VBA PROJECT NO: 16-013

FIRST FLUSH REQUIREMENTS

A. THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NDPES PERMIT, AND AN EROSION AND SEDIMENT CONTROL (ESC) PERMIT FOR PROJECTS WHERE CONSTRUCTION ACTIVITIES MEET THE EPA THRESHOLD. (SWPPP, NPDES PERMIT, AND ESC PLAN BY OTHERS.) A CURRENT CITY–APPROVED ESC PERMIT MUST BE INCLUDED WITH THE CONTRACTOR'S SUBMITTAL FOR A ROUGH GRADING, GRADING, PAVING, BUILDING, OR WORK ORDER PERMIT. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE WHO WILL PREPARE SWPPP AND INSPECT REQUIRED ELEMENTS.

B. STORMWATER CONTROL MEASURES ARE REQUIRED TO PROVIDE MANAGEMENT OF 'FIRST FLUSH' (DEFINED AS THE 90TH PERCENTILE STORM EVENT OR 0.34" [0.44" LESS 0.1" FOR INITIAL ABSTRACTION] OF STORMWATER WHICH DISCHARGES DIRECTLY TO A PUBLIC STORM DRAINAGE SYSTEM).

THE ESTIMATED PONDING VOLUME REQUIRED IS 0.34" * TYPE 'D' AREA: 0.34/12 * (9.2 AC * 75%) * 43560 = 8,515 CF.

THERE WILL BE 'FIRST FLUSH' RETENTION AREAS AS NOTED ON THE PLAN WITH THE MAJORITY OF THE SITE DISCHARGING TO THE SOUTH POND.

THE 'FIRST FLUSH' BASIN VOLUMES SHALL BE ANALYZED AND SIZED AS PART OF THE BUILDING PERMIT PLANS SUBMITTAL. CURB OPENINGS, SHALL BE LOCATED AND SIZED WITH FINAL DESIGN.

CALCULATIONS: 2142 GALLES CHEVROLET : September 16, 2016

Based on Drainage Design Criteria for City of Albuquerque
Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE CALCULATIONS: 100-YEAR, 6-HOUR STORM

AREA OF SITE: 401501.232 SF = 9.2

HISTORIC FLOWS:

		Treatment S	%
Area A	=	0	0%
Area B	=	40150.1232	10%
Area C	=	341276.047	85%
Area D	=	20075.0616	5%
otal Area	=	401501.232	100%

DEVELOPED FLOWS:

		Treatment S	%
Area A	=	0	0%
Area B	=	40150	10%
Area C	=	60225	15%
Area D	=	301126	75%
otal Area	=	401501.232	100%

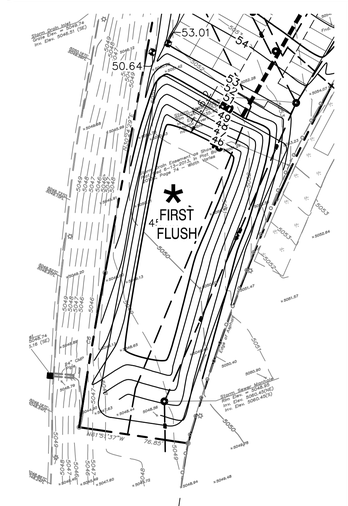
EXCESS PRECIP:
Precip. Zone 4
E_A = 0.80
E_B = 1.08
E_C = 1.46
E_D = 2.64

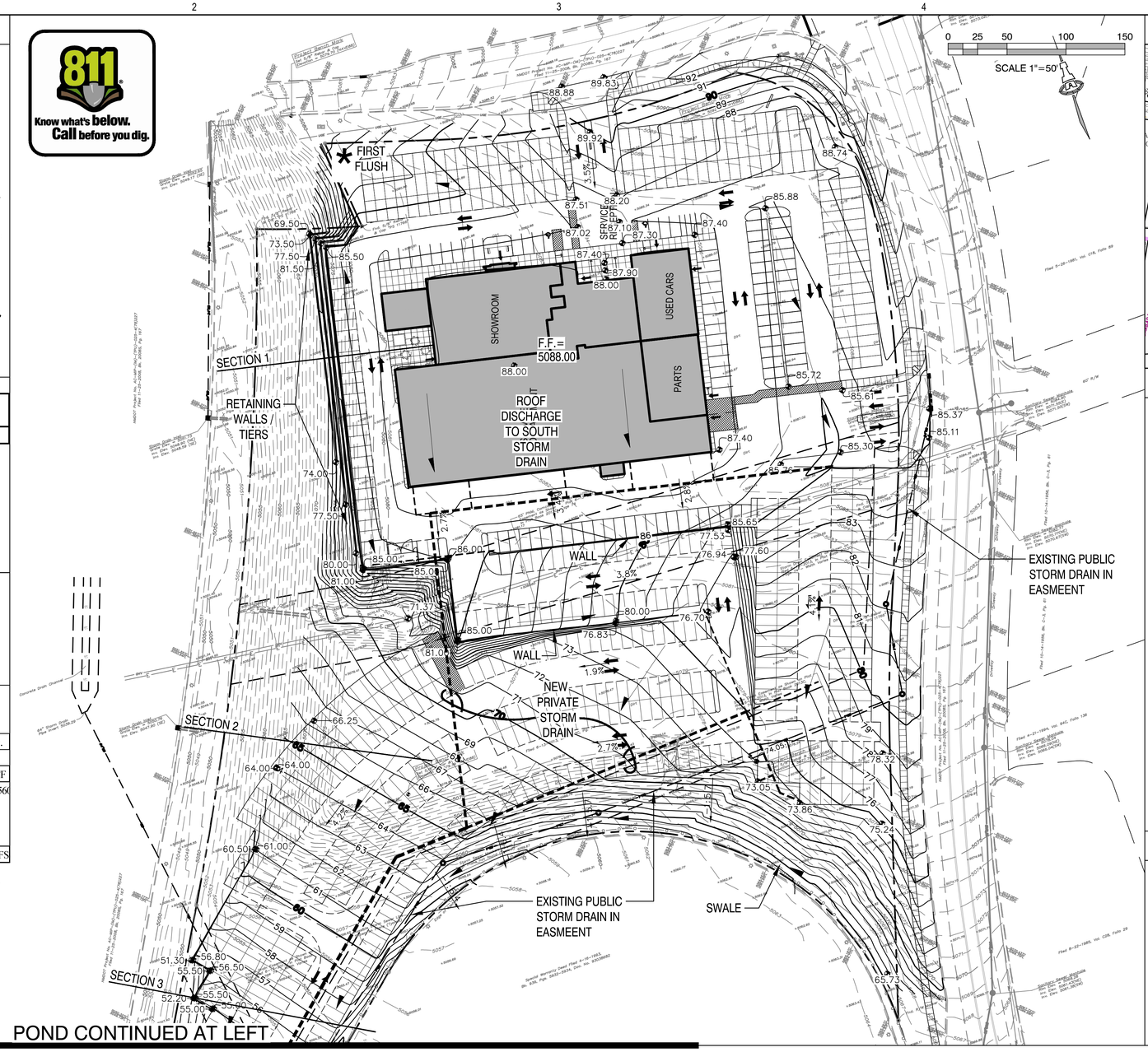
On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

Weighted $E = \frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$

Historic	= 1.48 in.	Developed E	= 2.31 in.
On-Site Volume of Runoff: V360	= E*A / 12		
Historic V	= 49552 CF	Developed V_{36}	= 77189 CF
On-Site Peak Discharge Rate: $Qp = Q_{pA}A_A + Q_{pB}A_B + Q_{pC}A_C + Q_{pD}A_D$ / 43,560			
For Precipitation Zo 4			
Q_{pA}	= 2.20	Q_{pC}	= 3.73
Q_{pB}	= 2.92	Q_{pD}	= 5.25
Historic Q	= 34.3 CFS	Developed Q_p	= 44.1 CFS

POND CONTINUED FROM LEFT





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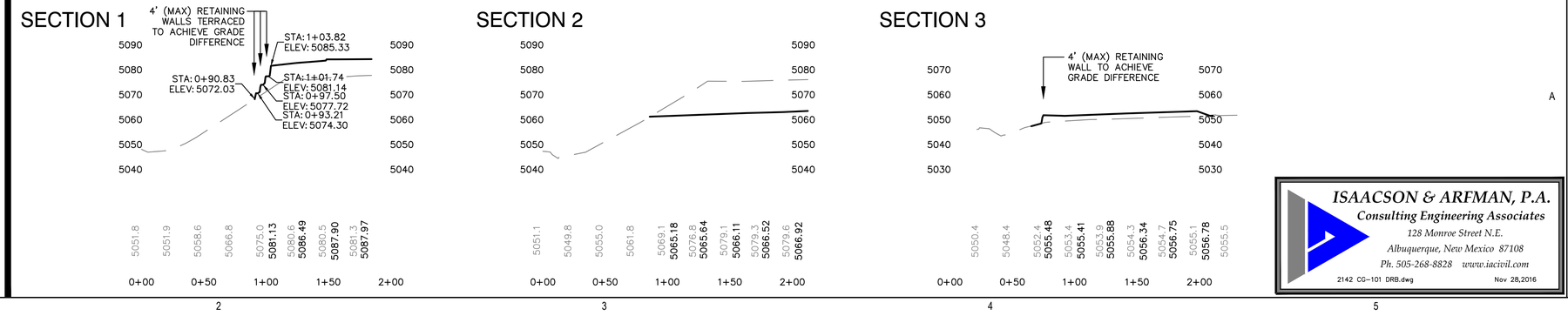
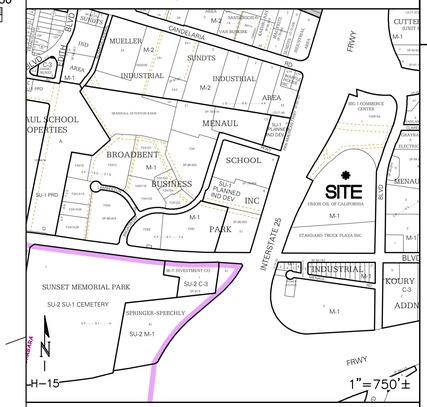


VICINITY MAP



PROJECT DATA

PROPERTY: THE SITE IS AN GRADED BUT UNDEVELOPED PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP H–15. THE SITE IS BOUND TO THE EAST BY UNIVERSITY BLVD. NE, TO THE WEST BY THE I–25 FRONTAGE ROAD, TO THE NORTH BY CANDELARIA RD. NE AND TO THE SOUTH BY DEVELOPED COMMERCIAL PROPERTY.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE A 42,000± SF CAR DEALERSHIP WITH ASSOCIATED ASPHALT PAVED ACCESS, PARKING, DISPLAY PARKING AND LANDSCAPING.

LEGAL: TRACT 1, BIG I COMMERCE CENTER, ALBUQUERQUE, NM

SITE AREA: 9.2172 ACRES

BENCHMARK: VERTICAL DATUM IS BASED ON THE NATIONAL GEODETIC SURVEY CONTROL MONUMENT "CANDELARIA" HAVING A PUBLISHED ELEVATION OF 5090.846' (NAVD88).

OFF–SITE: NO OFF–SITE SURFACE DRAINAGE AFFECTS THIS PROPERTY. A PUBLIC STORM DRAIN CROSSES THE SOUTH PORTION OF THE PROPERTY WITHIN A PUBLIC EASEMENT.

FLOOD HAZARD: IN ACCORDANCE WITH THE NATIONAL FLOOD INSURANCE PROGRAM RATE MAP NO. 35001C0332 G, EFFECTIVE DATE 9–26–2008 AND MAP NO. 35001C0351 H, EFFECTIVE DATE 8–16–2012., THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS OUTSIDE 0.2% ANNUAL CHANCE FLOODPLAIN.

ENGINEER: FRED C. ARFMAN: NMPE 7322
ISAACSON & ARFMAN, PA
128 MONROE N.E., ALBUQUERQUE, NM 87108
505–268–8828

SURVEYOR: RUSS P. HUGG: NMPS NO. 9750
SURV–TEK, INC
9384 VALLEY VIEW DRIVE, NW, ALBUQUERQUE NM 87114
505–897–3366

DRAINAGE CONCEPT

PERMANENT STORMWATER RETENTION PONDS WILL BE SIZED TO RETAIN THE FIRST FLUSH.

ALL STORMWATER FROM IMPERVIOUS AREAS WILL BE DIRECTED TO FIRST FLUSH RETENTION PONDS AS NOTED ON PLAN. ONCE THESE FILL WITH THE REQUIRED VOLUME, THE PROPERTY WILL FREE DISCHARGE TO THE I–25 R.O.W. AND ENTER THE EXISTING STORM DRAIN SYSTEM. EROSION PROTECTION WILL BE PROVIDED AT FOR ALL CONCENTRATED DISCHARGE. ISAACSON & ARFMAN WILL COORDINATE WITH NMDOT REGARDING STORM DRAINAGE.

VIGIL & ASSOCIATES
ARCHITECTURAL GROUP, P.C.
WWW.VA-ARCHITECTS.COM

DRB APPROVAL SUBMITTAL

GALLES CHEVROLET
ALBUQUERQUE, NEW MEXICO
JAYNES CORPORATION

date: NOVEMBER 29, 2016
drawn by: V&A
checked by: RRV
revisions:
REVISED OCTOBER 26, 2016

CONCEPTUAL GRADING & DRAINAGE PLAN

project no. 16-013

CG-101

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.iacivil.com

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