

County of Bernalillo

State of New Mexico

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March 3, 2000

Chris Weiss, P.E.
C. L. Weiss Engineering, Inc.
P. O. Box 97
Sandia Park, New Mexico 87047

RE: *Engineer's Certification Plan for Lot 141, Unit 2, Sandia Heights South (C23/D58)*
(PWDN-990008) Submitted for Certificate of Occupancy Approval, Engineer's
Certification Stamp Dated 2/10/00.

Dear Mr. Weiss:

The above referenced Engineer's Certification dated February 10, 2000 is adequate for release of the Certificate of Occupancy for the residence on Lot 141, Sandia Heights South.

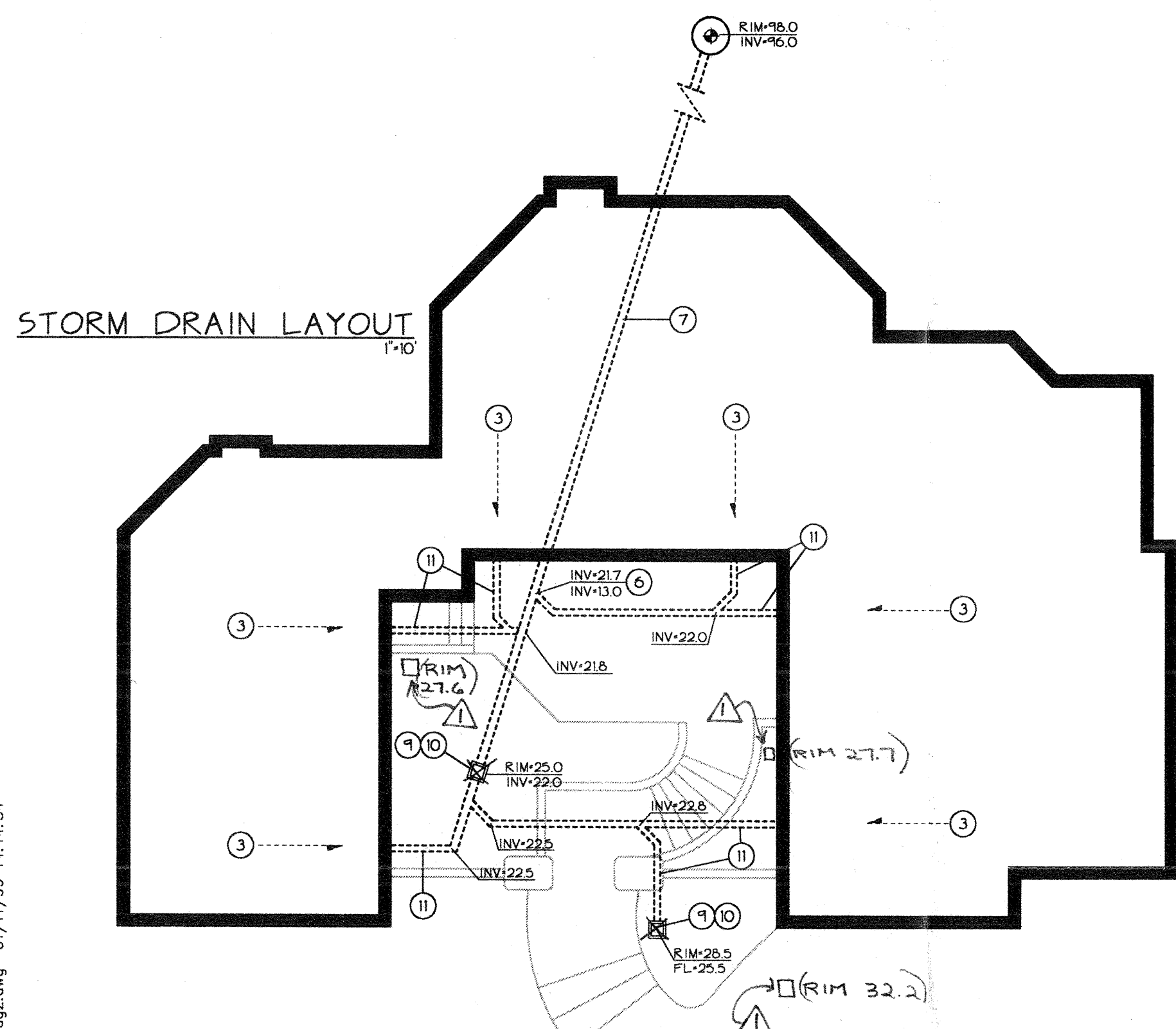
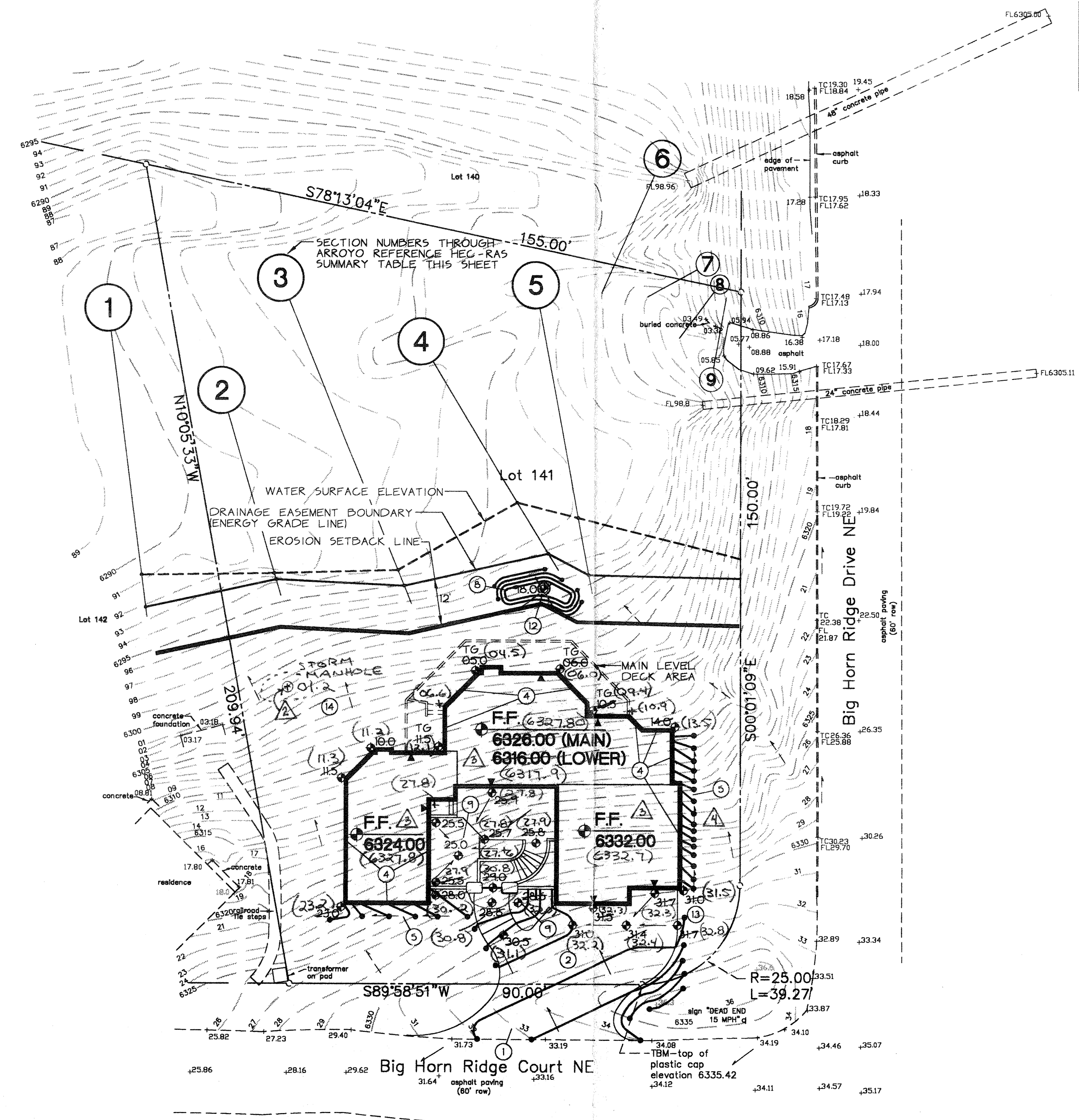
If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

A handwritten signature in cursive script, reading "Susan Calongne".

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Lisa Ann Manwill, P.E., Albuquerque Metropolitan Arroyo Flood Control Authority
Brad Catanach, P.E., Bernalillo County Public Works Division
File

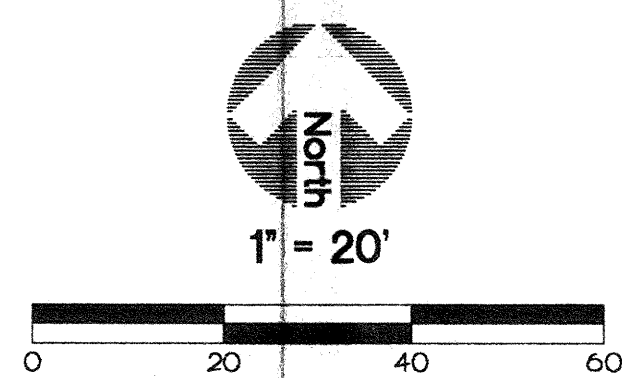


LEGEND

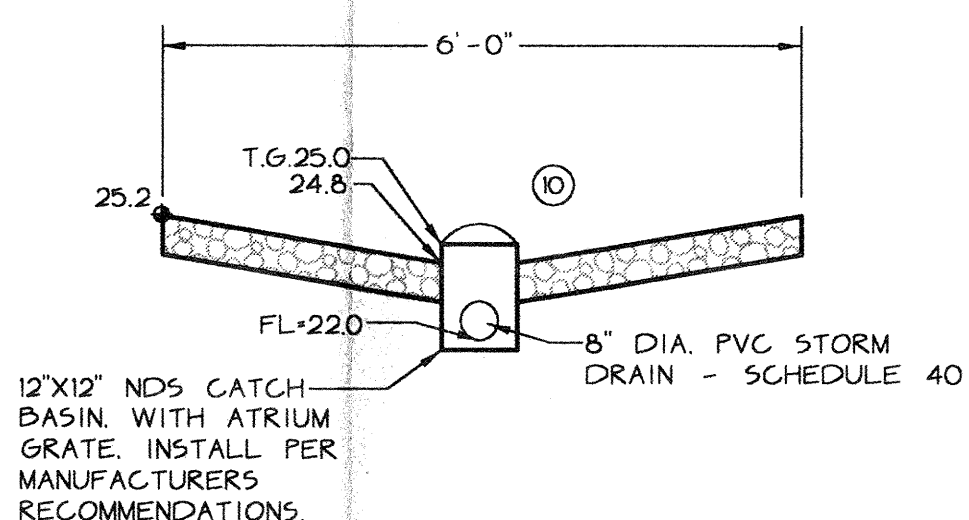
- SIDEWALK, CURB AND GUTTER (EXISTING, PROPOSED)
- BUILDING (EXISTING, PROPOSED)
- PROPERTY LINE
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR
- SURFACE FLOW DIRECTION (EXISTING, PROPOSED, ROOF)
- LA LANDSCAPED AREA
- TA TOP OF ASPHALT
- TC TOP OF CURB
- FL FLOW LINE
- FF FINISHED FLOOR
- TG TOP OF GRADE
- PL PROPERTY LINE
- PP POWER POLE
- ▲ ENTRY / EXIT LOCATION

Survey Notes

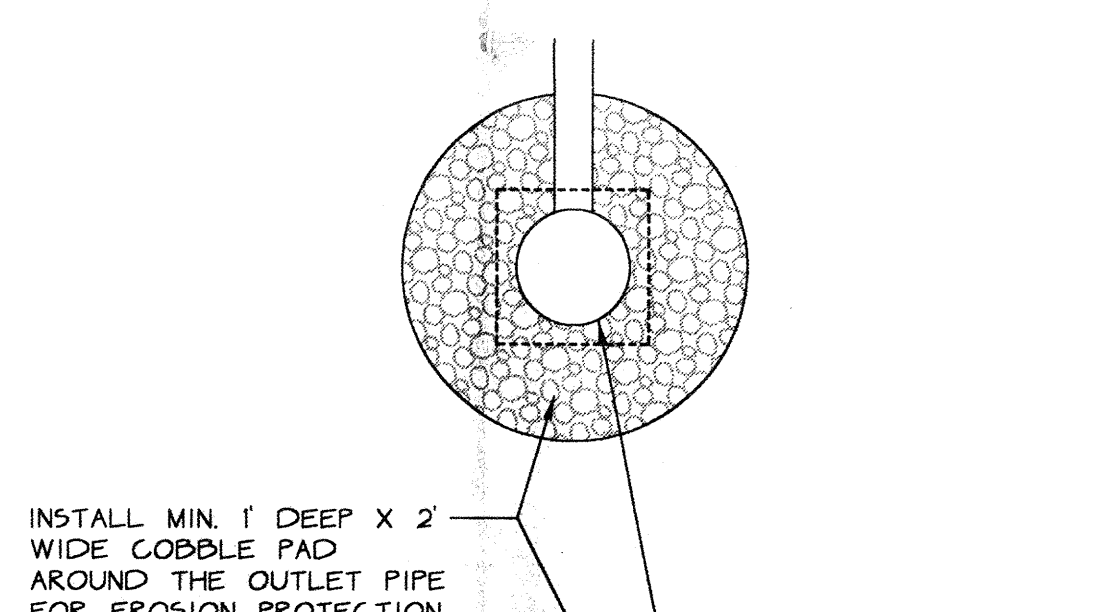
- Benchmark: City of Albuquerque 1-C24. A brass cap located 0.4 miles southeast of the intersection of White Oak Road & Big Horn Ridge Drive Road and approximately 226' east of the centerline of Big Horn Ridge Road (Elevation 6353.00).
- This survey is for topographic purposes only. No boundary survey was performed.
- Any easements or underground structures affecting this property, including but not limited to utilities, are not a part of this survey.



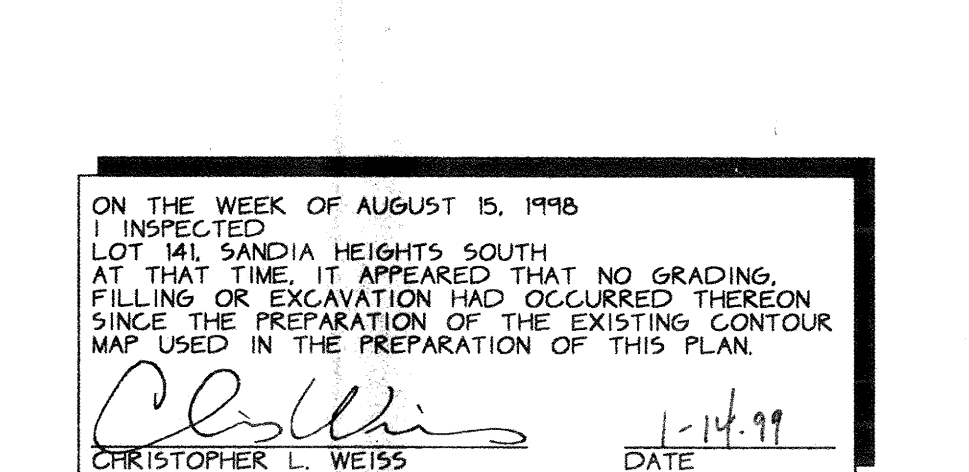
STORM DRAIN SUB-BASIN MAP



STORM DRAIN INLET



STORM DRAIN OUTLET



GENERAL NOTES

- THE FOLLOWING APPLIES TO ALL RIP-RAP - PERCENT PASSING
2. DUE TO EXISTING OFFSITE FLOWS WHICH DRAIN THROUGH THIS PROPERTY, NO EXTERNAL PROPERTY LINE WALLS OR FENCES, WHICH INCLUDES CHAIN LINK FENCING WILL BE CONSTRUCTED WITHOUT OBTAINING APPROVAL FROM BERNALILLO COUNTY PUBLIC WORKS DEPARTMENT
3. PROVIDE EROSION PROTECTION AS REQUIRED (RESEEDING AND / OR 6" AVG. DIA. COBBLES)

SCOPE

The proposed improvements include an approximately 3,200 SF (approximate footprint) two story residential construction, with associated site improvements.

The present site is an undeveloped residential property which slopes at 34% to the north. Big Horn Ridge Dr. NE borders the property to the east, Big Horn Ridge Court NE borders the property to the south, a branch of the Arroyo de Domingo Baca passes through the north portion of the property, the properties to the west and north are developed residential properties.

The intent of this plan is to show:

- Grading relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage to designated discharge points.
- The extent of proposed site improvements, including buildings, walks and pavement.
- The flow rate/volume of rainfall runoff across or around these improvements and methods of handling these flows to meet Bernalillo County requirements for drainage management.
- The relationship of on-site improvements with existing neighboring property to insure an orderly transition between proposed and surrounding grades.

DRAINAGE PLAN CONCEPT: The property is a steep site with slopes within the construction area averaging 34%. To prevent erosion of the property, all roof flows will be directed to a proposed storm drain system which will capture flows and release them into a proposed stilling basin located south of the drainage easement as shown. In the event that a roof drain becomes plugged, canals will direct roof overflow into the courtyard area which will be picked up by a 12"x12" storm drain inlet into the storm drain system. Extended stemwalls / retaining walls will be utilized throughout the construction to maintain existing grades along the outside wall of the residence. Note: The increase in run-off due to construction is 0.1 cfs (see calculations).

GENERAL NOTES

- LEGAL:** Lot 141, Unit 2, Sandia Heights South, Bernalillo County, New Mexico.
- SURVEYOR:** Forstbauer Surveying Co. - Ron Forstbauer - 268-2112
- B.M.:** City of Albuquerque 1-C24. A brass cap located 0.4 miles southeast of the intersection of White Oak Road & Big Horn Ridge Drive Road and approximately 226' east of the centerline of Big Horn Ridge Road (Elevation 6353.00 (M.S.L.D.))
- FLOOD HAZARD:** Per FEMA Boundary Map #11 and FIRM Map #161 (see insert on plan), the northern portion of the site is located within a floodzone. An easement to AMAFCA will be provided concurrently with this submittal (see supplemental information).
- OFF-SITE DRAINAGE:** Per FEMA Map #11 analysis and on-site inspection, other than the designated floodzone, minimal off-site flows from the road shoulder impact this property. See plan and calculations for additional information.
- EROSION CONTROL:** The contractor is responsible for retaining on-site all sediment generated during construction by means of temporary earth berms or silt fences at the low points on the west property line.

GENERAL NOTE: RELOCATE STILLING BASIN AS NECESSARY TO MEET ENVIRONMENTAL HEALTH SETBACK REQUIREMENTS FROM INITIAL AND SECONDARY SEPTIC SYSTEM LOCATIONS.

AREAS OF MODIFICATION BETWEEN APPROVED DRAINAGE GRADING PLAN AND ACTUAL AS-BUILT

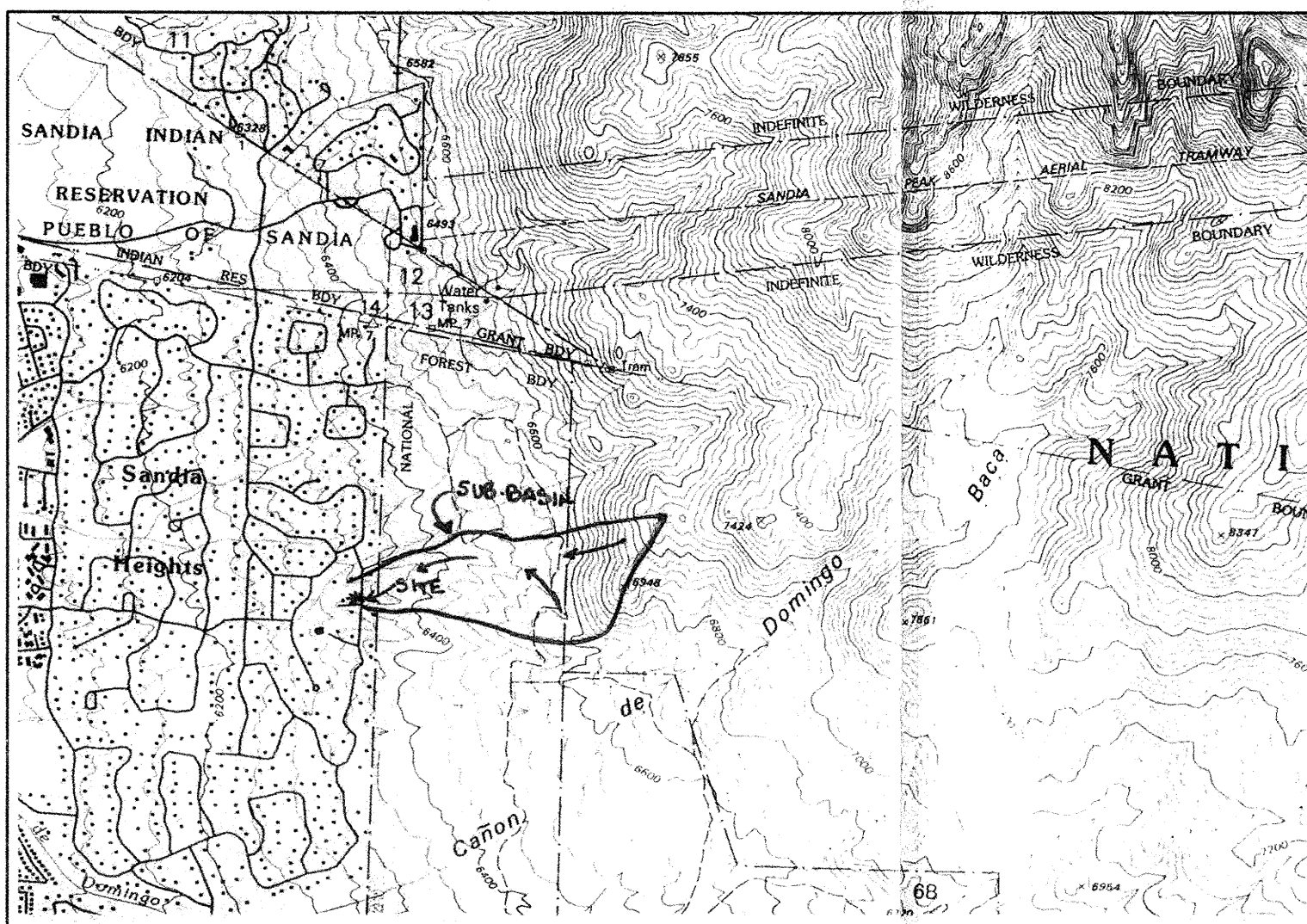
- Location of area drain inlet revised. See separate as-built photos. OKAY.
- Storm drain outlet location revised to comply with Environmental Health Setback requirements. OKAY.
- FF elevations revised 0.7' to 3.8' higher than design elevations. OKAY.
- Additional Cobble erosion protection installed along east and south side of building. See separate as-built photos. OKAY.

I, Christopher L. Weiss, P.E. hereby certify that the as-built information shown, is in substantial compliance with the approved drainage / grading plan.



Survey info. provided by Ron Forstbauer - Forstbauer Surveying Co. - December 1999

OFF-SITE DRAINAGE BASIN



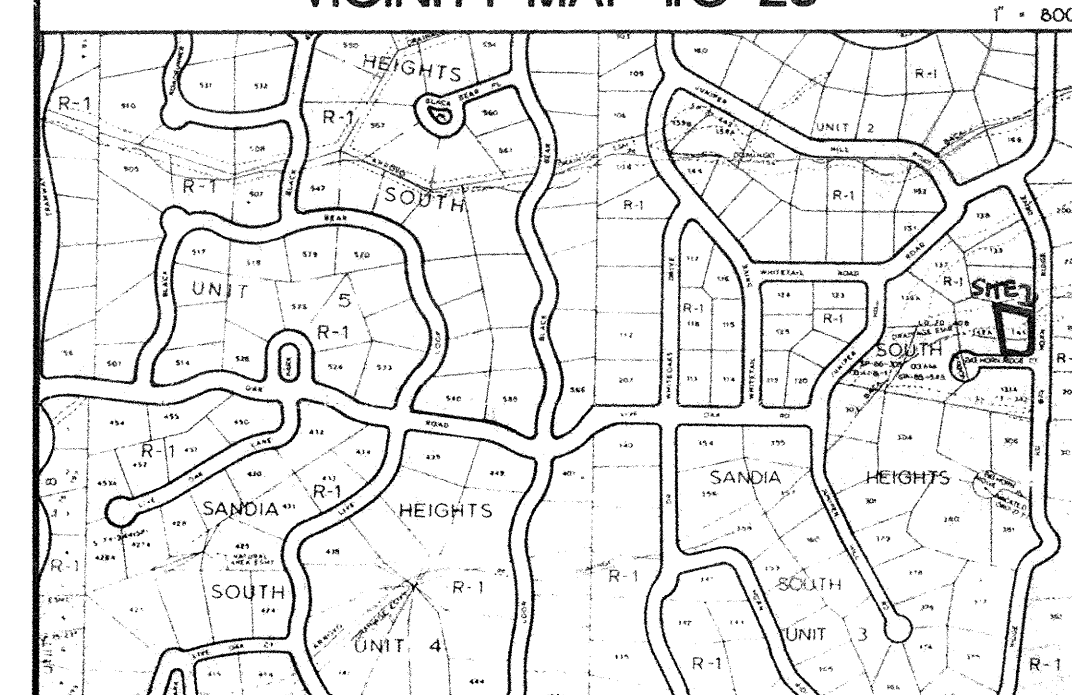
HEC-RAS SUMMARY TABLE

STATION	Q	TOTAL MINCH.	W.S.ELEV	CRIT.W.S.	E.G.ELEV	E.G.SLOPE	VEL	CHNL.	FLOW AREA	TOP WIDTH	PRODE	GL
(+)	(CFS)	(FT)	(FT)	(FT)	(FT)	(FT/FT)	(FT/S)	(%)	(SQ.FT)	(FT)		
1	200	324.00	306.48	306.48	307.24	0.00965	7.25	27.58	17.00	100		
2	200	301.00	304.31	305.11	307.03	0.00978	10.4	19.34	7.31	150		
3	200	299.50	301.46	302.61	306.51	0.009455	10.03	11.01	4.12	3.01		
4	200	296.00	296.61	297.76	304.27	0.19547	22.01	4.05	15.47	5.17		
5	200	295.00	295.74	296.33	299.57	0.161346	19.72	12.73	34.46	4.56		
6	200	294.00	295.03	295.77	297.18	0.060771	11.5	17.02	33.00	2.88		
7	200	292.50	293.42	293.81	295.06	0.048676	10.31	11.02	40.61	2.91		
8	200	291.00	292.5	292.50	293.41	0.043086	18.1	22.20	41.48	2.37		
9	200	289.50	290.26	290.75	292.15	0.063917	10.0	18.15	40.48	2.81		

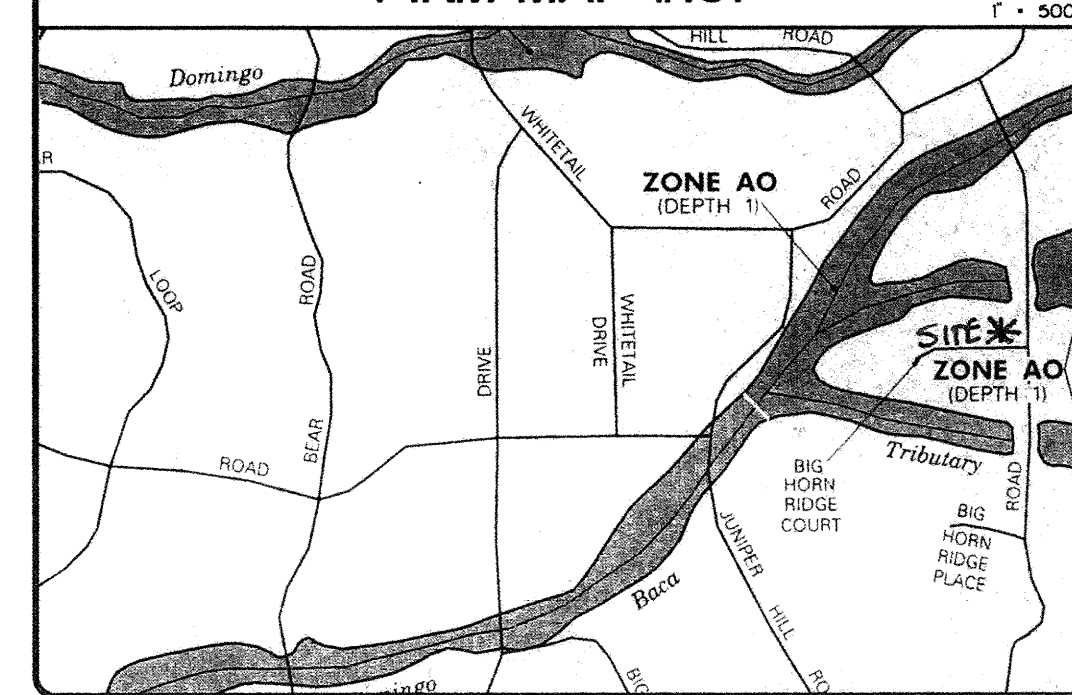
KEYNOTES

- CONSTRUCT DRIVE ENTRANCE. MATCH TOP OF ASPHALT FOR SMOOTH RIDING TRANSITION.
- CONSTRUCT PAVED DRIVE AT ELEVATIONS SHOWN.
- DASHED ARROWS REPRESENT ROOF FLOWS. ALL ROOF FLOWS TO BE PIPED DIRECTLY INTO STORM DRAIN SYSTEM. SEE ARCHITECTURAL FOR INTERIOR PIPING SYSTEM. CANALS TO BE PROVIDED FOR EMERGENCY OVERFLOW SITUATIONS ONLY. OWNER TO PROVIDE EROSION PROTECTION AS NECESSARY.
- CONSTRUCT EXTENDED STEMWALLS / RETAINING STEMWALLS AS REQUIRED TO MAINTAIN FINISH GRADES AS SHOWN.
- CONSTRUCT A 12" DEEP NATURAL LOOKING DRY STREAM BED TO DIRECT MINOR FLOWS AWAY FROM THE RESIDENCE. PROVIDE EROSION PROTECTION AS REQUIRED. SEE GENERAL NOTES FOR EROSION PROTECTION NOTES.
- STORM SYSTEM TO DROP VERTICALLY THIS POINT AT INVERTS SHOWN TO DIRECT FLOWS BENEATH RESIDENCE. INSTALL SINGLE CLEANOUT. ALL JOINTS TO BE SEALED PER MANUFACTURER'S RECOMMENDATIONS.
- INSTALL 6" PVC SCH40 STORM DRAIN PIPE TO CARRY ROOF / FRONT YARD FLOWS TO PROPOSED STILLING BASIN AS SHOWN.
- CONSTRUCT 12" DEEP LANDSCAPED WATER HARVESTING / STILLING BASIN TO CAPTURE CONCENTRATED FLOWS FROM STORM DRAIN SYSTEM. UTILIZE FOR LANDSCAPING AND RELEASE AS SHEETFLOW. PROVIDE EROSION PROTECTION AS NECESSARY.
- GRADE FRONT COURTYARD AND WALK AREA TO DRAIN TO STORM DRAIN INLET AS SHOWN.
- INSTALL ONE 12'X12' NDS CATCH BASIN WITH DOWED ATRIUM GRATE PER MANUFACTURER'S INSTRUCTIONS WITHIN SUMP AREA AT RIM ELEVATION SHOWN. PROVIDE COBBLE EROSION PROTECTION AROUND INLET. SEE DETAIL THIS SHEET.
- 6" ROOF DRAIN PIPES TO DRAIN TO 6" PVC SCH40 MAIN PIPE. SEE STORM DRAIN PLAN.
- CONSTRUCT STORM DRAIN OUTLET WITHIN LANDSCAPED STILLING BASIN. PROVIDE BOULDER / COBBLES AROUND OUTLET FOR EROSION PROTECTION. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION.
- HIGH POINT GRADE
- SITE WATER WILL BE PROVIDED BY LOCAL UTILITY COMPANY. SEPTIC SYSTEM TO BE LOCATED THIS AREA AND SHALL MEET DESIGN / LOCATION REQUIREMENTS PER THE DEPARTMENT OF ENVIRONMENTAL HEALTH OF THE COUNTY OF BERNALILLO. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.

VICINITY MAP #C-23



FIRM MAP #161



C.L. WEISS ENGINEERING, INC.

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Revisions

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Lot 141 - Kelly Residence Sandia Heights South, Unit 2

Scale: 1" = 20' Drawn By: BJB Checked By: CLW Job Number: Date: JAN 1999

Drainage and Grading Plan

C-1
Sh. 1 of 1