CITY OF
Albuquerque

January 16, 1998

Martin J. Chávez, Mayor

Kim Kemper, P.E.
Kemper-Vaughan
3700 Coors Road NW
Albuquerque, NM 87120

RE: RV-USA, 11117 SKYLINE NE (K21-D4A). ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY APPROVAL. ENGINEER'S CERTIFICATION DATED DECEMBER 19, 1997.

Dear Mr. Kemper:

Based on the information provided on your December 22, 1997 submittal, the above referenced project is approved for Certificate of Occupancy.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

Lisa Ann Manwill, P.E.
Hydrology

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: RV - USA. ZONE ATLAS/DRNG. FILE #: K-21-Z 4A

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: TRACT 21, T10, R4E. NMPM, SENAL ADDITION.

CITY ADDRESS: 11117 SKYLINE NE.

ENGINEERING FIRM: KEMPER - VAUGHAN CONTACT: KIM R. KEMPER

ADDRESS: 3700 COORS RD NW 87120 PHONE: 831-4520

OWNER: REID PRATT CONTACT: _____

ADDRESS: 1501 SAGEBRUSH TR. SE PHONE: 296-6532

ARCHITECT: JLS ARCHITECTURE CONTACT: JOE SLAGLE

ADDRESS: 414 SECOND STREET 87102 PHONE: 246-0870

SURVEYOR: RIO GRANDE SURVEYING CONTACT: REX JOGLER

ADDRESS: 3700 COORS RD 87120 PHONE: 831-4511

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- X ENGINEER'S CERTIFICATION
- ____ OTHER _____

PRE-DESIGN MEETING:

- ____ YES
- ____ NO
- ____ COPY PROVIDED

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DEC 22 1997
HYDROLOGY SECTION

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SKETCH PLAT APPROVAL
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D. APPROVAL
- ____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- ____ BUILDING PERMIT APPROVAL
- X CERTIFICATE OF OCCUPANCY APPROVAL
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ S.A.D. DRAINAGE REPORT
- ____ DRAINAGE REQUIREMENTS
- ____ OTHER _____ (SPECIFY)

DATE SUBMITTED: 12/19/97

BY: Kim R. Kemper

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 16, 1995

Kim Kemper
Kemper-Vaughan
3700 Coors Rd. NW
Albuquerque, NM 87121

RE: REVISED DRAINAGE PLAN FOR RV-USA (K21-D4A) ENGINEER'S STAMP DATED 5/12/95.

Dear Mr. Kemper:

Based on the information provided on your May 15, 1995 resubmittal, the above referenced site is approved for Building Permit.

Please be advised that a separate permit is required for construction within City Right-of-Way. A copy of this letter must be on hand when applying for the excavation permit.

Also, Engineer Certification per the D.P.M. checklist will be required prior to Certificate of Occupancy release.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineering Associate

BJM/dl

c: Andrew Garcia
Arlene Portillo
File

DRAINAGE PLAN

RV USA

PREPARED FOR:

MR. REID PRATT
1501 SAGEBRUSH TRAIL SE
ALBUQUERQUE, NEW MEXICO 87123

DATE:
MAY 12, 1995
(GRADING AND DRAINAGE PLAN ENGINEERS SEAL DATED 5/12/95)

PREPARED BY:

KEMPER-VAUGHAN CONSULTING ENGINEERS
ALBUQUERQUE, NEW MEXICO

THIS SUBMITTAL IS THE THIRD REVISION TO THE GRADING AND DRAINAGE PLAN ON THE SUBJECT PARCEL FIRST SUBMITTED AND APPROVED ON AUGUST 21, 1992, REVISED, SUBMITTED, AND AGAIN APPROVED ON APRIL 20, 1993 (K-21/D4A), THEN AGAIN REVISED, SUBMITTED, AND APPROVED ON OCTOBER 14, 1993. THE ORIGINAL SUBMITTAL REQUIRED A WET WELL AND PUMP TO EVACUATE STORM WATER FROM THE SITE. THIS WAS REQUIRED DUE TO THE LACK OF AN ACCEPTABLE OUTFALL THAT WAS CONDUCIVE TO THE NATURAL GRADE OF THE PROPERTY. IN JANUARY 1993, THE OWNER OF THE SUBJECT PROPERTY OBTAINED RIGHT-OF-WAY NORTH OF THE SUBJECT SITE IN ORDER TO DISCHARGE STORM WATERS FROM THE PROPERTY. THE PLAN WAS THEN REVISED TO UTILIZE THE NEW OUTFALL LOCATION. THE OWNER THEN ELECTED TO CONSTRUCT ADDITIONAL STORAGE UNITS AND PAVE A PORTION OF THE PROPERTY WHICH FACILITATED THE SECOND REVISION OF THIS PLAN. NOW THE SITE PLAN HAS BEEN REVISED TO INCLUDE ADDITIONAL AREA UNDER ROOF IN THE REAR STORAGE UNITS AND SOME ADDITIONAL LANDSCAPE AREA. THIS PLAN REFLECTS THOSE CHANGES.

THE SUBJECT PROPERTY IS LOCATED AT 11117 SKYLINE AVE. IN NORTHEAST ALBUQUERQUE. THE PROPOSED IMPROVEMENT PLAN IS TO CREATE A STORAGE LOT FOR RECREATIONAL VEHICLES WHICH WILL INCLUDE A NEW APARTMENT/GARAGE, CLOSED STORAGE UNITS, A NEW ROOF OVERHANG (AWNING), PAVING, AND GRAVEL SURFACING (SEE GRADING AND DRAINAGE PLAN, SHT. 1 OF 1). THE PROPOSED CLOSED STORAGE UNITS AND THE APARTMENT/GARAGE, AS WELL AS THE PAVING SHOWN ON PREVIOUS PLANS HAVE NOW BEEN CONSTRUCTED OR ARE IN THE PROCESS OF BEING CONSTRUCTED. THEREFORE, THEY ARE INCLUDED AS EXISTING IN THE FOLLOWING CALCULATIONS. AS SHOWN ON PANEL 31 OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD BOUNDARY AND FLOODWAY MAP, DATED OCTOBER 14, 1983, THIS SITE DOES NOT LIE WITHIN A DESIGNATED 100 YEAR FLOOD HAZARD AREA. THIS SITE IS CONSIDERED TO BE AN INFILL SITE (THIS CAN ALSO BE SEEN ON THE FLOODWAY MAP).

THE EXISTING TOPOGRAPHY ON THE PLAN WAS DEVELOPED FROM A SURVEY PREFORMED ON MAY 17, 1992, BY RIO GRANDE ENGINEERING AND SURVEYING. A SUBSEQUENT FIELD REVIEW OF THE SITE, PERFORMED BY THIS OFFICE, ON MAY 12, 1995, REVEALED THAT ALL THE INFORMATION SHOWN ON THIS PLAN IS CONSISTENT WITH THE ACTUAL CONDITIONS THAT EXIST IN THE FIELD.

THE FOLLOWING CALCULATIONS WERE DEVELOPED USING THE CITY OF ALBUQUERQUE PROPOSED DPM SECTION 22.2., JANUARY 1993

SITE CHARACTERISTICS:

SITE LOCATION: ZONE 4

PRECIPITATION: P_{360} = 2.90 inches
P_{1440} = 3.65 inches

LAND TREATMENT:
EXISTING - TREATMENT A
LANDSCAPE - TREATMENT B
GRAVEL - TREATMENT C
BUILDINGS - TREATMENT D

EXCESS PRECIPITATION: TREATMENT A E = 0.80 inches
TREATMENT B E = 1.08 inches
TREATMENT C E = 1.46 inches
TREATMENT D E = 2.64 inches

PEAK DISCHARGE: TREATMENT A = 2.20 cfs/acre
TREATMENT B = 2.92 cfs/acre
TREATMENT C = 3.73 cfs/acre
TREATMENT D = 5.25 cfs/acre

AREAS:	EXISTING	PROPOSED
TOTAL AREA	= 2.01 AC.	
NATURAL VEG.	= 1.52 AC. = 75.6%	0.00 AC. = 0.0%
LANDSCAPE	= 0.02 AC. = 1.0%	0.10 AC. = 5.3%
GRAVEL	= 0.00 AC. = 0.0%	0.94 AC. = 50.3%
BUILDS/PAVE	= 0.47 AC. = 23.4%	0.83 AC. = 44.4%
	TOTAL =	1.87 AC.

THE EXISTING BUILDING AND PAVEMENT (0.14 AC.) LOCATED ON THE SOUTH END OF THE PROPERTY CURRENT DRAINS TO SKYLINE AND THE PROPOSED IMPROVEMENTS WILL NOT AFFECT THIS EXISTING PATTERN. THEREFORE, THE ABOVE AREAS AND FOLLOWING CALCULATION CONSIDER ONLY THAT AREA IMPACTED BY THE SUBJECT PROJECT.

EXCESS PRECIPITATION & VOLUMETRIC RUNOFF:

EXISTING RUNOFF:

$$\text{WEIGHTED E} = \frac{(0.80)(1.52) + (1.08(0.02) + (2.64)(0.33)}{1.87}$$

$$= 1.13 \text{ inches}$$

$$V_{100\text{-}6hr} = (1.13)(1.87)/12 = 0.176 \text{ acre-ft} = 7{,}670 \text{ cf}$$

DEVELOPED RUNOFF:

$$\text{WEIGHTED E} = \frac{(1.08)(0.10) + (1.46)(0.94) + (2.64)(0.83)}{1.87}$$

$$= 1.96 \text{ inches}$$

$$V_{100\text{-}6hr} = (1.96)(1.87)/12 = 0.305 \text{ acre-ft} = 13{,}300 \text{ cf}$$

PEAK DISCHARGE:

EXISTING DISCHARGE:

$$Q_{100} = (2.20)(1.52) + (2.92)(0.02) + (5.25)(0.33) = 5.13 \text{ cfs}$$

DEVELOPED DISCHARGE:

$$Q_{100} = (0.10)(2.92)+(0.94)(3.73)+(0.83)(5.25) = 8.16 \text{ cfs}$$

OPENING IN WALL CAPACITY AS AN ORIFICE: (WITH 0.8' HEADWATER)

$$Q = (C)(A)[(2)(g)(H)]^{0.5}$$

$$Q = (0.6)(2.68)[(2)(32.2)(0.47)]^{0.5}$$

$$Q = 8.8 \text{ cfs}$$

OPENING IN WALL CAPACITY AS A CULVERT: (SEE ATTACHED SHEET)

CONSTRUCTED SWALE CAPACITY: (SEE ATTACHED SHEET)

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE

May 12, 1995
RV-USA
GRADING AND DRAINAGE PLAN
DRAINAGE OPENING IN WALL

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Culvert Span (Width of Opening) (feet)	4.00
Culvert Rise (Height of Opening) (feet)	0.67
FHWA Chart Number (8,9,10,11,12 or 13)	10
Scale Number on Chart (Type of Culvert Entrance)	2
Manning`s Roughness Coefficient (n-value)	0.0300
Entrance Loss Coefficient of Culvert Opening	0.50
Culvert Length (feet)	0.7
Culvert Slope (feet per foot)	0.0001

PROGRAM RESULTS:

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Outlet Velocity (fps)
6.0	0.00	0.65	0.67	0.67	0.41	0.41	3.64
6.5	0.00	0.68	0.70	0.67	0.43	0.43	3.74
7.0	0.00	0.72	0.73	0.67	0.46	0.46	3.83
7.5	0.00	0.75	0.77	0.67	0.48	0.48	3.92
8.0	0.00	0.80	0.81	0.67	0.50	0.50	4.01
8.2	0.00	0.82	0.82	0.67	0.51	0.67	3.06

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

May 12, 1995
RV-USA
GRADING AND DRAINAGE PLAN
DRAINAGE SWALE WITHIN EASEMENT (LOT 5)

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Flow Rate (cubic feet per second)	8.2
Channel Bottom Slope (feet per foot)	0.0190
Manning`s Roughness Coefficient (n-value)	0.0450
Channel Side Slope - Left Side (horizontal/vertical)	3.00
Channel Side Slope - Right Side (horizontal/vertical)	3.00
Channel Bottom Width (feet)	6.0

PROGRAM RESULTS:

DESCRIPTION	VALUE
Normal Depth (feet)	0.46
Flow Velocity (feet per second)	2.40
Froude Number (Flow is Sub-Critical)	0.679
Velocity Head (feet)	0.09
Energy Head (feet)	0.55
Cross-Sectional Area of Flow (square feet)	3.41
Top Width of Flow (feet)	8.77

GENERAL NOTES

1. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE TO RESOLVE THE CONFLICT WITH A MINIMUM AMOUNT OF DELAY.
2. ALL WORK ON THIS PLAN SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
3. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE LOCATION ONLY, AND LINES MAY EXIST WHERE NONE ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE UTILITY OWNER OR FROM EXISTING PLANS, AND THIS INFORMATION MAY BE INCOMPLETE, OR OBSOLETE AT THE TIME OF CONSTRUCTION. THE ENGINEER HAS NOT UNDERTAKEN ANY FIELD VERIFICATION OF THESE LOCATIONS, LINE SIZES OR MATERIAL TYPE, MAKES NO REPRESENTATION THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE OR UNDERGROUND INSTALLATION IN OR NEAR THE AREA IN ADVANCE OF AND DURING ANY EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES AND UNDERGROUND FACILITIES. IN PLANNING AND CONDUCTING EXCAVATIONS, THE CONTRACTOR SHALL COMPLY WITH ALL STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
4. THE CONTRACTOR SHALL INSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHTS-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AND BY WETTING THE SOIL TO KEEP IT FROM BLOWING.
5. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED BY BERNALILLO COUNTY FOR THE COMPLETION OF THE WORK PRIOR TO BEGINNING CONSTRUCTION.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION, AND ALL CURRENT UPDATES.
7. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR PERMIT.
8. TWO WORKING DAYS PRIOR TO AN EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE AT 260-1990 FOR LOCATION OF EXISTING UTILITIES.
9. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ECAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
10. BACKFILL COMPACTION SHALL BE ACCORDING TO RESIDENTIAL STREET USE.
11. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

BENCH MARK

ACS BRASS CAP "7-L21" LOCATED ON THE NORTH TOC ON EAST CENTRAL. BETWEEN ADDRESSES 11401 AND 11409 CENTRAL BLVD.
ELEVATION = 5516.68

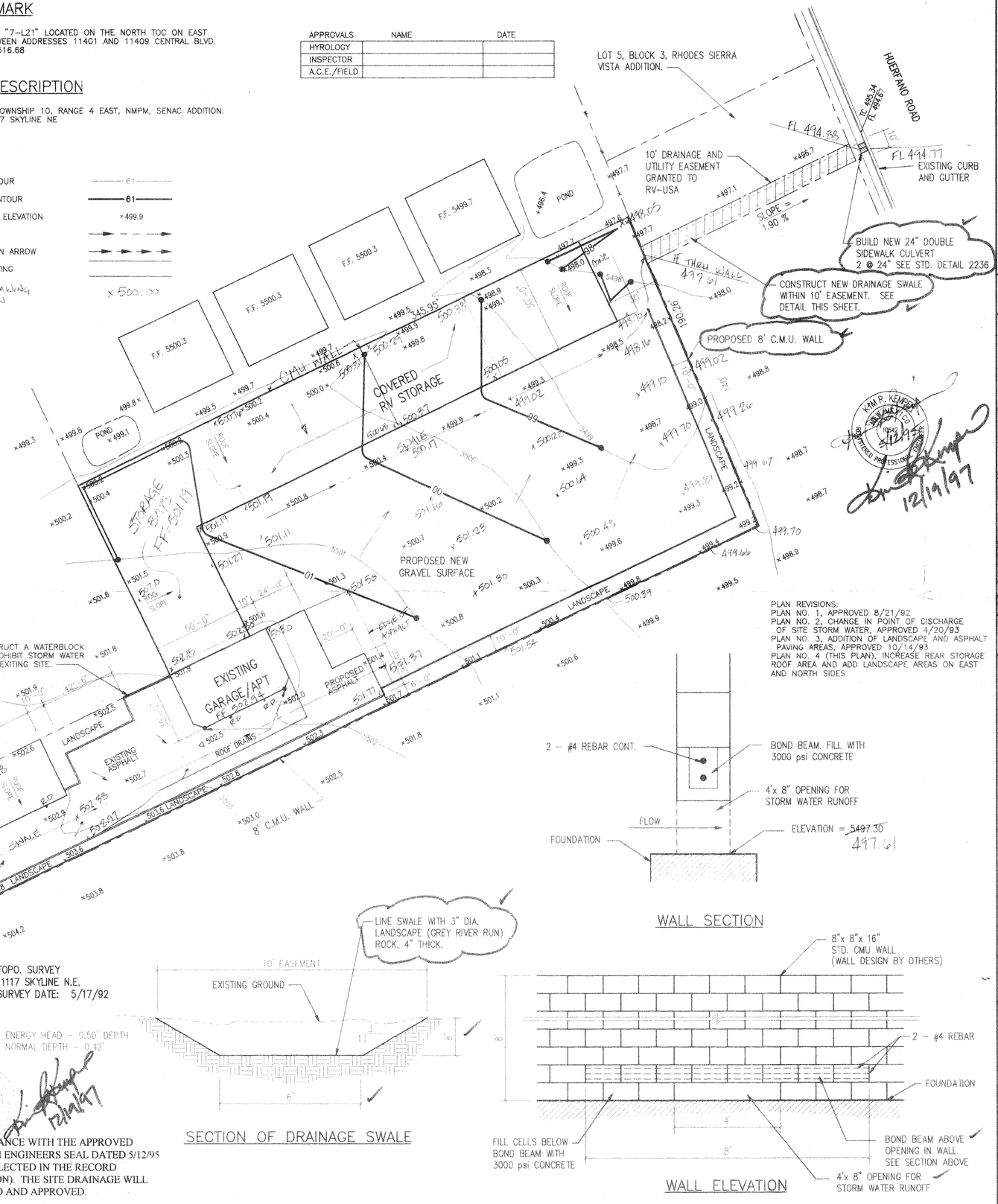
APPROVALS	NAME	DATE
HYROLOGY		
INSPECTOR		
A.C.E./FIELD		

LEGAL DESCRIPTION

TRACT 21 OF TOWNSHIP 10, RANGE 4 EAST, NMPM, SENAC ADDITION.
ADDRESS: 11117 SKYLINE NE

LEGEND

EXISTING CONTOUR — 61
PROPOSED CONTOUR — 61
EXISTING SPOT ELEVATION — ×499.9
FLOWLINE
FLOW DIRECTION ARROW
PROPOSED PAVING
RECORD DRAWING ELEVATION — ×500.00



PLAN REVISIONS:
PLAN NO. 1, APPROVED 8/21/92
PLAN NO. 2, CHANGE IN POINT OF DISCHARGE OF SITE STORM WATER, APPROVED 4/20/93
PLAN NO. 3, ADDITION OF LANDSCAPE AND ASPHALT PAVING AREAS, APPROVED 10/14/93
PLAN NO. 4 (THIS PLAN). INCREASE REAR STORAGE ROOF AREA AND ADD LANDSCAPE AREAS ON EAST AND NORTH SIDES

WALL SECTION

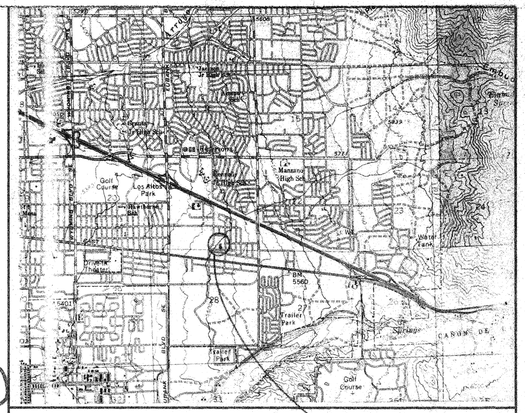
TOPO. SURVEY
11117 SKYLINE N.E.
SURVEY DATE: 5/17/92

ENERGY HEAD = 0.50' DEPTH
NORMAL DEPTH = 0.42'

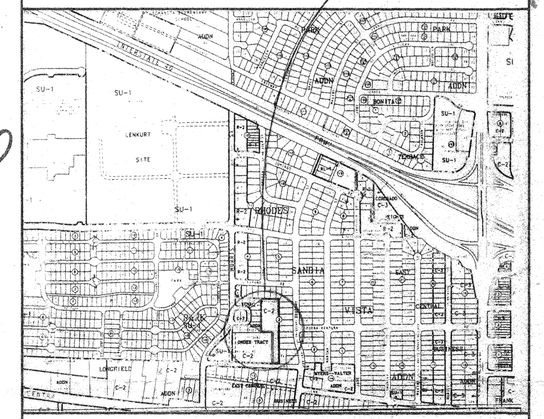
SECTION OF DRAINAGE SWALE

WALL ELEVATION

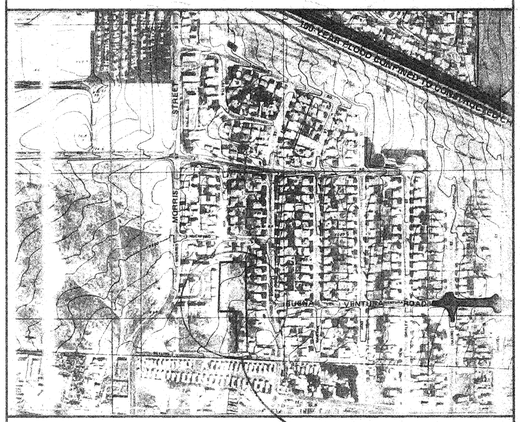
THE SITE IS IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED GRADING AND DRAINAGE PLAN WITH ENGINEERS SEAL DATED 5/12/95 (WITH THE MINOR REVISIONS AS REFLECTED IN THE RECORD DRAWING ELEVATION SHOWN HEREON). THE SITE DRAINAGE WILL FUNCTION AS ORIGINALLY PROPOSED AND APPROVED.



LOCATION MAP — PROJECT LOCATION



ZONE MAP — K-21



FLOOD BOUNDARY MAP — PROJECT LOCATION

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HYDROLOGY SECTION

REVISION OF PLAN APPROVED OCTOBER 14, 1993

RV USA (PLAN 4)
GRADING AND DRAINAGE PLAN

KEMPER-VAUGHAN
CONSULTING ENGINEERS
3700 COORS RD. N.W. • ALBUQUERQUE, NEW MEXICO 87120 • (505) 831-4520

Designed	Drawn	Checked	Sheet
KRK	KRK	KRK	1 of 1
File PRATT-4	Date MAY 1995		