

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Interim Director



Mayor Timothy M. Keller

December 27, 2021

Ronald Bohannon, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM 87109

**RE: The Wymont
4315 Wyoming Blvd NE
Grading and Drainage Plans
Engineer's Stamp Date: 11/02/21
Hydrology File: G19D004**

Dear Mr. Bohannon:

PO Box 1293

Based upon the information provided in your submittal received 11/01/2021, the Grading & Drainage Plan **is not** approved for Work Order and Grading Permit. The following comments need to be addressed for approval of the above referenced project:

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NM 87103

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1. This project already has Site Plan for Building Permit approval. (Letter dated 8/4/21) Once the Work Order and Grading are complete, a pad certification submittal will need to be approved by Hydrology for the townhomes so that individual Building Permits can then be issued for each townhome lot.
2. Overall the Grading & Drainage Plan seems to lack a company review or quality control (QA/QC). This review typically ensures that the line weights and text used creates clarity and accuracy which helps both the reviewer and contractor understand the scope of the project. Currently the Grading & Drainage Plan has line weights for the proposed and existing work about the same weight which makes it difficult to tell what is to be constructed. The proposed spot elevations should use some type of terminology which should also be added to the Legend. For example, TP (top of pavement), FL (flow line), TC (top of curb), TW (top of wall), etc. Please ensure that all hatching is called out in the Legend.
3. GR-1. This is currently very congested and difficult to read. Please, make this sheet just an overall Grading Plan with added pipe sizes, detention pond labeled, proposed contours, and line work with text showing which pipes and grading are to be done under which of the two work orders.

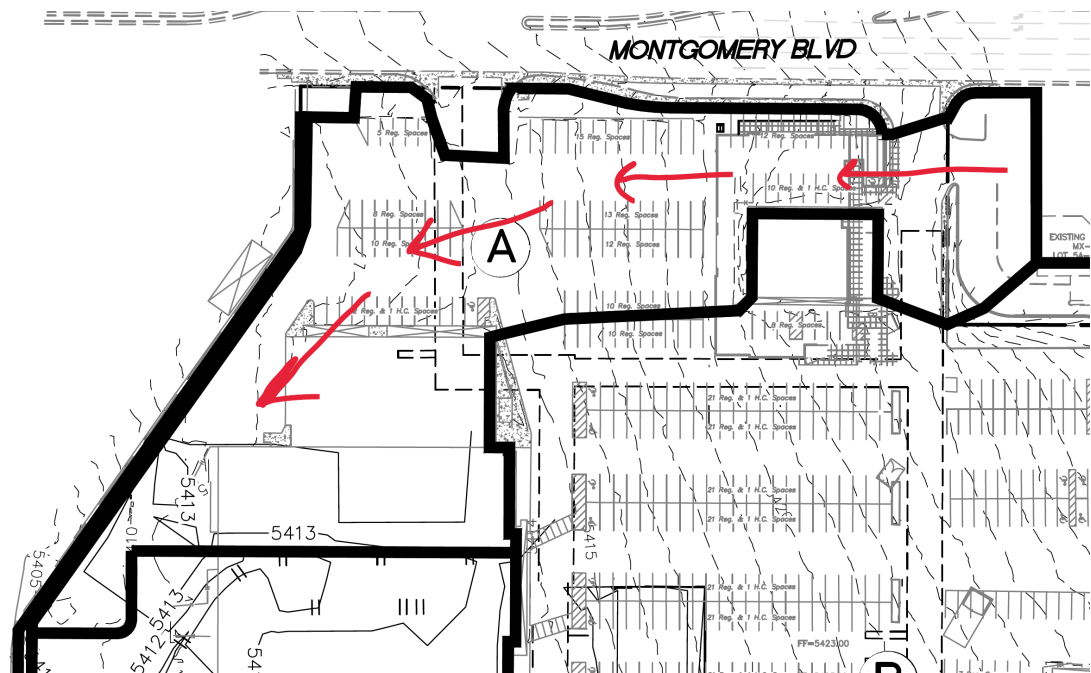
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4. GR-1. Please add a note, "Side slopes need to be stabilized with Native Grass Seed (per City Spec 1012) with Aggregate Mulch or equal (Must satisfy the "Final Stabilization criteria" CGP 2.2.14.b.)". This is for the water quality pond.
5. Please make two Grading Plans at 1" = 20'. This will make the grading more readable and less congested.
6. GR-2. As with comment #4, this should be two storm pipe plans at 1" = 20'. Please add the word "Privately maintained" to all on-site storm pipes. This will also include the 24" RCP from the pond outfall structure to the new manhole in La Mirada Lane.
7. GR-3. Please relabel this as Master Drainage Plan.
8. GR-3. The Existing Drainage Area "A" drains to the west and then to the southwest as shown.



The Proposed Drainage Area "B" goes to the southwest to a proposed inlet structure (to be built in the commercial work order) and the Proposed Drainage Area "C" does not drain to Montgomery as you tried to indicate but the area currently goes to the west as outlined in the Existing Drainage Area "A". So how does this drainage area get to the proposed detention pond to the south?

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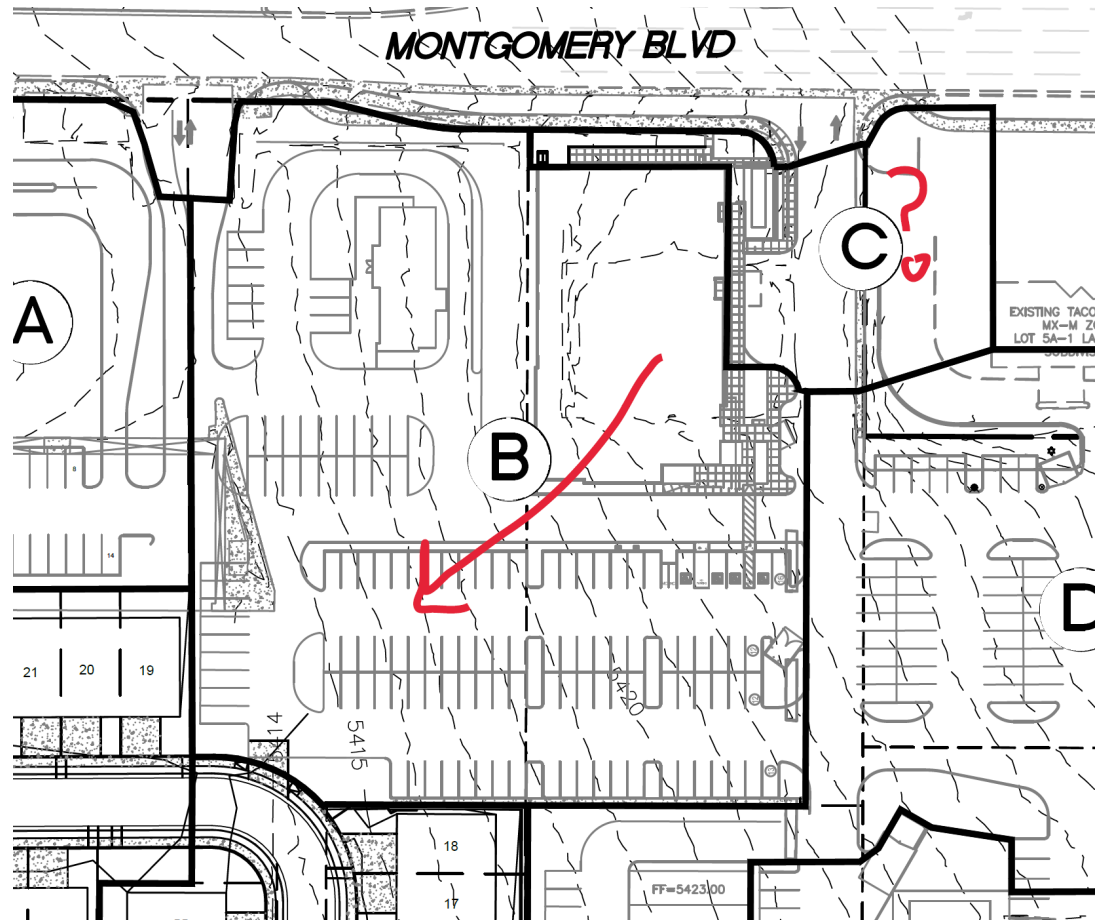
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9. GR-3. There is a statement about providing for a volume of 0.225 AC-FT. Please provide the hydrology routing for the detention pond as outlined in the DPM Article 6-2 Hydrology.

THE WATER QUALITY POND IS SIZED TO CONTAIN THE REQUIRED VOLUME FROM ALL OF THE RESIDENTIAL AND COMMERCIAL BASINS. BASED ON THE CURRENT REQUIREMENTS, THE POND WILL RETAIN A VOLUME OF 0.225 AC-FT. A WATER QUALITY OUTLET STRUCTURE WILL BE PROVIDED IN THE POND AND CONNECT TO THE EXISTING STORM SEWER LOCATED IN LA MIRADA. THE TOTAL FLOW DISCHARGED TO THE LA MIRADA STORM SEWER WILL BE 57.05 CFS WHICH IS 11.10 CFS LESS THAN WHAT IS CURRENTLY DISCHARGED TO THE SYSTEM.

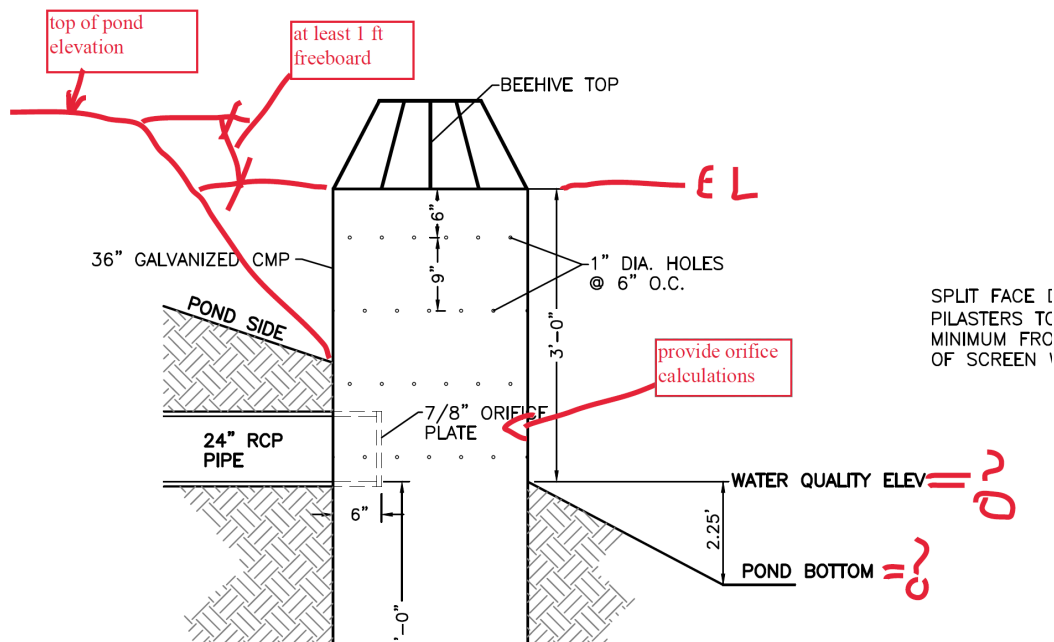
10. GR-4. Please provide the weir calculations, per DPM Article 6-16(A), for the concrete channel(s). A coefficient of 2.7 is typically used for the weir equation $Q = CLH^{2/3}$.
11. GR-4. Outfall Detail. Please provide the bottom of pond elevation, water quality elevation, top of pond elevation, and the elevation of the beehive top.

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12. GR-4. Please provide the orifice calculation for the 7/8" orifice plate.

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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, 924-3420) 14 days prior to any earth disturbance.

NM 87103

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

www.cabq.gov

Sincerely,

Renée C. Brissette

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



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: Wymont **Building Permit #:** _____ **Hydrology File #:** _____
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: (LAND ONLY) LT 1-A-1 PLAT FOR LOTS 1-A-1 AND 5-A-1 LA MIRADASUBDIVISION (BEING COMPRISED OF LOTS 1-A AND 5-A LA MIRADASUBDIVISION)
City Address: 4315 Wyoming Blvd NE Albuquerque, NM 87109

Applicant: Tierra West, LLC **Contact:** Jonanthan Niski
Address: 5571 Midway Park Place NE Albuquerque, NM 87109
Phone#: 505-858-3100 **Fax#:** 505-858-1118 **E-mail:** jniski@tierrawestllc.com

Other Contact: _____ **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____

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

IS THIS A RESUBMITTAL? _____ Yes ☒ No

DEPARTMENT _____ TRANSPORTATION ☒ HYDROLOGY/DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ARCHITECT CERTIFICATION
- ☐ PAD CERTIFICATION
- ☐ CONCEPTUAL G & D PLAN
- ☒ 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:

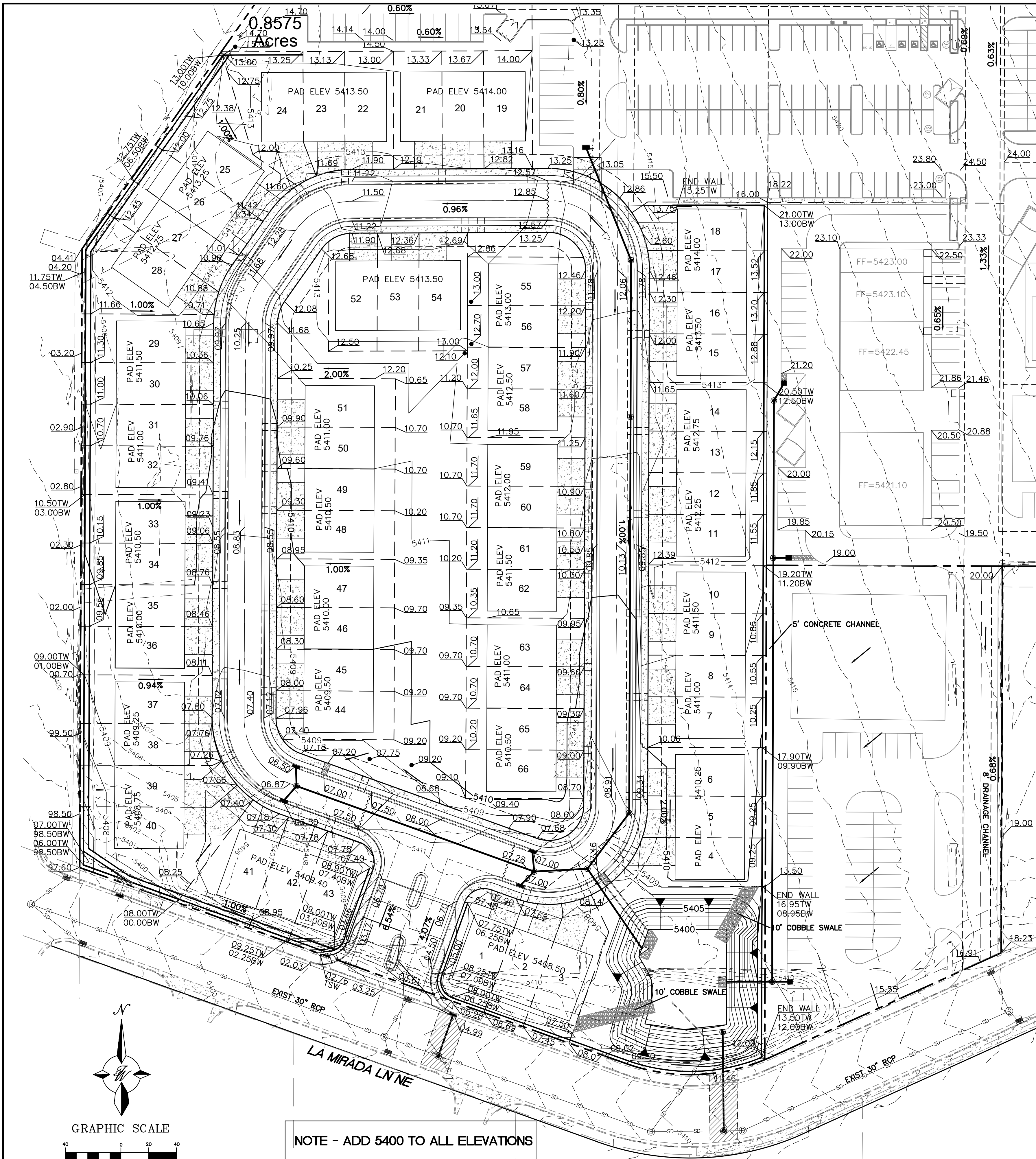
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ SITE PLAN FOR SUB'D APPROVAL
- ☒ SITE PLAN FOR BLDG. PERMIT APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ GRADING PERMIT APPROVAL
- ☐ SO-19 APPROVAL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

DATE SUBMITTED: 11/1/2021 **By:** Jonathan Niski

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____



CAUTION

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

- NOTICE TO CONTRACTORS**
1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
 2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
 3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 785-1234, FOR LOCATION OF EXISTING UTILITIES.
 4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
 5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
 6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
 7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

- EROSION CONTROL NOTES**
1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
 2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
 3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
 4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
 5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.
 6. ALL SLOPES NOT STABILIZED AT THE END OF THE PROJECT SHALL BE STABILIZED IN ACCORDANCE WITH COA SPECS OR 3" GRAVEL.

Channel Capacity

Weir Equation:

$$Q = CLH^{3/2}$$

Q= Flow
C= 2.95
L= Length of weir
H= Height of Weir

Off Site Curb Opening

$$Q = 2.95 \times 20 \times 0.50^{3/2}$$

Q= 20.86 cfs < Q = 13.39 cfs

Pond Concrete Channel

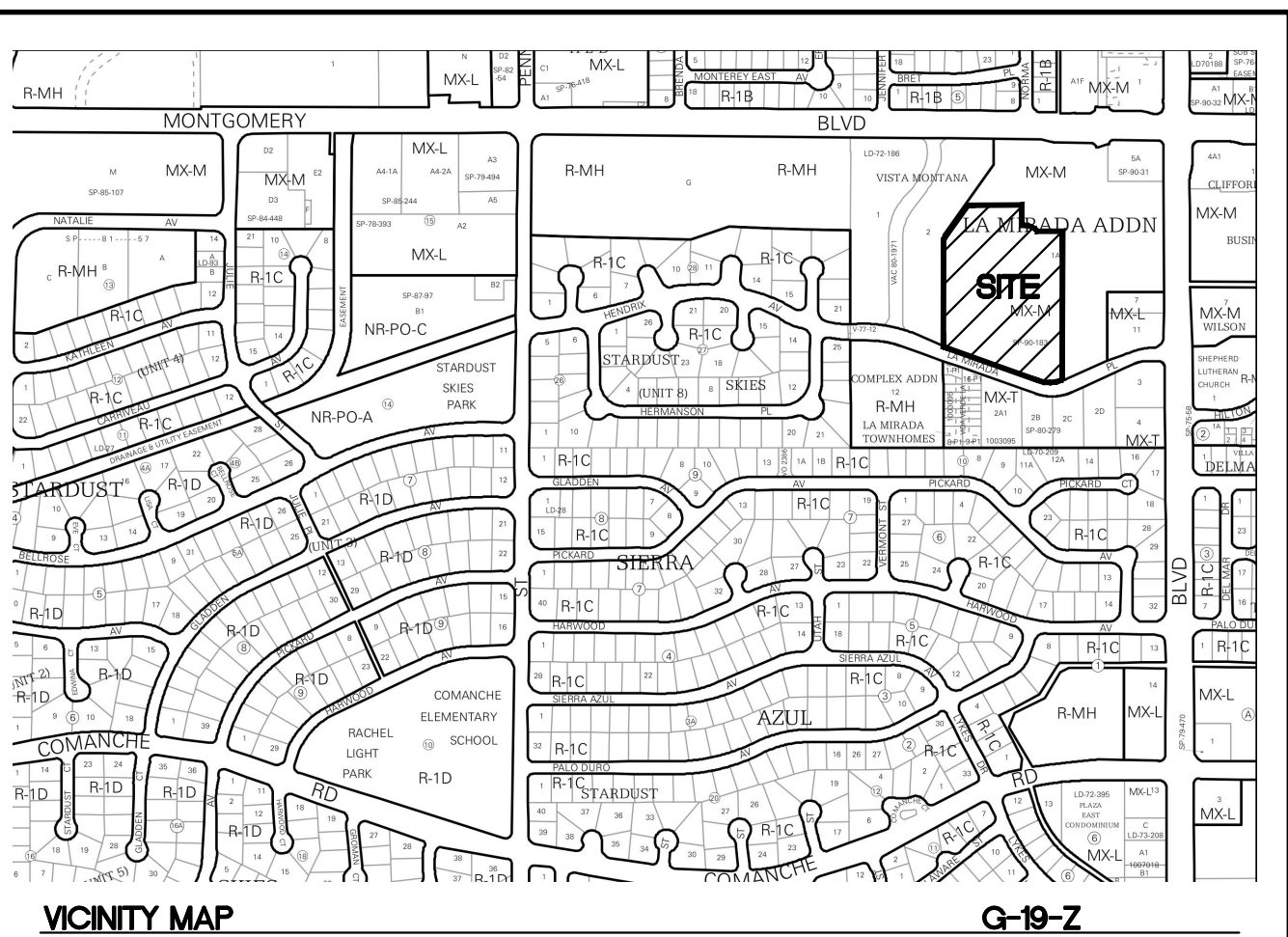
$$Q = 2.95 \times 6 \times 0.50^{3/2}$$

Q= 6.26 cfs

Park Curb Opening

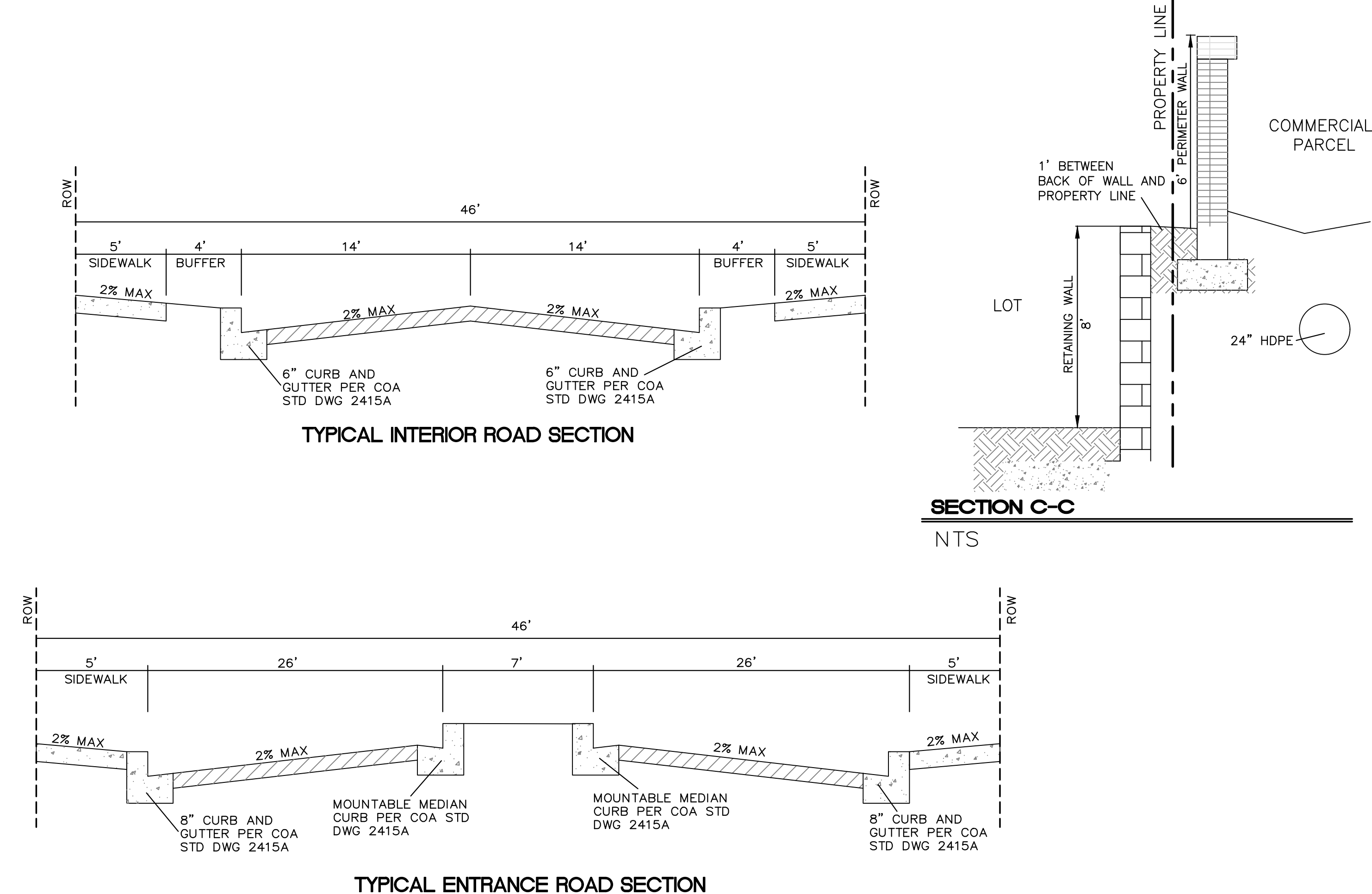
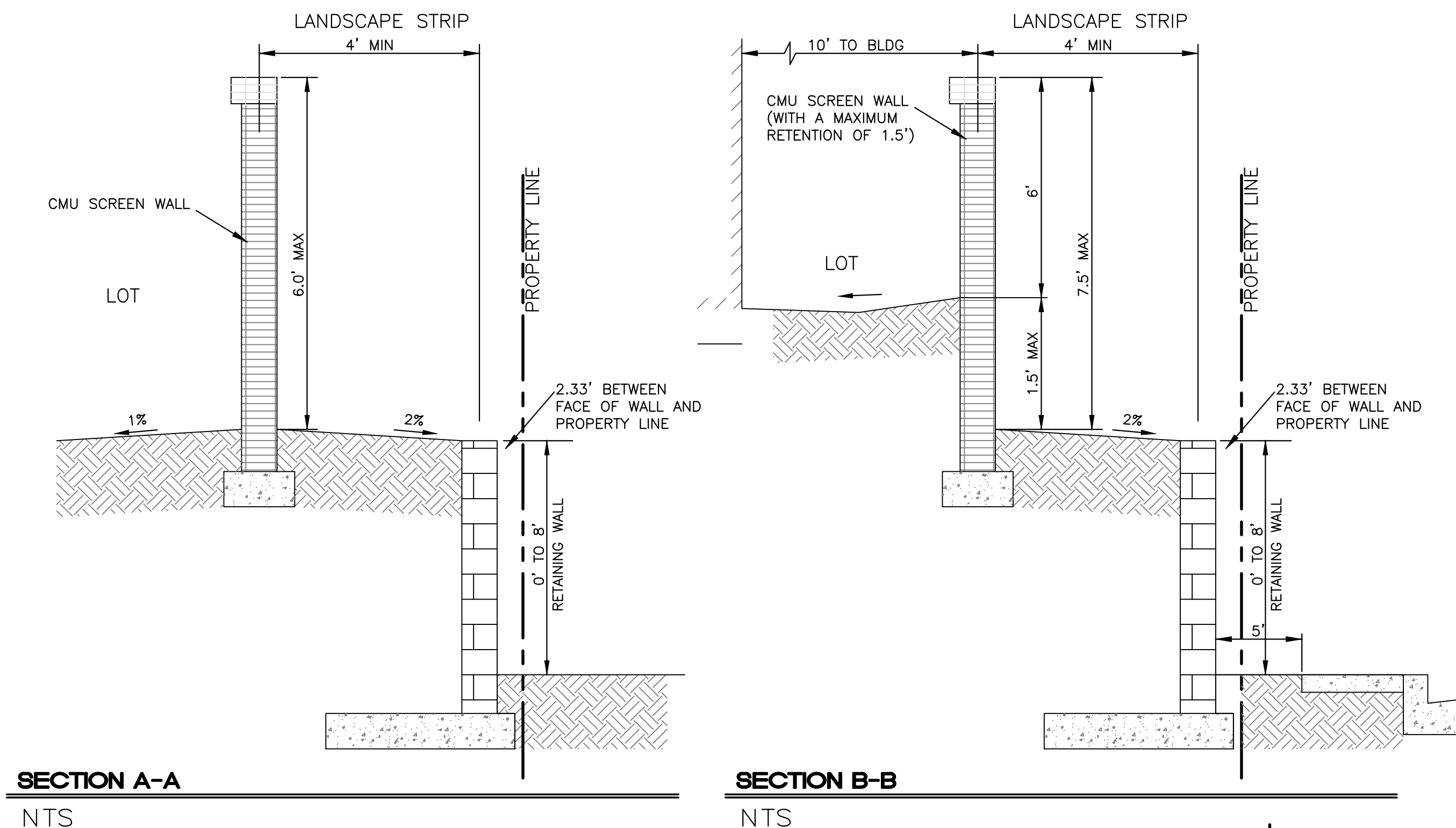
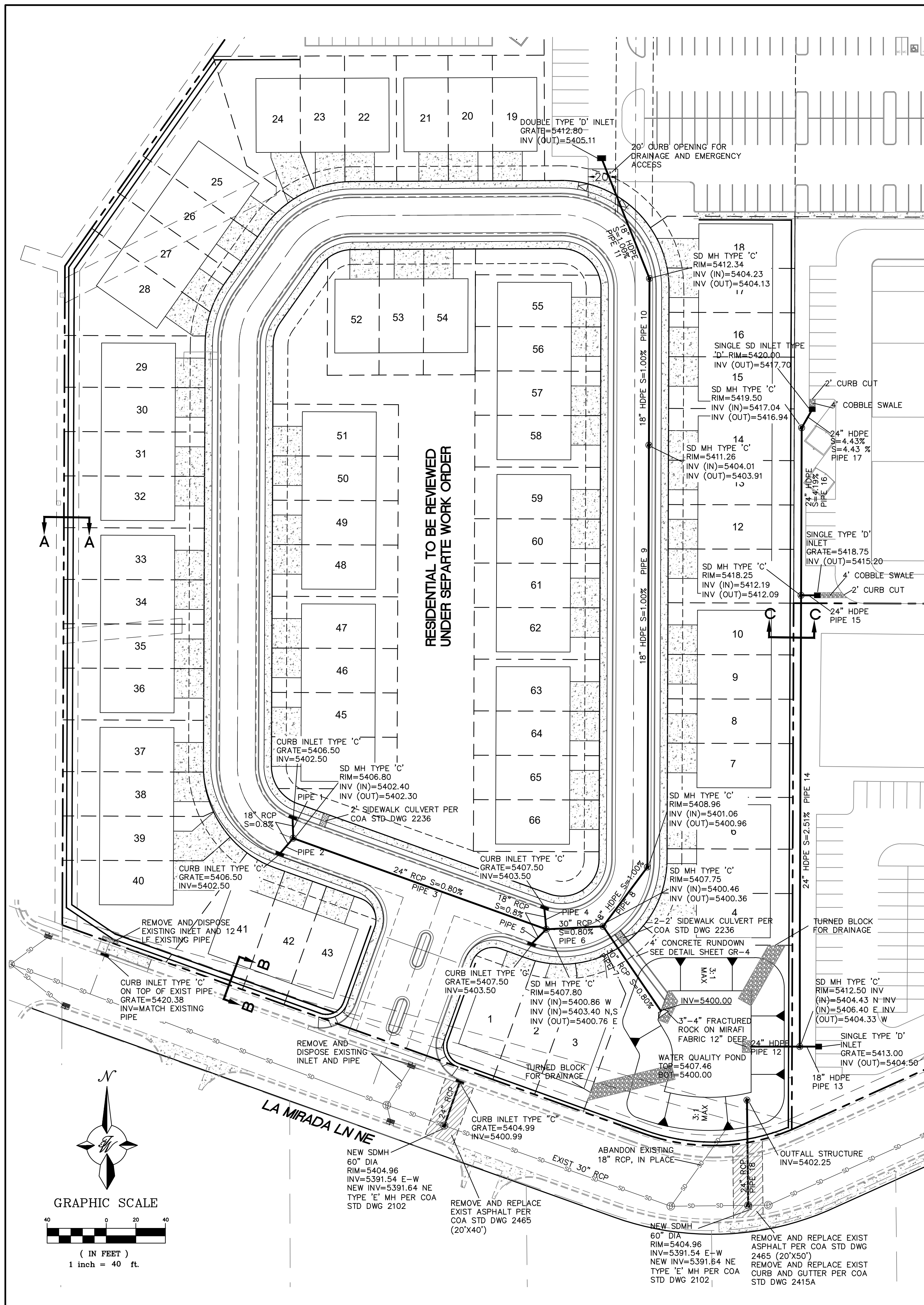
$$Q = 2.95 \times 2 \times 0.50^{3/2}$$

Q= 2.09 cfs < Q = 1.55 cfs



- LEGEND**
- CURB & GUTTER
 - - - BOUNDARY LINE
 - BUILDING
 - EXISTING CURB & GUTTER
 - PROPOSED HYDRANT
 - NEW SD MH
 - NEW CUR INLET TYPE 'C'
 - EXISTING SAS MH
 - EXISTING GATE VALVE
 - - - EXISTING WATERLINE
 - EXISTING SAS
 - RETAINING WALL
 - WATER BLOCK


 RONALD R. BOHANNAN P.E. #7868	THE WYMONT ALBUQUERQUE, NM	DRAWN BY pm
	GRADING AND DRAINAGE PLAN	DATE 11-2-21
	TIERRA WEST, LLC 5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrawestllc.com	DRAWING 2021008-GR
		SHEET # GR-1
		JOB # 2021008

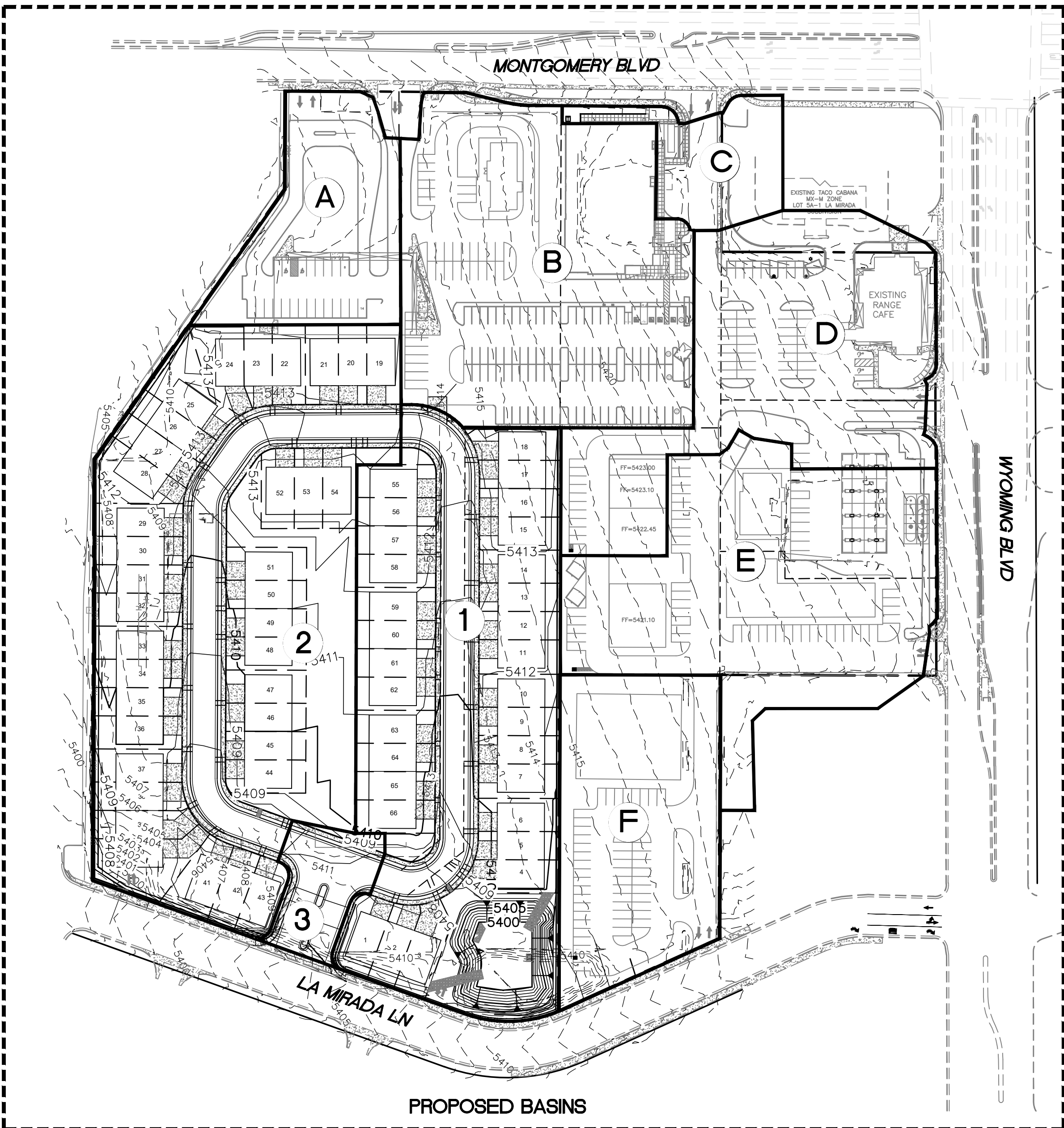
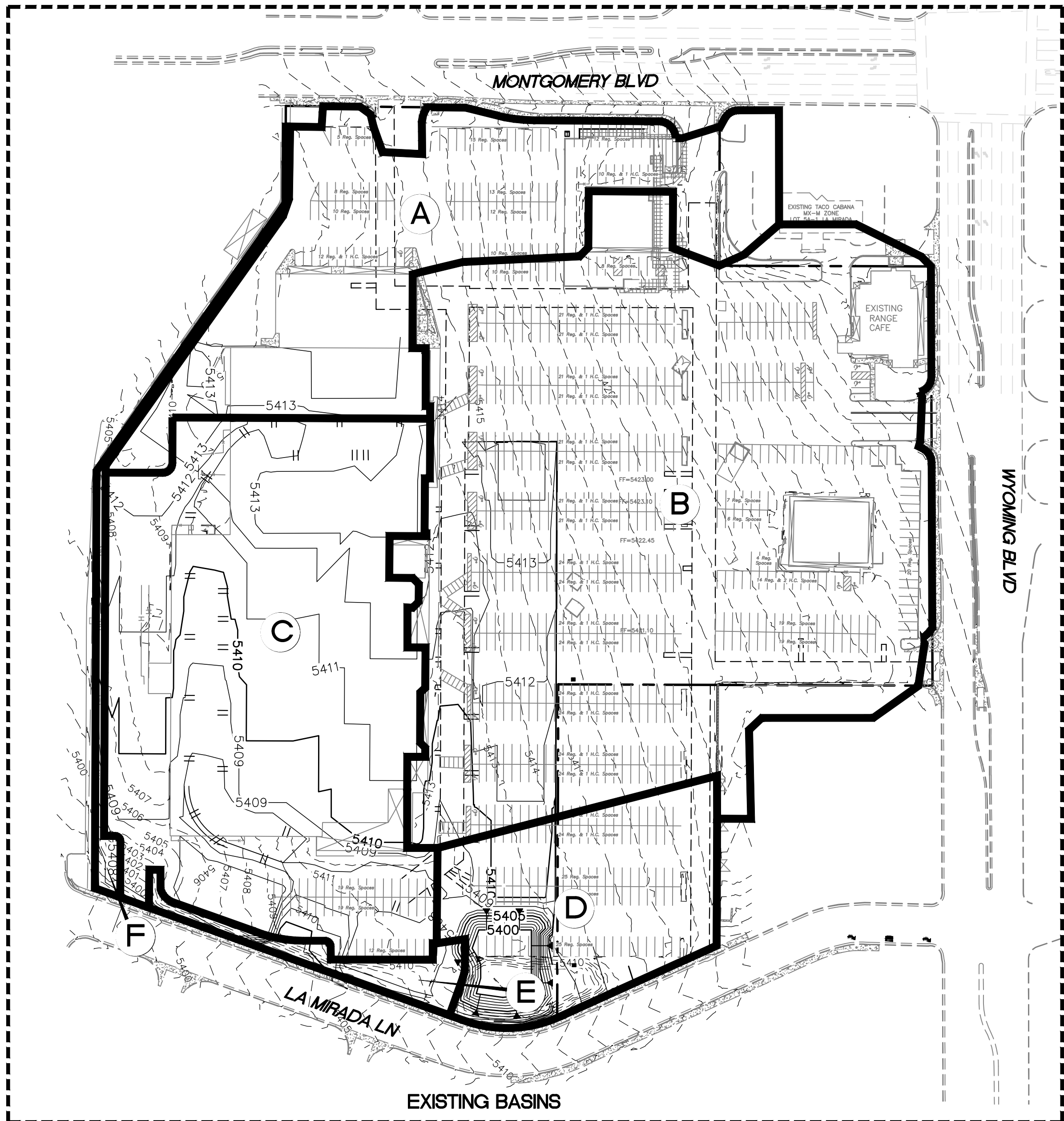


NOTE

- ALL TYPE 'C' INLET PER COA STD DWG 2205
- ALL TYPE 'C' MANHOLES PER COA STD DWG 2101
- POND SIDE SLOPES TO BE FRACTURED COBBLE WITH NATIVE SEEDING

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<div>ENGINEER'S SEAL</div> <div><div><div>RONALD R. BOHANNAN</div><div>NEW MEXICO</div><div>7868</div><div>PROFESSIONAL ENGINEER</div></div><div><div>11-2-21</div></div></div> <div>RONALD R. BOHANNAN P.E. #7868</div>	<div>THE WYMONT ALBUQUERQUE, NM</div> <div>GRADING AND DRAINAGE PLAN</div> <div><div><div><div></div><div></div></div><div><div>TIERRA WEST, LLC</div><div>5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrawestllc.com</div></div></div></div>	<div>DRAWN BY pm</div> <div>DATE 11-2-21</div> <div>DRAWING 2021008-GR</div> <div>SHEET # GR-2</div> <div>JOB # 2021008</div>
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EXISTING DRAINAGE:

THIS SITE IS CURRENTLY VACANT SHOPPING CENTER AND IS LOCATED ON THE SOUTHWEST CORNER OF WYOMING BOULEVARD AND MONTGOMERY BOULEVARD. THE SITE IS BOUNDED BY ROADS ON THE NORTH, SOUTH AND EAST SIDE AND A MULTIFAMILY DEVELOPMENT ON THE WEST SIDE AND CONTAINS APPROXIMATELY 15.69 ACRES. THE SITE DRAINS FROM EAST TO WEST WITH MOST OF IT DRAINING ONTO AN EXISTING DETENTION POND. A SMALL AMOUNT OF FLOW ENTERS MONTGOMERY BLVD. FROM LANDSCAPED AREAS AND ENTRANCES, THE REMAINDER OF THE SITE DRAINS INTO AN EXISTING DROP INLET LOCATED AT THE SOUTHWEST ENTRANCE. ACCORDING TO AN APPROVED GRADING AND DRAINAGE PLAN (G-19/D4) COMPLETED BY JEFF MORTENSEN AND ASSOCIATES THE EXISTING POND MAY BE ELIMINATED AND ALL FLOW DISCHARGED TO THE EXISTING STORM SEWER IN HENDRIX AVENUE. THOSE IMPROVEMENTS WERE NEVER COMPLETED AND THE POND HAS REMAINED IN PLACE. BASED ON THE REVISED DRAINAGE VALUES IN THE CURRENT DPM THE TOTAL FLOW DISCHARGED FROM THIS SITE IS 68.15 CFS. THE SITE IS NOT LOCATED WITH IN A FLOOD PLAIN AS SHOWN ON THE FIRM MAP. THERE ARE NOT OFFSITE FLOWS THAT ENTER THE SITE.

PROPOSED DRAINAGE:

THE SITE IS BEING SUBDIVIDED INTO A COMMERCIAL CENTER AND A RESIDENTIAL NEIGHBORHOOD. THE RESIDENTIAL NEIGHBORHOOD IS DIVIDED INTO THREE BASINS (1-3) WHILE THE COMMERCIAL AREA IS DIVIDED INTO SIX BASINS (A-F).

RESIDENTIAL BASINS 1 AND 2 WILL DRAIN FROM NORTH TO SOUTH IN WYMONT CIRCLE AND BE COLLECTED IN PROPOSED DROP INLETS. THAT WATER WILL BE CONVEYED TO A WATER QUALITY POND LOCATED IN THE SOUTHEAST CORNER OF THE NEIGHBORHOOD. BASIN 3 CONSISTS OF THE ENTRANCE AND WILL DRAIN A SMALL AMOUNT OF FLOW TO BE COLLECTED IN DROP INLETS IN LA MIRADA. DUE TO THE GRADES BETWEEN THE NEIGHBORHOOD AND LA MIRADA THERE IS NO WAY TO CAPTURE THIS FLOW AND IT WILL FOLLOW THE SAME DRAINAGE PATTERN AS EXISTS ALONG THE STREET TODAY DISCHARGING 1.16 CFS.

COMMERCIAL BASIN "A" AND "B" WILL DRAIN SOUTH TO A PROPOSED DROP INLET LOCATED JUST NORTH OF WYMONT CIRCLE. THOSE FLOWS WILL BE CONVEYED THROUGH STORM SEWER TO THE WATER QUALITY POND. BASIN "C" WILL DISCHARGE A SMALL AMOUNT OF FLOW TO MONTGOMERY BLVD. AS IT CURRENTLY DOES TODAY (1.75 CFS). BASIN "D" WILL DRAIN TO A PROPOSED DROP INLET LOCATED NEAR THE NORTHEAST CORNER OF THE RESIDENTIAL NEIGHBORHOOD. BASIN "E" WILL DRAIN TO ANOTHER PROPOSED DROP INLET LOCATED NEAR THE MIDDLE OF THE WEST PROPERTY LINE OF THE RESIDENTIAL NEIGHBOR HOOD AND BASIN "F" WILL DRAIN TO A PROPOSED DROP INLET LOCATED NEAR THE WATER QUALITY POND. ALL OF THOSE FLOWS WILL BE CONVEYED VIAL STORM SEWER TO THE WATER QUALITY POND.

THE WATER QUALITY POND IS SIZED TO CONTAIN THE REQUIRED VOLUME FROM ALL OF THE RESIDENTIAL AND COMMERCIAL BASINS. BASED ON HE CURRENT REQUIREMENTS, THE POND WILL RETAIN A VOLUME OF 0.225 AC-FT. A WATER QUALITY OUTLET STRUCTURE WILL BE PROVIDED IN THE POND AND CONNECT TO THE EXISTING STORM SEWER LOCATED IN LA MIRADA. THE TOTAL FLOW DISCHARGED TO THE LA MIRADA STORM SEWER WILL BE 57.05 CFS WHICH IS 11.10 CFS LESS THAN WHAT IS CURRENTLY DISCHARGED TO THE SYSTEM.

ALL OF THE STORM SEWER, DROP INLETS AND WATER QUALITY POND WILL REMAIN PRIVATE AND MAINTAINED BY THE RESIDENTIAL HOA AND COMMERCIAL DEVELOPMENT AGREEMENTS.

Weighted E Method													
Existing Basins													
Basin	Area (sf)	Area (acres)	Treatment A % (acres)	Treatment B % (acres)	Treatment C % (acres)	Treatment D % (acres)	Weighted E (in)	Volume (ac-ft)	Flow cfs	Weighted E (in)	Volume (ac-ft)	Flow cfs	
A	114,831	2.64	0%	0	7%	0.18	0%	0.00	93%	2.45	2.460	0.540	11.47
B	314,923	7.23	0%	0	5%	0.36	0%	0.00	95%	6.87	2.494	1.503	31.74
C	178,480	4.10	0%	0	0%	0.00	0%	0.00	100%	4.10	2.580	0.881	18.40
D	57,852	1.33	0%	0	21%	0.28	0%	0.00	79%	1.05	2.219	0.246	5.41
E	9,747	0.22	0%	0	0%	0.00	100%	0.22	0%	0.00	1.090	0.020	0.71
F	7,497	0.17	0%	0	100%	0.17	0%	0.00	0%	0.00	0.860	0.012	0.43
		15.69									3.202		68.15
Proposed Basins													
Basin	Area (sf)	Area (acres)	Treatment A % (acres)	Treatment B % (acres)	Treatment C % (acres)	Treatment D % (acres)	Weighted E (in)	Volume (ac-ft)	Flow cfs	Weighted E (in)	Volume (ac-ft)	Flow cfs	
A	36,215	0.83	0%	0	15%	0.12	0%	0.00	85%	0.71	2.322	0.161	3.48
B	98,174	2.25	0%	0	15%	0.34	0%	0.00	85%	1.92	2.322	0.436	9.44
C	18,240	0.42	0%	0	15%	0.06	0%	0.00	85%	0.36	2.322	0.081	1.75
D	79,808	1.83	0%	0	15%	0.27	0%	0.00	85%	1.56	2.322	0.355	7.68
E	89,758	2.06	0%	0	15%	0.31	0%	0.00	85%	1.75	2.322	0.399	8.63
F	53,725	1.23	0%	0	15%	0.19	0%	0.00	85%	1.05	2.322	0.239	5.17
1	131,235	3.01	0%	0	60%	1.81	0%	0.00	40%	1.21	1.548	0.389	9.91
2	165,562	3.80	0%	0	57%	2.17	0%	0.00	43%	1.63	1.600	0.507	12.73
Park	27,059	0.62	0%	0	100%	0.62	0%	0.00	0%	0.00	0.860	0.045	1.55
3	11,770	0.27	0%	0	10%	0.03	0%	0.00	90%	0.24	2.408	0.054	1.16
		15.71									10.42		2.619
													59.96

Equations:

Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)

Volume = Weighted D * Total Area

Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

Excess Precipitation, E (inches)		
Zone 3	100-Year	10 - Year
Ea	0.67	0.18
Eb	0.86	0.34
Ec	1.09	0.52
Ed	2.58	1.64

Peak Discharge (cfs/acre)		
Zone 3	100-Year	10 - Year
Qa	1.84	0.51
Qb	2.49	1.07
Qc	3.17	1.69
Qd	4.49	2.81

Pipe Capacity							
Pipe	D (in)	Slope (%)	Area (ft^2)	R	Q Provided (cfs)	Q Required (cfs)	Velocity (ft/s)
1	18	0.80	1.77	0.375	9.42	6.36	3.60
2	18	0.80	1.77	0.375	9.42	6.37	3.60
3	24	0.80	3.14	0.500	20.29	12.73	4.05
4	18	0.80	1.77	0.375	9.42	4.95	2.80
5	18	0.80	1.77	0.375	9.42	4.96	2.81
6	30	0.70	4.91	0.625	34.41	22.64	4.61
7	30	0.80	4.91	0.625	36.79	35.56	7.24
8	24	1.00	3.14	0.500	22.68	12.92	4.11
9	24	1.00	3.14	0.500	22.68	12.92	4.11
10	24	1.00	3.14	0.500	22.68	12.92	4.11
11	24	1.00	3.14	0.500	22.68	12.92	4.11
12	24	14.75	3.14	0.500	87.12	21.48	6.84
13	18	2.00	1.77	0.375	14.90	5.17	2.93
14	24	2.51	3.14	0.500	35.94	16.31	5.19
15	18	2.00	1.77	0.375	14.90	8.63	4.88
16	18	4.19	1.77	0.375	21.56	7.68	4.35
17	18	4.43	1.77	0.375	22.17	7.68	4.35
18	24	6.50	3.14	0.500	57.83	57.05	18.16

Manning's Equation:

$Q = 1.49/n * A * R^{2/3} * S^{1/2}$

A = Area

R = D/4

S = Slope

n = 0.013



THE WYMONT
ALBUQUERQUE, NM
GRADING AND
DRAINAGE PLAN

TIERRA WEST, LLC
5571, MIDWAY PARK PL NE
ALBUQUERQUE, NEW MEXICO 87109
(505) 858-3100
www.tierrawestllc.com

DRAWN BY

pm

DATE

11-2-21

DRAWING

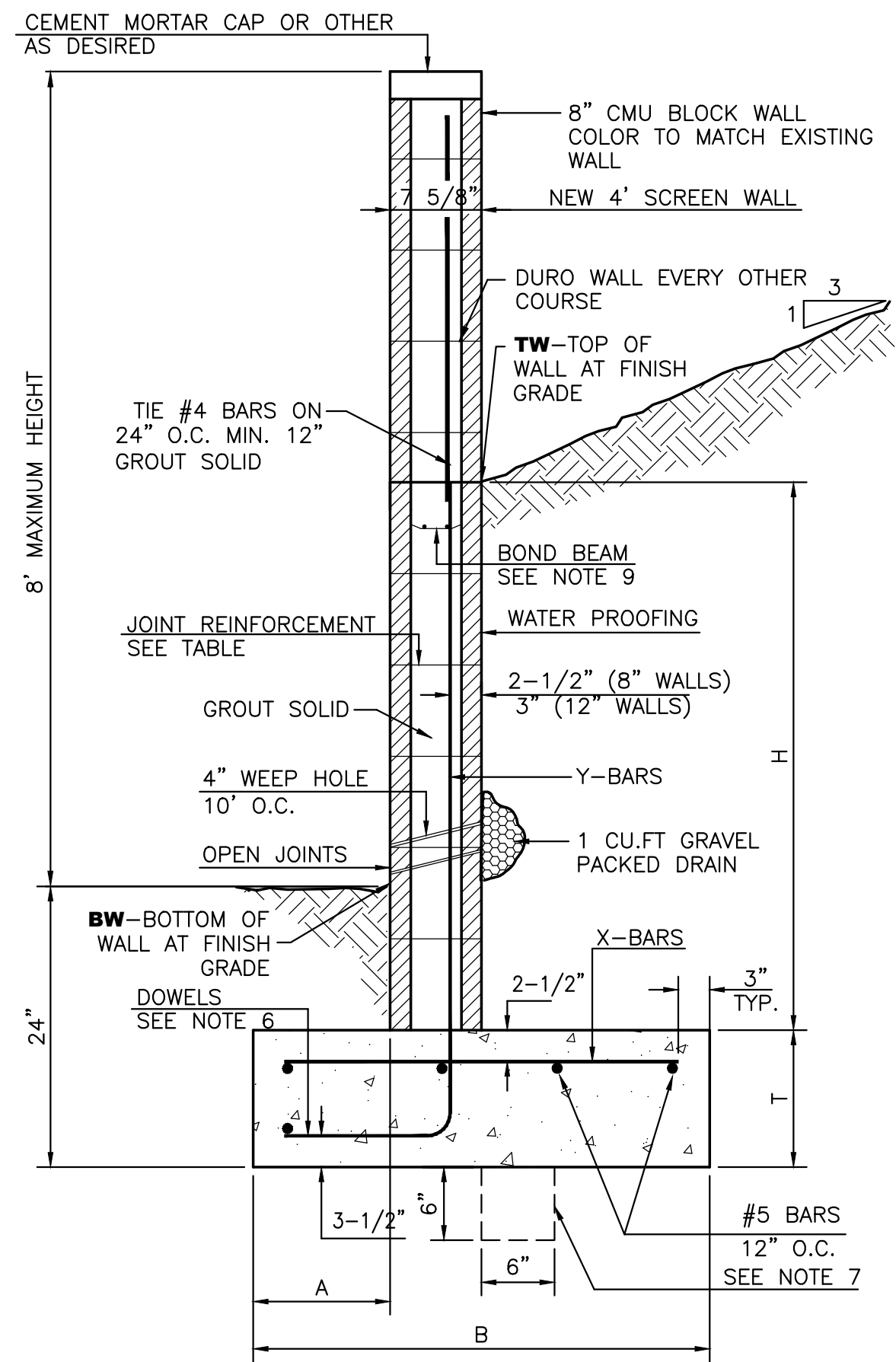
2021008-GR

SHEET #

GR-3

JOB #

2021008



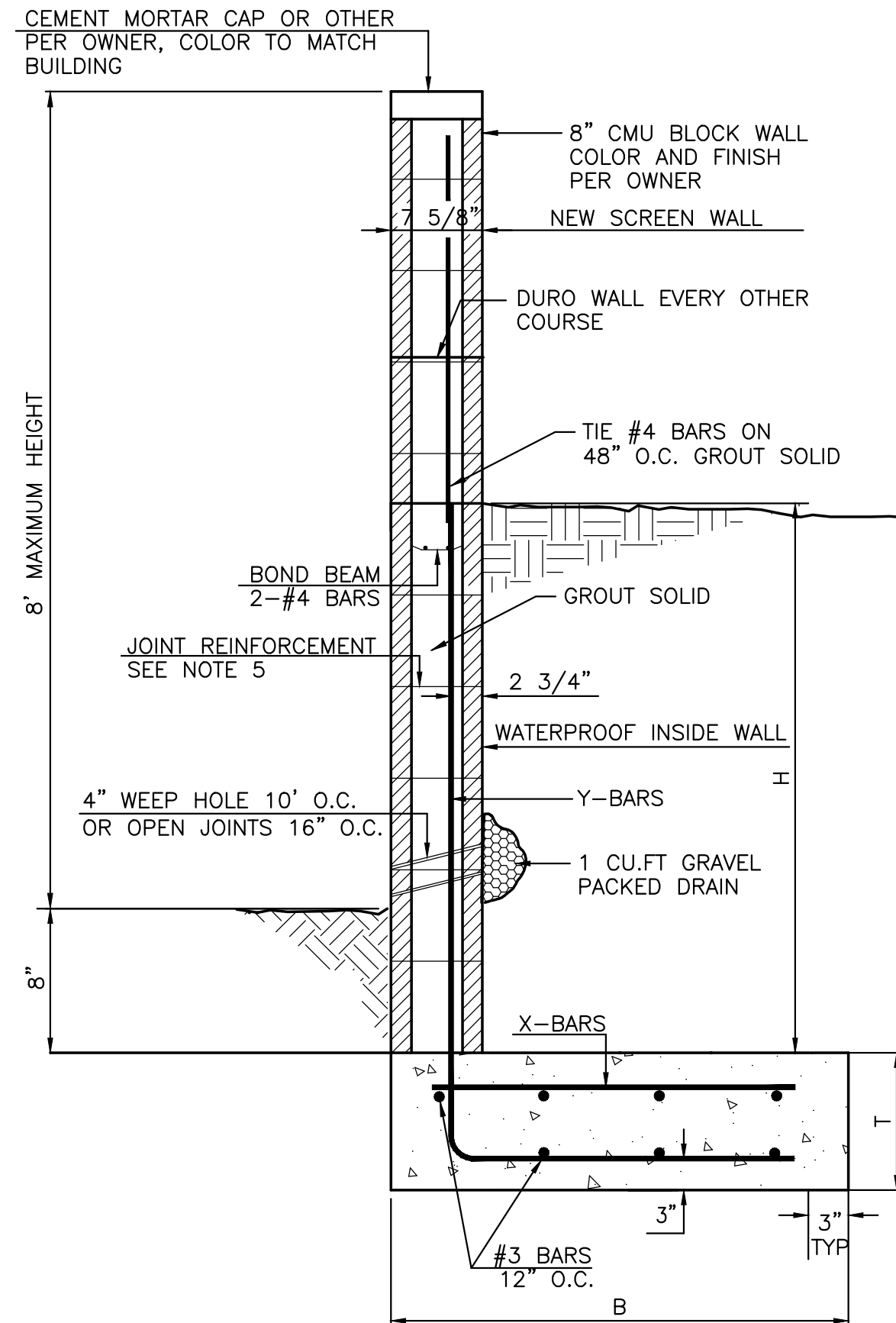
RETAINING WALL DETAIL
NTS

8 INCH REINFORCED CONCRETE MASONRY WALL						
H	A	B	T	Y-BARS	X-BARS	
ft.-in.	in.	ft.-in.	in.			
2'-0"	8"	2'-0"	9"	#4 @32" O.C.		
2'-8"	8"	2'-0"	9"	#4 @32" O.C.	#4 @24" O.C.	
3'-4"	8"	2'-4"	9"	#4 @32" O.C.	#4 @24" O.C.	
4'-0"	10"	2'-8"	9"	#4 @32" O.C.	#4 @24" O.C.	
4'-8"	12"	3'-4"	10"	#5 @32" O.C.	#4 @18" O.C.	
5'-4"	14"	3'-10"	10"	#6 @16" O.C.	#4 @18" O.C.	
6'-0"	16"	4'-8"	12"	#6 @8" O.C.	#4 @12" O.C.	

12 INCH REINFORCED CONCRETE MASONRY WALL						
H	A	B	T	Y-BARS	X-BARS	
ft.-in.	in.	ft.-in.	in.			
5'-4"	14"	3'-8"	10"	#6 @18" O.C.	#4 @24" O.C.	
6'-0"	15"	4'-2"	12"	#4 @16" O.C.	#4 @18" O.C.	
6'-8"	16"	4'-6"	12"	#6 @24" O.C.	#5 @18" O.C.	
7'-4"	18"	4'-10"	12"	#6 @16" O.C.	#5 @18" O.C.	
8'-0"	20"	5'-4"	12"	#7 @18" O.C.	#6 @12" O.C.	
8'-8"	20"	5'-8"	12"	#7 @16" O.C.	#6 @12" O.C.	

GENERAL NOTES:

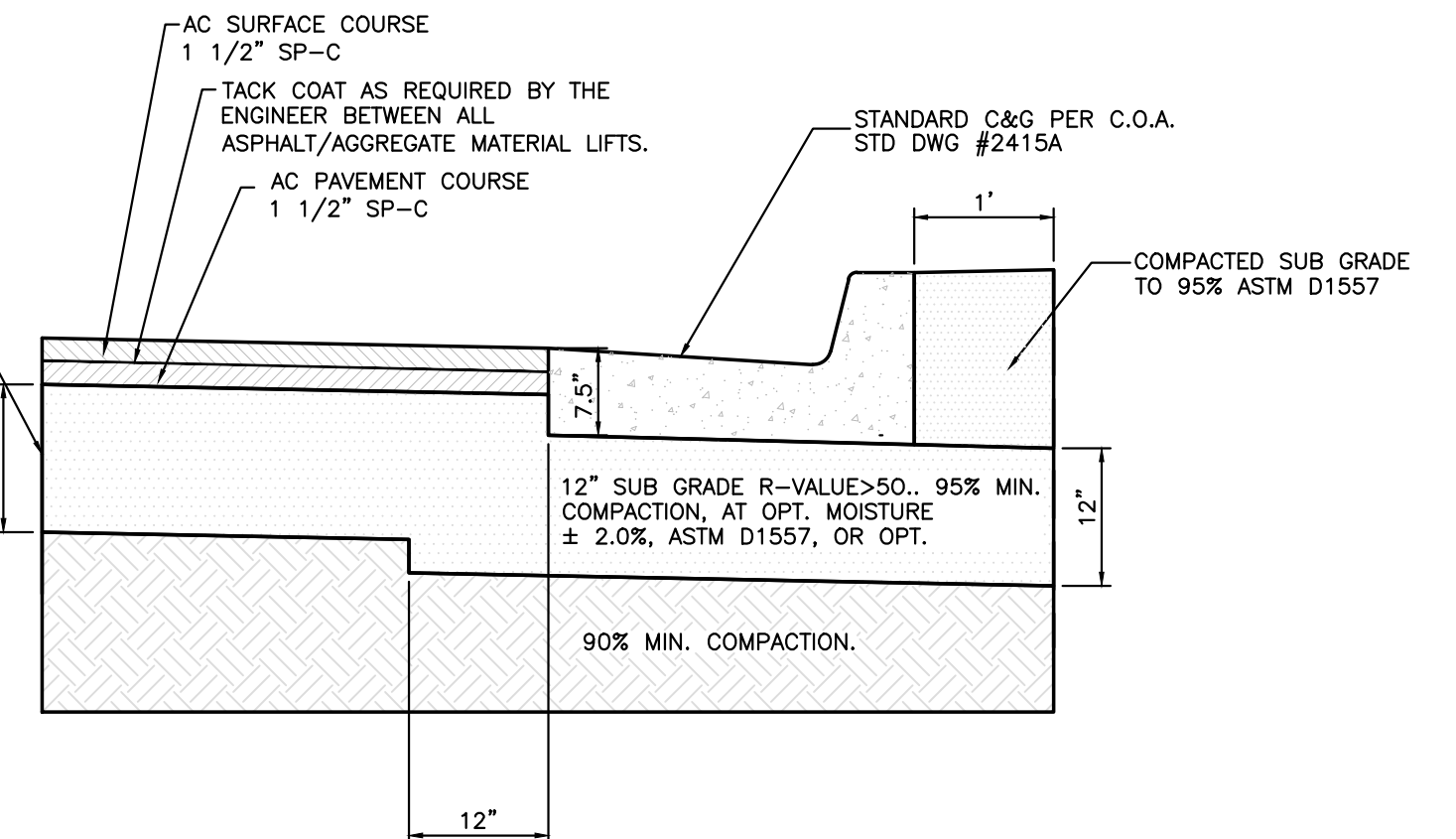
- ALL CONCRETE IS TO BE 4000 PSI @ 28 DAYS.
- MINIMUM COMPACTION UNDER FOOTINGS IS TO BE 95% PER ASTM. D 1557 FOR A DEPTH OF 12" MOISTURE CONTENT IS TO BE $\pm 2.0\%$.
- BACK FILL AGAINST WALLS IS TO BE HAND-PLACED AND COMPACTED.
- ALL BARS ARE TO BE GRADE 60, ASTM 615.
- TRUSS TYPE DUR-O-WALL EVERY OTHER COURSE.
- DOWELS SHALL BE AT LEAST EQUAL IN SIZE AND SPACING TO Y-BARS. SHALL PROJECT A MINIMUM OF 30 BAR DIA. INTO THE FILLED BLOCK CORES, AND SHALL EXTEND TO THE TOE OF THE FOOTING.
- PROVIDE KEY FOR 8" AND 12" WALLS WHERE H EXCEEDS 6'-0"
- USE EITHER EXPANSION JOINTS ON 20' CENTERS OR PILASTERS EVERY 16'.
- BOND BEAM, 1-#4 BARS FOR WALLS UNDER 3'-4", 2-#4 BARS FOR WALLS UNDER 5'-4", 2-#5 BARS FOR WALLS OVER 5'-4".



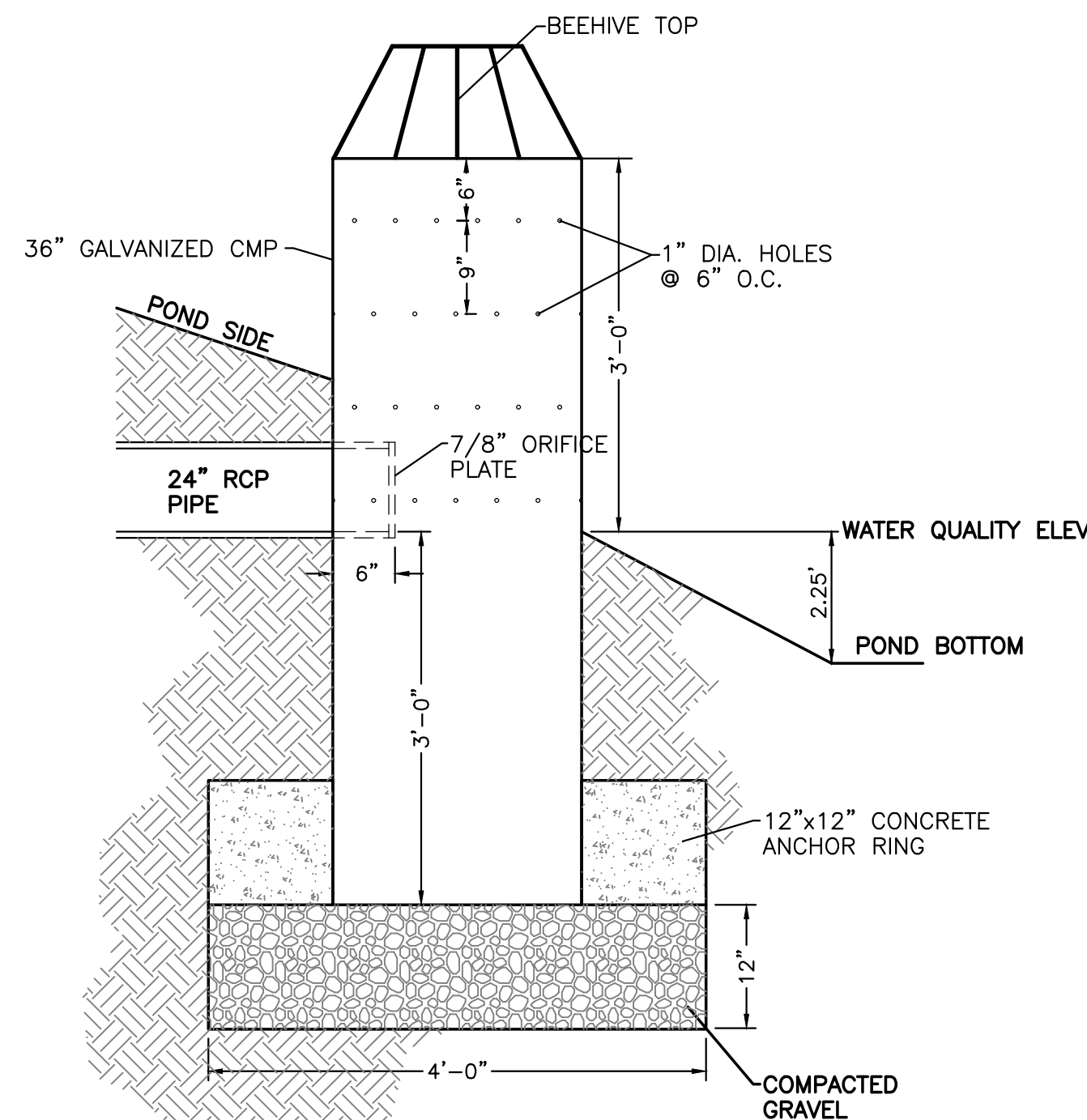
'L' FOOTING RETAINING WALL DETAIL
NTS

FINISH SURFACE OF SUB GRADE SHALL BE MOISTURE CONTROLLED AT COMPACTION MOISTURE RANGE, OR PRIME COAT APPLIED AS REQUIRED BY THE ENGINEER UNTIL NEXT/FINAL SURFACE IS COMPLETED. SUB GRADE PREPARATION SHALL BE PERFORMED AFTER ALL SUBSURFACE R/W UTILITIES CONSTRUCTION IS COMPLETED.

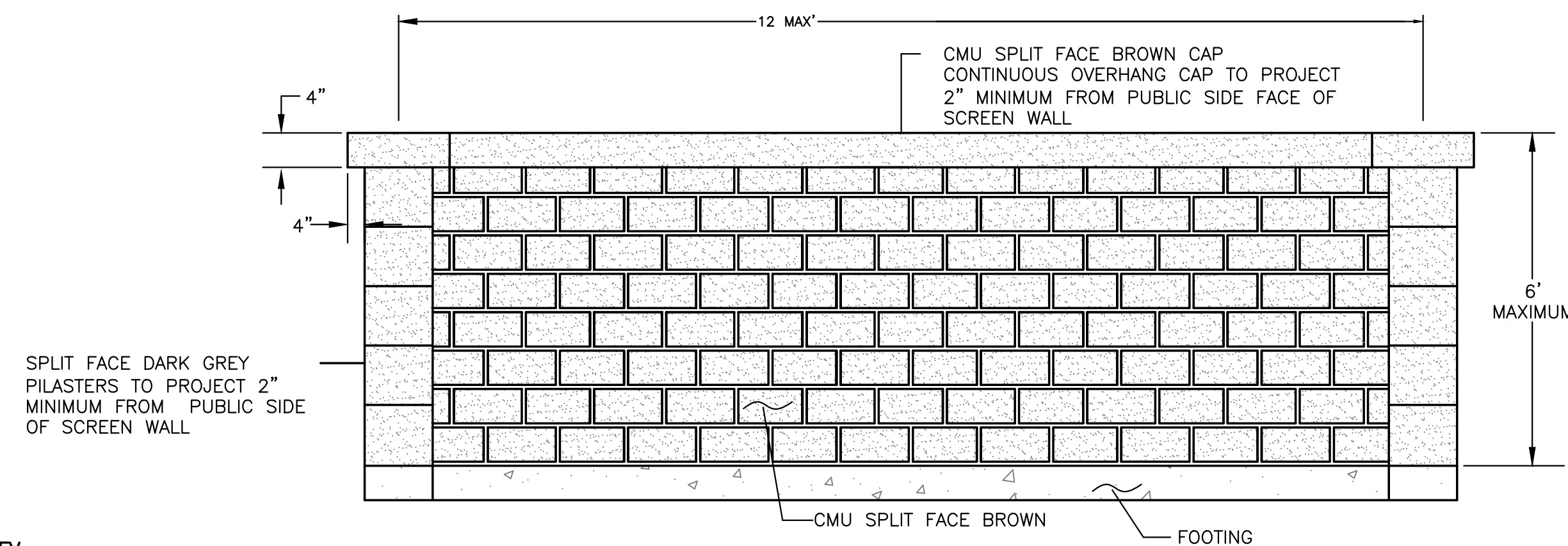
1' SURGED SOIL: R-VALUE>50. PLACED IN 2-6" COMPACTED LIFTS. 95% MIN. COMPACTION, AT OPT. MOISTURE $\pm 2.0\%$, ASTM D1557, OR OPT. MOISTURE, TO $+4\%$, ASTM D698 FOR SOIL W/35% OR MORE MATERIAL PASSING THE NO. 200 SIEVE. SOIL NOT HAVING THE MIN. R-VALUE OF 50, SHALL BE REMOVED TO A DEPTH OF 2 FEET AND REPLACED BY THE CONTRACTOR WITH SUITABLE MATERIAL OR A PAVEMENT SHALL BE DESIGNED BY TIERRA WEST, LLC. ACCOMMODATING THE EXISTING R-VALUE PER C.O.A. STANDARD SPECIFICATIONS.



TYPICAL PAVING SECTION (LOCAL RESIDENTIAL)
NTS

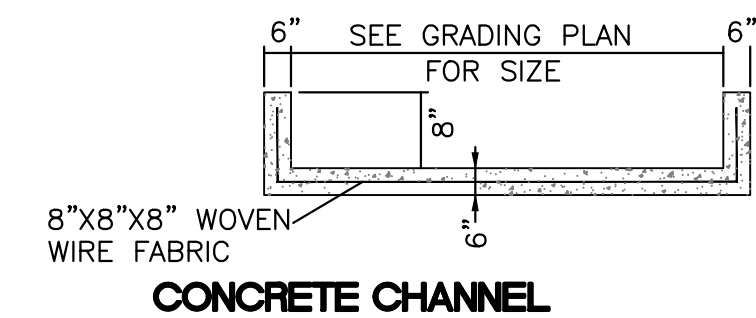


OUTFALL DETAIL
NTS



SCREENWALL/RETAINING WALL- ELEVATION FOR STREET FACING WALL

NTS



<p>ENGINEER'S SEAL</p> <p>RONALD R. BOHANNAN</p> <p>NEW MEXICO</p> <p>7868</p> <p>PROFESSIONAL ENGINEER</p> <p>11-2-21</p> <p>RONALD R. BOHANNAN</p> <p>P.E. #7868</p>	<p>THE WYMONT</p> <p>ALBUQUERQUE, NM</p> <p>GRADING AND DRAINAGE PLAN</p> <p>TIERRA WEST, LLC</p> <p>5571 MIDWAY PARK PL. NE</p> <p>ALBUQUERQUE, NEW MEXICO 87109</p> <p>(505) 858-3100</p> <p>www.tierrawestllc.com</p>	<p>DRAWN BY</p> <p>pm</p>
		<p>DATE</p> <p>11-2-21</p>
		<p>DRAWING</p> <p>2021008-GR</p>
		<p>SHEET #</p> <p>GR-4</p>
		<p>JOB #</p> <p>2021008</p>