

CITY OF ALBUQUERQUE

Hydrology Section Planning Department
David S. Campbell, Director



Timothy M. Keller, Mayor

May 10, 2018

Åsa Weber
Isaacson & Arfman, P.A.
128 Monroe St NE
Albuquerque, NM 87108

RE: **Anderson Heights Unit 4 – Memorial Park**
Engineer's Stamp Date: 1/22/2018
Hydrology File: N08D006F1

Dear Ms. Weber:

Based on the information provided in the submittal received on 4/23/2018 the above-referenced Grading and Drainage Plan is approved for Grading Permit.

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

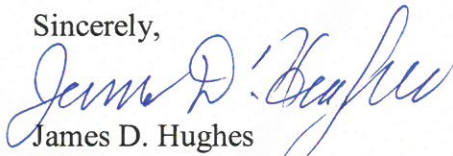
PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Sincerely,



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



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: _____ **Building Permit #:** _____ **City Drainage #:** _____
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: _____
City Address: _____

Engineering Firm: _____ **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____

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

Landscape Architect: _____ **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____

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

Check all that Apply:

DEPARTMENT:

- HYDROLOGY/ DRAINAGE
- TRAFFIC/ TRANSPORTATION
- MS4/ EROSION & SEDIMENT CONTROL

CHECK 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
- PRE-DESIGN MEETING
- OTHER (SPECIFY) _____

TYPE OF SUBMITTAL:

- ENGINEER ARCHITECT CERTIFICATION
- CONCEPTUAL G & D PLAN
- GRADING PLAN
- DRAINAGE MASTER PLAN
- DRAINAGE REPORT
- CLOMR/LOMR
- TRAFFIC CIRCULATION LAYOUT (TCL)
- TRAFFIC IMPACT STUDY (TIS)
- EROSION & SEDIMENT CONTROL PLAN (ESC)
- OTHER (SPECIFY) _____

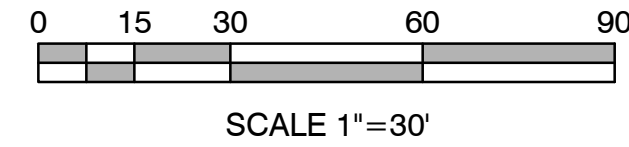
IS THIS A RESUBMITTAL?: Yes No

DATE SUBMITTED: December 19, 2017 By: Åsa Nilsson-Weber

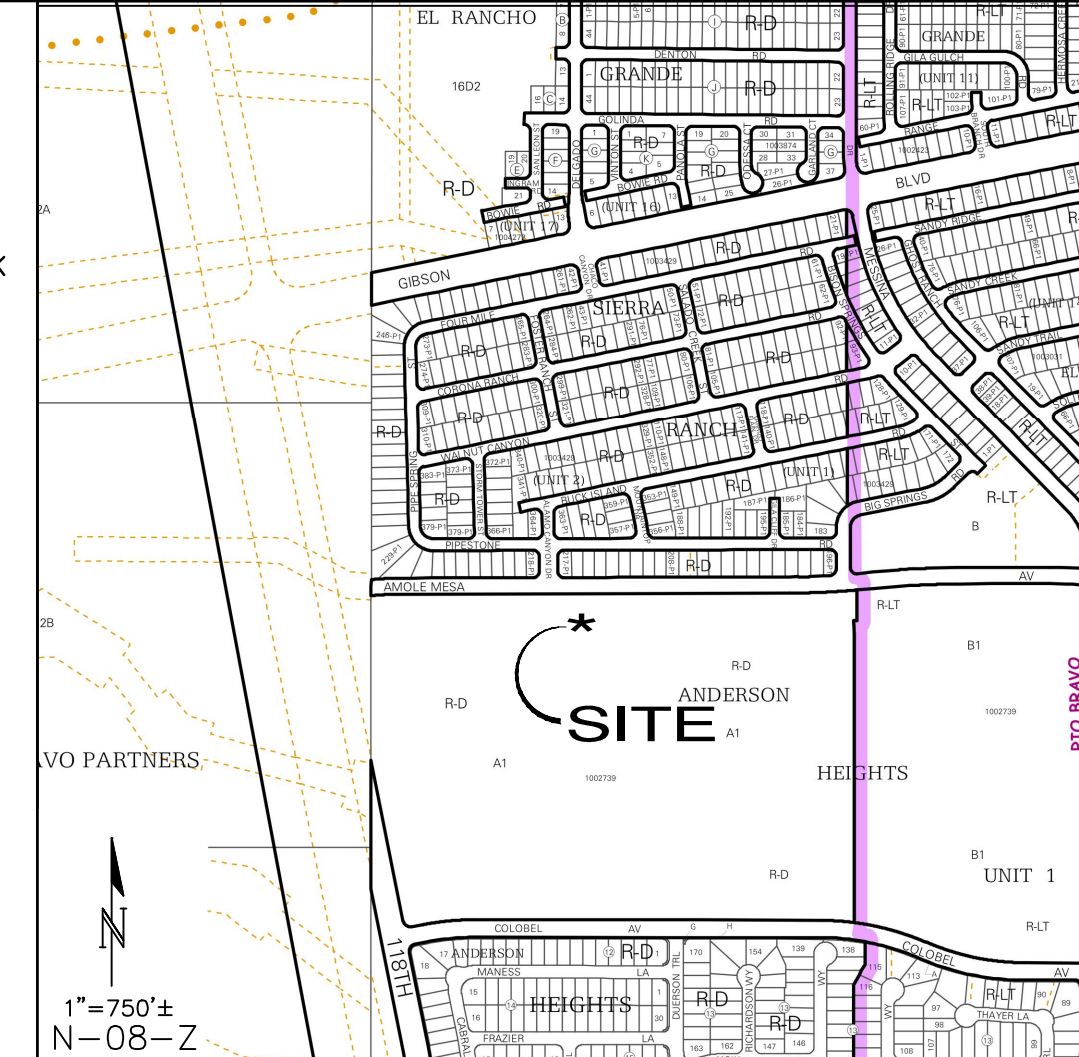
COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

GENERAL NOTES

- A. ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT, WHERE APPLICABLE, CITY OF ALBUQUERQUE STANDARDS APPLY.
- B. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.
- C. ALL SUBGRADE, OVEREXCAVATION, BACKFILL, AND FILL SHALL BE PLACED AND/OR COMPACTED PER THE GEOTECHNICAL REPORT AND CITY OF ALBUQUERQUE SPECIFICATIONS.
- D. COORDINATE WORK WITH CONSTRUCTION PLAN, DEMOLITION PLAN, AND LANDSCAPE PLAN.
- E. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE LANDSCAPE ARCHITECT AND VERIFY THE INTENT BEFORE PROCEEDING.
- F. CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK.
- G. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- H. CONSTRUCTION EQUIPMENT SHALL ONLY OBSTRUCT DESIGNATED TRAFFIC LANES IF APPROPRIATE BARRICADING PERMITS HAVE BEEN OBTAINED.
- I. THE CONTRACTOR SHALL MAINTAIN ALL BARRICADING AND CONSTRUCTION SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.
- J. FOR ALL ACCESSIBLE ROUTES, MAXIMUM ALLOWABLE CROSS SLOPE IS 2.0% AND MAXIMUM LONGITUDINAL SLOPE WITHOUT RAMP IS 5.0%. FOLLOW ALL ADA ACCESSIBILITY GUIDELINES OR CITY CODES, WHICHEVER IS MORE STRINGENT.
- K. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OFF-SITE.
- L. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.
- M. EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS TWO WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.
- N. A CURRENT STORMWATER CONTROL PERMIT, INCLUDING AN EROSION SEDIMENT CONTROL PLAN (E.S.C.) FOR EROSION AND SEDIMENT CONTROL IS REQUIRED FOR ALL CONSTRUCTION, DEMOLITION CLEARING, AND GRADING OPERATIONS THAT DISTURB THE SOIL ON ONE ACRE OR MORE OF LAND. OWNER WILL COORDINATE.
- O. POST-CONSTRUCTION MAINTENANCE FOR STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER.
- P. STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN ARE REQUIRED TO PROVIDE MANAGEMENT OF 'FIRST FLUSH' (DEFINED AS THE 90TH PERCENTILE STORM EVENT OR 0.44" OF STORMWATER WHICH DISCHARGES DIRECTLY TO A PUBLIC STORM DRAINAGE SYSTEM).
- Q. ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS-25 TRAFFIC RATED.
- R. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.
- S. ALL EROSION PROTECTION TO BE FRACTURED FACE ROCK (F.F. ROCK) DEFINED AS 4" AVG. DIA. (2" TO 6") ANGULAR FACED ROCK PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.).
- T. CONTRACTOR SHALL COMPLY WITH LOCAL REGULATIONS FOR RESEEDING OF DISTURBED AREAS. RESEEDING INSPECTION IS NOT INCLUDED AS PART OF ENGINEER'S CERTIFICATION OF SUBSTANTIAL COMPLIANCE.
- U. ENGINEER RECOMMENDS THAT OWNER MAINTAIN EROSION PROTECTION ELEMENTS. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.
- V. MEASURES REQUIRED FOR EROSION AND SEDIMENT CONTROL SHALL BE INCIDENTAL TO THE PROJECT COST.
- W. IF CULTURAL RESOURCES, SUCH AS HISTORIC OR PREHISTORIC ARTIFACTS, OR HUMAN REMAINS ARE DISCOVERED DURING EXCAVATION OR CONSTRUCTION, WORK SHALL CEASE AND THE CONSTRUCTION ENGINEER SHALL NOTIFY THE COUNTY OFFICE OF THE MEDICAL EXAMINER AT (505) 272-3053. IF THE MEDICAL EXAMINER DETERMINES THAT HUMAN REMAINS ARE NOT PRESENT, THE CONSTRUCTION ENGINEER SHALL NOTIFY THE STATE HISTORIC PRESERVATION OFFICER (SHP0) AT 827-6320.



VICINITY MAP



PROJECT DATA

PROPERTY: THE SITE IS A PARTIALLY DEVELOPED PUBLIC PARK PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP N-08.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE ONSITE GRADING, LANDSCAPING & OFF-SITE DRAINAGE IMPROVEMENTS.

OFF-SITE FLOW: FOR THE EXISTING CONDITIONS, FLOWS DISCHARGE INTO EXISTING INTERIM RETENTION POND LOCATED ON THE PARK PROPERTY. FOR PROPOSED CONDITIONS, ALL OFF-SITE FLOW WILL BE DIRECTED AROUND THE PARK TO A TEMPORARY RETENTION POND FOR ALL OFF-SITE BASIN DISCHARGE.

LEGAL: TRACT A-1-A & A-1-B ANDERSON HEIGHTS UNIT 4 ALBUQUERQUE, NEW MEXICO.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP PANEL 0317H MAP REVISED AUGUST 16TH, 2012. THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

ENGINEER: ASA M. NILSSON-WEBER: NMPE 17631
ISAACSON & ARFMAN, PA
128 MONROE NE 87108
505-268-8828

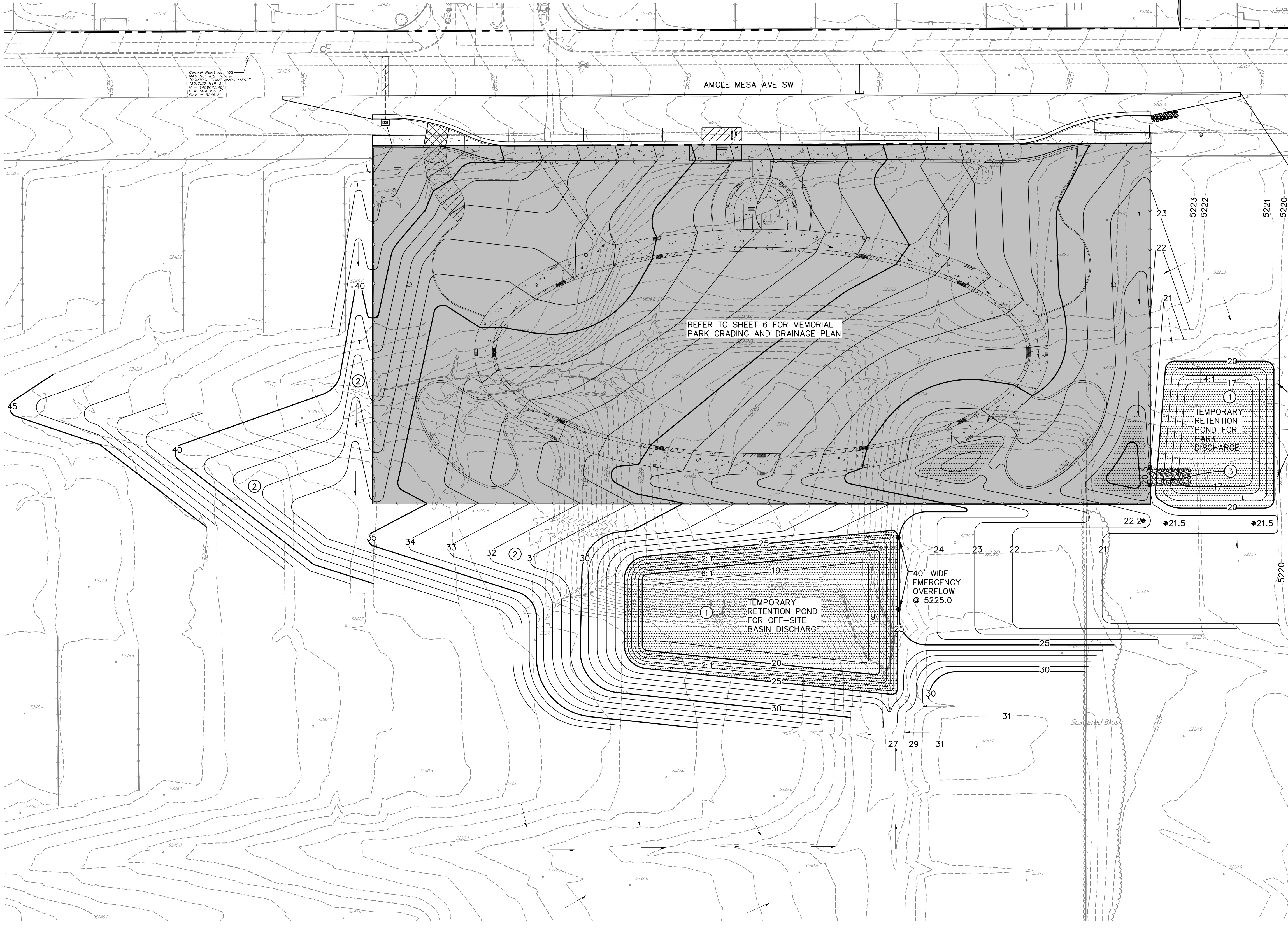
KEYED NOTES

- FOR ALL WORK WITHIN PUBLIC RIGHT OF WAY, SEE PWO SET (CPN 753991) ELEVATIONS SHOWN ARE FOR INFORMATION ONLY.
- CONSTRUCT TEMPORARY RETENTION POND AT ELEVATIONS SHOWN. SEE SHEET 7 FOR ADDITIONAL INFORMATION.
 - CONSTRUCT COMPACTED EARTH SWALE TO ALLOW FOR WATER TO DISCHARGE TO TEMPORARY RETENTION POND.
 - CONSTRUCT 8" THICK (4" AVG. DIAMETER) FRACTURED FACE ROCK EROSION PROTECTION TO EXTENTS SHOWN TO PASS PARK DISCHARGE TO BOTTOM OF RETENTION POND. SEE CG-501 FOR ANGULAR ROCK SWALE DETAIL.

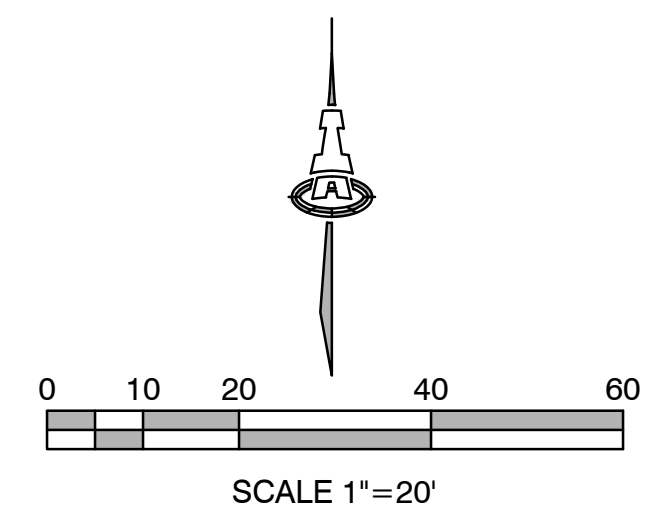
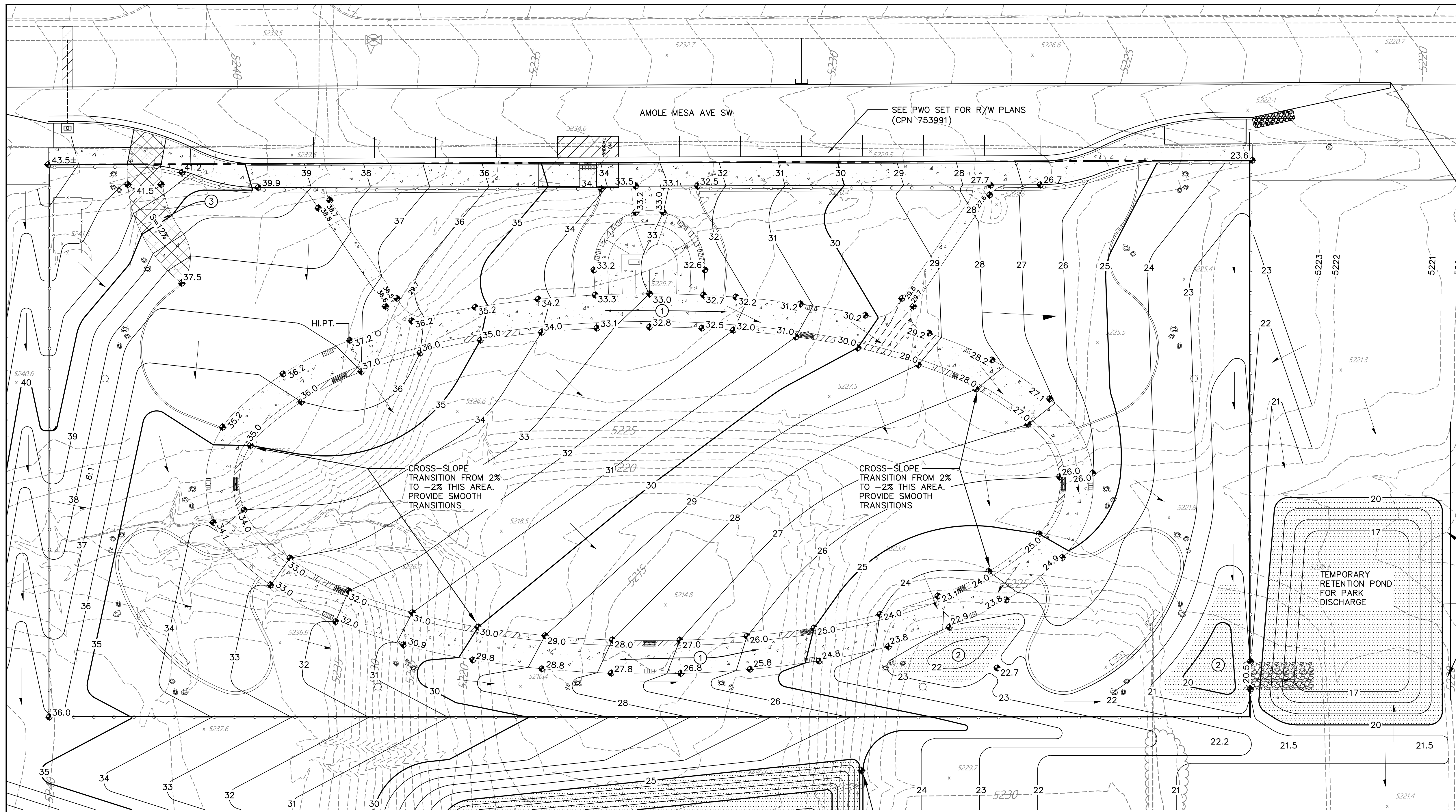
CITY OF ALBUQUERQUE
STRATEGIC PLANNING AND DESIGN
PARKS AND RECREATION DEPARTMENT

MEMORIAL PARK OVERALL GRADING & DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	
753990	N-8	5 of 18	



AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ARCHITECTURAL SEAL		REVISIONS																					
CONTRACTOR	DATE	BY	DATE	NO.	BY	NO.	DATE	NO.	DATE																				
Zone (NAD 83--NRSR 2007), and have been adjusted to the City of Albuquerque Control Monument "1--PB" Y=1464875.26; X=1489973.91.	8/17 & 9/17	STEPHEN J. TOLER, PS	8/17 & 9/17	1.	STEPHEN J. TOLER, PS																								
To obtain true state plane grid coordinates, multiply the coordinates shown hereon by the project average combined factor OF=0.999979150. The elevations shown hereon are NAVD 88, and have been adjusted to the City of Albuquerque benchmark "3--NB" (published elevation used for "3--NB" = 5281.71'). The coordinates & elevations shown hereon are expressed in U.S. Survey Feet.																													
CONTRACTOR'S ACCEPTANCE BY	DATE	ENGINEER'S ACCEPTANCE BY	DATE	ARCHITECTURAL SEAL		REVISIONS		REVISIONS																					
						<table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>REMARKS</th> <th>BY</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	DATE	REMARKS	BY					<table border="1"> <tr> <th>DESIGNED BY:</th> <th>DATE</th> <th>DRAWN BY:</th> <th>DATE</th> <th>CHECKED BY:</th> <th>DATE</th> </tr> <tr> <td>ANW</td> <td>12/15/17</td> <td>BJB/SAM</td> <td>12/15/17</td> <td>ANW</td> <td>12/15/17</td> </tr> </table>		DESIGNED BY:	DATE	DRAWN BY:	DATE	CHECKED BY:	DATE	ANW	12/15/17	BJB/SAM	12/15/17	ANW	12/15/17
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PROJECT# 753990		RECORD DRAWINGS DATE: XX/XX/2018		MEMORIAL PARK		DATE: DECEMBER 15, 2017		100% FOR REVIEW SUBMITAL																					



- KEYED NOTES**
- FOR ALL WORK WITHIN PUBLIC RIGHT OF WAY, SEE PWO SET (CPN 753991) ELEVATIONS SHOWN ARE FOR INFORMATION ONLY.
- CONSTRUCT PEDESTRIAN WALK AT ELEVATIONS SHOWN. ALL WALKS TO BE ADA ACCESSIBLE (5% MAX. SLOPE, 2% MAX. CROSS-SLOPE) UNLESS NOTED.
 - CONSTRUCT FIRST FLUSH RETENTION POND AT ELEVATIONS SHOWN. INSTALL ANGULAR ROCK TO DEFINE PERIMETER. DOT HATCHING REPRESENTS EXTENTS OF FIRST FLUSH POND AREA. SEE SHEET 7 OF 15 FOR ADDITIONAL INFORMATION.
 - CONSTRUCT MAINTENANCE DRIVE. SEE ARCHITECTURAL PLAN FOR ADDITIONAL INFORMATION.
 - CONSTRUCT TEMPORARY RETENTION POND. SEE SHEET 7 OF 15 FOR ADDITIONAL INFORMATION.

- LEGEND**
- 5221.3a EXISTING SPOT ELEVATION
 - 4957 EXISTING CONTOUR
 - 27.0 PROPOSED SPOT ELEVATION
 - 27 PROPOSED CONTOUR
 - FLOW ARROW - PROPOSED CONDITION
 - FIRST FLUSH RETENTION POND
 - EROSION PROTECTION

ISAACSON & ARFMAN, P.A.
 Consulting Engineering Associates
 128 Monroe Street N.E.
 Albuquerque, New Mexico 87108
 Ph. 505-268-8828 www.iacivil.com
 2235 CG-101.dwg Dec 19, 2017

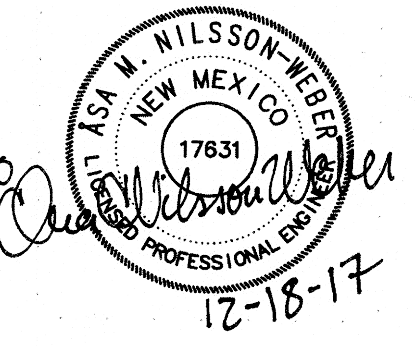
MRWM
 LANDSCAPE ARCHITECTS
 mrwmla.com 505 268 2266

CITY OF ALBUQUERQUE
 STRATEGIC PLANNING AND DESIGN
 PARKS AND RECREATION DEPARTMENT

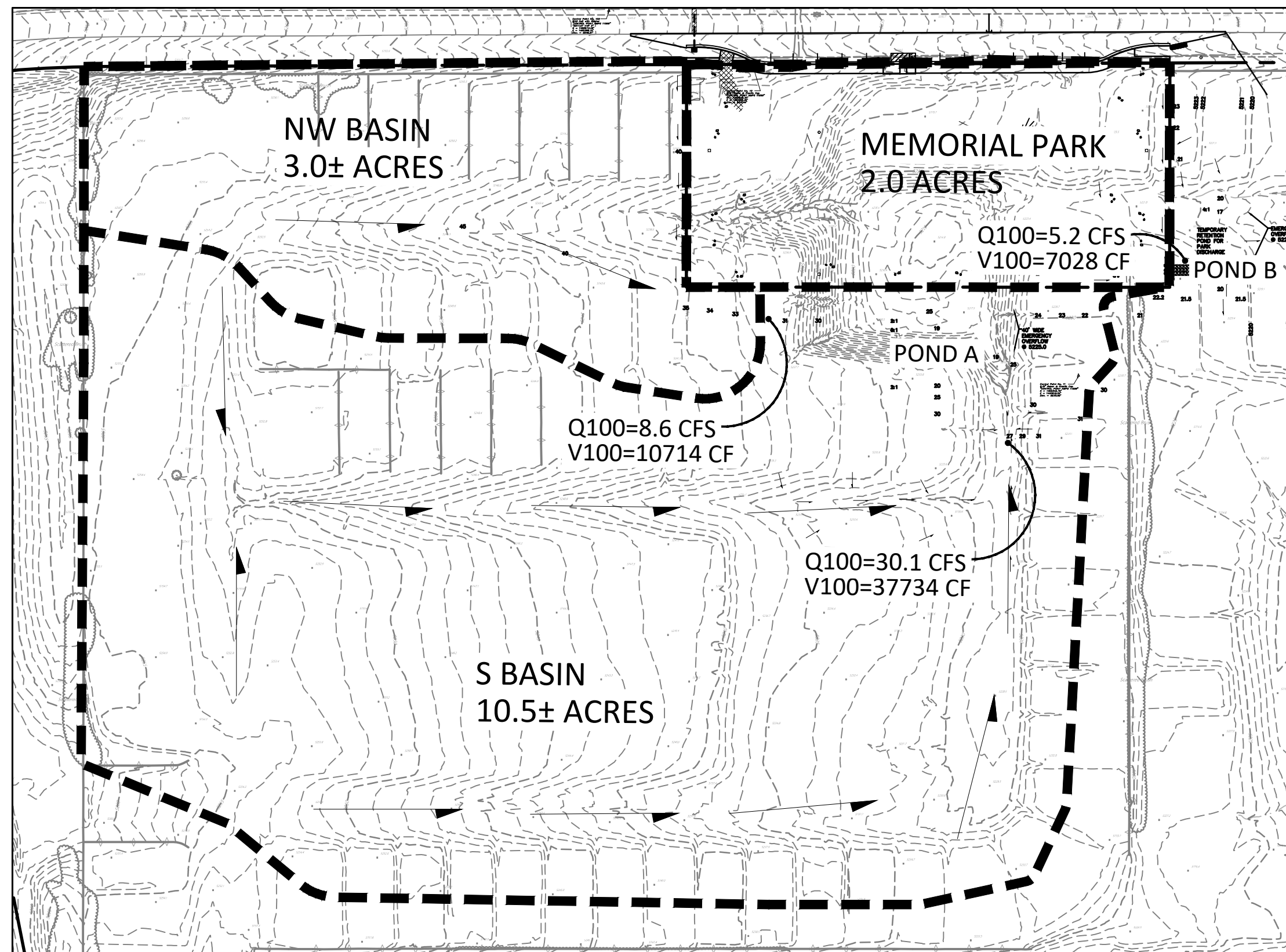
**MEMORIAL PARK
 PARK GRADING & DRAINAGE PLAN**

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
City Project No. 753990	Zone Map No. N-8	Sheet 6 of 18	

AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ARCHITECTURAL SEAL		REVISIONS	
CONTRACTOR	Zone (NAD 83-NRSR 2007), and have been adjusted to the City of Albuquerque control monument "1-PB" (Y=1464875.26; X=1489973.91).	DATE	8/17 & 9/17	NO.	1.	DATE	8/17 & 9/17	NO.	DATE
INSPECTOR'S ACCEPTANCE BY	To obtain true state plane grid coordinates, multiply the coordinates shown herein by the project average combined factor CF=0.999979150. The elevations shown herein are NAVD 88, and have been adjusted to the City of Albuquerque benchmark "3-NB" (published elevation used for "3-NB"=5281.71). The coordinates & elevations shown herein are expressed in U.S. Survey Feet.	BY	STEPHEN J. TOLER, PS	BY		DATE	12/15/17	REMARKS	BY
DRAWINGS BY		DATE	9/17	DATE		DATE	12/15/17		DATE
VERIFICATION BY		DATE		DATE		DATE	12/15/17		DATE
MICRO-FILM INFORMATION		DATE		DATE		DATE	12/15/17		DATE



100% FOR REVIEW SUBMITTAL
 DATE: DECEMBER 15, 2017
 MEMORIAL PARK
 PROJECT# 753990
 RECORD DRAWINGS
 DATE: XX/XX/2018



BASIN MAP

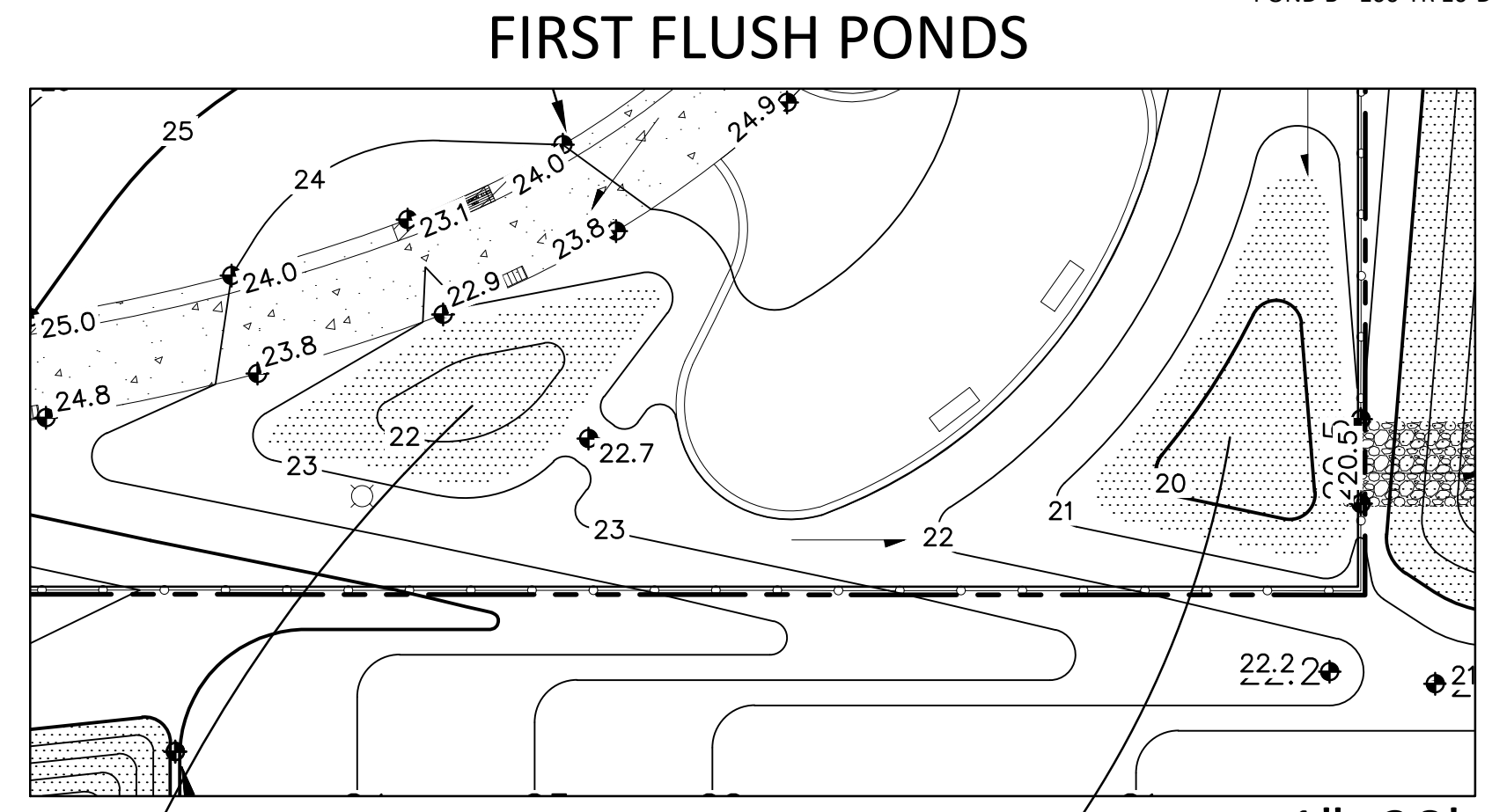
BASIN	NW	DESCRIPTION	West of Memorial Park to be diverted to offsite pond
Area of basin flows =	129866	SF	3.0 Ac.
The following calculations are based on Treatment areas as shown in table to the right			
Sub-basin Weighted Excess Precipitation (see formula above)	LAND TREATMENT		
Weighted E =	0.99	in.	A = 0%
Sub-basin Volume of Runoff (see formula above)	B = 0%		
V ₃₆₀ =	10714	CF	C = 100%
Sub-basin Peak Discharge Rate: (see formula above)	D = 0%		
Q _p =	8.6	cfs	FIRST FLUSH VOL.
			0 CF
BASIN	MEMORIAL PARK	DESCRIPTION	
Area of basin flows =	87120	SF	2.0 Ac.
The following calculations are based on Treatment areas as shown in table to the right			
Sub-basin Weighted Excess Precipitation (see formula above)	LAND TREATMENT		
Weighted E =	0.97	in.	A = 0%
Sub-basin Volume of Runoff (see formula above)	B = 62%		
V ₃₆₀ =	7028	CF	C = 20%
Sub-basin Peak Discharge Rate: (see formula above)	D = 18%		
Q _p =	5.2	cfs	FIRST FLUSH VOL.
			444 CF
BASIN	S	DESCRIPTION	
Area of basin flows =	457380	SF	10.5 Ac.
The following calculations are based on Treatment areas as shown in table to the right			
Sub-basin Weighted Excess Precipitation (see formula above)	LAND TREATMENT		
Weighted E =	0.99	in.	A = 0%
Sub-basin Volume of Runoff (see formula above)	B = 0%		
V ₃₆₀ =	37734	CF	C = 100%
Sub-basin Peak Discharge Rate: (see formula above)	D = 0%		
Q _p =	30.1	cfs	FIRST FLUSH VOL.
			0 CF

V ₃₆₀ (from previous calculation)	7028
Area Treatment D (SF)	15682
Zone	1

For 10 Day Storms:
 $V_{10day} = V_{360} + A_D * (P_{10day} - P_{360}) * 43560 \text{ SF/AC}$

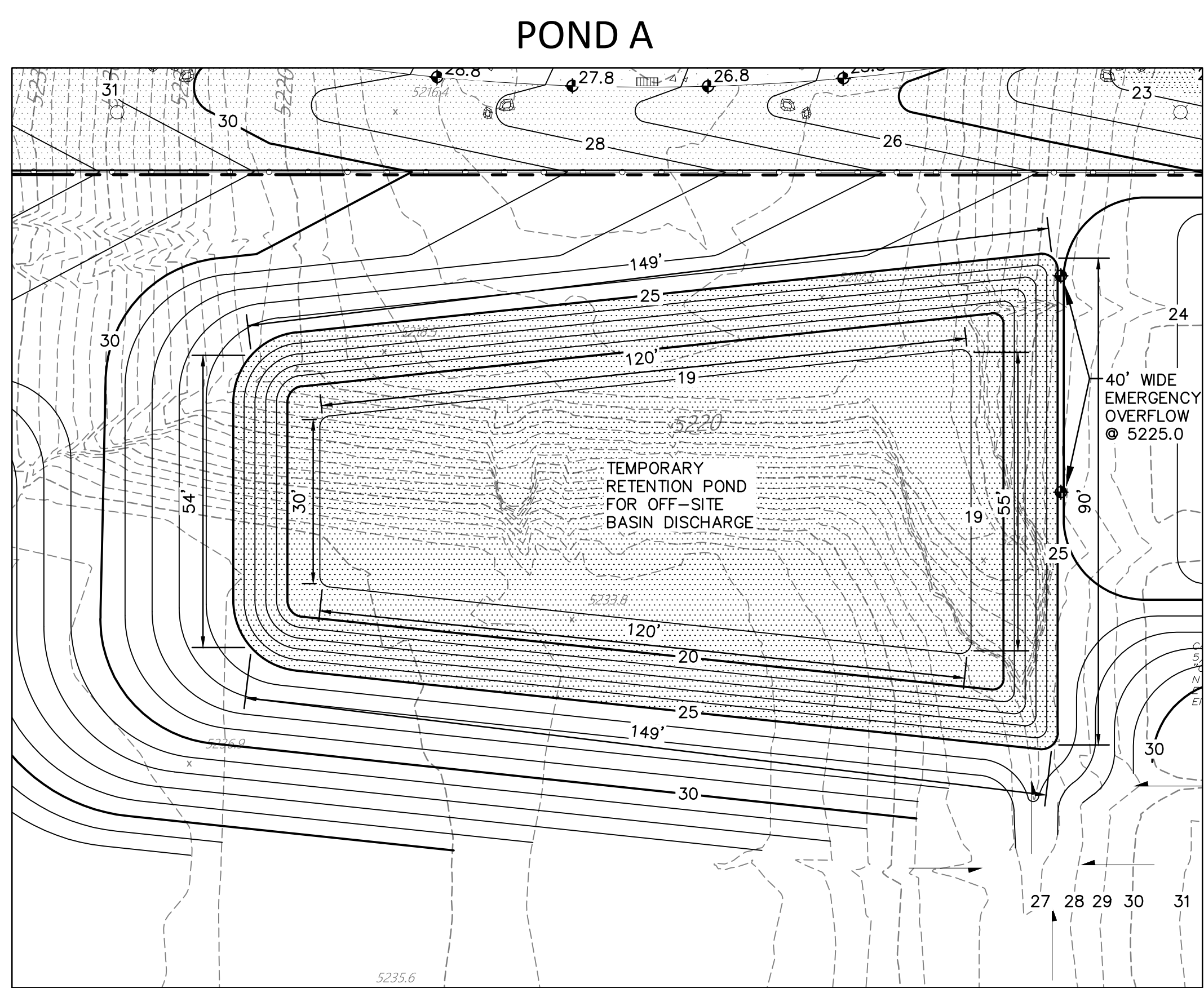
V ₃₆₀	7028
A _D (SF)	15682
P _{10day}	3.67
P ₃₆₀	2.2

V ₃₆₀	7028
+ imp. area	1921
Total Pond Volume (V_{10day})	8949

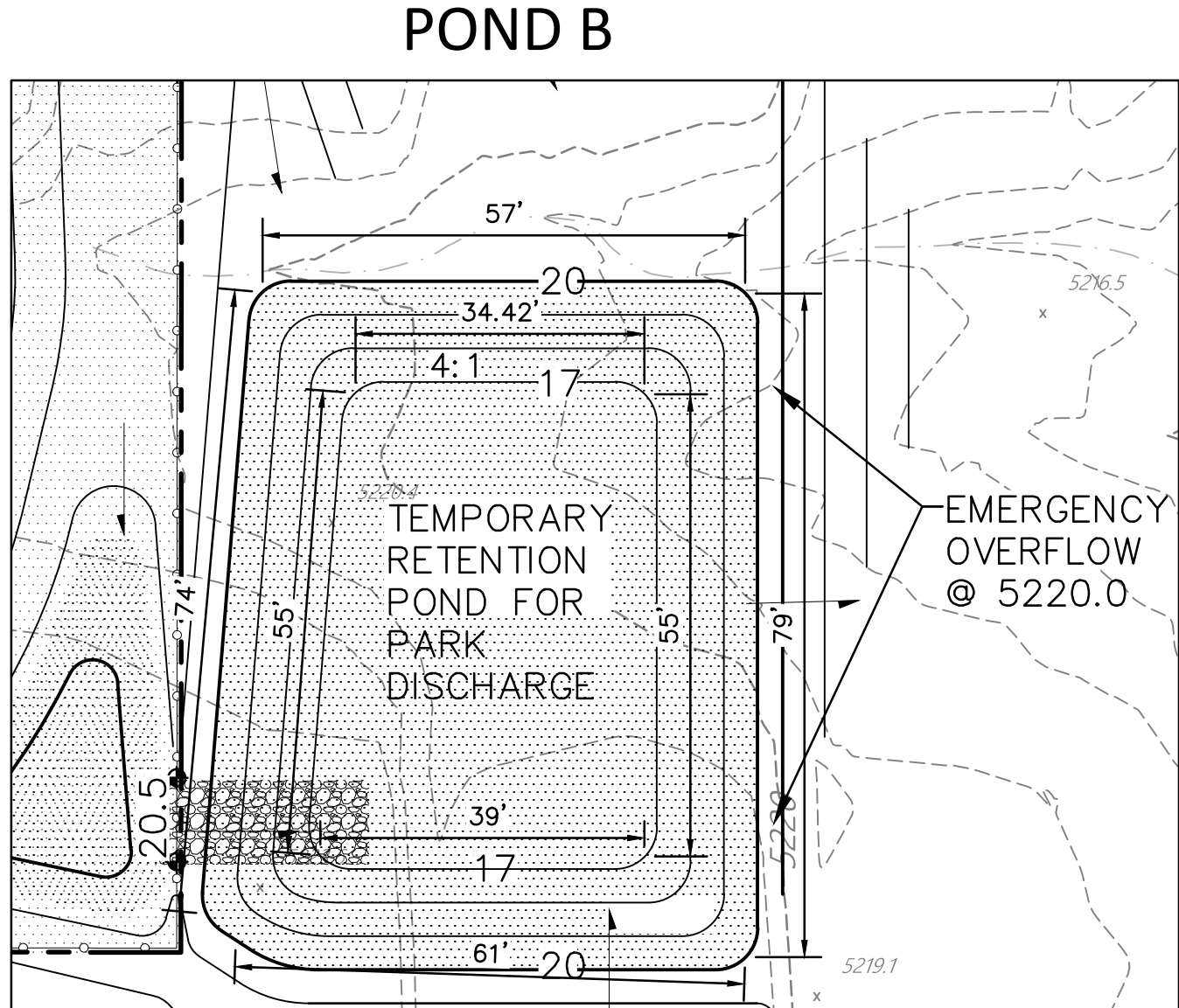


POND #1		
Contour	Area	Volume
5222.70	772	
5222.00	158	325 CF
TOTAL VOL.		325 CF

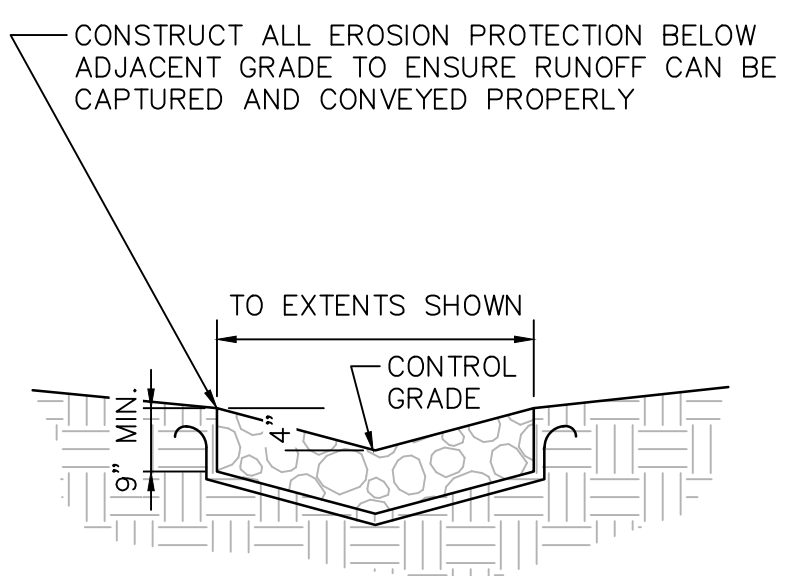
POND #2		
Contour	Area	Volume
5220.50	800	
5220.00	45	211 CF
TOTAL VOL.		211 CF



POND A		
Contour	Area	Volume
5225.00	11528	
5220.00	7402	47325 CF
5219.00	5280	6341 CF
TOTAL VOL.		53666 CF



POND B		
Contour	Area	Volume
5220.00	4330	
5217.00	1997	9491 CF
TOTAL VOL.		9491 CF



- VARY ANGULAR FACE ROCK SIZE BETWEEN 2" AND 6" DIA. (AVG.=6")
- PLACE GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.) BENEATH ALL EROSION PROTECTION

ANGULAR ROCK SWALE
SCALE: N.T.S.

PER MARK GOODWIN & ASSOCIATES RESPONSE TO COMMENTS FROM RITA HARMON REVIEW (N08/D006F) DATED FEBRUARY 12, 2015

THE FIRST FLUSH FOR THE RESIDENTIAL LOTS WILL BE MANAGED IN THE DOWNSTREAM REGIONAL DETENTION POND THAT WAS MASTER PLANNED TO INCLUDE THIS SITE. THE MEMORIAL PARK PROPERTY WILL PROVIDE FIRST FLUSH PONDS AS SHOWN.

PROJECT HISTORY: THE OVERALL AREA DRAINAGE & GRADING SUBMITTAL WAS APPROVED AND MASS GRADED (ANDERSON HEIGHTS UNIT 4). AT A LATER DATE, THE LOT LAYOUT WAS CHANGED AND A NEW G&D PLAN WAS SUBMITTED AND APPROVED BUT NEVER REGRADED. WHEN THE ECONOMY TANKED, DEVELOPMENT WAS SUSPENDED INDEFINITELY. IN 2007-2008, AN INTERIM GRADING PLAN WAS APPROVED WITH INTERIM PONDS TO RETAIN ON-SITE FLOW FROM UNDEVELOPED PORTIONS OF THE PROPERTY.

EXISTING CONDITIONS: THE INTERIM GRADING PLAN WITH PONDS WAS IMPLEMENTED AND CERTIFIED. THE EXISTING PROJECT SITE CONDITIONS REFLECT THE ORIGINAL GRADING SCHEME WITH THE ADDED INTERIM PONDS.

UNDER EXISTING CONDITIONS, RUNOFF IS CONVEYED TO THE TEMPORARY RETENTION POND LOCATED PARTIALLY WITHIN THE PARK SITE.

PROPOSED CONDITIONS: THE EXISTING INTERIM POND WITHIN THE PARK BOUNDARY WILL BE FILLED AND A REPLACEMENT POND (POND A) WILL BE CONSTRUCTED SOUTH OF THE PROPOSED PARK. POND A WILL PROVIDE RETENTION VOLUME FOR THE 100-YEAR 10-DAY STORM (EQUAL TO THE 100-YEAR 6-HOUR STORM BECAUSE THERE IS NO IMPERVIOUS AREA) FROM DRAINAGE BASINS NW AND S AS SHOWN.

POND A: ACCEPTING DISCHARGE FROM 13.5 ACRES (BASINS S AND NW) REQUIRED VOLUME: (100% LAND TREATMENT 'C') = 48515 CF PROVIDED VOLUME: 53,666 CF

POND B WILL BE CONSTRUCTED TO ACCEPT THE FREE DISCHARGE FROM THE FULLY DEVELOPED TWO ACRE PARK PROPERTY. AS THE ADJACENT RESIDENTIAL PORTION IS DEVELOPED, THIS DISCHARGE WILL BE ACCEPTED INTO THE SUBDIVISION DRAINAGE SYSTEMS AND ROUTED VIA SURFACE STREETS AND STORM DRAIN SYSTEMS. A DRAINAGE EASEMENT IS NEEDED (AS SHOWN ON PREVIOUSLY APPROVED SUBDIVISION PLANS) FROM THE PARK DISCHARGE POINT TO THE PUBLIC STREET.

POND B: ACCEPTING DISCHARGE FROM 2.0 ACRES (PARK BASIN) REQUIRED VOLUME: (LAND TREATMENT RATIO 0A:62B:20C:18D) 100-YEAR 6-HOUR: 7028 CF 100-YEAR 10-DAY: 8949 CF PROVIDED VOLUME: 9491 CF

FIRST FLUSH PONDS: ONSITE PONDS 1&2 WILL PROVIDE 536 CF STORAGE FOR FIRST FLUSH (444 CF REQUIRED).

ISAACSON & ARFMAN, P.A.
 Consulting Engineering Associates
 128 Monroe Street N.E.
 Albuquerque, New Mexico 87108
 Ph. 505-268-8828 www.iaacivil.com
 2235 CG-101.dwg Dec 19, 2017

MRWM
 LANDSCAPE ARCHITECTS
 mrwmla.com 505 268 2266

CITY OF ALBUQUERQUE
 STRATEGIC PLANNING AND DESIGN
 PARKS AND RECREATION DEPARTMENT

**MEMORIAL PARK
 POND CALCULATIONS AND DETAILS**

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
City Project No. 753990	Zone Map No. N-8	Sheet 7 of 18	

AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ARCHITECTURAL SEAL		REVISIONS	
CONTRACTOR	Zone (NAD 83-NSRS 2007), and have been adjusted to the City of Albuquerque monument "1-P8" Y=1464875.26; X=1489973.91).	DATE		NO.	BY	DATE	NO.	DATE	DATE
INSPECTOR'S ACCEPTANCE BY	To obtain true state plane grid coordinates, multiply the coordinates shown hereon by the project average combined factor CF=0.999879150. The elevations shown hereon are NAVD 88, and have been adjusted to the City of Albuquerque benchmark "3-N8" (published elevation used for "3-N8" = 5281.71'). The coordinates & elevations shown hereon are expressed in U.S. Survey Feet.	DATE		1.	STEPHEN J. TOLER, PS	8/17 & 9/17			
VERIFICATION BY									
DRAWINGS BY									
MICRO-FILM INFORMATION									

100% FOR REVIEW SUBMITTAL
 DATE: DECEMBER 15, 2017
 MEMORIAL PARK
 PROJECT# 753990
 RECORD DRAWINGS
 DATE: XX/XX/2018