

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

September 21, 2020

Mark Goodwin, P.E.
Mark Goodwin & Associates
PO Box 90606
Albuquerque, NM, 87199

RE: **Juan Tabo Hills Estates**
Request for Release of Financial Guarantee
Hydrology Final Inspection – Accepted
Grading Plan Stamp Date: 9/1/18
Certification Dated: 9/10/2020
Hydrology File: M21D018 ; DRB# 1005278

Dear Mr. Goodwin:

PO Box 1293

Based on the submittal received on 9/10/20 and field inspection 9/18/20, this certification is approved in support of Release of Financial Guarantee by Hydrology.

Albuquerque

If you have any questions, you can contact me at 924-3986 or earmijo@cabq.gov.

NM 87103

Sincerely,

www.cabq.gov

Ernest Armijo, P.E.
Principal Engineer, Planning Dept.
Development Review Services



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: Juan Tabo Hills Estates **Building Permit #:** _____ **Hydrology File #:** M-21/D018

DRB#: PR-2018-01388 (1005278) **EPC#:** _____ **Work Order#:** _____

Legal Description: TRACT A JUAN TABO HILLS WEST

City Address: Juan Tabo and Tijeras Arroyo

Applicant: Eastside Development, Inc. **Contact:** Rex Wilson

Address: PO BOX 9470, Albuquerque, NM 87119

Phone#: 899-6768 **Fax#:** _____ **E-mail:** rwr2d2@aol.com

Other Contact: Mark Goodwin & Associates, PA **Contact:** Mark Goodwin

Address: PO BOX 90606, Albuquerque, NM 87199

Phone#: 828.2200 **Fax#:** _____ **E-mail:** mark@goodwinengineers.com

TYPE OF DEVELOPMENT: 330 PLAT (# of lots) _____ RESIDENCE _____ DRB SITE _____ ADMIN SITE

IS THIS A RESUBMITTAL? _____ Yes X No

DEPARTMENT _____ TRANSPORTATION X HYDROLOGY/DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

- X ENGINEER/ARCHITECT CERTIFICATION
____ PAD CERTIFICATION
____ CONCEPTUAL G & D PLAN
x GRADING PLAN
____ DRAINAGE REPORT
____ DRAINAGE MASTER PLAN
____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
____ ELEVATION CERTIFICATE
____ CLOMR/LOMR
____ TRAFFIC CIRCULATION LAYOUT (TCL)
____ TRAFFIC IMPACT STUDY (TIS)
____ STREET LIGHT LAYOUT
____ OTHER (SPECIFY) _____
____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

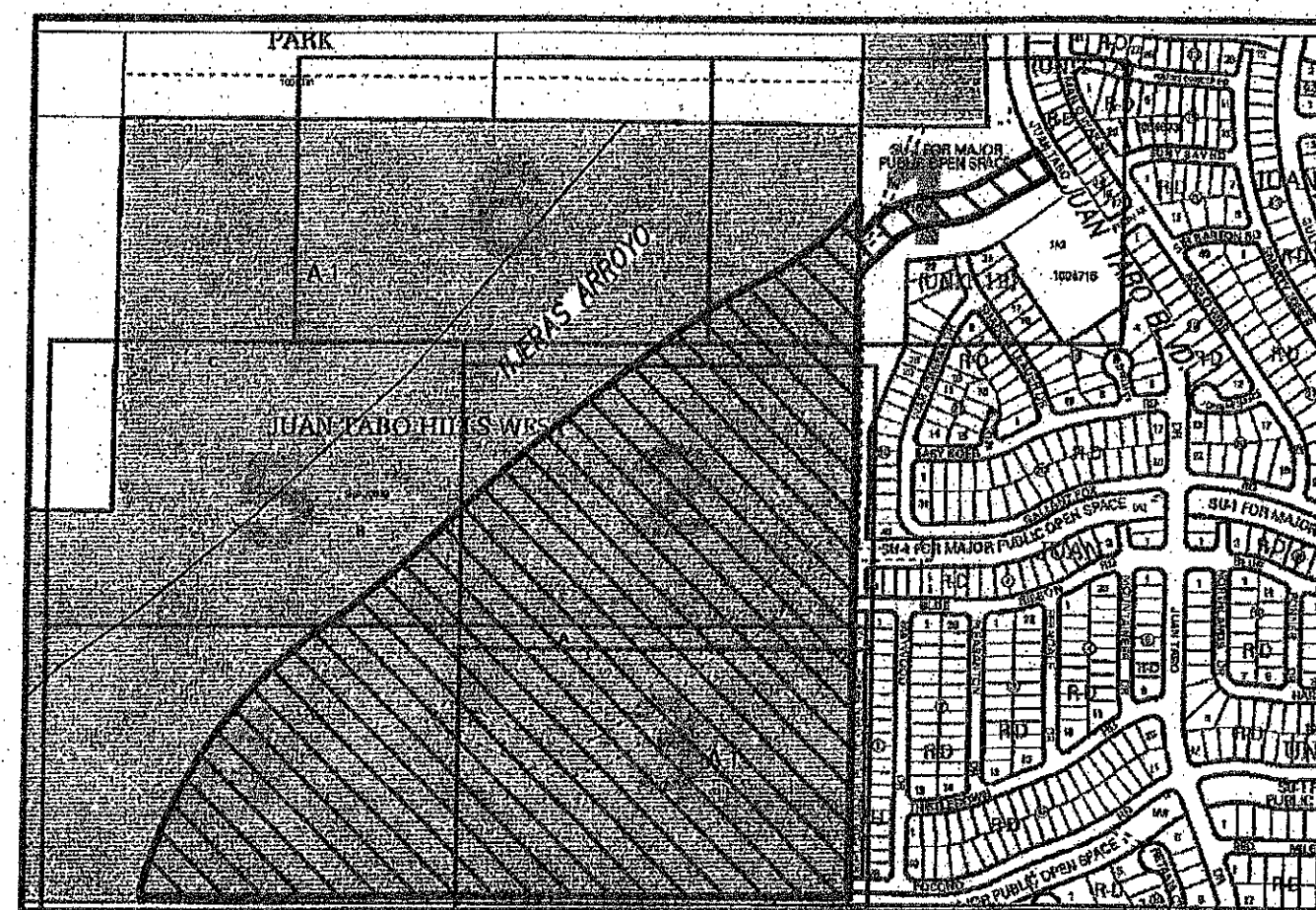
- ____ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY
____ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
____ SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL
x SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
____ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: September 10, 2020 **By:** Mark Goodwin, PE

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____



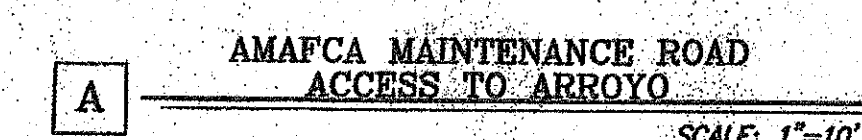
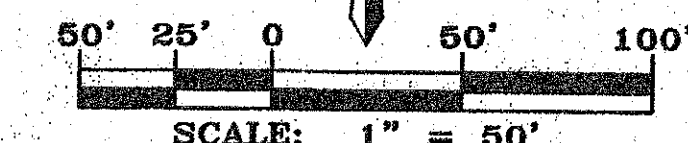
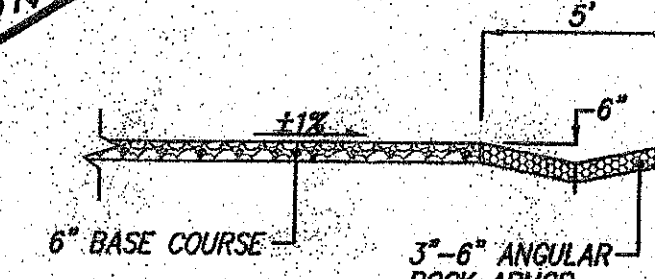
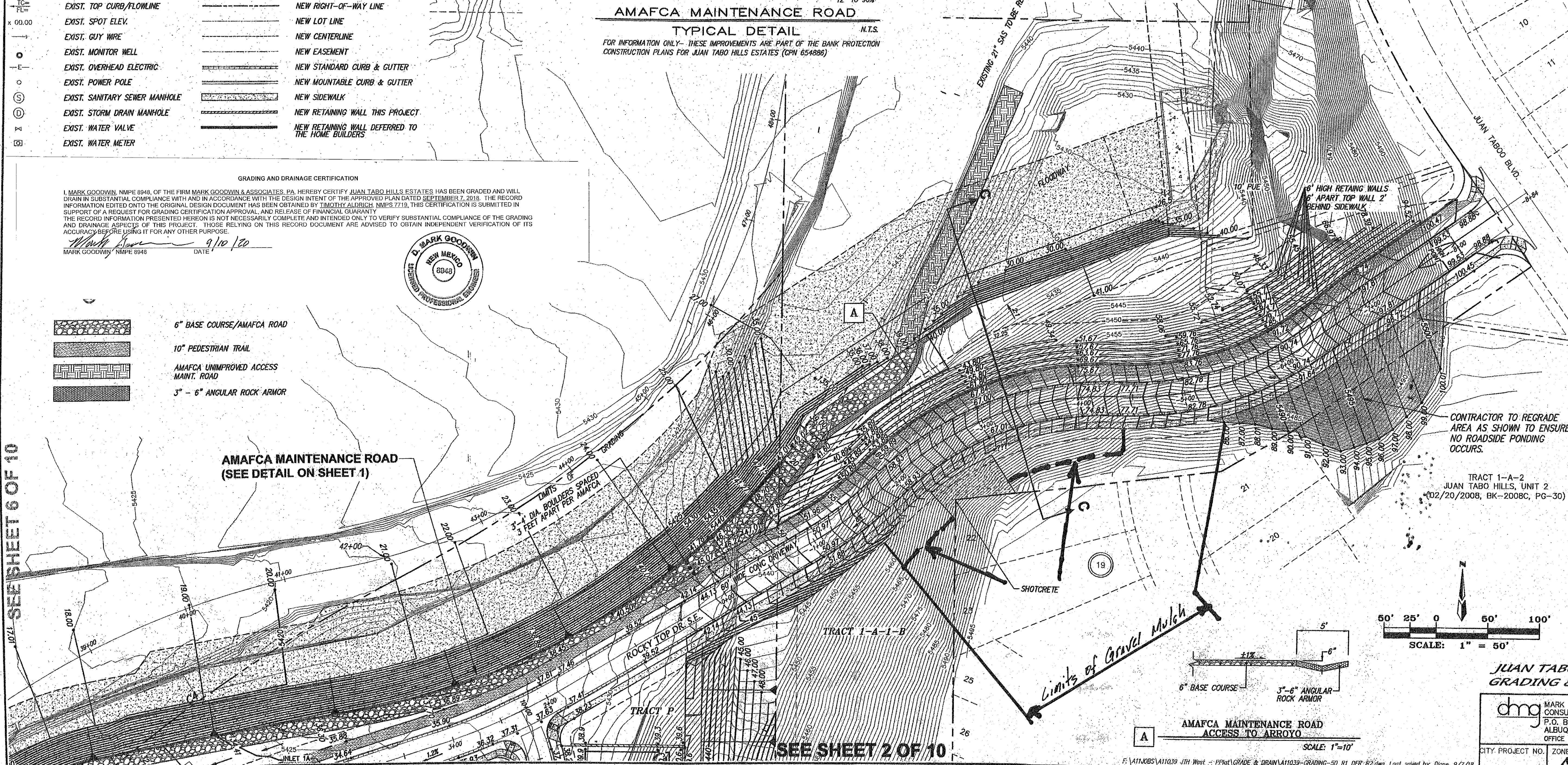
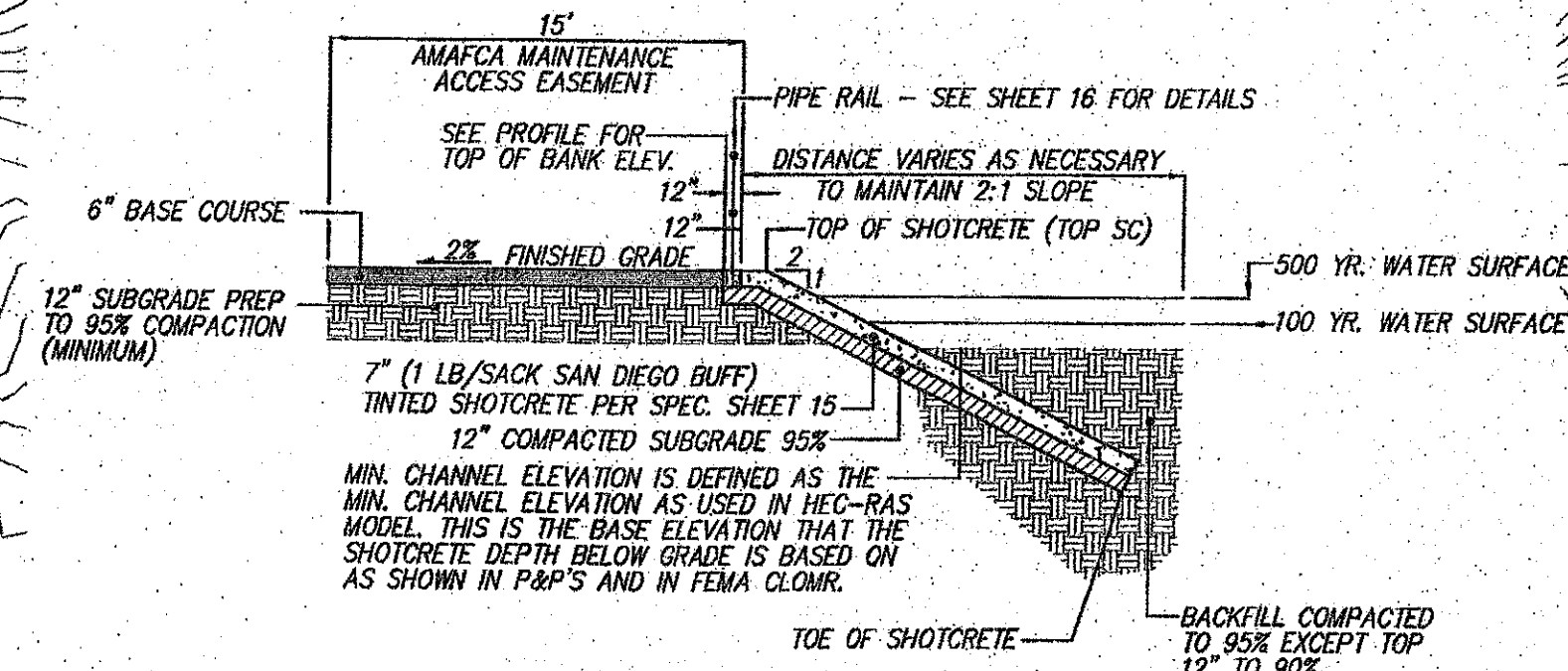
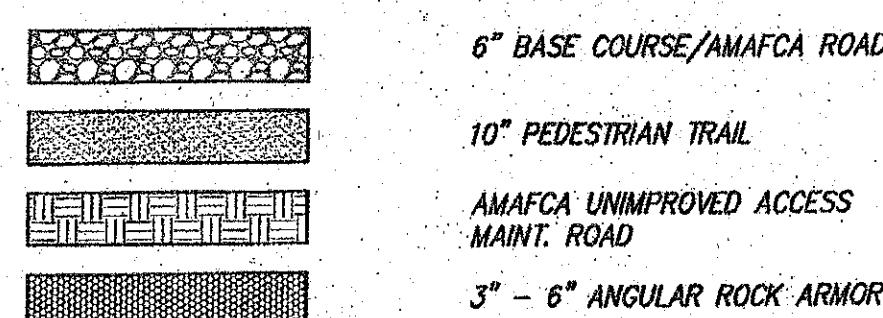
LEGEND			
	EXIST. HANDRAIL	• 29.29	NEW SPOT ELEVATIONS
	EXIST. CONCRETE CURB	— 5390	NEW CONTOUR (MAJOR)
	EXIST. CONCRETE/SIDEWALK	— 5386	NEW CONTOUR (MINOR)
	EXIST. WALL OR HEAD WALL		NEW BOUNDARY LINE
	EXIST. TOP CURB/FLOWLINE		NEW RIGHT-OF-WAY LINE
	EXIST. SPOT ELEV.		NEW LOT LINE
	EXIST. GUY WIRE		NEW CENTERLINE
	EXIST. MONITOR WELL		NEW EASEMENT
	EXIST. OVERHEAD ELECTRIC		NEW STANDARD CURB & GUTTER
	EXIST. POWER POLE		NEW MOUNTABLE CURB & GUTTER
	EXIST. SANITARY SEWER MANHOLE		NEW SIDEWALK
	EXIST. STORM DRAIN MANHOLE		NEW RETAINING WALL THIS PROJECT
	EXIST. WATER VALVE		NEW RETAINING WALL DEFERRED TO THE HOME BUILDERS
	EXIST. WATER METER		

GRADING AND DRAINAGE CERTIFICATION

I, **MARK GOODWIN**, NPMS 0948, OF THE FIRM **MARK GOODWIN & ASSOCIATES, PA**, HEREBY CERTIFY **JUAN TABO HILL'S ESTATES** HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED **SEPTEMBER 7, 2018**. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY **TIMOTHY ALDRICH**, NPMS **7719**, THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR GRADING CERTIFICATION APPROVAL, AND RELEASE OF FINANCIAL GUARANTY

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS

MARK GOODWIN, NMPF 8948 DATE 9/10/20



CONTRACTOR TO REGRADE
AREA AS SHOWN TO ENSURE
NO ROADSIDE PONDING
OCCURS.

TRACT 1-A-2
JUAN TABO HILLS, UNIT 2
2/20/2008, BK-2008C, PG-30)

ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
		FIELD NOTES					
		NO.	BY	DATE			
					STATION "5-422" IS LOCATED 8.7 MI. SE OF DOWNTOWN ALBUQUERQUE		
					ON THE EAST SIDE OF THE MUNICIPAL LIMITS LINE IN THE FOUR HILLS		
					SUBURBAN AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE.		
NO.	DATE	REMARKS	BY		STATION IS 771.9' SE OF POWER POLE #537 & 108.0' NW OF POWER POLE #60.		
		REVISIONS			STATION IS A STANDARD ACS BRASS DISK SET IN A CONCRETE		
		DESIGN			MONUMENT IN THE GROUND. STATION IS STAMPED "5-422".		
DESIGNED BY	JDH	DATE	01/17		1/4" = 1,564.263.207, 1/4" = 1,475.762.393, (NAD 83), Z= 5597.219 (NAVD 1989)		
DRAWN BY	ACH	DATE	01/17		MICRO-FILM INFORMATION		
CHECKED BY	DMG	DATE	01/17		RECORDED BY		
					NO.		

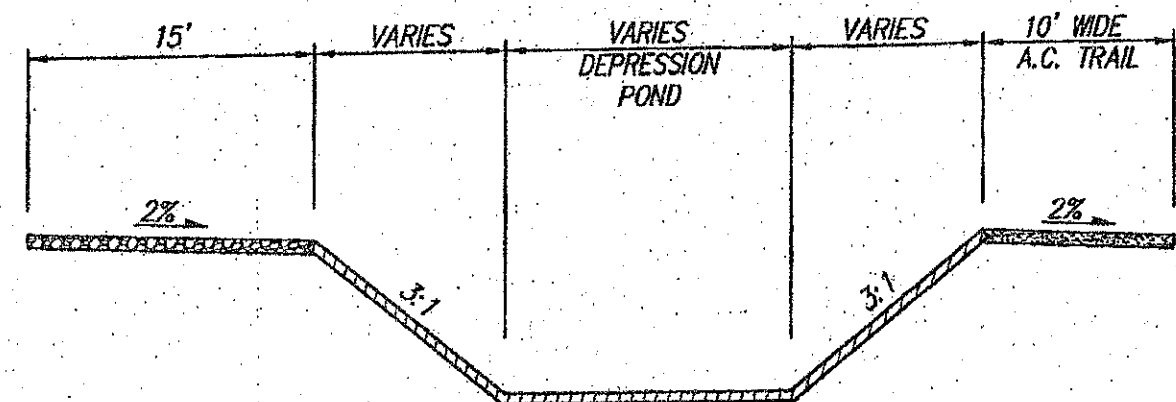
**HILLS ESTATES
DRAINAGE PLAN**

OWN & ASSOCIATES, P.A.
ENGINEERS

0606
RUE, NEW MEXICO 87199
828-2200, FAX (505) 797-9539

P. NO. 21-2	SHEET 1	OF 10
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SEE SHEET 1 OF 10

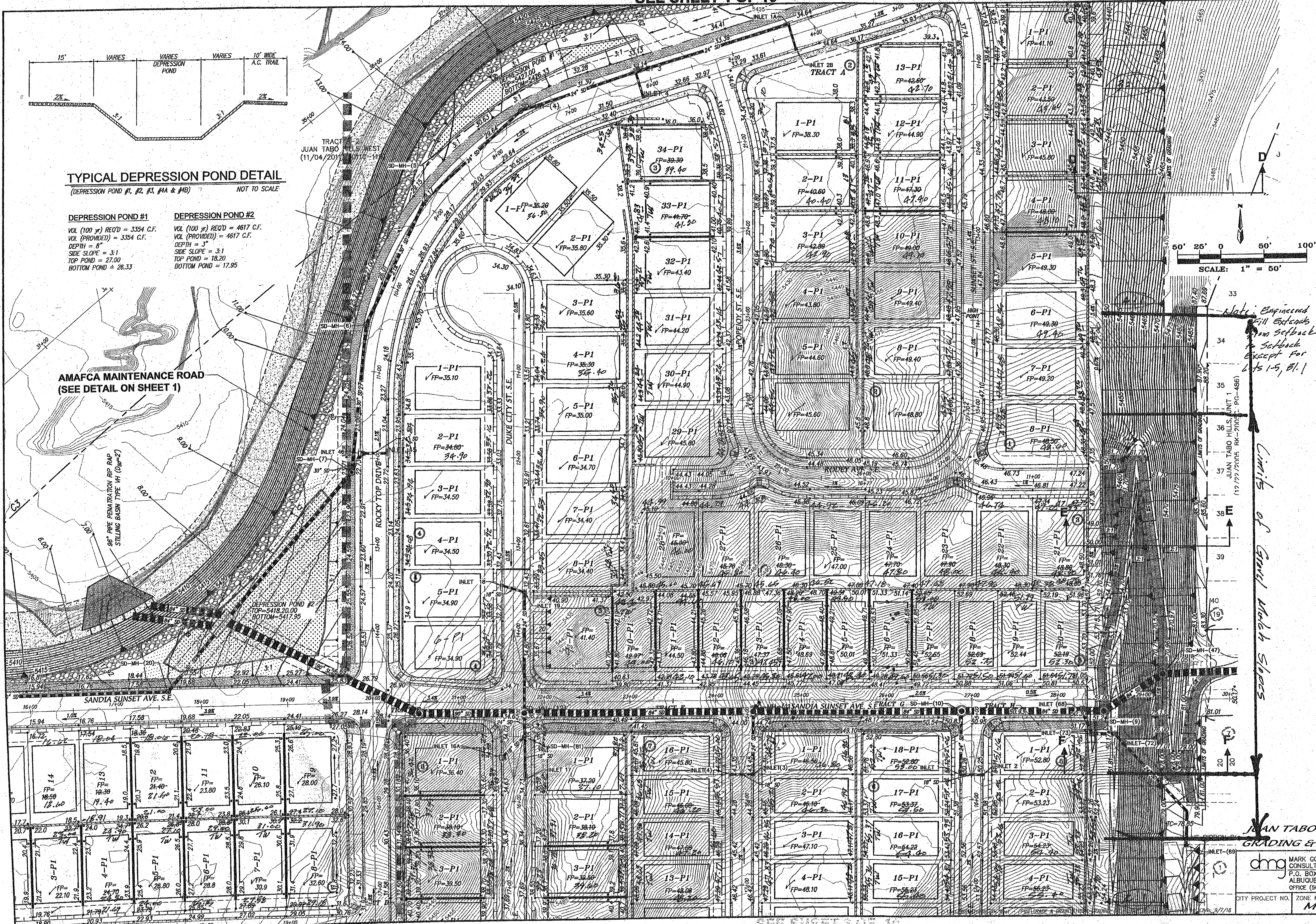


TYPICAL DEPRESSION POND DETAIL
(DEPRESSION POND #1, #2, #3, #4A & #4B) NOT TO SCALE

DEPRESSION POND #1
VOL (100 yr) REQ'D = 3354 C.F.
VOL (PROVIDED) = 3354 C.F.
DEPTH = 8"
SIDE SLOPE = 3:1
TOP POND = 27.00
BOTTOM POND = 26.33

DEPRESSION POND #2
VOL (100 yr) REQ'D = 4617 C.F.
VOL (PROVIDED) = 4617 C.F.
DEPTH = 3"
SIDE SLOPE = 3:1
TOP POND = 18.20
BOTTOM POND = 17.95

AMAFCA MAINTENANCE ROAD
(SEE DETAIL ON SHEET 1)



JUAN TABO HILLS ESTATES
GRADING & DRAINAGE PLAN

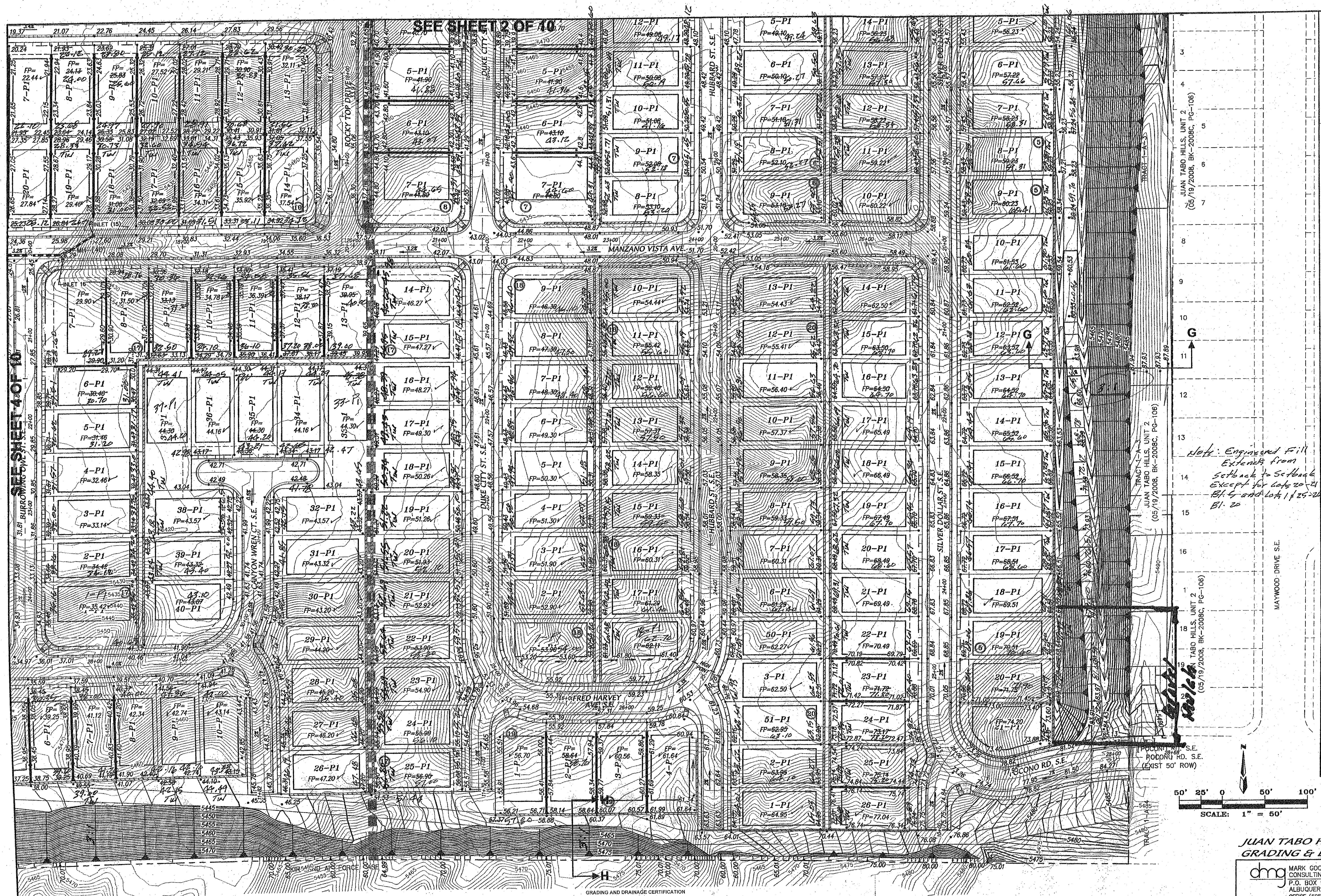
dmg
MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90806
ALBUQUERQUE, NEW MEXICO 87199
OFFICE (505) 828-2200, FAX (505) 797-9539

CITY PROJECT NO. ZONE MAP NO. SHEET OF
M-21-Z 2 10

ENGINEER'S SEAL				SURVEY INFORMATION				BENCH MARKS				AS BUILT INFORMATION			
				FIELD NOTES				STATION "S-M22" IS LOCATED 8.7 MI. SE OF DOWNTOWN ALBUQUERQUE ON THE EAST SIDE OF THE MUNICIPAL LIMITS LINE IN THE FOUR HILLS SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE, 77.9' SE OF POWER POLE #327 & 186.0' NW OF POWER POLE #60.				CONTRACTOR			
				NO.	BY			DATE	WORK STARTED BY			DATE			
				REMARKS			BY			FIELD DRAWING BY			DATE		
				REVISIONS			BY			DESIGNED BY			DATE		
				DESIGN			BY			CHECKED BY			DATE		
DESIGNED BY <i>JDH</i>				DATE <i>01/17</i>				RECORDED BY				DATE			
DRAWN BY <i>ACH</i>				DATE <i>01/17</i>				NO.							
CHECKED BY <i>DMG</i>				DATE <i>01/17</i>											
DATE															
AND TRAINING CERTIFICATION															

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1. MARK GOODWIN, NMP# 8849, OF THE FIRM MARK GOODWIN & ASSOCIATES, P.A. HEREBY CERTIFIES THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF HIS KNOWLEDGE AND BELIEF. HE CERTIFIES THAT HE IS A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW MEXICO. HE CERTIFIES THAT HE HAS NOT BEEN DISCIPLINED OR RECEIVED A CENSURE OR REPRIMAND BY THE BOARD OF ENGINEERING. HE CERTIFIES THAT HE HAS NOT BEEN CONVICTED OF A CRIME INVOLVING FRAUD, BREACH OF FIDUCIARY DUTY, OR A CRIME INVOLVING THE INTERESTS OF THE PUBLIC. HE CERTIFIES THAT HE HAS NOT BEEN CONVICTED OF A CRIME INVOLVING THE INTERESTS OF THE PUBLIC. HE CERTIFIES THAT HE HAS NOT BEEN CONVICTED OF A CRIME INVOLVING THE INTERESTS OF THE PUBLIC.

[illegible]

14. *Note: Engineered Fill
Extends from
Setback to Setback
Except for Lots 20-21
Bl. 5 and Lots 1 & 25-26
Bl. 20*

50' 25' 0 50' 100'

SCALE: 1" = 50'

JUAN TABO HILLS EASTATES
GRADING & DRAINAGE PLAN

dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90806
ALBUQUERQUE, NEW MEXICO 87199
OFFICE (505) 828-2200, FAX (505) 797-9539

CITY PROJECT NO.	ZONE MAP NO.	SHEET OF
	<i>M-21-Z</i>	<i>3 10</i>

I, MARK GOODWIN, MME #848, OF THE FIRM MARK GOODWIN & ASSOCIATES, PA, HEREBY CERTIFY JUAN TABO HILLS ESTATES HAS BEEN GRADED AND DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED SEPTEMBER 7, 2018. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY TIMOTHY A. DICKIN, MPE #2719. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR GRADING CERTIFICATION APPROVAL, AND RELIES ON THE ACCURACY OF THE INFORMATION SUBMITTED BY THE CLIENT. THE INFORMATION PRESENTED HEREON IS NOT GUARANTEED, WARRANTED, OR INTENDED ONLY TO OBTAIN SUBSTANTIAL COMPLIANCE OF THE GRADE AND DRAINAGE ASPECTS OF THIS PROJECT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

F:\111JOBS\111039 JTH West - PPlat\GRADE & DRAIN\111039-GRADING-50_R1_DER_R3.dwg, Last saved by: Chris, 9/7/11
111039 JTH WEST - PPLAT\GRADE & DRAIN\111039-GRADING-50\06-12-14\ACH

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A circular professional engineer seal for the State of New Mexico. The outer ring contains the text "D. MARK GOODMAN" at the top and "LICENSED PROFESSIONAL ENGINEER" at the bottom. The inner circle contains the text "NEW MEXICO" at the top and the license number "8948" in the center.

THE CONTRACTOR(S) MUST COMPLY WITH NPDES TEMPORARY CONSTRUCTION REQUIREMENTS AND OBTAIN A PERMIT. CONTRACTOR SHALL ALSO PROVIDE A COPY OF THE APPLICATION FOR PERMIT AND NOTICE OF TERMINATION TO THE OWNER.

THE CONTRACTOR(S) IS RESPONSIBLE FOR PREPARING AND MAINTAINING A SWPPP FOR THE DURATION OF INFRASTRUCTURE CONSTRUCTION AND UNTIL THE CITY OF ALBUQUERQUE ACCEPTS THE PUBLIC INFRASTRUCTURE. CONTRACTOR SHALL PROVIDE THE OWNER WITH A COPY OF THE SWPPP AT THE BEGINNING OF THE PROJECT AND AT THE TIME OF NOTICE OF TERMINATION.

THE CONTRACTOR(S) IS RESPONSIBLE FOR CONSTRUCTING AND MAINTAINING EROSION CONTROLS FOR THE DURATION OF THE CONSTRUCTION OF THE PUBLIC INFRASTRUCTURE AND FOR THE REMOVAL OF THE EROSION CONTROLS WHERE DIRECTED TO DO SO BY THE OWNER AT THE TIME OF NOTICE OF TERMINATION.

THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING AND IS TO PROVIDE AN AS-BUILT SURVEY CERTIFIED BY A REGISTERED PROFESSIONAL SURVEYOR TO THE OWNER UPON COMPLETION OF THE CONSTRUCTION. THE EARTHWORK CONTRACTOR IS TO PROVIDE EARTHWORK SURVEY, AND THE WALL BUILDER IS TO PROVIDE WALL SURVEY.

EARTHWORK CONTRACTOR SHALL PREPARE ROUGH SUBGRADE FOR THE RETAINING WALL CONSTRUCTION AND PROVIDE SUFFICIENT BACKFILL MATERIAL STOCKPILED ON THE HIGH SIDE OF EACH WALL FOR THE WALL BUILDER TO COMPLETELY BACKFILL THE WALLS.

RETAINING WALLS ARE SHOWN FOR GRADING PURPOSES ONLY. RETAINING WALL DESIGN IS TO BE PERFORMED BY OTHERS, AND SHALL BE SUBMITTED TO THE CITY OF ALBUQUERQUE FOR REVIEW, APPROVAL, PERMIT, AND INSPECTION

EARTHWORK CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION BY GEOTEST, INC. DATED JUNE 29, 2012.

TOPOGRAPHIC AND BOUNDARY SURVEY ARE BY ALDRICH LAND SURVEYING NOVEMBER 2011.

BENCHMARK USED IS AGRS BRASS CAP STAMPED "7-M21" HAVING AN ELEVATION OF 5498.07 (NGVD29).

FEMA SPECIAL FLOOD HAZARD ZONE ON THIS PROPERTY AS SHOWN ON LOMR CASE NO. 13-06-1053P EFFECTIVE JUNE 17, 2013.

Diagram of Section A-A (NO SIDEYARD WALL) showing two PAD units. The left unit is labeled "PAD" and has a width of 5'. The right unit is also labeled "PAD" and has a width of 5'. The distance between the inner walls of the two units is 1.0' MAX. The total width of the section is 11'. The height of the units is 0.3' MIN. The diagram includes various offsets and dimensions: +0.8', +0.55', +0.5', +0.3', +0.5', +0.5', +0.10', -0.3', +0.00', +0.99' Max, and 2.0' Max. The section is labeled "Section A-A (NO SIDEYARD WALL)".

Figure 10: Section B-B (HOME BUILDER'S SIDEYARD WALL). This diagram shows a cross-section of a retaining wall. The wall has a total height of 10 feet. The top surface is sloped with a 4.0% maximum grade. The wall is divided into two sections: a left section labeled "PAD +2.8'" and a right section labeled "PAD +0.8'". The wall is supported by a foundation with a 0.3' base. The wall is shown in a cross-section view with dimensions and labels for various parts.

(DEPRESSION POND #1, #2, #3, #4A & #4B) NOT TO SCALE

DEPRESSION POND #3
VOL (100 yr) REQ'D = 2962 C.F.
VOL (PROVIDED) = 3112 C.F.
DEPTH = 2.6"
SIDE SLOPE = 3:1
TOP POND = 110.00
BOTTOM POND = 9.78

AFCA MAINTENANCE ROAD
SEE DETAIL ON SHEET 1)

NOTE: ENGINEERED FILL EXTENDS FROM SETBACK TO SETBACK.

SEE SHEET 2 & 3 OF 10

50' 25' 0 50' 100'

SCALE: 1" = 50'

dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
OFFICE (505) 828-2200, FAX (505) 797-9539

CITY PROJECT NO.	ZONE MAP NO.	SHEET OF
	<i>M-21-Z</i>	<i>5 10</i>

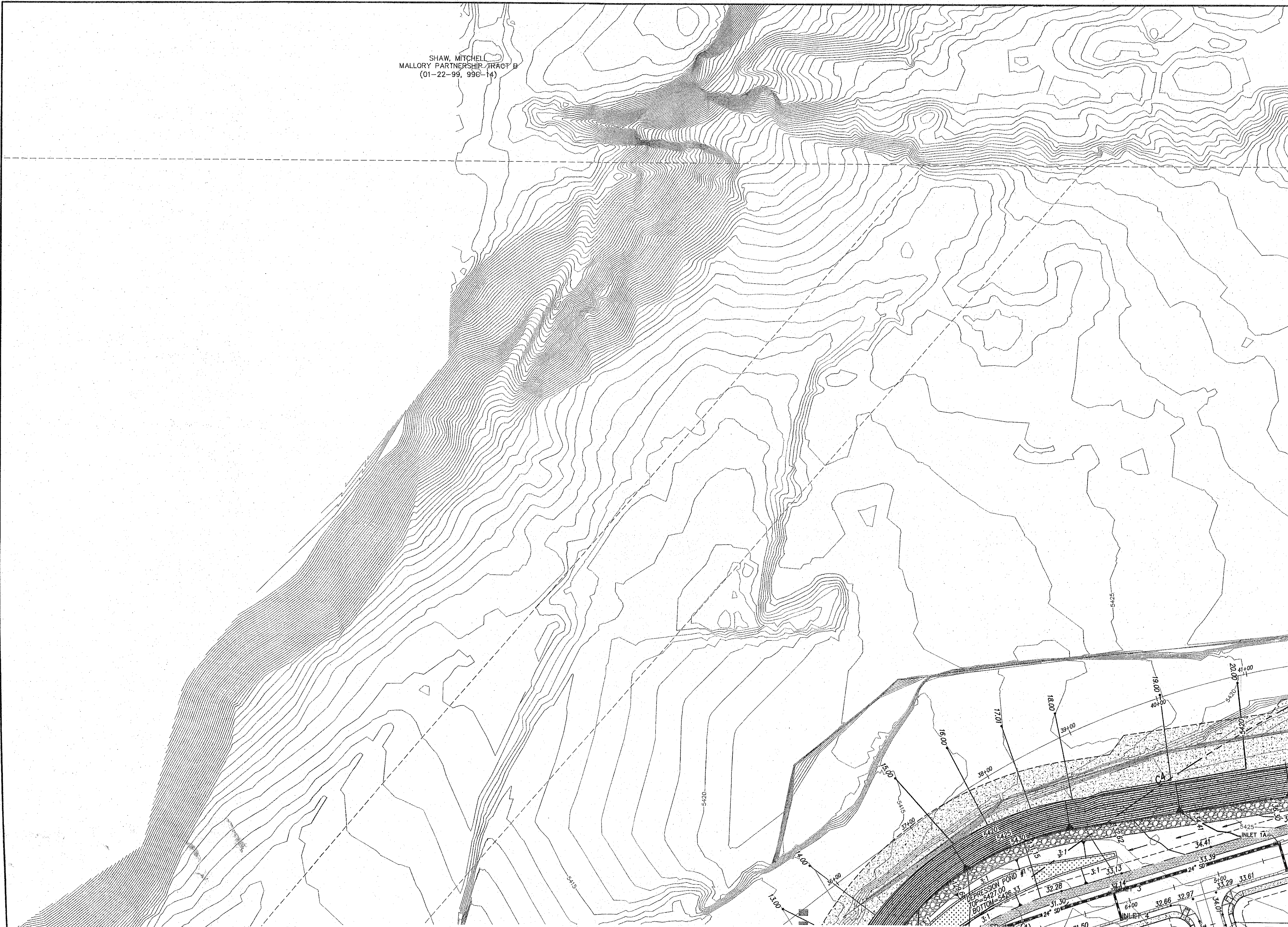
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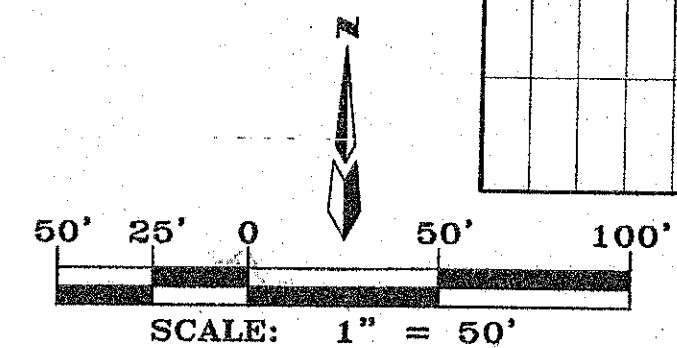
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SEE SHEET 5 OF 10

SEE SHEET 1 OF 10

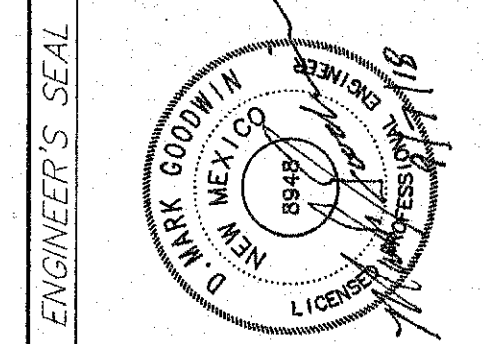
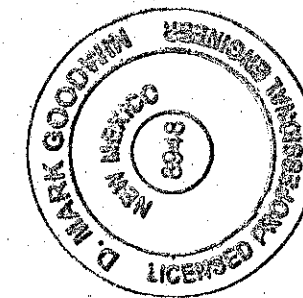


JUAN TABO HILLS ESTATES
GRADING & DRAINAGE PLAN

dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90608
ALBUQUERQUE, NEW MEXICO 87199
OFFICE (505) 828-2200, FAX (505) 797-9539

I, MARK GOODWIN, NPE #848, OF THE FIRM MARK GOODWIN & ASSOCIATES, P.A., HEREBY CERTIFY, JUAN TABO HILLS ESTATES, HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN AND DESIGN. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR GRADING CERTIFICATION. THE DESIGN INTENT OF THE APPROVED PLAN AND DESIGN IS TO PROVIDE A DRAINAGE SYSTEM THAT WILL ACCURATELY REPRESENT THE PROJECT. THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE SYSTEM WITH THE DESIGN INTENT OF THE APPROVED PLAN AND DESIGN. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING FOR ANY PURPOSE.

Mark Goodwin
9/10/20
DATE



ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
NO.	DATE	REMARKS	BY	NO.	DATE	NO.	DATE
		DESIGN					
DESIGNED BY	JDH	DATE	01/17	STATION "5-422" IS LOCATED 8.7 MI. SE OF DOWNTOWN ALBUQUERQUE ON THE EAST SIDE OF THE MUNICIPAL LIMITS LINE IN THE FOUR HILLS SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. 77.9' SE OF POWER POLE #537 & 106.0' NW OF POWER POLE #60. STATION IS A STANDARD ACS BRASS DISK SET IN A CONCRETE MONUMENT IN THE GROUND. STATION IS STAMPED "5-422".	CONTRACTOR	NO.	
DRAWN BY	ACH	DATE	01/17		WORK STARTED BY	DATE	
CHECKED BY	DMG	DATE	01/17		FIELD ACCEPTANCE BY	DATE	
					DRAWN BY	DATE	
					CORRECTED BY	DATE	
					RECORDED BY	DATE	

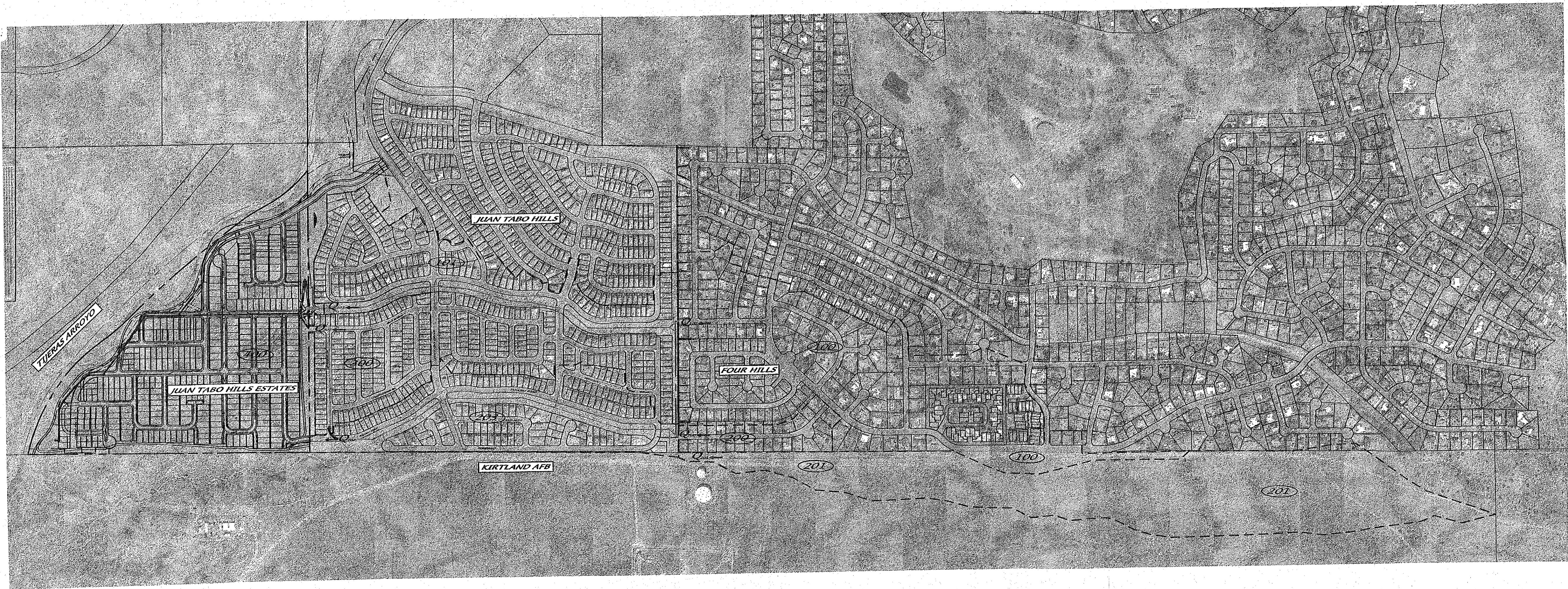


Table 1: HYDROLOGY SUMMARY TABLE									
AHYMO BASIN ID	Location	AREA		Ground Cover (%)				Q ₁₀₀ (cfs)	
		(Ac)	(Sq mi)	A	B	C	D	Increment	Sub Total
100	Four Hills	88.10	0.13822	8	18	35	38.7	328.22	1.3218
101	Juan Tabo Hills	66.80	0.10438	0	19	39	42	282.50	1.0755
201	Four Hills	9.00	0.01406	0	20	40	40	37.61	0.1390
301	Kirtland	78.30	0.01828	100	0	0	0	27.84	0.0000
303	Juan Tabo Hills	42.50	0.06641	0	22	45	33	172.59	0.5376
300	Juan Tabo Hills	22.30	0.03484	0	14	29	57	99.75	0.4873
400	JTH Estates	77.70	0.12141	0	9	41	50	343.61	1.4893
TOTALS:		383.70	0.50					1291.92	5.05

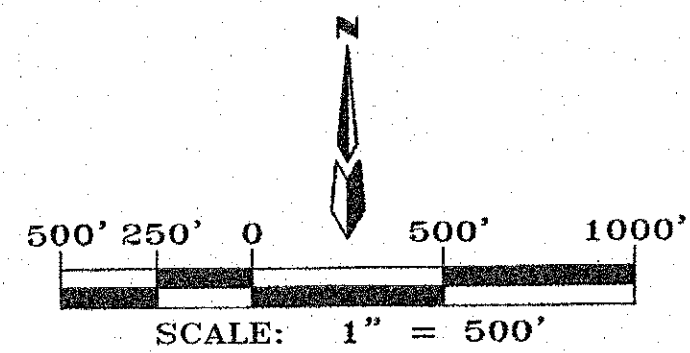
LEGEND

--- AHYMO BASIN BOUNDARY

--- SUB-BASIN BOUNDARY

--- NEW RCP STORM DRAIN

400 AHYMO BASIN NUMBER



AMENDED

JUAN TABO HILLS ESTATES

DRAINAGE BASIN MAP

dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
OFFICE (505) 828-2200, FAX (505) 797-9539

CITY PROJECT NO. ZONE MAP NO. SHEET OF
M-21-Z 7 10

ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION		
		NO.	BY	DATE	STATION "5-422" IS LOCATED 8.7 MI. SE OF DOWNTOWN ALBUQUERQUE ON THE EAST SIDE OF THE MUNICIPAL LIMITS LINE IN THE FOUR HILLS SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE.	CONTRACTOR	DATE	
REMARKS		NO.		DATE	STATION "5-422" IS LOCATED 8.7 MI. SE OF DOWNTOWN ALBUQUERQUE ON THE EAST SIDE OF THE MUNICIPAL LIMITS LINE IN THE FOUR HILLS SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE.	INSPECTOR'S	DATE	
REVISIONS		NO.						
DESIGN		NO.		DATE	STATION "5-422" IS LOCATED 8.7 MI. SE OF DOWNTOWN ALBUQUERQUE ON THE EAST SIDE OF THE MUNICIPAL LIMITS LINE IN THE FOUR HILLS SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE.	VERIFICATION BY	DATE	
DESIGNED BY		NO.						
DRAWN BY		NO.		DATE	STATION "5-422" IS LOCATED 8.7 MI. SE OF DOWNTOWN ALBUQUERQUE ON THE EAST SIDE OF THE MUNICIPAL LIMITS LINE IN THE FOUR HILLS SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE.	CORRECTED BY	DATE	
CHECKED BY		NO.						
DATE		DATE		DATE	STATION "5-422" IS LOCATED 8.7 MI. SE OF DOWNTOWN ALBUQUERQUE ON THE EAST SIDE OF THE MUNICIPAL LIMITS LINE IN THE FOUR HILLS SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE.	MICRO-FILM INFORMATION	DATE	
DATE		DATE						

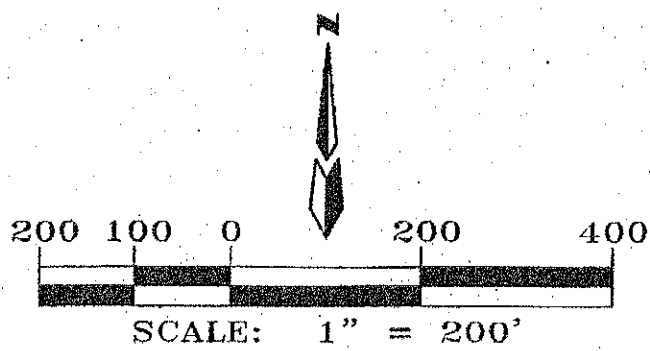
HYDROLOGY SUMMARY TABLE													
AHYMO BASIN ID	SUB-BASIN ID	HYDROLOGY		Street flows					Inlet Calcs			Split Flows	
		AREA (Ac)	Peak 100-YR Flow Q ₁₀₀ (cfs)	Location	Curb Type	Slope (%)	Depth (ft)	Velocity (fps)	Energy (ft)	Inlet ID #	Intercepted (cfs)	By-pass (cfs)	Path 1
		Incremental	Surface										Path 2
400		77.70	343.61										
400AA	3.18	14.05	14.05	Rocky Top	Std. (8")	8.0	0.28	5.5	0.76	-	0.00	14.05	400DD
400BB	2.45	10.82	10.82	Trail	n/a	-	-	-	-	-	0.00	10.82	400DD
400CC	1.89	8.35	8.35	Sunset St	Roll (4")	3.6	0.23	3.8	0.45	-	0.00	8.35	400DD
400DD	0.44	1.94	35.16	Sunset St	Std. (8")	1.2	0.63	3.1	0.68	11 & 12	11.80	23.36	400FF
400EE	2.87	12.68	12.68	Sunset St	Roll (4")	1.0	0.33	2.5	0.43	-	0.00	12.68	400FF
400FF	4.13	18.24	30.92	Popejoy	Std. (8")	3.6	0.42	5.2	0.84	-	-	-	-
			54.28	Rocky Top	Std. (8")	1.2	0.60	4.1	0.86	13 & 14	16.00	38.28	400GG
400GG	1.16	5.12	43.40	Rocky Top	Std. (8")	2.1	0.49	4.9	0.86	-	0.00	43.40	400P
400A	1.27	5.61	14.84	Silver Dollar St	Std. (8")	2.0	0.32	3.6	0.52	-	0.00	14.84	400B
400B	2.68	11.84	26.68	Silver Dollar St	Std. (8")	2.0	0.43	4.0	0.68	-	0.00	26.68	400F1
400C	2.78	12.28	25.62	Silver Dollar St	Std. (8")	2.0	0.43	4.0	0.68	S12 & S13	25.62	0.00	400L1
400D	3.86	17.05	17.05	Eastern Bndy	n/a	-	-	-	-	S11	17.05	0.00	400L1
400L1	0.55	2.43	2.43	Sandia Sunset	Roll (4")	0.5	0.22	1.4	0.25	S22	2.43	0.00	-
400L2	0.84	3.71	3.71	Sandia Sunset	Roll (4")	2.6	0.23	3.1	0.38	-	0.00	3.71	400L3
400L3	0.82	3.62	7.33	Sandia Sunset	Roll (4")	3.4	0.28	4.1	0.64	-	0.00	7.33	400N
400E	2.89	12.77	12.77	Hubbard	Roll (4")	2.0	0.30	3.4	0.48	-	0.00	12.77	400F2
400F1	0.45	1.99	15.33	Manzano Vista	Std. (8")	3.2	0.34	4.2	0.61	-	0.00	15.33	400F2
400F2	0.46	2.03	22.46	Manzano Vista	Std. (8")	3.2	0.39	4.3	0.68	-	0.00	22.46	400F3
400F3	0.26	1.15	35.22	Manzano Vista	Std. (8")	3.2	0.44	4.2	0.71	-	0.00	35.22	400K1
400G	3.31	14.62	14.62	Duke City	Roll (4")	2.0	0.33	3.4	0.51	-	0.00	14.62	400H
400H	1.86	8.22	22.84	Duke City	Std. (8")	2.0	0.42	3.9	0.66	-	0.00	22.84	400F3
400I	2.79	12.32	19.99	Hubbard	Std. (8")	2.0/Sump	0.40	3.8	0.62	S14 & S15	19.99	0.00	400L1
400J	2.79	12.32	27.22	Duke City	Std. (8")	4.0	0.46	4.0	0.71	S16 & S17	27.22	0.00	-
400K1	0.41	1.81	19.42	Rocky Top	Std. (8")	1.9	0.41	3.7	0.62	-	0.00	19.42	400K2
400K2	0.41	1.81	11.52	Rocky Top	Std. (8")	1.9	0.35	3.1	0.50	-	0.00	11.52	400P
400M	2.13	9.41	9.41	Duke City	Roll (4")	0.5	0.33	1.8	0.38	-	0.00	9.41	400N
400N	1.07	4.73	17.80	Duke City	Std. (8")	0.5	0.44	2.0	0.50	S18 & S19	17.80	0.00	-
400P	0.70	3.09	52.26	Rocky Top	Std. (8")	Sump	-	-	-	S1 & S2	52.26	0.00	-
400Q	1.93	8.53	8.53	Canyon Wren Ct	Roll (4")	0.5	0.33	1.8	0.38	-	0.00	8.53	400R
400R	2.08	9.19	17.71	Harrier Hawk	Std. (8")	4.0	0.38	4.7	0.70	-	0.00	17.71	400S
400S	2.17	9.59	18.44	Burrowing Owl	Std. (8")	2.0	0.35	3.6	0.55	-	0.00	18.44	400U
400T	1.90	8.39	25.00	Manzano Vista	Std. (8")	3.2	0.41	4.6	0.74	15 & 16	11.80	14.20	400U
400U	1.60	7.07	35.71	Manzano Vista	Std. (8")	3.2	0.47	5.5	0.94	17 & 18	14.20	25.51	400X
400V	3.71	16.39	25.24	White Dove	Std. (8")	2.0	0.43	4.0	0.68	-	0.00	25.24	400AC
400W	0.78	3.45	16.07	White Dove	Std. (8")	2.0	0.38	3.5	0.57	-	0.00	16.07	400X
400X	0.28	1.28	42.36	Manzano Vista	Std. (8")	3.1	0.47	5.7	0.97	-	0.00	42.36	400Z
400Y	0.93	4.11	25.54	Rock Squirrel	Std. (8")	2.0	0.43	4.0	0.68	-	0.00	25.54	400AH
400Z	1.54	6.90	28.23	Manzano 40' FF	Std. (8")	1.0	0.42	4.1	0.66	-	0.00	28.23	400AF
400AB	2.98	13.16	13.16	Lobo Trot	Roll (4")	1.0	0.33	2.5	0.43	S7 & S8	13.16	0.00	-
400AC	1.43	6.32	18.94	Running Bear	Std. (8")	6.0	0.31	5.5	0.78	-	0.00	18.94	400AD
400AD	2.64	11.66	58.83	Cougar Run 40' FF	Std. (8")	1.0	0.61	4.0	0.86	S23 & S24	58.83	0.00	-
400AG	2.83	12.50	22.21	Rock Squirrel	Std. (8")	3.4	0.38	4.6	0.71	-	0.00	22.21	400AI
400AH	0.24	1.06	37.70	Rock Squirrel	Std. (8")	Sump	-	-	-	S5 & S6	37.70	0.00	-
400AI	0.34	1.50	12.61	Sandia Sunset	Std. (8")	1.0	0.38	2.5	0.48	-	0.00	12.61	400AJ
400AJ	1.95	8.61	26.98	Sandia Sunset	Std. (8")	1.4	0.52	4.4	0.82	S3 & S4	26.98	0.00	-
		77.70	343.61								352.84		

LEGEND

- AHYMO BASIN BOUNDARY
- SUB-BASIN BOUNDARY
- NEW RCP STORM DRAIN
- 400 AHYMO BASIN NUMBER
- 400Q SUB-BASIN NUMBER
- 15 NEW INLET NUMBER
- 51 EXISTING INLET NUMBER
- 18 NEW RCP PIPE NUMBER
- 17 HIGH POINT (WATERBLOCK)

Storm Drain System Design									
STREET NAME	INLET #	Q (cfs)	PIPE #	SLOPE %	Q ₁₀₀ (cfs)	PIPE CAPACITY (cfs)	PIPE DIA (in)	AREA OF PIPE (sq ft)	VELOCITY (ft/sec)
Gallant Fox	-	-	Existing	2.12	848.57	930.11	84	38.48	22.05
Blue Ribbon	S20	12.44	P1	-	12.45	24.69	24	3.14	7.92
Tract J	S21	12.45	P2	-	15.00	24.69	24	3.14	7.92
Tract J	S11	17.05	P3	-	1.00	41.94	36	7.07	5.93
Sandia Sunset	-	-	P4	-	2.00	890.51	803.40	84	38.48
Sandia Sunset	S12	12.81	P5	-	2.00	12.81	14.85	18	1.77
Silver Dollar	S13	12.81	P6	-	2.00	25.62	31.99	18	1.77
Sandia Sunset	-	-	P7	-	2.20	916.13	947.49	84	38.48
Hubbard	S14	10.00	P8	-	2.00	10.00	14.85	18	1.77
Hubbard	S15	9.99	P9	-	2.00	19.99	31.99	18	1.77
Sandia Sunset	-	-	P10	-	7.00	936.12	1690.11	84	38.48
Duke City	S16	13.81	P11	-	1.50	12.22	12.86	18	1.77
Duke City	S17	13.81	P12	-	1.20	24.44	24.78	24	3.14
Duke City	S18	8.90	P13	-	1.00	8.90	10.50	18	1.77
Duke City	S19	8.90	P14	-	1.00	17.80	22.62	24	3.14
Sandia Sunset	10	6.80	P15	-	4.00	976.38	1277.00	84	38.48
Rocky Top	11	5.90	P16	-	1.50	5.90	12.86	18	1.77
Rocky Top	12	5.90	P17	-	2.00	11.80	14.85	24	3.14
Rocky Top	13	8.00	P18	-	2.00	8.00	14.85	18	1.77
Rocky Top	14	8.00	P19	-	1.50	27.80	27.70	24	3.14
Rocky Top	S1	28.13	P20	-	1.50	28.13	27.70	24	3.14
Rocky Top	S2	28.13	P21	-	0.50	80.06	101.54	48	12.57
Sandia Sunset	-	-	P22	-	1.50	1023.05	1119.91	96	50.27
Sandia Sunset	S3	13.49	P23	-	1.00	13.49	22.62	24	3.14
Sandia Sunset	S4	13.49	P24	-	1.00	26.98	22.62	24	3.14
Sandia Sunset	-	-	P25	-	1.00	62.35	66.69	36	7.07
Rock Squirrel	S5	18.85	P26	-	2.00	19.02	31.99	24	3.14
Rock Squirrel	S6	18.85	P27	-	1.00	100.22	100.60	42	9.62
Rock Squirrel	-	-	P28	-	1.00	100.22	100.60	42	9.62
Manzano Vista	15	5.90	P29	-	2.00	5.90	14.85	18	1.77
Manzano Vista	16	5.90	P30	-	3.14	11.80	18.61	18	1.77
Manzano Vista	17	7.10	P31	-	2.00	7.10	14.85	18	1.77
Manzano Vista	18	7.10	P32	-	3.14	26.00	40.08	24	3.14
Manzano Vista	-	-	P33	-	1.00	126.22	143.60	48	12.57
Lobo Trot	S7	6.58	P34	-	1.00	6.58	10.50	18	1.77
Lobo Trot	S8	6.58	P35	-	1.00	13.16	22.62	24	3.14
Manzano Vista	-	-	P36	-	1.00	138.30	143.60	48	12.57
Cougar Run St	S23 & S24	58.83	P37	-	1.10	198.21	206.30	54	15.90
48 RCP Info Arroyo	-	-	P38	-	1.00	138.94	143.60	48	12.57
SWQ @ 48" RCP	-	-	P39	-	1.00	58.27	66.69	36	7.07
SWQ @ 96" RCP	-	-	P40	-	1.00	35.37	410.10	30	4.91

TIJERAS ARROYO



SEE SHEET 9 OF 11

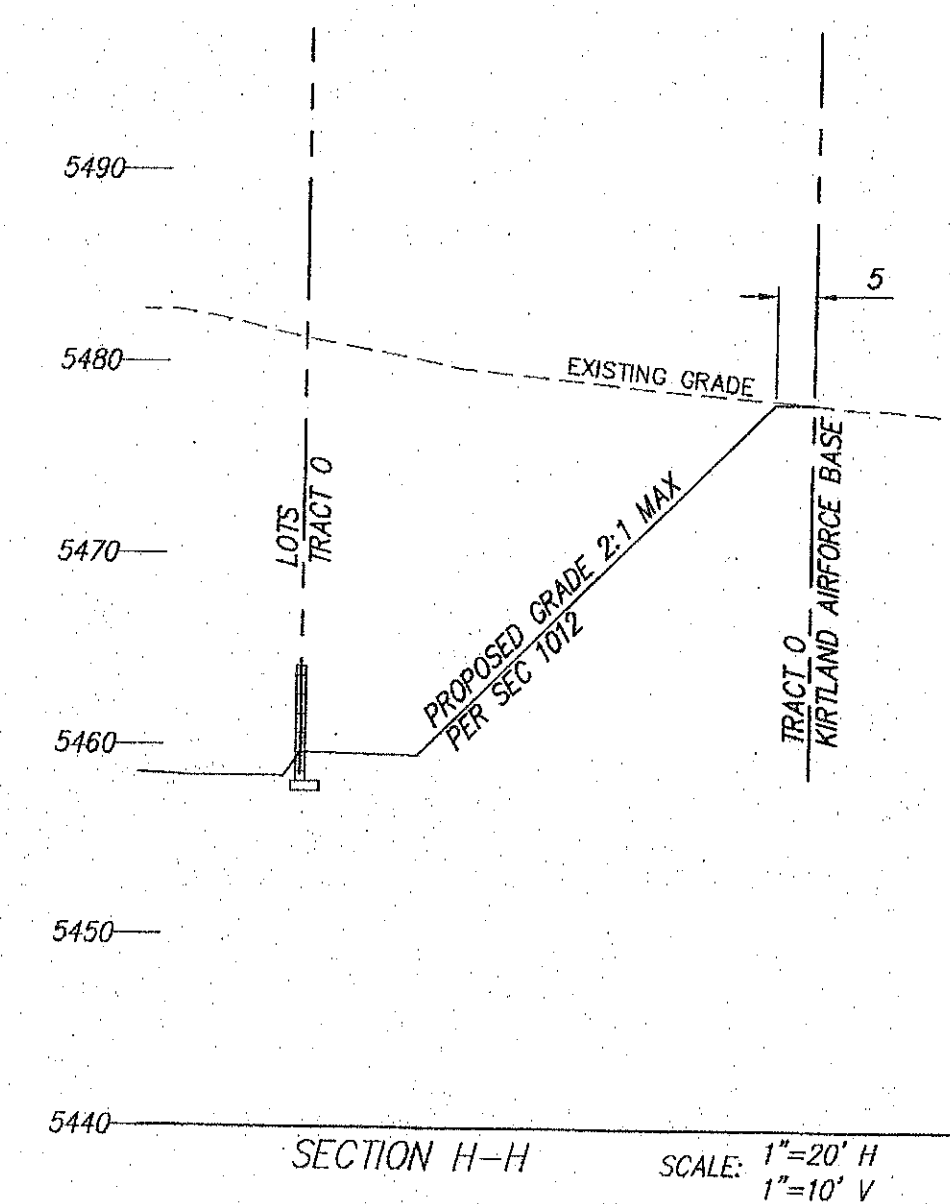
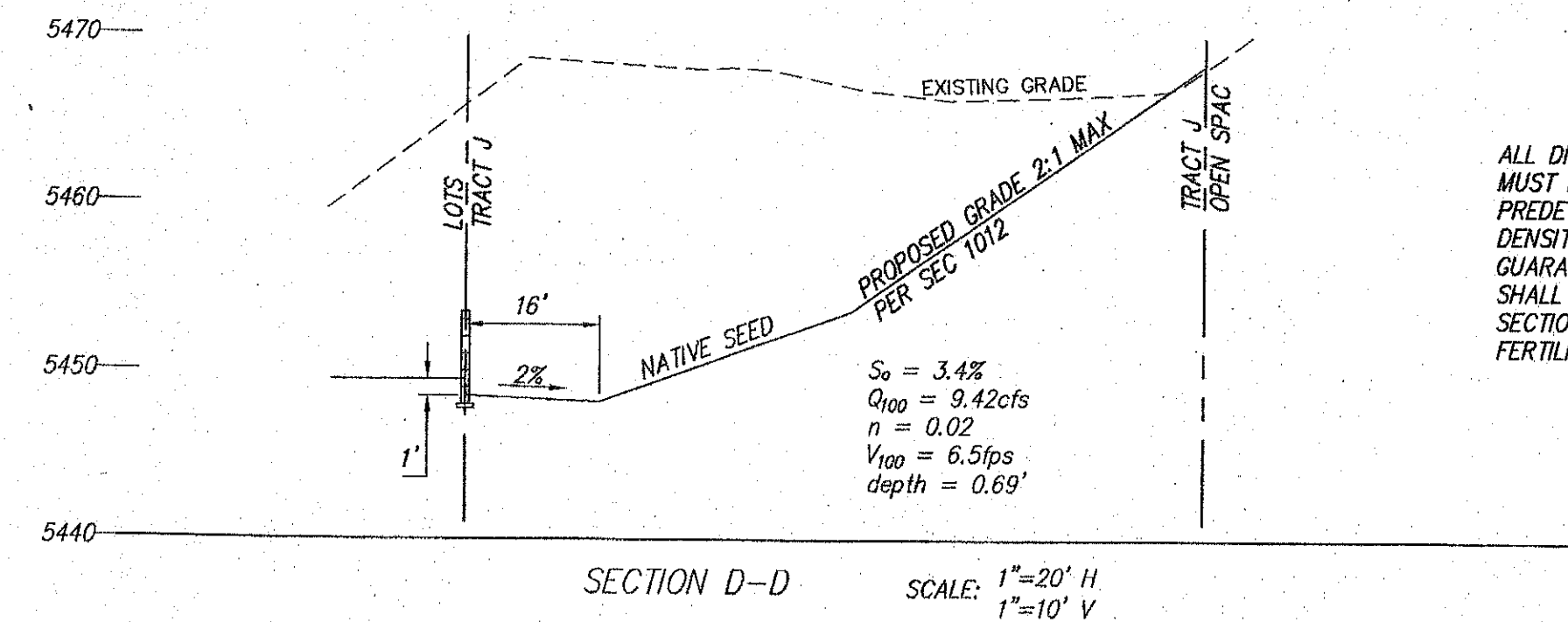
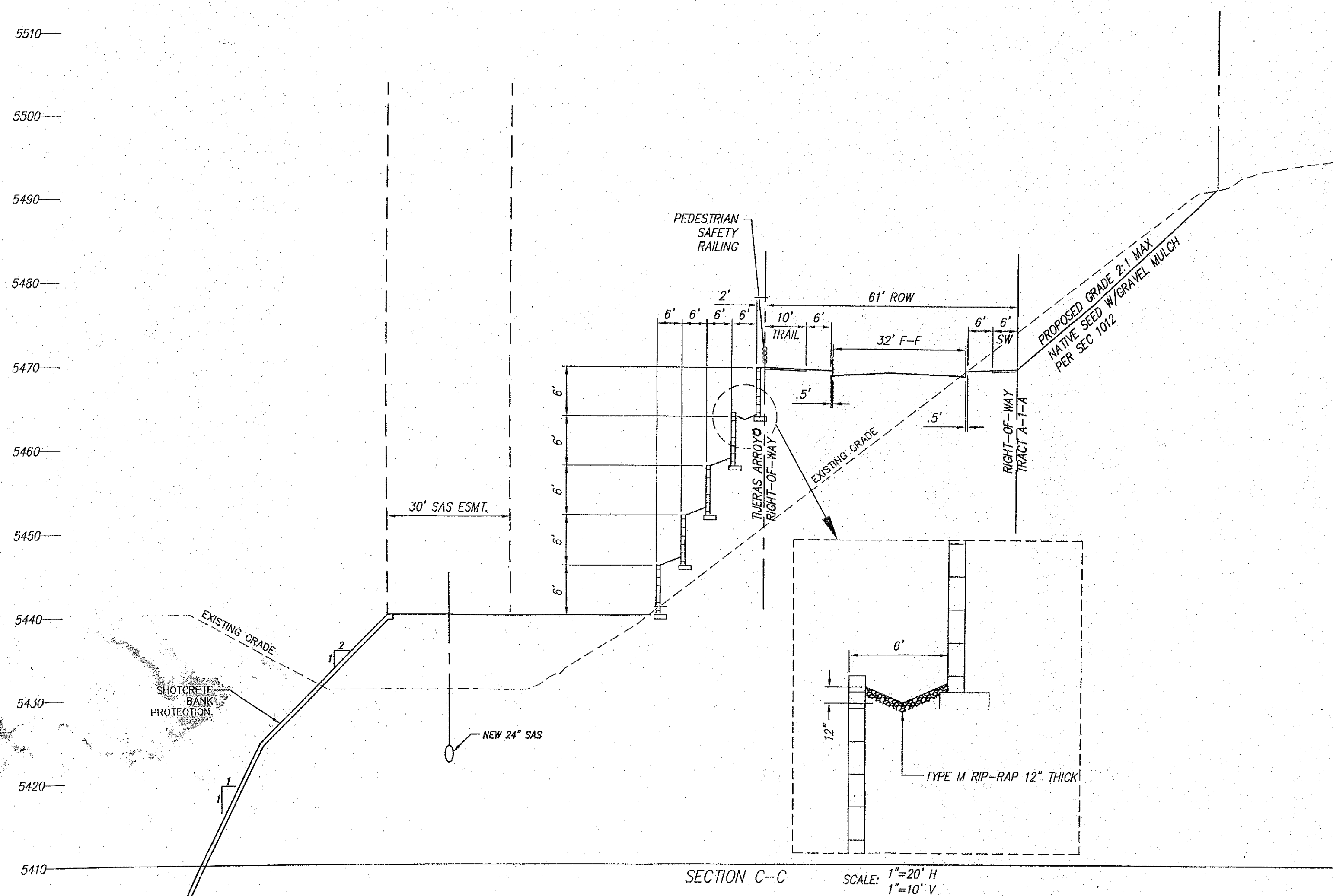
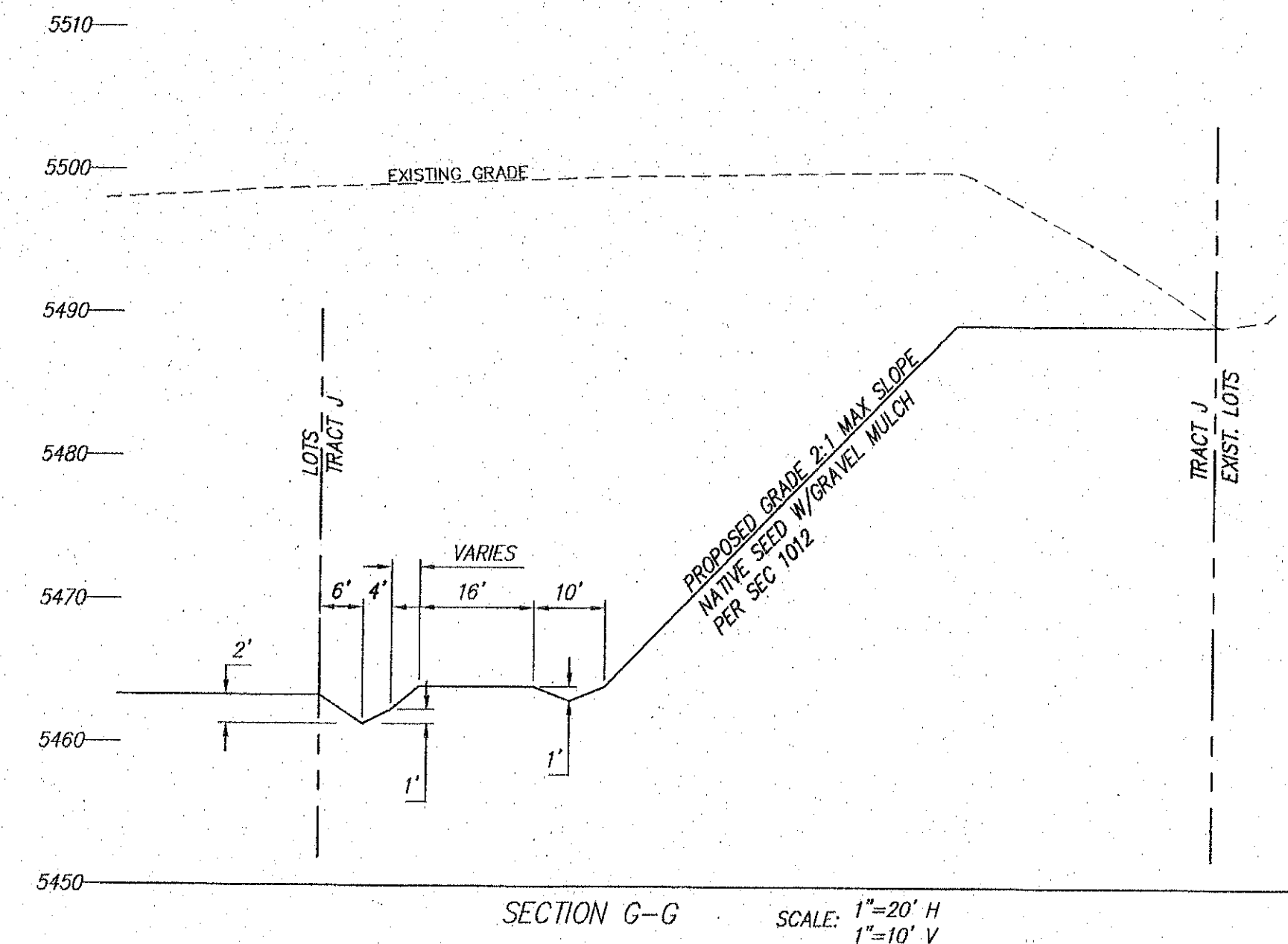
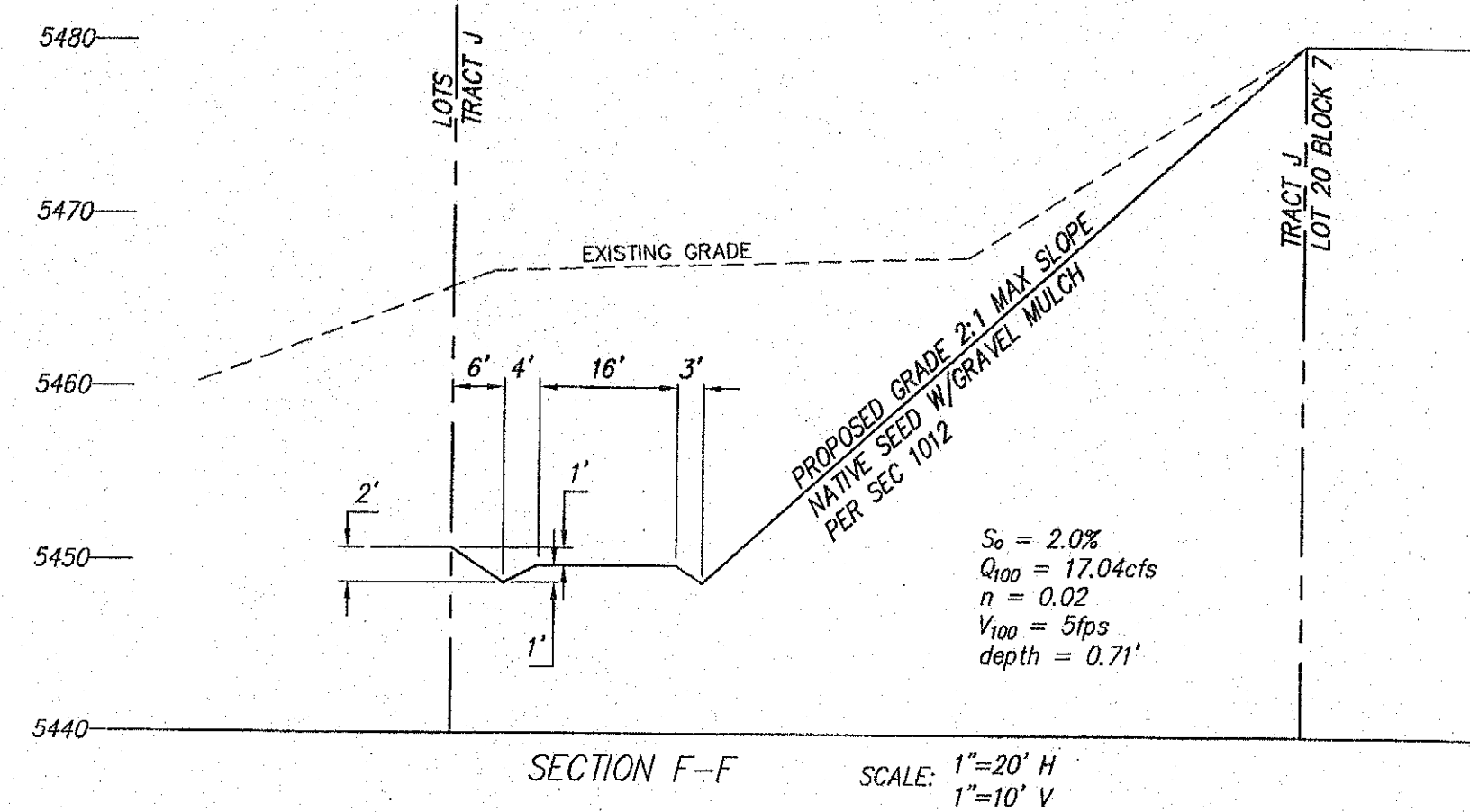
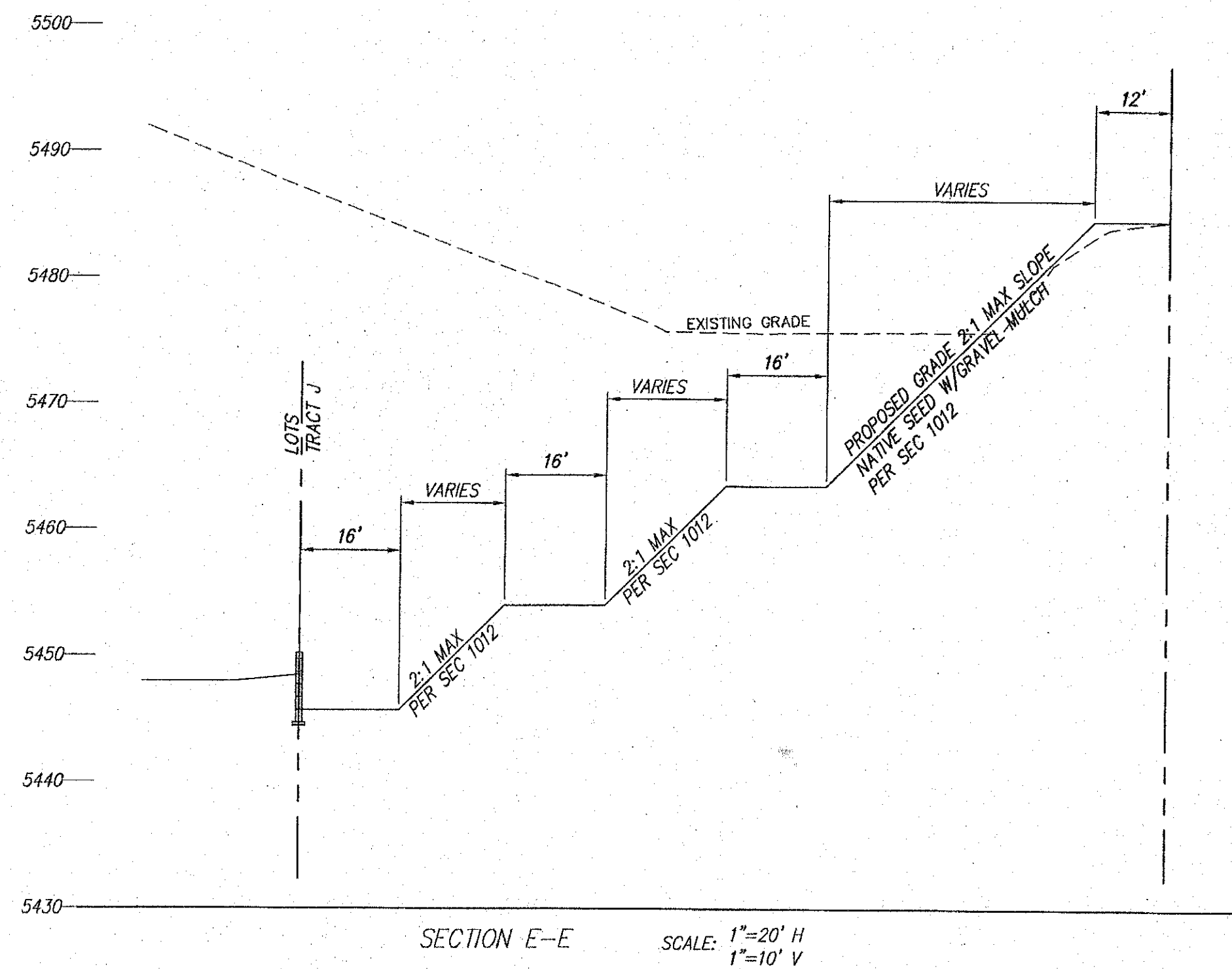
AMENDED

JUAN TABO HILLS ESTATES

ONSITE DRAINAGE BASIN MAP

dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
OFFICE (505) 826-2200, FAX (505) 797-9539

CITY PROJECT NO. ZONE MAP NO. SHEET OF
M-21-Z 8 10



ALL DISTURBED AREA IN TRACT J AND O
MUST BE REVEGETATED TO 70% OF
PREDEVELOPMENT GROUND COVER
DENSITY PRIOR TO RELEASE OF FINANCIAL
GUARANTEES. NATIVE SEED AND MULCH
SHALL BE APPLIED IN ACCORDANCE WITH
SECTION 1012 AND WILL INCLUDE
FERTILIZER AND SUPPLEMENTAL WATER.

AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL	
CONTRACTOR	DATE	STATION 5+422.75 IS LOCATED 8.7 MI. SE OF DOWNTOWN ALBUQUERQUE	DATE	NO.	BY	NO.	BY
WORK ORDER NO.	DATE	ON THE EAST SIDE OF THE MUNICIPAL LIMITS LINE IN THE FOUR HILLS	DATE				
INSPECTOR'S	DATE	SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE.	DATE				
ACCEPTANCE BY	DATE	77.9' SE OF POWER POLE #337 & 108.0' NW OF POWER POLE #60.	DATE				
VERIFICATION BY	DATE	STATION IS A STANDARD ACS BRASS DISK SET IN A CONCRETE	DATE				
DRAWINGS	DATE	MONUMENT IN THE GROUND. STATION IS STAMPED "5+422.75"	DATE				
REVISIONS	DATE	X= 1,564,263.207, Y= 1,475,762.595, (NAD 83), Z= 5597.219 (NAVD 1989).	DATE				
W/CRO-FIRM INFORMATION	DATE		DATE				
RECORDED BY	DATE		DATE				
NO.							

AMENDED

JUAN TABO HILLS ESTATES

GRADING & DRAINAGE PLAN

dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
OFFICE (505) 828-2200, FAX (505) 797-9539

CITY PROJECT NO. ZONE MAP NO. SHEET OF

M-21-Z 10 10