

DRAINAGE PLAN

The following items concerning Our Lady of Perpetual Help Byzantine Church Drainage Plan are contained hereon:

- Vicinity Map Grading Plan Calculations
- 4. F.I.R.M. Sections

As shown by the Vicinity Map, the site is located at the southwest corner of the intersection of Alvarado Drive N.E. and Aspen Avenue N.E. At present, the site is developed for a church.

As shown by Panel 30 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps published by F.E.M.A. for the City of Albuquerque, New Mexico dated October 14, 1983, this site does not lie within a designated flood hazard zone. Further review of the mapping does not reveal any apparent downstream flooding hazards.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations 2) the limit and character of the existing improvements, 3) the limit and character of the proposed improvements, and 4) continuity between existing and proposed grades. As shown by the Grading Plan, the proposed improvements consist of the removal of existing paving, sidewalk and landscaping and the construction of a building addition, concrete sidewalk, a 2' wide concrete rundown, and a sidewalk culvert on Aspen Avenue N.E.. The site is located in a developed residential area making the construction a modification to an existing site within an infill area. The existing runoff will be allowed to flow in its historic patterns. The runoff from the new construction will exit the site via the new sidewalk culvert onto Aspen Avenue N.E. This can be allowed as it does not have an adverse impact on downstream properties.

Improved City streets lie to the north and east and do not contribute offsite flows to the site. The Lot to the south has parallel topography and a physical barrier at the property line, therefore does not drain onto the site. The land to the west is topographically lower and drains to the west, hence does not contribute offsite flows.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Procedure for 40-acre and Smaller Basins, as set forth in the Revision of Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, dated January, 1993, has been used to quantify the peak rate of discharge and volume of runoff generated. As shown by these calculations, the proposed project will result in a slight increase in developed runoff from this site which will have no affect on properties downstream from this site. Based upon the fact that this is a modification to an existing site within an infill area, the negligible increase in runoff and the absence of downstream flooding the continued free discharge of runoff from this site is appropriate.

CONCRETE

SECTION B-B

CALCULATIONS

Site Characteristics

- 1. Precipitation Zone = 3
- 2. $P_{6,100} = P_{360} = 2.60$
- 3. Total Area $(A_T) = 30,365 \text{ sf}/0.71 \text{ ac}$
- 4. Existing Land Treatment

Treatment	Area (sf/ac)	%
В	3,060/0.07	10.0
С	6,095/0.14	20.1
D	21,210/0.50	69.9

Developed Land Treatment

Treatment	Area (sf/ac)	%
В	3,155/0.07	10.4
C	4,110/0.10	13.6
D	23,100/0.54	76.1

Existing Condition

Volume

 $E_{\mathbf{W}} = (E_{\mathbf{A}}A_{\mathbf{A}} + E_{\mathbf{B}}A_{\mathbf{B}} + E_{\mathbf{C}}A_{\mathbf{C}} + E_{\mathbf{D}}A_{\mathbf{D}})/A_{\mathbf{T}}$ $E_{W} = [(0.92)(0.07) + (1.29)(0.14) + (2.36)(0.50)]/0.71 = 2.01 in$

 $V_{100} = (E_W/12)A_T$

 $V_{100} = (2.01/12)0.71 = 0.1188 \text{ ac.ft.} = 5,055 \text{ cf}$

Peak Discharge

 $Q_{p} = Q_{PA}A_{A} + Q_{PB}A_{B} + Q_{PC}A_{C} + Q_{PD}A_{D}$ $Q_{D} = Q_{100} = (2.60)(0.07) + (3.45)(0.14) + (5.02)(0.50) = 3.2 \text{ cfs}$

Developed Condition

Volume

 $E_{\mathbf{W}} = (E_{\mathbf{A}}A_{\mathbf{A}} + E_{\mathbf{B}}A_{\mathbf{B}} + E_{\mathbf{C}}A_{\mathbf{C}} + E_{\mathbf{D}}A_{\mathbf{D}})/A_{\mathbf{T}}$ $E_W = [(0.92)(0.07) + (1.29)(0.10) + (2.36)(0.54)]/0.71 = 2.07 in$

 $V_{100} = (E_W/12)A_T$

 $V_{100} = (2.07/12)0.71 = 0.1223$ ac.ft. = 5,205 cf

Peak Discharge

 $Q_{p} = Q_{pA}A_{A} + Q_{pB}A_{B} + Q_{pC}A_{C} + Q_{pD}A_{D}$ $Q_{D} = Q_{100} = (2.60)(0.07) + (3.45)(0.10) + (5.02)(0.54) = 3.2 \text{ cfs}$

1. $\Delta V_{100} = 5,205 - 5,055 = 150 \text{ cf (increase)}$

2. $\Delta Q_{100} = 3.2 - 3.2 = 0$ cfs (no change)

DRAINAGE CERTIFICATION

As indicated by the as-built information shown hereon, Our Lady of Perpetual Help Byzantine Church Addition has been graded and drained in substantial compliance with the approved Grading and Drainage Plan. It is based upon this evaluation that issuance of a Permanent Certificate of Occupancy is hereby recommended. The information shown hereon is true and

correct to the best of my knowledge and belief.

F MORTENSEN & ASSOCIATES, INC. 6010-B MIDWAY PARK BLVD. N.E. ALBUQUERQUE D NEW MEXICO 87109

Construction Notes:

1. Two (2) working days prior to any excavation, contractor must contact New Mexico One Call System 260-1990, for location of existing

REVISIONS

AS-BUILT & CERTIFY

DRAWN:

CONTRACTORS

P.O. BOX 11541 ALBUQUERQUE NEW MEXICO 87192-0541 (505) 299-3581

ARCHITECTURAL ENGINEERING CONSULTING SERVICES

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DRAINAGE

JOB:

SHEET

SCALE: AS SHOWN

DATE: 07/95

DRAFTING SERVICE

- 2. Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer in writing so that the conflict can be resolved with a minimum amount of
- 3. All work on this project shall be performed in accordance with applicable federal, state and local laws, rules and regulations concerning construction safety and health.
- 4. All construction within public right-of-way shall be performed in accordance with applicable City of Albuquerque Standards and Procedures.
- 5. If any utility lines, pipelines, or underground utility lines are shown on these drawings, they are shown in an approximate manner only, and such lines may exist where none are shown. If any such existing lines are shown, the location is based upon information provided by the owner of said utility, and the information may be incomplete, or may be obsolete by the time construction commences. The engineer has conducted only preliminary investigation of the location, depth, size, or type of existing autility lines, pipelines, or underground utility lines. This investigation is not conclusive, and may not be complete, therefore, makes no representation pertaining thereto, and assumes no responsibility or liability therefor. The contractor shall inform itself of the location of any utility line, pipeline, or underground utility line in or near the area of the work in advance of and during excavation work. The contractor is fully responsible for any and all damage caused by its failure to locate, identify and preserve any and all existing utilities, pipelines, and underground utility lines. In planning and conducting excavation, the contractor shall comply with state statutes, municipal and local ordinances, rules and regulations, if any, pertaining to the location of these lines and facilities.
- 6. An Excavation/Construction Permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
- Backfill compaction shall be according to residential street use.
- 8. Maintenance of these facilities shall be the responsibility of the owner of the property served.
- 9. The design of planters and landscaped areas is not part of this plan. All planters and landscaped areas adjacent to the building(s) shall be provided with positive drainage to avoid any ponding adjacent to the structure. For construction details, refer to landscaping

Erosion Control Measures:

- 1. The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property. This can be achieved by constructing temporary berms at the property lines and wetting the soil to keep it from blowing.
- 2. The contractor shall promptly clean up any material excavated within the public right-ofway so that the excavated material is not susceptible to being washed down the street.
- 3. The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.

APPROVALS	NAME	DATE
A.C.E./DESIGN		-
INSPECTOR		
A.C.E./FIELD		



CONCRETE

SECTION B-B

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