



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 15, 2001

Jeff Mortensen, P.E.
Jeff Mortensen & Assoc.
6010-B Midway Park Blvd NE
Albuquerque, NM 87109

RE: **Grading and Drainage Certification-**
Lee Galles Subaru on San Mateo- (6401 San Mateo NE) (E-17/D63)
Engineer's Stamp dated 6/26/2000
Engineers Certification dated 3/8/2001

Dear Mr. Mortensen:

Based upon the information provided in your Engineers Certification submittal dated 3/13/2001, the above referenced site is approved for Permanent Certificate of Occupancy.

If I can be of further assistance, please contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Senior Civil Engineer
Hydrology Section, PWD

C: Vickie Chavez, COA
Teresa Martin, COA
file



City of Albuquerque

July 18, 2000

Jeff Mortensen, PE
Jeff Mortensen & Associates, Inc
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

**Re: Lee Galles on San Mateo Master Drainage Report
Engineer's Stamp dated 6-26-00 (E17/D63)**

Dear Mr. Mortensen,

Based upon the information provided in your submittal dated 6-27-00, the above referenced site is approved for Building Permit and Work Order construction.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Also, prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

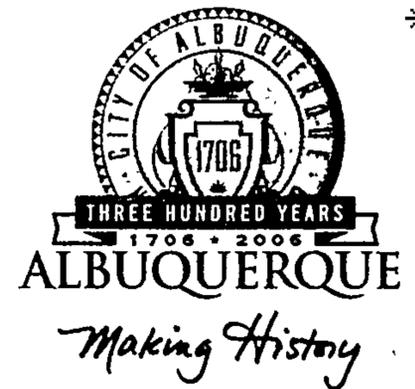
If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Hydrology Review Engineer

C: file

CITY OF ALBUQUERQUE



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July 20, 2005

J. Graeme Means, P.E.
Jeff Mortensen & Associates, Inc.
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

**Re: Galles and Davis Motor Company Hummer Addition and Remodel, 6401
San Mateo Blvd NE, Grading and Drainage Plan
Engineer's Stamp dated 6-30-05 (E17-D63)**

Dear Mr. Means,

Based upon the information provided in your submittal received 7-06-05, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

P.O. Box 1293

Albuquerque

If you have any questions, you can contact me at 924-3981.

New Mexico 87103

Sincerely,

Kristal D. Metro, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

www.cabq.gov

C: File

E-17/0063***

MASTER DRAINAGE REPORT

For

LEE GALLES ON SAN MATEO

JUNE, 2000

Prepared for:

LEE GALLES OLDSMOBILE, INC

6401 San Mateo Blvd. N.E.

Albuquerque, N.M., 87109

Owner's Representative: Lawton Davis

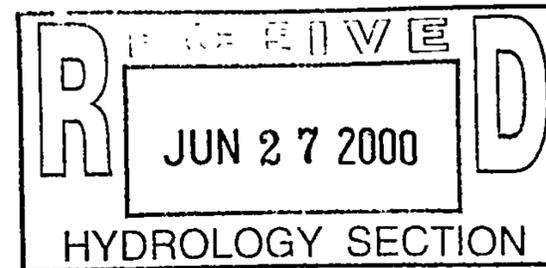


06/26/2000



Jeff Mortensen & Associates, Inc.
6010-B Midway Park Blvd. N.E.
Albuquerque, New Mexico 87109
 Engineers Surveyors (505) 345-4250

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DRAINAGE REPORT

I. Executive Summary and Introduction:

The purpose of this report is to analyze the existing and proposed drainage conditions in conjunction with proposed building construction at the Lee Galles Automobile Dealership on San Mateo Boulevard NE. The proposed development represents a modification to an existing site within an infill area. The site has a history of flooding problems. It is the intent of this Report to determine the cause(s) of the flooding and to improve site drainage conditions in association with the proposed construction. Included with this report are site specific grading plan details for the proposed improvements. This report is submitted for foundation permit approval, building permit approval and work order approval (Project #644181).

The designated drainage outfall is a 30" CMP culvert located within New Mexico State Highway and Transportation Department right-of-way. This culvert is part of a system of ditches, culverts, and open areas which receives runoff generated by San Mateo, the Galles site, and I-25 with its access ramps and frontage roads. The Galles site consists of two drainage basins, one draining directly to the NMSHTD culvert, the other draining to a detention pond which mechanically pumps runoff to the NMSHTD culvert.

As described in the Existing Conditions Analysis which follows, the site is impacted by offsite flows from San Mateo Boulevard NE. An existing onsite public drainage easement allows the conveyance of public storm runoff through the site. A copy of this easement is included in Appendix C. The public storm flows will continue to be accepted by this site and conveyed to the historic outfall. As described in the Developed Conditions Analysis which follows, the public storm drain will be extended within the existing easement to more efficiently deliver runoff to the proximity of this culvert, and to ensure that the runoff is confined within the existing easement. This public storm drain extension will be constructed by City Work Order (City Project # 644181).

The proposed improvements consist of new building construction on existing paved areas which represent modifications to an existing developed site within an infill area. The proposed conditions are consistent with the previously approved grading and drainage plans for this site which established the criteria that there be no increase in peak rate of internally generated flow attributable to site development. This Report will also be submitted to the NMSHTD for their review and approval of the continued discharge of runoff to their right-of-way at historic rates.

There are no new platting or easement requirements associated with this project.

II. Project Description:

As shown by Vicinity Map E-17 on page 12, the site is located in Northeast Albuquerque near the southeast corner of Interstate 25 and San Mateo Boulevard NE. The site is bounded on the east by San Mateo, on the west by the I-25 frontage road, on the north by

a Texaco service station, and on the south by a commercial development. The site is currently developed as an automobile dealership with showrooms, storage, and service facilities. The site consists of three platted properties; Tracts B and C, H. B. Woodward and Tract A1A2, Triangle Realty. The site is zoned C-3. Copies of the topographic and boundary surveys are included in Appendix G.

As shown by panel 139 of 825 of the National Flood Insurance Program Flood Insurance Rate Maps, Bernalillo County, New Mexico, and Incorporated areas, dated September 20, 1996, a portion of this site is encumbered by a flood hazard zone designated AH with an elevation of 5186. The limits of this flood hazard zone are shown on the Site Plan, and on page 13 of this Report. The flood plain limits roughly coincide with the detention pond limits and appear to be consistent with the existing conditions. All proposed and existing buildings are located at a minimum elevation of 5192 which is 6 feet above the designated flooding elevation. There is no new construction proposed within the flood hazard zone. As described in the Developed Conditions Analysis, the proposed onsite drainage improvements will reduce the volume of stormwater impacting this existing flood hazard zone.

III. Background Documents:

The following is a list of plans and reports and other information relative to this site and/or referenced within this report. This list may not be inclusive, however, represents a summary of those plans and documents which are known to this preparer.

- A. *Drainage Report for San Mateo Blvd. NE (S.A.D. 192)* prepared by Molzen-Corbin and Associates dated June, 1978. This report supported the San Mateo paving and drainage improvements constructed by S.A.D 192. This report demonstrated that the San Mateo storm drain system was designed for the 10-year design storm (not including any additional flow from the Far North Shopping Center).
- B. *Storm Drainage Report for Galles Oldsmobile Dealership* prepared by Gordon Herkenhoff and Associates, Inc. dated December, 1978 (E17/D009). This report investigated the offsite and onsite drainage characteristics of the site and was prepared to support the original Galles site development. This plan included the design of the existing public storm drain which currently accepts offsite public runoff from San Mateo Blvd within a public drainage easement.
- C. *Far North Shopping Center Grading Plan* prepared by Enchantment Engineering, dated June 1976 (E18/D19B). This report shows that the Far North Shopping Center is intended to drain to a public drainage channel which passes behind the shopping center. In the existing condition, it is apparent that the majority of the 7+ acre paved parking lot is not in accordance with this plan and instead drains to San Mateo Boulevard and subsequently impacts the Galles site.
- D. *Far North Shopping Center Remodel Grading and Drainage Plan* prepared by Easterling and Associates dated 03-03-87. This plan detailed site modifications and improvements including storm drain improvements intended "to give relief to the area facing San Mateo Boulevard which is not draining properly." This project was never constructed.

- E. *Drainage/Grading Plan for Galles Used Car Sales* prepared by Bohannan-Huston, Inc. Engineer's stamp dated 10-23-86 (E17/D10). This plan addressed the construction of additional paved surfacing for the used car lot to the south of the main dealership site. The retention pond constructed as part of the original Galles improvements was expanded to accept the additional runoff, and a pump was provided to drain this pond to the frontage road ditch at a rate of 0.5 cfs. This discharge was approved by the NMSHTD.
- F. *Lee Galles Lexus Showroom Grading Plan* prepared by DWL Architects + Planners, Inc., Engineer's stamp dated 01-10-90 (E17/D009A). This plan addressed the construction of a new Lexus Showroom building on a portion of the site. This Plan did not address overall site hydrology because the new construction replaced impervious area and did not increase site runoff.
- G. *Site and Drainage Plan- Lee Galles Oldsmobile/Lexus* prepared by Hall Engineering Company, Inc. dated 09-15-92 (E17/D009B). This Plan addressed the construction of a new car wash building on a portion of the site. This Plan did not address overall site hydrology because the new construction replaced impervious area and did not increase site runoff.
- H. *Personal Interview with Walt Lehman, Lee Galles Service Director* conducted 04-04-2000. Mr. Lehman described his observations from past and recent site flooding events. Notable observations include large amounts of offsite flows from the Far North Shopping Center and San Mateo Boulevard entering the site through the southern private entrance. A recent topographic survey prepared by this office confirmed that there is no waterblock at this location.
- I. *Various City of Albuquerque Hydrology Files* – Several files for sites on Academy Road and San Mateo Boulevard were researched in determining the offsite basins. These files include, but are not limited to E18/D002, 12, 13, 19B, 24, 24A, 30, 38, 39, 42, 43, 46, and 52. Field verification of the existing drainage conditions was also used in conjunction with drainage file review to determine the contributing areas.

In addition to the above listed documents, site inspections were made before, during, and after rainfall events. An inspection made on March 31, 2000 during a medium intensity rainstorm (0.2" rainfall over 2 hours +/-) confirmed that the majority of parking lot runoff from the Far North Shopping Center does drain directly to San Mateo Boulevard NE.

IV. Existing Conditions:

A. Onsite

The site is currently developed as a new and used car dealership with associated maintenance and operational facilities. The drainage basins and patterns are consistent with those shown on the previously referenced plans (B,E,F,G) for the site. The site generally drains from southeast to northwest via overland sheet flow and concentrated flow.

The site is divided into two drainage basins. The smaller basin, Basin C, contains the area east of the sales building, and most of the area north of the sales building. The point

of concentration of this basin is the inlet to a 30" CMP culvert near the northwest end of the site on NMSHTD right-of-way. This ~~culvert~~ 30" culvert is the historic outfall for runoff from this site, and for runoff which previously was generated east of San Mateo Boulevard NE and crossed under San Mateo via 24" RCP culvert and across the site prior to development. The 30" CMP culvert passes under the frontage road, and outlets to a graded flowline within NMSHTD right-of-way. From this point, the flowline leads to a series of culverts which pass under I-25, and the northbound and southbound exit ramps and main frontage roads. These culverts are interconnected by graded flowlines within large open ponding areas of NMSHTD right of way which serve to drain I-25 and its related facilities. Because the existing discharge rates have been approved by four previous plans for this site, downstream capacity is assumed to exist for this site. Inasmuch, a downstream analysis of this complicated NMSHTD system beyond the initial 30" culvert has not been performed as part of this report.

An existing 30" public storm drain discharges offsite flows at a point within the northern boundary of the site. The public runoff is collected upstream of the site by 2 storm inlets in San Mateo. The storm drain is located within a public drainage easement, a copy of which is contained herein (Appendix D). The public flows are conveyed across the site within an informal channel formed by asphalt pavement, concrete valley gutter, an asphaltic concrete curb, and some asphalt slope paving. As demonstrated in the Herkenhoff Report (ref. B), these improvements were designed to contain the public runoff within the limits of the public drainage easement, however, inspection of the existing conditions indicates that this is not the case. The original plan also identifies a 6" cobble rip-rap rundown designed to dissipate flow energy at the downstream edge of the easement leading to the 30" culvert.

Site inspection and visual observations made in April, 2000 indicated that the existing asphalt curb, slope pavement, valley gutter, and pavement which convey the offsite flows are all in need of maintenance, repair, and sediment removal. The rip-rap rundown had been completely silted over, and the area surrounding the culvert had been overgrown by grasses, shrubs, and trees which significantly decrease the culvert entrance capacity. The entrance condition was further reduced by the presence of cut tree limbs and other debris covering the culvert entrance and partially clogging the culvert. In late May, 2000, the NMSHTD cleaned out and regraded this area at the request of the Galles Owner's representative. This work has greatly improved the culvert entrance condition and energy dissipater efficiency.

An AHYMO analysis was performed to model site drainage conditions. As determined by the model, the 100-year, six hour peak flow rate reaching the NMSHTD culvert from onsite and offsite sources is 52.7 cfs. If the 30" culvert were operating under ideal maintenance conditions, its maximum existing capacity would be 30 cfs at a water surface level (w.s.l) of 5187.88 which is the approximate elevation at which water will begin to overflow from Basin C to the south into Basin B. As demonstrated by the AHYMO analysis, this water surface elevation will be reached under ideal culvert entrance conditions during a 25 year, 6-hour storm. Larger rainfall events will cause water from Basin C to overflow to the south into Basin B. Once again, this analysis assumes ideal culvert operational characteristics. Prior to the recent NMSHTD

maintenance, the culvert entrance was almost completely blocked, thereby resulting in more frequent occurrences of basin overflow. As indicated by an analysis performed assuming culvert operation at 25% of its maximum capacity due to clogging and poor entrance conditions, it was determined that overflow flooding will likely occur during events as frequent as the 2-year storm. In summary, the reduced culvert capacity due to lack of maintenance caused runoff from basin C to overflow to Basin B, thereby aggravating the observed drainage problems. As previously indicated, the recent NMSHTD maintenance has greatly improved this condition.

Basin B is the larger of the two onsite basins. Runoff from this basin is conveyed via overland flow to an existing detention pond located within the existing flood hazard zone at the west end of the site. This pond was originally designed in 1978 as a retention pond sized to retain the 6 hour, 100 year volume of runoff generated by this basin (37,150 cf @ w.s.l = 5185.0, ref. B). In 1986, this pond was converted to a detention pond and redesigned to receive additional developed runoff from the used car sales lot (46,170 cf @ w.s.l = 5186.10, ref. E). The pond outlet discharges via pump at a rate of 0.5 cfs to the proximity of the aforementioned Basin C culvert. This discharge was approved by the New Mexico State Highway and Transportation Department in a letter dated 10/21/86. (Appendix D)

Comparison of the 1986 design calculations to the present day conditions reveal that the Basin B pond and pump system are properly sized for the 100-year, 6-hour storm. The existing Basin B 100-year volume generated is 52,100 cf. Subtracting the pump outflow of 0.5 cfs from the hydrograph results in a required 100-year pond volume of 46,095 cf which is slightly less than the 1986 design volume. This information and the as-constructed pond volume calculations confirm that the pond was constructed in substantial conformance with the approved plan.

Despite the pond being correctly sized, flooding problems occur in the area of the pond. There have been several occurrences of water surface levels in excess of the 100-year design elevation of 5186.1 reported. The Galles Dealership utilizes the paved area around the pond for vehicle parking, and has subsequently experienced water damage to vehicles parked in this area. Inspection of the topographic survey indicates that the lowest point of overflow from the pond is to a ditch along the frontage road at an approximate elevation of 5187.0, thereby confirming the potential for water surface levels in excess of the design level of 5186.1. In the event of a flooding situation, the head required to force water through this overflow will result in the potential for floodwaters reaching an elevation of 5188.5, varying from 3 to 4 feet deep at the edge of the paved parking area at the perimeter of the pond. As reported by Walt Lehman (ref. H) this condition was most recently observed in the summer of 1999. Compounding the problem is a lack of a designated emergency overflow to release floodwaters which exceed those for which the pond was designed.

As previously indicated, the pond is properly sized for runoff generated by Basin B during the 100-year storm. The flooding conditions which have been observed are most likely due to additional runoff for which the pond was not sized.

The following factors could contribute to Basin B flooding:

- A rainfall event in excess of the 100-year, 6 hour design storm
- Pump failure
- Additional runoff from Basin C
- Unanticipated Additional runoff from offsite areas
- The lack of a designated overflow spillway

Rainfall in excess of the design storm is an infrequent occurrence and can not be controlled. Because the pump rate is small (0.5 cfs), its failure would not contribute significantly to the flooding, except when multiple rainfall events occur in a short period of time. As previously demonstrated, Basin C overflow will occur under ideal maintenance conditions for events greater than or equal to the 25-year storm, however, the historic lack of maintenance near the 30" culvert inlet has likely caused more frequent overflow from basin C. As for runoff from offsite areas, Walt Lehman (ref. H) has reported observing significant offsite flows entering the site through the southern private entrance at San Mateo Blvd. NE, directly across the street from the entrance to the Far North Shopping Center. The lack of a well defined waterblock at the Galles entrance indicates that street flows in San Mateo will likely enter the site as reported. These offsite flows are more fully discussed in the offsite analysis which follows. It is the conclusion of this report that the Basin B flooding problems are attributable to overflow runoff from both onsite and off-site sources. Although the Basin B pond is adequately sized for Basin B runoff, it is not sized for additional offsite runoff.

B. Offsite

As calculated by the AHYMO model, the site is impacted by offsite flows totaling 41.3 cfs from Academy Road NE, San Mateo Blvd. NE., and the I-25 Frontage Road. The limits of the contributing basins are shown on the Offsite Basin Map (page 15). The hydraulic and hydrologic characteristics of these basins were modeled to determine the peak rate and volume of runoff delivered to the Galles site. The model includes the partial interception of offsite flows by existing public storm inlets in San Mateo and Academy which drain directly to the Bear Arroyo, and do not contribute to this site. Runoff which bypasses these inlets will flow north in San Mateo, ultimately reaching the public storm drain system which drains through the Galles site. A similar offsite basin analysis was performed as part of the 1978 Herkenhoff Report (ref. B), with similar basin delineation and storm drain interception assumptions. The 1978 report determined that 40 cfs will enter the north basin of the Galles site through a combination of public storm drain flow and street flow which overtops the curb. The existing onsite public storm drain and public drainage easement were created as a result of this previous analysis. The site is obligated to accept these flows.

The Far North Shopping Center (FNCS) discharges approximately 27 cfs directly to San Mateo during the 100-year storm. This runoff drains to San Mateo through an existing private entrance located directly across from the aforementioned southern Galles entrance. Review of the FNCS Grading Plan (ref. C) indicates that all FNCS runoff is supposed to be directed to an onsite private storm drain which discharges to the public

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Borealis drainage channel behind the shopping center. Review of the existing conditions indicate that this is not the case. The majority of site runoff drains directly to San Mateo due to the lack of curb openings specified on the FNCS plan, the lack of a defined waterblock at the private entrance, and the presence of a speed hump which partially blocks surface runoff from flowing to the north within the site. This drainage pattern was verified by visual observation during a medium intensity rainfall event on March 31, 2000 (0.2" over 2 hours). For purposes of this analysis, it was assumed that 80% of site runoff drains to San Mateo, with the remaining 20% draining away to the designated outfall. The aforementioned Herkenhoff Report (ref. B) made a similar observation about the Far North Shopping Center, and also included this runoff in their offsite flow and storm drain calculations, assuming a 75%/25% runoff split. It should be noted that this additional runoff was not accounted for in the design report for the San Mateo Storm Drain System (SAD 192, ref. A) which was designed for the 10-year storm. This additional runoff therefore creates a flooding problem in San Mateo.

San Mateo Boulevard was constructed with an average slope of 0.37% (0.0037), sloping downhill to the north. Although the majority of the offsite flows (FNCS, Academy Road) drain to the east side of the street, it is difficult to determine how much of this flow will remain on the east side, and how much may cross over the crown to the west side of the street due to momentum. The amount of crossover will increase during larger rainfall events as the amount of runoff increases, creating fuller street sections, and greater flow depths and momentum which approach San Mateo perpendicularly from Academy Road and the FNCS entrance. Regardless of the actual east/west distribution of San Mateo street flows approaching the Galles site, all runoff ultimately crosses to the west side of the street through median openings in front of the site. This is because the San Mateo street section fronting the Galles site transitions from a normal crown section to a fully superelevated section, with the west (Galles) side being on the low side.

During a rainfall event, the initial flows which reach the superelevated portion of San Mateo will be intercepted by the public storm inlets which discharge within the Galles site. The residual flow will be conveyed north within the street section, and will continue within the west side of San Mateo Blvd to the intersection with the NMSHTD frontage road. Flow will split at this location, with approximately two thirds (67%) of the runoff continuing to the north, and one third (33%) of the runoff turning to the southwest along the frontage road which also lacks a waterblock, and appears to be designed to accept some runoff from San Mateo. This observation is supported by review of the grading plan for the Texaco Service Station (E17/D23) which is located at the southwest corner of this intersection. This grading plan shows onsite and offsite runoff conveyed within a ditch section along the south side of the frontage road which is superelevated such that all street runoff is directed to this ditch. The point of concentration for this portion of frontage road, the Texaco Station, and the residual San Mateo flow is the same aforementioned 30" CMP culvert located at the point of concentration for onsite Basin C. It is at this point that all of the offsite flows combine with the onsite flows. As stated in the preceding Onsite Conditions section, the peak flow rate calculated at this location is 52.7 cfs. Because this rate exceeds the culvert capacity and storage volume, runoff will overflow from Basin C to Basin B, contributing to the flooding problems observed in that

Basin. The fact that this culvert entrance area was in a poor state of maintenance exacerbated the frequency and magnitude of the problem.

As previously mentioned, the southernmost Galles private entrance was constructed without a defined waterblock, allowing public runoff from San Mateo to enter the site and contribute to Basin B flooding. For aforementioned reasons, the exact amount of this runoff is difficult to quantify, and as such can not be accurately modeled. As previously mentioned, the Basin B pond was not sized to accept any offsite flows.

C. Overall

As determined by the preceding analyses of both onsite and offsite conditions, it is apparent that the Basin B pond is receiving far more runoff than it was designed for. The additional runoff is generated by both onsite and offsite sources. Offsite flows directly enter the site at the southern private entrance to San Mateo which lacks a waterblock. This condition was not the intent of the original design for the site (Ref. B) which assumed all offsite runoff was confined to San Mateo at this point. Offsite flows at this location should rightfully be blocked by a properly constructed private entrance with a City standard waterblock at least 0.87' in height above the corresponding flowline.

The offsite flows approaching the 30" CMP culvert from the Frontage road include runoff from the Frontage Road, the Texaco Service Station, and from San Mateo Blvd. This runoff totals 15.0 cfs which was not accounted for in any of the reference documents. As previously indicated, the total flow reaching this culvert entrance from onsite and offsite sources exceeds the culvert capacity, causing runoff to overflow into Basin B. The AHYMO reservoir routing indicates that this overflow will occur under ideal culvert entrance conditions for rainfall events equal to or greater than the 25-year storm. Until recent maintenance by the NMSHTD, the culvert entrance condition was severely limited due to sediment and overgrown vegetation, likely resulting in the overflow condition observed during a rainfall equal to or greater than the 2-year rainfall event.

Significantly contributing to the Basin B flooding problems is the fact that a large amount of runoff generated by the Far North Shopping Center drains to San Mateo instead to the public drainage channel shown on the approved 1976 grading and drainage plan (ref. C). A subsequent plan was prepared in 1987 (ref. D) for proposed site improvements which included a new storm drain and storm inlets at the problem area which were designed to correct the drainage problem. Unfortunately, these improvements were never constructed, and the problem remains uncorrected. As part of this report, A hypothetical AHYMO model was created which assumed that only 5% of the shopping center drains to San Mateo. This model demonstrates that bringing the shopping center into compliance with their approved grading plan would significantly reduce the frequency and magnitude of offsite flows contributing to the flooding problems. It would add a factor of safety to the site drainage system, and reduce the dependency on continued culvert maintenance. It will also reduce the additional flows reaching the San Mateo storm drain system which was not designed for this runoff, and subsequently fails the

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DPM 10-year storm criteria for arterial streets. The possibility of correcting this problem should be explored conjunction with the drainage improvements proposed herein.

Based upon this analysis of existing conditions, the magnitude of the existing onsite flooding problems within Basin B can be significantly reduced by 1) reconstructing the southernmost San Mateo entrance with a standard waterblock, combined with 2) realizing the benefits of the recently completed maintenance by the NMSHTD on the downstream 30" CMP culvert. These two improvements will serve to restore the design conditions, and to greatly improve site drainage conditions. Site flooding would also be significantly reduced if the Far North Shopping Center was required to divert their runoff to the public drainage channel as identified on their approved Grading Plan.

V. Developed Conditions:

A. Basin B

Basin B currently accepts offsite flows from San Mateo as described in the existing conditions analysis. Because the Basin B pond was not sized for these offsite flows, the additional runoff contributes to flooding problems. The offsite flows enter the site at the southern private entrance which was mistakenly constructed without a waterblock. To correct this situation, the entrance will be removed and reconstructed with a 0.87' waterblock. This waterblock will prevent San Mateo street flows from entering the site at this location. The street flows will instead be diverted to the north as they were intended, toward the existing single "C" storm inlet which was designed to accept these flows. This is the condition for which the San Mateo storm drain system and the Galles site was designed and modeled in the Herkenhoff Plan (Ref. B) Appendix E includes a grading plan detail of this proposed entrance reconstruction.

These proposed improvements within Basin B will not create any change in the overall area or land treatment distribution within the basin. All runoff will continue to drain overland as concentrated and sheet flow to the existing detention pond which is properly sized for runoff generated by this Basin. Constructing a waterblock at the entrance will divert offsite public flows to their intended flow path within a public storm drain. This modification will reduce the likelihood of flooding problems within this basin, and will keep the public flows within the system for which they were designed.

B. Basin C

A new Subaru automobile showroom and service building with associated paved parking and landscaping will be constructed at the north end of the site. This new construction will be in an area that is currently paved, therefore will not increase the runoff generated by this basin. As shown on the grading plan detail in Appendix E, the new building roof drainage will be directed to the north and east, closely respecting the existing drainage basin boundary which divides Basins B and C. The proposed construction will not significantly alter the drainage basin areas. Runoff from the eastern portion of this Basin will enter the onsite public storm drain through a private storm drain connection. The

remaining runoff will drain overland to the ~~to the~~ proximity of the 30" CMP culvert via curb and gutter, discharging to the rip-rap apron via private storm drain.

As described in the existing conditions analysis is the fact that even with an improved and maintained entrance condition due to recent NMSHTD maintenance, the 30" culvert only has capacity to pass the flows from a 25 year storm, with larger events likely causing an overflow situation whereby runoff from Basin C will drain into Basin B. Basin B is not designed to accept this additional runoff which will cause flooding problems in the area of the detention pond. To correct this deficiency, the pavement in the overflow area will be removed and reconstructed to provide an additional waterblock to ensure that Basin C runoff is contained within Basin C. As calculated by the AHYMO model, this extra head will allow the culvert to pass the 100 year, 6-hour runoff without overtopping to Basin B. Refer to the grading plan details (Appendix E) for this reconstruction.

C. Public Storm Drain Extension (City Project # 644181)

Currently, the existing public storm drain discharges onto the Galles site, and the runoff drains to the NMSHTD 30" CMP culvert as surface flow. These overland flows create maintenance problems, and are not confined within the public drainage easement. The public storm drain will be extended within the existing public drainage easement such that the flows will be more efficiently delivered to the historic discharge point, and be confined to the easement. This storm drain extension will be constructed by Work Order, and will be maintained by the City of Albuquerque. There are minor offsite flows within a concrete rundown entering the site from a small portion of the Texaco Station to the north. This rundown is not shown on the approved plan for the Texaco Site (E17/D23). Because the grading required for the new storm drain construction will effectively block these offsite flows, a new curb and gutter will be constructed along a portion of the north property line, continuing the flowline to the west and to their intended outfall to NMSHTD right of way. This construction will require the approval of the adjacent property owner. The plan and profile design of this public storm drain extension is contained in Appendix F.

VI. Grading Plans:

The Enlarged Grading Plans in Appendix E of this submittal are intended to supplement the Drainage Site Plan. These plans show: 1) existing grades indicated by spot elevations and contours at 1'0" intervals as taken from the boundary and topographic survey prepared by Jeff Mortensen & Associates, Inc. dated April, 2000, 2) proposed grades indicated by spot elevations and contours at 1' 0" intervals, 3) the limit and character of the existing improvements, 4) the limit and character of the proposed improvements, and 5) continuity between existing and proposed grades.

VII. Calculations:

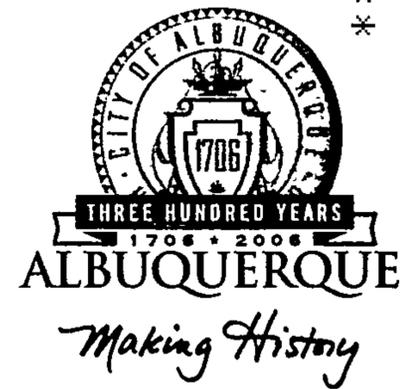
The calculations, which appear hereon, analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Procedure for Small and Large Watersheds (AHYMO) as set forth in the Revision of Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, dated January, 1993, has been used to quantify the peak rate of discharge and volume of runoff generated. As shown by these calculations, there will be no change in the peak rate and volume of runoff generated by this site during the 100-year rainfall event. The continued discharge of developed runoff from this site in historic rates is consistent with several previously approved grading and drainage plans for this site. Storm inlet capacities were calculated using D.P.M Plates 22.3 D-5 and D-6. Storm Drain and Street Hydraulics were calculated using Haestad FlowMaster PE Version 6.0. Culvert entrance conditions were calculated using the Orifice Equation. Pond volumes were calculated using the average end-area method.

VIII. Conclusion:

Existing flooding problems at the site are due to an incorrectly constructed private entrance, lack of maintenance by the NMSHTD to the outfall culvert, and to uncontrolled offsite flows from the Far North Shopping Center. These factors all contribute to the Basin B pond receiving more runoff than that for which it was designed. To correct these problems, the private entrance will be reconstructed. The culvert area has been recently restored to its design condition by the NMSHTD. Furthermore, the ridge between Basins B and C will be raised to prevent Basin C runoff from overflowing into Basin B. The proposed improvements will be constructed in association with new building construction. The new buildings will be constructed on paved areas, and will not change the peak rate or volume of runoff draining to New Mexico State Highway Department right of way.

A public storm drain extension will be constructed by Work Order within an existing onsite public drainage easement. This storm drain will convey public offsite flows through the site in a controlled manner to their historic outfall. No new easements or design variances are required for this project. The public storm drain will be owned, operated, and maintained by the City of Albuquerque. All other site drainage improvements will be privately maintained by the developer.

CITY OF ALBUQUERQUE



April 4, 2006

Mr. Graeme Means, P.E.
JEFF MORTENSEN & ASSOCIATES
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

Re: GALLES & DAVIS HUMMER EXPANSION
6401 San Mateo Blvd. NE
Approval of Permanent Certificate of Occupancy (C.O.)
Engineer's Stamp dated 06/30/2005 (E-17/D63)
Certification dated 04/03/2006

P.O. Box 1293

Dear Graeme,

Albuquerque

Based upon the information provided in your submittal received 04/04/2006, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

New Mexico 87103

If you have any questions, you can contact me at 924-3982.

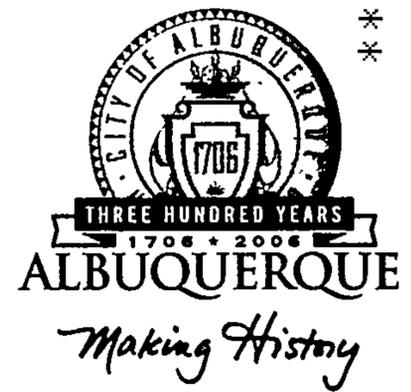
www.cabq.gov

Sincerely,

Arlene V. Portillo
Plan Checker, Planning Dept. - Hydrology
Development and Building Services

C: CO Clerk
File

CITY OF ALBUQUERQUE



**Planning Department
Transportation Development Services Section**

April 11, 2006

Christopher R. Gunning, Registered Architect
6801 Jefferson NE, Ste 100
Albuquerque, NM 87109

Re: Certification Submittal for Final Building Certificate of Occupancy for
Galles & Davis Hummer Expansion, [E-17 / D63]
6401 San Mateo NE
Architect's Stamp Dated 02/15/06

Dear Mr. Gunning:

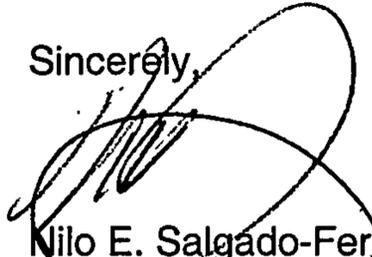
P.O. Box 1293

The TCL / Letter of Certification submitted on April 11, 2006 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Albuquerque

Sincerely,

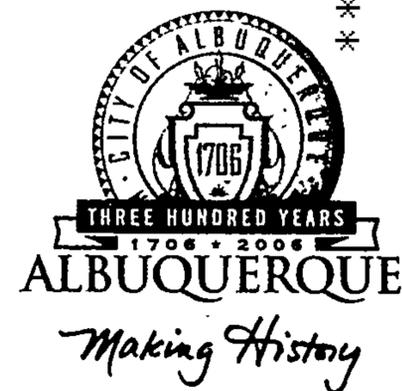
New Mexico 87103


Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

www.cabq.gov

c: Engineer
Hydrology file
CO Clerk

CITY OF ALBUQUERQUE



July 21, 2005

Christopher Gunning, R.A.
Decker Perich Sabatini
6801 Jefferson NE Suite 100
Albuquerque, NM 87109

Re: Galles and David Motor Company Hummer Addition and Remodel, 6401 San Mateo Blvd NE, Traffic Circulation Layout Engineer's Stamp Dated 6-06-05 (F17-D63)

Dear Mr. Gunning,

The TCL submittal received 7-14-05 is approved for Building Permit. The plan is stamped and signed as approved. A copy of this plan will be needed for each of the building permit plans. Please keep the original to be used for certification of the site for final C.O. for Transportation.

P.O. Box 1293

If a temporary CO is needed, a copy of the original TCL that was stamped as approved by the City will be needed. This plan must include a statement that identifies the outstanding items that need to be constructed or the items that have not been built in "substantial compliance," as well as the signed and dated stamp of a NM registered architect or engineer. Submit this TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

Albuquerque

New Mexico 87103

When the site is completed and a final C.O. is requested, use the original City stamped approved TCL for certification. A NM registered architect or engineer must stamp, sign, and date the certification TCL along with indicating that the development was built in "substantial compliance" with the TCL. Submit this certification TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

www.cabq.gov

Once verification of certification is completed and approved, notification will be made to Building Safety to issue Final C.O. To confirm that a final C.O. has been issued, call Building Safety at 924-3306.

Sincerely,

Kristal D. Metro, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

cc: file

2-14-06



Dekker/Perich/Sabatini

architecture
interiors
planning
engineering

Traffic Certification

I, Chris Gunning, NMRA 3203 of Dekker Perich Sabatini, hereby certify that this project has is in substantial compliance with and in accordance with the design intent of the approved plan dated 7/21/05. The record information edited onto the original design document has been obtained by Ralph Eggleston of Star Construction. I further Certify that I have personally visited the project site on 2-14-06 and have determined by visual inspection that the survey data provided is representative of actual site conditions and is true and correct to the best of my knowledge and belief. With the following exceptions:

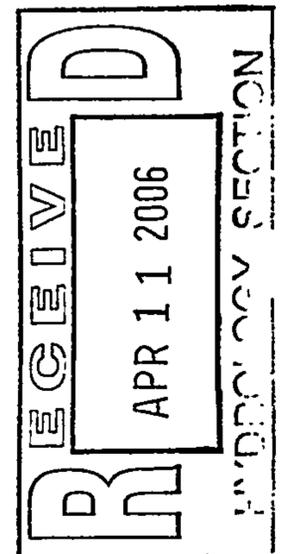
- 1. The concrete island at the East of the Hummer Showroom addition was deleted to accommodate additional Vehicle Display Parking Spaces.
- . This certification is submitted in support of a request for permanent certificate of occupancy.

The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the traffic aspects of this project. Those relying on the record document are advised to obtain independent verification of its accuracy before using it for any other purpose.

Very truly yours,

Dekker/Perich/Sabatini Ltd.

Christopher R. Gunning
Principal



6801 Jefferson NE
Suite 100
Albuquerque NM
87109
505 761.9700
fax 761.4222
dps@dpsabq.com



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 4, 2002

Jackie McDowell, P.E.
McDowell Engineering, Inc.
7820 Beverly Hills Ave NE
Albuquerque, New Mexico 87122

RE: MIDWAY BUSINESS PARK LOT 14-A-1 (E-17/D64)
(6000 Midway Park Blvd NE)
ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
ENGINEERS STAMP DATED 9/10/2001
ENGINEERS CERTIFICATION DATED 9/2/2002

Dear Ms. McDowell:

Based upon the information provided in your Engineers Certification submittal dated 9/3/2002, the above referenced site is approved for 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
BB

C: Certificate of Occupancy Clerk, COA
approval file
✓ drainage file



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

September 13, 2001

Jackie McDowell
McDowell Engineering, Inc.
7820 Beverly Hills Avenue NE
Albuquerque, New Mexico 87112

**RE: Grading and Drainage Plan For Brown Midway Building (E17-D64) Dated
September 10, 2001**

Dear Ms. McDowell:

The above referenced drainage plan received September 12, 2001 is approved for Building Permit. Upon completion of the project the engineer will need to certify the project prior to Certificate of Occupancy.

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

Sincerely,

Carlos A. Montoya
City Floodplain Administrator

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ATTACHMENT NO. 1

SUPPLEMENTAL CALCULATIONS TO

**JB BROWN
MIDWAY BUILDING
LOT 14-A-1
MIDWAY BUSINESS PARK**

GRADING & DRAINAGE PLAN

I, Jackie S. McDowell, Registered Professional Engineer, No. 10903, hereby certify that I have prepared the attached calculations.

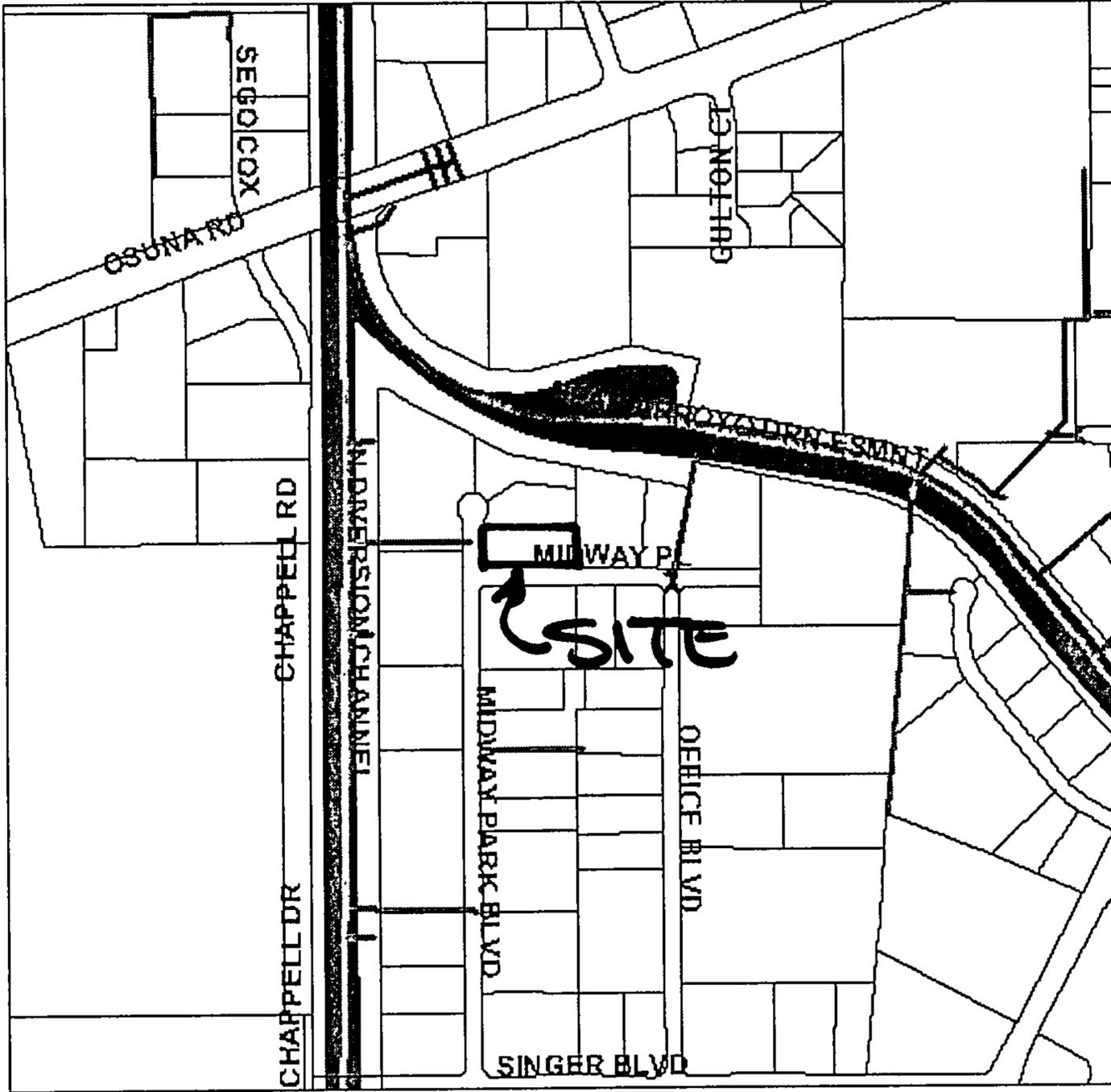
  *9-10-01*

Jackie S. McDowell, P.E. No. 10903

RECEIVED
SEP 12 2001
HYDROLOGY SECTION

Activate By 'Clicking' on the Map

Zoom In Id Address Id ZM Pan Zoom Out



ReDraw Screen

Flood Zones

- Zone A
- Zone AO
- Zone AH
- Zone AE

CITY



LAYERS

- STREET
- PARKS
- CITY L
- ZONE I
- NBR B
- COMM
- WATER
- SEWER
- STORM
-
- ZONIN
- LOT NI
- ZIP CO
- COUNC
- FLOOD
- PARCE
- CONTR
- SENAT
- REPRE
- COUN1
- PARCE

ZO
TE
ME

FULL VIEW NEW QUERY

Copyright (c) 2000 City of Albuquerque

05-Sep-2001

Calculations: Total Basin

Calculations are based on "Section 22.2 Hydrology of the Development Process Manual, Volume 2, Design Criteria for the City of Albuquerque, New Mexico, January 1993 - basins < 40 acres".

Precipitation Zone = 2

Depth at 100-year, 6-hour storm: (Table A-2)

P = 2.35 inches

Land Treatments:

From Table 5 - Percent Treatment D

Single Family Residential =

$$7 * \text{SQR}((N * N) + (5 * N))$$

where N = units/acre

N = ----- = -----, ok < 6

N = 0.00

Therefore Percent Treatment D = 0.00%

(includes local streets)

Areas: (acres)	Existing	Proposed
Treatment A	1.10	0.00
Treatment B	0.00	0.18
Treatment C	0.00	0.00
Treatment D	0.00	0.92
Total (acres) =	1.10	1.10

Volume	100 year Existing	100 year Proposed	10 year Existing	10 year Proposed	2 year Existing	2 year Proposed
Volume (acre-feet) =	0.05	0.17	0.01	0.11	0.00	0.06
Volume (cubic feet) =	2,116	7,590	519	4,658	0	2,651

Total Q(p), cfs:	100 year Existing Q(p)*A	100 year Proposed Q(p)*A	10 year Existing Q(p)*A	10 year Proposed Q(p)*A	2 year Existing Q(p)*A	2 year Proposed Q(p)*A
Treatment A	1.72	0.00	0.42	0.00	0.00	0.00
Treatment B	0.00	0.41	0.00	0.17	0.00	0.01
Treatment C	0.00	0.00	0.00	0.00	0.00	0.00
Treatment D	0.00	4.32	0.00	2.89	0.00	1.71
Total Q (cfs) =	1.72	4.73	0.42	3.06	0.00	1.73

DRAINAGE PLAN

SCOPE

Pursuant to the latest City of Albuquerque Ordinances, the Drainage Plan shown herein outlines the drainage management criteria for controlling developed runoff on and exiting the project site. One building is proposed for the subject property, with associated access, parking and landscaping.

EXISTING CONDITIONS:

Presently the 1.10 acre site is undeveloped. The site is bounded on the north and east by developed commercial property, on the west by Midway Park Blvd., and on the south by Midway Place. The site slopes from the north and east towards the south. The site is currently zoned R-1. The site is not located in a 100-year floodplain. No officials intend to enter the property.

PROPOSED CONDITIONS:

As shown by the plan, the building site is located within the southeast quadrant of the site. On site there will be a main stormwater collection line to the west. All roof drainage will discharge from the roof to the north and south and continue to flow to Midway Place and Midway Park Blvd. Runoff will continue to be allowed to free discharge to the adjacent streets, since an existing concrete curb and gutter is located west of the site and discharges into an existing stormwater collection system. The north-south street is a 100-year floodplain. No flooding occurs on any properties in the area. Supplemental calculations have been provided to the City of Albuquerque Hydrology Department.

CALCULATIONS:

The calculations shown herein define the 100 year/8 hour design storm. The design storm is based on the 100 year/8 hour design storm. The hydrology is per Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, for the City of Albuquerque, New Mexico in cooperation with Bernalillo County, New Mexico and the Albuquerque Metropolitan Arroyo Flood Control Authority, latest edition.

GENERAL GRADING NOTES.

1. THE CONTRACTOR SHALL OBTAIN A TOP SOIL DISTURBANCE PERMIT FROM THE CITY OF ALBUQUERQUE, ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR IS TO REFER TO THE EXISTING SPECIFICATIONS NOTED IN THE GEOTECHNICAL INVESTIGATION REPORT PREPARED FOR THIS LOT AND CAN BE OBTAINED BY THE OWNER.
3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS, PERMITS AND APPROVALS.
4. PVC DRAINAGE PIPES MAY REQUIRE FIELD ADJUSTMENT DUE TO SUBSURFACE ROCK. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE TO INLET/STREET.
5. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITY CONDITIONS AND NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES.
6. TWO WORKING DAYS PRIOR TO EXCAVATION THE CONTRACTOR SHALL CONTACT NEW MEXICO ONE CALL SYSTEM (260-1990) FOR LOCATION OF EXISTING UTILITIES.
7. CONTRACTOR SHALL PROVIDE DOUBLE CLEAN-OUTS AT ALL BENDS IN DRAINAGE PIPE.
8. THE TOPSOIL SHOULD BE SAVED ASIDE FOR RE-USE IN FILLING DISTURBED AREAS AROUND THE STRUCTURE.
9. ALL DISTURBED AREAS ON THE LOT SHALL BE RESEEDDED WITH NATIVE SEEDING MATERIAL.
10. THE MAXIMUM GRADED SIDE SLOPE SHALL NOT EXCEED 3 FEET (HORIZONTAL) TO 1 FOOT (VERTICAL).
11. AREAS DISTURBED DUE TO GRADING SHALL BE RESEEDDED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STD. SPECIFICATION 1612 - NATIVE GRASS SEEDING, D.A.E.

Existing Treatment Types:
 Treatment A = 1.10 acres
 Treatment B = 0.00 acres
 Treatment C = 0.00 acres
 Treatment D = 0.00 acres

Proposed Treatment Types:
 Treatment A = 0.00 acres
 Treatment B = 0.00 acres
 Treatment C = 0.00 acres
 Treatment D = 0.00 acres

Using the values above produces the following storm water flows and volumes:
 Existing 100-year Flow = 1.72 cfs
 Proposed 100-year Flow = 4.73 cfs
 Existing 100-year Volume = 2116 cu. ft.
 Proposed 100-year Volume = 7590 cu. ft.

PROPERTY ADDRESS:
 6000 Midway Park Blvd.

TOPOGRAPHY

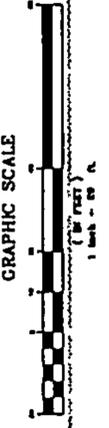
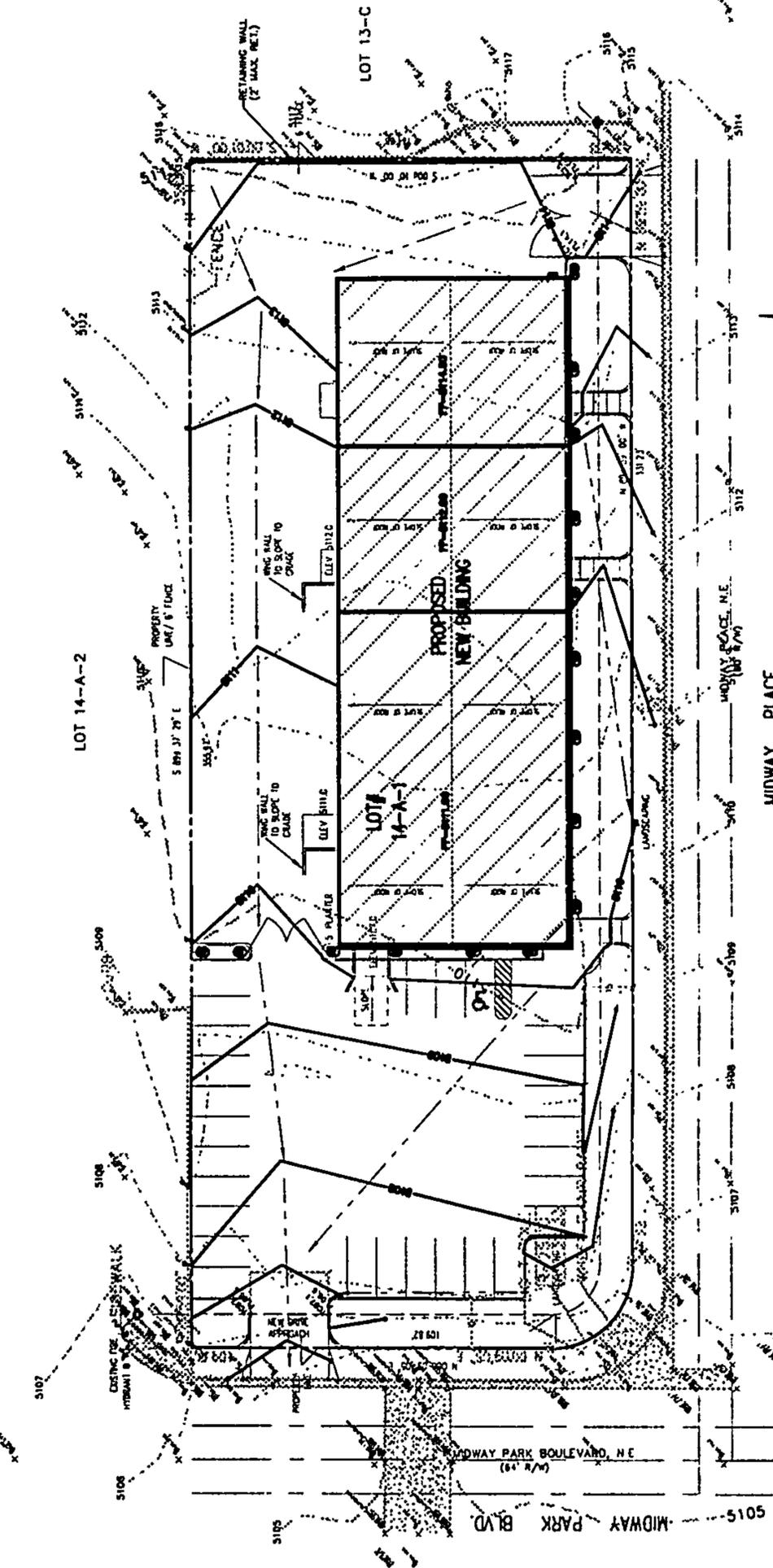
Topographic information provided by Sande Land Surveying dated August 2001

VICINITY MAP ZONE ATLAS: E-17

LEGEND

CONTOUR	---	EXISTING	---	PROPOSED
WALL	---	---	---	---
PROPERTY LINE	---	---	---	---
CASEMENT	---	---	---	---
METER	---	---	---	---
CURB AND GUTTER	---	---	---	---
SPOT ELEVATION	---	---	---	---

NOTES:
 1. BENCH MARK: U.S. G.L.O./ACS SECTION CORNER ELEVATION



GRAPHIC SCALE
 1" = 20' (1" = 20')

CITY OF ALBUQUERQUE, BERNALILLO COUNTY
 LOT 14-A-1
 MIDWAY BUSINESS PARK
 BROWN BUILDING DEVELOPMENT
McDowell Engineering Inc.
 Prepared: JSM
 Drawn: STAFF
 Checked: JSM
 Date: SEPTEMBER 2001
 Sheet: 1 of 1

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City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Planning Department
Transportation Development Services Section

December 5, 2002

Jason M. Weaver, Registered Architect
40 Valley Road
Edgewood, NM 87015

Re: Certification Submittal for Final Building Certificate of Occupancy for
Midway Warehouse, [E-17 / D64]
600 Midway Park Blvd, N.E.
Engineer's Stamp Dated 10/24/02

Dear Mr. Weaver:

The TCL / Letter of Certification submitted on November 7, 2002 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Sincerely,

Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

c: Engineer
Hydrology file
C.O. Clerk



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Planning Department
Transportation Development Services Section

November 11, 2002

Jason M. Weaver, P.E.
38 Los Chavez Ave
Edgewood, NM 87015

Re: Certification Submittal for Final Building Certificate of Occupancy for
Midway Warehouse, [E-17 / D64]
6000 Midway Park Blvd, N.E.
Jason M. Weaver Stamp Dated 10/24/02

Dear Mr. Weaver:

The Letter of Certification submitted on 7 November 02 is not sufficient for acceptance by this office for final Certificate of Occupancy (C.O.).

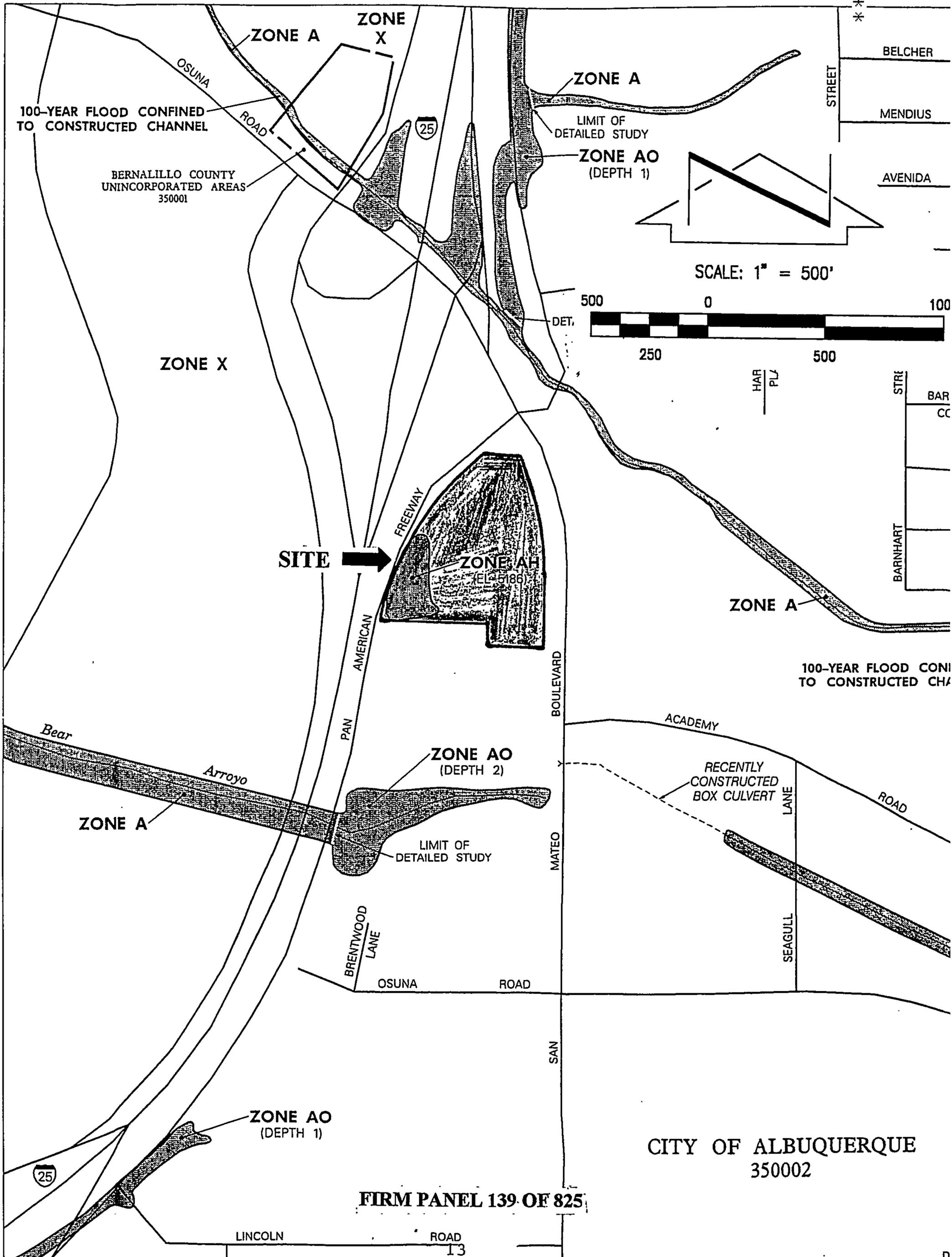
I have left two messages and spoken with your wife in order to contact you. Messages were left on 11/7/02 and 11/11/02. You will need to revise the statement provided on the submittal. Your statement should have the words substantial compliance with City standards/requirements and revise the statement made on the submittal to verify every item including the "in red" markings is part of the certification.

If you have any questions on the submittal for Final C.O., please contact me at 505-924-3630.

Sincerely,

Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

c: Hydrology file
Nilo Salgado-Fernandez



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*

LEE GALLES ON SAN MATEO

BASIN SUMMARY TABLE

BASIN	AREA (AC)	T _c (HR)	IMPERVIOUS (%)	V ₁₀ (AC-FT)	V ₁₀₀ (AC-FT)	Q ₁₀ (CFS)	Q ₁₀₀ (CFS)
A-1	9.29	0.20	59	0.769	1.324	18.3	30.0
A-2	2.05	0.20	90	0.222	0.358	6.2	9.5
A-3	3.14	0.20	75	0.309	0.511	8.9	13.9
A-4	3.14	0.20	75	0.309	0.511	8.9	13.9
SM-1	3.79	0.20	91	0.417	0.669	11.6	17.7
SM-2	2.96	0.20	90	0.318	0.512	8.8	13.6
SM-3	7.34	0.20	90	0.788	1.268	21.8	33.5
SM-4	1.72	0.20	91	0.189	0.304	5.3	8.1
FR-1	1.51	0.20	71	0.138	0.231	4.0	6.3
B	7.30	0.20	80	0.730	1.196	20.6	32.2
C	2.46	0.20	80	0.246	0.403	7.0	10.9

BASIN	DESCRIPTION	COMMENTS
A-1	RESIDENTIAL AREA	DRAINS TO NORTH SIDE OF ACADEMY
A-2	COMMERCIAL AREA	DRAINS TO NORTH SIDE OF ACADEMY
A-3	STREET AREA	NORTH SIDE OF ACADEMY
A-4	STREET AREA	SOUTH SIDE OF ACADEMY
SM-1	STREET AREA	SAN MATEO SOUTH OF ACADEMY
SM-2	STREET AREA AND MCDONALD'S	SAN MATEO NORTH OF ACADEMY AND SOUTH OF FAR NORTH SHOPPING CENTER
SM-3	FAR NORTH SHOPPING CENTER PARKING LOT	80% DRAINS TO SAN MATEO
SM-4	STREET AREA	SAN MATEO NORTH OF FAR NORTH SHOPPING CENTER
FR-1	STREET AREA AND TEXACO	DRAINS TO NMSHTD CULVERT
B	GALLES ON-SITE BASIN	DRAINS TO GALLES POND
C	GALLES ON-SITE BASIN	DRAINS TO NMSHTD CULVERT

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STREET HYDRAULICS AND STORM INLET CALCULATIONS

SUMMARY TABLE

ANALYSIS POINT	INLET TYPE	Q ₁₀₀ (CFS)	DEPTH (FT)	Q _{INLET} (CFS)	Q _{RESIDUAL} (CFS)
AP-1 (NORTH SIDE)	DBL 'C'	40.5	0.55	10.5	30.0
AP-1 (NORTH SIDE)	DBL 'C'	30.0	0.50	9.0	21.0
AP-1 (SOUTH SIDE)	DBL 'C'	13.9	0.40	5.5	8.4
AP-1 (SOUTH SIDE)	DBL 'C'	8.4	0.35	4.0	4.4
AP-2	DBL 'C'	3.5	0.34	2.2	1.3
AP-3	DBL 'C'	6.7	0.44	4.1	2.6
AP-4	SGL 'C'	6.5	0.44	3.8	2.7
AP-5 (EAST SIDE)	DBL 'C' (SAG)	62.7	0.67' (FULL)	17.8	44.9
AP-5 (WEST SIDE)	SGL 'C'	44.9	0.67' (FULL)	10	34.9*
* THE RESIDUAL FLOW IS CARRIED WITHIN THE STREET 1/2 SECTION WHICH HAS A CAPACITY OF 38 CFS.					

SAG INLET CALCULATIONS (AP-5, EAST SIDE)

METHODOLOGY FROM U.S.D.O.T. FEDERAL HIGHWAY ADMINISTRATION URBAN HIGHWAY DRAINAGE MANUAL (HEC-22).

DOUBLE 'C' INLET, ASSUME FULL CURB DEPTH.

PER SECTION 4.4.5.4, INTERCEPTION CAPACITY OF A COMBINATION INLET (THROAT AND GRATE) IS ESSENTIALLY EQUAL TO THAT OF A GRATE ALONE IN WEIR FLOW.

$$Q_i = C_w P_d^{1.5} \quad (\text{EQ. 4-26})$$

$C_w = 3.0$
 $P = 2 \times 25'' + 80'' = 130'' = 10.83' \text{ (2 GRATES)}$
 $d = 0.67 \text{ FT}$

$$Q_i = 17.8 \text{ CFS}$$

Irregular Report

Label	Mannings Coefficient	Slope (ft/ft)	Water Surface Elevation (ft)	Discharge (cfs)	Wetted Perimeter (ft)	Flow Area (ft ²)	Top Width (ft)	Actual Depth (ft)	Critical Elevation (ft)	Critical Slope (ft/ft)	Velocity (ft/s)	Specific Energy (ft)	Froude Number	Flow Type
Academy (AP-1) North1	0.017	0.017200	0.50	30.50	25.65	6.6	25.17	0.50	0.60	0.006133	4.63	0.83	1.60	Supercritical
Academy (AP-1) North2	0.017	0.017200	0.55	40.48	25.75	7.8	25.20	0.55	0.67	0.005797	5.18	0.97	1.64	Supercritical
Academy (AP-1) South1	0.017	0.017200	0.40	13.88	25.44	4.1	25.11	0.40	0.45	0.007219	3.39	0.58	1.48	Supercritical
Academy (AP-1) South2	0.017	0.017200	0.35	8.38	22.46	2.9	22.18	0.35	0.39	0.008035	2.91	0.48	1.43	Supercritical
San Mateo (AP-2)	0.017	0.003700	0.34	3.54	10.94	2.1	10.66	0.34	0.28	0.008375	1.71	0.38	0.68	Subcritical
San Mateo (AP-3)	0.017	0.003700	0.45	6.65	14.22	3.4	13.85	0.45	0.38	0.007701	1.98	0.51	0.71	Subcritical
San Mateo (AP-4)	0.017	0.003700	0.44	6.46	13.89	3.3	13.52	0.44	0.37	0.007735	1.97	0.50	0.71	Subcritical
San Mateo (AP-5)	0.022	0.008000	1.00	37.96	36.38	12.8	35.80	1.00	0.96	0.010527	2.97	1.14	0.88	Subcritical

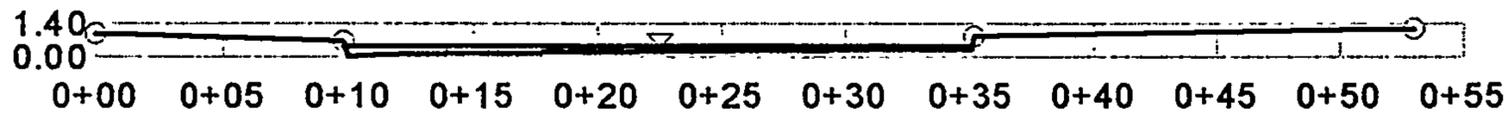
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Cross Section

Cross Section for Irregular Channel

Project Description	
Worksheet	Academy(AP-1)N1
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.017
Slope	0.017200 ft/ft
Water Surface Elevation	0.50 ft
Elevation Range	0.00 to 1.24
Discharge	30.50 cfs



V:1
H:1
NTS

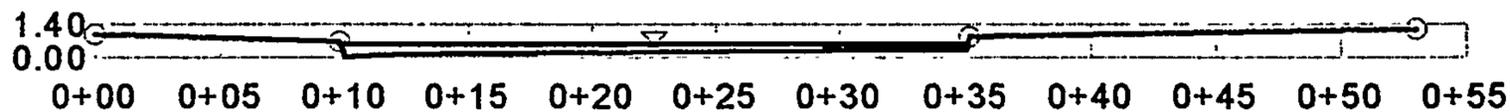
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Cross Section

Cross Section for Irregular Channel

Project Description	
Worksheet	Academy(AP-1)N2
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.017
Slope	0.017200 ft/ft
Water Surface Elevation	0.55 ft
Elevation Range	0.00 to 1.24
Discharge	40.48 cfs



V:1
H:1
NTS

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Cross Section

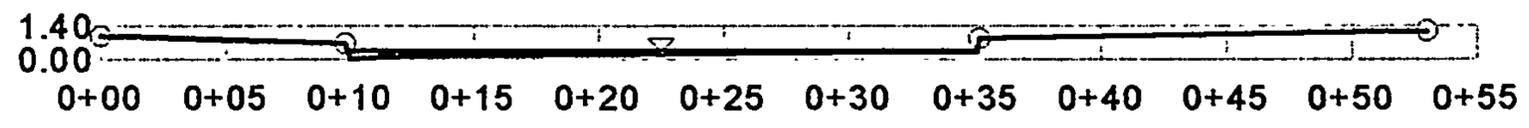
Cross Section for Irregular Channel

Project Description

Worksheet	Academy(AP-1)S1
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data

Mannings Coefficient	0.017
Slope	0.017200 ft/ft
Water Surface Elevation	0.40 ft
Elevation Range	0.00 to 1.24
Discharge	13.88 cfs



V:1
H:1
NTS

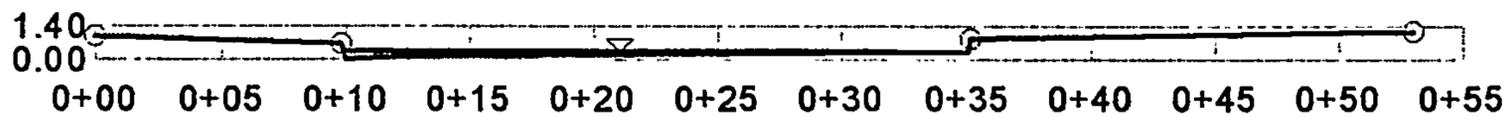
Cross Section

Cross Section for Irregular Channel

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Project Description	
Worksheet	Academy(AP-1)S2
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.017
Slope	0.017200 ft/ft
Water Surface Elevation	0.35 ft
Elevation Range	0.00 to 1.24
Discharge	8.38 cfs



V:1
H:1
NTS

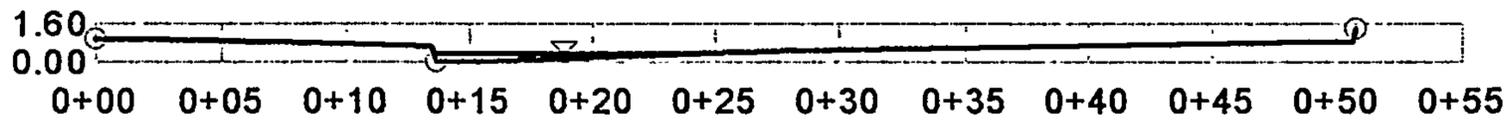
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Cross Section

Cross Section for Irregular Channel

Project Description	
Worksheet	San Mateo (AP-2)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.017
Slope	0.003700 ft/ft
Water Surface Elevation	0.34 ft
Elevation Range	0.00 to 1.41
Discharge	3.54 cfs



V:1
H:1
NTS

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Cross Section

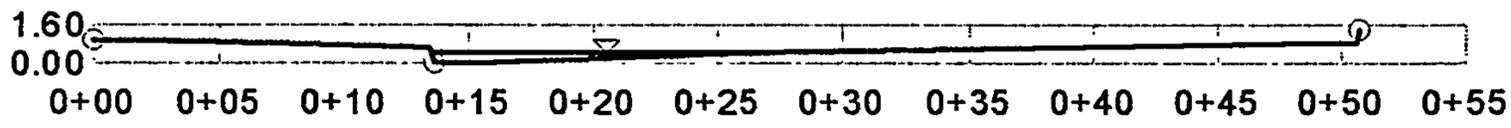
Cross Section for Irregular Channel

Project Description

Worksheet	San Mateo (AP-3)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data

Mannings Coefficient	0.017
Slope	0.003700 ft/ft
Water Surface Elevation	0.45 ft
Elevation Range	0.00 to 1.41
Discharge	6.65 cfs



V:1
H:1
NTS

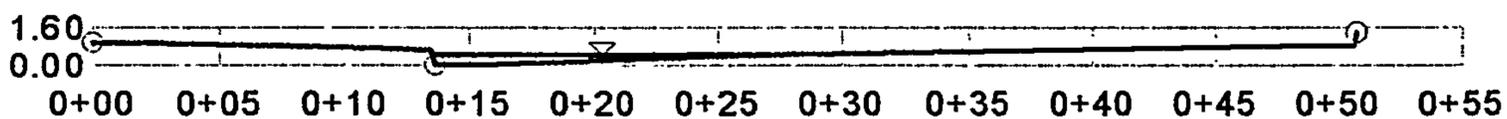
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Cross Section

Cross Section for Irregular Channel

Project Description	
Worksheet	San Mateo (AP-4)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data	
Mannings Coefficient	0.017
Slope	0.003700 ft/ft
Water Surface Elevation	0.44 ft
Elevation Range	0.00 to 1.41
Discharge	6.46 cfs



V:1
H:1
NTS

Cross Section

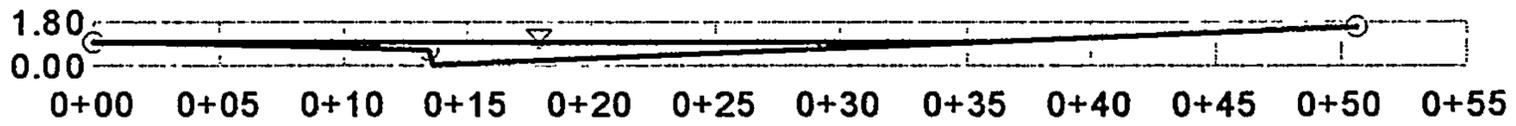
Cross Section for Irregular Channel

Project Description

Worksheet	San Mateo (AP-5)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

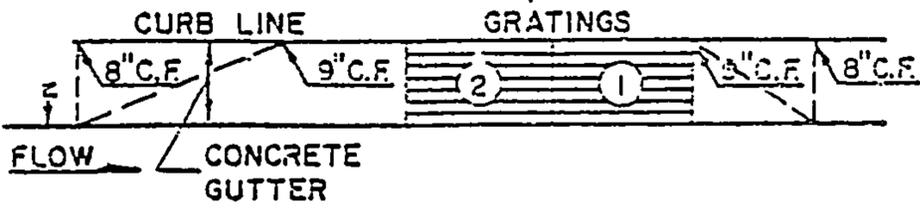
Section Data

Mannings Coefficient	0.022
Slope	0.008000 ft/ft
Water Surface Elevation	1.00 ft
Elevation Range	0.00 to 1.64
Discharge	37.96 cfs

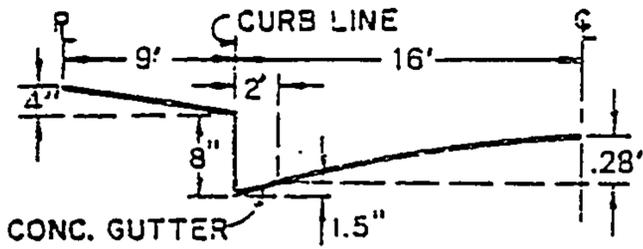


V:1
H:1
NTS

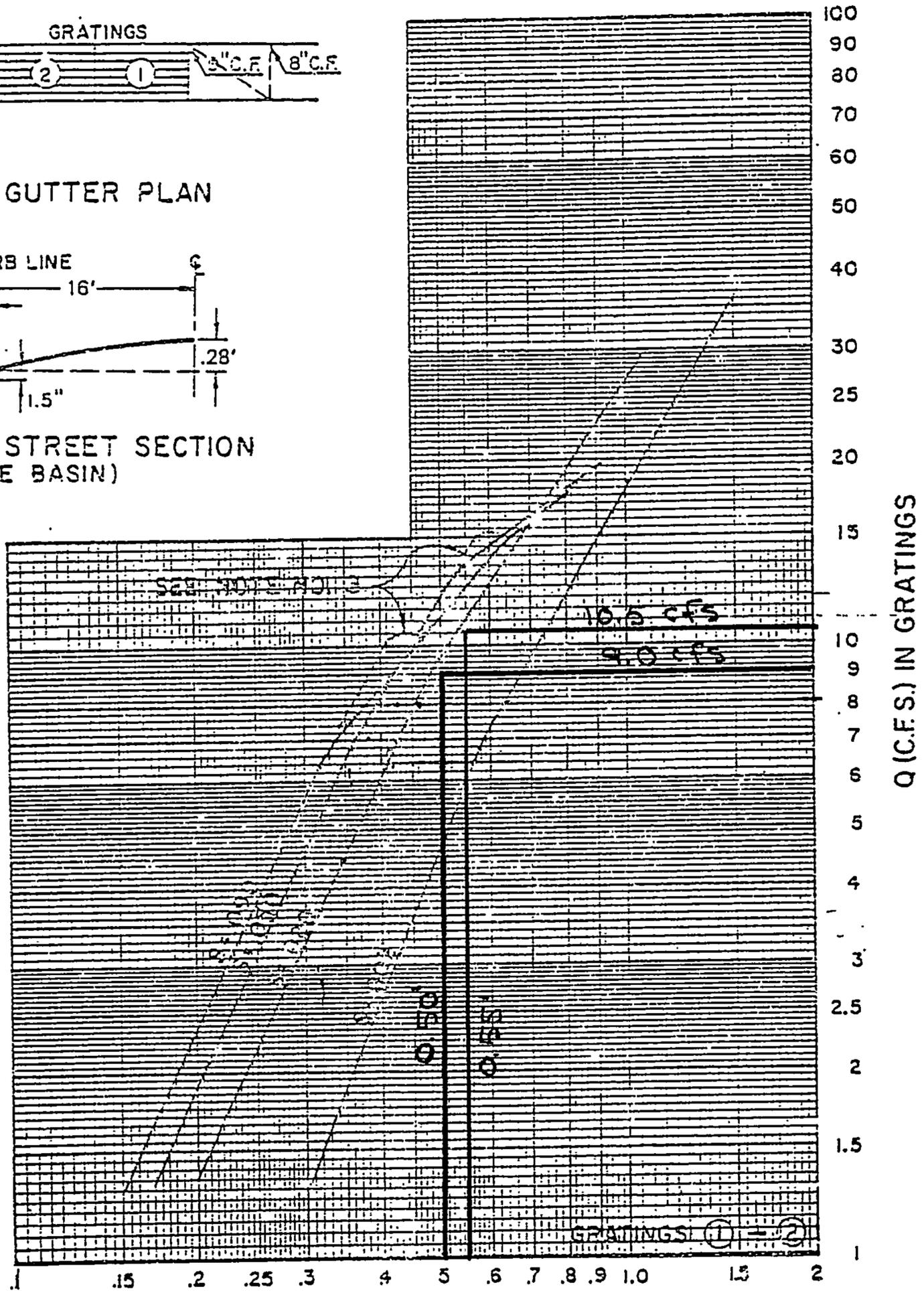
GRATING CAPACITIES FOR TYPE DOUBLE "C," AND "D"



GRATING & GUTTER PLAN



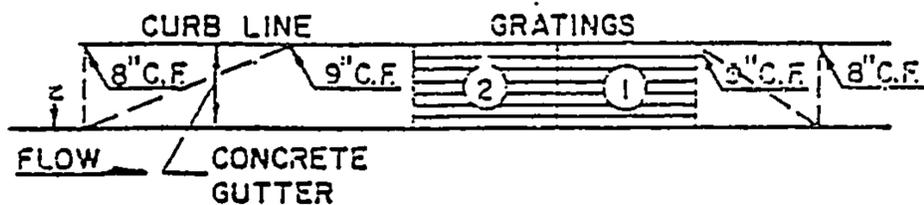
TYPICAL HALF STREET SECTION (ABOVE BASIN)



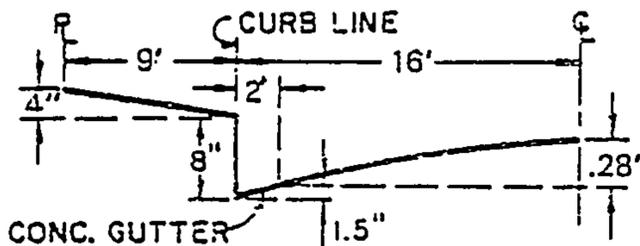
D=DEPTH OF FLOW (FT.) ABOVE NORMAL GUTTER GRADE

AP-1 (NORTH)

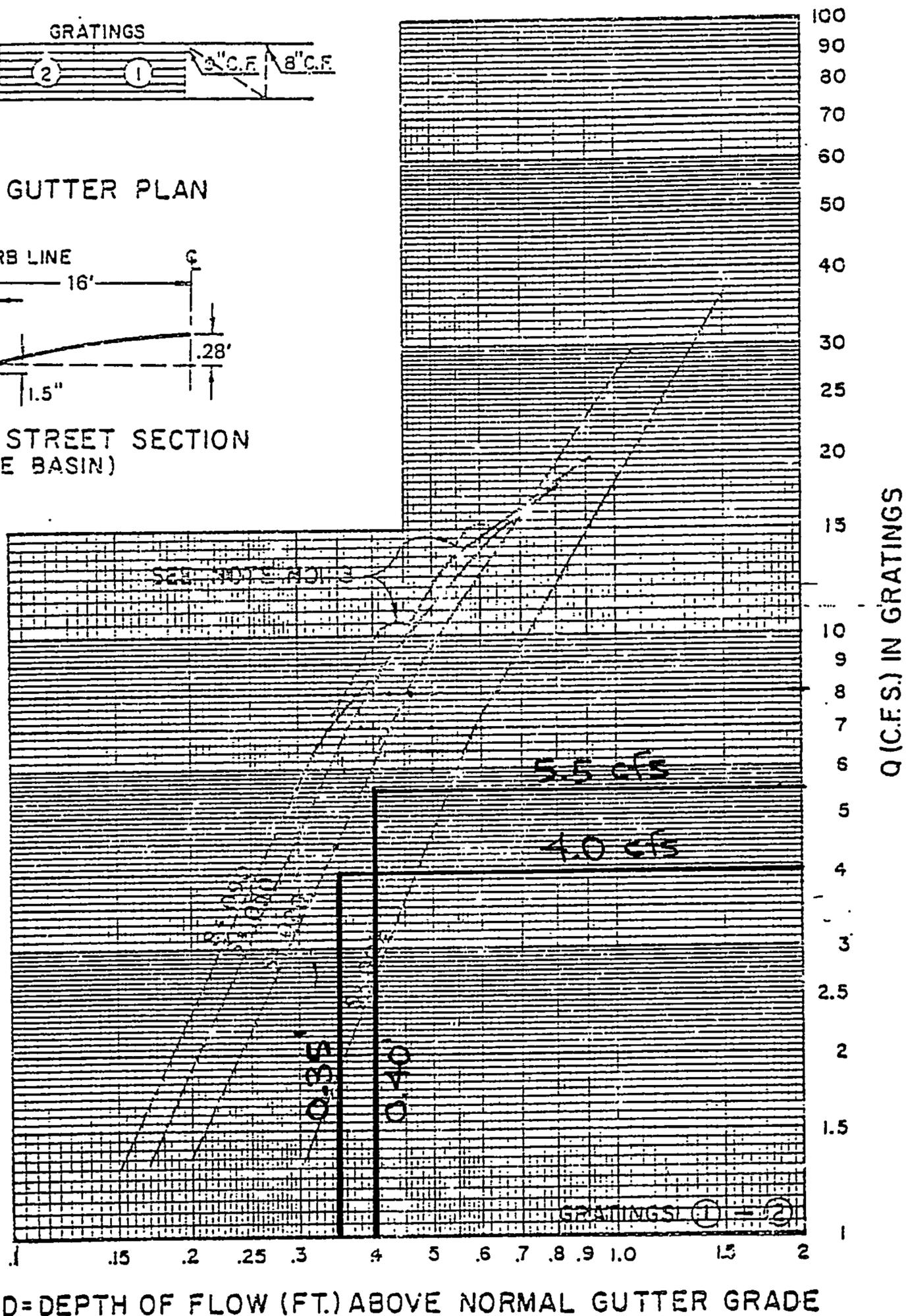
GRATING CAPACITIES FOR TYPE DOUBLE "C," AND "D"



GRATING & GUTTER PLAN



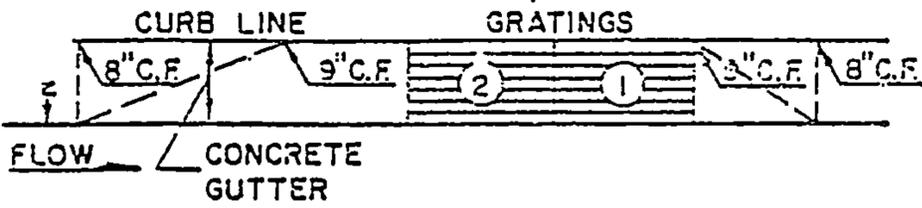
TYPICAL HALF STREET SECTION (ABOVE BASIN)



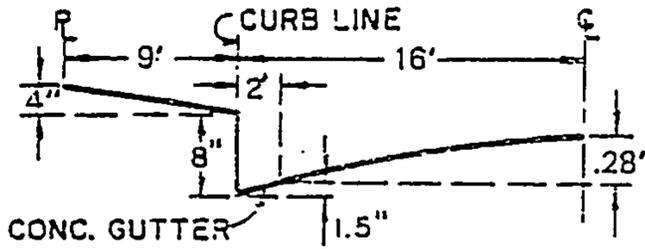
AP-1 (SOUTH)

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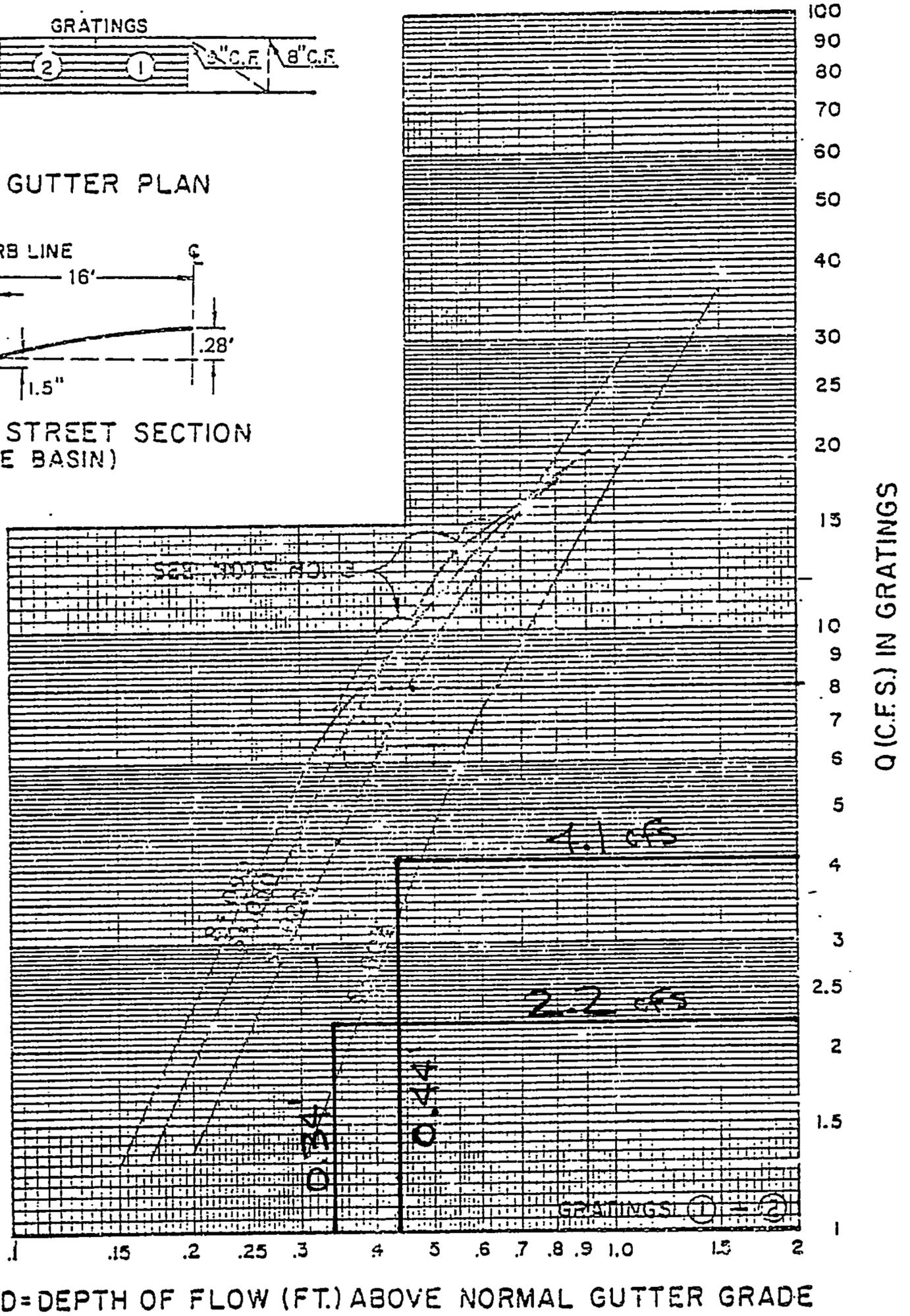
GRATING CAPACITIES FOR TYPE DOUBLE 'C,' AND 'D'



GRATING & GUTTER PLAN

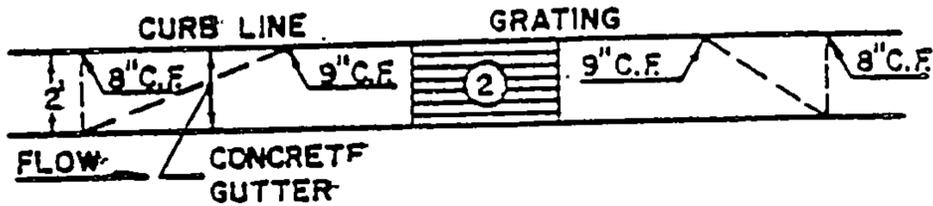


TYPICAL HALF STREET SECTION (ABOVE BASIN)

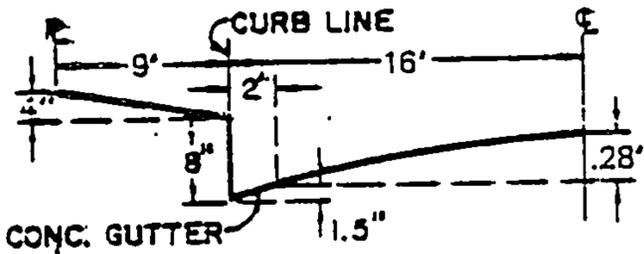


AP-2, AP-3

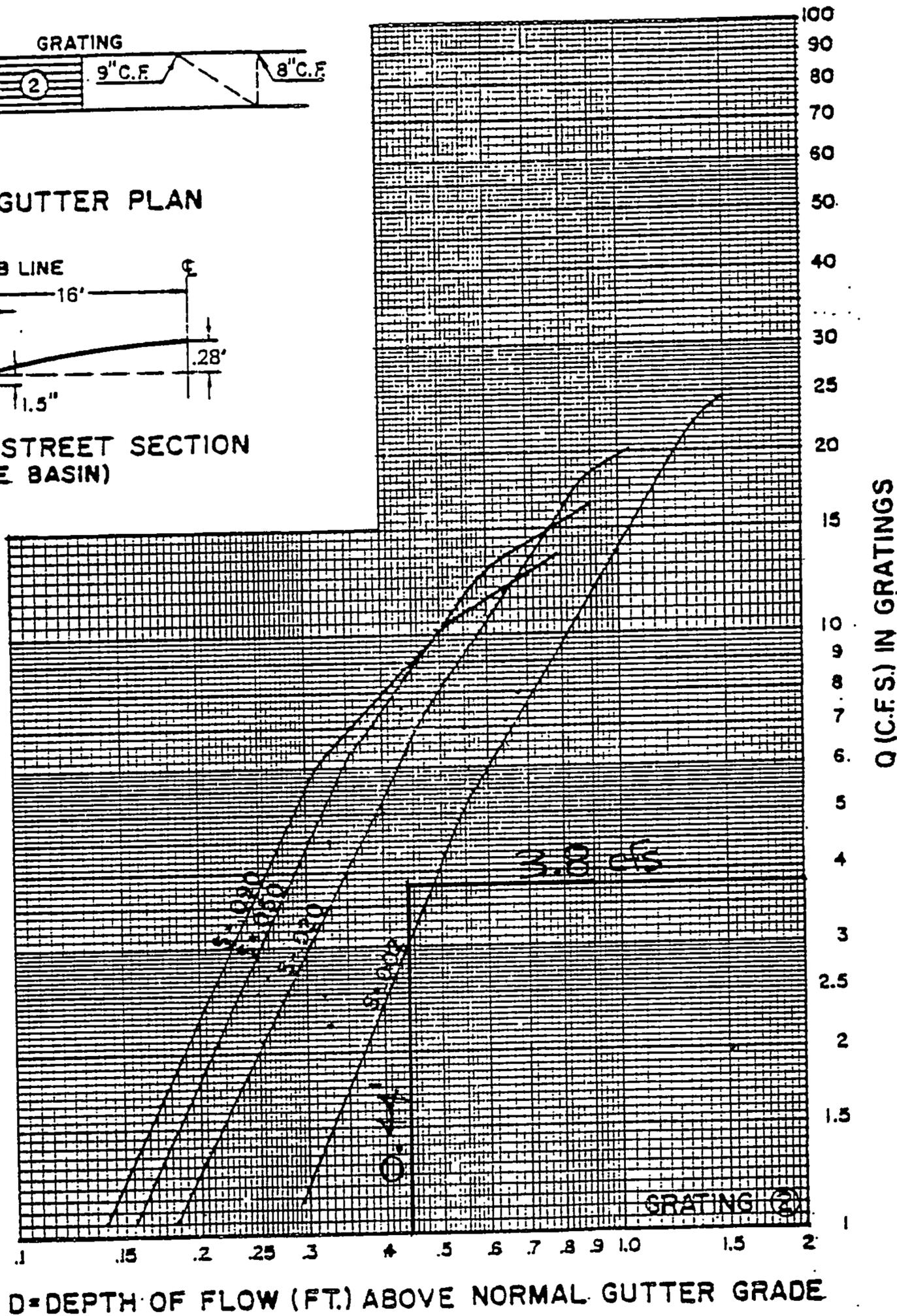
GRATING CAPACITIES FOR TYPE "A", "C" and "D"



GRATING & GUTTER PLAN

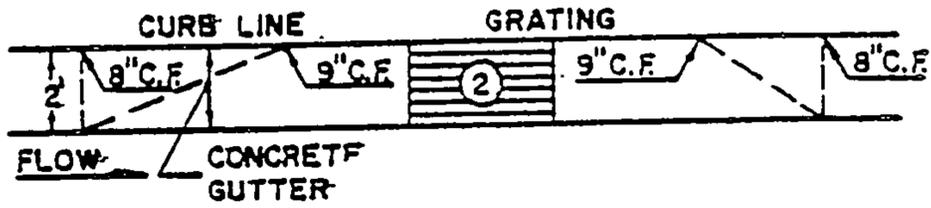


TYPICAL HALF STREET SECTION (ABOVE BASIN)

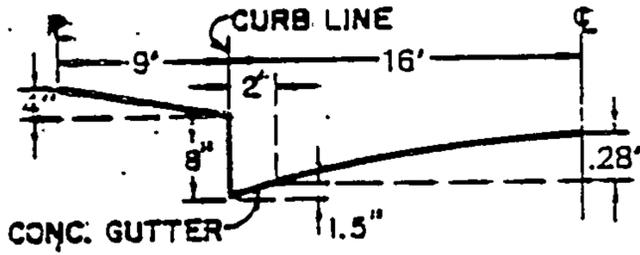


AP-4

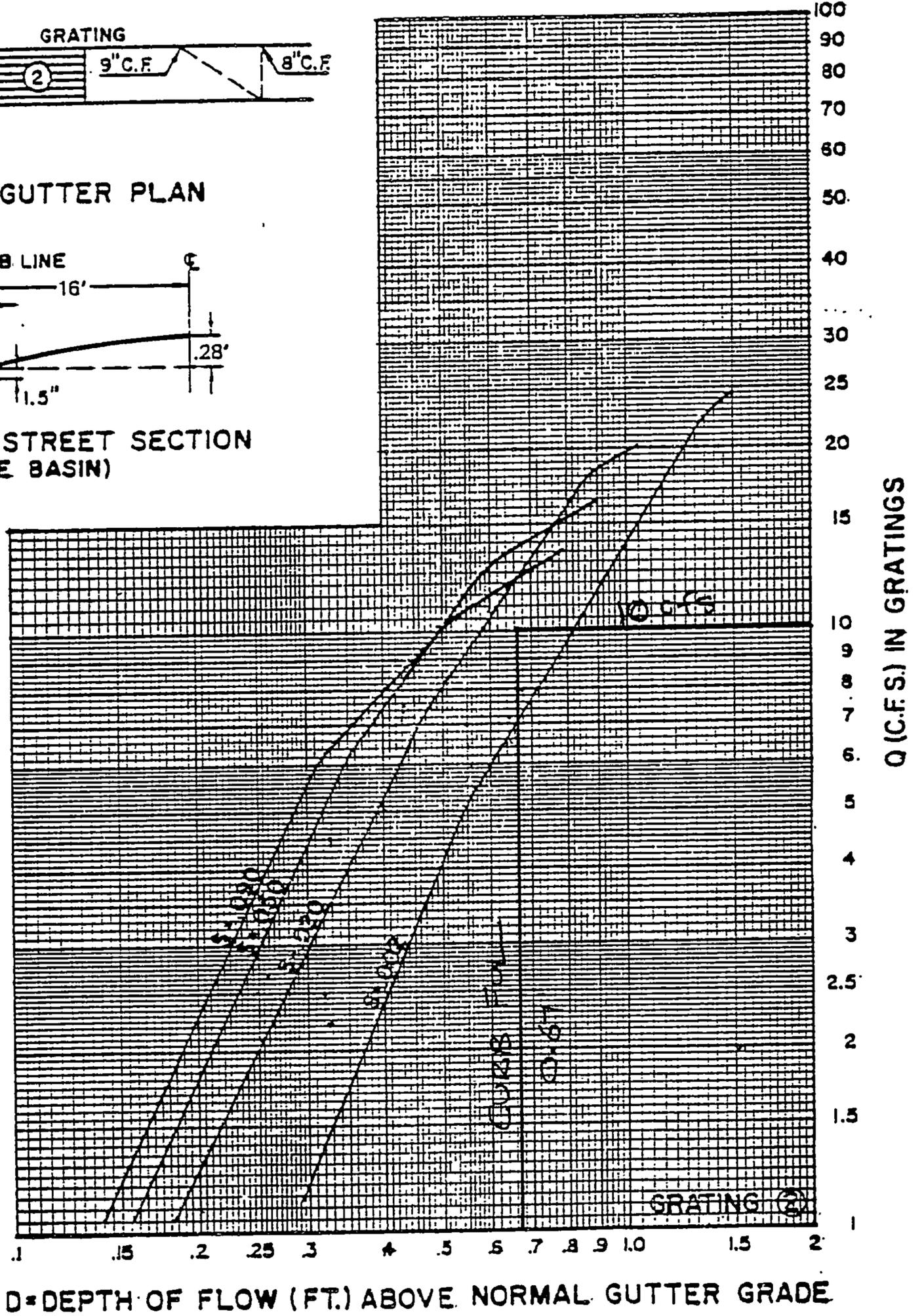
GRATING CAPACITIES FOR TYPE "A", "C" and "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION (ABOVE BASIN)



AP-5
(WEST)

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30" PUBLIC STORM DRAIN CALCULATIONS

$$Q_{100 \text{ OFFSITE}} = 27.8 \text{ CFS (FROM AHYMO)}$$

$$Q_{100 \text{ ONSITE}} \quad (\text{SUB-BASIN C-1})$$

$$A_T = 71,680 \text{ SF}/1.65 \text{ AC}$$
$$A_B = 0.17 \text{ AC (10\%)}$$
$$A_D = 1.49 \text{ AC (90\%)}$$

$$Q_{100 \text{ ONSITE}} = (2.28)(0.17) + (4.70)(1.49) = 7.4 \text{ CFS}$$

$$Q_{\text{TOTAL}} = 27.8 + 7.4 = 35.2 \text{ CFS}$$

$$30" \text{ RCP, } S = 0.0120, n = 0.013$$

$$v = 10.13 \text{ fps}$$

$$d = 1.67'$$

$$F_r = 1.47 \text{ (supercritical)}$$

Head Loss at MH #2 = Bend Loss + Manhole Loss (45° Bend)

$$h_L = 0.05(v^2/2g) + K_b(v^2/2g) \quad (\text{DPM 22.3 B.2.D.4,5})$$

$$v = 10.13 \text{ fps, } K_b = 0.15 \quad (\text{DPM Plate 22.3 B-3})$$

$$h_L = 0.32 \text{ ft}$$

$$v_1^2/2g = v_2^2/2g + h_L$$

$$v_2 = 9.06 \text{ fps}$$

Head Loss at MH #1 = Bend Loss + Manhole Loss (90° Bend)

$$h_L = 0.05(v^2/2g) + K_b(v^2/2g)$$

$$v = 9.06 \text{ fps, } K_b = 0.20$$

$$h_L = 0.32 \text{ ft}$$

$$Q_{\text{MAX}} = 48.33 \text{ CFS} > Q_{100}$$

18" PRIVATE STORM DRAIN CALCULATIONS

$$Q_{100} = 7.4 \text{ CFS (SUB-BASIN C-1)}$$

$$18" \text{ RCP, } S = 0.0100, n = 0.013$$

$$v = 6.44 \text{ fps}$$

$$d = 0.93'$$

$$Q_{\text{MAX}} = 11.3 \text{ CFS} > Q_{100}$$

**
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CULVERT RESERVOIR CALCULATIONS

30" CMP CULVERT INV @ 5184.34

S = 0.0293

Q_{CAP} = 38 CFS (MANNING'S NORMAL FLOW)

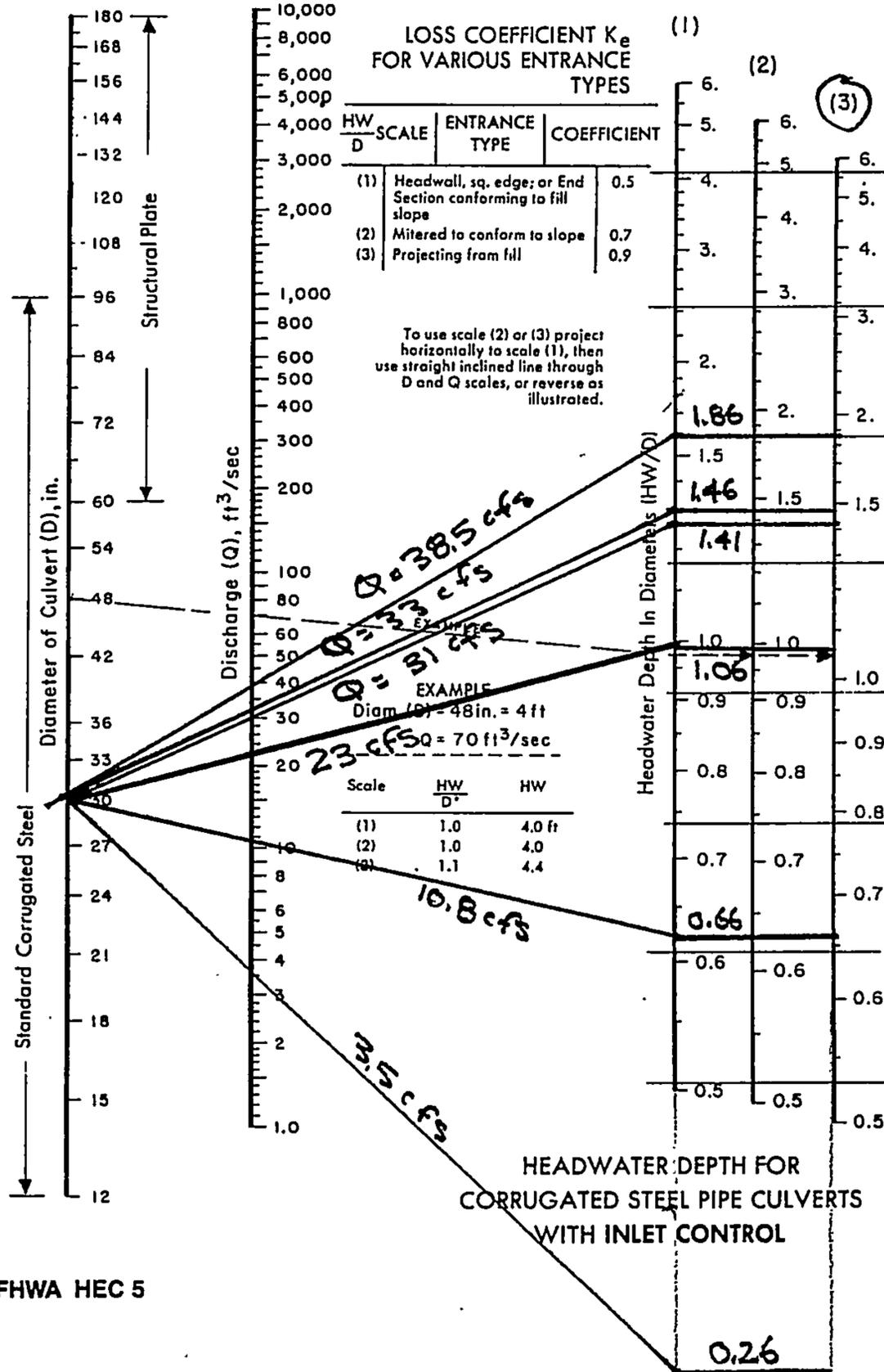
1. EXISTING CONDITIONS STORAGE/DISCHARGE TABLE

ELEVATION (FEET)	AREA (SF)	STORAGE VOLUME (CF)	HW/D	OUTFLOW* (CFS)
5185.0	54	18	0.26	3.5
5186.0	2,102	1,096	0.66	10.8
5187.0	7,993	6,144	1.06	23.0
5187.88	14,770	17,526	1.41	31.0

2. PROPOSED CONDITIONS STORAGE/DISCHARGE TABLE

ELEVATION (FEET)	AREA (SF)	STORAGE VOLUME (CF)	HW/D	OUTFLOW* (CFS)
5185.0	54	18	0.26	3.5
5186.0	2,102	1,096	0.66	10.8
5187.0	6,680	5,487	1.06	23.0
5188.0	12,025	14,840	1.46	33.0
5189.0	20,100	30,903	1.86	38.5

* SEE CULVERT NOMOGRAPH ON FOLLOWING PAGE



FHWA HEC 5

Figure 4-28 Inlet control nomograph for corrugated steel pipe culverts. The manufacturers recommended keeping HW/D to a maximum of 1.5 and preferably to no more than 1.0.

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BASIN B EXISTING POND VOLUME CALCULATIONS

ELEVATION (FEET)	AREA (SF)	VOL (CF)	Σ VOLUME (CF)
5180	22	760	760
5181	1,497	2,864	3,624
5182	4,231	5,070	8,694
5183	5,909	6,896	15,589
5184	7,882	9,533	25,122
5185	11,184	18,662	43,784
5186	26,140	33,823	77,607
5187	41,506		

DESIGN VOLUME = 46,170 CF @ 5186.1 (E17/D10)

□(s16.66H□□□□□□□□□□)

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
INPUT FILE = wtrblk.inp

RUN DATE (MON/DAY/YR) =06/13/2000
USER NO.= J_MORTEN.I01

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL	TYPE= 1									RAIN6= 2.450
COMPUTE NM HYD	BSN.A-1	-	1	.01451	30.01	1.324	1.71106	1.580	3.231	PER IMP= 59.00
COMPUTE NM HYD	BSN.A-2	-	2	.00321	9.49	.358	2.08911	1.500	4.617	PER IMP= 90.00
COMPUTE NM HYD	BSN.A-3	-	3	.00490	13.88	.511	1.95462	1.500	4.425	PER IMP= 75.00
COMPUTE NM HYD	BSN.A-4	-	6	.00490	13.88	.511	1.95462	1.500	4.425	PER IMP= 75.00
ROUTE	BSN.A-1.RT1	1	4	.01451	24.79	1.324	1.71106	1.660	2.670	
ROUTE	BSN.A-2.RT1	2	5	.00321	7.90	.358	2.08911	1.560	3.846	
ADD HYD	TEMP.SUM	4& 5	1	.01772	31.52	1.682	1.77948	1.640	2.780	
ADD HYD	BSN.A.NORTH.	1& 3	1	.02262	40.48	2.193	1.81741	1.600	2.796	
DIVIDE HYD	PIPE.AWAY	1	2	.01750	19.50	1.696	1.81741	1.460	1.741	
	BSN.A.NORTH.	AND	3	.00512	20.98	.496	1.81741	1.600	6.403	
DIVIDE HYD	PIPE	6	20	.00452	9.50	.471	1.95456	1.440	3.286	
	BSN.A-4.DIV1	AND	7	.00038	4.38	.040	1.95457	1.500	17.857	
ADD HYD	BSN.A.AP-1	3& 7	3	.00550	21.99	.536	1.82695	1.560	6.246	
COMPUTE NM HYD	BSN.SM-1	-	2	.00592	17.71	.669	2.11874	1.500	4.673	PER IMP= 91.00
DIVIDE HYD	BSN.SM-1.EAS	2	1	.00296	8.85	.334	2.11869	1.500	4.673	
	BSN.SM-1.WES	AND	4	.00296	8.85	.334	2.11869	1.500	4.673	
DIVIDE HYD	BSN.SM-1.EAS	1	2	.00118	3.54	.134	2.11864	1.500	4.673	
	BSN.SM-1.EAS	AND	5	.00178	5.31	.201	2.11864	1.500	4.673	
DIVIDE HYD	PIPE.AWAY	2	20	.00106	2.20	.120	2.11846	1.420	3.233	
	BSN.SM-1.EAS	AND	1	.00012	1.34	.014	2.11846	1.500	17.372	
ADD HYD	BSN.SM-1.EAS	1& 5	2	.00190	6.65	.214	2.11856	1.500	5.481	
DIVIDE HYD	PIPE	2	20	.00170	4.10	.193	2.11856	1.440	3.757	
	BSN.SM-1.EAS	AND	1	.00019	2.55	.022	2.11856	1.500	20.811	
DIVIDE HYD	BSN.SM-1.WES	4	2	.00216	6.46	.244	2.11864	1.500	4.673	
	BSN.SM-1.WES	AND	5	.00080	2.39	.090	2.11864	1.500	4.673	
DIVIDE HYD	PIPE	2	20	.00191	3.80	.215	2.11860	1.420	3.115	
	BSN.SM-1.WES	AND	4	.00025	2.66	.029	2.11860	1.500	16.332	
ADD HYD	SM-1.WEST.NE	4& 5	2	.00105	5.05	.119	2.11840	1.500	7.491	
ADD HYD	BSN.SM-1	1& 2	2	.00125	7.61	.141	2.11842	1.500	9.541	
ADD HYD	AP-1.TOTAL	2& 3	1	.00675	27.99	.677	1.88076	1.540	6.482	
COMPUTE NM HYD	BSN.SM-2	-	2	.00463	13.55	.512	2.07293	1.500	4.572	PER IMP= 90.00
ROUTE	AP-1.RT1	1	3	.00675	21.92	.677	1.88080	1.620	5.076	
ADD HYD	STREET.SM-2	2& 3	1	.01138	31.75	1.189	1.95893	1.580	4.361	
COMPUTE NM HYD	BSN.SM-3	-	2	.01147	33.54	1.268	2.07293	1.500	4.569	PER IMP= 90.00
DIVIDE HYD	SM-3.DIV1	2	3	.00918	26.83	1.014	2.07291	1.500	4.569	
	FLOW.AWAY	AND	20	.00229	6.71	.254	2.07291	1.500	4.569	
ADD HYD	PC.SM-2.TOTA	3& 1	1	.02055	55.01	2.203	2.00981	1.540	4.182	
ROUTE	PC.SM-4.RT1	1	3	.02055	50.34	2.203	2.00983	1.600	3.827	
COMPUTE NM HYD	BSN.SM-4	-	2	.00269	8.06	.304	2.11874	1.500	4.680	PER IMP= 91.00
ADD HYD	PC.BSN.SM-4	1& 2	1	.02324	62.67	2.507	2.02241	1.540	4.213	
DIVIDE HYD	SM-4.DBLC	1	2	.01347	17.80	1.452	2.02241	1.360	2.065	
	SM-4.SFC.DIV	AND	3	.00978	44.87	1.055	2.02241	1.540	7.171	
DIVIDE HYD	SM-4.SGLC	3	4	.00391	10.00	.421	2.02241	1.420	4.000	
	SM-4.SFC.DIV	AND	1	.00587	34.87	.633	2.02241	1.540	9.281	
ADD HYD	SM-4.INLET	2& 4	2	.01737	27.80	1.874	2.02241	1.420	2.500	
DIVIDE HYD	SM-4.STREET	1	3	.00587	34.87	.633	2.02241	1.540	9.281	
	OVERTOP.FLOW	AND	4	.00000	.00	.000	.00000	-.020	.000	
ADD HYD	OFFSITE.FLOW	2& 4	1	.01737	27.80	1.874	2.02241	1.420	2.500	
ROUTE	OFFSITE.RT1	1	7	.01737	27.82	1.874	2.02242	1.440	2.502	
ROUTE	SM-4.STREET.	3	2	.00587	34.41	.633	2.02293	1.560	9.158	
DIVIDE HYD	SM-4.TOT.DIV	2	3	.00194	11.36	.209	2.02289	1.560	9.158	
	STREET.AWAY	AND	20	.00393	23.06	.424	2.02289	1.560	9.158	
ROUTE	SM-4.STREET.	3	2	.00194	10.05	.209	2.02297	1.600	8.104	
COMPUTE NM HYD	BSN.FR-1	-	3	.00236	6.34	.231	1.83852	1.520	4.195	PER IMP= 71.00

□□□□

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 2	NOTATION
ADD HYD	FR.TOTAL.OFF	2& 3	2	.00430	15.02	.440	1.92154	1.580	5.462		
COMPUTE NM HYD	BSN.B	-	3	.01140	32.17	1.196	1.96716	1.500	4.410	PER IMP=	80.00
DIVIDE HYD	PUMP.OUT	3	5	.00131	.50	.138	1.96713	1.180	.595		
	BSN.B.DIV1	AND	6	.01009	31.67	1.058	1.96713	1.500	4.906		
COMPUTE NM HYD	BSN.C	-	4	.00384	10.85	.403	1.96716	1.500	4.415	PER IMP=	80.00
ADD HYD	ONSITE.TO.CU	4& 5	1	.00515	11.35	.541	1.96710	1.500	3.442		
ADD HYD	ONSITE.AND.S	1& 7	1	.02253	39.15	2.414	2.00976	1.500	2.716		
ADD HYD	TTL.TO.CULV	2& 1	1	.02682	52.67	2.855	1.99562	1.560	3.068		
ROUTE RESERVOIR	PC.BSN.C.RES	1	2	.02682	35.98	2.855	1.99562	1.840	2.096	AC-FT=	.540

FINISH

□(s10H□□□□□□□□□□□□□□□□)

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E-17-101

79 15989

GRANT OF EASEMENT
FOR
STORM DRAINAGE

947
RECEIVED
DEC 04 1979
CITY ENGINEER

THIS INDENTURE made and executed on the day or dates noted below by Sandia Foundation, a New Mexico non-profit corporation (herein called "Owner"), Galles Oldsmobile-Cadillac Co., a New Mexico corporation, H. Lee Galles III and Glynnelle Galles (herein collectively called "Lessees"), in the County of Bernalillo and State of New Mexico (Owner and Lessees hereinafter sometimes collectively called the "Grantors").

WHEREAS, Owner is the owner of Parcel "B" (Trinchera Ranch), Lands of Hugh B. Woodward, within the Elena Gallegos Grant, as designated on the plat thereof filed with the Bernalillo County Clerk on March 22, 1965 (C6-63), Bernalillo County, New Mexico; and

WHEREAS, Lessees hold leasehold interest in such land under a long-term lease herein called "Lease"), described in the Memorandum of Lease, dated January 5, 1979 and filed with the County Clerk, at Book Misc. 662, page 852, Bernalillo County, New Mexico; and

WHEREAS, the Grantors desire to grant an easement for Storm Drainage to the City of Albuquerque, State of New Mexico, a municipal corporation (herein called "Grantee").

WITNESSETH:

That for good and valuable consideration the receipt of which is hereby acknowledged the Grantors hereby grant and convey unto Grantee a storm drainage easement including the right to enter upon the real estate hereinafter described at any time that it may see fit and construct, maintain and repair, drainage ditches, through, and under the lands hereinafter described and the further right to remove trees,

bushes, undergrowth and obstructions interfering with the location, construction and maintenance of said drainage.

The land affected by the grant of this easement is located in the County of Bernalillo and State of New Mexico and is more particularly described as follows:

DESCRIPTION FOR STORM DRAINAGE EASEMENT

A certain tract or parcel of land situate in Parcel "B" ("Trinchera Ranch) Lands of Hugh B. Woodard, within the Elena Gallegos Grant, filed with the County Clerk on March 22, 1965 (C6-63) Bernalillo County, New Mexico and being more particularly described as follows:

Beginning at a point on the west right-of-way line of San Mateo Boulevard N.E. from whence the projected corner common to Section 25, 26, 35 and 36 T. 11 N., R. 3 E., N.M.P.M. bears S 02° 33' 46" E, a distance 1739.73 feet; thence,

S 86° 04' 45" W, a distance 5.00 feet to a point on a curve; thence,

Along a curve to the left (said curve having a radius of 1342.40 feet, a central angle of 10° 00' 49", and a chord bearing N 00° 55' 39" W, a distance 234.31 feet) a distance 234.61 feet; thence,

N 30° 24' 37" W, a distance .86 feet; thence,

N 86° 22' 23" W, a distance 0.42 feet to a point on a curve; thence,

Along a curve to the left (said curve having a radius of 1080.92 feet, a central angle of 08° 18' 41", and a chord bearing S 44° 46' 51" W, a distance 156.66 feet) a distance 156.80 feet; thence,

N 49° 22' 30" W, a distance 15.00 feet to a point on a curve and a point on the easterly right-of-way line of N.M. State Road 422 and San Mateo Interchange; thence,

Along a curve to the right along said right-of-way (said curve having a radius of 1095.92 feet, a central angle of 08° 38' 04", and a chord bearing N 44° 56' 26" E, a distance 165.00 feet) a distance 165.10 feet; thence,

S 86° 22' 23" E, along the north boundary of said Parcel "B", a distance 278.86 feet to a point on a curve on the west right of-way line of San Mateo Boulevard N.E.; thence,

Along a curve to the right along said right-of-way (said curve having a radius of 1357.40 feet, a central angle of 11° 59' 15", and a chord bearing S 09° 54' 53" E, a distance 283.48 feet) a distance 284.00 feet to the point of beginning and containing .2486 acres more or less.

TO HAVE AND TO HOLD the said right and easement for the uses and purposes aforesaid, unto Grantee its successors and assigns for so long as said easement shall not be abandoned for use as a right-of-way for storm drainage or for so long as the Lease shall exist, whichever is sooner.

As a part of the consideration for this grant, the Grantors do hereby release any and all claims for damages for whatsoever cause incidental to the exercise of the rights herein granted, provide however, that the Grantee agrees to save Grantors harmless from any and all liability that may arise as a result of the construction and use of the easement for the purposes set forth.

IN WITNESS WHEREOF, the parties have set their hands and seals on the day or dates noted below.

SANDIA FOUNDATION, a New Mexico non-profit corporation

By John Purvich
Date Signed Feb. 28, 1979

GALLES OLDSMOBILE-CADILLAC CO., a New Mexico corporation

By H. Lee Galles III
its President
Date Signed Feb. 28, 1979

H. Lee Galles III
H. Lee Galles III
Date Signed FEB 28, 1979

Glynnelle Galles
Glynnelle Galles
Date Signed FEB 28, 1979

STATE OF NEW MEXICO)
COUNTY OF BERNALILIO) ss.

The foregoing instrument was acknowledged before me this 1st day of March, 1979 by John Purvich, President of Sandia Foundation, a New Mexico non-profit corporation, on behalf of said corporation.

Patricia A. Johnston
Notary Public

(SEAL)

My Commission Expires:
12-22-79

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss.

950

The foregoing instrument was acknowledged before me this
28th day of February, 1979 by A Lee Galles, III,
President of Galles Oldsmobile-Cadillac Co., a
New Mexico corporation, on behalf of said corporation.

James R. Hall
Notary Public

(SEAL)

My Commission Expires: 08/03/79

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss.

The foregoing instrument was acknowledged before me this
28th day of February, 1979, by H. Lee Galles III.

James R. Hall
Notary Public

(SEAL)

My Commission Expires: 08/03/79

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss.

The foregoing instrument was acknowledged before me this
28th day of February, 1979, by Lynnelle Galles.

James R. Hall
Notary Public

(SEAL)

My Commission Expires: 08/03/79

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

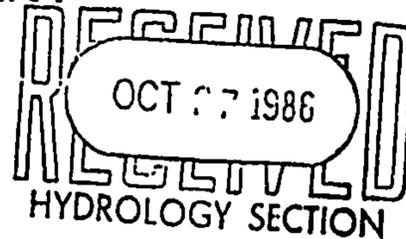
7 MAR 5 10 14 AM '79
BX 673 PG. 947-950
TERRY C. CULP
20. CLERK & RECORDER
James R. Hall DEPUTY

NEW MEXICO
STATE HIGHWAY DEPARTMENT

DISTRICT NO. 3



Office of Project Manager
2419 Carlisle N.E.
Albuquerque, NM 87110



P.O. BOX 3768, STATION D
ALBUQUERQUE, NEW MEXICO 87150-3768

TO: Bohannan Houston
7500 Jefferson N.E.
Albuquerque, NM 87109

October 21, 1986

FROM: Barbara Bovee
Project Manager

I-IR-025-4(65)223
I-025-4(71)223

ATTN: Dave Thompson

RE: Galles Used Car Sales

Gentlemen:

Your attached proposal to convey 0.5 CFS discharge to New Mexico State Highway Department ditch line has been approved by Drainage Section. Please amend your plans to reflect a concrete valley gutter from 3" PVC discharge pipe to the inlet of the existing 30" RCP at Station 306+00 as per our discussion.

If you have any further questions, please do not hesitate to call on me.

Sincerely

A handwritten signature in cursive script, appearing to read "Barbara Bovee".

Barbara Bovee
Project Manager

xc: Bill Moore, ADE
Ron Gaines, Drainage Section

NEW MEXICO
STATE HIGHWAY DEPARTMENT

DISTRICT 10.3

Office of Project Manager
2419 Carlisle N.E.
Albuquerque, NM 87110



RECEIVED
APR 28 1987
HYDROLOGY SECTION

P.O. BOX 3768 STATION D
ALBUQUERQUE, NEW MEXICO 87180-3768

TO: City Hydrology Section
Bernie Montoya
123 Central Ave., N.W.
Albuquerque, NM 87102

April 6, 1987

I-IR-025-4(65)223
I-025-4(71)223

FROM: Barbara Bovee
Project Manager

REF: Grade and Drainage Gullies Used Carlot
6401 San Mateo Blvd., N.E.

This is to advise you that the installation of the 3" PVC discharge pipe completed by Weaver Construction Co., within New Mexico State Highway Department Right of Way at the above referenced location has been completed with concurrence of our General Office Drainage Section.

Sincerely,

A handwritten signature in cursive script, appearing to read "Barbara Bovee".

Barbara Bovee

xc: Bill Moore