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File 1982-0050
Date 7/15/02

Project Name: The Falls North - Filing #3 - Final Plan

P r e s e n t	S c a n n e d	<p>A few items are denoted with an asterisk (*), which means they are to be scanned for permanent record on the in some instances, not all entries designated to be scanned by the department are present in the file. There are also documents specific to certain files, not found on the standard list. For this reason, a checklist has been provided.</p> <p>Remaining items, (not selected for scanning), will be marked present on the checklist. This index can serve as a quick guide for the contents of each file.</p> <p>Files denoted with (**) are to be located using the ISYS Query System. Planning Clearance will need to be typed in full, as well as other entries such as Ordinances, Resolutions, Board of Appeals, and etc.</p>	
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		*Submittal checklist	
		*General project report	
		Reduced copy of final plans or drawings	
		Reduction of assessor's map	
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<u>DOCUMENTS SPECIFIC TO THIS DEVELOPMENT FILE:</u>			
X	X	Action Sheet	X X Letter from Ron Rish to Robert Gerlofs re: revised detailed construction plans –comments-11/26/82
X	X	Review Sheet Summary	X X Letter from Larry Timm to John Siegfried re: approval final plan
X		Review Sheets	X Appraisal of Falls Subdivision – 11/15/78
X	X	Letter from Ron Rish to Robert P. Gerlofs re: street inspection-4/29/83	X X Letter From Gary Broetzman, Water Quality Control Division, CO Dept. of Health to Robert Rewinkle re: in conformance with regulations approved with conditions-11/15/82
X		Development Application – 7/1/82	X X Subsurface Soils Investigation
X		Certification of plat – 11/23/82	X X Planning Commission Minutes - ** - 7/27/82
X		Letter from James T. Patty to City Planning re: request for replat-5/5/83	X Peak Demand – Data Sheet - Ute Water Conservancy District
X	X	Amendment to Declaration of Covenants Conditions and Restrictions-5/11/83	X Letter from Robert Gerlofs, Paragon Eng. to Ron Rish re: crest curves and sag curves – 10/11/82
X		Letter from Ron Rish to Tim Patty, Paragon Eng. re: sanitary sewer is accepted –4/22/83	X Request for Treasurer's Certificate of Taxes Due
X		Record of Final Plat Recording – 2/8/83	X Subdivision Summary Form
X	X	Declaration of Covenants, Conditions and Restrictions – 1/27/83	X X Letter from Ron Rish to Robert Gerlofs re: comments on construction plans – 9/29/82

2943-072-01-021
Richard Kimball
108 E Park Avenue
Grand Junction, CO 81501

#5082

2943-072-21-001, 002, 003, 004
Robert P. Gerlofs
P.O. Box 2872
Grand Junction, CO 81502

#5082

2943-072-00-033
Ellen Mathews
2838 Orchard
Grand Junction, CO 81501

#5082

2943-072-00-009
Warren F. Reams
301 N 7th
Grand Junction, CO 81501

#5082

2943-072-00-035
Lawrence B. Dowd
2660 Paradise Way
Grand Junction, CO 81501

#5082

2943-072-00-031
Glenn Edwards
2840 Orchard
Grand Junction, CO 81501

#5082

2943-072-17-032, 031, 030, 029, 028, 027, 025, 024
Robert Rewinkle
2835 Grand Falls Road
Grand Junction, CO 81501

#5082

Paragon Engineers
2784 Crossroads Blvd
Grand Jct. CO 81501

#5082

2943-072-17-026
Ronald G. Cude
2837 Grand Falls Road
Grand Junction, CO 81501

#5082

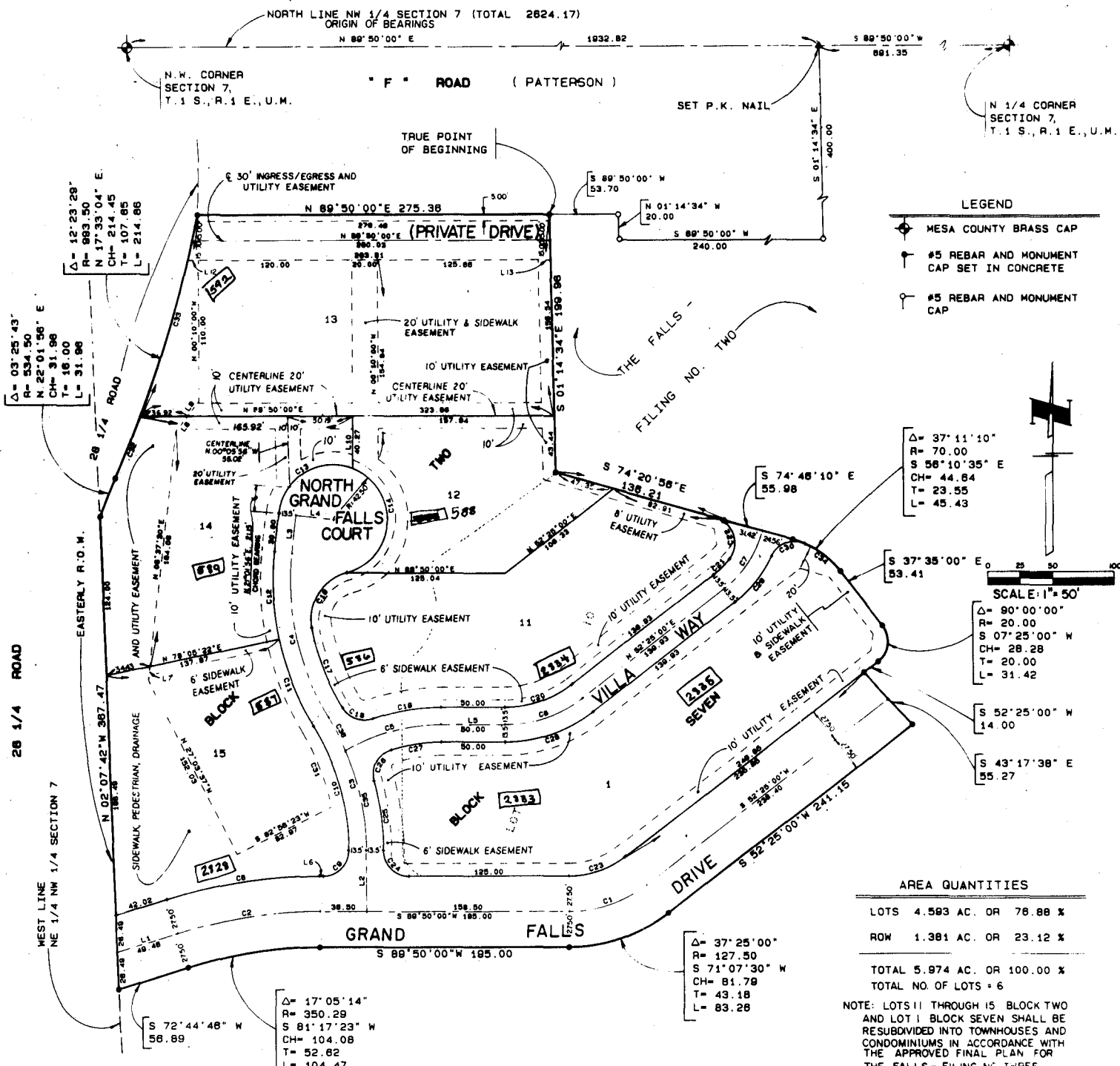
THE FALLS, FILING 3

Water for landscaping purposes shall be supplied to all lots via a pressurized piped system.

THE FALLS - FILING NO. THREE

File # 50-82
 ZONE: PR-8
 CT#6

- Bldg. permit Guarantee excluding Blk 7 on Grand Falls Drive
- Improvements Agreement / Guarantee
- Covenants

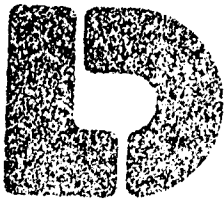


LINE TABLE

LINE	BEARING	DISTANCE
1	S 72°44'48" W	49.46
2	N 00°09'58" W	47.50
3	N 05°37'36" E	30.00
4	S 83°22'32" E	29.00
5	N 89°50'00" E	50.00
6	N 89°49'55" E	3.00
7	N 05°37'36" E	10.81
8	N 37°48'18" E	14.81
9	N 30°14'00" E	14.61
10	S 00°10'00" E	40.27
11	N 89°50'00" E	6.15
12	N 89°50'00" E	10.00
13	N 89°50'00" E	10.00
14	N 89°50'00" E	10.00
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98	N 89°50'00" E	10.00
99	N 89°50'00" E	10.00
100	N 89°50'00" E	10.00

CURVE TABLE

CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD	CHORD BRG
1	37°25'00"	100.00	65.30	33.88	84.15	S 71°07'30" W
2	11°05'14"	377.78	112.87	56.78	112.25	S 81°17'23" W
3	31°15'30"	200.00	108.17	55.88	107.82	N 15°48'13" W
4	38°04'00"	200.00	132.88	89.00	130.45	N 12°24'30" W
5	30°00'31"	150.00	78.58	40.20	77.87	N 74°48'44" E
6	37°25'00"	100.00	65.30	33.88	84.15	N 71°07'30" E
7	37°11'10"	85.00	55.17	28.59	54.20	N 83°48'22" E
8	17°05'14"	405.28	120.87	60.89	120.42	N 81°17'23" E
9	88°59'59"	20.00	31.42	20.00	28.28	N 44°50'00" E
10	31°18'30"	186.50	101.80	52.20	100.54	N 15°48'13" W
11	18°31'52"	213.50	72.78	36.75	72.43	N 21°40'34" W
12	18°32'08"	213.50	68.07	34.84	68.77	N 02°38'34" W
13	104°53'28"	42.50	77.80	55.28	87.39	N 68°04'13" E
14	143°58'47"	42.50	108.80	130.72	80.34	S 03°30'18" W
15	143°58'47"	42.50	108.80	130.72	80.34	S 03°30'18" W
16	88°17'48"	37.50	56.48	35.15	51.28	S 32°20'58" W
17	20°32'14"	186.50	86.85	33.79	86.49	S 81°04'11" E
18	77°51'08"	20.00	27.18	16.15	25.13	S 70°15'52" E
19	19°01'28"	189.50	64.29	27.40	54.04	N 80°19'17" E
20	37°25'00"	86.50	56.48	29.29	55.48	N 71°07'30" E
21	14°23'01"	71.50	17.95	9.02	17.91	N 45°13'25" E
22	112°22'48"	20.00	30.23	29.86	33.34	N 18°09'33" W
23	37°25'00"	72.00	47.31	24.55	48.51	S 71°07'30" W
24	90°00'01"	20.00	31.42	20.00	28.28	N 45°10'00" W
25	14°47'10"	213.50	59.10	27.76	54.84	N 07°33'35" W
26	88°05'42"	20.00	30.72	19.35	27.81	N 28°05'41" E
27	18°41'28"	138.50	39.76	20.02	39.82	N 81°28'16" E
28	37°25'00"	113.50	74.12	38.44	72.81	N 71°07'30" E
29	27°13'00"	88.50	48.78	29.84	48.35	N 38°48'30" E
30	88°15'24"	20.00	30.81	18.40	27.85	N 08°19'42" E
31	19°58'55"	178.50	61.55	31.08	61.24	S 21°27'02" E
32	2°58'47"	883.50	81.87	25.94	51.88	N 22°15'24" E
33	8°24'42"	893.50	183.26	61.71	183.01	N 19°03'43" E
34	28°57'38"	70.00	35.31	15.26	35.01	S 52°03'48" E
35	22°55'18"	200.00	80.71	40.37	79.18	N 11°37'38" W
36	6°21'14"	200.00	29.14	14.57	29.13	N 27°15'53" W



Lincoln DeVore

1441 Motor
Grand Junction, Colo 81501
(303) 242-8968

June 8, 1982

Paragon Engineering
2784 Crossroads Blvd.
Suite 104
Grand Junction, CO 81501

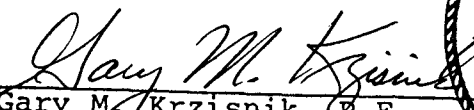
RE: SUBSURFACE SOILS INVESTIGATION
 THE FALLS SUBDIVISION
 FILING 3
 GRAND JUNCTION, COLORADO

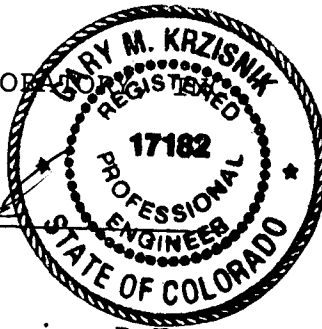
Gentlemen:

Transmitted herein are the results of a Subsurface Soils Investigation and Foundation Recommendations for The Falls Subdivision, Filing 3 in Grand Junction, Colorado.

Respectfully submitted,

LINCOLN-DEVORE TESTING LABORATORY

By: 
Gary M. Krzysnik, P.E.
Grand Junction Office



Reviewed by: George D. Morris, P.E.

GMK/cr

LDTL Job No. 43589J

ABSTRACT:

The contents of this report are a Subsurface Soils Investigation and Foundation Recommendations for the proposed Filing 3 of The Falls Subdivision in Grand Junction, Colorado.

Topographically, the site is a complex of small, low hills with slopes ranging from 3° to 15°, due, in part, to extensive filling in parts of the site. Surface drainage is very poor in some areas and good in others, but overall requires some improvement. Subsurface drainage is poor.

The soil within the upper 15 feet of the soil profile encountered during drilling was noted to consist of Mancos Shale, overlain in many areas by man-made fill of varying depth. This fill was found to contain some tires, asphalt, concrete and wood and was noted to be quite variable in terms of density. Because of the high potential for differential settlement, we would recommend that this fill either be penetrated by piers or piles, or be removed from below foundation line, being replaced with a suitable structural fill. If the fill is over-excavated, a shallow foundation system, designed on the basis of a maximum bearing capacity of 3000 psf would be appropriate. Where shallow type foundations bear on the native shale (i.e., where there is very little or no fill), they may be proportioned for a maximum allowable bearing pressure of 4500 psf. Where the

shale is at or within 3 feet below footings, a minimum pressure of 1500 psf will be required to resist the potential soil expansion after construction is completed.

To limit differential movement in as much as possible, we would recommend that the foundations for the residential units across the subdivision be well balanced and heavily reinforced.

All floor slabs on grade must be constructed to act independently of other structural portions of the buildings. Alternatively, where extensive existing fill of poor quality is located below slabs, the slabs should be designed as structural floor slabs supported by other structural elements of the building rather than being supported by fill.

Surface and subsurface drainage must be carefully designed and controlled. A perimeter drain would be recommended around the building exterior.

A Type II Cement would be recommended in all concrete in contact with the soil on this site.

More detailed recommendations can be found within the body of this report. All recommendations will be subject to the limitations set forth herein.

The information herein has been obtained to provide a general and preliminary indication of the soils which will probably be found under presently unknown types of structures proposed for the site. Site specific information must be obtained beneath each proposed structure after

its exact location is determined, since the soil types and conditions differ across the overall site and the type of structure proposed is not known.

This report is intended to identify general soil conditions on the site, as requested. Nine (9) test borings spread over a 10+ acre site, can only be used as an over-view of the soil conditions and not for site specific design purposes.

GENERAL:

The purpose of this investigation was to determine the general suitability of the site for construction of Filing 3 of The Falls Subdivision, in Grand Junction, Colorado. Characteristics of the individual soils found within the test borings were examined for use in designing foundations on this site.

Although Lincoln-DeVore has not seen a set of construction drawings for any of the residential units proposed, we believe that they will be basically frame structures of more or less conventional design. Foundation loads for structures of this nature are normally light to medium weight in magnitude. The topography of the site area is that of a system of small hills (Badlands type topography). Parts of the low areas between hills were filled with a poor quality mix of remolded shale and man-made debris. As a result, portions (shown on the Boring Location Diagram as areas of "bog") are very wet and very poorly drained. In general, surface drainage in the area flows to the southwest toward the Colorado river. Considerable improvement in surface drainage, in part restoring conditions existing prior to filling, will be required at this site to eliminate the extensive water ponding now occurring. Subsurface drainage is poor in the low permeability native and fill soils.

Below the man-made fill in some areas, and beginning at the surface elsewhere, we found weathered Mancos Shale. The Mancos Shale can broadly be described as a thin-bedded, drab, light to dark gray marine shale, with thinly

interbedded fine grain sandstone and limestone layers. Some portions of the Mancos Shale are bentonitic, and therefore, are highly expansive. The majority of the shale, however, has only a moderate expansion potential. Formational shale was encountered in all of the test borings at depths ranging from zero (existing surface) to 13 feet. It is anticipated that this formational shale will directly affect the construction and the performance of the foundations on the site.

BORINGS, LABORATORY TESTS AND RESULTS:

Nine (9) test borings were placed on the site, at locations indicated on the attached Test Boring Location Diagram. These test borings were placed in such a manner as to obtain a reasonably good profile of the proposed construction site subsurface soils. Some variations were noted in the soil profile, but in general, the profile was found to be fairly uniform, so that further test borings were not deemed necessary at this time. All test borings were advanced with a power-driven, continuous auger drill and samples were taken with the standard split-spoon sampler and by bulk methods.

The precise gradational and plasticity characteristics associated with the soils encountered during drilling can be found on the attached summary sheets. The representative number for each soil group is indicated in a small circle immediately below the sampling point on the Drilling Logs. The following discussion of the soil groups will be general in nature.

The soils profile encountered on this site can broadly be described as a two layer system. The upper 1 to 13 feet of the profile was found to be man-made fill, including tires, asphalt, concrete and wood, in many areas. Beginning at the existing surface or beneath this surface layer, the soils were found to consist of shale of the Mancos Shale Formation described previously.

Soil Type No. 1 classified as silty clay (CL) of fine grain size. Soil Type No. 1 is typical of the formational shale which underlies the site and serves as bedrock in the area. Soil Type No. 1 is plastic, of very low permeability and of high to very high density. The shales are expansive in nature with swell pressures on the order of 1450 psf being measured. Should drilled piers be used for the building, the expansive nature of the fine grained bedrock must be given consideration. Owing to its initial high density condition, these soils would have virtually no tendency to long-term consolidate. At a penetration of 10 feet into the shale layer, tip bearing capacities on the order of 12,000 psf could be achieved. Where there is little or no fill over the shale, so that shallow foundations can bear on the formation, allowable pressures of 4500 psf maximum and 1500 psf minimum are considered feasible. Soil Type No. 1 was found to contain sulfates in detrimental quantities.

Soil Type No. 2 classified as a silty clay (CL) of fine grain size. Soil Type No. 2 is plastic and of moderate to low density. This material as encountered contained unsuitable materials such as wood, tires and asphalt as well as large pieces of concrete and other inert debris and therefore, is not judged sufficient as a foundation material.

Free water was found at depths ranging from 6 to 18 feet in many of the borings. It is felt that rather than being a true free water surface, the moisture encount-

ered was actually perched above the formational shale materials and was traveling through the fractures in the weathered zone. This is substantiated by the fact that moisture was noted in the fractures of the weathered shale. In one case, the water appeared to be perched in the man-made fill. Due to the seepage encountered in this weathered shale zone, as well as the potential for seepage and for accumulations of "perched" or entrapped, water, sub-surface peripheral drains around the structures are strongly recommended. Additionally, water may be encountered during construction, especially in deeper excavations and dewatering techniques may be necessary. It is felt that the quantities of water to be anticipated can be handled by sump pits and pump during construction.

CONCLUSIONS AND RECOMMENDATIONS:

Since the exact magnitude and nature of the foundation loads are not precisely known at the present time, the following recommendations must be somewhat general in nature. Any special loads or unusual design conditions should be reported to Lincoln-DeVore so that changes in these recommendations may be made, if necessary. However, based upon our analysis of the soil conditions and project characteristics previously outlined, the following recommendations are made.

The presence of variable-depth, variable-density, man-made fill, and its unacceptable compositions has been pointed out repeatedly in the foregoing section of this report. In general, this fill must be considered unsuitable for foundation support. At isolated locations, it is possible that clean, well-densified fill of shallow depth exists (such fill must be identified and examined on a site specific basis). However, in most areas where the existing fill depth is in excess of 3 feet, we encountered unacceptable debris in the fill. Therefore, we recommend that the fill be removed entirely and replaced with controlled structural fill.

It would be preferred to remove the fill from the entire site and place new fill. Alternatively, existing fill may be removed from specific building foundation locations and from within 4 feet below pavements and slabs. Structural fill used to replace existing fill should be laid

down in maximum 10 inch loose depth lifts where heavy, self-propelled compaction equipment is used (and 6 inch loose depth lifts where hand equipment is used). Where structural fill is placed below footings, it must extend laterally beyond the footing perimeter a distance equal to the fill's depth and be compacted to at least 92%, but not over 97%, of the material's maximum Proctor dry density (ASTM D-1557). Fill below floor slabs and pavements should be compacted to at least 88% but not over 93% of that value.

Where controlled fill is used to support foundations, it is recommended that a shallow foundation system consisting of continuous footings beneath all bearing walls and isolated spread footings beneath columns and other points of concentrated load, be used to transfer the weight of the proposed structure. Such a shallow foundation system may be designed on the basis of a maximum allowable bearing capacity of 3000 psf as an overall site average. Where the native shale is located within 3 feet of the footings or where expansive fill is used, a minimum pressure of 1500 psf will be required.

Where the existing fill depth is such that complete removal is impractical, we would recommend penetrating the fill with a foundation system of drilled piers. Such drilled piers should extend at least 10 feet into formational shale to penetrate the more weathered, fractured material. A maximum allowable tip bearing pressure of 12,000 psf can be used in their design, together with an average skin friction pressure of 2400 psf for the portion located within the shale.

Possible expansion of the shale and some denser portions of the overlying clayey fill could exert uplift pressures equivalent to a skin friction pressure of as much as 500 psf. Also, a minimum tip pressure of 1500 psf is required. Such pressures must be resisted by the building and pier dead load and, if necessary, by shear rings installed in the shale near the tip.

Where little or no fill exists, so that footings will bear on the weathered formational shale, it is recommended that a shallow foundation system consisting of continuous footings beneath all bearing walls and isolated spread footings beneath columns and other points of concentrated load, be used to transfer the weight of the proposed structure. Such a shallow foundation system may be designed on the basis of a maximum allowable bearing capacity of 4500 psf as an overall site average. Again, a minimum pressure of 1500 psf will be required.

Where a shallow foundation system is used, we would recommend that the contact stresses be balanced beneath the foundation components. Most buildings are invariably more heavily loaded on some walls and columns than on others. The amount of this variation may tend to be quite high. We would recommend that the size of the foundation component be varied in direct relationship to the actual load being carried, thus maintaining approximately the same pressure on the soil at all points. Using the criterion of either full dead load (for single-story, slab on grade structures) or dead plus one-half the estimated live load (for multiple level structures), we would recommend that the contact stresses beneath the load bearing walls be

balanced to within \pm 300 psf at all points beneath the foundation wall. Isolated interior column pads should be designed for pressures of about 200 psf more than the average of the pressures beneath the load bearing walls.

To help ensure that the structure moves more or less as a single unit rather than in a differential manner, we would recommend that all stem walls be supported by a grade beam capable of spanning at least 15 feet. This grade beam would apply to both interior and exterior load bearing walls. Such a grade beam should be horizontally reinforced continuously around the structure with no gaps or breaks in reinforcing steel unless they are specially designed. Beams should be reinforced at both the top and the bottom with the major reinforcement being at the top where expansive soils are at or close to the footings or at the bottom when footings are on nonexpansive structural fills. All interior bearing walls should rest on a grade beam and foundation system of their own and should not be allowed to rest on a thickened slab section or "shovel" footing.

A reinforced concrete grade beam is recommended to carry the exterior wall loads in conjunction with the aforementioned deep foundation alternatives. This grade beam should be designed to extend from bearing point to bearing point and should not be allowed to rest upon the ground surface between these two points. In the case of very long spans (25-foot or greater), the grade beam could be designed to only span half the distance between the bearing points with some load transfer being

allowed near mid-span. In all cases, the grade beam should be horizontally reinforced continuously around the structure with no gaps or breaks in the reinforcing steel unless they are specially designed. Beams should be reinforced at both the top and the bottom as required by the building loads and provisions of ACI 318, Building Code Requirements for Reinforced Concrete.

The bottoms of all piers should be thoroughly cleaned prior to the placement of concrete. The amount of reinforcing required in each pier will depend upon the magnitude and nature of loads involved. However, as a rule of thumb, reinforcement equal to approximately 6% of the gross cross-sectional concrete areas should be utilized. Additional reinforcing should be used if structural consideration is so warranted. Reinforcement over the entire shaft length would be recommended.

Where the stem walls are relatively shallow, vertical reinforcing will probably not be necessary. However, where the walls retain soil in excess of about 5 feet in height, vertical reinforcing may be necessary to resist the active pressure of the soils along the wall exterior. To aid in designing such vertical reinforcing, the following equivalent fluid pressures can be utilized:

- 50 pcf for recompacted existing fill or shale
(Soil Type Nos. 1 and 2)
- 35 pcf for drained, granular backfill

It should be noted that the above values should be modified to take into account any surcharge loads applied at the top of the walls as a result of stored

goods, live loads on the floor, machinery, or any other externally applied forces. The above equivalent fluid pressures should also be modified for the effects of any free water table.

The bottom of all foundation components should rest a minimum of 1½ feet below finished grade or as required by the local building codes. Foundation components must not be placed on frozen soils.

Prior to constructing floor slabs on grade, any unsuitable materials including topsoil, organics and unacceptable miscellaneous fills should be removed from the underslab areas. The resulting surface should be scarified and recompacted prior to placing the new fill.

All floor slabs on grade must be constructed to act independently of the other structural portions of the building. These floor slabs should contain deep construction or contraction joints to facilitate even breakage and to help minimize any unsightly cracking which could result from differential movement. Floor slabs on grade should be placed in sections no greater than 25 feet on a side.

If the existing, poor quality fill is left in place below slabs and drilled pier foundations are used to penetrate such fill, we recommend using a structural floor system supported by the deep foundations. We would emphasize that some isolation from expansive soils is imperative for such a system. A minimum of 12 inches of drained non-expansive granular fill is recommended below such slabs.

Where floor slabs are used, they may be placed directly on grade or over a compacted gravel blanket of 4 to 6 inches in thickness. Under no circumstances should this gravel pad be allowed to act as a water trap beneath the floor slab. A vapor barrier is recommended beneath any and all floor slabs on grade which will lie below the finished exterior ground surface. All fill placed beneath the interior floor slabs must be compacted to at least 88% of its maximum Proctor dry density, ASTM D-1557, but not over 93% of this value.

Any interior, non-load bearing partitions which will be constructed to rest on the floor slab should be constructed with a minimum space of 1½ inches at either the top or bottom of the wall. The bottom of the wall would be the preferred location for this space. This space will allow for any future potential expansion of the subgrade soils and will prevent damage to the wall and/or roof section above which could be caused by this movement.

Adequate drainage must be provided in the foundation area both during and after construction to prevent the ponding of water. The ground surface around the building should be graded so that surface water will be carried quickly away from the structure. The minimum gradient within 10 feet of the building will depend upon surface landscaping. Bare or paved areas should maintain a minimum gradient of 2%, while landscaped areas should maintain a minimum gradient of 5%. Roof drains must be carried across all backfilled areas and discharged well away

from the structure. In addition, structural fill used below slabs, pavements and foundations must be provided with a free gravity outlet to daylight or to a sump pit.

To give the building extra lateral stability and to aid in the rapidity of runoff, all backfill around the building and in utility trenches in the vicinity of the structure should be compacted to at least 90% of its maximum Proctor dry density, ASTM D-698. The native materials encountered on this site may be used for backfilling purposes, if so desired. All backfill must be compacted to the required density by mechanical means. No water flooding techniques of any type should be used in the placement of fill on this site.

A subsurface peripheral drain, including an adequate gravel collector, sand filter and perforated drain pipe, should be constructed around the outside of the building at foundation level. Dry wells should not be used anywhere on this site. The discharge pipe should be given a free gravity outlet to the ground surface. If "daylight" is not available, a sealed sump and pump should be used.

Difficulties may be encountered during construction on this site and with performance of the foundation systems due to seasonal groundwater levels. Full and half basement foundations could be used, but should be well sealed and should be provided with a subsurface peripheral drain described in this report. The discharge of subsurface drains should be

provided with a free gravity outfall to the surface if at all possible. If gravity outfall is not possible, then a lined sump and pump should be used, kept well away from the building.

Samples of the surficial native soils at this property that may be required to support pavements have been evaluated using the Hveem-Carmany method to determine their support characteristics. The results of the laboratory testing are as follows:

	R	=	5
Expansion @ 300 psi		=	6.62
Displacement @ 300 psi		=	4.21

The displacement indicates that this soil is only marginally stable when wet unless it is confined. In addition, its possible expansion pressure against portions of pavements could result in damage due to differential heave. A sub-base of coarse, non-expansive fill, well-drained, should be considered against the risk of pavement deterioration associated with soils having these characteristics. We would recommend that all subgrade fill, sub-base and aggregate base course materials be compacted to at least 95% of the maximum modified Proctor (ASTM D-1557) dry density specific to each material used. When sufficient information becomes available that will permit reasonable assumptions of the traffic volume and mix that are likely at this site, we would be pleased to further assist with the development of this project by preparing detailed pavement design recommendations, if you so desire.

Some, but not major, difficulties are anticipated in the course of excavating into the surficial

site soils that consist of man-made fills and native weathered shales. Because fills of such varying composition can cave from steep vertical cuts, it is possible that some safety provisions such as the sloping or bracing of the sides of excavations over 5 feet deep could be necessary. Any such safety provisions should conform to reasonable industry safety practices and applicable OSHA regulations.

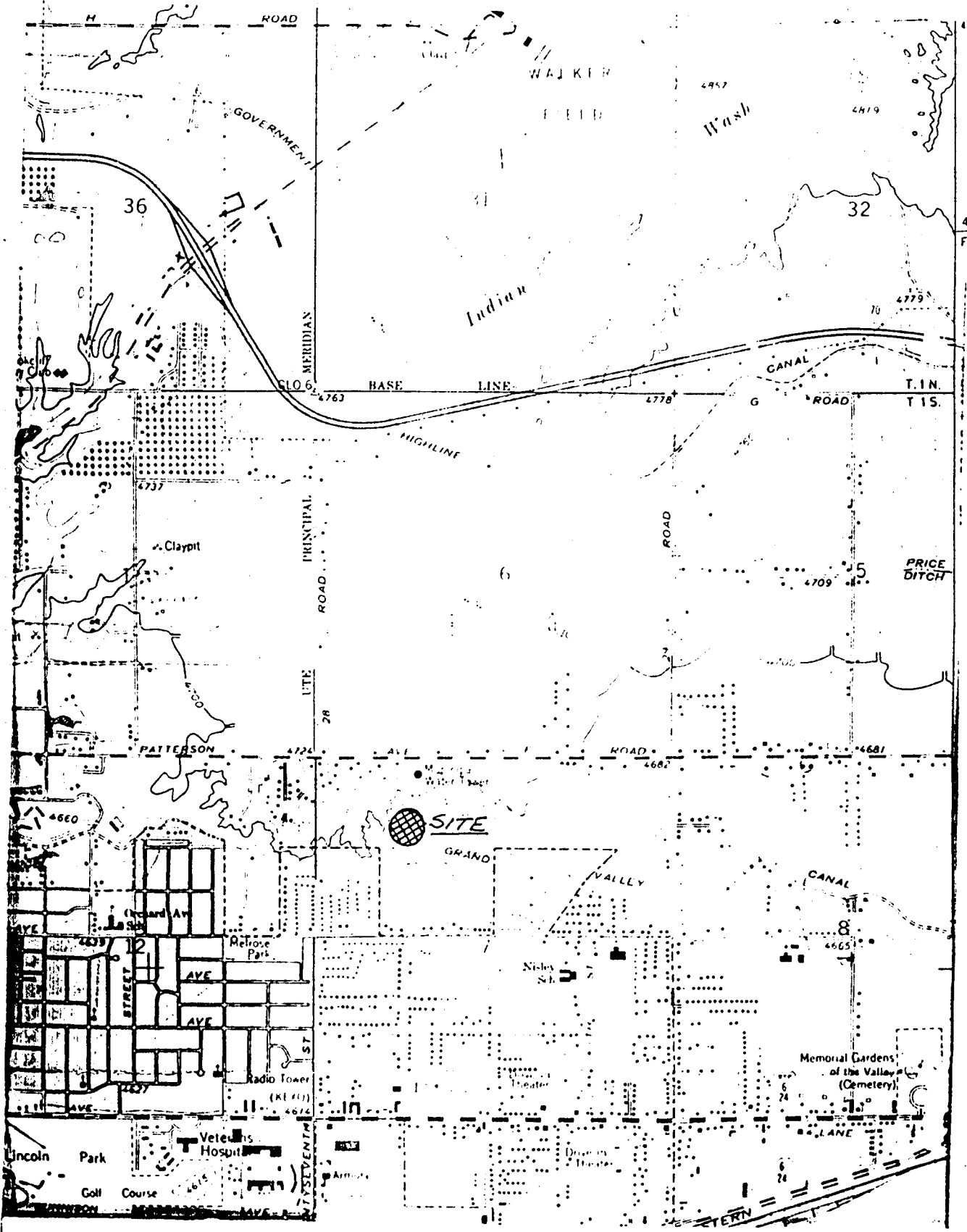
The soils on this site were found to contain sulfates in detrimental quantities. Therefore, a Type II Cement would be recommended in all concrete in contact with the soil. Under no circumstances should calcium chloride ever be added to a Type II Cement. In the event that Type II Cement is difficult to obtain, a Type I Cement may be used, but only if it is protected from the soils by an impermeable membrane.

It must be recommended that the open foundation excavation be inspected prior to the placing of forms to establish the appropriate design parameters for each individual building lot. Further exploration on a building to building basis may be warranted. At the time of inspection or further investigation, the maximum and minimum bearing values can be verified or modified as necessary and recommendations made as to the suitable foundation type for that particular site. Also, this inspection will ensure that no debris, soft spots, or areas of unusually low density are located within the foundation region. Any changes in the recommendations included in this report can easily be made at the time of such inspection.

All fill placed below the foundations must be fully controlled and tested to ensure that adequate densification has occurred.

It is extremely important due to the nature of data obtained by the random sampling of such a heterogeneous material as soil that we be informed of any changes in the subsurface conditions observed during construction from those outlined in the body of this report. Construction personnel should be made familiar with the contents of this report and instructed to relate any differences immediately if encountered.


It is believed that all pertinent points concerning the subsurface soils on this site have been covered in this report. If questions arise or further information is required, please feel free to contact Lincoln-DeVore at any time.



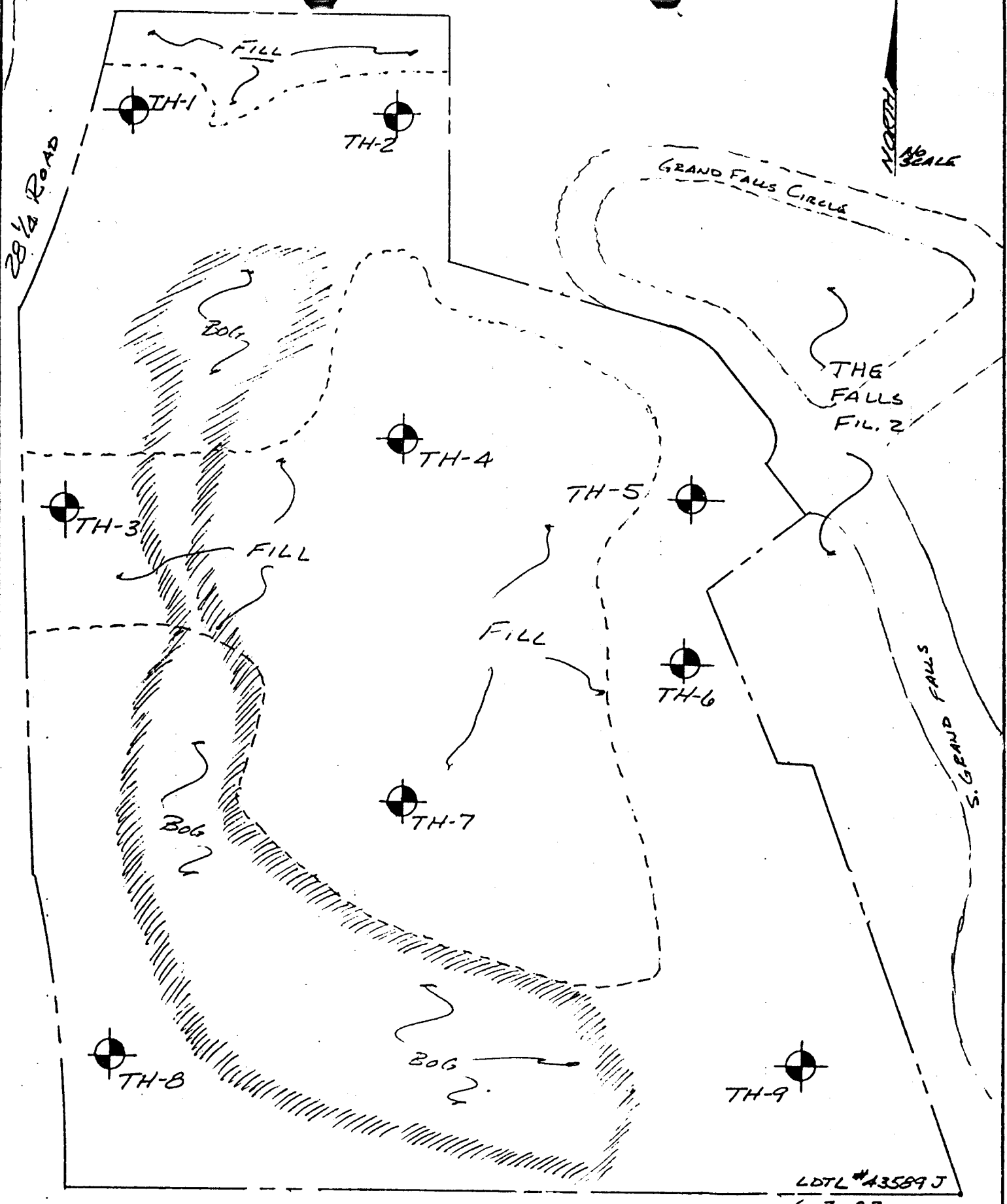
11507

SCALE: 1"=2000'
 LDTL No. 43589 J
 DATE: 6-7-82

*GENERAL SITE LOCATION - THE FALLS -
 FILING 3 - GRAND JUNCTION, COLO.*

	LINCOLN DEVORE ENGINEERS- GEOLOGISTS	COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE, WYOMING: ROCK SPRINGS

28 1/4 ROAD



LDTL #43589 J
6-7-82

SOIL BORING LOCATIONS - THE FALLS
FIG. 3 - GRAND JUNCTION, COLO.

L LINCOLN
DEVORE
ENGINEERS-
GEOLOGISTS

COLORADO: COLORADO SPRINGS,
PUEBLO, GLENWOOD SPRINGS,
GRAND JUNCTION, MONTROSE,
WYOMING: ROCK SPRINGS

SOILS DESCRIPTIONS:

SYMBOL	USCS	DESCRIPTION
		Topsoil
		Man-made Fill
	GW	Well-graded Gravel
	GP	Poorly-graded Gravel
	GM	Silty Gravel
	GC	Clayey Gravel
	SW	Well-graded Sand
	SP	Poorly-graded Sand
	SM	Silty Sand
	SC	Clayey Sand
	ML	Low-plasticity Silt
	CL	Low-plasticity Clay
	OL	Low-plasticity Organic Silt and Clay
	MH	High-plasticity Silt
	CH	High-plasticity Clay
	OH	High-plasticity Organic Clay
	Pt	Peat
	GW/GM	Well-graded Gravel, Silty
	GW/GC	Well-graded Gravel, Clayey
	GP/GM	Poorly-graded Gravel, Silty
	GP/GC	Poorly-graded Gravel, Clayey
	GM/GC	Silty Gravel, Clayey
	GC/GM	Clayey Gravel, Silty
	SW/SM	Well-graded Sand, Silty
	SW/SC	Well-graded Sand, Clayey
	SP/SM	Poorly-graded Sand, Silty
	SP/SC	Poorly-graded Sand, Clayey
	SM/SC	Silty Sand, Clayey
	SC/SM	Clayey Sand, Silty
	CL/ML	Silty Clay

ROCK DESCRIPTIONS:

SYMBOL	DESCRIPTION
<u>SEDIMENTARY ROCKS</u>	
	CONGLOMERATE
	SANDSTONE
	SILTSTONE
	SHALE
	CLAYSTONE
	COAL
	LIMESTONE
	DOLOMITE
	MARLSTONE
	GYPNUM
<u>Other Sedimentary Rocks</u>	
<u>IGNEOUS ROCKS</u>	
	GRANITIC ROCKS
	DIORITIC ROCKS
	GABBRO
	RHYOLITE
	ANDESITE
	BASALT
	TUFF & ASH FLOWS
	BRECCIA & Other Volcanics
<u>Other Igneous Rocks</u>	
<u>METAMORPHIC ROCKS</u>	
	GNEISS
	SCHIST
	PHYLLITE
	SLATE
	METAQUARTZITE
	MARBLE
	HORNFELS
	SERPENTINE
<u>Other Metamorphic Rocks</u>	

SYMBOLS & NOTES:

SYMBOL	DESCRIPTION
	9/12 Standard penetration drive Numbers indicate 9 blows to drive the spoon 12" into ground.
	ST 2-1/2" Shelby thin wall sample
	W ₀ Natural Moisture Content
	W _x Weathered Material
	Free water table
	gamma ₀ Natural dry density
	T.B. - Disturbed Bulk Sample
	② Soil type related to samples in report
	15' W _x Form. Top of formation
	Test Boring Location
	Test Pit Location
	Seismic or Resistivity Station. Lineation indicates approx. length & orientation of spread (S = Seismic, R = Resistivity)

Standard Penetration Drives are made by driving a standard 1.4" split spoon sampler into the ground by dropping a 140 lb. weight 30". ASTM test des. D-1586.

Samples may be bulk, standard split spoon (both disturbed) or 2-1/2" I.D. thin wall ("undisturbed") Shelby tube samples. See log for type.

The boring logs show subsurface conditions at the dates and locations shown, and it is not warranted that they are representative of subsurface conditions at other locations and times.

LINCOLN DeVORE TESTING LABORATORY

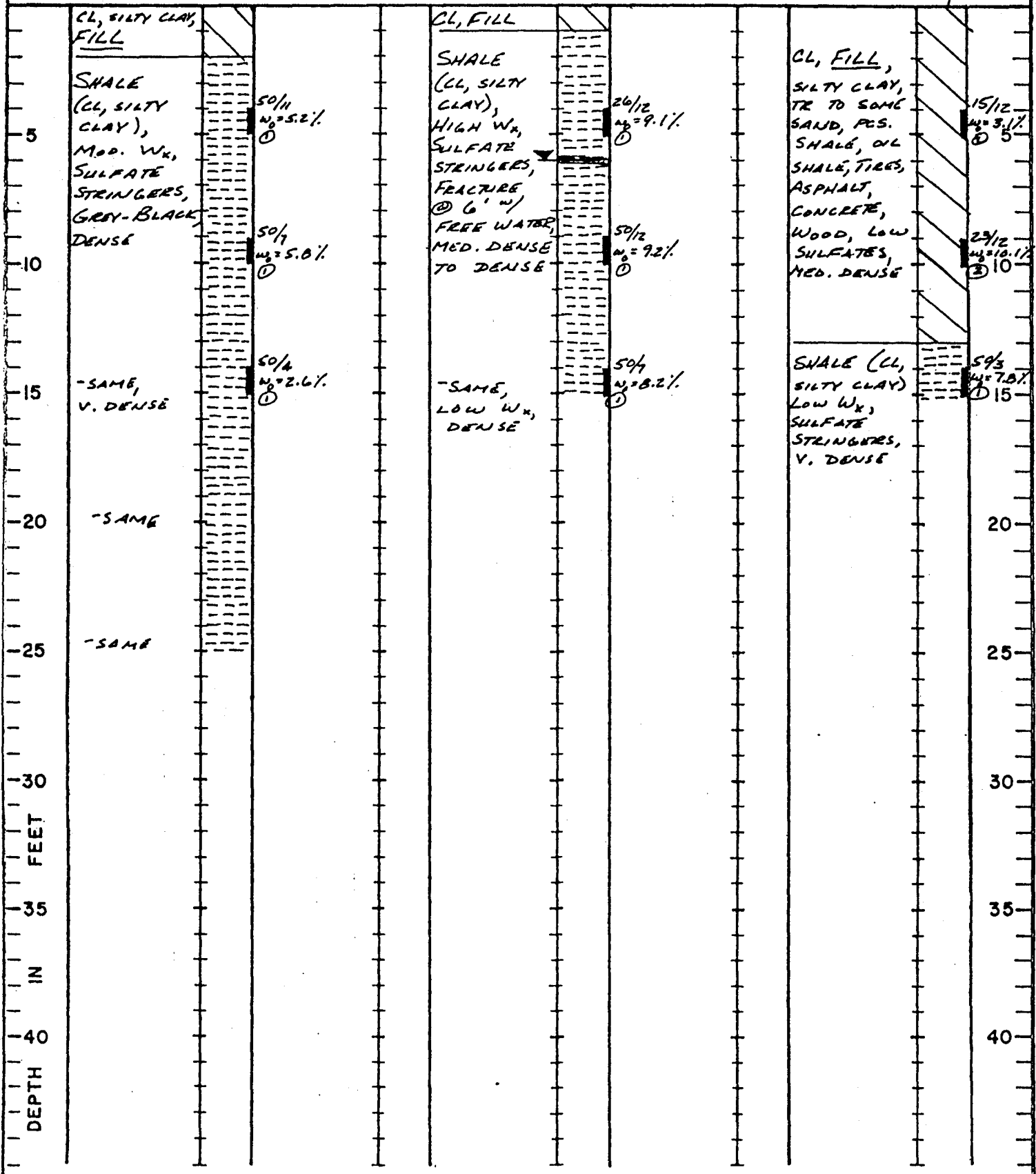
COLORADO: Colorado Springs, Pueblo, Glenwood Springs, Montrose, Gunnison, Grand Junction, - WYO. - Rock Springs

EXPLANATION OF BOREHOLE LOGS AND LOCATION DIAGRAMS

TEST HOLE NO. 1
TOP ELEVATION

2

3



DRILLING LOGS

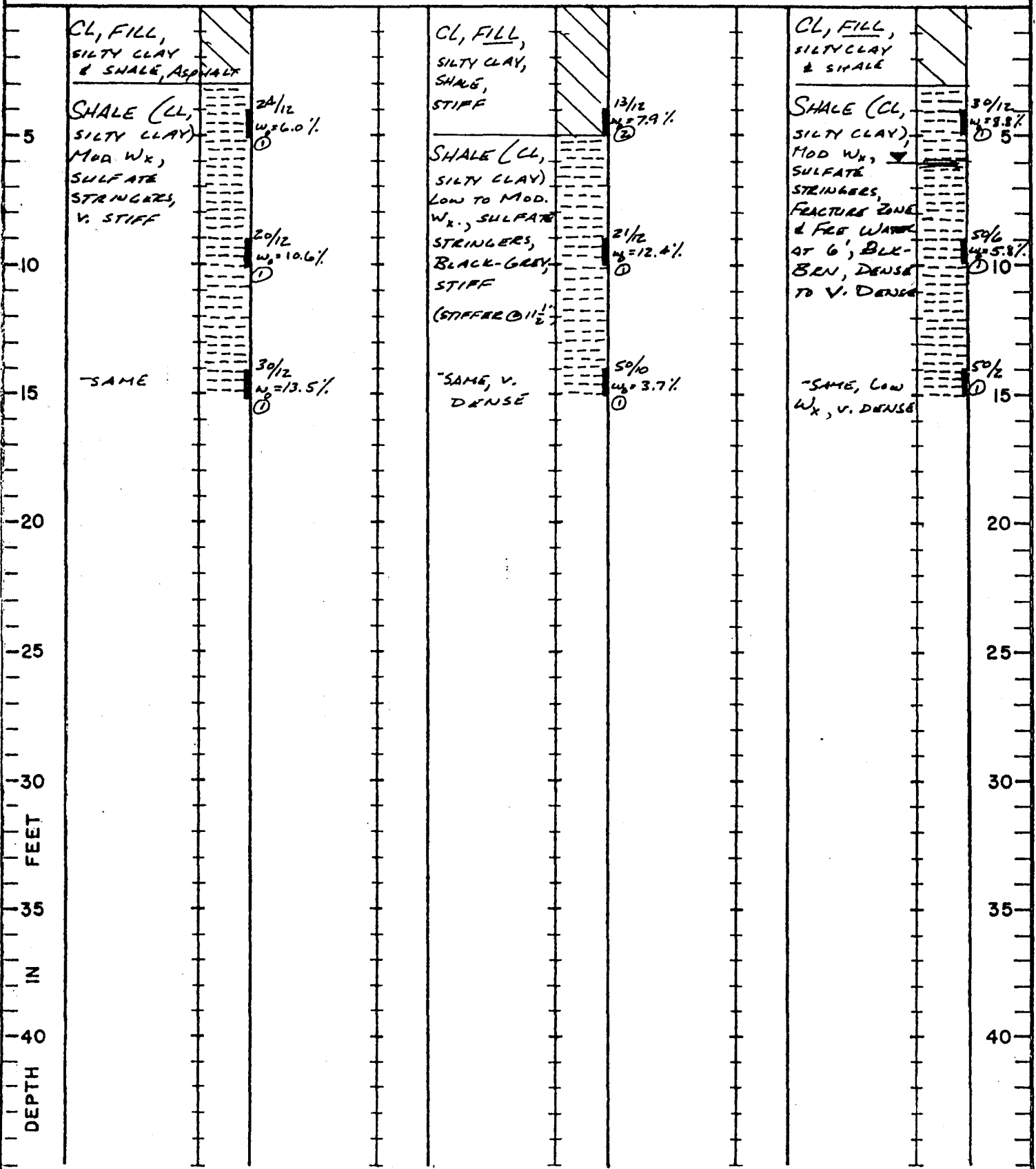


COLORADO: COLORADO SPRINGS,
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GRAND JUNCTION, MONTROSE,
WYOMING: ROCK SPRINGS

TEST HOLE NO. 4
TOP ELEVATION _____

5

6



DRILLING LOGS



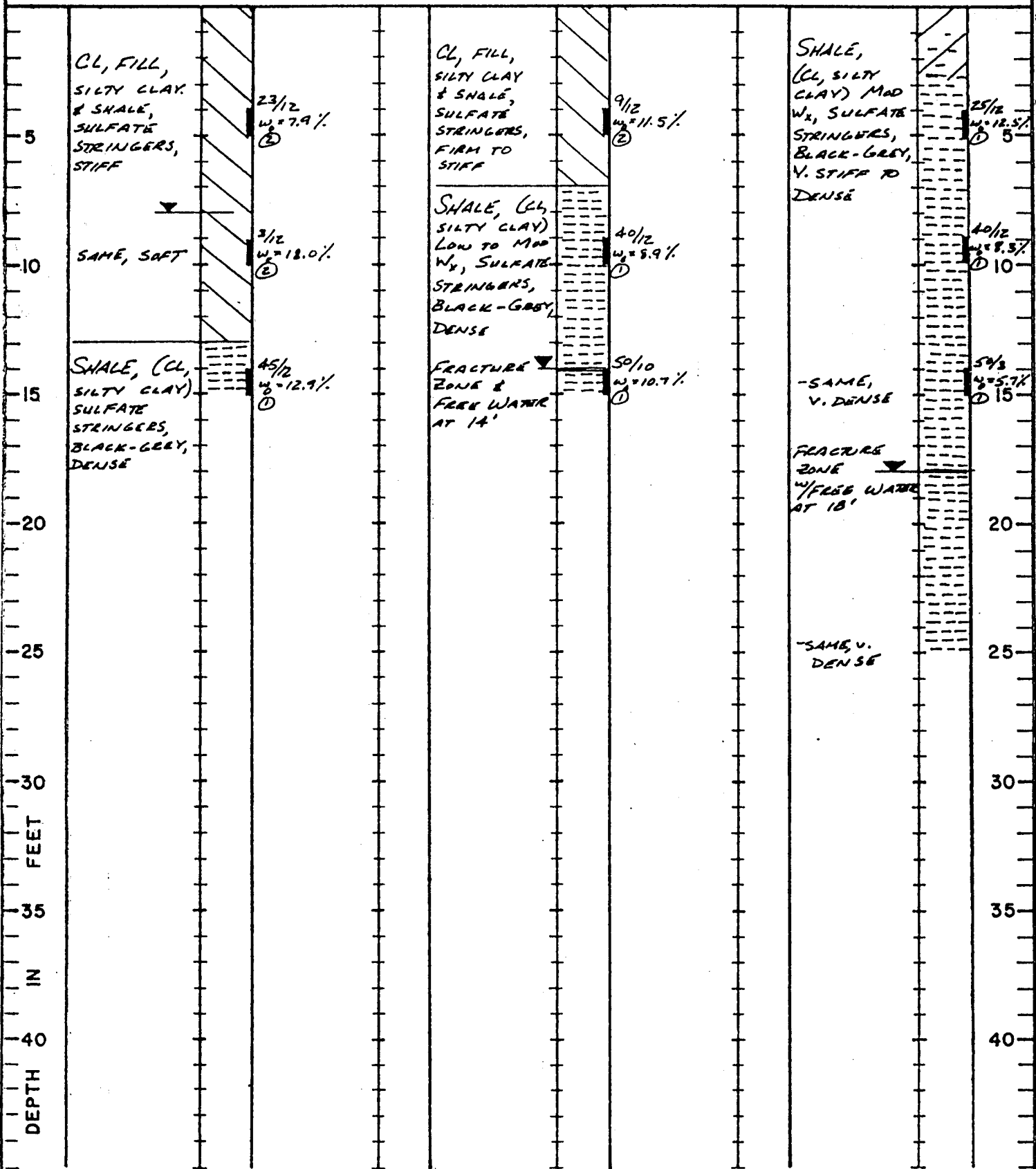
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ENGINEERS
GEOLOGISTS

COLORADO: COLORADO SPRINGS,
PUEBLO, GLENWOOD SPRINGS,
GRAND JUNCTION, MONTROSE,
WYOMING: ROCK SPRINGS

TEST HOLE NO. 7
TOP ELEVATION

8

9



DRILLING LOGS

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COLORADO: COLORADO SPRINGS,
PUEBLO, GLENWOOD SPRINGS,
GRAND JUNCTION, MONTROSE,
WYOMING: ROCK SPRINGS

SUMMARY SHEET

Soil Sample CL, SILTY CLAY, TRACE SAND (SHALE) Test No. 43589 J
 Location THE FALLS - FILING 3 - GRAND JUNCTION, CO Date 6-1-82
 Boring No. _____ Depth _____
 Sample No. 1 Test by PKE

Natural Water Content (w) _____ %
 Specific Gravity (Gs) _____

In Place Density (ρ_o) _____ pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	_____
1"	_____
3/4"	_____
1/2"	100.0
4	99.3
10	99.2
20	97.4
40	95.7
100	93.5
200	90.1

HYDROMETER ANALYSIS:

Grain size (mm)	%
0.02	61.3
0.005	38.3
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

HUEM-CARMANY TEST DATA:

R_s = 5
 EXPANSION PRESS. @ 300 psi = 6.62
 DISPLACEMENT @ 300 psi = 4.21

Plastic Limit P.L. 17.4 %
 Liquid Limit L.L. 33.1 %
 Plasticity Index P.I. 15.7 %
 Shrinkage Limit _____ %
 Flow Index _____
 Shrinkage Ratio _____ %
 Volumetric Change _____ %
 Lineal Shrinkage _____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_o _____ %
 Maximum Dry Density - ρ_d _____ pcf
 California Bearing Ratio (av) _____ %
 Swell _____ Days _____ %
 Swell against 1450 psf W_o gain 6.1 %

BEARING:

Housel Penetrometer (av) _____ psf
 Unconfined Compression (qu) _____ psf
 Plate Bearing: _____ psf
 Inches Settlement _____
 Consolidation % under _____ psf

PERMEABILITY:

K (at 20°C) _____
 Void Ratio _____

Sulfates 2000 ± ppm.

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
 COLORADO SPRINGS, COLORADO

12.0
11.8

SUMMARY SHEET

Soil Sample CL, SILTY CLAY, TR TO SOME SAND (FILL) Test No. 43589 J

Location THE FALLS - FIL. 3 - GRAND JUNCTION, CO Date 6-1-82

Boring No. _____ Depth _____
 Sample No. 2 Test by PKC

Natural Water Content (w) _____ %
 Specific Gravity (Gs) _____

In Place Density (ρ_o) _____ pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	_____
1"	_____
3/4"	_____
1/2"	<u>100.0</u>
4	<u>99.4</u>
10	<u>99.3</u>
20	<u>98.2</u>
40	<u>95.1</u>
100	<u>90.6</u>
200	<u>85.8</u>

HYDROMETER ANALYSIS:

Grain size (mm)	%
<u>0.02</u>	<u>49.5</u>
<u>0.005</u>	<u>30.4</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Plastic Limit P.L. 14.3 %
 Liquid Limit L. L. 29.3 %
 Plasticity Index P.I. 15.0 %
 Shrinkage Limit _____ %
 Flow Index _____
 Shrinkage Ratio _____ %
 Volumetric Change _____ %
 Lineal Shrinkage _____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_p _____ %
 Maximum Dry Density - ρ_d _____ pcf
 California Bearing Ratio (av) _____ %
 Swell: _____ Days _____ %
 Swell against 1130 psf w_o gain 6.4 %

BEARING:

Housel Penetrometer (av) _____ psf
 Unconfined Compression (qu) _____ psf
 Plate Bearing: _____ psf
 Inches Settlement _____
 Consolidation % under _____ psf

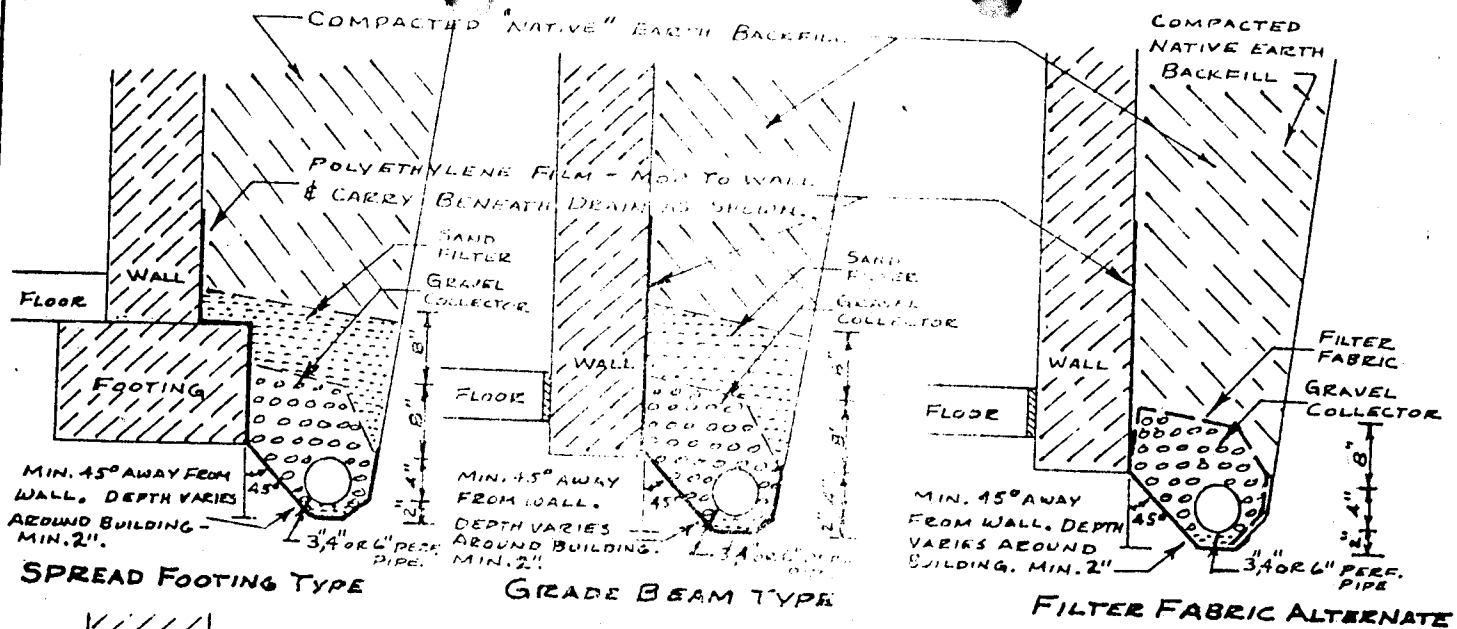
PERMEABILITY:

K (at 20°C) _____
 Void Ratio _____

Sulfates 2000 ± ppm.

SOIL ANALYSIS

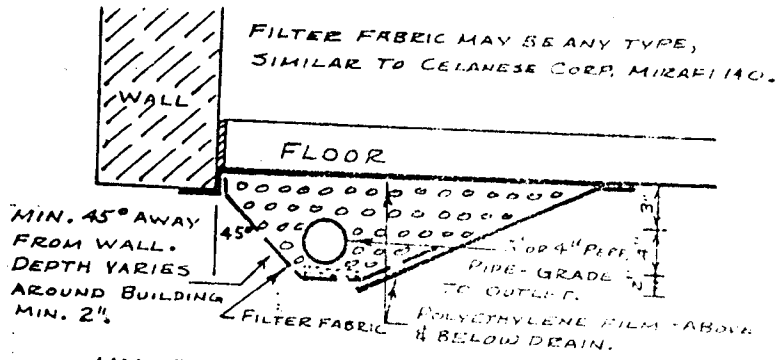
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 COLORADO SPRINGS, COLORADO



SPREAD FOOTING TYPE

GRADE BEAM TYPE

FILTER FABRIC ALTERNATE



UNDER-SLAB, INTERIOR TYPE

NOTES:

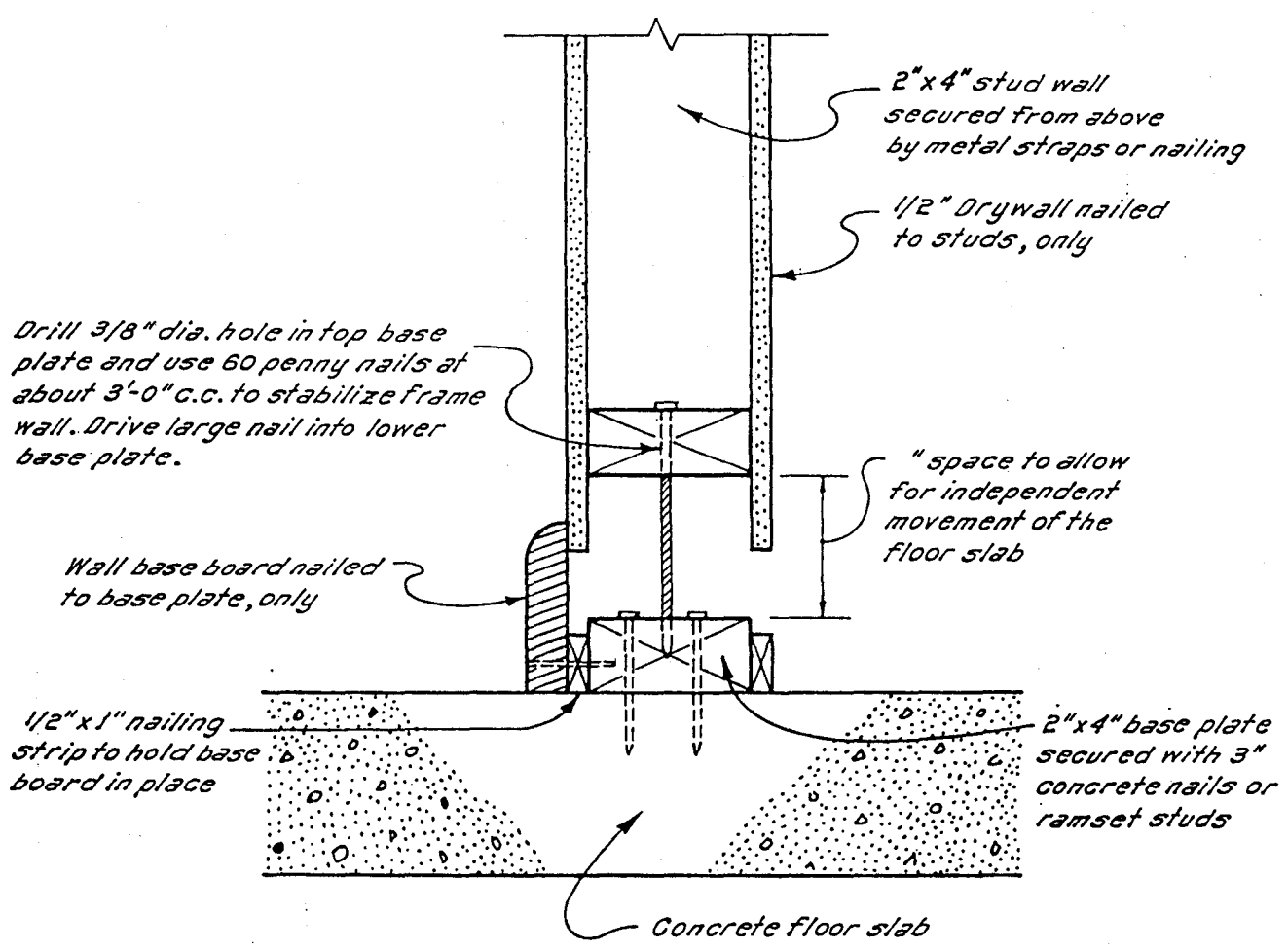
- . Size of perforated pipe sand filter varies with amount of seepage expected. 4" diameter is most common.
- . Gravel size depends on size of pipe perforation: 3/4" gravel > 2 x diameter of perforation.
- . Sand filter must depend on native soil and must follow the Terzaghi-Vicksburg Criteria:

1) $\frac{15\% \text{ filter}}{15\% \text{ base}} = 14$	2) $\frac{15\% \text{ filter}}{35\% \text{ base}} < 10$	3) $\frac{50\% \text{ filter}}{55\% \text{ base}} = 12 \text{ to } 58$
---	---	--
- . This is required for stability and length of filter life. The sand filter may be replaced with an approved filter fabric.
- . All pipe to be perforated VCI, PVC or orange pipe.
- . 4" flexible pipe may be used to depth of 4 feet, but must be carefully graded. 3" flexible pipe may be used to a depth of 7 feet and should be carefully graded.
- . Rigid pipe only to be used below a depth of 7 feet below ground surface.
- . All pipe to be laid at a minimum grade of 1/4" around building foundations.
- . Outfall to be free, gravity outfall if at all possible. Use sump and pump only if no gravity outfall exists.
- . Conditions can vary considerably, and each site may be variable as to quality of sand or gravel required. All sites should be inspected to determine the amount and quality of sand filter required, unless a filter fabric installation is used as shown.

TYPICAL SECTIONS
PERIMETER DRAIN & FRENCH DRAIN

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DEVORE
ENGINEERS-
GEOLOGISTS

COLORADO: COLORADO SPRINGS,
PUEBLO, GLENWOOD SPRINGS,
GRAND JUNCTION, MONTROSE,
WYOMING: ROCK SPRINGS



FRAMING WALL

Non-bearing wall on concrete floor slab over expansive clay soil

DETAIL

THE LINCOLN-DEVORE TESTING LABORATORY
 COLORADO: Colorado Springs, Pueblo, Glenwood Springs, Montrose, Gunnison. WYOMING: Rock Springs

ENGINEERS DRAINAGE REPORT
FOR
THE FALLS FILING NO. 3

Prepared For
Falls Joint Venture
c/o Valley Housing & Development Co.
Valley Federal Plaza
Grand Junction, Co. 81501

Prepared By
Paragon Engineering, Inc.
2784 Crossroads Blvd.
Grand Junction, Co. 81501
(303)243-8966

ENGINEERS DRAINAGE REPORT
THE FALLS FILING 3

SITE DESCRIPTION

The site is located in the Northeast 1/4 of the Northwest 1/4 of Section 7, Township 1 South, Range 1 East of the Ute Meridian, City of Grand Junction, County of Mesa, State of Colorado, containing 5.14 acres.

The topography of the site consists of a complex of small, low hills of basically exposed earth. The existing ground slopes southerly at varying degrees from 30% on the hills to approximately 5% in the valley floors.

The site is bordered on the north by the City of Grand Junction Water Tank, the east by an existing subdivision "Cascade Village", the west by 28 1/4 Road and the south by undeveloped land.

HISTORICAL DRAINAGE

The offsite drainage onto the project is developed from a 5 acre basin west of 28 1/4 Road and is discharged via an 18 inch CMP onto the site. Further offsite runoff sheet flows from the water tank site and the westerly portion of Cascade Village Subdivision; this offsite basin contains approximately 2 acres.

The projected runoff from these basins is based upon the following factors:

- C (developed) = 0.75
- C (undeveloped) = 0.30
- t_c = 10 min.
- I (10 year) = 2.6
- I (100 year) = 4.0
- C_f (10 year) = 1.00
- C_f (100 year) = 1.25

The flows calculated by the Rational Method use $Q = CC_fIA$ are as follows:

10 year	West Basin	Q = 3.9 cfs
	North & East Basin	Q = 3.9 cfs
100 year	West Basin	Q = 7.5 cfs
	North & East Basin	Q = 7.5 cfs

The historic drainage for the project itself is as follows:

- A = 5.14 acres
- C = 0.3
- t_c = 10 min.
- Q_{10} = 4.0 cfs
- Q_{100} = 7.7 cfs

The historic drainage, as previously stated, flows southerly into a bog area where it is detained by a 15 inch RCP and an approximately 4.0 ft. earthen dam created by the maintenance road for the Grand Valley Canal. The discharge from the 15 inch RCP is directly into the canal.

DRAINAGE CRITERIA

The criteria used to evaluate this development is that outlined in "Design Guidelines for Storm Water Management" in Mesa County, Colorado and "Urban Storm Drainage Criteria Manual" published by Denver Regional Council of Government (D.R.C.O.G.).

The Rational Method was used to calculate the peak flows for the design storm (10 year) and the major flood storm (100 year). The Rational Formula $Q = CC_f IA$ was used where:

- Q = Storm Flow (cfs)
- I = Rainfall Intensity (inches per hour)
- A = Drainage Basin (acres)
- C = Runoff Coefficient
- C_f = Storm Frequency Factor

The following runoff coefficients "C" were used to calculate the runoff:

- Historic C = 0.30
- Developed C = 0.75

The time of concentration was developed using Overland Flow Charts and the formula $t_c = \frac{1.8 (1.1 - C)(D)^{1/2}}{(S)^{1/3}}$

The intensity is taken from the Intensity Duration Curves of Mesa County.

PROPOSED DEVELOPMENT AND DRAINAGE

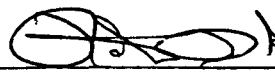
The project is proposed townhomes to be laid out and graded as shown on the attached Grading and Drainage Plan.

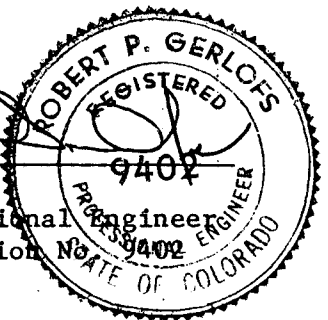
The generated runoff will be conveyed via drainage swales and the roadway system to a detention area located in the southwest region of the project. The detention area has a maximum capacity of 27,700 cubic feet. The discharge from the detention area will be controlled via a 15 inch RCP culvert which will have a maximum discharge capacity of 18 cfs under inlet control conditions. The discharge will then be conveyed to the historic discharge location into the Grand Valley Canal via a temporary drainage swale with a carrying capacity of 44 cfs at a 2% slope.

All finished floors at the proposed structure should have a minimum of 1.0 foot free-board above the closest drainage structure.

The 100 year discharge will be transferred as previously described below the historic rate and will ease any adverse conditions that may exist downstream.

I hereby certify that this Report was prepared under my direct supervision for the Owner thereof.


Robert P. Gerlofs
Registered Professional Engineer
Colorado Registration No. 9402



APPENDIX

<u>Page</u>	<u>Description</u>
5 - 6	Drainage Calculation
7 - 9	Detention Calculation
10 - 11	Discharge Calculation
12 - 13	Street Capacities
14 - 15	Inlet Nomographs

DRAINAGE CALCULATIONS

RUNOFF:

HISTORIC: $Q = C C_f I A$

(a) OFFSITE

(1) WEST BASIN

$A = 5.0$ acres
 $C = 0.3$ (Historic)

USE $t_c = 10$ min

$I_{10} = 2.6$ $I_{100} = 4.0$

10 year $Q = (0.3)(1.0)(2.6)(5) =$
 100 year $Q = (0.3)(1.25)(4.0)(5) =$

3.9 cfs
7.5 cfs

(2) NORTHEAST BASIN

$A = 2.0$ acres
 $C = 0.75$ (Developed)

USE $t_c = 10$ min

$I_{10} = 2.6$ $I_{100} = 4.0$

10 year $Q = (0.75)(1.0)(2.6)(2) =$
 100 year $Q = (0.75)(1.25)(4.0)(2) =$

3.9 cfs
7.5 cfs

(b) ON SITE

$A = 5.14$ acres
 $C = 0.30$ (Historic)

USE $t_c = 10$ min

$I_{10} = 2.6$ $I_{100} = 4.0$

10 year $Q = (0.3)(1.0)(2.6)(5.14) =$
 100 year $Q = (0.3)(1.25)(4.0)(5.14) =$

4.0 cfs
7.7 cfs

DEVELOPED:

USE $C_D = 0.75$

USE $t_c = 10 \text{ min}$

$I_{10} = 2.6$

$I_{100} = 4.0$

10 year $Q = (0.75)(1.0)(2.6)(5.14) =$
100 year $Q = (0.75)(1.25)(4.0)(5.14) =$

10.0 cfs
19.3 cfs

DETENTION CALCULATIONS

REQUIRED: 100 year storm developed

$A_T = \text{OFFSITE} + \text{ONSITE} = 12 \text{ acres} \pm$
 $C = 0.75 \quad C_f = 1.25$

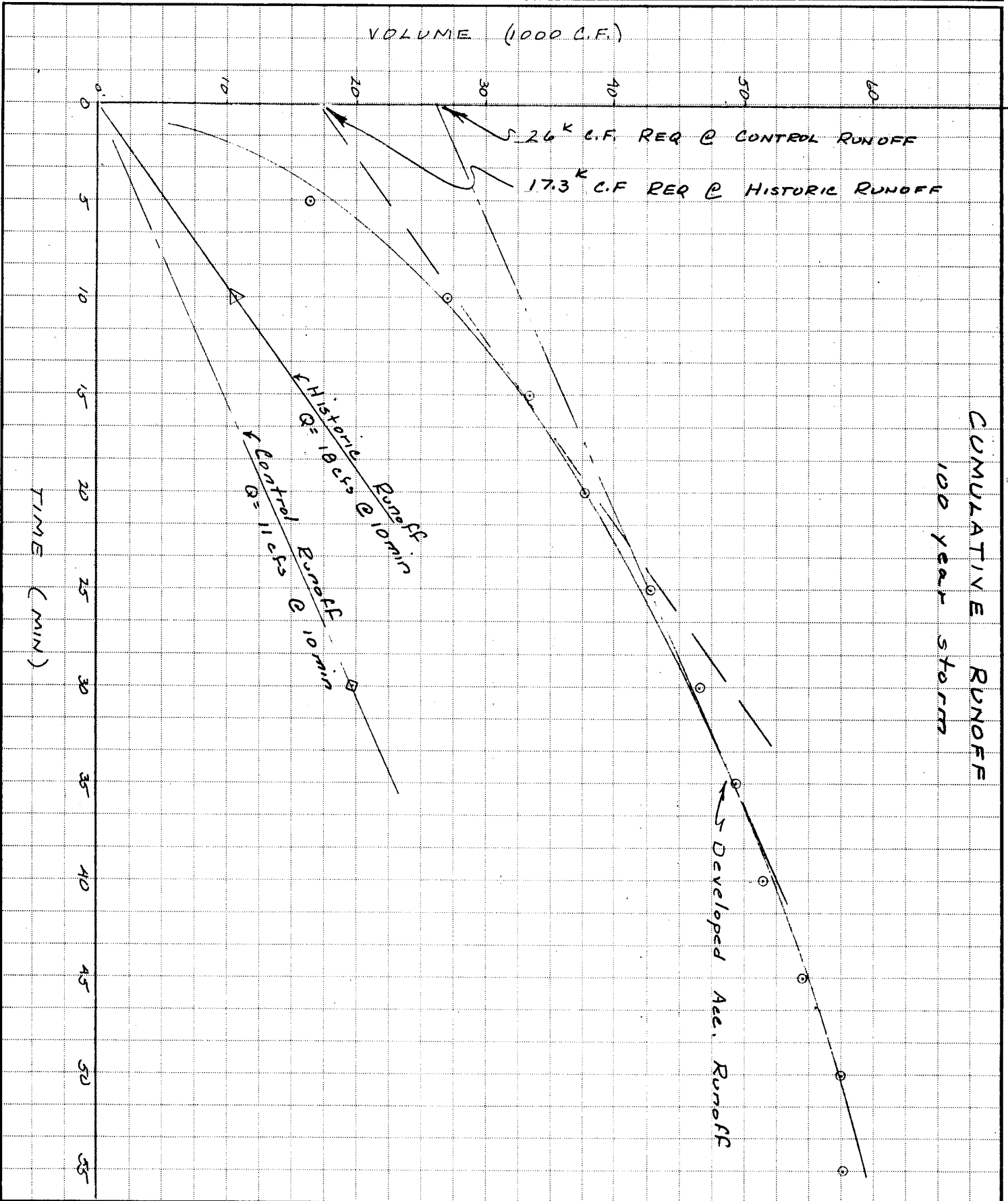
$Q = C C_f I A \quad V = Q \times T$

TIME (min)	INTENSITY (in/hr)	FLOW (c.f.s.)	VOLUME (ft ³)
5	4.9	55.13	16538
10	4.0	45.00	27000
15	3.3	37.13	33412
20	2.8	31.50	37800
25	2.55	26.69	43031
30	2.3	25.88	46575
35	2.1	23.63	49612
40	1.9	21.38	51300
45	1.8	20.25	54675
50	1.7	19.13	57375
55	1.55	17.44	57544
60	1.45	16.31	58725

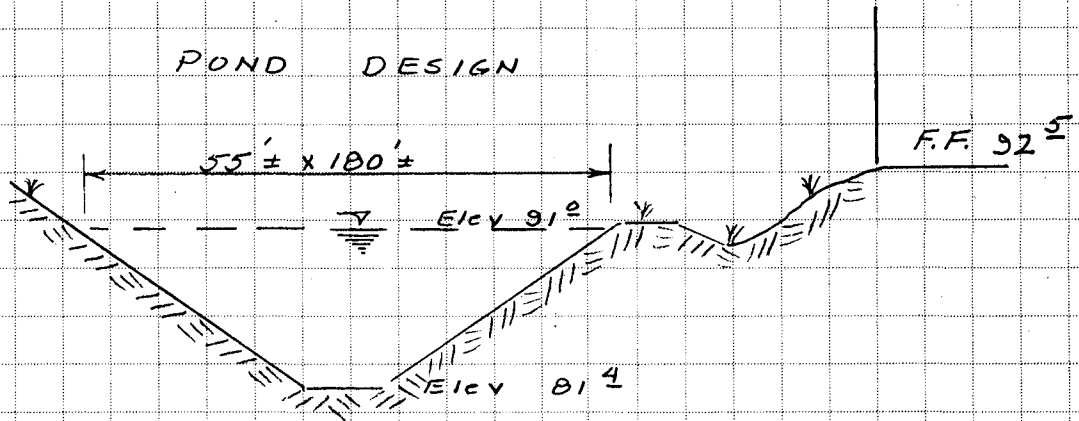
HISTORIC: 100 year storm @ 10 min
 $C = 0.3, I = 4.0, A = 12$

$Q = (0.3)(1.25)(4.0)(12)$

$Q_H = 18.00 \text{ cfs} \quad V = 10,800 \text{ ft}^3$



DESIGNED :



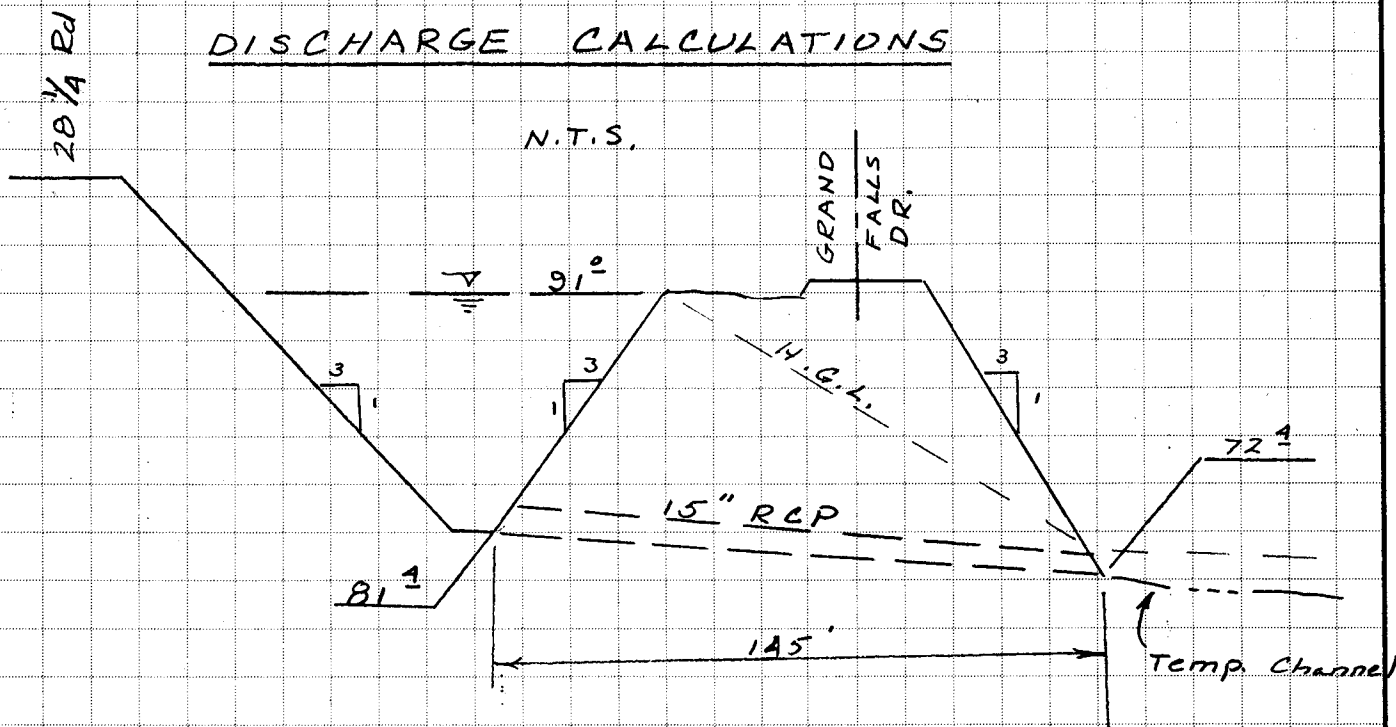
$S.A. = 9900 \text{ SF}$

$ht = 8.6 \text{ ft}$

$V \approx \frac{1}{3}(h)(S.A.)$

h (ft)	VOLUME (ft ³)
8.4	27720
8.0	26400
7.0	23100
6.0	19800
5.0	16500
4.0	13200
3.0	9900
2.0	6600
1.5	4950
1.0	3300

DISCHARGE CALCULATIONS



CHECK MANNINGS

Hyd Slope = $\frac{91.0 - 72.4}{145} \approx 12.8\%$

$n = 0.013$

$A = 1.23 \text{ SF}$

$R = 0.3125 \text{ FT}$

$Q = \frac{1.486}{0.013} (1.23)(0.3125)^{2/3} (0.128)^{1/2} = \underline{23.1 \text{ cfs}} \quad \text{max}$

As INLET CONTROL

H (FT)	HW/D	FLOW	VELOCITY
8.4	6.72	18 cfs	14.7 fps
8.0	6.40	17 cfs	13.8 fps
7.0	5.6	15.5 cfs	12.6 fps
6.0	4.8	14 cfs	11.4 fps
5.0	4.0	13 cfs	10.6 fps
4.0	3.2	11 cfs	9.0 fps
3.0	2.4	10 cfs	8.1 fps
2.0	1.6	7.8 cfs	6.4 fps
1.5	1.2	7.0 cfs	5.7 fps
1.0	0.8	3.0 cfs	2.4 fps

$$\frac{Z}{n} = \frac{\frac{1}{0.015}}{0.02} = 3333$$

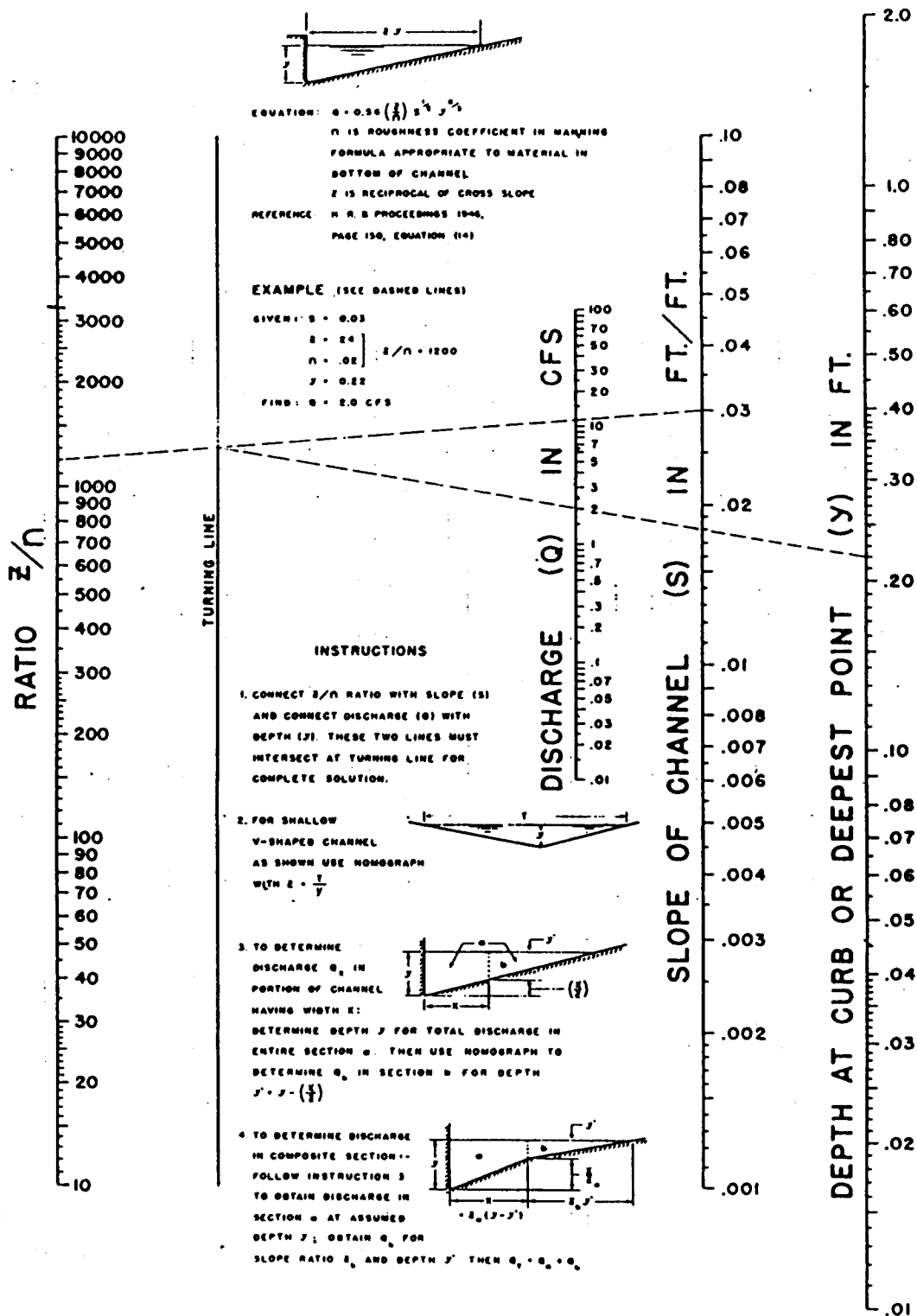
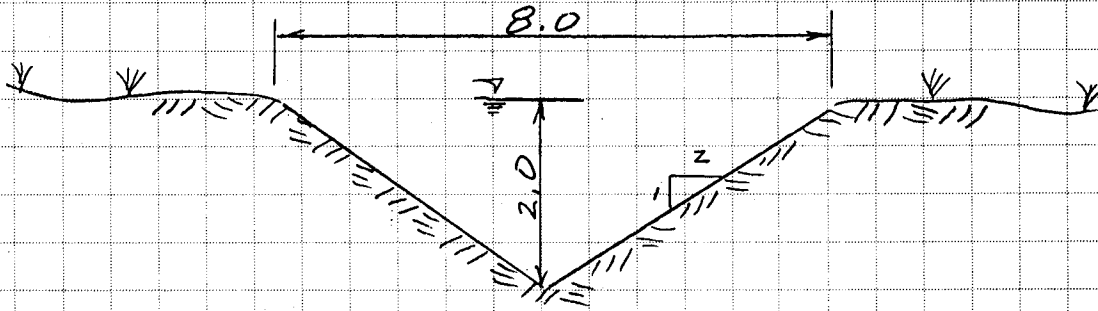


FIGURE 6-1. NOMOGRAPH FOR FLOW IN TRIANGULAR GUTTERS.

TEMPORARY DRAINAGE SWALE



EARTHEN CHANNEL

$n = 0.035$

$s = 2\%$

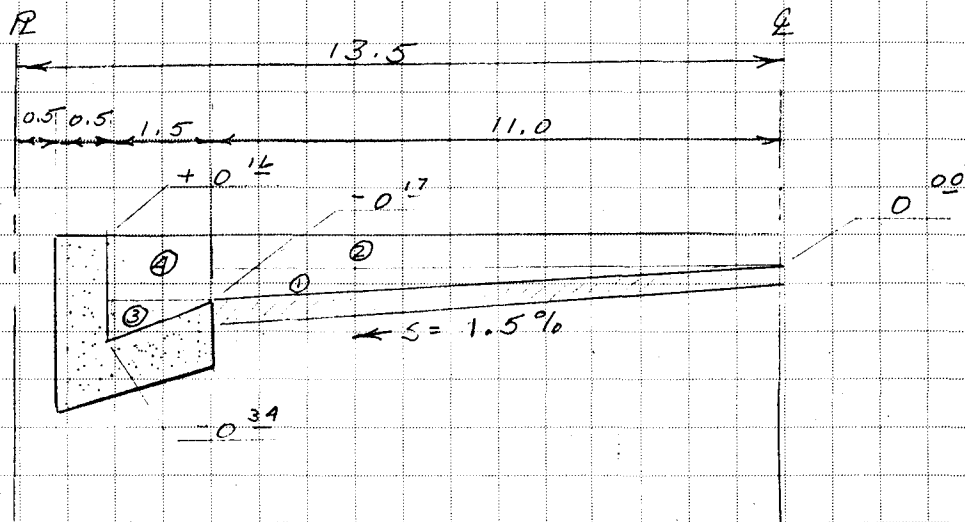
$A = (\frac{1}{2} \times 2 \times 8) = 8 \text{ S.F.}$
 $W.P. = 8.9443 \text{ FT}$
 $R = 0.8944 \text{ FT}$

MAX. CAPACITY :

$Q = \frac{1.486}{0.035} (8 \times 0.8944)^{2/3} (0.02)^{1/2}$

$Q_{MAX} = 44.6 \text{ cfs}$

$V_{MAX} = 5.6 \text{ fps}$



AREA :

①	$\frac{1}{2} (11.0)(0.17) =$	<u>0.935</u>
②	$(11.0)(0.16) =$	1.760
③	$\frac{1}{2} (1.5)(0.17) =$	0.128
④	$(1.5)(0.34) =$	<u>0.495</u>

$\frac{1}{2}$ ST. AREA = 3.318

TOTAL AREA =	6.636 SF	S =	3.0 %	ASSUME. AVG.
WETTED PERM. =	26.00 FT	n =	0.016	COMPOSITE
H.Y.D. RAD =	0.255 FT	Z =	66.67	

USE MANNINGS FORMULA MODIFIED

$y_D = 0.50'$
 $y_{0.5} = 0.34'$

$Q = 0.056 \left(\frac{Z}{n} \right) (S^{1/2} Y^{8/3})$

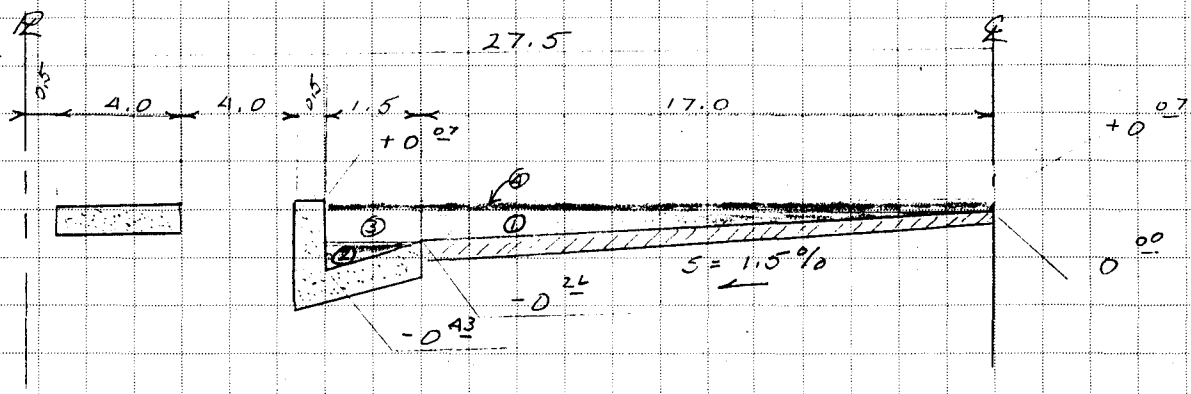
MAX TOTAL FLOW $y_D = 0.50$
 $Q = 0.056 \left(\frac{66.67}{0.016} \right) (0.03)^{1/2} (0.50)^{8/3}$

$Q_{MAX} = 6.37 cfs$

MAX $\frac{1}{2}$ STREET FLOW $y_D = 0.34$
 $Q = (0.056) \left(\frac{66.67}{0.016} \right) (0.03)^{1/2} (0.34)^{8/3}$

$Q_{CROWN} = 2.28 cfs$

STREET FLOW CAPACITY
 27.0 FT R.O.W.



- AREA; ① $\frac{1}{2} (17.0)(0.26) = 2.210$
 ② $\frac{1}{2} (1.5)(0.17) = 0.128$
 ③ $(1.5)(0.26) = 0.390$
 ④ $(10.5)(0.07) = 1.295$

$\frac{1}{2}$ ST. AREA = 4.023

TOTAL AREA = 8.046 SF
 WETTED PERM ≈ 38 FT
 HYD. RAD = 0.212 FT
 S = 4.0% AVG. ASSUMED
 n = 0.016
 Z = 66.67

USE MANNINGS MODIFIED

$y_1 = 0.50$ FT
 $y_2 = 0.43$ FT

$Q = 0.056 \left(\frac{Z}{n} \right) (S)^{1/2} (y)^{8/3}$

MAX TOTAL FLOW $y = 0.50$

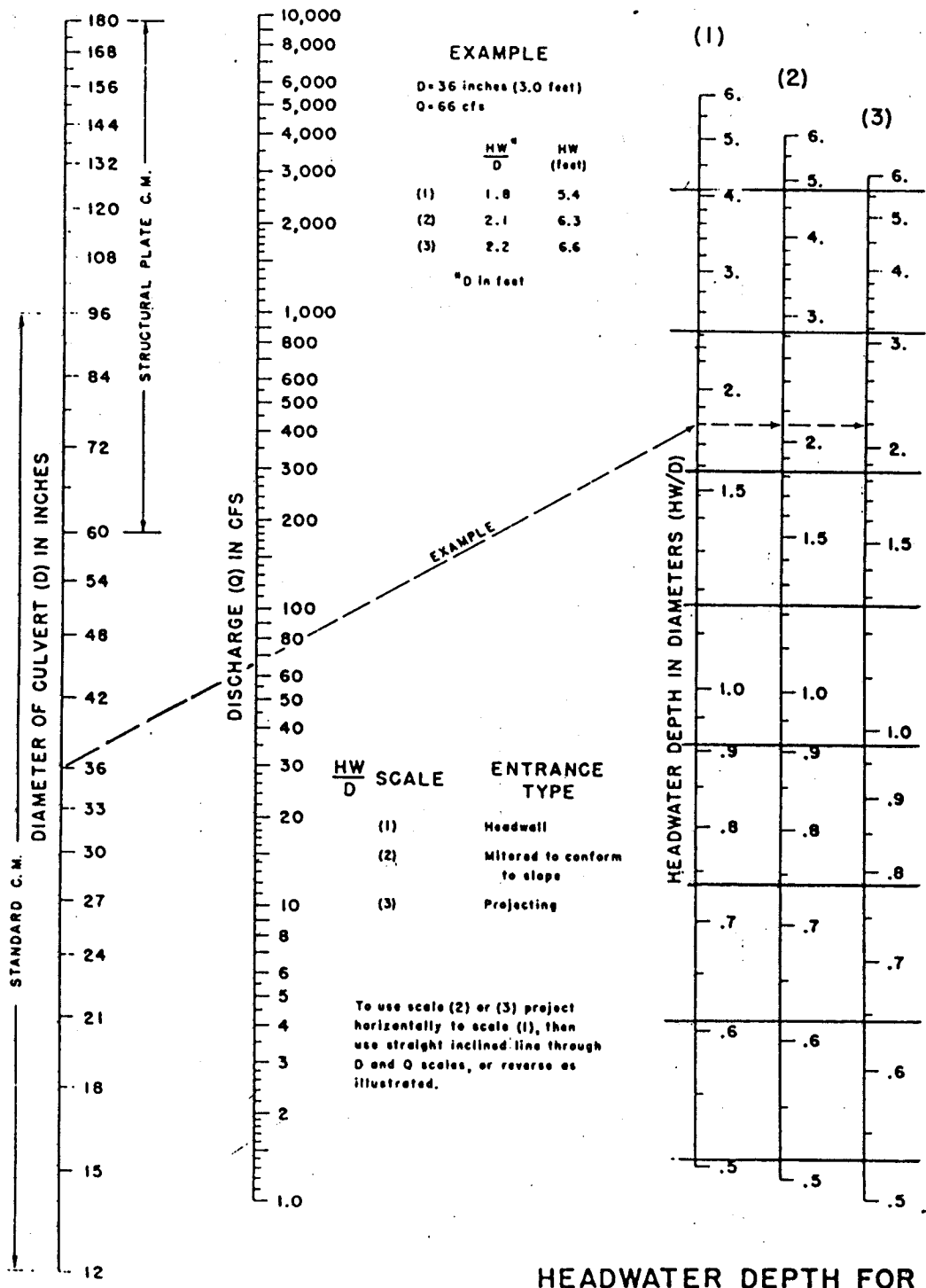
$Q = (0.056) \left(\frac{66.67}{0.016} \right) (0.04)^{1/2} (0.5)^{8/3}$

Q_{MAX} = 7.35 cfs

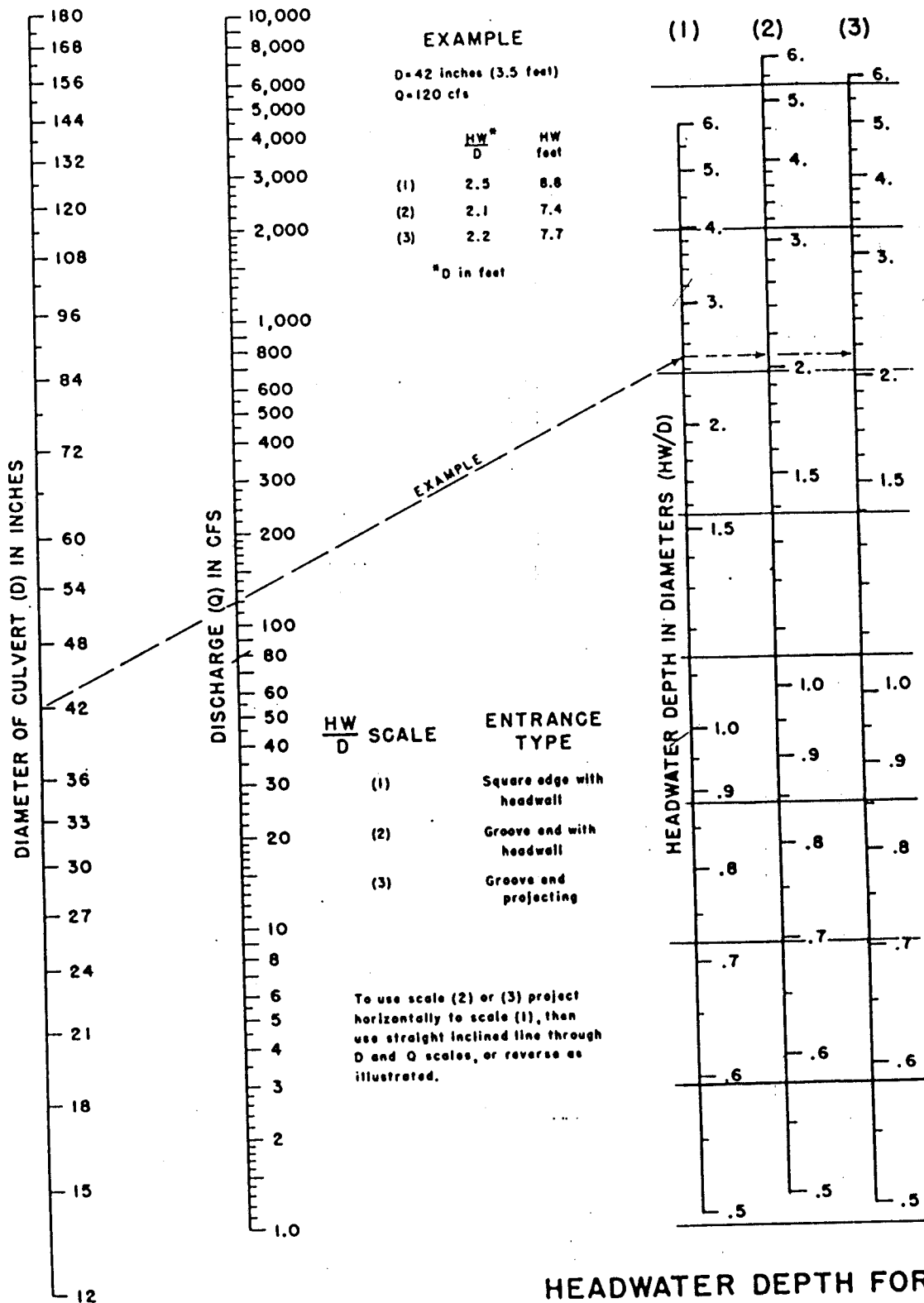
MAX $\frac{1}{2}$ STREET FLOW $y = 0.43$

$Q = (0.056) \left(\frac{66.67}{0.016} \right) (0.04)^{1/2} (0.43)^{8/3}$

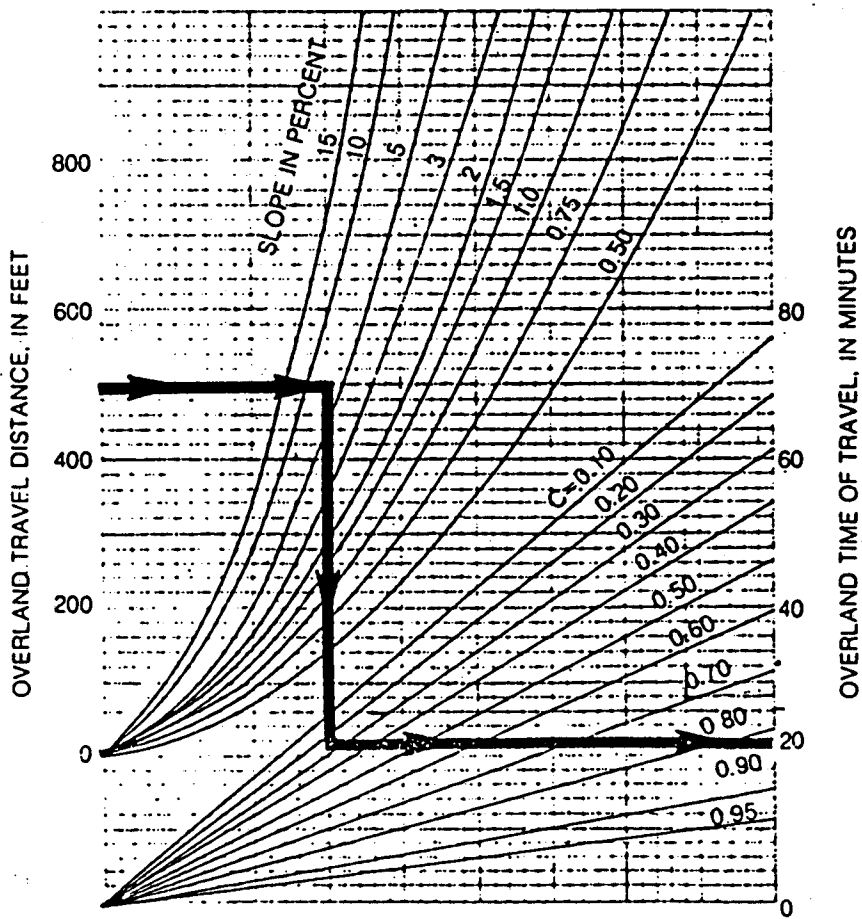
Q_{STREET} = 4.92 cfs



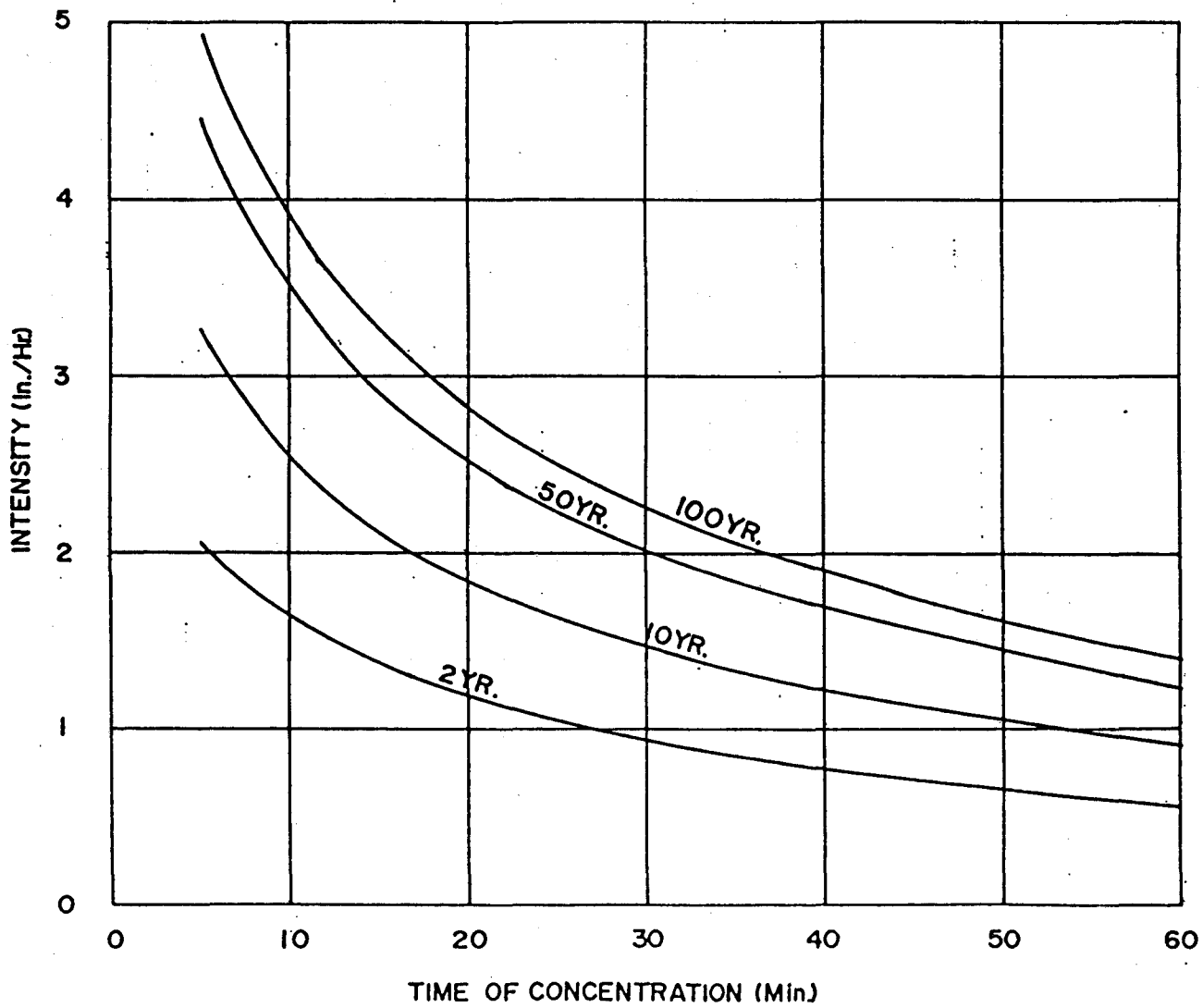
HEADWATER DEPTH FOR
C. M. PIPE CULVERTS
WITH INLET CONTROL



HEADWATER DEPTH FOR
 CONCRETE PIPE CULVERTS
 WITH INLET CONTROL



Relation of overland time of travel to overland travel distance, average overland slope, and coefficient C —for use in Rational Method.



INTENSITY DURATION CURVES
GRAND JUNCTION, COLORADO

THE FALLS, FILING 3

Construction shall commence immediately (14 units) upon approval of Final Development Plan by the Grand Junction City Council: and shall progress as quickly as area growth and market conditions allow.

DECLARATION OF COVENANTS
CONDITIONS AND RESTRICTIONS

THIS DECLARATION is made this 29th day of JANUARY, 1983, by THE FALLS JOINT VENTURE, a partnership. THE FALLS JOINT VENTURE, its successors and assigns shall hereinafter be referred to as "Declarant".

RECITALS

1. WHEREAS, Declarant is the fee owner of the following property located in Mesa County, Colorado:

Lot 1, Block 7, Filing 3, HILLSVIEW SUBDIVISION
Mesa County, Colorado

which shall be the covered property under this Declaration. This Declaration is being imposed by the Declarant upon the covered property.

2. WHEREAS, Declarant has deemed it desirable to establish covenants, conditions and restrictions which shall run with the land upon the covered property and each and every portion thereof, which will constitute a general scheme for the use, occupancy and enjoyment thereof, all for the purpose of enhancing and protecting the value, desirability and attractiveness of the covered property.

3. WHEREAS, HILL'S VIEW HOMEOWNERS ASSOCIATION, INC., a non-profit corporation, has been incorporated under the laws of the state of Colorado for the purpose of exercising the powers and functions as hereinafter set forth;

NOW, THEREFORE, Declarant hereby declares that all of the covered property is held and shall be held, conveyed, hypothecated or encumbered, leased or rented, used, occupied and improved subject to the following covenants, conditions and restrictions, all of which are declared and agreed to be in furtherance of a plan for the subdivision, improvement,

sale and common use of said property and are established and agreed upon for the purpose of enhancing and protecting the value, desirability and attractiveness of said property and every part thereof. All of the covenants, conditions and restrictions shall run with the land and shall be binding on all parties having or acquiring any right, title or interest in the covered property, and shall inure to the benefit of each owner thereof, and are imposed upon each interest in every part thereof as a servitude in favor of each and every said interest as the dominant tenement or tenements.

ARTICLE I

DEFINITIONS

1. "Association" shall mean and refer to the HILL'S VIEW HOMEOWNERS ASSOCIATION, INC., a non-profit corporation, incorporated under the laws of the State of Colorado, its successors and assigns.

2. "Articles" and "Bylaws" shall mean and refer to the Articles of Incorporation and Bylaws of the Association, as the same may from time to time be duly amended.

3. "Assessments" -- the following meanings shall be given to the assessments hereinafter defined:

"Regular assessment" shall mean the amount which is to be paid by each owner to the Association for common expenses.

"Individual assessments" shall mean a charge against a particular owner and his property directly attributable to the owner, equal to the cost incurred by the Association for corrective action performed, or attorney's fees, management company fees, or other charges payable by such owner, pursuant to the provisions of this Declaration, the Bylaws or the Association rules, plus interest thereon as provided for in this Declaration.

"Special Assessment" shall mean a charge against each owner and his property representing a portion of the costs to the Association for the reconstruction of any portion or portions of the common area pursuant to the provisions of this Declaration.

"Special assessment" shall also mean a charge against each owner and his property, representing a portion of the cost of the Association for installation or construction of any capital improvements on any of the common area which the Association may from time to time authorize.

4. "Association Rules" shall mean rules adopted by the Association pursuant to this Declaration.

5. "Common area" and "Common facilities" shall mean all real property owned by the Association for the common use and enjoyment of the members of the Association.

6. "Covered Property" shall mean or refer to:

Lot 1, Block 7, Filing 3, HILLSVIEW SUBDIVISION,
Mesa County, Colorado

7. "Setback" means the minimum distance between the residence or other structure referred to and a given street or line.

8. "Street" means any street, highway or other throughfare shown on the map of said property, whether designated thereon as street, avenue, boulevard, place, drive, road, terrace, way, lane, circle, or otherwise.

9. "Building Site" means a single lot, as shown on the map of said property, or a parcel consisting of contiguous portions of any two or more contiguous lots, or all of one lot, or parts of one or more lots adjacent thereto, unless the context and circumstances otherwise require.

10. "Lot" means one of the subdivided parcels of real property within the covered property.

11. "Owner" shall mean one or more persons or entities, who, either alone or collectively, are the record owner of

a fee simple title to a lot, including Declarant or the Association, but excluding those having such interests merely as security for the performance of an obligation.

ARTICLE II

ASSOCIATION

1. MEMBERSHIP. Every person or entity who is a record owner of a fee or undivided fee interest in a lot shall be a member of the Association. The terms and provisions set forth in this Declaration, which are binding upon all owners of all lots and all members in the Association, are not exclusive, as the members shall, in addition, be subject to the terms and provisions of the Articles of Incorporation, and the Bylaws and the rules of the Association. The foregoing is not intended to include persons or entities who hold an interest merely as security for the performance of an obligation. Membership shall be appurtenant to and may not be separated from the fee ownership of any lot, which is subject to assessment by the Association. Ownership of such lot shall be the sole qualification for membership. Not more than one membership shall exist based upon ownership of a single lot.

2. TRANSFER. The membership held by an owner of a lot shall not be transferred, pledged or alienated in any way except upon the sale or encumbrance of such lot, and then only to the purchaser or deed of trust holder of such lot. Any attempt to make a prohibited transfer is void, and will not be reflected upon the books and records of the Association. In the event that an owner of any lot should fail or refuse to transfer the membership registered in his name to the purchaser of such lot, the Association shall have the right to record the transfer upon the books of the Association.

3. VOTING RIGHTS. The Association shall have two (2) classes of voting membership.

Class A. Class A members shall be all owners with the exception of the Declarant. Class A members shall be entitled to one vote per each lot in which they hold the interest required for membership. When more than one person owns a portion of the interest required for membership, the vote for such lot shall be exercised as they among themselves determine, but in no event shall more than one vote be cast with respect to any such lot.

Class B. The Class B members shall be Declarant. The Class B members shall be entitled to three (3) votes for each lot in which it holds the interest required for membership; provided that the Class B membership shall cease and be converted to Class A membership on the happening of either of the following events, whichever occurs earlier:

(a) When the total of votes outstanding in the Class A membership equals the total outstanding votes held by Class B members, or

(b) June 1, 1987.

4. SPECIAL CLASS A VOTING RIGHTS. Notwithstanding the provisions of this section, if the Class A members do not have sufficient voting power pursuant to the voting rights set forth in this Declaration to elect at least one Director at any meeting at which the Directors are to be elected, and at which Class A members are entitled to vote, then such Class A members shall, by majority vote, among themselves, elect one Director, and the remaining vacancies on the Board shall be elected by the Class B member. In no event shall the Class A members be entitled to elect more than one (1) Director to the Board pursuant to the provisions of this special Class A voting right.

All voting rights shall be subject to the restrictions and limitations provided herein and in the Articles and Bylaws of the Association.

ARTICLE III

PROPERTY RIGHTS IN THE COMMON AREAS

1. MEMBERS EASEMENT OF ENJOYMENT. Every member shall have a right and easement of enjoyment in and to the common area, and such easement shall be appurtenant to and shall pass with the title to every assessed lot, subject to the following provisions:

(a) The right of the Association to limit the number of guests of members.

(b) The right of the Association to establish uniform rules and regulations pertaining to the use of the common areas and the recreational facilities thereof.

(c) The right of the Association, in accordance with its Articles, Bylaws and rules, to borrow money for the purpose of improving the common area and the facilities and in aid thereof, to mortgage said property, provided that the rights of such mortgagee shall be subordinated to the rights of the members.

(d) The right of the Association to suspend the voting rights and right to use of the recreational facilities by a member for any period during which any assessment against his lot remains unpaid and delinquent; and for a period not to exceed thirty (30) days for any single infraction of the rules and regulations of the Association, provided that any suspension of such voting rights or right to use the recreational facilities, except for failure to pay assessments, shall be made only by the Association or a duly appointed committee thereof, after notice of hearing given and held in accordance with the Bylaws of the Association.

(e) The right of the Association to dedicate or transfer all or any part of the common area to any public

agency, authority or utility for such purposes and subject to such conditions as may be agreed to by the members. No such dedication or transfer shall be effective unless an instrument signed by members entitled to cast two-thirds (2/3) of the vote of the membership has been recorded, agreeing to such dedication or transfer, and unless written notice of the proposed action is sent to every member not less than thirty (30) nor more than sixty (60) days in advance.

2. DELEGATION OF USE. Any member may delegate, in accordance with the Bylaws, his right of enjoyment to the common area and facilities to the members of his family, his tenants or contract purchasers who reside on the property.

3. WAIVER OF USE. No member may exempt himself from personal liability for assessments duly levied by the Association, nor release the lot owned by him from the liens in charge hereof, by waiver of the use and enjoyment of the common area and the facilities thereon or the abandonment of his lot.

4. TITLE TO THE COMMON AREA. The Declarant hereby covenants for itself, its successors and assigns, that it will convey fee simple title to the common area to the Association, free and clear of all encumbrances and liens, except current real property taxes, all other covenants, conditions, restrictions, reservations, rights, rights of way, easements and other matters of record, including those set forth in this Declaration coincident with the transfer or conveyance of a lot. Declarant hereby reserves an easement for a period of five (5) years, for common driveway purposes, for drainage and encroachment purposes and for ingress to an egress from the common areas, for the purpose of completing improvements thereon or for the performance of necessary repair work and for entry onto adjacent property in connection with the development of additional phases of the within project.

ARTICLE IV

COVENANT FOR MAINTENANCE ASSESSMENTS

1. CREATION OF THE LIEN AND PERSONAL OBLIGATION OF AMENDMENTS.

The Declarant, for each lot which he owns and each owner of any lot in the covered property by acceptance of a deed or other conveyance, whether or not it shall be so expressed in any such deed or conveyance, is deemed to covenant and agree to pay to the Association: regular assessments, individual assessments, and special assessments, such assessments to be fixed, established and collected from time to time as hereinafter provided. The assessments, together with interest thereon, and costs of collection thereof, as hereinafter provided, shall be a charge on the land and shall be a continuing lien upon the lot against which each such assessment is made. Each such assessment, together with such interest, costs and reasonable attorneys' fees, shall also be the personal obligation of the person who was the owner of such property at the time when the assessment fell due. The personal obligation shall not pass to its successors in title unless expressly assumed by them but shall remain as a charge upon the land and continuing lien upon the lot.

2. PURPOSES OF ASSESSMENTS. The assessments levied by the Association shall be used exclusively for the purpose of promoting the recreation, health, safety and welfare of the members and in enhancing the value of the covered property including, without limitation, the improvement and maintenance of the properties, services and facilities devoted to this purpose and related to the use and enjoyment of the common area.

3. REGULAR ASSESSMENTS. The amount and time of payment of assessments shall be determined by the Board pursuant to the Articles and Bylaws after due consideration to the current maintenance cost and future needs of the Association. Not later than thirty (30) days prior to the beginning of each

fiscal year, the Association shall estimate the total common expenses to be incurred for the forthcoming fiscal year. The Board of Directors of the Association shall then determine the amount of the regular assessment against each owner. The Board of Directors may assess the annual insurance premium for the first year in advance at closing. The Board of Directors of the Association may not, without the vote or written assent of a majority of the voting members of the Association, other than the Declarant, impose a regular assessment per lot which exceeds by more than 20% the regular assessment for the immediately preceding fiscal year. The written notice of the regular assessment shall be sent to every owner. Each owner shall thereafter pay to the Association his regular assessment in installments as established by the Association. In the event that the Board shall determine that the estimate of total charges for the current year is, or will become inadequate to meet all common expenses for any reason, it shall immediately determine the approximate amount of such inadequacy and issue a supplemental estimate of the total costs and expenses and determine the revised amount of regular assessment against each such owner, provided that any such revised amount of regular assessment shall require the approval by vote or written consent of a majority of the voting members of the Association other than the Declarant.

4. INDIVIDUAL ASSESSMENTS. Individual assessments shall be levied by the Board of Directors of the Association against a lot and its owner with respect to which particular costs have been incurred by the Association with regard to such owner pursuant to this Declaration. In the event the Association undertakes to provide materials or services which benefit an individual lot, such owner agrees that he shall pay the Association all costs within thirty (30) days of an individual assessment.

5. SPECIAL ASSESSMENTS. In addition to the regular assessments, the Board of Directors of the Association may levy in any calendar year, special assessments such as capital improvement assessments or reconstruction assessments, applicable to that year only, for the purpose of defraying in whole or in part the cost of any construction or reconstruction, unexpected repair or replacement of a described capital improvement upon the common area, including the necessary fixtures and personal property related thereto, provided that any such assessment which exceeds five percent (5%) of the budgeted gross assessments of the Association for that fiscal year shall have the assent of the majority of the votes of the Board of Directors of the Association in accordance with its Bylaws.

6. UNIFORM RATE OF ASSESSMENT. Both regular and special assessments shall be fixed in a manner which creates an equal financial obligation attributable to each lot and may be collected at intervals selected by the Board of Directors of the Association.

7. CERTIFICATE OF PAYMENT. The Association shall, upon demand, furnish to any member liable for assessments, a certificate in writing signed by an officer or authorized agent of the Association, setting forth whether the assessments on a specified lot have been paid and the amount of the delinquency, if any. A reasonable charge may be made by the Board for the issuance of these certificates. Such certificates shall be conclusive evidence of payment of any assessment therein stated to have been paid.

8. NO OFFSETS. All assessments shall be payable in the amounts specified by the assessment and no offsets against that amount shall be permitted for any reason, including,

without limitation, a claim that the Association is not properly exercising its duties, maintenance or enforcement.

9. RESERVES. The regular assessments shall include amounts collected as reserves for the future periodic maintenance, repair or replacement of all or a portion of the common area. All amounts collected as reserves, whether pursuant to this section or otherwise, shall be deposited by the Board in a separate bank account to be held in trust for the purposes for which they are collected and are to be segregated from and are not to be commingled with any other funds of the Association.

10. EXEMPT PROPERTY. All properties owned, acquired by, dedicated to and accepted by a public authority shall be exempt from the assessments created herein; provided, however, no land for improvements devoted to dwelling use shall be exempt from said assessments.

11. As Declarant completes construction on each unit and obtains a certificate of occupancy, the month thereafter assessments shall be due the Association. When a unit is sold, the then owner shall be responsible for such assessment. The first regular assessment shall be adjusted according to the number of months remaining in the fiscal year.

ARTICLE V

NON-PAYMENT OF ASSESSMENTS

1. DELINQUENCY. Any assessment provided for in this Declaration, which is not paid when due, shall be delinquent. If any such assessment is not paid within thirty (30) days after the delinquency date, a late charge of \$10.00 shall be assessed; if any such assessment is not paid within sixty (60) days after the delinquency date, an additional \$25.00 shall be assessed; if such assessment is not paid within ninety (90) days after the delinquency date, an additional

\$50.00 shall be assessed, and thereafter interest shall accrue at the rate of ten (10%) percent per annum on the delinquent balance and all late charges, and the Association may, at its option, bring an action at law against the owner personally obligated to pay the same, or, upon compliance with the notice provision set forth in Section 2 hereof, to foreclose the lien (provided for in Section 1 of Article IV hereof) against the lot and there shall be added to the amount of such assessment a late charge, interest, the costs of preparing and filing the complaint in such action, and in the event a judgment is obtained, such judgment shall include interest and a reasonable attorney's fee, together with the costs of such suit. Each owner vests in the Association or its assigns, the right and power to bring all actions at law or a lien foreclosure against such owner or other owners for the collection of such delinquent assessments.

2. NOTICE OF LIEN. No action shall be brought to foreclose said assessment lien or to proceed under the power of sale herein provided less than thirty (30) days after the date of notice a claim of lien is deposited in the United States mail, certified or registered, postage prepaid, to the owner of said lot, and a copy thereof is recorded by the Association in the office of the County Recorder in which county the properties are located; said notice of lien must recite a good and sufficient legal description of any such lot, the record owner or reputed owner thereof, the amount claimed (which shall include the appropriate late charge, plus reasonable attorneys fees and expenses of collection in connection with the debt secured by said lien), and the name and address of the claimant.

3. FORECLOSURE SALE. Said assessment lien may be enforced by sale by the Association, its attorney or any other person

authorized to make the sale after failure of the owner to make payments specified in the notice of claim of lien within said thirty (30) day period. Any such sale provided for above is to be conducted in accordance with the provisions of the Colorado Revised Statutes, applicable to the exercise of powers of sale and mortgages and deeds of trust, or in any other manner permitted or provided by law. The Association, through its duly authorized agents shall have the power to bid on the lot at foreclosure sale, using Association funds, or funds borrowed for such purpose, and to acquire and hold, lease, mortgage and convey the same.

4. SECURING OF DEFAULT. Upon the timely curing of any default for which a notice of claim of lien was filed by the Association, an officer or duly authorized agent of the Association is hereby authorized to file or record as the case may be, an appropriate release of such notice, upon payment by the defaulting owner of a fee, to be determined by the Association, but not to exceed \$50.00 to cover the costs of preparing and filing or recording such release, together with the payment of such other costs, interests or fees as shall have been incurred.

5. CUMULATIVE REMEDIES. The assessment lien and the rights to foreclosure and sale herein provided for shall be in addition to and not in substitution for all other rights and remedies which the Association and its assigns may have hereunder and by law, including a suit to recover a money judgment for unpaid assessments, as provided above.

6. SUBORDINATION OF ASSESSMENT LIENS. If any lot subject to a monetary lien created by any provision hereof shall be subject to the lien of a deed of trust;

(a) The foreclosure of a lien created by anything set forth in this Declaration shall not operate to affect or impair the lien of such deed of trust, and

(b) The foreclosure of the lien of deed of trust, and acceptance of a deed in lieu of foreclosure of a deed of trust shall not operate to affect or impair the lien hereof, except that the lien hereof for such charges as shall have accrued up to the foreclosure or the acceptance of a deed in lieu of foreclosure shall be subordinate to the lien of the deed of trust, with the purchaser at such foreclosure sale or grantee of a deed in lieu thereof taking title free of the lien hereof for all said charges that have accrued up to the time of foreclosure or deed given in lieu of foreclosure, but subject to the lien hereof for all said charges that shall accrue subsequent to the foreclosure or deed given in lieu of foreclosure.

ARTICLE VI

DUTIES AND POWERS OF THE ASSOCIATION

1. DUTIES AND POWERS. In addition to the duties and powers enumerated in its Articles of Incorporation, its Bylaws and its rules, or elsewhere provided for herein, and without limiting the generality thereof, the Association shall:

(a) Own, maintain and otherwise manage all of the common areas and all facilities, improvements and landscaping thereon, and all other property acquired by the Association.

(b) Enforce the provisions of this Declaration, the Articles and the Bylaws and the rules of the Association by appropriate means and carry out obligations of the Association hereunder, including, without limitation, the expenditure of funds of the Association, the employment of legal counsel and the commencement of actions.

(c) Pay any real and personal property taxes and assessments which are or could become a lien on the common area or any portion thereof, unless separately assessed to a member.

(d) Delegate its powers to committees, officers, or employees.

(e) Have the obligation to maintain, in a first class manner, all landscaping throughout the subdivision, including common areas and privately owned land, except the patio areas of privately owned residences; and to maintain, in a first class manner, all fencing, roofing and building exteriors, including those within patio areas of privately owned residences, except for any additions done by a homeowner after closing.

(f) Have the authority to obtain, for the benefit of all the common areas, all water, gas and electric services and refuse collection and all other public or quasi-public services.

(g) Contract for materials and/or services for the common area or for the Association with the term of any material and/or service contract limited to a duration of one year, except with the approval of the majority of each class of the members of the Association; provided, however, that in the event the Class B memberships have been terminated in accordance with this Declaration, then a majority of the members of the Association shall be required.

(h) Maintain such policy or policies of insurance as the Board of Directors of the Association deems necessary or desirable in furthering the purpose of and protecting the interests of the Association and its members, including, but not limited to, the following: fire, casualty, and public liability insurance.

(i) Grant easements where necessary for utilities and sewer facilities over the common area to serve the common area and the covered property.

(j) Enter upon any privately owned land where necessary in connection with construction, maintenance or repair for the benefit of the common area or the owners, including

for the purposes of maintenance and landscaping pursuant to subparagraph (e) above.

(k) Have the authority to employ a manager or other persons and to contract with independent contractors or managing agents to perform all or any part of the duties and responsibilities of the Association in regard to the management of the common areas, the improvements and landscaping thereon, and all property acquired by the Association.

(l) Have the power to establish and maintain a working capital and contingency fund in an amount to be determined by the Board of Directors of the Association.

(m) Subject to the approval by a majority vote of each class of membership, have the power to borrow money and incur indebtedness for the purposes of the Association and cause to be executed and delivered therefore, in the Association's name, promissory notes, bonds, debentures, deeds of trusts, mortgages, pledges or other evidence of debt and security therefore.

(n) Fix, determine and name from time to time, if necessary or advisable, the non-profit corporation, city or public agency which is organized or operated for purposes similar to the purposes of this Association to which the assets of this Association shall be distributed upon liquidation or dissolution according to the Articles. The assets so distributed shall be those remaining after satisfaction of all just debts and obligations by the Association and after distribution of all property held or acquired by the Association under the terms of a specific trust or trusts.

2. ASSOCIATION RULES. The Association shall also have the powers, as provided in its Bylaws, to adopt, amend and repeal such rules and regulations as it deems reasonable

(the "Association rules"). The Association rules shall govern such matters in the furtherance of the purposes of the Association, as the Board shall deem appropriate, including, without limitation, the use of the common area: provided, however, that the Association rules may not discriminate among owners and shall not be inconsistent with this Declaration or the Articles, or the Bylaws. A copy of the Association rules as they may from time to time be adopted, amended or repealed, shall be mailed or otherwise delivered to each owner. Upon such mailing and delivery, said Association rules have the same force and effect as if they were set forth in and were a part of this Declaration. In the event of any conflict between any such Association rules and any other provisions of this Declaration, the Articles or the Bylaws, the provisions of the Association rules shall be deemed to be superceded by such other provision to the extent of any such inconsistency.

3. EMERGENCY POWERS. The Association or any person authorized by the Association may enter onto any property in the event of any emergency involving illness or potential danger to life or property or in non-emergency situations where necessary in connection with construction, maintenance or repair for the benefit of the common area or the owners in common. Such entry shall be made with as little inconvenience to the owners as practicable, and any damage caused thereby shall be repaired by the Association.

4. DELEGATION OF POWERS. The Association shall have the right to delegate any powers it may have under law or under this Declaration, the Articles and Bylaws, provided, however, no such delegation, whether to a professional management company or otherwise shall relieve the Association of its obligation to perform such delegated duty.

ARTICLE VII

BASIC RESTRICTIONS

1. USE OF PROPERTY. Except within the common areas,

no building shall be erected, constructed, altered, or maintained on any lot other than a single-family residence, including a private garage for not more than two (2) cars. Declarant specifically reserves the right to use any lot which it owns for a model home site and/or display or sales office for any of the covered property or to grant this right to anyone else for any of the covered property.

2. RESUBDIVISION OF LOTS. No lot shall be resubdivided or split into lots of a lesser size than the size of the original lot without the written consent of Declarant first had and obtained.

3. NUISANCE. No nuisance or any noxious or offensive trade or activity shall be carried on upon the covered property, nor shall anything be done thereon which may be or may become an annoyance or nuisance to the owners or occupants of said property, including but not limited to the storage of any materials which might create an insect pest control problem, or the maintenance of any landscape material. No animals, birds, or insects of any kind, shall be raised, bred or kept on any lot, except dogs, cats and other common household pets, provided they are not kept, bred, or maintained for any commercial purposes or in unreasonable numbers. No act shall be permitted or caused to be done which shall increase the rate of insurance on any portion of the covered property.

4. EXTERIOR MAINTENANCE OR ADDITIONS. Exterior or structural additions, alterations or remodeling, including painting of any exterior surfaces, is prohibited: provided, however, that patios or patio enclosures shall be allowed subject to approval by an Architectural Control Committee.

5. TEMPORARY RESIDENCE. No tents, shacks, trailers, basement, garage or out building shall at any time be used on any lot as a residence, either temporarily or permanently; nor shall any residences of a temporary character be constructed, placed or erected on any lot.

6. VEHICLES. No trailer, motor home, truck in excess of three tons, boat in excess of twenty-five feet, or similar equipment or vehicle shall be kept on any lot or the streets bordering thereon except with an enclosed garage or carport, for more than fifteen hours per day. Motor vehicles shall not be parked longer than fifteen hours per day outside of a garage or carport. No painting, repairing or mechanical work, other than customary work and minor emergency repairs shall be done on any motor vehicle on any lot except in enclosed areas.

7. GARAGES. No garages or carports situated on any lot shall be used for any purpose other than parking and storage of motor vehicles or for such other purpose not incompatible with such use. Automobiles are to be kept in the garages and carports when not in use.

8. REFUSE. No lot shall be used or maintained as a dumping ground for rubbish. Trash, garbage, or other refuse or waste shall not be kept on any lot except in sanitary containers, except building materials during the course of any approved construction. If trash or other refuse is to be disposed of by being picked up on a regular and recurring basis, sanitary containers may be placed in the open for not more than eighteen (18) hours prior to such pick-up.

9. WELLS, DERRICKS, MINES, BUSINESS AND TRADES. No wells for the production of, or from which there is produced, water, oil or gas shall be operated upon any lot. No mining or quarrying operations of any kind shall be permitted upon the covered property, nor shall oil wells, tanks, tunnels, mineral excavations or shafts be permitted on any lot. No machinery, appliance or structure may be placed, operated or maintained on the covered property for use in connection with any trade, manufacture or business.

10. EASEMENTS AND RIGHTS-OF-WAY. Every lot is subject to such easements and rights-of-way for erecting, constructing, maintaining and operating public sewers, poles, wires and conduits for lighting, heating, power, telephone, television and any other method of conducting and performing any public or quasi-public utility service or function beneath the surface of the earth, as such easements and rights-of-way are more particularly set forth on the recorded map pertaining to each lot. Within these easements and rights-of-way, no structure, planting or other materials shall be placed or permitted to remain which may damage or interfere with the installation or maintenance of such utilities, or which may change the direction of, obstruct or retard the flow of water through drainage channels in the easements. The easement area of each lot and all improvements within it shall be maintained continuously by the owner of such lot, except for those improvements for which a public authority or utility company is responsible.

11. PARTY WALLS.

(a) Each wall which is built as part of the original construction of the units upon the Covered Property and placed on the dividing line between the lots shall constitute a party wall, and, to the extent not inconsistent with the provisions of this paragraph, the general rules of law regarding party walls and liability for property damage due to negligence or willful acts or omissions shall apply thereto.

(b) The cost of reasonable repair and maintenance of a party wall shall be shared by the Owners who make use of the wall in proportion to such use.

(c) If a party wall is destroyed or damaged by fire or other casualty, any Owner who has used the wall may restore it, and if the other Owners thereafter make use of the wall, they shall contribute to the

cost of restoration thereof in proportion to such use without prejudice, however, to the right of all such Owners to call for a larger contribution from the others under any rule of law regarding liability for negligent or willful acts or omissions.

(d) Notwithstanding any other provision of this paragraph, an Owner who by his negligent or willful act causes the party wall to be exposed to the elements shall bear the whole cost of furnishing the necessary protection against such elements.

(e) The right of any Owner to contribution from any other Owner under this paragraph shall be appurtenant to the land and shall pass to such Owner's successors in title.

12. GRADES, SLOPES AND DRAINAGE. No change in the established grade or elevation of said lots, and no change in the established slope and ratio of the cuts and fills, which alters the established drainage patterns shall be permitted. Declarant hereby reserves the right to make any and all cuts and fills on any lots, and to do such grading as in its judgment may be necessary to grade streets and lots. Each of the owners of the lots covenants to permit free access by Declarant and owners of adjacent lots to slopes or drainage ways located on his property when such access is required for the maintenance or permanent stabilization of said slopes, or maintenance of the drainage facility or for the protection and use of property other than the lot on which the slope or drainage way is located.

13. ANTENNAES. No antenna for the purpose of reception or broadcast of any television or radio communication shall be maintained on any lot unless it is enclosed entirely within a dwelling or garage.

14. PUBLIC SERVICES EASEMENT. The private streets within the subdivision shall be subject to such easements as are necessary to provide access for the provision of usual and customary public services: such as, without limitation, fire and police protection, mail delivery and maintenance of water, sewer, telephone, electricity and cable television lines.

ARTICLE VIII

ARCHITECTURAL CONTROL

1. ARCHITECTURAL CONTROL COMMITTEE.

(a) Purpose: The purpose of the Architectural Control Committee (hereinafter the "Committee") is to achieve and maintain the esthetic goals of Declarant and the Association. In furtherance of said goals, all proposals for patios or patio enclosures must be submitted to the Committee for approval.

(b) The Committee shall consist of three (3) persons. Declarant shall appoint all of the original members of the Committee and all replacements until the first anniversary of the Association assuming administration for the project. Thereafter, Declarant shall appoint a majority of the members of the Committee until ninety percent (90%) of all the Units in the Project have been sold, or June 1, 1987, whichever first occurs. Thereafter, the Board shall appoint all of the members of the Architectural Control Committee.

Members appointed to the Architectural Control Committee by the Board shall be from the membership of the Association, but those appointed by Declarant need not be members of the Association.

(c) Committee Action: The Committee members shall work as a panel, reviewing plans jointly. A

written approval of two members of the Committee will constitute approval of said plans or if no notice of rejection is received after thirty (30) days from the date of receipt of said submittals, such inaction shall be deemed to be approval. Written notice of approval or rejection shall be sent in letter form to the applicant by certified mail, return receipt requested.

(d) Submission of Plans: The owner of each residence for which construction of a patio or patio enclosure is contemplated shall submit to the Committee working drawings or plans for the construction. Upon review, the Committee may request additional drawings for clarification.

2. ARCHITECTURAL STANDARDS AND CONTROLS.

(a) Subdivision Standards: These restrictions may have neither the intent nor the purpose to in any way affect the subdivision standards which are established by law.

(b) On-site Construction:

(i) Signs: No signs of any kind, or other advertising devise of any kind or character, for any purpose or use whatsoever, shall be erected, posted, pasted, painted, displayed or maintained on any lot, except that (a) on any lot, one sign, not larger than 18 x 24 inches, advertising the property for sale or lease may be erected or maintained;

(b) Declarant or its agents may erect and maintain on any property it owns such sign or other advertising devices as it may deem necessary or proper in connection with the conduct of its operation for the development, improvement, subdivision or sale of said property.

(ii) Clothes Lines and Storage Areas: All clothes lines and storage lines shall be prohibited upon the lots, unless obscured from view of adjoining lots or streets by a fence or appropriate screen approved by the Committee.

ARTICLE IX

GENERAL PROVISIONS

1. TERM. All the foregoing covenants and restrictions are imposed upon the covered property for the direct benefit thereof and of the owners thereof, as a part of a general plan of improvement, development, building, occupation and maintenance; and shall run with the land and shall be binding on all the owners of said property and all persons claiming under them, and continue to be in full force and effect for a period of thirty (30) years from the date that this Declaration is recorded. After said thirty (30) year period, the covenants, conditions, restrictions and easements shall automatically be extended for successive periods of ten (10) years unless by a vote of a majority of the then owners of record of the covered property, it is agreed to change said covenants, conditions and restrictions in whole or in part.

2. AMENDMENTS. These Declarations may be amended, and they may be so amended at any time, and from time to time, by an instrument in writing signed by the owners of record of two-thirds (2/3) of the covered property provided that if the two-class voting structure as set forth in ARTICLE II, Section 3 above is still in effect, this Declaration may not be amended without written assent of the prescribed percentage of both classes of membership. Said written instrument shall become effective upon recordation in the office of the County Recorder of Mesa County, Colorado.

3. INTERPRETATION. All questions of interpretation or construction of any of the terms or restrictions herein shall be resolved by the Association and such decision shall be final, binding and conclusive upon all the parties affected.

The provisions of this Declaration shall be liberally construed to effectuate its purpose of creating a uniform plan for the development of a residential subdivision and for the maintenance of the covered property. The Article and Section headings have been inserted for convenience only, and shall not be considered or referred to in resolving questions of interpretation or construction. Invalidation of any one of these covenants, conditions or restrictions by judgment or court order shall in no way affect any other provisions which shall remain in full force and effect. Whenever the context of this Declaration requires the same, the singular shall include the plural and the masculine shall include the feminine and neuter.

4. ENFORCEMENT. The covenants hereby established shall operate as covenants running with the land. Further, the Association and/or the Board and/or the owner of any other covered property, including any bona fide purchaser of a contract, in the event of a breach of any of the within covenants, conditions or restrictions or a continuance of any such breach may, by appropriate legal or equitable proceedings, take steps to enjoin, abate or remedy such breach. However, it is hereby expressly agreed that damages are not an adequate remedy for the breach of any of the above covenants, conditions or restrictions. Every act or omission whereby any of the above covenants, conditions or restrictions is violated in whole or in part is hereby declared to be and constitutes a nuisance, and every remedy allowed by law or equity against a nuisance, either public or private, shall be applicable and may be exercised by the Association, the Board or the owner of any of the subject property. All of the remedies herein provided for shall be deemed cumulative, and none of such remedies shall be deemed exclusive. A breach of

covenants contained in this Declaration shall not affect or impair the lien or charge of a bona fide mortgage or deed of trust made in good faith and for value on any lot; provided, however, that any subsequent owner of such property shall be bound by said covenants, whether such owner's title was acquired by foreclosure or a trustee's sale or otherwise. A mortgagee or beneficiary under a deed of trust who acquires title by foreclosure or deed in lieu of foreclosure shall not be obligated to cure any breach of covenants, conditions or restrictions which occur prior to such acquisition of title but shall be bound by said covenants, conditions and restrictions. The provisions contained in this Declaration shall inure to the benefit of and be enforceable by Declarant, its successors or assigns, the Association, the Board, or the owner of any of the covered property and each of their legal representatives, heirs, successors or assigns, and the failure to enforce any of such conditions, covenants and restrictions shall in no event be deemed to be a waiver of the right to do so thereafter. In any legal proceeding commenced by anyone entitled to enforce or restrain a violation of this Declaration, or any provision thereof, the prevailing party shall be entitled to its reasonable attorney's fees and costs of such suit.

5. ASSIGNMENT. Declarant retains the right to assign or delegate any or all rights or duties which it may have under this Declaration at any time.

6. DESTRUCTION, CONDEMNATION OR EXTENSIVE DAMAGE OF COMMON AREAS OR COMMON FACILITIES. In the event of destruction, condemnation or extensive damage to the common area or common facilities, the Association shall cause said common area or common facilities to be reconstructed unless fifty-one percent (51%) of the Class A members, excluding Declarant if it shall then be a Class A member, elect not to reconstruct

AMENDMENT TO
DECLARATION OF COVENANTS
CONDITIONS AND RESTRICTIONS

Recorded
BK 1435-943

WHEREAS, the undersigned has heretofore executed the Declaration of Covenants, Conditions and Restrictions which have been duly recorded in the records of the County Clerk and Recorder of Mesa County, Colorado, on February 8, 1983 in Book 1414 at Page 554;

AND WHEREAS said Declarations are in error inasmuch as they refer to the Property thereby covered by said Declarations as:

Lot 1, Block 7, Filing 3, HILLSVIEW SUBDIVISION

AND WHEREAS the Property is in fact dedicated as:

A REPLAT OF LOT 1, BLOCK SEVEN THE FALLS-FILING NO. THREE according to the Plat recorded May 31, 1983 in Plat Book 13 at Page 163 in the records of the County Clerk and Recorder of Mesa County, Colorado;

NOW THEREFORE the aforesaid Declaration of Covenants Conditions and Restrictions are hereby amended as to the following Sections:

- a) RECITALS, Paragraph 1, and
- b) ARTICLE I, DEFINITIONS, Paragraph 6

to read:

A REPLAT OF LOT 1, BLOCK SEVEN THE FALLS-FILING NO. THREE.

IN WITNESS WHEREOF, the undersigned has caused his name to be hereunto subscribed this 11th day of May, A.D., 1983.

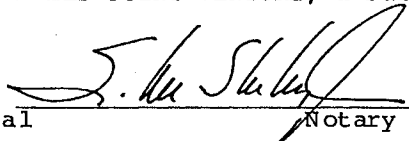
FALLS JOINT VENTURE,
a PARTNERSHIP

by: 
Robert L. Rewinkle

STATE OF COLORADO)
) ss.
COUNTY OF MESA)

SUBSCRIBED, SWORN to and acknowledged before me this 11th day of MAY, 1983 by: Robert L. Rewinkle, a Partner and Joint Venturer of FALLS JOINT VENTURE, a Partnership.

Witness my hand and Official Seal
My Commission Expires:


Notary Public

September 10, 1985

Address of Notary:

726 Colorado Avenue
Grand Junction, Colorado 81501

July 21, 1982

RESPONSE TO REVIEW COMMENTS
FOR
THE FALLS FILING #3

File No. 50-82

Phase: Final Plan

Location: East side of 28.25 Road, and approximately 330 feet South of Patterson Road

Agency

Response

City Utilities

Manhole A-6 will be moved South into the Right-of-Way of North Grand Falls Court. A private line will be extended North to serve the condominium units.

The water, sewer, utilities have been completed in those areas that are being developed.

The Townhome lots on South Grand Falls Court are not being developed at this time.

Transportation Engineer

With the exception of the driveway access onto 28-1/4 Road, which was shown on the 1977 preliminary, the traffic pattern is not significantly different than the revised preliminary plan which was submitted and approved in 1979.

Ralph Steery

The City of Grand Junction has traditionally dumped water from the Mantey Heights water tank onto this property. The construction of 28-1/4 Road channeled additional concentrated storm drainage onto this site.

To the best of our knowledge, the City has never had the right to dispose of this water across private property.

At such time as this project receives final approval, the developer will enter into an agreement to accept this runoff.

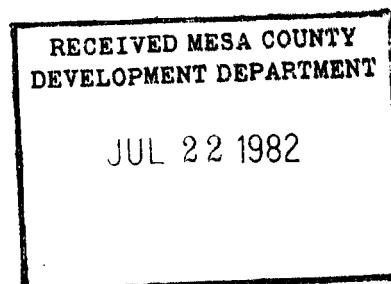
Historic runoff from the tank area was considered in final drainage report.

Ute Water

Meter placement will be relocated to the South as requested. The water main placement between condo units will be paved or detection devices installed as per letter 7-9-82 by this office.

Mountain Bell

Will utilize ten foot easements with Public Service Company



City Engineer

As previously stated, we do not feel that this is a significant change from that presented as Future Development in our 1979 submittal.

Street improvements for South Grand Falls Court in Filing 2 have not been completed as that part of the Filing is not being developed at this time.

A six foot easement will be provided for off-street sidewalks.

The cul-de-sac will be a 40-foot radius with no obstructions. The proposed center island will be removed from the plan.

As stated in our letter to the Planning Department dated July 13, 1982, this project is within the Central Grand Valley Sanitation District. A sewer outfall line was built from 29 Road in to serve this parcel. It has always been proposed that this side of The Falls would be served by a lift station inasmuch as the Fruitvale Sanitation District has refused service to this parcel in the past.

A plat was not included in this submission but will be provided following the beginning of construction of the units.

Fire Department

A six-inch main on Villa Way will be upsized to eight-inch. The main between the condos is for a fire hydrant only and can not be looped. We will upgrade the fire line to an eight-inch line, also.

No parking will be allowed between the curbs on Villa Way and North Grand Falls Court. No parking signs will be installed.

The private drive on the North side of the condos is a driveway. A full turn around can not be provided at this location.

To facilitate fire fighting efforts, we will add an additional fire hydrant at the North end of North Grand Falls Court.

Planning Staff

The Planning Commission originally reviewed The Falls Preliminary Plan in 1977. In 1979, a revised Preliminary Plan was approved. This plan was the basis for Filing One as it is recorded with the area of Filings Two through Four shown as "Future Development". The traffic circulation plan proposed at this time varies little from the one approved. Furthermore, when Filing Two was platted, three multi-family lots were designated north of Grand Falls Drive. One of these, Lot 10, Block 2, comprises approximately 40% of the Filing Three Final Plan.

Planning Staff (Cont'd)

The total Falls property contains 34 Acres. At a density of eight units per acre, 272 units result. Following is an acreage, unit and density tabulation of Filings One through Four as proposed.

<u>Filing</u>	<u>Acres</u>	<u>Proposed Units</u>	<u>Developed</u>	<u>Density</u>
One	15.48	55	55	3.55 unit/acre
Two (Less Lot 10)	6.67	99		
Townhomes			19	
Lot 8 and 9			<u>23</u>	6.29 unit/acre
Three (Includes Lot 10)	5.55	51	51*	9.19 unit/acre
Four	<u>6.2</u>	87	<u>87*</u>	<u>14 unit/acre</u>
Total	33.9		235	6.9 unit/acre

* Assume full development.

The requests to date result in a density well below the eight unit per acre or 272 units allowed in this zoning.

Technical issues enumerated by the Planning Staff are addressed as follows:

1. Although amenities were shown on the 1977 plans market conditions and development standard and criteria have changed since that time. Many similar projects have been approved in the same area without amenities, two are Pepper Tree and Pheasant Run Townhomes.

The density of Filing Three is considerably below that proposed in 1977 or 1978, and the need for amenities has been considerably reduced.

We do feel that some amenities are appropriate in Filing 4, however, at a reduced scale, probably eliminating the swimming pool.

2. There is no problem with sanitation and sewer. This plan addresses the issues as has always been proposed for this site.

3. As previously stated, we will not park on the roadways.

Parking perpendicular off of the cul-de-sac will not be a problem as this is an extremely low traffic area.

The median island has been eliminated.

Planning Staff (Cont'd)

4. Fire access has been addressed.

Trash for the condominium units will be placed at the drive entrance to the condos off of 28-1/4 Road.

5. The entire site will be sprinkled through a central irrigation system.

We are not aware that the City has a requirement for irrigation commitment letters.

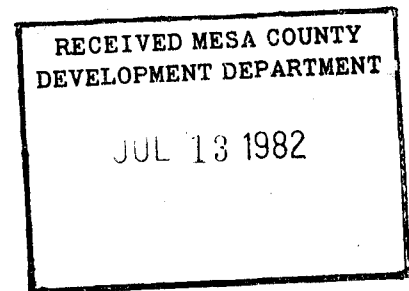
6. All other concerns of the review agencies have been addressed.



PARAGON ENGINEERING, INC.

2784 Crossroads Blvd., Suite 104
Grand Junction, Colorado 81501 (303) 243-8966

July 13, 1982



Mr. Bob Golden
Grand Junction Development Department
City Hall
Grand Junction, Colorado 81501

Dear Mr. Golden:

In response to questions which you, and several agencies, have raised during the review of The Falls, Filing No. Three, consider the following:

A final plat for The Falls, Filing No. Two was recorded on April 22, 1981 at Book 12, Pages 370 & 371. Approximately 40% of Filing No. Three consists of the aforementioned recorded plat. It is our understanding that review of lots within Filing No. Two would be a "one step" process as identified by note on the recorded plat, therefore, we would request that Filing No. Three of The Falls be reviewed as a final.

A major recreational facility is planned to be located north of Filing No. Three and will be available to all residences within The Falls. The facility will contain spas, weight and meeting rooms and a lounge area. Note that with the submission of Filing Three an overall reduction of 72 dwelling units has occurred, thus, the need for additional amenities is not as great.

In response to the minor technical concerns raised by review agencies, consider the following:

Sanitary sewer plans were submitted for review on July 1, 1982, however, a copy of the sanitary sewer system is enclosed. During the review of the preliminary development plan for The Falls, it was determined that the site would be provided sewer service by the Central Grand Valley Sanitation District. A major expense was incurred to construct approximately one-half mile of sanitary sewer outfall line to 29 Road along the Grand Valley Canal. Utilization of a lift station is the only alternative available. Sewer service south to Orchard Avenue would require annexation of The Falls by the Fruitvale Sanitation District. Fruitvale has been formally contacted and has refused to accept service.

Requirements for fire protection at The Falls, Filing No. Three will be provided upon receipt of the review comments.

Parking around the cul-de-sac is specifically included for overflow and guest parking only, and will not be utilized on a daily basis. Planting within the center of the cul-de-sac will be eliminated in order to facilitate turning movements by the Fire Department.

Acceptance of the roadways will be gained prior to requesting building permits within The Falls, Filing No. Three.

A drainage easement to the water tank will be indicated on the final plat.


Low profile landscaping is provided at all street and road intersections. Landscaping will be maintained by The Falls Homeowners Association.

Trash pick-up locations will be approved by the Sanitation District or private haulers.

Parking for the 22 condo units is provided beneath the unit.

It is the petitioner's desire to begin construction on twelve units this summer. Any delays could cause an extreme hardship in meeting this goal. As an option, final approval on these twelve units and preliminary approval for the balance is an acceptable alternative.

Sincerely,


Thomas A. Logue
Paragon Engineering, Inc.

TAL:po



PARAGON ENGINEERING, INC.

2784 Crossroads Blvd., Suite 104
Grand Junction, Colorado 81501 (303) 243-8966

August 2, 1982

Mr. Bob Golden
City Planning Staff
City of Grand Junction
559 White Avenue
Grand Junction, Colorado 81501

Re: The Falls, Filing No. Three

Dear Mr. Golden:

The accompanying plat and plans are submitted, as agreed, to supplement the Final Plan for The Falls, Filing Three.

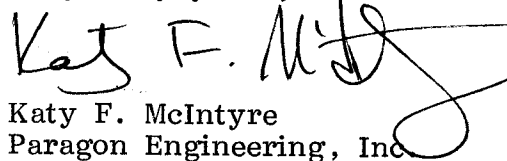
The filing plat addresses the easement and right-of-way concerns expressed by the City Staff. The lots shall be re-subdivided after building construction begins, in a townhome or condominium plat. All agencies should find their easement requests shown.

The "Master Plan" shows Filings One through Four of The Falls. Please note the recreation complex in the south-central portion of the site. This contains a clubhouse, enclosed hot tub, multi-purpose court and tennis court. Another multi-purpose court is shown in Filing Three.

The Utilities Composite shows the water and sanitary sewer systems, as proposed at this time. As you know, there may be a possibility that the Fruitvale Sanitation District will accept sewage from the western portion of the site, and the lift station could then be eliminated.

These plans have been prepared in answer to Review Agency concerns. Should anything else be needed, please let us know.

Very truly yours,


Katy F. McIntyre
Paragon Engineering, Inc.

KFM:po

cc: All Reviewing Agencies

REVIEW SHEET SUMMARY

FILE NO. 50-82 TITLE HEADING The Falls North Filing #3 DUE DATE 7/12/82

ACTIVITY - PETITIONER - LOCATION - PHASE - ACRES Petitioner: Valley Housing and Development
Robert Rewinkle. Location: East side of 28.25 Road, and approximately 330 feet south of
Patterson Road. A request for a final plan for 51 units on approximately 4.8 acres in a
planned residential zone at 8 units per acre. Consideration of final plan.

PETITIONER ADDRESS 2835 Grand Falls Rd.

ENGINEER Paragon Engineering

<u>DATE REC.</u>	<u>AGENCY</u>	<u>COMMENTS</u>
7/8/82	City Utilities	Manhole A-6 should be located in a road or driveway so that sewer maintenance equipment can have access. The public improvements for the previous filings have not been completed.
7/9/82	Trans. Engineer	This plan (final) does not appear to be consistent with the approved preliminary plan submitted in 1979. A revised preliminary plan should be submitted and I can make comments at that time. NOTE: This comment also applies to filing 4 for which I did not receive a packet.
7/9/82	Ralph Steery	I would request that the developer on this project give the City an agreement of right of way for the existing drain located along the east side of 28 1/4 Road. At the present time, this is the only drainage area for our Mantey Heights Water Tank. This tank is usually drained one to two times each year via this natural drainage. Total tank capacity is 3 million gallons. This natural drainage also handles the spillage and storm water run-off for the tank area.
7/9/82	Ute Water	No objection to development proposal. Domestic services for the S F units are represented correctly, except for the two units south of the east condo structure. Meter placement for the condo units must be relocated to the south, adjacent to the curbing and the water main placement indicated between condo units is not acceptable to the district. Required necessary corrections to the water system will be addressed directly to the Engineer. Policies and fees in effect at the time of application will apply.
7/12/82	Mountain Bell	We will utilize existing 10' easements and go joint with PSCO.
7/13/82	City Engineer	This is a significant departure from the preliminary plan. Street improvements for Filing 2 have not been completed nor have I been asked to accept any of the streets which have been open to public traffic for some time now. Street and sidewalk layouts appear reasonable. 6 ft. easements will be required along the off-street sidewalks. The cul de sac on North Grand Falls Court should be a 40 ft. radius of unobstructed pavement. Those "landscaped open spaces" in the middle of cul de sacs are obstacles. Sewer and water layout is reasonable but I sure wish we didn't have another sewage lift station being added to the system. We already have too many lift stations to maintain. I did not receive a plat in my packet.

7/13/82 City Engineer
Late

7/13/82 P.S. Co-

<u>DATE REC.</u>	<u>AGENCY</u>	<u>COMMENTS</u>
7/13/82	Planning Staff Comments	<p>As a result of the City Staff Agenda Review, the concern was raised as to the difference between the original Falls preliminary plan and that of the Falls Final Filing #3. The major amenities were to be provided in Filing #3 originally and as proposed in the final, it is all residential. Note: It is the intent of the petitioners to proceed with the Falls Filing #3 as a final -- per enclosed letter 6/13/82 -- and not to come in as a revised preliminary. If reviewed as a final, the overall density of the Falls is PR-8 and needs to be held to that. Site Plan: technical issues not resolved or need to be coordinated with the appropriate agencies.</p> <ol style="list-style-type: none">1. The question of amenities of the original #3.2. Resolve question regarding sanitation, sewer.3. Parking off the roadway and on the cul-de-sac resolved with the City and traffic engineers.4. Fire and service access concerns resolved with the trash and fire departments.5. How will the landscaping be maintained (i.e. sprinkler etc.) and will need irrigation commitment letter.6. All other concerns of the review agencies.
8/5/82	GJPC Minutes of 7/27/82	<p>MOTION: (COMMISSIONER TRANSMEIER) "MADAM CHAIRMAN, ON ITEM #50-82, THE FALLS NORTH FILING #3 FINAL PLAN, I MAKE A RECOMMENDATION WE PASS THIS TO CITY COUNCIL WITH THE RECOMMENDATION OF APPROVAL SUBJECT TO ALL STAFF COMMENTS -- AND THE RESOLUTION OF THE CONCERNS AS WELL AS THE REVIEW OF THE PRELIMINARY PLAN OF FILING #4 BEFORE IT GOES TO CITY COUNCIL." COMMISSIONER LITTLE SECONDED THE MOTION. CHAIRWOMAN QUIMBY REPEATED THE MOTION, CALLED FOR A VOTE AND THE MOTION PASSED BY A VOTE OF 4-1 (COMMISSIONER O'DWYER VOTING AGAINST).</p>

RESPONSE TO REVIEW SHEET COMMENTS

THE FALLS, FILING #3

Phase: Final

Agency

City Fire Department

Response

*We will move hydrant
to curb cut on 28 1/4 Rd.
Drive OK w/ City Fire w/o
turn-around*

*The Grand Junction will accept
Filing 3 with above connection
will accept water mains as
shown on master plan
Norm Noble
G.J.F.D.*

The looped water system as shown on the Master Utilities Plan is acceptable to Ute Water. Topography prohibits a public road connecting South Grand Falls Circle and Grand View Court. The feasibility of a fire lane in this area is being investigated and shall be resolved before the City Planning Commission hearing on August 31. It is not relevant to Filing #3.

Topography prohibits the installation of a turn-around at the east end of the private drive in Filing #3. The units in Cascade Village which lie 40 feet away horizontally are ten feet lower vertically. North of the drive is the City's water tank, at an elevation of 15 feet above the drive. This was a major consideration in proposing this access as a driveway, servicing the condominium units only.

Ute Water

Stated no objection to Filing #3.

Public Service

All open space and/or common areas shall be designated as utility easements. The specific easements requested have been shown on the plat.

City Engineer

Stated the street improvements in Filings 1 and 2 are not complete, and that portions which are installed are not accepted into the City's street system. These processes are, however, in progress. Proper easements shall be provided for sewer outfall lines crossing portions of The Falls that are not yet platted as an item in the request for construction approval. The City is attempting to negotiate with Fruitvale Sanitation to accept the effluent from this portion of The Falls. This would eliminate the lift station.

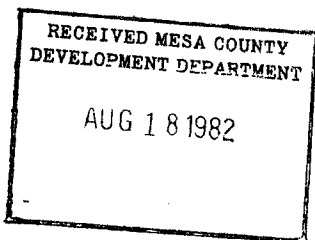
City Utilities

Vehicular access shall be provided to all manholes which are a part of the city-owned and maintained system.

Planning Staff

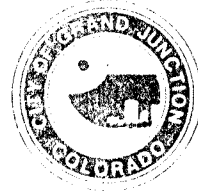
1. Fruitvale Sanitation District will not annex The Falls and accept it as part of their district. The City Utilities Director is attempting to persuade the district to convey effluent from the western portion of the project in the district's mains.

2. As stated by the City Fire Department and Ute Water in their review comments, the water system shown on the Master Utilities Composite is acceptable.



Planning Staff (cont'd)

3. Please see the response to City Fire's comments above.
4.
 - a) The open area in Filing #2 shall be regraded into a usable green space.
 - b) The amenities proposed are for the sole use and benefit of residents of The Falls, not the general public. Adequate visitor parking is proposed adjacent to the various living units. The six off-street parking spaces are shown near the recreation area for those Falls residents and their guests who are unable to walk from their homes to the recreation area.
 - c) A sidewalk shall be added to the plan to provide pedestrian access to the multi-purpose court in Filing #3.
5. The private driveway was okayed verbally by City Fire on July 22, 1982. A written approval is being obtained.



City of Grand Junction, Colorado 81501

250 North Fifth St.,

September 29, 1982

Robert P. Gerlofs
Paragon Engineering, Inc.
2784 Crossroads Blvd.
Grand Junction, CO 81501

Dear Bob:

Re: Falls Subdivision - Filing 3 and Filing 2, Phase II
Sanitary Sewers

As requested in your September 17, 1982, letter, I have reviewed the detailed construction plans for the above as submitted on July 8, 1982, and have the following comments. I did not take action on the July 8, 1982, submittal because City Council did not consider Filing 3 until August 18, 1982, and Filing 4 (Revised Preliminary Plan) until September 15, 1982. It is not my policy to approve plans for construction prior to City Council approval of projects.

1. The Utilities Operations Superintendent and Public Works and Utilities Director have reviewed the plan sheet for the proposed lift station and have approved the type station proposed. This drawing was not included in the July 8, 1982, submittal but was submitted for approval on July 23, 1982. We have also reviewed and approve of the "Lift Station Proposal" as submitted on September 28, 1982.
2. Add the following note to sheet 8 of 13 for Filing 3 and sheet 1 of 3 for Filing 2, Phase II. (Filing 2, Phase II submitted on July 20, 1982)

"All construction shall be in accordance with City of Grand Junction Standard Sanitary Sewer Details Drawing SS-1 and shall conform to City of Grand Junction "Standard Specifications for Construction of Waterlines, Sanitary Sewers, Storm Drainage and Irrigation Systems", 1981, and City of Grand Junction General Contract Conditions for Public Works and Utilities Construction GC-37, GC-50 and GC-65."

3. Sewer profiles were not submitted for Filing 2, Phase II.

4. Easements will be required along all sewers where they are located outside of dedicated streets (including the lift station site). The sewers extend outside dedicated streets at several locations. A minimum of 20 ft. wide easement centered on the pipe is needed.

Those sewer facilities which extend through proposed Filing 4 will need to have at least temporary easements until that Filing is recorded with the permanent street dedications and easements.

5. "C" Line should be a "public" sewer with 8 inch minimum size and manholes at both ends.

When the above comments have been addressed, submit revised prints for approval prior to construction.

Very truly yours,



Ronald P. Rish, P.E.
City Engineer

RPR/hm

cc - Robert Rewinkle
Bob Goldin ✓
Jim Patterson
Ralph Sterry
File



City of Grand Junction, Colorado 81501
250 North Fifth St.,

September 30, 1982

Robert P. Gerlofs
Paragon Engineer, Inc.
2784 Crossroads Blvd.
Grand Junction, CO 81501

Dear Bob:

Re: Falls Subdivision - Filing 3 - Streets and Storm Drains

As requested in your September 17, 1982, letter, I have reviewed the detailed construction plans for the above as submitted on July 8, 1982, and have the following comments. I did not take action on the July 8, 1982, submittal because City Council did not consider Filing 3 until August 18, 1982, and Filing 4 (Revised Preliminary Plan) until September 15, 1982. It is not my policy to approve plans for construction prior to City Council approval of projects.

1. The pavement design as shown on plan sheet 4 of 13 with the compaction requirements recommended on page 17 of the Lincoln DeVore "Subsurface Soils Investigation" of June 8, 1982, is approved by this office for construction.
2. As stated previously in Development review comments, the cul-de-sac on N. Grand Falls Court should not have a raised island in its center. These are obstacles and are not approved on cul-de-sac pavements.
3. Show all public sidewalks on plan sheet 4 of 13. As stated previously in Development review comments, the off-street sidewalks should be 4 ft. wide concrete on 6 ft. wide easements. The plans for Filing 3 are deficient in sidewalks to serve the units on Villa Way. I also noticed that someone has removed the sidewalks previously proposed for Filing 2, Phase I from the "Utilities Composite" for the entire Falls as submitted with your July 20, 1982, letter??

I have brought these matters to Bob Goldin's attention and requested a plan for pedestrian walks for Filing 2, Phase I and Filing 3. The street plans are not approved for construction until the sidewalk questions are addressed satisfactorily.

4. The street profiles shown are not acceptable. In my December 28, 1981, letter to Paragon, I restated the criteria contained in the adopted Street Development Standards of the City and emphasized the need for your designers to meet this criteria. You have apparently chosen to not meet the minimum geometric criteria and as we are both aware, construction is proceeding.

The vertical curves in question are as follows:

<u>Location</u>	<u>Plans</u>	<u>Minimum Criteria</u>
2+75 Grand Falls Drive (N)	250' V.C., K=27	K=35 (200' SSD)
2+50 Grand Falls Drive (S)	250' V.C., K=28	K=35 (200' SSD)
OK → 6+25 Grand Falls Drive (N)	15' V.C., K=29	K=28 (200' SSD)
6+37.5 Grand Falls Drive (S)	125' V.C., K=24	K=28 (200' SSD)
1+00 N. Grand Falls Ct. (W)	100' V.C., K=33	K=35 (200' SSD)
1+00 N. Grand Falls Ct. (E)	100' V.C., K=30	K=35 (200' SSD)
2+50 N. Grand Falls Ct. (W)	100' V.C., K=33	K=35 (200' SSD)
2+50 N. Grand Falls Ct. (E)	100' V.C., K=22	K=35 (200' SSD)
4+00 N. Grand Falls Ct. (W)	150' V.C., K=20	K=28 (200' SSD)
4+00 N. Grand Falls Ct. (E)	150' V.C., K=17	K=28 (200' SSD)
1+50 Villa Way (N)	150' V.C., K=18	K=35 (200' SSD)
0+50 Villa Way (S)	50' V.C., K=16	K=28 (200' SSD)
1+50 Villa Way (S)	150' V.C., K=20	K=35 (200' SSD)
2+75 Villa Way (N)	100' V.C., K=23	K=28 (200' SSD)
3+00 Villa Way (S)	100' V.C., K=20	K=28 (200' SSD)

I see no reason to approve a design which is less than minimum criteria. My position is unchanged from that stated in my December 28, 1981, letter.

5. Details of the "Field Drain" at the pond outlet should be shown on the plans.
6. An easement should be provided for the drainage of Mantey Heights water tank as it has historically drained across this property.
7. Erosion protection should be provided at the outlet of the pipe crossing of Grand Falls Drive to accommodate outlet velocities of up to 14.7 fps as per page 10 of the discharge calculations of the "Engineer's Drainage Report" for Filing 3.
8. As indicated on sheet 12 of 13, temporary easements will be needed for the drainage routed from the south edge of Filing 3 to the Grand Valley Canal.
9. The preliminary plans for Filing 4 show a manhole in or near the pavement of Grand Falls Drive over the 24 inch culvert where the drainage will be turned eastward and piped through Filing 4. Would it not be advisable to install the manhole with a stub pipe to the east prior to construction of Grand Falls Drive to avoid having to dig up the street when Filing 4 is developed?

September 30, 1982

When the above comments have been addressed, submit revised plans for construction approval.

Your attention is directed to a statement in a letter from Tom Logue to Bob Goldin dated July 13, 1982, which states "Acceptance of the roadways will be gained prior to requesting building permits within The Falls, Filing No. Three". Is this your intent?

Very truly yours,



Ronald P. Rish P.E.
City Engineer

RPR/hm

cc - Robert Rewinkle
Bob Goldin ✓
John Kenney
Jim Patterson
File

CITY OF GRAND JUNCTION, COLORADO

MEMORANDUM

Reply Requested
Yes No

Date
October 29, 1982

To: (From:) Bob Goldin From: (To:) Ron Rish
City Planning Dept. *RRR*

Subject: The Falls Subdivision - Filing No. 3 Plat.

As requested in the memo of October 25, 1982, I have reviewed the above and have the following comments:

1. 20 ft. radii should be provided at the corners of rights of way for intersection of 28 $\frac{1}{4}$ Road and Grand Falls Drive. This is standard City policy on all plats.
2. No provision is made for sidewalks rights of way. As stated in the adopted City Street Development Standards, previous review sheets for this subdivision, and most recently in my September 30, 1982, letter to Paragon, all public sidewalks should be on 6 ft. wide dedications and/or easements. It is my opinion, this should be included on the plat.
3. The utility easement shown at the south line of Lot 13 should be 20 ft. wide and centered on the proposed sanitary sewer at that location.
4. As stated in my review comments, easements are required for
 - (a) sanitary sewers and lift station which will cross proposed Filing 4 and unplatted portions of Filing 2,
 - (b) temporary storm drain outfall ditch which will cross proposed Filing 4 site.

Will these easements be furnished to the City as separate documents?

cc - Jim Bragdon
John Kenney
Darrel Lowder
Jim Patterson
Ralph Sterry
File

downline sewer line → *easements forms*
legals

PARAGON ENGINEERING, INC.

Phone (303) 243-8966
2784 Crossroads Blvd., Suite 104
Grand Junction, Colorado 81501

November 3, 1982

Bob Goldin
City Planning Dept.
City of Grand Junction
Grand Junction, CO 81501

Dear Bob,

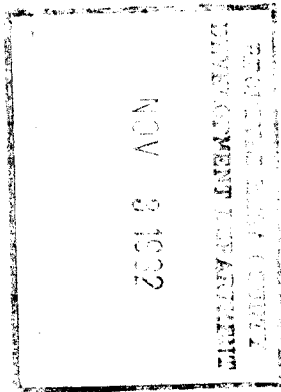
In response to the comments of Ron Rish regarding The Falls - Filing No. Three:

Item 1. Have talked to Ron Rish in regards to the 20 foot radii at 28 $\frac{1}{2}$ Road and Grand Falls Drive and he agreed that because the Street intersection is further west than the boundary of this filing that the radii is not required.

Item 2. Provided a 6' Sidewalk easement & a 10' foot Utility Easement on plat.

Item 3. Provided a 20' Utility Easement, 10 feet on either side of Lot Line.

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



Respectfully yours,

James T. Patty
James T. Patty

Falls #3 : 4



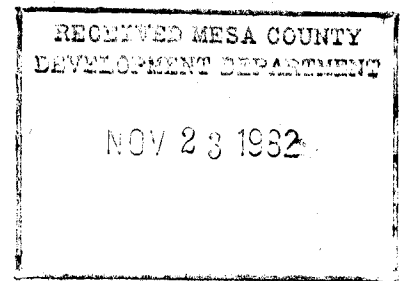
COLORADO DEPARTMENT OF HEALTH

Richard D. Lamm
Governor

Frank A. Traylor, M.D.
Executive Director

November 15, 1982

Robert Rewinkle
2835 Grand Falls Road
Grand Junction, Colorado 81501



RE: Site Application # 3591
Mesa County

Gentlemen:

The Water Quality Control Division has reviewed and evaluated your site application and supporting documentation for a domestic wastewater lift station to be located in the Falls Subdivision to serve 171 Units and to discharge to the City of Grand Junction Collection System

We find your application to be in conformance with the Water Quality Control Commission's "Regulations for Site Applications for Domestic Wastewater Treatment Works". Therefore, the site application is approved with the following conditions listed below.

1. Based upon application information, the system design will be for:
 - a. Average Daily Flow Capacity - 51300 gpd
 - b. Treatment Processes to be Used - lift station

Design for values in excess of these will render this approval void and another site application will have to be processed.



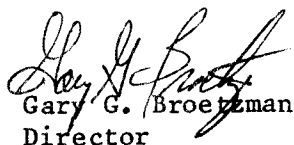
2. This site approval will expire one year from the date of this letter if the construction of the project has not commenced by that date. If expiration occurs, you must apply for a new site approval. Construction is defined as entering into a contract for the erection or physical placement of materials, equipment, piping, earthwork, or buildings which are to be a part of a domestic wastewater treatment works.
3. The design (construction plans and specifications) for the lift station has been reviewed and approved by the Division. All construction change orders initiating variances from the approved plans and specifications must be approved by the Division.

4. The applicant's registered engineer must furnish a statement prior to the commencement of operation stating that the facilities were constructed in conformance with approved plans, specifications, and change orders.

In accordance with Colorado Water Quality Control Commission regulations, this approval is subject to appeal as stated under Section 2.2.5(7) of "Regulations for Site Applications for Domestic Wastewater Treatment Works".

This approval does not relieve the owner from compliance with all county regulations prior to construction nor from responsibility for proper engineering, construction, and operation of the facility.

Sincerely,



Gary G. Broetzman
Director

WATER QUALITY CONTROL DIVISION

xc:

Thomas L. Bennett, Senior Planner, WQCD
Dick Bowman, D.E., WQCD
Mesa County Health Department
Mesa County Planning Department ✓
Paragon Engineering, Inc.

GGB/TLB/erz



City of Grand Junction, Colorado 81501

250 North Fifth St.,
244-1566

November 26, 1982

Robert P. Gerlofs
Paragon Engineering, Inc.
2784 Crossroads Blvd., Suite 104
Grand Junction, CO 81501

Dear Bob:

RE: Falls Subdivision, Filing No. 3 - Streets and
Storm Drains.

As requested, I have reviewed the revised detailed construction plans for the above as submitted on October 8, 1982, and November 9, 1982. I have also reviewed the revised road plan sheet 4 of 13 as submitted on November 3, 1982, by Jim Patty in response to questions raised about sidewalk alignments and easements on the plat. I have gone through the several letters you and I have exchanged since September 30, 1982, and compared all comments and responses to the current plans and have the following comments.

1. All comments in my September 30, 1982, letter have been addressed.
2. The street profiles meet the criteria discussed in my October 29, 1982, letter except for the first curve on North Grand Falls Court. However, that curve is adjacent to an intersection with a stop condition so the criteria is waived for that curve. (Incidentally if one sag curve was provided, the required length would be 344 ft. vs the 309 ft. available.)
3. Note 3 on sheets 4 and 5 conflicts with the centerline profiles you have provided. The previous plan had profiles for each curb line.
4. The pavement cross-slopes should be labeled on the sections. Will the crown be normal (1 1/2% slope) or will it vary? If it will vary, separate profiles should be shown for each curbline as you had on the previous plans.
5. The plat shows 42.5 ft. radius on the right-of-way for the North Grand Falls Court cul-de-sac but roadway plan sheet 4 shows a 45 ft. radius to the (?) back of curb. Which is correct? The curb should be in the right-of-way and 40 ft. minimum radius is required on the mat.

Falls Subdivison, Filing No. 3

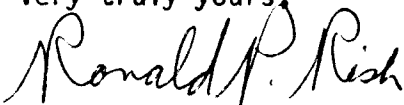
6. Concerning item 8 in your October 8, 1982, letter, Darrel Lowder has checked the description provided for the temporary drainage easement. Please deal directly with Darrel concerning the format of documentation for this easement when you contact him about the sanitary sewer system easements.

When the above items have been addressed, submit revised plans and at that time consider them approved by this office for construction.

Upon completion of construction, please notify this office to arrange for a final inspection of the completed facilities prior to their being put into service. As is standard policy, City-acceptance of any facilities depends on:

- a. Design in accordance with our requirements.
- b. Construction in accordance with City-approved design.
- c. Submission of documented construction test results.
- d. Submission of mylar-type as-built drawings for the public records.
- e. Final inspection of completed improvements. (You are expected to inspect during construction and to secure test results)

Very truly yours,



Ronald P. Rish, P.E.
City Engineer

RPR/rs

cc: Robert Rewinkle
Bob Goldin
John Kenney
Darrel Lowder
Jim Patterson
File



File

City of Grand Junction, Colorado 81501
250 North Fifth St.,

January 21, 1983

James T. Patty, Jr.
Paragon Engineering, Inc.
2784 Crossroads Blvd., Suite 104
Grand Junction, CO 81501

Dear Jim:

Re: Falls Subdivision, Filing No. 3 - Streets and Storm Drains

As requested, I have reviewed the revised detailed construction plans for the above as submitted January 14, 1983. All comments in my November 26, 1982, letter have been addressed. I take no exception to the plans as submitted January 14, 1983. Consider them approved by this office for construction.

Upon completion of construction, notify this office to arrange for a final inspection of the facilities prior to their being put into service. As is standard policy, City acceptance of any facilities depends on:

- a. Design in accordance with City requirements.
- b. Construction in accordance with the design.
- c. Submission of documented construction test results by the Engineer.
- d. Submission of mylar-type as-built drawings by the Engineer for the public records.
- e. Final inspection of completed improvements and correction of all deficiencies to the satisfaction of the City Engineer.
- f. Day-to-day inspection of construction and control of construction testing is the responsibility of the Developer's designated Engineer. It is assumed by the City that you are that Engineer.

Thanks for your continued cooperation.

Very truly yours
Ronald P. Rish
Ronald P. Rish, P.E.
City Engineer

RPR/hm

cc - Robert Rewinkle
Bob Goldin ✓
John Kenney
Jim Patterson
File



City of Grand Junction, Colorado 81501

250 North Fifth St.,
244-1566

April 29, 1983

Robert P. Gerlofs
Paragon Engineering, Inc.
2784 Crossroads Blvd., Suite 104
Grand Junction, CO 81501

Dear Bob:

RE: The Falls Subdivision - Filing 3 - Phase 1 and *So 82*
Filing 2 - Phase 1

As requested I inspected the street improvements for Filing 3 - Phase 1 on April 28, 1983, with Tim Patty of your office. The only physical deficiencies observed were:

1. One panel of sidewalk on 28 1/4 Road and one panel of sidewalk on Grand Falls Drive are broken at the southeast corner of that intersection.
2. The storm sewer pipe under Grand Falls Drive is uncoated corrugated steel pipe (AASHTO M-218) which is not allowed by City specifications.

As-built drawings and construction tests results were submitted by Tim on April 7, 1983.

On April 28, 1983, Tim and I also reinspected Filing 2 - Phase 1 street improvements. Many of the physical deficiencies listed in my September 25, 1982, letter have not been corrected. Other issues raised in my September 25, 1982, letter have not been addressed to-date. Some elements of curb and gutter and sidewalks are constructed but not in accordance with the Development Department's file copy of the approved plan nor in accordance with construction plans approved by this office.


I have discussed the above matters in detail with Jim Patterson, Director of Public Works and Utilities, and our position is that your January 20, 1983, letter states that the Filing 3 contractors would be used to correct Filing 2. The physical deficiencies are obvious, certain improvements are missing and some are constructed not according to plan. Until all matters listed in my September 25, 1982, letter

The Falls Subdivision - Filing 3
Page 2

are adequately addressed, the City will not accept responsibility for any street or sidewalk improvements in Filings 2 or 3.

I also need a response as to who will accept responsibility for the storm pipe under Grand Falls Drive which is not according to specifications. If corrosion of this pipe occurs, who will pay to have it replaced?

FOR THE CITY OF GRAND JUNCTION


Ronald P. Rish, P.E.
City Engineer

RPR/rs

cc: Robert Rewinkle
Bob Goldin
Dick Hollinger
John Kenney
Jim Patterson
File



Grand Junction Community Development Department
Planning • Zoning • Code Enforcement
250 North Fifth Street
Grand Junction, Colorado 81501-2668
(303) 244-1430 FAX (303) 244-1599

February 8, 1994

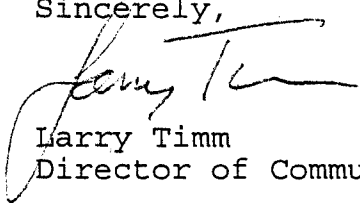
John Siegfried

RE: The Falls Development

Dear John:

This is to confirm our conversation regarding the Falls Subdivision. Based upon the approved final plans as found in Development Files #6-80 and #50-82, the development review for lot 9, block 2, Filing 2 (file #6-80) and lots 11 and 15, block 2, Filing 3 (file #50-82) will be administrative provided there are not major changes from the original approved final plan and that the number of units is the same or less than the number originally approved. The administrative review is a formal review process but does not require a public hearing for final approval. Any proposed increase in number of units or major changes in setbacks or access points will require a hearing before the Grand Junction Planning Commission for approval of the revised plan.

Sincerely,


Larry Timm
Director of Community Development

Bob Goldin

PARAGON ENGINEERING, INC.
ENGINEERS, PLANNERS, ARCHITECTS

February 8, 1983

Ronald P. Rish, P.E., City Engineer
City of Grand Junction
250 North 5th Street
Grand Junction, CO 81501

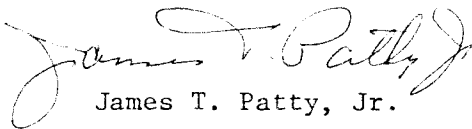
Re: The Falls Subdivision, Filing No. Three

Dear Ron:

With your approval, I would like to revise the horizontal location of the four foot (4') sidewalk adjacent to the 27-foot Right-of-Way section.

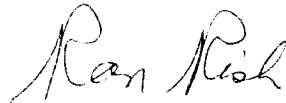
It is now shown with a 1/2 foot separation and I would like to move the sidewalk to the back of curb so that it could be constructed as monolithic curb, gutter and sidewalk.

Very truly yours,


James T. Patty, Jr.

JTP:emb
cc: Robert Rewinkle

Jim, I take no exception to the above-mentioned revision to the 27 ft. right-of-way section.


2-9-83

cc: Jim Patty - Paragon
Jim Patterson
Bob Goldin
John Kenney
50-82

2784 Crossroads Blvd., Suite 104

Grand Junction, Colorado 81501

Phone (303) 243-8966

12 January, 1983

City of Grand Junction
559 White Avenue, Room 60
Grand Junction, Colorado 81501

To whom it may concern:

Valley Federal Savings and Loan Association has secured a \$1,400,000.00 Note with a Deed of Trust recorded on 30 September, 1982, in Book 1393 at Page 528 on the following legally described property:

See attached Exhibit "A"

The borrower is the Falls Joint Venture and the property is commonly known as the Falls Filing Number Three or Hills View.

The funding provided by this Note and Trust Deed is not for improvements for the entire subdivision, but only for limited site improvements. It is the intent of Valley Federal to pay for all work performed on the subdivision within the parameters of the bids as provided to and accepted by the Association. Funds are budgeted in accordance with said bids and are advanced per the terms of our loan documents for the protection of our collateral. All payments are current as of this date and sufficient funds remain for the completion of this phase of the project.

Sincerely,



Stephen C. Love
Assistant Vice President

SCL/sjm

Attachment

1983 JAN 13 1983