CITY OF ALBUQUERQUE

Richard J. Berry, Mayor

October 3, 2017

Amy L. D. Niese, P.E.
Souder, Miller & Associates
5454 Venice Ave NE, Suite D
Albuquerque, NM, 87113

RE: Pino Yards Truck Wash
Grading Plan and Drainage Report
Stamp Date: 9/19/17
Hydrology File: D18D002C

Dear Ms. Niese:

Based upon the information provided in your submittal received 9/19/2017, the Grading Plan and Drainage Report is approved for Paving Permit.

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

Sincerely,

Reneé C. Brissette

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

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Orig: Drainage File

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 10/2015)

Project Title: Pino Yards Truck Wash_____ Building Permit #:_____ Hydrology File #: D18_____

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: Lot 26, Block 3, North Albuquerque Acres, Tract A, Unit A_____

City Address: 5501 Pino Ave NE_____

Applicant: Souder, Miller & Associates_____ Contact: Amy L. D. Niese, P.E.

Address: 5454 Venice Avenue NE, Suite D_____

Phone#: (505)299-0942_____ Fax#:_____

E-mail: amy.niese@soudermiller.com_____

Other Contact: _____ Contact: _____

Address: _____

Phone#:_____ Fax#:_____ E-mail: _____

Check all that Apply:

DEPARTMENT:

X HYDROLOGY/ DRAINAGE

___ TRAFFIC/ TRANSPORTATION

___ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

___ ENGINEER/ARCHITECT CERTIFICATION

___ CONCEPTUAL G & D PLAN

X GRADING PLAN

___ DRAINAGE MASTER PLAN

___ DRAINAGE REPORT

___ CLOMR/LOMR

___ TRAFFIC CIRCULATION LAYOUT (TCL)

___ TRAFFIC IMPACT STUDY (TIS)

___ EROSION & SEDIMENT CONTROL PLAN (ESC)

___ OTHER (SPECIFY) _____

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

X PAVING PERMIT APPROVAL

___ GRADING/ PAD CERTIFICATION

___ WORK ORDER APPROVAL

___ CLOMR/LOMR

___ **PRE-DESIGN MEETING?**

___ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ___ Yes X No

DATE SUBMITTED: 9/19/17 By: _____

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ___

Souder, Miller & Associates ♦ 5454 Venice Avenue NE, Suite D ♦ Albuquerque, NM 87113
(505) 299-0942 ♦ fax (505) 293-3430

September 19, 2017 #7423759

City of Albuquerque
Planning Department
Hydrology
600 2nd Street NW
Albuquerque, NM 87102

Attn: Mr. Doug Hughes, P.E., Hydrology

RE: **COA- Pino Yards Truck Wash**

Dear Mr. Hughes:

The following is Souder, Miller & Associates' (SMA) analysis of the existing and proposed drainage conditions for the development of the Pino Truck Wash Site in the City of Albuquerque Pino Maintenance Yard at 5501 Pino Rd. NE. The purpose of the project is to provide a washing station for maintenance vehicles. An existing paved area at the Pino Maintenance Yard will be converted to an open-air Truck/Heavy Equipment wash area. Vehicles will be parked between cat walks for washing. ABCWUA is requiring pretreatment of the wash water so that water will be directed to an inlet, pretreated, and discharged to the sanity sewer system.

Existing Drainage Patterns
Please see the attached Drainage Basins sheet for the basin delineations and flow patterns for the existing conditions. SMA determined the existing drainage basins and flow patterns from the topographic survey that was performed by SMA.

The drainage in the proposed truck wash site flows in a northwestern direction from west shoulder of Pino Rd. The existing drainage Basin A discharges 1.06 cfs to an existing grated storm drain at the northwest edge of the property.

Proposed Drainage Patterns
Please see the attached Drainage Basins sheet for the basin delineations and flow patterns for the proposed conditions. The project will have minor changes in drainage. The proposed truck wash will have a subbasin (Proposed Basin B, 0.25 cfs) that will capture the truck wash discharge and any surface flows from the area between the truck wash pad and Pino Rd. The rest of the discharge from the remaining area Proposed Basin C discharges 0.81 cfs to the existing storm drain.

The following table summarizes the discharge runoff for each basin.

Pino Yards Truck Wash Site at Pino Rd. Existing and Proposed Runoff Totals for the 100-yr Storm Event			
Basin	**Peak Flow Rate (cfs)**	**Runoff Volume (cu-ft)**	**Scenario**
A	1.06	636	Existing runoff
B	0.25	150	Runoff captured by truck wash inlet
C	0.81	487	Post-construction free discharge runoff

Rainfall

Rainfall data was obtained from the NOAA Precipitation Frequency Data Server for both Point Precipitation Frequency (PPFE) and Intensity (PPIE) Estimates. PPFE and PPIE data was used for the hydrologic analysis.

The following tables summarize the rainfall data used for the hydrologic analysis.

Pino Yards Truck Wash Site at Pino Rd. Point Precipitation Frequency Summary						
Duration	(inches)					
	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
6-hr	0.988	1.27	1.50	1.81	2.05	2.31
24-hr	1.23	1.53	1.78	2.11	2.36	2.62

Pino Yards Truck Wash Site at Pino Rd. Point Precipitation Intensity Summary						
Duration	(inches/hour)					
	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
10-min	2.05	2.75	3.29	4.04	4.62	5.24
15-min	1.70	2.27	2.72	3.34	3.82	4.33

FEMA Floodplains

The area of the property is shown in FEMA map panel 35001C0137H, dated August 16, 2012. This map shows that the property lies within a FEMA designated Zone X. Zone X indicates that it is outside the flood hazard area, which is outside the 0.2 percent-annual-chance flood.

Loss Calculations

The truck wash location is 100% developed. Runoff coefficients of 0.95 was determined for paved surfaces in developed watersheds. Time of concentration was determined using

Overland and Shallow Concentrated Flows. The minimum time of concentration of 10 min was used because the of the small area of the site.

Pino Yards Truck Wash Site at Pino Rd. Loss Calculations		
Basin	**Runoff Coefficient**	**Time of Concentration (min)**
A	0.95	10
B	0.95	10
C	0.95	10

Existing Hydrology
SMA analyzed the existing and proposed runoff conditions for the 100-year storm event. Hydraflow for AutoCAD Civil 3D 2015 was used to perform the Rational Method calculations. SMA modeled each basin separately and added them based on the runoff characteristics of the site described above. The existing runoff from the Basin A is 1.06 cfs.

Proposed Hydrology
After construction of the proposed truck wash, two new drainage basins are formed. Please see the attached Drainage Basins sheet. Basin B is subbasin located within the area of Basin A and is subtracted out of the discharge of Basin A to form Basin C. The discharge from Basin B is routed to a proposed inlet in the truck wash pad. The free discharge runoff from the site is reduced in both runoff flow rate and runoff volume. Overall, the flows do not change from existing to proposed conditions. However, in the existing condition, all flow (1.06 cfs) is free discharged into an existing storm drain. In the proposed condition, 0.81 cfs flows is free discharged to the existing storm drain and 0.25 cfs is discharged to the sanitary sewer system for pretreatment.

Please see the enclosed existing and proposed grading plans.

SMA does not believe an Erosion and Sediment Control Plan is required because the site is less than 1 acre.

Please do not hesitate to call me if you have any questions regarding this analysis or recommendations.

Sincerely,

MILLER ENGINEERS, INC. D/B/A
SOUDER, MILLER & ASSOCIATES

Amy L. D. Niese, P.E.
Project Engineer
amy.niese@soudermiller.com

AMY L. D. NIESE
NEW MEXICO
15334
9/19/17
LICENSED PROFESSIONAL ENGINEER

Enc: *G-2-General Notes*
C-3-Site Plan
C-4-Grading Plan
Drainage Basins
Zone Atlas D-18 Map
Civil 3D Hydraflow Hydrograph Summary Report
Civil 3D Hydraflow Express Extension Double D Inlet report
Precipitation Rainfall Frequency Estimates Chart (In Inches)
Precipitation Rainfall Frequency Estimates Chart (In Inches/Hour)
Precipitation Intensity Graph
FEMA map panel 35001C0137H

GENERAL NOTES

1. SOUDER, MILLER AND ASSOCIATES SHALL HEREINAFTER BE KNOWN AS THE ENGINEER.
2. THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND IS NOT LIABLE FOR PROBLEMS THAT MAY ARISE FROM THE CONTRACTOR'S FAILURE TO FOLLOW THESE DRAWINGS, SPECIFICATIONS, AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS ARISING FROM FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES, OR CONFLICTS.
3. CONTRACTOR SHALL CONFINE ALL CONSTRUCTION OPERATIONS TO THE LIMITS OF THE PROJECT EASEMENTS DEFINED IN THESE DRAWINGS, AND IN NO WAY ENCROACH ONTO ADJACENT PROPERTIES, UNLESS LEGAL EASEMENTS ARE PROVIDED. CONTRACTOR SHALL BE HELD SOLELY RESPONSIBLE FOR ANY AGREEMENTS NEEDED, OR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES TO PUBLIC OR PRIVATE PROPERTY, INCLUDING UTILITIES.
4. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTING THE PROJECT ACCORDING TO CITY OF ALBUQUERQUE PUBLIC WORKS STANDARD SPECIFICATIONS AND DETAILS, CURRENT EDITION, INCLUDING WHERE PARTICULAR WORK ITEMS ARE NOT SPECIFIED HEREIN.
5. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS AS SET FORTH IN THE TECHNICAL SPECIFICATIONS AND CONTRACT DOCUMENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE ENGINEER REGARDING ANY QUESTION ARISING FROM ANY ASPECT OF THIS PROJECT NOT SPECIFICALLY COVERED IN THE PLANS AND TECHNICAL SPECIFICATIONS, OR ANY CHANGES OR CORRECTIONS TO THE PLANS AND SPECS.
6. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY, WHICH SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL (OSHA), STATE, AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING SAFETY AND HEALTH. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED OUT IN ACCORDANCE WITH OSHA 29 CFR 1926, SUBPART P - EXCAVATIONS.
7. CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING BUILDING PERMITS, ROAD CROSSING PERMITS AND ANY OTHER PERMITS, WHICH HAVE NOT ALREADY BEEN OBTAINED BY THE OWNER OR ENGINEER.
8. THE CONTRACTOR SHALL PROVIDE INGRESS AND EGRESS TO ANY LOCAL BUSINESSES AND RESIDENTS AS REQUIRED FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL ADVISE OF AND SCHEDULE ACCESS CLOSURES AT LEAST 24 HOURS IN ADVANCE WITH PROPERTY OWNERS AND THE ENGINEER.
9. CONTRACTOR SHALL PROVIDE ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH ANY APPLICABLE SPECIAL PROVISION AND/OR SUPPLEMENTAL SPECIFICATION, AS WELL AS THE MOST CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE SPECIFIED HEREIN. TRAFFIC CONTROL IS INCIDENTAL TO THIS PROJECT.
10. AS PART OF THE TRAFFIC CONTROL PLAN AND TRAFFIC CONTROL MANAGEMENT, THE CONTRACTOR SHALL HAVE PERSONNEL AVAILABLE 24 HOURS PER DAY, 7 DAYS PER WEEK, TO INSPECT AND MAINTAIN DETOURS AND TRAFFIC CONTROL DEVICES.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REMOVALS REQUIRED BY THE PLANS WHETHER SPECIFICALLY LISTED OR NOT TO COMPLETE THE PROJECT. THIS WORK WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND THE CONTRACTOR WILL NOT RECEIVE ADDITIONAL COMPENSATION FOR UNLISTED REMOVALS.
12. OBSTRUCTIONS REMOVED FROM THE WORK AREAS SHALL BE DISPOSED OF BY THE CONTRACTOR. DISPOSAL OF USABLE MATERIALS (E.G., EXCESS DIRT, GRAVEL, ETC.) SHALL BE AT A SITE DESIGNATED BY THE OWNER DURING CONSTRUCTION. ALL OTHER WASTE SHALL BE DISPOSED OF AT AN APPROVED LANDFILL. ALL DISPOSAL SITES MUST BE APPROVED BY THE ENGINEER AND OWNER PRIOR TO DISPOSAL OF ANY WASTE.
13. THE CONTRACTOR SHALL SALVAGE ANY OBSTRUCTIONS NOTED ON THE CONTRACT DRAWINGS AS WELL AS REUSABLE ITEMS FOUND DURING CONSTRUCTION. SUCH ITEMS, IF ANY, SHALL BE DELIVERED TO THE PROPERTY OWNER AS DIRECTED BY THE ENGINEER AND/OR OWNER DURING CONSTRUCTION.
14. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AN EQUIPMENT STORAGE YARD. THE LOCATION OF THE YARD MUST BE APPROVED BY THE OWNER. NO DIRECT PAYMENT WILL BE MADE FOR THE YARD. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL SITE SECURITY.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A WATER SOURCE FOR CONSTRUCTION UNLESS OTHERWISE PROVIDED. NO DIRECT PAYMENT WILL BE MADE FOR WATER. ALL PERMITS, FEES, EQUIPMENT, HAUL, ETC. RELATIVE TO OBTAINING WATER SHALL BE CONSIDERED INCIDENTAL.
16. THE CONTRACTOR SHALL TAKE ANY NECESSARY MEASURES TO PROTECT HORIZONTAL AND VERTICAL CONTROL SURVEY MONUMENTS FROM DAMAGE DURING CONSTRUCTION. IF DURING EXECUTION OF THE PROJECT, THE CONTRACTOR'S ACTIVITIES DISTURB OR DESTROY SUCH MONUMENTS, THE CONTRACTOR SHALL RE-ESTABLISH THEM IN ACCORDANCE WITH ESTABLISHED STANDARDS AND PROCEDURES.
17. CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING STRUCTURES FREE OF DUST AND/OR CONSTRUCTION DEBRIS AT ALL TIMES DURING THE EXECUTION OF THE PROJECT. ALL EXISTING AND NEW STRUCTURES SHALL BE CLEANED PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. ALL COSTS RELATED TO THIS ITEM SHALL BE INCIDENTAL TO THE WORK AND NO EXTRA PAYMENT SHALL BE MADE TO THE CONTRACTOR.
18. CONTRACTOR SHALL REPAIR ANY EXISTING STRUCTURE OR UTILITY DAMAGED DURING THE EXECUTION OF THE PROJECT, AT NO ADDITIONAL COSTS TO THE OWNER.
19. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROTECTION OF MATERIALS AND EQUIPMENT PRIOR TO AND AFTER THEIR INSTALLATION AS APPLICABLE, UNTIL THE PROJECT'S FINAL ACCEPTANCE BY THE OWNER.
20. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR EROSION CONTROL INCIDENTAL TO THE CONSTRUCTION ACTIVITIES.
21. THE CONTRACTOR SHALL PREPARE AND MAINTAIN UP-TO-DATE "AS-BUILT" DRAWINGS AS PER THE CONTRACT DOCUMENTS. UPDATING SUCH DRAWINGS SHALL BE DONE NOT LESS THAN ONCE EVERY WEEK. THE OWNER AND ENGINEER'S PROJECT REPRESENTATIVES SHALL BE ALLOWED TO REVIEW THESE DRAWINGS AT ANY TIME DURING CONSTRUCTION. PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER COMPLETE AS-BUILT DRAWINGS AS PER CONTRACT DOCUMENTS. TWO SETS OF "AS-BUILT DRAWINGS" WILL BE SUBMITTED, UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS. ANY EXISTING UTILITIES NOT SHOWN IN THESE DRAWINGS SHALL BE LOCATED AND SHOWN IN AS-BUILT DRAWINGS.
22. CONTRACTOR SHALL SUBMIT ASTM OR AASHTO CERTIFICATES OF MATERIAL'S COMPLIANCE TO THE OWNER'S PROJECT REPRESENTATIVE, NO LESS THAN 5 DAYS PRIOR TO INITIATING ANY WORK INVOLVING SUCH MATERIALS.
23. ANY EXCEPTIONS TO PLACEMENT OR DEPTH OF MATERIALS AND EQUIPMENT MUST BE AUTHORIZED BY THE ENGINEER.
24. TESTING SHALL BE PERFORMED BY THE CONTRACTOR AS PER CONTRACT DOCUMENTS.
25. OVER-EXCAVATION OF TRENCHES SHALL NOT BE PERFORMED UNLESS IT IS DETERMINED TO THE SATISFACTION OF THE ENGINEER THAT THE SUBSOIL IS NOT SUITABLE FOR PIPE BEDDING AND MUST BE REPLACED WITH IMPORTED FILL. OVER-EXCAVATION PERFORMED UNNECESSARILY BY THE CONTRACTOR SHALL BE REMEDIED WITH CLASSIFIED FILL AND COMPACTION AS REQUIRED BY THE SPECIFICATIONS. NO ADDITIONAL PAYMENT SHALL BE MADE FOR IMPORTED FILL UNDER ANY CIRCUMSTANCES.
26. ALL FINISHED SLOPES (BOTH SIDE-SLOPES AND ALONG THE CENTERLINE) SHALL BE 4:1 OR SHALLOWER.
27. IMPORTED PADDING AND BACK FILL MATERIAL, IF REQUIRED, SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE. SEPARATE PAYMENT WILL NOT BE MADE FOR PADDING AND BACK FILL MATERIAL OR HAUL. ALL PADDING AND BACK FILL MATERIAL OR HAUL SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS WORK ITEMS. THE CONTRACTOR SHALL SECURE A SUITABLE PADDING AND BACK FILL MATERIAL PIT IF MATERIAL IS REQUIRED TO COMPLETE THE PROJECT.
28. BACK FILL DENSITY TESTS SHALL BE PERFORMED AS PER SPECIFICATIONS. MINIMUM REQUIREMENTS ARE HORIZONTALLY FOR EACH 100 LINEAR FEET OF PIPELINE, OR ANY STRUCTURE THAT REQUIRES COMPACTED FOUNDATION OR CONTROLLED BACK FILL. ADDITIONAL COMPACTION TESTS SHALL ALSO BE TAKEN EVERY 3 VERTICAL FEET OF BACK FILL
29. CONTRACTOR SHALL WARRANTEE ALL MATERIALS AND LABOR FOR A PERIOD OF NOT LESS THAN 12 MONTHS FROM THE DATE OF FINAL INSPECTION AND ACCEPTANCE OF THE PROJECT.

EROSION CONTROL NOTES:

1. STORM WATER POLLUTION PREVENTION PLANS AND EROSION CONTROL SHALL BE IMPLEMENTED BY CONTRACTOR TO PROTECT PROPERTIES AND PUBLIC FACILITIES FROM THE ADVERSE EFFECTS OF EROSION AND SEDIMENTATION AS A RESULT OF CONSTRUCTION ACTIVITIES.
2. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AND SHALL BE KEPT IN PLACE UNTIL EROSION AND SEDIMENTATION POTENTIAL IS MITIGATED. REMOVAL OF SILT AND SEDIMENT IS REQUIRED ONCE SILT AND SEDIMENT HAS REACHED HALF THE HEIGHT OF THE SILT FENCE.
3. EROSION CONTROL DEVICES SHALL BE CHECKED AND MAINTAINED PER USEPA REQUIREMENTS AND THE GENERAL CONSTRUCTION PERMIT.

ENVIRONMENTAL NOTES

1. CONTRACTOR SHALL COMPLY WITH ALL ENVIRONMENTAL REQUIREMENTS IMPOSED BY THE NEW MEXICO ENVIRONMENTAL DEPARTMENT (NMED) AND ANY OTHER AGENCY WITH JURISDICTION OVER THE PROJECT AREA.
2. ALL WORK IN THE VICINITY OF LIVE STREAMS, WATER IMPOUNDMENTS, WETLANDS OR IRRIGATION SUPPLIES SHALL BE EFFECTED IN SUCH A MANNER AS TO MINIMIZE VEGETATION REMOVAL, SOIL DISTURBANCE AND EROSION. CROSSINGS OF LIVE STREAMS WITH HEAVY EQUIPMENT SHALL BE MINIMIZED, AS DETERMINED BY THE PROJECT MANAGER. EQUIPMENT REFUELING, MAINTENANCE AND CEMENT DUMPING IN THE VICINITY OF WATER COURSES IS STRICTLY PROHIBITED AND SHALL BE PERFORMED IN PROPER CONTAINMENT AREAS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS ASSOCIATED WITH PROJECT CONSTRUCTION AND SHALL REPORT AND RESPOND TO SPILLS OF HAZARDOUS MATERIALS SUCH AS GASOLINE, DIESEL, MOTOR OILS, SOLVENTS, CHEMICALS, TOXIC AND CORROSIVE SUBSTANCES, AND OTHER MATERIALS WHICH MAY BE A THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING PAST SPILLS ENCOUNTERED DURING CONSTRUCTION AND OF CURRENT SPILLS NOT ASSOCIATED WITH CONSTRUCTION. REPORTS SHALL BE MADE IMMEDIATELY TO THE NM ENVIRONMENT DEPARTMENT EMERGENCY RESPONSE TEAM AT (505) 827-4308 OR (505) 470-3657 AND TO THE PROJECT ENGINEER. ANY UNREPORTED SPILLS IDENTIFIED AFTER CONSTRUCTION AND THE ASSOCIATED CLEANUP COSTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. IN THE EVENT THAT THE CONTRACTOR ENCOUNTERS ITEMS OF HISTORICAL IMPORTANCE, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY AND WORK IN THE AREA SHALL IMMEDIATELY CEASE UNTIL THE SITE CAN BE PROPERLY CLEARED.

DEFINITIONS

THE FOLLOWING DEFINITIONS SHALL APPLY TO THE PROJECT

1.	OWNER	CITY OF ALBUQUERQUE
2.	ENGINEER	SOUDER MILLLER & ASSOCIATES
3.	CONTRACTOR	THE CONTRACTOR OR GENERAL CONTRACTOR NAMED IN THE CONSTRUCTION CONTRACT WITH OWNER.

ABBREVIATIONS

ADS	ADVANCE DRAINAGE SYSTEM	HDPE	HIGH DENSITY POLYETHYLENE	SD	STORM DRAIN
BOS	BOTTOM OF SWALE	HP	HIGH POINT	SDR	STANDARD DIMENSION RATIO
BW	BOTTOM WALL	INV	INVERT	SSMH	SANITARY SEWER MANHOLE
CONC	CONCRETE	LF	LINEAR FEET	ST	SEPTIC TANK
C/L	CENTERLINE	LT	LEFT	STCMP	STORMWATER CMP
EL	ELEVATION	ME	MATCH EXISTING	SW	SIDEWALK
EOA	EDGE OF ASPHALT	MIN	MINIMUM	TA	TOP ASPHALT
EOC	EDGE OF CONCRETE	NTS	NOT TO SCALE	TBC	TOP BACK CURB
EXIST	EXISTING	PC	POINT OF CURVATURE	TOC	TOP OF CONCRETE
ESMT	EASEMENT	PEX	CROSS-LINKED POLYETHYLENE	TOS	TOP OF SWAKE
FF	FINISH FLOOR	PT	POINT OF TANGENT	TOP	TOP OF PIPE
FL	FLOWLINE	PVC	POLYVINYL CHLORIDE PIPE	TW	TOP WALL
GB	GRADE BREAK	RT	RIGHT	VG	VALLEY GUTTER
GV	GATE VALVE	ROW	RIGHT OF WAY		

LEGEND

EXISTING FEATURES

OVERHEAD ELECTRIC
BUILDING
FENCE
BACK OF CURB
GUTTER
FACE OF CURB
MISCELLANEOUS ROAD
FENCE GATE
BLOCK WALL
UNDERGROUND ELECTRIC
EDGE OF PAVEMENT
SANITARY SEWER
STORM DRAIN
STORM STRUCTURE
MAJOR CONTOUR
MINOR CONTOUR
WASH RACK
WATER LINE
IRRIGATION LINE
POWER POLE
GUY WIRE
SANITARY SEWER MANHOLE
BOLLARD
IRRIGATION WELL
DROP INLETS
WATER VALVE
FIRE HYDRANT
STOP SIGN
CONTROL POINT
STORM DRAIN MANHOLE

PROPOSED IMPROVEMENTS

WATERLINE
4" AND 8" SEWER LINES
DRAINAGE FLOW DIRECTION
FIRE HYDRANT ASSEMBLY
GATE VALVE & THRUST BLOCK
CAP & THRUST BLOCK
SANITARY SEWER/DRAINAGE CLEANOUT
SANITARY SEWER MANHOLE
WATER METER
PROPOSED TOPO MAJOR, 1' INTERVAL
PROPOSED TOPO MINOR, 1' INTERVAL

BENCHMARK

HORIZONTAL AND VERTICAL CONTROL IS BASED ONMODIFIED STATE PLANE COORDINATE SYSTEM NEW MEXICO CENTRAL ZONE US 83. SEE SHEET C-2 FOR LOCATION OF CONTROL POINT.

ACS HEAVEN

N: 1518799.5140
E: 1547297.1440
ELEV: 5378.235
DESCR: ACS HEAVEN

CONTROL

THE CONTRACTOR SHALL ESTABLISH AND PRESERVE SECONDARY HORIZONTAL AND VERTICAL CONTROL.

INCIDENTAL NOTES

1. ADJUST EXISTING MANHOLES AND VALVE BOXES TO GRADE
2. MEETINGS TO COORDINATE WITH UTILITY COMPANIES.

SPECIFICATIONS

1. CITY OF ALBUQUERQUE PUBLIC WORKS STANDARD SPECIFICATIONS AND DETAILS, CURRENT EDITION.
2. STRUCTURAL STANDARDS
3. AASHTO

ENGINEER

AMY L. D. NIESE
SOUDER, MILLER & ASSOCIATES
3451 CANDELARIA RD. NE, SUITE D
ALBUQUERQUE, NEW MEXICO 87107-1948
(505) 299-0942

OWNER

CITY OF ALBUQUERQUE PINO YARDS
5501 SAN FRANCISCO NE
ALBUQUERQUE, NEW MEXICO 87109

EMERGENCY CONTACT NUMBERS

FIRE/POLICE/AMBULANCE	911
POISON CONTROL	1-800-222-1222
NMED (HAZARDOUS SPILLS)	(505) 827-9329

811 Know what's below. Call before you dig.

Rev #	Date	Description	By	Chk'd

SOUDER, MILLER & ASSOCIATES
Engineering • Environmental • Surveying
Serving the Southwest & Rocky Mountains
5454 Venice Avenue NE, Suite D
Albuquerque, NM 87113
Phone (505) 299-0942 Toll-Free (877) 299-0942 Fax (505) 293-3430
www.soudermiller.com

CITY OF ALBUQUERQUE — ALBUQUERQUE, NEW MEXICO

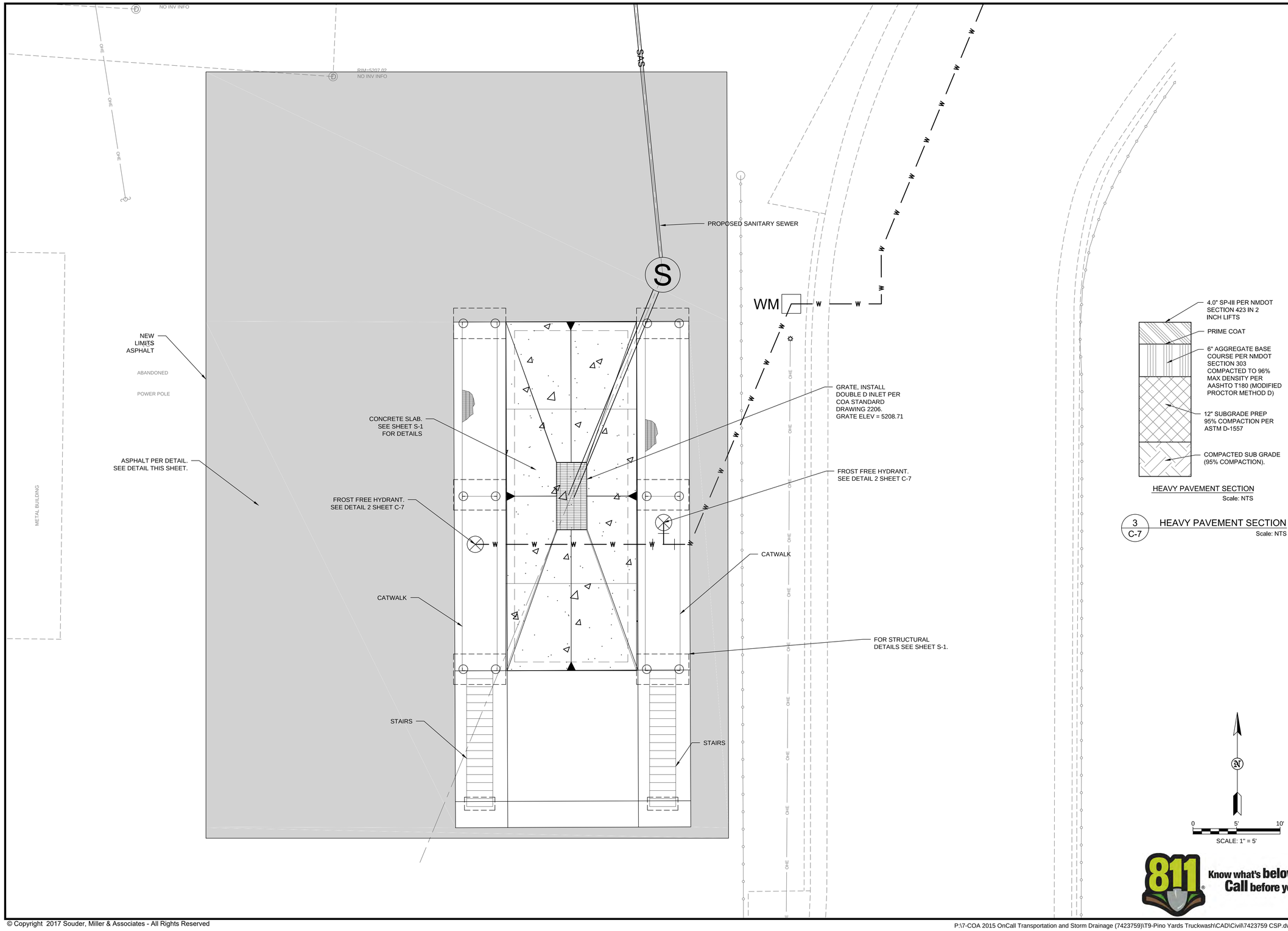
PINO YARDS TRUCK WASH
ALBUQUERQUE, NEW MEXICO
GENERAL NOTES, LEGEND, AND ABBREVIATIONS

AMY L. D. NIESE — NEW MEXICO — 15334 — 9/6/17 — PROFESSIONAL ENGINEER

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

Designed	Drawn	Checked
ALDN	SFG	HM

Date: September 2017
Scale: Horiz: - Vert: -
Project No: 7423759/TASK 9
Sheet: G-2



HEAVY PAVEMENT SECTION
Scale: NTS

3 / C-7 HEAVY PAVEMENT SECTION
Scale: NTS

SCALE: 1" = 5'

811 Know what's below. Call before you dig.

Rev #	Date	Description	By	Chk'd

SOUDER, MILLER & ASSOCIATES
Engineering • Environmental • Surveying
Serving the Southwest & Rocky Mountains
5454 Venice Avenue NE, Suite D
Albuquerque, NM 87113
Phone (505) 299-0942 Toll-Free (877) 299-0942 Fax (505) 293-3430
www.soudermiller.com

CITY OF ALBUQUERQUE
ALBUQUERQUE, NEW MEXICO

PINO YARDS TRUCK WASH
ALBUQUERQUE, NEW MEXICO
SITE PLAN

AMY L. D. NIESE
NEW MEXICO
15334
9/6/17
PROFESSIONAL ENGINEER

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

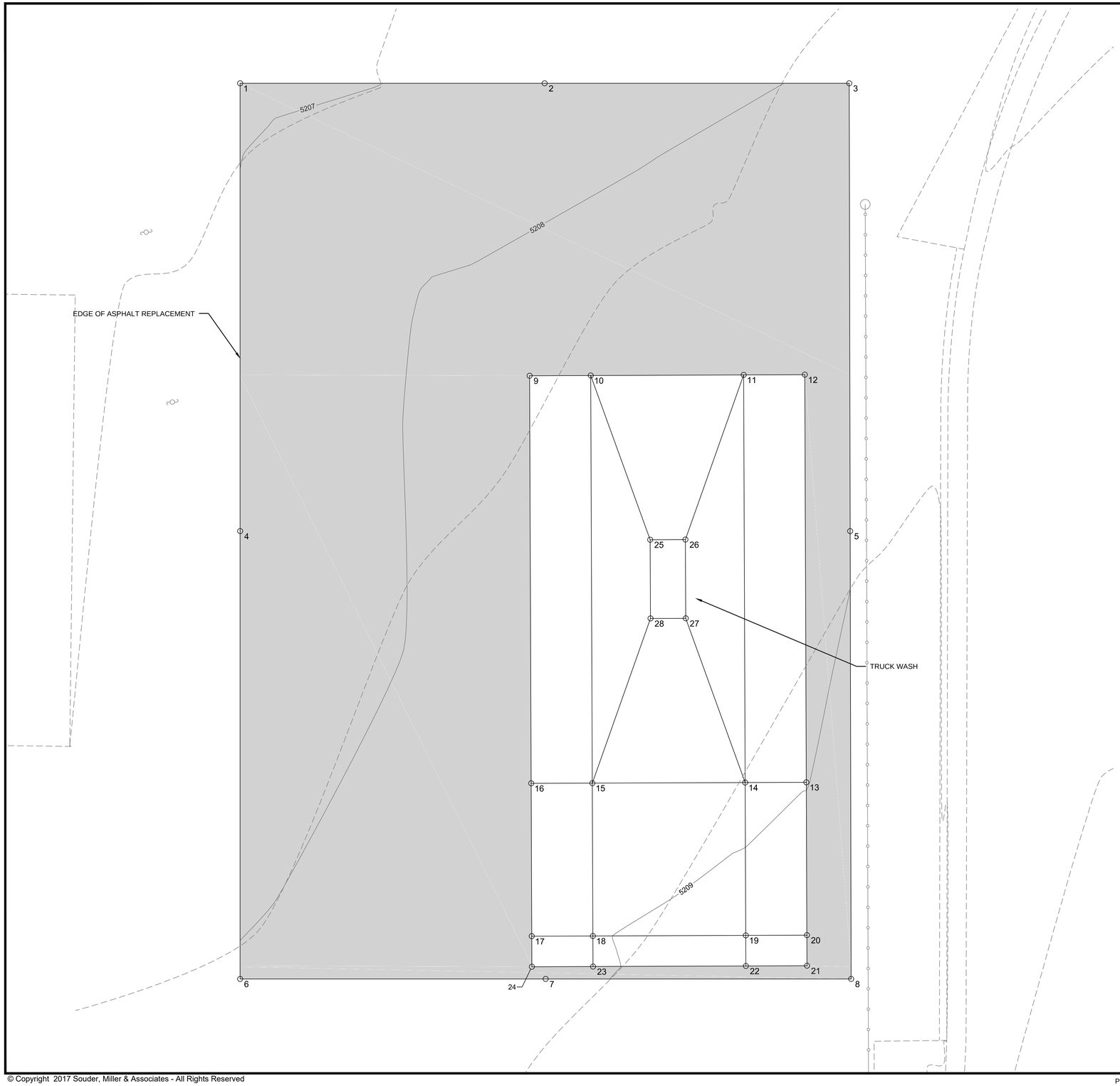
Designed	Drawn	Checked
ALDN	SFG	HM

Date: September 2017

Scale: Horiz: 1:5
Vert: -

Project No: 7423759/TASK 9

Sheet: C-3



Point Table				
POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	EA	1517566.5229	1541047.4295	5206.778
2	EA	1517566.5229	1541077.3164	5207.396
3	EA	1517566.5229	1541107.2034	5208.137
4	EA	1517522.5764	1541047.4295	5207.285
5	EA	1517522.5764	1541107.2977	5208.917
6	EA	1517478.6298	1541047.4295	5208.145
7	EA	1517478.6298	1541077.4108	5208.885
8	EA	1517478.6298	1541107.3921	5209.415
9	EC	1517537.8244	1541075.8407	5208.623
10	EC	1517537.8472	1541081.8407	5208.803
11	EC	1517537.9042	1541096.8406	5208.803
12	EC	1517537.9270	1541102.8405	5208.983
13	EC	1517497.9273	1541102.9926	5208.983
14	SLAB	1517497.9045	1541096.9927	5208.803
15	SLAB	1517497.8475	1541081.9928	5208.803
16	EC	1517497.8247	1541075.9928	5208.623
17	EC	1517482.8248	1541076.0498	5208.935
18	SLAB	1517482.8476	1541082.0498	5208.965
19	SLAB	1517482.9046	1541097.0497	5209.267
20	EC	1517482.9274	1541103.0496	5209.297
21	EC	1517479.9274	1541103.0611	5209.282
22	EC	1517479.9046	1541097.0611	5209.252
23	EC	1517479.8476	1541082.0612	5208.950
24	EC	1517479.8248	1541076.0612	5208.920
25	INLET	1517521.7339	1541087.6728	5208.706
26	INLET	1517521.7471	1541091.1311	5208.706
27	INLET	1517514.0178	1541091.1605	5208.706
28	INLET	1517514.0046	1541087.7022	5208.706

0 5' 10'

SCALE: 1" = 5'

811 Know what's below. Call before you dig.

Rev #	Date	Description	By	Chk'd

SOUDER, MILLER & ASSOCIATES
Engineering • Environmental • Surveying
Serving the Southwest & Rocky Mountains
5454 Venice Avenue NE, Suite D
Albuquerque, NM 87113
Phone (505) 299-0942 Toll-Free (877) 299-0942 Fax (505) 293-3430
www.soudermiller.com

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

PINO YARDS TRUCK WASH
ALBUQUERQUE, NEW MEXICO
GRADING PLAN

AMY L. D. NIESE
NEW MEXICO
15334
9/6/17
PROFESSIONAL ENGINEER

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

Designed	Drawn	Checked
ALDN	SFG	HM

Date: September 2017

Scale: Horiz: 1:5
Vert: -

Project No: 7423759/TASK 9

Sheet: C-4

P:\7-COA 2015 OnCall Transportation and Storm Drainage (7423759)\T9-Pino Yards Truckwash\CAD\Civil\7423759 CG.dwg, 9/12/2017 11:17:07 AM SFG

PROPOSED DRAINAGE BASIN C
AREA=0.13 ac
Q100=0.81cfs

EXISTING DRAINAGE BASIN A
AREA=0.17 ac
Q100=1.06 cfs

PROPOSED DRAINAGE BASIN B
AREA=0.04 ac
Q100=0.25 cfs

5207
5208
5209
OHE

Know what's below. Call before you dig.

Rev #	Date	Description	By	Chk'd

SOUDER, MILLER & ASSOCIATES
Engineering • Environmental • Surveying
Serving the Southwest & Rocky Mountains
5454 Venice Avenue NE, Suite D
Albuquerque, NM 87113
Phone (505) 299-0942 Toll-Free (877) 299-0942 Fax (505) 293-3430
www.soudermiller.com

CITY OF ALBUQUERQUE
ALBUQUERQUE, NEW MEXICO

PINO YARDS TRUCK WASH
ALBUQUERQUE, NEW MEXICO
DRAINAGE BASIN

AMY L. D. NIECE
NEW MEXICO
15334
9/18/17
PROFESSIONAL ENGINEER

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

Designed	Drawn	Checked
ALDN	SFG	HM

Date: September 2017

Scale: Horiz: N.T.S.
Vert: -

Project No: 7423759/TASK 9

Sheet:

P:\7-COA 2015 OnCall Transportation and Storm Drainage (7423759)\T9-Pino Yards Truckwash\CAD\Civil\7423759 Drainage Exhibit.dwg, 9/19/2017 7:48:40 AM JMC

Inlet Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Tuesday, Apr 11 2017

Double D Inlet

Drop Grate Inlet

Location	= Sag
Curb Length (ft)	= -0-
Throat Height (in)	= -0-
Grate Area (sqft)	= 6.40
Grate Width (ft)	= 2.13
Grate Length (ft)	= 6.00

Gutter

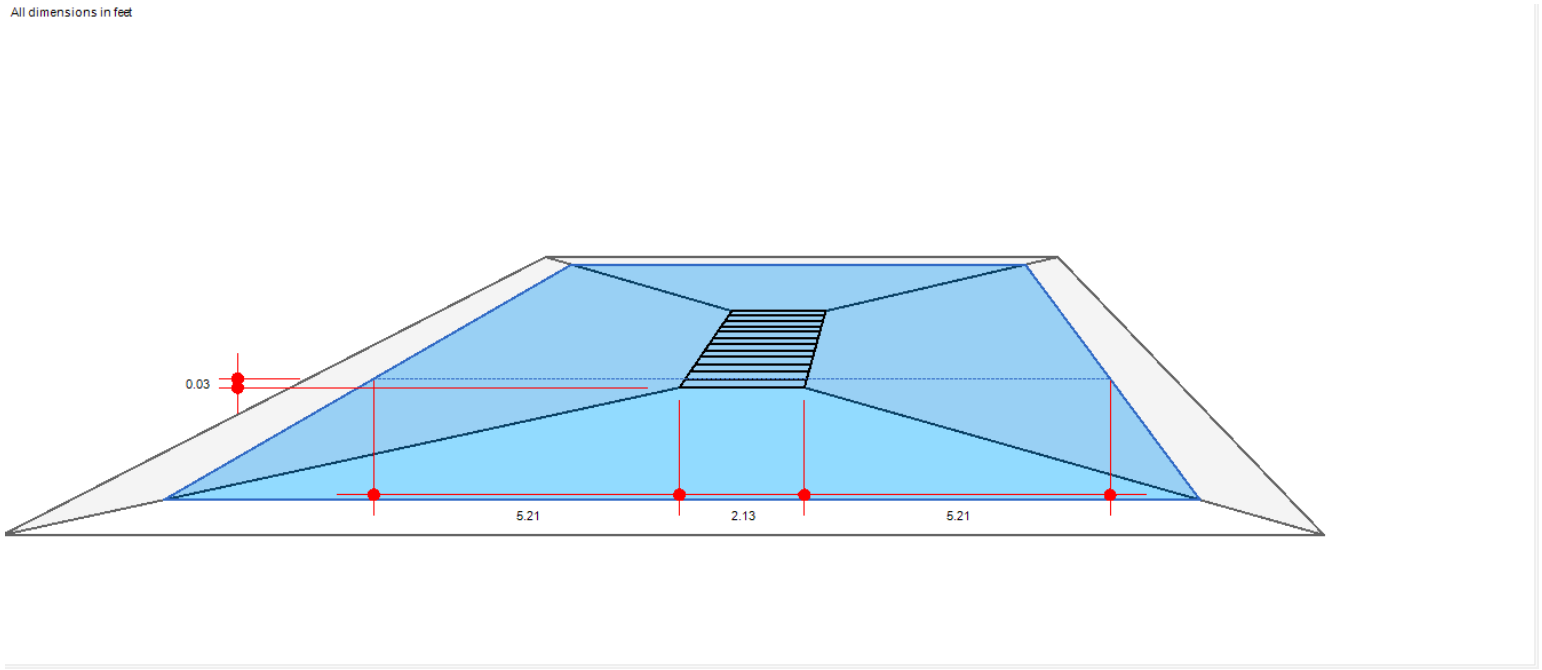
Slope, Sw (ft/ft)	= 0.006
Slope, Sx (ft/ft)	= 0.006
Local Depr (in)	= -0-
Gutter Width (ft)	= 2.13
Gutter Slope (%)	= -0-
Gutter n-value	= -0-

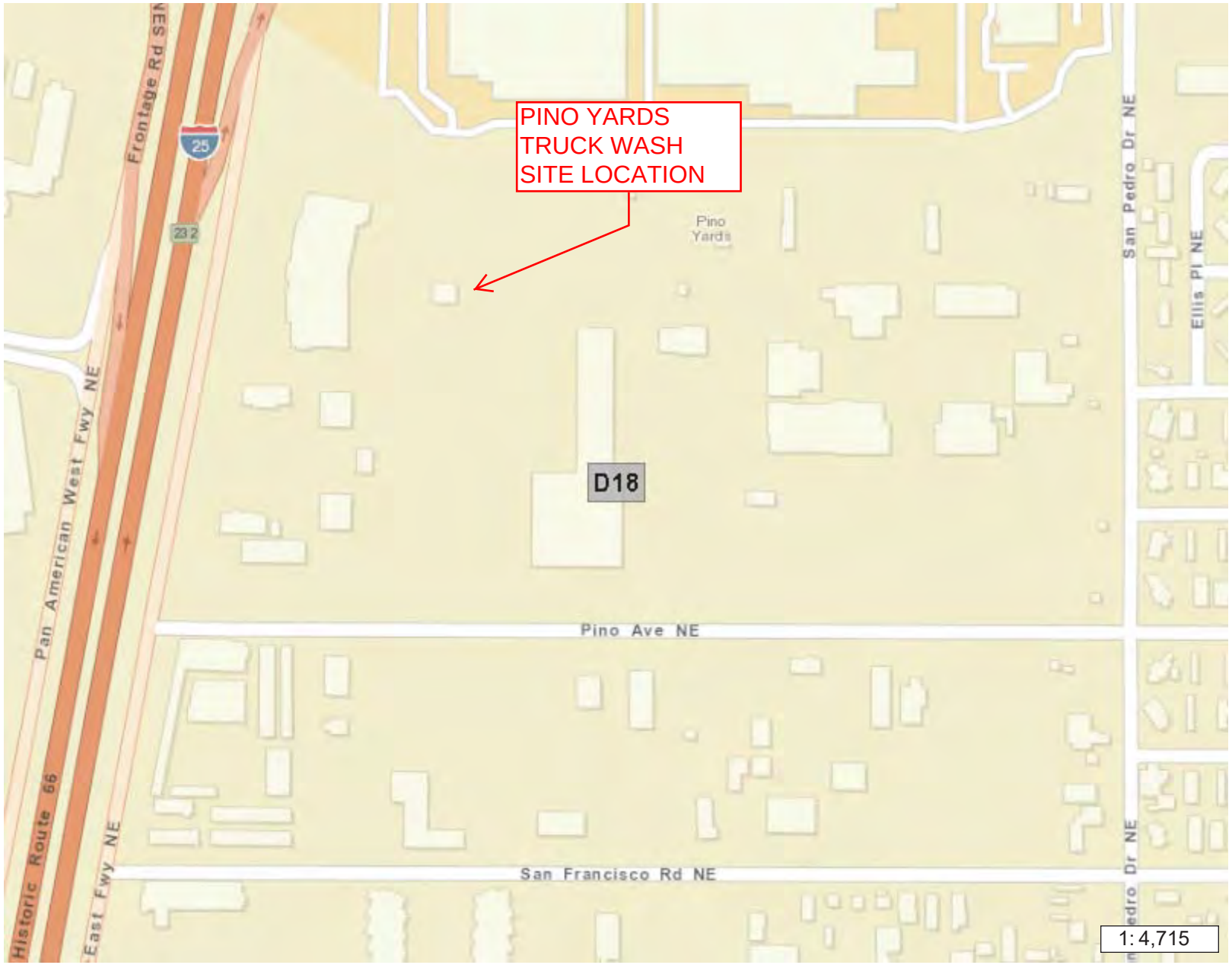
Calculations

Compute by:	Known Q
Q (cfs)	= 0.27

Highlighted

Q Total (cfs)	= 0.27
Q Capt (cfs)	= 0.27
Q Bypass (cfs)	= -0-
Depth at Inlet (in)	= 0.37
Efficiency (%)	= 100
Gutter Spread (ft)	= 12.54
Gutter Vel (ft/s)	= -0-
Bypass Spread (ft)	= -0-
Bypass Depth (in)	= -0-





Legend

- Zone Grid
- Municipal Limits
  - Corrales
  - Edgewood
  - Los Ranchos
  - Rio Rancho
  - Tijeras
  - UNINCORPORATED
- World Street Map

Notes

0.1 0 0.05 0.1 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

8/17/2016

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v11

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	1.061	1	10	636	------	------	------	Basin A (0.17 acres, C=0.95)
2	Rational	0.250	1	10	150	------	------	------	Basin B (0.04 acres, C=0.95)
3	Rational	0.811	1	10	487	------	------	------	Basin C (0.13 acres, C=0.95)

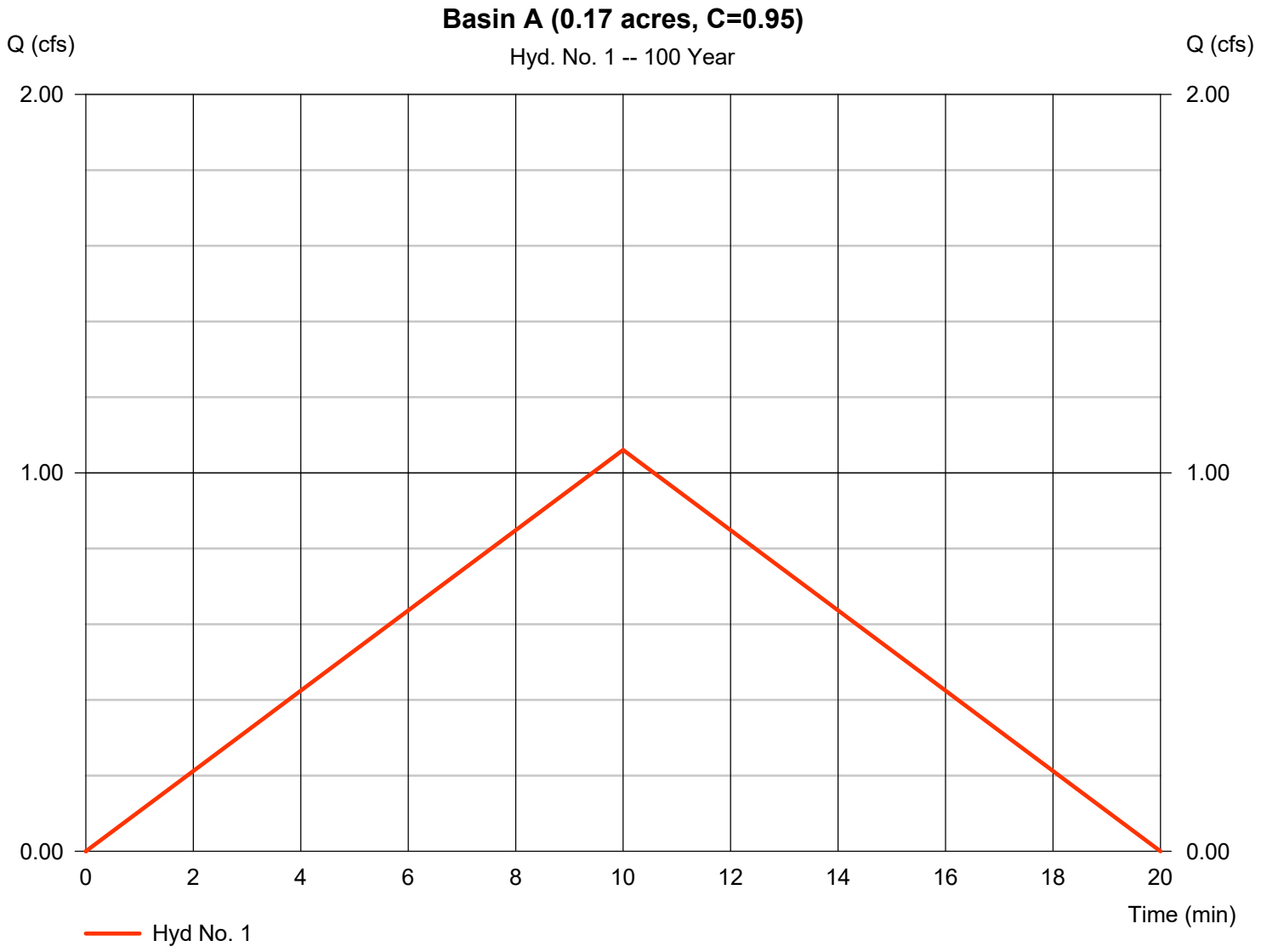
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v11 Tuesday, 09 / 19 / 2017

Hyd. No. 1

Basin A (0.17 acres, C=0.95)

Hydrograph type	= Rational	Peak discharge	= 1.061 cfs
Storm frequency	= 100 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 636 cuft
Drainage area	= 0.170 ac	Runoff coeff.	= 0.95
Intensity	= 6.568 in/hr	Tc by User	= 10.00 min
IDF Curve	= Pino Yard.IDF	Asc/Rec limb fact	= 1/1



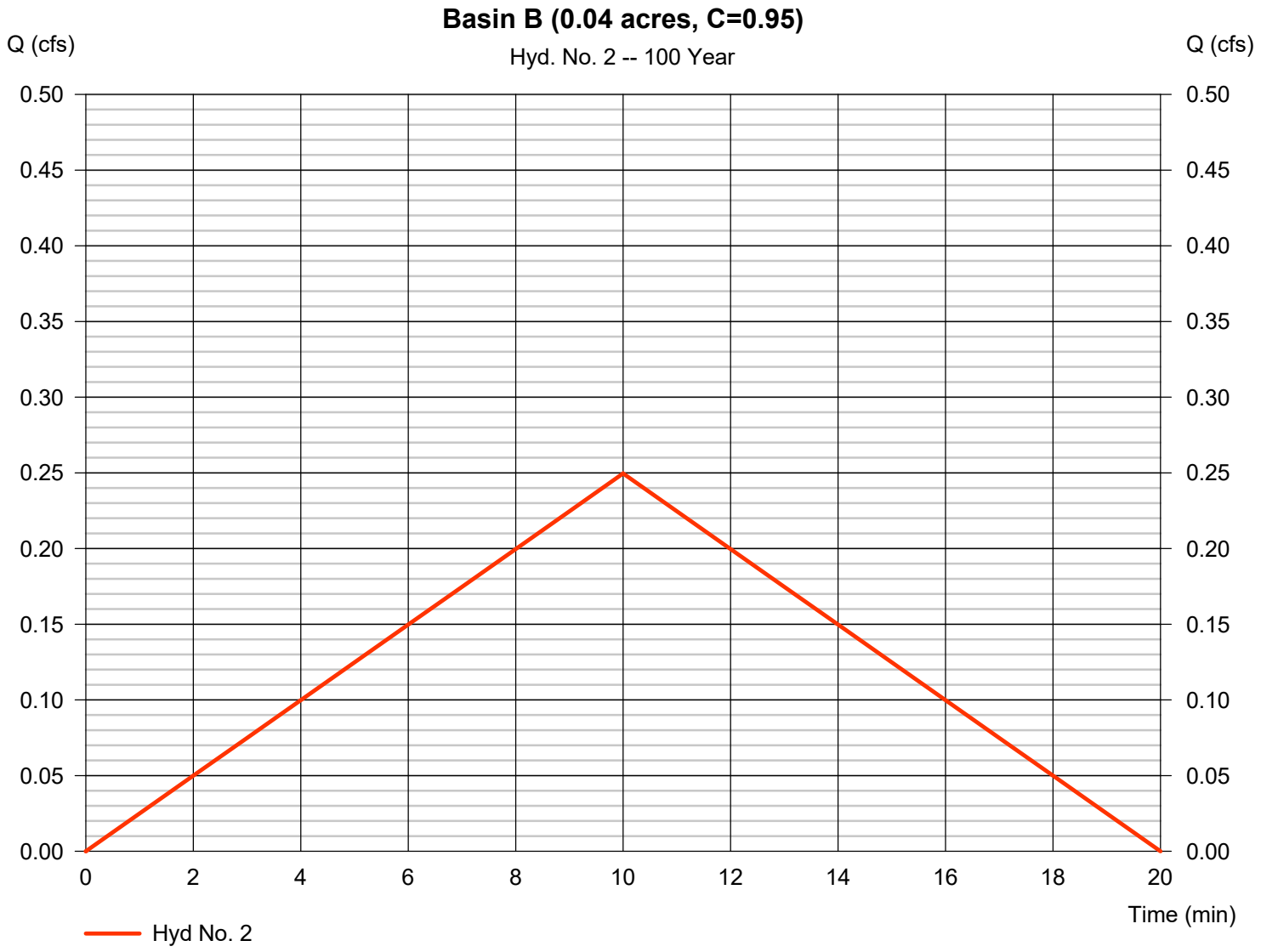
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v11 Tuesday, 09 / 19 / 2017

Hyd. No. 2

Basin B (0.04 acres, C=0.95)

Hydrograph type	= Rational	Peak discharge	= 0.250 cfs
Storm frequency	= 100 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 150 cuft
Drainage area	= 0.040 ac	Runoff coeff.	= 0.95
Intensity	= 6.568 in/hr	Tc by User	= 10.00 min
IDF Curve	= Pino Yard.IDF	Asc/Rec limb fact	= 1/1



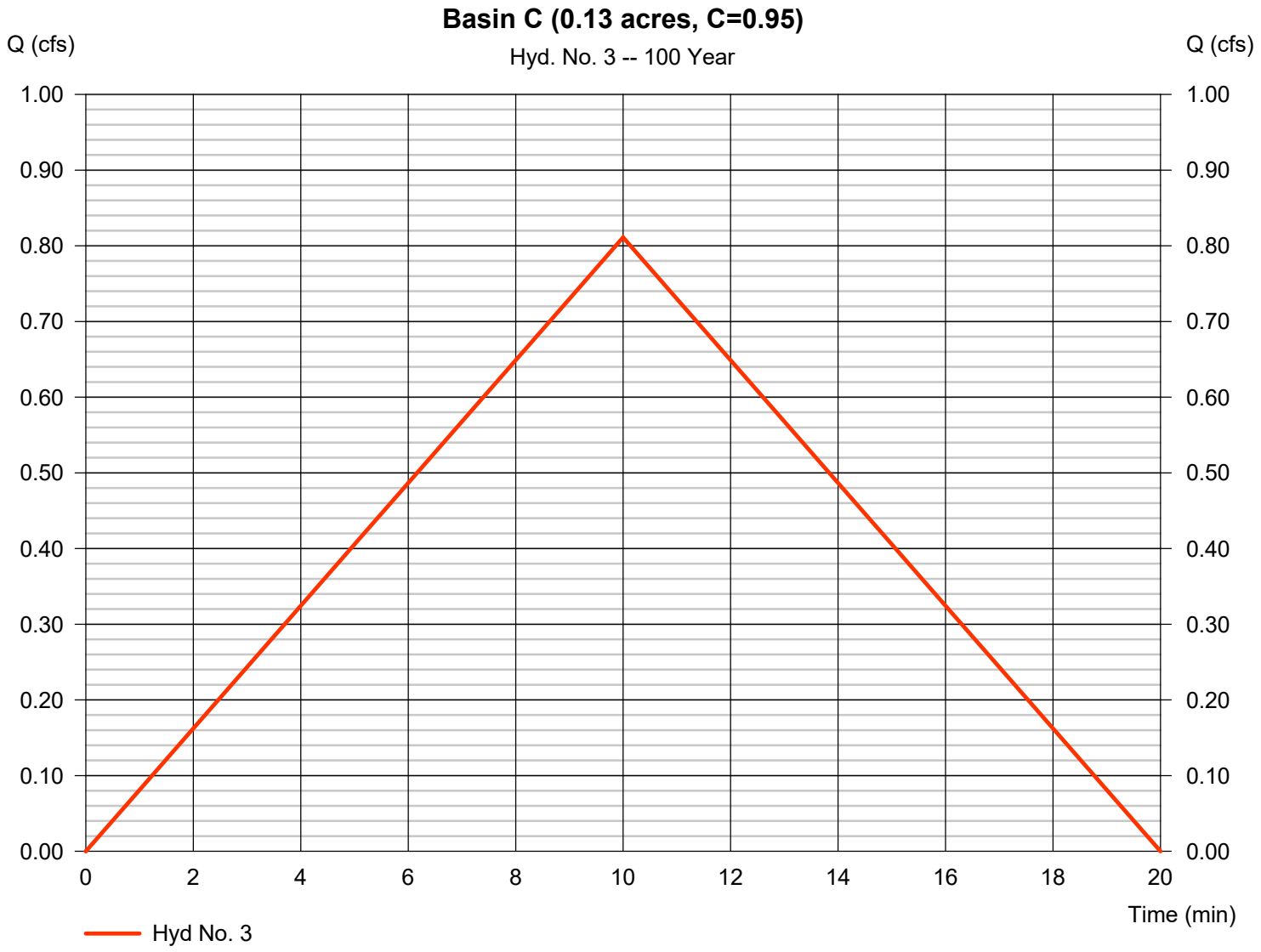
Hydrograph Report

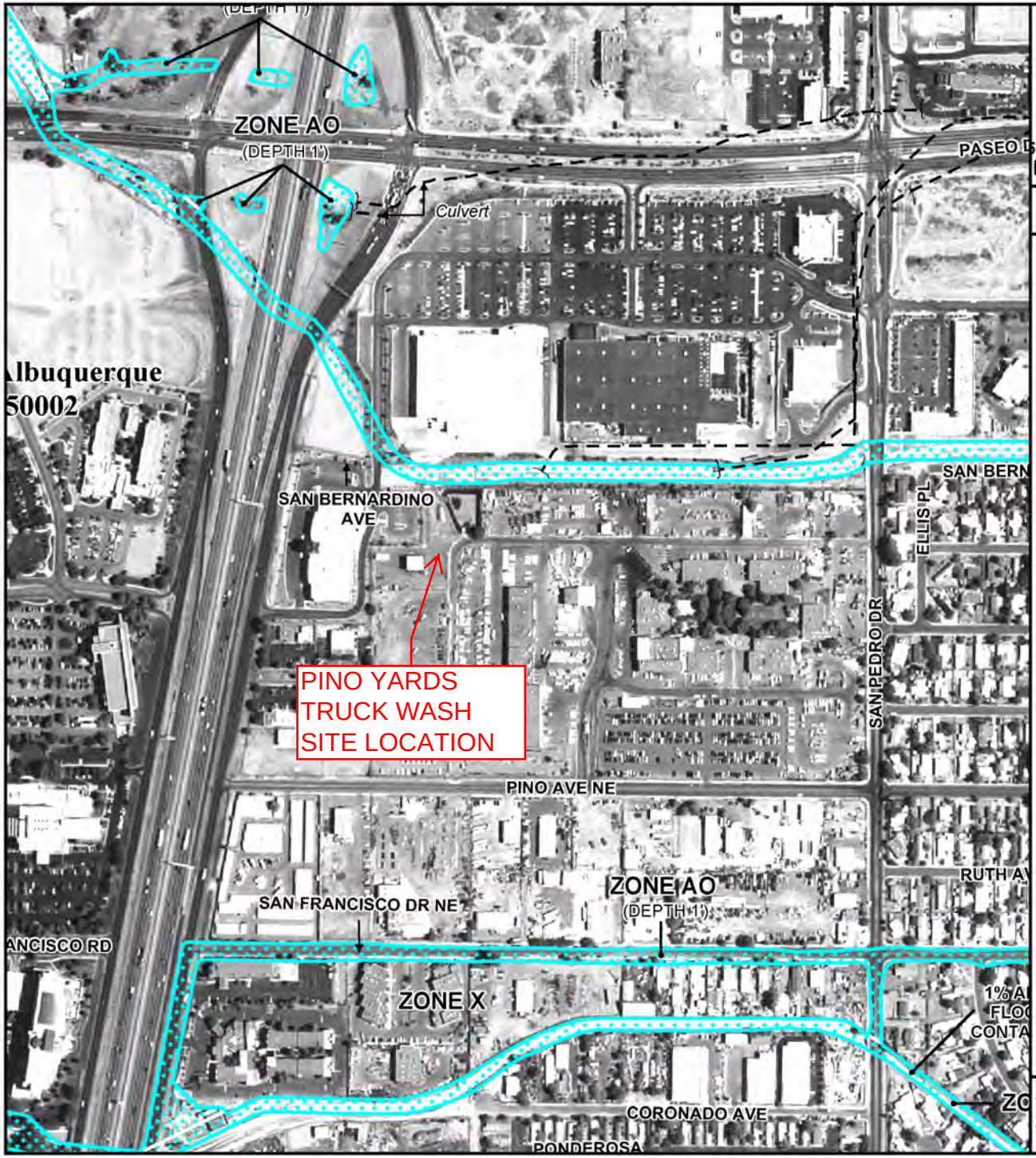
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v11 Tuesday, 09 / 19 / 2017

Hyd. No. 3

Basin C (0.13 acres, C=0.95)

Hydrograph type	= Rational	Peak discharge	= 0.811 cfs
Storm frequency	= 100 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 487 cuft
Drainage area	= 0.130 ac	Runoff coeff.	= 0.95
Intensity	= 6.568 in/hr	Tc by User	= 10.00 min
IDF Curve	= Pino Yard.IDF	Asc/Rec limb fact	= 1/1





MAP SCALE 1" = 500'

50 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0137H

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO

AND INCORPORATED AREAS

PANEL 137 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0137	H
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0137	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
35001C0137H

MAP REVISED
AUGUST 16, 2012

Federal Emergency Management Agency

NOAA Atlas 14, Volume 1, Version 5
NETHERWOOD PARK
Station ID: 29-6079
Location name: Albuquerque, New Mexico, USA*
Latitude: 35.1°, Longitude: -106.6167°
Elevation:
Elevation (station metadata): 5135 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.173 (0.149-0.203)	0.224 (0.191-0.263)	0.301 (0.256-0.353)	0.361 (0.306-0.421)	0.442 (0.373-0.516)	0.506 (0.425-0.590)	0.573 (0.478-0.668)	0.644 (0.533-0.749)	0.739 (0.606-0.862)	0.815 (0.665-0.950)
10-min	0.263 (0.226-0.309)	0.341 (0.291-0.400)	0.458 (0.390-0.537)	0.549 (0.466-0.641)	0.673 (0.568-0.785)	0.770 (0.647-0.898)	0.873 (0.727-1.02)	0.980 (0.812-1.14)	1.13 (0.923-1.31)	1.24 (1.01-1.45)
15-min	0.327 (0.280-0.383)	0.424 (0.361-0.496)	0.568 (0.484-0.666)	0.681 (0.577-0.795)	0.835 (0.704-0.974)	0.955 (0.802-1.11)	1.08 (0.902-1.26)	1.22 (1.01-1.42)	1.40 (1.15-1.63)	1.54 (1.25-1.79)
30-min	0.440 (0.377-0.516)	0.570 (0.486-0.667)	0.765 (0.651-0.897)	0.917 (0.778-1.07)	1.12 (0.949-1.31)	1.29 (1.08-1.50)	1.46 (1.21-1.70)	1.64 (1.35-1.91)	1.88 (1.54-2.19)	2.07 (1.69-2.41)
60-min	0.545 (0.467-0.638)	0.706 (0.601-0.826)	0.947 (0.806-1.11)	1.14 (0.963-1.32)	1.39 (1.17-1.62)	1.59 (1.34-1.86)	1.80 (1.50-2.10)	2.02 (1.68-2.36)	2.33 (1.91-2.71)	2.56 (2.09-2.99)
2-hr	0.632 (0.535-0.759)	0.810 (0.685-0.974)	1.07 (0.905-1.29)	1.28 (1.08-1.53)	1.57 (1.31-1.87)	1.81 (1.50-2.15)	2.06 (1.69-2.44)	2.32 (1.90-2.75)	2.69 (2.17-3.18)	2.99 (2.39-3.54)
3-hr	0.673 (0.574-0.804)	0.856 (0.728-1.02)	1.12 (0.955-1.34)	1.33 (1.13-1.58)	1.63 (1.37-1.93)	1.86 (1.56-2.21)	2.12 (1.76-2.50)	2.39 (1.97-2.82)	2.76 (2.25-3.26)	3.06 (2.48-3.63)
6-hr	0.784 (0.672-0.929)	0.988 (0.849-1.17)	1.27 (1.09-1.51)	1.50 (1.28-1.77)	1.81 (1.54-2.13)	2.05 (1.73-2.41)	2.31 (1.94-2.71)	2.57 (2.15-3.02)	2.94 (2.43-3.45)	3.24 (2.66-3.81)
12-hr	0.861 (0.747-0.996)	1.09 (0.943-1.26)	1.38 (1.19-1.59)	1.61 (1.39-1.85)	1.92 (1.65-2.20)	2.16 (1.85-2.48)	2.41 (2.05-2.76)	2.66 (2.25-3.06)	3.01 (2.52-3.47)	3.30 (2.74-3.83)
24-hr	0.981 (0.856-1.13)	1.23 (1.07-1.41)	1.53 (1.34-1.75)	1.78 (1.55-2.03)	2.11 (1.82-2.41)	2.36 (2.04-2.69)	2.62 (2.26-2.98)	2.89 (2.47-3.28)	3.24 (2.76-3.69)	3.51 (2.98-4.00)
2-day	1.03 (0.898-1.16)	1.28 (1.12-1.45)	1.60 (1.40-1.80)	1.84 (1.61-2.08)	2.18 (1.90-2.45)	2.43 (2.11-2.74)	2.69 (2.33-3.04)	2.96 (2.55-3.35)	3.31 (2.85-3.75)	3.59 (3.07-4.06)
3-day	1.11 (0.986-1.25)	1.38 (1.23-1.55)	1.71 (1.51-1.92)	1.97 (1.74-2.21)	2.32 (2.04-2.60)	2.59 (2.27-2.90)	2.86 (2.50-3.20)	3.13 (2.73-3.51)	3.50 (3.04-3.93)	3.78 (3.27-4.25)
4-day	1.20 (1.07-1.33)	1.49 (1.33-1.65)	1.83 (1.63-2.03)	2.10 (1.87-2.33)	2.46 (2.19-2.74)	2.74 (2.43-3.05)	3.02 (2.67-3.36)	3.30 (2.91-3.68)	3.68 (3.23-4.11)	3.97 (3.46-4.44)
7-day	1.36 (1.22-1.49)	1.68 (1.51-1.86)	2.06 (1.85-2.27)	2.34 (2.10-2.58)	2.73 (2.43-3.00)	3.01 (2.68-3.32)	3.30 (2.93-3.64)	3.58 (3.18-3.95)	3.94 (3.49-4.37)	4.21 (3.72-4.68)
10-day	1.50 (1.36-1.65)	1.86 (1.68-2.05)	2.29 (2.07-2.51)	2.62 (2.37-2.87)	3.05 (2.76-3.35)	3.38 (3.04-3.71)	3.71 (3.33-4.08)	4.04 (3.62-4.45)	4.47 (3.98-4.93)	4.78 (4.24-5.29)
20-day	1.86 (1.67-2.07)	2.31 (2.08-2.57)	2.80 (2.52-3.12)	3.18 (2.86-3.53)	3.66 (3.28-4.07)	4.01 (3.59-4.46)	4.35 (3.88-4.83)	4.67 (4.16-5.18)	5.07 (4.50-5.64)	5.36 (4.75-5.97)
30-day	2.23 (2.00-2.45)	2.76 (2.48-3.04)	3.33 (2.99-3.66)	3.75 (3.37-4.11)	4.27 (3.83-4.69)	4.65 (4.16-5.09)	5.01 (4.47-5.50)	5.35 (4.77-5.87)	5.75 (5.12-6.33)	6.04 (5.36-6.65)
45-day	2.73 (2.47-3.00)	3.38 (3.06-3.72)	4.04 (3.64-4.44)	4.50 (4.05-4.95)	5.07 (4.57-5.58)	5.46 (4.92-6.03)	5.82 (5.24-6.42)	6.14 (5.51-6.78)	6.51 (5.84-7.20)	6.75 (6.05-7.46)
60-day	3.13 (2.84-3.46)	3.88 (3.52-4.28)	4.63 (4.20-5.10)	5.17 (4.69-5.70)	5.81 (5.27-6.41)	6.26 (5.67-6.91)	6.67 (6.05-7.37)	7.04 (6.38-7.79)	7.47 (6.76-8.28)	7.74 (7.01-8.58)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical

NOAA Atlas 14, Volume 1, Version 5
Location name: Albuquerque, New Mexico, USA*
Latitude: 35.1°, Longitude: -106.6167°
Elevation: 5136.84 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	2.08 (1.79-2.44)	2.69 (2.29-3.16)	3.61 (3.07-4.24)	4.33 (3.67-5.05)	5.30 (4.48-6.19)	6.07 (5.10-7.08)	6.88 (5.74-8.02)	7.73 (6.40-8.99)	8.87 (7.27-10.3)	9.78 (7.98-11.4)
10-min	1.58 (1.36-1.85)	2.05 (1.75-2.40)	2.75 (2.34-3.22)	3.29 (2.80-3.85)	4.04 (3.41-4.71)	4.62 (3.88-5.39)	5.24 (4.36-6.10)	5.88 (4.87-6.85)	6.75 (5.54-7.87)	7.45 (6.07-8.68)
15-min	1.31 (1.12-1.53)	1.70 (1.44-1.98)	2.27 (1.94-2.66)	2.72 (2.31-3.18)	3.34 (2.82-3.90)	3.82 (3.21-4.45)	4.33 (3.61-5.04)	4.86 (4.02-5.66)	5.58 (4.58-6.50)	6.16 (5.02-7.17)
30-min	0.880 (0.754-1.03)	1.14 (0.972-1.33)	1.53 (1.30-1.79)	1.83 (1.56-2.14)	2.25 (1.90-2.62)	2.57 (2.16-3.00)	2.91 (2.43-3.39)	3.27 (2.71-3.81)	3.76 (3.08-4.38)	4.14 (3.38-4.83)
60-min	0.545 (0.467-0.638)	0.706 (0.601-0.826)	0.947 (0.806-1.11)	1.14 (0.963-1.33)	1.39 (1.17-1.62)	1.59 (1.34-1.86)	1.80 (1.50-2.10)	2.03 (1.68-2.36)	2.33 (1.91-2.71)	2.56 (2.09-2.99)
2-hr	0.316 (0.268-0.380)	0.405 (0.342-0.487)	0.536 (0.452-0.644)	0.642 (0.538-0.764)	0.788 (0.656-0.937)	0.906 (0.750-1.08)	1.03 (0.846-1.22)	1.16 (0.948-1.37)	1.35 (1.09-1.59)	1.49 (1.19-1.77)
3-hr	0.224 (0.191-0.268)	0.285 (0.242-0.340)	0.373 (0.318-0.445)	0.444 (0.376-0.527)	0.542 (0.456-0.643)	0.621 (0.520-0.735)	0.705 (0.587-0.834)	0.795 (0.655-0.940)	0.918 (0.749-1.09)	1.02 (0.824-1.21)
6-hr	0.131 (0.112-0.155)	0.165 (0.142-0.196)	0.213 (0.183-0.252)	0.250 (0.215-0.295)	0.302 (0.257-0.356)	0.342 (0.290-0.402)	0.385 (0.324-0.453)	0.429 (0.359-0.504)	0.491 (0.406-0.576)	0.541 (0.444-0.635)
12-hr	0.071 (0.062-0.083)	0.090 (0.078-0.104)	0.114 (0.099-0.132)	0.133 (0.115-0.154)	0.159 (0.137-0.183)	0.179 (0.153-0.206)	0.200 (0.170-0.229)	0.221 (0.187-0.254)	0.250 (0.210-0.288)	0.274 (0.227-0.318)
24-hr	0.041 (0.036-0.047)	0.051 (0.045-0.059)	0.064 (0.056-0.073)	0.074 (0.064-0.085)	0.088 (0.076-0.100)	0.098 (0.085-0.112)	0.109 (0.094-0.124)	0.120 (0.103-0.137)	0.135 (0.115-0.154)	0.146 (0.124-0.167)
2-day	0.021 (0.019-0.024)	0.027 (0.023-0.030)	0.033 (0.029-0.038)	0.038 (0.034-0.043)	0.045 (0.040-0.051)	0.051 (0.044-0.057)	0.056 (0.049-0.063)	0.062 (0.053-0.070)	0.069 (0.059-0.078)	0.075 (0.064-0.085)
3-day	0.015 (0.014-0.017)	0.019 (0.017-0.022)	0.024 (0.021-0.027)	0.027 (0.024-0.031)	0.032 (0.028-0.036)	0.036 (0.032-0.040)	0.040 (0.035-0.044)	0.044 (0.038-0.049)	0.049 (0.042-0.055)	0.052 (0.045-0.059)
4-day	0.012 (0.011-0.014)	0.015 (0.014-0.017)	0.019 (0.017-0.021)	0.022 (0.019-0.024)	0.026 (0.023-0.029)	0.029 (0.025-0.032)	0.031 (0.028-0.035)	0.034 (0.030-0.038)	0.038 (0.034-0.043)	0.041 (0.036-0.046)
7-day	0.008 (0.007-0.009)	0.010 (0.009-0.011)	0.012 (0.011-0.013)	0.014 (0.012-0.015)	0.016 (0.014-0.018)	0.018 (0.016-0.020)	0.020 (0.017-0.022)	0.021 (0.019-0.024)	0.023 (0.021-0.026)	0.025 (0.022-0.028)
10-day	0.006 (0.006-0.007)	0.008 (0.007-0.009)	0.010 (0.009-0.010)	0.011 (0.010-0.012)	0.013 (0.011-0.014)	0.014 (0.013-0.015)	0.015 (0.014-0.017)	0.017 (0.015-0.019)	0.019 (0.017-0.021)	0.020 (0.018-0.022)
20-day	0.004 (0.003-0.004)	0.005 (0.004-0.005)	0.006 (0.005-0.006)	0.007 (0.006-0.007)	0.008 (0.007-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.010)	0.010 (0.009-0.011)	0.011 (0.009-0.012)	0.011 (0.010-0.012)
30-day	0.003 (0.003-0.003)	0.004 (0.003-0.004)	0.005 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.005-0.007)	0.006 (0.006-0.007)	0.007 (0.006-0.008)	0.007 (0.007-0.008)	0.008 (0.007-0.009)	0.008 (0.007-0.009)
45-day	0.003 (0.002-0.003)	0.003 (0.003-0.003)	0.004 (0.003-0.004)	0.004 (0.004-0.005)	0.005 (0.004-0.005)	0.005 (0.005-0.006)	0.005 (0.005-0.006)	0.006 (0.005-0.006)	0.006 (0.005-0.007)	0.006 (0.006-0.007)
60-day	0.002 (0.002-0.002)	0.003 (0.002-0.003)	0.003 (0.003-0.004)	0.004 (0.003-0.004)	0.004 (0.004-0.004)	0.004 (0.004-0.005)	0.005 (0.004-0.005)	0.005 (0.004-0.005)	0.005 (0.005-0.006)	0.005 (0.005-0.006)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical

Hydraflow IDF Curves

IDF file: Pino Yard.IDF