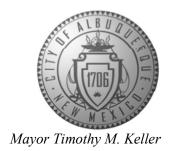
CITY OF ALBUQUERQUE

Planning Department Alan Varela, Director



December 24, 2024

David Thompson, PE Thompson Engineering Consultants, Inc. PO Box 65769 Albuquerque, NM 87193

RE: Sombra del Oeste 8801 Gibson Blvd. SW **Revised Grading and Drainage Plans** Engineer's Stamp Date: 12/20/24 **Hydrology File: M09D032**

Dear Mr. Thompson:

Based upon the information provided in your submittal received 12/23/2024, the Revised PO Box 1293

Grading & Drainage Plans are approved for Grading Permit and Work Order.

As a reminder, if the project total area of disturbance (including the staging area and any work Albuquerque

within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the

Stormwater Quality Engineer (Dough Hughes, PE, jhughes@cabq.gov, 505-924-3420) 14 days

prior to any earth disturbance.

If you have any questions, please contact me at 505-924-3314 or amontoya@cabq.gov.

www.cabq.gov

NM 87103

Sincerely,

Anthony Montoya, Jr., P.E. Senior Engineer, Hydrology

anth Mars

Planning Department, Development Review Services



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (DTIS)

Project Title:		Hydrology File #						
Legal Description:								
City Address, UPC, OR Parcel	:							
Applicant/Agent:		Contact:						
		Phone:						
Email:								
Applicant/Owner:		Contact:						
Address:		Phone:						
Email:								
(Please note that a DFT SITE is or	ne that needs Site Plan A	pproval & ADMIN SITE is one that does not need it.)						
TYPE OF DEVELOPMENT:	PLAT (#of lots)	RESIDENCE						
	DFT SITE	ADMIN SITE						
RE-SUBMITTAL: YES	NO							
DEPARTMENT: TRANS	SPORTATION	HYDROLOGY/DRAINAGE						
Chook all that apply under Dath	the Type of Submittel	and the Type of Approval Sought:						
TYPE OF SUBMITTAL:	the Type of Submittal	TYPE OF APPROVAL SOUGHT:						
ENGINEER/ARCHITECT CF	RTIFICATION	BUILDING PERMIT APPROVAL						
PAD CERTIFICATION		CERTIFICATE OF OCCUPANCY						
CONCEPTUAL G&D PLAN		CONCEPTUAL TCL DFT APPROVAL						
GRADING & DRAINAGE PI	LAN	PRELIMINARY PLAT APPROVAL						
DRAINAGE REPORT		FINAL PLAT APPROVAL						
DRAINAGE MASTER PLAN		SITE PLAN FOR BLDG PERMIT DFT						
CLOMR/LOMR		APPROVAL						
TRAFFIC CIRCULATION LA	AYOUT (TCL)	SIA/RELEASE OF FINANCIAL GUARANTEE						
ADMINISTRATIVE		FOUNDATION PERMIT APPROVAL						
TRAFFIC CIRCULATION LA APPROVAL	AYOUT FOR DFT	GRADING PERMIT APPROVAL						
TRAFFIC IMPACT STUDY (TIS)	SO-19 APPROVAL						
STREET LIGHT LAYOUT		PAVING PERMIT APPROVAL						
OTHER (SPECIFY)		GRADING PAD CERTIFICATION						
· - /		WORK ORDER APPROVAL						
		CLOMR/LOMR						
		OTHER (SPECIFY)						
DATE SUBMITTED:								

I. PURPOSE AND SCOPE

THE PURPOSE OF THIS DRAINAGE PLAN IS TO PRESENT THE EXISTING AND PROPOSED DRAINAGE CONDITIONS FOR PROPOSED SOMBRA DEL OESTE SUBDIVISION, LOCATED IN THE 9001 BLOCK OF GIBSON BOULEVARD SW, IN ALBUQUERQUE. THE ZONE ATLAS PAGE FOR THE SITE IS M-09-Z.

II. SITE DESCRIPTION AND HISTORY

THE PROJECT SITE IS LOCATED ON THE NORTH SIDE OF GIBSON BOULEVARD SE, BETWEEN UNSER BOULEVARD SW, AND SNOW VISTA BOULEVARD SW.

THE SITE IS CURRENTLY VACANT WITH DEVELOPED PROPERTIES SURROUNDING.

III. COMPUTATIONAL PROCEDURES

HYDROLOGIC ANALYSIS WAS PERFORMED UTILIZING THE DESIGN CRITERIA BASED ON CHAPTER 6, HYDROLOGY, OF THE DEVELOPMENT PROCESS MANUAL RELEASED 2020. TABLES WITHIN CHAPTER 6, WERE USED TO AID IN THE STUDY OF THE SITE HYDROLOGY.

IV. PRECIPITATION

THE STORM EVENT USED FOR THE FOLLOWING CALCULATIONS IS THE 100YR-6HR STORM. THE PROJECT SITE IS LOCATED IN ZONE 1 (WEST OF RIO GRANDE).

V. EXISTING DRAINAGE CONDITIONS

CURRENTLY THE SITE IS VACANT AND GENERALLY DRAINS FROM NORTH-WEST TO SOUTH-EAST A PRIVATE STORM DRAINAGE SYSTEM WAS INSTALLED ALONG GIBSON TO CONVEY EXCESS RUNOFF FROM THE SITE. THE PRIVATE STORM DRAINAGE SYSTEM WILL BE ABANDONED AND WILL NOT BE UTILIZED FOR THIS DEVELOPMENT. THE PRIVATE STORM DRAINAGE SYSTEM ALLOWED FOR UP TO 25.59 CFS AND THEREFORE THIS SITE CAN HAVE FREE DISCHARGE UP TO THAT LIMIT.

TO THE WEST OF THE SITE IS THE AMOLE ARROYO THAT CONVEYS OFFSITE FLOWS PAST THE SITE. THE IS ALSO AN OVERHEAD POWER TRANSMISSION LINE FOR PNM ALONG THE WESTERN BOUNDARY OF THE SITE. NO OFFSITE FLOWS WILL ENTER THE SITE FROM THE WEST. THE NORTH SIDE OF THE SITE, CONTAINS A FULLY DEVELOPED SUBDIVISION THAT DIRECTS RUNOFF FROM ADJACENT PROPERTIES NORTH INTO THE ROADWAYS SYSTEM. NO OFFSITE FLOWS WILL ENTER THE SITE FROM THE NORTH. THE EAST SIDE IF THE SITE IS LOWER AND THEREFORE WILL NOT CREATE ANY OFFSITE FLOWS FRO THIS PROJECT. TO THE SOUTH IS GIBSON BOULEVARD SW. GIBSON DRAINS FROM WEST TO EAST.

THE PRE-DEVELOPED PEAK RUNOFF RATE FROM THE SITE IS 14.66 CFS (WELL BELOW THE ALLOWABLE DISCHARGE OF 25.59 CFS).

VI. PROPOSED DRAINAGE CONDITIONS

THE PROPOSED SUBDIVISION HAS BEEN DESIGNED TO ROUTE EXCESS RUNOFF THROUGH SHALLOW PONDING AREAS AND ON-SITE COLLECTION AND CONVEYANCE SYSTEMS TO REDUCE THE PEAK RUNOFF RATE BACK TO HISTORIC RATES, AND TO CONTAIN THE NECESSARY WATER QUALITY VOLUME AS REQUIRED BY THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, CHAPTER 6.

FOR ANALYSIS OF EXCESS RUNOFF FLOW RATES AND WATER QUALITY VOLUME REQUIREMENTS THE SITE HAD BEEN DIVIDED INTO 5 PROPOSED BASINS.

BASIN PRO 1, IS ALONG THE WESTERN SIDE OF THE PROJECT, CONTAINS THE ROOF AREAS OF THE HOMES (THESE HOME WILL DRAIN TOWARD THE BACK OF THE HOUSE) AND THE BACKYARDS OF THE WESTERN LOTS ALONG SMOKETREE DRIVE SW. THIS BASIN PRO 1 CONTAINS 18,624 SF AND GENERATES A PEAK RUNOFF OF 1.27 CFS. RUNOFF FROM THIS BASIN IS DRAINED THROUGH THE WESTERN SIDE OF THE LOTS INTO THE OPEN AREA BELOW THE POWER LINES THAT HAS A DEPRESSION CREATED FROM BORROW, AND HAS AVAILABLE VOLUME OF 5,126 CUBIC FEET. THIS BASIN WILL CONTAIN ALL 273 CF OF WATER QUALITY THAT IS GENERATED WITHIN THE BASIN.

BASIN PRO 2 IS LOCATED ALONG THE NORTH SIDE OF THE SITE. IT WILL DRAIN FROM THE WEST TO EAST AND INTO POND B, THAT WILL HAVE AN AVAILABLE VOLUME OF 1,962 CUBIC FEET. THE PEAK RUNOFF FROM THIS BASIN WILL BE 6.95 CFS AND AFTER ROUTING THROUGH POND B, WILL BE REDUCED TO 6.25 CFS THAT WILL BE CONVEYED VIA UNDERGROUND STORM PIPING TO POND C FOR FURTHER REDUCTION IN RUNOFF RATES. POND B WILL CONTAIN A WATER QUALITY VOLUME OF 1,424 CF. A 24" STANDPIPE WILL BE USED TO LIMIT DISCHARGE TO THE 6.25 CFS.

BASIN PRO 3 WAS CREATED TO BE ABLE TO SIZE THE CROSS LOT DRAINAGE AND TO DETERMINE RUNOFF RATES WITHIN VALLEY COTTONWOOD DRIVE SW. THE PEAK RUNOFF RATE FOR THE ENTIRE BASIN IS 1.25 CFS INCLUDING THE 0.42 CFS THAT IS CONVEYED VIA THE TWO BACKYARD CROSS LOT DRAINAGE SWALES. EACH SIDE OF THE RETAINING WALL WILL NEED TO CONVEY 0.21 CFS.

BASIN PRO 4 IS LOCATED ALONG THE SOUTHERN SIDE OF THE SITE AND GENERATES A PEAK RUNOFF RATE OF 6.09 CFS. BACKYARD CROSS LOT DRAINAGE WILL DRAIN 6 LOTS AND GENERATE A PEAK RUNOFF RATE OF 0.17 CFS. EXCESS RUNOFF FROM THIS BASIN WILL DRAIN TO A SERIES OF CATCH BASINS NEAR THE INTERSECTION OF MOUNTAIN ASH AVE SW AND VALLEY COTTONWOOD DR SW. EACH SIDE OF THE ROAD WILL NEED TO COLLECT A PEAK RUNOFF RATE OF 3.05 CFS. THIS CAN EASILY BE ACCOMPLISH VIA A TYPE "A" INLET PER DPM FIGURE 6.9.9. RUNOFF WILL THEN BE CONVEY UNDERGROUND TO POND C.

BASIN PRO 5 IS LOCATED ALONG THE EASTERN SIDE OF THE SITE. EXCESS RUNOFF FROM THIS BASIN IS 1.41 CFS. A SMALL PORTION WILL BE DRAINED VIA A CROSS LOT DRAINAGE SWALE INTO POND C. THE REMAINDER OF THE BASIN WILL DRAIN INTO VALLEY COTTONWOOD DR SW AND INTO POND C BY A TYPE "A" CATCH BASIN ON EACH SIDE OF THE ROAD IN A SUMP CONDITION.

POND C HAS BEEN SIZED TO CONTAIN THE WATER QUALITY VOLUME OF 3,358 CUBIC FEET. AS MENTIONED IN THE EXISTING CONDITIONS, THE PRIOR GRADING AND DRAINAGE PLANS INDICATED THIS SITE WAS DESIGNED TO RELEASE 25.59 CFS AND THEREFORE THE FULLY DEVELOPED PEAK FLOWRATE OF 15.93 CAN BE RELEASED WITHOUT ANY RESTRICTIONS.

A 24" STANDPIPE WITH A BEEHIVE GRATE ACTING AS AN OVERFLOW WEIR WILL BE USED TO LIMIT DISCHARGE OF 15.93 CFS INTO GIBSON BOULEVARD SW AND CONNECTING TO THE EXISTING STORM DRAINAGE SYSTEM AT STAMPEDE DRIVE SW. BECAUSE THE PRIVATE STORM DRAINAGE FORMERLY CONVEYED THE 25.59 CFS INTO THE SAME SYSTEM, DOWNSTREAM CAPACITY WILL NOT BE AFFECTED BY CONNECTING INTO THE SYSTEM.

THE SITE DOES CONTAIN A TWO OFFSITE BASINS (LABELED OFF BASIN EX 1 AND EX 2) THAT ARE LOCATED UNDER THE POWERLINES AND THEREFORE NOT REALLY PART OF THE DEVELOPED PROPERTY. THE OFFSITE BASINS ARE PART OF A PRIOR APPROVED G&D PLAN.

VII. CONCLUSIONS

THE PROPOSED SUBDIVISION HAS BEEN DESIGNED TO DIVERT STREET AND ROOF RUNOFF INTO A SERIES OF WATER QUALITY PONDS PRIOR TO BEING CONVEYED VIA A NEW UNDERGROUND STORM PIPING SYSTEM CONNECTING TO THE EXISTING PUBLIC STORM DRAINAGE SYSTEM AT GIBSON BOULEVARD SW, AND STAMPEDE DRIVE SW. THE PROPOSED PEAK RATE (DEVELOPED FLOW 15.93 CFS) IS WELL BELOW THE ALLOWABLE OF 25.59 CFS, THERE SHOULD BE NOT AFFECT TO DOWNSTREAM FACILITIES.

	Drainage S	Summar	/			
Project:	SOMBRE D	EL OESTE				
	SOMBRED	EL OESTE				
Project Number:	00/05/00					
Date:	02/05/22					
By:	Dave					
Site Location						
Precipitaion Zone	1	Per COA DF	PM Chapter 6			
Existing summary						
Basin Name	Ex Basin 1	OFF EX 1	OFF EX 2			
Area (sf)	209537	41152	49084			
Area (acres)	4.81	0.94	1.13			
%A Land treatment	0	0.54	0			
%B Land treatment	100	100	100			
%C Land treatment	0	0	0			
%D Land treatment	0	0	0			
	U	U	U			
Soil Treatment (acres)						
Area "A"	0.00	0.00	0.00			
Area "B"	4.81	0.94	1.13			
Area "C"	0.00	0.00	0.00			
Area "D"	0.00	0.00	0.00			
Excess Runoff (acre-feet)						
100yr. 6hr.	0.2926	0.0575	0.0685	acre-ft.		
10yr. 6hr.	0.1042	0.0205	0.0244	acre-ft.		
2yr. 6hr.	0.0040	0.0008	0.0009	acre-ft.		
100yr. 24hr.	0.2926	0.0575	0.0685	acre-ft.		
•	0.2020	0.0010	0.0000	GOTO IL.		
Peak Discharge (cfs)				_		
100 yr.	10.39	2.04	2.43	cfs		
10yr.	3.90	0.77	0.91	cfs		
2уг.	0.10	0.02	0.02	cfs		
Proposed summary						
•						
Basin Name		Pro Basin 2				
Area (sf)	18624	84178	17679	71198	19633	
Area (acres)	0.428	1.932	0.406	1.634	0.451	
%A Land treatment	50.0	00.0	F0 F	00.0	50.0	
%B Land treatment	58.2	26.8	53.5	20.0	50.9	
%C Land treatment %D Land treatment	41.8	73.2	46.5	80.0	49.1	
	41.0	13.2	40.0	00.0	49.1	
Soil Treatment (acres)	0.00	0.00	0.00	0.00	0.00	
Area "A"	0.00	0.00	0.00	0.00	0.00	
Area "B"	0.25	0.52	0.22	0.33	0.23	
Area "C"	0.00	0.00	0.00	0.00	0.00	
Area "D"	0.18	1.42	0.19	1.31	0.22	
Excess Runoff (acre-feet)						
100 yr. 6hr.	0.0485	0.2957	0.0484	0.2640	0.0553	acre-f
10yr. 6hr.	0.0267	0.1799	0.0272	0.1629	0.0313	acre-f
2yr. 6hr.	0.0139	0.1089	0.0146	0.1005	0.0172	acre-f
100 yr. 24 hr.	0.0533	0.3334	0.0535	0.2988	0.0612	acre-f
Peak Discharge (cfs)						
	1.27	6.95	1.25	6.09	1.41	cfs
100 yr.						
10yr.	0.66	4.06	0.66	3.63	0.75	cfs
2yr.	0.28	2.22	0.30	2.05	0.35	cfs
Water Quality Ponding Voulme (cf)	272.5	2157.8	287.7	1993.5	337.4	cf
Water Quality Acre Feet	0.0063	0.0495	0.0066	0.0458		

BASIN PRO 1

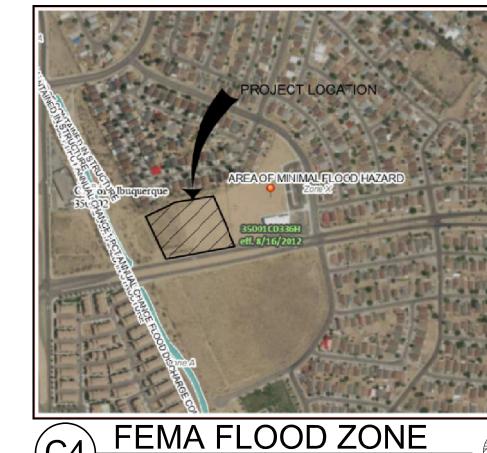
Q100 = 1.27 CU-FT/SEC

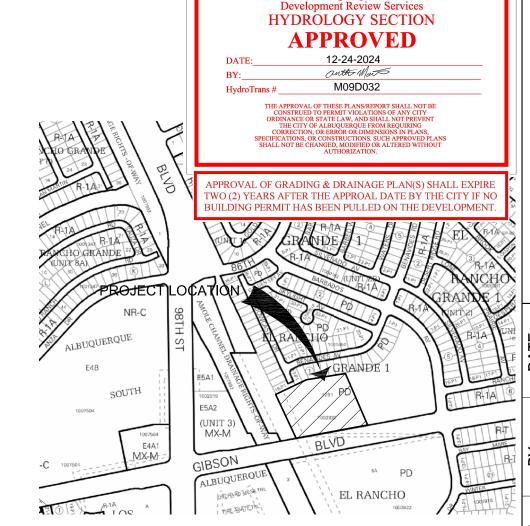
Area= 18,624 sf

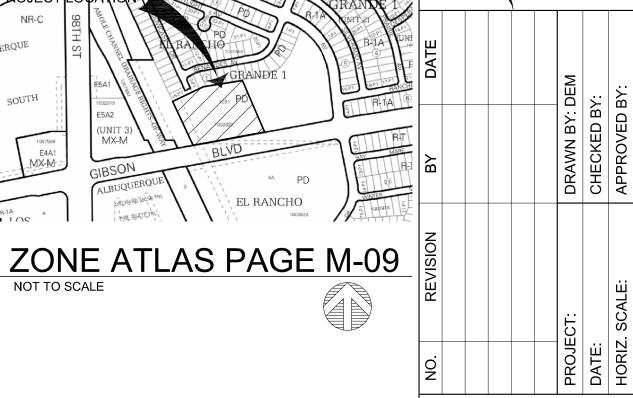
POND D

V Avail= 1,250 CU-FT

Pond Routing and Vo	olumes	Pond A	Pond B		Pond C		Pond D	
		Basin 1	Basin 2	Basin 3	Basin 4	Basin 5	Off EX 1	
Incoming Flow Rate	Qin	1.27	6.95	1.25	6.09	1.41	0.01	cfs
Allowable Discharge Rate	Qout	0.00	6.25	1.00	5.54	1.10	0.00	13.89 Total
								discharg
Hyrdology Zone		1	1	1	1	1	1	per Figure A-1
Area Total	At	0.428	1.932	0.406	1.634	0.451	0.000	acres
Area Type A	Aa	0	0	0	0	0	0	%
Area Type B	Ab	35	26.8	53.5	18.9	50.9	100	%
Area Type C	Ac	0	0	0	0	0		%
Area Type D Impervious	Ad	55	73.2	46.5	91.1	49.1	0	%
Excess runoff rates	Α	0.44	0.44	0.44	0.44	0.44	0.44	
	В	0.67	0.67	0.67	0.67	0.67	0.67	
	С	0.99	0.99	0.99	0.99	0.99	0.99	
	D	1.97	1.97	1.97	1.97	1.97	1.97	
Weighted E (Exces Runoff)		1.32	1.62	1.27	1.92	1.31	0.67	
Time of Concentration		0.2	1.2	2.2	3.2	4.2	5.2	hours
Time to Peak		0.228	0.912	1.635	2.297	3.032	3.773	hours
=0.7*Tc + ((1.6-(Ad/At)/12)								
Time of Base		0.795	0.767	0.758	0.858	0.760	0.000	hours
=2.107*E*At/Qp-(.25*Ad/At)								
Duration of Peak		0.138						hours
Time for end of peak		0.365			2.525			hours
Time when storage begins		0.000		1.311	2.089			hours
Time incoming is less that discharge		0.795	1.062	1.554	2.374	2.632	0.000	hours
Volume Required during storm	acre-inch	0.594			0.142			acre inch
Volume Required during storm	cf	2155	538	161	515	215	0	cubic feet
Volume Stored in Basin during storm	cf	5126				1904		Total Stored
Top Area		1412	1996			1184		
Bottom Area		860				435		
Top Elev		5012.23				5098.73		
Bot Elev		5010.73	5097.75			5095.23	5112.75	
Volume Available by ponds	cf	5126	1962			4248		cubic feet
Volume Available total by basin	cf	5126	1962			4248	1250	

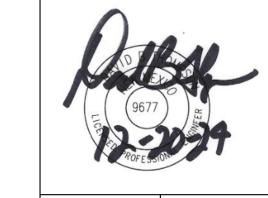


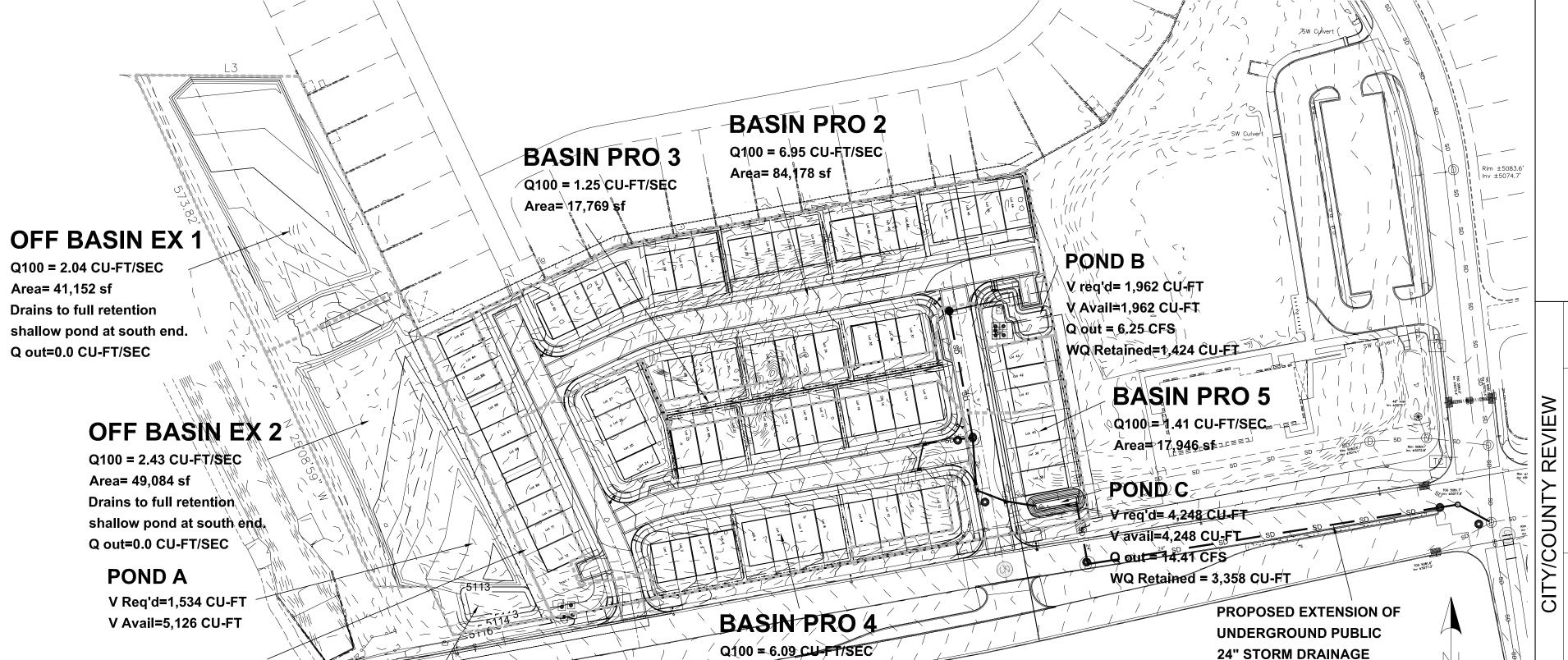




FLOOD ZONE DETERMINATION

The surveyed area, as shown hereon, appears to lie within "ZONE X" (areas determined to be outside the 0.2% annual chance floodplain), shown on National Flood Insurance Program Flood Insurance Rate Map 35001C0336H REVISED 08/16/2012.





Area= 71,198 sf

DRAINAGE PLAN

PROPOSED CONDITIONS

SOMBRA DEL OESTE
GRADING & DRAINAGE PLAN

DEPARTMENT SIGN-OFF

ASTEWATER MGMT. DIV.

JATER SERVICES

UBDIVISION ENG.

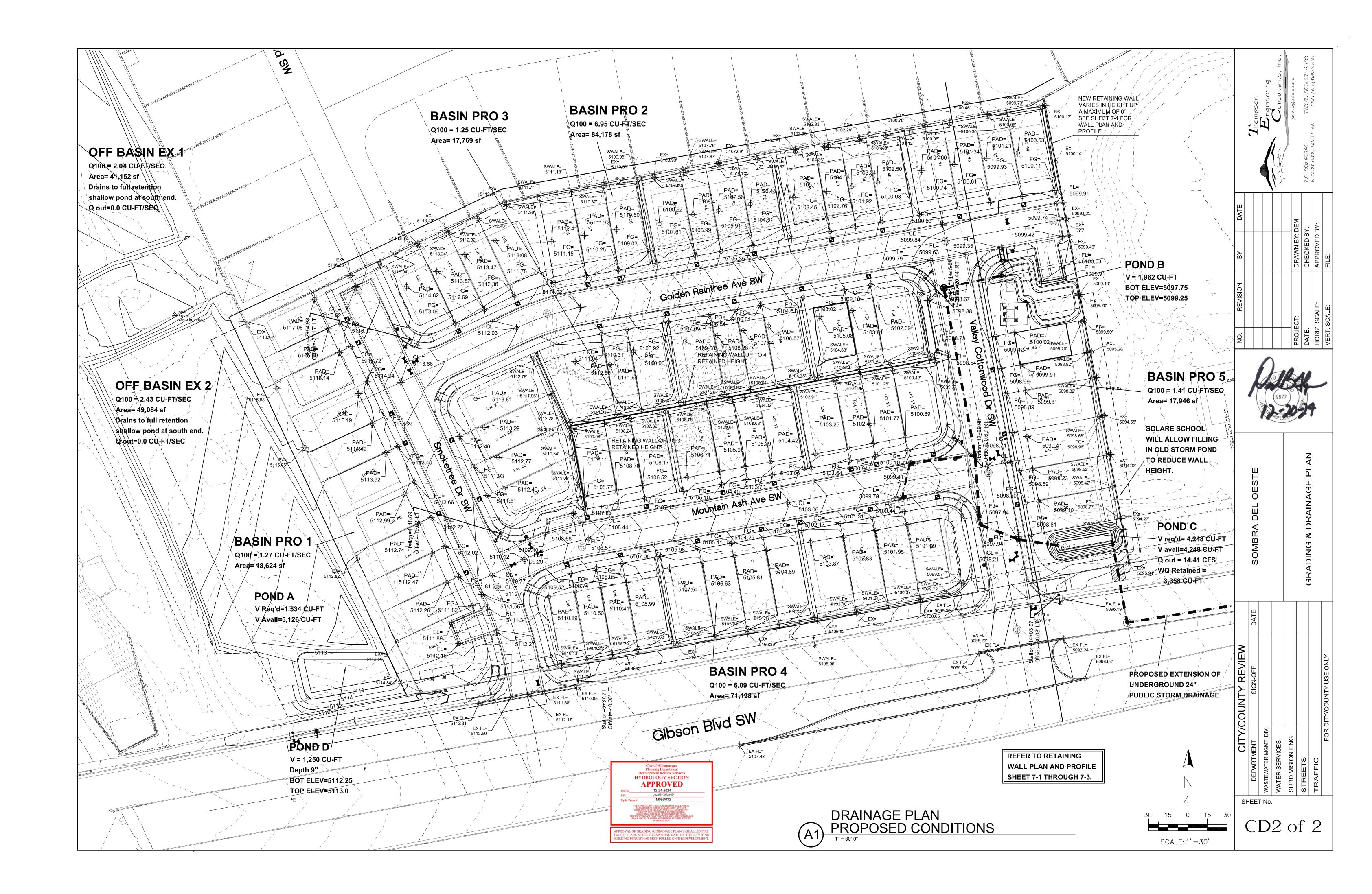
TREETS

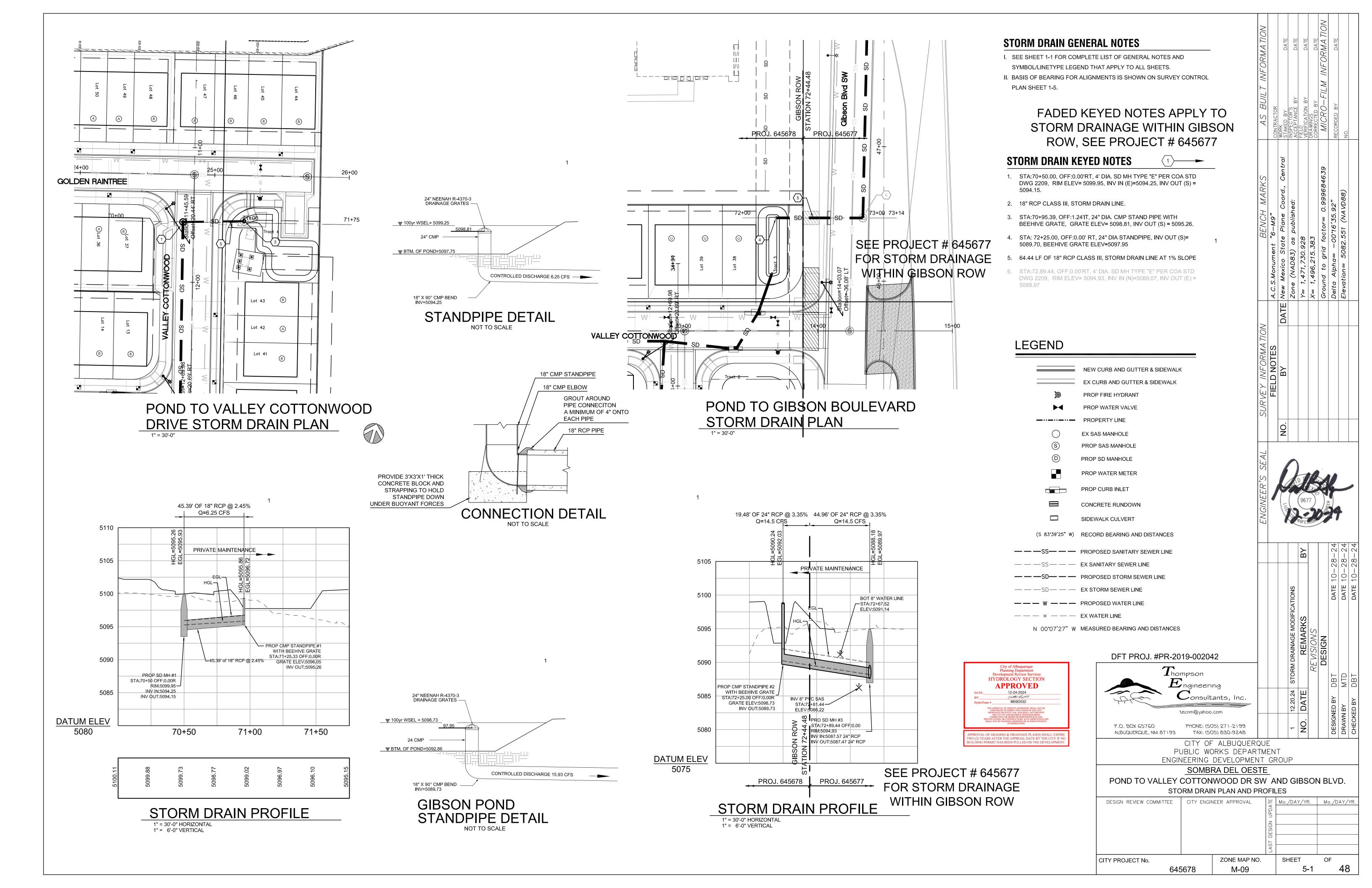
FOR CITY/COUNTY USE ONLY

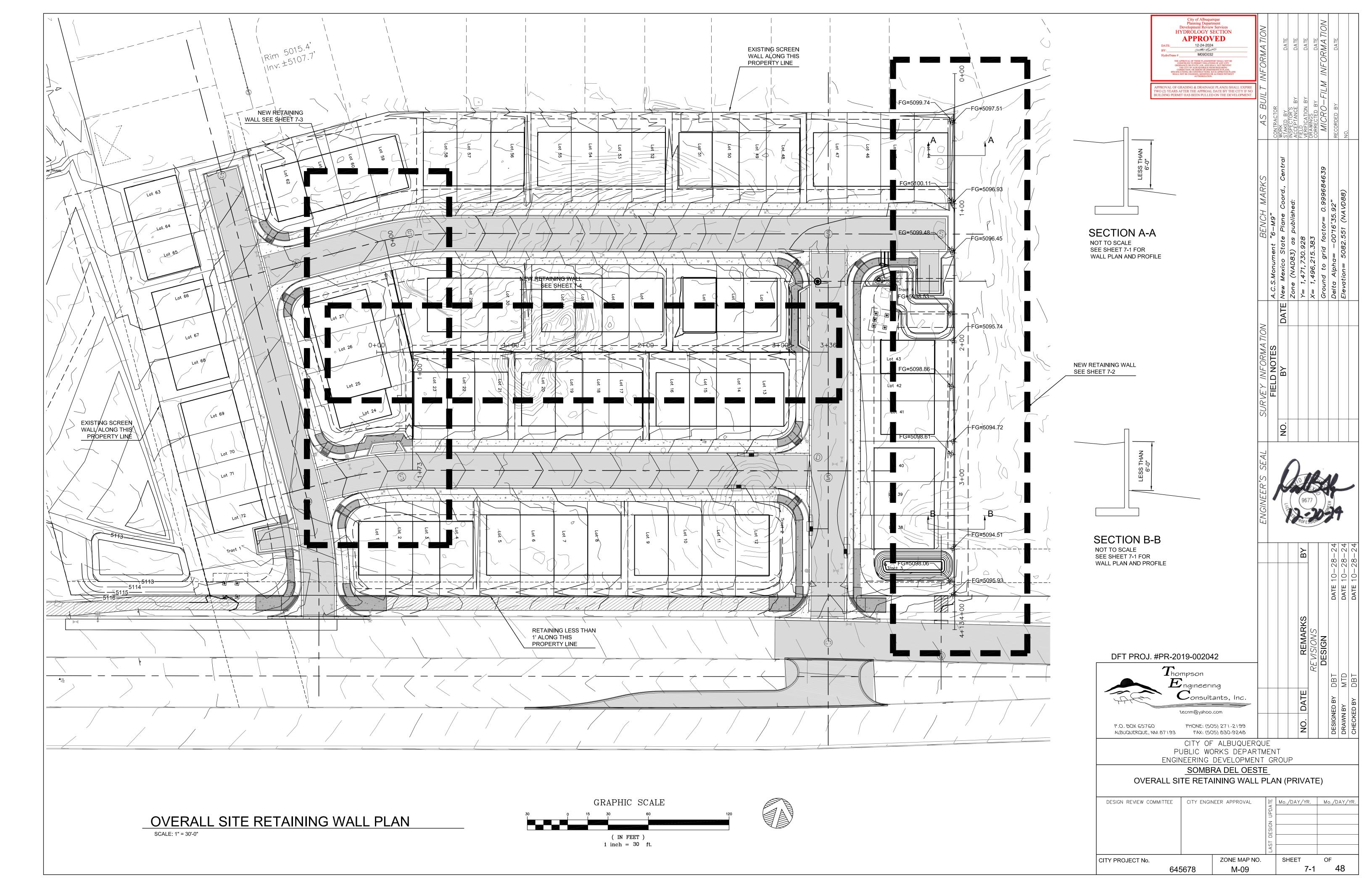
SHEET No.

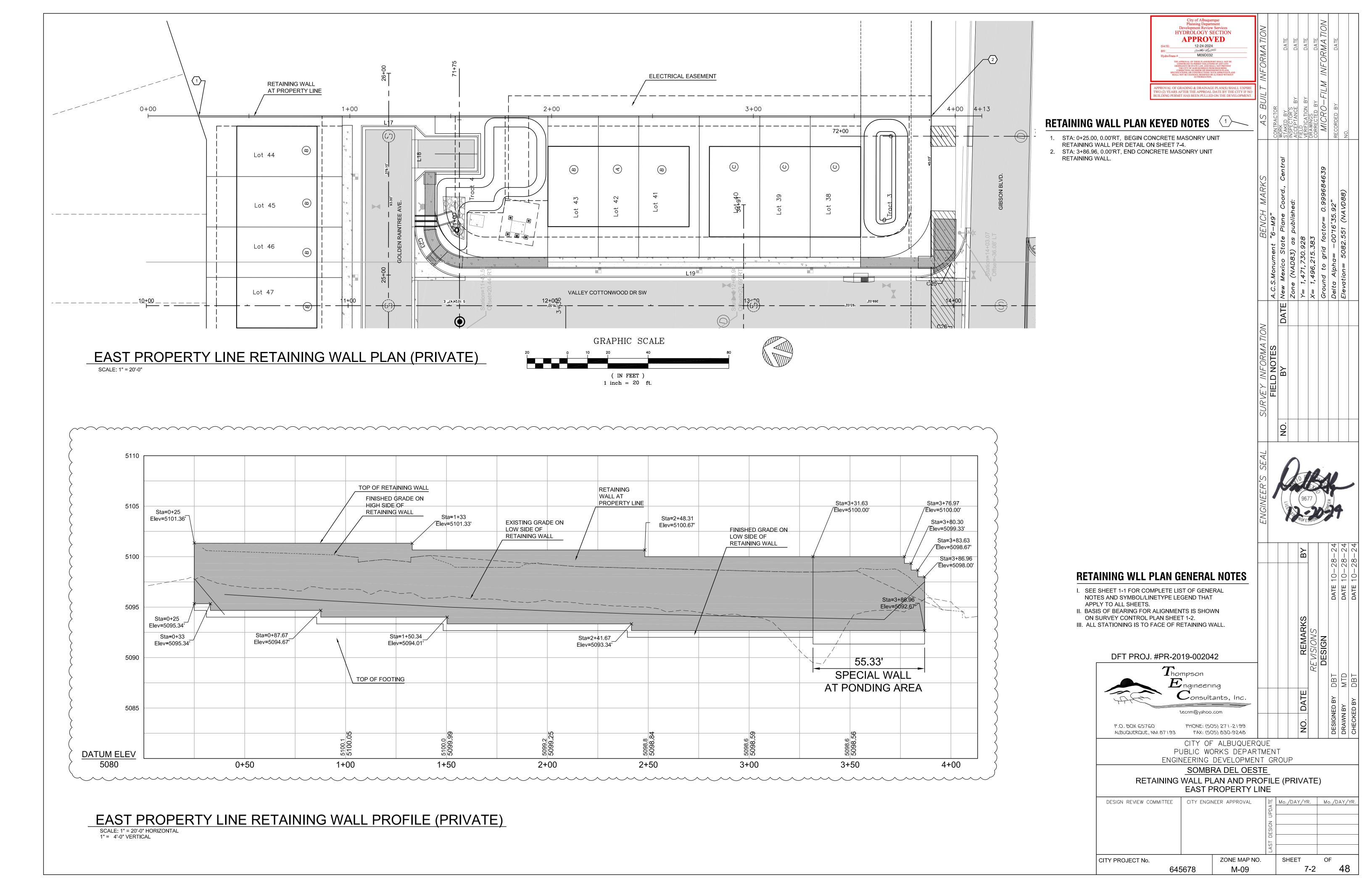
CD1 of 2

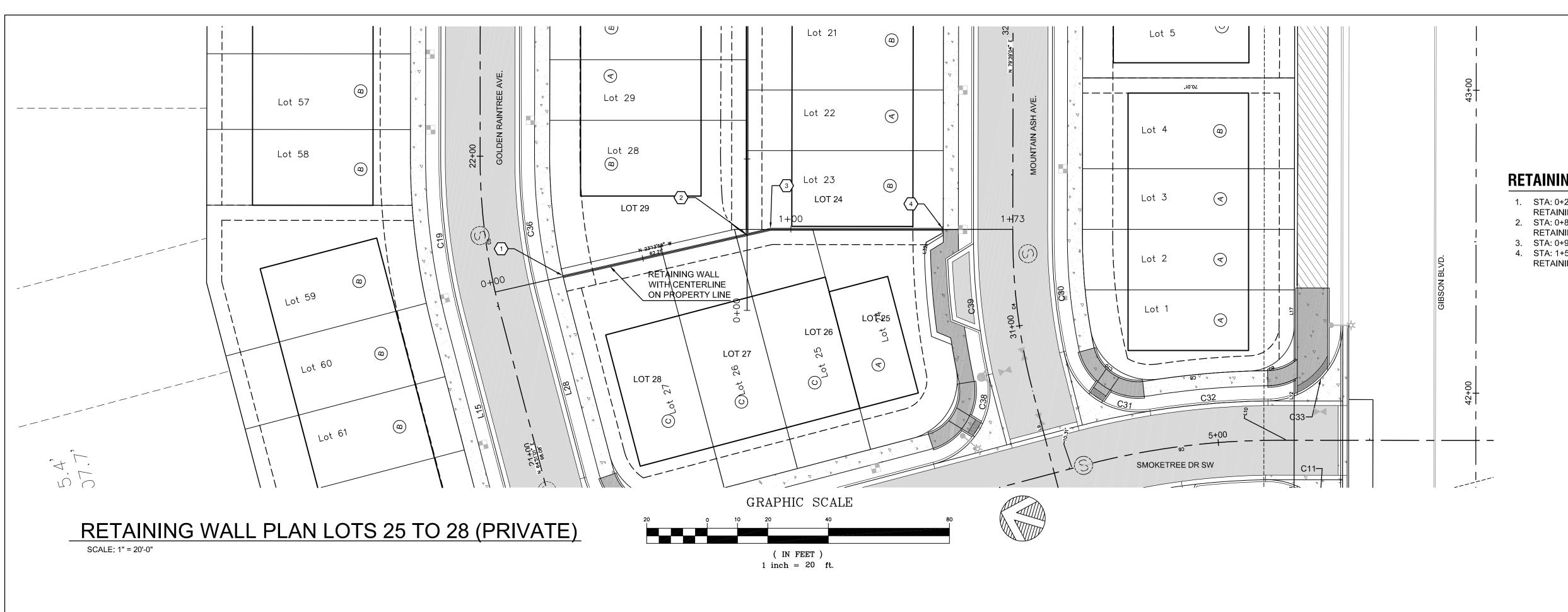
SCALE: 1"=80'

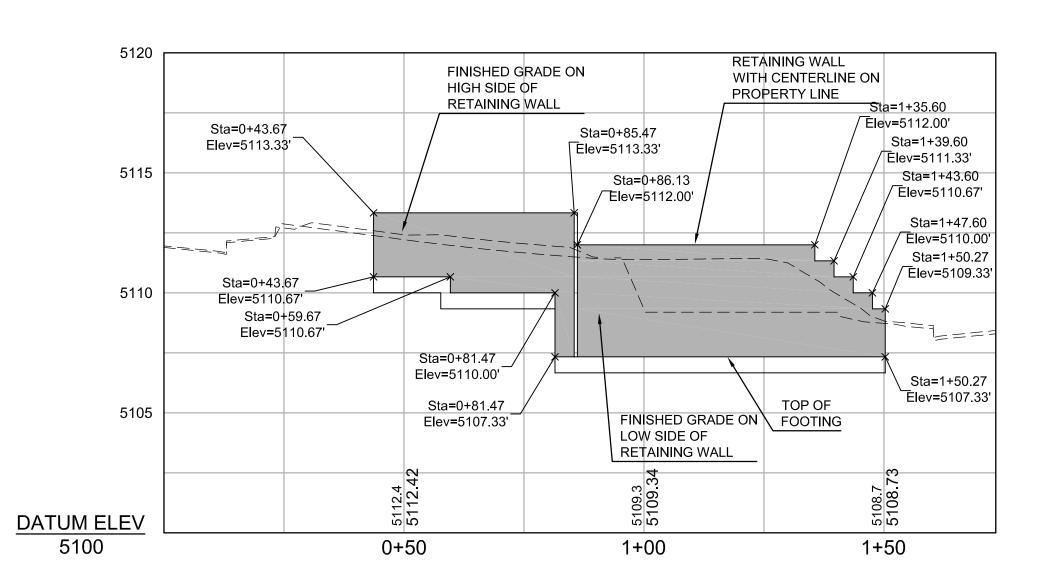






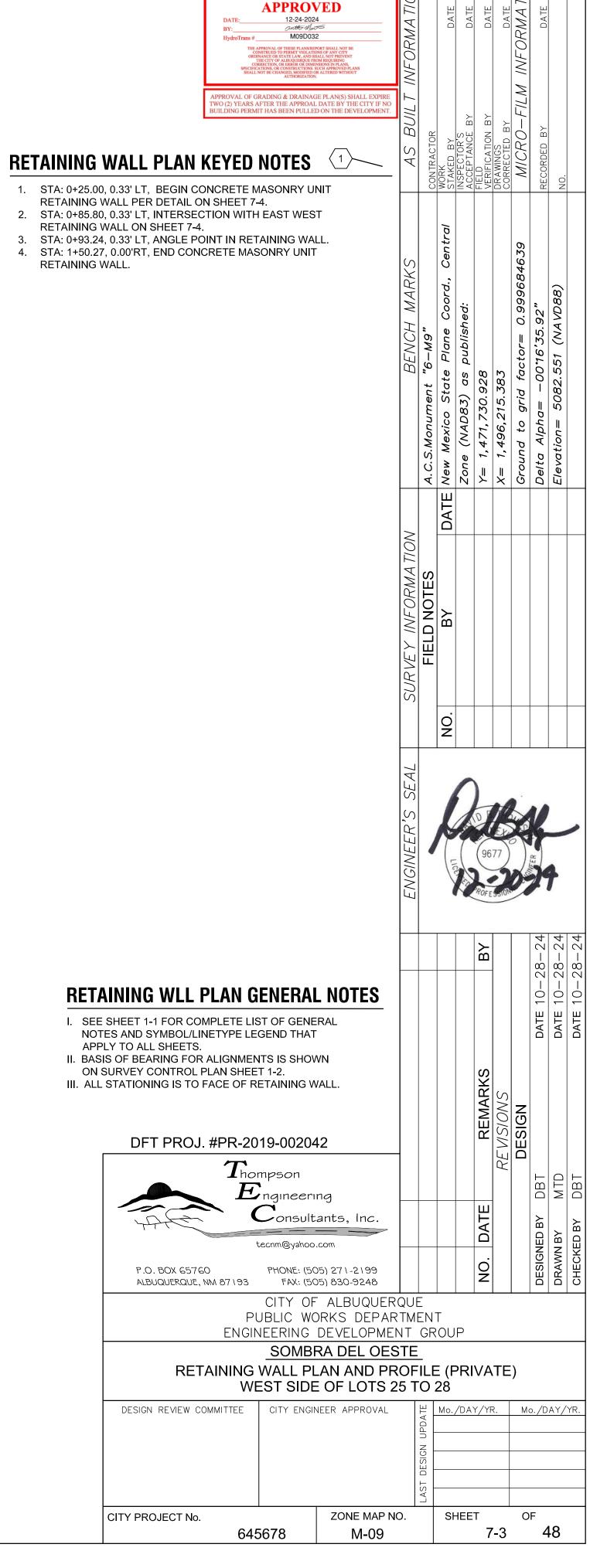




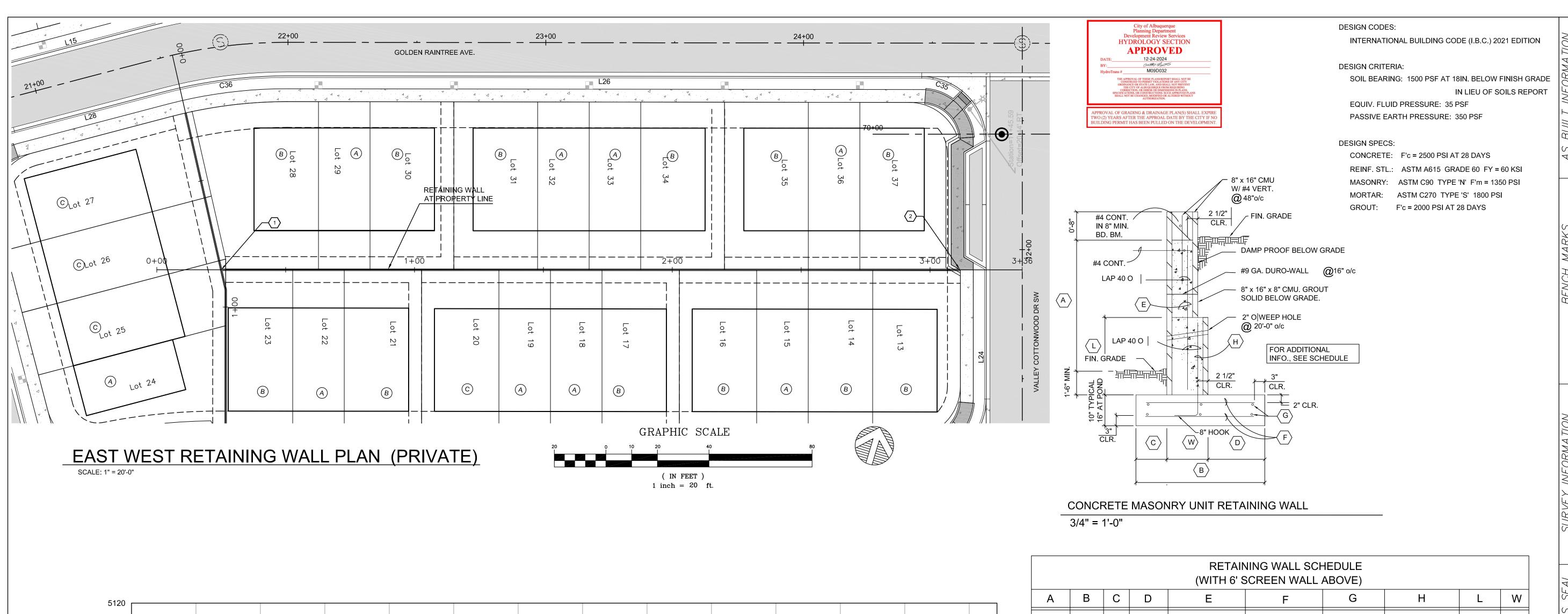


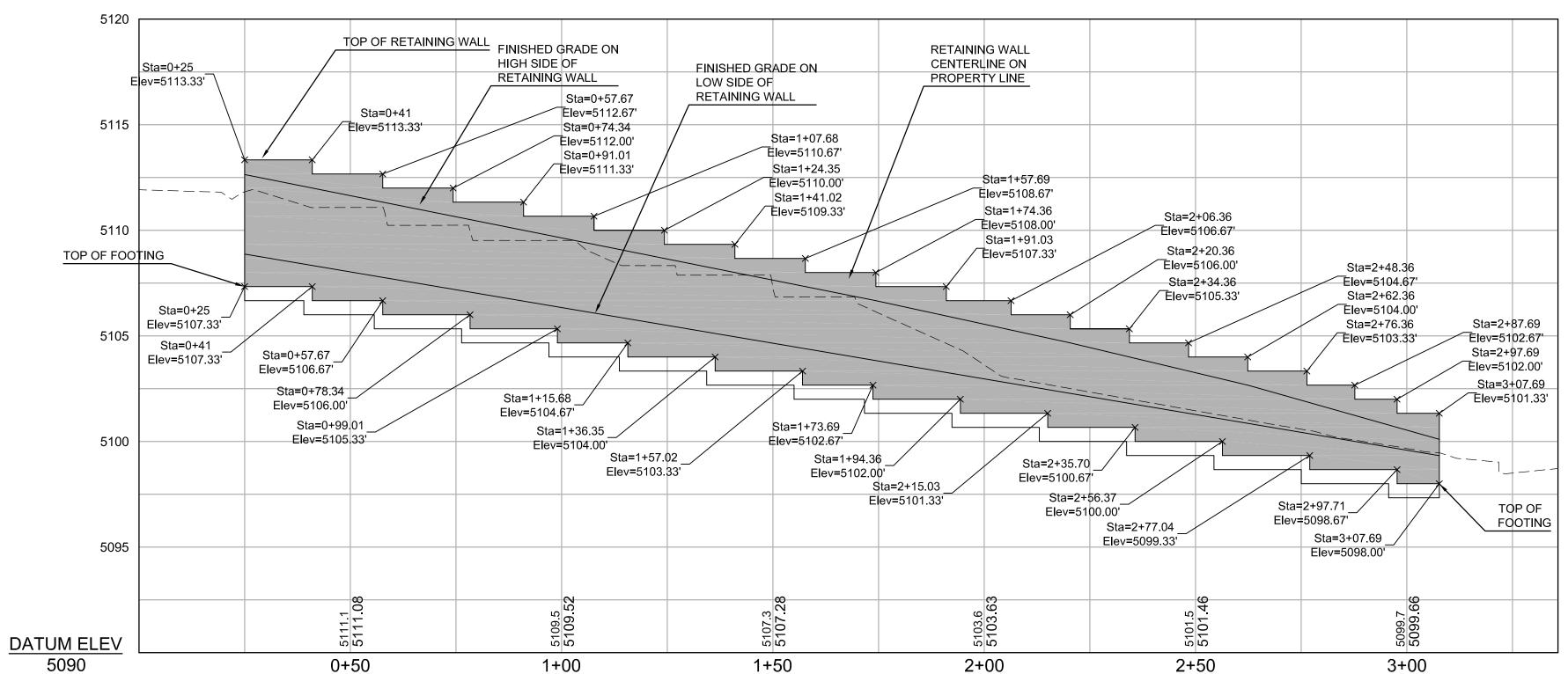
RETAINING WALL PROFILE LOTS 25 TO 28 (PRIVATE)

SCALE: 1" = 20'-0" HORIZONTAL 1" = 4'-0" VERTICAL



APPROVED





EAST WEST RETAINING WALL PROFILE (PRIVATE) SCALE: 1" = 20'-0" HORIZONTAL 1" = 4'-0" VERTICAL

2'-8" #4 @ 24" o/c #4 @ 32" o/c 2 #4 CONT. 2-'0" 3'-0" #4 @ 24" o/c 2 #4 CONT. 3' #4 @ 24" o/c 3'-4" 2'-4" #4 @ 16" o/c #4 @ 24" o/c 2 #4 CONT. ----4'-0" 3 #4 CONT. #5 @ 24" o/c 1'-4" #5 @ 24" o/c #4 @ 16" o/c 3 #4 CONT. #5 @ 16" o/c #5 @ 16" o/c #4 @ 16" o/c 4'-8" 3'-4" 1'-4" #6 @ 8" o/c TOP AND BOTTOM #5 @ 8" o/c 4'-8" 12" 9'-0" 24" 6'-0" #4 @ 12" CONT #6 @ 12" o/c PONDING

RETAINING WALL PLAN KEYED NOTES 1

- 1. STA: 0+25.00, 0.33'RT, BEGIN CONCRETE MASONRY UNIT RETAINING WALL PER DETAIL THIS SHEET

* SPECIAL INSPECTION REQUIRED FOR THIS WALL

2. STA: 3+07.69, 0.33'LT, END CONCRETE MASONRY UNIT **RETAINING WALL**

RETAINING WLL PLAN GENERAL NOTES

- I. SEE SHEET 1-1 FOR COMPLETE LIST OF GENERAL NOTES AND SYMBOL/LINETYPE LEGEND THAT APPLY TO ALL SHEETS.
- II. BASIS OF BEARING FOR ALIGNMENTS IS SHOWN ON SURVEY CONTROL PLAN SHEET 1-2.
- III. ALL STATIONING IS TO FACE OF RETAINING WALL.

REMARKS //S/ONS REVISIONS DESIGN DFT PROJ. #PR-2019-002042 $T_{ m hompson}$ MTD MBT DBT $oldsymbol{E}$ ngineering Consultants, Inc. DATE tecnm@yahoo.com P.O. BOX 65760 PHONE: (505) 271-2199 ALBUQUERQUE, NM 87 193 FAX: (505) 830-9248 CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING DEVELOPMENT GROUP

ORMA J

24 24 24

DATE 10-DATE 10-DATE 10-

SOMBRA DEL OESTE RETAINING WALL PLAN AND PROFILE (PRIVATE) EAST WEST WALL

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	ATE	Mo./DAY/YR.	Mo./DAY/YR.
		UPD/		
		SN C		
		ESIG		
		LAS		
CITY PROJECT No.	ZONE MAP NO.		SHEET	OF
645	5678 M-09		7-4	48