CITY OF ALBUQUERQUE

Hydrology Section Planning Department
Brennon Williams, Acting Director

Timothy M. Keller, Mayor

July 8, 2019

Rick Tietgens P.E.
AECOM
6501 Americas Parkway NE
Suite 900
Albuquerque, NM, 87110

RE: **ABCWUA Customer Service an Operations Facility - 6000 Alexander Blvd NE**
G&D Plan and Drainage Report Engineer's Stamp Date 7/8/2019
Hydrology File: F16D014C

Dear Mr. Tietgens:

The referenced submittal received on 7/8/2019 is approved for Building Permit and Grading Permit. Please attach a copy of this approval letter and the approved G&D Plan to the construction plans for building permit.

Prior to Certificate of occupancy:

1) Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.
2) Public Drainage Easements are required for all ponds and storm drains receiving public drainage from Mission Ave. Also an Agreement and Covenant is required for the drainage facilities receiving public drainage.
3) The rest of the drainage ponds receiving only private drainage require a Drainage Covenant. The notarized original of all covenants and easements along with a recording fee ($25 each, payable to Bernalillo County) 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. The routing and recording process for covenants can take a month or longer; Hydrology recommends beginning this process as soon as possible as to not delay approval for certificate of occupancy.

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

Sincerely,

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

MATCH LINE - SEE DWG C-302

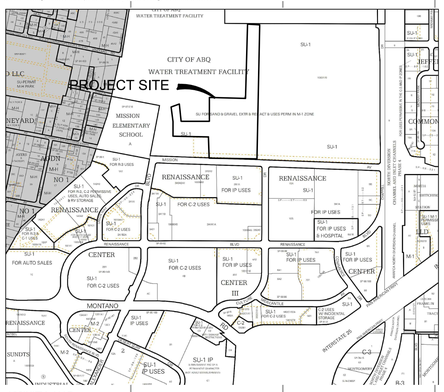
NORTH POND STORM WATER QUALITY VOLUME:
9.13 ACRES OF NEW IMPERVIOUS
(397,702 SF x 0.34"/12) = 11,268 CU FT = 0.26 ACRE-FT

Precipitation Zone 2 - 100 year storm

P(360)=	2.29 in.	P(1440)=	2.59 in.	P(10 day) =	3.62 in.			
Qdc=	3.05 cfs/acre	Qdd=	4.34 cfs/acre					
Ec=	1.03	Ed=	2.33					

Basin	Basin Area (acre)	Land Treatment Factors A (Acres)	B	C	D	tw (in.) (in)	V(360) (af)	V(1440) (af)	V(100-10 day) (af)		Q(100) (cfs)
Existing Conditions											
Mission Elementary	8.93	0	0	4.47	4.47	1.68	1.25	1.36	1.75		33.00
WTP Site	43.91	0	0	30.11	13.8	1.44	5.26	5.61	6.79		151.73
Solar Array	11.35	0	0	8.62	2.73	1.34	1.27	1.34	1.57		38.14
Mission Ave / SE Renaisance	38.04	0	2.46	17.64	17.94	1.58	5.00	5.45	6.99		** 55.16
Employee Lot	4.87	0	0	3.26	1.61	1.46	0.59	0.63	0.77		16.93
Visitor Lot	3.22	0	0	3.22	0	1.03	0.28	0.28	0.28		9.82
Fleet Lot	11.55	0	0	11.55	0	1.03	0.99	0.99	0.99		35.23
Vulcan Basin	46.9	0	0	42.9	4	1.14	4.46	4.56	4.90		148.21
Proposed Conditions										Change	Change
Mission Elementary	8.93	0	0	4.47	4.47	1.68	1.25	1.36	1.75	0.00	33.00	0.00
WTP Site	43.91	0	0	29.71	14.2	1.45	5.31	5.66	6.88	0.09	152.24	0.52
Solar Array	11.35	0	0	8.62	2.73	1.34	1.27	0.75	1.57	0.00	38.14	0.00
Mission Ave / SE Renaisance	38.04	0	2.46	17.64	17.94	1.58	5.00	5.45	6.99	0.00	** 55.16	0.00
Employee Lot	4.87	0	0	2.14	2.73	1.76	0.71	0.78	1.02	0.25	18.38	1.44
Visitor Lot	3.22	0	0	2.35	0.88	1.39	0.37	0.39	0.47	0.19	10.99	1.17
Fleet Lot	11.55	0	0	2.42	9.13	2.06	1.98	2.21	2.99	2.00	47.01	11.78
Vulcan Basin	46.9	0	0	42.9	4	1.14	4.46	4.56	4.90	0.00	148.21	0.00
								Totals	**21.66**	**2.53**		**14.90**

** The calculated flow for this basin area and land treatment is 131.06 cfs, however because the flow from the SE Renaisance is limited by onsite storage and orifice plates, the Q100 discharge is limited to 55.16 cfs



VICINITY_MAP

PHASE 4

PHASE 3

PHASE 2

PHASE 1

EAST DETENTION POND
BOTTOM ELEVATION 5030
100 YR WATER SURFACE 5041.0
5.1 ACRE FEET

24" FLARED END SEC
INV. ELEV. 5035.0

36" FLARED END SEC
INV. ELEV. 5041.0
N:1507656.72
E: 1532329.64

N:1507581.27
E:1532082.45

N:1507534.43
E: 1531979.98

NEW INLET
INV. = 5041.4
N:1507629.45
E: 1531982.12

N:1507458.99
E: 1531980.11

DROP INLET
GRATE ELEV 5045.8
INV. ELEV. 5042.6

8" CURB

EXIST. 24" PIPE

EXIST. 36" PIPE

N:150
E: 153

SOUTH DETENTION POND
BOTTOM ELEVATION 5029
100 YR WATER SURFACE 5039.79
3.3 ACRE FEET

EXIST. 48" PIPE

EXIST. RIP RAP

IE 5039.79

IE 5043.71

IE 5044.3

SOUTH POND STORM WATER QUALITY VOLUME:
3.61 ACRES OF NEW IMPERVIOUS
(157,252 SF x 0.34"/12) = 4,4558 CU FT = 0.10 ACRE-FT

VEHICLE MAINTENANCE
FFE 5052.50

N:1507158.86
E: 1532326.08

N:1507158.86
E: 1532413.17

N:1507092.45
E: 1532413.17

SHOPS
FFE 5053.00

N:1507013.38
E: 1532039.58

N:1507013.71
E: 1532263.82

WAREHOUSE
FFE 5053.00

N:1506964.20
E: 1532147.47

N:1506964.34
E: 1532263.76

N:1506975.49
E: 1532039.50

N:1506927.34
E: 1532128.70

N:1506927.72
E: 1532408.70

OPERATIONS BUILDING
FFE 5053.00

N:1506920.22
E: 1532014.10

N:1506859.43
E: 1532023.41

N:1506859.47
E: 1532212.32

N:1506922.62
E: 1532397.34

N:1506859.43
E: 1532397.34

N:1506776.55
E: 1531910.01

N:1506762.36
E: 1531908.90

N:1506743.01
E: 1531923.55

N:1506779.08
E: 1532100.38

N:1506821.91
E: 1532170.98

N:1506788.70
E: 1532170.98

N:1506755.16
E: 1532339.38

N:1506692.48
E: 1532201.55

N:1506744.31
E: 1532010.43

N:1506889.01
E: 1531908.76

MISSION AVENUE

PROJECT BENCHMARK

BLM SECTION CORNER BRASS CAP "SC 27–26–34–35", SET IN CONCRETE, 0.4' BELOW GROUND, APPROXIMATELY 14.6' NORTH OF THE NORTH SIDE OF 5741 MIDWAY PARK BLVD NE AND APPROXIMATELY 179' WEST OF THE CENTER LINE OF MIDWAY PARK BLVD NE. ELEVATION = 5113.12 FEET (NAVD 1988)

PROPERTY LEGAL DESCRIPTION

TRACT A PLAT OF TRACT A CITY OF ALBUQUERQUE WATER TREATMENT FACILITY CONTAINING 162.5256 ACRES

LEGEND

- 5050 — EXISTING GRADE CONTOUR
- EXISTING STORM DRAIN
- 5050 — NEW GRADE CONTOUR
- + 5050 — NEW GRADE SPOT ELEVATION
- LIMITS OF GRADING
- SD — NEW STORM DRAIN PIPE
- NEW RIP RAP SLOPE PROTECTION
- PHASE LIMIT

KEY NOTES

1. CONSTRUCT 84 LF 2' RETAINING WALL
2. INSTALL 78' LF 24" RCP CLASS III
7. INSTALL NEW TYPE A STORM INLET PER COA STD DTL DWG 2201 (TYP. 2)
9. CONSTRUCT RIPRAP RUNDOWN PER 6/C-500
10. LOWER EXISTING MANHOLE
11. CONSTRUCT 6' WIDE CURB GAP W/CONCRETE CHUTE PER DTL 3/C-500
12. CONSTRUCT 3' WIDE CURB GAP W/CONCRET CHUTE PER DTL 3 /C-500
13. CONSTRUCT 3'X2' DROP INLET
14. CONSTRUCT 31 LF 18" PVC STORM DRAIN S=0.017

PLAN NORTH

Scale 1"= 50'

0 50 100

SMPC Architects
PRINCIPLES OF DESIGN.
115 Amherst Drive SE,
Albuquerque, New Mexico
87106
T 505.255 8668
F 505 268 6665
www.smpcarchitects.com

AECOM Imagine it. Delivered.
One Park Square, 6501 Americas Pkwy NE,
Suite 900 Albuquerque, New Mexico 87110
(505)–855–7500

ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY

CUSTOMER SERVICE AND OPERATIONS FACILITIES

SITEWORK

6000 Alexander Blvd NE, Albuquerque, NM 87107

NO	DATE	DESCRIPTION

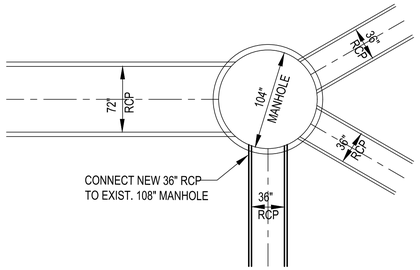
DATE: 3/15/19
PROJECT #: 18018
DRAWN BY: DRW
CH'D BY: CR

SHEET TITLE

GRADING AND DRAINAGE PLAN

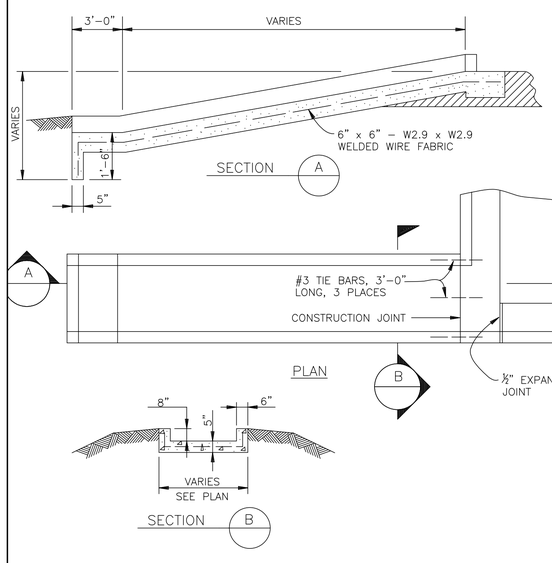
C-301

SHEET OF



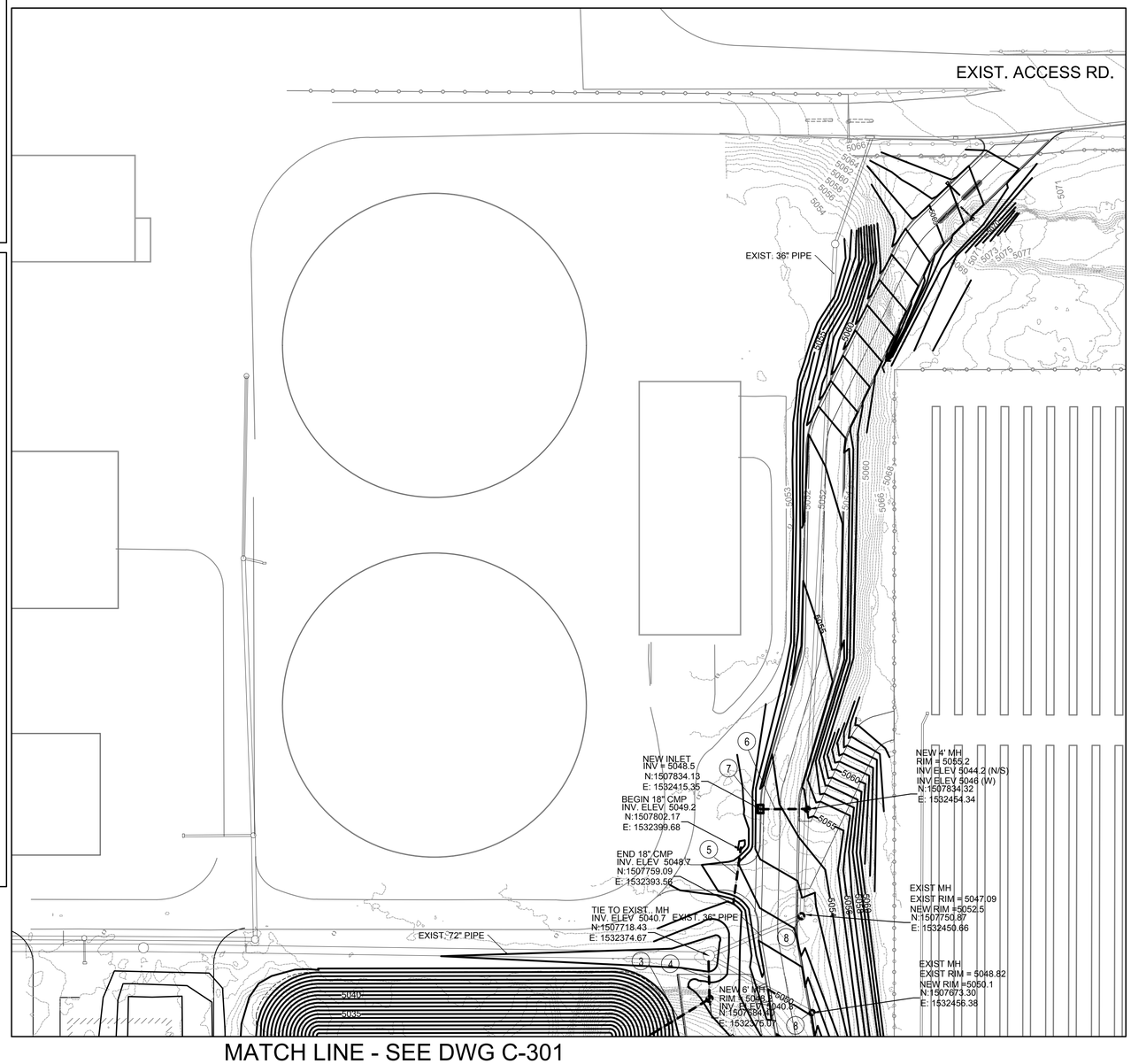
4A C-500 CONNECTION TO EXIST 9' MANHOLE

N.T.S.



3 C-500 CURB GAP WITH CHUTE

N.T.S.



LEGEND

- 5050 — EXISTING GRADE CONTOUR
- EXISTING STORM DRAIN
- 5050 — NEW GRADE CONTOUR
- + 5050 NEW GRADE SPOT ELEVATION
- LIMITS OF GRADING
- SD — NEW STORM DRAIN PIPE
- NEW RIP RAP SLOPE PROTECTION

KEY NOTES

3. INSTALL 40 LF 48" RCP CLASS III
4. INSTALL 31 LF 48" RCP CLASS III
5. INSTALL 45 LF RELOCATED 18" CMP CULVERT
6. INSTALL 39 LF 24" RCP CLASS III
7. INSTALL NEW TYPE A STORM INLET PER COA STD DTL DWG 2201 (TYP. 2)
8. RAISE EXIST MH LID

PLAN NORTH

Scale 1"= 50'

0 50 100

SMPC Architects
PRINCIPLES OF DESIGN.
115 Amherst Drive SE,
Albuquerque, New Mexico
87106
T 505.255 8668
F 505 268 6665
www.smpcarchitects.com

AECOM Imagine it. Delivered.
One Park Square, 6501 Americas Pkwy NE,
Suite 900 Albuquerque, New Mexico 87110
(505)-855-7500

ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY

CUSTOMER SERVICE AND OPERATIONS FACILITIES SITEWORK

6000 Alexander Blvd NE, Albuquerque, NM 87107

NO	DATE	DESCRIPTION

DATE: 6/28/19
PROJECT #: 18018
DRAWN BY: DRW
CH'D BY: CR

SHEET TITLE

GRADING AND DRAINAGE PLAN

C-302

SHEET OF

Albuquerque Bernalillo County Water Authority
Water Treatment Plant
Customer Service and Operations Facilities

GRADING AND DRAINAGE REPORT

June 28, 2019

AECOM

Contents

1.0 Background

The Site Development Plan for this project is a major amendment to a previously approved Site Development Plan for all or a portion of Tract A, plat of Tract A, COA Water Treatment Facility addressed at 6000 Alexander Blvd NE. The original site development plan was approved by EPC in February 2004 for a 163 acre site with construction of improvements completed in 2009 which utilized approximately 93 acres for use as a Water Treatment Plant.

In November, 2018, EPC approved the Site Development Plan covered by the proposed improvements covered in this report. The Notice of Decision is referenced as SI-2018-00123 – Major Amendment of Prior Approval, site Development Plan

2.0 Purpose

The purpose of this report is to analyze grading, drainage, and site improvements of the Water Authority Customer Service and Operations Facilities projects and to integrate them into the complete limited discharge and temporary onsite retention of the entire 163 acre property. The site of proposed improvements is the southeast corner of the existing 93 acre Water Treatment Plant west of the North Diversion Channel north of Mission Avenue. The proposed project will make improvements to approximately 11.55 acres of the existing 93 acre Water Treatment Plant (WTP) site. See Attachment A, Zone Atlas Page F-16-Z.

3.0 Existing Site Conditions

3.1 Overview

The existing property encompasses approximately 163 acres which is zoned NR-SU. Existing topography is relatively flat with elevations ranging from 5017 to 5045. A 5-15 foot high berm is located along the south and west property line. The eastern portion of the property (approximately 47 acres) is leased to Vulcan Materials, under their control for sand and gravel operations, and does not contribute flows to the remainder of the site due to a large existing temporary retention pond in this location (Vulcan Detention Pond).

The Water Authority utilizes approximately 93 acres on the western portion of the property for use as a Water Treatment Plan (WTP). The facilities consist of 13 covered buildings and 5 open storage ponds. Two of these ponds are settled water storage basins, one is used as a drying bed, and two are storm water detention ponds. The site has an access road near the intersection of Mission Avenue and Alexander Blvd. A delivery entrance is also exists near the northeast edge of the operating WTP which connects to Chappell Road.

The site lies within a designated Zone X area which are areas determined to be outside the 500-year floodplain and protected by levee from the 100-year flood (FIRM No. 35001C0138 D, Panel 138 of 825). See Attachment B.

3.2 Site Basins (See Attachment C)

There are a total of 6 basins within the 163 acre property as well as three offsite basins that flow to the 163 acre property. A total of 4 onsite temporary retention ponds contain the flows from these 10 basins. Descriptions of each basin follows

- WTP Basin

The main WTP basin is a 73 acre site which includes the existing WTP operational area. The basin includes three ponds which do not contribute to runoff. Two of the pond areas are settled water storage and the other is a solids drying bed. The total contributing area of the basin is 43.91 acres with approximately 13.8 acres of impervious land treatment. All runoff from the WTP basin are captured within an onsite storm drain system that flows to the West Detention Pond

- Solar Array Basin

An existing solar array is located east of the WTP basin. The solar array basin is 11.35 acres with 2.73 acres of impervious land treatment. The Solar Array Basin routes to the West Detention Pond via connection to an onsite storm drain system. This basin is not impacted by the proposed improvements

- Vulcan Basin

The Vulcan Basin is an area currently leased to Vulcan Materials. The Vulcan Basin is approximately 46.9 acres with 4 acres of impervious area. The runoff from this basin flows to temporary onsite retention within the Vulcan Pond. This basin is not impacted by the prospered improvements

- Employee Lot Basin

The employee lot basin currently contains no employee lot but is 4.37 acres of undeveloped land which includes the existing West Detention Pond.

- Visitor Lot Basin

The visitor lot basin currently contains no visitor lot but is 3.22 acres of undeveloped land. The Visitor Lot Basin routes runoff to the South Detention Pond

- Fleet Lot Basin

The fleet lot basin currently contains no fleet lot but is 11.55 acres of undeveloped land.

3.3 Offsite Generated Runoff

The site receives storm-water runoff from three separate offsite basins.

- Mission Hills Elementary School

The first offsite source is Mission Hills Elementary School which is an 8.93 acre site contributing a 100-year storm event volume of 1.75 acre feet which is conveyed to the West Detention pond via an existing 30-inch storm drain line.

- SE Renaissance Basin

The SE Renaissance basin is an office park development south of Mission Ave. and east of Culture Dr. The basin is approximately 23 acres with 11 acres of impervious. This basin discharges to Mission Avenue (and ultimately the WTP property) at a very slow rate due to onsite retention and orifice plates.

- SE Renaissance Basin

The last source of offsite flow is The Mission Avenue Right of Way which has a contributing area of 14.52 acres. The combined flow from Mission Avenue ROW plus the SE Renaissance Basin produces a 100-year runoff of 4.9 acre-feet which is delivered to the south Detention Pond via an existing 48-inch culvert which extends from the Mission Ave ROW under and existing onsite berm

3.4 Existing Site Detention Ponds

West detention Pond

The 163 acre property is served by three temporary Detention Ponds which contain all of the runoff generated by the site plus three offsite basins. The first detention pond is the **West Detention** pond with 3:1 side slopes and a topographic measured volume of 28.0 acre-feet (See Attachment F for a volume analysis of the existing ponds). This pond is sized to detain the 93-acre Water Treatment Plant runoff (plus the runoff from Mission Hills Elementary School. Under existing conditions the 100-year volume of water routed to this pond is 10.11 acre-feet.

The West Detention Pond is downstream from the other site detention ponds and would accept any overflow from the other site ponds

West Detention Pond (Capacity 28.0 acre-ft)	
Contributing Basin	100-year volume (Acre-Feet) -Existing
WTP Basin	6.79
Solar Array Basin	1.57
Mission Hills Elementary	1.75
Overflow from South Pond	5.05
Total	15.16

South Detention Pond

The second detention pond is the **South Detention Pond** with 3:1 side slopes and a measured volume of 3.0 acre-feet. This pond is sized to detain the runoff from the south central portion of the site plus the offsite runoff from Mission Avenue. An existing 48-inch culvert (in place for over 30-years) routes flow under the existing berm from the Mission Ave ROW to the South Detention pond. See Attachment G for an analysis of the existing 48-inch RCP. Under existing conditions the 100-year volume of water routed to the pond is 3.91 acre-feet.

The South Detention Pond is connected to the West Detention Pond via a dedicated 48” RCP

South Detention Pond (Capacity 3.0 acre-ft)	
Contributing Basin	100-year volume (Acre-Feet) -Existing
Employee Lot Basin	0.77
Visitor Lot Basin	0.28
Mission Avenue ROW / SE Renaissance Basin	6.99
Total	8.04

Vulcan Detention Pond

The third detention pond is the **Vulcan Pond** with irregular side slopes ranging from 3:1 to 25:1 and a measured volume of 18.9 acre-feet. This pond is sized to detain the runoff from the Vulcan Basin. This pond is currently sized much larger than the 100-year flow and will be routed in a future outlet pipe.

Vulcan Detention Pond (Capacity 18.9 acre-ft)	
Contributing Basin	100-year volume (Acre-Feet) -Existing
Vulcan Basin	4.9
Total	4.9

3.5 Existing WTP Internal Storm Drain Network

The existing Water Treatment Plant (WTP) contain 5 separate storm drain networks that each independently discharge to the West Detention pond. The existing pipe network is adequately sized to convey current, proposed and future site flows. The pipe networks as well as the flow from each are shown in Attachment C (Basin Map).

4.0 Proposed Improvements

The Albuquerque Bernalillo County Water Authority proposes to improve approximately 11.55 acres of its existing 93 acre WTP site. The proposed improvements will consolidate several operations currently conducted offsite and co-locate them within the WTP boundary (See Attachment D). The consolidated improvements will include a Customer Service and Operations building, Vehicle Maintenance, Warehouse and Mechanical Shops, and new Dewatering Building. Areas around the new buildings will be landscaped. The improvements will also include paved parking for visitors, employees and fleet vehicles. The majority of the paved parking will have overhead solar array canopy structures. A new access road will connect the fleet vehicle parking lot to the existing access road in the northeast portion of the WTP. The new employee parking will be connected to existing internal roadways which connect to the main WTP entrance on Alexander Blvd.

The grading of the improvements area, as shown in Attachment E, will lower a portion of the berm along Mission Avenue and slope the majority of the site north at 1% to 1.5% to a new North Detention Pond. A portion of the site will also continue to drain west to the existing South Detention Pond.

4.1 South Detention Pond

The existing South Detention Pond will be reduced in surface area to accommodate an employee parking area; the pond bottom will be lowered to develop required storage volume. The South Detention pond will have a bottom elevation of 5029.0, 100-year water surface of 5043.71, and a 6-foot chain link perimeter fence. The revised south Detention Pond will have 3:1 side slopes and a volume of 5.6 acre-feet. The new Visitor Lot will drain to the pond via surface flow and concrete/rip rap rundowns. The existing 48" inflow culvert from Mission Avenue ROW will remain unchanged; however, the additional pond depth will be protected with an extension of the rip rap rundown. The existing 48-inch overflow pipe which connects to the West Detention Pond system will remain unchanged. The total 100-year volume of runoff routed to the pond from the Mission Avenue ROW / SE Renaissance, Visitor Lot, and Employee Lot will be 4.35 acre-feet.

South Detention Pond (Capacity 3.3 acre-ft)	
Contributing Basin	100-year volume (Acre-Feet) -Proposed
Employee Lot Basin	1.02
Visitor Lot Basin	0.47
Mission Avenue ROW / SE Renaissance Basin	6.99
Total	8.48

The required storage of the South Detention Pond exceeds the provided volume by 2.88 acre-ft (8.48 acre-ft minus 5.6 acre-ft). The South Detention Pond is connected to the West Detention Pond by a Dedicated 48-inch RCP. The excess required storage volume will be stored in the West Detention Pond. The Q100 entering the South Detention Pond is 55.16 cfs which is far below the 48-incch RCP capacity of 84 cfs.

- Discharge

The new Visitor Lot will drain to the South Pond via a new 18" PVC drain pipe with a slope of 0.017.

South Detention Pond Discharge Volume		
Pipe diameter (in)	Required Flow (cfs)	Provided Flow (cfs)
18	18.38	18.68

- Storm Water Quality Volume

With 3.61 acres of impervious area, the SWQV is 0.10 acre-ft. (157,252 sf x 0.34"/12) = 4,455 CU Ft = 0.10 acre-ft). The SWQV volume will be contained in the South Pond (5.6 acre-ft capacity)

4.2 North Detention Pond

The new North Detention Pond will have 3:1 side slopes and a volume of 5.1 acre-feet. The East Detention Pond will have a bottom elevation of 5030.0, a 100-year water surface of 5039.0, and a 6-foot perimeter fence. The Fleet Lot basin will drain to the new pond via surface flow and concrete/rip rap rundowns. A 48-inch overflow pipe will connect to the existing WTP storm drain system. The total 100-year volume of storm water runoff routed to the North pond is 2.99 acre-feet.

- Rundowns

The new Fleet Lot will drain to the North Pond via surface flow and two concrete/rip rap rundown

North Detention Pond Rundown Volume		
Width (ft)	Required Flow (cfs)	Provided Flow (cfs)
12	20.2	20.3

Q=C x L x H^2/3

- Storm Water Quality Volume

With 9.13 acres of new impervious area, the SWQV is 0.26 acre-ft. (397,702 sf x 0.34”/12) = 11,268 CU Ft = 0.26 acre-ft). The SWQV volume will be contained in the North Pond (5.1 acre-ft capacity)

4.3 West Detention Pond

The new paved access road from the Fleet Lot to the existing delivery entrance to the northeast will cross the WTP basin adding approximately 0.4 acre feet of impervious area to the basin. The new paving will increase the 100-year runoff by 0.09 acre-feet. The new runoff will be routed the existing WTP storm drain system via a new curb inlet and 24-inch RCP. The internal WTP storm-drain system routes to the existing West Pond. The total 100-year volume of storm-water runoff to the West pond is 10.2 acre-feet

West Detention Pond (Capacity 28.0 acre-ft)	
Contributing Basin	100-year volume (Acre-Feet) -Proposed
WTP Basin	6.79
Solar Array Basin	1.57
Mission Hills Elementary	1.75
Overflow from South Detention Pond	5.18
Total	15.29

5.0 Future Improvements

The existing 163 acre site currently operates using temporary onsite retention. Future improvements will include a pump station and force main that will take storage from the West Detention Pond, which serves as the central collection point, to the North Diversion Channel. This conceptual System is shown on Attachment C

6.0 Conclusions

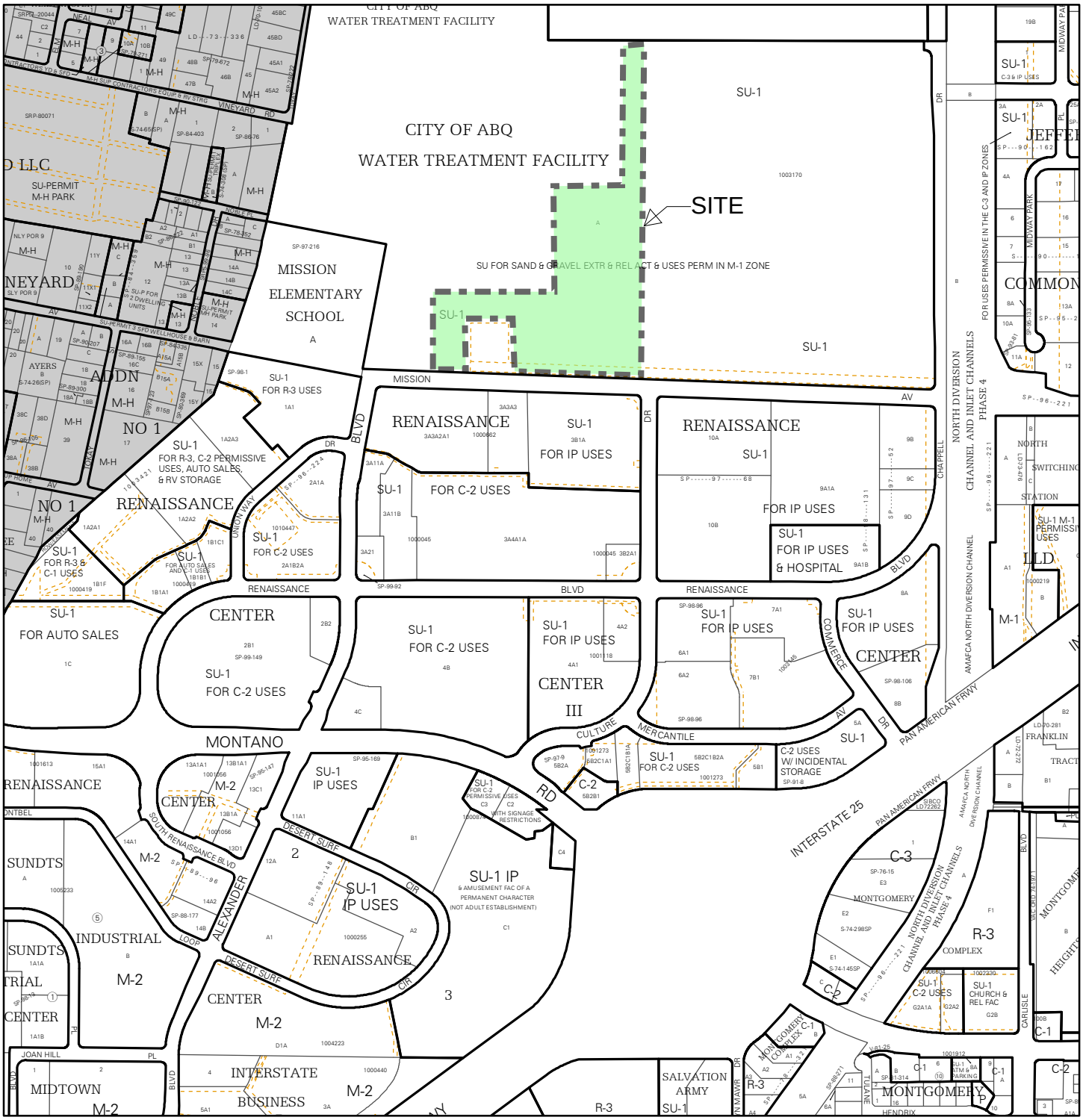
Runoff volumes and flow rates are increased as a result of changes in land treatment for the project. Total 100-year runoff volumes will be increased by 2.53 acre feet distributed to three on-site detention ponds. The peak flow rate has increased by 14.90 cfs distributed to the three on-site detention ponds.

WUA - Customer Service and Operations Facilities
Hydrology Calculations

Precipitation Zone 2 - 100 year storm			P(360)=	2.29	in.	P(1440)=	2.59	in.	P(10 day) =	3.62	in.	
			Qdc=	3.05	cfs/acre	Qdd=	4.34	cfs/acre				
			Ec=	1.03		Ed=	2.33					
Basin	Basin Area (acre)	Land Treatment Factors										
		A	B	C	D	Ew (in.)	V(360)	V(1440)	V(100-10 day)		Q(100)	
		(Acres)				(in)	(af)	(af)	(af)		(cfs)	
Existing Conditions												
Mission Elementary	8.93	0	0	4.47	4.47	1.68	1.25	1.36	1.75		33.00	
WTP Site	43.91	0	0	30.11	13.8	1.44	5.26	5.61	6.79		151.73	
Solar Array	11.35	0	0	8.62	2.73	1.34	1.27	1.34	1.57		38.14	
Mission Ave / SE Renaisance	38.04	0	2.46	17.64	17.94	1.58	5.00	5.45	6.99		** 55.16	
Employee Lot	4.87	0	0	3.26	1.61	1.46	0.59	0.63	0.77		16.93	
Visitor Lot	3.22	0	0	3.22	0	1.03	0.28	0.28	0.28		9.82	
Fleet Lot	11.55	0	0	11.55	0	1.03	0.99	0.99	0.99		35.23	
Vulcan Basin	46.9	0	0	42.9	4	1.14	4.46	4.56	4.90		148.21	
Proposed Conditions										Change		Change
Mission Elementary	8.93	0	0	4.47	4.47	1.68	1.25	1.36	1.75	0.00	33.00	0.00
WTP Site	43.91	0	0	29.71	14.2	1.45	5.31	5.66	6.88	0.09	152.24	0.52
Solar Array	11.35	0	0	8.62	2.73	1.34	1.27	0.75	1.57	0.00	38.14	0.00
Mission Ave / SE Renaisance	38.04	0	2.46	17.64	17.94	1.58	5.00	5.45	6.99	0.00	** 55.16	0.00
Employee Lot	4.87	0	0	2.14	2.73	1.76	0.71	0.78	1.02	0.25	18.38	1.44
Visitor Lot	3.22	0	0	2.35	0.88	1.39	0.37	0.39	0.47	0.19	10.99	1.17
Fleet Lot	11.55	0	0	2.42	9.13	2.06	1.98	2.21	2.99	2.00	47.01	11.78
Vulcan Basin	46.9	0	0	42.9	4	1.14	4.46	4.56	4.90	0.00	148.21	0.00
								Totals	**21.66**	**2.53**		**14.90**

** The calculated flow for this basin area and land treatment is 131.06 cfs, however because the flow from the SE Renasaince is limited by onsite storage and orifice plates, the Q100 discharge is limited to 55.16 cfs

Attachments

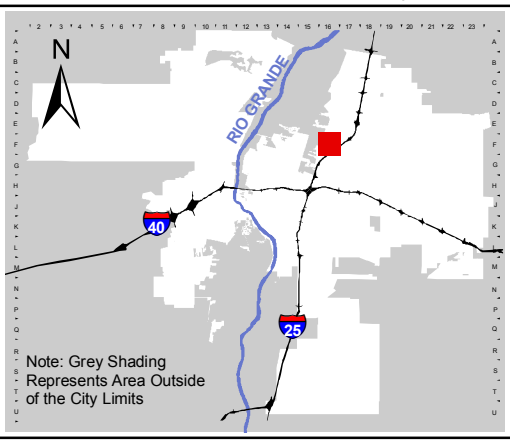


For more current information and details visit: http://www.cabq.gov/gis

Albuquerque Geographic Information System

Map amended through: May 16, 2018

The Zone Districts and various Overlays shown on these pages are no longer in effect as of May 17, 2018. Refer to the Integrated Development Ordinance (IDO) for current Zoning information.



Zone Atlas Page:

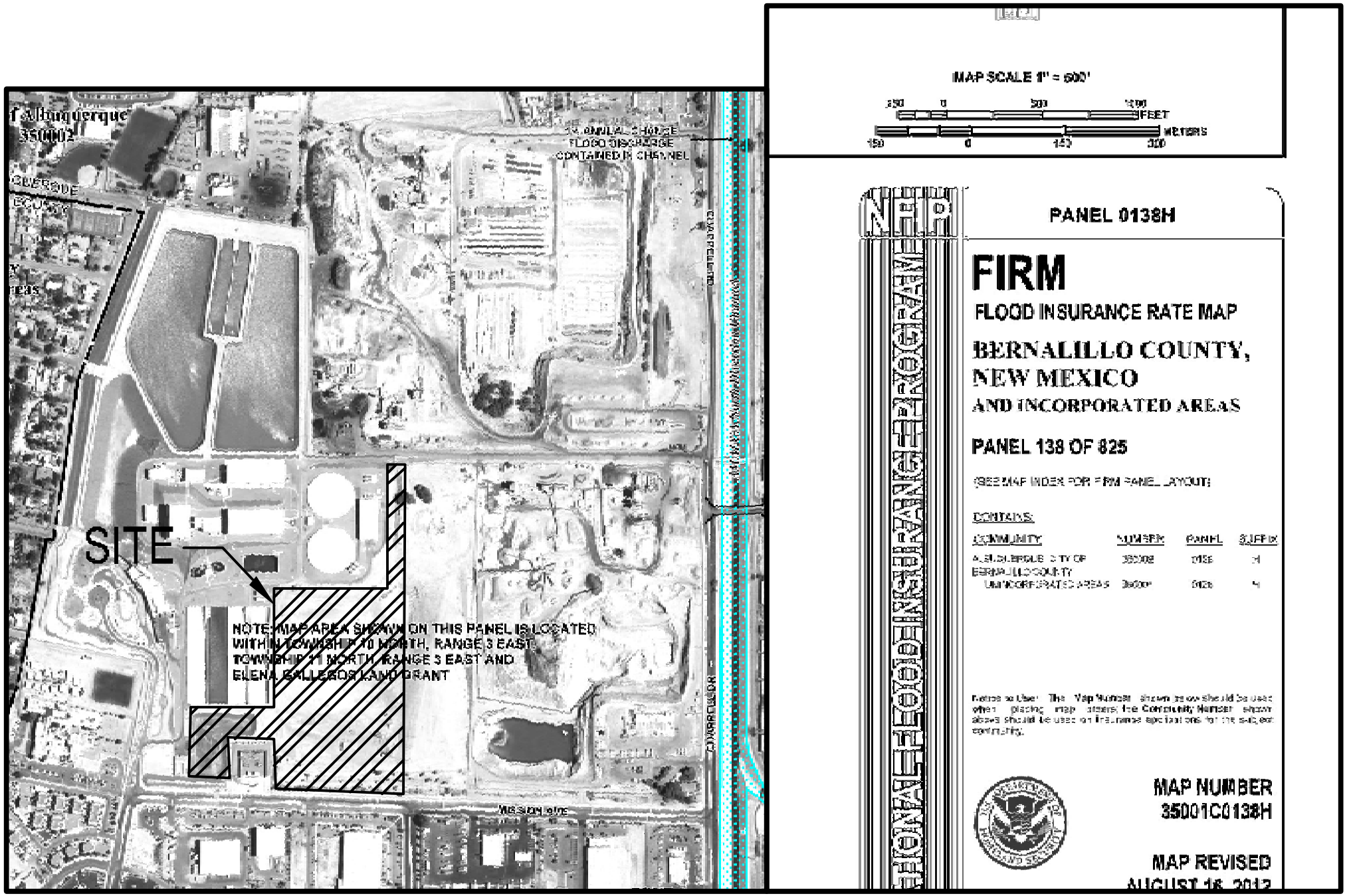
F-16-Z

Selected Symbols

- SECTOR PLANS
- Design Overlay Zones
- City Historic Zones
- H-1 Buffer Zone
- Petroglyph Mon.
- Escarpment
- 2 Mile Airport Zone
- Airport Noise Contours
- Wall Overlay Zone

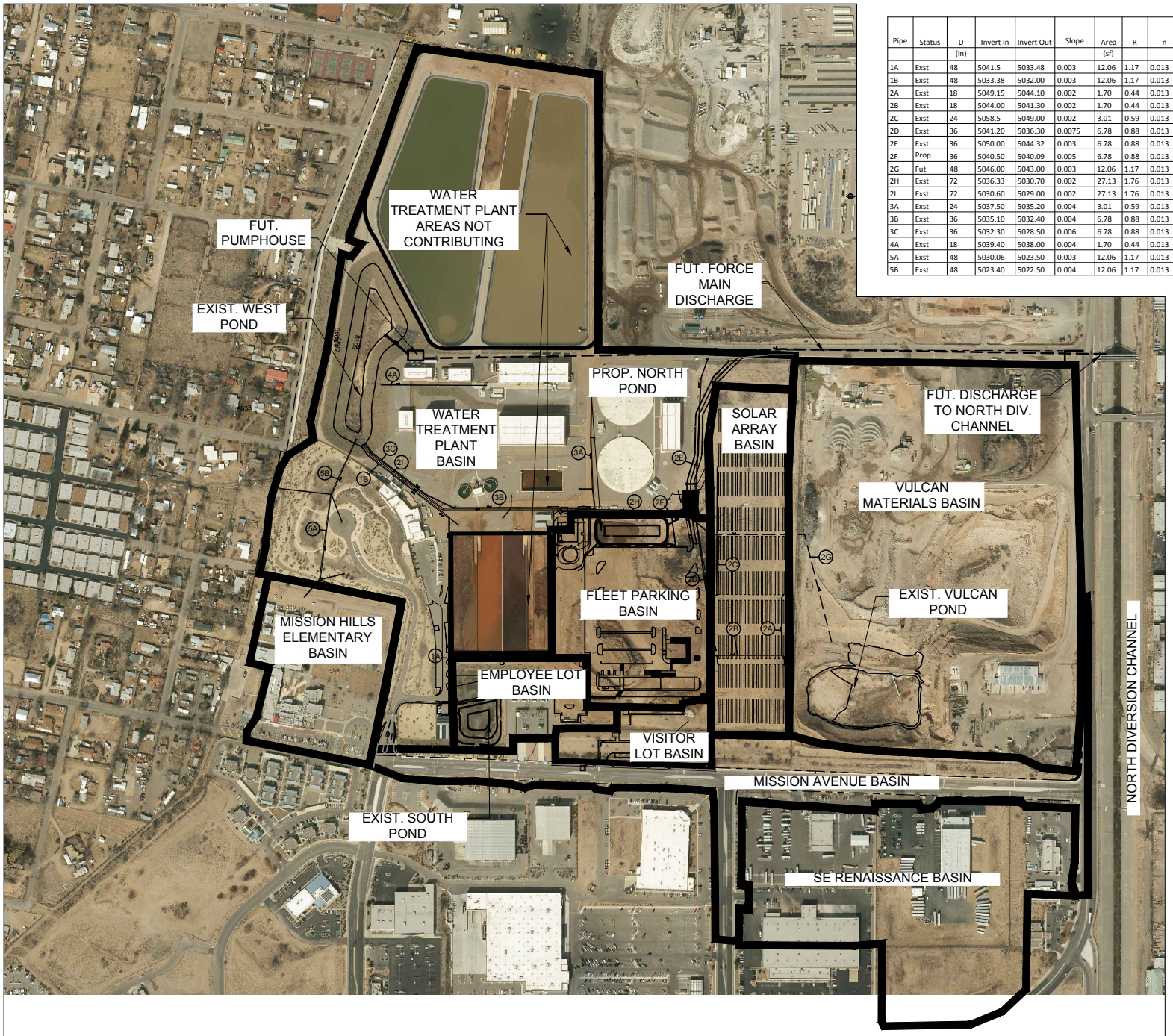
0 750 1,500 Feet

Attachment A



FEMA MAP

Attachment B



Pipe	Status	D	Invert In	Invert Out	Slope	Area	R	n	Q (Provided)	Q100 Needed (Existing)	Q100 Needed (Proposed)	Q100 Needed (Future)	V
		(in)				(sf)			(cfs)	(cfs)	(cfs)	(cfs)	(fps)
1A	Exst	48	5041.5	5033.48	0.003	12.06	1.17	0.013	84.08	68.9	70.4	70.4	6.97
1B	Exst	48	5033.38	5032.00	0.003	12.06	1.17	0.013	84.08	71.9	73.4	73.4	6.97
2A	Exst	18	5049.15	5044.10	0.002	1.70	0.44	0.013	5.02	4.98	4.98	4.98	2.96
2B	Exst	18	5044.00	5041.30	0.002	1.70	0.44	0.013	5.02	5.01	5.01	5.01	2.96
2C	Exst	24	5058.5	5049.00	0.002	3.01	0.59	0.013	10.81	10.32	10.32	10.32	3.59
2D	Exst	36	5041.20	5036.30	0.0075	6.78	0.88	0.013	61.73	40.51	40.51	40.51	9.10
2E	Exst	36	5050.00	5044.32	0.003	6.78	0.88	0.013	39.04	12.32	12.32	12.32	5.76
2F	Prop	36	5040.50	5040.09	0.005	6.78	0.88	0.013	50.40	47.01	47.01	47.01	7.43
2G	Fut	48	5046.00	5043.00	0.003	12.06	1.17	0.013	84.08	0	0	80	6.97
2H	Exst	72	5036.33	5030.70	0.002	27.13	1.76	0.013	202.41	52.83	99.84	179.84	7.46
2I	Exst	72	5030.60	5029.00	0.002	27.13	1.76	0.013	202.41	52.83	99.84	179.84	7.46
3A	Exst	24	5037.50	5035.20	0.004	3.01	0.59	0.013	15.29	12.77	12.77	12.77	5.07
3B	Exst	36	5035.10	5032.40	0.004	6.78	0.88	0.013	45.08	34.84	34.84	34.84	6.65
3C	Exst	36	5032.30	5028.50	0.006	6.78	0.88	0.013	55.21	50.24	50.24	50.24	8.14
4A	Exst	18	5039.40	5038.00	0.004	1.70	0.44	0.013	7.10	6.82	6.82	6.82	4.19
5A	Exst	48	5030.06	5023.50	0.003	12.06	1.17	0.013	84.08	38.58	38.58	38.58	6.97
5B	Exst	48	5023.40	5022.50	0.004	12.06	1.17	0.013	97.09	66.27	66.27	66.27	8.05

LEGEND

- (1A) PIPE NUMBER
- EXISTING STORM DRAIN
- PROP STORM DRAIN
- FUTURE STORM DRAIN

PLAN NORTH

Scale 1"= 200'

0 200' 400'

ATTACHMENT C

SMPC Architects
PRINCIPLES OF DESIGN.
115 Amherst Drive SE
Albuquerque, New Mexico 87106
T 505.255.8668
F 505.268.6665
www.smpcarchitects.com

AECOM Imagine it. Delivered.
One Park Square, 6501 Americas Pkwy NE, Suite 900 Albuquerque, New Mexico 87110
(505)-855-7500

ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY

CUSTOMER SERVICE AND OPERATIONS FACILITIES SITEWORK

6000 Alexander Blvd NE, Albuquerque, NM 87107

NO	DATE	DESCRIPTION

DATE:

PROJECT #:

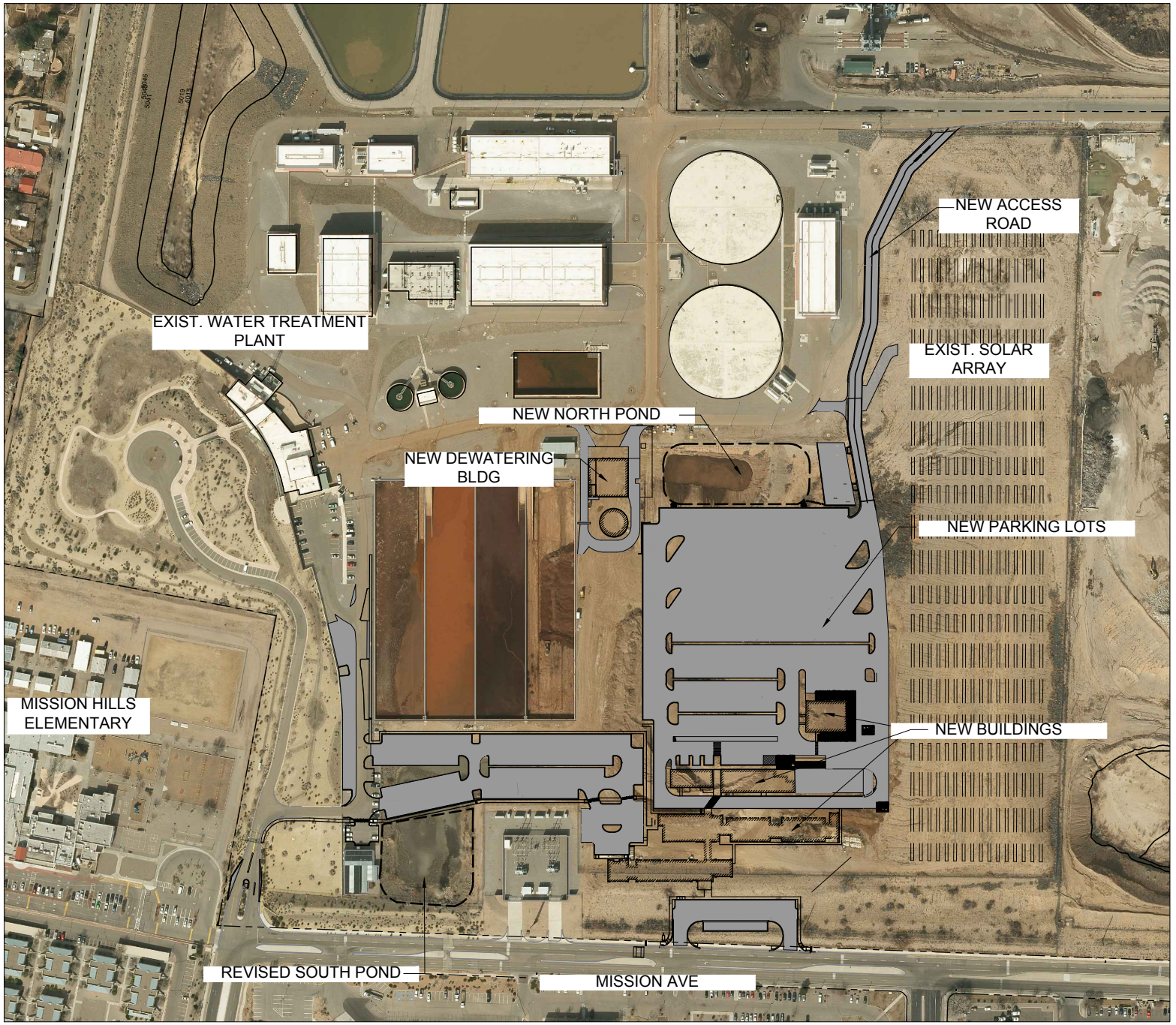
DRAWN BY:

CH'D BY:

SHEET TITLE

BASIN MAP

SHEET OF



PLAN NORTH

Scale 1"= 100'

0 100' 200'

ATTACHMENT D

SMPC Architects
PRINCIPLES OF DESIGN.
115 Amherst Drive SE.
Albuquerque, New Mexico
87106
T 505.255.8668
F 505.268.6665
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6000 Alexander Blvd NE, Albuquerque, NM 87107

NO	DATE	DESCRIPTION

DATE:

PROJECT #:

DRAWN BY:

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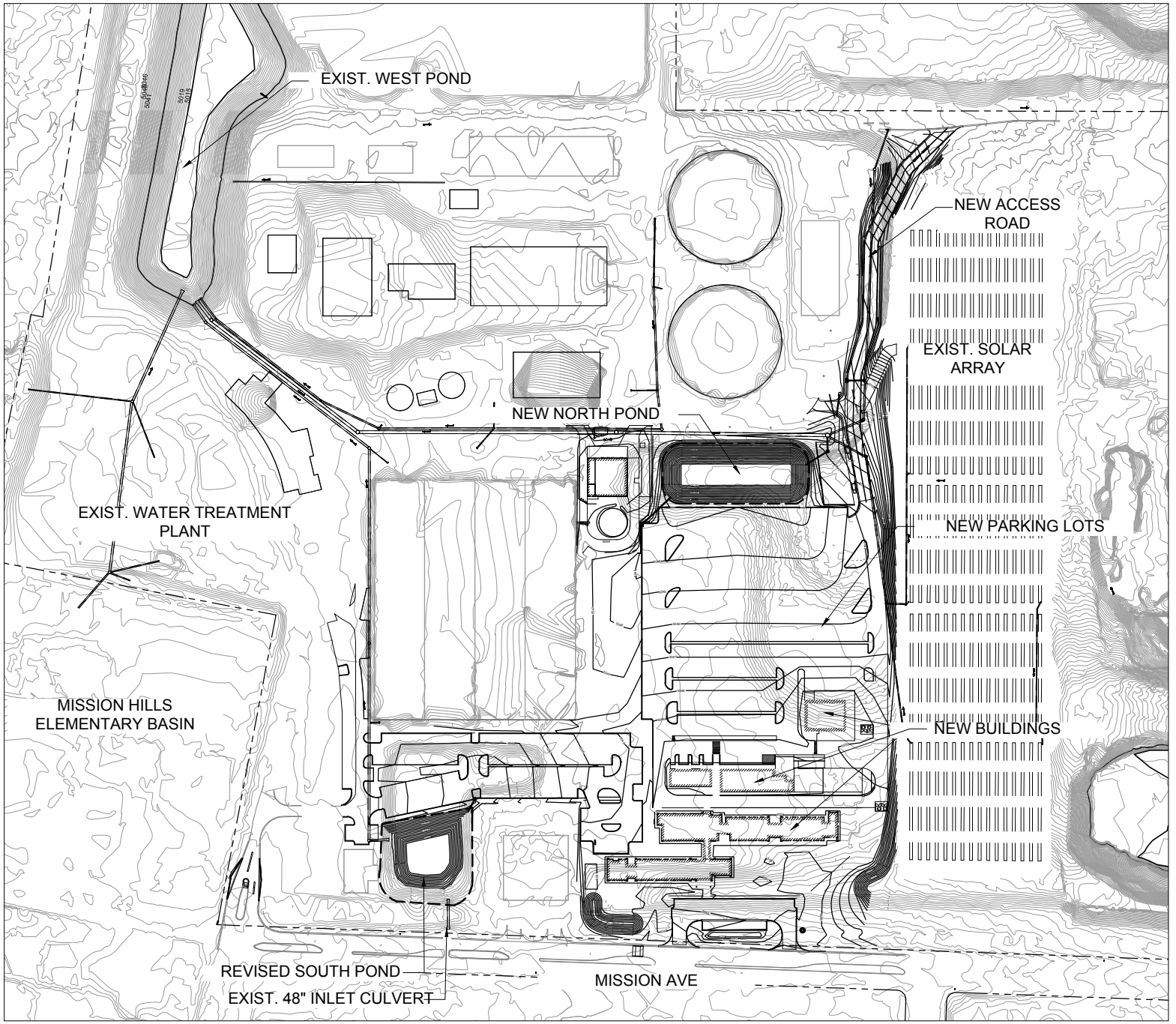
SHEET TITLE

SITE IMPROVEMENTS

SHEET OF



PLAN NORTH

Scale 1"= 100'

0 100' 200'

ATTACHMENT E

SMPC Architects
PRINCIPLES OF DESIGN.
115 Amherst Drive SE.
Albuquerque, New Mexico
87106
T 505.255.8668
F 505.268.6665
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ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY

CUSTOMER SERVICE AND OPERATIONS FACILITIES SITEWORK

6000 Alexander Blvd NE, Albuquerque, NM 87107

NO	DATE	DESCRIPTION

DATE:

PROJECT #:

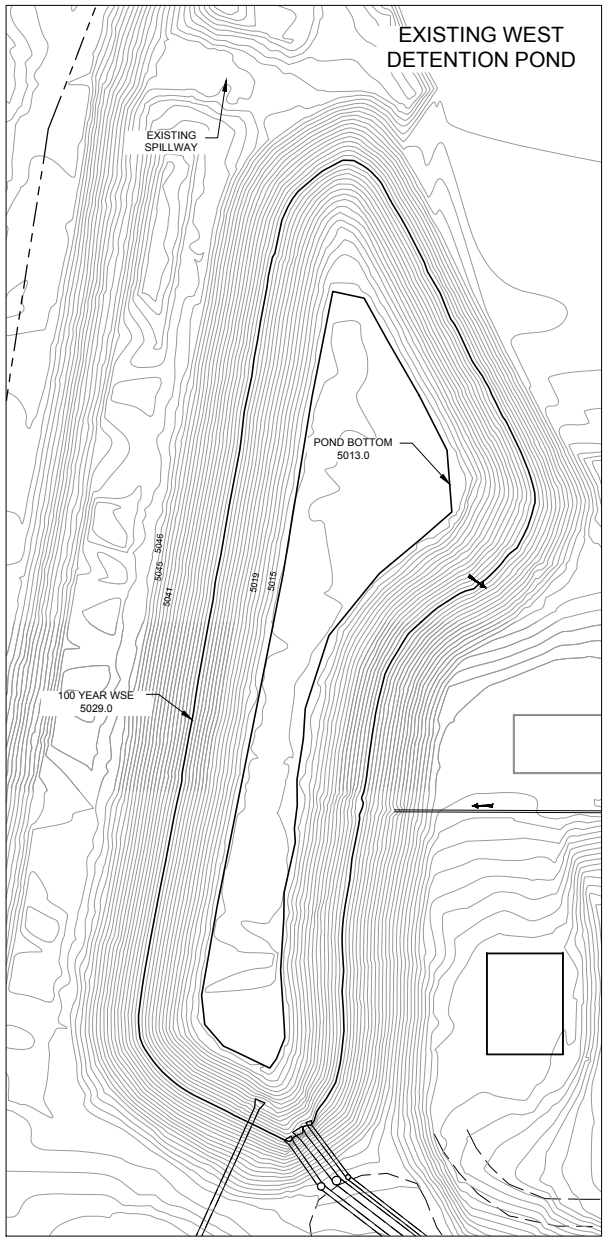
DRAWN BY:

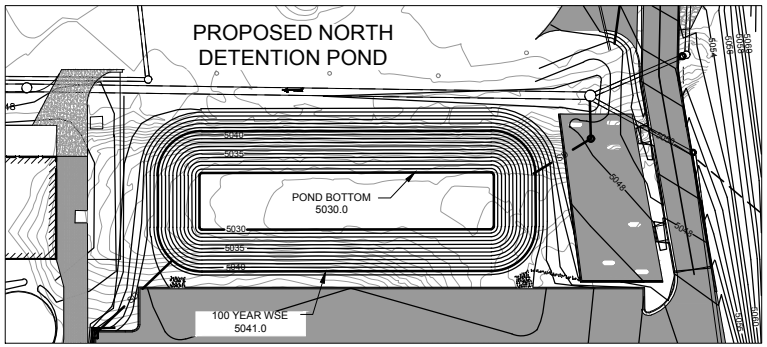
CH'D BY:

SHEET TITLE

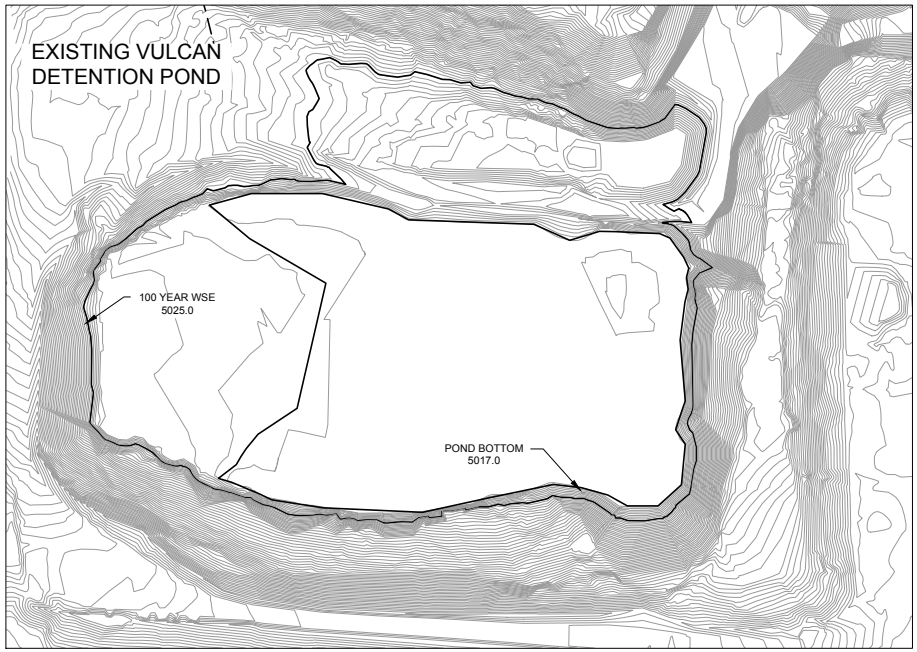
GRADING PLAN

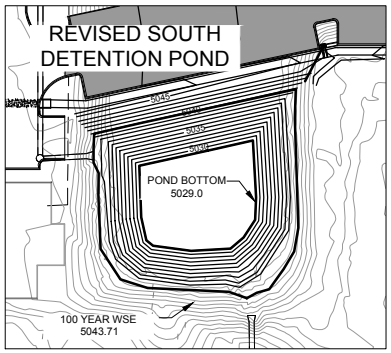
SHEET OF





NORTH POND STORM WATER QUALITY VOLUME:
9.13 ACRES OF NEW IMPERVIOUS
(397,702 SF x 0.34"/12) = 11,268 CU FT = 0.26 ACRE-FT





SOUTH POND STORM WATER QUALITY VOLUME:
3.61 ACRES OF NEW IMPERVIOUS
(157,252 SF x 0.34"/12) = 4,4558 CU FT = 0.10 ACRE-FT

100 YEAR-10 DAY POND VOLUME ANALYSIS

POND	BOTTOM ELEVATION	TOP SURFACE ELEVATION	BOTTOM AREA (SF)	TOP AREA (SF)	VOLUME (ACRE-FT)
WEST	5013.0	5029.0	39,110	120,535	28.0
SOUTH	5029.0	5039.791	6,605	21,552	3.3
NORTH	5030.0	5041.0	10,497	32,165	5.1
VULCAN	5017.0	5025.0	71,425	137,714	18.9

VOLUME =(A1 + A2 + (A1 x A2) ^0.5) / 3 * DEPTH

PLAN NORTH

Scale 1"= 50'

0 50 100

ATTACHMENT F

SMPC Architects
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Albuquerque, New Mexico
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F 505.268.8665
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ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY

CUSTOMER SERVICE AND OPERATIONS FACILITIES SITEWORK

6000 Alexander Blvd NE, Albuquerque, NM 87107

NO	DATE	DESCRIPTION

DATE:

PROJECT #:

DRAWN BY:

CH'D BY:

SHEET TITLE

DETENTION POND VOLUME

SHEET OF

Culvert Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Tuesday, Apr 9 2019

Circular Culvert

Invert Elev Dn (ft)	=	5043.71
Pipe Length (ft)	=	52.00
Slope (%)	=	0.56
Invert Elev Up (ft)	=	5044.00
Rise (in)	=	48.0
Shape	=	Circular
Span (in)	=	48.0
No. Barrels	=	1
n-Value	=	0.012
Culvert Type	=	Circular Concrete
Culvert Entrance	=	Square edge w/headwall (C)
Coeff. K,M,c,Y,k	=	0.0098, 2, 0.0398, 0.67, 0.5

Embankment

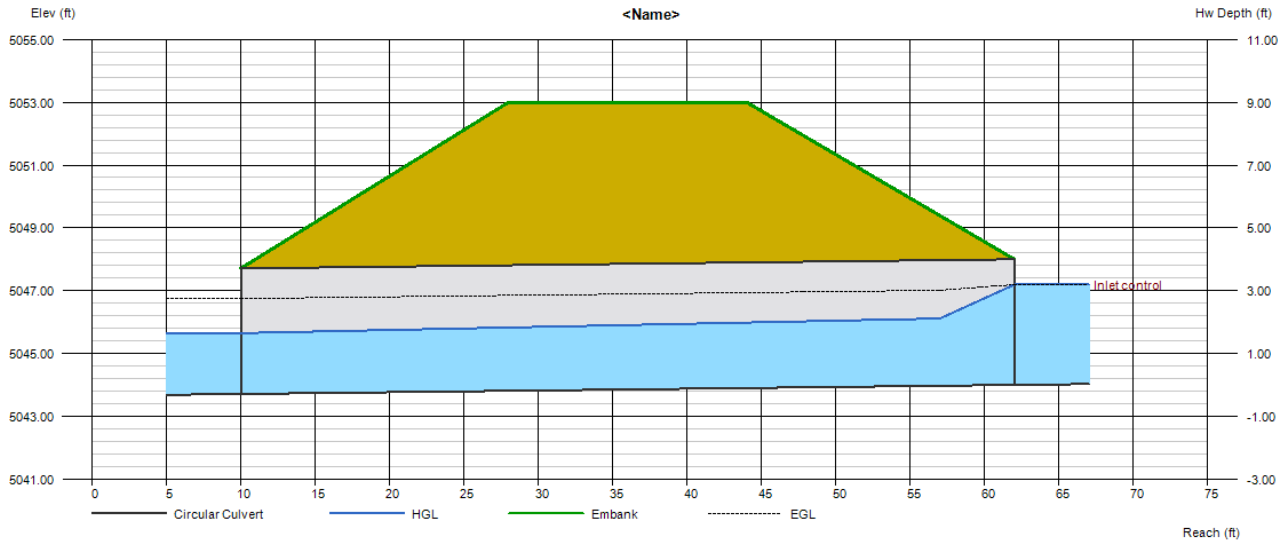
Top Elevation (ft)	=	5053.00
Top Width (ft)	=	16.00
Crest Width (ft)	=	0.00

Calculations

Qmin (cfs)	=	0.00
Qmax (cfs)	=	53.79
Tailwater Elev (ft)	=	0.00

Highlighted

Qtotal (cfs)	=	52.00
Qpipe (cfs)	=	52.00
Qovertop (cfs)	=	0.00
Veloc Dn (ft/s)	=	8.61
Veloc Up (ft/s)	=	7.50
HGL Dn (ft)	=	5045.65
HGL Up (ft)	=	5046.16
Hw Elev (ft)	=	5047.19
Hw/D (ft)	=	0.80
Flow Regime	=	Inlet Control



Q			Veloc		Depth	
Total	Pipe	Over	Dn	Up	Dn	Up
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)
5.20	5.20	0.00	4.56	3.84	7.03	7.91
10.40	10.40	0.00	5.61	4.63	9.84	11.27
15.60	15.60	0.00	6.23	5.18	12.16	13.88
20.80	20.80	0.00	6.76	5.62	14.09	16.10
26.00	26.00	0.00	7.24	6.01	15.75	18.08
31.20	31.20	0.00	7.55	6.35	17.47	19.88
36.40	36.40	0.00	7.88	6.66	18.98	21.55
41.60	41.60	0.00	8.18	6.95	20.40	23.10
46.80	46.80	0.00	8.42	7.23	21.83	24.57
52.00	52.00	0.00	8.61	7.50	23.26	25.96

HGL			
Dn	Up	Hw	Hw/D
(ft)	(ft)	(ft)	
5044.30	5044.66	5044.88	0.22
5044.53	5044.94	5045.27	0.32
5044.72	5045.16	5045.58	0.39
5044.88	5045.34	5045.85	0.46
5045.02	5045.51	5046.10	0.52
5045.17	5045.66	5046.33	0.58
5045.29	5045.80	5046.56	0.64
5045.41	5045.93	5046.77	0.69
5045.53	5046.05	5046.99	0.75
5045.65	5046.16	5047.19	0.80

Attachment H

Runoff Volume calculations

Runoff Calculations

Mission Elementary

Total Land Area 389,119 sf 8.93 acres

From Table A-5 pg 9 Schools = 50% impervious

Land Treatment Type		Acres
Aa=	0%	0
Ab=	0%	0.00
Ac=	50%	4.47
Ad=	50%	4.47

From Table A-8 for Zone 2, 100 yr, 6 hr Storm

	Inches
Ea=	0.62
Eb=	0.8
Ec=	1.03
Ed=	2.33

Weighted E = $\frac{EaAa + EbAb + EcAc + EdAd}{Aa+Ab+Ac+Ad}$ = 1.68 inches

Volume (V360) = (Weighted E * Area)/12 = 1.25 ac-ft

From Table A-2 page 5 for Zone 2

P(6 hr)=	2.29
P (10 day)=	3.62

Volume (100yr-10 day) = V360 + Ad * (P(10 day) - P (6 hr)) / 12 in/ft	**1.75 ac-ft**

Peak Discharge (100 yr)

from Table A-9, pg 13, 100yr Peak Dischage

	cfs/acre
Qpc=	3.05
Qpd=	4.34

Total Qp= Qpc*Ac + Qpd*Ad	33.01 cfs

Runoff Calculations

Water Treatment Plant Site

Total Land Area	3,188,897	sf	73.21	acres
Area Not Contributing				
Drying beds	214,949	sf	4.93	acres
Raw Water Storage	1,061,195	sf	24.36	acres
Total Contributing Area			43.91	acres

Impervious Areas

Buildings	260,320	sf	5.98	acres
Pavements	296,212	sf	6.80	acres
Pond	44,752	sf	1.03	acres
New roads	17,250		0.40	acres
Total Impervious =			14.20	acres

Land Treatment Type		Acres
Aa=		0
Ab=		0.00
Ac=		29.71
Ad=		14.20

From Table A-8 for Zone 2, 100 yr, 6 hr Storm

	Inches
Ea=	0.62
Eb=	0.8
Ec=	1.03
Ed=	2.33

Weighted E = $\frac{EaAa + EbAb + EcAc + EdAd}{Aa+Ab+Ac+Ad}$ = 1.45 inches

Volume (V360) = (Weighted E * Area)/12 = 5.31 ac-ft

Rainfall depth — From Table A-2 page 5 for Zone 2

	inches
P(6 hr)=	2.29
P (10 day)=	3.62

Volume (100yr-10 day) = V360 + Ad * (P(10 day) - P (6 hr)) / 12 in/ft **6.88 ac-ft**

Peak Discharge (100 yr)

from Table A-9, pg 13, 100yr Peak Dischage

	cfs/acre
Qpc=	3.05
Qpd=	4.34

Total Qp= Qpc*Ac + Qpd*Ad **152.25** cfs

Runoff Calculations

Solar Array

Total Land Area	494,417	sf	11.35	acres

Impervious Areas

Foundations	119,040	sf	2.73	acres
Pavements	0	sf	0.00	acres
Total Impervious =			2.73	acres

Land Treatment Type		acres
Aa=		0
Ab=		0.00
Ac=		8.62
Ad=		2.73

From Table A-8 for Zone 2, 100 yr, 6 hr Storm

	Inches
Ea=	0.62
Eb=	0.8
Ec=	1.03
Ed=	2.33

Weighted E = $\frac{EaAa + EbAb + EcAc + EdAd}{Aa+Ab+Ac+Ad}$ = 1.34 inches

Volume (V360) = (Weighted E * Area)/12 = 1.27 ac-ft

Rainfall depth — From Table A-2 page 5 for Zone 2

	inches
P(6 hr)=	2.29
P (10 day)=	3.62

Volume (10 day) = V360 + Ad * (P(10 day) - P (6 hr)) / 12 in/ft	**1.57 ac-ft**

Peak Discharge (100 yr)

from Table A-9, pg 13, 100yr Peak Dischage

	cfs/acre
Qpc=	3.05
Qpd=	4.34

Total Qp= Qpc*Ac + Qpd*Ad	**38.14** cfs

Runoff Calculations

Mission Ave

Total Land Area	632,635	sf	14.52	acres

Impervious Areas

Bldg	0	sf	0.00	acres
Pavements & Sidewalk	319,600	sf	7.34	acres
Total Impervious =			7.34	acres

Land Treatment Type		acres
Aa=		0
Ab=		0.00
Ac=		7.19
Ad=		7.34

From Table A-8 for Zone 2, 100 yr, 6 hr Storm

	Inches
Ea=	0.62
Eb=	0.8
Ec=	1.03
Ed=	2.33

Weighted E = $\frac{EaAa + EbAb + EcAc + EdAd}{Aa+Ab+Ac+Ad}$ = 1.69 inches

Volume (V360) = (Weighted E * Area)/12 = 2.04 ac-ft

Rainfall depth — From Table A-2 page 5 for Zone 2

	inches
P(6 hr)=	2.29
P (10 day)=	3.62

Volume (10 day) = V360 + Ad * (P(10 day) - P (6 hr)) / 12 in/ft	**2.85 ac-ft**

Peak Discharge (100 yr)

from Table A-9, pg 13, 100yr Peak Dischage

	cfs/acre
Qpc=	3.05
Qpd=	4.34

Total Qp= Qpc*Ac + Qpd*Ad	**53.76** cfs

Runoff Calculations

Employee Parking

Total Land Area	212,352	sf	4.87	acres

Impervious Areas

Bldg	7,397	sf	0.17	acres
Pavements & Sidewalk	86,595	sf	1.99	acres
Pond	25,075	sf	0.58	acres
Total Impervious =			2.73	acres

Land Treatment Type		Acres
Aa=		0
Ab=		0.00
Ac=		2.14
Ad=		2.73

From Table A-8 for Zone 2, 100 yr, 6 hr Storm

	Inches
Ea=	0.62
Eb=	0.8
Ec=	1.03
Ed=	2.33

Weighted E = $\frac{EaAa + EbAb + EcAc + EdAd}{Aa+Ab+Ac+Ad}$ = 1.76 inches

Volume (V360) = (Weighted E * Area)/12 = 0.71 ac-ft

Rainfall depth From Table A-2 page 5 for Zone 2

	inches
P(6 hr)=	2.29
P (10 day)=	3.62

Volume (10 day) = V360 + Ad * (P(10 day) - P (6 hr)) / 12 in/ft	**1.02 ac-ft**

Peak Discharge (100 yr)

from Table A-9, pg 13, 100yr Peak Dischage

	cfs/acre
Qpc=	3.05
Qpd=	4.34

Total Qp= Qpc*Ac + Qpd*Ad	18.39 cfs

Runoff Calculations

Visitor Lot

Total Land Area	140,391	sf	3.22	acres

Impervious Areas

Bldg	14,041	sf	0.32	acres
Pavements & Sidewalk	24,142	sf	0.55	acres
Total Impervious =			0.88	acres

Land Treatment Type		acres
Aa=		0
Ab=		0.00
Ac=		2.35
Ad=		0.88

From Table A-8 for Zone 2, 100 yr, 6 hr Storm

	Inches
Ea=	0.62
Eb=	0.8
Ec=	1.03
Ed=	2.33

Weighted E = $\frac{EaAa + EbAb + EcAc + EdAd}{Aa+Ab+Ac+Ad}$ = 1.38 inches

Volume (V360) = (Weighted E * Area)/12 = 0.37 ac-ft

Rainfall depth — From Table A-2 page 5 for Zone 2

	inches
P(6 hr)=	2.29
P (10 day)=	3.62

Volume (10 day) = V360 + Ad * (P(10 day) - P (6 hr)) / 12 in/ft **0.47 ac-ft**

Peak Discharge (100 yr)

from Table A-9, pg 13, 100yr Peak Dischage

	cfs/acre
Qpc=	3.05
Qpd=	4.34

Total Qp= Qpc*Ac + Qpd*Ad 10.96 cfs

Runoff Calculations

Fleet Lot

Total Land Area	503,307	sf	11.55 acres

Impervious Areas

Bldg	53,300	sf	1.22 acres
Pavements & Sidewalk	306,001	sf	7.02 acres
Pond	38,588	sf	0.89 acres
Total Impervious =			9.13 acres

Land Treatment Type		acres
Aa=		0
Ab=		0.00
Ac=		2.42
Ad=		9.13

From Table A-8 for Zone 2, 100 yr, 6 hr Storm

	Inches
Ea=	0.62
Eb=	0.8
Ec=	1.03
Ed=	2.33

Weighted E = $\frac{EaAa + EbAb + EcAc + EdAd}{Aa+Ab+Ac+Ad}$ = 2.06 inches

Volume (V360) = (Weighted E * Area)/12 = 1.98 ac-ft

Rainfall depth — From Table A-2 page 5 for Zone 2

	inches
P(6 hr)=	2.29
P (10 day)=	3.62

Volume (100yr-10 day) = V360 + Ad * (P(10 day) - P (6 hr)) / 12 in/ft **2.99 ac-ft**

Peak Discharge (100 yr)

from Table A-9, pg 13, 100yr Peak Dischage

	cfs/acre
Qpc=	3.05
Qpd=	4.34

Total Qp= Qpc*Ac + Qpd*Ad 47.02 cfs

Ops Bldg	30,500
Veh Maint	4,140
Warehouse	6,160
Shops	3,500
Dewatering Bldg	9,000
Total Bldg	53,300
Fleet Parking	250,306
Sidewalk	6,642
Dewatering Pav.	16,150
Fire Lane	4,599
Road	6,643
Storage Lots	15,339
Cocnrete	6,322
Total Pavement	306,001

MATCH LINE - SEE DWG C-302

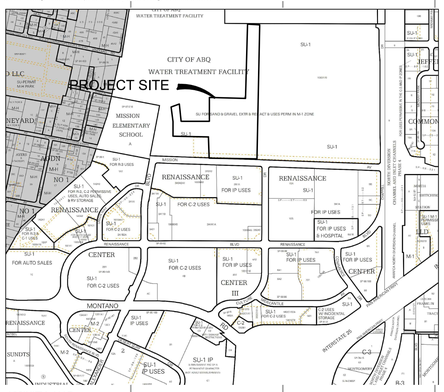
NORTH POND STORM WATER QUALITY VOLUME:
9.13 ACRES OF NEW IMPERVIOUS
(397,702 SF x 0.34"/12) = 11,268 CU FT = 0.26 ACRE-FT

Precipitation Zone 2 - 100 year storm

P(360)=	2.29 in.	P(1440)=	2.59 in.	P(10 day) =	3.62 in.			
Qdc=	3.05 cfs/acre	Qdd=	4.34 cfs/acre					
Ec=	1.03	Ed=	2.33					

Basin	Basin Area (acre)	Land Treatment Factors A (Acres)	B	C	D	tw (in.) (in)	V(360) (af)	V(1440) (af)	V(100-10 day) (af)		Q(100) (cfs)
Existing Conditions											
Mission Elementary	8.93	0	0	4.47	4.47	1.68	1.25	1.36	1.75		33.00
WTP Site	43.91	0	0	30.11	13.8	1.44	5.26	5.61	6.79		151.73
Solar Array	11.35	0	0	8.62	2.73	1.34	1.27	1.34	1.57		38.14
Mission Ave / SE Renaisance	38.04	0	2.46	17.64	17.94	1.58	5.00	5.45	6.99		** 55.16
Employee Lot	4.87	0	0	3.26	1.61	1.46	0.59	0.63	0.77		16.93
Visitor Lot	3.22	0	0	3.22	0	1.03	0.28	0.28	0.28		9.82
Fleet Lot	11.55	0	0	11.55	0	1.03	0.99	0.99	0.99		35.23
Vulcan Basin	46.9	0	0	42.9	4	1.14	4.46	4.56	4.90		148.21
Proposed Conditions										Change	Change
Mission Elementary	8.93	0	0	4.47	4.47	1.68	1.25	1.36	1.75	0.00	33.00	0.00
WTP Site	43.91	0	0	29.71	14.2	1.45	5.31	5.66	6.88	0.09	152.24	0.52
Solar Array	11.35	0	0	8.62	2.73	1.34	1.27	0.75	1.57	0.00	38.14	0.00
Mission Ave / SE Renaisance	38.04	0	2.46	17.64	17.94	1.58	5.00	5.45	6.99	0.00	** 55.16	0.00
Employee Lot	4.87	0	0	2.14	2.73	1.76	0.71	0.78	1.02	0.25	18.38	1.44
Visitor Lot	3.22	0	0	2.35	0.88	1.39	0.37	0.39	0.47	0.19	10.99	1.17
Fleet Lot	11.55	0	0	2.42	9.13	2.06	1.98	2.21	2.99	2.00	47.01	11.78
Vulcan Basin	46.9	0	0	42.9	4	1.14	4.46	4.56	4.90	0.00	148.21	0.00
								Totals	**21.66**	**2.53**		**14.90**

** The calculated flow for this basin area and land treatment is 131.06 cfs, however because the flow from the SE Renaisance is limited by onsite storage and orifice plates, the Q100 discharge is limited to 55.16 cfs



VICINITY_MAP

PHASE 4

PHASE 3

PHASE 2

PHASE 1

EAST DETENTION POND
BOTTOM ELEVATION 5030
100 YR WATER SURFACE 5041.0
5.1 ACRE FEET

24" FLARED END SEC
INV. ELEV. 5041.0
N:1507581.27
E:1532058.45

36" FLARED END SEC
INV. ELEV. 5041.0
N:1507656.72
E: 1532329.64

NEW INLET
INV. = 5041.4
N:1507629.45
E: 1531982.12

N:1507534.43
E: 1531979.98

N:1507458.99
E: 1531980.11

DROP INLET
GRATE ELEV 5045.8
INV. ELEV. 5042.6

8" CURB

EXIST. 24" PIPE

EXIST. 36" PIPE

N:1507158.86
E: 1532326.08

N:1507158.86
E: 1532413.17

VEHICLE MAINTENANCE
FFE 5052.50

N:1507092.45
E: 1532413.17

N:1507013.38
E: 1532039.58

SHOPS
FFE 5053.00

N:1507013.11
E: 1532263.82

N:1506964.20
E: 1532147.47

WAREHOUSE
FFE 5053.00

N:1506964.34
E: 1532263.76

N:1506975.43
E: 1532039.50

N:1506927.34
E: 1532128.70

N:1506927.72
E: 1532408.70

N:1506920.22
E: 1532014.10

N:1506922.62
E: 1532397.34

N:1506859.43
E: 1532023.41

N:1506859.47
E: 1532212.32

OPERATIONS BUILDING
FFE 5053.00

N:1506859.43
E: 1532397.34

N:1506850.04
E: 1531908.76

N:1506850.01
E: 1531908.76

N:1506776.55
E: 1531910.01

N:1506779.08
E: 1532100.38

N:1506821.91
E: 1532170.98

N:1506788.70
E: 1532170.98

N:1506762.36
E: 1531910.90

N:1506755.16
E: 1532339.38

N:1506743.01
E: 1531923.55

N:1506744.31
E: 1532010.43

N:1506692.48
E: 1532201.55

SOUTH DETENTION POND
BOTTOM ELEVATION 5029
100 YR WATER SURFACE 5039.79
3.3 ACRE FEET

EXIST. 48" PIPE

EXIST. RIP RAP

IE 5039.79

IE 5043.71

IE 5044.3

SOUTH POND STORM WATER QUALITY VOLUME:
3.61 ACRES OF NEW IMPERVIOUS
(157,252 SF x 0.34"/12) = 4,4558 CU FT = 0.10 ACRE-FT

MISSION AVENUE

PLAN NORTH

Scale 1"= 50'
0 50 100

PROJECT BENCHMARK

BLM SECTION CORNER BRASS CAP "SC 27-26-34-35", SET IN CONCRETE, 0.4' BELOW GROUND, APPROXIMATELY 14.6' NORTH OF THE NORTH SIDE OF 5741 MIDWAY PARK BLVD NE AND APPROXIMATELY 179' WEST OF THE CENTER LINE OF MIDWAY PARK BLVD NE. ELEVATION = 5113.12 FEET (NAVD 1988)

PROPERTY LEGAL DESCRIPTION

TRACT A PLAT OF TRACT A CITY OF ALBUQUERQUE WATER TREATMENT FACILITY CONTAINING 162.5256 ACRES

LEGEND

- 5050 — EXISTING GRADE CONTOUR
- EXISTING STORM DRAIN
- 5050 — NEW GRADE CONTOUR
- + 5050 — NEW GRADE SPOT ELEVATION
- LIMITS OF GRADING
- SD — NEW STORM DRAIN PIPE
- NEW RIP RAP SLOPE PROTECTION
- PHASE LIMIT

KEY NOTES

1. CONSTRUCT 84 LF 2' RETAINING WALL
2. INSTALL 78' LF 24" RCP CLASS III
7. INSTALL NEW TYPE A STORM INLET PER COA STD DTL DWG 2201 (TYP. 2)
9. CONSTRUCT RIPRAP RUNDOWN PER 6/C-500
10. LOWER EXISTING MANHOLE
11. CONSTRUCT 6' WIDE CURB GAP W/CONCRETE CHUTE PER DTL 3/C-500
12. CONSTRUCT 3' WIDE CURB GAP W/CONCRET CHUTE PER DTL 3 /C-500
13. CONSTRUCT 3'X2' DROP INLET
14. CONSTRUCT 31 LF 18" PVC STORM DRAIN S=0.017

SMPC Architects
PRINCIPLES OF DESIGN.
115 Amherst Drive SE,
Albuquerque, New Mexico
87106
T 505.255 8668
F 505 268 6665
www.smpcarchitects.com

AECOM Imagine it. Delivered.
One Park Square, 6501 Americas Pkwy NE,
Suite 900 Albuquerque, New Mexico 87110
(505)-855-7500

ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY

CUSTOMER SERVICE AND OPERATIONS FACILITIES

SITEWORK

6000 Alexander Blvd NE, Albuquerque, NM 87107

NO	DATE	DESCRIPTION

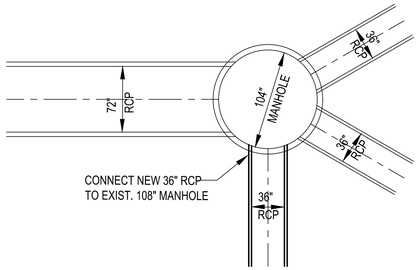
DATE: 3/15/19
PROJECT #: 18018
DRAWN BY: DRW
CH'D BY: CR

SHEET TITLE

GRADING AND DRAINAGE PLAN

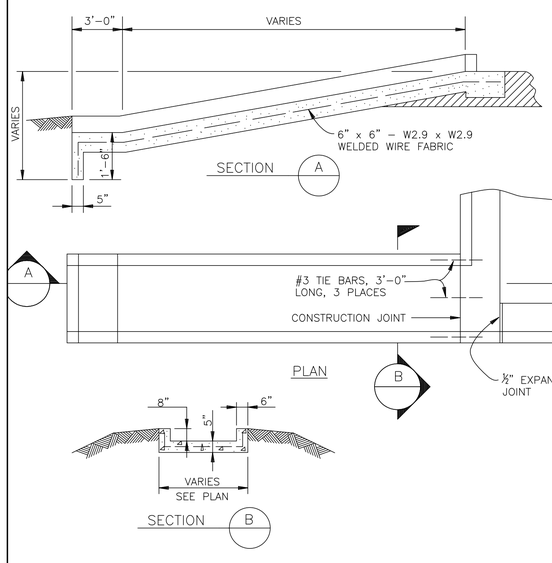
C-301

SHEET OF



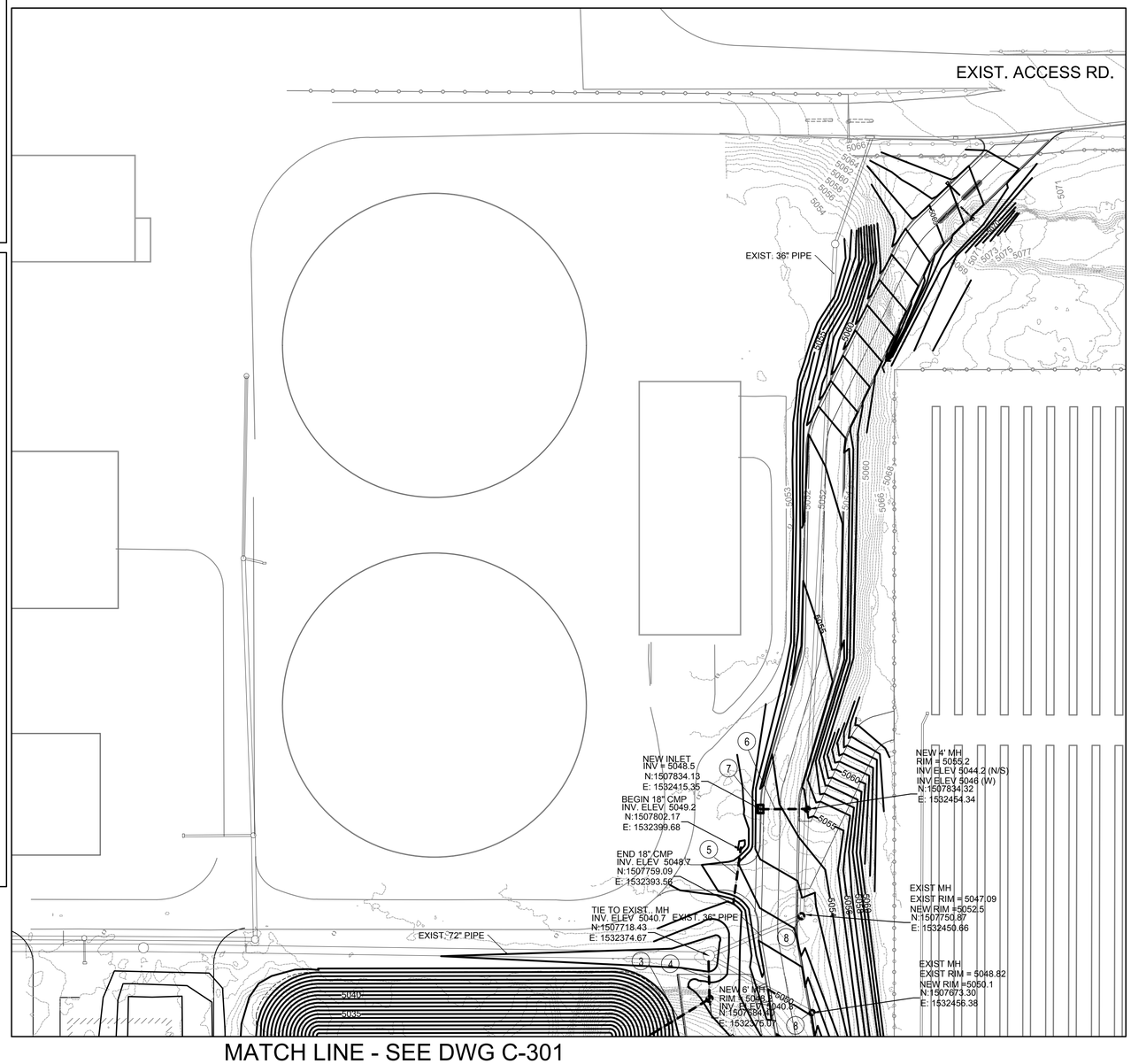
4A C-500 CONNECTION TO EXIST 9' MANHOLE

N.T.S.



3 C-500 CURB GAP WITH CHUTE

N.T.S.



LEGEND

- 5050 — EXISTING GRADE CONTOUR
- EXISTING STORM DRAIN
- 5050 — NEW GRADE CONTOUR
- + 5050 NEW GRADE SPOT ELEVATION
- LIMITS OF GRADING
- SD — NEW STORM DRAIN PIPE
- NEW RIP RAP SLOPE PROTECTION

KEY NOTES

3. INSTALL 40 LF 48" RCP CLASS III
4. INSTALL 31 LF 48" RCP CLASS III
5. INSTALL 45 LF RELOCATED 18" CMP CULVERT
6. INSTALL 39 LF 24" RCP CLASS III
7. INSTALL NEW TYPE A STORM INLET PER COA STD DTL DWG 2201 (TYP. 2)
8. RAISE EXIST MH LID

PLAN NORTH

Scale 1"= 50'

0 50 100

SMPC Architects
PRINCIPLES OF DESIGN.
115 Amherst Drive SE,
Albuquerque, New Mexico
87106
T 505.255 8668
F 505 268 6665
www.smpcarchitects.com

AECOM Imagine it. Delivered.
One Park Square, 6501 Americas Pkwy NE,
Suite 900 Albuquerque, New Mexico 87110
(505)-855-7500

ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY

CUSTOMER SERVICE AND OPERATIONS FACILITIES SITEWORK

6000 Alexander Blvd NE, Albuquerque, NM 87107

NO	DATE	DESCRIPTION

DATE: 6/28/19
PROJECT #: 18018
DRAWN BY: DRW
CH'D BY: CR

SHEET TITLE

GRADING AND DRAINAGE PLAN

C-302

SHEET OF