

CITY OF ALBUQUERQUE



January 14, 2016

Richard J. Berry, Mayor

David Soule, P.E.
Rio Grande Engineering
P.O. Box 93924
Albuquerque, NM 87199

**RE: Uptown Assisted Living
Tract A Zuni Addition
Grading and Drainage Plan
Engineer's Stamp Date 11-11-15 (File: H19D082)**

Dear Mr. Soule:

11-12-15

Based upon the information provided in your submittal received ~~10-24-15~~, the above-referenced plan is approved for Building Permit/Grading Permit.

PO Box 1293

Please attach a copy of this approved plan in the construction sets when submitting for a building permit. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

Albuquerque

The plan is also approved for SO-19 Permit. A copy of this approval letter must be on hand when applying for the excavation/barricading permit. The work in the City ROW must be inspected and accepted. Contractor must contact Jason Rodriguez at 235-8016 and Construction Coordination at 924-3416 to schedule an inspection.

New Mexico 87103

If you have any questions, you can contact me at 924-3986.

www.cabq.gov

Sincerely,

Abiel Carrillo, P.E.
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:** _____

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

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) _____

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) _____

IS THIS A RESUBMITTAL?: ☐ Yes ☐ No

DATE SUBMITTED: _____ By: DAVID SOULE

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

RIO GRANDE ENGINEERING OF NEW MEXICO, LLC

November 11, 2015

Ms. Rita Harmon
Hydrology Department
Planning Department
City of Albuquerque

**RE: Grading and Drainage Plan
Uptown Assisted Living
7611 Indian School NE**

Dear Ms Harmon:

The purpose of this letter is to accompany the attached drainage submittal. The grading plan has been prepared based upon the City of Albuquerque Drainage Plan Criteria. The site is the redevelopment of an existing property. The proposed improvement will generate less than the existing conditions. In addition the 'first flush' retention volume has been incorporated into the site landscaping. Due to the need for an additional 2' sidewalk culvert an SO-19 permit will be required.

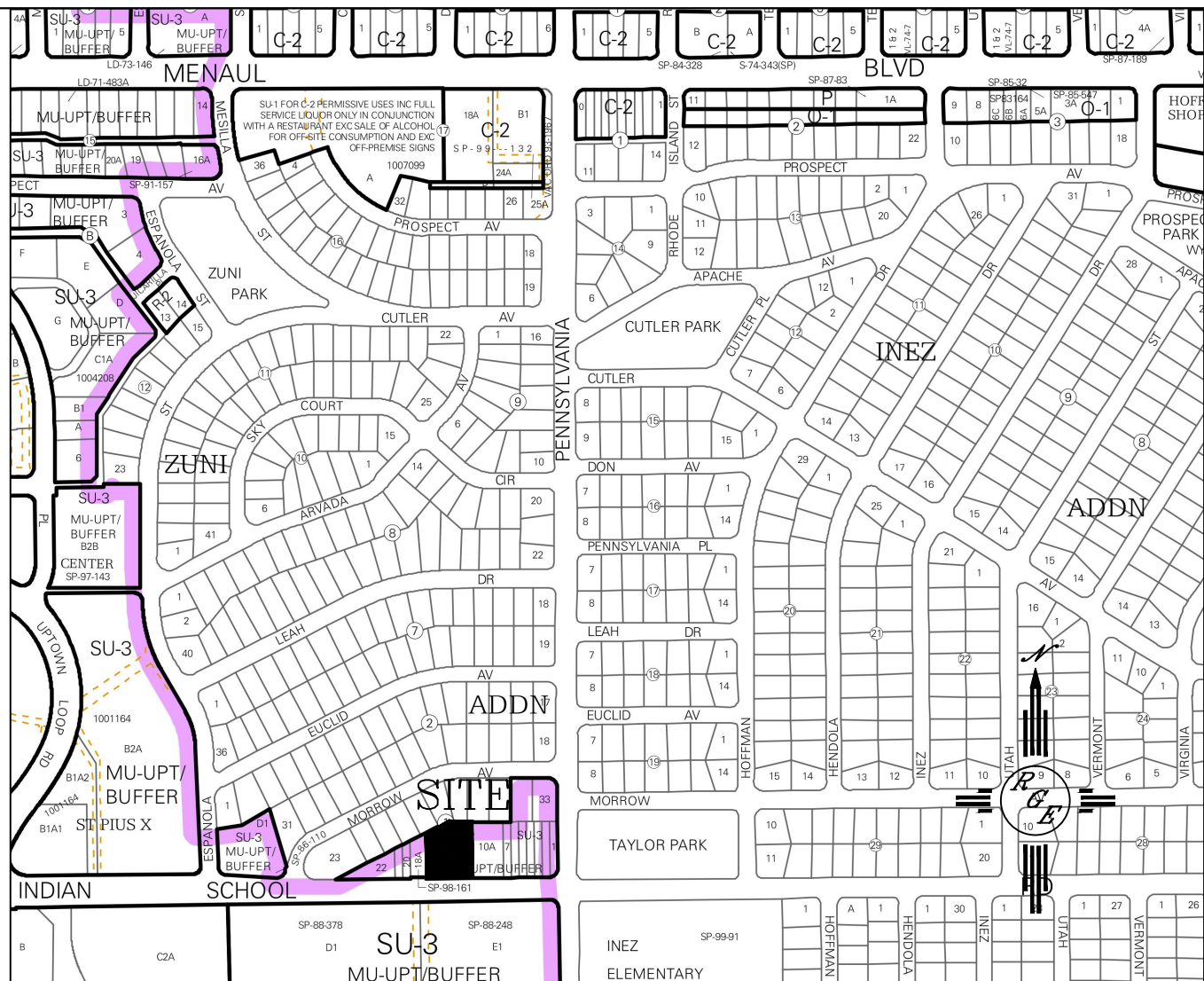
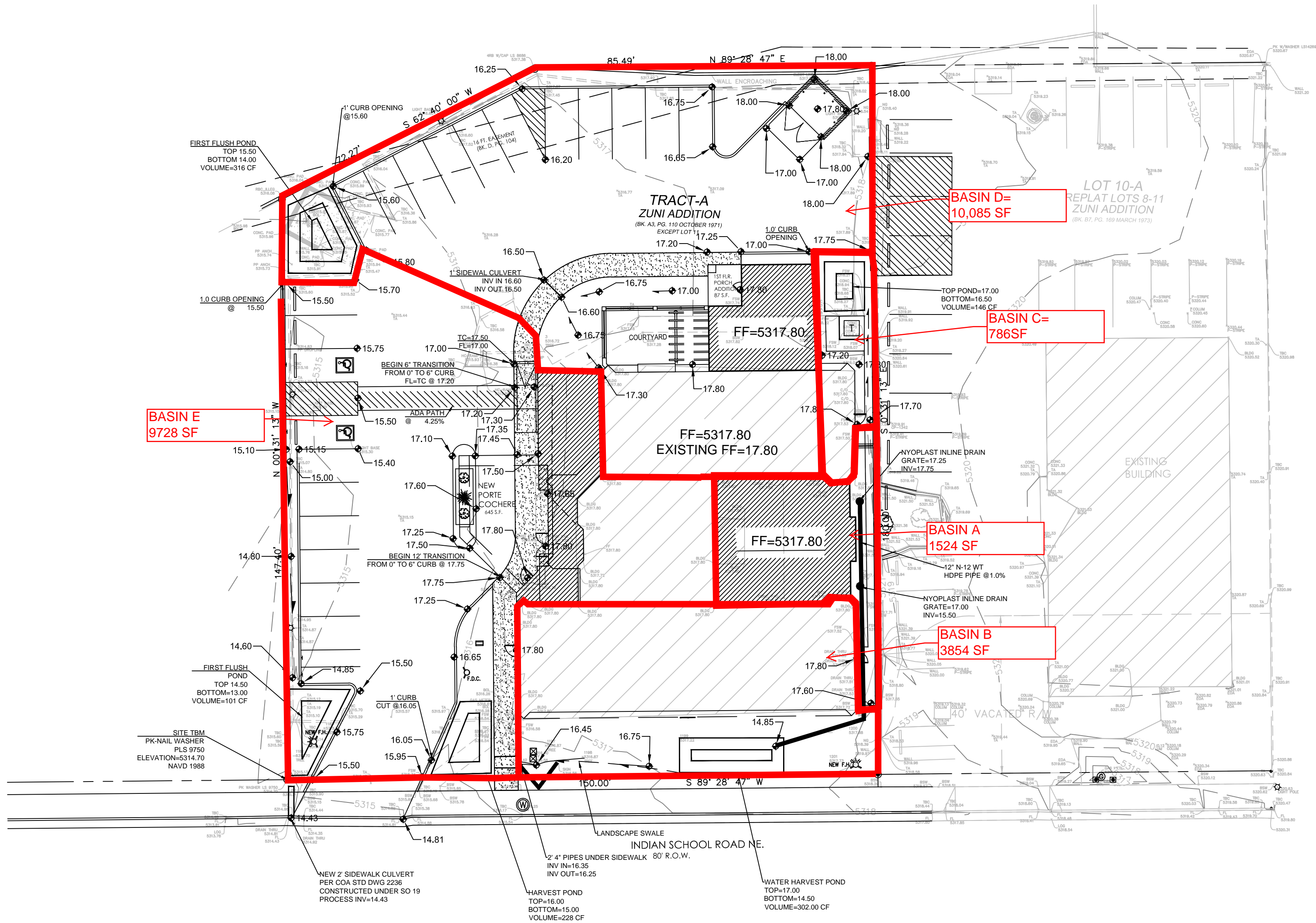
Should you have any questions regarding this submittal, please do not hesitate to call me.

Sincerely,

David Soule, PE
Rio Grande Engineering
PO Box 93924
Albuquerque, New Mexico 87199

EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.



LEGAL DESCRIPTION:

TRACT A ZUNI ADDITION EXCEPT LOT 11

NOTES:

1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
2. TOPOGRAPHIC SURVEY INFORMATION SHOWN ON THIS PLAN WAS OBTAINED BY CONSTRUCTION SURVEY TECHNOLOGIES, DAVID P ACOSTA PLS 21082.
3. No perimeter walls or fencing will be constructed and any future walls or fencing must be approved by Bernalillo County Public Works

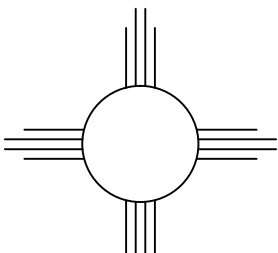
LEGEND

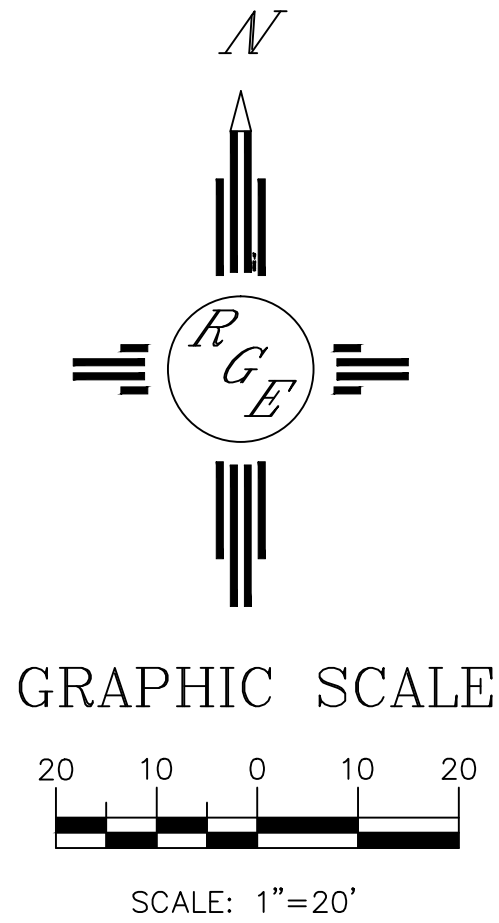
- 5411--- EXISTING CONTOUR
- 5410--- EXISTING INDEX CONTOUR
- 5411--- PROPOSED CONTOUR
- 5410--- PROPOSED INDEX CONTOUR
- PROPOSED ELEVATION
- PROPOSED LANDSCAPE SWALE

I DAVID SOULE, HAVE PERSONALLY INSPECTED THE PROPERTY ON SEPTEMBER 27, 2015. NO EARTHWORK HAS BEEN PERFORMED AND THE SITE IS CONSISTENT WITH THE TOPO SHOWN.

DAVID SOULE P.E. #14522

DATE

ENGINEER'S SEAL	TRACT A ZUNIT ADDITION	DRAWN BY JDG
	GRADING AND DRAINAGE PLAN	DATE 11-08-2015
DAVID SOULE P.E. #14522	 <i>Rio Grande Engineering</i> 1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999	SHEET # 1 OF 1
		JOB #



Weighted E Method

UPTOWN ASSISTED LIVING

Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year, 6-hr.			10-day
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Volume (ac-ft)
# EXISTING ONSITE DISCHARGE	25977	0.596	0%	0	6.0%	0.036	10.0%	0.05963	84%	0.501	2.428	0.121	2.96	0.187
BASIN A	1524	0.035	0%	0	0.0%	0.000	10.0%	0.0035	90%	0.031	2.522	0.007	0.18	0.012
BASIN B	3854	0.088	0%	0	17.0%	0.015	20.0%	0.0177	63%	0.056	2.139	0.016	0.40	0.023
BASIN C	786	0.018	0%	0	18.0%	0.003	20.0%	0.00361	62%	0.011	2.123	0.003	0.08	0.005
BASIN D	10085	0.232	0%	0	8.0%	0.019	7.0%	0.01621	85%	0.197	2.433	0.047	1.15	0.073
BASIN E	9728	0.223	0%	0	5.0%	0.011	6.0%	0.0134	89%	0.199	2.491	0.046	1.13	0.073
OVERALLPROSED	25977	0.596	0%	0	8.0%	0.048	9%	0.054	83%	0.494	2.407	0.120	2.94	0.185

Equations:

Weighted E = $E_a \cdot A_a + E_b \cdot A_b + E_c \cdot A_c + E_d \cdot A_d / (\text{Total Area})$

Volume = Weighted D * Total Area

Flow = $Q_a \cdot A_a + Q_b \cdot A_b + Q_c \cdot A_c + Q_d \cdot A_d$

Where for 100-year, 6-hour storm (zone 4)

$E_a = 0.8$
 $E_b = 1.08$
 $E_c = 1.46$
 $E_d = 2.64$
 $Q_a = 2.2$
 $Q_b = 2.92$
 $Q_c = 3.73$
 $Q_d = 5.25$

FIRST FLUSH REQUIREMENT
 609.65 CUBIC FEET
 947 CUBIC FEET PROVIDED

FLOW AT STRUCTURES		CAPACITY
STORM DRAIN	0.18 CFS	BASIN A 1.86
PIPES UNDER SIDEWALK	0.58 CFS	BASIN A+B 1.6
BASIN D CURB CUT	1.23 CFS	BASIN C+D 1.56
CULVERT	2.9 CFS	ALL BASINS 3.23

Pond volume required
 FIRST FLUSH REQUIRED 609.65 cf
 FIRST FLUSH PROVIDED 715.00 cf
 EXISTING ONSITE DISCHARGE 0.18 CFS
 PROPOSED ONSITE DISCHARGE 2.94 CFS
 UPLAND 2.96 CFS

NARRATIVE

THIS SITE IS AN REDEVELOPMENT OF AN EXISTING SITE. THIS SITE CURRENTLY FREE DISCHARGES 2.96 CFS. THE PROPOSED IMPROVEMENTS REDUCE THE DISCHARGE TO LESS THAN EXISTING. THE FIRST FLUSH VOLUME OF 610 CUBIC FEET IS CAPTURED ON SITE

VOLUME CALCULATIONS

invert

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
16.35			0.000
17.35	1.00	0.0860	0.819

Orifice Equation

$$Q = CA \text{ SQRT}(2gH)$$

$$C = 0.6$$

$$\text{Diameter (in)} = 6$$

$$\text{Area (ft}^2\text{)} = 0.19634954$$

$$g = 32.2$$

$$H \text{ (Ft)} = \text{Depth of water above center of orifice}$$

$$Q \text{ (CFS)} = \text{Flow}$$

OPENINGS

Weir Equation:

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

Q= 1.52 cfs

C = 2.95

H = 0.5 ft

L = Length of weir

1' CURB CUT

$$Q = 2.95 \times 1.5 \times 0.5^{1.5} = 1.56$$

2' SIDEWALK CULVERT

$$Q = 2.95 \times 2 \times 0.67^{1.5} = 3.23$$

Pipe Capacity

Pipe	D	Slope	Area	R	Q Provided	Q Required	Velocity
	(in)	(%)	(ft^2)		(cfs)	(cfs)	(ft/s)
HDPE	12	1	0.79	0.25	1.86	0.18	0.23

Manning's Equation:

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

A = Area

R = D/4

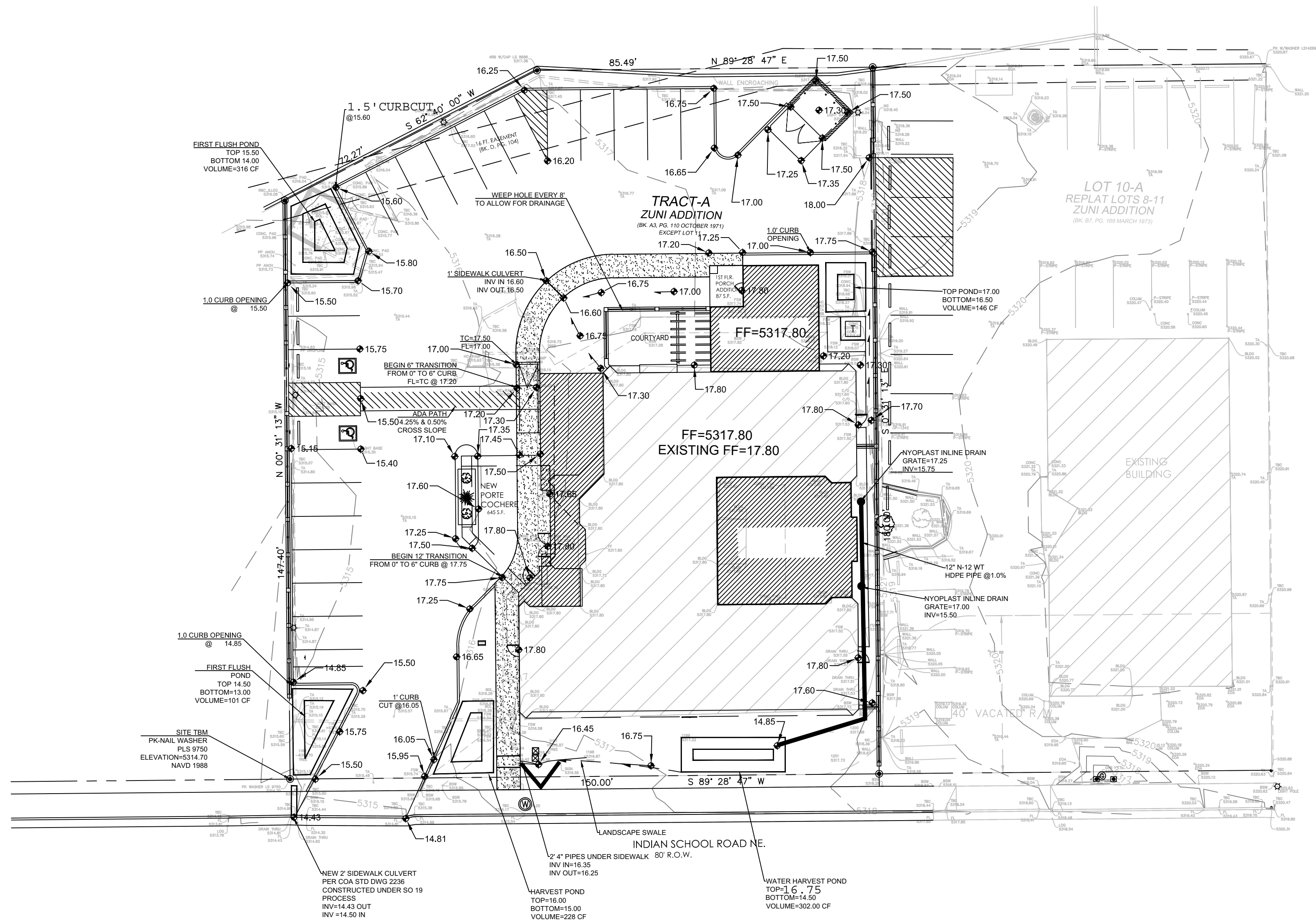
S = Slope

n = 0.025

FIRST FLUSH REQUIREMENT=21,518X.34/12=609 CF
PROVIDED=609 CF

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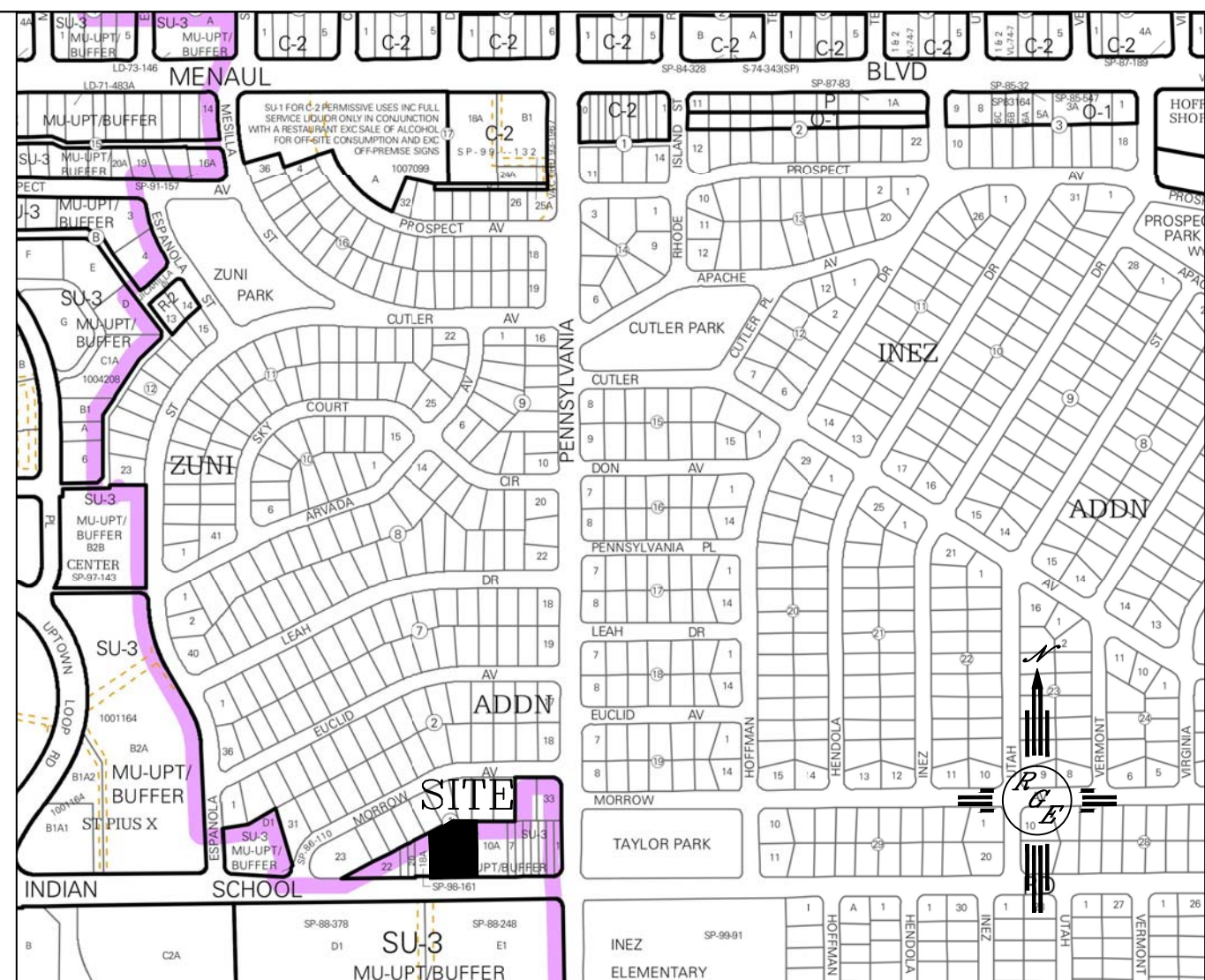


PRIVATE DRAINAGE IMPROVEMNET IN PUBLIC ROW
NOTICE TO CONTRACTORS

Notice to Contractor
(Special Order 19 ~ "SO-19")

1. An excavation permit will be required before beginning any work within City Right-Of-Way.
2. All work on this project shall be performed in accordance with applicable federal, state and local laws, rules and regulations concerning construction safety and health.
3. Two working days prior to any excavation, the contractor must contact New Mexico One Call, dial "811" [or (505) 260-1990] for the location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to traffic/street use.
6. Maintenance of the facility shall be the responsibility of the owner of the property being served.
7. Work on arterial streets shall be performed on a 24-hour basis.
8. Prior to pouring concrete, contractor shall notify the storm drain inspector, 857-8074, to inspect reinforcement.

APPROVAL	NAME	DATE
INSPECTOR		



VICINITY MAP: H-19-Z



FIRM MAP:

FM35001C0365H

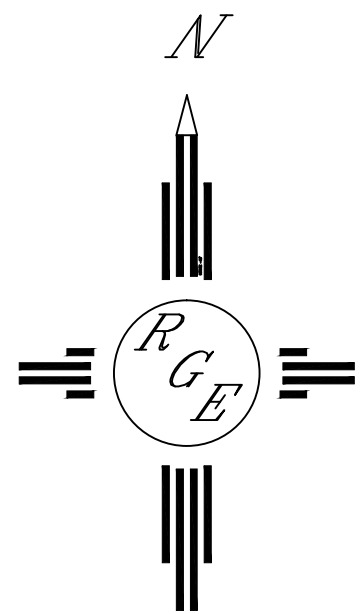
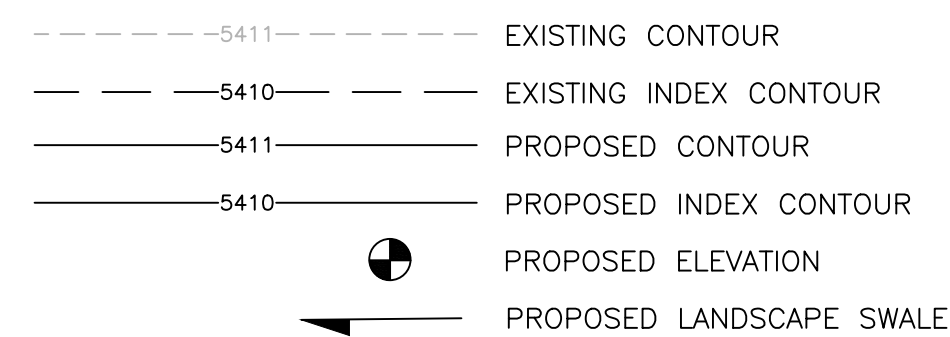
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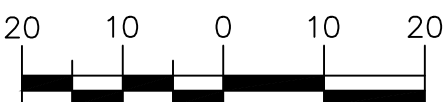
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LEGEND



GRAPHIC SCALE



SCALE: 1"=20'

<p>ENGINEER'S SEAL</p>	<p>TRACT A ZUNIT ADDITION</p>	<p>DRAWN BY JDC</p>
	<p>GRADING AND DRAINAGE PLAN</p>	<p>DATE 11-08-2015</p>
<p>11/11/15</p>		<p>SHEET # 1 OF 1</p>
<p>DAVID SOULE P.E. #14522</p>	<p><i>Rio Grande Engineering</i> 1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0989</p>	<p>JOB #</p>