

CATALOG OF STREAM CROSSINGS WITH CULVERTS AND OTHER MANMADE IMPEDIMENTS TO FISH PASSAGE LOCATED ON ANADROMOUS STREAM REACHES WITHIN SAN ANSELMO CREEK, CORTE MADERA CREEK WATERSHED, MARIN COUNTY, CA.

Prepared for Friends of the Corte Madera Creek Watershed

By
Ross Taylor and Associates

NOTE: This catalog contains three pages for each stream crossing inventoried. The first page consists of location information, site-specific data, passage assessment, habitat notes, and treatment recommendations. The second page is a copy of the USGS map with the crossing of interest marked in “red” with adjacent sites marked in “blue”. The third page has inlet and outlet photographs, with the inlet photo on the top and the outlet photo on the bottom. The inventoried sites are ordered in an upstream direction, and from lowermost to uppermost road/stream intersection within a watershed. Finally, distances between crossings were measured from digitized USGS maps (Terrain Navigator by MapTech®) to the nearest 50-foot interval along the path of the stream channel.



Ross Taylor and Associates
1254 Quail Run Court
McKinleyville, CA 95519
(707)-839-5022
www.rosstaylorandassociates.com

Site ID# SA-01: San Anselmo Creek #1/Creek Park; Corte Madera Creek

Ownership: Town of San Anselmo **Ranking Matrix Score** = 6.0 points **Ranking:** tied #22 = **Low-Priority**

Location: USGS Quad: San Rafael. T2N, R6W. Lat/Long: N 37° 58' 32.1" W 122° 33' 39.9"
Milepost: adjacent to intersection of SFD Blvd and Bank Street.

Crossing Type: Concrete weir with upstream apron. **Corrugations:** None. **Dimensions:** the weir spans 27.8'. **Length:** 39.2' of concrete apron upstream of weir. **Slope:** for length of apron = 0.31%. **Modifications:** None. **Rustline Height:** N/A **Average Active Channel Width:** 22.6'
Fill Estimate: Not applicable. **Overall Condition:** Good. **Sizing:** Not applicable.

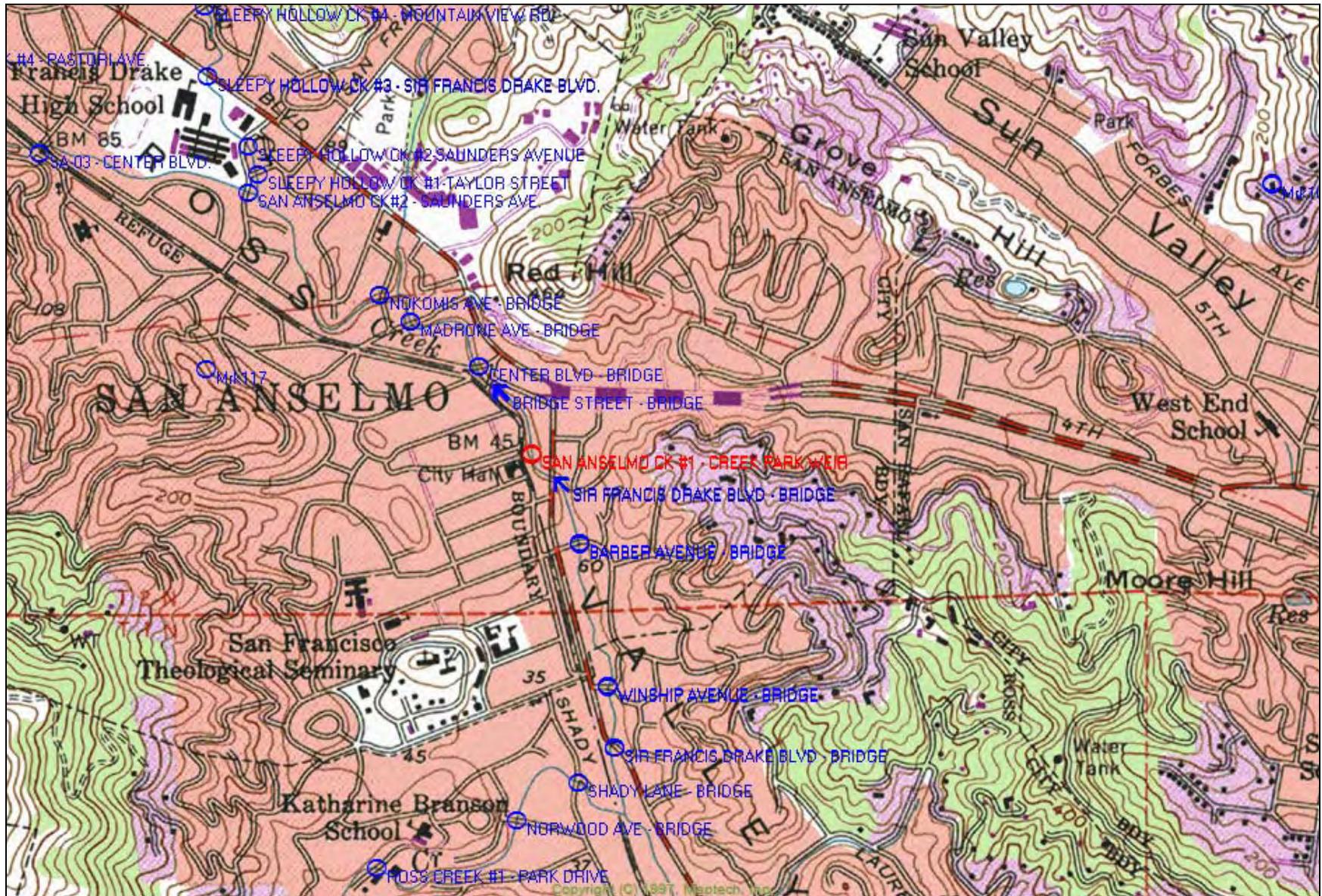
Drainage Area Upstream of Crossing: 13.10 square miles. **Estimated Migration Flows:** adults = 3.0–364.8 c.f.s.; resident/2+ = 2.0-94.5 c.f.s.; 1+/y-o-y = 1.0-41.1 c.f.s. **Passage Evaluation:** **GRAY:** as determined by the first-phase filter due to the slightly perched outlet. FishXing estimated that the crossing met the passage criteria for adult anadromous salmonids for the entire range of estimated migration flows, met passage criteria for resident trout/2+ salmonids for the entire range of estimated migration flows, and met passage criteria for 1+/y-o-y salmonids for 80% of the range of estimated migration flows (>8.0 c.f.s.).

Additional Stream Crossings: Downstream – (≈450') to bridge at SFD Blvd., (≈1,150') to bridge at Barber Ave., (≈2,500') to bridge at Winship Ave., (≈3,000') to bridge at SFD Blvd., (≈3,650') to confluence with Ross Creek, (≈5,250') to bridge at Lagunitas Road, and (≈6,300') to upper end of USACE flood control channel. Upstream – (≈800') to bridge at Bridge St., (≈1,100') to bridge at Center Blvd., (≈2,100') to bridge at Madrone Ave., (≈2,550') to bridge at Nokomis Ave., (≈4,700') to Sleepy Hollow Ck. confluence, (≈4,850') to Site ID# SA-02, (≈6,850') to Site ID# SA-03, (≈9,150') to Site ID# SA-04, (≈12,050') to bridge at Creek Rd., (≈12,850') to Site ID# SA-05, (≈16,250') to bridge at Meadow Way, (≈18,550') to Site ID# SA-06, and (≈21,950') to private crossing indicated on USGS topographic map – current status is unknown.

Habitat: Quantity = approximately 63,600' of potential fish-bearing habitat upstream of Site ID# SA-01, which includes habitat within Sleepy Hollow and Fairfax creeks. Quality = in the vicinity of the crossing, rated as “poor” for the ranking matrix based on Taylor and Associates survey crew’s field notes and interpretation of previous habitat assessment (Rich, 2000). This lower reach of San Anselmo Creek is within downtown San Anselmo and has been subjected to extensive urban development, including sections of channel running underneath buildings. The crossing was surveyed by Taylor and Associates on 7/08/05 and there was continuous flow in the channel. At 10:30 AM the air temp = 17°C and the water temp = 16°C. The survey crew noted few pools, minimal in-stream cover, a moderately dense riparian zone of hardwoods, and high amounts of sand, mud, and fines. There were also extensive amounts of trash within the stream channel. Most of the stream channel was constricted by armored banks and retaining walls. The crew noted extremely abundant numbers (50-100 fish) of roach both downstream and upstream of Site ID# SA-01.

Preferred Treatment: No treatment recommended since a high level of fish passage probably occurs at this site. Recommend periodic inspection of the crossing to assess any changes to the channel elevation of the downstream side of the weir.

Site ID# SA-01: San Anselmo Creek #1/Creek Park; Corte Madera Creek



Corte Madera Creek - Stream Crossing Catalog – San Anselmo Creek Sites

Site ID# SA-01: San Anselmo Creek #1/Creek Park; Corte Madera Creek



Site ID# SA-02 aka MR-078: San Anselmo Creek #2/Saunders Avenue; Corte Madera Creek
Ownership: Town of San Anselmo **Ranking Matrix Score** = 33.6 points **Ranking: #1 = High-Priority**

Location: County Map Sheet #11. USGS Quad: San Rafael. T2N, R6W. Lat/Long: 37° 58' 53.33" 122° 34' 12.18" Milepost: 0.1 miles to Sir Francis Drake Boulevard.

Crossing Type: Box w/ Fish Ladder, Concrete. **Corrugations:** None. **Dimensions:** 15.0' height x 37.0' width **Length:** Fish Ladder = 17.6'; Box = 42.0' **Slope:** Fish Ladder = 12.26%; Box = 0.44% **Modifications:** Denil Fish Ladder. **Rustline Height:** N/A **Average Active Channel Width:** 23.8' **Fill Estimate:** 147 Cubic Yards. **Overall Condition:** Good. **Sizing:** Properly Sized; HW/D = 1 on a storm flow with more than a 250-year recurrence interval.

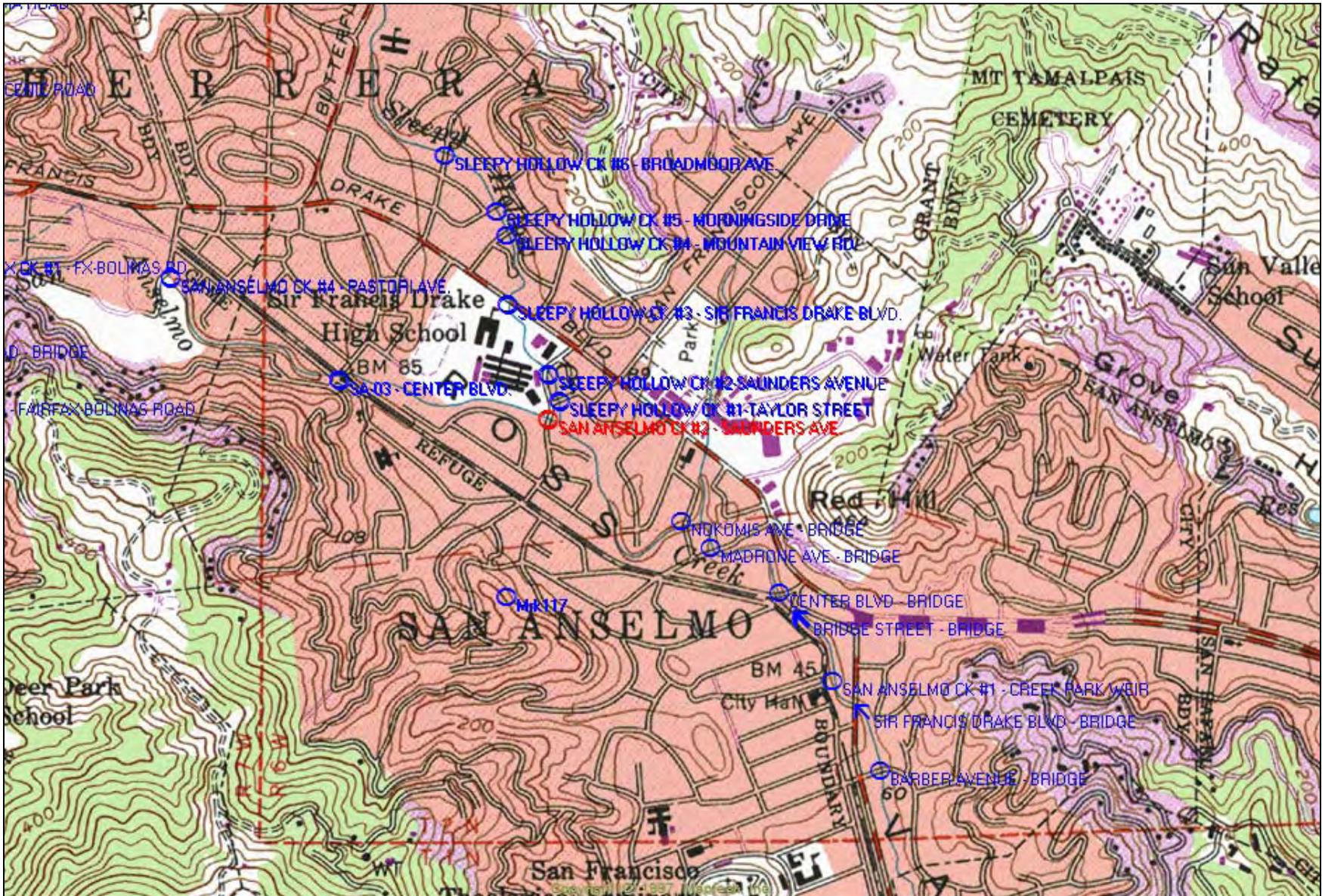
Drainage Area Upstream of Crossing: 9.48 square miles. **Estimated Migration Flows:** adults = 3.0–264.0 c.f.s.; resident/2+ = 2.0-68.4 c.f.s.; 1+/y-o-y = 1.0-29.8 c.f.s. **Passage Evaluation: RED:** Although FishXing was unable to accurately model hydraulics through the fish ladder, a literature review confirmed that the current structure fails to meet Denil fish ladder construction criteria (Rajaratnam and Katopodis 1991). The narrow 42-foot long concrete flume-like channel below the ladder probably impedes passage too. Observations of adult steelhead have been made upstream of this crossing, thus some fish do pass through this crossing (Guldman, pers. comm).

Additional Stream Crossings: Downstream – (≈150') to Sleepy Hollow Ck. confluence, (≈2,300') to bridge at Nokomis Ave., (≈2,750') to bridge at Madrone Ave., (≈3,750') to bridge at Center Blvd., (≈4,050') to bridge at Bridge St., (≈4,850') to Site ID# SA-01, (≈5,300') to bridge at SFD Blvd., (≈6,000') to bridge at Barber Ave., (≈7,350') to bridge at Winship Ave., (≈7,850') to bridge at SFD Blvd., (≈8,500') to confluence with Ross Creek, (≈10,100') to bridge at Lagunitas Road, and (≈11,150') to upper end of USACE flood control channel. Upstream – (≈2,000') to Site ID# SA-03, (≈4,300') to Site ID# SA-04, (≈7,200') to bridge at Creek Rd., (≈8,000') to Site ID# SA-05, (≈11,400') to bridge at Meadow Way, (≈13,700') to Site ID# SA-06, and (≈17,100') to private crossing indicated on USGS topographic map – current status is unknown.

Habitat: Quantity = approximately 33,200' of potential fish-bearing habitat upstream of Site ID# SA-02. Quality = rated as “fair” for the ranking matrix based on Taylor and Associates survey crew’s field notes. Habitat and fisheries information available from a 2002 proposal developed by the Friends of the Corte Madera Creek Watershed indicate that upper reaches of San Anselmo Creek provides the widest range of habitat types and areas in upper Sleepy Hollow Creek and Cascade Creek provide the best remaining spawning and over-summer rearing habitat. The crossing was surveyed by Taylor and Associates on 7/24/02 and there was continuous flow in the channel. At 11:30AM the air temp = 20.5°C and the water temp = 17°C. The survey crew noted a channel confined by concrete walls in a residential area, few pools, and a moderately dense riparian zone of hardwoods. The crew noted extremely abundant numbers (>100 fish) of juvenile salmonids and other unknown fish species both downstream and upstream of Site ID# SA-02. Most of the salmonids were observed in the outlet pool.

Preferred Treatment: This crossing was originally surveyed in 2003 as part of Ross Taylor and Associates’ assessment of County of Marin-maintained crossings. In 2003 the recommendation was to re-design the fish ladder and downstream concrete chute to improve conditions for fish passage. Currently, Stetson Engineering and Michael Love and Associates are developing a design for SA-02 as another Phase of the NOAA-funded Corte Madera Creek Fish Passage Program.

Site ID# SA-02 aka MR-078: San Anselmo Creek #2/Saunders Avenue; Corte Madera Creek



Corte Madera Creek - Stream Crossing Catalog – San Anselmo Creek Sites



Site ID# SA-03: San Anselmo Creek #3/Center Blvd./Lansdale Avenue; Corte Madera Creek

Ownership: Town of San Anselmo **Ranking Matrix Score** = 25.3 points **Ranking: #3 = High-Priority**

Location: County Map Sheet #11. USGS Quad: San Rafael. T2N, R7W. Lat/Long: N 37° 58' 57.0" W 122° 34' 35.0" Milepost: At San Anselmo Avenue.

Crossing Type: Composite: upper end = two-bay box culvert; lower end = arch culvert w/flat floor. Both sections constructed of concrete. **Corrugations:** None. **Dimensions:** box culvert LB-bay = 10.2'H x 15.4'W; RB-bay = 10.2'H x 14.7'W; arch = 15.9' rise x 32.0' span.

Length: Box culvert LB-bay = 152.0'; RB-bay = 147.7' arch section = 130.2'.

Slope: Box LB-bay = 0.53%; Box RB-bay = 0.58%; arch section = 0.23%. **Modifications:** None. **Rustline Height:** N/A **Average Active Channel Width:** 27.1' **Fill Estimate:** Not measured due to safety issues on road surface. **Overall Condition:** Good. **Sizing:** Properly Sized; HW/D = 1 on a storm flow with more than a 100-year recurrence interval.

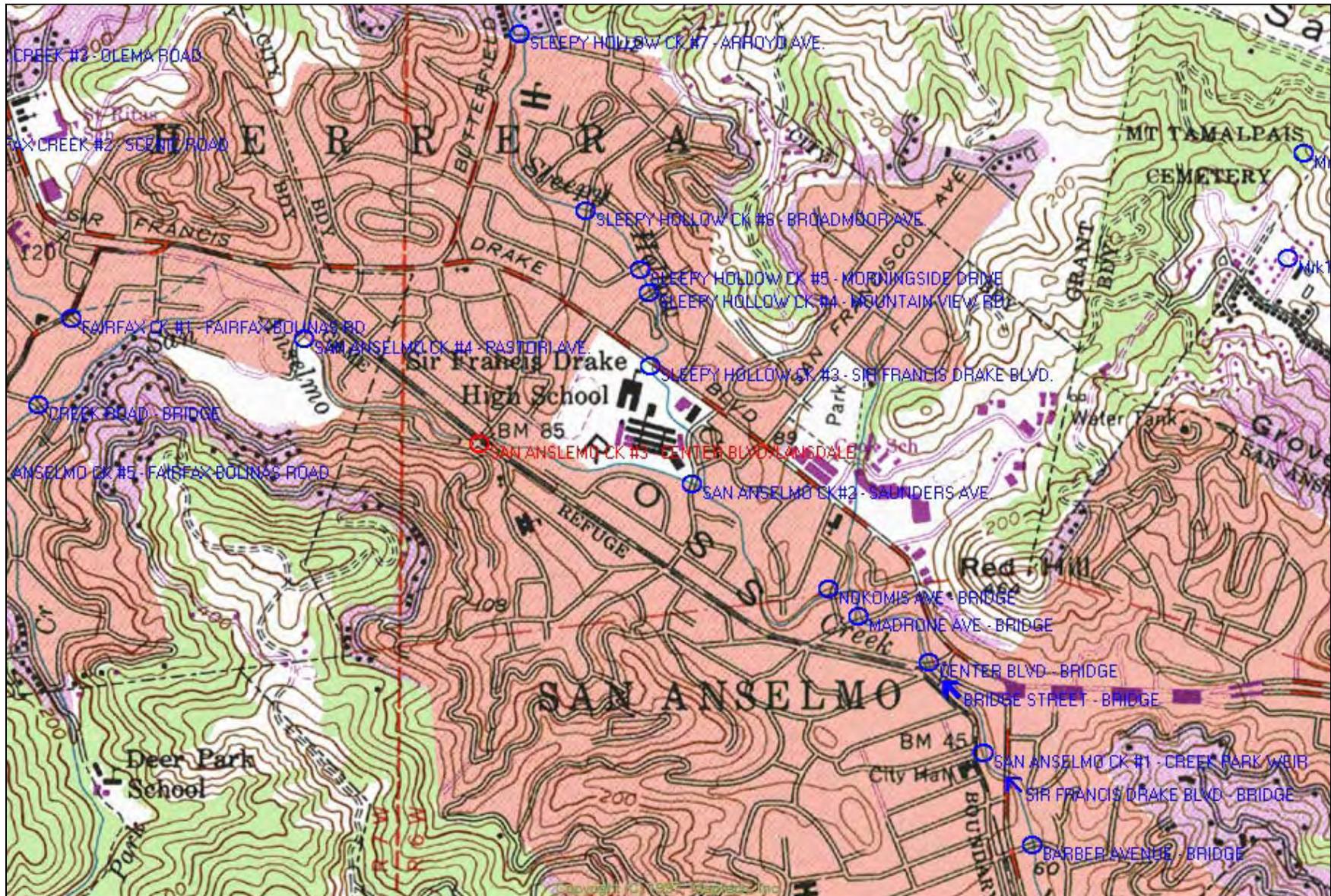
Drainage Area Upstream of Crossing: 9.34 square miles. **Estimated Migration Flows:** adults = 3.0–260.1 c.f.s.; resident/2+ = 2.0–67.3 c.f.s.; 1+/y-o-y = 1.0–29.3 c.f.s. **Passage Evaluation:** **RED:** as determined by the first-phase filter due to the nearly three-foot drop at the outlet. Observations of adult steelhead have been made upstream of this crossing, thus some fish do pass through this crossing (Guldman, pers. comm.). However due to the perched outlet and excessive length of flat/wide concrete invert these successful fish are probably the “exception, not the rule” in migrating through this significant impediment.

Additional Stream Crossings: Downstream – (≈2,000') to Site ID# SA-02, (≈2,150') to Sleepy Hollow Ck. confluence, (≈4,300') to bridge at Nokomis Ave., (≈4,750') to bridge at Madrone Ave., (≈5,750') to bridge at Center Blvd., (≈6,050') to bridge at Bridge St., (≈6,850') to Site ID# SA-01, (≈7,300') to bridge at SFD Blvd., (≈8,000') to bridge at Barber Ave., (≈9,350') to bridge at Winship Ave., (≈9,850') to bridge at SFD Blvd., (≈10,500') to confluence with Ross Creek, (≈12,100') to bridge at Lagunitas Road, and (≈13,150') to upper end of USACE flood control channel. Upstream – (≈2,300') to Site ID# SA-04, (≈5,200') to bridge at Creek Rd., (≈6,000') to Site ID# SA-05, (≈9,400') to bridge at Meadow Way, (≈11,700') to Site ID# SA-06, and (≈15,100') to private crossing indicated on USGS topographic map – current status is unknown.

Habitat: Quantity = approximately 31,200' of potential fish-bearing habitat upstream of Site ID# SA-03. Quality = in the vicinity of the crossing, rated as “poor” for the ranking matrix based on Taylor and Associates survey crew's field notes and interpretation of previous habitat assessment (Rich, 2000). However, habitat conditions improve farther upstream. The crossing was surveyed by Taylor and Associates on 7/08/05 and there was continuous flow in the channel. At 2:15PM the air temp = 21°C and the water temp = 16°C. The survey crew noted shallow pools, minimal in-stream cover and complexity, high levels of fines and silt, and stream banks constricted by retaining walls and chunks of concrete. A moderate abundance (10-50 fish) of y-o-y steelhead were observed both upstream and downstream of Site ID# SA-03. Extremely abundant (>100 fish) numbers of roach were observed throughout the channel adjacent to #SA-03.

Preferred Treatment: The only feasible means to improve fish passage would be a retrofit consisting of a series of downstream weirs to decrease the leap into the culvert and a series of either corner baffles or weirs within the crossing to increase water depths. Consider treatment of this site prior to treatment of Site ID# SA-04.

Site ID# SA-03: San Anselmo Creek #3/Center Blvd./Lansdale Avenue; Corte Madera Creek



Corte Madera Creek - Stream Crossing Catalog – San Anselmo Creek Sites



Site ID# SA-04 aka MR-079: San Anselmo Creek #4/Pastori Avenue; Corte Madera Creek

Ownership: Private **Ranking Matrix Score** = 30.5 points **Ranking: #2 = High-Priority**

Location: County Map Sheet #10. USGS Quad: San Rafael. T2N, R7W. Lat/Long: 37° 59' 7.60" 122° 35' 10.64" Milepost: 0.1 miles to Belmont Avenue.

Crossing Type: Fish Ladder, Concrete. **Corrugations:** None. **Dimensions:** 12.0' height x 37.0' width **Length:** 25.3' **Slope:** 20.40% **Modifications:** Denil Fish Ladder. **Rustline Height:** N/A **Average Active Channel Width:** 23.1' **Fill Estimate:** 1,125 Cubic Yards. **Overall Condition:** Good. **Sizing:** Properly Sized; HW/D = 1 on a storm flow with more than a 250-year recurrence interval. Pastori Avenue is overtopped on more than a 250-year storm flow.

Drainage Area Upstream of Crossing: 8.70 square miles. **Estimated Migration Flows:** adults = 3.0–242.3 c.f.s.; resident/2+ = 2.0–62.7 c.f.s.; 1+/y-o-y = 1.0–27.3 c.f.s. **Passage Evaluation: GRAY:** Fish ladder slope (20%) is upper limit for adult passage and assumed to be insufficient for resident and juvenile passage. Low flow walls breach at 24 c.f.s. Velocity issues occur around 20 c.f.s. when Manning's n = 0.08. FishXing can not model fish ladders therefore adult passage was assessed using research by Rajaratnam and Katopodis (1991).

Additional Stream Crossings: Downstream – (≈2,300') to Site ID# SA-03, (≈4,300') to Site ID# SA-02, (≈4,450') to Sleepy Hollow Ck. confluence, (≈6,600') to bridge at Nokomis Ave., (≈7,050') to bridge at Madrone Ave., (≈8,050') to bridge at Center Blvd., (≈8,350') to bridge at Bridge St., (≈9,150') to Site ID# SA-01, (≈9,600') to bridge at SFD Blvd., (≈10,300') to bridge at Barber Ave., (≈11,650') to bridge at Winship Ave., (≈12,150') to bridge at SFD Blvd., (≈12,800') to confluence with Ross Creek, (≈14,400') to bridge at Laguanitas Road, and (≈15,450') to upper end of USACE flood control channel. Upstream – (≈2,900') to bridge at Creek Rd., (≈3,700') to Site ID# SA-05, (≈7,100') to bridge at Meadow Way, (≈9,400') to Site ID# SA-06, and (≈12,800') to private crossing indicated on USGS topographic map – current status is unknown.

Habitat: Quantity = approximately 28,900' of potential fish-bearing habitat upstream of Site ID# SA-04. Quality = in the vicinity of the crossing, rated as "poor" for the ranking matrix based on Taylor and Associates survey crew's field notes and interpretation of previous habitat assessment (Rich, 2000). However, habitat conditions improve farther upstream. The crossing was surveyed by Taylor and Associates on 7/24/02 and there was continuous flow in the channel. At 2:30PM the air temp = 23°C and the water temp = 18°C. The survey crew noted a channel confined by concrete walls in a residential area, few pools, and a moderately dense riparian zone of hardwoods. The crew noted abundant numbers (50-100 fish) of juvenile salmonids and other unknown species both downstream and upstream of Site ID# SA-04.

Preferred Treatment: This crossing was originally surveyed in 2003 as part of Ross Taylor and Associates' assessment of County of Marin-maintained crossings. In 2003, the recommendation was to re-design fish ladder to improve conditions for fish passage and to consider the feasibility of two options: (1) gradual removal of concrete dam/weir over several seasons to achieve a natural stream channel under bridge or (2) construction of series of concrete weirs onto existing dam/weir to raise tail-water elevation. Currently, Stetson Engineering and Michael Love and Associates are developing a design for #SA-04 as another Phase of the NOAA-funded Corte Madera Creek Fish Passage Program.

Site ID# SA-04: San Anselmo Creek #4/Pastori Avenue; Corte Madera Creek



Site ID# SA-05: San Anselmo Creek #5/Fairfax-Bolinas Road; Corte Madera Creek

Ownership: Town of Fairfax **Ranking Matrix Score** = 21.5 points **Ranking: #7 = dropped to Medium-Priority**

Location: USGS Quad: San Rafael. T2N, R7W. Lat/Long: N 37° 58' 54.9" W 122° 35' 30.5"
Milepost: 100' to Porteous Avenue.

Crossing Type: Box culvert, Concrete. **Corrugations:** None. **Dimensions:** 14.0' H x 18.0' W
Length: 47.0' **Slope:** 0.85% **Modifications:** None. **Rustline Height:** N/A **Average Active Channel Width:** 21.2' **Fill Estimate:** 1,959 Cubic Yards. **Overall Condition:** Fair, excessive wear on invert – worn to exposed rebar in several locations. **Sizing:** Properly Sized; HW/D = 1 on a storm flow with more than a 100-year recurrence interval.

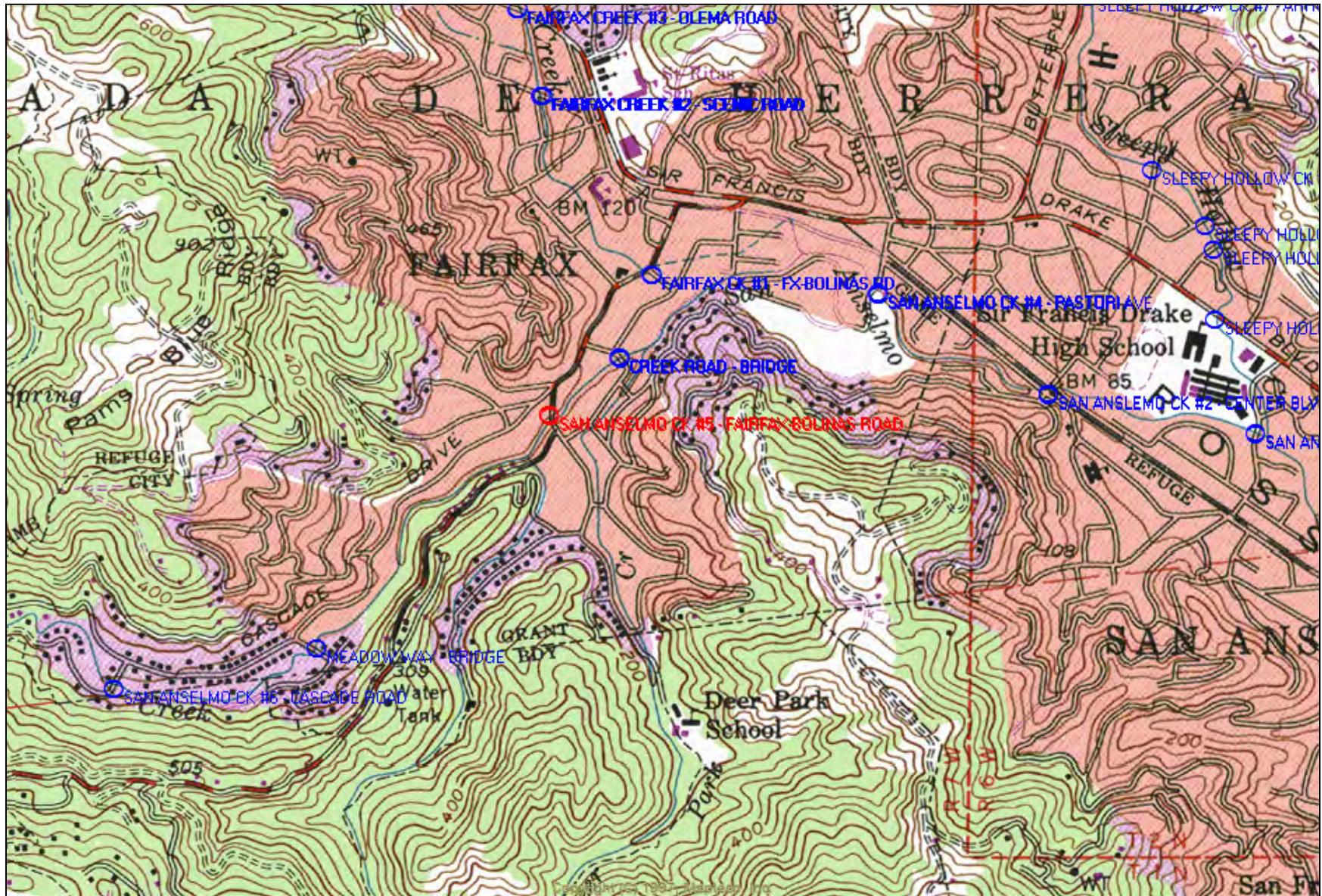
Drainage Area Upstream of Crossing: 4.41 square miles. **Estimated Migration Flows:** adults = 3.0–122.8 c.f.s.; resident/2+ = 2.0–31.8 c.f.s.; 1+/y-o-y = 1.0–13.8 c.f.s. **Passage Evaluation: GRAY:** As determined by the first-phase evaluation filter due to the slightly perched outlet (negative residual depths at both the inlet and outlet). FishXing estimated that this crossing met passage criteria for adult anadromous salmonids for 57% of the range of migration flows (between 55.0 – 122.8 c.f.s.) and failed to meet passage criteria for resident/2+ age and 1+/y-o-y age classes. Actual passage of adults may be higher and some resident/2+ passage may occur due to “lack-of-depth” being the primary criteria violation flagged by FishXing.

Additional Stream Crossings: Downstream – (≈800') to bridge at Creek Rd., (≈3,700') to Site ID# SA-04, (≈6,000') to Site ID# SA-03, (≈8,000') to Site ID# SA-02, (≈8,150') to Sleepy Hollow Ck. confluence, (≈10,300') to bridge at Nokomis Ave., (≈10,750') to bridge at Madrone Ave., (≈11,750') to bridge at Center Blvd., (≈12,050') to bridge at Bridge St., (≈12,850') to Site ID# SA-01, (≈13,300') to bridge at SFD Blvd., (≈14,000') to bridge at Barber Ave., (≈15,350') to bridge at Winship Ave., (≈15,850') to bridge at SFD Blvd., (≈16,500') to confluence with Ross Creek, (≈18,100') to bridge at Laguanitas Road, and (≈19,150') to upper end of USACE flood control channel. Upstream – (≈3,400') to bridge at Meadow Way, (≈5,700') to Site ID# SA-06, and (≈9,100') to private crossing indicated on USGS topographic map – current status is unknown.

Habitat: Quantity = approximately 14,000' of potential fish-bearing habitat upstream of Site ID# SA-05. Quality = in the vicinity of the crossing, rated as “fair” for the ranking matrix based on Taylor and Associates survey crew’s field notes and interpretation of previous habitat assessment (Rich, 2000). Habitat conditions at this location have improved relative to lower streams reaches. The crossing was surveyed by Taylor and Associates on 6/10/05 and there was continuous flow in the channel. At 11:20AM the air temp = 20°C and the water temp = 14°C. The survey crew noted a relatively unconfined channel, numerous shallow pools, suitable spawning substrate on pool-tails and riffle crests, and a dense riparian zone of hardwoods. The crew noted a moderate abundance (10-50 fish) of juvenile salmonids upstream of Site ID# SA-05. Most were <3” in length, however several 3” – 6” juvenile steelhead were observed (possible 1+ age-class fish).

Preferred Treatment: Because the crossing allows a fairly high level of adult steelhead passage treatment of this site should be a medium to low priority to postpone until more severe impediments within Corte Madera Creek are addressed. However, if the Town of Fairfax determined that the failing invert needed repair, the feasibility of either partially removing the culvert floor or creating a low-flow channel within the culvert invert should be considered.

Site ID# SA-05: San Anselmo Creek #5/Fairfax-Bolinas Road; Corte Madera Creek



Site ID# SA-05: San Anselmo Creek #5/Fairfax-Bolinas Road; Corte Madera Creek



Site ID# SA-06: San Anselmo Creek #6/Canyon Road; Corte Madera Creek

Ownership: Town of Fairfax **Ranking Matrix Score** = 20.7 points **Ranking: #10 = Medium-Priority**

Location: USGS Quad: San Rafael. T2N, R7W. Lat/Long: N 37° 58' 31.1" W 122° 36' 19.2"
Milepost: 0.1 mi. to Cascade Drive.

Crossing Type: Concrete box culvert with fish ladder. **Corrugations:** None. **Dimensions:** 11.4' H x 28.0' W **Length:** through crossing and down fish ladder = 53.6'. **Slope:** from pool-tail of 1st upstream resting habitat to top of ladder = 0.38%; fish ladder = 17.53%. **Modifications:** Concrete and steel plate fish ladder. **Rustline Height:** N/A **Average Active Channel Width:** 27.9' **Fill Estimate:** not estimated due to the bridge-like construction of crossing. **Overall Condition:** Fair, some cracks in concrete invert at inlet. **Sizing:** Properly Sized; HW/D = 1 on a storm flow with more than a 100-year recurrence interval.

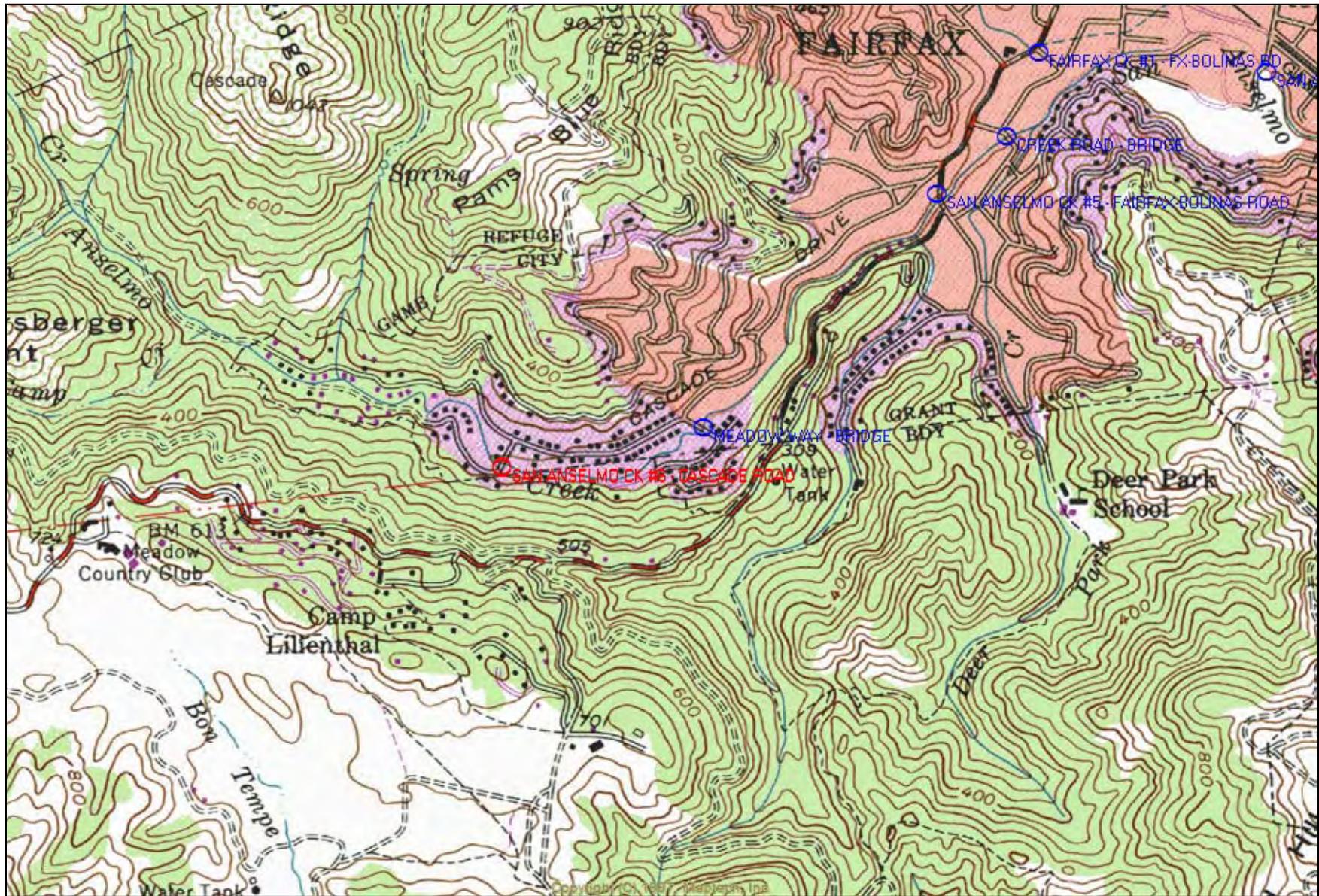
Drainage Area Upstream of Crossing: 3.38 square miles. **Estimated Migration Flows:** adult anadromous salmonids = 3.0–94.1 c.f.s.; resident/2+ = 2.0-24.4 c.f.s.; 1+/y-o-y = 1.0-10.6 c.f.s. **Passage Evaluation: GRAY:** As determined by the first-phase evaluation filter due to the slightly perched outlet (negative residual depths at both the inlet and outlet). FishXing is unable to accurately assess the hydraulics of varying flow through a Denil-style fish ladder. The slope of 17.53% is near the upper limit recommended for these types of ladders and no passage of resident and juvenile salmonids was assumed. Recommend making visits to site during winter storms to better assess hydraulics and flow conditions during migration-level discharges.

Additional Stream Crossings: Downstream – (≈2,300') to bridge at Meadow Way, (≈5,700') to Site ID# SA-06, (≈6,500') to bridge at Creek Rd., (≈9,400') to Site ID# SA-04, (≈11,700') to Site ID# SA-03, (≈13,700') to Site ID# SA-02, (≈13,850') to Sleepy Hollow Ck. confluence, (≈16,000') to bridge at Nokomis Ave., (≈16,450') to bridge at Madrone Ave., (≈17,450') to bridge at Center Blvd., (≈17,750') to bridge at Bridge St., (≈18,550') to Site ID# SA-01, (≈19,000') to bridge at SFD Blvd., (≈19,700') to bridge at Barber Ave., (≈21,050') to bridge at Winship Ave., (≈21,550') to bridge at SFD Blvd., (≈22,200') to confluence with Ross Creek, (≈23,800') to bridge at Lagunitas Road, and (≈24,850') to upper end of USACE flood control channel. Upstream – (≈3,400') to private crossing indicated on USGS topographic map – current status is unknown.

Habitat: Quantity = approximately 8,300' of potential fish-bearing habitat upstream of Site ID# SA-06. Quality = in the vicinity of the crossing, rated as “good” for the ranking matrix based on Taylor and Associates survey crew’s field notes and interpretation of previous habitat assessment (Rich, 2000). Habitat conditions at this location are better relative to lower streams reaches. The crossing was surveyed by Taylor and Associates on 6/10/05 and there was continuous flow in the channel. At 9:30AM the air temp = 16°C and the water temp = 13.5°C. The survey crew noted a relatively unconfined channel, numerous shallow pools, suitable spawning substrate on pool-tails and riffle crests, and a dense riparian zone of hardwoods. The crew noted a moderate abundance (10-50 fish) of juvenile salmonids upstream of Site ID# SA-06. Most were <3” in length, however several 3” – 6” juvenile steelhead were observed (possible 1+ age-class fish).

Preferred Treatment: Recommend conducting site visits during winter storms to better assess hydraulics and flow conditions during migration-level discharges. The ladder should also be inspected during and immediately after winter storms to make sure that woody debris is not clogging the ladder and causing passage problems.

Site ID# SA-06: San Anselmo Creek #6/Canyon Road; Corte Madera Creek



Site ID# SA-06: San Anselmo Creek #6/Canyon Road; Corte Madera Creek

