September 6, 1932

Miss Elsie Eaves
McGraw-Hill Publishing Company
330 West 42nd Street
New York City, N. Y.

My dear Miss Eaves,

Mr. W. L. Prouty advised me to write to you, and Mrs. Helen T. Miller, a member of the Altrusa Club, permitted me to use her name in introducing myself to you.

They represent a surprising number of persons who have mentioned your name and accomplishments to me since I returned to my home in Denver after obtaining the bachelor of science degree in mechanical engineering from the Massachusetts Institute of Technology this June. Those who wish to encourage and exemplify, those who are at a loss to know what to say to a woman engineer, and those who wish to help me to secure a position, all tell me about you. There are so many difficulties encountered by a woman in the engineering profession, a successful one seems to be the ideal person to lend a hand to a newcomer.

A natural aptitude for engineering work was left to me by my father, who was a designing engineer in Denver for thirty years. I worked in his office for one summer vacation, and convinced that it was what I liked best to do, I went to Denver University for two years. Since they do not give a degree in mechanical engineering, I transferred to Tech. Drawing charts and advertising plates for a stock survey in Boston after school hours helped financially. I wrote my thesis on air conditioning in the home, an especially interesting subject for a woman. Honorary scholarship records from every school attended indicate the quality of my work, and my reliability is insured by the fact that my mother is partially dependent on me.

I'd like to work for a technical publication. I'd like to get into air conditioning commercially. But most of all I'd like a job. There must be many places that could not be better filled than by a woman of pleasing personality and appearance who can talk and write intelligently on engineering subjects. What do you think? May I hope to hear from you? I'll deeply appreciate any help.

Sincerely yours,

Helen D. Moody

(Miss)(22)

770 Sherman Street
Denver, Colorado

C H B Hotchkiss
Editor, Heating ventilating Engr.
148 Lafayette St.

Heating Piping + Air Conditioning

Domestic Engineering

725 Euclid Avenue
Syracuse, N.Y.
February 26, 1936.

My dear Miss Reaves,

Mr. Richmond of the American Society of Civil Engineers has told me that you are one of the few women engineers in the Society and therefore are the very person to give me some advice.

I am graduating this June from the college of Applied Science at Syracuse University and have majored in Civil Engineering. I hope someday to enter the field of sanitary engineering, either in the design of water works and sewage disposal plants or else doing research in that line.

Consequently I am very anxious to know something about woman's chance in the so called man's profession. What do you consider the best way to enter the field and what traits do you consider necessary for a woman to have to get along in the profession? Are there any tips or warnings that you can think of that might help me along?

I'm not asking this to quote you in any way but being in a decided quandry myself I'm writing to you for as much advice as you feel you can give me. My Father is an engineer but of course can only tell me the man's side of the question.

I surely would appreciate an answer.

Very truly yours,

Virginia A. Swaty

C.E. Hall.

501 West 11th
Rolla, Mo.
Oct. 31, 1938

Visited New York
Jan 1942
Looking for job.

Has job - Mo - County Sanitary work.

Miss Elsie Eaves
330 West 42nd St.
New York City

Dear Miss Eaves,

I am writing an article entitled "Women in Engineering" for the Missouri Miner, the weekly newspaper of the Missouri School of Mines. In gathering information I am writing to you with the hope that you might help me. Some of the points regarding you which I want to cover in the article are: When did you first become interested in engineering and decide to choose it as a career? What caused and stimulated this interest? Did you ever feel that you should have gone into another field where there are more women? Generally speaking what do you think of engineering as a career for women?

I, myself, am vitally interested in your answers, because ever since I was a sophomore in high school, it has been my desire to study engineering. I am now taking a civil engineering course here at M. S. M. My greatest hope is to practise in this field someday.

I would appreciate it very much if you would answer the questions and enclose your answers together with any additional information that you might think interesting to engineering students, in the stamped envelope.

Yours sincerely,
Jane Hall

DENISON UNIVERSITY
FOUNDED 1831
GRANVILLE, OHIO

DEPARTMENT OF
ENGINEERING SCIENCE

February 5th, 1931

Miss Elsie Eaves,
Director of Market Surveys,
Engineering News-Record,
10th Avenue at 36th St.,
New York City, N.Y.

My dear Miss Eaves:

In my capacity as a teacher I am frequently called upon to advise students.

Although we have never had any girls majoring in Engineering at Denison University, I have had some of them asking about the possibility for women in the Engineering Field. I should like to have your frank opinion as to the opportunities or lack of opportunities for women in Engineering.

I happen to know two or three girls who have been in my classes at Virginia Polytechnic Institute and who have been more or less successful at Engineering office work.

Thanking you for your reply, I am

Very sincerely yours,

Bruce D. Greenshields

BDG:H

Prof. of Engineering Science.

February 10, 1931

Prof. Bruce D. Greenshields,
Denison University,
Granville, Ohio.

Dear Professor Greenshields:

I believe the best reply I can make to your letter of February 5 is to refer you to a chapter on civil engineering which I wrote for a book published by Doubleday Doran, "An Outline of Careers for Women."

Most of this chapter was devoted to a description of civil engineering, which Engineering News-Record reproduced for use in answering inquiries and of which I send you a copy.

This chapter, to which I refer, contains this additional paragraph "Civil Engineering for Women," page 162.

"Civil Engineering for Women. Theoretically, civil engineering offers many attractive, interesting, and very worth-while kinds of careers which could ably and successfully be pursued by women.

"Practically, at the present writing, so few women have undertaken to sound out the possibilities of this profession that no statement can be made of what they have accomplished in this work. At present it is a pioneer field for women, and its full potentialities will not be known until a sufficient number have engaged seriously in civil engineering work so that they will be taken for granted rather than looked upon as curiosities. Women without civil engineering training have proved themselves excellent draftsmen and computers, but this work is not engineering unless it is creative and shares responsibility for the development and characteristics of projects.

"In this day, to go on record by stating what women can or cannot do is to invite demonstrated contradiction. There is no sex to engineering, but there are customs, habits and organizations of long standing which are an initial handicap to women and require more than average ability if she is to succeed in overcoming

these barriers. Field work, especially, is organized for a masculine staff and involves transmitting orders to the various types of men with whom an engineer deals, the contractor's field forces, mechanics, iron workers, carpenters, bricklayers, and other representative trades. A woman's ability could be recognized by the engineers with whom she works, but it would require a large amount of education to pass this confidence on to the outsiders with whom she would have to deal. With unusual ability and an exceptional personality a woman could undoubtedly do this successfully, but the advantages to be gained are doubtful. The tangible and constructive work of civil engineering offered by office responsibility is believed by the writer to be the more practical means for women to win their first spurs in this profession. Of course, well-balanced experience which includes both office and field knowledge is the best foundation for engineering leadership.

"A small beginning has been made. The number of women in civil engineering indicated by the records of women's engineering organizations is probably smaller than the actual number engaged in civil engineering.

"The Women's Engineering Society, Inc., of London publishes a periodical called The Woman Engineer. Members represent several nations but only three or four are women engaged in civil engineering work or who have had civil engineering training. Shortly after the war, an attempt was made in the United States to organize an American Society of Women Engineers and Architects, but this was abandoned later because the few members eligible and enrolled were too widely scattered to benefit from the organization.

"The best engineering education available should be acquired by a woman before she attempts to engage in engineering work. There are many excellent engineering colleges which teach the fundamentals of engineering-- mathematics, science, mechanics-- and which permit specialization in the particular division of civil engineering for which a student wishes to prepare. A coeducational college is especially recommended, with a full college life of student activities and the formation of many friends.

"Most engineering courses require four years of intensive work, with class schedules somewhat heavier than in other college departments, and less elective work. Laboratory, drafting-room, and field-surveying courses supplement lecture and recitation class work. The training is systematic and analytical.

"An engineering education is a valuable training in fundamentals and an excellent background for a business career. An engineering education, on the other hand, does not make an engineer. It must be supplemented by experience which develops judgment and ability in constructive planning.

"A young woman considering the pursuit of civil engineering for her livelihood should make sure she possesses an analytical mind, talent for mathematics and science, accuracy

in detail, imagination, mental honesty and fairness, and a sense of organization.

"She must recognize that there is no opportunity for personal glory or 'solo flying.' If she is to succeed she must make her place in the existing system through merit, good judgment, and sound thinking, and a sincere interest and satisfaction in the work itself."

From time to time I receive inquiries from girls who want my opinion about undertaking an engineering career. I discourage them because if they want to do it badly enough they will go ahead anyway. If they have not enough enthusiasm and initiative to go ahead on their own, I feel that they will make little headway in this field while there are still so few women in it. I see no excuse for urging women to take up engineering just to prove that they can do so successfully. Unless they have some particular talent or some special reason for undertaking this field of work and can make a definite contribution to it, there are a number of other fields where their efforts would probably be more fruitful. On the other hand, I am very glad to see girls with unusual ability working into this field quietly and naturally for I think there are many opportunities for them to do constructive work.

I should like very much to know the names and addresses of any girls who are in civil engineering work, particularly if they have engineering degrees from a good technical school. I am in touch with two or three girls who are employed in engineering offices and I should like to have as complete a record of this feminine invasion as I can get.

I hope that this material will serve your purpose. You may find the general material on civil engineering useful in your student work, particularly where your freshmen and sophomores are beginning to choose their elective work.

Yours very truly,

Elsie Eaves
EER.ES

Director of Market Surveys

171A McLean Ave.
Yonkers, N. Y.
June 5, 1932

Dear Miss Eaves

I would like to take the liberty of asking your advice concerning civil engineering as a profession.

So far I have had three years in the College of Mt. St. Vincent in New York City, having majored in mathematics.

I had considered engineering, but until I read your discussion of the subject in "An Outline of Careers for Women", I understood that it was closed to women.

Would you suggest that I enter an engineering school immediately & do you think it would be advisable to complete my present course?

Also, would you suggest the school having the best course?

May I thank you in advance, for the advice which I am sure you will give me?

Sincerely
Helen Desmond

July 12, 1932

Miss Helen Desmond,
171-A McLean Ave.,
Yonkers, N. Y.

Dear Miss Desmond:

Your letter of June 5 was forwarded to me by Mr. Bernays, and I am sorry to have kept you waiting so long for a reply.

My philosophy of women entering the engineering profession is very well set forth in the article you read in an outline of careers for women.

I believe that an engineering education is an exceptionally fine foundation for a business or professional career. I think that any girl who tackles the job of cutting out an engineering career for herself has tackled a hard job, and she will face many discouragements. Now is a particularly bad time to look for employment in this field.

The work, however, is pleasant and more remunerative than positions for which less training is required. It is not as well paying, however, as many of the other fields in which women are working in larger numbers.

As to schools, the Massachusetts Institute of Technology has graduated women engineers and architects. I am acquainted with one civil engineering graduate, Miss Mary Soroka, who held a number of engineering positions, including a position with Stone & Webster. She is, or was, the last time I talked to her, one of the many engineers out of work because of the severe decline in engineering activities during present business conditions.

From my own point of view, I would recommend a co-educational school. You would find a very sympathetic faculty, as well as an excellent faculty, at the University of Illinois. The dean of the College of Engineering there, Milo M. Ketchum, and the head of the Civil Engineering Department, W. C. Huntington, guided me through my work at the University of Colorado. Cornell has an excellent engineering college. A few years ago it had the reputation of not being particularly friendly to feminine engineers, but it may have reformed.

When I planned to study engineering practically everybody advised against it. I believe this is an excellent plan for advisers to pursue. I would not recommend that you go ahead with engineering unless you want to so much that you can overcome every objection that anybody could raise.

With best wishes.

Sincerely yours,

Director of Market Surveys

Elsie Eaves
ENR:MAC

Huntsville, Ohio,
October 18, 1935.

Elsie Eaves,
54 West 51 st. Street,
New York, New York.

Dear Madame:

In Business Science class I have to give a report on some vocation and as I am very interested in Civil Engineering I have chosen it.

I read your article on this subject in "Careers for Women". Although answered some of my questions there are still some which I am in the dark about. I am enclosing a self-addressed, stamped envelope. Will you please write giving me the following information:

Does any college give Civil Engineering? How many years of college work are necessary and approximately what is the cost? Will you recommend one good college? What are the chances of finding employment when you are through college? What are the chances of advancement? And last, on an average, how much money can the civil engineer expect during his first years out of college? His second? Ten years later?

I will appreciate it very much if you will send me these data. It will help me with the report and will play an important part in my deciding whether or not to take up civil engineering as a life work.

Respectfully yours,

Helen Tracey.

October 30, 1935

Miss Helen Tracey,
Huntsville,
Ohio.

Dear Miss Tracey:

Your letter of October 18 has been forwarded to me and I shall attempt to answer your questions as follows:

First, you ask if any college gives civil engineering. No, not necessarily, although most engineering colleges do have a civil engineering course. Your State University no doubt offers a course in civil engineering, and Purdue is a very well known college of engineering.

Most engineering courses are four years, although some colleges confer their degrees on a five year course. I am not strictly up to date on costs of college training these days and suggest that you write to the school you have in mind. The cost depends largely on your living arrangements, of course. You will find an engineering course more expensive generally than a straight liberal arts course since there are usually laboratory fees and the text books required usually average slightly more than the texts used in the general course. Antioch College offers a combination study and work plan which reduces the cost materially and gives the students an opportunity to gain practical experience along with their university training.

You ask what are the chances of finding employment when you are through college. This is impossible to answer since there are so many different paths that you can follow through a civil engineering course that the answer would depend entirely upon the courses you pursue, your ability in handling the work, and the economic situation at the time you finish your course. Civil engineers have suffered severely during the depression and have not yet fully recovered their normal employment, although conditions are much better than they were three years ago.

As to civil engineers' earning capacity, I am sending you a report on salaries prepared by the Committee on Salaries of the American Society of Civil Engineers as it was abstracted in Engineering News-Record.

Civil engineering is predominantly a man's profession and is set up and organized to employ men. There are many functions in civil engineering that a girl can handle with ability, but she should have such a genuine liking for the work and such a genuine interest in what she wants to do that she will be able to overcome the handicap of the habit of thinking of men as the only ones trained for that type of work. Unless you have exceptional talent in mathematics, mechanics and analytical ability together with a lot of patience and love of hard work, I suggest that you would find easier fields to get ahead in than civil engineering.

Yours very truly,

Elsie Eaves
Manager, Business News Department

ENR.VV