HYDROLOGY K23/D8 3 PLANS

K23/D8

3 Plans

Consultants terrasol inc.
P.O. Box 142 Sandia Park, New Mexico 87047 (505) 281-9991

May 20, 1980

Mr. Bruno Conegliano
Assistant City Engineer/Hydrology
Municipal Development Department
P. O. Box 1293
Albuquerque, New Mexico 87103

RE: Copper Street Apartments/Letter of May 8, 1980

Dear Bruno:

We have revised the drainage plan to route all sub-drainage areas through individual ponds before release at the 5 year undeveloped runoff rate. Each pond has been sized to hold the Q_{100} developed (-) Q_{100} undeveloped volume with spillways provided to accomodate the Q_{100} developed discharge.

Additionally, you stated other concerns.
1. The crossing structures over the Copper Street Channel will be handled directly by the developer. Based on preliminary plans that the architect was given by the developer, the bridges will be clear-span structures.
2. The drainage plan provides for erosion control of the existing natural channel banks at the respective pond discharge points. If the Copper Street Channel is completed prior to this project, the erosion pads will be modified to suit the final design.
3. Safety barriers will be provided by the architect for all ponds greater than 18" in depth.
4. The side slopes on the ponds for Area "D" have been revised to a maximum of 2:1.
5. Your office indicated that Copper Street Channel will be included in a change-order to the Lomas Basin project, so item #5 will not be necessary, as you have stated.
6. The architect will make the developer aware of the requirements, as stated, for the crossing structures.

We hope the plan revisions and accompanying replies fully address your concerns and we respectfully request approval of the drainage plan for the Copper Street Apartments.

Sincerely,

Christopher L. Weiss, P. E.
President

CLW/vw

Consultants terrasol inc.

P.O. Box 142 Sandia Park, New Mexico 87047 (505) 281-4991

May 8, 1980

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Assistant City Engineer/Hydrology
Municipal Development Department
P. O. Box 1293
Albuquerque, New Mexico 87103

RE: Copper Street Apartments

Dear Bruno:

I have reviewed your comments in the letter dated May 7, 1980, and I believe we can work out agreeable solutions for all parties concerned. However, in the mean time, the developer is most anxious to begin construction. On behalf of the developer, we request that a foundation permit be issued prior to final approval of the revised drainage report.

Thank you.

Respectfully,

Christopher L. Weiss, P. E.
President

CLW/vw

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

May 8, 1980

Christopher Weiss
Consultants, Inc.
P.O. Box 142
Sandia Park, NM 87104

Reference: Copper Street Apartments

Dear Mr. Weiss:

I apologize for the long delay in answering to the submission of the drainage report for the Copper Street Apartments. The primary reason is that this report prompted me to prepare the document, regarding the design of ponding facilities forwarded to you separetely. I have had difficulty with the interim guidelines for the design of drainage facilities since, by using them, the downstream conditions are adversely affected.

Considering in particular your submission for the referenced project, the runoff released instantaneously from the development is the 100 yrs undeveloped runoff plus the 5 yrs undeveloped runoff plus the unrestrain discharge from the area A.

As shown on my document, by sizing the ponding area for the 100 yrs developed runoff and releasing the flow at less than the 5 yrs undeveloped discharge rate, the complete emptying of the detention area occurs in less than 3 hrs. Yet, the peak discharge, released in the manner described, can easily be managed by the downstream facilities.

Beside the need to convey all the runoff to the detention areas before its release in a controll fashion, my other concern regarding the project are as follows:

1. The crossing structure on the Copper Street channel must not restrain or in any way affect the anticipated supercritical flow, nor cause hydraulic disturbances.

2. The discharge of the runoff from the development must not cause erosion of the banks of the channel before the ultimate improvements are constructed. It is also recommended that erosion preventive measures (such as gravelled swales,) be installed within the development, to prevent the conveyance of sediment to the detention areas.

3. Wherever ponding is deeper than 18 inches safety measures need to be indicated.

4. Ponds with side slopes steeper than 3:1, if grassed, cannot be mowed or maintained, thus becoming a headache for the owners. We have little pratical experience with other types of vegetive ground cover, which may be possible on side slopes as steep as 2 to 1; the repeated and unsuccessful attempts made by the University of New Mexico around the Childrens Psychiatric Hospital, indicate that both the soils and the climate are adverse to the establishment of the more common forms of ground covers. It appears that gunite may in these cases be the only option available.

5. Since it is questionable whether the City will be able to issue in the near future a change-order to the Lomas basin project, to construct the Copper Street Channel, it may be necessary for the owner to enter a binding agreement with the City, to hold the City harmless from the damages that may accrue to his property, prior to the execution of the protection works.

6. The design of the crossing structures, discussed previously, must be submitted to the City with separate plans, to be reviewed by the Design Section and inspected by the Construction Section of the City Engineer's Office.

Finally, I woud appreciate if the drawings submitted both with the report and with the construction plans were endowed with greater legibility.

If you have any questions regarding the above, please don't hesitate to contact me.

Very truly yours,

Bruno Conegliano
Assistant City Engineer

BC/lc
xc: Richard Leonard, AMAFCA
Richard Heller, City Engineer

DRAINAGE REPORT & GRADING PLAN

COPPER STREET APARTMENTS

March, 1980

consultants, inc ENGINEERING & PLANNING

RECEIVED
MAR 17 1980
CITY ENGINEER

DRAINAGE REPORT & GRADING PLAN

COPPER STREET APARTMENTS

March, 1980

CHRISTOPHER L. WEISS
NEW MEXICO
6655
REGISTERED PROFESS

consultants, inc.
ENGINEERING - PLANNING

March 15, 1980

Mr. Bruno Conegliano
Municipal Development
City of Albuquerque
400 Marquette, NW
Albuquerque, New Mexico 87102

RE: Copper Street Apartments

Dear Bruno:

We are submitting the attached report, prepared by Consultants/Terra-Sol, Inc., for your review and approval.

Thank you.

Respectfully,

Christopher L. Weiss, P. E.
President

CLW/vw

Attachments

P. O. Box 142 Sandia Park, New Mexico 87047

DRAINAGE REPORT & GRADING PLAN MARCH 1980

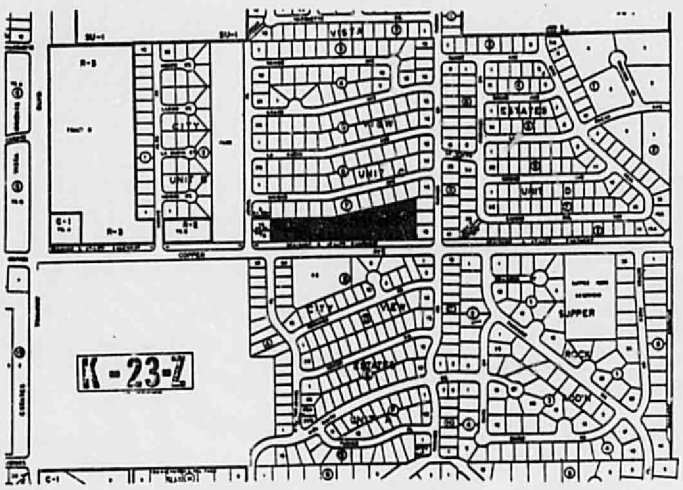
COPPER STREET APARTMENTS

I N T R O D U C T I O N

At the request of Schlegel/Lewis, Architects, Consultants/Terra-Sol,Inc., has investigated the storm drainage for the site. This investigation follows the criteria set forth in the November, 1979, City of Albuquerque Interim Drainage Guidelines which requires the retention of all additional runoff created by development.

S I T E L O C A T I O N

The proposed site (3.58 Acres) is located in the NE quadrant of the City. It lies adjacent to Copper Ave.NE, east of Tramway Blvd. NE, and is bordered by an existing R-1 development on the east, north, and west sides.



COPPER STREET APARTMENTS MARCH 1980

PROPOSED DEVELOPMENT

The proposed development will consist of 108 apartment units located within 21 distinct structures, with a private drive/parking area located within the center of the cluster.

Construction features which are pertinent to drainage are as follows:

1. The structures will drain to the front and rear of each unit with no roof ponding.
2. Ponding areas will be placed in selected areas adjacent to the access/parking areas. The ponds will have a positive discharge into the adjoining Copper Ave. channel.
3. Areas with direct discharge into the channel will be routed through landscaped areas as much as possible before release.
4. The areas around each structure will be sloped to drain all flows away to the respective discharge points.

TOPOGRAPHIC MAP

The topographic map used as a basis for the grading plan was supplied by Schlegel/Lewis, Architects. This map represents the topography for the site as it now exists.

EXISTING/DEVELOPED DRAINAGE

Offsite flow from the east and north is prevented from entering the site by an existing R-1 development combined with a perimeter block wall. The area is not in a flood-hazard area as shown on page 25 of the Flood Hazard Boundary Map. Existing off-site flow routed down Copper Ave. and adjoining channel will not affect the site due to an average higher grade difference of the site to the existing top of channel bank.

Developed drainage from the proposed site will be released directly at three specific points from Areas A, B, and C, or ponded before release from three pond areas from Area D. All flows will be released into the adjoining channel along the south side of the site. The developer is proposing to construct a block wall along the south

boundary of the site. This wall will provide a control for departing onsite flows and provide additional protection from the channel flows until the channel is lined.

DRAINAGE/GRADING EXHIBIT

The drainage/grading plan located in the back of this report shows the locations of the ponding areas and points of direct discharge, and the proposed final grades for the improvements.

RECOMMENDATIONS

1. Grade swales around each structure to a minimum 1% slope to discharge roof flows to the access/parking areas.
2. Construct block walls around each defined pond area to maintain the pond area. See exhibit in rear of report for wall/pond detail. Install pipes and overflow weirs as shown on the plan.
3. Install pipes as shown for Area B (7¼") and Area C (10") to provide a positive discharge for each area with a minimum of ponding. Construct a 3'-6" long x 1'-0" high weir opening in the wall 0'-8" above each pipe to provide an overflow should a pipe blockage occur. Each area has a defined area to serve as a temporary pond should the need arise. Area A will discharge directly into the channel by way of the access road.
4. Provide a temporary erosion pad (4" wide x 6' long grouted riprap) at the outlet of each pipe shown to protect the slope.

CONCLUSION

The existing site and the proposed project will maintain the same drainage patterns for discharge into the channel. Adequate protection of the channel slopes will provide temporary erosion control until the channel is lined in the near future. The proposal will meet the drainage criteria established by the City for the area.

HYDROLOGY K23/D8 3 PLANS

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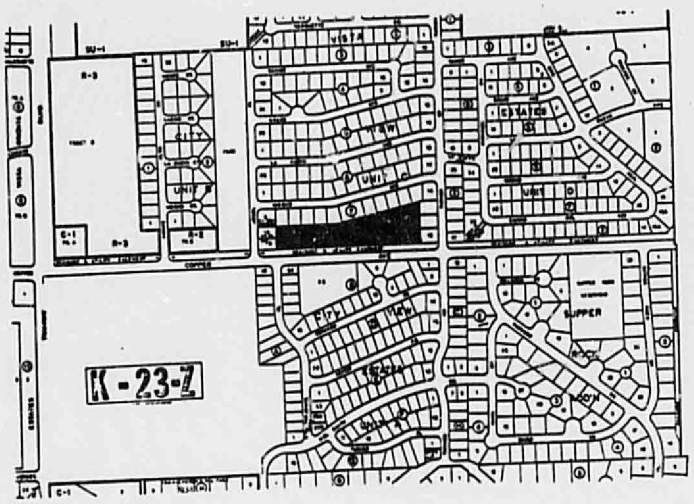

COPPER STREET APARTMENTS

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