

THE RESOURCES AGENCY OF CALIFORNIA  
Department of Fish and Game

**STREAM SURVEY**

FILE FORM No. \_\_\_\_\_

Date July 14, 1976

NAME.....STEMPLE CREEK.....COUNTY .....Marin.....  
STREAM SECTION.....Entire.....FROM...Mouth.....To...Headwaters.....LENGTH...15.5 miles  
TRIBUTARY TO.....Estero de San Antonio.....TWP...5.N...R..9W....SEC..18...  
OTHER NAMES.....None known.....RIVER SYSTEM.....  
SOURCES OF DATA .....personal observations and local residents.....

- Include: Name of Surveyor, Date, Etc.
- LOCATION
- RELATION TO OTHER WATERS
- GENERAL DESCRIPTION
  - Watershed
  - Immediate Drainage Basin
  - Altitude (Range)
  - Gradient
  - Width
  - Depth
  - Flow (Range)
  - Velocity
  - Bottom
  - Spawning Area
  - Pools
  - Shelter
  - Barriers
  - Diversions
  - Temperature
  - Food
  - Aquatic Plants
  - Winter Condition
  - Pollution
  - Springs
- FISHES PRESENT AND SUCCESS
- OTHER VERTEBRATES
- FISHING INTENSITY
- OTHER RECREATIONAL USE ACCESSIBILITY
- OWNERSHIP
- POSTED OR OPEN
- IMPROVEMENTS
- PAST STOCKING
- GENERAL ESTIMATE
- RECOMMENDED MANAGEMENT
- SKETCH MAP
- REFERENCES AND MAPS

**EXTENT OF OBSERVATION:** Stemple Creek was surveyed by car and on foot on July 14, 1976 by Alan Baracco and Tom Charters from the mouth at the Highway 1 bridge to the headwater including all tributaries.

**LOCATION:** Stemple Creek is located approximately 12 miles west of Petaluma. Highway 1 crosses the creek at the point where the creek enters Estero de San Antonio.

**RELATION TO OTHER WATERS:** Stemple Creek provides the entire fresh-water flow to Estero de San Antonio, mainly as winter runoff.

**GENERAL DESCRIPTION:**

**Watershed:** The watershed in this drainage is composed of low rolling hills, covered mainly by grassland. Stands of eucalyptus, and cypress are scattered at lower elevations with dense brush and oak areas dominating the higher elevations. The Stemple Creek drainage receives approximately 30 inches of rainfall per year and covers 49.6 square miles.

**Altitude:** Sea level to 500 feet M.S.L.

**Gradient:** Overall gradient is less than 1 foot per 100 feet; tributaries in the headwater areas average 3 feet per 100 feet.

**Width:** The streambed varies from 1 or 2 feet wide near the headwaters to between 25 to 40 feet wide near the mouth. The stream banks are well defined in most areas, having vertically cut channels.

**Depth:** Pool areas up to six feet deep were found in the main stem. **Flow:** There was no surface flow of water in Stemple Creek on the date of the survey, except for seepage below small reservoirs on tributaries N-4, S-8, and S-9. Intermittent pools were found at several locations on the main stem and in tributaries N-1, N-4, S-1, S-8, S-8<sub>1</sub>, S-8<sub>2</sub>, S-8<sub>3</sub>, and S-9.

**Bottom:** Nearly the entire streambed throughout the main stem and the lower reaches of the tributaries is composed of silt. That area of the main stem between the Highway 1 bridge and tributary S-1 differed significantly and is composed of 30% silt, 40% sand, 20% gravel, and 10% bedrock. Areas suitable for salmonid spawning no longer exist due to siltation and erosion.

**Shelter:** Areas of heavy riparian growth were scattered throughout the drainage. Where they occurred shelter caused by overhead canopy was nearly complete. These areas covered less than 10% of the stream, however, with the remainder of the streambed completely lacking any riparian vegetation.

**Barriers:** Small impoundments built on tributaries N-1, H-4, S-7, S-8, and S-9 are complete barriers to fish migration; however, in each case these reservoirs are near the headwaters. An earthen dam was observed immediately upstream of the location where Twin Bridge Road crosses Stemple Creek. This temporary summer dam was placed to impound water for stock watering, but by the date of the survey had gone dry.

**Diversions:** Water is diverted from Stemple Creek by numerous ranchers for stock watering and irrigation. Impoundments on several of the tributaries divert and store winter runoff for use during the summer months. The State Water Resources Control Board has issued 17 permits for appropriation of water from Stemple Creek, the largest of which allows the use of 89 acre-feet per annum. Most permits are for between 10 and 20 afa.

Temperature: Water temperatures on the date of the survey were between 60° and 68° F; the higher temperatures were recorded in pool areas in the main stem and in the reservoirs; while seepage areas below reservoirs varied between 60° and 63° F. Air temperature was 73° F at 1400 hours.

Winter Conditions: Runoff during the winter months is moderate; extremely large discharges are uncommon. Some local flooding of low-lying areas near the mouth is experienced in high water years.

Pollution: Pollution from livestock, principally dairy cows, is extremely heavy throughout the drainage. Cattle and sheep were observed in the streambed in numerous locations. Several pools along the main stem were being used as stock watering ponds. A pool at the Highway 1 bridge could only be described as a cesspool, with an overpowering odor.

Springs: Several springs were observed along the stream; most have been developed as stock watering areas or as domestic water supplies.

FISHES PRESENT AND SUCCESS: The serious habitat degradation that has occurred over the last century has severely limited the fisheries value of Stemple Creek. During the survey seven species of fish were observed: rainbow trout, threespined stickleback, mosquitofish, largemouth bass, green sunfish, bluegill, and carp.

These species, with the exception of rainbow trout and stickleback, were introduced into many of the small impoundments by various private individuals. Historically Stemple Creek supported runs of steelhead and silver salmon, according to local residents, but they have been absent or nearly so for many years. An occasional steelhead is still observed in good water years, and a single trout, approximately four inches in length, was observed below the reservoir on tributary S-8<sub>1</sub>. The owners of the reservoir reported their children catching trout in the stream most years. This one area, approximately 1/4 mile in length, is the only area that appears suitable as nursery habitat for juvenile salmonids and it is marginal.

OTHER VERTEBRATES: Western pond turtles and bullfrogs were observed in pool areas near the mouth and in tributary N-1. A single pool in tributary S-8<sub>2</sub>, that was approximately three feet wide, ten feet long, three feet deep, and the only surface water remaining in the tributary, contained bullfrogs and California newts.

FISHING INTENSITY: Some amount of angling occurs in several of the reservoirs by their owners and families. Stream angling occurs only sporadically as water conditions are suitable.

ACCESSIBILITY: Highway 1 crosses Stemple Creek at the mouth. Numerous roads parallel and bisect the stream and its tributaries, including Fallen Road, Pepper Road, and the Tomales-Petaluma Road.

OWNERSHIP: The entire Stemple Creek drainage is privately owned and posted against trespass. The Federal Government owns a large reservation near Two Rocks and operates it as a Coast Guard training center.

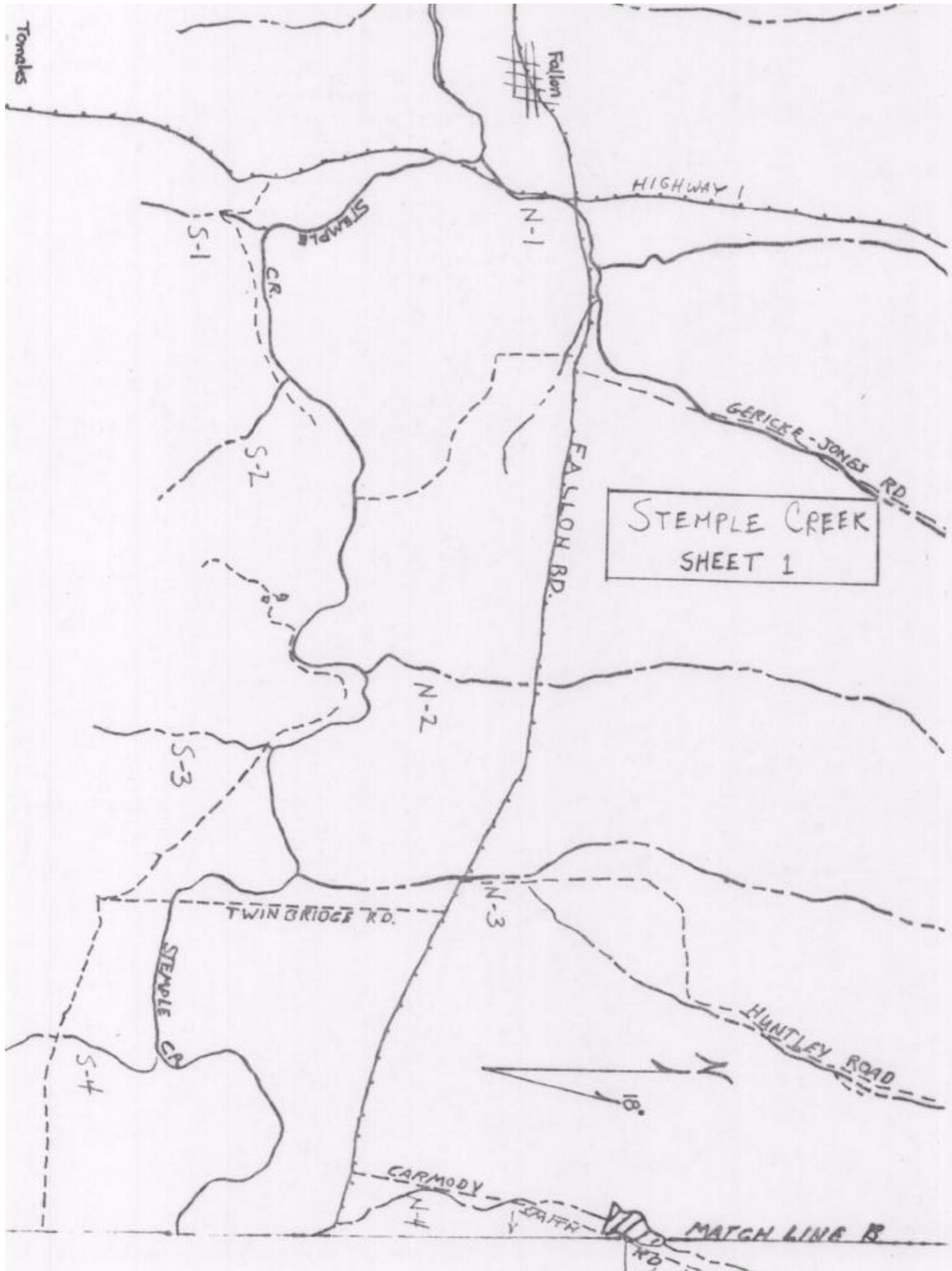
PAST STOCKING: Stemple Creek has no history of stocking by the Department of Fish and Game. Numerous private individuals have introduced black bass, bluegill, green sunfish and carp to various ponds within the drainage.

GENERAL ESTIMATE: Stemple Creek has been degraded by poor land use practices, notably over-grazing, to a point where rehabilitation would be extremely difficult. Water quality is very poor, and it is likely to remain so as long as current ranching and dairy farming practices are allowed to continue. Any increase in the discharge of agricultural wastes to the stream will cause the already marginal habitat for aquatic life to become untenable.

RECOMMENDED MANAGEMENT: Stemple Creek provides little habitat of value to fish in its current condition. Little can be done, with the exception of imposing restrictions on the dairy ranchers and other livestock owners, to lower the discharge of wastes to the stream. The scattered stands of riparian vegetation should also be protected from further destruction, as they provide excellent habitat for various wildlife species.

SKETCH MAP: Attached.

REFERENCES AND MAPS: U.S.G.S. Topographic Maps, 7 1/2 minute series, Valley Fork, Two Rock, Cotati, Petaluma, Point Reyes N.E., and Tomales Quads.



STEMPLE CREEK  
SHEET 1

MARCH LINE B

Tomahawks

Fallen

HIGHWAY 1

N-1

S-1

STEMPLE CR.

FASLON RD.

GERICKE-JONES RD.

S-2

STEMPLE CREEK  
SHEET 1

N-2

S-3

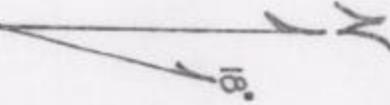
TWIN BRIDGE RD.

N-3

STEMPLE CR.

HUNTLEY ROAD

S-4



CARMODY

DATA



MARCH LINE B

CREEK

S-5

S-6

TOMALES - PETALUMA

N-5

FALCON RD.

STEMPLE CR. RD.

S-7

CHILENO VALLEY RD.

STEMPLE CREEK SHEET 2



N-6

TALIMA VALLEY FORD

S-8

TWO ROCK RANCHO STATION  
MILITARY RES.



RD.

SEASIDE RD.

S-8<sub>1</sub>

S-8<sub>2</sub>

S-8<sub>3</sub>

SPRING HILL RD.

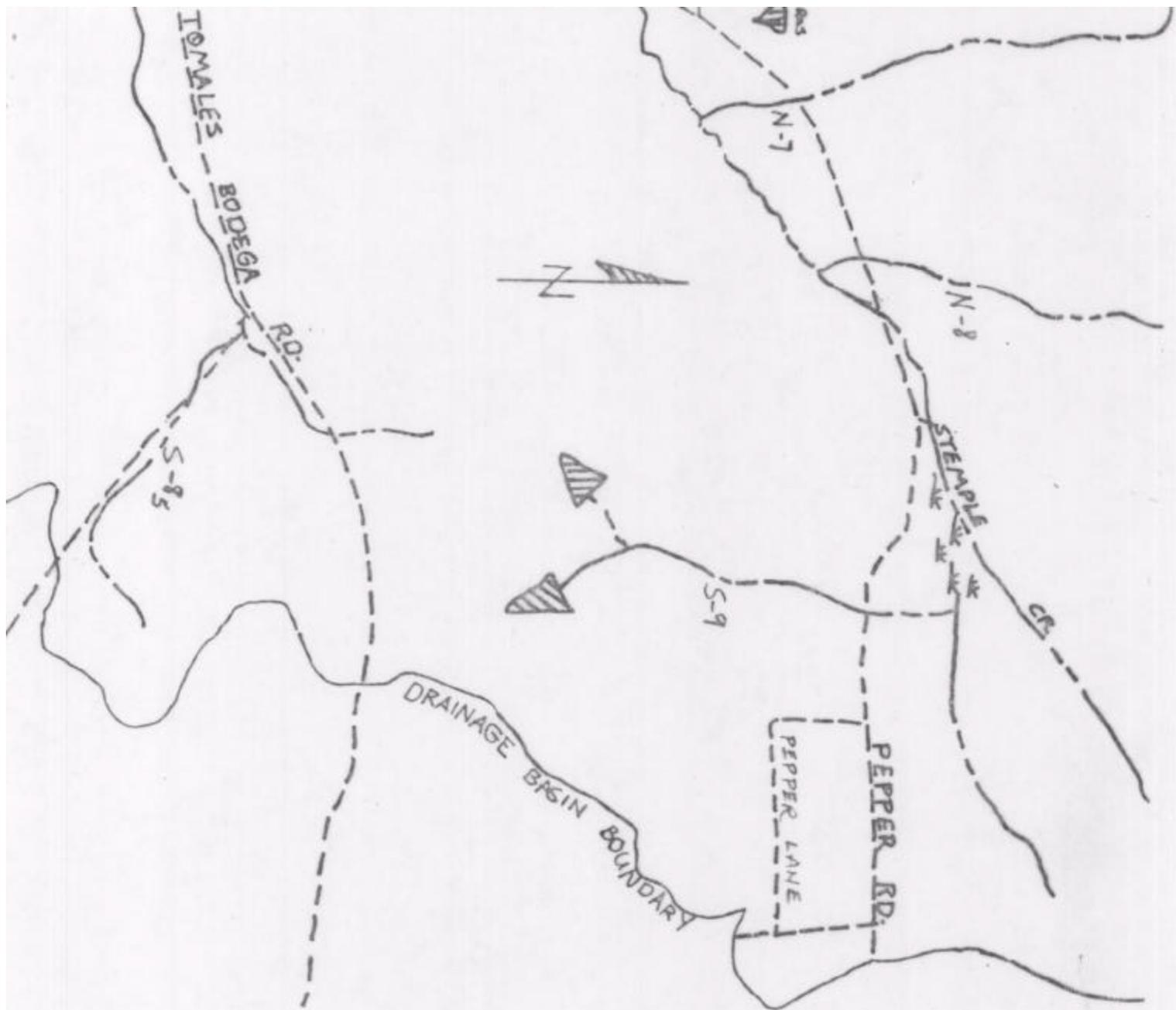
S-8<sub>4</sub>

Res D

PEPPER RD.

ER RD.

MATCH LINE C



STEMPLE CREEK  
SHEET 3