# CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services

Richard J. Berry, Mayor

September 21, 2015

Verlyn Miller, PE
**Miller Engineering Consultants**
3500 Comanche NE
Albuquerque, NM 87107

**RE: Advanced Auto Parts**
**Grading and Drainage Plan**
**Engineer's Stamp Date 9-15-2015 (File: H14D041)**

Dear Mr. Miller:

Based upon the information provided in your submittal received 9-15-15, the above referenced plan is approved for Building Permit and SO-19 Permit with the following conditions:

1. Keyed note #9 must be modified to add that the SW culvert (both plate and channel) must be extended 2ft. past the back of Sidewalk. Note that the bolts must be tack welded to the plate.
2. Keyed note #7 must be modified. An open concrete channel presents a tripping hazard. If there is sidewalk, then a Sidewalk culvert should be used (extended per above comment). It is unclear if there is Sidewalk. If there is not sidewalk, then the channel should be an earthen channel filled with riprap to avoid falling into it.

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.

A separate SO-19 permit is required for construction within City ROW. 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.

If the disturbed area on this site exceeds 1.0 acre, an Erosion and Sediment Control (ESC) Plan, prepared by a NM PE and approved by the City's Stormwater Engineer, will be required for this site. Call Curtis Cherne at 924-3420 to verify since it appears that this first phase is less than an acre, but the entire site is more than an acre.

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

If you have any questions, you can contact me at 924-3695.

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf via email: Recipient; Jason Rodriguez

# City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

**Project Title:** Advanced Auto Parts Building Permit #: _____ City Drainage #: H-14-d041

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

Legal Description: Tract A-1 and A-2 of White City-Glen Haven Addition

City Address: 2715 4th Street NW, Albuquerque, NM 87107

**Engineering Firm:** Miller Engineering Consultants Contact: John Jacquez

Address: 3500 Comanche NE, bldg F Albuquerque, NM 87107

Phone#: 505-888-7500 Fax#: 505-888-3800 E-mail: jjacquez@mecnm.com

**Owner:** The Skarsgard Firm PC Contact: Joshua J Scarsgard

Address: 8220 San Pedro NE, Suite 500, Albuquerque, NM

Phone#: 505-262-2323 Fax#: _____ E-mail: _____

**Architect:** 66 Architect LLC Contact: Clint Wilsey

Address: 2041 S. Plaza Street NW, Albuquerque NM 87104

Phone#: 505-280-0043 Fax#: _____ E-mail: _____

**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) _____

**CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:**

X 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

X GRADING PERMIT APPROVAL

X SO-19 APPROVAL

_____ PAVING PERMIT APPROVAL

_____ GRADING/ PAD CERTIFICATION

_____ WORK ORDER APPROVAL

_____ CLOMR/LOMR

_____ PRE-DESIGN MEETING

X OTHER (SPECIFY) TELEPHONE CONV WITH RITA

IS THIS A RESUBMITTAL?: X Yes _____ No

DATE SUBMITTED: 8-18-2015 (prior) 9-15-15 (new) By: John Jacquez

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ___

MILLER ENGINEERING CONSULTANTS
Engineers • Planners

September 15, 2015

City of Albuquerque
Planning Department
Development and Building Services
P.O. Box 1293
Albuquerque, NM 87103

**Attn: Rita Harmon, *P.E.*, *Senior Engineer, Planning Dept.***

**RE: Advanced Auto Parts**
**Grading and Drainage Plan**
**Engineer's Stamp Date 8-17-2015 (File: H14D041)**

Dear Ms. Harmon:

This letter is in response to your comments by letter dated August 28, 2015. All of your comments have been addressed as follows:

1. Since a new valley gutter, sidewalk, and sidewalk culverts are proposed to be built in the R.O.W., these improvements must be done through the Work Order process (DRC) and not by an SO-19 Permit.

   *Please see attached email to Racquel summarizing our meeting in which she said that DRC was not necessary.*

2. This is a "phased" project where one portion of the site is to be developed at this time, and the remaining portion is to be developed in the future. For phased projects the following is required:
   a. Grading and Drainage plan with supporting calculation for the ***Final Developed condition.*** Dwg. C-102 is essentially this Final Condition Plan. However, the following needs to be corrected:
      i. Remove the Curb and Gutter separating the two properties, and show only the intended final condition.

      *This new curb and gutter will need to be installed as part of the current phase to divert storm water to the new Retention pond. Once phase 2 is developed the Curb and Gutter will be removed and replaced with new Concrete Valley Gutter that will receive storm water from the north and the south and divert into new retention pond. See sheet C-101.*

      *ii.* Show intended elevations/contours in the future parking lot.

      *Please see sheet C-101, for future flow arrows and future finish floor on building. This plan shows the general drainage concept of the future development.*

*iii.* How will flows be directed to the pond in the final condition without the curb and gutter?

*This new curb and gutter will need to be installed as part of the current phase to divert storm water to the new Retention pond. Once phase 2 is developed, the Curb and Gutter will be removed and replaced with new Concrete Valley Gutter that will receive storm water from the both the proposed and future developmnent and divert into new retention pond.*

*iv.* Show the intended roof discharge points and direction of the future building.

*Please see sheet C-101 for future building roof discharge points and the direction of the roof flows.*

*v.* Since full Retention ponds must retain the 100yr-10day volume, with 1 ft. of freeboard, Pond #1 is undersized.

*Please see Sheet C-001 for the calculations for the 100yr-10day required volume and the pond volume calculations for Pond #1, showing it retains the required volume at 64.5 elevation which is 1' below the spillway (freeboard). See Sheet C-102 for the newly designed Pond #1.*

*vi.* Future Pond #2 should be a detention pond, only retaining the First Flush and then discharging at a rate of 2.75cfs/Ac. The discharge mechanism will need to be designed.

*Future Pond # 2 retains the 100-Year-24 hour storm which is extremely conservative in that it exceeds the ½" retention requirement in the Valley (per COA Hydrology Staff Valley Rule). The overflow future devise is a concrete channel and a standard 24" sidewalk culvert.*

*b.* Grading and Drainage plan with supporting calculations for the ***Interim condition***. Provide a plan with just the development intended to occur under this Building Permit. Show.

*i.* The Curb and Gutter that separates the phases (in i. above)

*This new curb and gutter will need to be installed as part of the current phase to divert storm water to the new Retention pond. Once phase 2 is developed the Curb and Gutter will be removed and replaced with new Concrete Valley Gutter that will receive storm water from the north and the south and divert into new retention pond.*

*ii.* How will the remaining site be graded in the interim? How and where will it discharge to?

*There will be a ditch that will divert water from the north to the new retention Pond #1. See sheet C-102.*

*iii.* Provide drainage calculations for the remainder of the site in the Interim state.

*Not required to do any interim state since the drainage is for full build out of Phase I*

*and Phase II. As per telephone conversation with Rita Harmon.*

*iv.* Pond #1 can be designed for just the "Interim Condition" ( 100yr-10day volume), and then enlarged later. It is up to you. But if the property is divided, the drainage easement must

cover the "final condition" pond footprint.
*Not required to do any interim state since the drainage is for full build out of Phase I and Phase II. As per telephone conversation with Rita Harmon.*

3. For both Ponds: Show contour labels, Bottom of Pond elevation, Max WSEL, Provided Volume and Required Volume. (Show this on both the Interim and Future G&D plans, as it may be different :
   *See sheet C-102 for contours and key notes for Pond information.*

4. Roof flows from the Advance Auto Parts must be directed to a first flush pond before discharging to swale along the south boundary. Perhaps the hatched area (handicap ramp?) at SW corner of the building can be used as such:
   *See sheet C-102. Roof drains diverted to northeast corner of new building then diverted into new first flush Pond #3.*

5. Provide calculations that size the SW culvert(s), the concrete swale. What is the WSEL:
   *Not required to do now that the roof drains are no longer flowing in this area this calculation is no longer necessary. As per telephone conversation with Rita Harmon.*

6. Keyed notes should refer to the Detail on the Sheet C-501 (ie. See Detail D4 on Sht C-501):
   *See key notes on sheet C-102 and details on sheet C-501.*

7. Pond #2 has a 2:1 slope. More than a 3:1 slope required slope stabilization measures. Large cobbles are typically used.:
   *6" of 2"-3" cobble stones will be used for stabilization measures. See sheet C-102 for key note and C-501 for detail.*

If you have any questions or need any additional information, please feel free to contact our office.

MILLER ENGINEERING CONSULTANTS, INC.

Verlyn A. Miller, P.E.
President

VAM:vam
Enclosures

cc: File

## John Jacquez

**From:** Michel, Racquel M. <rmichel@cabq.gov>
**Sent:** Friday, September 11, 2015 1:13 PM
**To:** 'Clint Wilsey'; John Jacquez
**Subject:** RE: Advance Auto Parts - 4th St.

Clint,
As we discussed last week you do not need to have a work order for this project however you will need to prepare and submit a TCL.
Thanks,

**Racquel M. Michel, P.E.**
City of Albuquerque
505-924-3991
rmichel@cabq.gov

**PLEASE NOTE MY NEW PHONE NUMBER!!**

**From:** Clint Wilsey [mailto:clint.wilsey@gmail.com]
**Sent:** Friday, September 11, 2015 1:05 PM
**To:** Michel, Racquel M.; John Jacquez
**Subject:** Fwd: Advance Auto Parts - 4th St.

Hello Racqel. I emailed you last week after we had met about the Advance Auto on 4th St., currently in plan review. We met and you determined our sidewalk improvements would not trigger a DRC hearing and we need a letter or email from you confirming that was the case. See email with project # below. Can you please send us a quick note stating a DRC is NOT required. We need to turn this in today for plan check corrections.

Thank you.

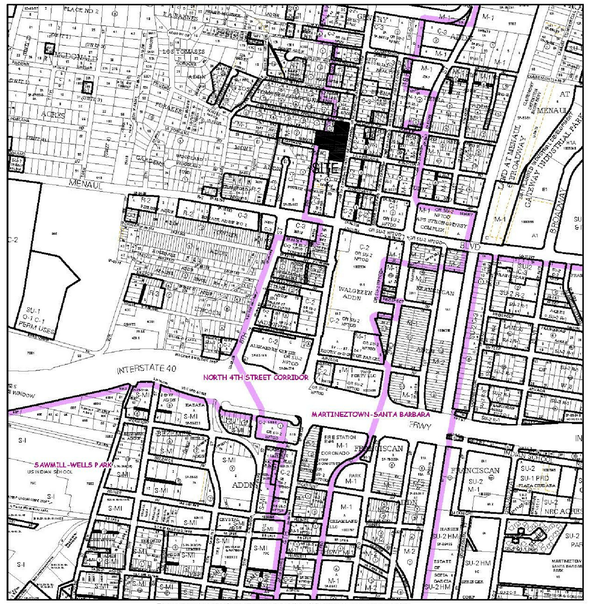
Clint Wilsey, Architect
66Architect, LLC
2041 S. Plaza St. NW
Albuquerque, NM 87104
505) 280-0043

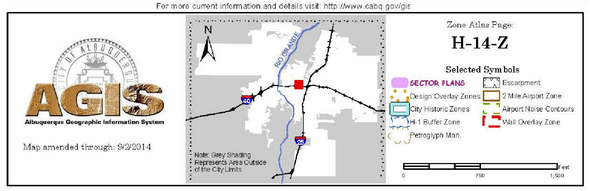
---------- Forwarded message ----------
From: **Clint Wilsey** <clint.wilsey@gmail.com>
Date: Thu, Sep 3, 2015 at 7:51 AM
Subject: Advance Auto Parts - 4th St.
To: "Michel, Racquel M." <RMichel@cabq.gov>, John Jacquez <jjacquez@mecnm.com>

Good morning Racquel. Thank you for taking time to meet with us yesterday about our project on 4th St. As you requested, the project # for this project is T201592183. Can you please respond to this email stating that a DRC hearing is not required on this project, and John Jacquez will include a copy in his grading/drainage report to Rita Harmon. Also, Stanice Elliot sent plan check comments back for this project saying "an approved site plan signed off by DRB needs to be included in each set". It was determined early on in my PRT meetings that DRB was not needed. Im assuming, since Stanice is new she might have meant that we include the PRT stamped set (which I will do). Also she didnt say I needed a TCL, but you said yesterday I do. Please confirm.

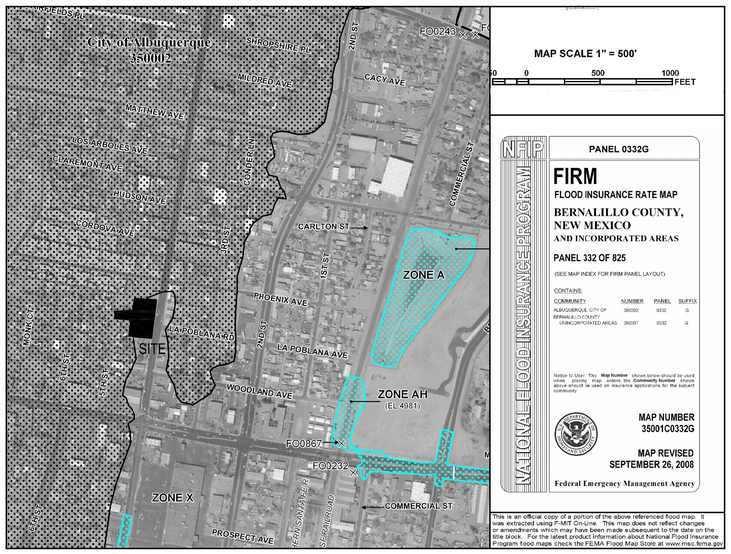
Thank you again!

Clint Wilsey, Architect
66Architect, LLC
2041 S. Plaza St. NW
Albuquerque, NM 87104
505) 280-0043




C1 VICINITY MAP
ZONE ATLAS MAP H-17-C




A1 FLOOD ZONE MAP
FLOOD ZONE MAP: 35001C0353H

## SITE LOCATION

ADVANCE AUTO PARTS IS LOCATED AT 2715 4th STREET N.W. IN ALBUQUERQUE, NM. THE BOUNDARY IS RECTANGULAR IN SHAPE AND BOUNDED BY EXISTING RESIDENCES TO THE WEST, EXISTING BUSINESS AND RESIDENCES TO THE SOUTH, AN EXISTING RESIDENCES AND PHEONIX AVENUE TO THE NORTH, AND 4TH STREET N.W. TO THE EAST.

## EXISTING ON SITE CONDITIONS

THE SITE IS DEVELOPED WITH AN EXISTING ASPHALT PAVED PARKING AREA, EXISTING CAR WASH AND EXISTING VACUUMS. THE SITE IS ACCESSED FROM 4TH STREET N.W. ON THE EAST SIDE OF THE SITE. THE PROPERTY HAS THREE DRAINAGE BASINS, WHICH ARE IDENTIFIED AS BASIN A, B, AND C. THIS REPORT FOCUSES ON THE PRE AND POST HYDROLOGY. BASIN A DRAINS TO EAST INTO 4TH STREET N.W. VIA SURFACE FLOWS, BASIN B DRAINS TO THE WEST TO AN EXISTING POND VIA SURFACE FLOW THROUGH A DRAINAGE SWALE AND BASIN C DISCHARGES TO THE NORTH TO ADJOINING PROPERTY OR PHEONIX AVENUE. THE DRAINAGE DATA ON THIS PAGE SUMMARIZES THE EXISTING PEAK DISCHARGE AND RUNOFF VOLUME FOR BASIN A, B AND C.

## PROPOSED CONDITIONS

THE PROPOSED DEVELOPMENT OF THE SITE WILL CONSIST OF 10000 SQUARE FOOT BUILDING, ASSOCIATED CONCRETE FLATWORK, SIDEWALKS, ASPHALT PARKING LOT, AND LANDSCAPING. THE PROPOSED IMPROVEMENTS ARE ALL LOCATED IN A PORTION OF PROPOSED DRAINAGE BASINS 1 AND 2. THE PARKING AREA FOR A FUTURE DEVELOPMENT IS LOCATED WITHIN PROPOSED BASIN 2 ALONG WITH THE NEW WATER HARVEST AREA NO. 1. THE BUILDING FOR THE FUTURE DEVELOPMENT IS LOCATED WITHIN PROPOSED BASIN 3, ALONG WITH FUTURE WATER HARVEST AREA NO. 2. BASIN 1 WILL FREE DISCHARGE INTO 4TH STREET VIA SURFACE FLOW. BASIN 2 WILL DISCHARGE INTO THE RELOCATED WATER HARVEST AREA NO. 1 (RETENTION) ALONG THE WEST PORTION OF THE PROPERTY. BASIN 3 (FUTURE DEVELOPMENT) WILL DISCHARGE INTO THE NEW WATER HARVEST AREA NO. 2 (FUTURE RETENTION). THE DEVELOPMENT SHOWN NORTH OF THE PROPOSED ADVANCED AUTO PARTS IS A CONCEPTUAL PLAN OF A FUTURE DEVELOPMENT. THIS DEVELOPMENT IS BEING SHOWN TO SET THE PARAMETERS AND REQUIREMENTS FOR DRAINAGE IN THE FUTURE. THE DRAINAGE DATA ON THIS PAGE SUMMARIZES THE PROPOSED PEAK DISCHARGE AND RUNOFF VOLUME FOR BASIN 1, 2 AND 3.

## OFFSITE FLOWS

THERE ARE NO OFFSITE FLOWS THAT DRAIN ONTO THE SITE.

## CONCLUSION

RUNOFF VOLUME AND FLOW RATE INCREASED AS A RESULT OF CHANGES IN LAND TREATMENTS FOR BASIN 1 A BY 0.013 ACRE FEET AND THE PEAK FLOW RATE HAS INCREASED BY 0.28 CFS. IN PROPOSED BASIN 2, WATER HARVEST AREA NO. 1 WILL RETAIN ALL OF THE 100-YEAR, 10 DAY STORM EVENT. IN PROPOSED BASIN 3, WATER HARVEST AREA NO. 2 (FUTURE) WILL RETAIN ALL OF THE 100-YEAR, 24-HOUR STORM EVENT. BASED CITY OF ALBUQUERQUE HYDROLOGY DEPARTMENT RULES FOR THE VALLEY ITS BEEN DETERMINED TO RETAIN THE FIRST HALF INCH OF RAIN ONSITE. THAT CALCULATION WAS DETERMINED TO BE 2577 CUBIC FEET OF RETENTION. THE PROPOSED WATER HARVEST AREAS RETAINS 18296 CUBIC FEET WHICH EXCEEDS THE 2577 CUBIC FEET CALCULATED FOR THE FIRST HALF INCH OF RAIN.

THE PROPOSED GRADING IMPROVEMENTS WILL INCLUDE SIDEWALK CULVERTS, VALLEY GUTTERS, CURB AND GUTTERS AND CURB CUTS ALLOWING STORMWATER INTO AND OUT OF PROPOSED WATER HARVESTING AREAS. THESE WATER HARVESTING AREAS WILL BE USED TO MANAGE THE FIRST FLUSH AS REQUIRED BY THE RECENT CITY OF ALBUQUERQUE DRAINAGE ORDINANCE CHANGES. THE VOLUME OF THE FIRST FLUSH FOR THE SITE (0.44-0.1 INCHES * IMPERVIOUS AREA)= 1752 cf. THE WATER HARVEST AREA VOLUME = 18296 cf > 1752 cf. THEREFOR MANAGES THE FIRST FLUSH. (SEE CALCULATIONS BELOW) AN ADDITIONAL FIRST FLUSH POND WAS PLACED AT THE NE CORNER OF THE NEW BUILDING TO RECEIVE THE ROOF FLOWS FROM THE NEW BUILDING.

## GENERAL NOTES:

1. EXISTING TOPOGRAPHIC DATA SHOWN ON THESE PLANS WAS PROVIDED BY WAYJOHN SURVEYING, INC. MILLER ENGINEERING CONSULTANTS HAS UNDERTAKEN NO FIELD VERIFICATION OF THIS INFORMATION.
2. ACS STA A-438 BENCH MARK THE TOP OF A STAINLESS STEEL ROD SET BENEATH A 5-1/2" NGS ACCESS COVER STAMPED "A-438 1984" SET FLUSH WITH THE GROUND, LOCATED IN THE NORTHWEST QUADRANT OF MENAUL BOULEVARD AND THE A.T. & S.F. RAILROAD TRACKS INTERSECTION. ELEV. 4975.35 (NAVD 1988)

   TBM FOUND 1/2" REBAR WITH CAP "LS 11463" ELEV. 4965.21
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES DURING THE CONSTRUCTION PHASE.
4. CONTRACTOR SHALL OBTAIN A GRADING PERMIT FROM THE CITY OF ALBUQUERQUE, PRIOR TO ANY GRADING OR CONSTRUCTION.
5. TWO WORKING DAYS PRIOR TO ANY EXCAVATION CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 260-1990 FOR LOCATION OF EXISTING UTILITIES.
6. ALL EMBANKMENTS SHALL BE PLACED AND COMPACTED IN LIFTS OF MAXIMUM OF 8". THE EMBANKMENTS SHALL BE WETTED AND COMPACTED TO 95% OPTIMUM DENSITY PER ASTM D1557 AND 95% UNDER ALL STRUCTURES INCLUDING DRIVEWAYS AND PARKING LOTS.
7. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER(S) OF THE PROPERTY SERVED.
8. THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZE OF ALL UTILITIES PRIOR TO CONSTRUCTION.
9. APPROX. HALF OF SUBJECT PROPERTY IS LOCATED WITHIN ZONE X (SOUTH EASTERN ⅔ OF 4TH STREET FRONTAGE). THE REMAINING WESTERN AND NORTHERN PORTION OF THE PROPERTY IS LOCATED IN ZONE X (500 YEAR) DESIGNATING AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOOD PLANE ACCORDING TO THE FLOOD INSURANCE RATE MAP, ALBUQUERQUE, NEW MEXICO AND UNINCORPORATED AREAS PER MAP NO 35001C 0332G.
10. ALL WORK PERFORMED SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF ALBUQUERQUE STORM DRAINAGE REGULATIONS. ALL WORK PERFORMED SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF ALBUQUERQUE "GRADING AND DRAINAGE DESIGN REQUIREMENTS AND POLICIES FOR LAND DEVELOPMENT."
11. THE OWNER, CONTRACTOR AND/OR BUILDER SHALL COMPLY WITH ALL APPROPRIATE LOCAL, STATE AND FEDERAL REGULATIONS AND REQUIREMENTS.
12. THE CONTRACTOR SHALL TAKE ALL APPROPRIATE AND REASONABLE MEASURES TO PREVENT SEDIMENT OR POLLUTANT LADEN STORM WATER FROM EXITING THE SITE DURING CONSTRUCTION. STORMWATER MAY BE DISCHARGED IN A MANNER, WHICH COMPLIES WITH THE APPROVED GRADING AND DRAINAGE PLAN.
13. THE CONTRACTOR SHALL TAKE ALL APPROPRIATE MEASURES TO PREVENT THE MOVEMENT OF CONSTRUCTION RELATED SEDIMENT, DUST, MUD, POLLUTANTS, DEBRIS, WASTE, ETC FROM THE SITE BY WIND, STORM FLOW OR ANY OTHER METHOD EXCLUDING THE INTENTIONAL, LEGAL TRANSPORTATION OF SAME IN A MANNER ACCEPTABLE BY THE CITY.
14. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE THE AREAS SHOWN AS "SLOPE LIMITS" ON THE GRADING AND DRAINAGE PLAN.
15. THE CONTRACTOR SHALL SUBMIT A SEED MIX DESIGN TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO STARTING THE SEEDING ON THE PROJECT. THE SEED MIX DESIGN SHALL BE A SEED MIX RECOMMENDED BY THE NRCS FIELD OFFICE REPRESENTATIVE THAT IS APPROPRIATE FOR THE PROJECT LOCATION. ALL DISTURBED AREAS WITH SLOPES LESS THAN 3:1 SHALL RECEIVE CLASS "A" SEEDING. ALL DISTURBED AREAS WITH SLOPES EQUAL TO OR GREATER THAN 3:1 SHALL RECEIVE STEEP SLOPE SEEDING. THE STEEP SLOPE SEEDING SHALL CONSIST OF SEEDING IN CONJUNCTION WITH A 100% COCONUT FIBER BLEND EROSION BLANKET (NORTH AMERICAN GREEN C125) OR APPROVED EQUAL. ALL MATERIALS, EQUIPMENT AND LABOR ASSOCIATED WITH THE PROPER CONSTRUCTION OF THE STEEP SLOPE SEEDING WILL BE CONSIDERED INCIDENTAL AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR THIS MATERIAL OR WORK. THE COCONUT FIBER EROSION BLANKET AND ASSOCIATED SEEDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND APPROVED BY THE PROJECT ENGINEER PRIOR TO CONSTRUCTION.
16. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE ANY SPOT ELEVATIONS ON THE GRADING AND DRAINAGE PLAN WHICH APPEAR TO BE AMBIGUOUS OR DO NOT MEET THE INTENT OF THE GRADING AND DRAINAGE PLAN.
17. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE SIDEWALKS OR CONCRETE FLATWORK WHICH DOES NOT MEET ADA ACCESSIBILITY REQUIREMENTS. ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.0%. ALL SIDEWALKS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5.0%, AND ALL RAMPS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 15:1.
18. ALL SIDEWALKS AND CONCRETE FLATWORK SHALL HAVE A MINIMUM OF 0.5% SLOPE. CONTRACTOR SHALL CONTACT PROJECT ENGINEER IF THERE ARE SIDEWALKS OR CONCRETE FLATWORK WHICH DO NOT MEET THIS REQUIREMENT.
19. THE CONTRACTOR SHALL SUBMIT MATERIAL SUBMITTALS, CUT SHEETS AND SHOP DRAWINGS FOR ALL CIVIL RELATED ITEMS FOR REVIEW PRIOR TO CONSTRUCTION.
20. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS (UPDATE 8, AMENDMENT 1)
21. ALL EXISTING MANHOLES, VALVES AND METERS SHALL BE ADJUSTED TO NEW FINISH GRADE.

## SPECIAL ORDER 19

DRAINAGE FACILITIES WITHIN THE CITY RIGHT-OF-WAY NOTICE TO CONTRACTOR

1) AN EXCAVATION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
2) ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #7 AMENDMENT 1.
3) TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL 260-1990, FOR LOCATION OF EXISTING UTILITIES.
4) PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5) BACK FILL 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.

## WATER HARVEST VOLUMES

WATER HARVEST AREA 1 proposed

| Pond Rating Table | | | | | |
|---|---|---|---|---|---|
| Side Slope | | 2:1 | | | |
| Depth | Area | | Volume | Cum Volume | |
| (ft) | (sq ft) | (ac) | (ac-ft) | (ac-ft) | |
| 60 | 1873 | 0.043 | 0.000 | 0.000 | |
| 61 | 2357 | 0.054 | 0.049 | 0.049 | |
| 62 | 2873 | 0.066 | 0.060 | 0.109 | |
| 63 | 3421 | 0.079 | 0.072 | 0.181 | |
| 64 | 4002 | 0.092 | 0.085 | 0.266 | |
| 64.5 | 4305 | 0.099 | 0.048 | 0.314 | |
| 65 | 4615 | 0.106 | 0.051 | 0.365 | |
| 65.5 | 4933 | 0.113 | 0.055 | 0.420 | spillway |
| 66 | 5259 | 0.121 | 0.058 | 0.478 | top of pond |

WATER HARVEST AREA 2 proposed

| Pond Rating Table | | | | | |
|---|---|---|---|---|---|
| Side Slope | | 3:1 | | | |
| Depth | Area | | Volume | Cum Volume | |
| (ft) | (sq ft) | (ac) | (ac-ft) | (ac-ft) | |
| 66.5 | 5767 | 0.132 | 0.000 | 0.000 | |
| 67 | 6230 | 0.143 | 0.069 | 0.069 | spillway |
| 67.5 | 6710 | 0.154 | 0.074 | 0.143 | top of pond |

EXISTING WATER HARVEST AREA

| Pond Rating Table | | | | | |
|---|---|---|---|---|---|
| Side Slope | | 3:1 | | | |
| Depth | Area | | Volume | Cum Volume | |
| (ft) | (sq ft) | (ac) | (ac-ft) | (ac-ft) | |
| 63.44 | 1200 | 0.028 | 0.000 | 0.000 | |
| 64 | 1528 | 0.035 | 0.018 | 0.018 | |
| 65 | 2351 | 0.054 | 0.045 | 0.062 | |
| 65.8 | 3303 | 0.076 | 0.052 | 0.114 | TOP |

## DRAINAGE DATA

Precipitation Zone 2 - 100-year Storm P(360) = 2.33 in P(1440) = 2.75 in

| Basin | Basin Area (Ac) | Land Treatment Factors A (Acres) | B | C | D | Ew (in) | V(100-6) (af) | V(100-24) (af) | Q(100) (cfs) | V(100-10 day) (af) |
|---|---|---|---|---|---|---|---|---|---|---|
| Existing Conditions | | | | | | | | | | |
| A | 0.300 | 0.000 | 0.000 | 0.000 | 0.300 | 2.120 | 0.053 | 0.063 | 1.410 | 0.093 |
| B | 1.190 | 0.000 | 0.000 | 0.510 | 0.680 | 1.696 | 0.168 | 0.191 | 4.797 | 0.259 |
| C | 0.370 | 0.000 | 0.000 | 0.350 | 0.020 | 1.184 | 0.036 | 0.037 | 1.193 | 0.039 |
| **Total** | **1.860** | | | | | | | **0.291** | **7.400** | **0.391** |
| Proposed Conditions | | | | | | | | | | |
| 1 | 0.360 | 0.000 | 0.000 | 0.000 | 0.360 | 2.12 | 0.064 | 0.076 | 1.692 | 0.112 |
| 2 | 1.030 | 0.000 | 0.000 | 0.160 | 0.870 | 1.97 | 0.169 | 0.198 | 4.591 | 0.285 |
| 3 | 0.470 | 0.000 | 0.000 | 0.280 | 0.190 | 1.53 | 0.060 | 0.066 | 1.772 | 0.085 |
| **Total** | **1.860** | | | | | | | **0.340** | **8.056** | **0.482** |

Precipitation Zone 2 - 10-year Storm P(360) = 1.52 in P(1440) = 1.8 in in

| Basin | Basin Area (Ac) | Land Treatment Factors A (Acres) | B | C | D | Ew (in) | V(10-6) (af) | V(10-24) (af) | Q(10) (cfs) | V(10-10 day) (af) |
|---|---|---|---|---|---|---|---|---|---|---|
| Existing Conditions | | | | | | | | | | |
| A | 0.300 | 0.000 | 0.000 | 0.000 | 0.300 | 2.120 | 0.053 | 0.063 | 1.410 | 0.093 |
| B | 1.190 | 0.000 | 0.000 | 0.510 | 0.680 | 1.696 | 0.168 | 0.191 | 4.797 | 0.259 |
| C | 0.370 | 0.000 | 0.000 | 0.350 | 0.020 | 0.564 | 0.017 | 0.018 | 0.661 | 0.020 |
| **Total** | **1.860** | | | | | | | **0.272** | **6.869** | **0.372** |
| Proposed Conditions | | | | | | | | | | |
| 1 | 0.360 | 0.000 | 0.000 | 0.000 | 0.360 | 1.340 | 0.040 | 0.048 | 1.130 | 0.084 |
| 2 | 1.030 | 0.000 | 0.000 | 0.160 | 0.870 | 1.213 | 0.104 | 0.124 | 3.005 | 0.211 |
| 3 | 0.470 | 0.000 | 0.000 | 0.280 | 0.190 | 0.851 | 0.033 | 0.038 | 1.075 | 0.057 |
| **Total** | **1.860** | | | | | | | **0.209** | **5.211** | **0.351** |

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9/15/15

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| REVISIONS | DATE | DESCRIPTION |
|---|---|---|
| REV | | |

DATE: 7-29-15
GROSS SQ.FT.: 9,933 SF.

PROJECT # AA 15_002
DRAWN BY: Clint Wilsey
CHECK BY: Clint Wilsey

VERSION Q4-14 100x100



7-29-15

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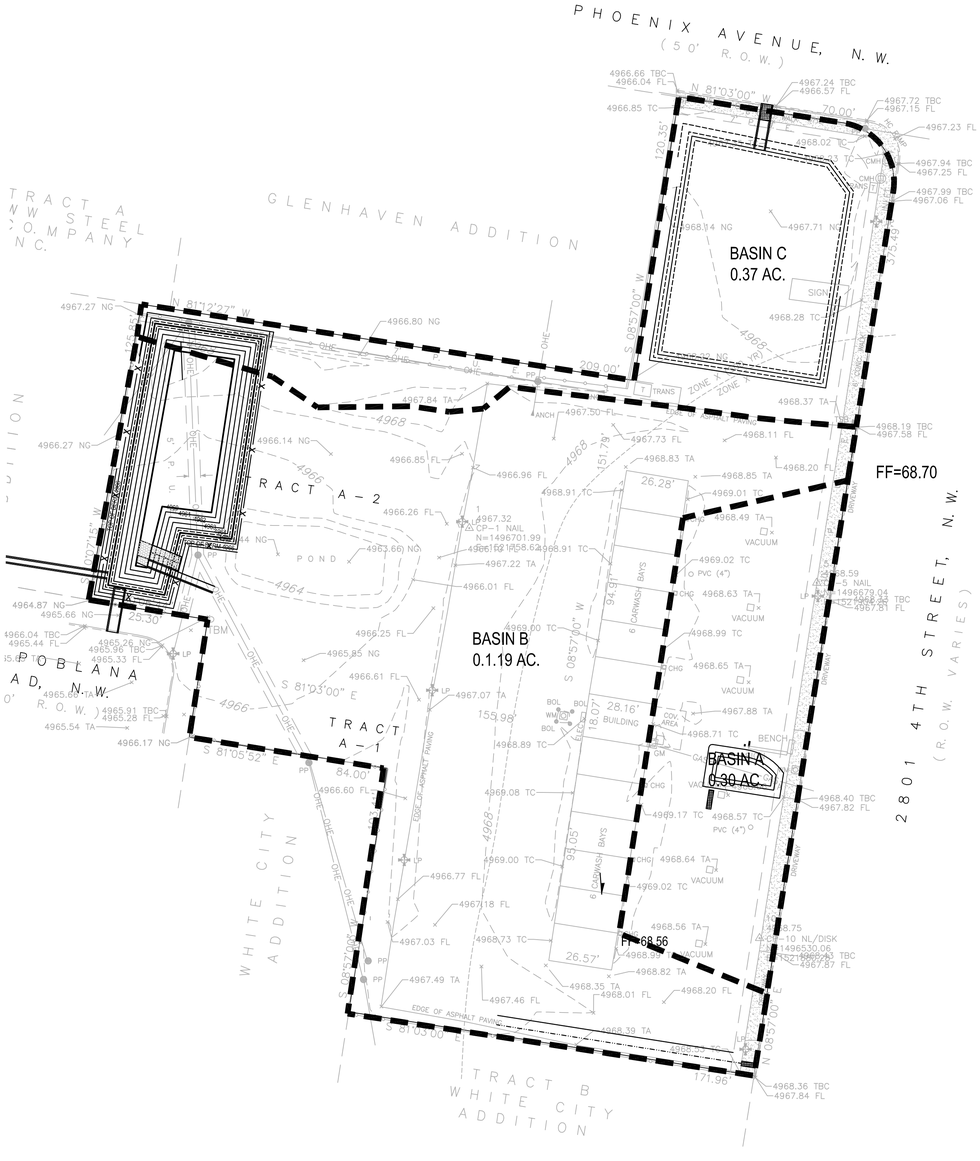
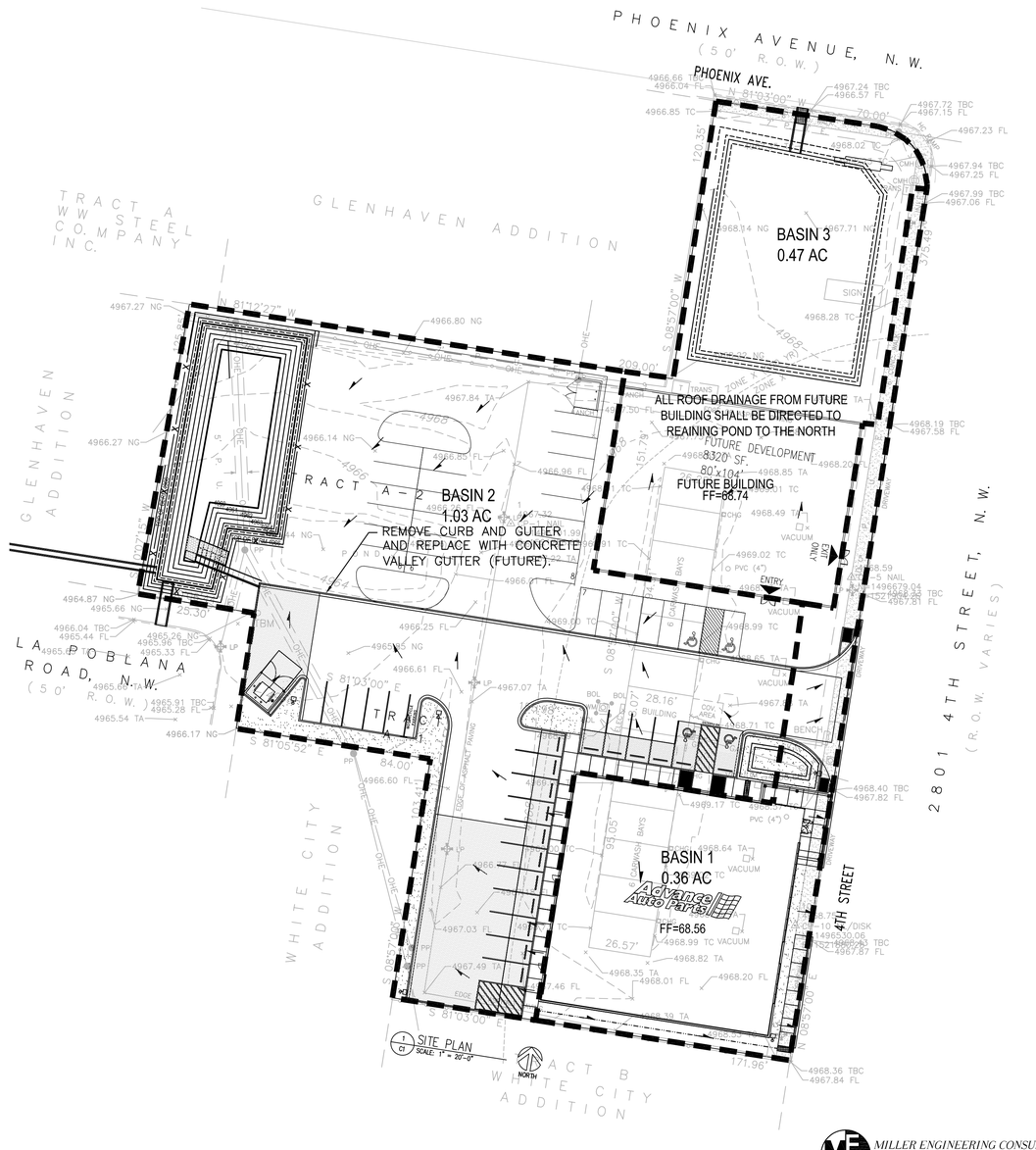
GRADING AND DRAINAGE REPORT

C-001




A1 EXISTING DRAINAGE BASIN MAP
SCALE: 1" = 30'




1/C1 SITE PLAN
SCALE: 1" = 20'-0"

A1 PROPOSED DRAINAGE BASIN MAP AND FUTURE GRADING CONCEPT
SCALE: 1" = 30'

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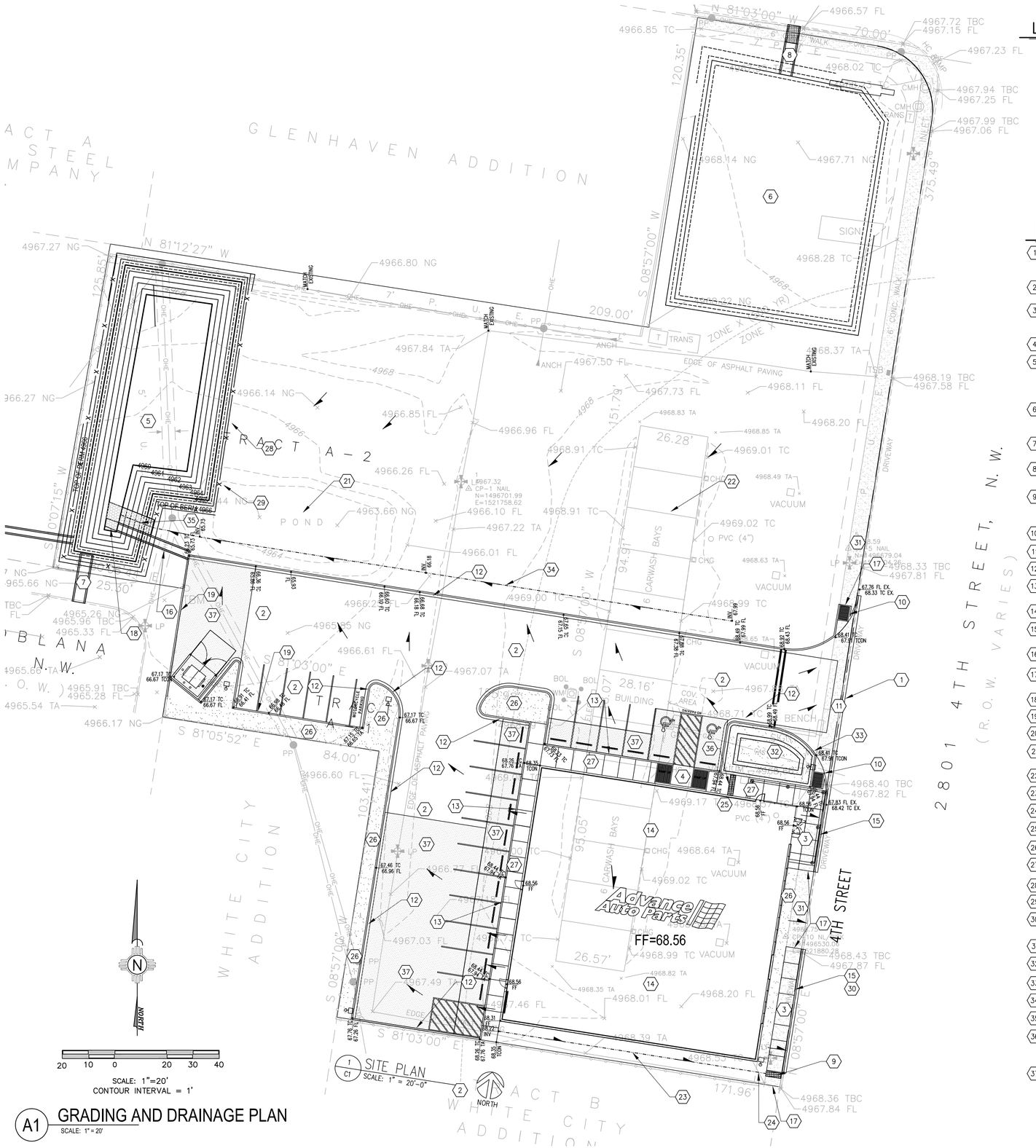
DRAINAGE BASIN MAPS AND FUTURE GRADING CONCEPT

C-101




## A1 GRADING AND DRAINAGE PLAN

SCALE: 1" = 20'

## LEGEND:

| | | | |
|---|---|---|---|
| 38.00 FG | PROPOSED SPOT ELEVATIONS (FINISHED GRADE) | | GRADE BREAK–HIGH POINT |
| MATCH (95.19) | MATCH EXISTING ELEVATIONS | | SWALE |
| TCON | TOP OF CONCRETE | SD | STORM DRAIN LINE |
| FL | FLOW LINE, CURB | | |
| INV | INVERT | | |
| FG | FINISH GRADE | 5895 | PROPOSED MAJOR CONTOUR |
| TBC | TOP OF BASE COURSE | | PROPOSED MINOR CONTOUR |
| TC | TOP OF CURB | 5895 | EXISTING MAJOR CONTOUR |
| TG | TOP OF GRATE | | EXISTING MINOR CONTOUR |
| | FLOW ARROW | | |

## KEYED NOTES:

1. MATCH NEW TOP OF CONCRETE VALLEY GUTTER WITH EXISTING ASPHALT PAVEMENT AT THE LIP OF EXISTING CURB. CONTRACTOR SHALL FIELD VERIFY ELEVATIONS AND LOCATION PRIOR TO CONSTRUCTION.
2. NEW HEAVY DUTY ASPHALT PAVEMENT SECTION. SEE SECTION DETAILS ON ARCHITECTURAL PLANS AND IN THE GEOTECHNICAL REPORT.
3. NEW CONCRETE SIDEWALK. AS PER COA STANDARD DWG 2430. CONTRACTOR SHALL SUBMIT A JOINT PATTERN TO THE PROJECT ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
4. NEW TYPE A HANDICAP RAMP, SEE DETAIL C1 ON SHEET C–501.
5. NEW WATER HARVEST AREA 1. TOP=66.0, INV=60.0. REQ'D. VOL.=0.285 AF. PROVIDED VOL. @ 64.5=0.314 AF. MAX WSEL=64.20. SIDE SLOPE 2:1 WITH FILTER FABRIC AND 6" OF 2–3" COBBLE STONES. SEE DETAIL B4 ON SHEET C–501.
6. FUTURE WATER HARVEST AREA 2. TOP=67.5, INV=66.5. REQ'D. VOL.=0.06 AF. PROVIDED VOL. @ 67=0.069 AF. SIDE SLOPE 3:1. SEE DETAIL A4 ON SHEET C–501.
7. NEW EMERGENCY SPILLWAY, 4' WIDE CONCRETE CHANNEL, TOP=66.0, CREST OF SPILLWAY=65.5. NEW CONCRETE CHANNEL. SEE DETAIL D4 ON SHEET C–501.
8. FUTURE EMERGENCY SPILLWAY TOP=67.5, CREST OF SPILLWAY=67.0. NEW CONCRETE CHANNEL. SEE DETAIL D4 ON SHEET C–501.
9. NEW 24" WIDE SIDEWALK CULVERT WITH STEEL PLATE TOP. INV=67.84, TOP=68.36 (FIELD VERIFY ELEVATIONS PRIOR TO CONSTRUCTION) INV. SLOPE AT 2% MIN. AS PER COA STANDARD DETAIL 2236.
10. NEW TYPE B HANDICAP RAMP, SEE DETAIL C4 ON SHEET C–501.
11. NEW CONCRETE VALLEY GUTTER AS PER COA STANDARD DETAIL 2420.
12. NEW CURB AND GUTTER. SEE ARCHITECTURAL PLANS FOR DETAIL.
13. NEW THICKENED EDGE ON CONCRETE SIDEWALK. SEE ARCHITECTURAL PLANS FOR DETAIL.
14. NEW BUILDING. SEE ARCHITECTURAL PLANS FOR DETAILS.
15. MATCH EXISTING TOP BACK OF CURB WITH TOP OF CONCRETE ELEVATION. AND SLOPE @ 2% UP MAXIMUM.
16. NEW 3' WIDE CONCRETE CHANNEL. S=1% MIN. SEE DETAIL D4 ON SHEET C–501..
17. SAWCUT EXISTING SIDEWALK TO NEAREST CONSTRUCTION JOINT AND MATCH WITH NEW CONCRETE SIDEWALK.
18. NEW 5'x5'x18" THICK LOOSE RIP RAP PAD. SEE SHEET C–501 FOR DETAILS.
19. NEW CONCRETE HEADER CURB. SEE ARCHITECTURAL PLANS FOR DETAILS.
20. NOT USED.
21. FILL IN EXISTING RETENTION POND AFTER PROPOSED WATER HARVEST AREA NO. 1 IS CONSTRUCTED.
22. EXISTING BUILDINGS AND ASPHALT TO BE DEMOLISHED.
23. NEW CONCRETE SWALE. SEE DETAIL B1 ON SHEET C–501 FOR DETAILS.
24. 5' TRANSITION FROM CONCRETE SWALE TO CONCRETE SIDEWALK CULVERT.
25. ROOF DRAIN LOCATION.
26. LANDSCAPE AREA. SEE ARCHITECTURAL PLANS FOR DETAILS.
27. NEW CONCRETE SIDEWALK/FLATWORK. SEE ARCHITECTURAL PLANS FOR DETAILS.
28. NEW 6' CHAIN LINK FENCE. SEE ARCHITECTURAL PLANS FOR DETAILS.
29. NEW 12' SWING CHAIN LINK GATE.
30. NEW CURB AND GUTTER. MATCH EXISTING CURB AND GUTTER SECTION AND ELEVATIONS.
31. EXISTING SIDEWALK TO REMAIN.
32. NEW FIRST FLUSH POND. SIDE SLOPE= 3:1. TOP=67.91, INV=66.5
33. NEW 24" WIDE CURB CUT.
34. NEW TEMPORARY EARTHENED SWALE. SEE DETAIL B1 ON SHEET C–501.
35. NEW TEMPORARY RIP RAP RUNDOWN. SEE DETAIL A1 ON SHEET C–501.
36. NEW 24" WIDE SIDEWALK CULVERT WITH STEEL PLATE (4" DEPTH, NOT 6" DEPTH) TOP. INV(IN)=68.23, TOP CONCRETE(IN)=68.56, TOP. INV(OUT)=68.23, TOP CONCRETE(OUT)=68.11 AS PER COA STANDARD DETAIL 2236.
37. NEW HEAVY DUTY CONCRETE PAVEMENT SECTION. SEE SECTION DETAILS ON ARCHITECTURAL PLANS AND IN THE GEOTECHNICAL REPORT.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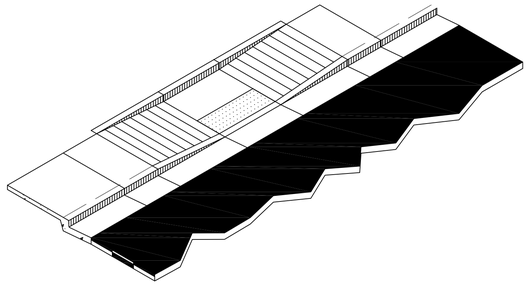
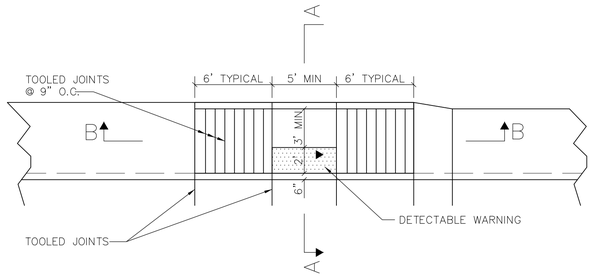
GRADING AND DRAINAGE PLAN

C-102



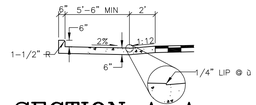
## ISOMETRIC VIEW




## C1 TYPE A HANDICAP RAMP DETAIL
SCALE: NOT TO SCALE

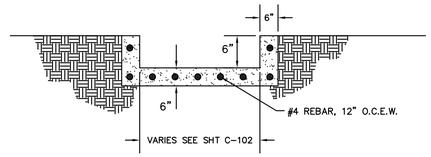
## GENERAL NOTES

1. AVOID PLACING DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
2. RAMP SLOPES SHALL NOT BE STEEPER THAN 2%. THE TRANSITIONS SHALL HAVE A MAXIMUM SLOPE OF 1:12.
3. DETECTABLE WARNINGS SHALL BE ARMOR-TILE TACTILE SYSTEMS, CAST-IN-PLACE SYSTEMS, BRICK RED OR APPROVED EQUAL. INSTALLATION SHALL BE DONE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

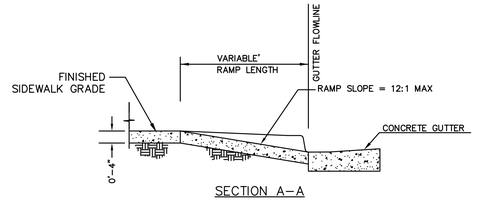



## SECTION A-A

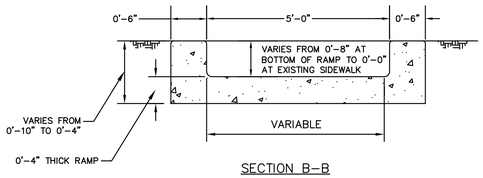

## SECTION B-B



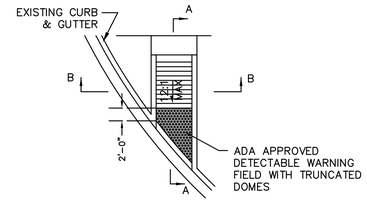

## D4 CONCRETE CHANNEL DETAIL
SCALE: NOT TO SCALE

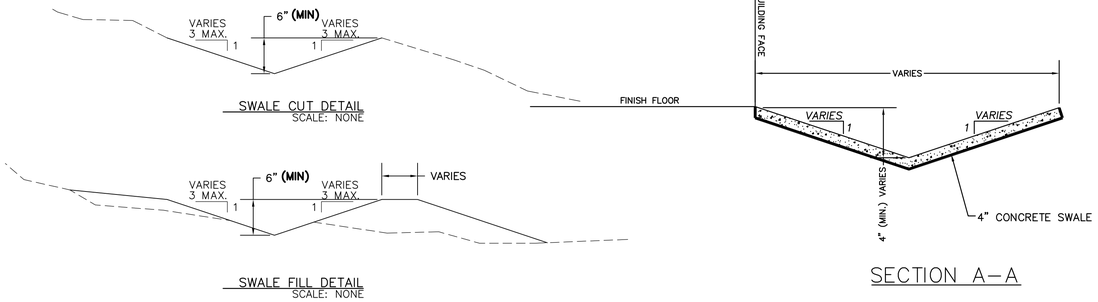



SECTION A-A




SECTION B-B



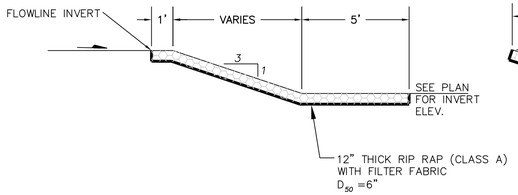




## B1 EARTHENED SWALE DETAIL
SCALE: NOT TO SCALE

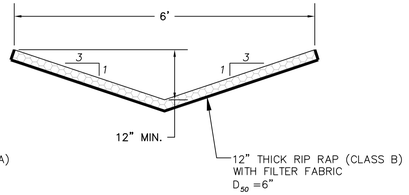



SECTION A-A

## B1 CONCRETE SWALE DETAIL
SCALE: NOT TO SCALE

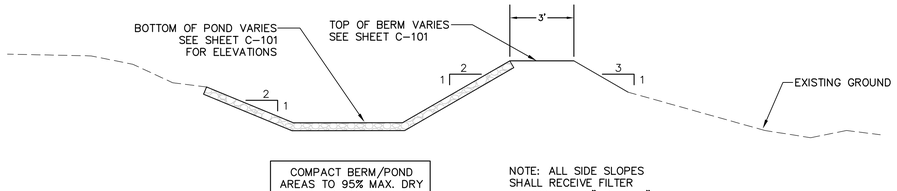



PROFILE




SECTION

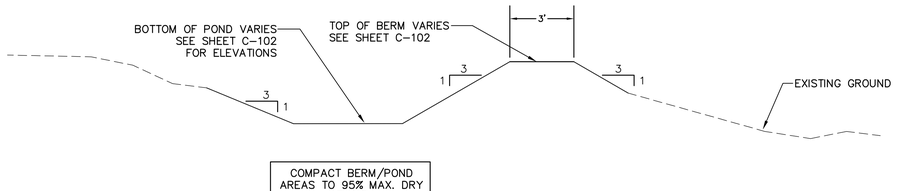
## A1 RIP RAP RUNDOWN DETAIL TYPE "A"
SCALE: NOT TO SCALE




COMPACT BERM/POND AREAS TO 95% MAX. DRY DENSITY

NOTE: ALL SIDE SLOPES SHALL RECEIVE FILTER FABRIC WITH 6" OF 2-3" COBBLE STONES.

## B4 TYPICAL WATER HARVEST AREA NO. 1 SECTION DETAIL
SCALE: NOT TO SCALE




COMPACT BERM/POND AREAS TO 95% MAX. DRY DENSITY

## A4 TYPICAL WATER HARVEST AREA NO. 2 (FUTURE) SECTION DETAIL
SCALE: NOT TO SCALE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MISCELLANEOUS DETAILS

C-501