

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



November 20, 2015

Hugh Floyd, PE
Floyd Development Services, LLC
918 Pinehurst Rd. Suite 101
Rio Rancho, NM 87124

Richard J. Berry, Mayor

**RE: New Office Warehouse for Purvis Industries (E17D041F)
Singer Blvd. & Midway Park Blvd.
Conceptual Grading and Drainage Plan
Engineer Stamp Date: 10-30-15**

Dear Mr. Floyd,

Based upon the information provided in your submittal received 11-2-15, the above referenced plan is approved for Building Permit and SO-19 Permit.

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.

PO Box 1293

Since 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.

Albuquerque

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.

New Mexico 87103

www.cabq.gov

If you have any questions, you can contact me at 924-3695 or Rudy Rael at 924-3977.

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: _____ **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:** _____

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

Floyd Development Services, LLC

918 Pinehurst Road SE, Suite 101
Rio Rancho, NM 87124

Phone (505) 366-4187

October 7, 2015

Rita Harmon, P.E.
Senior Engineer, Planning Dept.
Development Review Board
Plaza del Sol
600 Second Street NW
Albuquerque, NM 87102

Re: New Office Warehouse for Purvis Industries
Singer Blvd. & Midway Park Blvd.
Grading and Drainage Plan

Dear Mrs. Harmon,

Based on the comments made regarding the drawings submitted 9/2/15, the following addresses those comments:

1. In the narrative, indicate the Drainage File number of all reports that are used to research this site, ie. Singer Business Park DMP is E17D041F; Montessori School is also E17D041F
See updated narrative on Drainage Sheet (C-1)
2. The Singer Business Park Drainage Plan (1984) is missing basin maps but the narrative explains the drainage scheme and this information should be summarized in the narrative. Indicate how basin 1-B and 2-B were intended to drain, and how flows ultimately discharged to Midway and then to a channel. Also state the developed discharge from this site, as the downstream channel would have been sized based on this amount.
See updated narrative on Drainage Sheet (C-1)
3. The Montessori School Drainage Plan (1989) is referenced in the narrative and states that the site was developed according to the plan. However, comparison of aerial views to the plan do not match. What portions of this plan were constructed? How do present day lot lines compare to those of this plan? What happened to the concrete alley gutter which accepted flows from the lot to the east? Is it not evident in the aerial view? How much flow did it accept? What was the discharge?
Please see the plans for the Montessori School Drainage plan from 1988 for existing conditions. The plans from 1989 were not constructed. The lot lines were adjusted for the plans made in 1988, however, since this construction never occurred, the lot line is simply returning to where it is located in the 1988 plan set. The narrative has been modified for clarity.

4. An exhibit showing existing and proposed lot lines would be helpful. Also show existing building, and indicate those intended to be demolished.
See updated Grading Sheet (C-2)
5. Provide information or excerpts from the lots to the east (F17D058 and F17D054) to determine how the drainage of these lots will be directed south through the new swale. The last paragraph of the narrative should be labeled “OFFSITE FLOWS” and be presented before “Proposed Conditions” in the narrative. Since existing off site flows to the east are intended to flow south to the existing SW culvert, show that the swale and existing SW culvert have sufficient capacity.
See updated narrative on Drainage Sheet (C-1)
6. How much flow will be directed from the existing valley gutter to the north (Lot 8B) to the proposed SW Culvert? Show capacity calculations for the SW culvert.
See updated sheets
7. Provide calculations to determine the amount of First flush that must be retained for each sub-basin.
See updated sheets (Drainage, left side under “Water Quality First Flush Volumes Required”)
8. Calculations for concrete swale at NW entrance show 0.3 cfs, but the peak flow rate is 7.27 cfs. Verify the swale is sized correctly.
See updated sheets. The 0.3 cfs calculations were in reference to the critical cross-section (A-A) in the landscaping swale. This has been made more specific in the narrative.
9. Pond Volume calculations need only be to 2 significant digits.
See updated Drainage Sheet
10. How will the “first flush” from sub-basin 1 enter Pond 1? Show openings intended to direct flows to both Pond 1 and 2.
See updated sheets
11. Show rip-rap or concrete pads below roof drains, and show how discharge will either be directed to Pond 3 or the swale on the east side of the pond.
See updated sheets
12. Call out the 18” pipe culvert on the plan view. Is there sufficient cover for this culvert?
See updated sheets. Yes, there is sufficient cover between the top of the culvert and the bottom of the concrete sidewalk. This area will only see foot traffic and no vehicle loads.
13. Show erosion protection between Pond 2 and 3.
See updated sheets

14. If drive pads or other infrastructure is intended to be built via Work Order, indicate so with a note. Otherwise all drive pads must be sufficiently detailed on the grading plan (quarter points, flowline elevations, etc.)

See updated sheets

15. If this project does not go thru the DRC (Work Order) process, the proposed sidewalk culvert will require an SO-19 permit, and SO-19 notes will need to be on plans, as well as 2 copies of the plans.

See updated sheets

16. Depress landscaped areas within parking islands. Provide spot elevations within the parking islands to ensure they are depressed. It seems that parking islands can be used as an opportunity to capture first flush flows by showing a curb cut on the high side.

See updated sheets

17. Provide a FIRMette or a description of the flood zone and what map the info came from.

See updated Drainage Sheet (C-1)

18. Provide a benchmark

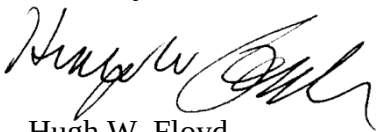
See updated Grading Sheet (C-2)

19. Provide build notes/details for the 3' x 0.5' concrete weir and Pond 2.

See updated Grading Sheet (C-2)

If you have any further comments or concerns, feel free to contact me at 366-4187.

Sincerely,



Hugh W. Floyd
Project Engineer

Enclosures



Supplemental Form (SF)

SUBDIVISION

- ☐ Major subdivision action
☐ Minor subdivision action
☐ Vacation
☐ Variance (Non-Zoning)

SITE DEVELOPMENT PLAN

- ☒ for Subdivision
☒ for Building Permit
☐ Administrative Amendment (AA)
☐ Administrative Approval (DRT, URT, etc.)
☐ IP Master Development Plan
☐ Cert. of Appropriateness (LUCC)

STORM DRAINAGE (Form D)

- ☐ Storm Drainage Cost Allocation Plan

S Z ZONING & PLANNING

- ☐ Annexation

☒ V ☐ Zone Map Amendment (Establish or Change Zoning, includes Zoning within Sector Development Plans)
☐ P ☐ Adoption of Rank 2 or 3 Plan or similar
☐ Text Amendment to Adopted Rank 1, 2 or 3 Plan(s), Zoning Code, or Subd. Regulations

D Street Name Change (Local & Collector)

L A APPEAL / PROTEST of...

- ☐ Decision by: DRB, EPC, LUCC, Planning Director, ZEO, ZHE, Board of Appeals, other

PRINT OR TYPE IN BLACK INK ONLY. The applicant or agent must submit the completed application in person to the Planning Department Development Services Center, 600 2nd Street NW, Albuquerque, NM 87102.

Fees must be paid at the time of application. Refer to supplemental forms for submittal requirements.

APPLICATION INFORMATION:

Professional/Agent (if any): Floyd Development Services, LLC PHONE: (505) 366-4187

ADDRESS: 918 Pinehurst Rd SE, Suite 101 FAX: _____

CITY: Rio Rancho STATE NM ZIP 87124 E-MAIL: Hugh@developnm.com

APPLICANT: Purvis Industries PHONE: (214) 358-5500

ADDRESS: 20500 North Stemmons Frwy FAX: (214) 358-5515

CITY: Dallas STATE TX ZIP 75220 E-MAIL: _____

Proprietary interest in site: _____ List all owners: Bob Purvis

DESCRIPTION OF REQUEST: Grading and Drainage sheets resubmittal for Building Permit

Is the applicant seeking incentives pursuant to the Family Housing Development Program? ☐ Yes. ☒ No.

SITE INFORMATION: ACCURACY OF THE EXISTING LEGAL DESCRIPTION IS CRUCIAL! ATTACH A SEPARATE SHEET IF NECESSARY.

Lot or Tract No. Tracts 6-B-1-A, 7-B-1, & 8-B Block: _____ Unit: _____

Subdiv/Addn/TBKA: Midway Business Park

Existing Zoning: IP Proposed zoning: N/A MRGCD Map No N/A

Zone Atlas page(s): E17/F17 UPC Code: ABQ48131

CASE HISTORY:

List any current or prior case number that may be relevant to your application (Proj., App., DRB-, AX_, Z_, V_, S_, etc.): _____

CASE INFORMATION:

Within city limits? ☒ Yes Within 1000FT of a landfill? NO

No. of existing lots: 1 No. of proposed lots: 1 Total site area (acres): 3.164

LOCATION OF PROPERTY BY STREETS: On or Near: NE corner of Singer Blvd and Midway Park Blvd

Between: _____ and _____

Check if project was previously reviewed by: Sketch Plat/Plan ☐ or Pre-application Review Team(PRT) ☒ Review Date: 7/30/2015

SIGNATURE _____ DATE 11/2/2015

(Print Name) Hugh Floyd Applicant: ☒ Agent: ☐

FOR OFFICIAL USE ONLY

Revised: 11/2014

☐ INTERNAL ROUTING

- ☐ All checklists are complete
☐ All fees have been collected
☐ All case #s are assigned
☐ AGIS copy has been sent
☐ Case history #s are listed
☐ Site is within 1000ft of a landfill
☐ F.H.D.P. density bonus
☐ F.H.D.P. fee rebate

Application case numbers

Action

S.F.

Fees

\$ _____
 \$ _____
 \$ _____
 \$ _____
 \$ _____
 Total
 \$ _____

Hearing date _____

Project # _____

Staff signature & Date _____

Runoff Calculations:

The following calculations are based on Zone 2 from Table A-9 found in the Albuquerque Development Process Manual, Section 22.2 page 15.

100 YEAR PEAK DISCHARGE - TABLE A-9				
ZONE	A	B	C	D
1	1.290	2.030	2.870	4.370
2	1.550	2.280	3.140	4.700
3	1.870	2.600	3.450	5.020
4	2.200	2.920	3.730	5.250

Subbasin 1:

Treatment Type Areas for Subbasin 1:

$Area_{d1}=0$ $Area_{d2}=0$ $Area_{d3}=0.1714$ $Area_{d4}=0.3282$ Ac

$Q_{d1}=1.560 \cdot Area_{d1}+2.280 \cdot Area_{d2}+3.140 \cdot Area_{d3}+4.700 \cdot Area_{d4}=2.081$ cfs

Subbasin 2:

Treatment Type Areas for Subbasin 2:

$Area_{d1}=0$ $Area_{d2}=0$ $Area_{d3}=0.1098$ $Area_{d4}=1.0297$ Ac

$Q_{d2}=1.560 \cdot Area_{d1}+2.280 \cdot Area_{d2}+3.140 \cdot Area_{d3}+4.700 \cdot Area_{d4}=5.184$ cfs

Subbasin 3:

Treatment Type Areas for Subbasin 3:

$Area_{d1}=0$ $Area_{d2}=0$ $Area_{d3}=0.3508$ $Area_{d4}=0.9815$ Ac

$Q_{d3}=1.560 \cdot Area_{d1}+2.280 \cdot Area_{d2}+3.140 \cdot Area_{d3}+4.700 \cdot Area_{d4}=5.715$ cfs

Total:

$Q_w=Q_{d1}+Q_{d2}+Q_{d3}=12.98$ cfs

Water Quality Calculations:

Subbasin 1:

$PVol_1=Area_{d1} \cdot 43560 \cdot \frac{0.34}{12}=405.064$ $cu. ft.$

Subbasin 2:

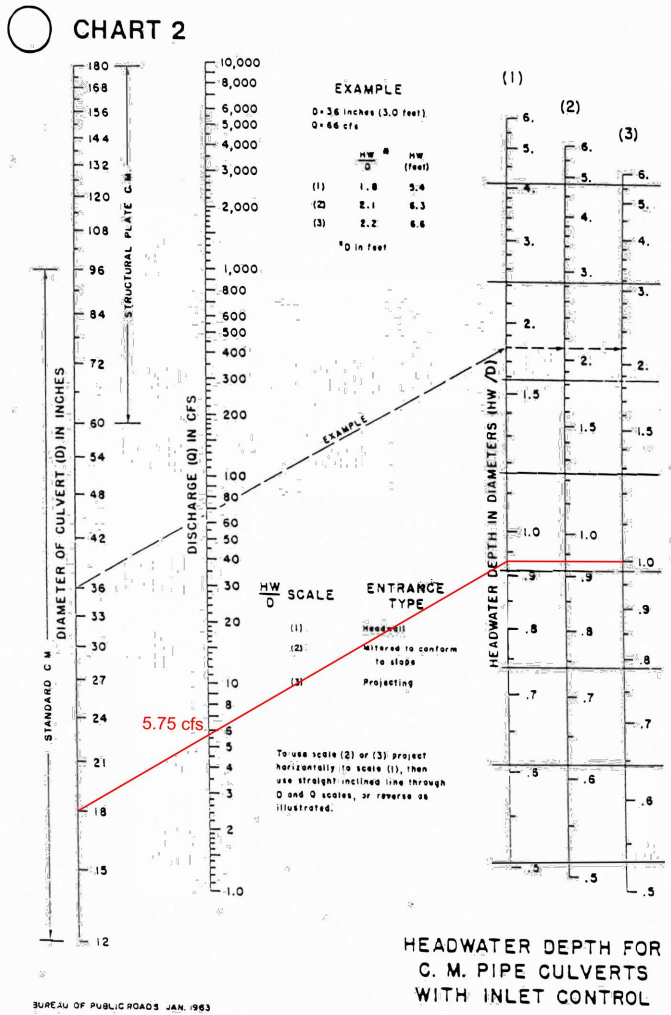
$PVol_2=Area_{d2} \cdot 43560 \cdot \frac{0.34}{12}=1270.856$ $cu. ft.$

Subbasin 3:

$PVol_3=Area_{d3} \cdot 43560 \cdot \frac{0.34}{12}=1211.367$ $cu. ft.$

Total Required Subbasin Volume:

$PVol=PVol_1+PVol_2+PVol_3=2887.287$ $cu. ft.$



Truck Yard Swale

Triangular Channel Input	
Flow	7.265 cfs
Slope	0.00778 ft/ft
Manning's n	0.15
Base Width	0 ft
Right Side Slope	28.15:1
Left Side Slope	25:1
Output	
Depth	0.305 ft
Flow Area	2.52 sf
Velocity	2.88 fps
Velocity Head	0.129 ft
Top Width	16.5 ft
Froude Number	1.30
Critical Depth	0.339 ft
Critical Slope	0.00445 ft/ft

Landscaping Swale

Triangular Channel Input	
Flow	0.3 cfs
Slope	0.0065 ft/ft
Manning's n	0.15
Base Width	0 ft
Right Side Slope	3:1
Left Side Slope	3:1
Output	
Depth	0.320 ft
Flow Area	0.308 sf
Velocity	0.975 fps
Velocity Head	0.0148 ft
Top Width	0.92 ft
Froude Number	0.429
Critical Depth	0.228 ft
Critical Slope	0.0395 ft/ft

Culvert Capacity

Circular Channel Input	
Flow	5.75 cfs
Slope	0.075 ft/ft
Manning's n	0.024
Diameter	18 in
Output	
Depth	0.631 ft
Flow Area	0.755 sf
Velocity	8.15 fps
Velocity Head	1.03 ft
Top Width	1.48 ft
Froude Number	2.08
Critical Depth	0.925 ft
Critical Slope	0.0208 ft/ft

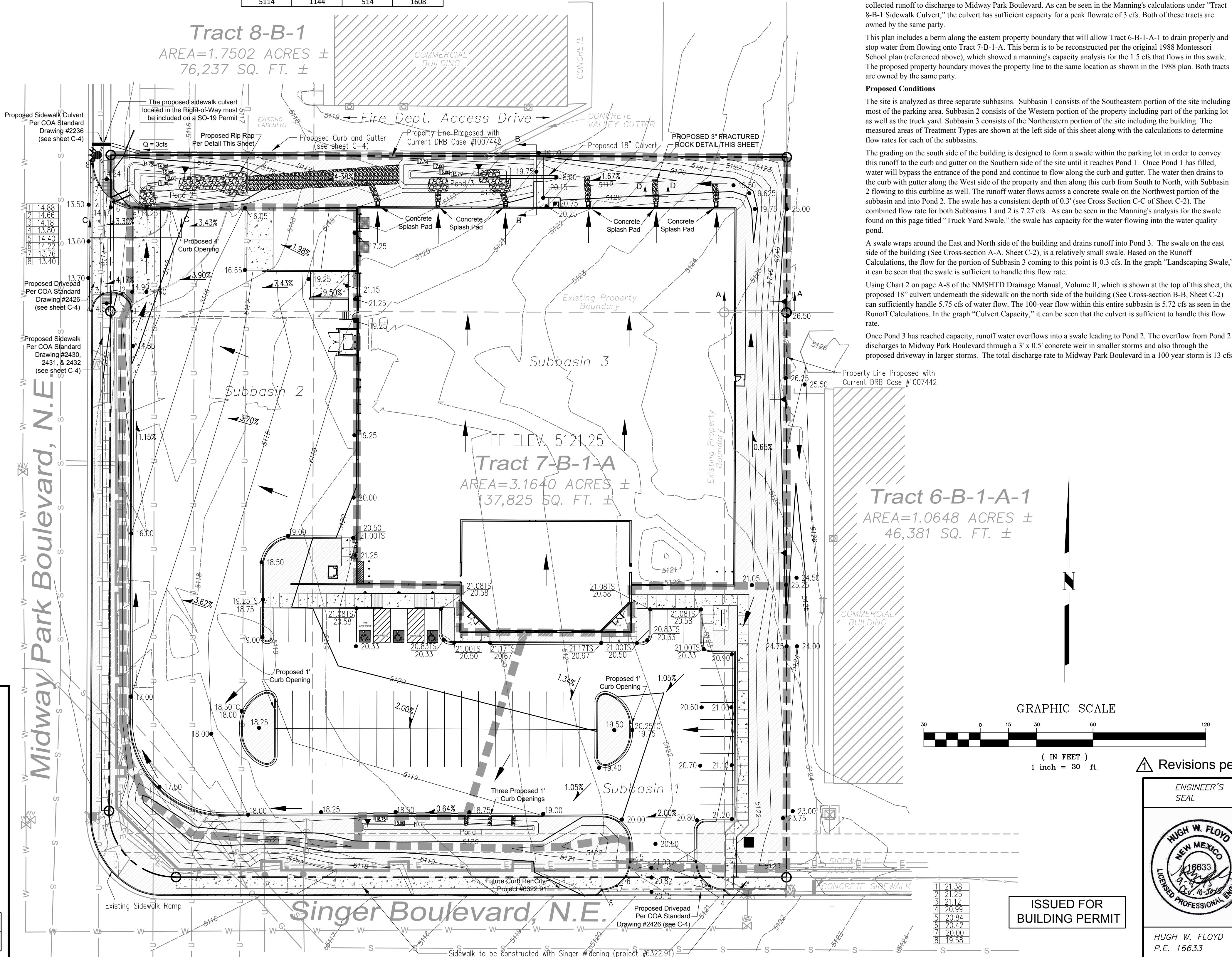
Tract 8-B-1 Sidewalk Culvert

Rectangular Channel Input	
Flow	3 cfs
Slope	0.04 ft/ft
Manning's n	0.13
Base Width	1.5 ft
Right Side Slope	0:1
Left Side Slope	0:1
Output	
Depth	0.261 ft
Flow Area	0.392 sf
Velocity	7.65 fps
Velocity Head	0.511 ft
Top Width	1.50 ft
Froude Number	2.64
Critical Depth	0.469 ft
Critical Slope	0.00613 ft/ft

Pond 1	Elev.	Area (Cu. Ft.)	Vol (Cu. Ft.)	Cum. (Cu. Ft.)
5118	214	0	0	0
5118	499	178	178	178
5119	802	325	504	504

Pond 2	Elev.	Area (Cu. Ft.)	Vol (Cu. Ft.)	Cum. (Cu. Ft.)
5111	4	0	0	0
5111	53	14	14	14
5112	159	53	67	67
5112	319	120	187	187
5113	500	205	392	392
5113	698	299	691	691
5114	913	403	1094	1094
5114	1144	514	1608	1608

Pond 3	Elev.	Area (Cu. Ft.)	Vol (Cu. Ft.)	Cum. (Cu. Ft.)
5117	81	0	0	0
5117	237	79	79	79
5118	410	162	241	241
5118	602	253	494	494
5119	810	353	847	847



SO-19
NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION 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 HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, 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. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVAL	NAME	DATE
INSPECTOR		

Purvis Industries Warehouse Drainage

Background

Tract 7-B-1-A is allowed free discharge per the Drainage report for Singer Business Park (1985; E17D041F). This site has already been developed in accordance with these conditions. According to this report, basin 1-B includes 6-B-1-A and 6-A and basin 2-B includes Tracts 7-B-1 and a portion of 8-B. Basin B-1 was intended to drain onto Singer Blvd and around the corner onto Midway Park Blvd. while basin B-2 was intended to drain onto Midway Park. Both basins drain to the North Division Channel located to the West. Basin B-2 has a peak runoff rate of 18.71 cfs and the downstream channel has been sized based on this amount. Currently, the site plan does not include any water quality features. As a part of this project, water quality ponding will be provided for Tract 7-B-1-A. Tract 7-B-1-A is created from Tract 7-B-1, which is the current planning property for the existing Montessori School and a small portion of Tract 8-B, which is the existing property to the North.

Existing Conditions

The site is approximately 3 acres and slopes primarily from east to west at 3% and slightly from south to north. Currently, this site receives additional water from the site to the East. However, the Montessori School Drainage and Grading Plan (1988, F17D054) shows a swale to divert all flow from the Eastern site to Singer Boulevard. There is also another plan for a Montessori School expansion (1989), which was not constructed. For Tract 7-B-1, all runoff currently flows to the West until reaching that portion of the site adjacent Midway Park Blvd NE, with flows discharging to Midway through the existing drive opening at the northwest corner of the site.

Methodology

Hydrology calculations for the site are performed in accordance with the Albuquerque DPM Section 22.2 using the Rational Method to calculate the peak flow rate to insure that flow paths, such as swales and gutters, are sufficient to carry flows to the water quality ponds located on-site.

The Water Quality ponding volume required was calculated by multiplying the impervious area of each individual subbasin by the first flush runoff value of 0.34". The water quality calculations as well as the pond rating curves can be found on the left side of this sheet.

Offsite Flows

To avoid water flowing onto Tract 7-B-1-A from Tract 8-B-1 due to the property line adjustment, a proposed curb and gutter is proposed to be installed along the Southern side of Tract 8-B-1, with a sidewalk culvert allowing collected runoff to discharge to Midway Park Boulevard. As can be seen in the Manning's calculations under "Tract 8-B-1 Sidewalk Culvert," the culvert has sufficient capacity for a peak flowrate of 3 cfs. Both of these tracts are owned by the same party.

This plan includes a berm along the eastern property boundary that will allow Tract 6-B-1-A-1 to drain properly and stop water from flowing onto Tract 7-B-1-A. This berm is to be reconstructed per the original 1988 Montessori School plan (referenced above), which showed a manning's capacity analysis for the 1.5 cfs that flows in this swale. The proposed property boundary moves the property line to the same location as shown in the 1988 plan. Both tracts are owned by the same party.

Proposed Conditions

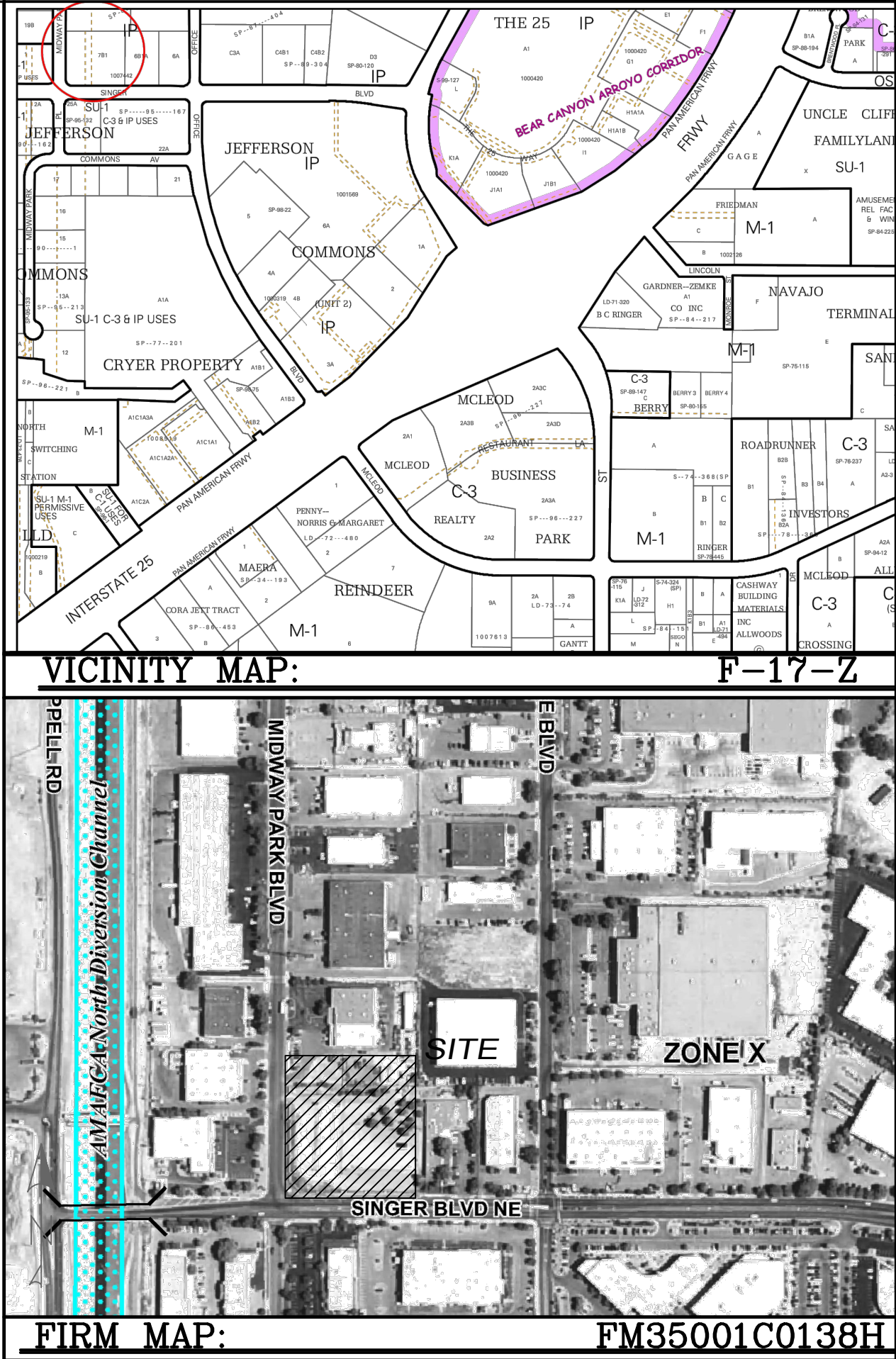
The site is analyzed as three separate subbasins. Subbasin 1 consists of the Southeastern portion of the site including most of the parking area. Subbasin 2 consists of the Western portion of the property including part of the parking lot as well as the truck yard. Subbasin 3 consists of the Northeastern portion of the site including the building. The measured areas of Treatment Types are shown at the left side of this sheet along with the calculations to determine flow rates for each of the subbasins.

The grading on the south side of the building is designed to form a swale within the parking lot in order to convey this runoff to the curb and gutter on the Southern side of the site until it reaches Pond 1. Once Pond 1 has filled, water will bypass the entrance of the pond and continue to flow along the curb and gutter. The water then drains to the curb with gutter along the West side of the property and then along this curb from South to North, with Subbasin 2 flowing to this curbline as well. The runoff water flows across a concrete swale on the Northwest portion of the subbasin and into Pond 2. The swale has a consistent depth of 0.3" (see Cross Section C-C of Sheet C-2). The combined flow rate for both Subbasins 1 and 2 is 7.27 cfs. As can be seen in the Manning's analysis for the swale found on this page titled "Truck Yard Swale," the swale has capacity for the water flowing into the water quality pond.

A swale wraps around the East and North side of the building and drains runoff into Pond 3. The swale on the east side of the building (See Cross-section A-A, Sheet C-2), is a relatively small swale. Based on the Runoff Calculations, the flow for the portion of Subbasin 3 coming to this point is 0.3 cfs. In the graph "Landscaping Swale," it can be seen that the swale is sufficient to handle this flow rate.

Using Chart 2 on page A-8 of the NMSHTD Drainage Manual, Volume II, which is shown at the top of this sheet, the proposed 18" culvert underneath the sidewalk on the north side of the building (See Cross-section B-B, Sheet C-2) can sufficiently handle 5.75 cfs of water flow. The 100-year flow within this entire subbasin is 5.72 cfs as seen in the Runoff Calculations. In the graph "Culvert Capacity," it can be seen that the culvert is sufficient to handle this flow rate.

Once Pond 3 has reached capacity, runoff water overflows into a swale leading to Pond 2. The overflow from Pond 2 discharges to Midway Park Boulevard through a 3' x 0.5' concrete weir in smaller storms and also through the proposed driveway in larger storms. The total discharge rate to Midway Park Boulevard in a 100 year storm is 13 cfs.



Legend

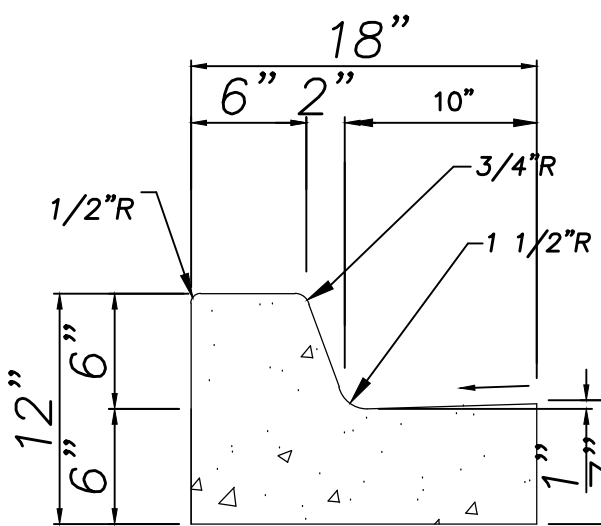
- UTILITY POLE
- GUY WIRE
- TRANSFORMER
- ELECTRIC BOX
- WATER METER
- ROOF DRAIN
- WATER VALVE
- FIRE HYDRANT
- IRRIGATION CONTROL VALVE
- SIDEWALK CULVERT
- EDGE OF ASPHALT
- BLUESTAKE ELECTRIC LINE
- BLUESTAKE GAS LINE
- OVERHEAD UTILITY LINE
- BLUESTAKE WATER LINE
- SUBBASIN BOUNDARY
- PROPERTY LINE
- PROPOSED POND ELEVATIONS
- EXISTING CONTOURS
- PROPOSED CONTOURS
- LANDSCAPING HATCH
- EXISTING PROPERTY LINE

Revisions per city hydrologist comments dated 10/5/2015

ENGINEER'S SEAL	DRAINAGE	OMMISSION No. 15-121
	JOB # 019-15-200	DATE 10-2015 REV 10-2015
HUGH W. FLOYD P.E. 16633	FLOYD DEVELOPMENT SERVICES, LLC DEVELOPMENT, ENGINEERING, & WATERSHED CONSULTING 918 PINEHURST RD SE, SUITE 101 RIO RANCHO, NM 87124 HUGH@DEVELOPNM.COM 505-366-4187	SHEET: C-1 1 OF 4

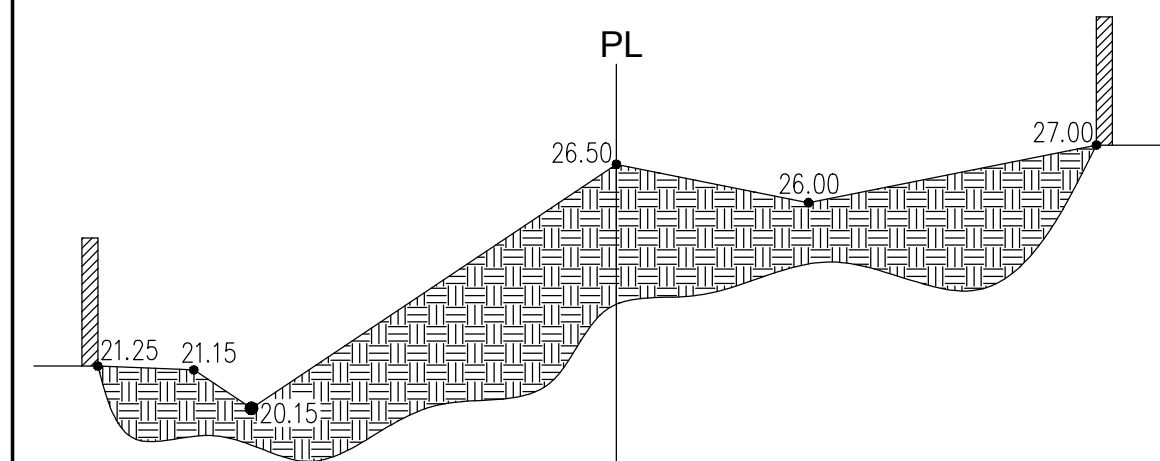
GENERAL NOTES:

1. CURBS & GUTTERS TO BE CONSTRUCTED OF P.C.C.
2. FOR STANDARD C. & G. PROVIDE CONTRACTION JTS. 6" O.C. MAX., ALSO PROVIDE 1/2" EXP. JTS. 48" O.C. MAX. AT CURB RETURNS & AT EACH SIDE OF DRIVEWAY & ADJACENT TO WALLS & BUILDINGS
3. EDGES NOT SPECIF. DIMENSIONED SHALL BE EDGED WITH A 3/8" EDGING TOOL.
4. STD. C. & G. SHALL BE USED FOR NEW CONSTR. UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. REMOVE & REPLACE 12" WIDE STRIP OF PAVEMENT BEYOND LIP OF GUTTER WHEN CONSTRUCTING C. & G. ADJACENT TO EXIST. A.C. PAVEMENT.
6. STD. C. & G. REQUIRE FULL FORM ON ALL FACES EXCEPT WITH PRIOR APPROVAL OF ENGINEER.

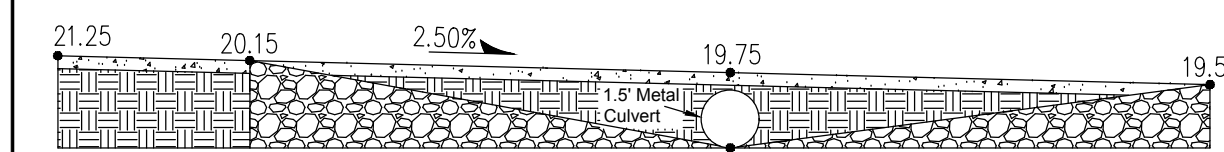


ON-SITE STD. CURB AND GUTTER
NTS

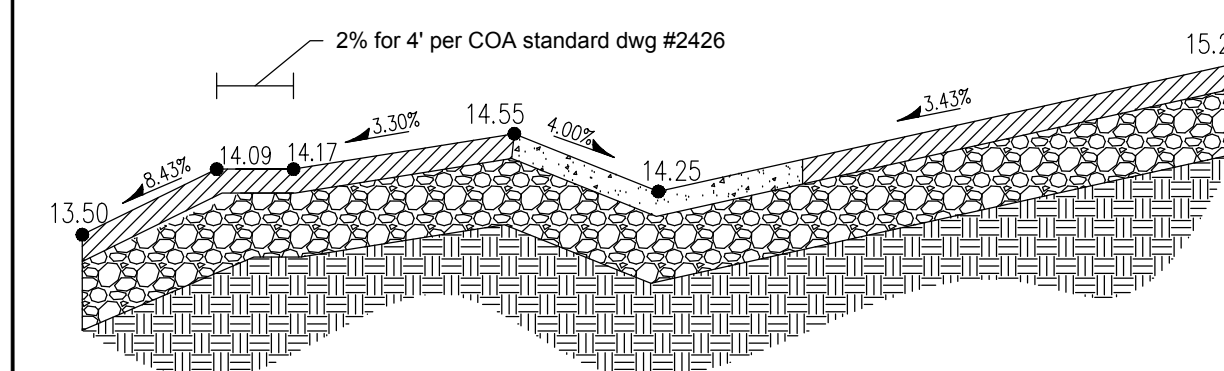
A.G.R.S. MONUMENT "S.27-26-34-35-11N-3E"
(FOUND IN PLACE)
NEW MEXICO STATE PLANE COORDINATES
(CENTRAL ZONE-N.A.D. 1983)
N= 1,508,397.940
E= 1,534,561.674
PUBLISHED EL=5113.117 (NAVD 1988)
GROUND TO GRID FACTOR=0.99822139
DELTA ALPHA ANGLE=01213.63



A - A 1"=10' (2:1 Vertical Exaggeration)



B - B 1"=5'



C - C 1"=10' (5:1 Vertical Exaggeration)

RIPRAP NOTES:

ALL RIP-RAP SHALL CONSIST OF 9" OF RIP-RAP OVER 8" OF FILTER MATERIAL.

RIP-RAP SHALL CONSIST OF CRUSHED ROCK MEETING THE FOLLOWING GRADATION, OR ENGINEER APPROVED EQUIVALENT.

MAX. DIMENSION	% SMALLER
9"	50-60
3"	35-45
1"	10

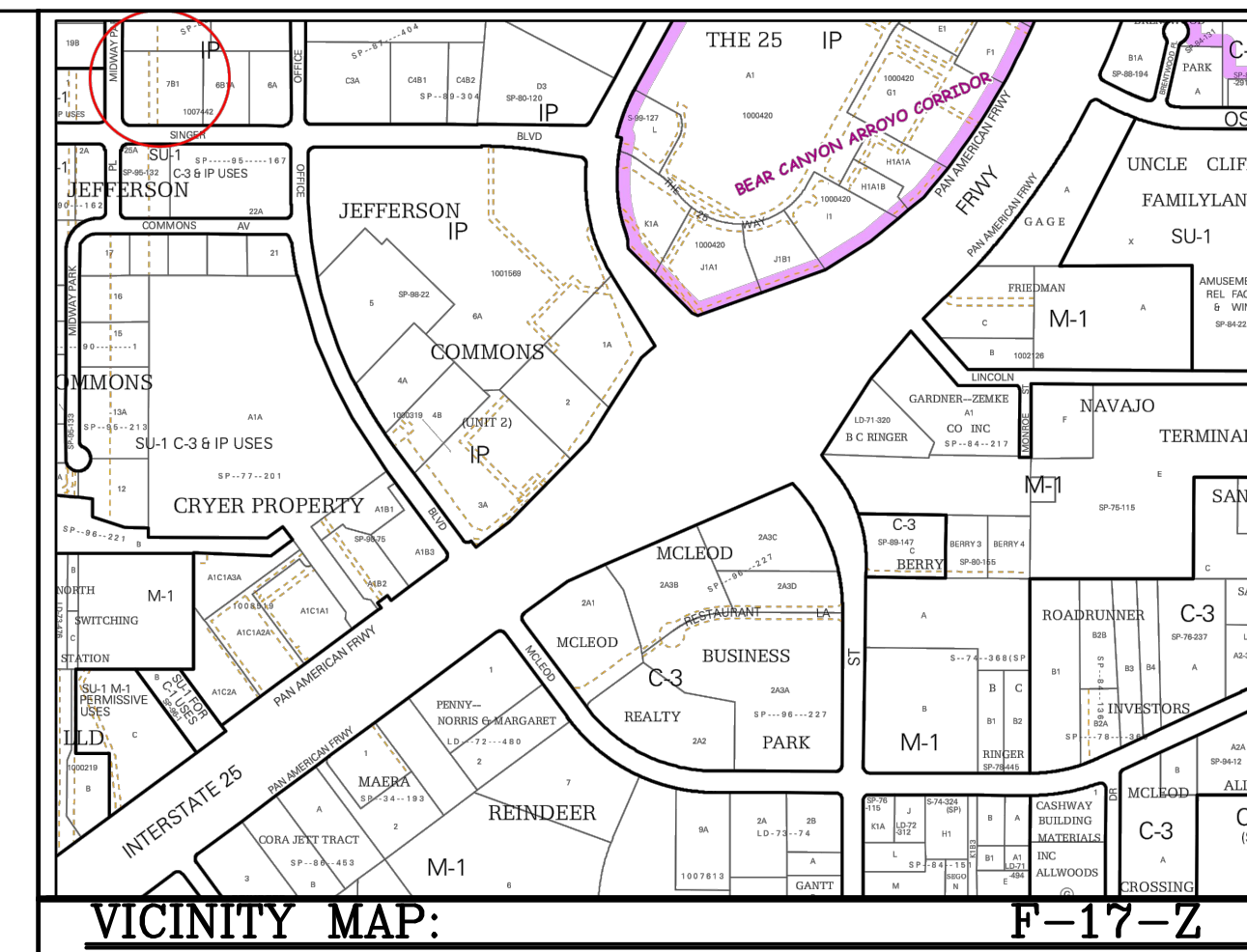
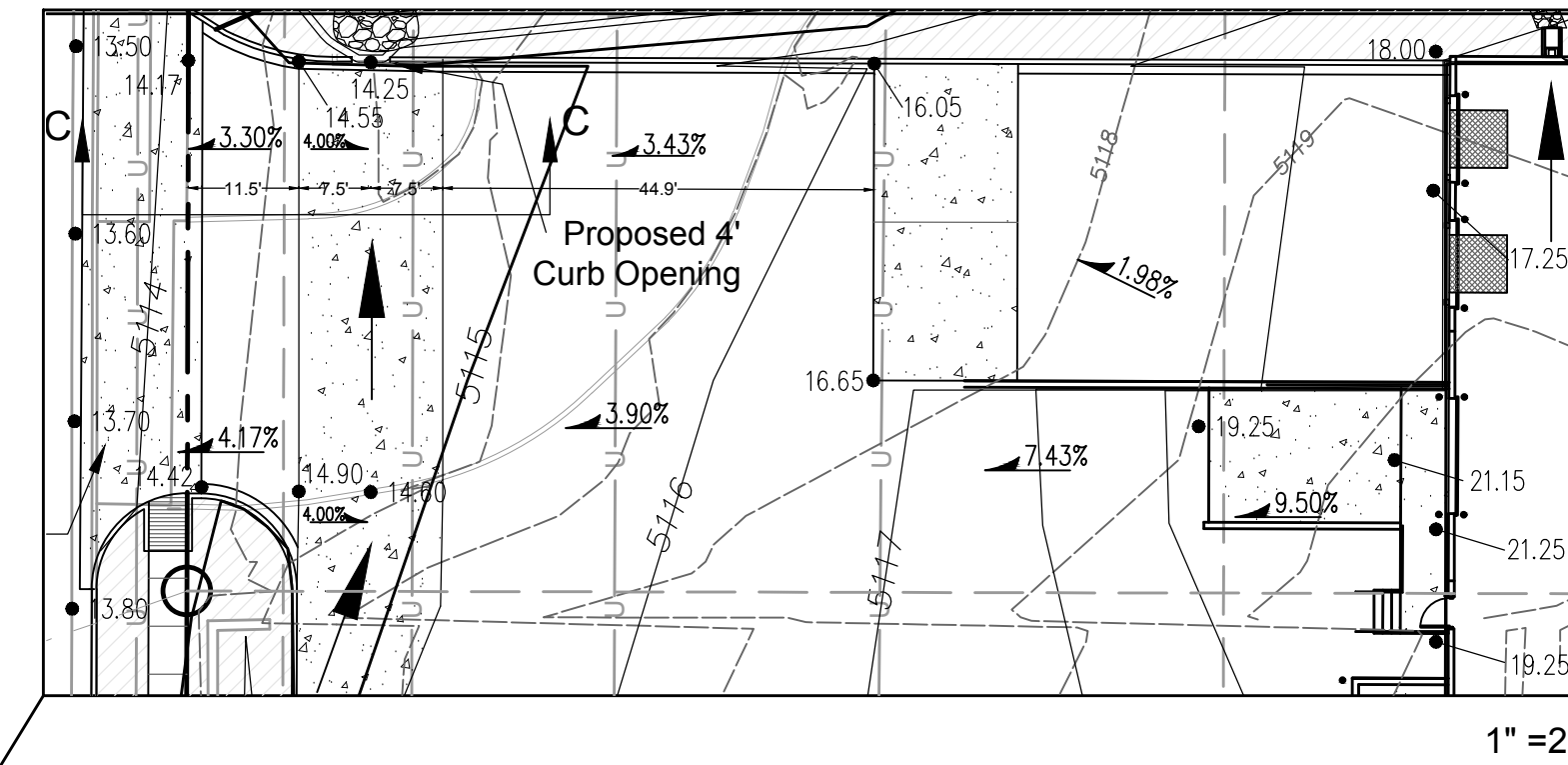
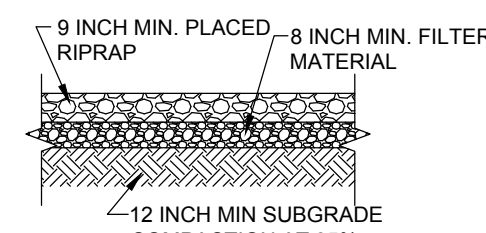
FILTER MATERIAL:

FILTER MATERIAL SHALL CONSIST OF CRUSHED BASALT ROCK MEETING THE FOLLOWING GRADATION, OR ENGINEER APPROVED EQUIVALENT.

U.S. STANDARD SIEVE SIZE	PASSING PER CENT
#4	45-65
#10	25-45
#20	0-20
#40	0-5

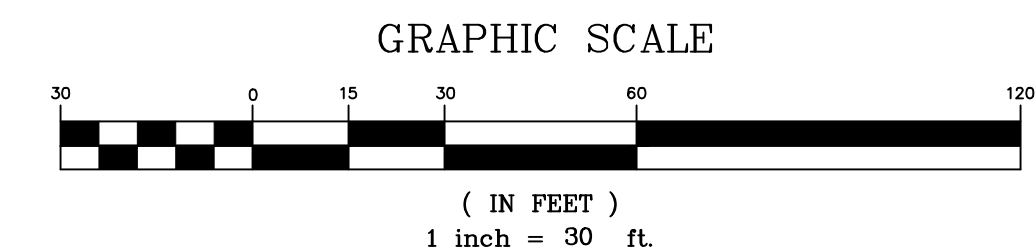
FILTER MATERIAL SHALL BE PLACED UNDER THE RIP-RAP CHANNEL PAVEMENT AS SHOWN HEREON. THE SUBGRADE SHALL BE PROCESSED TO A 1 1/2" MIN. DEPTH AND COMPACTED TO 90% MIN. RELATIVE DENSITY PER ASTM D 1557. THE FILTER MATERIAL SHALL BE TAMPED AND SHAPED TO FORM A SMOOTH, EVEN, AND FIRM FOUNDATION FOR THE OVERLYING RIP-RAP. THE CONTRACTOR'S OPERATIONS AND METHODS OF PLACING SHALL PREVENT SEGREGATION OF THE MATERIALS. THE FILTER MATERIAL SHALL BE PLACED AND TAMPED IN THE VOIDS OF THE RIP-RAP.

RIPRAP CROSS SECTION
NTS



Legend

- UTILITY POLE
- GUY WIRE
- TRANSFORMER
- ELECTRIC BOX
- WATER METER
- ROOF DRAIN
- WATER VALVE
- FIRE HYDRANT
- IRRIGATION CONTROL VALVE
- SIDEWALK CULVERT
- EDGE OF ASPHALT
- BLUESTAKE ELECTRIC LINE
- BLUESTAKE GAS LINE
- OVERHEAD UTILITY LINE
- BLUESTAKE WATER LINE
- SUBBASIN BOUNDARY
- PROPERTY LINE
- PROPOSED POND ELEVATIONS
- EXISTING CONTOURS
- PROPOSED CONTOURS
- LANDSCAPING HATCH
- EXISTING PROPERTY LINE



Revisions per city hydrologist comments dated 10/5/2015

ENGINEER'S SEAL

HUGH W. FLOYD
NEW MEXICO
16633
LICENSED PROFESSIONAL ENGINEER

HUGH W. FLOYD
P.E. 16633

GRADING

JOB # 019-15-200

FLOYD DEVELOPMENT SERVICES, LLC
DEVELOPMENT, ENGINEERING, & WATERSHED CONSULTING
918 PINEHURST RD SE, SUITE 101
RIO RANCHO, NM 87124
HUGH@DEVELOPNM.COM
505-366-4187

OMMISSION No. 15-121

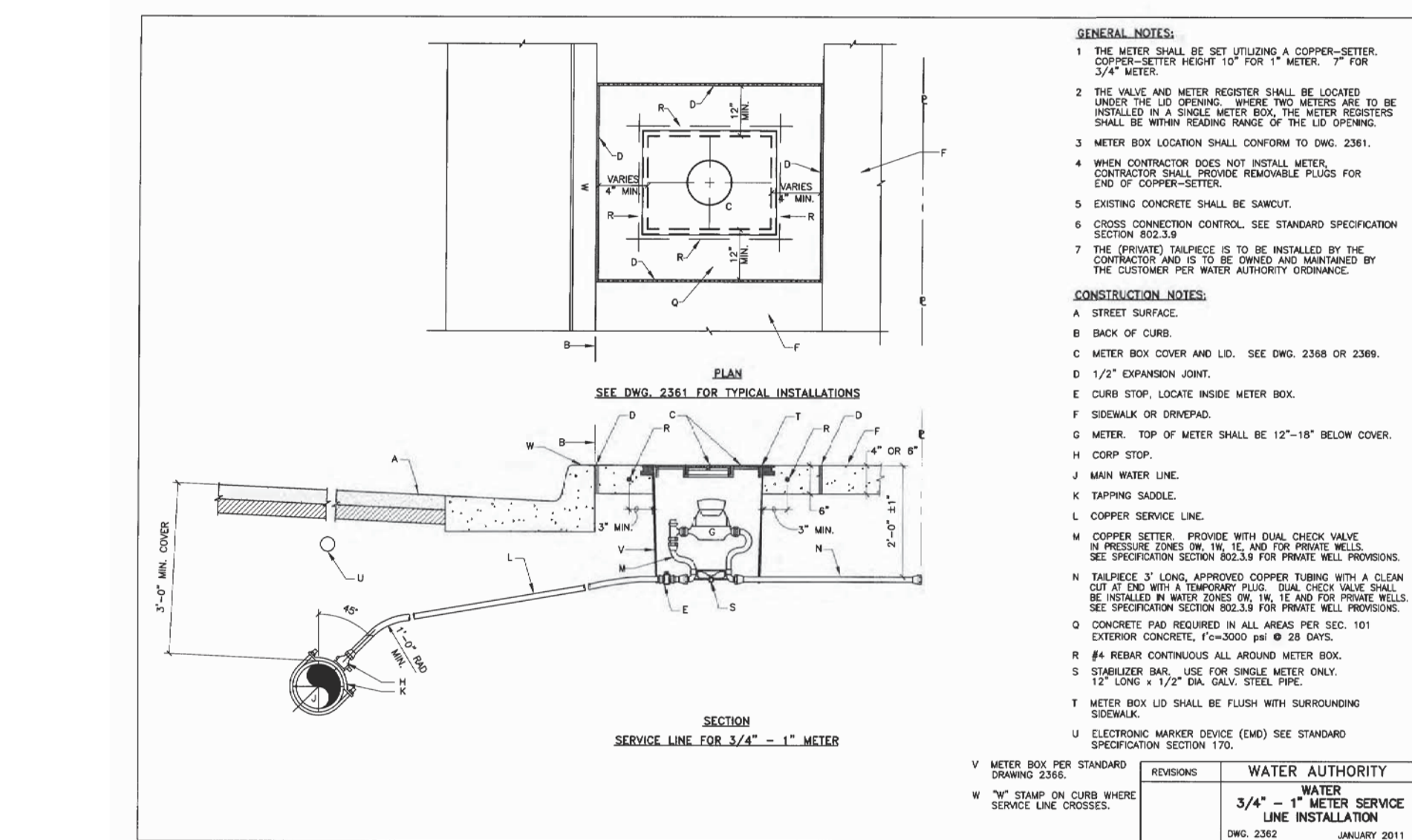
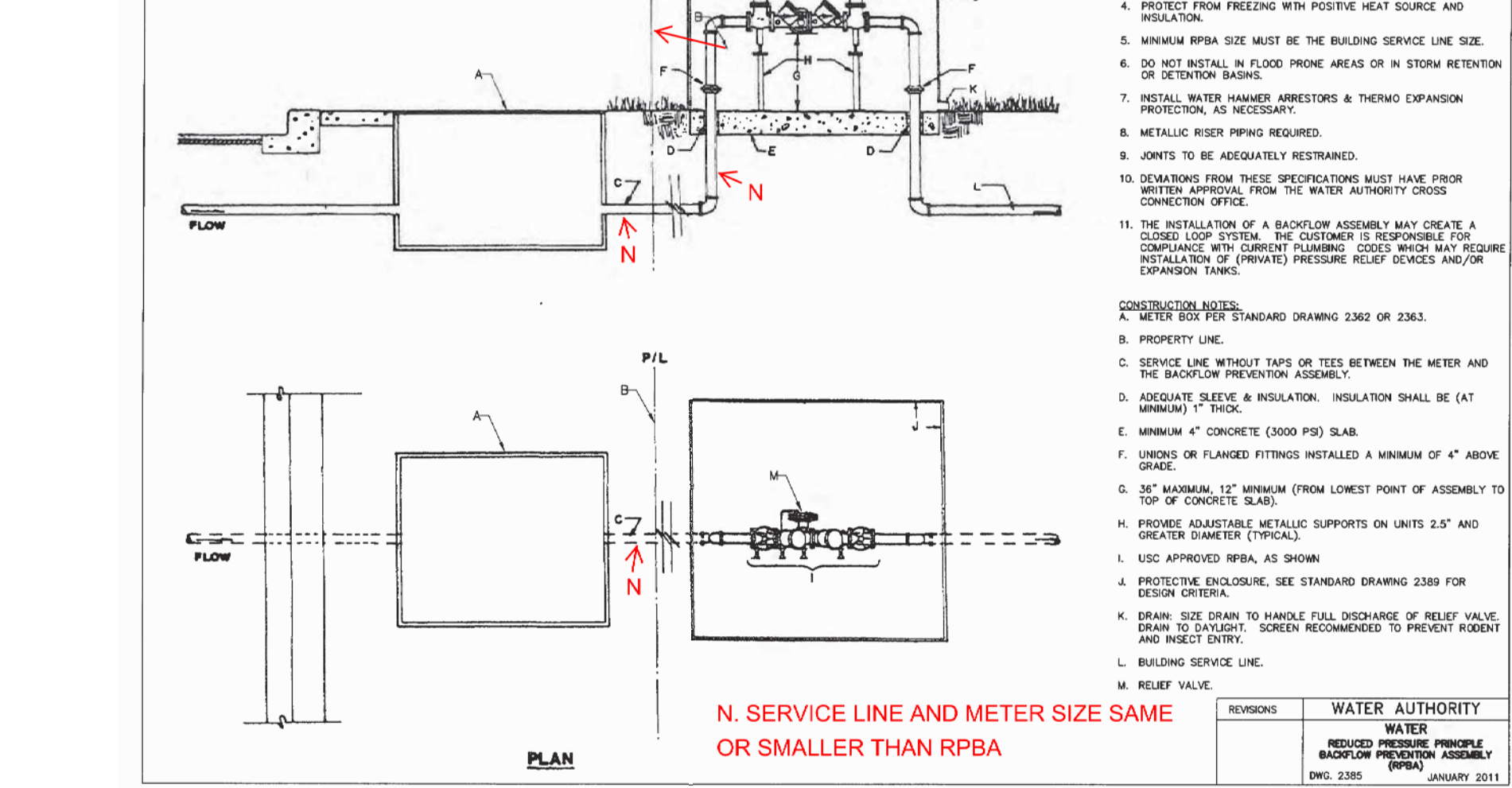
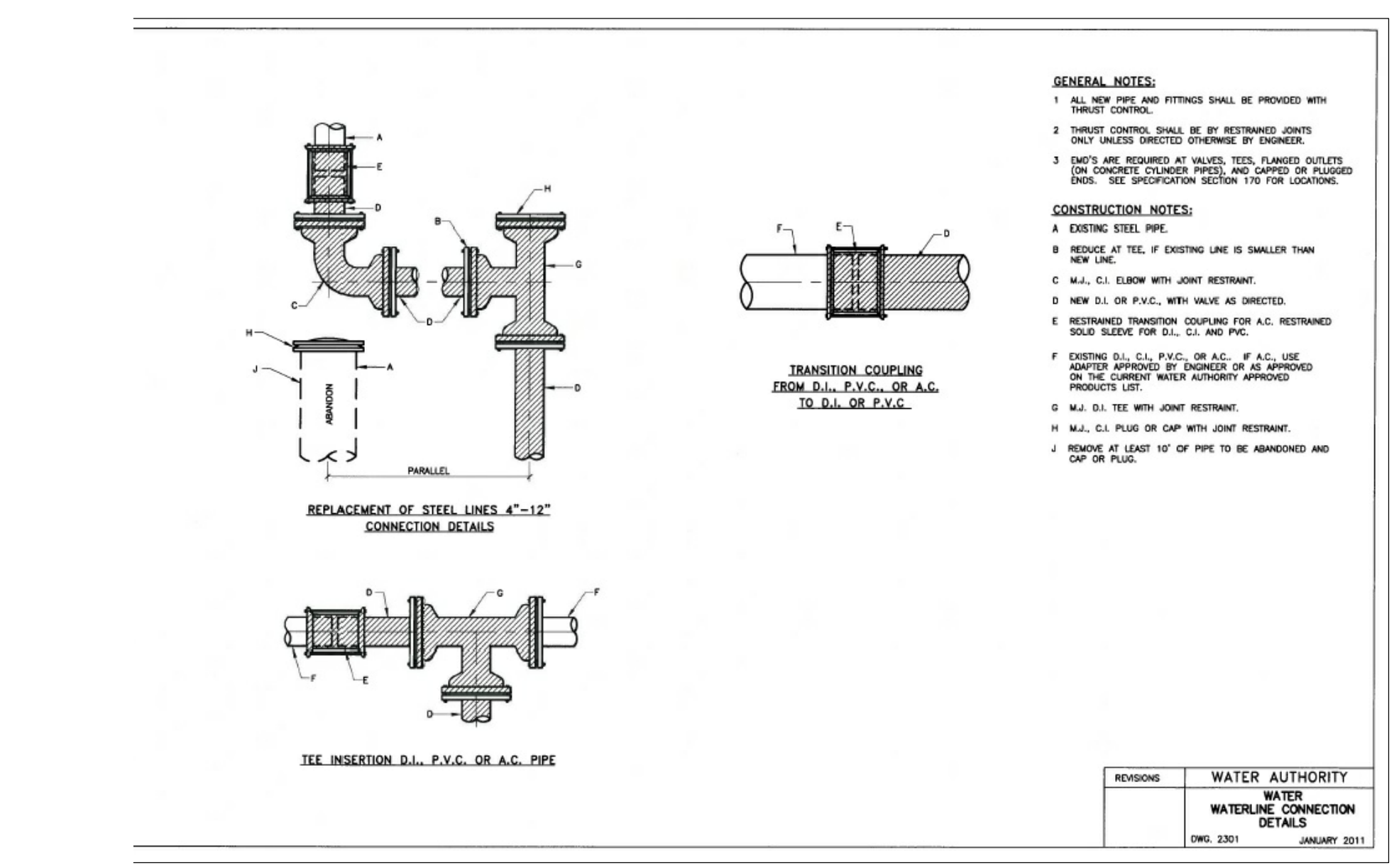
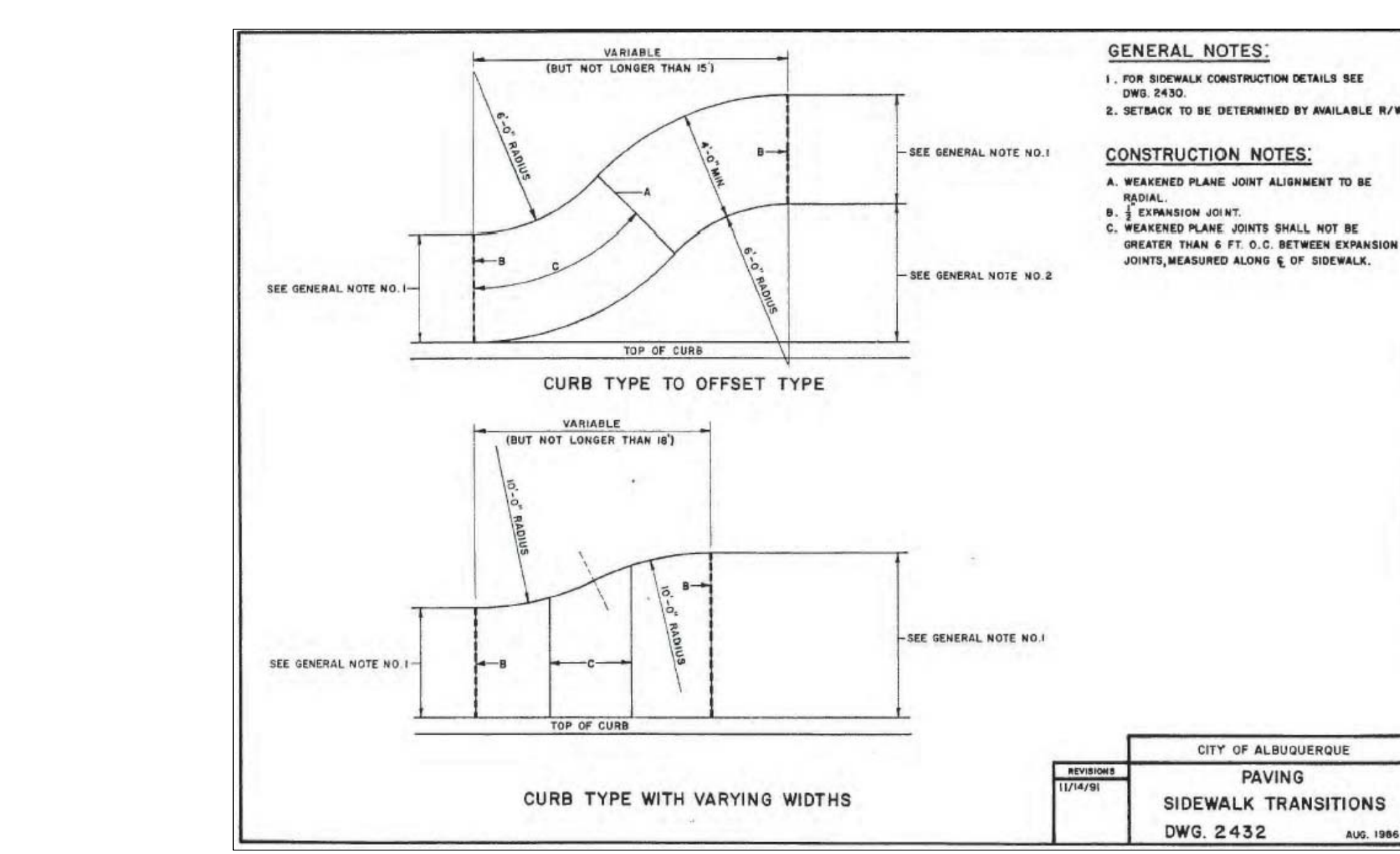
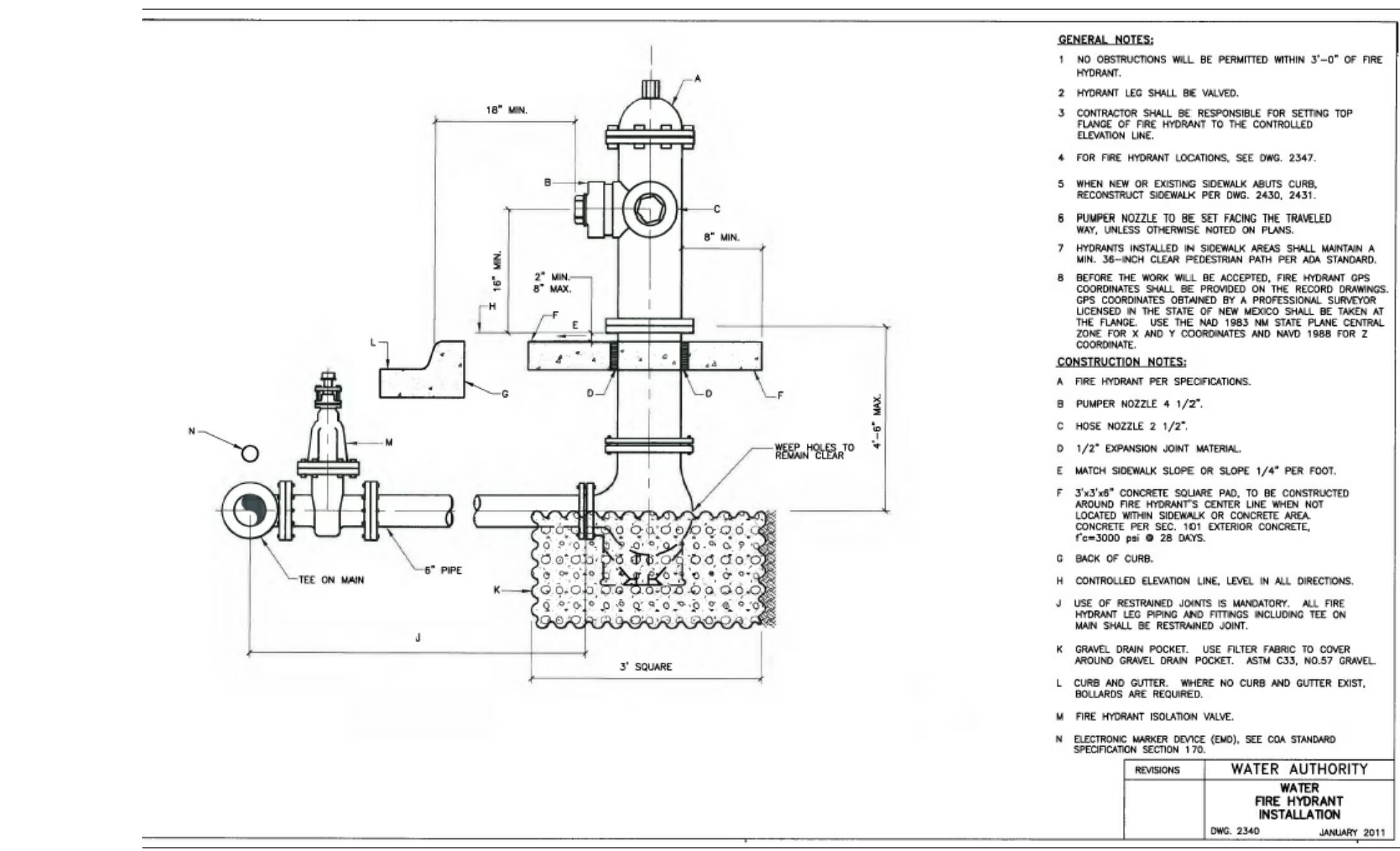
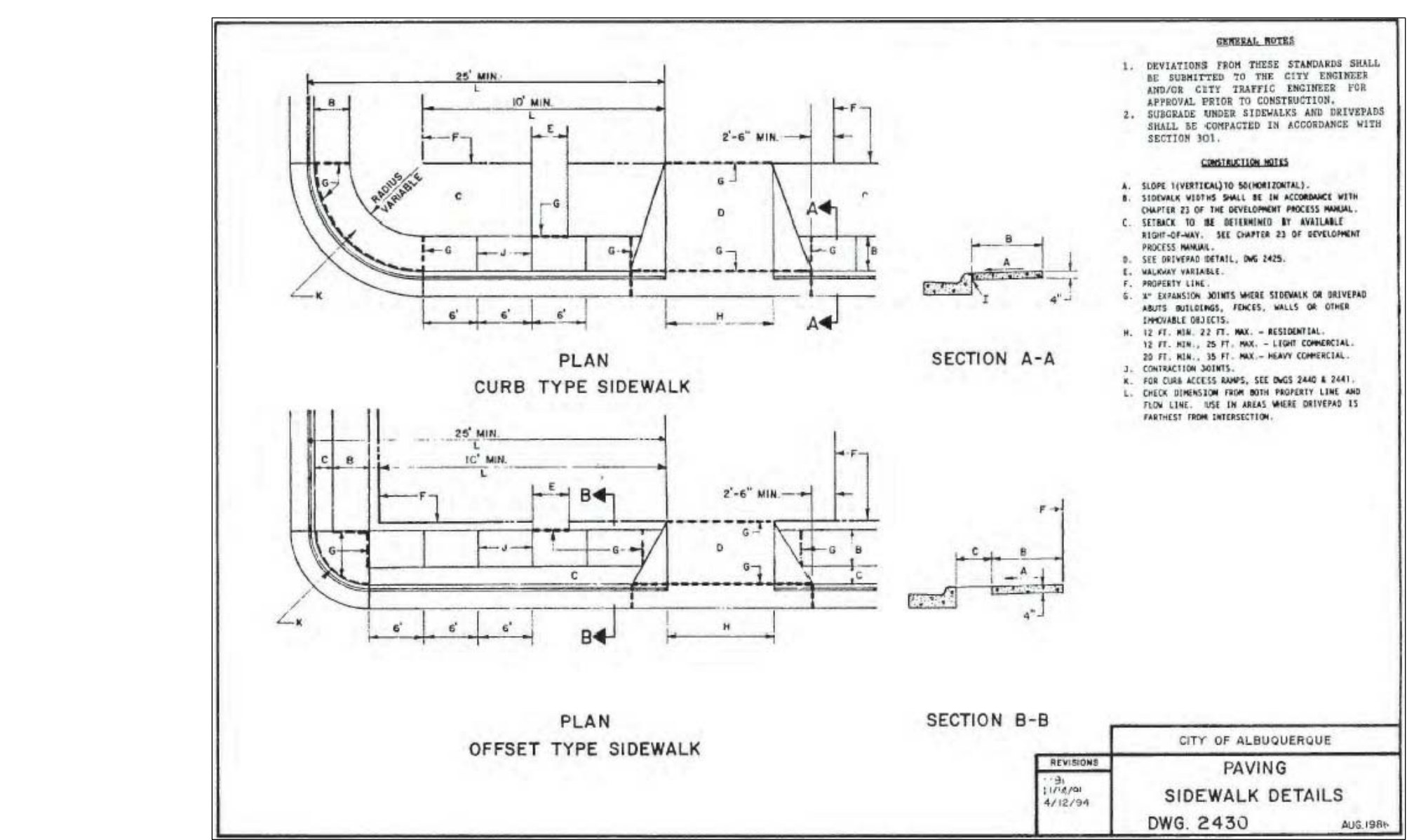
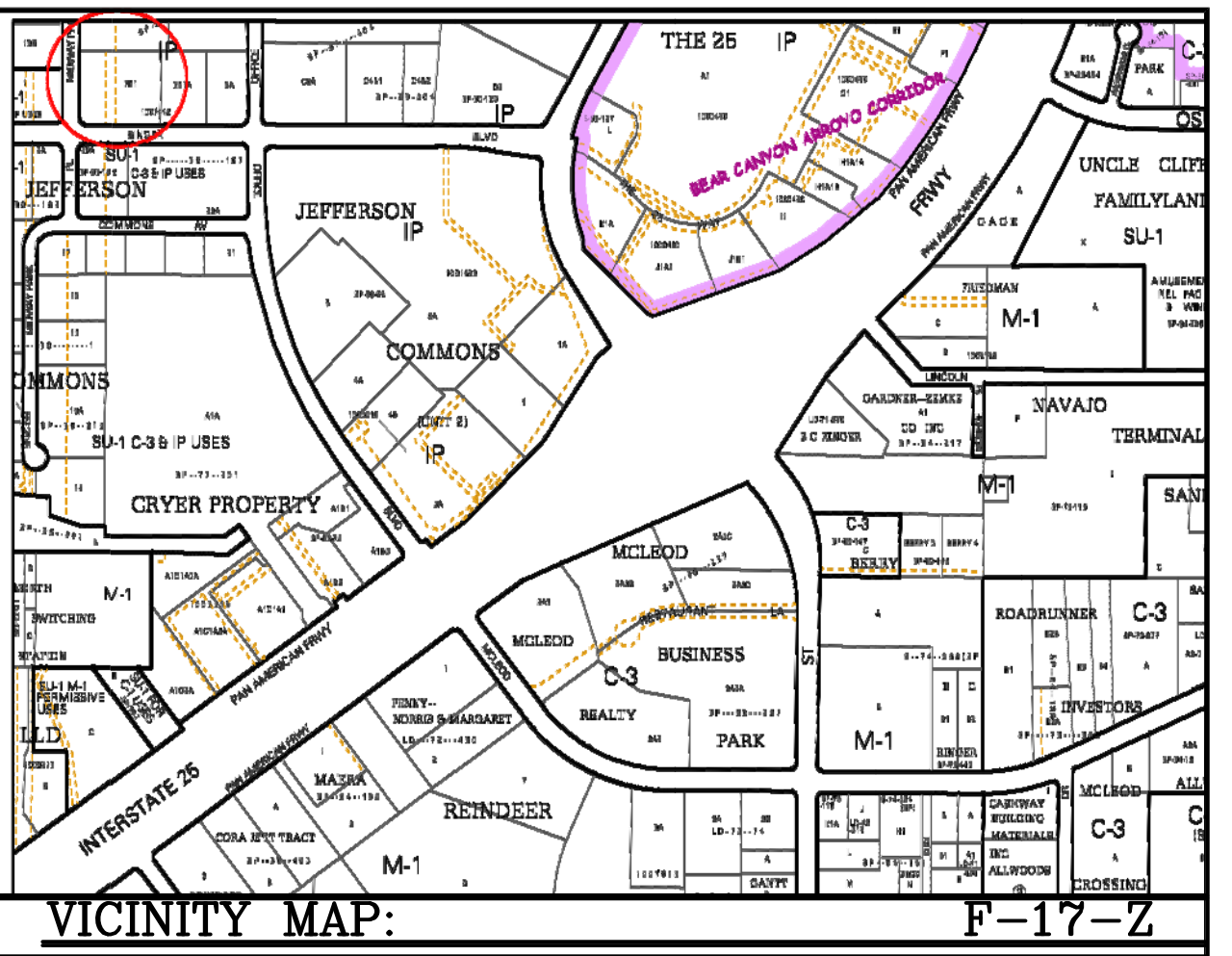
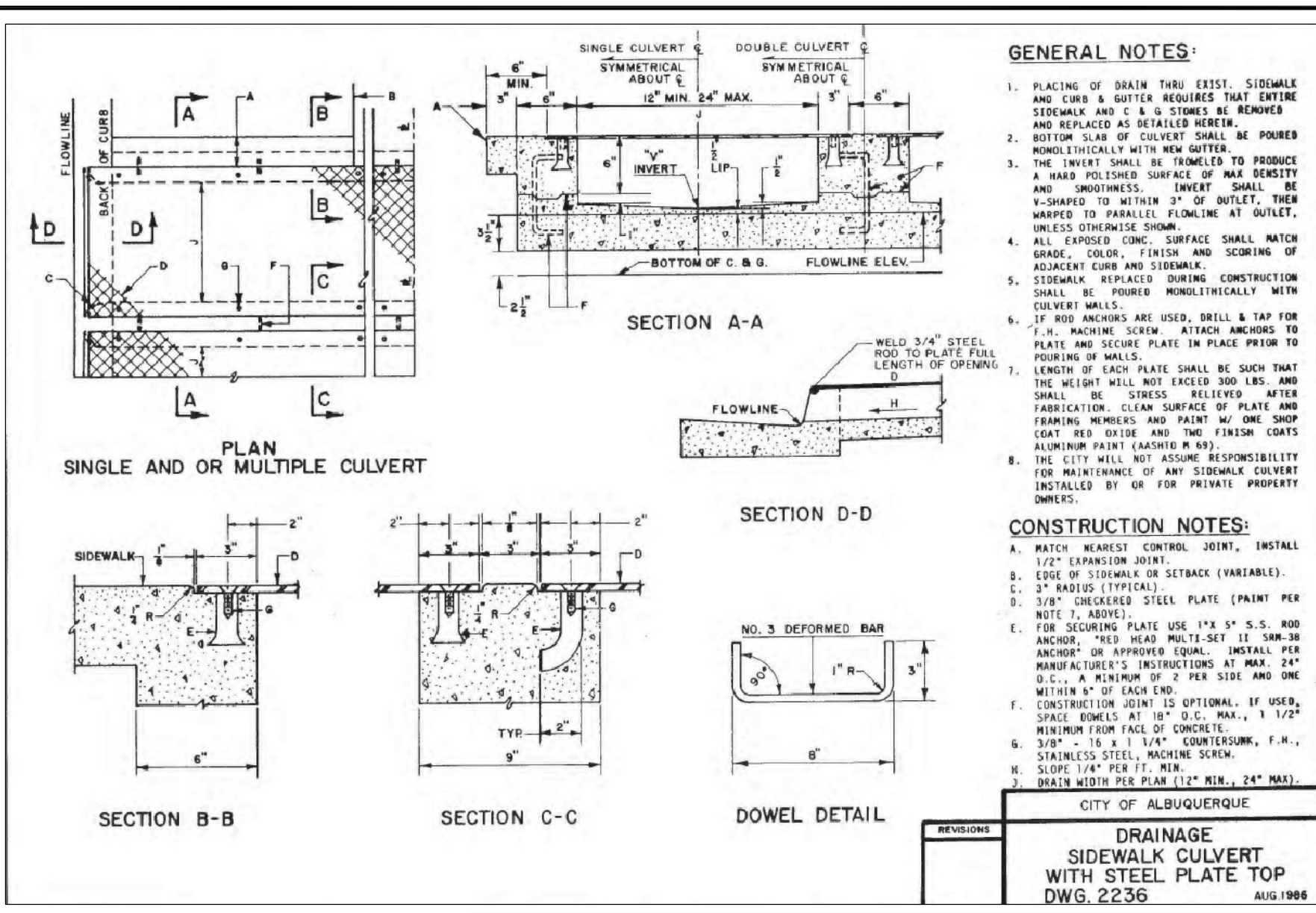
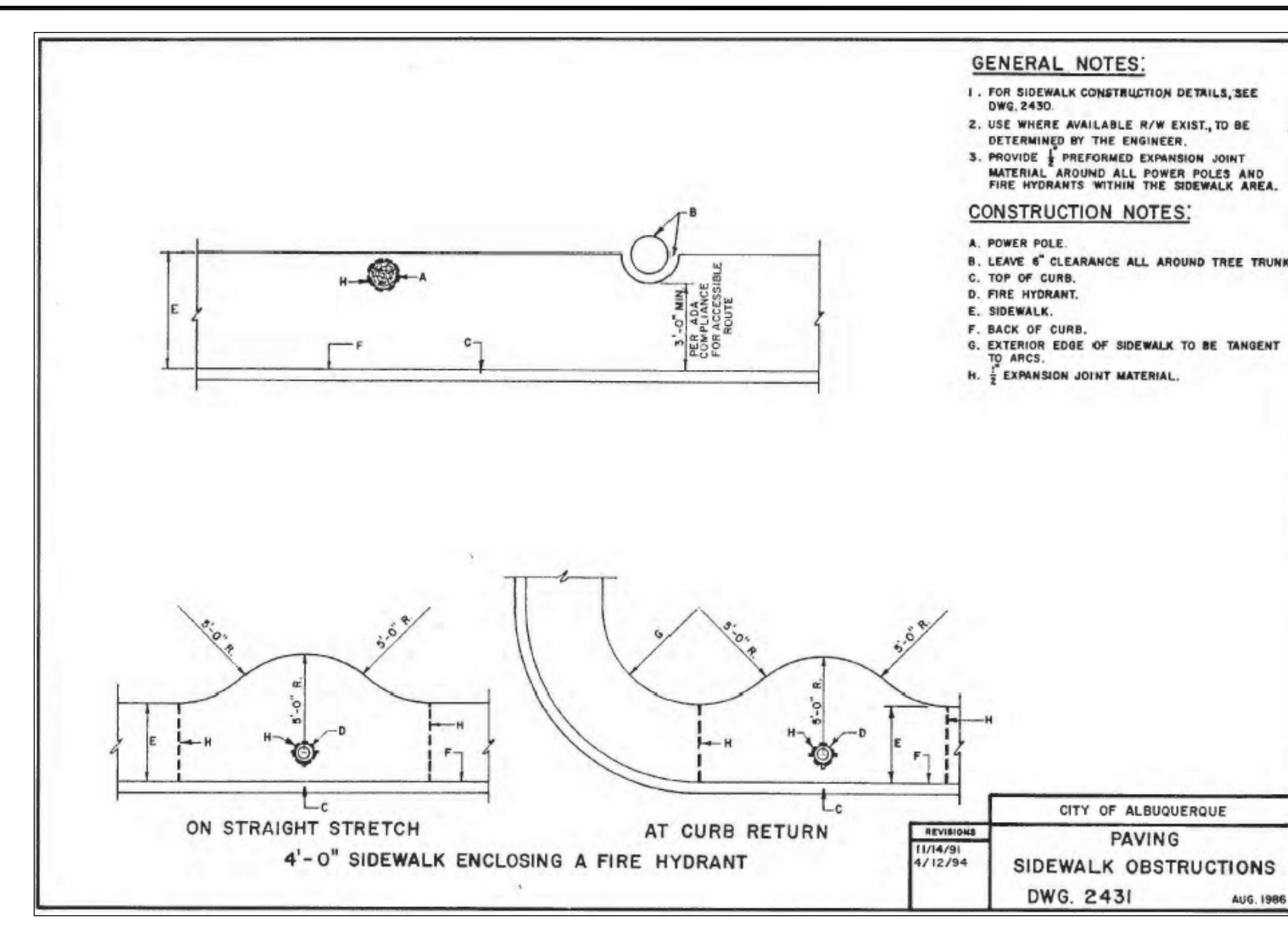
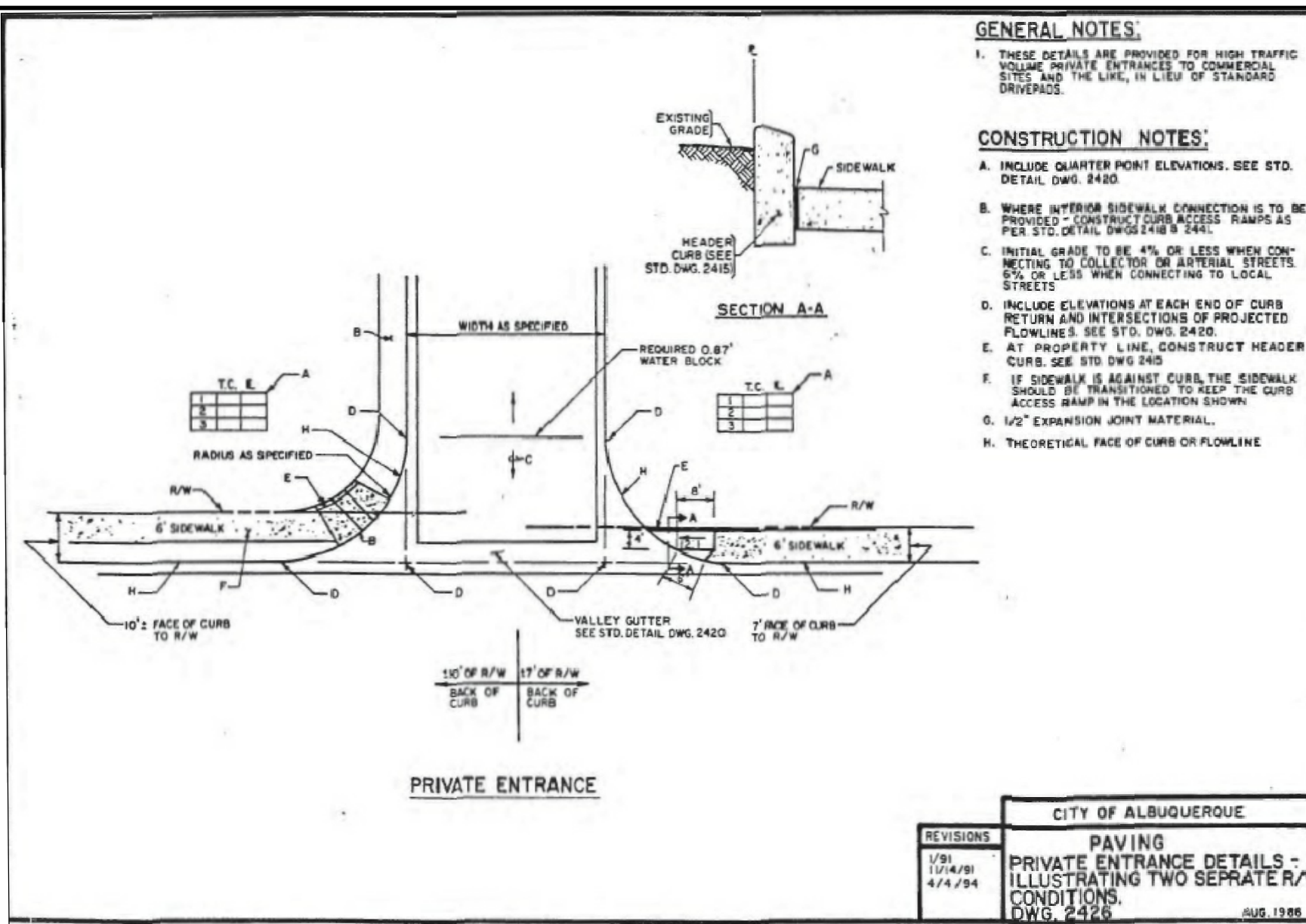
DATE 10-2015
REV. 10-2015

SHEET: C-2
2 OF 4

A NEW OFFICE / WAREHOUSE for

PURVIS INDUSTRIES

3815 SINGER BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109



ENGINEER'S SEAL

HUGH W. FLOYD
P.E. 16633

DETAILS

JOB # 019-15-200

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DATE 09-2015

REV# -

SHEET: C-4

4 OF 4

ISSUED FOR BUILDING PERMIT