Attachment J
Detail of Infrastructure and Service Needs of
Legacy Communities

Alderpoint

Location

Alderpoint is located on the Middle Fork Eel River in the southeast corner of Humboldt County Alderpoint is accessed by Alderpoint Road, approximately 18 miles east of Garberville and approximately 30 miles south of Bridgeville. Alderpoint was originally settled in the 1860's and 1870's, but significant development in the town began around the time Alderpoint became a center of operations for the building of the Northwestern Pacific Railroad.

This ULC was mapped using the 2010 Alderpoint Census Designated Place boundary. The ULC contains the entire Alderpoint County Water District boundary, all of the developed area of the Alderpoint portion of the GRBA Community Planning Area, and ten or so additional homes outside the Planning Area located on the hill slopes to the west of Alderpoint. There were a total of 93 housing units and 186 people in the approximately 1,550 acre Alderpoint ULC, based on the 2010 Census.

Existing and Planned Uses

Like most of Humboldt County, timber played an important role in the development of Alderpoint. However, the sawmill in town permanently closed in 1984. Given the towns proximity to the rail line, Alderpoint served as an activity center for cattle and sheep. In addition, Rail service to and within Humboldt County was suspended in 2001 due to the deteriorating condition of railway infrastructure. Current commercial and community activities in Alderpoint include a Alderpoint Store (Patriot Gas Station), Alderpoint County Water District, Alderpoint Volunteer Fire Company, U.S. Post Office, and the Humboldt County Alderpoint Refuse Disposal Site. The CAL FIRE Alderpoint Fire Station, which is used operated during declared wildfire season, is located approximately 1.5 east of Alderpoint.

Land Use. The following tables describe the land within the Alderpoint ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Improved, Rural Residential <5 acre	104
Improved, Rural Residential 5-20 acre	52
Improved, Rural Residential >20 acre	105
Vacant Rural Residential	202
TPZ Improved	383
TPZ Vacant	640
Commercial	4
Public Land (Schools, Non Taxable)/Other	63
Total	**1,554**

General Plan Land Use	Acres
Agriculture Grazing	425
Rural Community Center	503
Timber Lands	627
Total	**1,554**

Infrastructure and Services

There is one local agency service provider in Alderpoint, the Alderpoint County Water District (Alderpoint CWD) which provides drinking water to approximately 79 connections (based on the Community Infrastructure and Services Technical Report, Winzler and Kelly, 2008). The Alderpoint Volunteer Fire Company (VFC) was established by the community in 2007 and provides structural fire protection to Alderpoint. The Alderpoint VFC is not a local agency and only receives revenue from donations. There is no wastewater service provider in this community and no drainage facilities, other than those located within the County roadways.

Water System. The Alderpoint CWD has had a history of compliance issues with the State Surface Water Treatment Rules and the U.S. Environmental Protection Agency and State Department of Public Health Drinking Water Branch (CDPH) issued compliance orders. The CDPH Safe Drinking Water Proposition 50 Program provided state funds for a project to replace the existing water intake pumps adjacent to the Eel River, remove and replace a treatment building, install a new filtration system and clearwell, and install a new transmission water pipe along existing rights of way and easements to storage site. The existing storage tanks were replaced with two new tanks. The project was completed in 2012. The improvements were designed to serve existing development plus ten percent additional capacity to accommodate some growth. The CDPH has identified the need to replace portions of the transmission and distribution system due to size and condition. The Rural Community Assistance Corporation is assisting the Alderpoint CWD with capital improvement planning to address the need for water pipe improvements. Therefore, the drinking water system is adequate for current needs and does not have significant deficiencies.

Structure Fire Protection Services. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Alderpoint VFC has a total of 12 volunteers (somewhat below the average of 16 firefighters for the County's all-volunteer departments), two fire engines, a medical/rescue vehicle and a utility truck. The Alderpoint VFC responded to 51 incidents in 2012 and trains twice per month. The Alderpoint CWD water system improvement project was designed to provide adequate storage for fire protection and almost the entire Alderpoint CWD is located within 1,000 feet of the 13 hydrants. The Alderpoint VFC does not have an ISO rating.

Volunteer fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters. Because the Alderpoint FC is not associated with a local agency it is not eligible to receive property tax revenue and has no ability to raise revenue through special taxes or special assessments, the primary sources of ongoing revenue for fire protection. . The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Community wastewater treatment and disposal is not available in the Alderpoint ULC . The maximum allowable density in the Rural Community Center land use designation is 2.5 dwelling units per acre or one dwelling unit per acre if sewer is available. The nearest wastewater system is located in Garberville approximately 18 miles west of Alderpoint, well beyond the feasible distance for

service extension. The rate of population growth in Alderpoint over the last 20-30 years has been negligible. With only 79 water service connections, the community could not feasibly fund the construction and operation of a wastewater treatment plans itself.

Storm Drainage. The Alderpoint ULC is located outside the 100-Year Flood Plain (FEMA FIRM Panel 0600601775B), approximately 100-150 feet above the Middle Fork Eel River. Storm drainage or flooding hazards were not identified as an issue for Alderpoint in the G-R-B-A CPA. There are no developed storm drainage collection facilities within or adjacent to the Alderpoint ULC. Storm drainage associated the Alderpoint Road and other County roads through the community site consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Middle Fork Eel River.

Needs and Deficiencies

- Public health problems associated with the Alderpoint CWD have been addressed by the CDPH water system improvement project.
- Although wastewater service is not available in Alderpoint, its absence would not be considered a limitation on development or a public health concern.
- The lack of ongoing revenue to support fire protection services has been identified as a problem for Humboldt County fire protection service providers, especially those providers not associated with a local agency. The communities served by the Alderpoint VFC should be encouraged to follow the example of Briceland and Bridgeville to seek voter approval to form a district and establish an ongoing funding source through a special assessment or tax.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

Blocksburg

Location

Blocksburg is located in southeast Humboldt County north of Alderpoint on the Alderpoint Road, approximately 28 miles north east of Garberville and approximately 20 miles south of Bridgeville. Blocksburg was originally settled in the 1870's.

This ULC was mapped using the proposed General Plan Update Rural Community Center boundary, which generally follows parcels lines comprising the core of the community. There are no local service providers within the ULC and Blocksburg is not located within a Community Plan area. There are approximately 15 to 20 housing units and 40 to 50 people in the approximately 100 acre Blocksburg ULC based on parcel information.

Existing and Planned Uses

Like Alderpoint, Blocksburg has served as an activity center for cattle and sheep ranching and was a stop along an important north-south wagon route. Now the predominant land use in Blocksburg is rural residential. Blocksburg contains a post office and no other businesses.

Land Use. The following tables describe the land within the Blocksburg ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Improved, Rural Residential <5 acre	66
Vacant Rural Residential	3
TPZ Improved	6
TPZ Vacant	20
Commercial	1
Public Land (Schools, Non Taxable)/Other	5
Total	101

General Plan Land Use	Acres
Agriculture Grazing	54
Rural Community Center	45
Timber Lands	2
Total	101

Infrastructure and Services

Water System. There is no community water system in Blocksburg. Residential, commercial, and agricultural land uses produce drinking and agricultural water through on-site water systems. The County Department of Health and Human Services Land Use Program does not indicate that there are any significant area-wide limitations restricting the development of on-site water systems in the Blocksburg. However, parcels must be large enough to meet the setback requirements to septic systems and property lines and demonstrate to the satisfaction of County standards that adequate water is present on site..

Structure Fire Protection Services. There is no local agency responsible for fire protection in Blocksburg. According to the Humboldt County Community Wildfire Protection Plan, Blocksburg is within the response area of the Alderpoint VFC. See the Alderpoint ULC for a discussion of the Alderpoint VFC.

Blocksburg is located approximately 10.5 miles from Alderpoint and a 20 to 30 minute drive-time by fire engine. There are no fire hydrants within Blocksburg. As a result, the Alderpoint VFC must rely on the tank water carried on their fire engines and on-site water tanks that may be available near the fire. The Alderpoint VFC does not have an ISO rating.

Wastewater. Community wastewater treatment and disposal is not available in the Blocksburg ULC . The maximum allowable density in the Rural Community Center land use designation is 2.5 dwelling units per acre or one dwelling unit per acre if sewer is available. The nearest wastewater system is located in Garberville approximately 30 miles southwest of Blocksburg, well beyond the feasible distance for service extension. The rate of population growth in Blocksburg over the last 20-30 years has been negligible. With less than 20 existing dwellings, the community could not itself feasibly fund the construction and operation of a wastewater treatment plans.

Storm Drainage. The Blocksburg ULC is located outside the 100-Year Flood Plain (FEMA FIRM Panel 0600601575B) at an elevation of approximately 1,600 feet above sea level and well away from the Middle Fork Eel River and Larabee Creek flood plains. There are no developed storm drainage collection facilities within or adjacent to the Blocksburg ULC. Storm drainage associated the Alderpoint Road and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Middle Fork Eel River through Conely Creek or to Larabee Creek.

Needs and Deficiencies

- Public health problems or extraordinary supply limitations associated with on-site water have not been identified for the Blocksburg ULC or surrounding area.
- Although wastewater service is not available in Blocksburg, its absence would not be considered a limitation on development or a public health concern.
- The lack of ongoing revenue to support fire protection services has been identified as a problem for Humboldt County fire protection service providers, especially those providers not associated with a local agency. The communities served by the Alderpoint VFC should be encouraged to follow the example of Briceland and Bridgeville to seek voter approval to form a district and establish an ongoing funding source through a special assessment or tax.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

Briceland

Location

Briceland is located in south western Humboldt County on Briceland-Thorne Road, approximately six miles west of Redway and approximately 16 miles east of Shelter Cove. Briceland was originally settled in the 1890's.

This ULC was mapped using the proposed General Plan Update Rural Community Center boundary, which generally follows the parcels lines comprising the core of the community. There are two local agency service providers within the ULC, the Briceland Community Services District, which provides domestic water service and the newly formed Briceland Fire Protection District, which provides fire protection services to the ULC and the surrounding area. There are approximately 23 housing units and 50 to 60 people in the approximately 80 acre Briceland ULC based on parcel information.

Existing and Planned Uses

Like many communities in rural Humboldt County, Briceland was a historic activity center for cattle and sheep ranching, including a hotel and mercantile store. Briceland now contains the Beginnings Community Center and Skyfish School and the award winning Briceland Vineyards is located just outside the Briceland ULC. However, the predominant land use in Briceland is rural residential.

Land Use. The following tables describe the land within the Briceland ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Improved, Rural Residential <5 acre	41
Improved, Rural Residential 5-20 acre	20
Vacant Rural Residential	6
Public Land (Schools, Non Taxable)/Other	15
Total	82

General Plan Land Use	Acres
Agriculture Rural	7
Rural Community Center	75
Total	82

Infrastructure and Services

Water System. The Briceland Community Services District provides domestic water to approximately 26 existing service connections from a spring located on private property. The District, through agreement with the owner and formal deeding, receives 90% of the spring's flow. The spring's flow is variable and dependent on rainfall. However, in the summertime, the spring output is five to seven gallons per minute, or between 7,200 and 10,080 gallons per day. The Briceland CSD produced approximately 3.88 million gallons of drinking water in 2005. Average daily use is estimated at 10,630 gallons per day, and peak daily use was reported as 40,000 gallons per day (CDPH Annual Inspection Report, 2006).

The Briceland CSD water system is in poor condition, source capacity is unable to meet current maximum day demands, the treatment system is unable to meet turbidity performance standards during winter months, and storage capacity is barely able to meet even one day of maximum day demands. Briceland is currently operating under a moratorium for new connections imposed by the District Board of Directors. There are currently at least four homes within the District that have requested service connections; the oldest application is over 16 years old. The Briceland CSD anticipates installing a new roughing filter and a solar powered hypo chlorination unit in the near future.

Structure Fire Protection Services. The Briceland ULC is located within the 28,172 acre Briceland Fire Protection District (FPD). The voters in the District voted overwhelming to form the District in 2012, making it one of the newest fire districts in the State of California. According to the 2012 Humboldt County Fire Chiefs Association Annual Report, the Briceland FPD, through the Briceland VFD provides the full range of fire protection services, including structure, wildland, and wildland interface suppression, emergency medical services, technical rescue, and general public assistance responses. The Briceland VFD presently maintains eight Emergency Medical Technicians and 12 Emergency Medical Responders. Services are supported by an $80 per parcel special tax, community contributions, fundraising events, and charges for CAL FIRE cover assignments.

The Briceland FPD is projected to receive approximately $40,000 in revenue in the 2013-14 fiscal year from the special tax and the projected revenue from community contributions, fundraising events, and charges for CAL FIRE cover assignments would likely be similar to prior years. The average revenue from taxes and assessments for Humboldt County fire departments with less than 15 volunteer firefighters

was approximately $44,000 in 2011-12, similar or less than the projected annual revenue of the Briceland FPD. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Community wastewater treatment and disposal is not available in the Briceland ULC . The maximum allowable density in the Rural Community Center land use designation is 2.5 dwelling units per acre or one dwelling unit per acre if sewer is available. The nearest wastewater system is located in Redway approximately six miles east of Briceland, well beyond the feasible distance for service extension. The rate of population growth in Briceland over the last 20-30 years has been negligible. With less than 30 existing dwellings, the community could not itself feasibly fund the construction and operation of a wastewater treatment plans.

Storm Drainage. The Briceland ULC contains the 100-Year Flood Plain of Redwood and Somerville Creeks (FEMA FIRM Panel 0600601825B) which largely affects parcels that are located adjacent to the stream channel. There are no developed storm drainage collection facilities within or adjacent to the Blocksburg ULC. Storm drainage associated the Briceland-Thorne Road and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to Redwood Creek.

Needs and Deficiencies

- The CDPH has not identified Public health problems associated with the Briceland CSD water system.
- Although wastewater service is not available in Briceland, its absence would not be considered a limitation on development or a public health concern.
- This community recently formed a fire protection district to address concerns regarding ongoing funding for the volunteer fire department. The presence of a local agency will facilitate ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern not already addressed by local land use regulations.

<u>Carlotta</u>

Location

Carlotta is located on the Van Duzen River in central Humboldt County along State Route 36, approximately 8 miles east of Fortuna and approximately 19 miles west of Bridgeville. The community was originally settled around 190 and laid out as a summer resort. Timber was the primary industry in

Carlotta led by two large lumber mills that were constructed after World War II. The last lumber mill in Carlotta closed in 2005.

This ULC was mapped using Carlotta CSD boundary because there are no unique Census boundaries that reflect this community. The mapped ULC contains all of the developed area of the Carlotta portion of the Hydesville-Carlotta Community Planning Area. There were approximately 315 housing units and 698 people in the approximately 2,125 acre Carlotta ULC, based on the 2010 Census.

Existing and Planned Uses

Like most of Humboldt County, timber played a central role in the development of Carlotta. However, the last mill in town permanently closed in 2005. Current commercial and community activities in Carlotta include the Cuddeback Elementary School, U.S. Post Office, Carlotta Community Services Fire Department, a commercial nursery, and several construction contractors.

Land Use. The following tables describe the land within the Carlotta ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Improved, Rural Residential <5 acre	254
Improved, Rural Residential 5-20 acre	161
Improved, Rural Residential >20 acre	578
Vacant Rural Residential	454
TPZ Improved	198
TPZ Vacant	201
Agriculture	1
Commercial & Industrial	38
Public Land (Schools, Non Taxable)	59
Total	1,944

General Plan Land Use	Acres
AE	345
AE(55)	5
AR	142
AL	104
AR(12)	106
AS	688
CG	6
IG	45
IR	2
PF	9
T	492
Total	**1,944**

Infrastructure and Services

There is one local agency service provider in Carlotta, the Carlotta Community Services District (Carlotta CSD) which provides structure fire protection services through the Carlotta Volunteer Fire Department (Carlotta VFD). The Carlotta VFD was established by the community in 1964 and provides structural fire protection to Carlotta. There are no water or wastewater service providers in this community and no drainage facilities, other than those located within State Route 36 and County roadways.

Water System. There is no community water system in Carlotta. Residential, commercial, and agricultural land uses produce drinking and agricultural water through on-site water systems. The County Department of Health and Human Services Land Use Program does not indicate that there are any significant area-wide limitations restricting the development of on-site water systems in the Carlotta. However, parcels must be large enough to meet the setback requirements to septic systems and property lines and demonstrate to the satisfaction of County standards that adequate water is present on site..

Structure Fire Protection Services. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Carlotta VFD has a total of 12 volunteers (somewhat below the average of 16 firefighters for the County's all-volunteer departments), two fire engines, a medical/rescue vehicle and a utility truck. The Carlotta VFD responded to 71 incidents using one Type II engine, a wildland attack engine, a combination tender/engine and a water tender. There are no fire hydrants in the ULC and the fire department must use water carried on fire engines and water tenders to extinguish structure fires, as well as water that may be available on site. The Carlotta VFD has an "8B" ISO rating, which are given to department s that provide superior fire protection services and fire alarm facilities but lack the water supply required for a PPC of Class 8 or better.

The Carlotta CSD received $37,493 in revenue in the 2011-12 fiscal year (most recent reporting available through the State Controller's Office) approximately one-quarter of which comes from a special assessment and the remainder from property tax. The Carlotta CSD receives approximately 3.8% of the one-percent property tax paid within the District (based on the tax allocation factor within Carlotta CSD tax rate areas). The special assessment is apportioned based on a charge of $15 per unit of benefit, whereby vacant parcels pay one unit of benefit or $15, improved residential parcels pay two units of benefit or $30, and commercial parcels pay six units of benefit or $90.

The average revenue from taxes and assessments for Humboldt County fire departments with less than 15 volunteer firefighters was approximately $44,000 in 2011-12, approximately 15 percent greater than the annual revenue of the Carlotta CSD. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Community wastewater treatment and disposal is not available in the Carlotta ULC. The maximum allowable density in the Carlotta ULC would be in the area planned AS (Agriculture Suburban), 2.5 dwelling units per acre. Development at this density can typically occur without community water or wastewater services. The nearest wastewater system is located in the City of Fortuna approximately

nine miles west of Carlotta, well beyond the feasible distance for service extension. The rate of population growth in Carlotta over the last 20-30 years has not been significant.

Storm Drainage. The Carlotta ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600601140B, 0600601145B, 0600601175B, and 0600601330B) of the Van Duzen River and Yager Creek. Substantial portions of Carlotta south of State Route 36 are within FEMA Flood Zone A associated with the Van Duzen River. Aside from the 100-year flood plain, there are no specific storm drainage issues for the Carlotta area, according to the Hydesville-Carlotta Community Plan There are no developed storm drainage collection facilities within or adjacent to the Carlotta ULC. Storm drainage associated the State Route 36 and other County roads through the community site consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Van Duzen River.

Needs and Deficiencies

- Public health problems or extraordinary supply limitations associated with on-site water have not been identified for the Carlotta ULC or surrounding area.
- Although wastewater service is not available in Carlotta, its absence would not be considered a limitation on development or a public health concern.
- The Carlotta CSD generates revenue comparable to similar sized communities in Humboldt County. Sustainable funding and recruitment and retention of volunteers affect most fire service providers in the County and the countywide Fire Safe Council is working to support programs to help communities address these conditions.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern not already addressed by local land use regulations.

Fieldbrook

Location

Fieldbrook is located in a valley along Lindsey Creek in central Humboldt County along Fieldbrook Road, approximately 6 miles east of McKinleyville and approximately 7 miles northwest of Blue Lake. The community was originally settled around 1900.

This ULC was mapped using the 2010 Fieldbrook Census Designated Place boundary. The ULC contains the northern portion of the Fieldbrook Community Services District (CSD), most of the developed area of the Fieldbrook portion of the Fieldbrook-Glendale Community Planning Area; however, there is no adopted community plan for this area. Because the CDP boundary uses Lindsey Creek as the western boundary, approximately 20 homes located on the west side of Lindsey Creek that would typically be considered part of Fieldbrook are excluded. There were a total of 377 housing units and 859 people in the approximately 6,700 acre Fieldbrook ULC, based on the 2010 Census.

Existing and Planned Uses

Like most of Humboldt County, timber played a central role in the development of Fieldbrook. Current commercial and community activities in Fieldbrook include the Fieldbrook Store, Fieldbrook Valley

Winery, Fieldbrook Elementary School, U.S Fieldbrook Community Services District, and several construction contractors.

Land Use. The following tables describe the land within the Fieldbrook ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Improved, Rural Residential <5 acre	466
Improved, Rural Residential 5-20 acre	338
Improved, Rural Residential >20 acre	750
Vacant Rural Residential	237
TPZ Improved	1,143
TPZ Vacant	3,710
Commercial & Industrial	1
Public Land (Schools, Non Taxable)	16
Total	6,661

General Plan Land Use	Acres
Grazing	170
AR5-20	311
Commercial	1
Water Area/Recreation	522
Residential Estates	725
Low Density	70
Dispersed Houses	322
School/Other	11
Timber	4,529
Total	**6,661**

Infrastructure and Services

There is one local agency service provider in Fieldbrook, the Fieldbrook Community Services District (Fieldbrook CSD) which provides water service and structure fire protection services The Fieldbrook-Glendale CSD was formed in 1962. The Fieldbrook-Glendale CSD also provides wastewater collection services, but not within the Fieldbrook ULC. There are no drainage facilities, other than those located within County roadways.

Water System. The following information is from the Fieldbrook-Glendale CSD Municipal Service Review

> "The Fieldbrook-Glendale CSD has approximately 528 existing water connections. The District purchases treated water from Humboldt Bay Municipal Water District (HBMWD) for delivery to its customers. According to 2005/2006 HBMWD records, the District's average daily use was 166,000 gallons per day (gpd) and peak daily use was 389,000 gpd. The District retailed approximately 64 million gallons of drinking water in fiscal year 2005/2006. Availability of

connections within the District water system is not limited by source, but by the District's contract with the HBMWD (430,000 MGD); the HBMWD has sufficient water supply to meet the District demands. HBMWD also provides operation, maintenance and administrative support to the District.

There are also a number of residences (estimated at 200 to 250) that have individual water sources. These include wells, springs and diversions from streams adjoining the properties being served. The residences using these individual sources are generally located on larger hillside parcels within the District. They rely on private water sources due to the distance to the Districts existing water mains. Water quality varies greatly from location to location. However, in general, many of these systems can be high in iron and manganese and can have inadequate supply during the fall season. These sources are not regulated by any governmental agency.

The District is currently using approximately about 90 percent of its contracted water allotment from HBMWD during peak demand. The district will need to negotiate an increased allotment from the HBMWD to accommodate the development projected for the area.

Emergency backup power is needed at the Lyman Road Pump Station and a new roof is needed on the redwood tank. Water service within the District is generally very good with the exception of some localized, low pressure areas where a new booster pump is needed. Additionally, the construction of a third reservoir will be needed.

The District is aware of the water system constraints and their long range plans for service improvements include:

- Construction of a new booster pump station at Korbel to improve water pressure within the service area. This will also improve water pressure for HBMWD's customers along Warren Creek and West End Roads, and will allow the existing City of Blue Lake water booster pump station to deliver more water;
- Installation of a standby emergency generator at the Lyman Road Pump Station; and
- Construction of an additional reservoir to provide increased storage capacity.

With respects to the residences within the District that rely on private water sources, connection to the Districts water system is dependent on the ability of the home owners to absorb to the infrastructure costs."

Structure Fire Protection Services. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Fieldbrook VFD has 22 volunteers (well above the average of 16 firefighters for the County's all-volunteer departments). The Fieldbrook VFD responded to 59 incidents using two Type I engines, a quick attack engine, and a water tender. There are 21 fire hydrants on the Fieldbrook-Glendale CSD water system that cover an area of the District of approximately 853 acres within 1,000 feet of the hydrants. The fire department must use water carried on fire engines and water tenders to extinguish structure fires that are located outside the hydranted area, as well as water that may be available on site. The Fieldbrook VFD has a "5" ISO rating within the hydranted area, and "8B" outside.

The Fieldbrook-Glendale CSD received $31,005 in parcel tax revenue in the 2011-12 fiscal year that was dedicated to fire protection services (most recent reporting available through the State Controller's Office). The parcel tax was $42 per parcel and all revenue was utilized for fire protection services. In November 2013 the voters of the District approved a tax increase almost doubling the amount to $75 per parcel. Beginning in 2014, annual special tax revenue will increase to approximately $40,000 per year.

The average revenue from taxes and assessments for Humboldt County fire departments with less than 25 volunteer firefighters was approximately $45,000 in 2011-12, approximately 45 percent greater than the annual revenue of the Fieldbrook CSD. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. The Humboldt County Environmental Health Division Land Use Program considers the Fieldbrook area to have high groundwater level that affect septic performance. Community wastewater treatment and disposal is not available in the Fieldbrook ULC. In the 1970s and 1980 HBMWD and the Fieldbrook-Glendale CSD studied septic, soil, and groundwater conditions within the District. A study prepared by Winzler and Kelly Consulting Engineers concluded that a significant number of on-site sewage disposal systems are functioning improperly and that alternative disposal systems should be investigated as part of a Phase II study. Following these studies, the Humboldt Local Agency Formation Commission granted the wastewater granted the Fieldbrook-Glendale CSD the authority to provide wastewater service within its District. Wastewater service was subsequently extended to the Glendale portion of the District and effluent is then conveyed to the City of Arcata for treatment and disposal.

The minimum permitted parcel size in the Fieldbrook ULC is one acre (approximately 115 acres are Zoned RS) and planned either Dispersed Houses or Residential Estates, which allows development at one acre density. Development at this density typically requires municipal water at a minimum and may require community wastewater services. The nearest wastewater system is located in the Glendale portion of the Fieldbrook-Glendale CSD about 4.5 miles south of central Fieldbrook, well beyond the typical feasible distance for service extension.

Storm Drainage. The Fieldbrook ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600600625B, and 0600600620B) of Lindsay Creek and its tributaries. Limited portions of Fieldbrook on the west side of Old Railroad Grade are within FEMA Flood Zone A associated with Lindsay Creek.

The Draft Fieldbrook-Glendale Community Plan prepared by the Fieldbrook-Glendale CSD has the following statements regarding storm drainage. "There are a number of areas in the planning area where occasional flooding occurs. Access to various residences can be hindered during periods of high water. Creeks and streams overflow banks when runoff from the watershed exceeds the capacity of the stream channel to carry it. Flooding usually peaks and recedes quickly in smaller streams, while floods on the larger streams may exceed flood stage for two days or more…During heavy rainfall events one can understand the origin of the community's name (i.e. 'Fieldbrook')." In about 1900 when the town of

Fieldbrook was laid out, it was noted that the prairie was a large field of water that someone said was virtually a brook, thus the name Fieldbrook (Humboldt County Place Names). The draft community plan suggests that use of natural drainage techniques where possible to reduce runoff.

Needs and Deficiencies

- No public health problems or other limitations associated with the Fieldbrook-Glendale CSD water system have been identified.
- Although wastewater service is not available in Fieldbrook, its absence would not be considered a limitation on development or a public health concern.
- This community recently voted to increase the special tax that supports structure fire protection services. The presence of a local agency facilitates ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

Fruitland

Location

Fruitland is located on a ridge between the Middle Fork and South Fork Eel Rivers in southern Humboldt County along Dyerville Loop Road containing its intersection with Elk Creek Road, approximately five miles southeast of Myers Flat. The community was originally settled around in the 1890's as a colony of immigrants from Holland with orchards and fruit dryers but failed due to distance from markets.

This ULC was mapped using the proposed General Plan Update Rural Community Center boundary, which generally follows parcels lines comprising the core of the community. The Fruitland area is not within a designated community plan area. The mapped ULC contains a significant portion of the developed area of Fruitland. There were approximately 35 housing units and 90 people in the approximately 285 acre Fruitland ULC, based on an inventory of developed parcels and the 2010 Census.

Existing and Planned Uses

The predominant land use in the Fruitland ULC is rural residential. The Elk Prairie Vineyard is the most prominent commercial activity in the Fruitland area. Other community related land uses the in Fruitland include the Fruitland Ridge Volunteer Fire Department.

Land Use. The following tables describe the land within the Fruitland ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Improved, Rural Residential <5 acre	107
Improved, Rural Residential 5-20 acre	91
Improved, Rural Residential >20 acre	42
Vacant Rural Residential	7
TPZ Improved	30

TPZ Vacant	8
Total	**285**

General Plan Land Use	Acres
AR	234
AR20-5	13
RCC	38
T	0
Total	**285**

Infrastructure and Services

There are no local agency service providers in Fruitland. The Fruitland Ridge Volunteer Fire Company attempted to form as a Fire Protection District in November 2012, but was unsuccessful receiving 65.31 percent. of votes, 1.35 percent less than the require 66.66 percent.

Infrastructure and Services

Water System. There is no community water system in Fruitland. Residential and agricultural land uses produce drinking and agricultural water through on-site water systems. The County Department of Health and Human Services Land Use Program does not indicate that there are any significant area-wide limitations restricting the development of on-site water systems in Fruitland. However, parcels must be large enough to meet the setback requirements to septic systems and property lines and demonstrate to the satisfaction of County standards that adequate water is present on site..

Structure Fire Protection Services. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Fruitland Ridge VFC has a total of eight volunteers (50 percent below the average of 16 firefighters for the County's all-volunteer departments), one fire engines and one water tender. The Alderpoint VFC responded to 26 incidents in 2012. There are no fire hydrants in the ULC and the fire department must use water carried on fire engines and water tenders to extinguish structure fires, as well as water that may be available on site. The Fruitland Ridge VFC has an ISO rating of "9", which are given to departments that provide creditable fire protection services with apparatus containing a permanently mounted fire pump and 300 gallon tank that can produce 50 gallons per minute a 150 pounds per square inch; adequate records, including fire date, time, location; roster of members; training; apparatus maintenance, and equipment including hose, extinguishers, ladders, axes, hand lights, utility tools.

Volunteer fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters. The Fruitland Ridge VFC is funded entirely by community donations, grants, and local fundraising events. Because the Alderpoint FC is not associated with a local agency it is not eligible to receive property tax revenue and has no ability to raise revenue through special taxes or special assessments. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Community wastewater treatment and disposal is not available in the Fruitland ULC . The maximum allowable density in the Rural Community Center land use designation is 2.5 dwelling units per acre or one dwelling unit per acre if sewer is available. The nearest wastewater system is located in Garberville approximately 30 miles southwest of Fruitland, well beyond the feasible distance for service extension. The rate of population growth in Fruitland over the last 20-30 years has not been significant.

Storm Drainage. The Fruitland ULC is located outside the 100-Year Flood Plain (FEMA FIRM Panel 0600601550B) at an elevation of approximately 1,400 feet above sea level and well away from the Middle Fork Eel River, South Fork Eel River, and Elk Creek flood plains. There are no developed storm drainage collection facilities within or adjacent to the Fruitland ULC. Storm drainage associated the Alderpoint Road and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Middle Fork Eel River through Sequoia Creek or to the South Fork Eel through Elk Creek.

Needs and Deficiencies

- Public health problems or extraordinary supply limitations associated with on-site water have not been identified for the Fruitland ULC or surrounding area.
- Although wastewater service is not available in Fruitland, its absence would not be considered a limitation on development or a public health concern.
- The lack of ongoing revenue to support fire protection services has been identified as a problem for Humboldt County fire protection service providers, especially those providers not associated with a local agency. The communities served by the Fruitland Ridge VFC should be encouraged to re-initiate its prior effort to seek voter approval to form a district and establish an ongoing funding source through a special assessment or tax.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

<u>Garberville</u>

Location

Garberville is located along the South Fork Eel River and was originally settled in the 1870's. This ULC was mapped using the 2010 Garberville Census Designated Place boundary. The ULC contains the entire Garberville Sanitary District (Garberville SD) and the Garberville portion of the Garberville Garberville-Redway-Benbow-Alderpoint (G-R-B-A) Community Planning Area. There were a total of 434 housing units and 913 people in the approximately 1,767 acre Garberville ULC, based on the 2010 Census.

Existing and Planned Uses

Like most of Humboldt County, timber played a central role in the development of Garberville. Garberville contains a vibrant downtown that is the commercial center of southern Humboldt

Land Use. The following tables describe the land within the Garberville ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	72
Multi-Family Residential	7
Improved, Rural Residential 1-5 acre	137
Improved, Rural Residential 5-20 acre	145
Improved, Rural Residential >20 acre	521
Vacant Low/Medium Density Residential	19
Vacant Rural Residential	441
TPZ Improved	48
TPZ Vacant	159
Commercial	35
Industrial	7
Public Land (Schools, Non Taxable)	178
Total	**1,769**

General Plan Land Use	Acres
AG	51
AL(20)	168
AL(40)	232
AR	186
AR(5-20)	441
AS	14
AS(1-5)	100
CG	33
CS	8
Green Gulch	66
HWY 101	97
IG	43
IR	74
PF	83
RL	74
RM	9
T	90
Total	1,**769**

Infrastructure and Services

There are two local agency service providers in Garberville, the Garberville Sanitary District (Garberville SD) which provides water and wastewater service and the Garberville Fire Protection District provides structure fire protection services. Humboldt County maintains urban drainage facilities associated with County roadways in downtown Garberville.

Water System. The following information is from the Garberville SD Municipal Service Review, adopted 2013:

The water system consists of two water sources, a treatment plant, four water tanks, three booster stations, approximately 420 active water service connections, and a waterline distribution network. One of the water sources is surface water from the South Fork of the Eel River and one is a shallow well in downtown Garberville. The surface water source is regulated by the California Surface Water Treatment Rules and Regulations.

The South Fork of the Eel River Infiltration Gallery provides collection of the main water source. It was originally installed in 1940. The infiltration gallery has one 6-inch, 320-gpm, 50-HP submersible pump that was installed in November 2009 and was replaced in November 2012. The pump operates against an approximate 380 feet differential elevation head. The pump discharges to the water treatment plant adjacent to the 160,000-gallon main storage tank. The pressure filter in the water treatment plant has a limited capacity of 250 gpm. Over the past five years, the treatment plant processed between 55 and 65 million gallons of water each year. The largest year on record was shown on the 1999 Annual Progress Report submitted by the GWC to the State Water Resources Control Board, which showed 80 million gallons of water processed.

The District holds a water diversion permit from the State Water Resources Control Board for appropriation of water from the South Fork of the Eel River. The permit is number 20789. This permit allows the District to divert a maximum of 0.595 cubic feet per second (267 gpm) from the river, year round. The District also has a fixed license that allows the District to divert an additional 0.155 cfs. The total maximum instantaneous diversion allowed is 0.75 cfs (336 gpm). This would equate to a maximum daily diversion of approximately 484,700 gallons and 177 million gallons per year, if adequate pumps and treatment facilities were available.

The Tobin Well is the only subsurface water source and it has a limited capacity of 40 to 70 gpm. There is substantial draw down during sustained pumping. The District is evaluating the replacement of the pump with a duplex pumping system.

The existing system has adequate production, treatment, and storage capacities for the average peek daily demand. The maximum daily demand is 427,780 gpd recorded during the month of July in 1999. The total storage capacity for the system is approximately 260,000 gallons which is the sum of the four storage tanks in the system. This is sufficient to meet the average dry day water demand. The water treatment facility produces water that meets or exceeds the State regulations for drinking water but does not meet the Surface Water Treatment Regulations. The turbidity and residual free chlorine levels comply with the maximum allowable levels. The existing system provides four pressure zones with adequate pressure throughout the District.

The Garberville SD has conducted a comprehensive evaluation of system condition and need and identified a series of improvement projects to be carried out over the next 20 years. These projects are separated into two categories. The first category includes projects that have at least partial external funding secured. The second category includes projects for which no external funding has been secured. Total project cost is estimated to be $15.5 million, with approximately $7.8 million in grant funding identified to date. Garberville SD would likely continue to seek grant funding for some portion of the remaining costs and may be required to raise rates to secure total project funding.

The Garberville SD water system was extended in 2012 with approval from the Humboldt Local Agency Formation Commission to serve the Kimtu Meadows Subdivision with funding from the CDPH to remedy the health and safety risks to the residents. There are other areas within the ULC that have on-site water systems; in addition the River Crest Mutual Water Company serves a small subdivision. The Garberville SD has made efforts to carry out comprehensive planning for future service extensions. The need for future service extensions may likely be triggered by proposed development or public health concerns.

Structure Fire Protection Services. The Garberville Fire Protection District (FPD) provides structure fire protection services within the Garberville ULC. The Garberville FPD boundaries cover approximately 700 acres of the 1,769 acre ULC. Areas within the ULC that are outside the Garberville FPD boundaries include the Connick Creek, Bear Canyon, and airport areas on the west side of the South Fork Eel River and the Tooby flat and Kimtu Meadows area on the east side of the River. The Garberville FPD responds to calls in these areas but does not receive property tax revenue for providing the service.

According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Garberville VFD has 12 volunteers (below the average of 16 firefighters for the County's all-volunteer departments). The Garberville VFD responded to 219 incidents using three Type II engines and a utility truck. There are 27 fire hydrants on the Garberville SD water system that cover an area of the District of approximately 750 acres within 1,000 feet of the hydrants. The fire department must use water carried on fire engines and water tenders to extinguish structure fires that are located outside the hydranted area, as well as water that may be available on site. The Garberville VFD has a "6" ISO rating within the hydranted area, and "9" outside.

The Garberville SD received $61,482 in property tax revenue in the 2011-12 fiscal year (most recent reporting available through the State Controller's Office). All tax revenue is from one-percent property tax. The Garberville FPD does not have a special tax or assessment to supplement its property tax.

The average revenue from taxes and assessments for Humboldt County fire departments with less than 25 volunteer firefighters was approximately $45,000 in 2011-12, approximately 40 percent less than the annual revenue of the Garberville FPD. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

The Garberville FPD has conducted planning to annex areas that it serves outside its district boundaries. Fire protection services supported by elected boards that are accountable to the registered voters and tax revenue from property are essential in urban, suburban, and rural areas alike. The potential Garberville FPD annexation would be important for the continued delivery of fire protection services within the proposed annexation area. The costs of providing fire protection services, including insurance, facilities, fuel, training, and equipment, is increasing and it is not appropriate for the property owners within the existing District boundaries to support the continued delivery of services to property outside the district boundaries. The potential annexation would allow the Garberville FPD to extend its

existing funding sources into the proposed annexation area. The registered voters within the potential annexation area would be represented by the Garberville FPD Board of Directors.

Wastewater. The Garberville Sanitary District is responsible for collection, treatment, and disposal of the community's wastewater. The existing wastewater facilities are within the boundaries of the District. Existing facilities consist of collection and transmission lines including two headworks stations, two pumping stations, and a treatment plant. The District provides wastewater service to approximately 353 existing wastewater service connections in the downtown Garberville area and the Meadows Subdivision along Alderpoint Road.

In 2011, the District completed a major treatment plant upgrade. The $3.5 million project included: three oxidation ponds, four wetland treatment ponds, chlorination via an onsite chlorine generation system, improved percolation ponds, and an on-site operation and maintenance (O&M) building. The first primary oxidation pond was constructed at a new location. The other oxidation ponds and the wetland treatment ponds were created by modifying the existing treatment ponds and recharge basin. Improvements to the percolation ponds consisted of cleaning and regrading each basin. According to the Garberville SD Municipal Service Review (2013), the average dry weather (low) flow is approximately 59,000 gallons per day (gpd). The average wet weather (high) flow is approximately 130,000 gpd. The new facility has the capacity to treat 160,000 gallons per dry weather day and 250,000 gallons per wet weather day.

Prior to the reconstruction of the wastewater treatment plant, the District was under a wastewater connection moratorium until additional capacity was constructed. Presently the plant is operating within its waste discharge requirements. In November 2011, the Water Quality Control Board rescinded the moratorium and issued a new Waste Discharge Permit ID# 1B831200HUM. This waste discharge permit contains guidelines for an average dry weather flow of 162,000 gpd, 235,000 gpd average wet weather flow, and wet weather peak flow of 600,000 gpd. The treatment plant is currently operating at 38.88 percent of the capacity during dry weather flows. There is no significant large future capital improvement projects planned for the wastewater system. The existing infrastructure has the capacity to service the District for the duration of the planning period of the Municipal Service Review.

Areas within the ULC but outside the Garberville SD use onsite septic systems. The Humboldt County Environmental Health Division Land Use Program has not identified concerns relating to the future development of onsite septic systems in this area.

Storm Drainage. The Garberville ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600601835B) of the South Fork Eel River. The G-R-B-A Community Plan and EIR does not identify and specific flooding issues for the Garberville area. The flood plain of the South Fork Eel River is largely contained within the banks of the River, affecting the Rivercrest subdivision on the west side of the River and crossing over Camp Kimtu Road (County Road) on the east side of the River in only a few locations. Storm drainage associated with County roads through this area consists of ditches along the uphill side of the road and culverts that ultimately convey drainage to the South Fork Eel River.

Needs and Deficiencies

- The Garberville SD has secured a substantial amount of funding to improve its water system to address issues relating to supply, treatment, storage, and distribution. However, addition funding is required to complete all identified projects. The Garberville SD has addressed a portion of its funding needs through rate increases, but will continue to seek funding through state and federal grants.
- The Garberville SD has completed a comprehensive upgrade of its wastewater system that resulted in the lifting of a Regional Water Quality Control Board cease and desist order.
- The need to annex areas outside the Garberville FPD has been identified. The Garberville FPD is working with the Humboldt County Fire Safe Council and other fire departments to complete annexation application requirements.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

Glendale

Location

Glendale is located in a Mad River valley between Lindsey and Hall Creeks in central Humboldt County along Glendale Road, approximately two miles west of Blue Lake and approximately eight miles east of Arcata. This ULC is not mapped as a Census Designated Place nor does it have any unique Census mapping, so the ULC was identified using the proposed General Plan Update land use designations. The ULC contains the southern portion of the Fieldbrook CSD. There were approximately 150 housing units and 375 people in the approximately 443 acre Fieldbrook ULC, based on Census Blocks that comprise the Glendale ULC.

Existing and Planned Uses

The Blue Lake Forest Products mill was the largest business Glendale was formerly home to the Blue Lake Forest Products mill that was situated on both sides of Glendale Drive near Ramp Road. The mill no longer operates and many of the structures have been dismantled. Current commercial and community activities in Glendale include Murphy's Market, E&O Bowl, Royal Gold Soil (on the Blue Lake Forest Products site), and Steve Morris Logging and Construction.

Land Use. The following tables describe the land within the Fieldbrook ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
TPZ Improved	22
TPZ Vacant	5
Single Family Residential	82
Multi Family Residential	14
Improved, Rural Residential 1-5 acre	51
Improved, Rural Residential 5-20 acre	41
Improved, Rural Residential >20 acre	66

Vacant Low/Medium Density Residential	1
Vacant Rural Residential	12
Commercial	10
Industrial	113
Public Land (Schools, Non Taxable)	26
Total	443

General Plan Land Use	Acres
Grazing	1
Commercial	9
Suburban	1
Dispersed Houses	391
Other	24
Timber	17
Total	**443**

Infrastructure and Services

There are two local agencies service providers in Glendale, the Fieldbrook-Glendale CSD which provides water and wastewater service and the Blue Lake FPD which provides structure fire protection services. There are no drainage facilities, other than those located within County roadways.

Water System. See the discussion of the Fieldbrook-Glendale CSD water system in the analysis of the Fieldbrook ULC. The Fieldbrook Glendale Community Services District (CSD) provides water and wastewater service to this area Water service within the Glendale area is generally very good with the exception of some low pressure areas. The only major deficiency associated with the existing system and the existing development they serve is lower system pressure within some localized areas. The study area does not have any storage in its service area and normally relies on the HBMWD water reservoirs, although the Fieldbrook reservoir can be used to back feed to this area in an emergency. Glendale will need to expand its water system infrastructure to serve additional growth. The Fieldbrook-Glendale CSD's receives treated water through the HBMWD

Structure Fire Protection Services. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Blue Lake Volunteer Fire Department provides firefighting services to the Blue Lake Fire District, which has 24 volunteers and 1 fulltime employee funded by a donation from the Blue Lake Rancheria. The Blue Lake FPD boundaries include the City of Blue Lake, the communities of West End road, Liscomb Hill and Glendale. The Blue Lake VFD responded to 224 incidents using two Type I engines, a quick attack engine, and two water tenders. Hydrants connected to the Fieldbrook-Glendale CSD water system are present in the Glendale ULC; however GIS mapping of the hydrants is not available to determine the extent of the developed area served by the hydrants. The fire department must use water carried on fire engines and water tenders to extinguish structure fires that are located outside the hydranted area, as well as water that may be available on site. The Fieldbrook VFD has an ISO rating of "5"within the hydranted area, and "8B" outside.

The Blue Lake FPD received $138,515 in property tax and special assessment revenue in the 2011-12 fiscal year (most recent reporting available through the State Controller's Office). The special assessment is apportioned based on a charge of $9 per unit of benefit, whereby vacant parcels pay one unit of benefit or $9, improved residential parcels pay four units of benefit or $36, rural residential pays six units of benefit or $54, multi-family pays and commercial parcels pay six units of benefit or $90, and larger motels pay 12 units of benefit or $108.

The average revenue from taxes and assessments for Humboldt County fire departments with less than 25 volunteer firefighters was approximately $45,000 in 2011-12, approximately one-third of the annual revenue of the property tax and assessment related revenue of the Blue Lake FPD. It should be noted that the full time Blue Lake FPD chief officer fulltime employee funded by a donation from the Blue Lake Rancheria. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. The Glendale area receives wastewater service from the Fieldbrook- Glendale CSD. Glendale's wastewater system is in very good condition overall and has approximately 165 connections. Flows currently range between 37,000 gpd during dry weather and 75,000 gpd during wet weather. The District is under contract to pump raw wastewater to the City of Arcata for treatment and disposal. The existing contract allows for up to 71,200 gpd average dry weather flow, indicating that the system has the capacity for approximately 80 to 100 more connections (2010). Alternative solutions to treatment and disposal must be found to accommodate any development in excess of this. The City has indicated it is not interested at this time to increase the District's contract amount and has recommended the District consider other alternatives. The District has approached the City of Blue Lake and will participate in other studies to evaluate alternatives and costs for potential interconnection.

Storm Drainage. The Fieldbrook ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600600620B) of the Mad River and Hall Creek. Areas of inundation are primarily on the south side of Glendale Drive and near the elevated trestle Arcata Mad River Rail line and the Hall Creek crossing both on the east side of Glendale Drive. As described in the discussion of the Fieldbrook ULC, the Draft Fieldbrook-Glendale Community Plan prepared by the Fieldbrook-Glendale CSD has the following statements regarding storm drainage. "There are a number of areas in the planning area where occasional flooding occurs. Access to various residences can be hindered during periods of high water. Creeks and streams overflow banks when runoff from the watershed exceeds the capacity of the stream channel to carry it. Flooding usually peaks and recedes quickly in smaller streams, while floods on the larger streams may exceed flood stage for two days or more. The draft community plan suggests that use of natural drainage techniques where possible to reduce runoff.

Needs and Deficiencies

- The Fieldbrook-Glendale CSD has identified water storage as a need for the Glendale area.

- The wastewater agreement with the City of Arcata a limitation on development within Glendale. The Fieldbrook-Glendale CSD has participated in wastewater planning with surrounding jurisdictions but has not yet identified a feasible proposal to address future wastewater capacity needs for this ULC.
- The lack of ongoing revenue to support fire protection services has been identified as a problem for Humboldt County fire protection service.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

Holmes Flat

Location

Holmes Flat is located in southern Humboldt County along the Avenue of the Giants, approximately 21 miles south of Fortuna and approximately 31 miles north of Garberville. This ULC is not a Census Designated Place nor does it have any unique Census mapping, therefore this ULC was identified using the proposed General Plan Update land use designations. There were approximately 48 housing units and 120 people in the approximately 426 acre Holmes Flat ULC, based on an estimate of improved residential parcels.

Existing and Planned Uses

Holmes Flat is comprised of agriculture lands and rural residences.

Land Use. The following tables describe the land within the Holmes Flat ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	30
Improved, Rural Residential 1-5 acre	31
Improved, Rural Residential 5-20 acre	72
Vacant Low/Medium Density Residential	11
TPZ Improved	71
Commercial	25
Public Land (Schools, Non Taxable)	172
Total	**412**

General Plan Land Use	Acres
AE	412
Total	**412**

Infrastructure and Services

Water System. There is no community water system in Holmes Flat. Residential, commercial, and agricultural land uses produce drinking and agricultural water through on-site water systems. The

County Department of Health and Human Services Land Use Program does not indicate that there are any significant area-wide limitations restricting the development of on-site water systems in the Holmes Flat. However, parcels must be large enough to meet the setback requirements to septic systems and property lines and demonstrate to the satisfaction of County standards that adequate water is present on site.

Structure Fire Protection Services. There is no local agency responsible for fire protection in Holmes Flat. According to the Humboldt County Community Wildfire Protection Plan, Holmes Flat is within the response area of the Redcrest VFC. See the Redcrest ULC for a discussion of the Redcrest VFC.

Holmes Flat is located approximately two miles from Redcrest. There are no fire hydrants within Holmes Flat. As a result, the Redcrest VFC must rely on the tank water carried on their fire engines and on-site water tanks that may be available near the fire. The Redcrest VFC has an ISO rating of "10".

Wastewater. Community wastewater treatment and disposal is not available in the Holmes Flat ULC . The maximum allowable density for the AE land use designation is one dwelling unit per 20 acres. Parcels within the Holmes Flat ULC range in size from 0.1 acres to 45 acres. The nearest wastewater system is located in Scotia, approximately 11 miles north of Holmes Flat, well beyond the feasible distance for service extension. There has been little development in this ULC.

Storm Drainage. The Holmes Flat ULC is located entirely the 100-Year Flood Plain (FEMA FIRM Panel 0600601340B and 0600601345B) of the Eel River and all land is subject to Humboldt County Flood Hazard Regulations. There are no developed storm drainage collection facilities within or adjacent to the Holmes Flat ULC. Storm drainage associated the Alderpoint Road and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Eel River.

Needs and Deficiencies

- Public health problems or extraordinary supply limitations associated with on-site water have not been identified for the Holmes Flat ULC or surrounding area.
- Although wastewater service is not available in Holmes Flat, its absence would not be considered a limitation on development or a public health concern.
- The lack of ongoing revenue to support fire protection services has been identified as a problem for Humboldt County fire protection service providers, especially those providers not associated with a local agency. The communities served by the Redcrest VFC should be encouraged to follow the example of Briceland and Bridgeville to seek voter approval to form a district and establish an ongoing funding source through a special assessment or tax.
- The flooding of the Eel River is a significant threat to life and property in this area. It would likely be infeasible to develop flood protections to mitigate flood risk. However, adherence to flood hazard regulations would be considered adequate to address this threat.

<u>Manila</u>

Location

Manila is located on the north spit of Humboldt Bay, approximately six miles southwest of Arcata and approximately four miles northwest of Eureka. Manila began as a railroad crossing during the Spanish American War in 1898 and become a census designated place at the end of World War II. It falls under the Humboldt Bay Area Plan.

This ULC was mapped using the 2010 Manila Census Designated Place boundary. The ULC contains the developed portions of the Manila Community Services District (Manila CSD). There were a total of 411 housing units and 784 people in the approximately 532 acre Manila ULC, based on the 2010 Census.

Existing and Planned Uses

The Manila area is comprised largely of residential uses. In addition, the Manila ULC contains the Manila Community Center, Sierra Pacific Industries lumber mill, the Manila Market, and Redwood Coast Trucking.

Land Use. The following tables describe the land within the Manila ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	131
Multi Family Residential	9
Improved, Rural Residential 1-5 acre	11
Improved, Rural Residential 5-20 acre	4
Improved, Rural Residential >20 acre	19
Vacant Low/Medium Density Residential	47
Vacant Rural Residential	15
Commercial	4
Industrial	27
Public Land (Schools, Non Taxable)	166
Total	**433**

General Plan Land Use	Acres
AG	19
CG	7
MG	45
NR	27
PF	46
PR	11
RE	38
RL	240
Total	**433**

Infrastructure and Services

There are two local agency service providers in Manila, the Manila CSD which provides water and wastewater service and the Arcata Fire Protection District provides structure fire protection services. Humboldt County maintains urban drainage facilities associated with County roadways in downtown Manila. The Manila CSD also provides limited storm drainage services according to the 2007 Municipal Services Review.

Water System. The following information is from the Manila SD Municipal Service Review, adopted 2013:

> The District has an excellent supply source from the Humboldt Bay Municipal Water District, which is withdrawn from the bed of the Mad River. The HBMWD provides treated drinking water to the Manila CSD on a wholesale basis. Water is delivered to Manila by a 15-inch diameter main that continues south through Manila to serve the towns of Samoa and Fairhaven and the pulp mill.
>
> According to 2005/2006 HBMWD records, Manila CSD's average daily use was 0.119 MGD and peak daily use was 0.157 MGD. The District delivered approximately million gallons of water in fiscal year 2005/2006. The District has approximately 343 active 45 connections, of which 336 are residential connections (308 single family and 28 multifamily). Non-residential connections include Sierra Pacific Industries, Redwood Coast Trucking, Manila Community Center and Park, an RV Park, and formerly Manila Market.
>
> Manila CSD's water system is not limited by source to meet current district demand; there is ample water from the supplier to meet future demands until maximum build-out of the District occurs. However, recent analysis indicates that the Manila CSD will need to expand the storage capacity and increase the size of the water mains. Based on present and projected water use levels, HBMWD has the ability to meet the water demands of development under the Community Plan and its alternatives.

Structure Fire Protection Services. The Arcata Fire Protection District (FPD) provides structure fire protection services within the Manila ULC. The Arcata FPD boundaries include the entire ULC. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Arcata FPD has three stations and responds to Manila from the Arcata-Headquarters station. Arcata FPD has a combination fire department with 22 career firefighters and 25 volunteers. The Arcata FPD has six Type I engines (three front line and three reserve), one Type III engine, one ladder truck, one tender, and a rescue truck. There are approximately 89 fire hydrants on the Manila CSD water system that cover the entire ULC within 1,000 feet of the hydrants

The Arcata FPD received $3,460,00 in property tax revenue in the 2011-12 fiscal year (most recent reporting available through the State Controller's Office), with approximately $1,770,000 from the one-percent property tax and $1,660,000 from a special tax and special assessment. The Arcata FPD recently completed a Benefit Assessment Citizen Review process that concluded that the District should 1) continue the 2006 assessment at the current level with no change. 2) explore additional sources of revenue for the District including the possibility of an additional assessment in the future; and 3)

conduct another Citizen Review Committee in five years (during fiscal year 2018/19) to allow for citizen oversight.

The Arcata FPD is the District that protects the largest population in Humboldt County, 36,000, which includes the City of Arcata, McKinleyville, Manila, and the surrounding area. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Manila's wastewater system is in good condition overall. The community relies on a STEP system that pumps liquid effluent from resident's septic tanks into a force main to treatment. The treatment system consists of three free surface wetlands, two surface aerated facultative ponds, and four percolation ponds (rapid infiltration basins) for disposal.

The system currently has approximately 387 connections, and flows range between 66,000 gallons per day (gpd) during dry weather and 210,000 gpd during wet weather. The facility has an average dry weather flow design capacity of 140,000 gpd, and is therefore operating at approximately 47% capacity.

This system is currently in compliance with its Waste Discharge Requirements (WDR) and has sufficient capacity to serve forecasted potential future development without major improvements, other than extensions that might be needed to serve a particular parcel.

Storm Drainage. The Manila ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600600775C) associated with Humboldt Bay. The Humboldt Bay Area Plan does not identify and specific flooding issues for the Manila area. Storm drainage associated with State Route 255 and County roads through this area consist of ditches and culverts that ultimately convey drainage to Humboldt Bay.

Needs and Deficiencies

- No public health problems or other limitations associated with the Manila CSD water system have been identified.
- No public health problems or other limitations associated with the Manila CSD wastewater system have been identified.
- This community recently voted to increase the special tax that supports structure fire protection services. The presence of a local agency will facilitate ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

<u>McKinleyville</u>

McKinleyville is located the north of the Mad River, approximately five miles north of Arcata and approximately nine miles south of Trinidad. McKinleyville is located 5.25 miles north of Arcata and was first established and the original settlement was referred to as Minorsville. In 1877 is became known as McKinleyville after the assassination of President McKinley. The post office was established on July 24, 1903.

This ULC was mapped using the 2010 McKinleyville Census Designated Place boundary. The ULC contains almost all of the developed portions of the McKinleyville Community Services District (McKinleyville CSD). There were a total of 6,565 housing units and 15,177 people in the approximately 13,500 acre McKinleyville ULC, based on the 2010 Census.

Existing and Planned Uses

McKinleyville is a center of commerce for northern Humboldt and contains numerous schools, two shopping centers, and the Arcata-Eureka Airport.

Land Use. The following tables describe the land within the McKinleyville ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	**Acres**
Single Family Residential	2,121
Multi Family Residential	415
Improved, Rural Residential 1-5 acre	217
Improved, Rural Residential 5-20 acre	281
Improved, Rural Residential >20 acre	380
Vacant Low/Medium Density Residential	364
Vacant Rural Residential	361
TPZ Improved	354
TPZ Vacant	4,758
Commercial	394
Industrial	16
Public Land (Schools, Non Taxable)	3,768
Total	**13,429**

General Plan Land Use	**Acres**
AE	304
AEP	753
AR	412
AR(10AC)	240
AR(5AC)	138
AS	654
AS(3AC)	77
CPA	3,171
CR	151

General Plan Land Use	Acres
CS	322
CS/IG	27
HWY	6
IG	122
IR	0
MB	35
NR	410
P	48
PF	953
PR	503
RE	545
RL	1,420
RL(0.5AC)	272
RL(1AC)	673
RLA	10
RLB	6
RM	160
RR	68
RX	24
RX2.5	35
T	1,856
TC	34
Total	**13,429**

Infrastructure and Services

There are two local agency service providers in McKinleyville; the McKinleyville CSD which provides water, wastewater, and park services, and the Arcata Fire Protection District provides structure fire protection services. Humboldt County maintains urban drainage facilities associated with County roadways in downtown McKinleyville.

Water System. The following information is from the McKinleyville CSD Urban Water Management Plan, Modified April, 2013:

> McKinleyville is the third largest community in Humboldt County after Eureka and Arcata with a population of 16,401 (2011). According to (the District's) new water service records, MCSD has slow but consistent growth of about 1.8% annual service growth since the last five-year plan. This has reduced slightly from the previous five-year period. The District experiences modest growth from new subdivisions, apartments and seniors relocating from other regions of California. Very few commercial accounts are added each year with most being residential. (The District) do(es) have some small agricultural users for growing blue berries and a few nurseries. The MCSD has light commercial area of shops, stores, restaurants and two smaller shopping centers.

The McKinleyville Community Services District has one source of water. (The Districts) sole source of water is purchased from The Humboldt Bay Municipal Water District (HBMWD). The water delivered from the HBMWD to the MCSD is through a single transmission main under the Mad River. The MCSD receives the water delivery at the North Bank Pump Station. The station was upgrade in 2009 with new standby generator and 2- 250 hp variable frequency vertical turbine pumps.. Standby chlorination is available at this site should the chlorine residual from delivered water drop below 0.2 ppm. The District has (2) 1.5 Million gallons tanks, (2) 1.0 million gallon tanks, a 100,000 and 150,000 gallon redwood tank and three booster stations throughout the distribution system. McKinleyville is the third largest community in Humboldt County after Eureka and Arcata with a population of 16,401 (2011). (The District) currently (has) over 5,300 active water services.

The North Coast is one of the only areas in California with an abundance of water. Droughts, while severe climatically, have not resulted in the level of water supply shortfalls that other areas of California routinely experience. The drought of 1976/1977 was the only declared water emergency on the North Coast. During that event, Ruth Lake storage was 52% of normal average volume and rainfall in the Ruth Lake area was 42% of historical average. The drought came to an end with heavy rains during November 1977. Even during the only declared water emergency on the North Coast MCSD did not experience restrictions. During this drought the MCSD supplies were sufficient to meet normal demand

Per capita water use in McKinleyville has declined from approximately 123 gallons per person per day in 2001 to 93 gallons per day in 2011. Water supply from the Humboldt Bay Municipal Water District is projected to exceed projected demand by over 50 percent for the next 20 years. McKinleyville CSD has identified the following two water supply projects in its 2010 Urban Water Management Plan:

Water Storage Tanks: The District's current storage capacity for potable water is 5.25 million gallons in six storage tanks located on McCluski Hill (100,000 & 150,000 gal.), Cochran Road (1 million & 1.5 million gallons) and Norton Road (1 million & 1.5 million gallons). This can leave a 24 hour backup water supply for McKinleyville water customers at peak flow. Two new 3-million gallon tanks are also planned for construction on the District's Murray Road site. MCSD is in the process of determining the viability of the Murray Road Tank Site due to seismic considerations. A cost analysis will be conducted to determine the feasibility of design at that site opposed to purchase of a location in a less sensitive location. New tanks would increase the District's storage capacity, enhance fire flows during peak summer usage and provide additional system capacity for new growth. MCSD has determined it would be more advantageous to initiate phased construction of two tanks at this location to spread the cost over a longer period of time and to enhance the operational flexibility of the system by having two tanks to allow for maintenance and redundancy.

Emergency Water Supply: The underground supply line from HBMWD's facility on the Mad River to the Ramey Pump Station may be vulnerable to failure in a major earthquake. If such an event were to occur during high stream flows, it could be several months before the supply line under

> the river and freeway could be repaired, restoring water supply to the Ramey Pump Station. A 12" emergency water main will be placed in the north bound span of the Highway 101 Mad River crossing. This provides a viable alternative due to the ability to intertie the Arcata and McKinleyville water system in the event of a catastrophe. Design was completed and an RFP was advertised and the contract has been awarded. The interties, valves and piping to complete the project will take place in FY12/13.

Structure Fire Protection Services. The Arcata Fire Protection District (FPD) provides structure fire protection services within the McKinleyville ULC. The Arcata FPD boundaries include the entire ULC. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Arcata FPD has three stations and responds to McKinleyville from the McKinleyville station. Arcata FPD has a combination fire department with 22 career firefighters and 25 volunteers. The Arcata FPD has six Type I engines (three front line and three reserve), one Type III engine, one ladder truck, one tender, and a rescue truck. There are approximately 89 fire hydrants on the McKinleyville SD water system that cover the entire ULC within 1,000 feet of the hydrants

The Arcata FPD received $3,460,00 in property tax revenue in the 2011-12 fiscal year (most recent reporting available through the State Controller's Office), with approximately $1,770,000 from the one-percent property tax and $1,660,000 from a special tax and special assessment. The Arcata FPD recently completed a Benefit Assessment Citizen Review process that concluded that the District should 1) continue the 2006 assessment at the current level with no change. 2) explore additional sources of revenue for the District including the possibility of an additional assessment in the future; and 3) conduct another Citizen Review Committee in five years (during fiscal year 2018/19) to allow for citizen oversight.

The Arcata FPD is the District that protects the largest population in Humboldt County, 36,000, which includes the City of Arcata, McKinleyville, Manila, and the surrounding area. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. According to the Administrative Draft Wastewater Facilities Plan, approved by , the McKinleyville CSD Board of Directors in January 2012:

> …maintains and operates a Wastewater Management Facility (WWMF) that serves the` community of McKinleyville. The current permit for the McKinleyville CSD Wastewater Management Facility (WWMF), NPDES Permit No. CA0024490, Order No. WQ 2011-0008-DWQ, was adopted April 19, 2011, and includes Waste Discharge Requirements (WDRs) for effluent treatment, discharge, and reclamation. The current permit went into effect on April 19, 2011, and expires on April 18, 2016.

The existing WWMF consists of a collection system, wastewater treatment facility, and effluent disposal and land reclamation systems. Community wastewater is collected at five lift stations for pumping to the WWMF. The existing WWMF is a secondary treatment process that consists of three aerated ponds and one stabilization pond followed by a two-stage treatment wetland. The average dry weather design flow of the treatment facility is 1.6 million gallons per day (MGD) and the wet weather design flow is 3.3 MGD. Projected 20-year flows for year 2030 were developed based on a 1.8% annual increase in population. The projected average dry weather flow for year 2030 is 1.4 MGD and the projected average wet weather flow is 1.7 MGD. The projected peak day flow for year 2030 is 3.1 MGD.

The McKinleyville CSD has prepared a capacity analysis for its wastewater collection system focusing on areas east of U.S. 101 that contribute to gravity trunk lines (Sewer Capacity Analysis, MCSD Sewer Collection System, SHN Consulting Engineers, September 18, 2013). According the McKinleyville CSD, the remaining available capacity of the three gravity trunk lines that convey wastewater from the east to the west side of Highway 101 under existing flow conditions with a 25-year wet weather flows, i.e. Rainfall Derived Infiltration and Inflow (RDII) is limited to approximately 780 new units, and the capacity is only available in the middle and southern main transmission lines. The northern main line is limited by the firm capacity of the downstream pump station and has no capacity for new units under the 25-year RDII scenario. Firm capacity is the capacity of the pump station assuming the largest pump is out of service. No upgrades are planned or funds are currently allocated for this pump station.

Wastewater system upgrades identified in the Administrative Draft Wastewater Facilities Plan include:

Treatment System Upgrades. Secondary treatment alternatives were evaluated with regard to treatment, cost, implementability, public acceptance, and regulatory issues. Nitrogen removal, in addition to secondary treatment, was considered a priority. Secondary treatment alternatives reviewed in detail included a high performance aeration system with a nitrifying filter; an in-basin extended aeration system; an oxidation ditch; an activated sludge system and a membrane treatment system.

The in-basin extended aeration system provides a high quality effluent that would meet anticipated permit requirements for land application and discharge to Mad River. Of the alternatives considered, the in-basin extended aeration system had the lowest capital and operational costs. Costs for the in-basin extended aeration system were estimated to be $7.4M. Additional costs for new headworks were estimated to be $1.1M.

McKinleyville has entered into a $1.1 million agreement with Kennedy Jenks Consulting Engineers for improvements to the current Treatment System. The current estimated cost for design and construction of this facility have risen to $15 million and is scheduled to begin construction in 2015.

Collection System Upgrades. The central gravity main line (Line 5) that crosses under Highway 101 and the southern gravity main line (Line 3) that extends west from Highway 101 have been identified as the critical areas in the collection system that will require upgrades under projected

flow conditions. Recommended improvements to the collection system network include installing parallel pipe networks adjacent to each main line in these areas. Additional improvements are recommended at the system lift stations. Total costs for the proposed collection system upgrades were estimated to be $3.4M. The central gravity main that crosses Highway 101 is planned for upgrade within the next 5 years but as of yet no funding is appropriated. The southern gravity main is not planned for improvement at this time and no funding is available.

Disposal and Reclamation System Upgrades. To increase reclamation capabilities at the land reclamation sites, installation of a poplar forest is proposed. The proposed poplar forest disposal plan includes planting approximately 45 acres of the lower Fisher Ranch property with poplars in 4- to 5-acre plots. If poplars replaced the current crop mixture on the lower Fisher Ranch property, total acreage efficiency could be increased by 130%. Disposal costs also include decommissioning the existing percolation ponds. Total costs for the proposed disposal and reclamation system upgrades were estimated to be $1.9M.

Total Anticipated Project Cost. The opinion of probable cost to complete the recommended WWMF collection, treatment, and disposal system improvements estimated in the 20 Year Facilities Plan is approximately $13.8M including planning and design but updated estimates for Treatment Facility are nearing $15 million substantially higher than $7.4 million.

Storm Drainage. The McKinleyville Community Planning Area, which includes the McKinleyville ULC, is not subject to extensive stream flooding hazards because of its elevation above the Mad River. Local creeks in the McKinleyville area were identified by FEMA as having minimal flood hazards when compared to Humboldt County's major streams. Although not as potentially damaging as the County's major rivers, flood plains along six streams in the Planning Area have been delineated by FEMA. The development in these flood plains is subject to special construction restrictions to limit flood losses.

The McKinleyville ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600600625B, 0600600600B, 0600600625B, and 0600600615C) associated with the Mad River and its tributaries Mill, Norton, and Widow White Creeks. The McKinleyville Community Plan states that

> …creeks and streams overflow banks when runoff from the watershed exceeds the capacity of the stream channel to carry it. Flooding on McKinleyville's small streams usually peak and recede quickly, while floods on the larger streams may exceed flood stage for two days or more. Land uses and innovative drainage facilities which could reduce periodic flooding and which decrease flood hazards downstream are desirable and feasible in McKinleyville, and are therefore encouraged in this Plan."

Drainage problems and associated flooding may be reduced in the community by use of various measures to decrease runoff. These measures include retention and detention basins upstream, improved watershed management and stream protection, reduction of impervious surfaces, proper siting of development projects, and other similar measures. These measures can reduce

the need for costly construction projects and disaster relief, while enhancing the rural qualities in McKinleyville.

McKinleyville has retained many of the natural drainage swales which have historically accommodated water runoff throughout the community. These natural drainage swales shall be protected. Their existence improves the quality of the water running off developed lands, and reduces the peak flow of runoff. Additional drainage facilities shall be designed to look natural or have aesthetic natural qualities.

Humboldt County operates a storm drainage system in the developed area of McKinleyville. Humboldt County prepared a Storm Water Management Program (SWMP) for the unincorporated Community of McKinleyville by the County of Humboldt in response to State Water Resources Control Board Water Quality Order 2003-0005-DWQ for Phase II of the National Pollutant Discharge Elimination System (NPDES). New development in McKinleyville pay drainage fees that relate to the amount of storm water runoff produced and that fund drainage improvements identified in the McKinleyville Drainage Plan.

In addition, the McKinleyville CSD considers acceptance of open space areas and storm water detention basin dedications from developers. Currently, the District has accepted eight detention basins that have been required by the County as a condition of development to meet storm water regulations. Some of these may have a recreational component with trials or recreation, other do not. The District also constructed a five acre storm water marsh and detention basin area at Hiller Park. Developers may purchase capacity from this detention basin in lieu of constructing detention basins within their development. The County determines whether the developer must construct a basin within their development or if they may purchase capacity from this existing basin.

Needs and Deficiencies

- No public health problems associated with the McKinleyville CSD water system have been identified.
- The McKinleyville CSD wastewater system sewer has limited capacity. Capacity in the middle and southern main transmission lines is limited to approximately 780 new units. The northern main line has no capacity for new units under the 25-year RDII scenario as its capacity is limited by the firm capacity of the downstream pump station. No public health problems associated with the McKinleyville CSD wastewater system have been identified at current housing conditions. The McKinleyville CSD has identified improvements that are necessary to allow development consistent with the General Plan of areas east of US 101. Additional funding will be required to construct such improvements and as of yet are not available.
- The presence of a local agency facilitates ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

<u>Miranda</u>

Location

Miranda was first settled in 1871 and the name Miranda was applied to the post office in 1905. It is located 2.5 miles northwest of Phillipsville. This ULC was mapped using the 2010 Miranda Census Designated Place boundary. The ULC contains the entire Miranda Sanitary District (Miranda CSD) and the Miranda portion of the Miranda Avenue of the Giants Community Planning Area. There were a total of 434 housing units and 913 people in the approximately 1,767 acre Miranda ULC, based on the 2010 Census.

Existing and Planned Uses

The primary land use in Miranda is residential. Other uses include South Fork High School and the Maranda CSD water, wastewater system, and fire department.

Land Use. The following tables describe the land within the Miranda ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	66
Multi Family Residential	36
Improved, Rural Residential 1-5 acre	32
Improved, Rural Residential 5-20 acre	33
Improved, Rural Residential >20 acre	157
Vacant Low/Medium Density Residential	57
Vacant Rural Residential	29
TPZ Improved	123
TPZ Vacant	48
Commercial	48
Public Land (Schools, Non Taxable)	332
Total	**962**

General Plan Land Use	Acres
AL 20	225
AL 40	17
AR (5-20)	199
CF	125
CR	9
CS	37
P	61
PF	26
RL	119
RL (1-5)	21
T	124
Total	**962**

Infrastructure and Services

There is one local agency service provider in Miranda, the Miranda Sanitary District (Miranda CSD) which provides water and wastewater service and structure fire protection services. Humboldt County maintains urban drainage facilities associated with County roadways in downtown Miranda.

Water System. The following information is from the Miranda CSD Municipal Service Review 2009, adopted 2013:

> The Miranda CSD supplies waters for domestic, irrigation, sanitation, commercial, fire protection and recreational uses. The District obtains its water from two wells located in the southwest portion of the CSD. The wells pump water from subsurface flow, flowing through sand and gravel layers beneath the South Fork of the Eel River. The wells are capable of providing 110 and 115 gpm.
>
> The District has approximately 135 existing water connections, with a total capacity of 150 connections. The average daily use is 55,000-60,000 gallons per day (gpd) and the maximum daily demand is 200,000 gpd during the late summer months of August and September.
>
> The District maintains two wells southwest of town, distribution piping, and a 200,000 gallon water tank. Of this capacity, approximately 85% (112,000 gallons) is currently being utilized.
>
> The Miranda CSD's water system is in fair condition. The existing system has no major deficiencies for serving the current population. However, given the District's current growth rate and the County's projections for future residential land demand, it is recommended that the District begin to consider options for increasing its current operating source capacity to accommodate future growth. Aging and/or impaired water pipes are replaced on an as needed basis. The District currently has no planned upgrades. Replacements and upgrades are completed on an as needed basis

Structure Fire Protection Services. The Miranda CSD provides structure fire protection services within the Miranda ULC. The Miranda Volunteer Fire Department (VFD) provides firefighting services through the Miranda CSD. The Miranda VFD has 12 firefighters and responded to 71 call for service in 2012. The Miranda VFD's apparatus include a 2004 Type-1 engine, a 1993 Type-3 engine, and our new 2005 Dodge diesel Type-4. Other specialized equipment consists of a 'Jaws-of-Life', rescue bags, a thermal imager, a 3000-gallon folding tank, and a floatable pump, according to the Humboldt County Fire Chiefs' Association 2012 Annual Report.

There Miranda CSD water system contains fire hydrants on the Miranda CSD , which serve an unknown portion of the ULC. The fire department must use water carried on fire engines and water tenders to extinguish structure fires that are located outside the hydranted area, as well as water that may be available on site. The Miranda VFD has a "7" ISO rating within the hydranted area, and "9" outside.

The Miranda CSD received $ 25,784 in revenue from property tax and other sources in the 2011-12 fiscal year (most recent reporting available through the State Controller's Office). All tax revenue is from one-percent property tax. The Miranda FPD does not have a special tax or assessment to supplement its property tax.

The average revenue from taxes and assessments for Humboldt County fire departments with less than 25 volunteer firefighters was approximately $45,000 in 2011-12, approximately 40 percent less than the annual revenue of the Miranda FPD. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. The Miranda CSD is responsible for collection, treatment, and disposal of the community's wastewater. The following information is from the Miranda CSD MSR, 2009:

> The District's wastewater collection facilities consist of small-diameter, gravity sewers to collect the effluent from individual septic tanks in the community. The wastewater collection system conveys wastewater to community septic tanks, where effluent is re-circulated and is treated by means of sand filters. The effluent is then chlorinated and stored in a settling pond located approximately 100 yard from the South Fork Eel River. The treated effluent leaches from the pond into gravel layers underlying the Eel River.
>
> In October of 2002, the Regional Water Quality Control Board (RWQCB) adopted Order No. R1-2003-008, which served to update the Miranda CSD's Waste Discharge Requirements and replaced the existing Order No. 86-93, issued in 1986.
>
> Given the most recent data provided to Humboldt LAFCo staff by the District, approximately 88 residents are serviced by the sewage collection system. The system has a design capacity of 46,000 gpd average dry weather flow and of this capacity; approximately 44% (26,400 gallons) is currently being utilized. The system could maintain an additional 112 sewer connections.

Storm Drainage. The Miranda ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600601725B) of the South Fork Eel River. The Avenue of the Giants Community Plan EIR states that "The 1964 flood … caused devastating effects throughout the watershed. A total of nineteen lives were lost and close to 100,000,000 dollars in damage occurred as a result of the flood... All of the communities along the South Fork were virtually devastated." Land within the 100-year flood plain is land is subject to Humboldt County Flood Hazard Regulations. Storm drainage associated with the Avenue of the Giants and County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the South Fork Eel River.

Needs and Deficiencies

- No public health problems or other limitations associated with the Miranda CSD water systems have been identified.
- No public health problems or other limitations associated with the Miranda CSD wastewater systems have been identified.
- The presence of a local agency facilitates ongoing local planning to address future funding needs for structure fire protection.

- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

Myers Flat

Location

Myers Flat is located 4.5 miles south of Weott. Myers Flat is located along Avenue of the Giants. And was originally adopted as a stage stop in 1867 known as Myers. The name Myers Flat was designated to distinguish from Myers in El Dorado County when the post office was established in 1949.

This ULC was mapped using the 2010 Myers Flat Census Designated Place boundary. The ULC contains the developed area of the Myers Flat FPD and the Myers Flat Mutual Water Company and the Myers Flat portion of the Avenue of the Giants Community Planning Area. There were a total of 110 housing units and 146 people in the approximately 314 acre Myers Flat ULC, based on the 2010 Census.

Existing and Planned Uses

Land Use. The following tables describe the land within the Myers Flat ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	28
Improved, Rural Residential 1-5 acre	4
Improved, Rural Residential 5-20 acre	5
Vacant Low/Medium Density Residential	7
Vacant Rural Residential	1
TPZ Improved	21
Commercial	44
Industrial	13
Public Land (Schools, Non Taxable)	190
Total	**314**

General Plan Land Use	Acres
AR (5-20)	43
CFR	93
CR	27
IG	13
P or US 101	138
Total	**314**

Infrastructure and Services

Water System. The Community Infrastructure and Technical Services Report, 2008, reports that the Myers Flat Mutual Water Association water supply consists of a well of unknown capacity and a surface

water source on Pete's Creek. Since then, the California Department of Public Health reports that the Myers Flat MWA received funding and has developed a new water supply well and storage stank. The system contains approximately six miles of distribution piping, consisting of PVC and galvanized steel pipe varying in size between 4 inches and 8 inches in diameter. It is unclear at this time how much capacity remains in the system to serve additional development.

Structure Fire Protection Services. The Myers Flat ULC is located within the 450 acre Myers Flat FPD. . According to the 2012 Humboldt County Fire Chiefs Association Annual Report, The Myers Flat Volunteer Fire Department has three full-time volunteers who serve approximately 200 residents. The Myers Flat FPD responds to calls in two fire engines: Engine 6931, at Type-3 engine, and Engine 6930, a Type-3 engine with CAFS, which was purchased in 2006. The Myers Flat FPD has a full set of RESCUE 42 stabilization struts, cribbing, a new state-of-the-art Sager Emergency Fracture Response System, a portable 2000-lumen LED scene light, as well as other medical equipment. According to the Auditor's Office, the Myers Flat FPD received approximately $10,500 in 2004 (2004-05 Fiscal Year Property Tax Allocation including the shift of funds from the Educational Revenue Augmentation Fund). In addition, Myers Flat VFD contracts out two 4-day weekends each summer and heads up the fire protection crew for music festivals in Northern Mendocino County. The department earns $1,000 for each event. These fund raisers generate one-fifth of the annual budget.

Wastewater. Community wastewater treatment and disposal is not available in the Myers Flat ULC . There is little additional subdivision potential within the Myers Flat ULC due to the application of the Conservation Flood Recreation land use designation which reflects the flood hazard. The nearest wastewater system is located in Weott approximately 5.5 miles north of Myers Flat, well beyond the feasible distance for service extension. The rate of population growth in Myers Flat over the last 20-30 years has been negligible. With less than 30 existing dwellings, the community could not itself feasibly fund the construction and operation of a wastewater treatment plans.

Storm Drainage. The Myers Flat ULC contains the 100-Year Flood Plain of Redwood and Somerville Creeks (FEMA FIRM Panel 0600601550B, and 0600601525B) which most of the area between U.S 101 and the South Fork Eel River. There are no developed storm drainage collection facilities within or adjacent to the Myers Flat ULC. Storm drainage associated State Route 254 and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the South Fork Eel River.

Needs and Deficiencies

- No public health problems have been with the Myers Flat water system have been identified; however, the community has indicated a desire to explore the formation of a public agency to govern system operation.
- Although wastewater service is not available in Myers Flat, its absence would not be considered a limitation on development or a public health concern.
- The presence of a local agency facilitates ongoing local planning to address future funding needs for structure fire protection.

- The flooding of the South Fork Eel River is a significant threat to life and property in this area. It would likely be infeasible to develop flood protections to mitigate flood risk. However, adherence to flood hazard regulations has been considered adequate to address this threat.

Fairhaven

Location

Fairhaven is located on the north spit of Humboldt Bay, approximately seven miles west of Eureka and approximately six miles south of Manila. This ULC was mapped using the existing General Plan Rural Exurban land use designation, which generally follows parcels lines comprising the core of the community. There are approximately 68 housing units and 154 people in the approximately 69 acre Fairhaven ULC based on 2010 Census Block data.

Existing and Planned Uses

Land Use. The following tables describe the land within the Fairhaven ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	59
Industrial	9
Public Land (Schools, Non Taxable)	1
Total	**69**

General Plan Land Use	Acres
RX	69
Total	69

Infrastructure and Services

There is one local agency service providers in Fairhaven, the Samoa-Peninsula Fire Protection District provides structure fire protection services. The Humboldt Bay Municipal Water District (HBMWD), whose boundaries include all of the greater Humboldt Bay area, provides retail water service within this area. Humboldt County maintains urban drainage facilities associated with County roadways in downtown Fairhaven. .

Water System. According to the HBMWD Municipal; Service Review, 2009, the District is primarily a wholesale water provider, serving the seven cities and districts that comprise the greater Humboldt Bay region. The District operates two separate transmission systems, an industrial water system and a domestic water system. The domestic system begins at the Korblex tank and delivers treated drinking water to the seven wholesale municipal customers and 180 retail customers served directly by the district in the communities of Fairhaven and Samoa. The MSR does not provide information regarding the condition and capacity of the water system serving Fairhaven. It is assumed that the HBMWD Fairhaven service area would be limited as to storage in the same way that the Manila area is limited.

The Community Infrastructure and Services Technical Report, the HBMWD water supply is not limiting for this or other portions of its service area.

Structure Fire Protection Services. The Samoa-Peninsula FPD provides structure fire protection services within the Fairhaven ULC. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Samoa Volunteer Fire Department is an all-volunteer department that provides fire and emergency medical services to the Samoa Peninsula Fire Protection District (FPD). The Samoa Peninsula FPD provides services to the communities of Fairhaven, Samoa, and Finntown, as well as a K-8 grade school, the Samoa Cookhouse, DG Fairhaven Power, an airport, a Coast Guard base, a county RV campground, a light industrial business park, and over 6 miles of recreational beach.

The Samoa-Peninsula FPD 18 volunteers train every Thursday night and put in many hours of additional training. We are the only County Department that has a residential sleeper program that can house six fulltime firefighter/EMT's. The District responded to 56 calls for service in 2012 using two Type 1 engines, one quick attack and a utility truck.

The Samoa-Peninsula FPD is the District that protects a population of 462. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Community wastewater treatment and disposal is not available in the Fairhaven ULC and all development uses on-site septic systems. The maximum allowable density in the Rural Exurban land use designation in Fairhaven is limited to current parcel configurations. The Humboldt Bay Area Plan states that "(t)his area, although divided into urban size parcels, has high groundwater and has severe septic system constraints. It is currently serviced with water provided by the Humboldt Municipal Water District. Creation of new parcels shall not be permitted." (Section 3.21.B.2.b) There are numerous vacant lots in Fairhaven. The Community Infrastructure and Services Technical Report, 2008, states that "…Fairhaven and other locations on the Humboldt Bay peninsula that utilize on site systems. In these locations the soils are beach sand and the current regulations require a 40 foot separation to groundwater due to the lack of fines. New development in this area will not occur unless the regulations are changed to reduce the separation requirement. This should be feasible as there is significant data available that shows that 2 feet of sand, similar to what is used in the design of Wisconsin mound systems provide adequate separation for effective treatment."

Storm Drainage. The Fairhaven ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600600775C) associated with Humboldt Bay. The Humboldt Bay Area Plan does not identify and specific flooding issues for the Fairhaven area. Storm drainage associated with County roads through this area consist of ditches and culverts that ultimately convey drainage to Humboldt Bay.

Needs and Deficiencies

- No public health problems or other limitations associated with the HMBWD water system have been identified.
- High groundwater is considered to be a severe limitation on development.
- The presence of a local agency can facilitate ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

Orick

Location

The Orick ULC is the northern most coastal community in Humboldt County. Orick is located along US 101, approximately 16 miles south of the Humboldt County line and approximately 30 miles north of McKinleyville. This ULC was mapped using the 2010 Orick Census Designated Place boundary. The ULC contains the developed area of the Orick Community Services District (CSD). There were a total of 138 housing units and 315 people in the approximately 3,110 1acre Orick ULC, based on the 2010 Census.

Existing and Planned Uses

Land Use. The following tables describe the land within the Orick ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	227
Multi Family Residential	11
Improved, Rural Residential 1-5 acre	23
Improved, Rural Residential 5-20 acre	77
Improved, Rural Residential >20 acre	72
Vacant Low/Medium Density Residential	17
Vacant Rural Residential	248
TPZ Improved	486
TPZ Vacant	261
Commercial	134
Industrial	119
Public Land (Schools, Non Taxable)	1,455
Total	**3,131**

General Plan Land Use	Acres
AE	345
AEP(60)	435
AG(20)	123
AG(5)	142

General Plan Land Use	Acres
AL	181
AR	62
AS	93
AS(5)	2
CG	47
CR	54
IR	35
NR	135
P	581
PF	141
PR	72
RL	40
RL(3-7 U/AC)	1
ROAD	33
RR	323
RX(2.5)	12
T	22
TC	92
TC(160)	120
(blank)	40
Total	**3,131**

Infrastructure and Services

There is one local agency service provider in Orick, the Orick Community Services District (Orick CSD) which provides water service and structure fire protection services The Orick CSD was formed in 1955. The Orick CSD has the authority to provide wastewater services and is in the process of planning the development of a wastewater collection and treatment system for the community. There are no drainage facilities, other than those located within County roadways.

Water System. The following information is from the Orick CSD Municipal Service Review

> "The initial Orick CSD water system was built in 1977-1978 with funds obtained from the State of California under the Davis-Grunsky Program and the Farmers Home Administration at a cost of approximately $400,000. The initial construction of the water system served most of the residents of the Orick Community. At the time of planning the existing system, the need for water to service the area south of Orick was recognized but funding availability forced the curtailment of the project. Funding for the extension of the system was granted with aid from Redwood National Park in 1983.
>
> The original system consisted of two 60 foot wells with 10 hp submersible pumps, a 100,000 gallon redwood storage tank, and 8-inch, 6-inch, and 4-inch distribution lines. In 1978, an 8-inch line was extended southwest along the north side of U.S. 101 in anticipation of the 1987

expansion. The 8-inch line was extended west past Hilton Road to the National Park Service Visitors' Center in 1987.

Currently there are 140 active service connections including 120 residential and 20 commercial/industrial. The District also provides water services to the Redwood National Park Visitors' Center. The Orick CSD retailed approximately 17 million gallons of drinking water in 2003 according to the 2007 DHS annual inspection report. The District does not maintain average daily use and maximum daily use statistics. However, from the DHS annual production data, it is estimated that average daily use for the entire District was approximately 0.047 MGD, and the District estimates peak daily use is approximately 0.216 MGD. Approximately 73% of Orick households are serviced with water. Some homes in the northern area of the community are not served with water as they are outside the CSD boundaries.

Orick's water system is in good condition. An infrastructure deficiency associated with the existing system is lack of storage capacity. The storage tanks are constructed of redwood and will likely need either rehabilitation or replacement within the planning period. The Orick USA and WSA are expected to receive up to 66 new housing units before reaching build- out conditions. Orick will need to expand its water system infrastructure to serve this additional growth.

Orick's water system has limited source capacity from its wells with respect to availability of connections. Source capacity is limited by the existing pumps and is approximately 0.274 MGD if the pumps are operated 24 hours per day. Given existing maximum day demands are estimated at 0.216 MGD, the system is operating at approximately 79% of source capacity. Therefore, there are approximately 37 available connections under the existing infrastructure. Additional source capacity could be achieved through the installation of larger pumps at the existing well."

Structure Fire Protection Services. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Orick Volunteer Fire Department provides fire protection and medical aid services to the community of Orick and the surrounding area through the Orick Community Services District. The Orick VFD has 10 volunteers (below the average of 16 firefighters for the County's all-volunteer departments). The Orick VFD responded to 92 incidents using one Type 1 engine, quick attack, rescue unit, and a water tender. There are 22 fire hydrants on the Orick CSD water system that cover an area of the District of approximately 790 acres within 1,000 feet of the hydrants. The fire department must use water carried on fire engines and water tenders to extinguish structure fires that are located outside the hydranted area, as well as water that may be available on site. The Orick VFD has a "7" ISO rating within the hydranted area, and "9" outside. The OVFD is made up of 10 volunteers and has mutual aid agreements with CAL FIRE and Redwood National Park. We have training 1 ½ hours a week, with part of that training for equipment maintenance. We have one fundraiser a year—our booth at the Orick Rodeo. Our community supports us greatly.

The Orick CSD received $ 36,298 in property tax revenue in the 2011-12 fiscal year that was dedicated to fire protection services (most recent reporting available through the State Controller's Office). The average revenue from taxes and assessments for Humboldt County fire departments with less than 25

volunteer firefighters was approximately $45,000 in 2011-12, approximately 45 percent greater than the annual revenue of the Orick CSD. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Wastewater in Orick is treated using on-site septic systems. According to the Draft Environmental Impact Report for the Orick Wastewater Project, 2011, "a pollution study completed in October 1999 determined that surface and shallow groundwater in Orick, is polluted by an indeterminate number of (failing?) existing, privately owned on-site wastewater systems (OLA, 1999). These systems are comprised of a variety of septic tanks, leachfields, and leach pits. The study found pollution (surfacing effluent, odor nuisance, etc.) to be widespread, not confined to any specific area, and attributable to many sources. The study further concluded that the existing on-site wastewater systems potentially pose a public health hazard and may impair future development within the area." "In 2004, SHN Consulting Engineers & Geologists, Inc. (SHN) completed a feasibility study to develop alternatives capable of handling the community's wastewater needs, and to determine the most efficient wastewater system for the Orick community"

The Orick CSD is proposing to construct a wastewater system capable of handling the community's current and reasonably foreseeable projected wastewater treatment and disposal needs, in an economically and environmentally efficient manner for long-term use, with operation and maintenance costs remaining affordable to the Orick community residents. At this time, it is unknown whether or not the Orick CSD will be able to secure the funding necessary to construct a wastewater system.

Storm Drainage. The Orick ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600600150B) of Redwood Creek and its tributaries. Humboldt County maintains a levee system along Redwood Creek protecting the community of Orick. According to the Redwood Creek Levee Geotechnical Evaluation Project CGI Technical Services, Inc, 2011, "(t)he Redwood Creek levee system extends from about one-half mile upstream of Orick for approximately 3.4 miles through the lower Orick Valley to Pacific Ocean." "In August 2009, (the Federal Emergency Management Agency) released the preliminary updated (Flood Insurance Rate Map-FIRM) and (Flood Insurance Study-FIS) for…the Redwood Creek levee system. It is our (the authors of the project report) understanding that the Redwood Creek levee system is not accredited on the preliminary updated FIRM because FEMA has not received a complete documentation package demonstrating eligibility for certification." The Redwood Creek Levee Geotechnical Evaluation found that "(b)ased on the results of our evaluations, it is our opinion that geotechnical stability aspects of the levee system are likely certifiable under FEMA and (US Army Corps of Engineers-USACE) standards provided the (Emergency Response Plans) are prepared and additional transient analyses are performed with results conforming to USACE thresholds. Humboldt County continues to work to complete the documentation required to achieve FEMA certification for the Orick levees.

Needs and Deficiencies

- No public health problems or other limitations associated with the Orick CSD water system have been identified.
- High groundwater is considered to be a severe limitation on development.
- The presence of a local agency can facilitate ongoing local planning to address future funding needs for structure fire protection.
- The flooding of Redwood Creek is a significant threat to life and property in this area. Future action by FEMA regarding levee certification is critical. Adherence to flood hazard regulations would be considered adequate to address this threat.

Orleans

Location

The Orleans ULC is the northern most inland community in Humboldt County. Orleans is located along State Route 96, approximately seven miles south of the Humboldt County line and approximately 37 miles north of Willow Creek.

This ULC was generally mapped to include the entire Orleans CSD boundary and extending east and west beyond the CSD boundary to include approximately 900 acres to include developed areas that identify as part of Orleans. There were a total of 250 housing units and 425 people in the approximately 1,950 acre Orleans ULC, based on the 2010 Census Blocks within the ULC.

Existing and Planned Uses

Land Use. The following tables describe the land within the Orleans ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	166
Multi Family Residential	9
Improved, Rural Residential 1-5 acre	56
Improved, Rural Residential 5-20 acre	99
Improved, Rural Residential >20 acre	144
Vacant Low/Medium Density Residential	21
Vacant Rural Residential	322
TPZ Improved	181
TPZ Vacant	151
Commercial	42
Industrial	75
Public Land (Schools, Non Taxable)	677
Total	**1,943**

General Plan Land Use	Acres

CPA	1943
P	0
Total	**1,943**

Infrastructure and Services

There is one local agency service provider in Orleans, the Orleans Community Services District (Orleans CSD) which provides water service and structure fire protection services The Orleans CSD was formed in 1955. The Orleans CSD has the authority to provide wastewater services and is in the process of planning the development of a wastewater collection and treatment system for the community. There are no drainage facilities, other than those located within County roadways.

Water System. The following information is from the Orleans CSD Municipal Service Review

> According to the 2005 CDPH annual inspection report, Orleans CSD retailed approximately 26 million gallons of drinking water. Average daily use for the District is estimated at 71,000 gpd, and peak daily use is estimated at approximately 51,000 gpd. The Orleans WSA has approximately 149 active connections and 15 inactive connections, and many of the active connections share water usage with additional water large water users, such as orchards, vineyards, and the Forest Service, within the system, and their usage rates amount to only approximately 60,000 gpd during summer months.
>
> **Capacity**
>
> Availability of connections within the Orleans water system is limited by treatment capacity. Source capacity is reportedly not an issue. Treatment capacity is estimated at 49,500 gpd if the filters are operated 22 hours per day (allows time for backwash cycle). Existing maximum day demands are estimated at 513,000 gpd. However, the filters have a combined recommended capacity of 375 gallons per minute (gpm) but DHS has indicated that they could be loaded at a combined rate of 450 gpm while still meeting all applicable standards. Therefore, current peak water use is estimated at approximately 79% of available treatment capacity. Based on the County's assessment; there are no available connections under the existing infrastructure.
>
> Orleans CSD needs an additional water tank to increase storage capacity and to provide water to new development that is anticipated to occur adjacent to the district. The District plans to a new water filter and all apparatuses, and plans to extend the main water line to install three new fire hydrants.
>
> Availability of connections within the Orleans water system is currently limited by treatment and storage capacity. The District is operating at approximately 79% of available treatment capacity. Under the existing infrastructure, there are no available connections. Approximately one mile of the water pipes within the district are undersized for adequate fire flows and or are in need of replacement.

Structure Fire Protection Services. Humboldt County Board of Supervisors Resolution 77-176, which formed the Orleans CSD listed "protection against fire" and "public recreation" as purposes for which

the district was formed. The Orleans CSD has never exercised its authority to provide these services and the 2008 Humboldt LAFCo Municipal Service Review identified water service as the only service that the District is authorized to provide. As a result, there is no local agency authorized to provide fire protection services to the Orleans ULC.

According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, The Orleans Volunteer Fire Department (OVFD) was incorporated in 1968 to provide fire protection to the Orleans-Somes Bar area. We provide fire and ALS/BLS medical service to the lower-middle Klamath River community. Our response area extends south from Orleans to two miles north of Weitchpec, and north along Highway 96 to Ti-Bar in Siskiyou County. The department maintains a 1985 Kenworth Type-1 Structure Engine, a 1985 Ford F800 Type-3 Wildland Engine, a1973 Kenworth 3,500 gallon water tender, and a 1988 Ford F250 Walk-in Rescue Rig. There are 30 fire hydrants on the Orleans CSD water system that cover an area of approximately 1,000 acres within 1,000 feet of the hydrants of the ULC. The Orleans VFD has a "5" ISO rating within the hydranted area, and "9" outside.

Volunteer fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters. Because the Orleans VFD is not considered to be associated with a local agency it is not eligible to receive property tax revenue and has no ability to raise revenue through special taxes or special assessments, the primary sources of ongoing revenue for fire protection. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Community wastewater treatment and disposal is not available in the Orleans ULC . There are no community wastewater systems within 30 miles of Orleans, let alone within a feasible distance for service extension. The maximum allowable density in ULC is four dwelling unit per acre, based on the 1966 Northern Humboldt General Plan. However, without community wastewater treatment, the maximum feasible density that would meet all on-site septic set back requirements is typically one dwelling unit per acre.

Storm Drainage. The Orleans ULC is shown as Zone D on the flood plain map and contains the un-mapped flood plain of the Klamath River and its tributaries (FEMA FIRM Panel 0600600250B). The Zone "D" designation is used for areas where there are possible but undetermined flood hazards, as no analysis of flood hazards has been conducted. Orleans is located along the banks of the Klamath River and susceptible to river flooding. The 1964 flood resulted in substantial flood damage the destroyed bridges and isolated the community.

Needs and Deficiencies

- The Orleans CSD has identified water storage as a need.
- Although wastewater service is not available in Orleans, its absence would not be considered a limitation on development or a public health concern.
- The lack of ongoing revenue to support fire protection services has been identified as a problem for Humboldt County fire protection service providers, especially those providers not associated with a local agency. The communities served by the Orleans VFC should be encouraged to

follow the example of Briceland and Bridgeville to seek voter approval to form a district and establish an ongoing funding source through a special assessment or tax.

- The flooding of the Klamath River is a significant threat to life and property in this area. It would likely be infeasible to develop flood protections to mitigate flood risk. However, adherence to flood hazard regulations would be considered adequate to address this threat.

Petrolia

Location

Blocksburg is located in south western Humboldt County near the Mattole River on the Mattole Road, approximately 30 miles south of Ferndale and approximately 35 miles west of Weott. This ULC was mapped using the proposed General Plan Update Village Center, Residential Estates, and Rural Residential boundary, which generally follows parcels lines comprising the core of the community. The only local service providers within the ULC and Petrolia are the Petrolia FPD and the Aetolia Cemetery District. Petrolia is not located within a Community Plan area. There are approximately 49 housing units and 76 people in the approximately 100 acre Blocksburg ULC based on Census 2010 Block data.

Existing and Planned Uses

Land Use. The following tables describe the land within the Petrolia ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	74
Improved, Rural Residential 1-5 acre	10
Improved, Rural Residential 5-20 acre	56
Improved, Rural Residential >20 acre	19
Vacant Rural Residential	15
TPZ Improved	7
Public Land (Schools, Non Taxable)	91
Total	**272**

General Plan Land Use	Acres
AG	234
RCC	37
Total	**272**

Infrastructure and Services

Water System. There is no community water system in Petrolia. Residential, commercial, and agricultural land uses produce drinking and agricultural water through on-site water systems. Surface water flows are limited in the Mattole watershed and groundwater may be available through the

Mattole River Valley Groundwater Basin, however limited information is available. Parcels must be large enough to meet the setback requirements to septic systems and property lines and demonstrate to the satisfaction of County standards that adequate water is present on site.

Structure Fire Protection Services. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Petrolia Volunteer Fire Department provides fire protection and medical aid services to the community of Petrolia and the surrounding area through the Petrolia FPD. The Petrolia FPD fire station is located at 98 Sherman Street. There are no public water providers within the district and no fire hydrants. Water for firefighting is provided by the District water tender and drafted by from tanks, ponds, creeks, and pools. The Petrolia VFD has 18 volunteers (above the average of 16 firefighters for the County's all-volunteer departments). The Petrolia VFD responded to 61 incidents using one Type 1 engine, two wild land type 3 engines one quick attack, one rescue unit, and a water tender. There is no municipal water system and no fire hydrants in the Petrolia ULC. The fire department must use water carried on fire engines and water tenders to extinguish structure fires, as well as water that may be available on site. The Petrolia VFD has a "9" ISO rating within five miles of the fire station, and "10" outside.

The Petrolia FPD received $ 31,632 in property tax revenue in the 2011-12 fiscal year that was dedicated to fire protection services (most recent reporting available through the State Controller's Office). The average revenue from taxes and assessments for Humboldt County fire departments with less than 25 volunteer firefighters was approximately $45,000 in 2011-12, approximately 45 percent greater than the annual revenue of the Orick CSD. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Community wastewater treatment and disposal is not available in the Petrolia ULC . The maximum allowable density in the Rural Community Center land use designation is 2.5 dwelling units per acre or one dwelling unit per acre if sewer is available. The nearest wastewater system is located in Ferndale approximately 30 miles north of Petrolia, well beyond the feasible distance for service extension. The rate of population growth in Blocksburg over the last 20-30 years has been negligible. With less than 20 existing dwellings, the community could not itself feasibly fund the construction and operation of a wastewater treatment plans.

Storm Drainage. The Petrolia ULC is within the 100-Year Flood Plain (FEMA FIRM Panel 0600601450B) of the Mattole River, North Fork Mattole River and Mill Creek flood plains. There are no developed storm drainage collection facilities within or adjacent to the Petrolia ULC. Storm drainage associated the Mattole Road and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Mattole River through creeks and drainages.

Needs and Deficiencies

- Public health problems associated with on-site water have not been identified for the Petrolia ULC, however, surface water supply is considered to be severely limited.

- Although wastewater service is not available in Petrolia, its absence would not be considered a limitation on development or a public health concern.
- The lack of ongoing revenue to support fire protection services has been identified as a problem for Humboldt County fire protection service providers. The presence of a local agency can facilitate ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern not already addressed by local land use regulations.

Phillipsville

Location

Phillipsville is located on the South Fork Eel River in the southern Humboldt County along the Avenue of the Giants, approximately nine miles north of Garberville and approximately 41 miles south of Fortuna. This ULC was mapped using the 2010 Phillipsville Census Designated Place boundary. The ULC contains the entire Phillipsville CSD boundary, all of the developed area of the Phillipsville portion of the Avenue of the Giants Community Planning Area. There were a total of 43 housing units and 77 people in the approximately 486 acre Phillipsville ULC, according to the 2010 Census.

Existing and Planned Uses

Land Use. The following tables describe the land within the Phillipsville ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	12
Multi Family Residential	3
Improved, Rural Residential 1-5 acre	26
Improved, Rural Residential 5-20 acre	46
Improved, Rural Residential >20 acre	21
Vacant Low/Medium Density Residential	5
Vacant Rural Residential	19
TPZ Improved	22
TPZ Vacant	38
Commercial	2
Public Land (Schools, Non Taxable)	293
Total	**486**

General Plan Land Use	Acres
AL 20	0
AR (5-20)	196
CFR	167
CR	22

HWY 254	16
P	77
PF	0
RL (1-5)	2
T	7
Total	**486**

Infrastructure and Services

There is one local agency service provider in Phillipsville, the Phillipsville CSD which provides drinking water to approximately 65 connections based on the Community Infrastructure and Services Technical Report (Winzler and Kelly, 2008). The Phillipsville Volunteer Fire Company (VFC) provides structural fire protection to the community, but is not a local agency and only receives revenue from donations. There is no wastewater service provider in this community and no drainage facilities, other than those located within the County roadways.

Water System. The Phillipsville CWD has had a history of compliance issues with the State Surface Water Treatment Rules. As a result of this condition, CDPH provided grant funding to comply with safe drinking water regulations and meet expected demand. The project included rehabilitation of existing well and springhead; installation of a new 5,000 gallon chlorine contact basin; construction of a new 100,000 gallon storage tank and replacement of existing pipelines; replacement of components of the transmission lines and water services along service area roadways. The project was completed in 2012. The improvements were designed to serve existing development plus ten percent additional capacity to accommodate some growth. CDPH reports issues with the system remain relating to the turbidity of water that feeds a spring that serves the upper portion of the District and the need for additional storage. The drinking water system is adequate for current needs and does not have significant deficiencies.

Structure Fire Protection Services. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, the Phillipsville VFC has a total of 3 volunteers and 10 auxiliary personnel (substantially below the average of 16 firefighters for the County's all-volunteer departments), one wildland engines and a water tender. The Phillipsville VFC responded to 39 incidents in 2012. The Phillipsville CSD water system has a limited number of wharf style hydrants which provide limited fire flow. The Phillipsville VFC has a "10" ISO rating.

Volunteer fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters. Because the Phillipsville FC is not associated with a local agency it is not eligible to receive property tax revenue and has no ability to raise revenue through special taxes or special assessments, the primary sources of ongoing revenue for fire protection. . The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Community wastewater treatment and disposal is not available in the Phillipsville ULC . The maximum allowable density in the in the Phillipsville ULC is found in the portion planned Residential

Low Density 1-5 dwelling units per acre. The nearest wastewater system is located in Redway approximately 8 miles south of Phillipsville, well beyond the feasible distance for service extension. The rate of population growth in Phillipsville over the last 20-30 years has been negligible. With only 65 water service connections, the community could not feasibly fund the construction and operation of a wastewater treatment plans itself.

Storm Drainage. Almost all of the Phillipsville ULC west of State Route 254 is located within the 100-Year Flood Plain (FEMA FIRM Panel 0600601725B) of the South Fork Eel River. Flooding was a major issue in planning for the Phillipsville community and the most of the 100-year flood plain was designated Conservation Flood Recreation through the Avenue of the Giants Community Plan, 2000, and the Southern Humboldt General Plan, 1968. There are no developed storm drainage collection facilities within or adjacent to the Phillipsville ULC. Storm drainage associated the Phillipsville Road and other County roads through the community site consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the South Fork Eel River.

Needs and Deficiencies

- No public health problems have been with the Phillipsville water system have been identified
- Although wastewater service is not available in Phillipsville, its absence would not be considered a limitation on development or a public health concern.
- The lack of ongoing revenue to support fire protection services has been identified as a problem for Humboldt County fire protection service providers, especially those providers not associated with a local agency. The communities served by the Phillipsville VFC should be encouraged to follow the example of Briceland and Bridgeville to seek voter approval to form a district and establish an ongoing funding source through a special assessment or tax.
- The flooding of the South Fork Eel River is a significant threat to life and property in this area. It would likely be infeasible to develop flood protections to mitigate flood risk. However, adherence to flood hazard regulations has been considered adequate to address this threat.

<u>Port Kenyon/Arlynda/Meridian</u>

Location

The Port Kenyon/Arlynda/Meridian area ULC is located in north and west of the City of Ferndale along Port Kenyon and Meridian Roads. This ULC was mapped using the Riverside CSD boundary, plus the Arlynda Corners area to the west. There are two local agency service providers within the ULC, the Riverside CSD, which provides domestic water service and the Ferndale Fire Protection District, which provides fire protection services to the ULC and the surrounding area. There are approximately 113 housing units and people in the approximately 808 acre Port Kenyon/Arlynda/Meridian ULC based on parcel information.

Existing and Planned Uses

Land Use. The following tables describe the land within the Port Kenyon/Arlynda/Meridian area ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	83
Multi Family Residential	34
Improved, Rural Residential 1-5 acre	12
Improved, Rural Residential 5-20 acre	22
Improved, Rural Residential >20 acre	110
Vacant Low/Medium Density Residential	20
Vacant Rural Residential	30
Commercial	2
Industrial	10
Public Land (Schools, Non Taxable)	485
Total	**808**

General Plan Land Use	Acres
AE	573
AG	124
CG	3
NR	2
PF	11
RL	24
RX	71
Total	**808**

Infrastructure and Services

Water System. According to the Riverside CSD Municipal Service Review, the District provides domestic water to approximately 100 existing service connections from two gravity fed artesian wells and one deep well with a maximum production capacity of approximately 74,000 gallons of water a day. The artesian wells are capable of producing approximately 22 gallons per minute (gpm), and the deep well produces about 30 gpm. Existing maximum day demands are estimated at 46,000 gallons, which means the system is operating at approximately 62% of source capacity.8 Based on present and projected water use levels; Riverside CSD has the ability to meet the water demands of development under the maximum build-out estimate without the need to supplement supplies or storage and delivery systems.

The District's water distribution system consists of approximately 5 miles of mainly PVC pipe (2-inch to 4-inch) with very little AC pipe and some galvanized steel pipe used to cross the Salt Creek Bridge at Dillon Creek. The District's deep well can only be used as an auxiliary well due to high manganese content. Also, the District does not currently have any fire hydrants and due to small main size and low

pressure, and lack of storage, the system is not capable of providing flows of sufficient volume or pressure for fire suppression uses.

The Del Oro Water Company provides water service to the Arlynda Corners area. The Del Oro Water Company is a public utility that is regulated by the California Public Utilities Commission and provides water to approximately 750 residential, commercial, and government connection in the City of Ferndale and surrounding area. The water system Arlynda Corners area is located at the end of the distribution system and consists of 8 inch PVC pipe, most of which is generally in good condition.

Structure Fire Protection Services. The Port Kenyon/Arlynda/Meridian area ULC is located within the 29,000 acre Ferndale FPD boundary. According to the 2012 Humboldt County Fire Chiefs Association Annual Report, the Ferndale FPD, through the 35 member Ferndale VFD, responded to 172 calls for service using one Rescue Truck, one Type-1 Engine, two Type-2 Engines, two Water Tenders, a Quick Attack Truck and other assorted equipment. The water system in the ULC does not have fire hydrants with adequate capacity to support fire suppression. The fire department must use water carried on fire engines and water tenders to extinguish structure fires, as well as water that may be available on site. Hydrants are available in the Arlynda Corners area on the Del Oro Water Company system. The Ferndale VFD maintains an "8B" ISO rating within the Port Kenyon/Arlynda/ Meridian area ULC.

The Ferndale FPD received $ 150,000 in property tax revenue in the 2011-12 fiscal year to support fire protection services (most recent reporting available through the State Controller's Office), plus approximately $31,000 in revenue from a special assessment that is used to periodically replace fire engines. The special assessment is apportioned based on a charge of $5 per unit of benefit, whereby vacant parcels pay one unit of benefit or $5, improved residential parcels pay four units of benefit or $20, rural residential parcels pay six units of benefit or $30, and commercial parcels pay twelve units of benefit or $60.

Wastewater. Community wastewater treatment and disposal is not available in the Port Kenyon or the Meridian portion of the ULC. The Humboldt County Department of Environmental Health reports that this area is subject to high groundwater levels that can affect the type and design of on-site septic systems. The City of Ferndale provides wastewater service to lots within the Arlynda Corners area. The Eel River Area Plan does not allow subdivision of parcels within this ULC. Therefore future development will be limited to vacant lots. The nearest wastewater system is located in Ferndale approximately 2.5 miles from the furthest point in the ULC. Although portions of the ULC may be within a feasible distance for wastewater service extension, the policies of the Eel River Area Plan would likely not support such improvements.

Storm Drainage. The Port Kenyon/Arlynda/Meridian area ULC contains the 100-Year Flood Plain of the Salt River and the Eel River and their tributaries (FEMA FIRM Panel 0600601085B) which affect most parcels located north of Centerville Road. There are no developed storm drainage collection facilities within or adjacent to the Blocksburg ULC. Storm drainage associated the Port Kenyon, Meridian, and Centerville Roads and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to Redwood Creek.

Needs and Deficiencies

- No public health problems or other limitations associated with the water systems serving the Port Kenyon/Arlynda/Meridian area ULC have been identified.
- Although wastewater service is not available in Port Kenyon/Arlynda/Meridian area ULC, its absence would not be considered a limitation on development or a public health concern.
- This community recently voted to increase the special tax that supports structure fire protection services. The presence of a local agency facilitates ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern not already addressed by local land use regulations.

Redcrest

Location

Redcrest is located in southern Humboldt County along the Avenue of the Giants, approximately 21 miles south of Fortuna and approximately 31 miles north of Garberville. This ULC is mapped using Census Designated Place boundaries. There were approximately 21 housing units and 45 people in the approximately 385 acre Redcrest ULC, based on the 2010 Census.

Existing and Planned Uses

Land Use. The following tables describe the land within the Redcrest ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	9
Multi Family Residential	6
Improved, Rural Residential 1-5 acre	7
Improved, Rural Residential 5-20 acre	7
Improved, Rural Residential >20 acre	31
Vacant Low/Medium Density Residential	1
Vacant Rural Residential	8
TPZ Improved	49
TPZ Vacant	110
Commercial	16
Industrial	24
Public Land (Schools, Non Taxable)	117
Total	**384**

General Plan Land Use	Acres
AE	45
AL 40	48

AR (5-20)	24
CR	23
IG	53
P	1
PF	28
RL	8
T	154
Total	**384**

Infrastructure and Services

Water System. There is a water system in Redcrest operated by the private Redcrest Water Works. Residential, commercial, and agricultural land uses produce drinking and agricultural water through on-site water systems. The County Department of Health and Human Services Land Use Program does not indicate that there are any significant area-wide limitations restricting the development of on-site water systems in the Redcrest. However, parcels must be large enough to meet the setback requirements to septic systems and property lines and demonstrate to the satisfaction of County standards that adequate water is present on site.

Structure Fire Protection Services. There is no local agency responsible for fire protection in Redcrest. According to the Humboldt County Community Wildfire Protection Plan, Redcrest is within the response area of the Redcrest VFC. See the Redcrest ULC for a discussion of the Redcrest VFC.

Redcrest is located approximately two miles from Redcrest. There are no fire hydrants within Redcrest. As a result, the Redcrest VFC must rely on the tank water carried on their fire engines and on-site water tanks that may be available near the fire. The Redcrest VFC has an ISO rating of "10".

Wastewater. Community wastewater treatment and disposal is not available in the Redcrest ULC . The maximum allowable density for the AE land use designation is one dwelling unit per 20 acres. Parcels within the Redcrest ULC range in size from 0.1 acres to 45 acres. The nearest wastewater system is located in Scotia, approximately 11 miles north of Redcrest, well beyond the feasible distance for service extension.

Storm Drainage. The Redcrest ULC is located entirely the 100-Year Flood Plain (FEMA FIRM Panel 0600601340B and 0600601345B) of the Eel River and all land is subject to Humboldt County Flood Hazard Regulations. There are no developed storm drainage collection facilities within or adjacent to the Redcrest ULC. Storm drainage associated the Alderpoint Road and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Eel River.

Needs and Deficiencies

- Public health problems or extraordinary supply limitations have not been identified for the Redcrest ULC or surrounding area.
- Although wastewater service is not available in Redcrest, its absence would not be considered a limitation on development or a public health concern.

- The lack of ongoing revenue to support fire protection services has been identified as a problem for Humboldt County fire protection service providers, especially those providers not associated with a local agency. The communities served by the Redcrest VFC should be encouraged to follow the example of Briceland and Bridgeville to seek voter approval to form a district and establish an ongoing funding source through a special assessment or tax.
- The flooding of the Eel River is a significant threat to life and property in this area. It would likely be infeasible to develop flood protections to mitigate flood risk. However, adherence to flood hazard regulations would be considered adequate to address this threat.

Redway

Location

Redway is located on the South Fork Eel River several miles north of Garberville. This ULC was mapped using the 2010 Redway Census Designated Place boundary. The ULC contains the entire Redway Sanitary District (Redway CSD) and the Redway portion of the Garberville Redway-Benbow-Alderpoint (G-R-B-A) Community Planning Area. There were a total of 492 housing units and 1,024 people in the approximately 807 acre Redway ULC, based on the 2010 Census.

Existing and Planned Uses

Land Use. The following tables describe the land within the Redway ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	224
Multi Family Residential	54
Improved, Rural Residential 1-5 acre	6
Improved, Rural Residential 5-20 acre	1
Improved, Rural Residential >20 acre	1
Vacant Low/Medium Density Residential	48
Vacant Rural Residential	2
TPZ Improved	1
TPZ Vacant	17
Commercial	20
Public Land (Schools, Non Taxable)	434
Total	**807**

General Plan Land Use	Acres
AL	0
AL(40)	3
AR(5-20)	305
CG	32

CS	37
HWY 101	1
IG	11
P	4
PF	18
RL	360
RM	14
T	24
Total	**807**

Infrastructure and Services

There are two local agency service providers in Redway; the Redway CSD which provides water and wastewater service and the Redway Fire Protection District provides structure fire protection services. Humboldt County maintains urban drainage facilities associated with County roadways in downtown Redway.

Water System. The following information is from the Redway CSD Municipal Service Review, adopted 2008:

> The sources of water consist of an infiltration gallery located on the banks of the South Fork of the Eel River and an unnamed spring. The gallery has a reported capacity of 550 gallons per minute (gpm), or 792,000 gallons per day (gpd). The maximum production for the spring is historically around 46,000 gpd. Total source capacity is estimated at 838,000 gpd. However, the water treatment plant design capacity is limited to 770,000 gpd.
>
> The total capacity of the two District storage tanks is approximately 375,000 gallons. The District has a 275,000 gallon welded steel tank and a 100,000 gallon tank at a higher elevation that provides storage for the Meadows Industrial Park. The District maintains approximately 25 miles of distribution piping ranging in size from 1 ½ inches to 10 inches and consisting of iron, cement, and plastic pipe. Approximately 0.5 miles of distribution system piping is undersized for adequate fire flows and/or in need of replacement.
>
> The District has approximately 600 existing service connections and does not retail water to any other Districts. According to the District, they produce approximately 60 million gallons of drinking water per year. Average daily use was approximately 175,000 gpd, and peak daily use was approximately 419,000 gpd in 2006. Peak daily use was reported in a storage analysis performed by Spencer Engineering for the District as 475,000 gpd.

Structure Fire Protection Services. The Redway Volunteer Fire Department (VFD) is an all-volunteer department that provides firefighting services to the Redway Fire Protection District. The Department has eleven members and two Type-1 structure engines, one 2,000 gallon water tender, one Type-4 quick attack engine, and one utility vehicle. The Redway VFD responded to 129 incidents in 2012. There are 53 fire hydrants on the Redway CSD water system that cover the entire developed area of the ULC within 1,000 feet of the hydrants. The fire department must use water carried on fire engines and water

tenders to extinguish structure fires that are located outside the hydranted area, as well as water that may be available on site. The Redway VFD has a "5" ISO rating within the hydranted area, and "9" outside.

The Redway FPD received $82,479 in property tax revenue in the 2011-12 fiscal year (most recent reporting available through the State Controller's Office). All tax revenue is from one-percent property tax. The Redway FPD does not have a special tax or assessment to supplement its property tax.

The average revenue from taxes and assessments for Humboldt County fire departments with less than 25 volunteer firefighters was approximately $45,000 in 2011-12, approximately 40 percent less than the annual revenue of the Redway FPD. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. According to the 2008 Municipal Service Review, the District's collection system incorporates both gravity mains and five lift stations, and one aerial crossing to connect the Eel River Conservation Camp to the Redway wastewater treatment plant (WWTP). The WWTP includes a 300,000 gallon oxidation ditch, clarification, and a chlorination/dechlorination system. Effluent is primarily discharged to upland percolation ponds located on land owned by the District, but flows to these ponds are limited by transmission capacity. Therefore, when wintertime flows exceed 350,000 gpd, effluent flows are diverted to the Eel River for disposal. Dried sludge is buried on District-owned land near the plant.

There are approximately 545 residential connections to the WWTP, with a total population of 1,230 persons (Redway Wastewater Treatment Facility Capacity Analysis, Water Works Engineers, 2007). There are approximately 15 commercial establishments connected to the WWTP. The wastewater systems average flow ranges between 140,000 gpd during dry weather and 430,000 gpd during wet weather. The facility has a permitted dry weather design flow of 186,000 gpd and a peak wet weather design flow of 615,000 gpd. Therefore the facility is currently operating at approximately 75% capacity with respect to both dry weather and wet weather capacities.

The District's wastewater system was under an administrative civil liability (ACL) order for effluent limit violations. In June 2008, a compliance project was completed and accepted that involved converting a clarifier to a sludge thickener to improve suspended solids removal and general performance at the plant.

Storm Drainage. The Redway ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600601715B, 0600601830B, and 0600601835B) of the South Fork Eel River. The G-R-B-A Community Plan and EIR does not identify and specific flooding issues for the Redway area. The flood plain of the South Fork Eel River affects low lying parcels within the ULC, including parcels located on the River side of Orchard Lane, Forest Drive, Eel River Lane, and Oakridge Drive. Storm drainage associated with County roads

through this area consists of ditches along the uphill side of the road and culverts that ultimately convey drainage to the South Fork Eel River.

Needs and Deficiencies

- No public health problems or other limitations associated with the Redway CSD water system have been identified.
- No public health problems or other limitations associated with the Redway CSD wastewater system have been identified.
- The presence of a local agency facilitates ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern not already addressed by local land use regulations.

Shelter Cove

Location

Shelter Cove is located in the southwest corner of the County. This ULC was mapped using the 2010 Shelter Cove Census Designated Place boundary. The ULC contains the entire Resort Improvement District No.1 and the Shelter Cove portion of the South Coast Area Plan. There were a total of 233 housing units and 524 people in the approximately 3,730 acre Shelter Cove ULC, based on the 2010 Census.

Existing and Planned Uses

Land Use. The following tables describe the land within the Shelter Cove ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	993
Multi Family Residential	11
Improved, Rural Residential 1-5 acre	10
Improved, Rural Residential 5-20 acre	7
Improved, Rural Residential >20 acre	93
Vacant Low/Medium Density Residential	67
TPZ Improved	35
TPZ Vacant	1
Commercial	16
Public Land (Schools, Non Taxable)	2,471
Total	**3,705**

General Plan Land Use	Acres
AEG	64

AL160	131
CG	34
CPA	1,636
CR	34
NR	573
P	428
PF	58
PL/PR	200
RL	449
RM	98
Total	**3,705**

Infrastructure and Services

There are two local agency service providers in Redway; the Resort Improvement District No.1 which provides water and wastewater service and the Redway Fire Protection District provides structure fire protection services. Humboldt County maintains urban drainage facilities associated with County roadways in downtown Redway.

Water System. The following information is from the Humboldt County General Plan Update DEIR, 2012:

> Resort Improvement District No. 1 (RID) provides water and wastewater service to Shelter Cove and produced approximately 57.4 million gallons of drinking water in 2004 (2006 CDPH Annual Inspection Report). Average daily use is estimated at 0.157 MGD, and peak daily use was reported as 0.331 MGD in 2004. The District has approximately 455 existing connections.
>
> The number of water connections available to the RID is limited by its permit to a total of 990 until such time that it identifies additional sources of water. The RID water source consists of two active surface water spring intakes (Rick Spring and Upper Telegraph Creek), a seasonal standby surface water spring intake (Lower Telegraph Creek), and two standby wells. During summer months when demands are high, the District is required to maintain environmental flows within Telegraph Creek and is allowed to withdraw at Lower Telegraph Creek at a point prior to the water's infiltration into beach sands. The source capacity of the District is approximately 508 gpm (0.732 MGD), well over current maximum day demands (230 gpm). The treatment capacity of the plant is 350 gpm, or 0.504 MGD.
>
> Water service within the RID is generally very good. Current peak water use is at approximately 45% of available production capacity. The District is in the process of locating additional source capacity. The RID has identified sites new water wells, several of which have been approved by the State for service. The RID Board has approved funds for the exploration of five new well sites to be located in regions of the upper Cove where successful well sites have been established and geologic conditions are similar (Resort Improvement District #1 General Manager's Report, February 2012).

Structure Fire Protection Services. Shelter Cove Volunteer Fire Department (VFD) is an all-volunteer fire department that provides firefighting services to the Shelter Cove Resort Improvement District, which covers 49 square miles, with over 600 homes, 9 hotels, 2 beaches, and a public airport. The Shelter Cove volunteers protect this District with 4 fire engines, 1 ALS/BLS ambulance, 2 ATV rescue units, and 2 ocean rescue units. There are 238 fire hydrants on the Resort Improvement District No.1 water system that cover the entire developed area of the ULC within 1,000 feet of the hydrants. The Shelter Cove VFD has a "6" ISO rating

The Resort Improvement District No.1 received approximately $ 440,000 in property tax and special tax revenue in the 2011-12 fiscal year (most recent reporting available through the State Controller's Office). The District special tax generates approximately $95,000 in revenue. The average revenue from taxes and assessments for Humboldt County fire departments with less than 25 volunteer firefighters was approximately $45,000 in 2011-12, approximately 10 percent of the annual revenue of the Resort Improvement District. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. According to the 2009 Municipal Service Review:

> The RID provides wastewater services to approximately 89% of homes within the district boundary. Figure 2, on page 6, shows the wastewater (sewer) service area in green. The district provides wastewater services to approximately 464 connections; 95% of these connections are residential and 5% are commercial. The service includes wastewater collection, treatment, and disposal. RID's collection system incorporates both gravity mains and nine lift stations. The wastewater treatment plant (WWTP) consists of coarse screening, two oxidation ditches, two clarifiers, and chlorination/dechlorination facilities.
>
> All year, in varying amounts, the district discharges treated effluent into the Pacific Ocean. During dry weather, in the spring and summer months, some or all of the treated effluent receives additional filtration and disinfection before being discharged to a storage pond that supplies a spray irrigation system on the district's nine-hole golf course. Sludge is dewatered and transported to the Humboldt County solid waste transfer station for landfill disposal.
>
> According to the district's discharge permit, the WWTP is designed for an average dry weather flow of 0.17 million gallons per day (MGD), an average wet weather flow of 0.27 MGD, and a peak wet weather flow of 0.77 MGD.
>
> The district's wastewater flows currently range between 0.1 MGD during dry weather and 0.5 MGD during wet weather. Therefore, the district is operating at approximately 59% dry weather capacity and 78% wet weather capacity. The RID wastewater system's inflow and infiltration (I & I) peaking factor is five. The peaking factor is a ratio of maximum daily flow to the average daily flow.

The RID's collection system experiences I & I during winter storms and needs renovations to reduce the I & I peaking factor. The facility completed an Administrative Civil Liability Order (ACLO) compliance project in 2007 addressing this issue.

The district has invested hundreds of thousands of dollars into sewer collection system rehabilitation since 1980, including video inspections, point repairs, manhole patching and pipe replacement in its efforts to reduce I&I. Progress has been slow, but effective in reducing the number of high flow incidents.

Storm Drainage. The Shelter Cove ULC is shown as Zone D on the flood plain map and contains the un-mapped flood plain of the Klamath River and its tributaries (FEMA FIRM Panel 0600601800B). The Zone "D" designation is used for areas where there are possible but undetermined flood hazards, as no analysis of flood hazards has been conducted. Shelter Cove is located along the Pacific Ocean and susceptible to tsunami inundation and the effects of coastal bluff erosion from wave action. There are no developed storm drainage collection facilities within or adjacent to the Shelter Cove ULC. Storm drainage associated the Shelter Cove Road and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Pacific Ocean.

Needs and Deficiencies

- No public health problems or other limitations associated with the Shelter Cove water system have been identified.
- No public health problems or other limitations associated with the Shelter Cove wastewater system have been identified.
- The presence of a local agency facilitates ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern not already addressed by local land use regulations.

Shively

Location

Shively is located in southern Humboldt County along the Avenue of the Giants, approximately 23 miles south of Fortuna and approximately 48 miles north of Garberville. This ULC is not a Census Designated Place nor does it have any unique Census mapping, therefore the ULC was identified using the proposed General Plan Update land use designations. There were approximately 38 housing units and 69 people in the approximately 450 acre Shively ULC, based the Census Block data comprising the ULC.

Existing and Planned Uses

Land Use. The following tables describe the land within the Shively ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	34

Improved, Rural Residential 1-5 acre	10
Improved, Rural Residential 5-20 acre	54
Improved, Rural Residential >20 acre	36
Vacant Low/Medium Density Residential	25
Vacant Rural Residential	112
Public Land (Schools, Non Taxable)	182
Total	**453**

General Plan Land Use	Acres
AE	376
AR (5-20)	22
RL (1-5)	55
Total	**453**

Infrastructure and Services

Water System. There is no community water system in Shively. Residential, commercial, and agricultural land uses produce drinking and agricultural water through on-site water systems. The County Department of Health and Human Services Land Use Program does not indicate that there are any significant area-wide limitations restricting the development of on-site water systems in the Shively. However, parcels must be large enough to meet the setback requirements to septic systems and property lines and demonstrate to the satisfaction of County standards that adequate water is present on site.

Structure Fire Protection Services. There is no local agency responsible for fire protection in Shively. According to the Humboldt County Community Wildfire Protection Plan, Shively is within the response area of the Redcrest VFC and the Scotia VFD. See the Redcrest ULC for a discussion of the Redcrest VFC and the Scotia ULC for a discussion of the Scotia VFD.

Shively is located approximately six miles from Redcrest using the summer bridge at Holmes Flat and 13 miles from Scotia using Shively road. There are no fire hydrants within Shively. As a result, the responding fire department must rely on the tank water carried on their fire engines and on-site water tanks that may be available near the fire.

Wastewater. Community wastewater treatment and disposal is not available in the Shively ULC . The maximum allowable density for the AE land use designation is one dwelling unit per 20 acres and one dwelling per five acres within the Agriculture-Rural land use designation. Parcels within the Shively ULC range in size from 0.125 acres to 45 acres. The nearest wastewater system is located in Scotia, approximately 13 miles north of Shively, well beyond the feasible distance for service extension.

Storm Drainage. A significant portion of the Shively ULC is located within the 100-Year Flood Plain (FEMA FIRM Panel 0600601340B) of the Eel River and is subject to Humboldt County Flood Hazard Regulations. There are no developed storm drainage collection facilities within or adjacent to the

Shively ULC. Storm drainage associated the Alderpoint Road and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Eel River.

Needs and Deficiencies

- Public health problems or extraordinary supply limitations associated with on-site water have not been identified for the Shively ULC or surrounding area.
- Although wastewater service is not available in Shively, its absence would not be considered a limitation on development or a public health concern.
- The lack of ongoing revenue to support fire protection services has been identified as a problem for Humboldt County fire protection service providers, especially those providers not associated with a local agency. The communities served by the Redcrest VFC should be encouraged to follow the example of Briceland and Bridgeville to seek voter approval to form a district and establish an ongoing funding source through a special assessment or tax.
- The flooding of the Eel River is a significant threat to life and property in this area. It would likely be infeasible to develop flood protections to mitigate flood risk. However, adherence to flood hazard regulations would be considered adequate to address this threat.

Stafford

Location

Stafford is located several miles from Scotia along US 101. This ULC is not a Census Designated Place nor does it have any unique Census mapping, therefore the ULC was identified using the proposed General Plan land use designations. There were approximately 61 housing units and 106 people in the approximately 232 acre Stafford ULC, based the Census Block data comprising the ULC.

Existing and Planned Uses

Land Use. The following tables describe the land within the Stafford ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	12
Improved, Rural Residential 1-5 acre	21
Improved, Rural Residential 5-20 acre	34
Improved, Rural Residential >20 acre	42
Vacant Low/Medium Density Residential	4
Vacant Rural Residential	9
TPZ Vacant	5
Commercial	18
Public Land (Schools, Non Taxable)	88
Total	**232**

General Plan Land Use	Acres
AE	158
AR (5-20)	42
CF	0
CFR	18
PF	0
RL (1-5)	14
Total	**232**

Infrastructure and Services

Water System. There is no community water system in Stafford. Residential, commercial, and agricultural land uses produce drinking and agricultural water through on-site water systems. The County Department of Health and Human Services Land Use Program does not indicate that there are any significant area-wide limitations restricting the development of on-site water systems in the Stafford. However, parcels must be large enough to meet the setback requirements to septic systems and property lines and demonstrate to the satisfaction of County standards that adequate water is present on site.

Structure Fire Protection Services. There is no local agency responsible for fire protection in Stafford. According to the Humboldt County Community Wildfire Protection Plan, Stafford is within the out of district response area of the Scotia VFD. See the Scotia ULC for a discussion of the Scotia VFD.

Stafford is located approximately 3.5 miles from Scotia. There are no fire hydrants within Stafford. As a result, the responding fire department must rely on the tank water carried on their fire engines and on-site water tanks that may be available near the fire.

Wastewater. Community wastewater treatment and disposal is not available in the Stafford ULC . The maximum allowable density within the LC is on the south side of US 101 in the area planned Residential Low Density 1-5 dwelling units per acre, almost all of which are already developed with single family residences. Parcels within the Stafford ULC range in size from 0.15 acres to 40 acres. The nearest wastewater system is located in Scotia, approximately 2.5 miles north of Stafford, which is likely beyond the feasible distance for service extension.

Storm Drainage. Almost all of the Stafford ULC is located within the 100-Year Flood Plain (FEMA FIRM Panel 0600601310B and 0600601305B) of the Eel River and is subject to Humboldt County Flood Hazard Regulations. There are no developed storm drainage collection facilities within or adjacent to the Stafford ULC. Storm drainage associated with Stafford Road and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Eel River.

Needs and Deficiencies

- Public health problems or extraordinary supply limitations associated with on-site water have not been identified for the Stafford ULC or surrounding area.

- Although wastewater service is not available in Stafford, its absence would not be considered a limitation on development or a public health concern.
- This community should annex to the local agency that provides out of district fire protection services to the area or find some other means to establish a dependable ongoing funding source for this service.
- The flooding of the Eel River is a significant threat to life and property in this area. It would likely be infeasible to develop flood protections to mitigate flood risk. However, adherence to flood hazard regulations would be considered adequate to address this threat.

Weott

Location

Weott is located on the Avenue of the Giants between Redcrest and Myers Flat. This ULC was mapped using the 2010 Weott Census Designated Place boundary. The ULC contains the entire Weott Sanitary District (Weott CSD) and the Weott portion of the Avenue of the Giants Community Planning Area. There were a total of 86 housing units and 176 people in the approximately 493 acre Weott ULC, based on the 2010 Census.

Existing and Planned Uses

Land Use. The following tables describe the land within the Weott ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	41
Multi Family Residential	8
Improved, Rural Residential 1-5 acre	13
Improved, Rural Residential 5-20 acre	17
Vacant Low/Medium Density Residential	5
Vacant Rural Residential	2
TPZ Improved	42
Commercial	2
Public Land (Schools, Non Taxable)	362
Total	**493**

General Plan Land Use	Acres
AR (5-20)	59
CG	2
CR	2
CS	1
HWY 101	49
P	253

General Plan Land Use	Acres
PF	11
RL	51
RL (1-5)	47
RM	2
T	17
Total	**493**

Infrastructure and Services

There are two local agency service providers in Weott, the Weott Sanitary District (Weott CSD) which provides water and wastewater service and structure fire protection services. Humboldt County maintains urban drainage facilities associated with County roadways in downtown Weott.

The following information is from the Weott CSD Municipal Service Review 2012:

> The Weott CSD water system is supplied by two surface springs located in the Humboldt Redwoods State Park (a designated wilderness area) across the Eel River and south of Bull Creek. The district has approximately 143 existing service connections and provides water to all areas within its service boundaries. According to the Weott CSD, there is one water service connection outside of the district's boundaries that currently is not receiving service. This parcel (APN 095-191-016) is adjacent to the eastern boundary at the top of Madrone Road (see Figure 1).
>
> The existing water system is in fair condition and suffers from historic water supply fluctuations during low flow summer months. Source capacity is estimated at 253,000 gallons per day (gpd) if the pumps are operated 24 hours per day (Weott CSD, 2012). The treatment capacity is limited by filtration and is estimated at 113,000 gpd if the filters are operated 22 hours per day, with the remaining time allowed for backwash cycle (Humboldt County, 2008).
>
> As reported in the Humboldt County Community Infrastructure and Services Technical Report (2008), the district's average daily water use is approximately 129,000 gpd and overall peak daily use is currently in excess of the spring's source capacity and the treatment plant's treatment capacity. However, according to the Weott CSD, since 2008 the district has installed water meters on all service connections and repaired water leaks in the system, which has dramatically reduced average daily water use to approximately 25,000-30,000 gpd (Weott CSD, 2012). The Weott CSD's water distribution system is all four inch diameter pipe or smaller, which does not provide sufficient fire flows as set forth by California Fire Code standards. The district has two water storage tanks with a total storage capacity of approximately 169,000 gallons. While the Weott CSD would like to replace the springs or augment them with a well in the hills east of Highway 101, it is doubtful the district's finances will permit this at present.

The Weott CSD requested that the Humboldt County Board of Supervisors declare a water emergency after a leak developed in a supply line during an accelerated effort to refill a Weott Community Services

District Board tank after it was discovered that 20,000 gallons of water had been stolen from it between July 21 and July 22 of 2013. The emergency work is underway to replace the supply line.

Structure Fire Protection Services. The Weott CSD, through the Weott Volunteer Fire Department (VFD), provides structure fire protection services within the Weott ULC. The Weott VFD has eight volunteer firefighters and responded to 46 calls for service in 2012. The Weott VFD's apparatus include a 2004 Type-2 engine and a rescue vehicle.

There Weott CSD water system contains 22 fire hydrants, and almost the entire Weott ULC is located within 1,000 feet of the hydrants. The fire department must use water carried on fire engines to extinguish structure fires that are located outside the hydranted area, as well as water that may be available on site. The Weott VFD has a "8" ISO rating within the hydranted area, and "9" outside.

The Weott CSD received $ 4,671 in revenue from property tax and other sources in the 2011-12 fiscal year (most recent reporting available through the State Controller's Office). All tax revenue is from one-percent property tax. The Weott FPD does not have a special tax or assessment to supplement its property tax.

Wastewater. The Weott CSD is responsible for collection, treatment, and disposal of the community's wastewater. The following information is from the Weott CSD MSR, 2012:

> The Weott CSD's wastewater collection system incorporates gravity mains and one lift station that direct wastewater to a community septic tank where preliminary treatment occurs. From here, raw wastewater flows through a recirculation tank and pea gravel filter, a chlorine contact basin, and dechlorination facilities. Disposal facilities consist of both a community leachfield and direct discharge to the South Fork Eel River, although the direct discharge disposal is not currently used. Sludge is dewatered and transported to the Humboldt County solid waste transfer station for landfill disposal.
>
> The Weott CSD currently provides wastewater service to most areas within its service boundaries. The system currently has approximately 134 residential connections, and flows currently range between 14,000 gpd during dry weather and 30,000 gpd during wet weather. The facility has a permitted dry weather capacity of 30,000 gpd, and is therefore operating at approximately 47 percent of design capacity.
>
> The wastewater treatment system was constructed between 1989 and 1991 and system improvements were made in 2000 under a USDA grant that included improvements to the lift station, chlorination/dechlorination equipment, and the gravel filter distribution piping. The system currently is operating well within its design capacity, and no system upgrades are planned other than typical maintenance.

Storm Drainage. The Weott ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600601525B) of the South Fork Eel River. The 100-Year Flood Plain does not affect most of the developed area of Weott. The Avenue of the Giants Community Plan EIR states that "The 1964 flood … caused devastating effects throughout the watershed. A total of nineteen lives were lost and close to 100,000,000 dollars in

damage occurred as a result of the flood... All of the communities along the South Fork were virtually devastated." Land within the 100-year flood plain is land is subject to Humboldt County Flood Hazard Regulations. Storm drainage associated with County roads in Weott consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the South Fork Eel River.

Needs and Deficiencies

- No public health problems or other limitations associated with the Weott CSD water systems have been identified, except for the current water emergency that is in the process of being addressed.
- No public health problems or other limitations associated with the Weott CSD wastewater systems have been identified.
- The presence of a local agency facilitates ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

Westhaven

Location

Westhaven is located along the Humboldt County coast along US 101, approximately eight miles north of McKinleyville and approximately 3.5 miles south of Trinidad. This ULC was mapped using the 2010 Westhaven-Moonstone Census Designated Place boundary. The ULC extends from Little River in the south to McConnahas Mill Creek in the north and contains the entire Westhaven CSD boundary, and includes most of the Trinidad-Westhaven Community Plan Area and the portion of the Trinidad Area Plan south of the City of Trinidad. There were a total of 413 housing units and 857 people in the approximately 5,200 acre Westhaven ULC, according to the 2010 Census.

Existing and Planned Uses

Land Use. The following tables describe the land within the Westhaven ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	308
Multi Family Residential	22
Improved, Rural Residential 1-5 acre	228
Improved, Rural Residential 5-20 acre	200
Improved, Rural Residential >20 acre	138
Vacant Low/Medium Density Residential	70
Vacant Rural Residential	265
TPZ Improved	167
TPZ Vacant	2,659
Industrial	1

Public Land (Schools, Non Taxable)	1,137
Total	**5,195**

General Plan Land Use	Acres
AE	26
AEP	158
CPA	1514
CR	9
HWY 101	91
NR	48
PF	19
PR	42
RR	1
RR(A)	44
RR(C)	391
RR(D)	63
RR(E)	41
RR(F)	21
RV	204
RX	10
T	2,072
TC	439
Total	**5,195**

Infrastructure and Services

There is one local agency service provider in the Westhaven ULC, the Westhaven CSD which provides drinking water to approximately 233 connections based on the Community Infrastructure and Services Technical Report (Winzler and Kelly, 2008). The Westhaven Volunteer Fire Company (VFC) provides structural fire protection to the community, but is not a local agency and only receives revenue from donations. There is no wastewater service provider in this community and no drainage facilities, other than those located within the County roadways.

Water System. According to the Westhaven CSD Municipal Service Review, 2007:

> The District's water supply comes from three small, spring-fed tributaries of Two Creek at the eastern edge of the community and a 100-foot deep well within the District Boundary. The creek sources represent approximately 75% of the total source capacity, with the well accounting for the remaining 25%.
>
> Source capacity varies between 40 and 60 gallons per minute (0.058 – 0.086 million gallons per day (MGD)). During an early 1990s system-upgrade, the District expended considerable resources in efforts to locate additional local water sources. Except for the well, no additional

sources that could be developed in an economically feasible manner were located within the District.

Source water is directed to a sedimentation chamber followed by slow sand filtration. The filters have a capacity of 115,200 gallons per day (gpd). After filtration, water is chlorinated, then stored in a 100,000 gallon concrete storage tank. Three pressure zones exist within the District: the main zone served by the storage tank, a high pressure zone serviced by a booster station at the chlorination building, and a low pressure zone on the west side of U.S. Highway 101.5

In 2004, average daily use was approximately 0.039 MGD and peak daily use was 0.066 MGD.6 Given that total source capacity varies between 0.058 and 0.086 MGD over a 24 hour period and existing maximum day demands are 0.066 MGD, the system operates in excess of summertime source capacity. Based on present and projected water use levels, Westhaven CSD does not have the ability to meet the water demands of future development without the need to supplement supplies, storage, and delivery systems.

Drinking water is supplied to District customers through approximately 7.5 miles of piping overall, 50% of which is less than four inches in diameter. Thirty-five percent of the distribution system consists of 6-inch or 4-inch C-900 PVC, 20% is 4-inch or 3-inch AC,

Structure Fire Protection Services. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, Founded in 1950, the Westhaven Volunteer Fire Department (WVFD) is supported solely by donations and our annual bake sale, “The Wild Blackberry Festival.” The bake sale is held on the last Sunday in July and features blackberry pies and jams handmade by the Westhaven Ladies Club. Westhaven VFD has a primary response area that includes 450 homes from Crannell and Clam Beach, to the Trinidad city limits, with auto and mutual aid from Arcata to Orick. Since 2010, the Westhaven VFD received several grants, including a $8,800 grant for medical equipment from the Indian Gaming Impact Fund, and a grant from the Department of Homeland Security, facilitated through the Humboldt County Office of Emergency Services, for rope rescue equipment and a thermal imaging camera. All of our equipment is grant funded or a gift from county fire departments. Our apparatuses include: E8411: 1963 Crown Fire Coach (1000gpm/750gal); A8444:1986 F350 E-One (250gpm/250 gal); E8455:1975VanPelt (300gpm/2500gal) water tender; and Rescue 8477:2001 Expedition 4x4. The Westhaven VFD hopes to build a 2-bay addition onto our station in the near future in order to help improve our ISO rating and provide better service to our community.

Volunteer fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters. Because the Westhaven FC is not associated with a local agency it is not eligible to receive property tax revenue and has no ability to raise revenue through special taxes or special assessments, the primary sources of ongoing revenue for fire protection. . The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Community wastewater treatment and disposal is not available in the Westhaven ULC . The maximum allowable density in the in the Westhaven ULC is found in the portion planned Rural Village which allows up to three dwelling units per acre. The nearest wastewater system is located in McKinleyville approximately seven miles south of Westhaven, well beyond the feasible distance for service extension.

Storm Drainage. Almost all of the Westhaven ULC is located outside the 100-Year Flood Plain (FEMA FIRM Panel 0600600450B). Flooding was not identified as a major issue in planning for the Westhaven community as part of the Trinidad Area Plan. Coastal high water and storm surges may contribute to coastal bluff erosion affecting the Scenic Road area of the Westhaven ULC. There are no developed storm drainage collection facilities within or adjacent to the Westhaven ULC. Storm drainage associated the Westhaven Road and other County roads through the community site consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Pacific Ocean.

Needs and Deficiencies

- No public health problems or other limitations associated with the Westhaven CSD water systems have been identified.
- Although wastewater service is not available in Westhaven, its absence would not be considered a limitation on development or a public health concern.
- The presence of a local agency facilitates ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern.

Whitethorn

Location

Whitethorn is located in south western Humboldt County near the Mattole River on the Briceland-Thorne Road, approximately 19 miles west of Garberville and approximately 13 miles east of Shelter Cove.

This ULC was mapped using the proposed General Plan Update Rural Community Center, Residential Estates, and Rural Residential boundary, which generally follows parcels lines comprising the core of the community. The only local service provider within the Whitethorn ULC is the Whitethorn FPD. Whitethorn is not located within a Community Plan area. There are approximately 83 housing units and 162 people in the approximately 1,225 acre Blocksburg ULC, based on Census 2010 Block data.

Existing and Planned Uses

Land Use. The following tables describe the land within the Whitethorn ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	49

Improved, Rural Residential 1-5 acre	51
Improved, Rural Residential 5-20 acre	207
Improved, Rural Residential >20 acre	437
Vacant Low/Medium Density Residential	13
Vacant Rural Residential	54
TPZ Improved	21
TPZ Vacant	76
Commercial	1
Public Land (Schools, Non Taxable)	317
Total	**1,226**

General Plan Land Use	Acres
AR	726
AS	112
RCC	86
T	302
Total	**1,226**

Infrastructure and Services

Water System. There is no community water system in Whitethorn. Residential, commercial, and agricultural land uses produce drinking and agricultural water through on-site water systems. Surface water flows are limited in the Mattole watershed and groundwater may be available through the Mattole River Valley Groundwater Basin, however limited information is available. However, parcels must be large enough to meet the setback requirements to septic systems and property lines and demonstrate to the satisfaction of County standards that adequate water is present on site.

Structure Fire Protection Services. According to the Humboldt County Fire Chiefs' Association 2012 Annual Report, The Whitethorn VFD provides fire protection and emergency services to the Whitethorn FPD. The Whitethorn VFD has 18 members (13 volunteer firefighters and 5 Auxiliary). The Whitethorn VFD operates from a primary fire station located in the community of Whitethorn on Briceland Thorn Rd., and a second station located at Whitethorn Construction near Thorn Junction on Shelter Cove Rd.; each station houses two engines. The Whitethorn VFD's apparatus include: E5316, a 1976 Type-1 engine with a 1,000 gallon capacity (750gpm); A5346, a 1993 Type-4 engine with a 350-gallon tank (300gpm); E5320, a 1986 Type-2 engine with a 1,000-gallon capacity (1,000gpm); and E5348, a 1981 Type-4 engine, with a 300-gallon tank (250gpm). There is no municipal water system and no fire hydrants in the Whitethorn ULC. The fire department must use water carried on fire engines and water tenders to extinguish structure fires, as well as water that may be available on site. The Whitethorn VFD has a "9" ISO rating. The Whitethorn FPD received $ 32,917 in property tax revenue in the 2011-12 fiscal year that was dedicated to fire protection services (most recent reporting available through the State Controller's Office). .

Wastewater. Community wastewater treatment and disposal is not available in the Whitethorn ULC . The maximum allowable density in the Rural Community Center land use designation is 2.5 dwelling units per acre or one dwelling unit per acre if sewer is available. The nearest wastewater system is located in Shelter Cove approximately 13 miles west of Whitethorn, well beyond the feasible distance for service extension.

Storm Drainage. The Whitethorn ULC is within the 100-Year Flood Plain (FEMA FIRM Panel 0600601825B) of the Mattole River and its tributaries. There are no developed storm drainage collection facilities within or adjacent to the Whitethorn ULC. Storm drainage associated the Mattole Road and other County roads through this area consist of ditches along the uphill side of the road and culverts that ultimately convey drainage to the Mattole River through creeks and drainages.

Needs and Deficiencies

- Public health problems associated with on-site water have not been identified for the Whitethorn ULC or surrounding area; however, there are or extraordinary supply limitations.
- Although wastewater service is not available in Whitethorn, its absence would not be considered a limitation on development or a public health concern.
- The presence of a local agency facilitates ongoing local planning to address future funding needs for structure fire protection.
- Storm drainage or flooding would not be considered a limitation on development or a public safety concern not already addressed by local land use regulations.

Willow Creek

Location

Willow Creek is located along the Trinity River is eastern Humboldt County. This ULC was mapped using the 2010 Willow Creek Census Designated Place boundary. The ULC contains the entire Willow Creek CSD and the Community Planning Area. There were a total of 677 housing units and 1,276 people in the approximately 19,500 acre Willow Creek ULC, based on the 2010 Census.

Existing and Planned Uses

Land Use. The following tables describe the land within the Willow Creek ULC and display information according to land use type (based on Assessor's Use Code data) and General Plan Land Use Designation.

Use of Land (based on Use Code)	Acres
Single Family Residential	645
Multi Family Residential	94
Improved, Rural Residential 1-5 acre	269
Improved, Rural Residential 5-20 acre	330
Improved, Rural Residential >20 acre	703
Vacant Low/Medium Density Residential	112
Vacant Rural Residential	311

TPZ Improved	1879
TPZ Vacant	3055
Commercial	104
Industrial	51
Public Land (Schools, Non Taxable)	12009
Total	**19561**

General Plan Land Use	Acres
AE	2
AL	437
AL40	839
AR	641
AR(5)	48
AR(8)	83
AR20-5	564
AS	489
CR	218
CS	122
CS/IG	2
HWY 299	141
HWY 96	3
IG	50
P	10436
PF	55
RL	88
RL(1)	1043
RL(2)	5
RL1	6
T	4289
Total	**19561**

Infrastructure and Services

There are two local agency service providers in Willow Creek; the Willow Creek CSD which provides water and wastewater service and the Willow Creek FPD provides structure fire protection services. Humboldt County maintains urban drainage facilities associated with County roadways in downtown Redway.

Water System. The following information is from the Willow Creek CSD Municipal Service Review, adopted 2008:

> The District provides water service, street lighting and operates and maintains recreation facilities. Currently the District has 970 water service connections. The District anticipates being able to accommodate 1,000 through 1,200 service connections before meeting capacity.

The District's water source is from Willow Creek. It consists of six wells located in the mouth of Willow Creek. Four wells draw water from infiltration galleries in the Willow Creek flood plain acting as a natural filtration system. Total source capacity is 3.76 million gallons per day. The water is chlorinated and treated before it is placed into the distribution system. The District monitors chlorination and turbidity 24 hours a day. The District recently constructed a new water treatment plant to bring the system into compliance with Surface Water Treatment Rule.

The District's water source consists of six wells located in the mouth of Willow Creek. Four wells draw water from infiltration galleries in the Willow Creek flood plain acting as a natural filtration system. The water is chlorinated and treated before distributed. The system has seven pressure zones, served by various storage tanks throughout the system.

In total, the District has six storage tanks with a combined capacity of 1,080,000 gallons. Pump stations are located throughout the system in areas where facilities to be served are higher in elevation than primary tanks. The District maintains approximately 24 miles of main line consisting primarily of asbestos cement pipe with some PVC and ductile iron pipe. The distribution system ranges in size from 4 inch to 12 inch. The District regularly monitors chlorination and turbidity.

The District does not have adequate storage capacity to even provide one day of supply at maximum day demand. Generally, two to three days minimum is recommended. It is unclear if the high per capita demands are due to system leaks or agricultural users. A computer model of the water system would be helpful in making future decisions regarding infrastructure upgrades. The existing surface water source is downstream of the town center's main stormwater discharge point that contains potential contaminating activities. The District is investigating State Revolving Fund projects to address this issue.

Availability of connections within the Willow Creek water system is currently limited by both its source and treatment capacity. However, treatment capacity is currently more limiting. Source capacity is limited by the District's infiltration gallery and is estimated at 3.76 MGD if the pumps are operated 24 hours per day. The treatment capacity is limited by filtration and is estimated at 2.953 MGD.

Given existing maximum day demands are 1.8 MGD, the system is operating at approximately 48% of source capacity and 61% of treatment capacity. The District has a pumping capacity of 1.9 million gallons per day (MGD). The daily average consumption during peak time is 1.6 million gallons per day. Water storage capacity is 1.1 million gallons. Current peak water use is approximately 48% of available production capacity. The new water treatment plant has been designed for 2.02 MGD, approximately 11% greater than existing peak day demands.

Structure Fire Protection Services. The Willow Creek VFD was founded in 1957 after two major business fires in downtown Willow Creek. Today, the Department consists of 22 volunteers. Apparatuses include a Type-2 water tender with a 3,000 gallon capacity (9257), two Type-2 engine pumpers (9224 & 9226), and a medium-duty rescue vehicle (9271). The Willow Creek Volunteer Fire Department has put into

service a new 2012 Ford F550, Type-6 wildland truck (Attack 9243), which has 400 gallons of water, 10 gallons of foam, wildland firefighting equipment, our second set of jaws, and our secondary rope rescue system. Plans for our second fire station are still in the design phase.

The Willow Creek VFD responded to 172 incidents in 2012. There are 77 fire hydrants on the Willow Creek CSD water system that cover 2,800 acres within 1,000 feet of the hydrants of the approximately 4,225 acres developed portion of the ULC. The fire department must use water carried on fire engines and water tenders to extinguish structure fires that are located outside the hydranted area, as well as water that may be available on site. The Willow Creek VFD has a "5" ISO rating within the hydranted area, and "9" outside.

The Willow Creek CSD received $ 134,541 in property tax and special assessment revenue in the 2011-12 fiscal year (most recent reporting available through the State Controller's Office). All tax revenue is from one-percent property tax. The Willow Creek FPD does not have a special tax or assessment to supplement its property tax.

The average revenue from taxes and assessments for Humboldt County fire departments with less than 25 volunteer firefighters was approximately $45,000 in 2011-12, approximately 40 percent less than the annual revenue of the Willow Creek FPD. Fire departments in Humboldt County have consistently identified a lack of adequate ongoing funding and an insufficient number of volunteer firefighters as issues affecting fire service. The Humboldt County Community Wildfire Protection Plan Countywide Action Plan has a series of goals that are directed toward helping firefighters protect the community. See the comprehensive discussion of fire related ongoing revenue strategies.

Wastewater. Wastewater in Orick is treated using on-site septic systems. The Willow Creek Community Wastewater Feasibility Analysis prepared by Oscar Larson & Associates in 2008 found that:

> "Many septic systems (in Willow Creek) are likely substandard, undersized in either tank size or leach line. Humboldt County Division of Environmental Health has issued numerous permits for the repair of failed onsite sewage disposal systems in Willow Creek. In recent years, commercial lots in the main part of town along Highway 299 have experienced failing systems, resulting in the installation of expensive owner operated onsite systems." (page 1)

The Willow Creek CSD has conducted planning to develop a wastewater system, in addition to the Oscar Larson study, including the Preliminary Wastewater/Septage Engineering Feasibility Report, by Guy Conversano in 2002. The wastewater treatment system would be developed as a means to allow commercial development in the Willow Creek downtown core. The construction of a system would likely cost over $6.0 million and would require considerable grant funding.

Storm Drainage. The Willow Creek ULC is contains the 100-Year Flood Plain (FEMA FIRM Panel 0600600685B) of the Trinity River; however most of the ULC is within Zone D (FEMA FIRM Panel 0600600725B, 0600600685B, and 0600600685B) indicating that there are possible but undetermined flood hazards, as no analysis of flood hazards has been conducted. Storm drainage associated with County roads through this area consists of ditches along the uphill side of the road and culverts that ultimately convey drainage to the South Fork Eel River.

The Willow Creek Community Plan indicates that is subject to extensive flood hazards from the Trinity River. The area most impacted is the northern portion of the planning area adjacent to Highway 96. The planning area was subject to a devastating flood in December of 1964 which caused extensive damage to private property and state highways and county roads. Six miles of Highway 299 along Willow Creek suffered considerable damage and the Highway 96 bridge over Willow Creek was destroyed. The Plan designates parcels within the flood plain to restrict uses to those consistent with the hazard (flood plain zoning) or to limit future subdivisions (through parcel size combining zones). Most parcels within the Trinity River flood plain have an upland building site which is suitable for development. For these projects, a residential zone designation which restricts future subdivision development is adequate to meet Framework Plan goals

Needs and Deficiencies

- No public health problems or other limitations associated with the Willow Creek CSD water system have been identified.
- High groundwater is considered to be a severe limitation on development.
- The presence of a local agency can facilitate ongoing local planning to address future funding needs for structure fire protection.
- The flooding of Trinity River is a significant threat to life and property in portions of this area. Adherence to flood hazard regulations would be considered adequate to address this threat.

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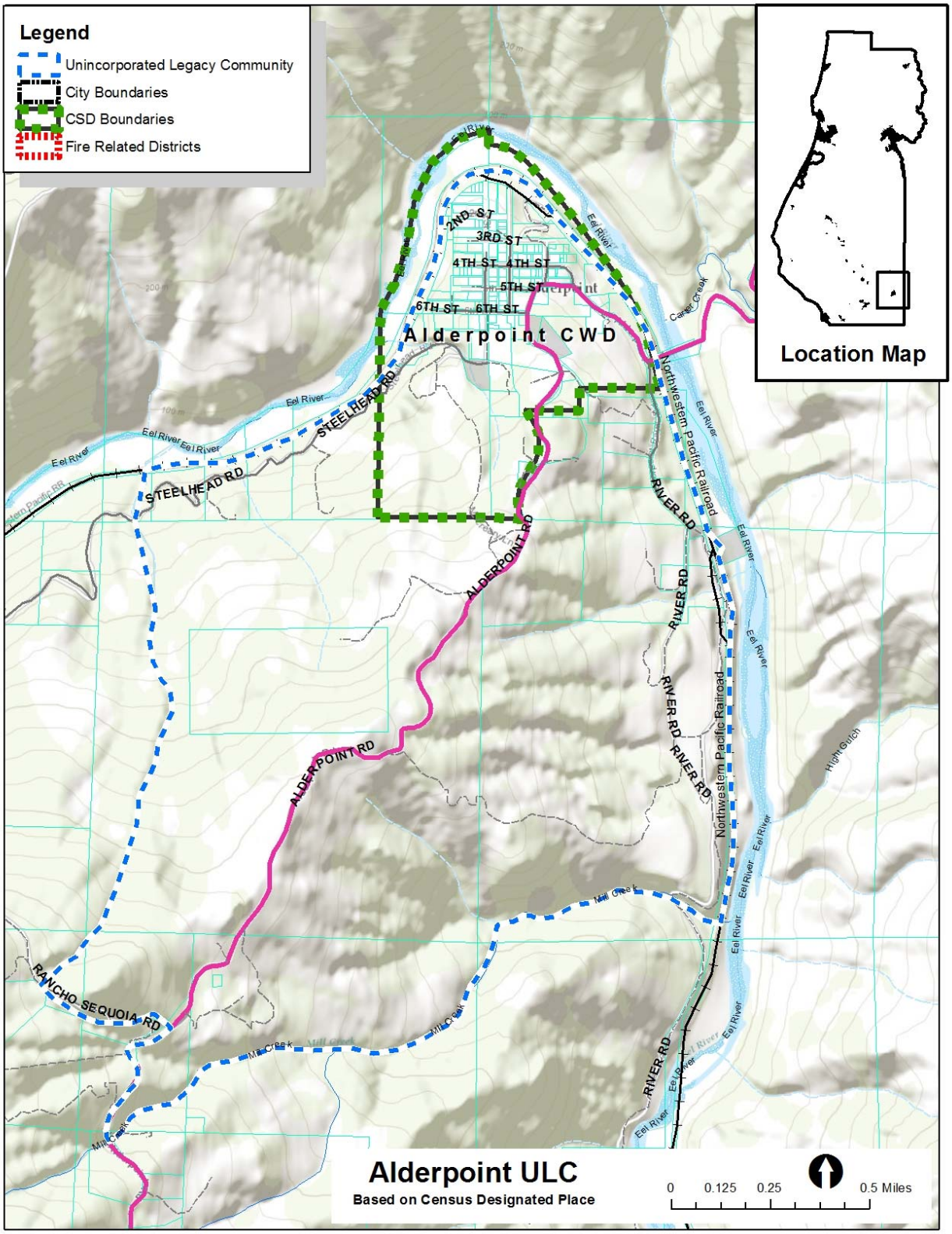
Disadvantage Unincorporated Legacy Communities

Maps


Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Alderpoint CWD
2ND ST
3RD ST
4TH ST
4TH ST
5TH ST
6TH ST
6TH ST
STEELHEAD RD
STEELHEAD RD
ALDERPOINT RD
ALDERPOINT RD
RIVER RD
RIVER RD
RIVER RD
RIVER RD
RANCHO SEQUOIA RD
Northwestern Pacific Railroad
Northwestern Pacific Railroad
Eel River
Mill Creek
Carter Creek
High Gulch
Alderpoint ULC
Based on Census Designated Place
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0.25
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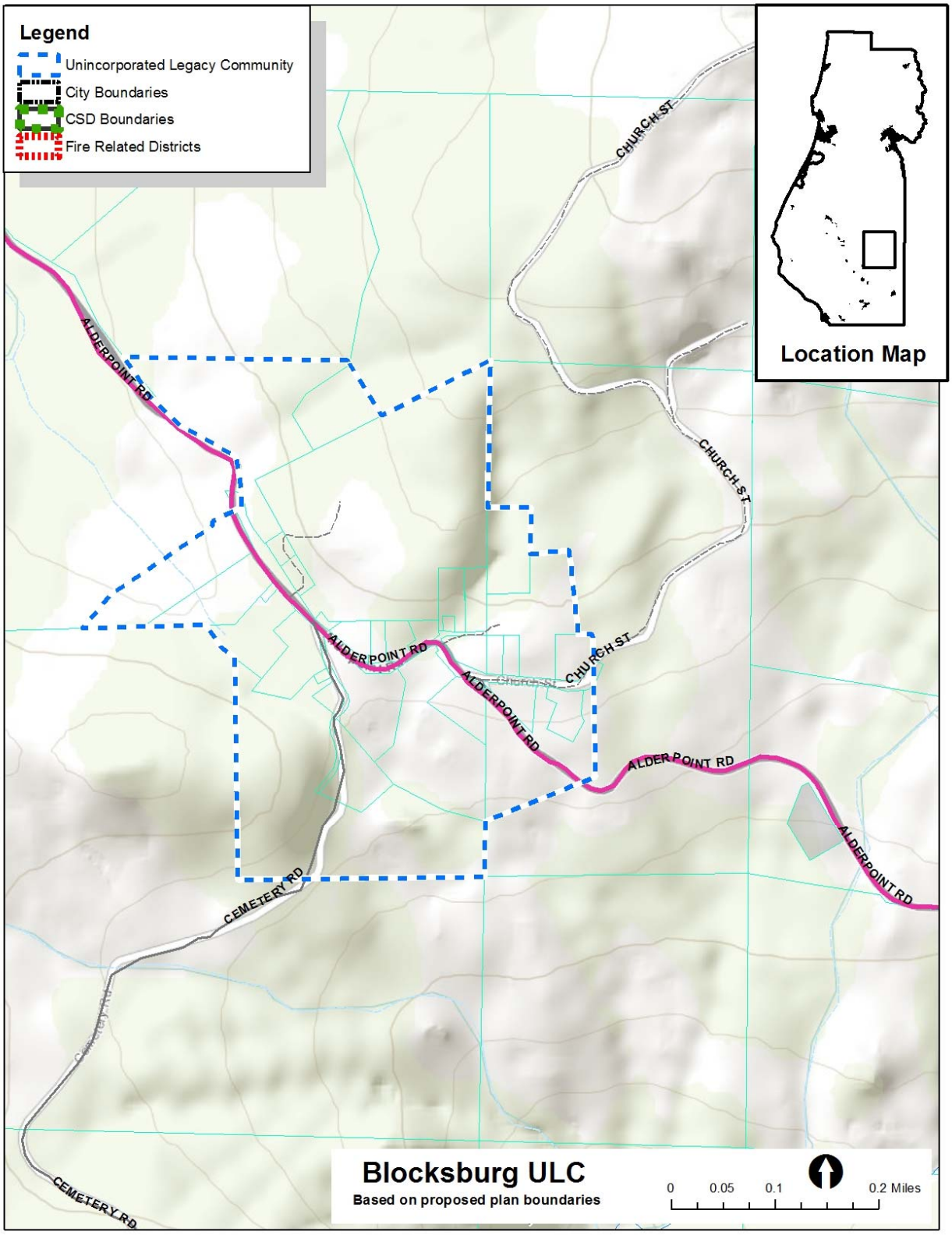
Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
CHURCH ST
ALDERPOINT RD
CHURCH ST
ALDERPOINT RD
CHURCH ST
ALDERPOINT RD
ALDER POINT RD
ALDERPOINT RD
CEMETERY RD
CEMETERY RD
Blocksburg ULC
Based on proposed plan boundaries
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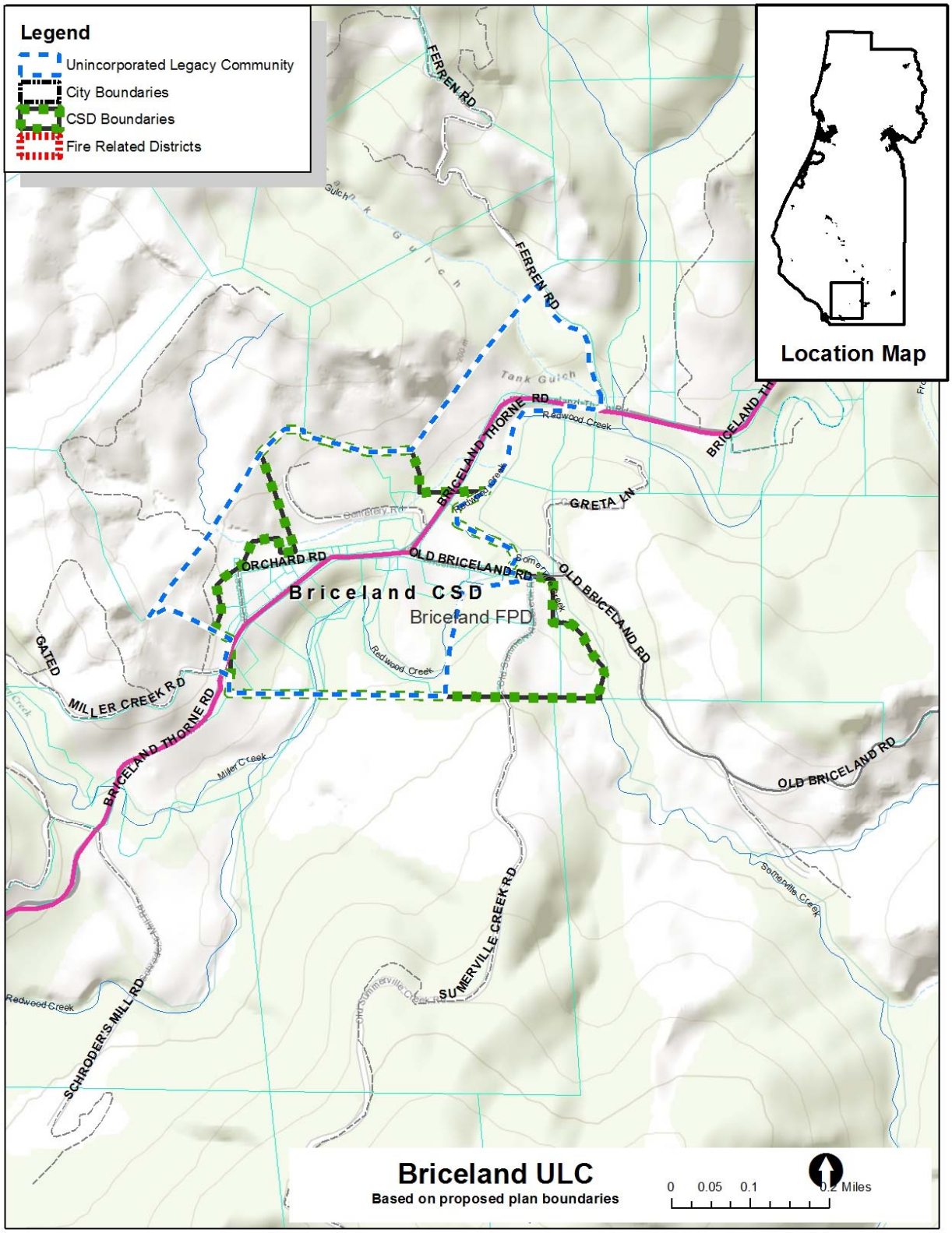
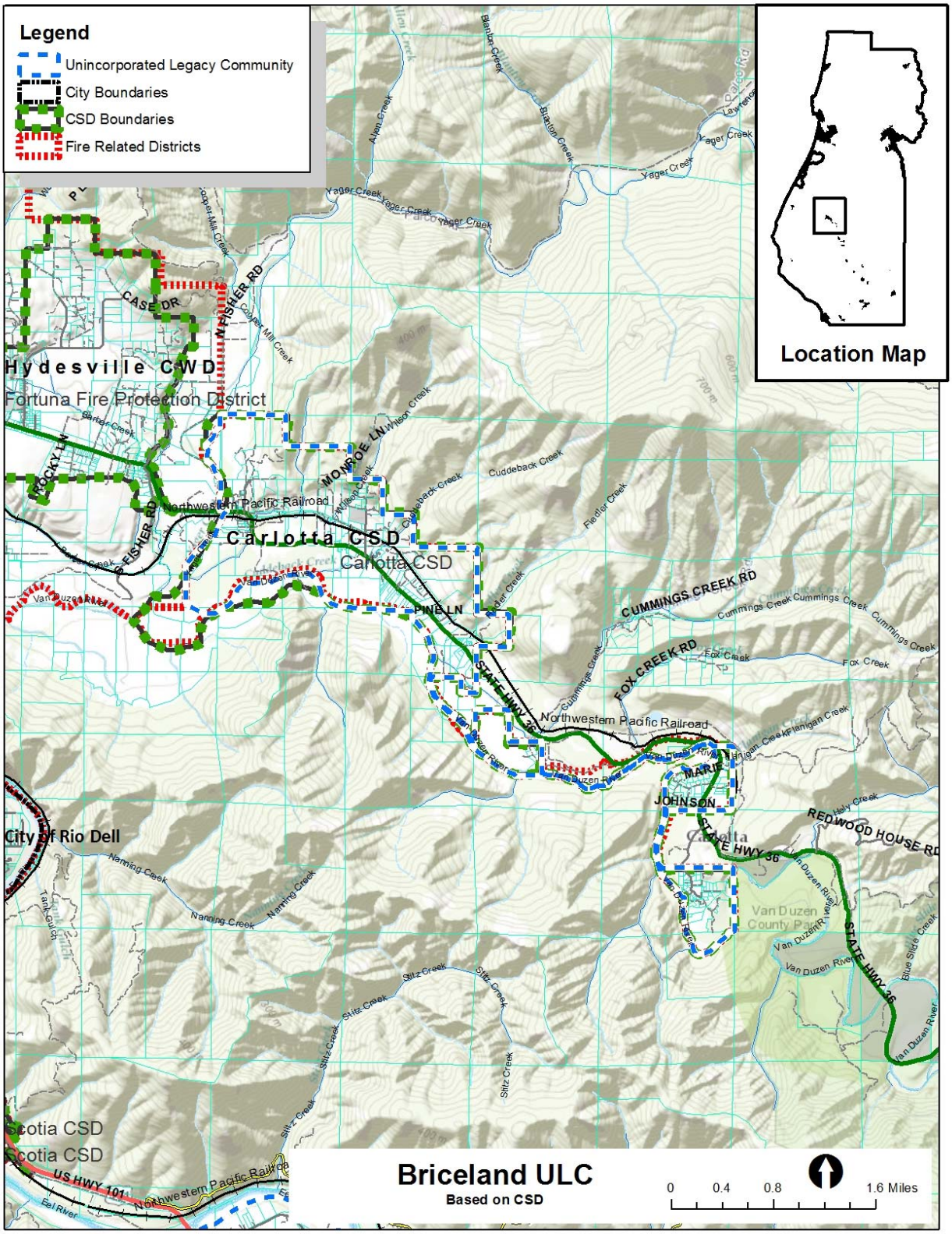
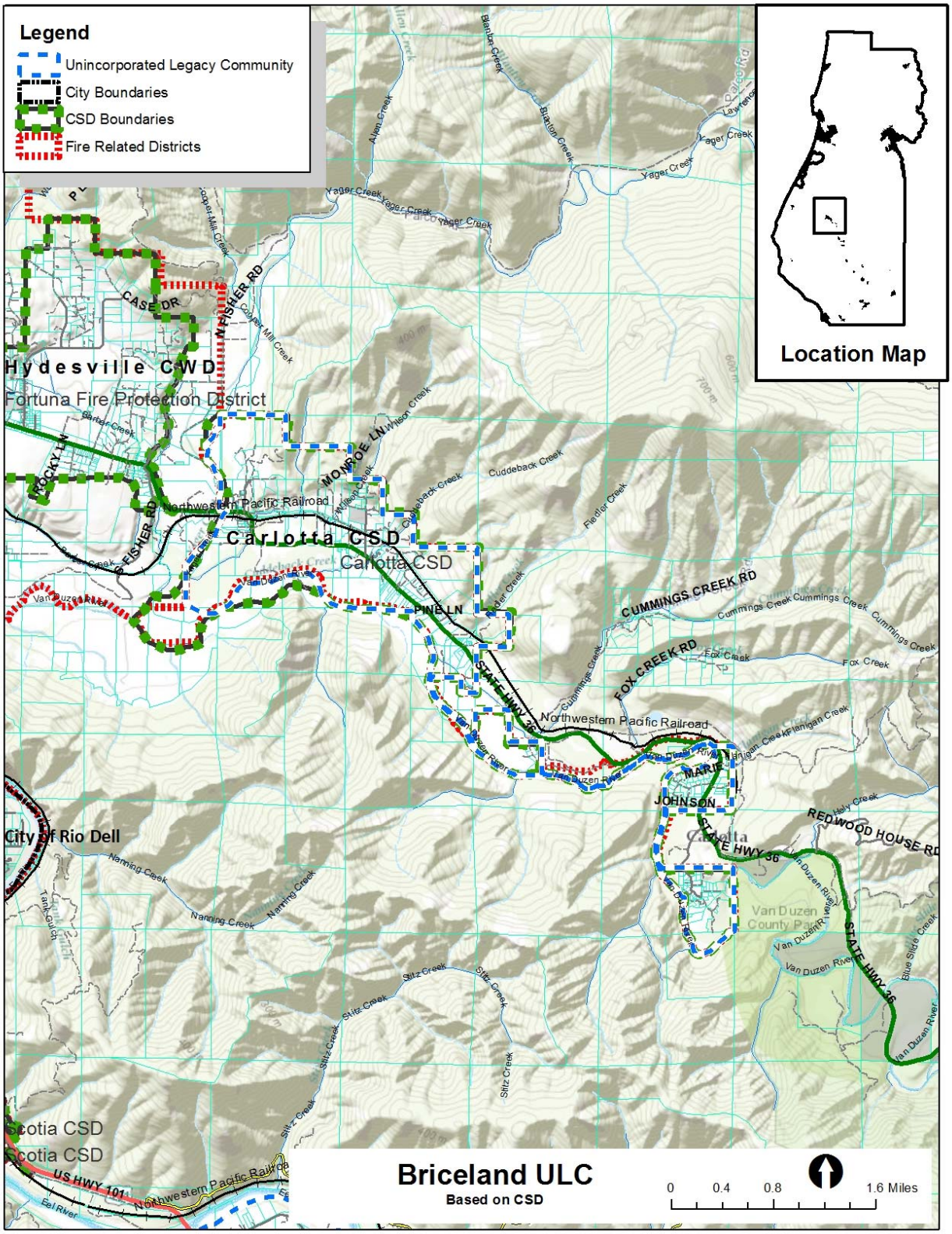
0.05
0.1
0.2 Miles


Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
FERREN RD
Tank Gulch
BRICELAND THORNE RD
Redwood Creek
GRETA LN
ORCHARD RD
OLD BRICELAND RD
Briceland CSD
Briceland FPD
GATED
MILLER CREEK RD
BRICELAND THORNE RD
Miller Creek
SUMMERVILLE CREEK RD
SCHRODER'S MILL RD
Somerville Creek
Briceland ULC
Based on proposed plan boundaries
0 0.05 0.1 0.2 Miles


Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Hydesville CWD
Fortuna Fire Protection District
Carlotta CSD
Carlotta CSD
City of Rio Dell
Scotia CSD
Scotia CSD
Briceland ULC
Based on CSD
0 0.4 0.8 1.6 Miles
CASE DR
N FISHER RD
ROCKY LN
MONROE LN
FISHER RD
PINE LN
CUMMINGS CREEK RD
FOX CREEK RD
STATE HWY 36
REDWOOD HOUSE RD
JOHNSON
MARIS
US HWY 101
Northwestern Pacific Railroad
Van Duzen River
Van Duzen County Park
Yager Creek
Cuddeback Creek
Fiedler Creek
Cummings Creek
Fox Creek
Stitz Creek
Nanning Creek
Tank Gulch
Blue Slide Creek
Eel River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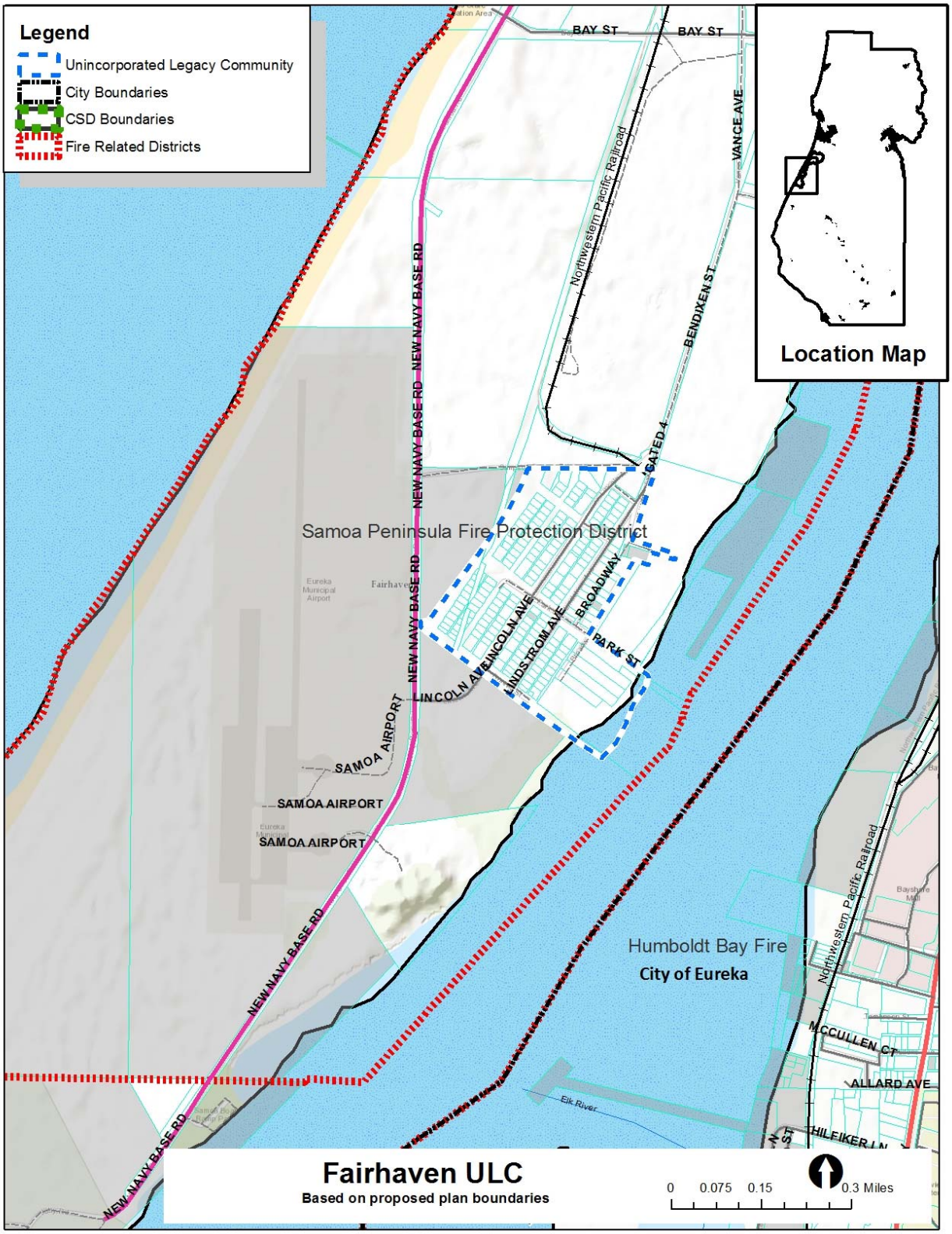
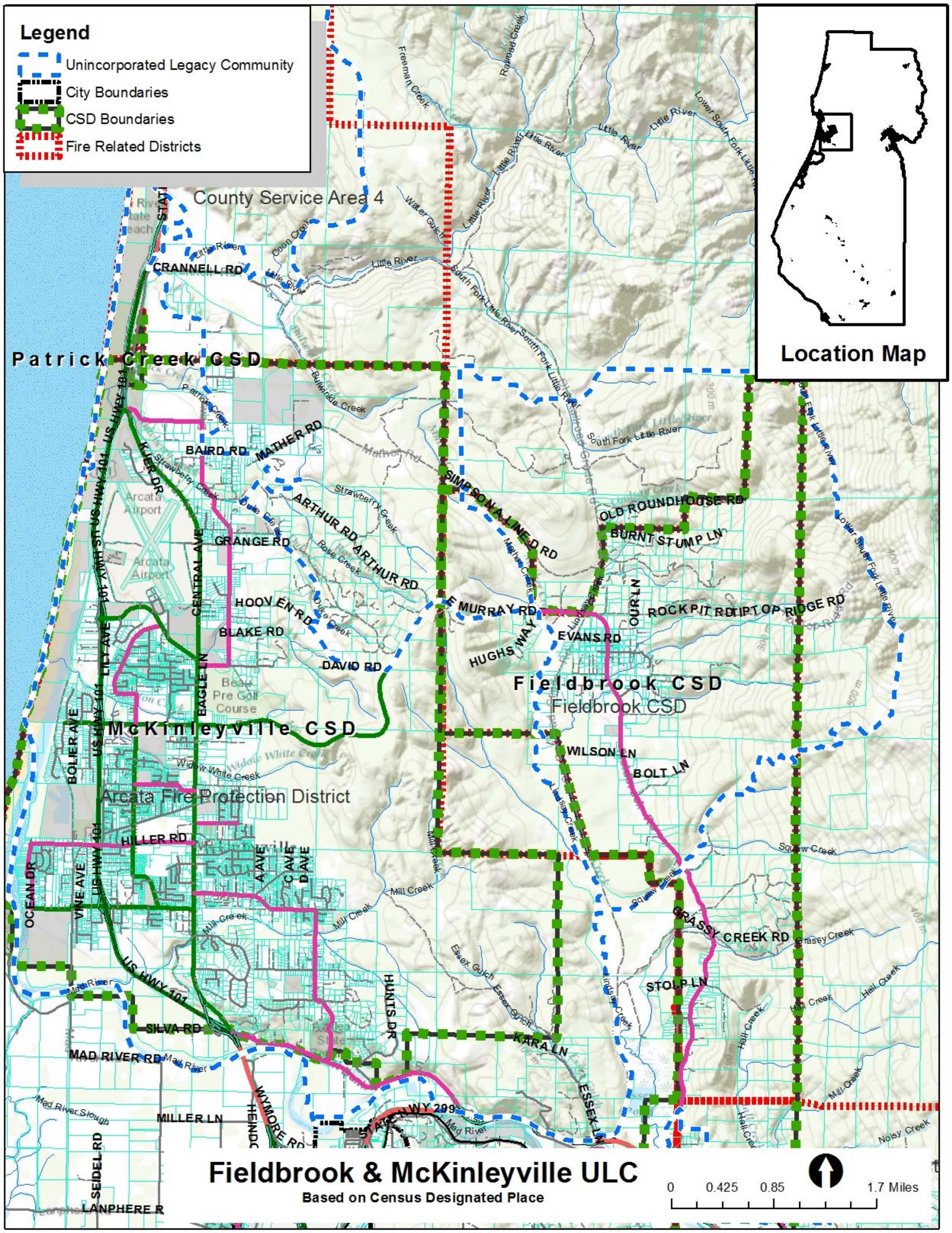
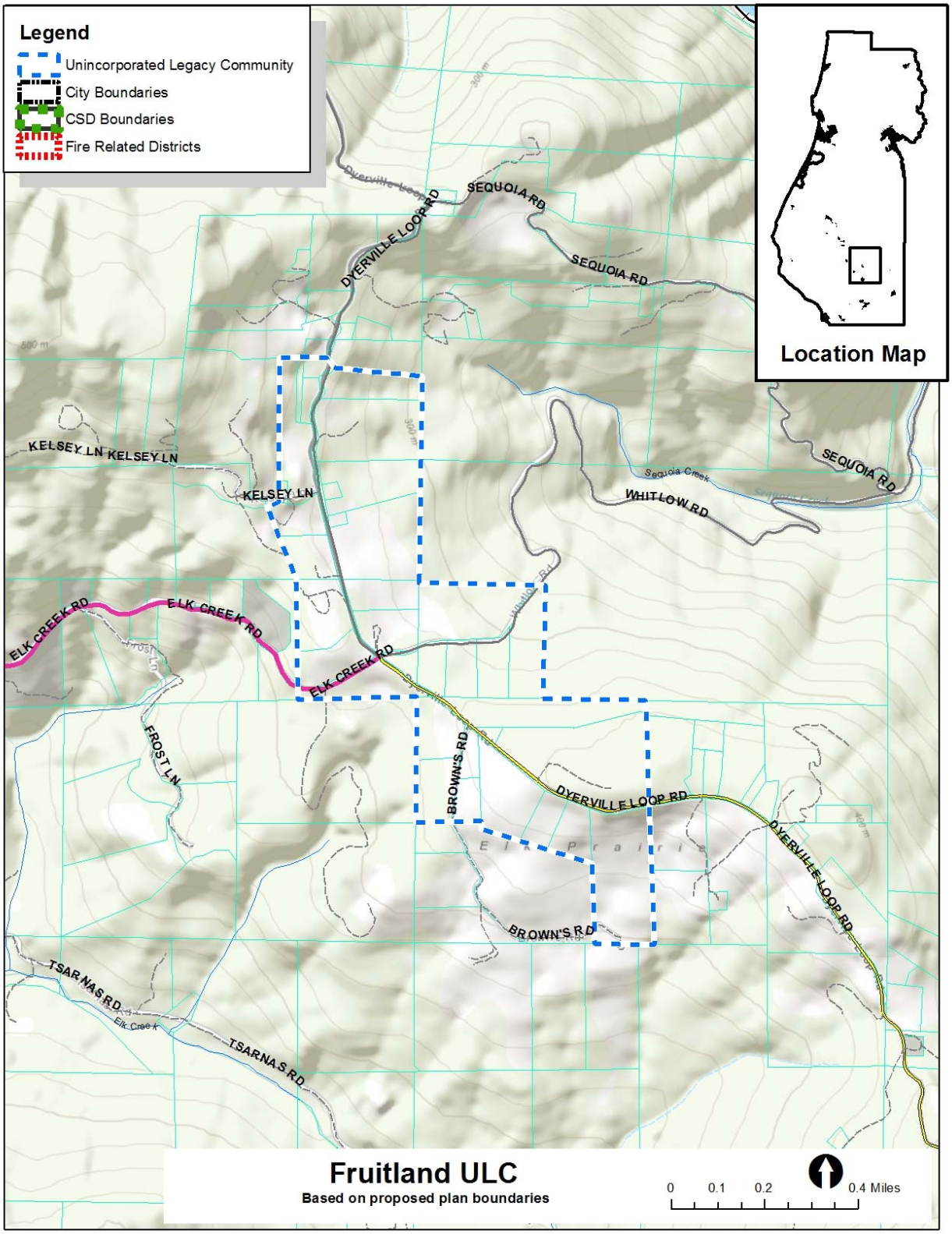
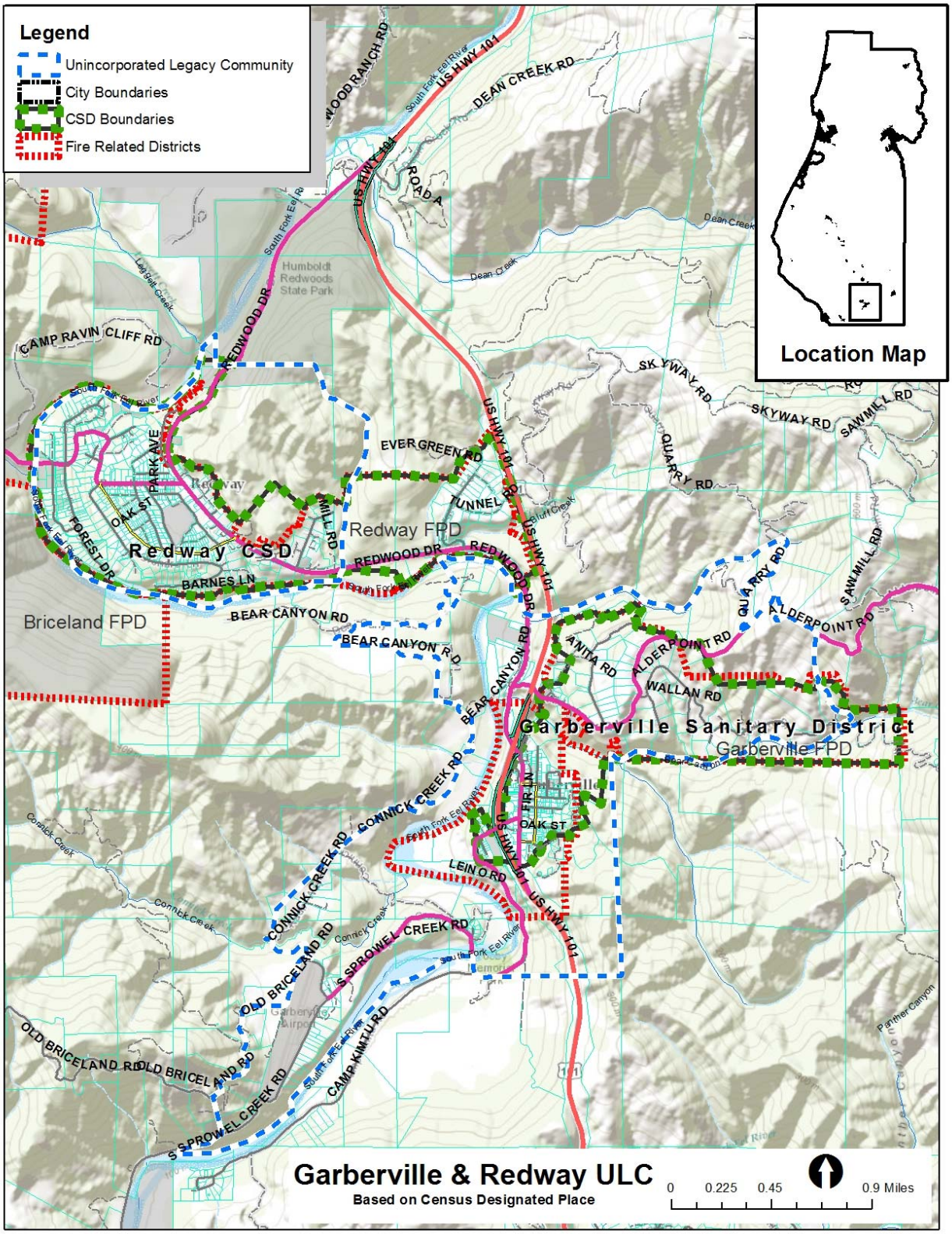
CSD Boundaries
Fire Related Districts
Location Map
Hydesville CWD
Fortuna Fire Protection District
Carlotta CSD
Carlotta CSD
City of Rio Dell
Scotia CSD
Scotia CSD
Briceland ULC
Based on CSD
0 0.4 0.8 1.6 Miles
CASE DR
N FISHER RD
ROCKY LN
MONROE LN
FISHER RD
PINE LN
CUMMINGS CREEK RD
FOX CREEK RD
STATE HWY 36
REDWOOD HOUSE RD
JOHNSON
MARIS
US HWY 101
Northwestern Pacific Railroad
Van Duzen River
Van Duzen County Park
Yager Creek
Cuddeback Creek
Fiedler Creek
Cummings Creek
Fox Creek
Stitz Creek
Nanning Creek
Tank Gulch
Blue Slide Creek
Eel River

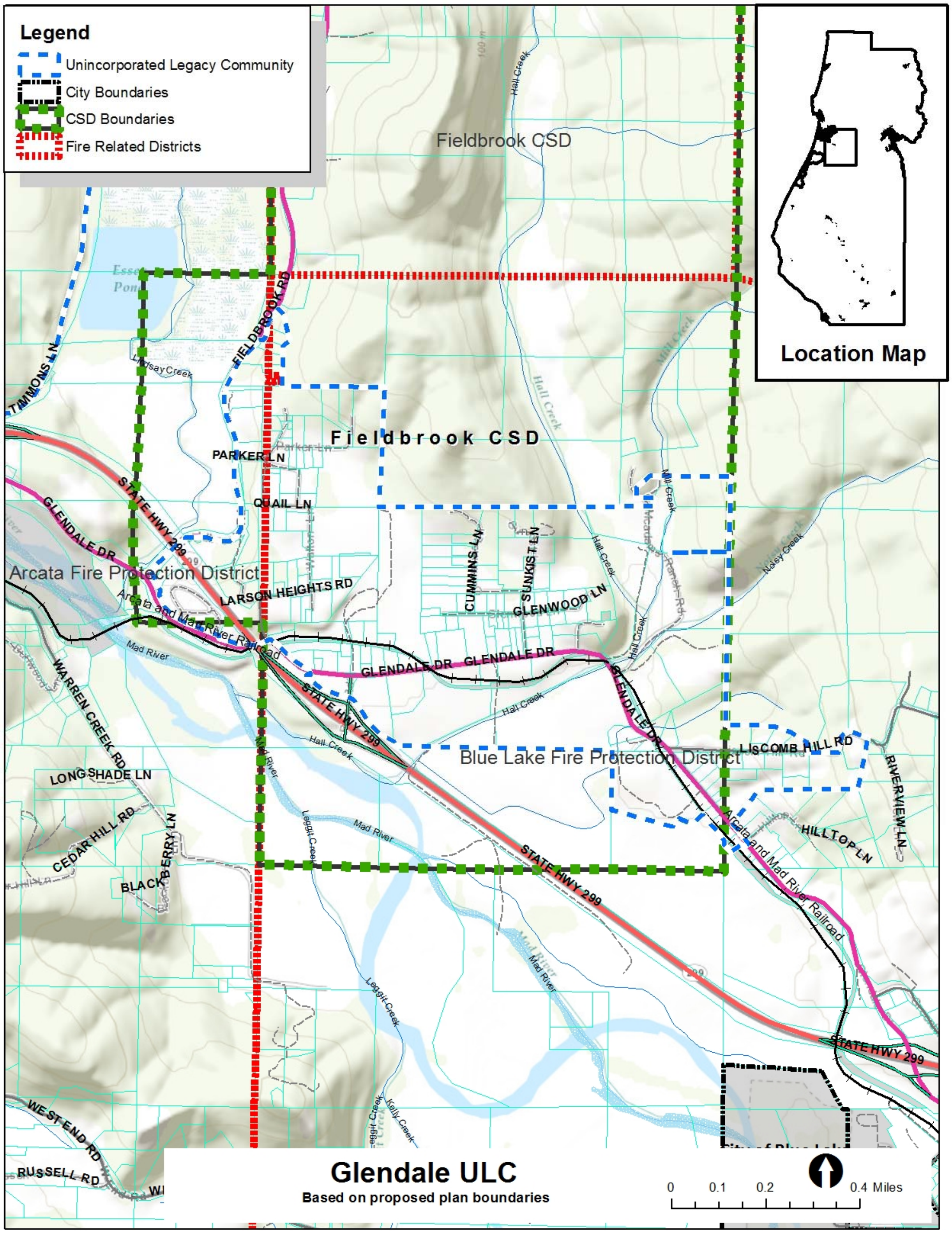

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Samoa Peninsula Fire Protection District
Humboldt Bay Fire
City of Eureka
Fairhaven ULC
Based on proposed plan boundaries
0 0.075 0.15 0.3 Miles
BAY ST
VANCE AVE
Northwestern Pacific Railroad
BENDIXEN ST
NEW NAVY BASE RD
BROADWAY
PARK ST
LINCOLN AVE
LINDSTROM AVE
SAMOA AIRPORT
MCCULLEN CT
ALLARD AVE
HILFIKER LN
Elk River

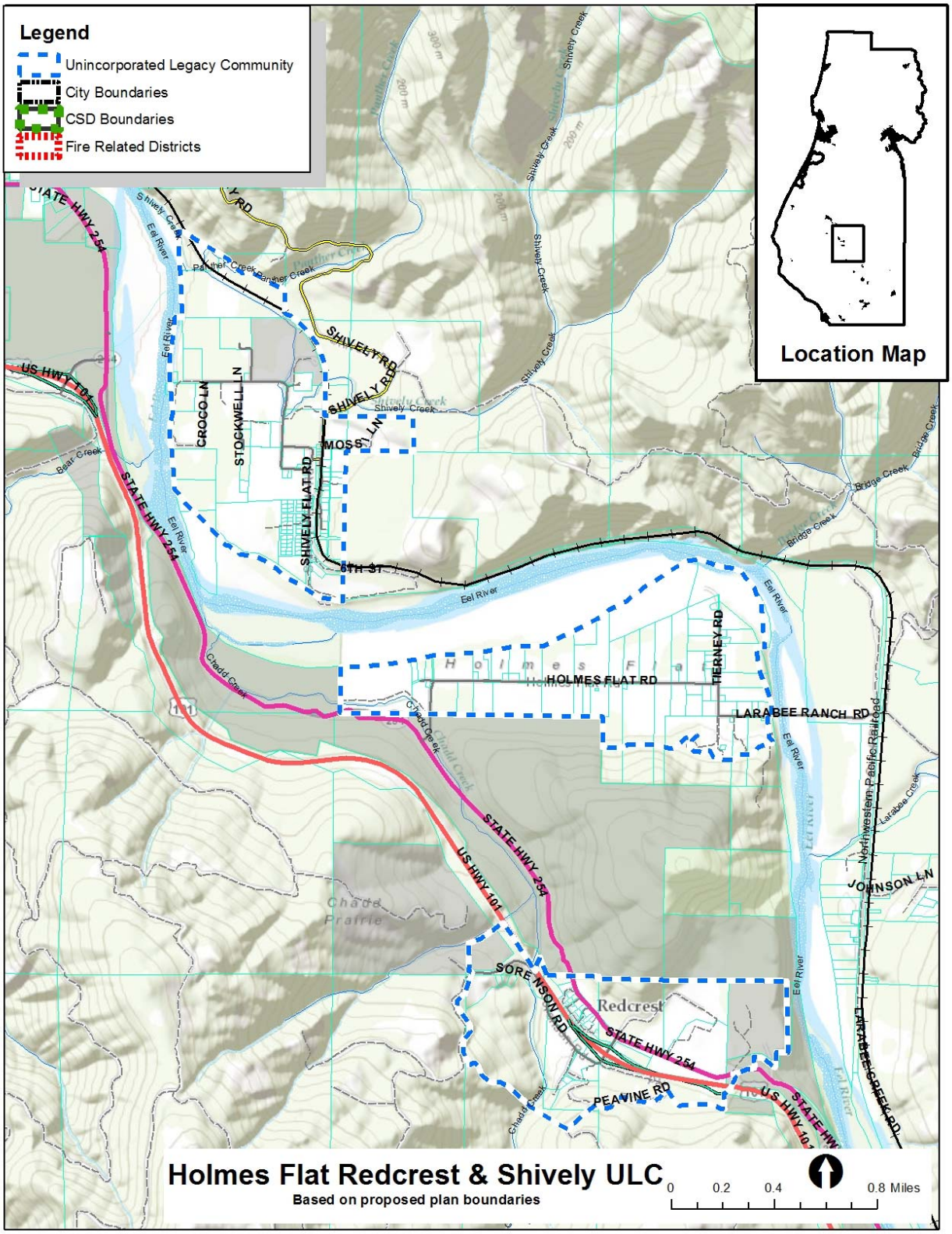


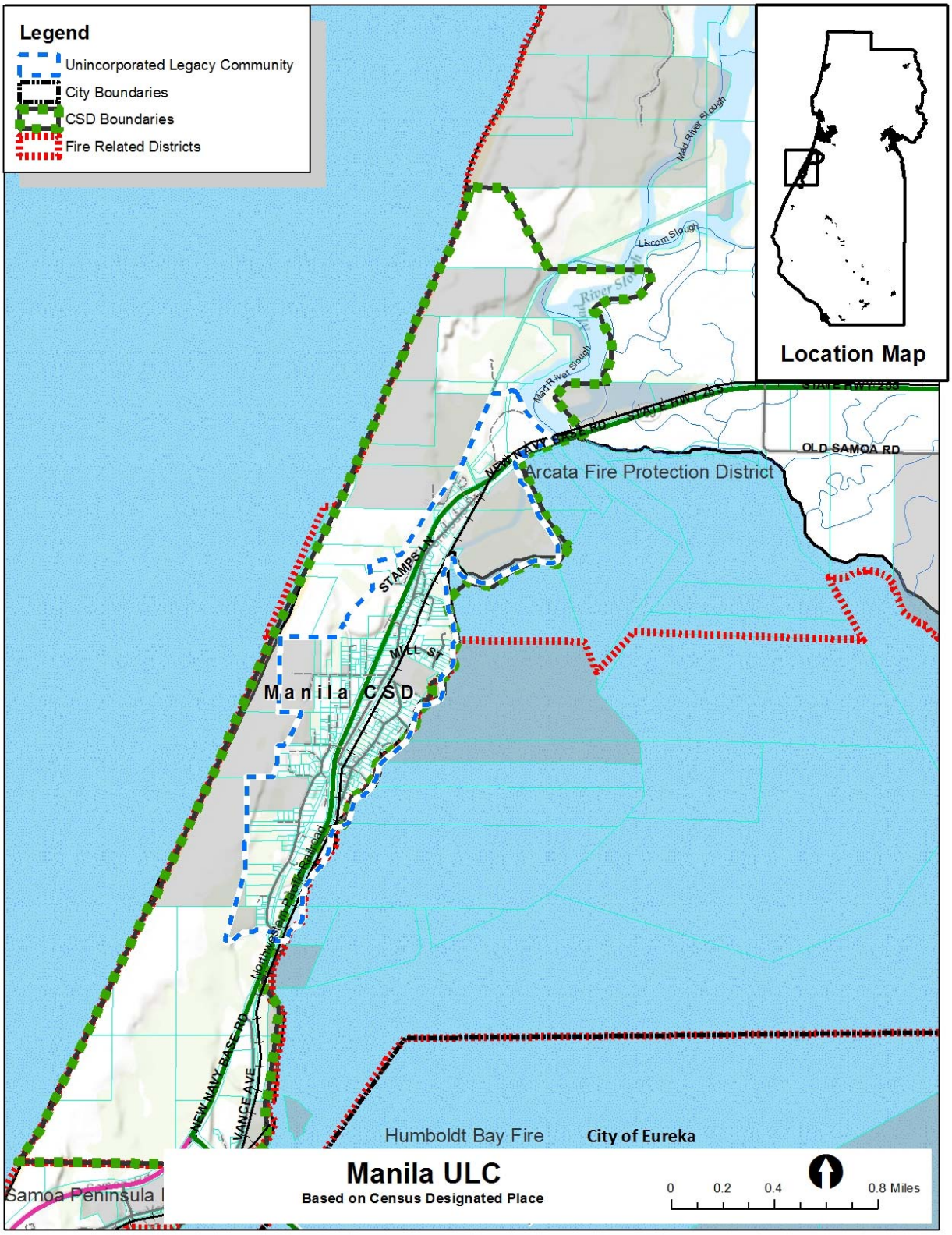
Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
County Service Area 4
Patrick Creek CSD
McKinleyville CSD
Fieldbrook CSD
Arcata Fire Protection District
Fieldbrook & McKinleyville ULC
Based on Census Designated Place
0 0.425 0.85 1.7 Miles

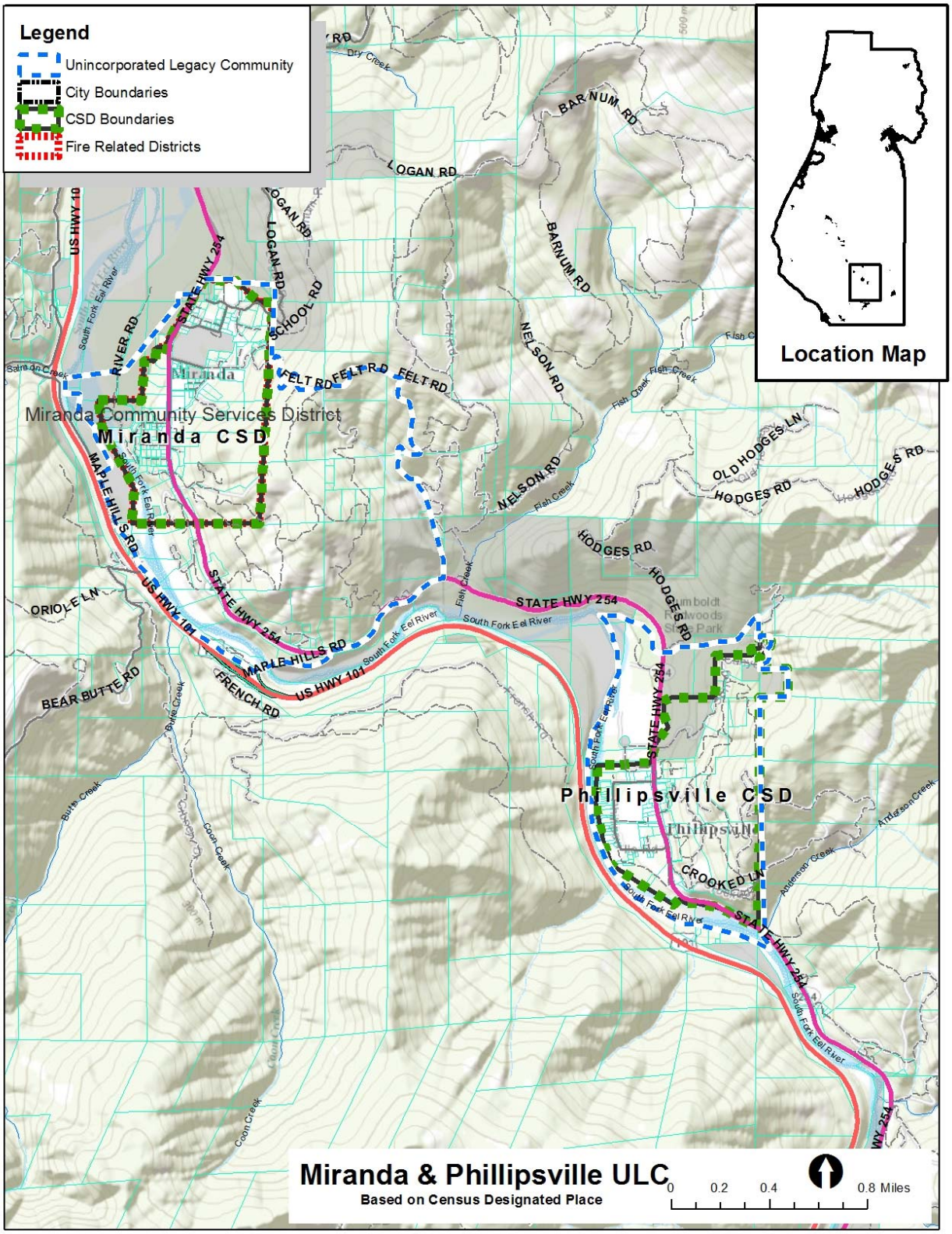

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
DYERVILLE LOOP RD
SEQUOIA RD
SEQUOIA RD
KELSEY LN KELSEY LN
KELSEY LN
SEQUOIA RD
WHITLOW RD
ELK CREEK RD
ELK CREEK RD
ELK CREEK RD
FROST LN
BROWN'S RD
DYERVILLE LOOP RD
DYERVILLE LOOP RD
BROWN'S RD
TSARNAS RD
TSARNAS RD
Fruitland ULC
Based on proposed plan boundaries
0 0.1 0.2 0.4 Miles

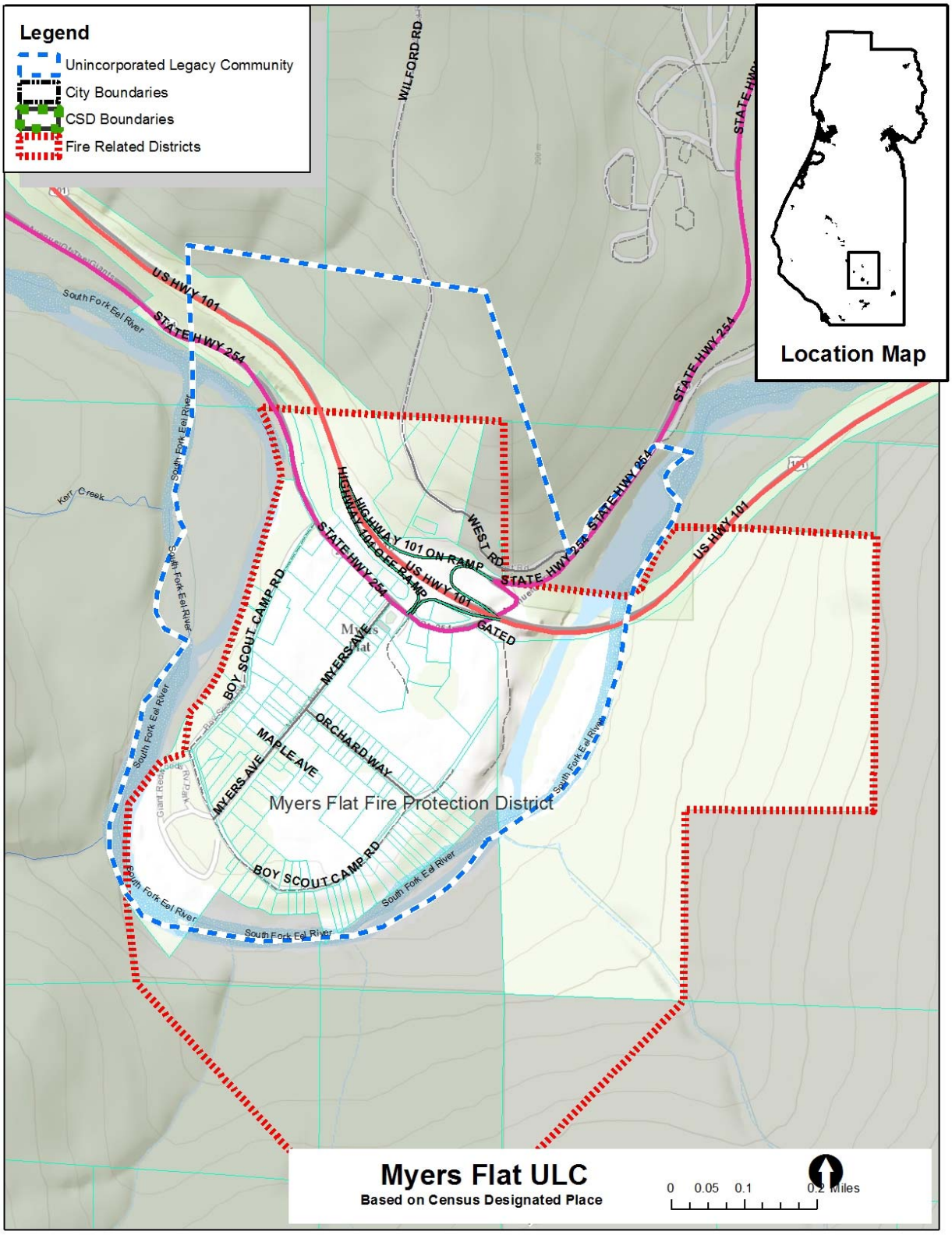

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Redway CSD
Redway FPD
Briceland FPD
Garberville Sanitary District
Garberville FPD
Garberville & Redway ULC
Based on Census Designated Place
0 0.225 0.45 0.9 Miles
US HWY 101
REDWOOD DR
EVERGREEN RD
TUNNEL RD
MILL RD
OAK ST
PARK AVE
FOREST DR
BARNES LN
BEAR CANYON RD
DEAN CREEK RD
WOOD RANCH RD
ROAD A
CAMP RAVIN CLIFF RD
SKYWAY RD
SAWMILL RD
QUARRY RD
ALDERPOINT RD
ANITA RD
WALLAN RD
FIR ST
CONNICK CREEK RD
LEINO RD
S SPROWEL CREEK RD
OLD BRICELAND RD
CAMP KIMTU RD
Humboldt Redwoods State Park
South Fork Eel River
Dean Creek
Connick Creek
Panther Canyon

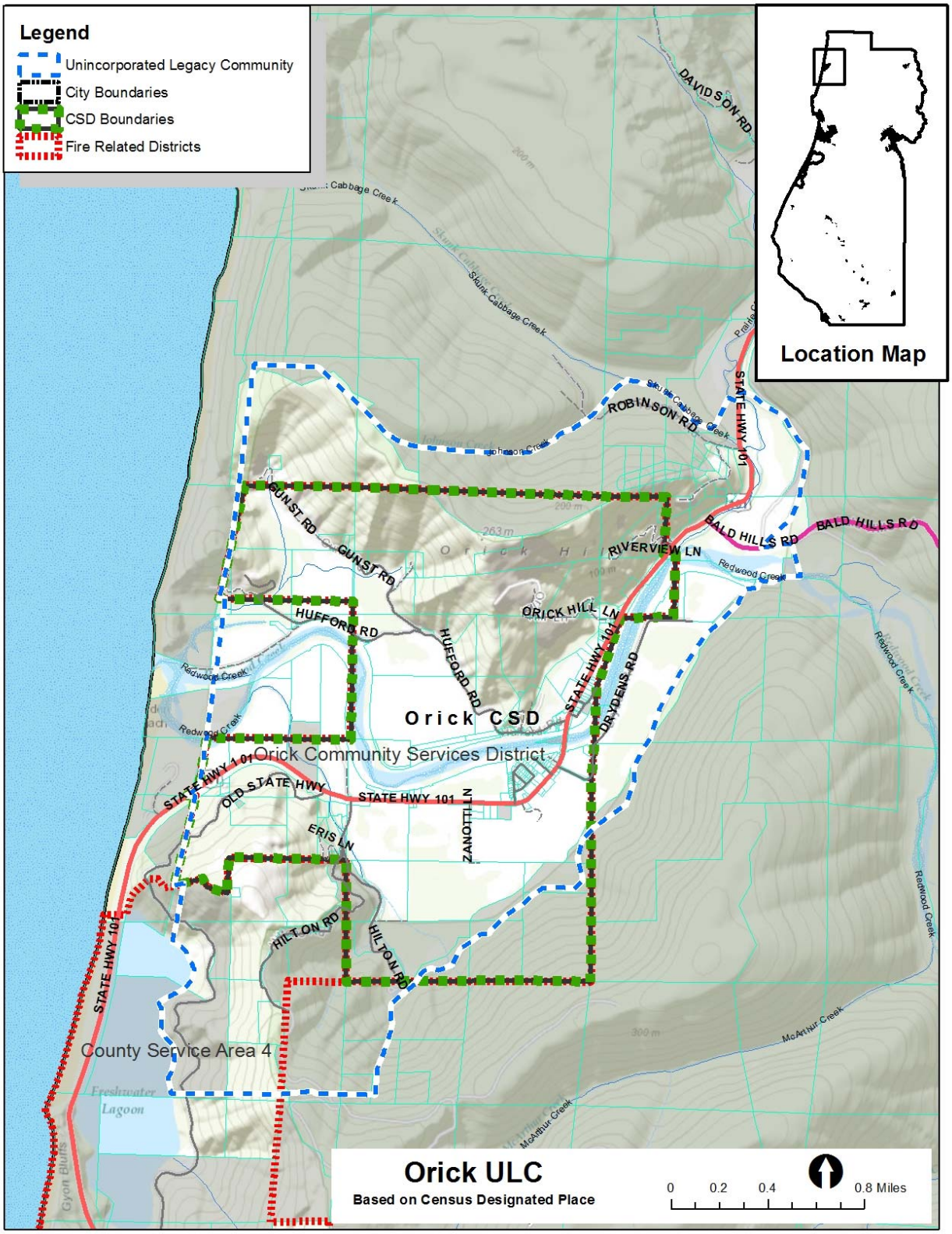

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Fieldbrook CSD
Fieldbrook CSD
Arcata Fire Protection District
Blue Lake Fire Protection District
STATE HWY 299
GLENDALE DR
LARSON HEIGHTS RD
PARKER LN
QUAIL LN
FIELDBROOK RD
CUMMINS LN
SUNKIST LN
GLENWOOD LN
WARREN CREEK RD
LONG SHADE LN
CEDAR HILL RD
BLACKBERRY LN
LISCOMB HILL RD
HILLTOP LN
RIVERVIEW LN
WEST END RD
RUSSELL RD
TIMMONS LN
Arcata and Mad River Railroad
Mad River
Hall Creek
Leggit Creek
Glendale ULC
Based on proposed plan boundaries
0 0.1 0.2 0.4 Miles

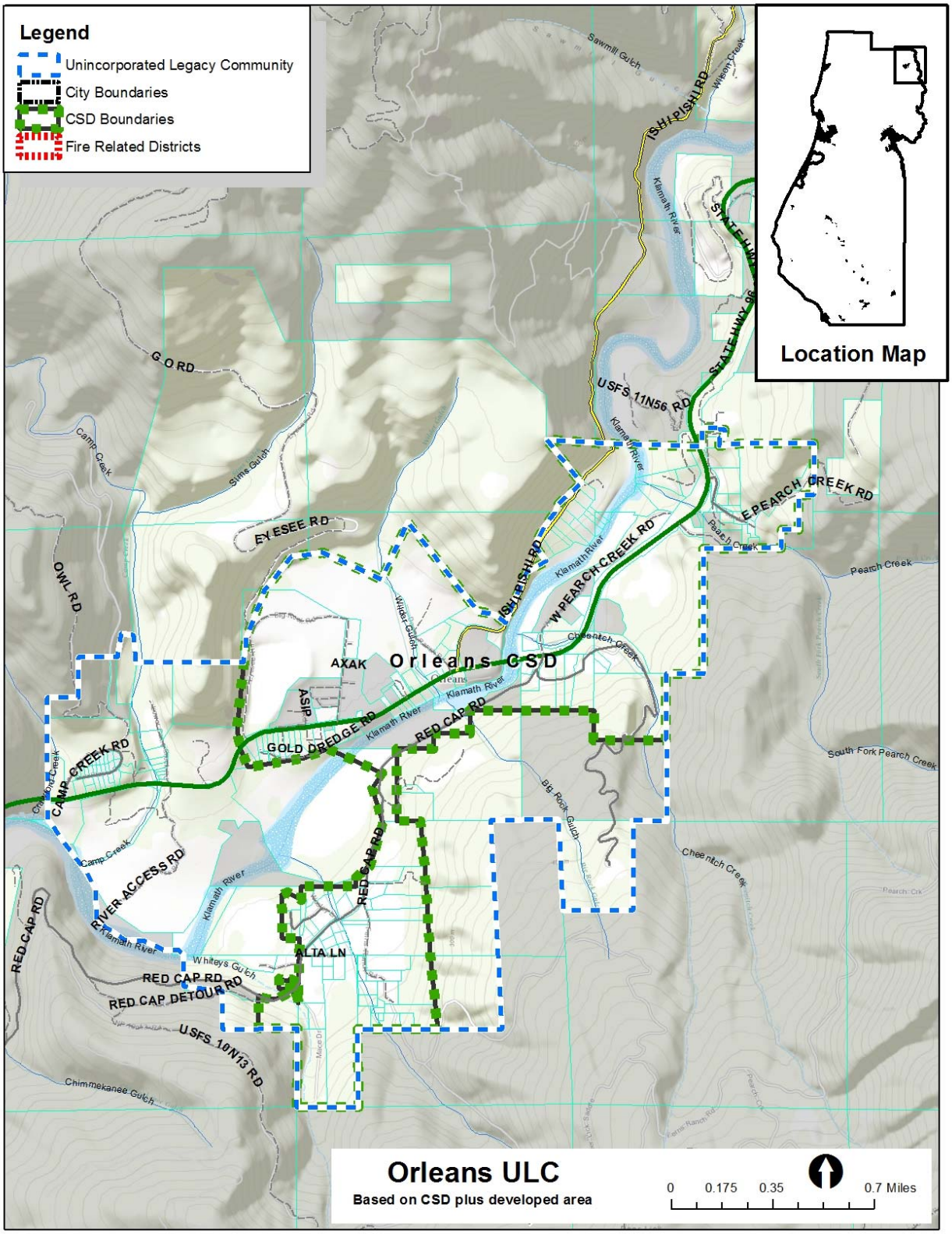

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Holmes Flat Redcrest & Shively ULC
Based on proposed plan boundaries
0 0.2 0.4 0.8 Miles
STATE HWY 254
US HWY 101
SHIVELY RD
CROCO LN
STOCKWELL LN
MOSS LN
SHIVELY FLAT RD
6TH ST
HOLMES FLAT RD
TIERNEY RD
LARABEE RANCH RD
JOHNSON LN
SORENSON RD
PEAVINE RD
LARABEE CREEK RD
Redcrest
Chadd Prairie
Eel River
Shively Creek
Panther Creek
Bear Creek
Bridge Creek
Chadd Creek
Larabee Creek
Northwestern Pacific Railroad

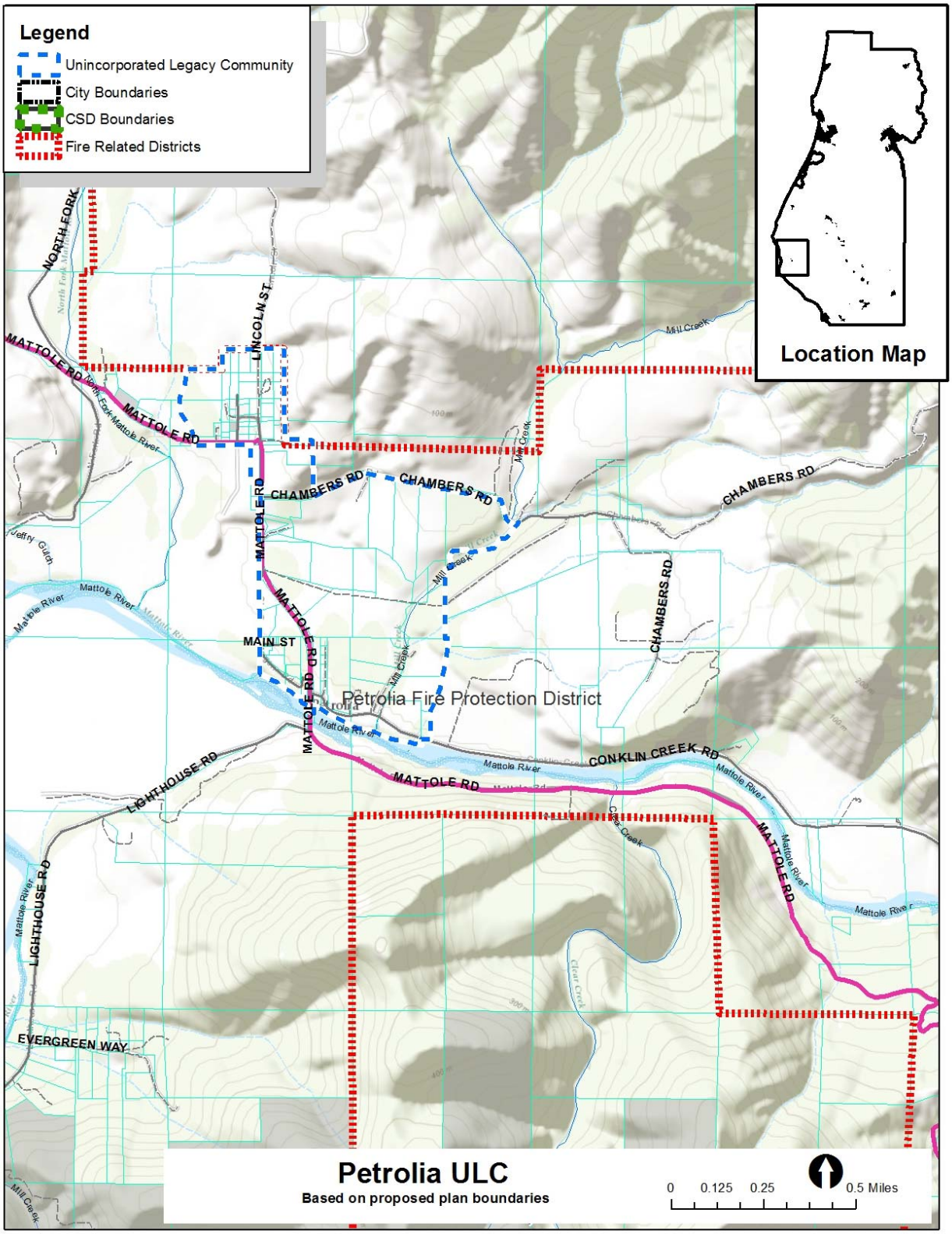

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Mad River Slough
Liscom Slough
OLD SAMOA RD
Arcata Fire Protection District
STAMPS LN
MILL ST
Manila CSD
NEW NAVY BASE RD
VANCE AVE
Humboldt Bay Fire
City of Eureka
Samoa Peninsula
Manila ULC
Based on Census Designated Place
0
0.2
0.4
0.8 Miles

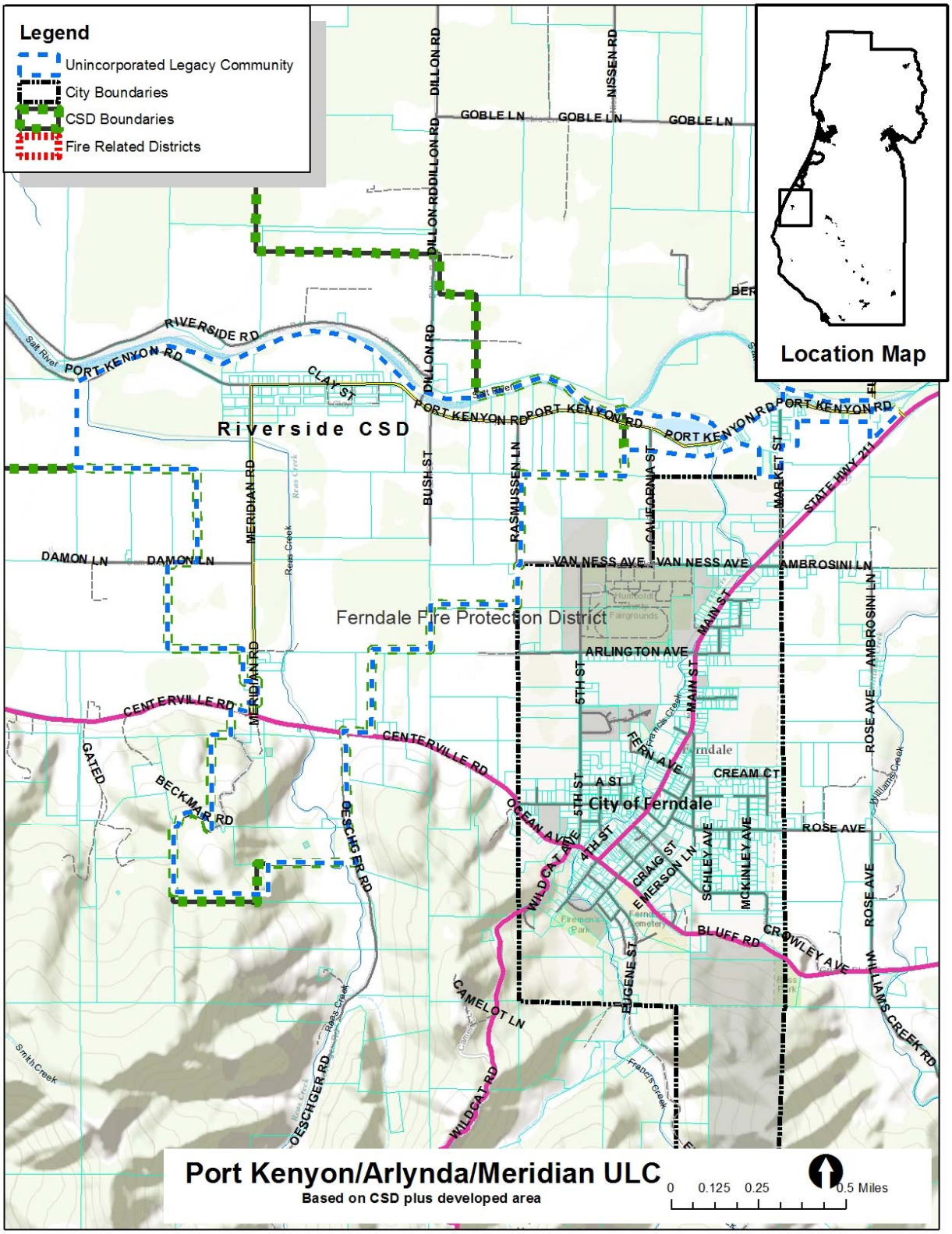

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Miranda Community Services District
Miranda CSD
Phillipsville CSD
Miranda & Phillipsville ULC
Based on Census Designated Place
0 0.2 0.4 0.8 Miles
LOGAN RD
BARNUM RD
NELSON RD
FELT RD
SCHOOL RD
RIVER RD
MAPLE HILLS RD
HODGES RD
OLD HODGES LN
ORIOLE LN
BEAR BUTTE RD
FRENCH RD
CROOKED LN
STATE HWY 254
US HWY 101
US HWY 10
South Fork Eel River
Fish Creek
Butte Creek
Coon Creek
Anderson Creek
Miranda
Phillipsville

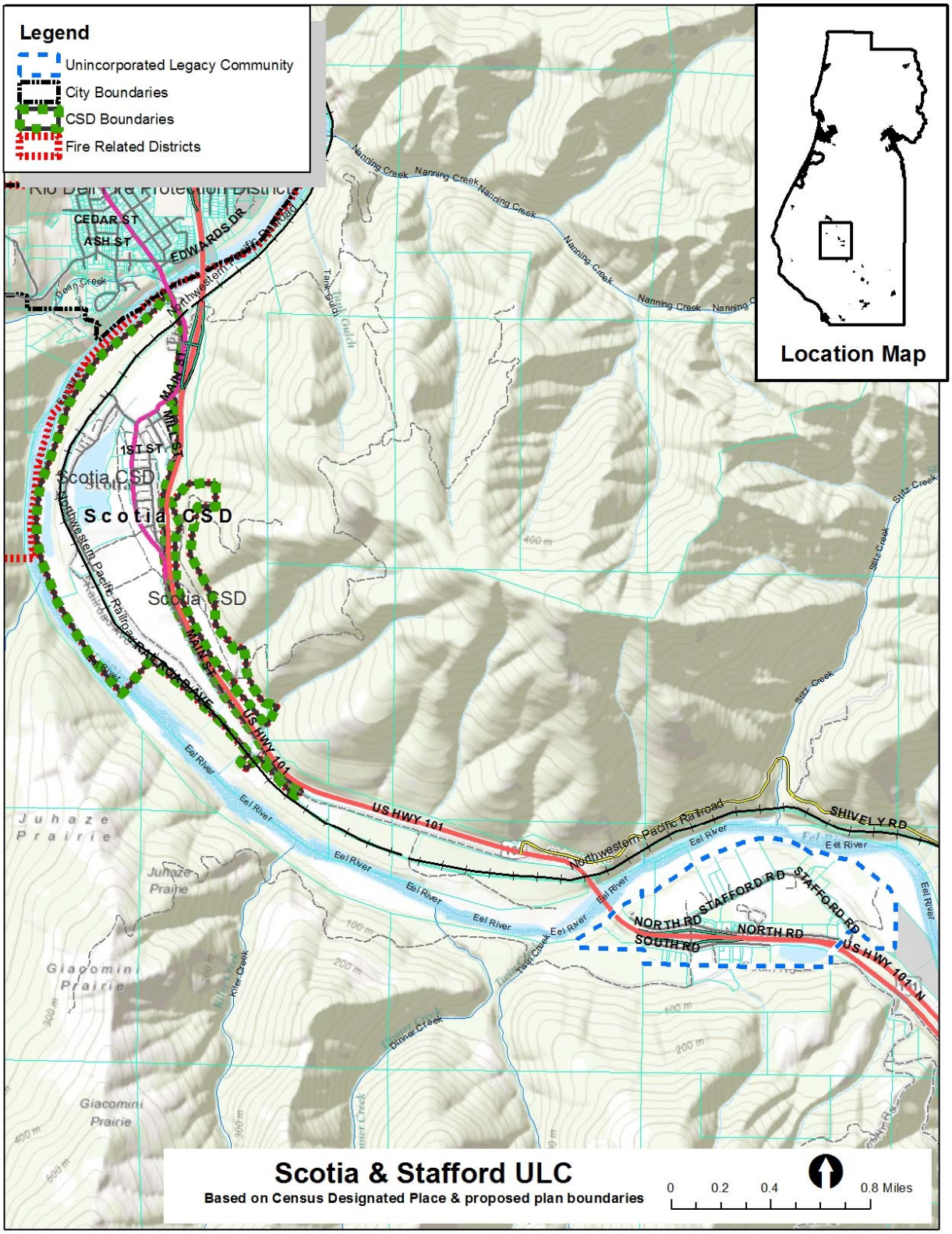

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
WILFORD RD
US HWY 101
STATE HWY 254
South Fork Eel River
Kerr Creek
HIGHWAY 101 ON RAMP
HIGHWAY 101 OFF RAMP
WEST RD
GATED
BOY SCOUT CAMP RD
MYERS AVE
ORCHARD WAY
MAPLE AVE
Myers Flat Fire Protection District
Myers Flat ULC
Based on Census Designated Place
0 0.05 0.1 0.2 Miles

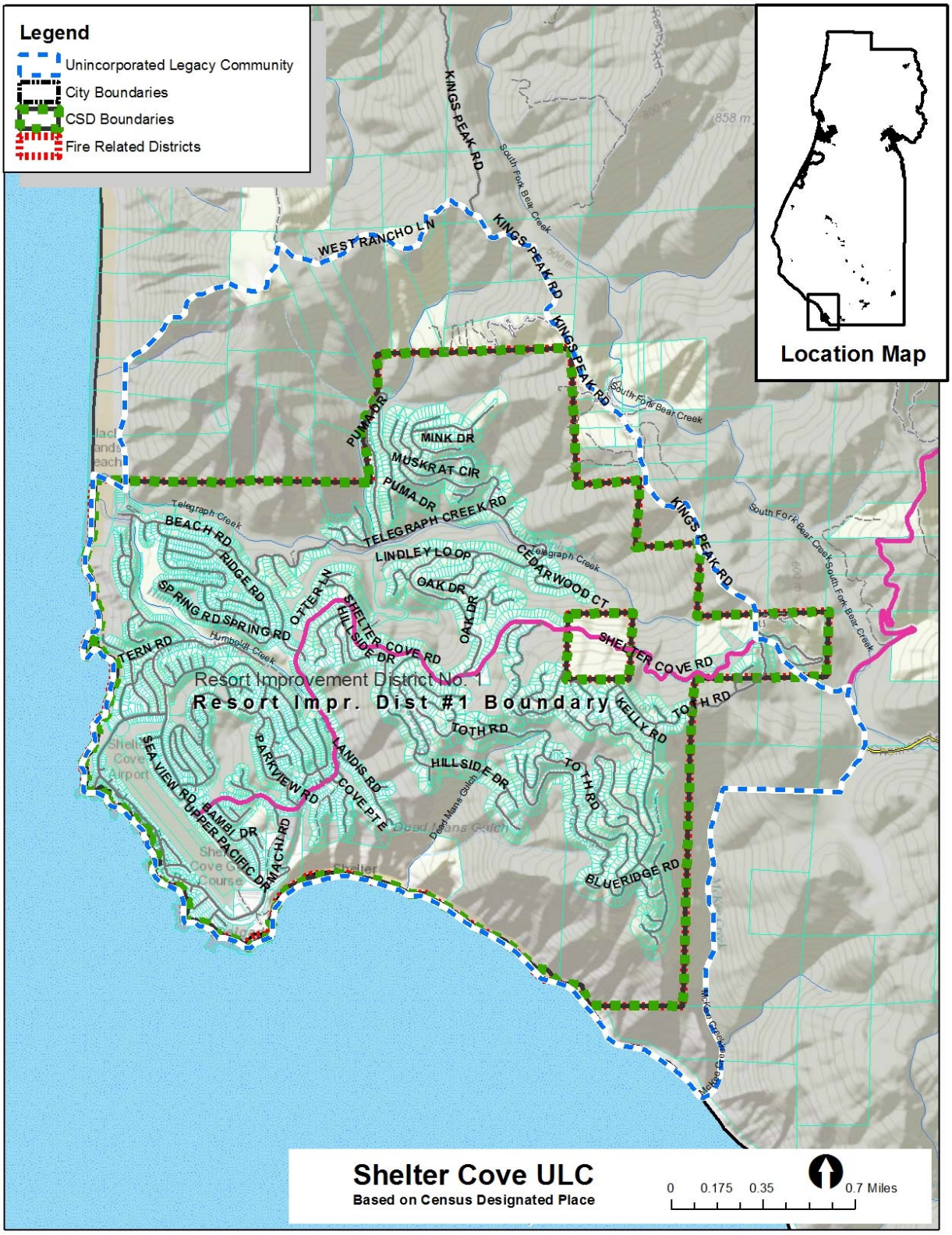

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Orick CSD
Orick Community Services District
County Service Area 4
Orick ULC
Based on Census Designated Place
0 0.2 0.4 0.8 Miles
DAVIDSON RD
ROBINSON RD
STATE HWY 101
GUNST RD
BALD HILLS RD
RIVERVIEW LN
HUFFORD RD
ORICK HILL LN
DRYDENS RD
OLD STATE HWY
ZANONI LN
ERIS LN
HILTON RD
Skunk Cabbage Creek
Redwood Creek
McArthur Creek
Freshwater Lagoon

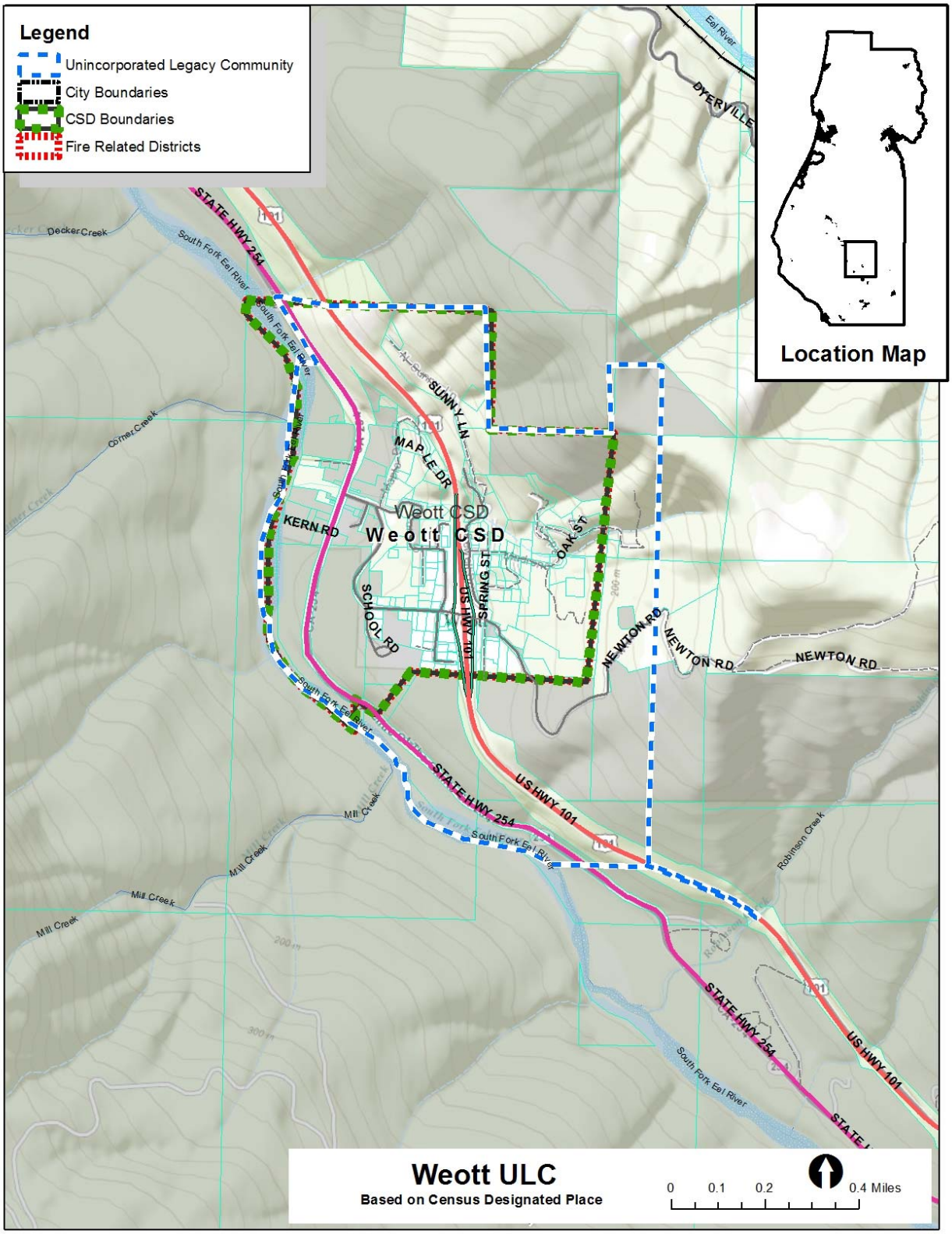

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Orleans ULC
Based on CSD plus developed area
0 0.175 0.35 0.7 Miles
Orleans CSD
AXAK
ASIP
G O RD
EYESEE RD
OWL RD
CAMP CREEK RD
RIVER ACCESS RD
RED CAP RD
RED CAP DETOUR RD
GOLD DREDGE RD
ALTA LN
USFS 10N13 RD
ISHI PISHI RD
USFS 11N56 RD
STATE HWY 96
E PEARCH CREEK RD
W PEARCH CREEK RD
Klamath River
Camp Creek
Sims Gulch
Whitey Gulch
Cheentch Creek
Peach Creek
South Fork Pearch Creek
Big Rock Gulch
Whiteys Gulch
Chimmekanee Gulch
Sawmill Gulch
Wilson Creek

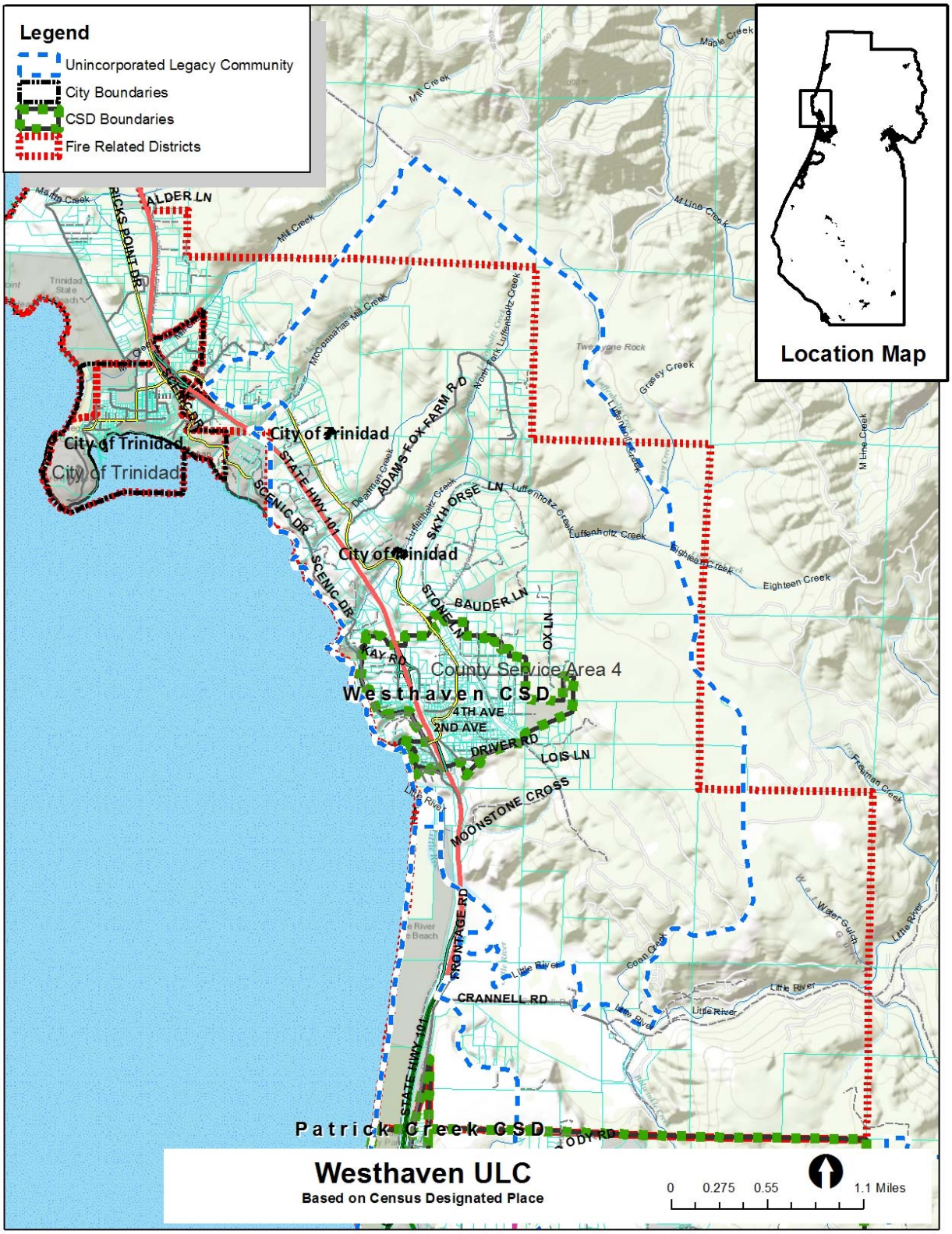

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
NORTH FORK
MATTOLE RD
LINCOLN ST
CHAMBERS RD
MAIN ST
LIGHTHOUSE RD
EVERGREEN WAY
CONKLIN CREEK RD
Petrolia Fire Protection District
Petrolia ULC
Based on proposed plan boundaries
0 0.125 0.25 0.5 Miles

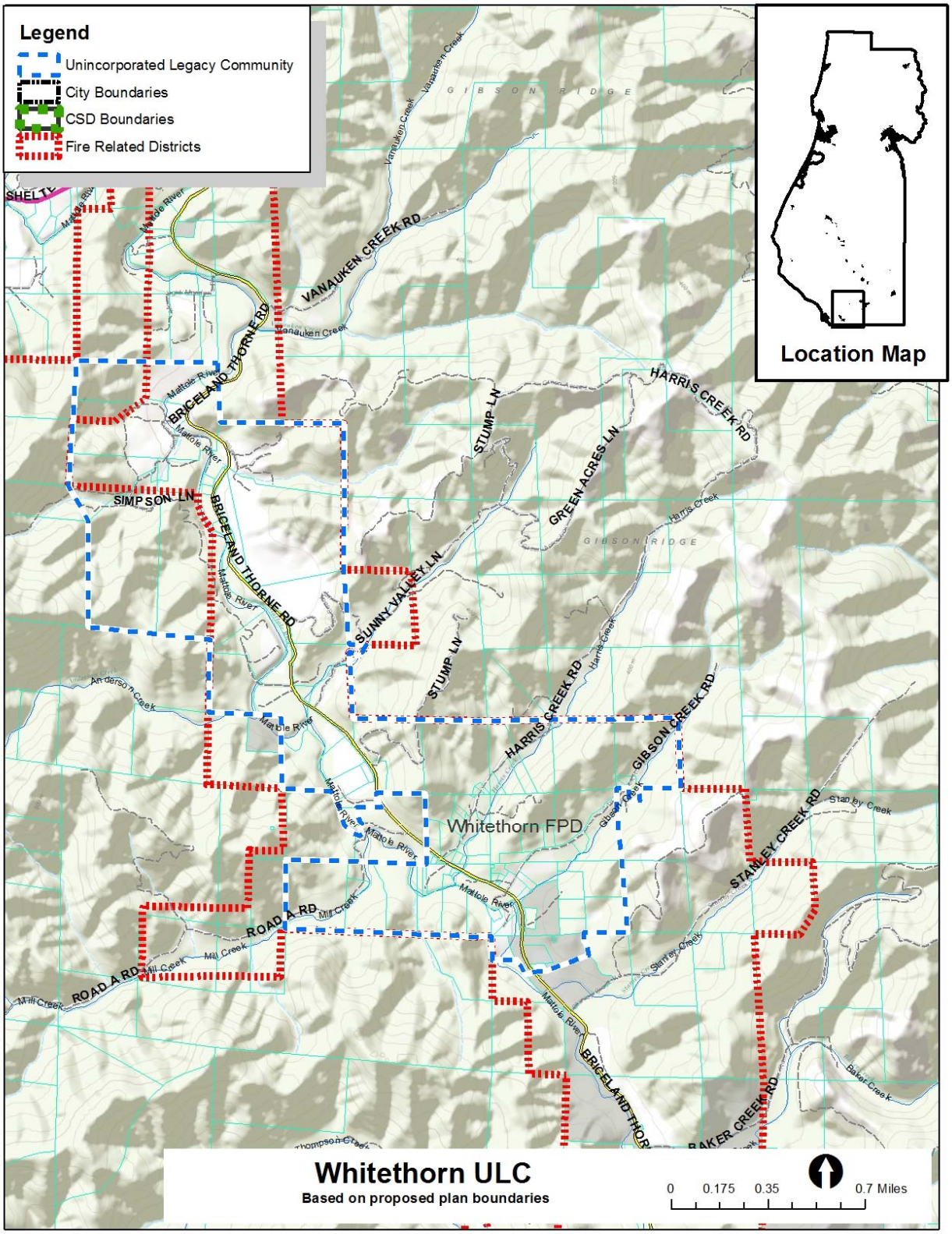

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Riverside CSD
Ferndale Fire Protection District
City of Ferndale
Port Kenyon/Arlynda/Meridian ULC
Based on CSD plus developed area
0 0.125 0.25 0.5 Miles
DILLON RD
NISSEN RD
GOBLE LN
RIVERSIDE RD
PORT KENYON RD
CLAY ST
BUSH ST
RASMUSSEN LN
CALIFORNIA ST
MARKET ST
STATE HWY 211
MERIDIAN RD
DAMON LN
VAN NESS AVE
AMBROSINI LN
MAIN ST
ARLINGTON AVE
5TH ST
CENTERVILLE RD
GATED
BECKMAN RD
OESCHGER RD
OCEAN AVE
FERN AVE
A ST
CREAM CT
ROSE AVE
4TH ST
CRAIG ST
EMERSON LN
SCHLEY AVE
MCKINLEY AVE
WILDCAT RD
BLUFF RD
CROWLEY AVE
EUGENE ST
CAMELOT LN
WILLIAMS CREEK RD
Salt River
Reas Creek
Smith Creek

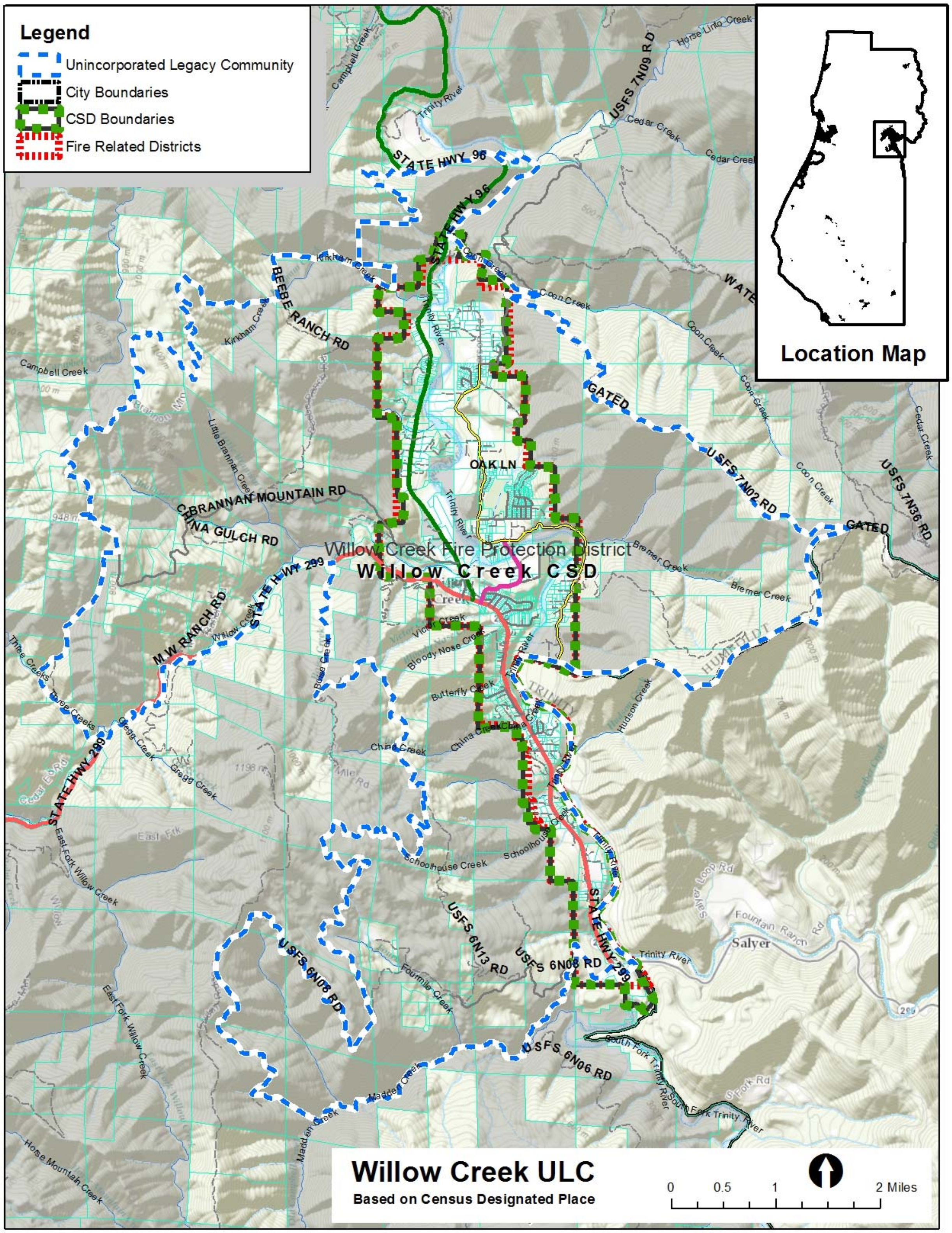

Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Scotia & Stafford ULC
Based on Census Designated Place & proposed plan boundaries
0 0.2 0.4 0.8 Miles
CEDAR ST
ASH ST
EDWARDS DR
MAIN ST
MILL ST
1ST ST
Scotia CSD
Scotia CSD
Scotia CSD
US HWY 101
US HWY 101
US HWY 101 N
Northwestern Pacific Railroad
SHIVELY RD
STAFFORD RD
STAFFORD RD
NORTH RD
NORTH RD
SOUTH RD
Nanning Creek
Eel River
Juhaze Prairie
Giacomini Prairie
Stitz Creek
Tank Gulch
Dinner Creek


Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
KINGS PEAK RD
WEST RANCHO LN
PUMA DR
MINK DR
MUSKRAT CIR
TELEGRAPH CREEK RD
BEACH RD
RIDGE RD
LINDLEY LOOP
CEDARWOOD CT
OAK DR
SPRING RD
OTTER LN
HILLSIDE DR
SHELTER COVE RD
TERN RD
Resort Improvement District No. 1
Resort Impr. Dist #1 Boundary
TOTH RD
KELLY RD
PARKVIEW RD
LANDIS RD
COVE PTE
SEA VIEW RD
BAMBI DR
UPPER PACIFIC DR
MACHI RD
BLUERIDGE RD
Shelter Cove Airport
Shelter Cove Golf Course
Dead Mans Gulch
South Fork Bear Creek
Telegraph Creek
Humboldt Creek
Shelter Cove ULC
Based on Census Designated Place
0 0.175 0.35 0.7 Miles


Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Weott CSD
Weott ULC
Based on Census Designated Place
0 0.1 0.2 0.4 Miles
STATE HWY 254
US HWY 101
SUNNY LN
MAPLE DR
KERN RD
SCHOOL RD
SPRING ST
OAK ST
NEWTON RD
DYERVILLE
Eel River
Decker Creek
South Fork Eel River
Comer Creek
Mill Creek
Robinson Creek


Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
City of Trinidad
City of Trinidad
City of Trinidad
City of Trinidad
County Service Area 4
Westhaven CSD
Patrick Creek CSD
ALDER LN
RICKS POINT RD
SCENIC DR
STATE HWY 101
ADAMS FOX FARM RD
SKYHORSE LN
STONE LN
BAUDER LN
OX LN
KAY RD
4TH AVE
2ND AVE
DRIVER RD
LOIS LN
MOONSTONE CROSS
FRONTAGE RD
CRANNELL RD
Maple Creek
Mill Creek
McConnahas Mill Creek
Luffenholtz Creek
Grasey Creek
Eighteen Creek
Freeman Creek
Little River
Coon Creek
Water Gulch
Westhaven ULC
Based on Census Designated Place
0
0.275
0.55
1.1 Miles


Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Whitethorn FPD
Whitethorn ULC
Based on proposed plan boundaries
0 0.175 0.35 0.7 Miles
VANAUKEN CREEK RD
BRICELAND THORNE RD
SIMPSON LN
SUNNY VALLEY LN
STUMP LN
GREEN ACRES LN
HARRIS CREEK RD
GIBSON CREEK RD
STANLEY CREEK RD
ROAD A RD
BAKER CREEK RD
Mattole River
Vanauken Creek
Harris Creek
Anderson Creek
Mill Creek
Stanley Creek
Baker Creek
GIBSON RIDGE


Legend
Unincorporated Legacy Community
City Boundaries
CSD Boundaries
Fire Related Districts
Location Map
Willow Creek Fire Protection District
Willow Creek CSD
STATE HWY 96
STATE HWY 299
BEEBE RANCH RD
BRANNAN MOUNTAIN RD
CHINA GULCH RD
M W RANCH RD
OAK LN
GATED
USFS 7N09 RD
USFS 7N02 RD
USFS 7N36 RD
USFS 6N13 RD
USFS 6N08 RD
USFS 6N06 RD
Trinity River
Salyer
Willow Creek ULC
Based on Census Designated Place
0
0.5
1
2 Miles