MEETING DATE:	**July 23, 2014**
PREPARED BY:	**M Jones**
PRESENTED BY:	**M Jones**

AGENDA ITEM SUMMARY REPORT

APPLICATION NO.: Grading Permit 2013-08 (GP 2013-08); Sept. 12, 2013

APPLICANT: Public Works Department

OWNER/AGENT: City of Fort Bragg

REQUEST: Development of a 45 acre-foot raw water reservoir with a maximum depth of 24 feet, and area of 6.5 acres. Approximately 8 acres of timberland would be converted to accommodate the development. The new reservoir would draw water from an existing water line which currently runs from Waterfall Gulch to Newman Gulch, and would tie in to the existing water line at its intersection with Brush Creek Road. The reservoir will store raw water that is currently drawn from Waterfall Gulch for City potable water use.

LOCATION: On a City owned 35.8 acre parcel located approximately 2.5 miles inland at the north end of Summers Lane, at 19701 Summers Lane (APN 019-070-13).

APN: 019-070-13

ZONING: Public Facilities (PF)

ENVIRONMENTAL DETERMINATION: A Mitigated Negative Declaration (MND) has been prepared and was circulated on September 19, 2013, continuing through July 23, 2014. The MND has State Clearinghouse Number 2013092035. The project was updated and recirculated starting on June 19, 2014 after a breach inundation study was prepared for the environmental analysis in the MND.

SURROUNDING LAND USES: NORTH: Forest Land, PG&E Access Road & Power Line
WEST: Rural Residential Development and Nursery
EAST and SOUTH: Mendocino Coast Recreation and Park District

APPEALABLE PROJECT: ☒ **Can be appealed to City Council**

PROJECT DESCRIPTION

PROJECT HISTORY

The proposed Summers Lane Reservoir project was first considered by the Planning Commission at the October 23, 2013 Planning Commission public hearing. The summary report and minutes to that meeting are included as attachments to this report. At that meeting, the Planning Commission requested that a reservoir breach inundation study be conducted to respond to concerns from the public regarding the potential for flooding if there is ever a breach in the reservoir wall. A study was completed and is included as **Attachment 7** to this report. The concerns expressed by the public at the October 2013 hearing, and written concerns submitted by the public prior to and after the October 2013 hearing are summarized in Table 1.

Table 1: Concerns Regarding the Summers Lane Reservoir

Public Concern	Response
Potential for a flood from a possible reservoir breach to damage the neighboring residence.	A breach inundation study was prepared to analyze the validity of this concern. The study shows that a breach of the reservoir wall is highly improbable. In the worst case scenario, in the unlikely event of a breach, the residence on the adjacent property to the west would experience 20 minutes of flooding with a peak water depth of 0.98 feet and a peak flood wave velocity of 2.62 feet per second.
If children and animals fall in, can they get out?	The reservoir will be fully fenced and locked. A reservoir exit is included in the design, to allow people and animals to climb out of the reservoir if they scale the fence. The project engineer suggested that: 1) safety ropes that extend into the water be secured to the berm with stakes in several locations; and that at least two life preserver rings be accessibly located at the reservoir. The Planning Commission supported these additional safety measures at the October 23 Planning Commission hearing, and they are included as a condition of approval (Special Condition 3, Mitigation Measure 20).
Will the project impact neighboring wells?	At the October 23 Planning Commission hearing, the project engineer indicated that surface water from Waterfall Gulch would be stored in the reservoir, which will not impact neighboring wells. Additionally, the reservoir design includes underdrains and thick plastic sheeting to prevent groundwater from entering the reservoir.
Will the project create mosquito breeding habitat?	To prevent stagnation (which allows mosquitoes to breed) the water will be kept in constant flow through the reservoir and will be regularly maintained to prevent outfall clogs. Special Condition 3, Mitigation Measure 17, has been included in order to prevent stagnation.
Will the project result in damage to the private road due to vehicles and equipment associated with the timber harvest and construction?	Language has been added to Special Condition 3 requiring the City to repair any damage to the private portion of Summers Lane resulting from timber harvest and construction traffic.

Will the public be able to access the reservoir, and will this result in traffic impacts?	The public will not be allowed to access the reservoir. During construction, traffic to the Project Site will be limited to timber harvest and construction traffic. After construction, traffic to the Project Site will be limited to regular inspections by Public Works employees.
Will the soil be tested for toxins before the project starts?	Soil testing was completed as part of the engineering studies. No potential for hazardous materials has been identified. In the unlikely event that an underground storage tank or other potential contamination source is discovered during ground disturbing activities, a clean-up plan designed to ensure public and environmental safety will be developed and carried out under the authority of any oversight agencies.
The Planning Commission expressed concern that the fence should be difficult to scale.	Staff recommends the addition of slats in the proposed chain link fencing to discourage climbing. Language has been added to Special Condition 1 to require slats.
A concern was expressed regarding the possibility of marijuana growers siphoning off water.	Dave Goble, Public Works Director, stated that City staff will be checking the site on a daily basis, and that the chance of anyone siphoning water from the reservoir was very unlikely.

PROJECT PURPOSE

The purpose of the proposed project is to develop a 45 acre foot raw water reservoir to store raw water from Waterfall Gulch to meet drought-related water storage needs and water quality needs of the Fort Bragg Water Service District. This water will be transported via a gravity fed pipeline to the City of Fort Bragg's water treatment plant for the provision of potable water for Fort Bragg water customers.

The City currently has the ability to store 6,300,000 gallons of water, including two raw water storage ponds at the Water Treatment Plant, two tanks at the Corporation Yard, and a smaller tank at the Highway 20 Fire Station. Additional water storage is accommodated within the Newman Reservoir, Waterfall Gulch, and water within the distribution system. The proposed reservoir would hold approximately 14,700,000 gallons of raw water. Fort Bragg water customers use from 600,000 to a million gallons of water per day in the summer.

The City has a licensed water right to divert water from Waterfall Gulch[1], a tributary to Hare Creek, and that water is piped to the City's Newman Reservoir property and on to the treatment plant. The point of diversion will remain the same, as will the amount of water drawn from Waterfall Gulch. The City has filed a Change Petition with the State Water Resources Control Board to request that water right License 12171 allow water from Waterfall Gulch to be stored in the proposed Summers Lane Reservoir. The reservoir will be constructed down the pipeline, between Waterfall Gulch (point of diversion) and the point at which the pipeline currently ties in to Newman Gulch (current point of re-diversion) and heads to the water treatment plant. Storage of Waterfall Gulch water in a reservoir (proposed new point of re-diversion) will allow the City to

[1] License 12171 for Diversion and Use of Water from the State Water Resources Control Board allows the City of Fort Bragg a maximum of 475 acre feet per year to be diverted from Waterfall Gulch at a rate of diversion not to exceed 0.668 cfs.

use the stored water when it needs it most, in the late summer months when demands are high and supply is limited.

Water supply analyses indicate that although the City has sufficient water supply to serve the projected buildout of the City of Fort Bragg as currently zoned within the existing City Limits through 2040, it does not have sufficient water storage or a right that allows for storage to serve buildout in a drought year. However the new water storage facility will ensure that sufficient water is available in extended drought conditions, such as the 1977 drought, to serve existing development.

PROJECT DESCRIPTION

Project components consist of a timber harvest, reservoir construction (including pipe replacement, new pipe installation, and new fencing), and long-term maintenance of the project. Each is described in detail below.

Timber Harvest

The Timber harvest will occur over approximately eight acres to accommodate the project. The project site consists of redwood dominated coastal mixed coniferous forest which was last logged in 1993. There are no watercourses or wetlands within the timber harvest area. Approximately 72 pygmy cypress (*Hesperocyparis pygmaea*) trees are present in the project area, constituting approximately one seventh of the canopy cover. Pygmy cypress is considered a rare plant by the California Native Plant Society (CNPS) and it is listed as a 1B2 ranked species. This plant is not included on any Federal or State lists. The pygmy cypress specimens in the project area are not in their native habitat, which is the Pygmy Cypress Forest. The project includes measures to ensure that impacts to pygmy cypress are less than significant, including replacement at a ratio of at least 3:1 and invasive plant removal. A pygmy cypress mitigation and monitoring plan has been developed (**Attachment 4**).

Construction

Grading. Construction of the pond will consist of clearing and grubbing, grading and compaction of soils, creation of a geotextile reinforced berm, installation of safety and access systems, liner placement, erosion control, construction of an overflow spillway, installation of new pipe and connection to existing pipe, and installation of a gravel perimeter road and chain link fence and gate. Preliminary design details are as follows:

1. Approximately 43,000 cubic yards (cy) of soil will be graded to provide the 45 acre feet of water storage. Approximately 7,000 cy of topsoil will be temporarily stored at the site and used for planting the mitigation cypress trees around the perimeter of the new reservoir. An additional 34,000 cy will be cut, moved, and then compacted to create the embankment for the reservoir. Any topsoil or other soil materials not used at the project site will be temporarily stored onsite until they can be utilized for other City projects. The reservoir will cover approximately 6.5 acres. An additional 1.5 acres will be cleared for access, construction staging, the outlet basin, and reservoir piping.
2. Two-to-one (2 horizontal:1 vertical) outside (opposite impounded water), and three-to-one (3:1) inside slopes are planned for the reservoir embankment. The berm height will be at grade (southeast corner) to about 13 feet above grade (southwest corner) on the south side, at grade on the east side, about 13 to 22 feet above grade on the north side, and 14 to 18 feet above grade on the west side. The berm will be reinforced with a geotextile material for added stability.

A total of three feet of freeboard is provided for the reservoir. Freeboard is additional embankment height that is provided above a water surface level to assure that failure of the dam will not result from overtopping because of factors that may permanently or temporarily increase the water surface elevation in the reservoir. Freeboard also provides a safety factor to account for uncertainties in operational procedures and the function of the facility in critical situations. The total amount of freeboard may increase or decrease depending on calculations to be performed during the final design phase of the project.

Diversion/Waterlines. The water source piping (from Waterfall Gulch) for the reservoir will tie into the existing pipeline to the existing Newman Gulch Reservoir approximately 280 feet west of the intersection of Brush Creek Road and Summers Lane. The existing pipeline that continues north to the Newman Gulch Reservoir will be disconnected and abandoned in place. All water from Waterfall Gulch, which presently flows either directly to the Water Treatment Plant or to Newman Reservoir, will be diverted to the new Summers Lane Reservoir. Newman Reservoir will continue to store water from the City's Newman Gulch water source and serves as a point of diversion for that water source to the City's Water Treatment Plant.

The new water line from Waterfall Gulch will be placed along the north side of Brush Creek Road (a private road) in an existing 60 foot wide utility easement, heading eastward approximately 280 feet from the tie in point to the intersection of Brush Creek Road and Summers Lane. At the intersection of Brush Creek Road and Summers Lane, the water line will then head north along Summers Lane (CR 415D) within the privately maintained portion of the road. Beyond Summers Lane, the piping would extend to the City's property. The water line will then head in a northeasterly direction along the existing access road, around the new reservoir, to the east side, where it will enter the new reservoir (see **Attachment 1,** Engineered Plans). A water line will also head around the new reservoir, where it ties in to the Reservoir outlet pipe to the water treatment plant. Water lines leaving the new reservoir include two bottom outlet lines and one "pond full" line, which converge at a three way valve system before tying into the outlet water line to the Water Treatment Plant.

The inlet into the new reservoir will be 62-feet higher than the current discharge location, and the flow is expected to occur via gravity flow at a rate of between 135 gallons per minute (gpm) and 225 gpm. At 135 gpm, the reservoir would fill in approximately 70 days; at 225 gpm, the reservoir would fill in 40 days.

Overflow (Spillway). An overflow path on reservoirs, commonly referred to as a spillway, is designed to provide for safe release when inflow exceeds outflow and the reservoir is full. The pond outlet is designed for the maximum anticipated inflow, which includes the rainfall from a 100-year storm event, and an additional safety factor (1.5). The spillway will provide a controlled overflow for larger storms, and will be designed for the peak design flow of 31 cubic feet per second (cfs).

The "pond overflow" is shown in attached drawing C5.0 (**Attachment 1**, Engineered Plans), and would be located on the northwest corner of the reservoir. The overflow heads out of the reservoir through a 36" pipe booted two feet below the top of the berm. A concrete pad with elevated sides accommodates the overflow pipe across the top of the berm and the pipe heads down the berm in a northerly direction to an energy dissipater. The overflow is then piped towards an existing swale in a northeasterly direction to Newman Gulch and subsequently into the Noyo River. The peak flow from the existing area occupied by the proposed reservoir footprint into the existing drainage swale is 4.9 cfs. The peak flow from this area will be less (1

cfs) after the reservoir is constructed. There are no buildings between the reservoir spillway and the Noyo River.

Underdrain and Liner. A liner, placed along the bottom of the proposed reservoir, will retain reservoir water and minimize soil accumulation. The 60-mil (about 1/16"), UV resistant HDPE liner will last 30 years. To prevent groundwater from saturating the soil beneath the embankment and to prevent groundwater from accumulating beneath the liner, an underdrain will be installed in the native soil beneath the liner. The underdrain would gravity drain downhill to an erosion-protected discharge point. An anchoring trench will hold the liner in place. Emergency egress ladders or textured HDPE will be placed on each side of the pond to allow for access out of the pond should people or wildlife fall in.

Fencing. A six foot tall chain link fence is proposed around the new reservoir just outside of the berm to prevent unauthorized access.

Long Term Maintenance. Black plastic food grade vapor containment/pollution control balls, aka "bird balls," will float on the surface of the reservoir to minimize evaporation and minimize organic growth. The reservoir will be drained once after approximately five years, inspected and cleaned using fire hoses that wash the sediment to the low end. Larger branches will be picked up by hand and smaller sediment will be hosed through the cleanout drain and into the cleanout basin to be collected and transported to a disposal site.

GRADING PERMIT

The applicant has submitted a request for grading permit approval, the only City permit required for the project. Typically grading permits are subject to ministerial review and approval by the Director of Public Works. However, due to the scope of the project, the preparation of a Mitigated Negative Declaration, and the public interest in the project, staff has referred the decision to the Planning Commission for a Public Hearing and for its decision. In order to approve a grading permit, the Planning Commission must make the following findings:

1. The project for which the grading is intended shall first be authorized with a planning permit as required for the proposed use by Article 2 (Zoning Districts and Allowable Land Uses).
2. The proposed grading conforms to all applicable provisions of the General Plan, any applicable specific plan, and the Inland Land Use and Development Code.
3. The proposed grading shall comply with all applicable provisions of Chapter 18.62 (Grading, Erosion, and Sediment Control Standards), 18.64 (Urban Runoff Pollution Control), and all other applicable provisions of the Development Code.
4. Any permits required by State or Federal agencies for the proposed grading have been obtained (including streambed alteration permits from the California Department of Fish and Game and "Section 404" permits for grading within wetlands and certain watercourses from the U.S. Army Corps of Engineers), or are required by conditions of approval to be obtained before grading work is started.
5. The proposed grading either will not adversely impact an existing public or private easement, or the applicant has obtained the written consent of the easement holder to perform the grading within the easement.
6. Proposed grading that will disturb a surface area of one acre or more of soil shall require the filing of a Notice of Intent (NOI) with the State Water Resources Control Board for coverage under the State NPDES Construction General Permit. A copy of the NOI and the receipt of

notice from the State with a Waste Discharge Identification Number (WDID) shall be filed with the Community Development Department.

7. The extent and nature of proposed grading is appropriate to the use proposed, and will not create site disturbance to an extent greater than that required for the use.
8. Proposed grading will not result in erosion, stream sediment, or other adverse off-site effects or hazards to life or property.
9. The proposed grading will not create substantial adverse long-term visual effects visible from off-site.

Information and analysis is included below so that the Planning Commission can make each of these findings. Findings 2 & 3 are combined because the same information and analysis is necessary to make both of these findings.

Finding 1. The project for which the grading is intended shall first be authorized with a planning permit as required for the proposed use by Article 2 (Zoning Districts and Allowable Land Uses).

The project site is located within the Public Facility (PF) zoning district. The project meets the description for a Utility Facility, which is principally permitted in the Public Facility (PF) zoning district. The project is subject to the applicable development standards outlined in Article 3 of the Inland Land Use and Development Code, including parking, fencing, screening, and performance standards as analyzed below. The project is not subject to Design Review requirements as it is not visible from any public view area, and is exempt per Section 18.71.050.B.3.b of the ILUDC. The only City permit required for this project is a grading permit. This finding can be made.

Finding 2. The proposed grading conforms to all applicable provisions of the General Plan, any applicable specific plan, and the Development Code.

And

Finding 3. The proposed grading shall comply with all applicable provisions of Chapter 18.62 (Grading, Erosion, and Sediment Control Standards), 18.64 (Urban Runoff Pollution Control), and all other applicable provisions of this Development Code.

The project is consistent with the following goals and policies of the Inland General Plan:

> **Goal PF-1** Ensure that new development is served by adequate public services and infrastructure.
>
> **Goal PF-2** Assure that the City's infrastructure is maintained and expanded to meet the needs of the City's residents and growing population.
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> > **Policy PF 2.2** Potable Water Capacity: Develop long-term solutions regarding the supply, storage, and distribution of potable water and develop additional supplies.
> >
> > **Policy PF-2.3** Emergency Water Supply: Develop an emergency water supply for disaster preparedness.
> >
> > **Policy PF-2.4** Potable Water Quality: Maintain the safety of the water supply.

> **Program PF-2.4.2:** Provide security and protection for the watersheds and water storage and treatment facilities with monitoring, appropriate notices, physical barriers, and protective devices as well as land use policies and controls.

The proposed project would provide added water storage to meet City needs during summer months. The proposed fencing would help to secure the water supply. No goals, policies or programs were identified that would conflict with the proposed project. The project is consistent with General Plan goals, policies and programs.

ILUDC - Site Development Standards

Setbacks & Height Limitations

The Public Facilities zoning district does not have regulations that limit height, nor are there setback requirements in this zoning district. The proposed project will be located 10 feet from the nearest property line and will sit a maximum of 25 feet above grade (NW corner).

FAR

The maximum Floor Area Ratio (FAR) for this zoning district is 0.75. The proposed project will cover 8 acres of a 38.6 acre site for a total FAR of 0.20, which is well below the maximum FAR.

Parking and Circulation

There is currently no formal parking at the Newman Gulch Reservoir. The existing and proposed reservoir would be occasionally visited by City personnel for repairs and maintenance. The ILUDC does not include a parking requirement for reservoirs or public facilities. As the site will receive very limited visitation and the City code includes a preference for permeable paving and Low Impact Development techniques the existing informal rocked parking area is sufficient to serve the new reservoir.

Fences

A six foot high security fence is proposed around the perimeter of the new reservoir (**Attachment 1**, C7.0). The fence would not be located in setbacks and the proposed height conforms to the maximum allowable height of eight feet.

Section 18.30.050.E.3 of the ILUDC prohibits chain link fencing within the front and street side yards in all zoning districts. However as this parcel is not abutted by streets, this prohibition does not apply to this parcel. Additionally, Section 18.30.050.E, provides for approval of chain link fencing by the Director for special security needs, which is warranted, as a safe secure water source is a public health priority.

At the October 2013 hearing, the Planning Commissioners expressed concern that the fence should be difficult to scale. Staff recommends the addition of slats in the proposed chain link fencing to discourage climbing. Language has been added to **Special Condition 1** to require slats:

> **Special Condition 1:** To ensure public safety, the reservoir shall be fully fenced and the gate secured to prevent access into the reservoir. ***Slats shall be placed in the chain link fencing to eliminate fence climbing.*** Additionally, ropes shall be secured in at least four places around the top of the berm and hung over the inner edge of the reservoir to accommodate exit from the reservoir should someone accidentally fall in, and at least two life preserver rings shall be located in accessible locations from the reservoir berm.

Screening

Section 18.30.050.F of the Land Use and Development Code establishes standards for screening between different land uses, indicating that:

> "Commercial or industrial uses adjacent to a residential use must provide screening at the parcel boundary. Other non-residential uses adjacent to a residential use may also be required by an applicable review authority to comply with these requirements."

As the proposed reservoir will have banks that rise to 14 to 18 feet above grade on the west side approximately 10 feet from the neighboring residential property, screening is warranted along the west property line. Screening requirements outlined in 18.30.050.F.1 are as follows:

> **Screening between different land uses.** A commercial or industrial land use proposed on a site adjacent to a residential zoning district shall provide screening at the parcel boundary as follows. Other nonresidential uses adjacent to a residential use may also be required by the applicable review authority to comply with these requirements.
>
> a. The screen shall consist of plant materials and a solid, decorative wall of masonry or similar durable material, a minimum of six feet in height.
>
> b. The maximum height of the wall shall comply with the provisions of Subsection B (Height limits).
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> c. The decorative wall shall be architecturally treated on both sides, subject to the approval of the review authority.
>
> d. A landscaping strip with a minimum width of five feet shall be installed adjacent to a screening wall, except that 10 feet of landscaping shall be provided between a parking lot and a screening wall, in compliance with Section 18.34.050.C (Landscape Location Requirements - Parking Lots).
>
> e. The review authority may waive or approve a substitute for this requirement if the review authority first determines that:
>
> (1) The relationship of the proposed uses makes the required screening unnecessary;
>
> (2) The intent of this Section can be successfully met by means of alternative screening methods;
>
> (3) Physical constraints on the site make the required screening infeasible; or
>
> (4) The physical characteristics of the site or adjoining parcels make the required screening unnecessary.

As the structure to be screened is a vegetated earthen berm in a rural setting, a decorative wall is not appropriate. A vegetative buffer is appropriate. During construction all healthy trees and brush in this area will be retained. Additionally, native pygmy cypress trees will be planted here as part of the mitigation requirements for this project. The pygmy cypress trees would be planted at estimated 10 foot intervals where gaps allow, and at maturity would be 14 to 18 foot high, effectively screening the berm. The MND includes **Mitigation Measure 1** to require vegetative buffering

> **Mitigation Measure 1:** Native, drought resistant trees and shrubs shall be retained per the recommendations of the Licensed Timber Operator, and/or native pygmy cypress trees shall be established or planted 10 feet apart (an average of at least one every 100 square feet, after the conversion) along the entire west side of the reservoir within the 10

foot wide visual buffer area between the proposed berm and the western property boundary. At least half of the native vegetation shall be of a species which is expected to reach a height of at least 20 feet at maturity.

Signage
No signage is proposed for the site.

ILUDC - Resource Protection

Cultural Resources
Three archaeological studies were completed for the project; two in association with Timber Harvest Plans and a third study specifically for the CEQA analysis. The studies are located in the project file. All three survey reports indicate that no sites were identified. There is always a potential to encounter buried archaeological resources, and the City's standard condition is sufficient to address this potentiality.

Natural Resources
The project area consists of a coastal mixed coniferous forest, approximately 8 acres of which will be logged under a Timber Harvest Plan and converted under a Timber Conversion to accommodate the proposed development. The project site consists of redwood dominated coastal mixed coniferous forest which was most recently logged in 1993. The environmental impacts to natural resources have been thoroughly analyzed in the CEQA document, the Mitigated Negative Declaration (MND), for this project. All impacts to natural resources will be completely mitigated for the project through the mitigation measures included in the MND.

ILUDC Site Development Regulations (18.62 & 18.64)

Dust Prevention & Control (18.62.020)
The City of Fort Bragg is located in the North Coast Air Basin and is within the jurisdiction of the Mendocino County Air Quality Management District. Mendocino County is designated attainment or unclassified for all air quality standards except the state standards for Particulate Matter less than 10 microns in size (PM-10). Development within Mendocino County is required to comply with all applicable provisions of the Particulate Matter Attainment Plan adopted by the Mendocino County Air Quality Management District on March 15, 2005.

Temporary construction impacts are subject to Air Quality Management District Regulation 1 Rule 430 which requires dust control during construction activities. Section 18.30.080.D of the Land Use and Development Code outlines municipal standards for dust management and will be followed in the construction of the project.

Additionally, Section 18.62.020 of the Land Use and Development Code requires a Dust Prevention and Control Plan to be submitted in conjunction with the grading plan. The required plan content is outlined in Section 18.62.020.B of the Land Use and Development Code. **Mitigation Measure 2** of the MND will assure that construction activities do not result in significant impacts resulting from a non-attainment pollutant (particulate matter) and includes language to assure that the requirements of the Land Use Development Code pertaining to dust control, as outlined above, are addressed.

An Air Quality Management District grading permit will be needed, since the project area of disturbance is greater than one acre. Additionally, after the timber harvest, some of the vegetation remaining in the project area may be burned. A burn permit will be required from the Air Quality Management District for any burning.

Erosion & Sediment Control (18.62.030)
The project will be constructed according to best management practices as required by the ILUDC and the MND. Specifically the project will minimize runoff from the site as post construction runoff will actually be less than pre-construction runoff (18.62.030A1). Proper placement of excavation soils (18.62.030A4) and effective slope stabilization (18.62.030A2) will be ensured through the implementation of Mitigation Measure 4 of the MND. Removal of off-site sedimentation (18.62.030A5) and prohibition against washing construction vehicles (18.62.030A5) shall be achieved through Mitigation Measure 2 of the MND. Erosion control devices (18.62.030A7) shall be installed as required by the Water Quality Control Board per the SWIPP. The project has been designed to minimize land disturbance (18.62.040A8) and the disturbance of natural vegetation (18.62.040A9). Finally the project will be completed during the dry season and so shall comply with section 18.62.030B. The project will also be in conformance with the erosion controls outlined in the Holdrege and Kull Report (8.8 Erosion Controls) which include many additional requirements to minimize erosion from the project. As conditioned, the project complies with section 18.62.030.

Excavation and Fills (18.62.040)
The project is designed to comply with section 18.62.040 Excavation and Fills. Specifically, grading is limited to the "minimum amount necessary" for the proposed project (18.62.040A1). Grading has also been designed to retain natural features to the degree feasible, as most of the 38 acre site will remain undisturbed (18.62.040A2). The project's final contours do not blend with the adjacent natural terrain as required by section 18.62.040A3, however the reservoir slope will be heavily vegetated which will help to screen the reservoir embankment from the neighboring property. It is not feasible to provide a "variety of slope ratios to the cut and fill slopes" due to the nearness of the reservoir to the west property line. However this is the only feasible location for the reservoir given the property contours and the need to ensure that water flowing into and out of the reservoir is gravity fed. Given the special condition to require the revegetation of this slope, the intent of this section has been met.

The ILUDC standards for fill, drainage, and terracing have been achieved for the project through implementation of Mitigation Measures 9 and 10 of the MND, which include recommendations to ensure that the project is constructed with a fill slope of 2H:1V (18.62.040C1); that the ground will be prepared as required (18.62.040C2); that fill materials will conform to appropriate specifications for a project of this type (18.62.040C3); that fill will be placed in 8 inch layers (18.62.040C4) and compacted as appropriate for this type of project (18.62.040C6); and that the slope of fill and drainage and terracing shall be completed in compliance with the ILUDC (18.62.040C7 and 8).

Removal of Native Vegetation (18.62.060)
The native vegetation of the proposed construction site will be removed through a timber harvest plan. The limits of grading will be clearly marked by the project surveyor and trees to be retained shall be marked with construction fencing to prevent damage to the trees.

Revegetation and Slope Surface Stabilization (18.62.070)
The project proposes to store top soil removed from the site for the project and for other City projects requiring topsoil. The proposed method of revegetation for the project is hydroseeding

and the revegetation will occur within 30 days of the completion of the project as required by section 18.62.070C.

Protection of Watercourses (18.62.080)
The project will not impact watercourses and so does not require a 1601 or a 404 permit. The project will not alter the flood carrying capacity of a watercourse in a negative manner. The reservoir will capture water from a watercourse during high rain events and therefore has the potential to improve the flood carrying capacity of the tributary from which water is obtained. The project does not propose to place fills within watercourses nor will grading equipment cross or disturb watercourses. Additionally Mitigation Measure 5 of the MND will reduce all impacts to wetlands and other waters to less than significant.

Setbacks for Cut and Fill Slopes (18.62.090)
The ILUDC requires that the top of cut slope "shall be set back from the adjacent property lines a distance of at least 1/5 of the vertical height of the cut with a minimum of two feet and a maximum of 10 feet." Likewise the ILUDC requires that the toe of fill be set back a maximum of 10 feet from the adjacent property line. The bottom of slope of the proposed project would be a minimum of 10 feet from the adjacent property line, while the top of slope would be approximately 70 feet from the property line, so the project conforms with section 18.62.090A & B.

Storm Drainage and Runoff (18.62.100)
The proposed project's storm drain and runoff facilities have been designed in compliance with good engineering practices and incorporate Low Impact Development design techniques to infiltrate stormwater. The project minimizes runoff by capturing rainwater into the reservoir and harvesting it for City potable water use. The Project also minimizes erosion through the minimization of impervious surfaces, no new parking spaces, and development of appropriate rocked outfalls, energy dissipaters and the use of bioswales to manage stormwater. The requirements of section 18.62.100 have been met.

Urban Runoff Pollution Control (18.64)
This section of the ILUDC applies to projects wherein stormwater enters the City's storm drain system. By and large this section does not apply to this project because it is not connected to the City's storm drain system. Additionally the project will not contribute to pollution or an increase in stormwater runoff from the site, so the regulations of this section do not apply to this project.

Findings 2 and 3 for the grading permit can be made.

Finding 4. Any permits required by State or Federal agencies for the proposed grading have been obtained (including streambed alteration permits from the California Department of Fish and Game and "Section 404" permits for grading within wetlands and certain watercourses from the U.S. Army Corps of Engineers), or are required by conditions of approval to be obtained before grading work is started.

Completion of the project requires the following State and Federal agency permits:

1. National Pollutant Discharge and Elimination System (NPDES) permit
2. CALFIRE Timberland Conversion and Timber Harvest Plan
3. State Water Resources Control Board Petition for Change

4. Air Quality Grading Permit and Burn Permit

Special Condition 2 is included to ensure that these permits are obtained before grading work is started.

> **Special Condition 2**: Prior to issuance of the grading permit, the applicant shall secure the following permits: National Pollutant Discharge and Elimination System (NPDES) permit; CALFIRE Timberland Conversion and Timber Harvest Plan; State Water Resources Control Board Petition for Change; and Air Quality Grading Permit and Burn Permit.

Based on the inclusion of Special Condition 2, this finding can be made.

Finding 5. The proposed grading either will not adversely impact an existing public or private easement, or the applicant has obtained the written consent of the easement holder to perform the grading within the easement.

There are no easements on the property which will be impacted by the project. This finding can be made.

Finding 6. Proposed grading that will disturb a surface area of one acre or more of soil shall require the filing of a Notice of Intent (NOI) with the State Water Resources Control Board for coverage under the State NPDES Construction General Permit. A copy of the NOI and the receipt of notice from the State with a Waste Discharge Identification Number (WDID) shall be filed with the Department.

The project requires removal of vegetation over an 8 acre area currently forested with mixed coniferous trees and associated understory. After the timber is harvested, smaller trees, stumps and understory plants will be grinded, chipped and burned. The site will be graded, with topsoil removed and stockpiled on site, and the reservoir will be constructed. During grading and construction, Best Management Practices (BMPs) will be implemented to minimize erosion and prevent sedimentation of Newman Gulch. After construction, additional BMPs will be implemented to stabilize the banks of the reservoir, and all other disturbed areas of soil. Topsoil will be placed around the perimeter of the reservoir, consistent with the pygmy cypress mitigation planting plan.

Because more than an acre of soil disturbance will occur, a National Pollutant Discharge and Elimination System (NPDES) permit will be required to assure the project is consistent with the Clean Water Act. The North Coast Regional Water Quality Control Board is the permitting agency for the NPDES permit. A Storm Water Pollution Prevention Plan (SWPPP) is a sediment and erosion control plan specific to the project which describes the pollution prevention activities and practices that will be implemented on the site. The SWPPP includes a description of the site and of each major phase of the plan, the roles and responsibilities of contractors and subcontractors, and the inspection schedules and logs. It is also where changes and modifications to the construction plan and the associated pollution prevention activities are documented. An SWPPP is required for the NPDES permit. An NPDES permit will be obtained by the City prior to commencement of the project.

Finding 7. The extent and nature of proposed grading is appropriate to the use proposed, and will not create site disturbance to an extent greater than that required for the use.

The proposed grading footprint is approximately eight acres and this extent of grading is required to construct the reservoir. The site will also be disturbed to install water lines to and from the reservoir. However all disturbance is required in order to construct the reservoir and make it functional for the raw water storage. The extent of the proposed grading is appropriate for the project.

Finding 8. Proposed grading will not result in erosion, stream sediment, or other adverse off-site effects or hazards to life or property.

For the discussion regarding erosion and stream sediment, please see the analysis for Findings 2 and 3. The remaining hazards (earthquake, flood, and fire) are discussed below.

Earthquake Hazards
According to the 2007 Geotechnical Report by CGI Technical Services, Inc., located in the project file, there are no faults known to run through the project site (page 6).

However, as the City of Fort Bragg is in an area known for seismic activity, the project could be subject to strong seismic ground shaking. A Geotechnical Engineering Investigation Report was conducted by Holdrege & Kull, Consulting Engineers and Geologists, in October of 2009, and is located in the project file. Holdrege & Kull performed a probabilistic seismicity analysis of the proposed reservoir site using the methodologies presented in the 2007 California Building Code (CBC), Section 1613 (Earthquake Loads) and the American Society of Civil Engineers publication ASCE 7.05 Chapter 11 (Seismic Design Criteria), Chapter 20 (Site Classification Procedures for Seismic Design) and Chapter 21 (Site-Specific Ground Motion Procedures for Seismic Design).

As shown on the Site Plan (drawing C1.0 of **Attachment 1**), the exterior (outside) slope of the reservoir is proposed as 2H:1V, and the interior (inside) slope of the reservoir is proposed as 3H:1V. The Holdrege & Kull probabilistic seismicity analysis indicates that given the proposed height, soils, seismic hazard parameters, etc., the interior slopes would be seismically stable, however the proposed exterior slopes would be unstable when subjected to the maximum considered earthquake (MCE) maximum horizontal acceleration (Holdrege & Kull, page 16). Holdrege & Kull recommend geotextile reinforcements be added to the exterior slope to assure the reservoir will be seismically stable. According to Holdrege & Kull, the geotextile reinforcements will need to be placed at maximum 2-foot vertical intervals and will need to extend a minimum of 25 feet into the slope (Holdrege & Kull, page 16).

The **MND Mitigation Measure 9** requires that site grading conform to the recommendations outlined in the Holdrege and Kull report, to assure the reservoir will be constructed in a seismically safe manner. Section 8 of the Holdrege & Kull report is included as **Attachment 5**.

Holdrege & Kull performed a liquefaction analysis for the site based in California Division of Mines and Geology Special Publication 117 and the Guidelines for Analyzing and Mitigating Liquefaction in California prepared by the Southern California Earthquake Center. The analysis is included as Section 6 of the Summers Lane Reservoir, Fort Bragg, California Geotechnical Engineering Investigation Report, dated October 2009, located in the project file.

Holdrege & Kull found a relatively high potential for seismically induced liquefaction to occur at the site, because of the loose to medium dense and saturated sandy and silty sand soils that underlie the site (Holdrege & Kull, page 20), however they also found that there is a relatively low potential for damage to on-site structures (including the proposed reservoir) resulting from seismically induced liquefaction differential settlement and lateral spreading (Holdrege & Kull, page 18). In the low probability event that liquefaction induced settlement and/or lateral spreading occurs, Holdrege & Kull indicate that very limited displacement could occur at the toe of the earthen levee slopes, where the transition from a confined to a free field condition occurs (Holdrege & Kull, page 19). Holdrege & Kull therefore recommend that any rigid structures that are constructed across the toe of the earthen levee slopes should have articulated connections that can accommodate up to at least 25 inches of displacement (Holdrege & Kull, page 19). The **MND Mitigation Measure 10** assures that any potential impacts resulting from liquefaction of soils will be less than significant.

Flood Hazards

In response to public concerns regarding flooding, a Screening Level Breach Inundation Report (Breach Inundation Study) was conducted by the project engineering firm, Lawrence and Associates. The Breach Inundation Study, dated March 17, 2014, is located in the project file and included as **Attachment 7**.

The study concluded that a breach of the dam is highly unlikely. However it considered how the worst case scenario dam breach would affect the property immediately west of the reservoir (the closest and only "downslope" residence). The worst case breach analysis assumed 1) the reservoir would be full to the top of the embankment and 2) the breach would occur at the southwest corner, where water from a breach would have the greatest chance of reaching the adjacent residence. The proposed reservoir would be constructed with a plastic lining and the embankments would be constructed with a geo-grid reinforcement. However, existing flood formation equations and models do not allow for these factors, which would act to limit the rate of down-cutting. As the analysis does not include these factors, it is considered conservative. An actual breach would likely have a longer and more staggered breach formation due to the drag caused by the plastic lining and the geo-grid reinforcement, leading to a lower peak discharge, with lower flood depths and velocities.

The conclusion of the study was that the worst case scenario breach would cause approximately 20 minutes of flooding, with a peak water depth of 0.98 feet and a peak flood wave velocity of 2.62 cubic feet per second in the vicinity of the neighboring residence. This is within the "low" danger zone. The report indicates that an adult should be able to wade in this depth and velocity of water without losing his or her footing.

It is important to note that such a breach is highly unlikely, and that the calculations used did not account for the geo-grid enforcement proposed within the embankment or the reservoir lining, which would reduce the rate of down-cutting by providing a physical barrier. These factors were not considered because available breach formation equations and models do not allow for these factors. An actual breach may have a longer and more staggered breach formation than the analysis provided because these factors were not included in the analysis, and this would lead to a lower peak discharge, resulting in lower flood depths and velocities.

Fire Hazards

After timber harvest occurs, the remaining vegetation will be removed from the reservoir site. The City may consider allowing the public to cut firewood from the remaining downed and stacked wood. The potential exists for a fire to occur from sparks created during firewood

cutting. Additionally, the City intends to burn wood and vegetation that cannot be or is not grinded or chipped. The MND includes **Mitigation Measures 15 and 16** to assure that the risk of wildland fire during conversion activities is minimized to a level of less than significant.

Finding 9. The proposed grading will not create substantial adverse long-term visual effects visible from off-site.

The project will include the removal of trees in a forested area and construction of a berm with a maximum height of 22 feet above grade (on the north side). The west side of the reservoir berm would be visible from the adjacent residential property to the west. The berm height on that side would vary from 14 to 18 feet. Additionally, a six foot tall chain link fence is proposed around the perimeter of the reservoir. A ten foot buffer area exists between the berm and the adjacent property to the west. Existing healthy mature vegetation (except for trees that are damaged or would be prone to windfall after harvest and conversion occur) is to be retained, and additional trees are proposed to be planted within the 10 foot buffer area (one per 100 sq. foot area) which would help to buffer the view of the berm from the adjacent property. The berm will be stabilized with native grass seed mix which will also help with buffering the visual impact.

Mitigation Measure 1 from the MND will ensure the visual impact of the berm will be softened with vegetative planting on the west side, where the berm will be visible from the neighboring property.

Environmental Determination. A Mitigated Negative Declaration has been prepared for this project for conformance with the California Environmental Quality Act (CEQA). Special Conditions with an asterisk (*) before them are conditions that are included as mitigation measures in the CEQA MND for the project. As conditioned, the project is not expected to result in significant detrimental impacts to the environment. As part of the CEQA circulation process, the Air Quality Management District requested that the City identify the standard they will be using to identify wind speed and incorporate this information in the dust management measure, in order to ensure that day to day measurements are easily obtained, traceable, and consistent throughout the project. Language has been added to Special Condition 12 to address this concern.

Special Condition 3 incorporates Mitigation Measures 1 through 20 from the MND into this grading permit as a special condition.

PLANNING COMMISSION ACTION

1. Hold a hearing, close the hearing, deliberate, and move to adopt the Mitigated Negative Declaration; and

2. Adopt a resolution adopting the Mitigated Negative Declaration and approving the grading permit at this Planning Commission meeting.

ALTERNATIVE ACTIONS

1. Hold a hearing, close the hearing, deliberate without adopting the Mitigated Negative Declaration or resolution, and revisit the application at the next scheduled meeting for a decision and the addition of any new information and/or findings.

2. Hold the hearing, and continue the hearing to a date certain if there is insufficient time to obtain all input from all interested parties. At the date certain the Commission may then adopt the Mitigated Negative Declaration and resolution.

RECOMMENDATION

Should the Commission find the project to be consistent with the Inland General Plan, staff recommends two actions that should occur in the following sequence:

1. Adopt the Mitigated Negative Declaration.

2. Adopt the resolution for Grading Permit 2013-08.

GENERAL FINDINGS

1. The proposed project is consistent with the purpose and intent of the zoning district, as well as all other provisions of the Inland General Plan, Inland Land Use and Development Code (ILUDC) and the Fort Bragg Municipal Code;
2. The design, location, size, and operating characteristics of the proposed activity are compatible with the existing and future land uses in the vicinity;
3. The site is physically suitable in terms of design, location, shape, size, operating characteristics, and the provision of public and emergency vehicle (e.g., fire and medical) access and public services and utilities (e.g., fire protection, police protection, potable water, schools, solid waste collection and disposal, storm drainage, wastewater collection, treatment, and disposal, etc.), to ensure that the type, density, and intensity of use being proposed would not endanger, jeopardize, or otherwise constitute a hazard to the public interest, health, safety, convenience, or welfare, or be materially injurious to the improvements, persons, property, or uses in the vicinity and zoning district in which the property is located; and
4. For the purposes of the environmental determination, a Mitigated Negative Declaration has been prepared for conformance with the California Environmental Quality Act (CEQA). As mitigated, the project will not result in significant or potentially significant environmental impacts.

Grading Permit Findings

1. The project for which the grading is intended shall first be authorized with a planning permit as required for the proposed use by Article 2 (Zoning Districts and Allowable Land Uses).
2. The proposed grading conforms to all applicable provisions of the General Plan, any applicable specific plan, and the Inland Land Use and Development Code;
3. The proposed grading shall comply with all applicable provisions of Chapter 18.62 (Grading, Erosion, and Sediment Control Standards), 18.64 (Urban Runoff Pollution Control), and all other applicable provisions of the Development Code.
4. Any permits required by State or Federal agencies for the proposed grading have been obtained (including streambed alteration permits from the California Department of Fish and Game and "Section 404" permits for grading within wetlands and certain watercourses from the U.S. Army Corps of Engineers), or are required by conditions of approval to be obtained before grading work is started.
5. The proposed grading either will not adversely impact an existing public or private easement, or the applicant has obtained the written consent of the easement holder to perform the grading within the easement.
6. Proposed grading that will disturb a surface area of one acre or more of soil shall require the filing of a Notice of Intent (NOI) with the State Water Resources Control Board for coverage under the State NPDES Construction General Permit. A copy of the NOI and the receipt of notice from the State with a Waste Discharge Identification Number (WDID) shall be filed with the Community Development Department.
7. The extent and nature of proposed grading is appropriate to the use proposed, and will not create site disturbance to an extent greater than that required for the use.
8. Proposed grading will not result in erosion, stream sediment, or other adverse off-site effects or hazards to life or property.
9. The proposed grading will not create substantial adverse long-term visual effects visible from off-site.

SPECIAL CONDITIONS

1. To ensure public safety, the reservoir shall be fully fenced and the gate secured to prevent access into the reservoir. ***Slats shall be placed in the chain link fencing to eliminate fence climbing.*** Additionally, ropes shall be secured in at least four places around the top of the berm and hung over the inner edge of the reservoir to accommodate exit from the reservoir should someone accidentally fall in, and at least two life preserver rings shall be located in accessible locations from the reservoir berm.

2. Prior to issuance of the grading permit, the applicant shall secure the following permits: National Pollutant Discharge and Elimination System (NPDES) permit; CALFIRE Timberland Conversion and Timber Harvest Plan; State Water Resources Control Board Petition for Change; and Air Quality Grading Permit and Burn Permit.

3. The City shall comply with all mitigation measures (MM1 through MM20) from the MND as restated below:

   Mitigation Measure 1: Native, drought resistant trees and shrubs shall be retained per the recommendations of the Licensed Timber Operator, or planted 10 feet apart (at least one every 100 square feet, after the conversion) along the entire west side of the reservoir within the 10 foot wide visual buffer area between the proposed berm and the western property boundary. At least half of the native vegetation shall be of a species which is expected to reach a height of at least 20 feet at maturity.

Mitigation Measure 2: In order to minimize dust and keep dust from leaving the project site, a dust prevention and control plan shall be submitted for approval by the City Engineer in conjunction with the Storm Water Pollution Prevention Plan (SWPPP). The dust prevention and control plan shall demonstrate that the discharge of dust from the construction site will not occur, or can be controlled to an acceptable level depending on the particular site conditions and circumstances. The plan shall include the following information and provisions:

2.A - The plan shall address site conditions during construction operations, after normal working hours, and during various phases of construction.

2.B - The plan shall include the name and the 24 hour phone number of a responsible party in case of emergency.

2.C - If the importing or exporting of dirt is necessary as demonstrated by the cut and fill quantities on the grading plan, the plan shall also include the procedures necessary to keep the public streets and private properties along the haul route free of dirt, dust, and other debris.

2.D - When an entire project is to be graded and the subsequent construction on the site is to be completed in phases, the portion of the site not under construction shall be treated with dust preventive substance or plant materials and an irrigation system.

2.E - Grading shall be designed and grading activities shall be scheduled to ensure that repeat grading will not be required, and that completion of the dust-generating activity (e.g., construction, paving or planting) will occur as soon as possible.

2.F - The area disturbed by clearing, demolition, earth-moving, excavation operations or grading shall be minimized at all times.

2.G - All visibly dry disturbed soil road surfaces shall be watered to minimize fugitive dust emissions. Dust emissions shall be controlled by watering a minimum of two times each day, paving or other treatment of permanent on-site roads and construction roads, the covering of trucks carrying loads with dust content, and/or other dust-preventive measures (e.g., hydroseeding, etc.).

2.H - All unpaved surfaces, unless otherwise treated with suitable chemicals or oils, shall have a posted speed limit of 10 miles per hour.

2.I - Earth or other material that has been transported by trucking or earth moving equipment, erosion by water, or other means onto paved streets shall be promptly removed.

2.J - Asphalt, oil, water or suitable chemicals shall be applied on materials stockpiles, and other surfaces that can give rise to airborne dusts.

2.K - All earthmoving activities shall cease when sustained winds exceed 15 miles per hour. Wind speed shall be measured on-site by the City inspector with a hand-held anemometer.

2.L - The operator shall take reasonable precautions to prevent the entry of unauthorized vehicles onto the site during non-work hours.

2.M - The operator shall keep a daily log of activities to control fugitive dust.

2.N - Graded areas shall be revegetated as soon as possible, but within no longer than 30 days, to minimize dust and erosion. Disturbed areas of the construction site that are to remain inactive longer than three months shall be seeded and watered until grass cover is grown and maintained; and

2.O - Appropriate facilities shall be constructed to contain dust within the site as required by the City Engineer.

Mitigation Measure 3: The City shall secure all necessary permits for the proposed development from City, County, State and Federal agencies having jurisdiction. All plans submitted with required permit applications shall be consistent with this analysis.

Mitigation Measure 4: For Loss of 72 Rare Pygmy Cypress Trees in Project Area. Topsoil to be disturbed or removed by project construction will be stockpiled temporarily. Once the project has been completed the topsoil will be spread over the 0.54-acre mitigation area. The size of the mitigation area was selected to allow for establishment of over 216 mature trees, with each tree occupying a 100-square foot area (**see Attachment 4, Pygmy Cypress Mitigation Planting Area and Plan**). It is expected that pygmy cypress will germinate naturally from the existing seed bank in the topsoil, due to relatively exposed conditions of bare soil and location next to the newly-constructed reservoir.

In case of inadequate existing seed bank in the topsoil, seedling and cone collection shall occur prior to vegetation removal for the project. 100-200 seed cones shall be collected and 50 or more seedlings shall be salvaged and transplanted to containers and stored at a local nursery.

Three years after construction activities, the mitigation area (**Attachment 4**) will be surveyed for number of trees per acre. If the number of trees per acre is equal to or greater than the 3:1 ratio, then no more visits shall be required.

If after year three the densities are below the designated ratio, then the area shall be replanted back to the mitigated ratio with seedlings, either germinated from seed or collected from site, then at year five, the area shall be re-surveyed. Seedlings will be planted by hand in native topsoil, in a hole deep enough to allow roots to be positioned downward and not curved over. Seedlings will be planted in the late fall or early winter to increase survival rates. As soon as stocking or replanting goals have been achieved, no more surveys shall be required. If the density is below, then replanting of dead and dying trees back to the mitigated ratio shall occur, and no more monitoring shall be required.

During the initial visit at three years (and at year 5 if required) all competing conifer seedlings and invasive species in the mitigation area shall be removed in an effort to reduce competition and the potential spread of invasive species.

At year three and year five monitoring, a short summary report of conditions will be documented and placed in the project file at City Hall. The summary reports will contain information on the number of cypress trees established, dimensions, and any actions taken including weeding and planting. Photographs will be taken and included with the summary reports.

Mitigation Measure 5: For Potential Impacts to Wetlands and Other Waters. All work involving or associated with soil movement and or digging should occur during the dry season. A grading permit will be obtained and construction Best Management Practices will be implemented, including silt fencing and straw wattles to control erosion and sediment transport that may flow into surrounding natural habitats, particularly along the north end of the unit nearest to Newman Gulch. Best Management Practices shall be utilized along existing roads as their location provides an existing buffer to the Newman Gulch stream and associated wetland areas. The natural topography surrounding the proposed reservoir shall be left intact as much as is feasible, such that runoff to the surrounding landscape is minimized.

Mitigation Measure 6: For Potential Impacts from Invasive Species Caused by the Project. Heavy equipment shall be washed prior to initial use on the site in order to remove any potential invasive seed contamination sources. After the completion of all construction-related activities, all areas of bare soil around the reservoir will be replanted with native vegetation appropriate to the site, and wetland vegetation where appropriate. Vegetation planted around the perimeter of the reservoir shall be locally-native species from local propagule sources if feasible, and should be planted during the wet season or whenever soils are moist, in order to achieve the highest feasible survival rate. Areas of disturbed soil shall be mulched, seeded, or planted and covered with native vegetation as soon as possible after clearing. No exotic plants shall be planted during or following site development. Plant species listed as invasive (High, Moderate, or Limited) on the California Invasive Plant Inventory (Cal-IPC 2006) shall not be installed anywhere in the Project Area as they would pose a risk to the surrounding plant community. All reasonable efforts should be made to control and remove existing or newly established populations of exotic species. Some examples of invasive plants likely to be found that should be monitored and controlled are English ivy (*Hedera helix*), Himalayan blackberry (*Rubus armeniacus*), French broom (*Genista monspessulana*), pampas grass (*Cortaderia* spp.), and forget-me-not (*Myosotis latifolia*).

Mitigation Measure 7: For Potential Disturbance to Wildlife Species

7.A – Potential Disturbance of Special Status Bat Species

7.A.1 - WORK WINDOWS. Removal of potential bat roost habitat (large trees or snags) or construction activities near potential bat roost habitat will take place in September and October to avoid impacts to bat maternity or hibernation roosts.

7.A.2 - ROOST SURVEYS. If this work window is not feasible, prior to construction, bat roost surveys will be conducted in the Project Area to determine if bats are occupying roosts. If bats are present, a suitable buffer around the roost site will be instated or bats will be excluded from the roost using methods recommended by a qualified biologist.

7.A.3 - MANAGE LIGHTING. Installation of outdoor artificial lighting in or adjacent to the Project Area will be avoided, unless required for public safety. If outdoor artificial lighting is placed within the Project Area, it will incorporate measures to lessen potential impacts to bats such as: prismatic glass coverings, cutoff shields, embedded road lights, narrow spectrum bulbs, or other appropriate lighting technology.

7.B - Potential Disturbance of Sonoma Tree Vole

7.B.1 - PRECONSTRUCTION SURVEYS. Preconstruction surveys for the Sonoma Tree Vole will be performed prior to construction activities. Tree vole survey methodology should follow the Survey protocol for the Red Tree Vole

(*Arborimus longicaudus*) in the Record of Decision of the Northwest Forest Plan, Version 2.1, Revision, October 2002 or any subsequent revision.

7.B.2 - CONSULTATION. Occupied trees will be avoided to the fullest extent possible. If disturbance of occupied trees is unavoidable, consultation with CDFW will be initiated to determine the appropriate mitigation measures. Measures may include the preservation or avoidance of suitable habitat.

7.C - Potential Disturbance of Nesting Special Status Bird Species and Other Breeding Birds

7.C.1 - WORK WINDOWS. Conduct as much ground disturbance and vegetation (tree and shrub) removal as is feasible between September 1 and January 15, outside of the breeding season for most bird species.

7.C.2 - PRECONSTRUCTION SURVEYS. If ground disturbance or removal of vegetation occurs between January 16 and August 31, preconstruction surveys will be performed prior to such disturbance to determine the presence and location of nesting bird species.

7.C.3 - BUFFERS. If nests are present, establishment of temporary protective breeding season buffers will avoid direct mortality of these birds. The appropriate buffer distance is species specific and will be determined by a qualified biologist as appropriate to prevent nest abandonment and direct mortality during construction.

7.C.4 - MANAGE LIGHTING. If outdoor artificial lighting is placed within the Project Area, it will incorporate measures to lessen potential impacts to avian species such as: prismatic glass coverings, cutoff shields, embedded road lights, narrow spectrum bulbs, or other appropriate lighting technology.

7.D - Potential Disturbance to Special Status Herpetofauna

7.D.1 – PRE-HARVEST/PRECONSTRUCTION SURVEY. A biologist or other qualified professional shall conduct a survey for coastal tailed frogs, northern red legged frogs foothill yellow–legged frogs, and southern torrent salamanders within one week of commencing project activities. The survey may occur during day or night. For night surveys, the surveyor shall use a portable light for use in detecting frog's eye shine. Surveys shall include the project site and an area that extends 30 feet up and downstream of the project site.

7.D.2 – PREHARVEST/PRECONSTRUCTION TRAINING. Before starting project activities, the biologist or qualified professional shall conduct a coastal tailed frog, northern red legged frog, foothill yellow–legged frog, and southern torrent salamander awareness training for all on-site workers involved in the project. This training will include photos and/or drawings of each species, a discourse on key physical features and general life history of each species and an overview of herpetofauna protection measures to follow to minimize loss of each species during project activities. A copy of the training materials shall be kept at the project site at all times during project activities, and be available to all on-site workers for reference.

7.D.3 – HERPETOFAUNA PROTECTION MEASURES. At the beginning of each work day, trained on-site workers shall survey the project area for coastal tailed frogs, northern red-legged frogs, foothill yellow-legged frogs, and southern torrent salamanders. If at any point during surveys or project activities one of these species is identified within 30 feet of the project area, the individuals shall be carefully removed and placed well outside (at least 300 feet away) the project area.

7.D.4 – HERBICIDE USE AND PILE BURNING RESTRICTION. No herbicide use or pile burning shall occur within 300 feet of the watercourse.

7.D.5 – WATER DRAFTING. If water drafting from the watercourse is to occur for dust abatement purposes, drafting must be done with a hose placed in a bucket in a deep pool. The bucket must be covered by <1 inch mesh, and the mouth of the hose must be covered by ¼ inch mesh.

7.D.6 - STORMWATER TREATMENT. An SWPPP will be implemented to control sediment and pollutants during construction and prevent construction activities from having a negative effect on water quality and quantities in preserved portions of the Study Area. Through implementation of the SWPPP, project stormwater will be treated to meet state and federal stormwater requirements, including treatment of stormwater quality and quantity so that they are not substantially altered from existing conditions.

7.D.7 - MANAGE LIGHTING. Installation of artificial lighting in the Project Area will be avoided, unless required for public safety. If outdoor artificial lighting is placed within the Project Area, it will incorporate measures to lessen potential impacts to frog species such as: prismatic glass coverings, cutoff shields, embedded road lights, narrow spectrum bulbs, or other appropriate lighting technology.

7.E.1 - CONSTRUCTION BMPs.

Appropriate BMPs during construction activities, such as the use of a silt fence or other erosion control measures to prevent sediment from entering the water column, will protect in-migrating adults and out-migrating smolts from potential disturbance from increased turbidity. Erosion control devices should not contain monofilament as this may pose a potential entanglement hazard to sensitive amphibian species that may occur in the area. Potential discharge of the reservoir into Newman Gulch should be done with the consultation of the National Marine Fisheries Service (NMFS) to ensure there are no potential impacts to migrating salmonid species.

Mitigation Measure 8: If any person excavating or otherwise disturbing the earth discovers any archaeological site during project construction, the following actions shall be taken: 1) cease and desist from all further excavation and disturbances within 25 feet of the discovery; 2) notify the Fort Bragg Public Works Department within 24 hours of discovery; and 3) retain a professional archaeologist to determine appropriate actions in consultation with stakeholders.

Mitigation Measure 9: Site grading associated with the construction of the reservoir shall conform to the recommendations outlined in the Holdrege & Kull report, Summers Lane Reservoir, Fort Bragg, California, Geotechnical Investigation Report, dated October 2, 2009 (Project #70315-01), Section 8, Earthwork Grading Recommendations, which is included as **Attachment 5** of this report.

Mitigation Measure 10: Construction of the reservoir shall conform to the recommendations outlined in the Holdrege & Kull report, Summers Lane Reservoir, Fort Bragg, California, Geotechnical Investigation Report, dated October 2, 2009 (Project #70315-01), including the requirement that any rigid structures that are constructed across the toe of the earthen levee slopes shall have articulated connections that can accommodate up to at least 25 inches of displacement.

Mitigation Measure 11: Any topsoil or other soil materials excavated to accommodate the reservoir and not used onsite shall be temporarily stored on the property until such time as the materials can be used locally for City projects.

Mitigation Measure 12: To the extent feasible gasoline and oil conservation measures shall be incorporated into the project. Heavy equipment used at the project site shall be in good working condition and inspected regularly. Equipment shall be turned off immediately when not in use unless warm-up of equipment would use more gas than leaving equipment running.

Mitigation Measure 13: Any chipped wood not utilized on site shall be temporarily stored on the property until such time as it can be used locally for other City projects, or used for fuel either locally or at a nearby (Scotia or Eureka) cogeneration plant.

Mitigation Measure 14: The Storm Water Pollution Prevention Plan shall include measures for prevention of gasoline, oil and lubricant spills, and an action plan for clean-up of any accidental fluids or other contaminants spilled or encountered during conversion and construction activities.

Mitigation Measure 15: Should the public be allowed to cut firewood on the property after timber harvest is complete, a full sized shovel shall be visible in each vehicle accessing the property, to be used to cover any fire with dirt. A fire truck or water truck shall be kept at the site during firewood removal activities, and at least one person shall be assigned at the site to oversee firewood cutting efforts and operate water equipment if needed.

Mitigation Measure 16: If burning of vegetation is required for removal, permission shall be obtained from the Fort Bragg Fire Department prior to burning, and all safety measures required by the Fort Bragg Fire Department shall be adhered to in order to minimize wildfire risk.

Mitigation Measure 17: On a regular basis, the valves will be inspected to ensure functionality and the low flow spillway will be inspected for clogging. As feasible, the reservoir shall be maintained, in fair weather when water quality is clear, such that water is constantly flowing to prevent stagnation.

Mitigation Measure 18: All timber harvest activities and reservoir construction activities shall occur between the hours of 8:00am and 5:00pm during weekdays.

Mitigation Measure 19: Prior to initiation of project construction, the City shall meet with a representative of County Department of Transportation, and assess and record the current surface conditions of the County maintained portion of Summers Lane. Prior to completion of the project, any damage caused by the project to the County road shall be repaired to a condition equaling or exceeding the condition of the County road prior to the project.

Mitigation Measure 20: To ensure public safety, the reservoir shall be fully fenced and the gate shall be kept secure to prevent access into the reservoir. Additionally, ropes shall be secured in at least four places around the top of the berm and hung over the inner edge of the reservoir to accommodate exit from the reservoir should someone accidentally fall in.

STANDARD CONDITIONS

1. This action shall become final on the 11th day following the decision unless an appeal to the City Council is filed pursuant to ILUDC Chapter 18.92 - Appeals.
2. The use and occupancy of the premises shall be established and maintained in conformance with the requirements of this permit and all applicable provisions of the ILUDC.
3. The application, along with supplemental exhibits and related material, shall be considered elements of this permit, and compliance therewith is mandatory, unless an amendment has been approved by the City.
4. This permit shall be subject to the securing of all necessary permits for the proposed development from City, County, State, and Federal agencies having jurisdiction. All plans submitted with the required permit applications shall be consistent with this approval. All construction shall be consistent with all Building, Fire, and Health code considerations as well as other applicable agency codes.
5. The applicant shall secure all required building permits for the proposed project as required by the Mendocino County Building Department.
6. If any person excavating or otherwise disturbing the earth discovers any archaeological site during project construction, the following actions shall be taken: 1) cease and desist from all further excavation and disturbances within 25 feet of the discovery; 2) notify the Fort Bragg Community Development Department within 24 hours of the discovery; and 3) retain a professional archaeologist to determine appropriate action in consultation with stakeholders such as Native American groups that have ties to the area.
7. This permit shall be subject to revocation or modification upon a finding of any one or more of the following:
    (a) That such permit was obtained or extended by fraud.
    (b) That one or more of the conditions upon which such permit was granted have been violated.
    (c) That the use for which the permit was granted is so conducted as to be detrimental to the public health, welfare, or safety or as to be a nuisance.
    (d) A final judgment of a court of competent jurisdiction has declared one or more conditions to be void or ineffective, or has enjoined or otherwise prohibited the enforcement or operation of one or more conditions.
8. Unless a condition of approval or other provision of the Inland Land Use and Development Code establishes a different time limit, any permit or approval not exercised within 24 months of approval shall expire and become void, except where an extension of time is approved in compliance with ILUDC Subsection 18.76.070B.

ATTACHMENTS

1. Engineered Plans
2. County Map 41
3. Biological Assessment, Summers Lane Reservoir, WRA Consultants, February 2013
4. Pygmy Cypress Mitigation Planting Area and Plan
5. Holdrege & Kull Report: Summers Lane Reservoir, Fort Bragg, CA Geotechnical Investigation Report, October 2, 2009, Section 8
6. Lawrence and Associates Technical Memo
7. Lawrence and Associates Screening Level Reservoir Breach Inundation Report for the Proposed Summers Lane 45 Acre-Foot Reservoir, City of Fort Bragg, March 17, 2014
8. Mitigated Negative Declaration
9. October 2013 Planning Commission Summary Report

10. October 2013 Planning Commission Minutes
11. Resolution Adopting the Mitigated Negative Declaration (MND) for the Summers Lane Reservoir; and B) Approving the Grading Permit (GP 2013-08) for the Construction of the Reservoir