.

Figure 30. One of several bags of blue crystal fertilizer I observed in the shed at XXX.

Figure 31. Detail of label on fertilizer bag.

Appendix A:

Report from Ramzi Ibrahim regarding wetland resources associated with APN 208-112-023, as observed on December 6, 2017.

APPENDIX A: Wetlands

The parameters for a wetland, as defined by the US Army Corps of Engineers as a site that can sustain the hydrology that includes standing water, saturated soils, and a dominance of vegetation that can withstand saturated soil conditions. The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) was used as guidance for this inspection. Note that a full wetland delineation of the entire property was not conducted, as a soil color chart was not available at the time of the inspection. Soil types were based on the USDA Soil Texturing Field Flow Chart, and best professional judgement.

The property contained three cultivation sites and several greenhouses. Two areas on the site (Northern and Southern Cultivation Site) contained numerous potholes where Cannabis once grew. There were also two cisterns located above the greenhouses in the northern cultivation area, as noted in Adona's report. This report will help to aid in the process that lead to the boundaries indicated on Figure 1 (below).

Hydrology and Soils

Northern Cultivation Site

The northern cultivation site (Photo 1) appeared to be saturated with water, with the presence of a small pond 25 feet long, 15 feet wide and 4 feet deep (Photo 2). Adona and I checked the grounds for sources of pipes feeding this pond, but only found a pipeline going across it, as well as another attached hose leading to the greenhouses above (Photo 3), telling us this pipe was attached to a pump to draw water from the pond. The presence of the pond, with no surface water connectivity, leads us to conclude that groundwater is shallow across this hill slope. Ponding water was also observed on the roads throughout the site (Photo 4).

I dug a soil pit only 6 inches deep on the road hitting colluvium (rocks) at this depth and deciding to discontinue for the sake of time. From what I was able to pull out of the ground, I saw a continuous layer of dark sediment below, but no presence of seeping water (Photo 5). I went 5 feet north, where the road was cut, revealing a 12-inch layer that could be easily dug into. I carved out a piece of soil, one foot wide by one foot deep into the road cut (Photo6). This section of soil was dark in color as well with small flecks of redoximorphic features (iron oxides) in the upper-most two inches of the soil column.). I took a piece of soil from the soil sample, approximately 25 grams in size and using the USDA Soil Texture Classification Chart instructions, I added a few drops of water. With this I formed a ball in my hand which held together. With that, I attempted to form a ribbon, upon placing the ball in between my thumb and index finger forming a weak ribbon at barely an inch (in the field I had stated that no ribbon had formed, but a video I took showed a very small ribbon being formed). I rubbed the soil again in my palm with my forefinger, feeling a moderate amount of sandy grit, indicating the soil to be a loam, possibly a sandy loam. Soil color, and thus percentage of oxygen reduction and redoximorphic features could not be determined. I noted that the road cut where I took the soil from had begun to seep water from it, indicating the shallow water column was present just before the road. This soil type and the findings in the first pit I dug, coincides with my post-inspection research from the USDA Web Soil Survey, indicating this area to be part of the Dryfield Yorknorth, 5 to 30 percent slopes, which top soil consists of well drained to moderately well -drained Sandy Loam and Loam, derived from colluvium parent rock, with the water table reaching 20 inches below the surface.

Southern Cultivation Site

Adona, Ryan and I entered through a gate, where Adona described the water bladder. Here we noted a well (Photo 7), which Humboldt County did not possess a drilling log. They stated that the well was installed by 3D Drilling. The presence of the well signifies the availability of groundwater, however the lack of a well report prevents me from determining how shallow the water is at the well site. Further south, at the southern cultivation site, I did not take a soil sample, but noted the presence of similar dark soils. The hill slope possessed two vegetated terraces, with a hummocky composition. The entire hillside within the fenced inn area was covered in potholes, spaced out approximately every 6 feet. Many of these holes had the presence of standing water, with algae growing within them (Photo 8).

Weather

To fulfill the parameter for standing water, I began by looking at topographic maps for the presence of springs on the site. There were no known springs, and therefore it is possible that this wetland could be fed by a spring we did not identify in the field, subsurface flow, precipitation, or a combination of all of them. To identify if standing water is coming from precipitation, I queried 24 hour precipitation events from the National Weather Service, California-Nevada River Forecast Center, Bridgeville rain gauge, from November 22 to December 6th (14 days from the date of inspection).

There were 7 rain events between the dates chosen for this query, with the highest occurring on November 27 (Table 1).

Table 1. Rain Events 14 days before December 6, 2017

Date	Days until inspection	Total Precipitation (Inches)
11/24/2017	12	0.95
11/26/2017	10	0.32
11/27/2017	9	2.24
11/28/2017	8	0.08
11/29/2017	7	0.08
12/3/2017	3	1.52
12/4/2017	2	0.16

These observations, as well as the fact that these soils are moderately well drained leads me to conclude that the standing water observed may have been partially due to previous rain events in the last two weeks. However, the fact that water was present in the soil and in puddles on the ground, tells me that these soils support wetland hydrology. Also, the amount of water in the pond is significantly higher than what might be supplied by the most recent precipitation events.

Wetland Vegetation

I performed a survey of the vegetation in the northern cultivation site to approximate the area in which the ground had a dominant cover of wetland vegetation. The dominant species on site was Naked Sedge (*Carex nudata*), a native wetland plant (**See Table 2**).

To the west and east of the area delineated in the northen cultivation site there was presence of more upland species, including coyote brush (Baccharis pilularis), which is not listed on the US Army Corps of

Engineers National Wetland Plant List, and ripgut brome (*Bromus diandrus*). According to my training and best professional judgement, this vegetation being the majority of plant cover outside of this area delineates the wetland boundary.

Table 2. Dominance Test for Wetland Vegetation

Common Name	Scientific Name	Wetland Status	Dominance
Pacific rush	*Juncus effusus*	FACW*	Y
Bearded flatsedge	*Cyperus squarrosus*	OBL*	Y
Spiked bentgrass	*Agrostis exarata*	FACW	Y
Fringed willow herb	*Epibolium ciliatum*	FACW	Y
Naked Sedge	*Carex nudata*	OBL	Y
California blackberry	*Rubus ursinus*	FACU*	N
Maritime beardgrass	*Polypogon maritimus*	OBL	Y
Common Brass Buttons	*Cotula coronopifolia*	OBL	N
Ripgut brome	*Bromus diandrus*	FAC*	Y
Curly dock	*Rumex crispus*	FAC	N
Hyssop loosestrife	*Lythrum hyssopifolium*	OBL	Y
		Total Dominance (OBL, FACW, FAC)	**Total Dominance (All)**
		8	8
		Total Dominance	**100%**

* FAC: Facultative[1]; FACW: Facultative Wetland Species[2]; OBL: Obligate[3]; FACU: Facultative Upland[4].

Wetland Boundary

Using the parameters measured above, I used the location of wetland vegetation and wetted soil to draw a boundary around areas I suspected to possess the three characteristics of a wetland (Figure 1).

Northern Cultivation Site

I took a measurement around the northern cultivation site where wetland vegetation was present with a Garmin RINO GPS. I used the edge of the road to delineate the boundary of the wetland where water

[1] Facultative plants (FAC) Plants that are equally likely to occur in wetlands or nonwetlands estimated probability 34-66% (Cowardin et al.)
[2] Facultative wetland plants (FACW) Plants that usually occur in wetlands (estimated probability 67-99%), but occasionally are found in nonwetlands (Cowardin et al.).
[3] Obligate wetland (OBL). Almost always occurs in wetlands (estimated probability > 99%) under natural conditions
[4] Facultative upland (FACU). Usually occur in non-wetlands (estimated probability 67% – 99%), but occasionally found in wetlands (estimated probability 1% – 33%).

was no longer seeping from the ground. The total area disturbed on this site approximately 0.68 acres according to the Garmin Rino.

Southern Cultivation Site

I took a measurement around the southern cultivation site where potholes were present (the entire site was dominated by *Carex nudata*) with a Garmin RINO GPS, avoiding a small portion of steep slope on the northern portion, which was corrected in ArcMap. The total area disturbed on this site approximately 1.57 acres according to the Garmin Rino. Vegetation appears to have been naturally restored on this site from previous grading work shown in the 2016 aerial.

Conclusion

It is my opinion that this area supports wetland resources, which were not set back within the mentioned cultivation sites. This includes the greenhouse overlayed within the orange polygon (Figure 1) in the northern cultivation site. In the course of the inspection, we may have not recognized the entire wetland boundary across the entire parcel. It will be up to the land owner to hire a professional to identify the boundary of wetland and stream boundaries, in order to find areas for cultivation site setbacks, or seek the proper permits for such activities within the wetland.

Photos and Figures

All photos attached were taken by Ramzi Ibrahim, using a Nikon CoolPix camera.

Photo 1. Northern Cultivation Site facing east.

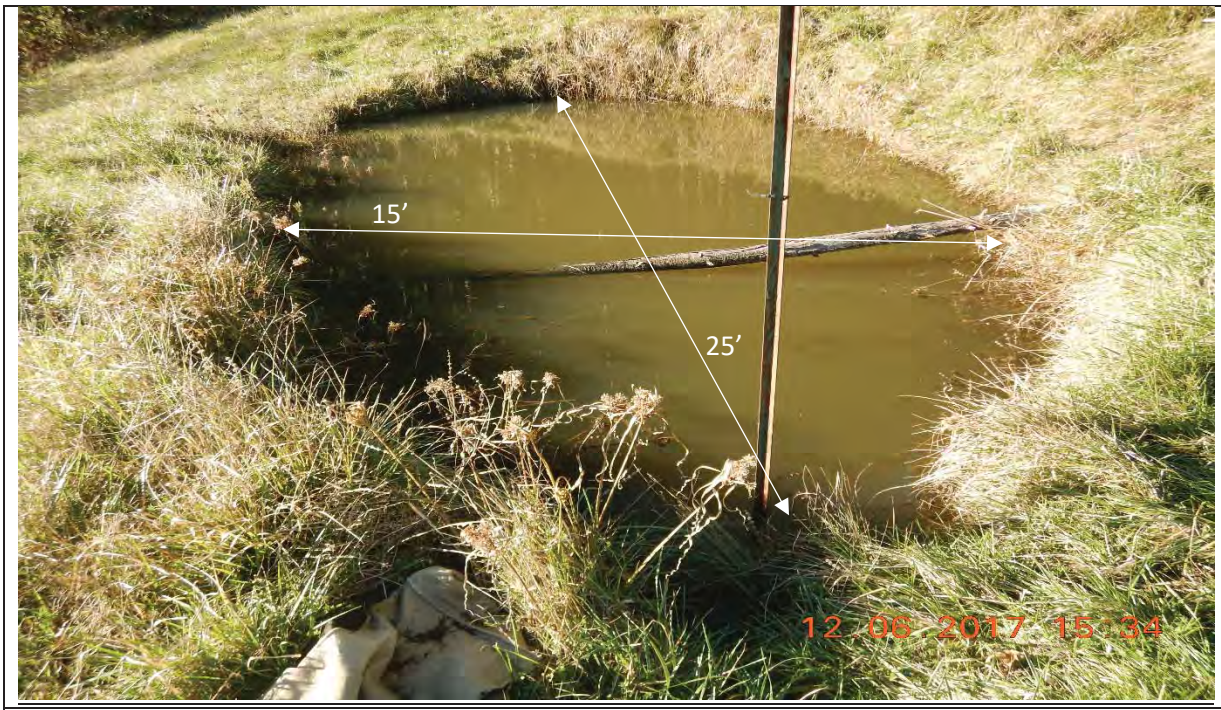

Photo 2. Pond with standing water in Northern Cultivation Site.

Photo 3. Pond with pump hose.

Photo 4. Ponded water on the road.

Photo 5. Soil sample #1 six inches dug into the road (Nikon CoolPix camera captured contrast and color brighter in the photograph, than originally observed in the field).

Photo 6. Soil sample #2 dug into the road cut (Nikon CoolPix camera captured contrast and color brighter in the photograph, than originally observed in the field).

Photo 7. Well drilled above Southern Cultivation Site.

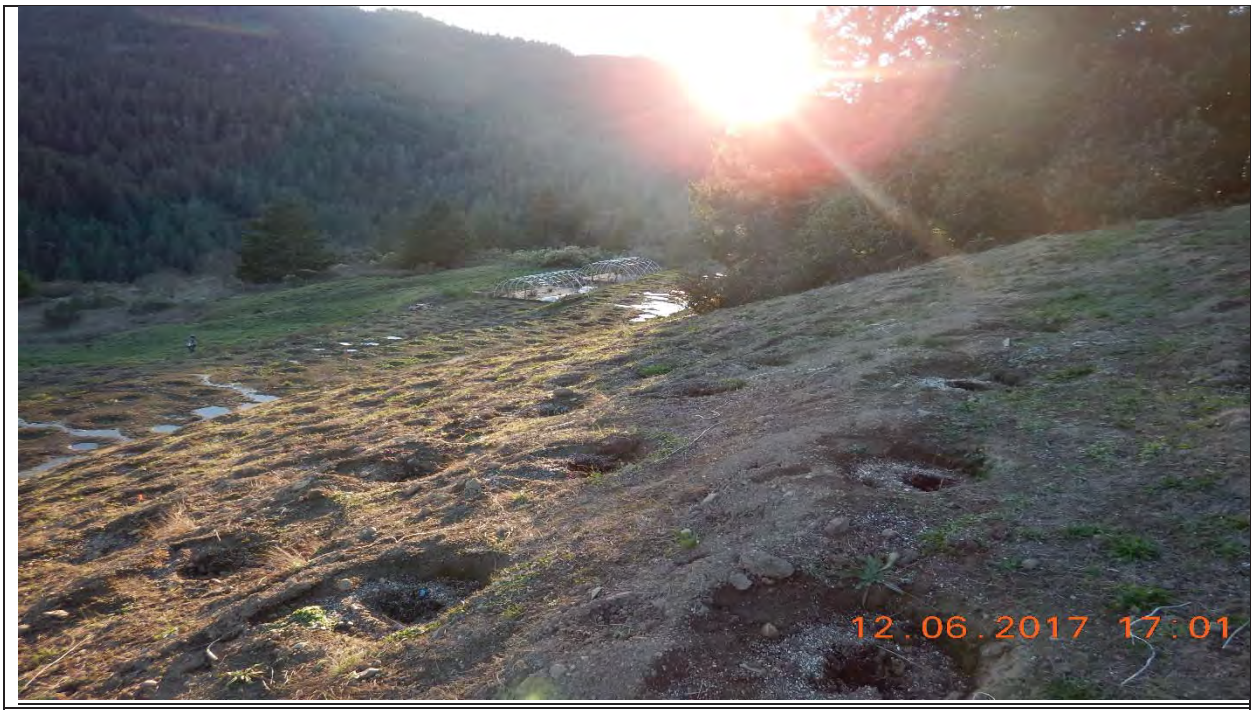

Photo 8. View of Southern Cultivation Site facing west.

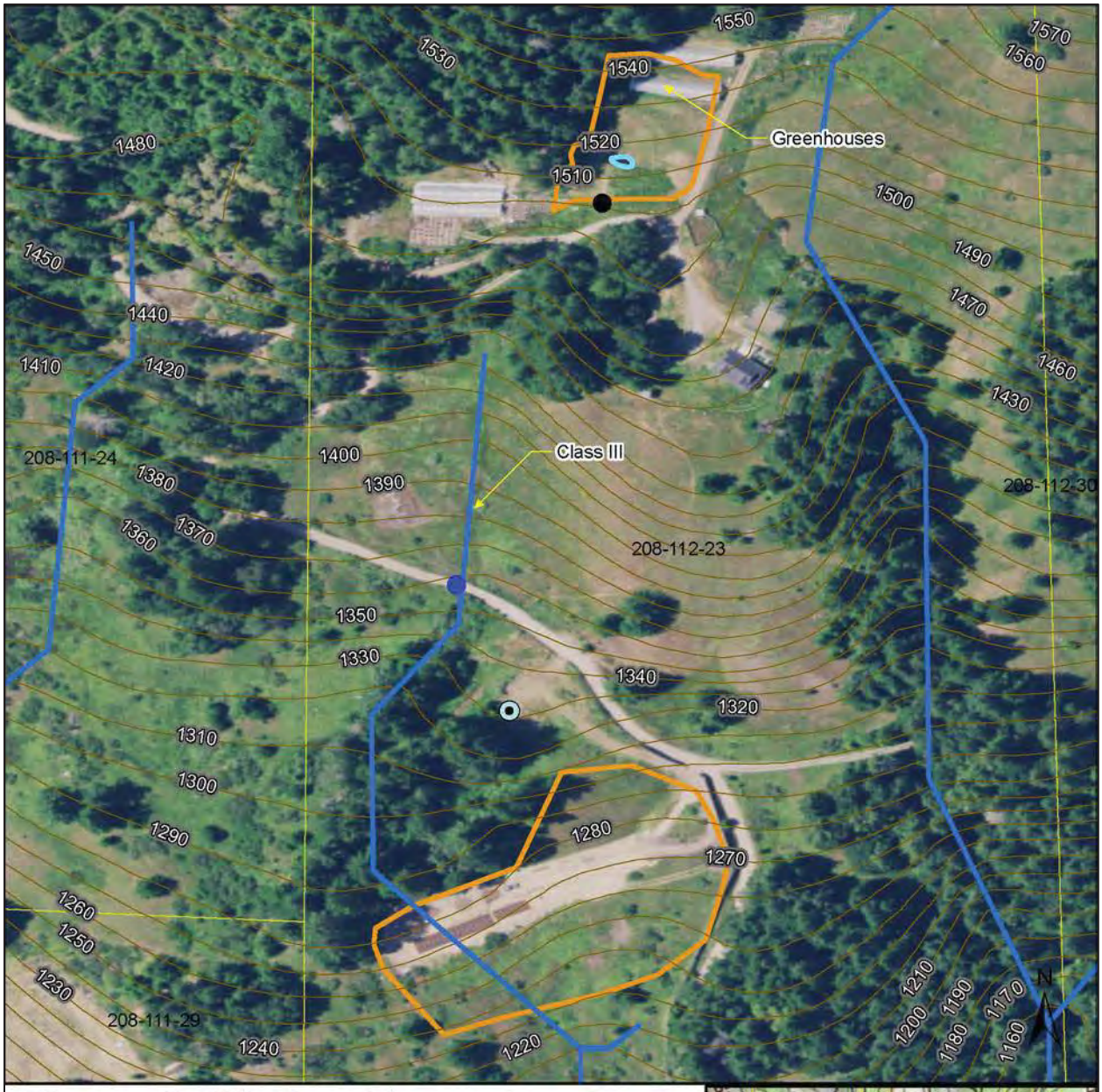

Figure 1: Wetland Impacts
APN: 208-112-023-000

Legend

- Culvert Crossing
- Soil Pit/Edge of wetland boundary
- Well
- Water Course
- Contours 10 feet
- Pond
- Slope Wetland
- Humboldt Parcels

0 115 230 460 Feet

Basemap: NAIP 2016
Contours: NED 10 m to 10 ft interval
Streams: Digitally inferred using NED 10m LiDar
Created by: Ramzi Ibrahim
Environmental Scientist
Office of Enforcement
Nov. 29, 2017

Water Boards