

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 30, 2002

Joe Kelley, P.E.
JC Engineering
1924 Roanoke Dr NE
Rio Rancho, New Mexico 87124

RE: DESERT SPRINGS CHURCH

(E-16/D21)

(705 Osuna NE)

ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY

ENGINEERS STAMP DATED 12/5/2001

ENGINEERS CERTIFICATION DATED 9/27/2002

Dear Mr. Kelley:

Based upon the information provided in your Engineers Certification submittal dated 9/27/2002, and the approval of the SO19 by the City's Storm Drainage Maintenance inspector, the above referenced site is approved for a Permanent Certificate of Occupancy.

If I can be of further assistance, please contact me at 924-3981.

Sincerely,

Teresa A. Martin

Hydrology Plan Checker

Development & Bldg. Ser. Division

 $C \cdot$

Certificate of Occupancy Clerk, COA

drainage file approval file



City of Albuquerque P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 16, 2002

Joe Kelley
JC Engineering
1924 Roanoke Drive NE
Rio Rancho, New Mexico 87124-5532

RE: Grading and Drainage Plan For Desert Springs Church (E16-D21) Dated December 5, 2001 Revision July 18, 2002

Dear Mr. Kelley:

The above referenced drainage plan is approved for building permit and SO #19. Upon completion of the project please submit a certification per the DPM checklist. Also, please have Matt Cline inspect the SO #19 and submit the signed SO #19 to Hydrology. Please review Teresa A. Martin's letter dated September 12, 2002 for other requirements.

If you have any questions please call me at 924-3982.

Sincerely,

Carlos A. Montoya

City Floodplain Administrator



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 27, 2001

Joe Kelley
JC Engineering
1924 Roanoke Drive NE
Rio Rancho, New Mexico 87124-5532

RE: Grading and Drainage Plan For Desert Springs Church (E16-D21) Dated November 14, 2001

Dear Mr. Kelley:

I have reviewed the referenced drainage plan received November 15, 2001 and forward the following comments.

- 1. Please submit the private drainage easement for tract L-2. We need to make sure that this is a viable option.
- 2. Please submit a plan and profile sheets for the proposed storm drain that is not constructed to see the grades and to see how much easement is needed. When will this storm drain be built?
- 3. Who will have to maintain this storm drain?
- 4. Please show the as-builts for the downstream drainage system.
- 5. Please design a small sediment pond for the runoff that is going to enter Osuna Road.
- 6. Does the ultimate capacity of the downstream capacity include the 48-inch storm drain from Vista Del Norte Drive?

If you have any questions please call me at 924-3982.

Sincerely,

Carlos A. Montoya

City Floodplain Administrator



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 11, 2001

Joe Kelley
JC Engineering
1924 Roanoke Drive NE
Rio Rancho, New Mexico 87124-5532

RE: Grading and Drainage Plan For Desert Springs Church (E16-D21) Dated August 29, 2001 and Letter dated September 12, 2001

Dear Mr. Kelley:

The above referenced drainage plan received September 5, 2001 is approved for Site Development Plan for Building Permit. One item I did forget in my previous letter is that a drainage covenant for the pond will be needed at Building Permit.

If you have any questions please call me at 924-3982.

Sincerely,

Carlos A. Montoya

City Floodplain Administrator

JC Engineering

1924 Roanoke Drive NE, Rio Rancho, NM 87124-5532

(505) 459-3520

Fax (505) 867-9302

kelleycj@juno.com

Drainage Report

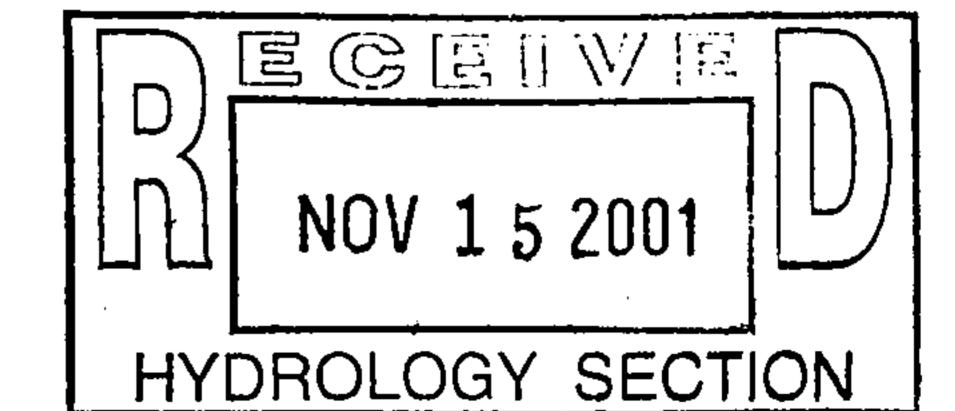
For

Desert Springs Church

In

Albuquerque, New Mexico





November 14, 2001

Purpose

This drainage report provides the hydrologic rationale for the appropriate development of Tract L-1 of the Vista del Norte subdivision. The purpose of this report is to obtain approval of the grading plan for foundation permit and building permit purposes.

Area Description

The project is located on Osuna Road, at the signalized intersection with Vista del Norte Drive. West of the site is an older housing area that has remained virtually unchanged for at least 15 years. This location used to be the site of a gravel mining operation that has been closed since before 1996. Since that time, the site has been vacant. In 1996, plans were prepared for the development of the Vista del Norte residential housing area 500' north of the site, and Vista del Norte Drive was constructed as the only access point for the housing area.

The site fronts on Osuna Road, which is four lanes with a large median for future expansion to six lanes. On the south side of Osuna, there is both vacant and occupied commercial/industrial property.

The old housing area west of the site is unincorporated Bernalillo County land. Osuna Road used to be owned and operated by the County also, until about ten years ago. At that time, the City desired to annex some commercial sites at the intersection of Osuna and Edith, 3000' to the west. Because that land was not contiguous with City land, Osuna Road was annexed up to that point. However, the storm drainage systems in Osuna and in Edith, as well as the existing roadway infrastructure in Osuna Road, were all constructed under the oversight of the County.

Related Reports

1. Several drainage reports have been prepared that encompass this site. The first one was the "Drainage Report for Osuna Road—Second Street through the North Diversion Channel," by Espey Huston & Associates. It was prepared in August 1986 for Bernalillo County, and its study area extended from the Middle Rio Grande Conservancy District (MRGCD) Alameda Drain parallel to Second Street (at Osuna) east to the North Diversion channel crossing of Osuna. The purpose of the report and the associated infrastructure was to dry up Osuna in the10-year storm event. This criteria was selected because Osuna was a Highway Dept. road, and the 10-year criteria was Highway Dept. criteria. As part of the original design, a storm drain system was designed for Osuna that extended from Second Street to Edith, and ended in a battery of ten inlets at Edith. Before the project was completed, the design had been expanded to extend the storm drain system 3000' further east on Osuna, to include the existing storm inlets that front the subject site today. The hydrologic methodology used in that report was the SCS curve number method of calculating runoff.

Figure 1 from the January 1988 final version of the drainage report has been included in the Appendix. For clarity, subject tract L-1 has been added to that exhibit, and it can be seen that about ¼ of the subject tract is depicted as discharging to the southwest into the Osuna drainage system. The remainder of tract L-1 is depicted as discharging elsewhere—presumably to the north or west, and not having a direct effect on the Osuna drainage system. Figure 1 also indicates that this drainage report included the runoff from the Osuna right-of-way, extending all the way to the North Diversion Channel, in the hydrologic calculations.

2. In 1990, the Boyle Engineering Corp. performed a drainage study and design for an extensive part of the North Valley. The northernmost part of the study included Edith Blvd, extending 1600' north of Osuna Road. This portion of the study was termed "System 12." Plate 1A in the Appendix is the drainage basin map for the north end of this study. The new Edith storm drain actually crossed the Osuna storm drain, without physically intersecting it. The purpose of the crossing was to alleviate some flooding problems in Edith north of Osuna, where water historically gathered in some low-lying sump areas.

Additionally, the Edith Blvd designers recognized that the Osuna Road storm drain system was under-designed per City criteria, since it did not collect the 100-year storm, and did not keep one lane of Osuna open in each direction during the 100-year storm. At the same time, they recognized that the Osuna Road storm drain could accept no more runoff because of its severe outfall limitation at the Alameda Drain. To address this situation, the Edith Blvd storm drain was designed to accept all flow above the 10-year flow that theoretically should not be accepted by the Osuna storm drain. The calculation included in the appendix of that report was:

Flow from Osuna Road into Edith system = 99 - 58 = 41 cfs

99 cfs was the total flow computed by that study from Osuna at Edith, and 58 cfs was the maximum flow that should be allowed in the Osuna storm drain. The 58 cfs capacity was derived from the original Espey Huston study, which showed 57.4 cfs in the 30" Osuna storm drain east of Edith. The original design also depicted the hydraulic grade line inside the pipe. So the limiting factor is not the physical characteristics of the pipe, rather it is the downstream constraint of what should be allowed to discharge into the Alameda drain.

As indicated on the System 12 diagram in the Appendix, 50 cfs is depicted as discharging into the Edith system from Osuna. The report did not provide the rationale for the selection of the 50 cfs in lieu of the 41 cfs calculated earlier. But it appears that the Edith storm drain was designed to accept this much runoff from Osuna. This is actually a good, conservative approach, as it will hopefully result in relieving the Alameda Drain. However, it is not clear from the Boyle report exactly what mechanism the Edith Blvd storm drain system uses to accept the 50 cfs of runoff from Osuna.

3. The third major report addressing the subject area shows the site discharging not to the south, but to the north and then west. The "Drainage Master Plan for Vista del Norte Subdivision" was prepared by Avid Engineering, and approved by the City of Albuquerque in March 1998. According to that report, the subject site is a part of drainage basin L, and the runoff from that basin has been directed to the north and eventually into a stepped pond system (the "South Detention Pond") that cascades from Vista del Norte down to Edith Blvd, approximately ½ mile north of Osuna. It does not discharge directly into the Osuna or the Edith storm drain systems.

Inspection of the drainage basin map from that report (in the Appendix) shows that the northern part of Basin L discharges to the northwest corner of the basin, but the church site does not. Following the contours indicated on the map, the church site drains to the southwest corner. A field inspection of the site indicates that Basin L has been graded as indicated on this plan, and the water on the south part of Basin L does indeed flow to the southwest corner. To discharge the runoff from the southwest corner to the northwest corner of the basin, in conformance with the Avid plan, would require a storm sump pump lifting storm flows 6' up to the northwest corner.

Precipitation

There will be no on-site detention ponding, so the 100-year, 6-hour design storm was used in these calculations. See page A-1 for the AHYMO hydrologic calculations. Both the 10-year and 100-year events were modeled. Only the relevant portion of the 10-year storm calculations is included for reference, on page 2 of Exhibit A. See page D-1 for the Drainage Basin Plan and Flow Summary at key analysis points.

Existing Conditions

The existing site has been graded to a tilted plane that slopes to the southwest. It is sparsely vegetated with weeds and some grass. The two streets on the site perimeter are fully-developed City streets with all utilities. A storm drain system has been built on Osuna as discussed above, and there are three storm inlets adjacent to the site in Osuna as indicated on the grading plan, and as indicated on Exhibit A in the Appendix.

A storm drain system has also been built in Vista del Norte subdivision to the north. The storm drain improvements in Vista del Norte Drive are complete, and extend up to a point just north of Tract L-1. The southernmost inlet can be seen on the grading plan in Vista del Norte Drive. The Vista del Norte Master Plan included the construction of a large diameter storm drain extending to the northwest corner of Tract L-2. A 30" RCP stub-out was indicated for construction at that point. No design or survey data was available for this stub-out, so its elevation is not known. But it is believed to have been built, and it should meet the drainage needs of both Tracts L-1 and L-2, as it was designed to accommodate both areas. Tract L was a single tract at the time the Vista del Norte drainage report was prepared. Since it has now been subdivided, it will be necessary to discharge tract L-1 through tract L-2. This has been discussed with the

owner of Tract L-2, and he is amenable to a new storm drain easement along his west property line as indicated on the plans.

Developed Conditions

As shown on the grading plan, the site will be developed with buildings and parking lots. The site is relatively flat, so there will be no need for retaining walls. Spot elevations and flow arrows indicate the drainage pattern. The site grading has been adjusted so that the earthwork is balanced. The majority of the drainage calculations were performed as part of the AHYMO analysis, beginning on page A-1. The rating curves for pipe and channel capacities are included in those calculations. The key hydrologic and hydraulic data is summarized below:

Key Data Summary

Location/Description	Q ₁₀₀ (cfs)	C _{capacity} (cfs)
Triangular flow in west drive aisle	13.91	15.13
South storm inlet	14.45	15.20 @ TC
South 18" Pipe to MH @ 1.20%	14.45	16.09
North storm inlet	14.76	15.20 @ TC
North 15" Pipe to MH @ 3.20%	14.76	16.16
Main 30" Pipe Out @ 0.50% - Phase 1 Q	29.10	40.56
Main 30" Pipe Out @ 0.50% - Phase 2 Q	39.32	40.56
Vista del Norte Design Capacity for Ult. Q from Tract L	78.86	81.63
Surface Flow to Osuna Road—Exist. Conditions	24.94	
Surface Flow to Osuna Road—Phase 1 Conditions	8.62	
Surface Flow to Osuna Road—Phase 2 Conditions	5.14	
Osuna Storm Drain Capacity for Tract L		5.28

Discharge to the Vista del Norte Storm Drain. All the Tract L-1 developed flows will be directed to the Vista del Norte storm drain via a new pipe extending across Tract L-2 to the north. Tract L was recently subdivided into the subject 10.25-acre Tract L-1 on the south, and the 8.91-acre Tract L-2 to the north. The Vista del Norte storm drain was designed to discharge all of the developed runoff from Tract L at the rate of 81.63 cfs. After Tract L was subdivided, it became necessary to convey the runoff from Tract L-1 across Tract L-2, into the Vista del Norte storm drain system. This was discussed with the owner of Tract L-2 in November of 2001, and the owner agreed to the installation of a new underground storm drain across Tract L-2, as indicated in the plans. A new 20' private storm drain easement will be created on Tract L-2 for this purpose.

<u>Discharge to the Osuna Storm Drain.</u> Under existing undeveloped conditions, 24.94 cfs discharges from Tract L-1 into Osuna Road. Under Phase1 conditions, this discharge will be decreased to 8.62 cfs because the Phase 1 developed runoff will be redirected to the north into Vista del Norte. Under Phase 2 conditions, this discharge will be decreased even further—to 5.14 cfs—because even more of the developed

runoff will be directed to the north, via a new connection to the manhole at the southwest corner of Tract L-2 (this future connection has not been designed at this time because the exact nature of Phase 2 is not known. But the junction manhole was designed to allow enough room to insert a pipe for Phase 2 in the future). The 5.14 cfs is a theoretical discharge, assuming that the land area developed at that time is developed with no more than 50% Treatment Type D.

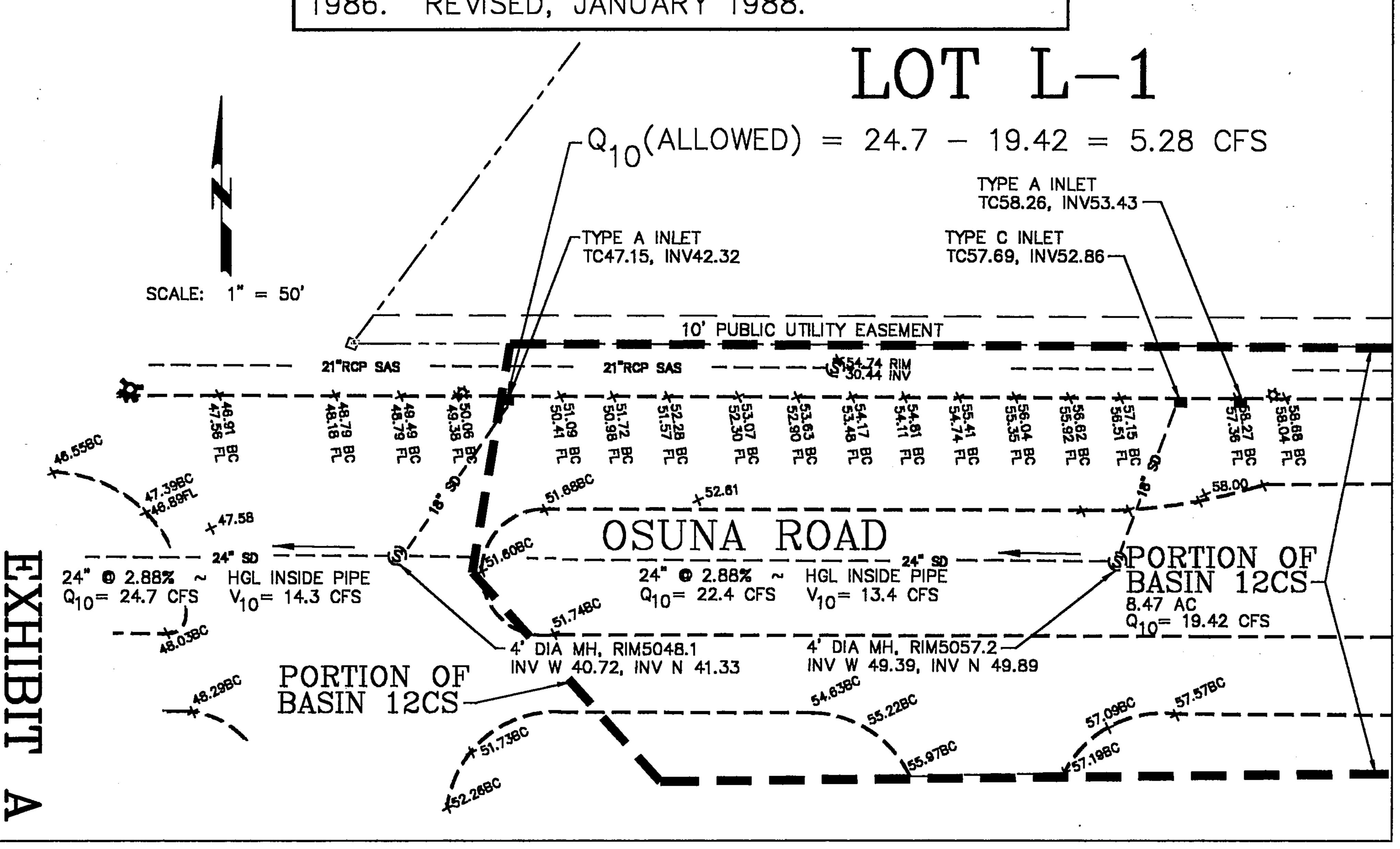
The Osuna undergournd public storm drain system has a capacity of 5.28 cfs that has been designated for discharge from Tract L. Exhibit A indicates how this 5.28 cfs was determined. The Osuna storm drain system was designed to convey the runoff indicated in Exhibit A. The 24" RCP downstream of the site was designed to discharge 24.7 cfs. The areas that can contribute to the 24.7 cfs are the right-of-way in Osuna Road up to the North Diversion Channel, and the surface of Lot L-1. Lot M east of Vista del Norte Drive is physically high enough to discharge to the north in accordance with the Vista del Norte Master Plan, and it will not discharge into Osuna. The properties south of Osuna are too low and cannot discharge into Osuna. That leaves the right-of-way and Tract L-1 to use up the 24.7 cfs storm drain capacity. As computed on page 2 of Exhibit A, the right-of-way discharges 19.42 cfs during the 10-year storm, so that means that no more than 5.28 cfs is available for storm runoff from Tract L-1. If desired, in the future, the 5.14 cfs from a portion of developed Phase 2 could be piped directly into the storm drain system, as the capacity is there.

Percent D and Bulking. Runoff from Phase 1 was computed using 85% Treatment D. For Phase 2, 85% Treatment Type D was projected for the portion of the site discharging into the Vista del Norte system (Basin A-4), while 50% D was assumed for the portion discharging to the south into Osuna (Basin B). In addition, the Vista del Norte master drainage plan used a 9% sediment bulking factor. So for consistency, a 9% factor was used in the subject analysis as well.

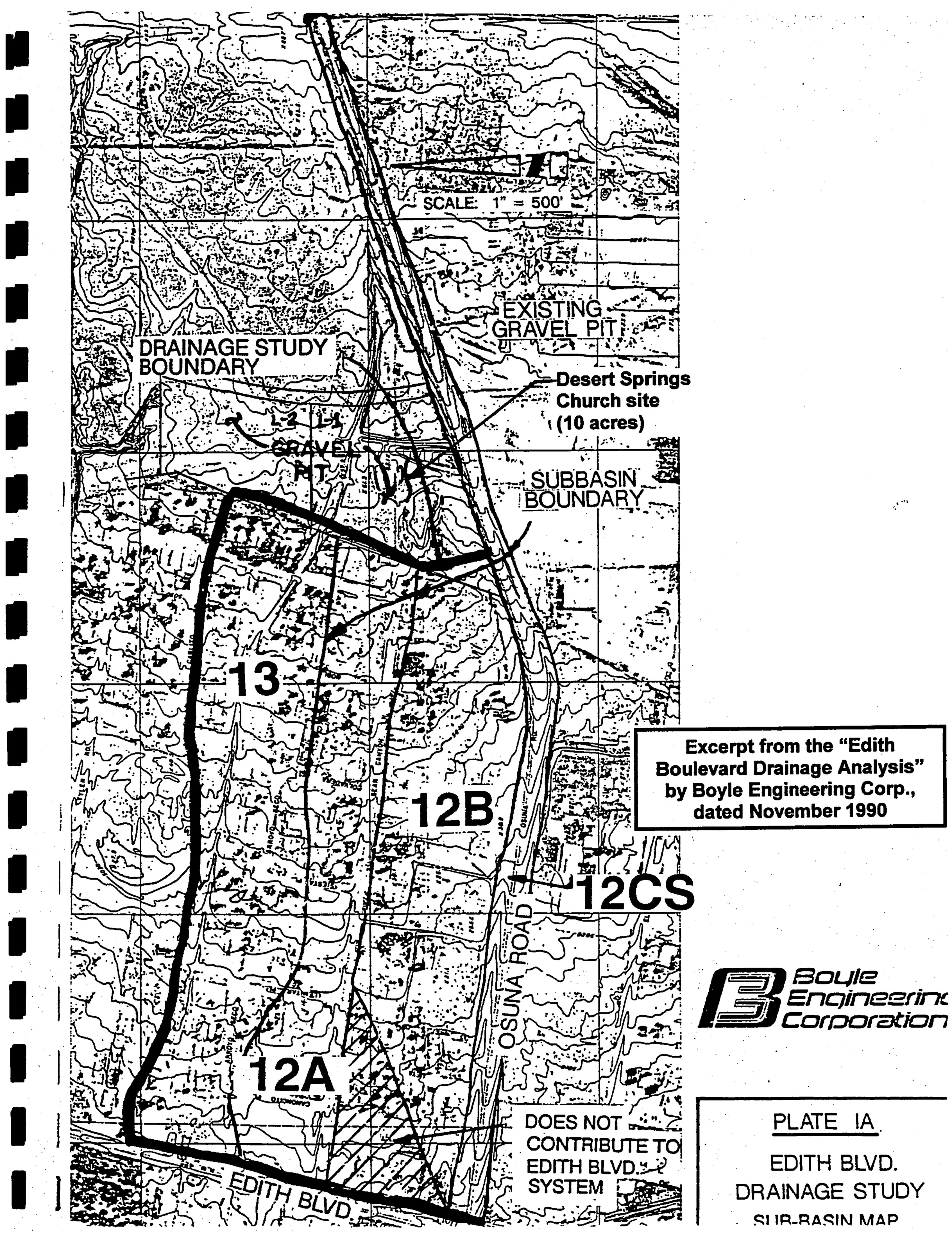
Interior Courtyard. The new building has an open-air courtyard that requires storm drainage service. The calculations for the runoff are summarized on page A-13. The discharge pipe was designed for a 1% slope, but a 2% slope can be provided, and has been included in the construction drawings. The weir calculations on page A-13 indicate that the inlet should have a perimeter length of at least 4' in order to keep the water depth down to less than 1½" during the 100-year storm. An actual inlet was not specified, as the architect and contractor will want to choose an inlet that meets the aesthetic and practical requirements of this location.

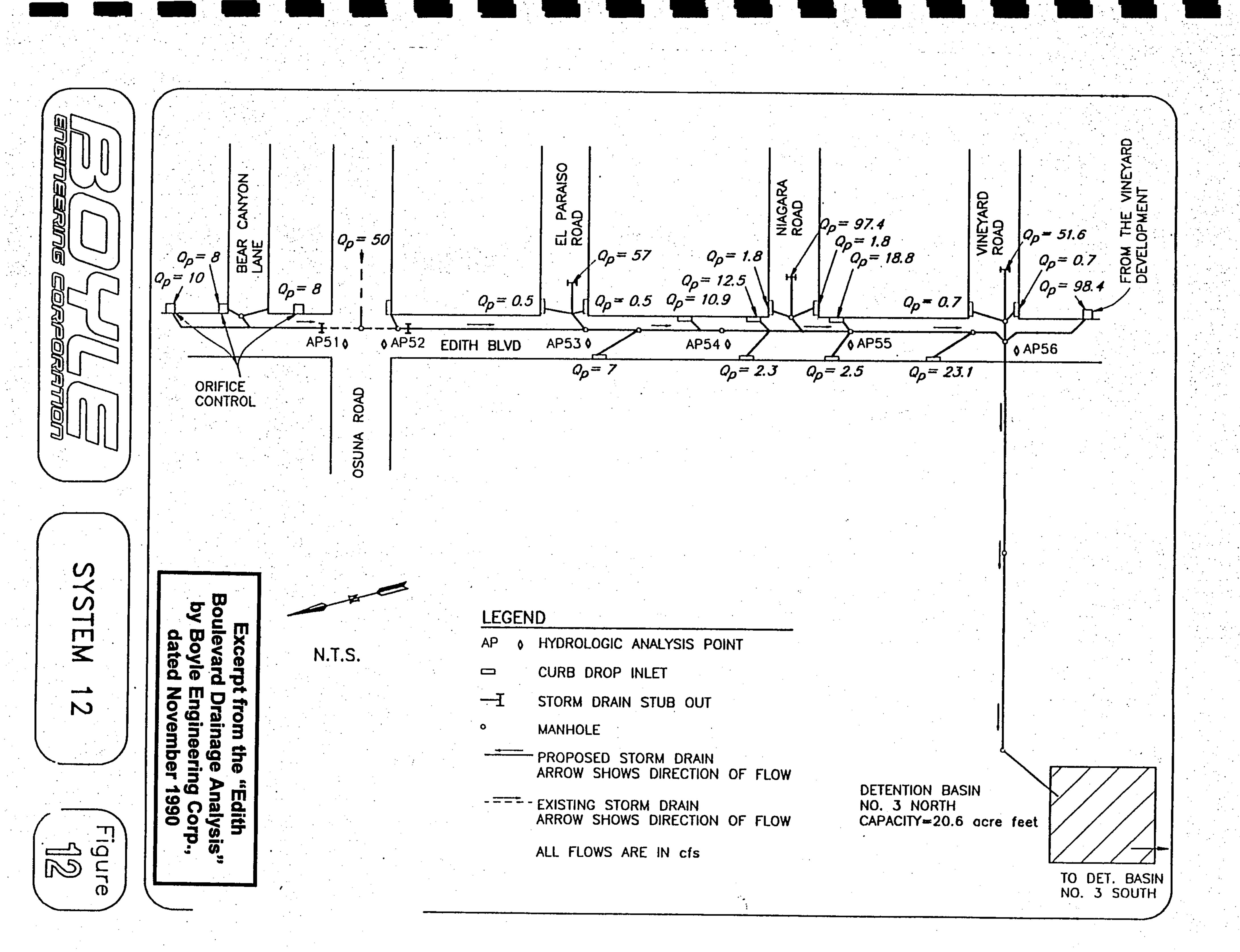
Parking Lot Discharge. There are two points where runoff will discharge from the parking lot and into the storm drain system. Per page A-12, it was determined that a storm inlet equivalent to an Albuquerque single C inlet would be sufficient at these locations, as long as the grate is depressed to an elevation 9" below the top of curb. In the event of a storm larger than the 100-year design storm, the excess runoff that could not get into the storm drain system would simply bubble up over the curbs and across the adjacent dirt surfaces, and eventually meander into Osuna Road.

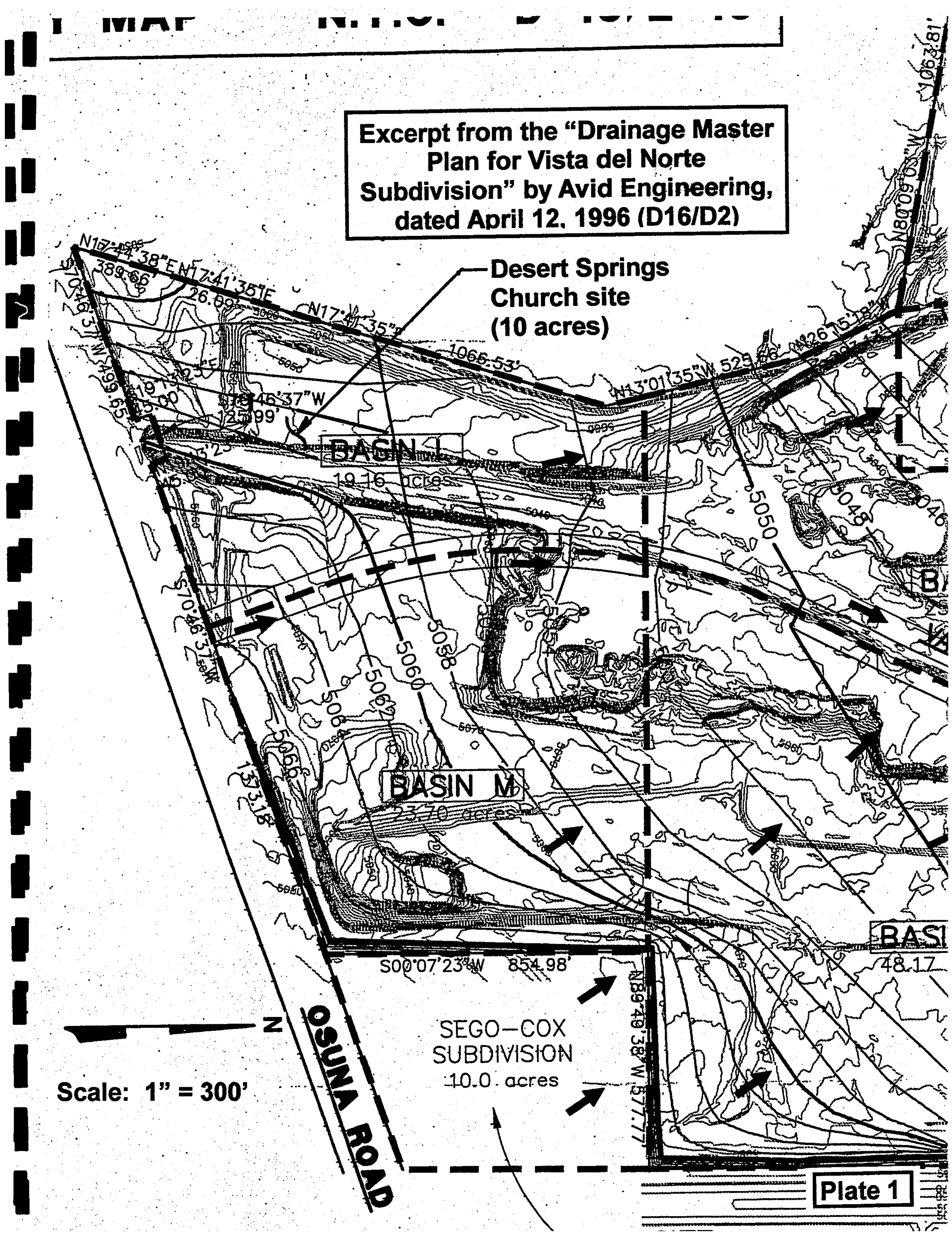
STORM DRAIN SYSTEM DATA REPEATED FROM "DRAINAGE REPORT FOR OSUNA ROAD——SECOND STREET THROUGH NORTH DIVERSION CHANNEL," BY ESPEY HUSTON AND ASSOCIATES, AUGUST 1986. REVISED, JANUARY 1988.

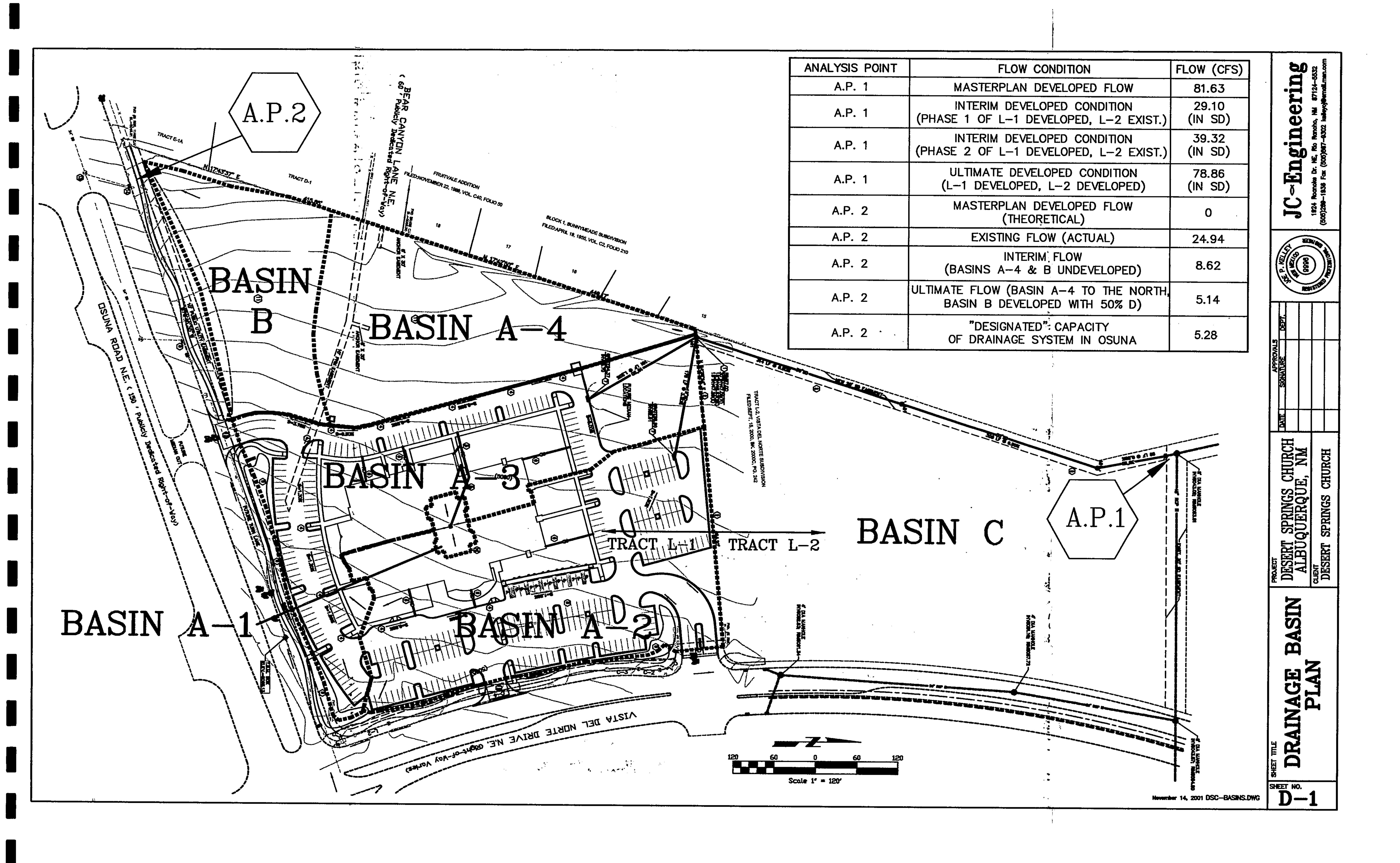












Storm Inlet Design-Inlet in Sump Condition

Inlets in a sump undergo two flow conditions. When the water is shallow, it flows into the inlet under weir conditions, and the weir equation governs. When the water is deeper, the water surface closes over the top of the grate, and the flow becomes an orifice condition. So the orifice equation applies. These two equations will be used to compute the inlet capacity as indicated below.

Inlet 1--the northern inlet

Inlet 2--the inlet adjacent to dumpster

Design $Q_{100} =$

14.76 cfs

14.45 cfs

Use the orifice equation for submerged flows:

 $Q = C*A*(2*g*H)^{1/2} * Cf$

Standard Albq Grate Criteria:

Gross dimensions: 40" x 25" Open dimensions: 35.5" x 18.5" Open area: 657 sq.in. = 4.56 sq.ft.

Where:

C = orifice coefficient =

0.60

A = orifice size =

4.56 sq. ft. (for a single Albq grate)

g = gravity force =

32.217 ft/sec²

Clogging factor, Cf =

0.80 (in a sump, but with a curb opening behind)

Design $Q_{100} =$

H = water depth in feet above the grate (varies per table below).

Q = flow in cfs (varies per table below).

Use the weir equation for unsubmerged flows:

 $Q = C*L*(H)^{3/2} * Cf$

Where:

C = weir coefficient =

3.30

L = length of weir =

6.04 feet (for a single Albq grate, with flow on three sides)

Clogging factor, Cf =

0.80 (in a sump, but with a curb opening behind)

H = water depth above grate in feet (varies per table below).

Q = flow in cfs (varies per table below).

	Weir Flow	Orifice	
H = Water Depth (ft)	(cfs)	Flow (cfs)	
0.00	0.00	0.00	Note: The non-governing values
0.10	5.56	0.50	have been darkened out in the
0.20	7.86	1.43	table.
0.30	9.62	2.62	
0.40	11.11	4.03	
0.50	12.42	5.64	
0.60	13.61	7.41	Q = 14.76 for inlet 1, the design
0.70	14.70	9,34	Q. A single grate will suffice,
0.80	15.71	11.41	without going over the curb, if the
0.90	16.67	13.61	curb face is increased to 9".
1.00	17.57	15.95	The water curface alocae aver
1.10	18.43	18.40	The water surface closes over
1.20	19.25	20.96	the top of the inlet at this
1.30	20.03	23.64	depth.
1.40	20.79	26.41	
1.50	21.52	29.29	
1.60	22.22	32.27	
1.70	22.91	35.34	
1.80	23.57	38.51	
1.90	24.22	41.76	

Courtyard Storm Inlet Design

Pond 2

This is the "pond" in the courtyard. It has been designed to discharge the 100-year flow in the courtyard (basin A-1, 0.55 cfs), below the top of grate elevation (5061.75).

Use the orifice equation for submerged flows:

$$Q = C*A*(2*g*H)^{1/2}$$

Where:

C = orifice coefficient =

0.60

A = orifice size =

0.20 sq. ft. (for a

6 " dia. pipe)

g = gravitational force =

32.217 ft/sec²

H = water depth in feet above the orifice centroid (varies per table below).

Centroid elevation =

5,061.25

Q = flow in cfs (varies per table below).

Water Surface Elevation	Water Depth (ft)	Flow (cfs)
5,061.75	0.50	0.67
5,061.85	0.60	0.73
5,061.86	0.61	0.74
5,062.87	1.62	1.20

Weir Rating Curve (Controls at Shallow Depth)

The discharge into the grate in the courtyard will be via weir flow. The perimeter of the grate is the weir. Size the grate such that the weir flow is no deeper than 1" (0.08') in the 100-year storm.

Weir Calculation for Basin A-1 ($Q_{100} = 0.57$ CFS)

$$Q = C*L*(H)^{3/2}$$

Where:

C = weir coefficient =

3.30

L = length of weir =

4.00 feet

Weir Bottom Elevation =

5061.75

H = water depth above weir bottom in feet (varies per table below).

Q = flow in cfs (varies per table below).

3)	Weir Flow (cfs)	Water Depth (ft)	Elevation
	0.00	0.00	5061.75
·	0.42	0.10	5061.85
	0.48	0.11	5061.86
	0.55	0.12	5061.87
	0.62	0.13	5061.88
	0.69	0.14	5061.89

The 0.57 cfs flow will discharge at about 0.12' (=1.5") deep.

Osuna Road Sidewalk Culvert Design

Southwest Pond

This is the "pond" in the southwest corner of the site. It has been designed to discharge the 100-year flow into Osuan Road at less than the 10-year "historic" flow as determined in the drainage report (5.52 cfs, which is the "designated" capacity of the storm drain).

Use the weir equation:

$$Q = C^*L^*(H)^{3/2}$$

Where:

C = weir coefficient = 3.30

L = length of weir = 1.00 feet

Weir Bottom Elevation = 5050.90

H = water depth above weir bottom in feet (varies per table below).

Q = flow in cfs (varies per table below).

Elevation	Water Depth (ft)	Weir Flow (cfs)
5050.90	0.00	0.00
5051.30	0.40	0.83
5052.40	1.50	6.06

Osuna Road Pipe Outlet Design

Southwest Pond

This is the "pond" in the southwest corner of the site. It has been designed to discharge the 100-year flow into Osuan Road at less than the 10-year "historic" flow as determined in the drainage report (5.52 cfs, which is the "designated" capacity of the storm drain).

Use the orifice equation for submerged flows:

 $Q = C*A*(2*g*H)^{1/2}$

Where:

0.60 C = orifice coefficient =

0.79 sq. ft. (for a 12 " dia. pipe) A = orifice size =

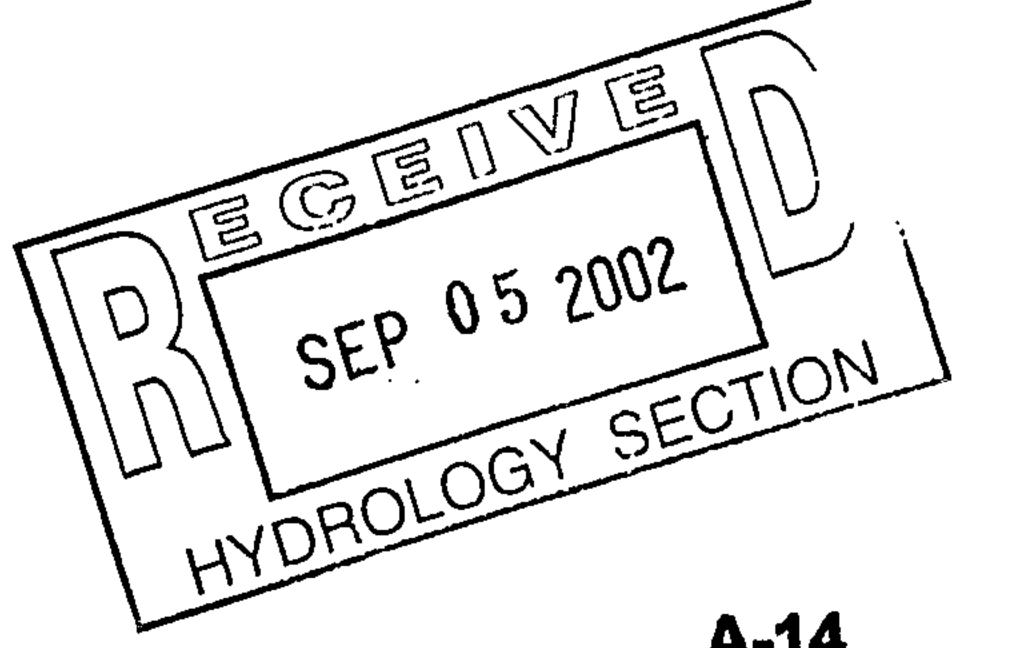
32.217 ft/sec² g = gravitational force =

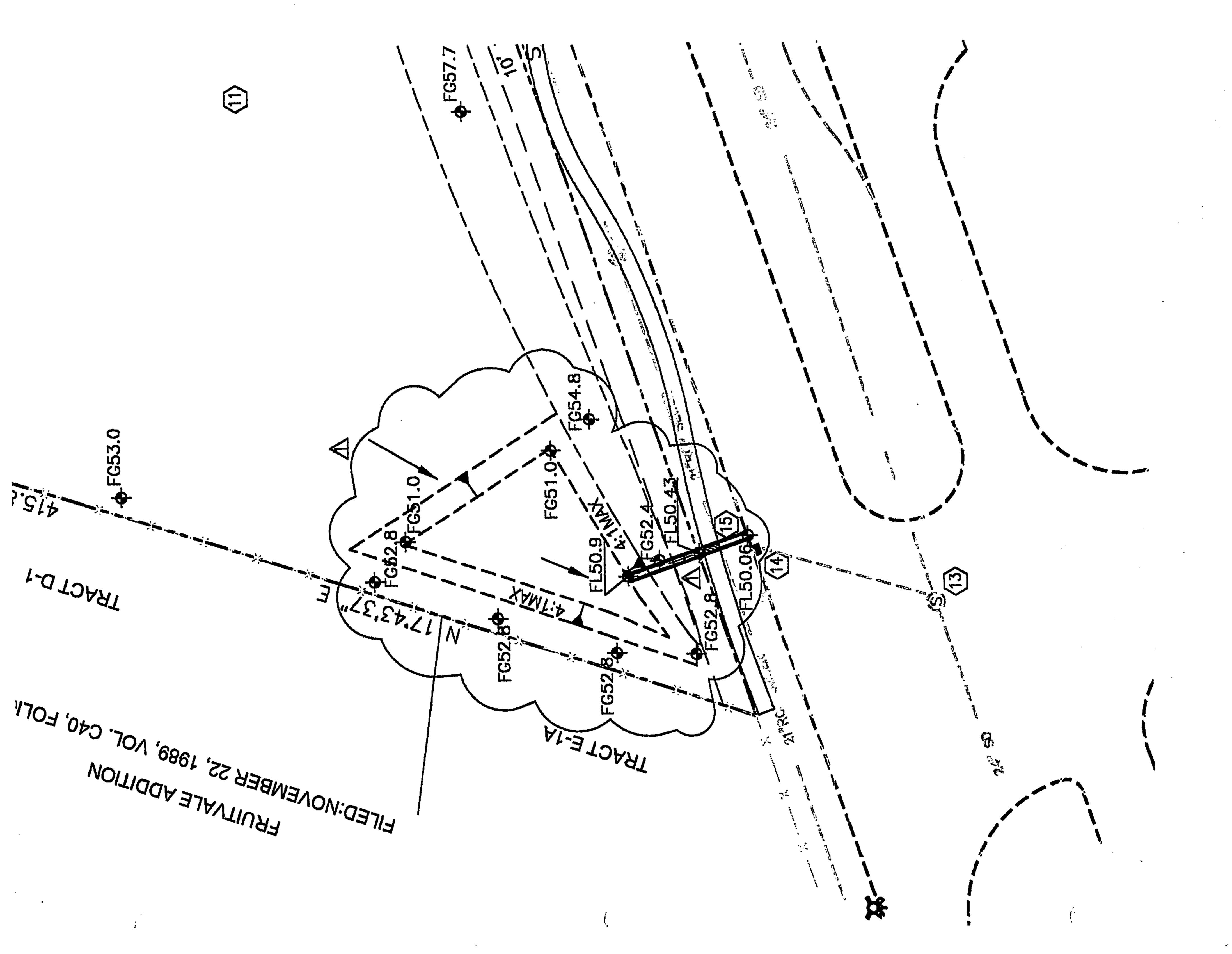
H = water depth in feet above the orifice centroid (varies per table below).

5,051.40 (invert 5,050.9) Centroid elevation =

Q = flow in cfs (varies per table below).

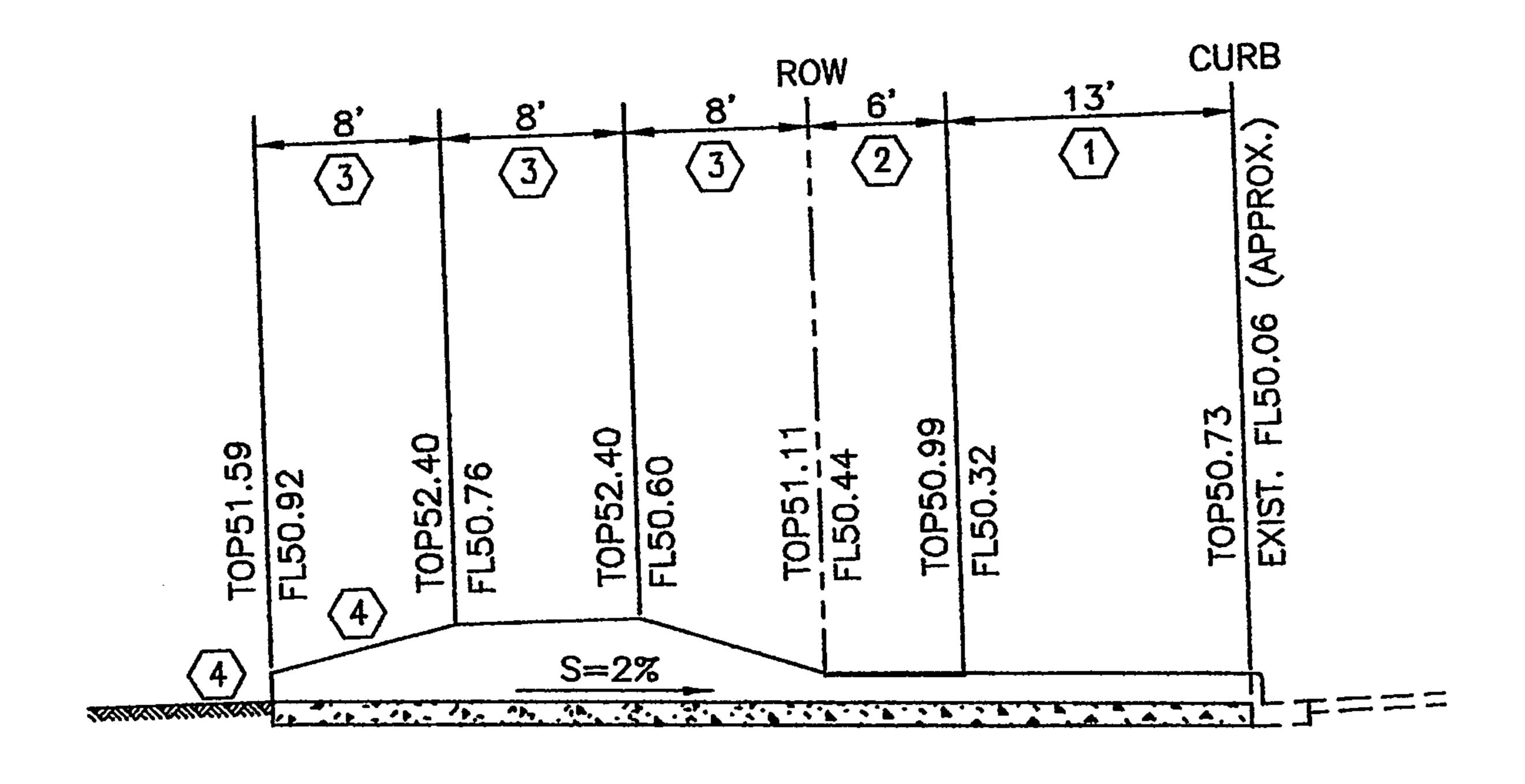
2 = flow in cfs (varies per ta Water Surface Elevation	Water Depth (ft)	Flow (cfs)
	0.00	0.00
5,050.90	0.60	2.93
5,052.00		3.78
5,052.40	1.00	4.48
5,052.80	1.40	4.40





KEYED NOTES

- (1) INSTALL 4' DIA. MANHOLE.
- (2) LIMIT OF GRADING. ALL DISTURBED EARTHEN SURFACES SHALL BE REVEGETATED OR COVERED WITH AN IMPERVIOUS SURFACE.
- (3) MAKE WATERTIGHT CONNECTION TO EXISTING STORM DRAIN PIPE.
- (4) INSTALL 6" CONC. CURB & GUTTER AS INDICATED BY THIS NOTE. ALL CURB NOT SO INDICATED SHALL BE 6" RIBBON CURB PER ARCHITECTURAL PLANS.
- (5) INSTALL ROOF DRAIN WITH 2% MIN. SLOPE. ROOF DRAIN SHALL CONNECT TO PARKING LOT VIA PIPE PENETRATION THROUGH THE CURB.
- (6) INSTALL ROOF DRAIN WITH 1% MIN. SLOPE. ROOF DRAIN SHALL CONNECT TO PARKING LOT VIA PIPE PENETRATION THROUGH THE CURB.
- CONSTRUCT STORM INLET SIMILAR TO TYPE "C" COA STORM INLET. TOP OF INLET TO BE FLUSH WITH TOP OF ADJACENT 6" CURB. INLETS SHALL HAVE LOCAL DEPRESSION TO PUSH TOP OF GRATE ELEVATION DOWN TO 9" BELOW TOP OF CURB. INLET GRATING WILL SUSTAIN FOOT TRAFFIC, AND SHALL BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.
- (8) EXIST. TYPE C INLET. RECORD DATA: TC57.69, INV52.86.
- EARTHEN BERM. HORIZONTAL LOCATION OF BERM MAY VARY, AS LONG AS THE VERTICAL ELEVATION IS MAINTAINED. THE BERM IS INTENDED TO BE 3' HIGHER THAN THE PARKING LOT, TO SHIELD PARKED VEHICLES FROM THE VIEW OF THE TRAVELLING PUBLIC.
- INSTALL NEW STORM INLET IN COURTYARD. TG61.75, INV61.00. INLET SHALL HAVE A MINIMUM PERIMETER LENGTH OF 8'.
- THE INTENTION OF THIS PLAN IS TO PROVIDE A SITE WITH BALANCED EARTHWORK. IN THE EVENT THAT MORE OR LESS DIRT IS NEEDED TO REACH THE ELEVATIONS SHOWN IN THE PAVED AREAS, ADDITIONAL EARTHWORK MAY BE PERFORMED IN THE UNPAVED AREAS.
- NEATLY CUT AND REMOVE THE EXISTING CURB AND GUTTER, AND CONSTRUCT NEW DRIVEWAY OPENING WITH VALLEY GUTTER AND HANDICAP RAMPS PER C.O.A. STANDARD DWG 2426. TRANSITION FROM 8" TO 6" CURB HEIGHT THROUGH THE RETURN.
- EXIST. SD MH. RECORD DATA: RIM 5048.1, INV E40.83, INV W40.72, INV N41.33. VERTICAL DATA IS CORRECT, BUT LOCATIONS OF UNDERGROUND STORM DRAIN AS SHOWN ON PLANS ARE APPROXIMATE.
- (14) EXIST. TYPE A INLET. TC47.15, INV 42.32 (RECORD DATA).
- INSTALL SINGLE 12" SIDEWALK CULVERT PER COA STD DWG 2236, WITH PLATE ACROSS THE SIDEWALK ONLY. EXTEND THE SIDES VERTICALLY UPWARD ADJACENT TO BERM, TO MATCH TOP OF BERM.
 - (16) SEE SHEET C3.1 FOR STORM DRAIN PROFILE.



SIDEWALK CULVERT NOTES

- (1) INSTALL 12" WIDE SIDEWALK CULVERT PER COA STD DWG 2236, 8" DEEP, WITHOUT CHECKERED PLATE ON TOP.
- (2) INSTALL 12" WIDE SIDEWALK CULVERT PER COA STD DWG 2236, 8" DEEP, WITH CHECKERED PLATE ON TOP.
- (3) INSTALL 12" WIDE SIDEWALK CULVERT PER COA STD DWG 2236, WITH NO CHECKERED PLATE ON TOP, AND WALL HEIGHT VARYING AS INDICATED. WHEN WALL HEIGHT EXCEEDS 8", INSTALL VERTICAL DOWELS AT 18" O.C., WITH 3" HOOKS TOP AND BOTTOM, SIMILAR TO DOWEL DETAIL ON STD DWG 2236.
- (4) INSTALL 4" RIPRAP OR COBBLE, 8" DEEP, AROUND INLET 5' WIDE.

E-16/821

PRIVATE DRAINAGE EASEMENT AGREEMENT

THIS PRIVATE DRAINAGE EASEMENT AGREEMENT is made as of the delication of December, 2001, by and between DESERT SPRINGS CHURCH, a New Mexico non-profit corporation (the "Church") and VISTA DEL NORTE DEVELOPMENT, L.L.C., a New Mexico limited liability company ("VDN").

RECITALS:

A. The Church is the owner of the following described property (the "Church Property"):

Tract L-1, Vista del Norte, as the same is shown on the Plat for Vista del Norte Subdivision Tract L-1 and L-2, filed in the Bernalillo County, New Mexico real estate records on the 15th day of September, 2000, in Map Book 2000-C, Folio 242.

B. VDN is the owner of the following described property (the "VDN Property"):

Tract L-2, Vista del Norte, as the same is shown on the Plat for Vista del Norte Subdivision Tract L-1 and L-2, filed in the Bernalillo County, New Mexico real estate records on the 15th day of September, 2000, in Map Book 2000-C, Folio 242

The Church Property and the VDN Property are sometimes referred to herein as the "Properties".

- C. The Church Property and the VDN Property abut one another and both front on Vista del Norte Drive, NE; and
- D. The development of the Church Property requires a storm drainage pipe, together with appurtenances, including manholes (the "Drainage Facilities") within the western twenty feet (20') of the VDN Property.
- E. VDN has agreed to grant to the Church an easement for the Drainage H:\SUNDT\JAM\LEGALDOC\drainage agreement.doc/February 21, 2002

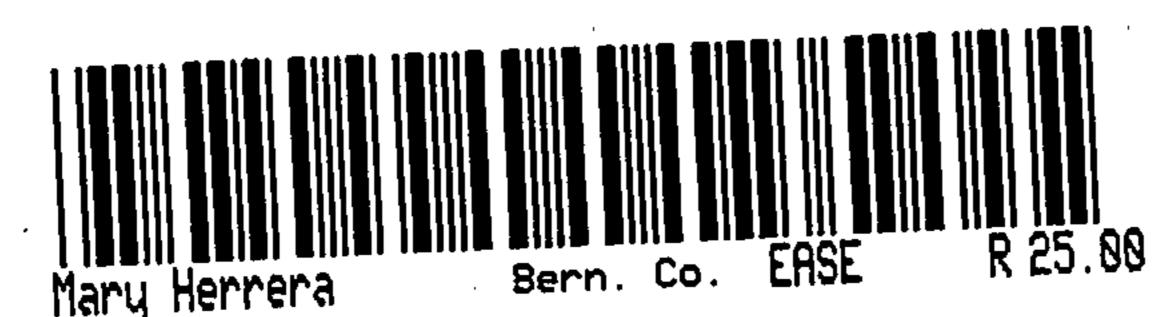


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Facilities (the "Easement") across the westerly twenty feet (20') of the VDN Property as shown and described on Exhibit "A" attached hereto and incorporated herein by reference (the "Easement Property").

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained herein, the parties agree as follows:

- 1. Grant of Easement. The VDN grants to the Church a private drainage easement for the construction, operation, and maintenance of the Drainage Facilities over and across the Easement Property. The Drainage Facilities shall be located underground, except for the top of the manholes. The Church shall have the right to use of the surface of the Easement Property for construction and maintenance of the Drainage Facilities.
- 2. Responsibility for Construction and Maintenance of Improvements. The Church shall construct the Drainage Facilities, at the Church's expense. The Church shall be responsible for the maintenance of the Drainage Facilities. The Church agrees to indemnify and to hold VDN harmless from any claims, suits, damages, or actions resulting from the negligent acts or omissions of VDN or those barred by Section 56-7-1, NMSA, 1978 Comp. In the event that any of VDN's improvements or landscaping are damaged or destroyed by the Church, or its employees, agents, or contractors, during the operation or maintenance of the Drainage Facilities, the Church shall repair or restore such damaged or destroyed improvements or landscaping.
 - 3. <u>Duration</u>. The Easement shall be in perpetuity.
- 4. Exclusivity. The Easement shall be non-exclusive and VDN shall maintain the right to use the Easement Property for all purposes not inconsistent with the rights H:\SUNDT\JAM\LEGALDOC\drainage agreement.doc/February 21, 2002

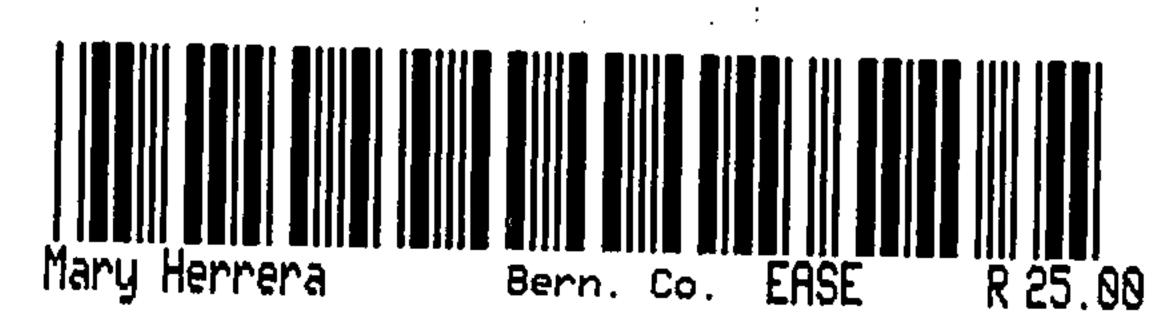


2002023769 5630810 Page: 2 of 10 02/22/2002 09:18A Bk-A32 Pg-3694 granted herein. VDN expressly reserves the right to use of the surface of the Easement Property for driveways, parking, curbs, and landscaping.

5. <u>Dedication</u>. In the event that the City of Albuquerque (the "City") requests dedication of the Drainage Facilities as public facilities, then the Church agrees to dedicate the Drainage Facilities to the City, and VDN agrees to grant a public easement to the City for the Drainage Facilities.

6. General Provisions.

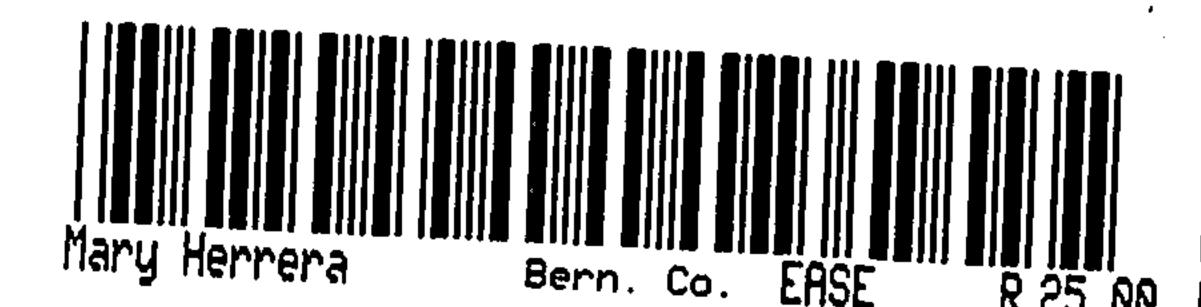
- (a) <u>Insurance</u>. The Church shall maintain adequate liability insurance to cover liabilities resulting from the use of the Easement. The Church agrees to provide proof of such coverage to VDN at VDN's request.
- (b) Inurement. This Agreement and the Easements, covenants, restrictions, benefits and obligations created hereby shall inure to the benefit of and be binding upon each party and its successors and assigns, shall run with the Properties, and be appurtenant thereto; provided, however, that if either party conveys any portion or all of its interest in any parcel owned by it, such party shall thereupon be released and discharged from any and all further obligations under this Agreement as it had in connection with the property conveyed by it, and provided further, that no such sale shall release such party from any liabilities, actual or contingent, existing as of the time of such conveyance;
 - (c) <u>Injunctive Relief and Damages</u>. In the event of any violation or threatened violation of any provision in this Agreement by either party, lessee, or occupant of any portion of the Properties, either party shall have the right, in addition to the other remedies herein provided, to enjoin such violation or H:\SUNDT\JAM\LEGALDOC\drainage agreement.doc/February 21, 2002



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threatened violation and/or to sue for damages resulting therefrom. The prevailing party shall be entitled to reasonable attorneys' fees and costs in any such action.

- (d) Right to Cure. Should either party fail to timely perform any of its obligations hereunder and thereafter fail to perform or fail to diligently pursue the performance of such obligations within fifteen (15) days of its receipt of the other party's written demand therefor, the party giving such notice shall, in addition to any other remedy provided at law or in this Agreement, have the right (but not the obligation) to perform such obligation on behalf of the defaulting party and the defaulting party shall reimburse the curing party for the cost of performing such work within thirty (30) days after the receipt of billing therefor and proof of payment thereof. In the event the defaulting party does not reimburse the curing party, the curing party shall have (a) the right to exercise any and all rights which such curing party might have at law to collect the same, and (b) have a lien on the property owned by the defaulting party for the amount not reimbursed by the defaulting party, which amount shall bear interest at twelve percent (12%) per annum, from the date of billing until paid. Such lien may be filed for record by the curing party as a claim against the defaulting party, in the form required by law, in the office of the County Recorder of Bernalillo County, State of New Mexico, signed and certified, which lien shall contain at least the following information:
 - (i) The name of the lien claimant, if any;
- (ii) The name of the defaulting party, a description of the work performed on behalf of such party and a statement itemizing the cost H:\SUNDT\JAM\LEGALDOC\drainage agreement.doc/February 21, 2002



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thereof; and

(iii) A description of the property being liened. The lien so claimed shall attach from the date of recordation in the amount claimed by the party curing the default and it may be enforced and foreclosed in any manner allowed by law, including but not limited to suits to foreclose a mortgage or mechanic's lien under the applicable law or laws of the State of New Mexico.

Such a lien, when so established against the real property described in such lien, shall be prior and superior to any right, title, interest, lien or claim which may be or is acquired or becomes attached to such real property after the time or recording the claim of lien.

7. Notices.

Any notice or demand given or served by one Owner to another shall not be deemed to have been duly given or served unless in writing and forwarded by certified or registered mail, postage prepaid, or by another commercially recognized means of delivery, addressed as follows:

Church:

Desert Springs Bible Church, Inc.

Attn: William A. Reid 7509 Paseo del Norte, NE

Albuquerque, New Mexico 87113

with a copy to:

Thomas J. Dunn, Esq.

Moses, Dunn, Farmer & Tuthill

P.O. Box 27047

Albuquerque, New Mexico 87125

ary Herrera

Bern. Co FASE D 25

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VDN:

Vista del Norte Development, L.L.C.

c/o Sundt Construction, Inc.

Attn: Ray Bargull P.O. Box 26685

Tucson, Arizona 85726

with a copy to:

John A. Myers, Esq.

Myers, Oliver & Price, P.C. 1401 Central Avenue, NW

Albuquerque, New Mexico 87104

and:

Brown & Associates, Inc.

Attn: Ron Brown P.O. Box 3671

Albuquerque, New Mexico 87190

The person and the place to which notices are to be mailed may be changed by the parties by written notice to the other.

EXECUTED the day and year first set out above.

Desert Springs Bible Church, Inc., a New Mexico non-profit corporation

By:_____ Name:_____ Its:

VISTA DEL NORTE DEVELOPMENT, L.L.C., a New Mexico limited liability company

By: | John A. Myers
Its: Asst. Manager Pro Ten

lary Herrera Bern Co Foor

2002023769 5630810 Page: 6 of 10 02/22/200209:18A VDN:

Vista del Norte Development, L.L.C.

c/o Sundt Construction, Inc.

Attn: Ray Bargull P.O. Box 26685

Tucson, Arizona 85726

with a copy to:

John A. Myers, Esq.

Myers, Oliver & Price, P.C. 1401 Central Avenue, NW

Albuquerque, New Mexico 87104

and:

Brown & Associates, Inc.

Attn: Ron Brown P.O. Box 3671

Albuquerque, New Mexico 87190

The person and the place to which notices are to be mailed may be changed by the parties by written notice to the other.

EXECUTED the day and year first set out above.

Desert Springs Bible Church, Inc., a New Mexico non-profit corporation

Namb.

Its:

ELDER TREPSVACE

VISTA DEL NORTE DEVELOPMENT, L.L.C., a New Mexico limited liability company

By:__

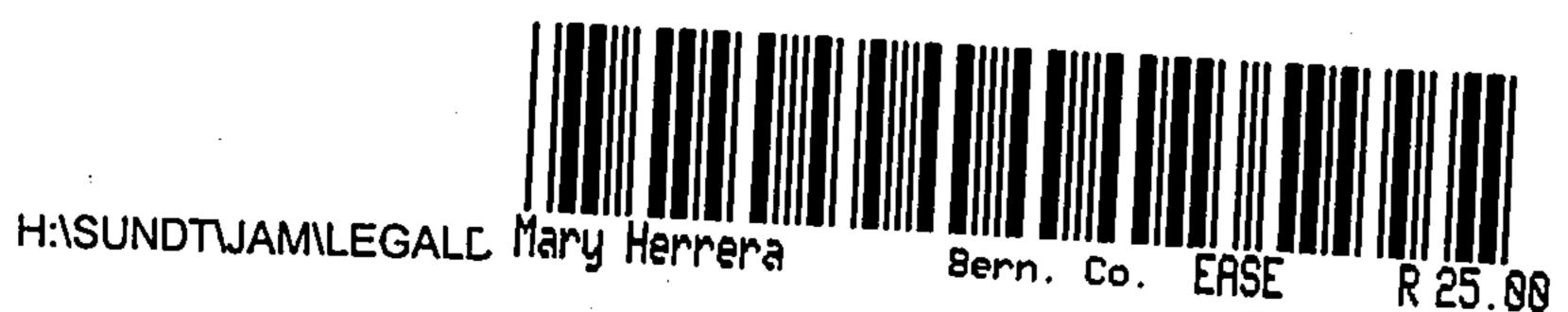
Name:

John A. MURC

ts: Assistant Manager Pro Ten

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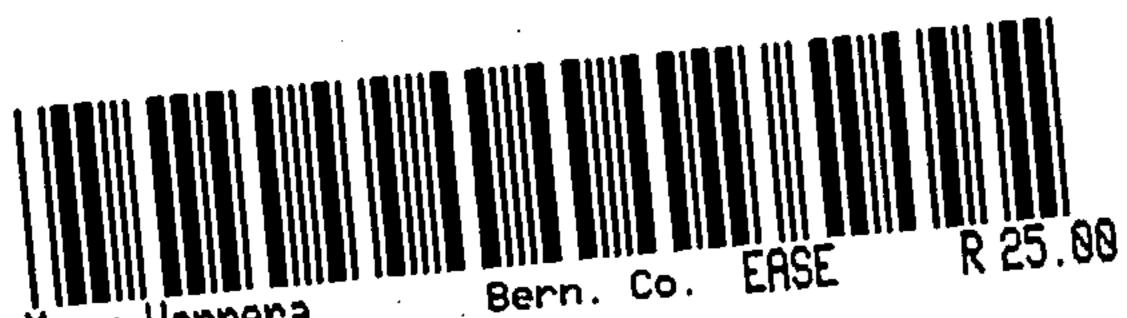
STATE OF NEW MEXICO)
OUNTY OF BERNALILLO)
This instrument was acknowledged before me on December 18, 2001, by
Mexico non-profit corporation. TREASURER/ ELDER Of Desert Springs Bible Church, Inc., a New
Mych Bertson
Notary Public
My Commission Expires:
10-09-2004
STATE OF New Mexico) (Sounty Of Bernalillo) This instrument was acknowledged before me on December 14, 2001, by Assistant Pro of Vista del Norte Development, L.L.C., a New Mexico limited liability company. Tem
Michel B. Myn Notary Public
Notary Public 7
Notary Public Notary Public



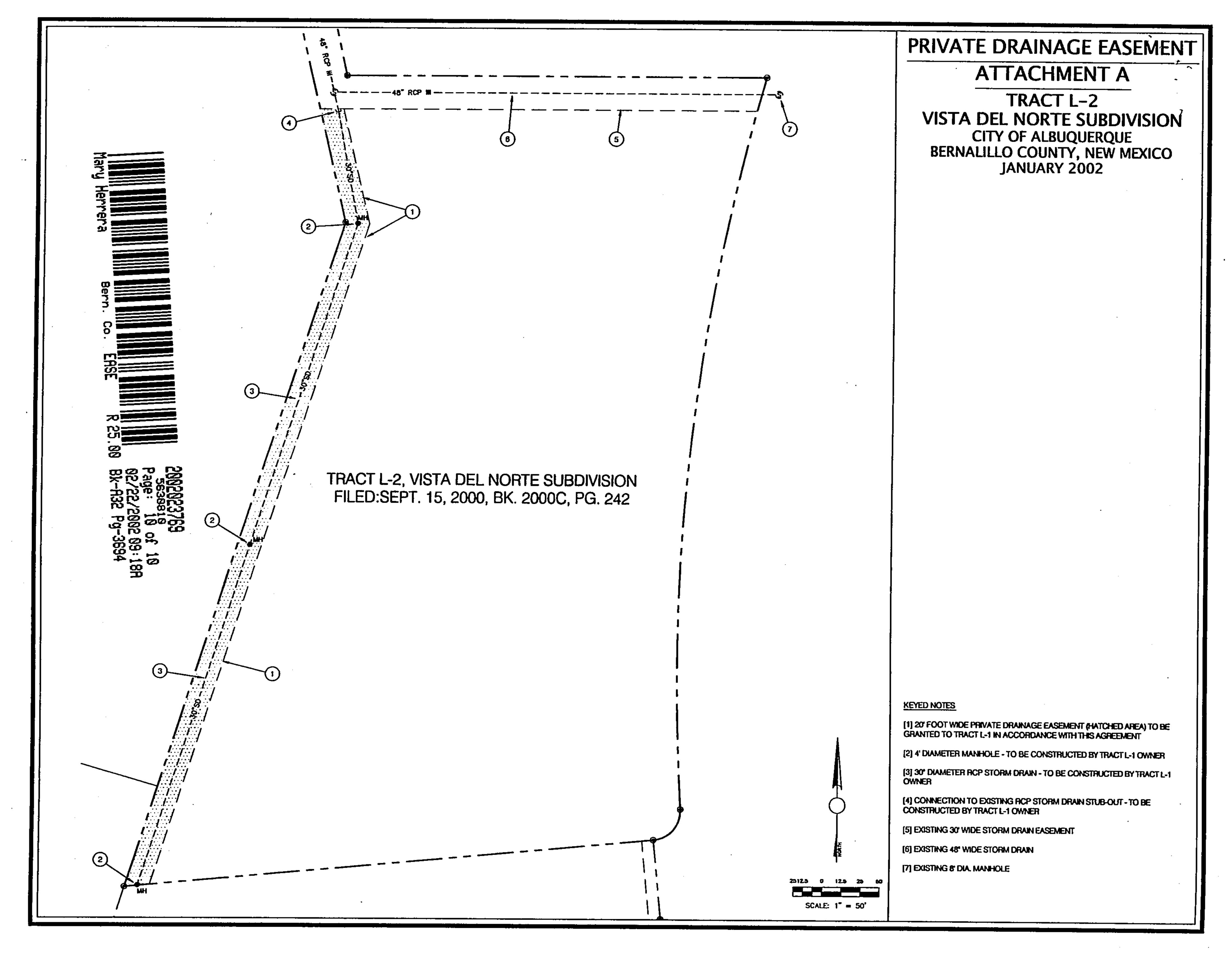
2002023769 5630810 Page: 8 of 10 02/22/2002 09:18A Bk-A32 Pg-3694

COUNTY OF BERNALILLO)ss.)
This instrument was a	cknowledged before me on December, 2001, by
New Mexico non-profit corporat	tion.
	Notary Public
My Commission Expires:	
	•
CTATE OF AIMIN NAPON	
SIAIE OF INCO MEXICO)SS
COUNTY OF BERNALLIO))
COUNTY OF BERNALILIO This instrument was ac	February 2 knowledged before me on December 21 ST 2004 by
COUNTY OF BERNAULLO This instrument was action A. Muers Asst. Mai	February Z knowledged before me on December 215, 2001, by Case Fro Temof Vista del Norte Development, L.L.C., a
STATE OF NEW MEXICO COUNTY OF BERNAULLO This instrument was action A. Muers, Asst. Market M	February 2 knowledged before me on December 21 ST 2001, by
COUNTY OF BERNAULLO This instrument was action A. Muers, Asst. Mai	February 2 knowledged before me on December 21 ST 2001; by

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DRAINAGE COVENANT

This Drainage Covenant, between [state the name of	the present real property
owner exactly as shown on the real estate document convey	ing title to the present owner
and state the legal status of the owner, for example, "single	person," "husband and wife,"
"corporation of the State of X," "partnership"]: DESER	T SPRINGS CHURCH,
A NEW MEXICO NON-PROFIT CORPORAT	101
("owner") [his, her, their, or its] heirs, executors, successors	s, assigns and transferees,
whose address is 105 OSUNA BLVD NE,	ALBUQUERQUE,
NEW MEXICO	and the County of Bernalillo,
a New Mexico political subdivision ("County", whose addr	ess is One Civic Plaza,
Albuquerque, New Mexico 87103, is made in Albuquerque	Bernalillo County, New
Mexico and is entered into as of the date Owner signs this E	Easement.

1. Recital. Owner is the owner of certain real property located at [give general description, for instance, subdivision, lot and block or street address]:

TRACT L-1, VISTA DEL NORTE SUBDIVISION in Bernalillo County, New Mexico (the "Property").

Pursuant to County ordinance, regulations and other applicable laws, the Owner is required to construct and maintain certain drainage facilities on the Property, and the parties wish to enter into this agreement to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facilities. Owner shall construct the following "Drainage Facility" within the Property at Owner's sole expense in accordance with the standards, plans and specifications approved by the County:

DETENTION POND AT SOUTHWEST CORNER AS INDICATED

W'DRAINAGE REPORT FOR DESERT SPRINGS CHURCH'

DATED NOVEMBER 14, 2001.

The Drainage Facility is more particularly described in the attached Exhibit A. The Owner shall not permit the Drainage Facility to constitute a hazard to the health or safety of the general public.

- 3. <u>Maintenance of Drainage Facility.</u> The Owner shall maintain the Drainage Facility at Owner's cost in accordance with the approved Drainage Report and plans.
- 4. <u>County's Right of Entry</u>. The County has the right to enter upon the Property at any time and perform whatever inspection of the Drainage Facility it deems appropriate, without liability to the Owner.
- 5. Demand for Removal, Construction or Repair. The County may send written notice ("Notice") to the Owner requiring the owner to construct, remove or repair the Drainage Facility within ____60___ days ("Deadline") of receipt of the Notice, as



2002052693 5659896 Page: 1 of 4 provided in Section 11, and the Owner shall comply promptly with the requirements of the Notice. The Owner shall perform all required work by the Deadline, at Owner's sole expense.

- Owner fails to comply with the terms of the Notice by the Deadline, or if the County determines that an emergency condition exists, the County may perform the work itself. The County then may assess the Owner for the cost of the work and for any other expenses or damages which result from Owner's failure to perform. The Owner agrees promptly to pay the County the amount assessed. If the Owner fails to pay the County within thirty (30) days after the County gives the Owner written notice of the amount due, the County may impose a lien against Owner's Property for the total resulting amount plus interest.
- 7. <u>Liability of County for Repair after Notice or as a Result of Emergency.</u>
 The County shall not be liable to the Owner for any damages resulting form the County's repair, removal or maintenance following a notice to the Owner as required in this agreement or in an emergency unless the damages are the result of the reckless conduct or gross negligence of the County.
- 8. <u>Indemnification</u>. A. As a part of the consideration for this grant, subject to the provisions of the New Mexico Tort Claims Act and all other applicable New Mexico laws, the County agrees to save Owner harmless from any and all liability arising from the County's negligent use of the Drainage Facility. The County does not agree to save Owner harmless from any liability, which may arise from Owner's use or misuse of the Drainage Facility and the Property.
- B. The Owner hereby agrees to hold harmless, indemnify and defend the Bernalillo County, its Officers, Agents and Employees from and against any and all liability, suits, actions, claims, damages, costs of defense and fees arising out of or resulting from the Owner's and/or any of his employee's, agent's, or officer's conduct, performance, act(s), errors or omission(s), relating in any manner whatsoever to this Covenant.

Provided, however, such indemnity shall not extend to liability, claims, damages, losses or expenses, including attorney's fees, arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the indemnitee, or the agents or employees of the indemnitee, or the giving of or the failure to give directions or instructions by the indemnitee, where such giving or failing to give directions or instructions is a primary cause of bodily injury to persons or damage to property.

9. Cancellation of Agreement and Release of Covenant. This agreement may be cancelled and Owner's covenants released by the County the County's mailing to the Owner notice of the County's intention to record a Cancellation and Release with the Bernalillo County Clerk. The Cancellation and Release shall be effective thirty (30) days



after the date of mailing the notice to the User unless a later date is stated in the notice or in the Cancellation and Release. After the effective date, the County will record the Cancellation and Release with the Bernalillo County Clerk.

- Owner, his heirs, assigns, transferees and successors from an assessment against Owner's Property for improvements to the Property under a duly authorized and approved Special Assessment District or applicable law. The Parties specifically agree that the value of the (Drainage Facility) will not reduce the amount assessed by the County.
- 11. Notice. For purposes of giving formal written notice o the Owner, Owner's address is:

DESERT SPRINGS CHURCH

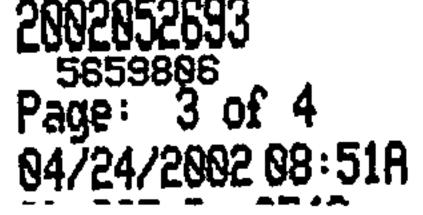
3722 HAWKINS NE

ALBUQUERQUE NM 87109

Notice may be given to the Owner either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the Owner within six (6) days after the notice is mailed if there is not actual evidence or receipt. The Owner may change Owner's address by giving written notice or change by certified mail, return receipt requested, to the Bernalillo County Public Works Department, 2400 Broadway SE, Albuquerque, New Mexico 87102.

- 12. Term. This agreement shall continue until terminated by the County pursuant to Section 9 above.
- Owner set forth herein shall be binding on Owner, his heirs, assigns, transferees and successors and on Owner's Property and shall constitute covenants running the Owner's Property until released by the County.
- 14. Entire agreement. This agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.
- 15. Changes to agreement. Changes to this agreement are binding unless made in writing, signed by both parties.
- 16. Construction and Severability. If any part of this agreement is held to be invalid or unenforceable, the remainder of the agreement will remain valid and enforceable if the remainder is reasonably capable of completion.
 - 17. Captions. The captions to the sections or paragraphs of this agreement are





not part of this agreement and will not affect the meaning or construction of any of its provisions.

Form Not Changed. Owner agrees that changes to the wording of this form are not binding upon the County unless initialed by the Owner are approved and signed by the County Commission Chairman in writing on this form. Its: ELDER, SECRETARY TREASURER SS COUNTY OF Bernalillo The foregoing instrument was acknowledged before me this 23rd day of ,x122002 by [name of person signing]: David Michnovicz April , [Title or capacity, for instance, "President" or "Owner": Elder, Secretary/Treasurer of [name of the entity which owns the Property if other than the individual signing, for instance, the name of the corporation, partnership, or joint venture]: Desert Springs Church My commission expires: 11/16/04

