UNITED STATES DEPARTMENT OF AGRICULTURE OFFICIAL GOVERNMENT COPY FOREST SERVICE

144 N Mt View Avenue San Bernardino, CA 92408

REPLY TO: -6530 Collection

EM BURN REHAB - Arrowlead Fire San Brunader 2/24/78 2524

SUBJECT: Campus Crusade (Arrowhead Fire)

70: Regional Forester

Attention: Colleen Lew



Summarized below is information on rehabilitation work done on the Arrowhead burn. You stated that this was to be added to the collection on an amended Complaint. Copies of referenced documents are enclosed.

- \$8,881.00 Replanting Arrowhead Landmark Original planned cost on PWP 27-2 was \$9,410.00 but was reduced to actual project cost.
- 2. \$2,274.00 Improve Trail drainage on Arrowhead Landmark Trail. Original planned cost was \$2,510.00.
- Memorandum 2510 dated October 13, 1976 to Regional Forester summarizes accomplishment on Items #1 & #2.
- Memorandum 2510 dated September 19, 1975 to Chief from Deputy Regional Forester.
- 5. As per your inquiry of \$2,919 as an expenditure, we are unable to identify it.

M.F. OGNISTY

Administrative Officer

F.S. RECEIVED MAR 1 1978 WATERSHED MGMT. STAFF

- REPLY TO: 2510 Watershed Survey and Plans

October 13, 1976

SUBJECT: Watershed Restoration - Arrowhead Burn

TO: Regional Forester



The following information is the accomplishment for the restoration of the Arrowhead Burn area:

- Drainage facilities were installed on the Arrowhead Peak Trail, 4013, to handle the increased runoff from the Arrowhead fire. The trail tread was restored where it had been damaged. The Arrowhead Landmark, a California Historical Landmark, was restored by planting native shrubs to stop erosion. A 96-inch diameter culvert was installed on Forest Development Road 1024 near the point of origin of the fire.
- Trail restoration cost \$2274, the landmark restoration cost \$8,881, and the culvert replacement cost \$35,205.
- 3. There are no remaining unobligated balances of Federal emergency funds.
- 4. On-going programs of the Forest Service were utilized to meet the emergency. Preliminary and construction engineering was provided from regular FRET financing, as well as additional construction cost (above that estimated originally). This amounted to \$2919. Additional heavy trail maintenance will be required in 1977 and 1978 until the burn stabilizes. This will be provided for with FRET maintenance funds and will be approximately \$1500 per year more than normal.
- to grow and plant seedlings of Descanso Rock Rose plants purchased by the Forest Service. In addition, the Pilot Rock crew grew and planted seeds of native shrubs (white sage, creeping sage and gum rock rose) that were collected by the Forest Service. Campus Crusade for Christ International provided \$5119 for the cost of the culvert replacement and has been billed for an additional \$1592 to cover their share of engineering expenses and additional construction costs.

It is interesting to note that when the Forest was hit by tropical storm Kathleen in September, the 96" diameter culvert ran nearly full. Because of the increased runoff from the fire, including debris and many dislodged boulders, the original 48" diameter culvert would have plugged and the embankment would surely have washed out.

CHARLES W. HAMILTON Forest Resource Officer

cc: District Ranger, Cajon Calvert-Proj. File 1N24

MFlorey: dml

UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE

Cajon R.D.

REPLY TO:

2510 Watershed Survey and Plans

6510 Appropriations and Funds

SUBJECT:

Watershed Restoration - Arrowhead Burn

August 27, 1976

TO:

Forest Supervisor Attn: Nelson Dean

The watershed accomplishment report as requested by Nelson Dean's memo dated 8/24/76 is as follows:

Rehab work consisted of planting native shrubs on the Landmark and improving trail drainage. Sixty man days of work was done to the trail tread by force account labor in March and April 1976. Trail tread was re-established and widened. The trail will receive more heavy maintenance in FY 1977 and 1978 and hopefully at that time the trail will have stabilized.

Five thousand Descanso Rock Rose plants were purchased from the Antelope Nursery in Lancaster and the Pilot Rock, California Division of Forestry crew planted these in February and March 1976. Seeds from native shrubs white sage, creeping sage and gum rock rose were collected by Forest Service crews and were transported to Pilot Rock. The Forest Service also bought materials to construct plant flats and tubs so the Pilot Rock crew could grow the plants and plant them at the Landmark.

To date the plants are being germinated. Higher priorities at Pilot Rock prohibited their completion of planting. This will be done this fall. Forest Service participation in the project is complete.

Natural vegetation is becoming established in the area and survival of planted Descanso Rock Rose was not highly successful.

A copy of completed project work plans 27-2 and 46-2 are attached.

Resource Officer

Attach.

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REPLY TO: 2510 Watershed Surveys and Plans

September 19, 1975

SUBJECT: Arrowhead Burn Restoration - San Bernardino N. F.

TO: Chief

AA-C&P

.A.A.-R.152

RGHIS



We are enclosing one copy of the rehabilitation report outlining measures proposed to be installed on National Forest land following the Arrowhead Burn on the San Bernardino National Forest. FCO measures are described in the report and summarized as follows: 40 Rec. 0 Trail Restoration 2.25 miles \$2,510 Arrowhead Landmark 7.62 acres 9,410 Restoration \$11,920 TOTAL 014

The Arrowhead Landmark restoration measures are designed to provide protection from surface runoff and from future fires through planting a perimeter strip of the landmark with fire tolerant species of shrubs which have been developed and used extensively for this purpose on the Angeles River project and other areas of the Pacific Southwest. Within the first two years, root development of these shrubs will provide additional stabilization to assist the natural white sage in stabilizing the area.

ZONE T.M. FLOWWELL follow). We are also submitting a request for Section 216 funds to install flood prevention measures on private lands below the burn.

T. W. Koskella

T.W. KOSKELLA Deputy Regional Forester

Enclosure (cher was no enclosure - 12 fg)

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