

# CITY OF ALBUQUERQUE

Planning Department  
Alan Varela, Director



Mayor Timothy M. Keller

November 17, 2023

Åsa Nilsson-Weber, P.E.  
Isaacson & Arfman, P.A.  
128 Monroe St. N.E  
Albuquerque, NM 87108

**RE: Spanish Walk Subdivision  
Grading Plans and Drainage Report  
Engineer's Stamp Date: 11/06/23  
Hydrology File: E14D002A**

Dear Ms. Nilsson-Weber:

Based upon the information provided in your submittal received 11/06/2023, the Grading Plans and Drainage Report are approved for Grading Permit and Work Order. Please place this stamp approved Grading Plans in the Work Order set of construction drawings.

As a reminder, if the project total area of disturbance (including the staging area and any work 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 (Doug Hughes, PE, [jhughes@cabq.gov](mailto:jhughes@cabq.gov), 924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 924-3995 or [rbrissette@cabq.gov](mailto:rbrissette@cabq.gov).

Sincerely,

*Renée C. Brissette*

Renée C. Brissette, P.E. CFM  
Senior Engineer, Hydrology  
Planning Department



November 6, 2023

# DRAINAGE REPORT

for

## SPANISH WALK SUBDIVISION

TRACT A-1, SPANISH WALK,

ALBUQUERQUE, NM

BY



City of Albuquerque  
Planning Department  
Development Review Services  
HYDROLOGY SECTION

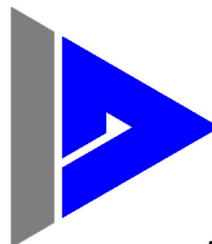
**APPROVED**

DATE: 11/17/23  
BY: *Renée C. Brissette*  
HydroTrans # E14D002A

THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE  
CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY  
ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT  
THE CITY OF ALBUQUERQUE FROM REQUIRING  
CORRECTION, OR ERROR OR DIMENSIONS IN PLANS,  
SPECIFICATIONS, OR CONSTRUCTIONS. SUCH APPROVED PLANS  
SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT  
AUTHORIZATION.

APPROVAL OF GRADING & DRAINAGE PLAN(S) SHALL EXPIRE  
TWO (2) YEARS AFTER THE APPROVAL DATE BY THE CITY IF NO  
BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

**Isaacson & Arfman, Inc.**  
Civil Engineering Consultants



128 Monroe Street NE  
Albuquerque, NM 87108  
505-268-8828 | [www.iacivil.com](http://www.iacivil.com)

I&A Project No. 2539

### VICINITY MAP

### FIRM MAP

EXISTING CONDITIONS	1
FLOODPLAIN	2
PROPOSED CONDITIONS	2-3
SUMMARY	3

### APPENDIX A

#### BASIN EXHIBIT

#### LAND TREATMENT CALCULATIONS

#### 100-YR 6-HR DRAINAGE CALCULATIONS

### APPENDIX B

#### 100-YR 10-DAY VOLUME CALCULATIONS

#### POND CAPACITY CALCULATIONS

#### RUNDOWN CAPACITY CALCULATIONS

### APPENDIX B

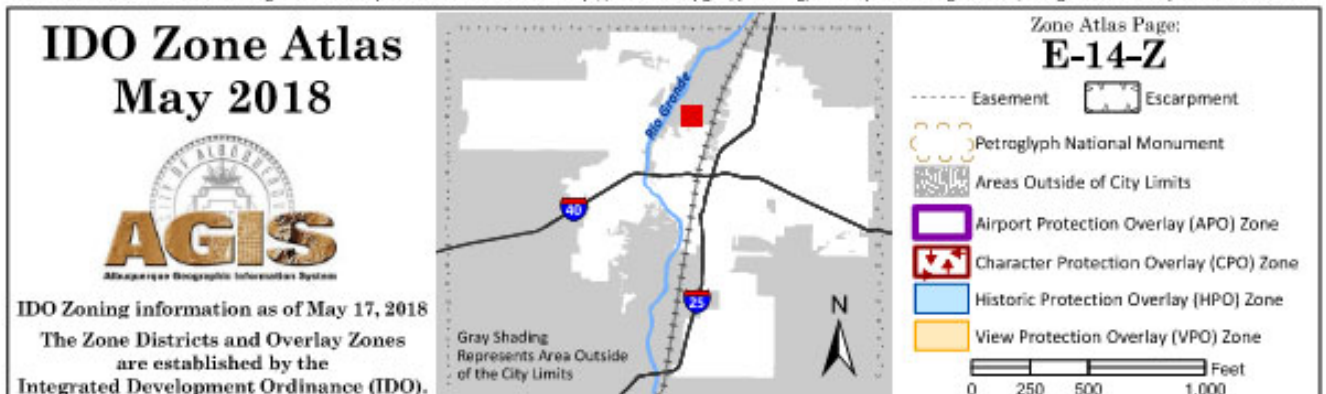
#### GRADING PLANS



## VICINITY MAP



For more details about the Integrated Development Ordinance visit: <http://www.cabq.gov/planning/codes-policies-regulations/integrated-development-ordinance>





# National Flood Hazard Layer FIRMette



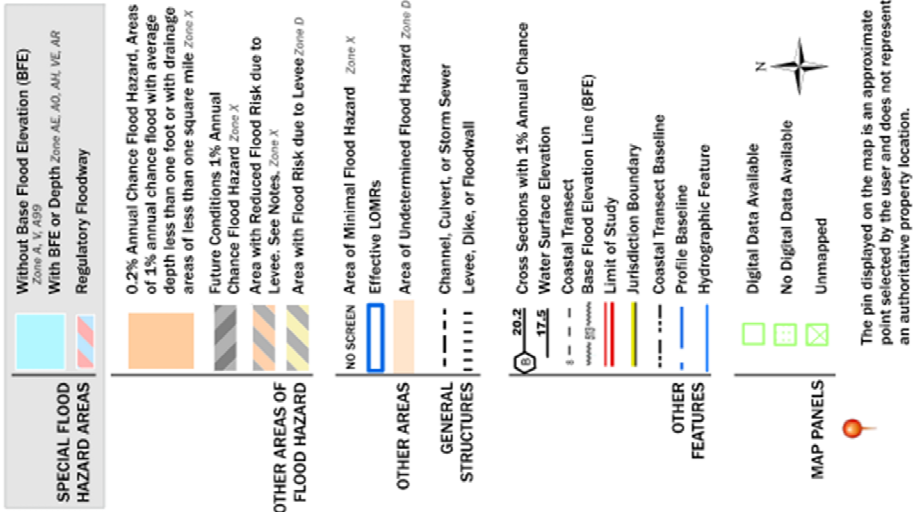
106°38'40"W 35°09'11"N



Feet 0 250 500 1,000 1,500 2,000 1:6,000  
 Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/16/2022 at 5:21 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

## FIRM MAP



## **EXISTING CONDITIONS:**

The site is a 2.44-acre undeveloped property and is bound to the north by Camino Espanol, NW (a private, paved street), to the west and south by residential properties, and to the east by a commercial property. The storm water from this property and half of Camino Espanol ponds onsite. There are existing walls/fences adjacent to the residential properties, and no offsite drainage except from half of Camino Espanol impacts the property.



Existing Conditions Exhibit



## **FLOODPLAIN:**

Per FEMA Flood Hazard Map 35001C0119G, effective date 9/26/2008, the site is located within shaded flood zone 'X' designated as area with reduced flood risk due to levee and within flood zone AH elevation 4981.0. A LOMR-F (Letter of Map Revision Based on Fill) shall be submitted for the lots located within flood zone AH to remove the floodplain.

## **PROPOSED CONDITIONS:**

The proposed improvements include 17 single-family residential lots and an access road. New perimeter retaining walls shall be constructed around the development, including a coyote fence along Camino Espanol. Approximately 9 feet of asphalt paving shall be removed on Camino Espanol and a stabilized crusher fine trail installed.

Storm water from the lots and from half of Camino Espanol fronting the site shall be directed to two retention basins located in Tracts A and B via the onsite street, Via Espanol, which has an inverted crown with an alley gutter. A rundown in a private drainage easement in the backyard of the lots along Camino Espanol shall direct the storm water from half of these lots and half of Camino Espanol to the two retention basins. Lots 4, 13 and 14 shall drain to the ponds in Tracts A & B.

## **Hydrology:**

See Appendix A for a basin exhibit, land treatment calculations and hydrology calculations for the 100-year, 6-hour storm flows.

The onsite land treatments were calculated at 39% Type B, 5% Type C and 56% Type D. Land treatments for half of Camino Espanol were calculated at 18% Type B and 82% Type D.

The 100-year, 6-hour storm flows and 100-year, 10-day volumes were calculated based on the methods outlined in the City of Albuquerque DMP, Article 6-2 Hydrology dated June 26, 2020.

The total developed flow from the site and half of Camino Espanol is 9.3 cfs. Basin 1 will discharge 6.8 cfs to the two retention ponds via the alley gutter in the street (4.65 cfs to each pond). Basins 2 and OFF-1 (Camino Espanol) will discharge 2.5 cfs (1.25 cfs per rundown) to the retention ponds via rundowns located on the lots that front Camino Espanol.

## **Storm Water Quality:**

Since all storm water from the site will be retained, the storm water quality volume is provided in the retention ponds.



### **Retention Ponds and Rundowns:**

See Appendix B for the 100-year, 10-day volumes calculations, pond volume calculations and rundown capacity calculations.

The retention ponds located within Tracts A and B at the west and east edge of the property shall be vertical basins constructed with block retaining walls (design by structural engineer). A view fence with a maintenance access gate shall be installed adjacent to the ponds at both ends of the street. The bottoms of the basins are set at 78.2 and the water surface elevation is at 81.0. The walls shall be waterproofed up to an elevation of 81.0.

The 100-year, 10-day volume required to be ponded is 23,675 cubic feet and the provided volume is 24,436 cubic feet.

The concrete rundowns shall be located in a drainage easement located on the lots adjacent to Camino Espanol.

### **SUMMARY:**

The following drainage-related improvements shall be constructed:

- Paved street with inverted crown and alley gutter;
- Two retention ponds with vertical walls;
- View fence with access gate adjacent to the ponds at the ends of the street;
- Concrete rundowns on lots adjacent to Camino Espanol;
- Wall openings for lots 4, 13 and 14 in the side yards adjacent to the retention ponds.



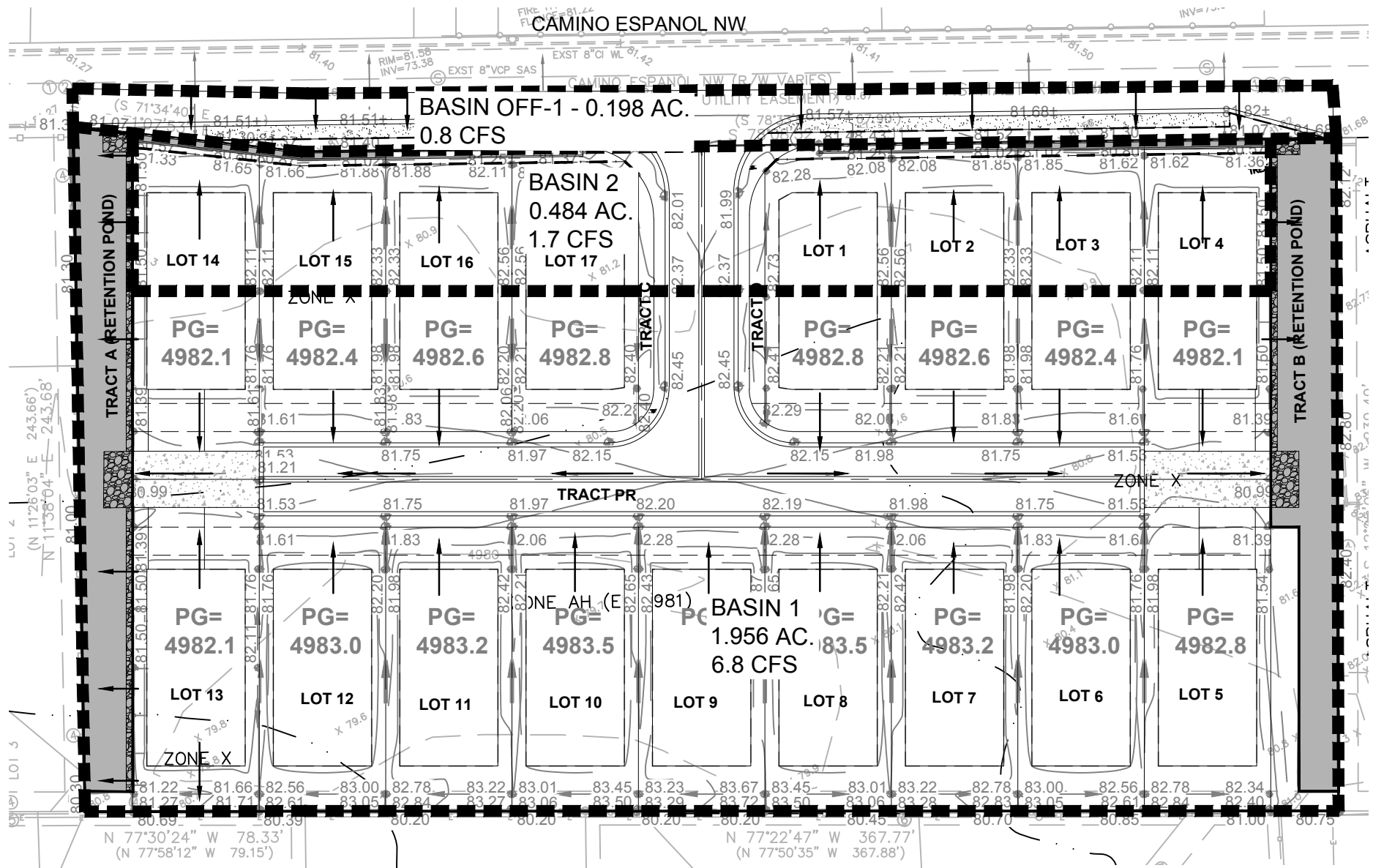
# **APPENDIX A**

## **BASIN EXHIBIT**

### **LAND TREATMENT CALCULATIONS**

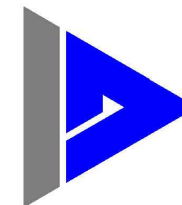
### **100-YR 6-HR DRAINAGE CALCULATIONS**





1"=50'

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# LAND TREATMENT CALCULATIONS

**PROJECT NAME: SPANISH WALK SUBDIVISION**

**JOB NUMBER: 2539**

Onsite Total Area 2.4401 ac.

	Area (sf)	
Road	13084	
Pads	41650	70x35
Driveways	5100	15x20 (5' of driveway included in pad)
	<u>59834</u>	

Onsite D area 1.3736 ac.  
%D 56%

ONSITE LAND TREATMENTS	
Type A=	0 %
Type B=	39 %
Type C=	5 %
Type D=	56 %
Σ=	100 %

## Camino Espanol Half Street

Offsite Road 8490 sf  
Pervious 1530 SF

Offsite area 0.1949 ac.  
Use B 18 %  
Use D 82 %

OFFSITE LAND TREATMENTS	
Type A=	0 %
Type B=	18 %
Type C=	0 %
Type D=	82 %
Σ=	100 %



BASIN NO.	1	DESCRIPTION	ONSITE TO RUNDOWN/PONDS
Area of basin flows =	85255	SF	= 1.96 Ac.
The following calculations are based on Treatment %'s as shown in table to the right			
Sub-basin Weighted Excess Precipitation:		LAND TREATMENT	
Weighted E =		A = 0%	
		B = 39%	
Sub-basin Volume of Runoff:		C = 5%	
V <sub>360</sub> =		D = 56%	
		Stormwater Quality Volume	
Sub-basin Peak Discharge Rate:		1666 CF	
Q <sub>P</sub> =			
BASIN NO.	2	DESCRIPTION	ONSITE TO PONDS
Area of basin flows =	21067	SF	= 0.48 Ac.
The following calculations are based on Treatment %'s as shown in table to the right			
Sub-basin Weighted Excess Precipitation:		LAND TREATMENT	
Weighted E =		A = 0%	
		B = 39%	
Sub-basin Volume of Runoff:		C = 5%	
V <sub>360</sub> =		D = 56%	
		Stormwater Quality Volume	
Sub-basin Peak Discharge Rate:		416 CF	
Q <sub>P</sub> =			
BASIN NO.	OFF-1	DESCRIPTION	OFFSITE CAMINO ESPANOL TO RUNDOWN/PONDS
Area of basin flows =	8646	SF	= 0.20 Ac.
The following calculations are based on Treatment %'s as shown in table to the right			
Sub-basin Weighted Excess Precipitation:		LAND TREATMENT	
Weighted E =		A = 0%	
		B = 18%	
Sub-basin Volume of Runoff:		C = 0%	
V <sub>360</sub> =		D = 82%	
		Stormwater Quality Volume	
Sub-basin Peak Discharge Rate:		248 CF	
Q <sub>P</sub> =			

Job Name:

**SPANISH WALK SUBDIVISION**

Client:

**Las Ventanas NM**

Date Prepared:

**3/2/2023**

Date Modified:

Precipitation Zone:

**2****CALCULATIONS: SPANISH WALK SUBDIVISION :**

Based on City of Albuquerque DMP, Article 6-2 Hydrology dated June 26, 2020

**100-YEAR, 6-HOUR CALCULATIONS**

AREA OF SITE: 106291 SF = 2.4401 ACRE

100-year, 6-hour

**HISTORIC FLOWS:****DEVELOPED FLOWS:****EXCESS PRECIP:**

	Treatment SF	%		Treatment SF	%	Precip. Zone	2
Area A =	0	0%	Area A =	0	0%	$E_A = 0.62$	
Area B =	100976	95%	Area B =	41453	39%	$E_B = 0.80$	
Area C =	5315	5%	Area C =	5315	5%	$E_C = 1.03$	
Area D =	0	0%	Area D =	59834	56%	$E_D = 2.33$	
Total Area =	106291	100%	Total Area =	106291	100%		

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$$

Historic E = 0.81 in.	Developed E = 1.67 in.
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On-Site Volume of Runoff:  $V_{360} = E * A / 12$ 

Historic $V_{360} = 7188$ CF	Developed $V_{360} = 14777$ CF
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On-Site Peak Discharge Rate:  $Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D / 43,560$ 

For Precipitation Zone 2

$Q_{pA} = 1.71$	$Q_{pC} = 3.05$
$Q_{pB} = 2.36$	$Q_{pD} = 4.34$

Historic $Q_p = 5.8$ CFS	Developed $Q_p = 8.5$ CFS
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# **APPENDIX B**

## **100-YR 10-DAY VOLUME CALCULATIONS & POND CAPACITY CALCULATIONS RUNDOWN CAPACITY CALCULATIONS**



**SPANISH WALK SUBDIVISION 2539**  
**REQUIRED 100-YR 10-DAY STORM VOLUME**
**Onsite 100-year 10-day Storm Volume (cf)**

V <sub>360</sub> (from previous calculation)	14,777
Area Treatment D (SF)	59,834
Zone	2

For 100-year 10 Day Storms:

$$V_{10\text{day}} = V_{360} + (A_D * (P_{10\text{day}} - P_{360})/12" \text{ per foot})$$

V <sub>360</sub>	=	14,777
A <sub>D</sub> (SF)	=	59,834
Zone	=	2
P <sub>10day</sub>	=	3.62
P <sub>360</sub>	=	2.29

V <sub>360</sub>	=	14,777
+ imp. area	=	6,632

<b>Total Onsite Volume (V<sub>10 day</sub>)</b>	=	<b>21,409</b>
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**Offsite (Camino Espanol) 100-year 10-day Storm Volume (cf)**

V <sub>360</sub> (from previous calculation)	1,480
Area Treatment D (SF)	7,090
Zone	2

For 100-year 10 Day Storms:

$$V_{10\text{day}} = V_{360} + (A_D * (P_{10\text{day}} - P_{360})/12" \text{ per foot})$$

V <sub>360</sub>	=	1,480
A <sub>D</sub> (SF)	=	7,090
Zone	=	2
P <sub>10day</sub>	=	3.62
P <sub>360</sub>	=	2.29

V <sub>360</sub>	=	1,480
+ imp. area	=	786

<b>Total Offsite Volume (V<sub>10 day</sub>)</b>	=	<b>2,266</b>
--	---	--------------

<b>Total Onsite &amp; Offsite V<sub>10-day</sub></b>	=	<b>23,675 cf</b>
--	---	------------------

**SPANISH WALK SUBDIVISION**  
**PROVIDED 100-YR 10-DAY STORM VOLUME**

TRACT A WEST POND		
Contour	Area	Volume
78.2	4338	
81.0	4338	12,146 CF
POND VOLUME =		<b>12,146 CF</b>

TRACT B EAST POND		
Contour	Area	Volume
78.2	4389	
81.0	4389	12,289 CF
POND VOLUME =		<b>12,289 CF</b>

<b>Total Provided V<sub>10-day</sub></b>	=	<b>24,436 cf</b>
--	---	------------------

P <sub>360</sub>	
Zone	D
1	2.17
2	2.29
3	2.43
4	2.64

P <sub>10day</sub>	
Zone	D
1	3.90
2	3.62
3	4.10
4	6.27

from Table 6.2.8 (updated June 26 2020)  
 Depth (inches) at 100-yr Storm

# Channel Report

## RUNDOWN

### Rectangular

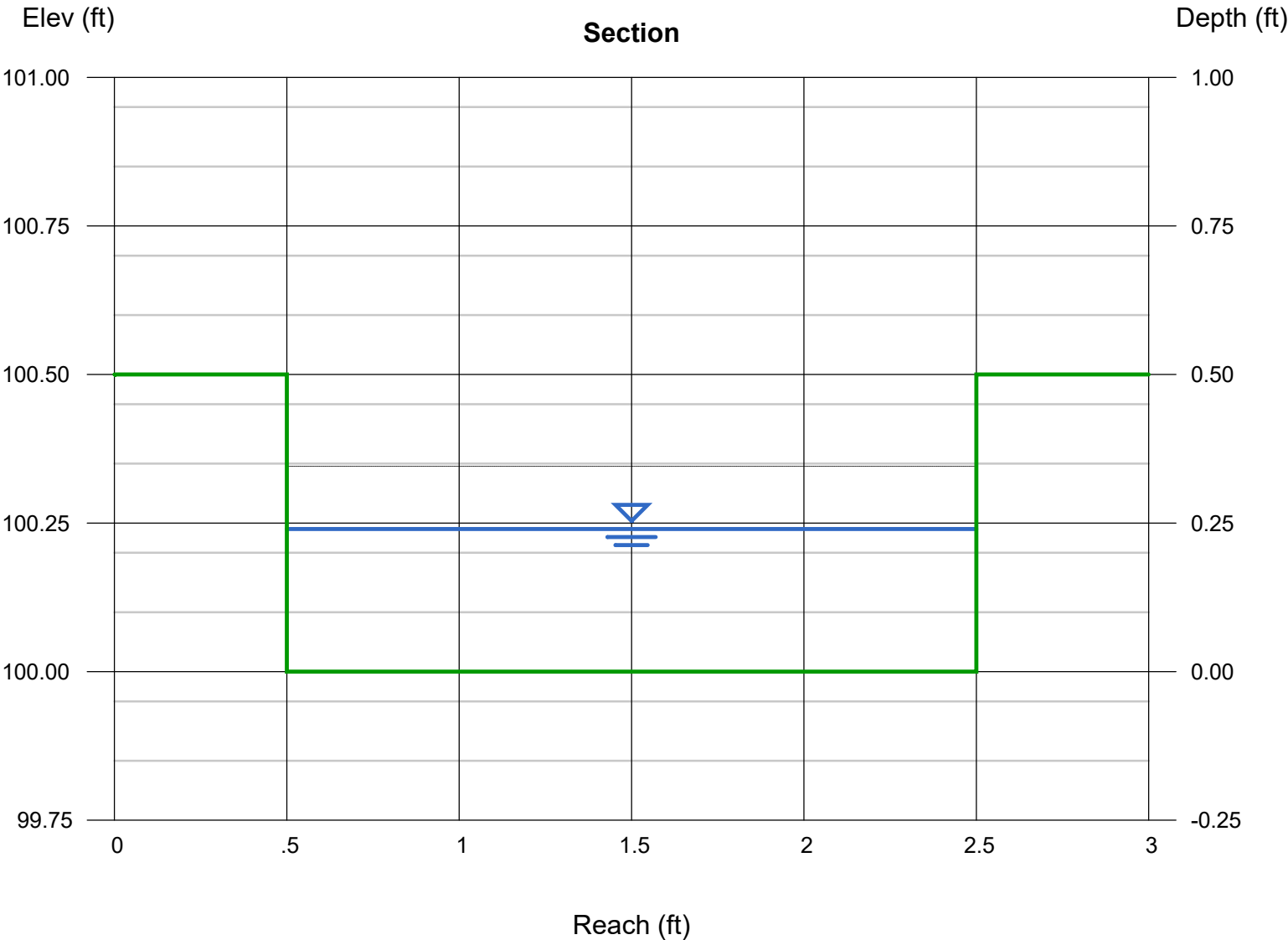
Bottom Width (ft) = 2.00  
Total Depth (ft) = 0.50  
  
Invert Elev (ft) = 100.00  
Slope (%) = 0.50  
N-Value = 0.013

### Calculations

Compute by: Known Q  
Known Q (cfs) = 1.25

### Highlighted

Depth (ft) = 0.24  
Q (cfs) = 1.250  
Area (sqft) = 0.48  
Velocity (ft/s) = 2.60  
Wetted Perim (ft) = 2.48  
Crit Depth, Yc (ft) = 0.23  
Top Width (ft) = 2.00  
EGL (ft) = 0.35



# **APPENDIX C**

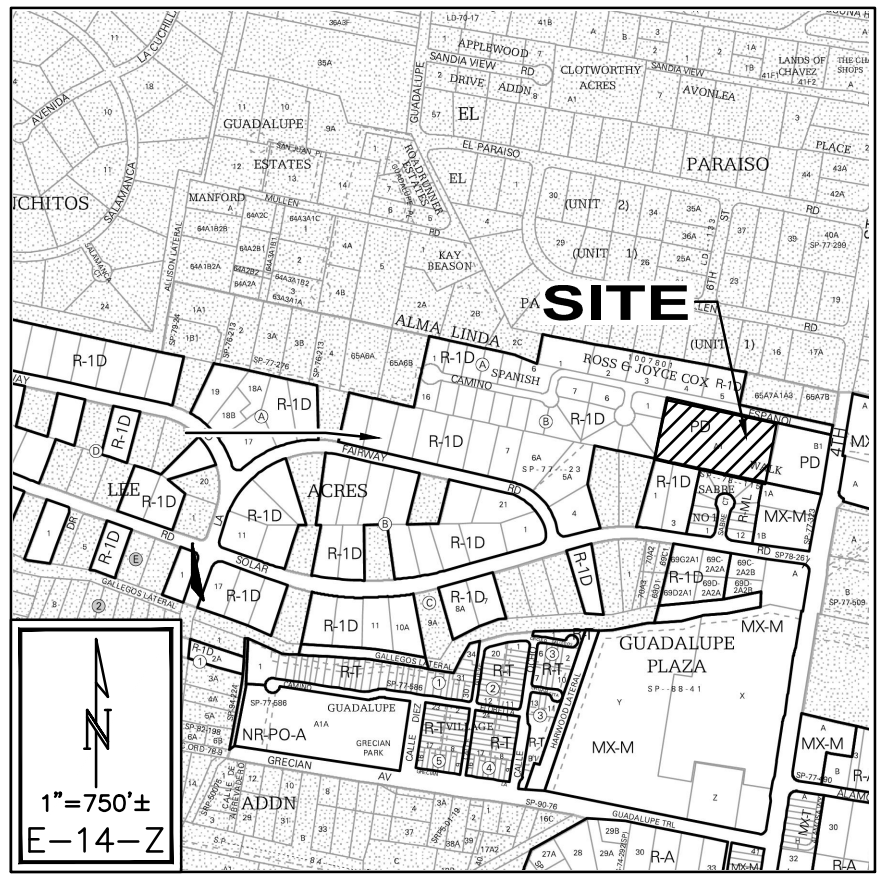
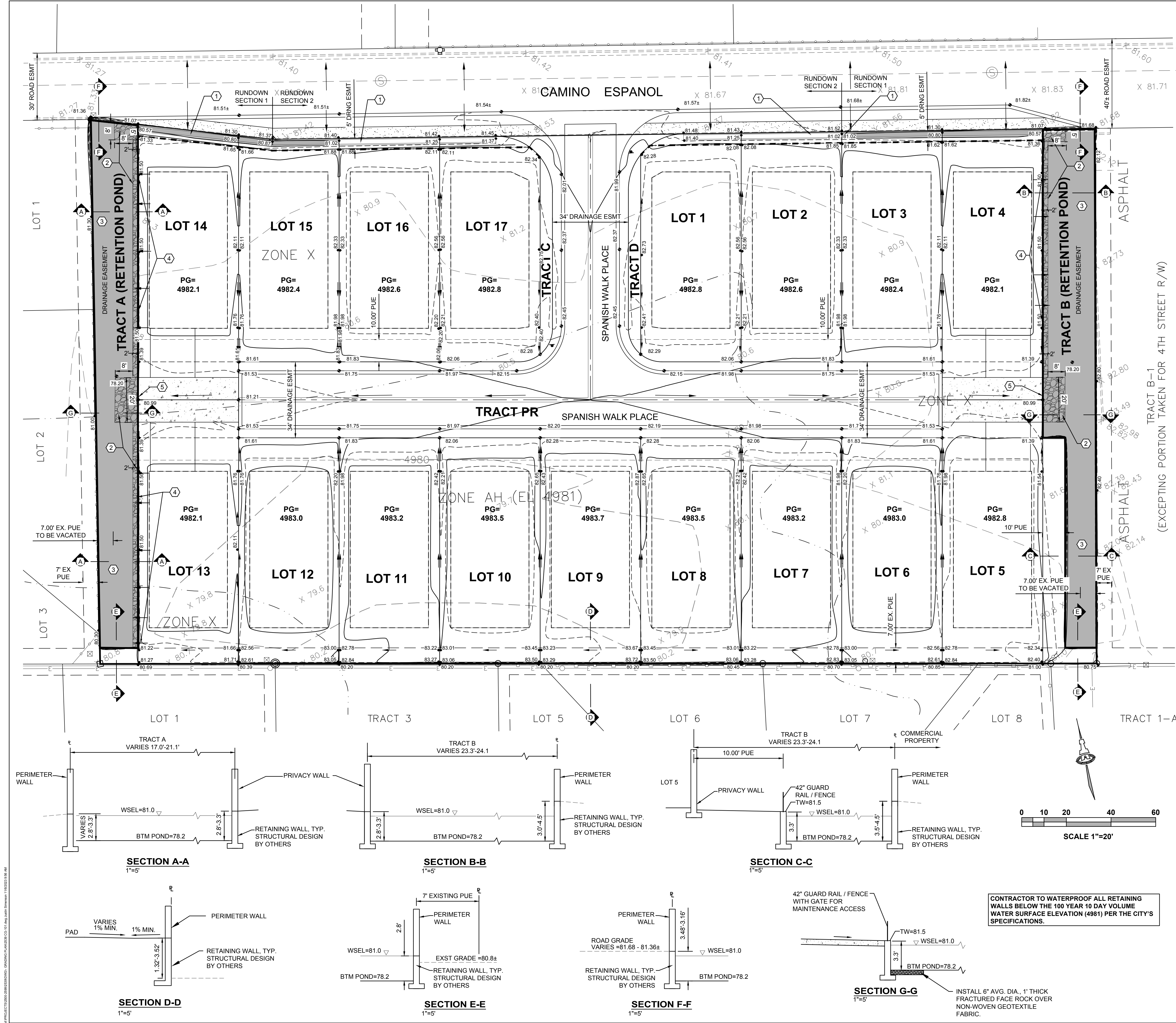
## **GRADING PLANS:**

**CG-101 GRADING PLAN**

**CG-501 GRADING DETAILS**







## PROJECT INFORMATION

**PROPERTY:** THE SITE IS A 2.44 ACRE VACANT PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP K-10. THE SITE IS BOUND TO THE EAST BY A COMMERCIAL PROPERTY, TO THE NORTH BY CAMINO ESPANOL, TO THE WEST BY DEVELOPED RESIDENTIAL PROPERTIES AND TO THE SOUTH BY DEVELOPED RESIDENTIAL PROPERTIES AND UNDEVELOPED PROPERTIES. THIS PROPERTY AND THE SURROUNDING PROPERTIES ARE FLAT AND CONTAIN STORM DRAINAGE.

**PROPOSED IMPROVEMENTS:** THE PROPOSED IMPROVEMENTS INCLUDE 17 DETACHED RESIDENTIAL LOTS, A PRIVATE ROADWAY AND TWO RETENTION PONDING AREAS.

**LEGAL:** TRACT A-1, SPANISH WALK, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO.

**BENCHMARK:** VERTICAL DATUM IS BASED UPON AGRS ALUMINUM CAP STAMPED "12-E14 1985", ELEVATION = 4978.632 FEET (NAVD 1988).

**OFF-SITE FLOW:** OFF-SITE FLOW FROM HALF OF CAMINO ESPANOL ENTERS THE PROPERTY. THERE ARE NO OFF-SITE FLOWS FROM THE ADJACENT PROPERTIES TO THE WEST, EAST OR SOUTH THAT ENTER THE PROPERTY.

**FLOOD HAZARD:** PER BERNALILLO COUNTY FIRM MAP 35001C0119G, EFFECTIVE SEPTEMBER 26, 2008, THE SITE IS LOCATED WITHIN ZONE 'AH' (ELEVATION 4981) AND ZONE X (AREAS PROTECTED BY LEVEES). A LOMR-F SHALL BE SUBMITTED TO REMOVE THE FLOODPLAIN ON THE LOTS.

**DRAINAGE PLAN CONCEPT:** THE SITE WILL BE DEVELOPED TO POND THE 100-YEAR, 10-DAY STORM IN TWO RETENTION PONDS LOCATED ALONG THE WEST AND EAST PROPERTY LINE. THE OFFSITE FLOW FROM CAMINO ESPANOL ALONG WITH FLOWS FROM HALF OF THE LOTS WILL DRAIN TO THE PONDS VIA BACKYARD RUNDOWNS LOCATED ON THE LOTS ADJACENT TO THE STREET. THE REMAINING ONSITE BASIN WILL DRAIN TOWARD THE PRIVATE STREET THAT HAS AN INVERTED CROWN WITH AN ALLEY GUTTER IN THE CENTER. LAND TREATMENT PERCENTAGES WERE CALCULATED AT 39% 'B', 5% 'C' AND 56% 'D'; THE OFFSITE HALF-STREET WAS CALCULATED AT 18% 'B' AND 82% 'D'.

IN THE FULLY DEVELOPED CONDITION, THE PROPERTY AND THE OFF-SITE HALF-STREET WILL DISCHARGE 9.3 CFS TO THE PONDS. THE REQUIRED 100-YEAR, 10-DAY VOLUME TO BE STORED IN THE RETENTION PONDS IS 23,675 CF; THE PROVIDED VOLUME IN THE TWO PONDS IS 24,436 CF.

THE PONDS SHALL BE CONSTRUCTED AS VERTICAL DETENTION BASINS WITH A BOTTOM ELEV= 4978.2; WSEL=4981.0. THE DEVELOPER SHALL OBTAIN APPROVAL FROM EFFECTED ADJACENT PROPERTY OWNERS STATING THAT IT IS ACCEPTABLE TO CONSTRUCT SHARED PERIMETER WALLS ON THE PROPERTY LINES.

## STORMWATER QUALITY

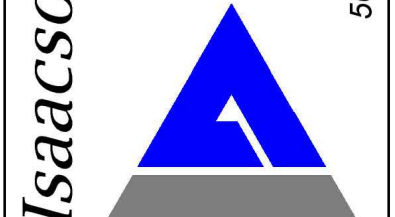
BECAUSE THE 100-YR, 10-DAY STORM IS PONDED ON THE PROPERTY, THE STORM WATER QUALITY VOLUME IS PROVIDED IN THE PONDS.

## KEYED NOTES

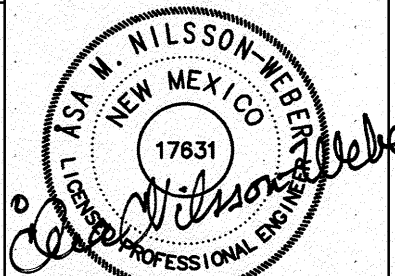
- BY PUBLIC WORK ORDER: RUNDOWN PER DETAIL ON SHEET CG-501.
- BY PUBLIC WORK ORDER: INSTALL 6" AVG. DIA., 1' THICK FRACTURED FACE ROCK OVER NON-WOVEN GEOTEXTILE FABRIC.
- BY PUBLIC WORK ORDER: RETENTION BASINS PER SECTIONS THIS SHEET. RETAINING WALLS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER. WALLS SHALL BE WATER PROOFED TO ELEVATION 81.5.
- TURN EVERY OTHER BLOCK IN SIDEYARD WALL TO PROVIDE DRAINAGE OPENINGS.
- GATE FOR MAINTENANCE ACCESS.

## LEGEND

- 80 PROPOSED 1.0' CONTOUR
- 81.5 PROPOSED 0.5' CONTOUR
- 82.56 PROPOSED SPOT ELEVATION
- PG= 4982.2 SURFACE FLOW DIRECTION
- PAD ELEVATION



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11/06/23  
Engineer

## SPANISH WALK SUBDIVISION 410 CAMINO ESPANOL

ISSUE: CONCEPTUAL	PROJECT NUMBER: IA 2539
FILE:	JTS/ANW
DRAWN BY:	ANW
CHECKED BY:	ANW
DATE:	12-12-2022

SHEET TITLE

## GRADING & DRAINAGE PLAN

SHEET NUMBER

CG-101



GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

B. ALL SITE PREPARATION, GRADING OPERATIONS, FOUNDATION CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER. ALL OTHER WORK SHALL, UNLESS OTHERWISE NOTED IN THE PLANS, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CURRENT EDITION.

C. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.

D. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

E. THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NPDES PERMIT FOR PROJECTS WHERE CONSTRUCTION ACTIVITIES MEET THE EPA THRESHOLD. (SWPPP, NPDES PERMIT BY OTHERS.) CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE WHO WILL PREPARE SWPPP AND INSPECT REQUIRED ELEMENTS.

F. ALL NEW PAVEMENT SURFACES SHALL BE CONSTRUCTED WITH POSITIVE SLOPE AWAY FROM BUILDINGS AND POSITIVE SLOPE TOWARD EXISTING AND/OR PROPOSED DRAINAGE PATHS. PAVING AND ROADWAY GRADES SHALL BE  $\pm 0.1'$  FROM PLAN ELEVATIONS.

G. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.

H. PAD ELEVATIONS SHALL BE WITHIN 0.1'±.

I. POND DESIGN PARAMETERS AND STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN (TOP OF POND, BOTTOM OF POND, SIZE OF ORIFICE, AREA OF POND, ETC.) TO BE STRICTLY ADHERED TO FOR CERTIFICATION PURPOSES. SEE DETAIL SHEET FOR ADDITIONAL INFORMATION.

J. POST-CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.

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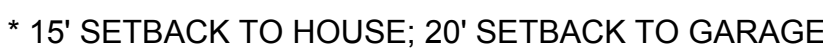
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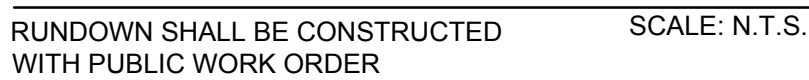
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N. SITE CONSTRUCTION LAYOUT / STAKING SHALL BE COORDINATED WITH THE OWNER.



**TYPICAL LOT DETAIL**

LOTS 5-13 NTS



**SPANISH WALK SUBDIVISION**  
**410 CAMINO ESPANOL**

ISSUE: CONCEPTUAL
PROJECT NUMBER: 1A 2539
FILE: -
DRAWN BY: JTS/ANW
CHECKED BY: ANW
DATE: 12-12-2022

[illegible]

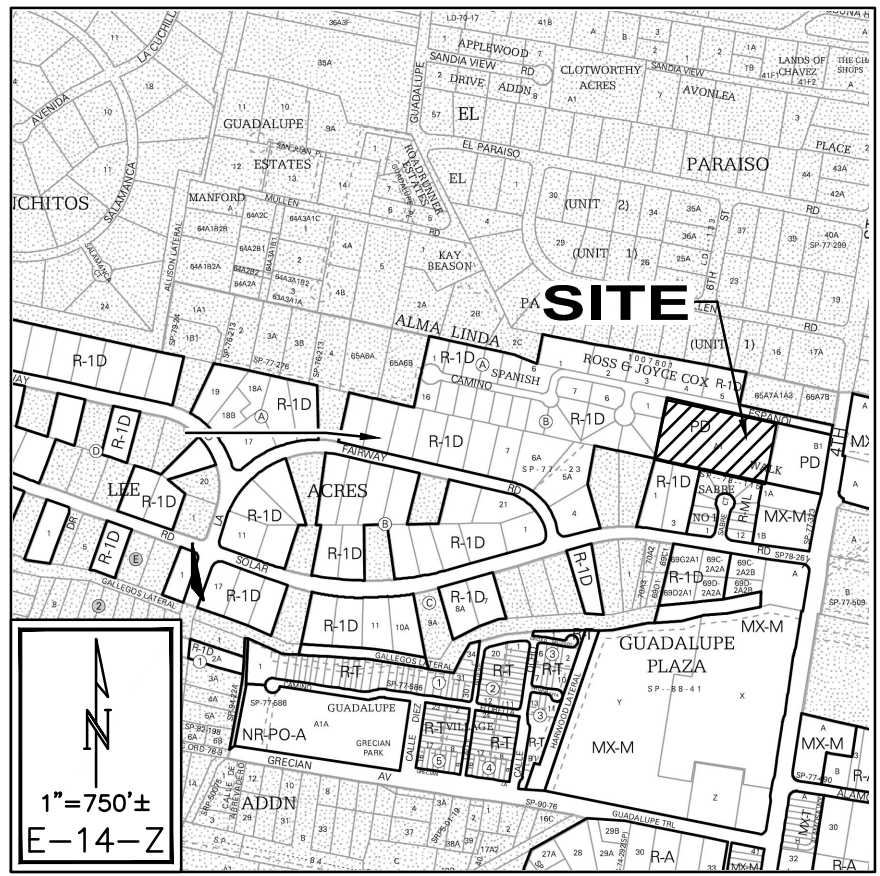
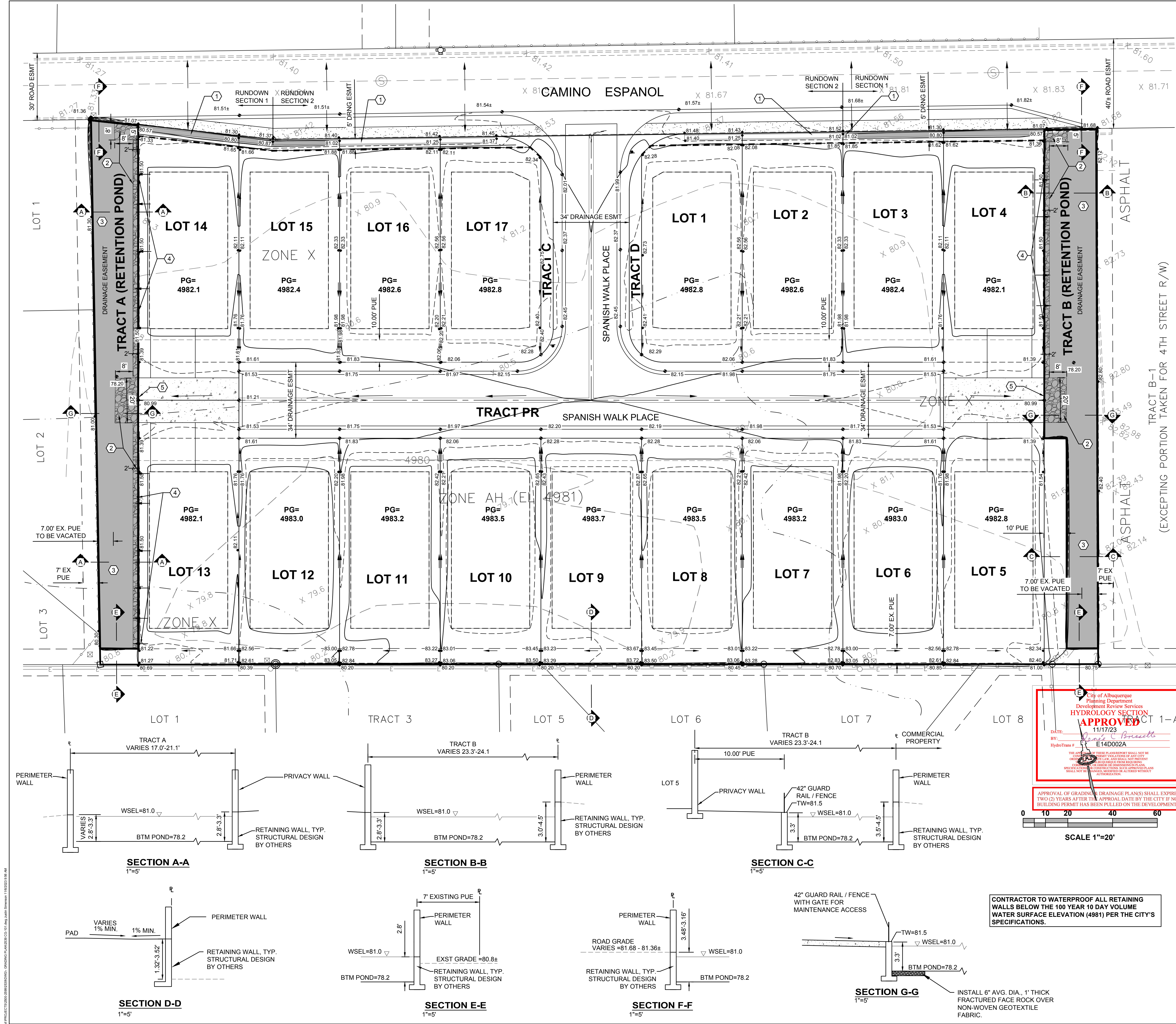
SHEET TITLE

## GRADING DETAILS

SHEET NUMBER

CG-501





## PROJECT INFORMATION

**PROPERTY:** THE SITE IS A 2.44 ACRE VACANT PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP K-10. THE SITE IS BOUND TO THE EAST BY A COMMERCIAL PROPERTY, TO THE NORTH BY CAMINO ESPANOL, TO THE WEST BY DEVELOPED RESIDENTIAL PROPERTIES AND TO THE SOUTH BY DEVELOPED RESIDENTIAL PROPERTIES AND UNDEVELOPED PROPERTIES. THIS PROPERTY AND THE SURROUNDING PROPERTIES ARE FLAT AND CONTAIN STORM DRAINAGE.

**PROPOSED IMPROVEMENTS:** THE PROPOSED IMPROVEMENTS INCLUDE 17 DETACHED RESIDENTIAL LOTS, A PRIVATE ROADWAY AND TWO RETENTION PONDING AREAS.

**LEGAL:** TRACT A-1, SPANISH WALK, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO.

**BENCHMARK:** VERTICAL DATUM IS BASED UPON AGRS ALUMINUM CAP STAMPED "12-E14 1985", ELEVATION = 4978.632 FEET (NAVD 1988).

**OFF-SITE FLOW:** OFF-SITE FLOW FROM HALF OF CAMINO ESPANOL ENTERS THE PROPERTY. THERE ARE NO OFF-SITE FLOWS FROM THE ADJACENT PROPERTIES TO THE WEST, EAST OR SOUTH THAT ENTER THE PROPERTY.

**FLOOD HAZARD:** PER BERNALILLO COUNTY FIRM MAP 35001C0119G, EFFECTIVE SEPTEMBER 26, 2008, THE SITE IS LOCATED WITHIN ZONE 'AH' (ELEVATION 4981) AND ZONE X (AREAS PROTECTED BY LEVEES). A LOMR-F SHALL BE SUBMITTED TO REMOVE THE FLOODPLAIN ON THE LOTS.

**DRAINAGE PLAN CONCEPT:** THE SITE WILL BE DEVELOPED TO POND THE 100-YEAR, 10-DAY STORM IN TWO RETENTION PONDS LOCATED ALONG THE WEST AND EAST PROPERTY LINE. THE OFFSITE FLOW FROM CAMINO ESPANOL ALONG WITH FLOWS FROM HALF OF THE LOTS WILL DRAIN TO THE PONDS VIA BACKYARD RUNDOWNS LOCATED ON THE LOTS ADJACENT TO THE STREET. THE REMAINING ONSITE BASIN WILL DRAIN TOWARD THE PRIVATE STREET THAT HAS AN INVERTED CROWN WITH AN ALLEY GUTTER IN THE CENTER. LAND TREATMENT PERCENTAGES WERE CALCULATED AT 39% 'B', 5% 'C' AND 56% 'D'; THE OFFSITE HALF-STREET WAS CALCULATED AT 18% 'B' AND 82% 'D'.

IN THE FULLY DEVELOPED CONDITION, THE PROPERTY AND THE OFF-SITE HALF-STREET WILL DISCHARGE 9.3 CFS TO THE PONDS. THE REQUIRED 100-YEAR, 10-DAY VOLUME TO BE STORED IN THE RETENTION PONDS IS 23,675 CF; THE PROVIDED VOLUME IN THE TWO PONDS IS 24,436 CF.

THE PONDS SHALL BE CONSTRUCTED AS VERTICAL DETENTION BASINS WITH A BOTTOM ELEV= 4981.0. THE DEVELOPER SHALL OBTAIN APPROVAL FROM EFFECTED ADJACENT PROPERTY OWNERS STATING THAT IT IS ACCEPTABLE TO CONSTRUCT SHARED PERIMETER WALLS ON THE PROPERTY LINES.

## STORMWATER QUALITY

BECAUSE THE 100-YR, 10-DAY STORM IS PONDED ON THE PROPERTY, THE STORM WATER QUALITY VOLUME IS PROVIDED IN THE PONDS.

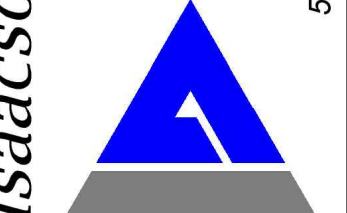
## KEYED NOTES

- BY PUBLIC WORK ORDER: RUNDOWN PER DETAIL ON SHEET CG-501.
- BY PUBLIC WORK ORDER: INSTALL 6" AVG. DIA., 1' THICK FRACTURED FACE ROCK OVER NON-WOVEN GEOTEXTILE FABRIC.
- BY PUBLIC WORK ORDER: RETENTION BASINS PER SECTIONS THIS SHEET. RETAINING WALLS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER. WALLS SHALL BE WATER PROOFED TO ELEVATION 81.5.
- TURN EVERY OTHER BLOCK IN SIDEYARD WALL TO PROVIDE DRAINAGE OPENINGS.
- GATE FOR MAINTENANCE ACCESS.

## LEGEND

- 80 PROPOSED 1.0' CONTOUR
- 81.5 PROPOSED 0.5' CONTOUR
- 82.56 PROPOSED SPOT ELEVATION
- SURFACE FLOW DIRECTION
- PG = 4982.2 PAD ELEVATION

**Isaacson & Arfman, Inc.**  
Civil Engineering Consultants  
128 Monroe Street NE  
Albuquerque, NM 87108  
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11/06/23  
Engineer

**SPANISH WALK SUBDIVISION**  
**410 CAMINO ESPANOL**

ISSUE: CONCEPTUAL  
PROJECT NUMBER: IA 2539  
FILE:  
DRAWN BY: JTS/ANW  
CHECKED BY: ANW  
DATE: 12-12-2022

No	Date	Description

SHEET TITLE

GRADING & DRAINAGE PLAN

SHEET NUMBER

**CG-101**



GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

B. ALL SITE PREPARATION, GRADING OPERATIONS, FOUNDATION CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER. ALL OTHER WORK SHALL, UNLESS OTHERWISE NOTED IN THE PLANS, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CURRENT EDITION.

C. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.

D. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

E. THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NPDES PERMIT FOR PROJECTS WHERE CONSTRUCTION ACTIVITIES MEET THE EPA THRESHOLD. (SWPPP, NPDES PERMIT BY OTHERS.). CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE WHO WILL PREPARE SWPPP AND INSPECT REQUIRED ELEMENTS.

F. ALL NEW PAVEMENT SURFACES SHALL BE CONSTRUCTED WITH POSITIVE SLOPE AWAY FROM BUILDINGS AND POSITIVE SLOPE TOWARD EXISTING AND/OR PROPOSED DRAINAGE PATHS. PAVING AND ROADWAY GRADES SHALL BE  $\pm 0.1'$  FROM PLAN ELEVATIONS.

G. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR 'x', TRANSITIONS SHALL BE SMOOTH.

H. PAD ELEVATIONS SHALL BE WITHIN 0.1'±.

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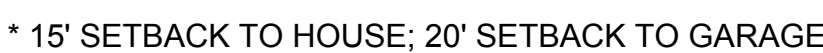
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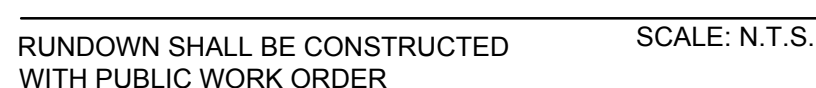
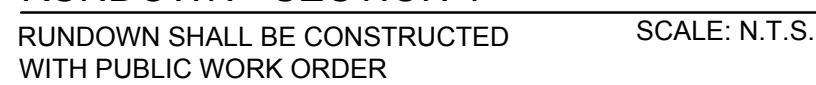
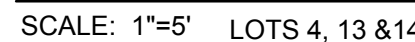
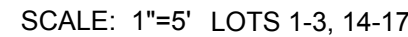
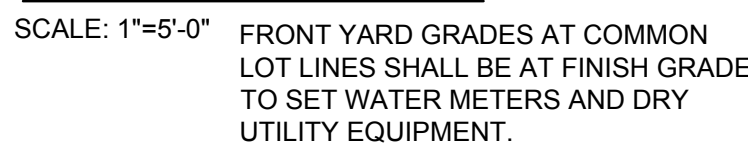
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**TYPICAL LOT DETAIL**

LOTS 5-13 NTS



			128 Monroe Street NE Albuquerque, NM 87108 505-266-8828   www.iacivil.com		
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