

CITY OF ALBUQUERQUE

Hydrology Section Planning Department
David S. Campbell, Director



Timothy M. Keller, Mayor

May 10, 2019

Matt Korte
Adams Engineering
513 Main St Suite 300
Fort Worth, TX 76102

Re: McDonalds - 8315 Montgomery Blvd NE
Grading and Drainage Plan
(Sheets C7.0 & C8.0) - Engineer's Stamp date 4/4/2019
(Sheets C8.1 – C8.3) - Engineer's Stamp date 5/14/2019
(F19D013A)

Dear Mr. Korte,

Based on the application received 5/14/2019 and the \$920 Payment in Lieu received 5/16/2019, the above referenced plan is approved by Hydrology for Building Permit.

1. Please include the approved sheets in the construction plans for building permit.
2. 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 (Curtis Cherne, PE, ccherne@cabq.gov, 924-3420) 14 days prior to any earth disturbance, Building Permit, or Work Order.

PO Box 1293

Albuquerque

NM 87103

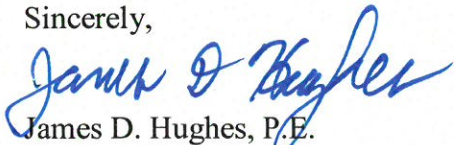
www.cabq.gov

Prior to acceptance for Certificate of Occupancy

3. An Engineer's Certification must be submitted for approval to Hydrology showing that the site has been graded and will drain in accordance with the approved plan.
4. A Private Drainage Easement is required for the offsite storm drain on Tract A-1-E. Please provide a copy of the recorded easement that clearly indicates maintenance responsibilities and beneficiary. Also show the easement on the G&D Plan sheet C7.0 and label Tract A-1-E, Access A, and A-1-D and the other easements and utilities in the offsite area of construction north of this site.
5. A Drainage covenant is required for the offsite Los Pastores Shopping Center Pond using the plan with Engineer's Stamp Date 5/02/2019, Drainage file # F19D013C, to make the exhibit.
6. A Drainage Covenant is required for the onsite BMP ponds. The original notarized form, pond exhibits (legible on 8.5x11 paper), and recording fee (\$25, payable to City of Albuquerque) must be turned into DRC (4th, Plaza del Sol) for routing. Please contact Charlotte LaBadie (clabadie@cabq.gov, 924-3996) or Madeline Carruthers (mtafoya@cabq.gov, 924-3997) regarding the routing and recording process for covenants.

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

Sincerely,

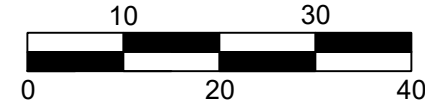


James D. Hughes, P.E.
Principal Engineer, Planning Dept.
Development and Review Services

CC Cesar Segovia, Architect



Know what's below.
Call before you dig.



SCALE: 1" = 20'

THESE PLANS ARE SUBJECT TO REVIEW & APPROVAL BY
JURISDICTIONAL ENTITIES.

OWNER INFORMATION

MCDONALD'S USA, LLC
MOUNTAIN SOUTHWEST
FIELD EXECUTION TEAM
E. JOHN CARPENTER FRWY, STE. 375
IRVING, TX 75062
(214) 533-7382
CONTACT: LEE MORRIS

LEGEND

TC = TOP OF CURB
TP = TOP OF PAVEMENT
FG = FINISHED GRADE
FF = FINISHED FLOOR
± = MATCH EXISTING GRADE

 SWALE
 GRADE BREAK
 RIDGE LINE
 EXISTING CONTOUR
 PROPOSED CONTOUR
 LEVEL LANDING @ 2% MAX SLOPE
 IN ANY DIRECTION

BENCHMARK

BENCHMARK 1
A.G.R.S. MONUMENT "12_F20A"
STANDARD A.G.R.S. BRASS DISC (FOUND IN PLACE)
NEW MEXICO STATE PLANE COORDINATES
(CENTRAL ZONE-N.A.D. 1983)
N=1,502,975.986, E=1,553,977.868
PUBLISHED EL=5527.721 (NAVD 1988)
GROUND TO GRID FACTOR=0.999648015
DELTA ALPHA ANGLE=-0°09'59.90"

BENCHMARK 1
A.G.R.S. MONUMENT "B, G20"
STANDARD A.G.R.S. BRASS TABLET (FOUND IN PLACE)
NEW MEXICO STATE PLANE COORDINATES
(CENTRAL ZONE-N.A.D. 1983)
N=1,500,345.489, E=1,551,806.736
PUBLISHED EL=5447.110 (NAVD 1988)
GROUND TO GRID FACTOR= 0.999652303
DELTA ALPHA ANGLE=0°10'13.78"

STANDARD ACCESSIBILITY REQUIREMENTS

PARKING:

ACCESSIBLE PARKING SPACES SHALL BE AS NOTED TO A MIN. 96" WIDE OR A MIN. 132" WIDE FOR VAN DESIGNATED SPACES WITH A MAXIMUM SLOPE OF 2% (IN ALL DIRECTIONS). ALL BUILDINGS SHALL HAVE AT LEAST ONE VAN ACCESSIBLE SPACE.

EACH ACCESSIBLE PARKING SPACE SHALL HAVE A VERTICALLY MOUNTED (OR SUSPENDED) SIGN SHOWING THE SYMBOL OF ACCESSIBILITY. AT LEAST ONE SPACE MUST INCORPORATE "VAN-ACCESSIBLE" BELOW THE SYMBOL OF ACCESSIBILITY. SIGN SHALL BE LOCATED AS NOTED TO 80" (MIN.) ABOVE THE ADJACENT PAVED SURFACE TO BOTTOM OF TEXT.

ALL ACCESS AISLES SERVING ACCESSIBLE PARKING SPACES SHALL BE AS NOTED TO A 60" WIDE MINIMUM

RAMPS:

RAMPS EXCEEDING 6" IN RISE (EXCLUDING CURB RAMPS) SHALL HAVE APPROPRIATE EDGE PROTECTION WITH HANDRAILS ON EACH SIDE AT BETWEEN 34" AND 38", AND EXTEND 12" BEYOND THE TOP AND BOTTOM OF RAMP. HANDRAIL SHALL NOT DIMINISH THE CLEAR AREA REQUIRED FOR TOP AND BOTTOM LANDINGS SERVING THE RAMPS.

IF REQUIRED BY LOCAL OR STATE JURISDICTION, RAMPS SHALL CONTAIN A TRUNCATED DOME SURFACE ARRANGED SO THAT WATER WILL NOT ACCUMULATE. COLOR OF RAMP FINISH MATERIAL (INCLUDING CONCRETE) SHALL HAVE A LIGHT AND REFLECTIVE VALUE AND MUST CONTRAST SIGNIFICANTLY TO DISTINGUISH IT FROM ADJACENT SURFACES - (OR PAINT STRIPE).

LANDINGS FOR RAMPS SHALL BE AS WIDE AS THE RAMP AND 60" LONG MINIMUM (36" MINIMUM FOR CURB RAMPS).

RAMPS SHALL NOT EXCEED A 1:12 RUNNING SLOPE OR 30" VERTICAL RISE

RAMPS AND LANDING SHALL NOT EXCEED 1:48 (2% CROSS SLOPE).

SIDEWALKS AND ACCESSIBLE ROUTES:

SIDEWALKS MUST BE AT LEAST 36" WIDE WITH A CROSS SLOPE THAT SHALL NOT EXCEED 1:48 (2%).

LONGITUDINAL SLOPE OF ANY SIDEWALK (ACCESSIBLE ROUTE) SHALL NOT EXCEED 1:20 (5%).

REV	DATE	DESCRIPTION	BY
04/06/2018	04/06/2018	ISSUE FOR PERMIT	HJM
10/24/2018	10/24/2018	PER CITY COMMENTS	BMB
01/11/2019	01/11/2019	ISSUE FOR BID	MDK

ADAMS JOB NO. :
2016.212



8951 Cypress Waters Blvd, Suite 150 ■ Dallas, Texas 75019 ■ (817) 338-3200



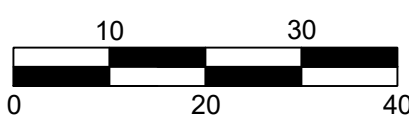
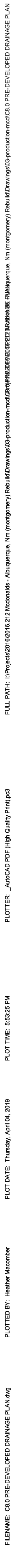
4/4/19

PLAN APPROVALS		OFFICE	MTN. SOUTHWEST FIELD EXECUTION TEAM	McDONALD'S LLC: 35-0031
SIGNATURE (2 REQUIRED)		ADDRESS	KROC DRIVE - OAK BROOK, ILLINOIS 60021	
REGIONAL MGR.		 McDonald's USA, LLC These drawings and specifications are the intellectual and proprietary property of McDonald's USA, LLC and shall not be copied or reproduced without written authorization. The contract documents were prepared for use on this specific site in conjunction with its issue date and are not suitable for use on a different site or at a later time. Use of these drawings for reference as example on another project requires the services of properly licensed architects and engineers. Reproduction of the contract documents for resale on another project is not authorized.		
CONST. MGR				
OPERATIONS DEPT.				
REAL ESTATE DEPT.				
CO-SIGN SIGNATURES				
CONTRACTOR				
OWNER		8315 MONTGOMERY BLVD. NE ALBUQUERQUE, NM		

	DATE	BY
DESIGNED	MAR 2018	HJM
DRAWN	MAR 2018	HJM
CHECKED	04/04/2018	DWL
AS-BUILT		

GRADING PLAN

C7.0



SCALE: 1" = 20'

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FIELD EXECUTION TEAM
511 E. JOHN CARPENTER FRWY, STE. 375
IRVING, TX 75062
(214) 533-7382
CONTACT: LEE MORRIS

LEGEND

- | | |
|---|---|
|  | DRAINAGE AREA LINE |
|  | EXISTING CONTOUR |
|  | DRAINAGE AREA NUMBER
DRAINAGE AREA (ACRES) |
|  | EXISTING DRAINAGE DIRECTION |

BENCHMARK

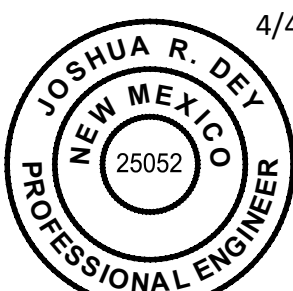
BENCHMARK 1
A.G.R.S. MONUMENT "I2_F20A"
STANDARD A.G.R.S. BRASS DISC (FOUND IN PLACE)
NEW MEXICO STATE PLANE COORDINATES
(CENTRAL ZONE-N.A.D. 1983)
N=1,502,975.986 E=51,553,977.868
PUBLISHED EL=5527.721 (NAVD 1988)
GROUND TO GRID FACTOR= 0.999648015
DELTA ALPHA ANGLE=-0°09'59.90"

BENCHMARK 1
A.G.R.S. MONUMENT "G_G20"
STANDARD A.G.R.S. BRASS TABLET (FOUND IN PLACE)
NEW MEXICO STATE PLANE COORDINATES
(CENTRAL ZONE-N.A.D. 1983)
N=1,500,345.489, E=1,551,806.736
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GROUND TO GRID FACTOR= 0.999652303
DELTA ALPHA ANGLE=-0°10'13.78"



Note: Calculations in accordance with the City of Albuquerque Development Process Manual. The site is in Precipitation Zone 3.

REV	DATE	DESCRIPTION	BY
0000	04/06/2018	ISSUE FOR PERMIT	HJM
0000	10/24/2018	PER CITY COMMENTS	BWB
0000	01/11/2019	ISSUE FOR BID	MDK
			ADAMS JOB NO.: 2016.212
8951 Cypress Waters Blvd, Suite 150 ■ Dallas, Texas 75019 ■ (817) 328-3290			



4/4/19

McDonald's USA, LLC

These drawings and specifications are the confidential and proprietary property of McDonald's USA, LLC and shall not be copied or reproduced without written authorization. The contract documents were prepared for use on this specific site in conjunction with its issue date and are not suitable for use on a different site or at a later time. Use of these drawings for reference on another project requires the services of properly licensed architects

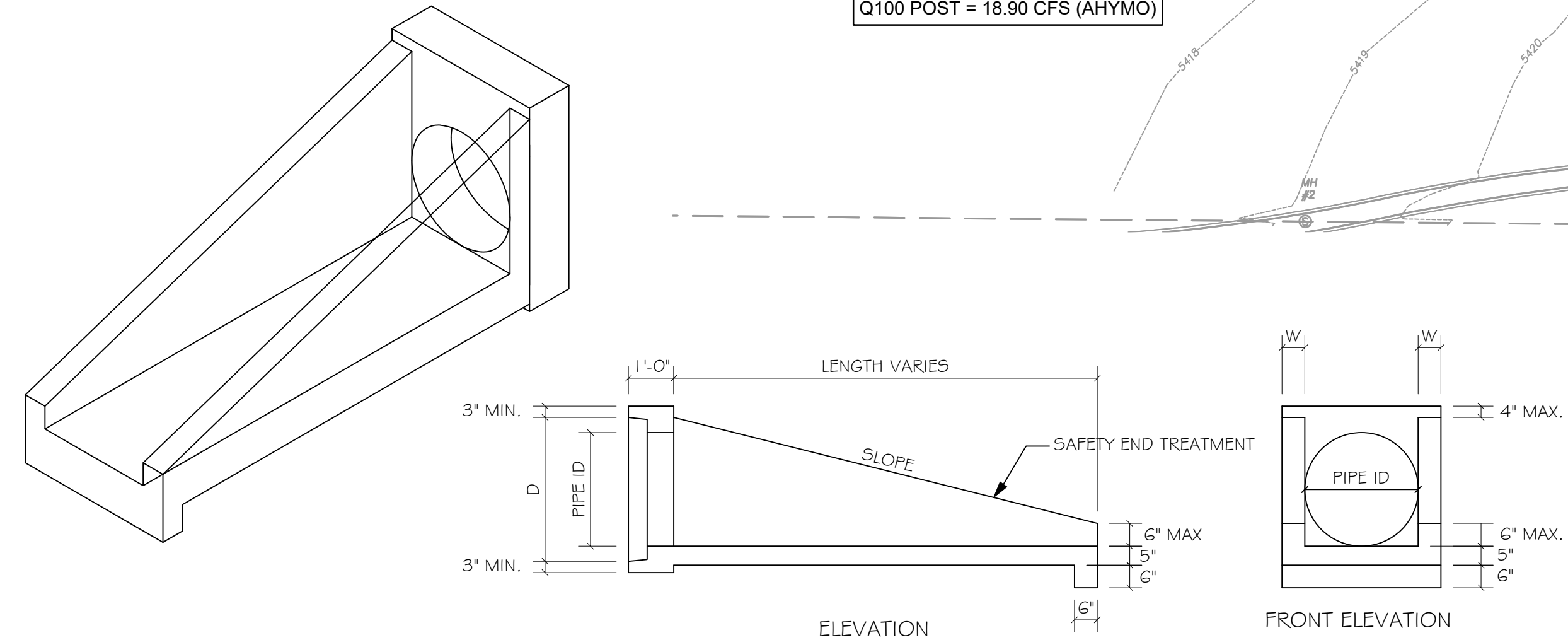
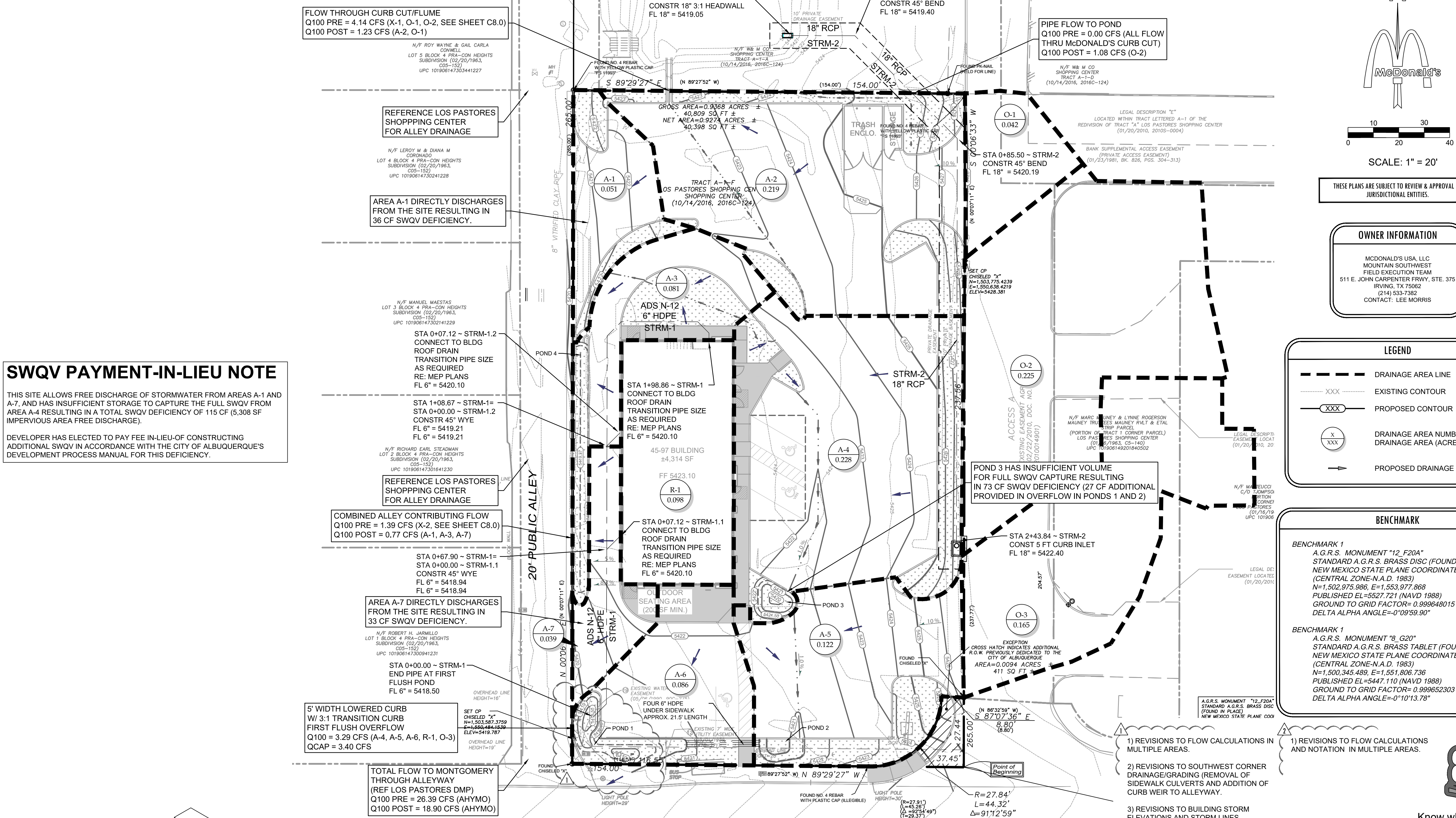
8315 MONTGOMERY BLVD. NE
ALBUQUERQUE, NM

PLAN APPROVALS		
	SIGNATURE (2 REQUIRED)	DATE
REGIONAL MGR.		
CONST. MGR.		
OPERATIONS DEPT.		
REAL ESTATE DEPT.		
CO-SIGN SIGNATURES		
CONTRACTOR		
OWNER		

	DATE	BY
DESIGNED	MAR 2018	TJR
DRAWN	MAR 2018	TJR
CHECKED	04/04/2018	DWL
AS-BUILT		

PRE-DEVELOPED DRAINAGE PLAN

C8.0



PRECAST SLOPED HEADWALL

N.T.S.

NOTES:

1. 4500 PSI CONCRETE
2. #4 GRADE GO REBAR 9" O.C.E.W.
3. ALL EXPOSED CORNERS ARE CHAMFERED 3/4"
4. SWIFT LIFT ANCHORS, LOCATED IN THE FLOOR, SHALL BE USED FOR HANDLING.
5. GALVANIZED STEEL PIPE RUNNERS ARE AVAILABLE FOR CROSS AND PARALLEL DRAINAGE APPLICATIONS.

PIPE ID	PIPE OD	SLOPE	D	W
18"	23"	3:1	24"	5"
		4:1		
		6:1		

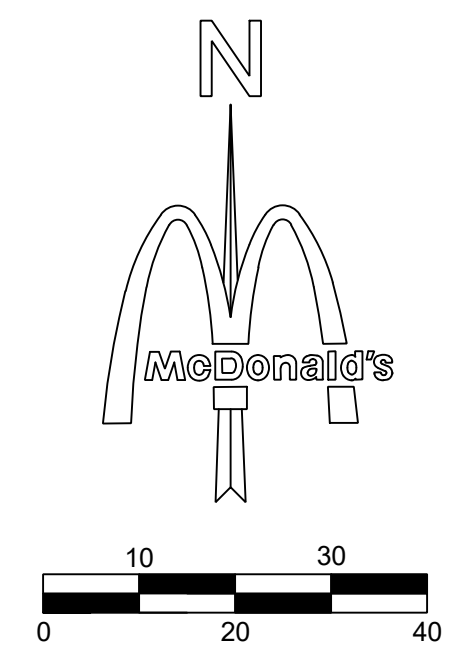
SITE LOCATION - THE SITE IS LOCATED ON APPROXIMATELY 0.927 ACRES AT THE NORTHWEST CORNER OF MONTGOMERY BLVD, N.E. AND WYOMING BLVD, N.E. IT IS BORDERED TO THE EAST BY A COMMON ACCESS DRIVE AND "WELLS FARGO BANK", TO THE WEST BY A PUBLIC ALLEYWAY, AND TO THE NORTH BY A DETENTION POND SERVING THE "LOS PASTORES" DEVELOPMENT. PROPOSED CONSTRUCTION WILL INCLUDE THE DEMOLITION AND REBUILD OF A MCDONALD'S RESTAURANT AND ASSOCIATED PAVING, GRADING, LANDSCAPING, UTILITY, AND STORMWATER MANAGEMENT INFRASTRUCTURE.

METHODOLOGY: THE PROPOSED STORMWATER MANAGEMENT SYSTEM WAS EVALUATED ACCORDING TO CHAPTER 22 OF THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL. THE SITE IS IN PRECIPITATION ZONE 3. THE 100-YEAR, 6-HOUR FREQUENCY RAINFALL EVENT WAS USED TO CALCULATE PEAK DISCHARGE RATES AND RUNOFF VOLUMES UNDER EXISTING AND PROPOSED CONDITIONS.

EXISTING CONDITIONS - REFER TO SHEET C8.0 FOR THE PRE-DEVELOPED DRAINAGE PLAN FOR THIS SITE. STORMWATER RUNOFF GENERALLY DRAINS NORTHWARD TOWARDS THE DETENTION POND OR SOUTHWEST ACROSS THE SITE UNDER EXISTING CONDITIONS. SHEET C8.0 IDENTIFIES SIX DRAINAGE DIVIDES FOR THIS SITE. AREA X-1 (0.586 AC) FLOWS THROUGH A CURB CUT AND FLUME OFF-SITE TO A DETENTION POND, AREA X-2 (0.286 AC) DRAINS SOUTHWEST THROUGH A DRIVEWAY TO THE PUBLIC ALLEYWAY, AND AREA X-3 (0.055 AC) SHEET FLOWS TOWARDS MONTGOMERY BLVD N.E. OFF-SITE AREAS O-1 (0.043 AC) AND O-2 (0.225 AC) DRAINS ONTO AREA X-1 AND ULTIMATELY TO THE DETENTION POND WHILE AREA O-3 (0.165 AC) DRAINS TO THE CURB AND GUTTER AND THEN INTO MONTGOMERY BLVD N.E. PEAK DISCHARGE RATE AND RUNOFF VOLUME CALCULATIONS FOR EXISTING CONDITIONS ARE PROVIDED ON SHEET C8.0.

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DRAINAGE MANAGEMENT PLAN - THIS SITE WILL DRAIN IN ACCORDANCE WITH THE LOS PASTORES SHOPPING CENTER DRAINAGE MANAGEMENT PLAN WITH ENGINEER'S STAMP DATE 5/2/2019 WHICH INCLUDES A COMBINATION OF FREE DISCHARGE AND DETENTION.



SCALE: 1" = 20'

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JURISDICTIONAL ENTITIES.

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MOUNTAIN SOUTHWEST
FIELD EXECUTION TEAM
511 E. JOHN CARPENTER FRWY, STE. 375
IRVING, TX 75062
(214) 533-7382
CONTACT: LEE MORRIS

LEGEND

- | | |
|---|---|
|  | DRAINAGE AREA LINE |
|  | EXISTING CONTOUR |
|  | PROPOSED CONTOUR |
|  | DRAINAGE AREA NUMBER
DRAINAGE AREA (ACRES) |
|  | PROPOSED DRAINAGE DIRECTION |

BENCHMARK

BENCHMARK 1
A.G.R.S. MONUMENT "12 F20A"
STANDARD A.G.R.S. BRASS DISC (FOUND IN PLACE)
NEW MEXICO STATE PLANE COORDINATES
(CENTRAL ZONE-N.A.D. 1983)
N=1,502,975.986, E=1,553,977.868
PUBLISHED EL=5527.721 (NAVD 1988)
GROUND TO GRIO FACTOR= 0.999648015
DELTA ALPHA ANGLE= -0°09'59.90"

BENCHMARK 1
A.G.R.S. MONUMENT "9 G20"
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(CENTRAL ZONE-N.A.D. 1983)
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GROUND TO GRIO FACTOR= 0.999652303
DELTA ALPHA ANGLE= -0°10'13.78"



Know what's below.
Call before you dig.

DRAINAGE SUMMARY REPORT

SITE LOCATION - THE SITE IS LOCATED ON APPROXIMATELY 0.927 ACRES AT THE NORTHWEST CORNER OF MONTGOMERY BLVD, N.E. AND WYOMING BLVD, N.E. IT IS BORDERED TO THE EAST BY A COMMON ACCESS DRIVE AND "WELLS FARGO BANK", TO THE WEST BY A PUBLIC ALLEYWAY, AND TO THE NORTH BY A DETENTION POND SERVING THE "LOS PASTORES" DEVELOPMENT. PROPOSED CONSTRUCTION WILL INCLUDE THE DEMOLITION AND REBUILD OF A MCDONALD'S RESTAURANT AND ASSOCIATED PAVING, GRADING, LANDSCAPING, UTILITY, AND STORMWATER MANAGEMENT INFRASTRUCTURE.

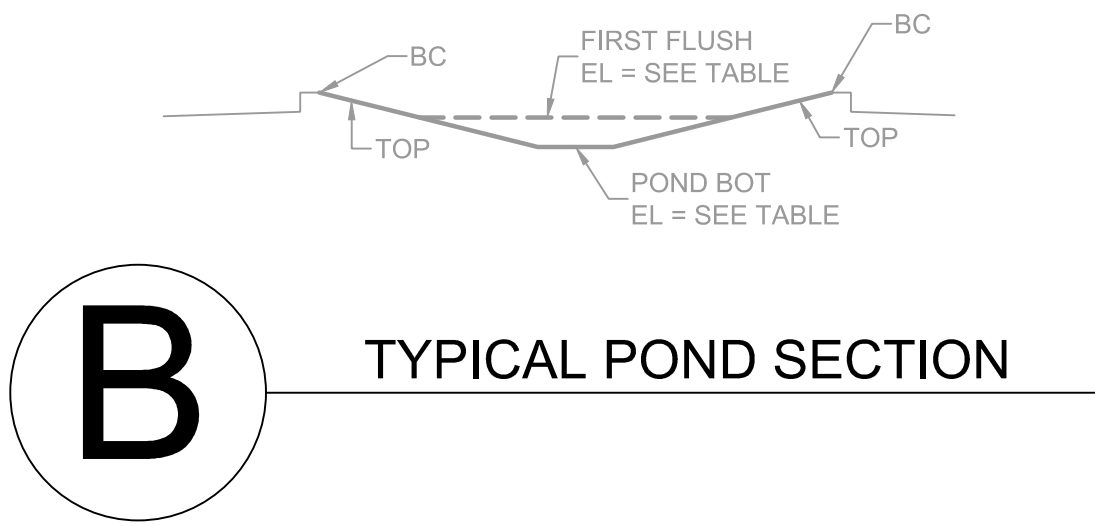
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EXISTING CONDITIONS - REFER TO SHEET C8.0 FOR THE PRE-DEVELOPED DRAINAGE PLAN FOR THIS SITE. STORMWATER RUNOFF GENERALLY DRAINS NORTHWARD TOWARDS THE DETENTION POND OR SOUTHWEST ACROSS THE SITE UNDER EXISTING CONDITIONS. SHEET C8.0 IDENTIFIES SIX DRAINAGE DIVIDES FOR THIS SITE. AREA X-1 (0.586 AC) FLOWS THROUGH A CURB CUT AND FLUME OFF-SITE TO A DETENTION POND, AREA X-2 (0.286 AC) DRAINS SOUTHWEST THROUGH A DRIVEWAY TO THE PUBLIC ALLEYWAY, AND AREA X-3 (0.055 AC) SHEET FLOWS TOWARDS MONTGOMERY BLVD N.E. OFF-SITE AREAS O-1 (0.043 AC) AND O-2 (0.225 AC) DRAINS ONTO AREA X-1 AND ULTIMATELY TO THE DETENTION POND WHILE AREA O-3 (0.165 AC) DRAINS TO THE CURB AND GUTTER AND THEN INTO MONTGOMERY BLVD N.E. PEAK DISCHARGE RATE AND RUNOFF VOLUME CALCULATIONS FOR EXISTING CONDITIONS ARE PROVIDED ON SHEET C8.0.

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FULL PATH: I:\Projects\2018\2018-01-12 McDouglas - Absorption, NM Montgomery/RevisedDrawings\3-Production\MCD08.1 POST DEVELOPED DRAINAGE PLAN
PLOTTER: 100% Change for AutoPlot Pro.d
PLOT TIME: 2:29:38 PM
PLOT DATE: Wednesday, May 15, 2019
PLOTTER BY: Ben Bleed
FILENAME: C8.1 POST-DEVELOPED DRAINAGE PLAN.dwg



POND FF ELEVATION TABLE			
Pond #	POND BOT	POND TOP	FIRST FLUSH ELEVATION
1	5418.00	5419.50	5419.45
2	5419.00	5420.90	5420.85
3	5419.70	5421.40	*
4	5419.37	5420.37	5420.95
* FIRST FLUSH VOLUME EXCEEDS POND VOLUME			

100-YEAR, 6-HOUR HYDRAULIC CALCULATIONS																						
Line ID	Upstream Station	Downstream Station	Pipe Length	Pipe Slope	Drainage Area Designation	Time at Inlet	Time in Pipe	Cumulative Time	Peak Flow	Cumulative Peak Flow	Pipe Diameter	Friction Slope	Hydraulic Gradient		Velocity In	Velocity Out	V1^2/2g	V2^2/2g	Loss Coefficient	Velocity Head Loss	Upstream Invert Elev.	Downstream Invert Elev.
													Upstream	Downstream								
-	-	-	(ft)	(ft/ft)	-	(min)	(min)	(min)	(cfs)	(cfs)	(in)	(ft/ft)	-	-	(ft/sec)	(ft/sec)	(ft)	(ft)	"Kf"	(ft)	(ft)	(ft)
STRM-1.2	0+07.12	0+00.00	7.12	0.0828	A-5	5.00	0.14	5.14	0.2	0.2	6	0.0009	5419.50	5419.50	0.00	0.86	0.00	0.01	0.35	0.01	5418.49	5418.10
STRM-1.1	0+07.12	0+00.00	7.12	0.0500	A-5	5.00	0.14	5.14	0.2	0.2	6	0.0009	5419.47	5419.46	0.00	0.86	0.00	0.01	0.35	0.01	5418.49	5418.10
STRM-1	1+98.86	1+08.67	90.19	0.0065	A-5	5.00	1.31	6.31	0.2	0.2	6	0.0014	5419.62	5419.50	0.00	1.15	0.00	0.02	0.35	0.02	5419.18	5419.21
STRM-1	1+08.67	0+67.90	40.77	0.0065	STRM-1.2	6.31	0.79	7.10	0.2	0.4	6	0.0008	5419.49	5419.46	1.15	0.86	0.02	0.01	0.35	0.00	5419.21	5418.94
STRM-1	0+67.90	0+00.00	67.90	0.0065	STRM-1.1	7.10	1.31	8.41	0.2	0.6	6	0.0008	5419.45	5419.40	0.86	0.86	0.01	0.01	0.35	0.01	5418.94	5418.50
STRM-2	2+43.84	0+00.00	243.84	0.0139	B-3	5.00	6.68	11.68	1.1	1.1	18	0.0001	5422.63	5422.60	0.00	0.61	0.00	0.01	0.35	0.01	5422.40	5419.00

FIRST FLUSH VOLUME CALCULATIONS					
Basin ID	Impervious Area (Ac)	SWQV Req. (CF)(1)	SWQV Prov. (CF)	Pond #	Deficiency (CF)
A-1	0.038	36	0	N/A	36
A-2	0.175	165	165	Los Pastores	0
A-3	0.041	39	192	4	0
A-4	0.182	172	126(4)	3	46
A-5	0.091	86	97	2(2)	0
A-6	0.052	49	158	1(3)	0
A-7	0.035	33	0	N/A	33
R-1	0.098	92	158	1(3)	0
Total	0.712	672	612	N/A	115

Footnotes:
(1) - Required volume is 0.26" from the impervious surface (re-development)
(2) - Pond 2 serves more than just area A-5, it also captures excess from Pond 3.
(3) - Pond 1 serves as primary basin for A-6 and R-1, and also captures excess from Pond 2.
(4) - 27 CF SWQV Provided for A-4 through overflow into Ponds 1 and 2.
Payment in Lieu for 115 CF @ \$8/CF = \$920.00

POST-DEVELOPMENT 100-YEAR, 6-HOUR RUNOFF CALCULATIONS									
Drainage Area Number	Area (ac)	Land Treatment Condition				Excess Precipitation (in)	Volume (acft)	Peak Discharge (cfs)	
		A	B	C	D				
A-1	0.051	0.000	0.000	0.013	0.038	2.09	0.01	0.24	
A-2	0.219	0.000	0.000	0.044	0.175	2.15	0.04	1.03	
A-3	0.081	0.000	0.000	0.040	0.041	1.83	0.01	0.34	
A-4	0.228	0.000	0.000	0.046	0.182	2.14	0.04	1.07	
A-5	0.122	0.000	0.000	0.031	0.091	2.09	0.02	0.56	
A-6	0.086	0.000	0.000	0.034	0.052	1.94	0.01	0.38	
A-7	0.039	0.000	0.000	0.004	0.035	2.25	0.01	0.19	
R-1	0.098	0.000	0.000	0.000	0.098	2.36	0.02	0.49	
O-1	0.042	0.000	0.000	0.006	0.036	2.20	0.01	0.20	
O-2	0.225	0.000	0.000	0.034	0.191	2.20	0.04	1.08	
O-3	0.165	0.000	0.000	0.025	0.140	2.20	0.03	0.79	
Total	1.356	0.000	0.000	0.277	1.079	2.14	0.24	6.37	
Note: Calculations in accordance with the City of Albuquerque Development Process Manual. The site is in Precipitation Zone 3.									

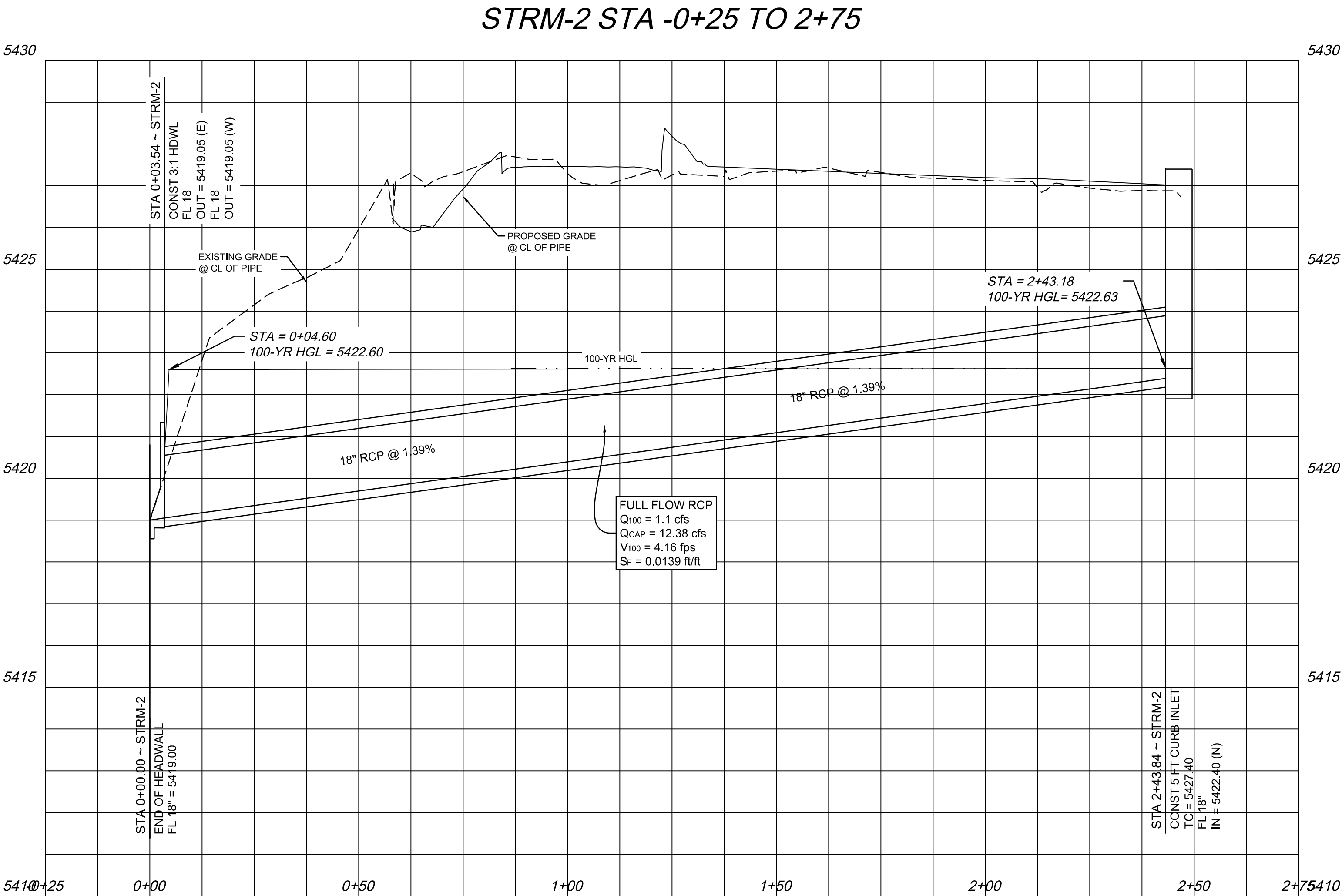
"FIRST FLUSH" POND 1 STAGE-STORAGE VOLUME				
Elevation	Area (sq. ft.)	Inc. Depth (ft.)	Inc. Volume (cu. Ft.)	Total Volume (cu. ft.)
5418.00	0.0			0.0
		0.5	4.7	
5418.50	28.0			4.7
		0.5	39.9	
5419.00	147.0			44.6
		0.5	113.0	
5419.50	317.0			157.6

"FIRST FLUSH" POND 2 STAGE-STORAGE VOLUME				
Elevation	Area (sq. ft.)	Inc. Depth (ft.)	Inc. Volume (cu. Ft.)	Total Volume (cu. ft.)
5419.00	0.0			0.0
		1.0	16.8	
5420.00	50.3			16.8
		0.9	79.8	
5420.90	133.7			96.6

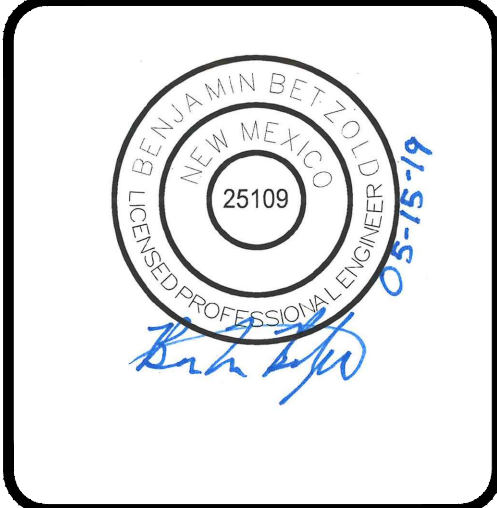
"FIRST FLUSH" POND 3 STAGE-STORAGE VOLUME				
Elevation	Area (sq. ft.)	Inc. Depth (ft.)	Inc. Volume (cu. Ft.)	Total Volume (cu. ft.)
5419.70	0.0			0.0
		0.3	1.1	
5420.00	11.3			1.1
		1.0	47.4	
5421.00	97.6			48.5
		0.4	51.2	
5421.40	161.0			99.7

"FIRST FLUSH" POND 4 STAGE-STORAGE VOLUME				
Elevation	Area (sq. ft.)	Inc. Depth (ft.)	Inc. Volume (cu. Ft.)	Total Volume (cu. ft.)
5419.37	0.0			0.0
		1.0	192.0	
5420.37	575.0			192.0

1) REVISIONS TO FLOW CALCULATIONS AND NOTATION IN MULTIPLE AREAS.



REV	DATE	DESCRIPTION	BY
---	10/24/2018	PER CITY COMMENTS	BWB
---	01/11/2019	ISSUE FOR BID	MDK
1	04/04/2019	PER MCD COMMENTS & HYDROLOGY COMMENTS	HJM
2	05/15/2019	UPDATED NOTATION PER HYDROLOGY COMMENTS	MDK
ADAMS JOB NO.: 2016.212			
Adams			
8951 Cypress Vates Blvd, Suite 150 ■ Dallas, Texas 75019 ■ (817) 338-3200			



PLAN APPROVALS				OFFICE	MTN. SOUTHWEST FIELD EXECUTION TEAM	McDONALD'S LLC: 30-0031
		SIGNATURE (2 REQUIRED)	DATE	ADDRESS	KROC DRIVE - OAK BROOK, ILLINOIS 60521	
	REGIONAL MGR.			 McDonald's USA, LLC These drawings and specifications are the confidential and proprietary property of McDonald's USA, LLC and shall not be copied or reproduced without written authorization. The contract documents were prepared for use on this specific site in conjunction with its issue date and are not suitable for use on a different site or at a later time. Use of these drawings for reference or example on another project requires the services of properly licensed professional architects and engineers. Reproduction of the contract documents for reuse on another project is not authorized.		
	CONST. MGR.					
	OPERATIONS DEPT.					
	REAL ESTATE DEPT.					
CO-SIGN SIGNATURES				8315 MONTGOMERY BLVD. NE ALBUQUERQUE, NM		
	CONTRACTOR					
	OWNER					

	DATE	BY
DESIGNED	MAR 2018	TJR
DRAWN	MAR 2018	TJR
CHECKED	04/04/2018	DWL
AS-BUILT		

DRAINAGE CALCULATIONS

C8.2

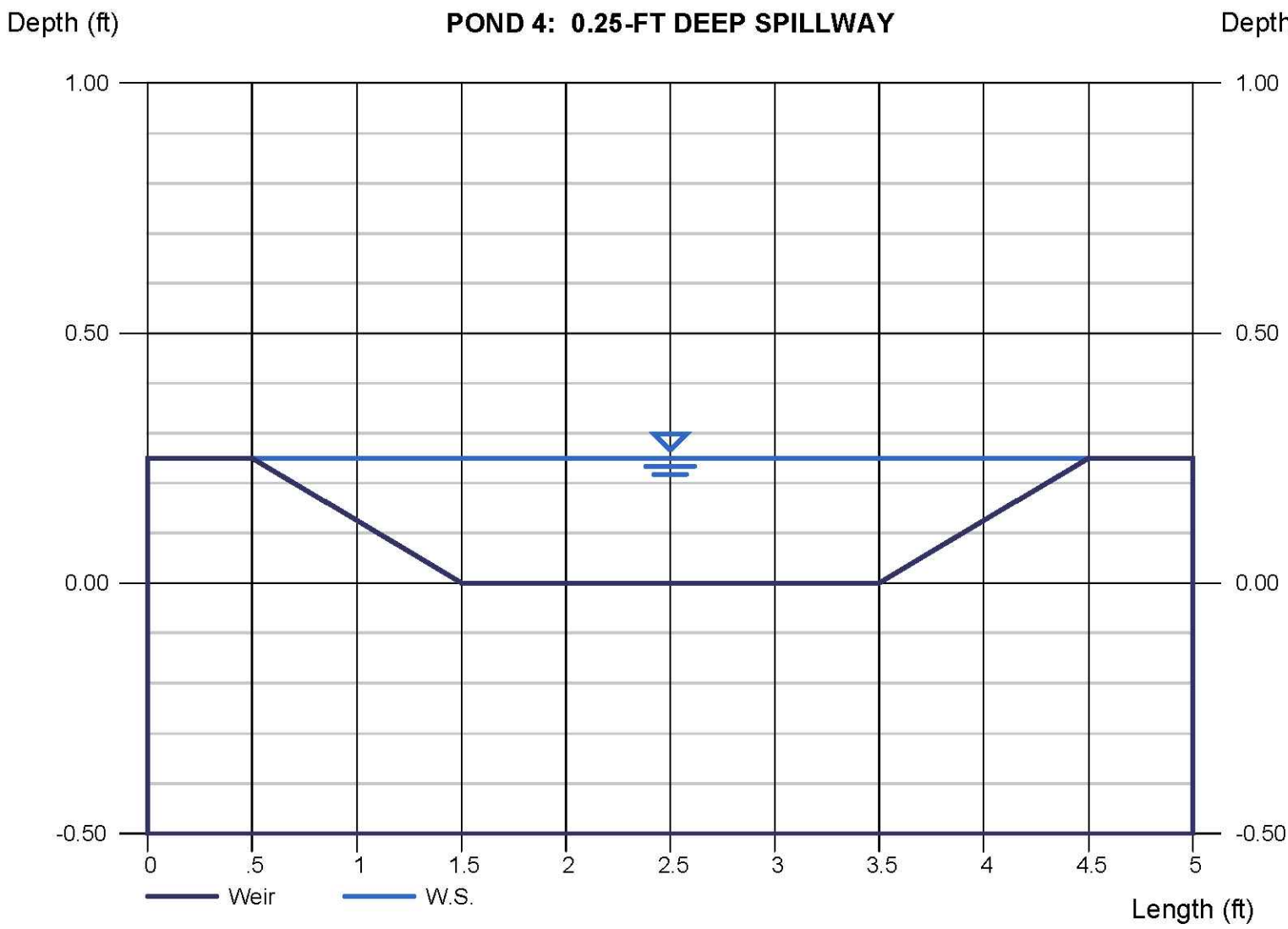
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PLOT TIME: 2:35:12 PM
PLOT DATE: Wednesday, May 15, 2019
PLOTTED BY: Ben Bissel
FILENAME: C8.1 POST-DEVELOPED DRAINAGE PLAN.dwg

Weir Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Friday, Aug 10 2018

POND 4: 0.25-FT DEEP SPILLWAY

Trapezoidal Weir				Highlighted			
Crest	=	Sharp		Depth (ft)	=	0.25	
Bottom Length (ft)	=	2.00		Q (cfs)	=	1.085	
Total Depth (ft)	=	0.25		Area (sqft)	=	0.75	
Side Slope (z:1)	=	4.00		Velocity (ft/s)	=	1.45	
				Top Width (ft)	=	4.00	
Calculations							
Weir Coeff. Cw	=	3.10					
Compute by:		Known Depth					
Known Depth (ft)	=	0.25					

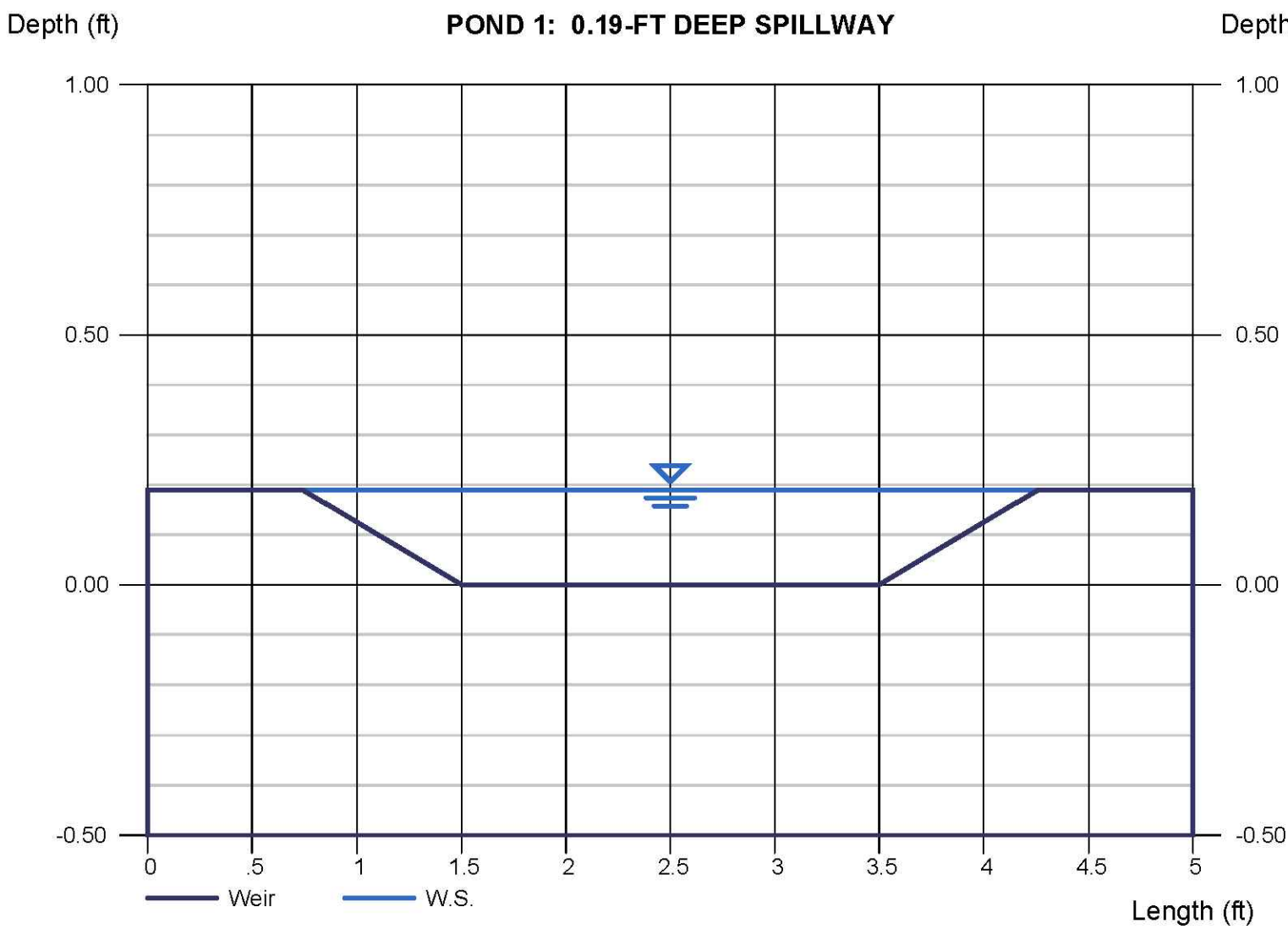


Weir Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Friday, Aug 10 2018

POND 1: 0.19-FT DEEP SPILLWAY

Trapezoidal Weir				Highlighted			
Crest	=	Sharp		Depth (ft)	=	0.19	
Bottom Length (ft)	=	2.00		Q (cfs)	=	0.670	
Total Depth (ft)	=	0.19		Area (sqft)	=	0.52	
Side Slope (z:1)	=	4.00		Velocity (ft/s)	=	1.28	
				Top Width (ft)	=	3.52	
Calculations							
Weir Coeff. Cw	=	3.10					
Compute by:		Known Depth					
Known Depth (ft)	=	0.19					

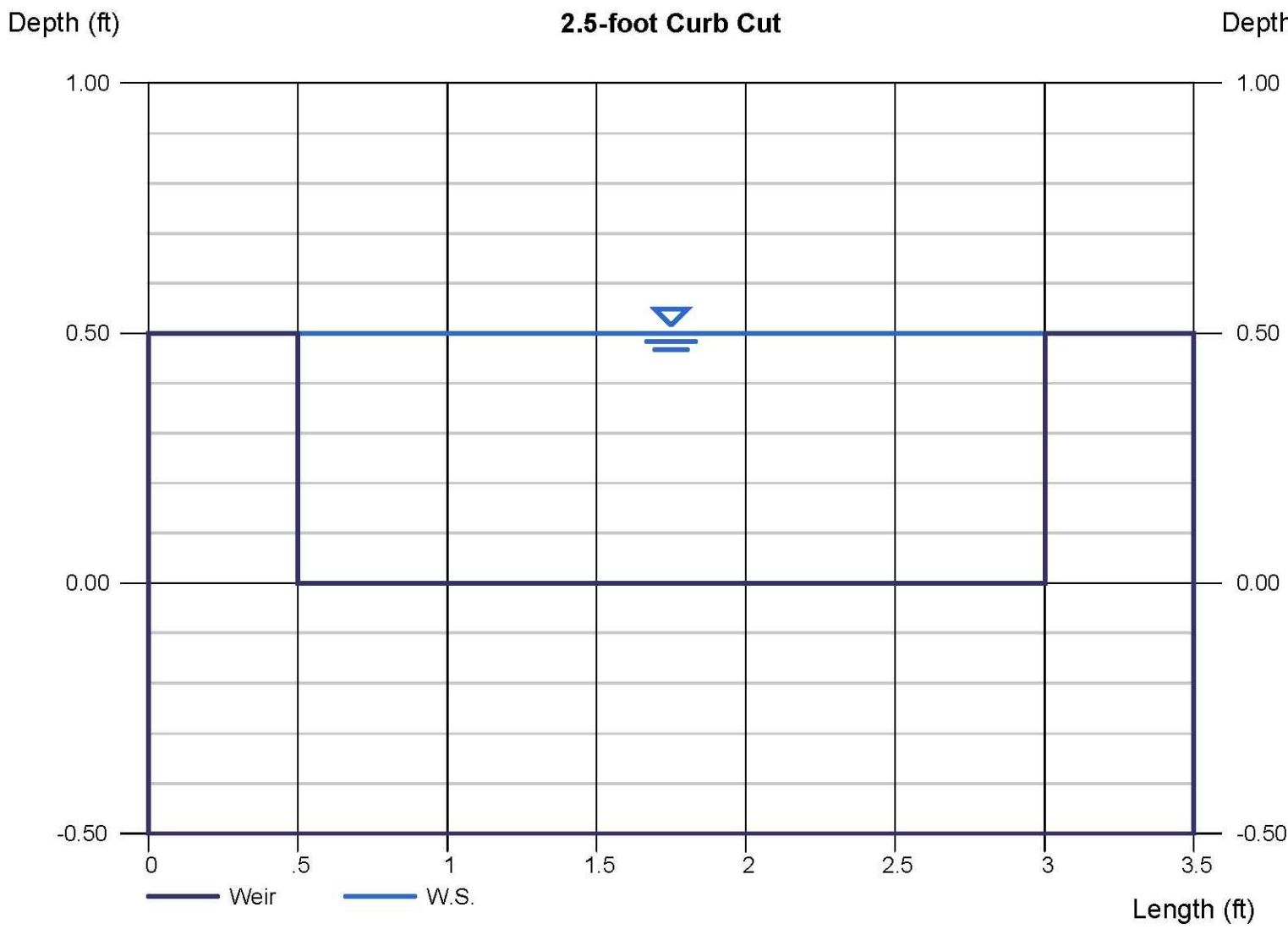


Weir Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Friday, Aug 10 2018

2.5-foot Curb Cut

Rectangular Weir				Highlighted			
Crest	=	Sharp		Depth (ft)	=	0.50	
Bottom Length (ft)	=	2.50		Q (cfs)	=	2.943	
Total Depth (ft)	=	0.50		Area (sqft)	=	1.25	
				Velocity (ft/s)	=	2.35	
				Top Width (ft)	=	2.50	
Calculations							
Weir Coeff. Cw	=	3.33					
Compute by:		Known Depth					
Known Depth (ft)	=	0.50					



Weir Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Tuesday, May 14 2019

5' SW Weir Pond 1

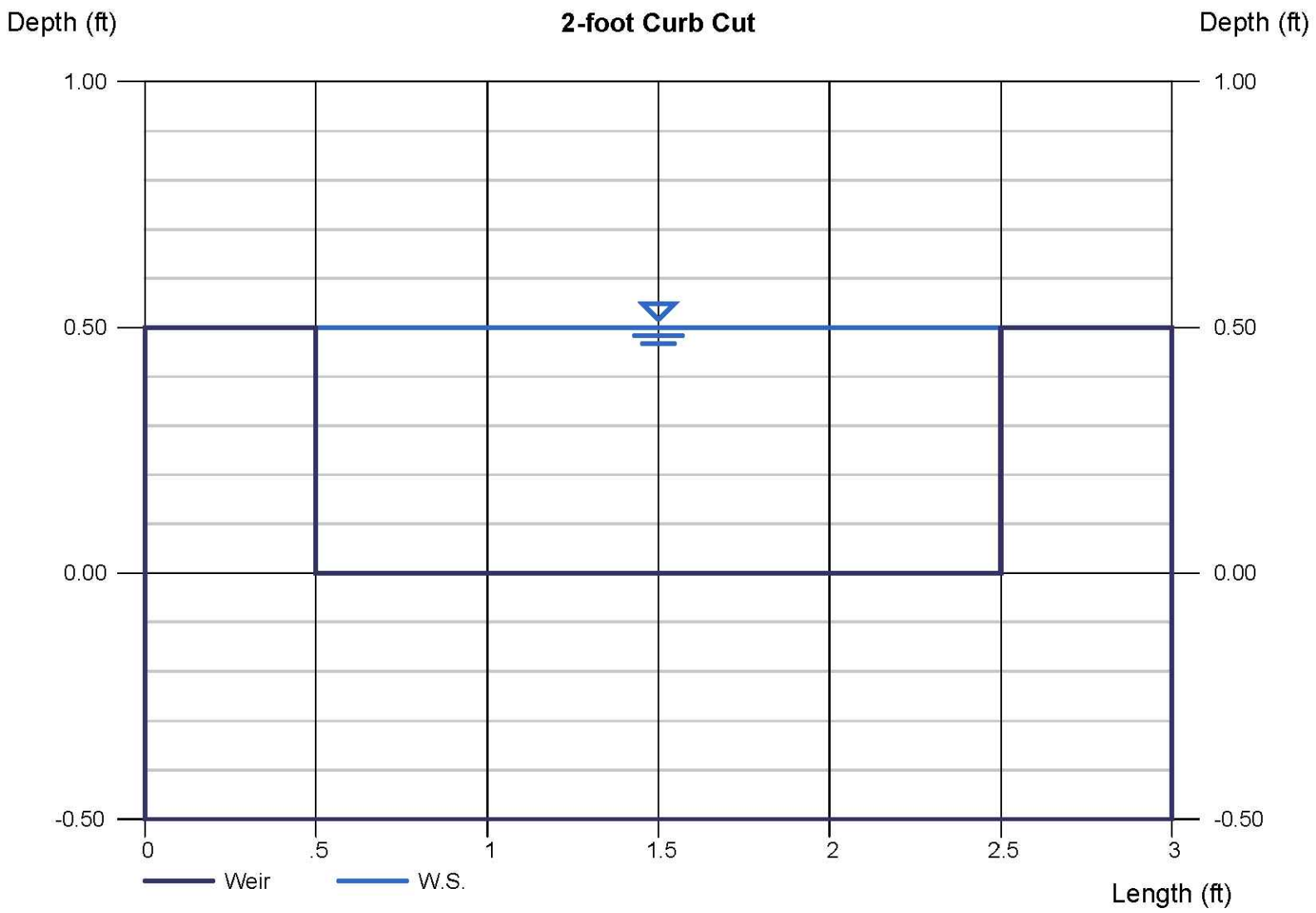
Trapezoidal Weir				Highlighted			
Crest	=	Sharp		Depth (ft)	=	0.33	
Bottom Length (ft)	=	5.00		Q (cfs)	=	3.404	
Total Depth (ft)	=	0.33		Area (sqft)	=	1.98	
Side Slope (z:1)	=	3.00		Velocity (ft/s)	=	1.72	
				Top Width (ft)	=	6.98	
Calculations							
Weir Coeff. Cw	=	3.10					
Compute by:		Q vs Depth					
No. Increments	=	10					

Weir Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Friday, Aug 10 2018

2-foot Curb Cut

Rectangular Weir				Highlighted			
Crest	=	Sharp		Depth (ft)	=	0.50	
Bottom Length (ft)	=	2.00		Q (cfs)	=	2.355	
Total Depth (ft)	=	0.50		Area (sqft)	=	1.00	
				Velocity (ft/s)	=	2.35	
				Top Width (ft)	=	2.00	
Calculations							
Weir Coeff. Cw	=	3.33					
Compute by:		Known Depth					
Known Depth (ft)	=	0.50					



1) REVISIONS TO FLOW CALCULATIONS AND NOTATION IN MULTIPLE AREAS.

BY	BWB	DESCRIPTION	ADAMS JOE NO.:
MDK		PER CITY COMMENTS	2016.212
MDK		ISSUE FOR BID	
MDK		PER MCD COMMENTS & HYDROLOGY COMMENTS	
MDK		UPDATED WEIR CALCS PER SITE CHANGES	
			ADAMS
			8951 Cypress Vistas Blvd, Suite 150 ■ Dallas, Texas 75019 ■ (817) 338-3200

MTN. SOUTHWEST FIELD EXECUTION TEAM	MCDONALD'S, LLC:
ADDRESS: KROC DRIVE - OAK BROOK, ILLINOIS 60521	30-0031
McDonald's USA, LLC	
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8315 MONTGOMERY BLVD. NE ALBUQUERQUE, NM	

PLAN APPROVALS	
SIGNATURE (2 REQUIRED)	DATE
REGIONAL MGR.	
CONST. MGR.	
OPERATIONS DEPT.	
REAL ESTATE DEPT.	
CO-SIGN SIGNATURES	
CONTRACTOR	
OWNER	

DESIGNED	DATE	BY
DRAWN	----	----
CHECKED	----	----
AS-BUILT		

DRAINAGE CALCULATIONS

C8.3

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