



DS# 2715

DS INDEX 9816

APN N/A

PROJECT LAKE HEAD BOULEVARD, PHASE 1A PROJECT
(RANCHO TO LOSEE)

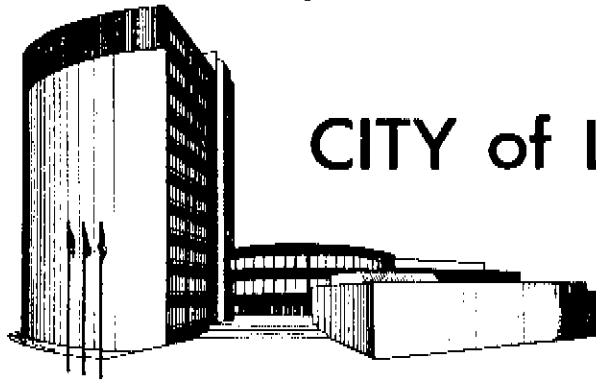
SUBMITTAL 2ND SUBMITTAL, SUPPLEMENT



MAYOR RON LURIE

COUNCILMEN
BOB NOLEN
W. WAYNE BUNKER
STEVE MILLER
ARNIE ADAMSEN

CITY MANAGER
ASHLEY HALL



CITY of LAS VEGAS

May 5, 1989

Mr. Gale Fraser, P.E.
Clark County Regional
Flood Control District
301 E. Clark Avenue
Las Vegas, NV 89101

RE: LAKE MEAD BLVD. DRAINAGE STUDY

Dear Mr. Fraser:

Attached please find the supplemental data provided by VTN Nevada in response to our request at the April 25, 1989 review meeting. With this data, it is our hope that all concerned parties can agree with the plan of action proposed in our April 27, 1989 letter. As you will recall, the City of Las Vegas proposed both a final alternative selection and cost split for the works associated with flood control.

I would appreciate your input on this matter by May 12, 1989 and, by copy of this letter, make the same request of the other concerned entities. You may reach me for questions at 386-6272.

Sincerely,

K. M. TROMPTER
Project Engineer
Department of Public Works

cc: Gary A. Presswood, P.E.
C. E. Gilpin, P.E.
Joe Dorbin, P.E., w/att.
Gary B. Johnson, P.E., RTC, w/att.
Denis Cederburg, P.E., w/att.
Jim Bell, P.E., NLV, w/att.
Tom Donalson, McCarran Airport, w/att.

KMT/mm
Attachment
029



DS 2715
A01

SUPPLEMENT TO THE
PRELIMINARY HYDROLOGY STUDY
FOR THE
LAKE MEAD BOULEVARD,
PHASE 1A PROJECT

FOR THE CITY OF LAS VEGAS, NEVADA

MAY 1989

VTN NEVADA W.O. 3661H

PURPOSE

The purpose of this Supplement to the Preliminary Lake Mead Hydrology Study for Phase IA is to clarify some of the questions raised at the Review Meeting held on April 25, 1989 at Clark County Regional Flood Control District Office (CCRFCO).

CCRFCO suggested that a diagram showing the detention basin locations for each alternative be overlaid on the Drainage Basin Map. This will aid in determining which drainage basins were routed to which detention basins during the analysis of each alternative. The following diagrams show the proposed detention basins of each alternative (and modifications) transposed on the drainage basin map. The following is a summary of the analysis of each alternative to be an aid to the attached diagrams.

GENERAL SUMMARY OF ANALYSIS

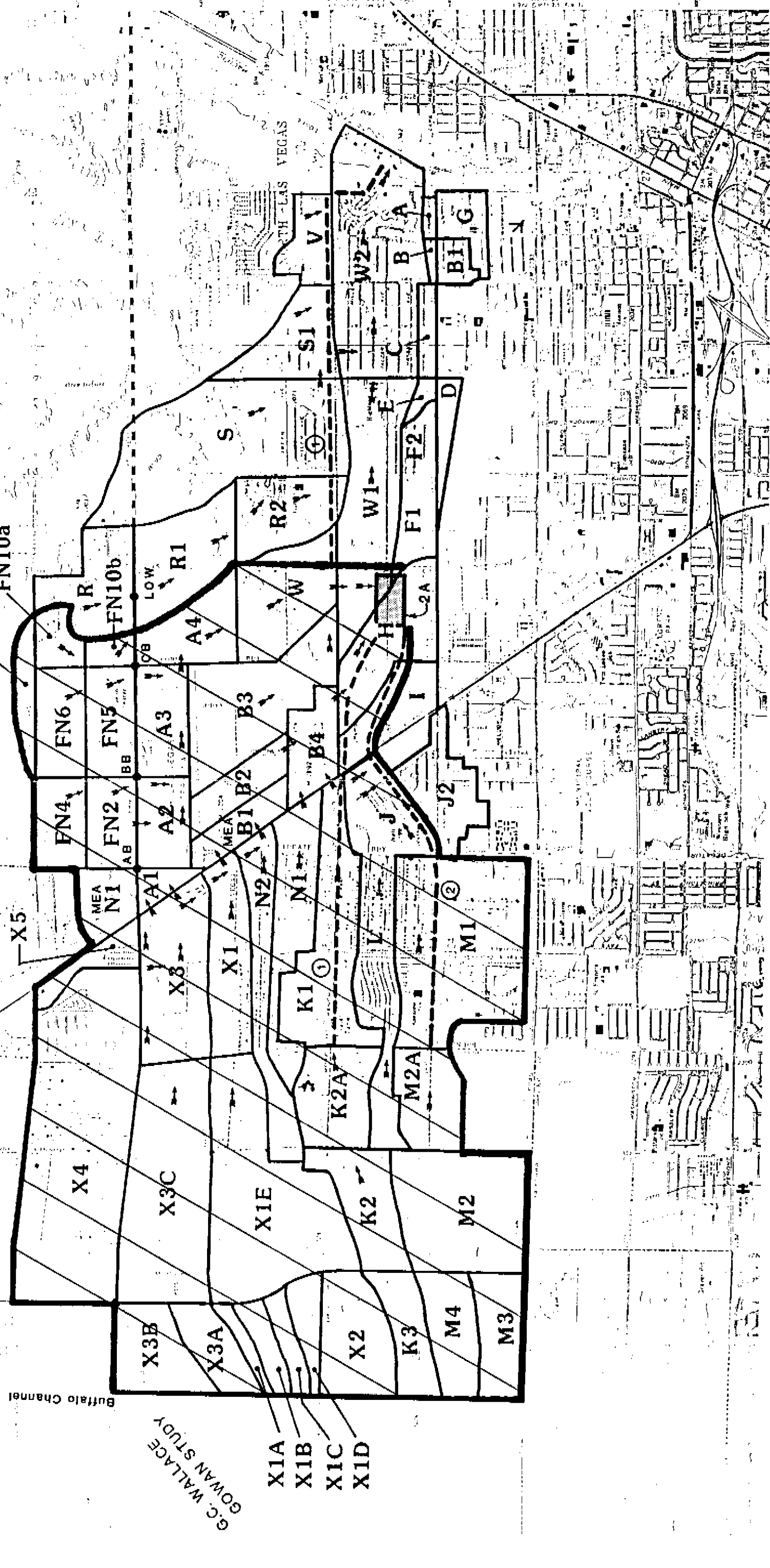
In general this drainage study analyzed the conveyances of the five major flows in this area of the central Las Vegas Valley. Each of the Alternatives (2A, 2B, and 2C) were analyzed the conveyance of these flows in different modifications (Mod 1, Mod 2, and Mod 3).

1. The flow conveyed in the Lake Mead Boulevard storm drain.
2. The flow conveyed in the Carey Avenue (Smoke Ranch) storm drain.
3. The runoff from the west side of the NLV Airport.
4. The runoff from the east side of the NLV Airport.
5. The outflow from the Cheyenne Avenue storm drain.

Alternative 2A

Alternative Number 2A is a single detention basin located within the future airport expansion area. This detention basin would be located at the end of the future runways within the clear zone, planned in the airport expansion. Alternative 2A was analyzed using two different Mod 1 and Mod 2. The first analysis (Mod 1) routed the runoff conveyed in the proposed Lake Mead Boulevard and the existing Carey Avenue storm drains, the runoff from the west side of the NLV Airport, and the runoff from the east side of NLV Airport into Detention Basin 2A. The outlet for this detention basin would discharge into the proposed storm drain in Lake Mead Boulevard and outlet into the I-15 Freeway Channel. The second analysis (Mod 2) routed the runoff from the outlet of Cheyenne Avenue storm drain (shown as point "LOW" on the Drainage Basin Map and HEC-1 Model) into detention Basin 2A in addition to the flows in Mod 1.

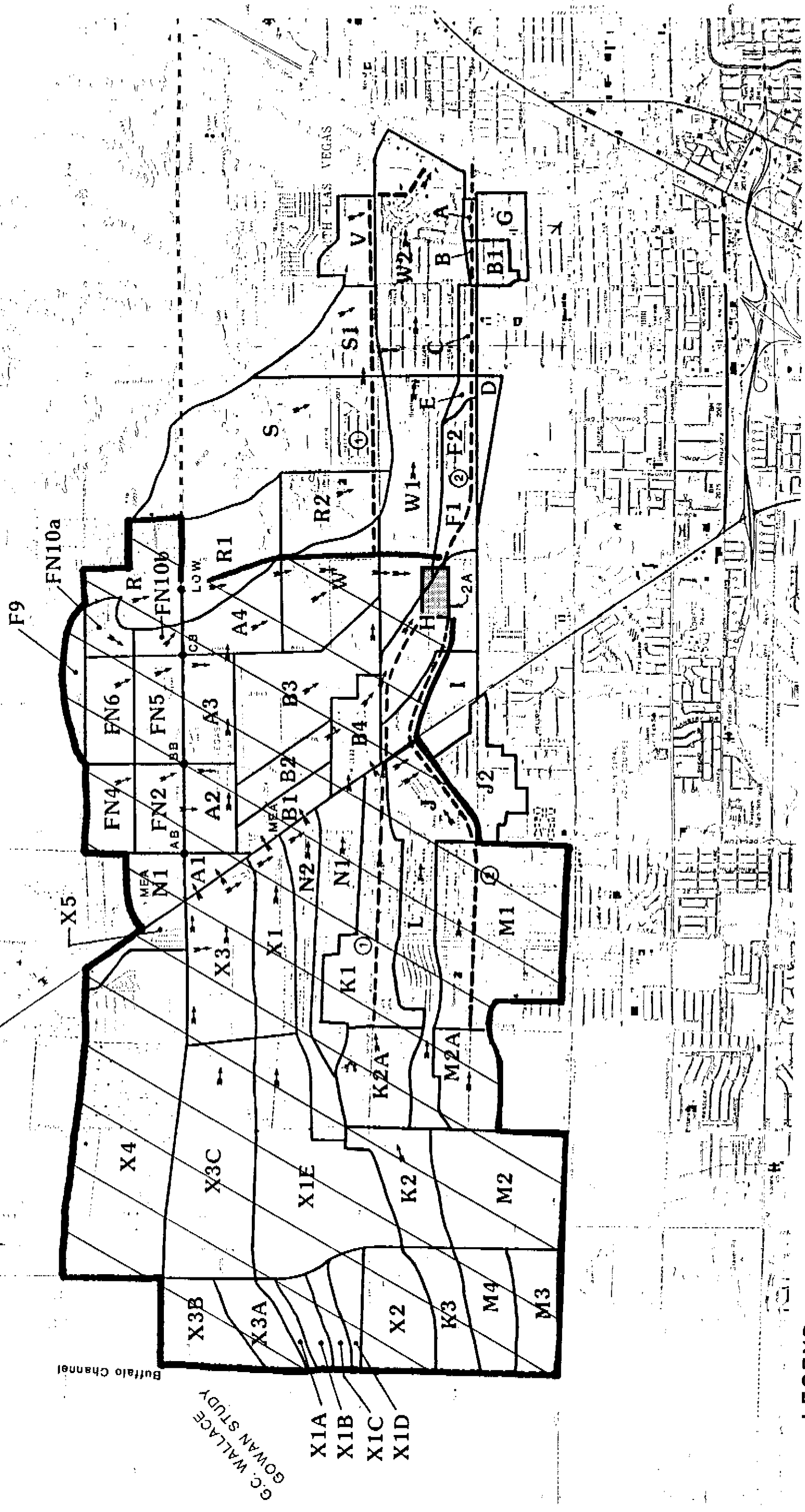
VTR



LEGEND

- > SURFACE FLOW
- > STORM DRAIN FLOW
- ① CAREY AVE. STORM DRAIN
- ② LAKE MEAD BLVD. STORM DRAIN

LAKE MEAD PHASE 1A
 ALTERNATIVE 2A
 MOD 1



LEGEND

- SURFACE FLOW
- STORM DRAIN FLOW
- ① CAREY AVE. STORM DRAIN
- ② LAKE MEAD BLVD. STORM DRAIN

LAKE MEAD PHASE 1A
 ALTERNATIVE 2A
 MOD 2

Alternative 2B

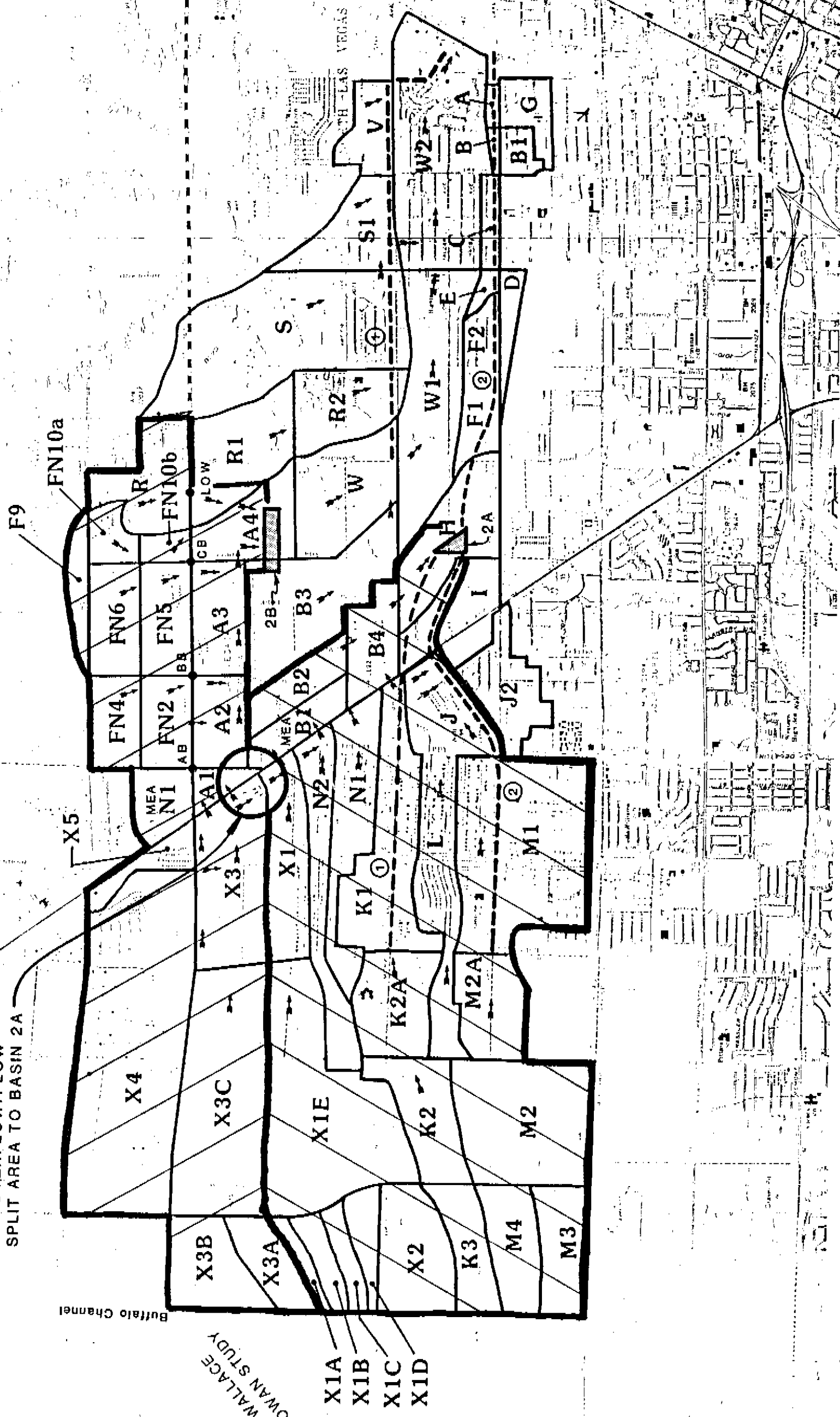
The analysis of Alternative 2B assumes that the proposed NLV Airport Detention Basin 2B will become a regional drainage facility in combination with a smaller detention basin at the southwest corner of the future airport expansion to be located entirely outside of the Clear Zones. This Alternative was analyzed using three different modifications designated as Mod 1, Mod 2, and Mod 3. The first analysis (Mod 1) routed the runoff conveyed in the proposed Lake Mead Boulevard and the existing Carey Avenue storm drain, and the runoff from the west side of the NLV Airport into Detention Basin 2A. The outlet for Detention Basin 2A would be into the proposed storm drain in Lake Mead Boulevard and eventually discharge into the I-15 Freeway Channel. The runoff along the northern portion of the NLV Airport would be routed into Detention Basin 2B. The outlet from Detention Basin 2B would be into the existing water course. The second analysis (Mod 2) routed the runoff from the outlet of Cheyenne Avenue storm drain (LOW) into detention Basin 2B, in addition to the flows in Mod 1. The third modification (Mod 3) would be to move Detention Basin 2B to the southeast off of the existing airport property, but this would add additional cost to this alternative for the purchase of the land.

Vtn

OVERFLOW/FLOW
SPLIT AREA TO BASIN 2A

Buffalo Channel

G.C. WALLACE
GOWAN STUDY



LEGEND

- SURFACE FLOW
- STORM DRAIN FLOW
- ① CAREY AVE. STORM DRAIN
- ② LAKE MEAD BLVD. STORM DRAIN

LAKE MEAD PHASE 1A
ALTERNATIVE 2B
MOD 2

Alternative 2C

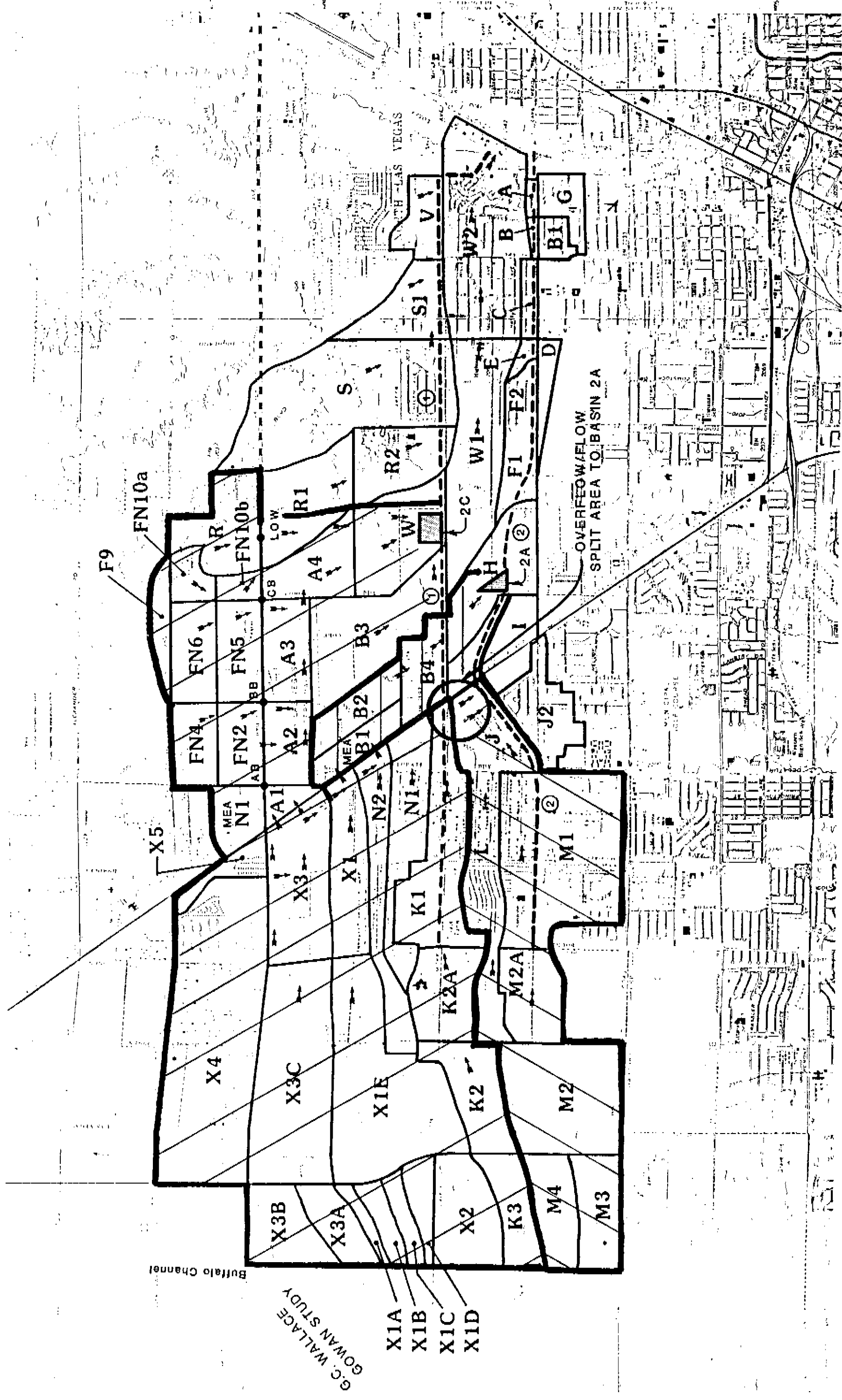
Alternative 2C has two proposed Detention Basins 2A and 2C. Detention Basin 2A is the proposed detention basin at the southwest corner of the future expansion area of the NLV Airport. Detention Basin 2C is the proposed detention basin at the northwest corner of the Carey/Simmons Intersection. Alternative 2C was also analyzed using three modifications designated as Mod 1, Mod 2, and Mod 3.

The first analysis (Mod 1) of Alternative 2C is to route the runoff from the west side of the NLV Airport, runoff conveyed in the existing Carey Avenue Storm Drain and the proposed Lake Mead Storm Drain into Detention Basin 2A. The runoff from the east side of the NLV Airport will be routed to Detention Basin 2C. The outlet for Detention Basin 2A would be connected into the proposed storm drain in Lake Mead Boulevard and connected into the I-15 Freeway Channel. The outlet for Detention Basin 2C would be the existing Carey Avenue Storm Drain. The existing Carey Avenue storm drain also discharges into the I-15 Freeway Channel downstream of the point where the proposed Lake Mead storm drain will outlet.

The second analysis (Mod 2) of Alternative 2C is to route the runoff from the west side of the NLV Airport and runoff conveyed in the proposed Lake Mead Storm Drain into Detention Basin 2A. The runoff from the east side of the NLV Airport, the runoff conveyed in the existing Carey Avenue Storm Drain, and the outflow from the Cheyenne Avenue storm drain (LOW) will be routed to Detention Basin 2C. The outlet for Basin 2A would be connected into Lake Mead Storm Drain and Basin 2C will connect into the Carey Avenue Storm Drain.

The third analysis (Mod 3) of Alternative 2C is to route the runoff conveyed in the Lake Mead Storm Drain into Detention Basin 2A. Runoff from the east side and west side of the NLV Airport, the runoff conveyed in the existing Carey Avenue Storm Drain, and the outflow from the Cheyenne Avenue storm drain (LOW) will be routed to Detention Basin 2C. The outlet for Basin 2A would connect to the Lake Mead Storm Drain and Basin 2C would discharge into the Carey Avenue Storm Drain.

VTH



LEGEND

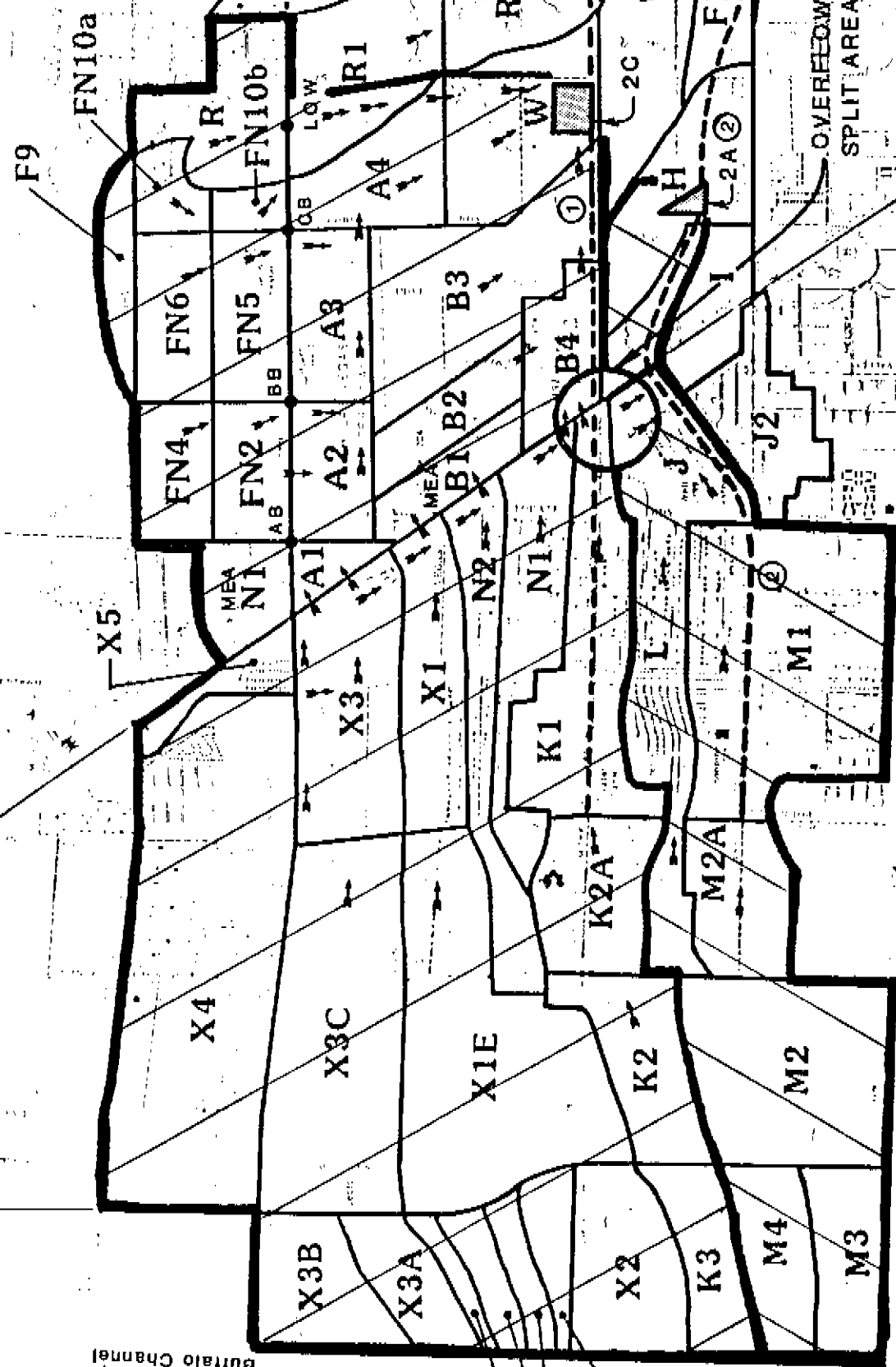
- SURFACE FLOW
- STORM DRAIN FLOW
- ① CAREY AVE. STORM DRAIN
- ② LAKE MEAD BLVD. STORM DRAIN

LAKE MEAD PHASE 1A
 ALTERNATIVE 2C
 MOD 2

ALCANTARA

Buffalo Channel

G.C. WALLACE
GOWAN STUDY



LEGEND

- SURFACE FLOW
- STORM DRAIN FLOW
- ① CAREY AVE. STORM DRAIN
- ② LAKE MEAD BLVD. STORM DRAIN

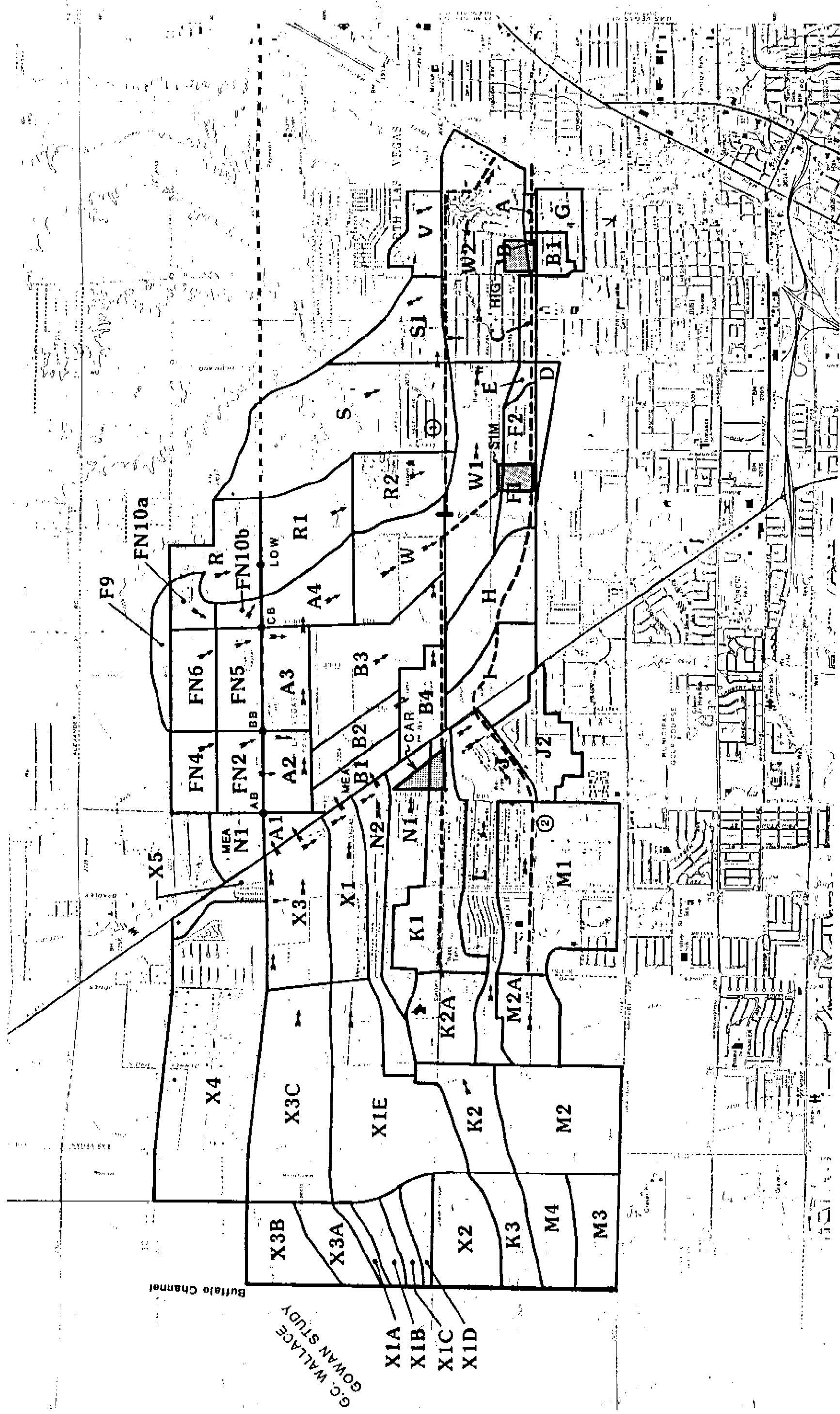
LAKE MEAD PHASE 1A
ALTERNATIVE 2C
MOD 3

Master Plan

The Master Plan Alternative is the proposed Master Plan drainage structures shown on sheets A2-4 and A2-5 of the CCRFCD Master Plan. This analysis used the proposed Master Plan Detention Basin in the CCRFCD Master Plan with VTN's HEC-1 Model for Developed Conditions. This Alternative has three detention basins at Smoke Ranch/Rancho Intersection (CAR), east of the Simmons/Lake Mead Intersection (SIM) and at the Revere/Lake Mead Intersection (HIG).

This analysis routed the storm water along the east side of Rancho Road north of Smoke Ranch and the Smoke Ranch Storm Drain is routed into detention basin CAR. The outlet of detention basin CAR will be the Carey Avenue Storm Drain. The Carey Avenue Storm Drain, runoff from the east and west side of the NLV Airport, and the Lake Mead Boulevard Storm Drain will be routed into the SIM Detention Basin. The outlet from the SIM Detention Basin will be the Lake Mead Storm Drain.

VTN



LEGEND

- > SURFACE FLOW
 --- STORM DRAIN FLOW
 ① CAREY AVE. STORM DRAIN
 ② LAKE MEAD BLVD. STORM DRAIN

**LAKE MEAD PHASE 1A
MASTER PLAN**