

Arch
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AKers, J.

Statement
of
Work engaged in - June 1904 to May 1908.
by
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Candidate for degree of Civ. Engr.

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From August 24, 1905 to April 1, 1906,
I was levelman on preliminary & location
surveys for the South & Western R.R. - the work
being in upper East Tennessee & western
North Carolina, through very rough
country. Was acting transitman for some
time, and, on several occasions, had charge
of the party. Have had charge of topography
parties for long periods, a part of the time plotting
the topography directly on sections of the map of line,
using small drawing boards. Many varied
problems in passing obstacles were encountered on
account of the rough country, & a river which
seemed always ready to gobble up a "P.b." "P.I." or "P.I."
The closest check in long line levels was an
error of 0.01 ft in 3 miles.

The location of the line was governed
by a maximum curvature of 6° , and a max
grade of $\pm 0.5\%$ East or South bound, that being
+ against loads - max. ascending grade

West or North bound 1%.

From April 1906 to present time I have been with the Southern Ry., re-entering the service as transitman, and promoted in Dec. 1, 1906 to Asst. Engineer. During this two years, the work has covered about all the branches of Engineering applicable to Maintenance of way.

I worked for some time on the Asheville, N.C. new yard, made location of main tracks through the yard, and assisted in locating the various structures and yard tracks.

In July 1906, headquarters were moved to Knoxville, Tenn. where they now are.

A map of our District is attached hereto to show the territory covered by the officers here.

I have made plans for new yards of considerable size at Atlanta Junction, Ga (near Rome, Ga) 300 cars. Bitico, Tenn. (near Chattanooga, Tenn.)

2 new yard tracks, arranged in two clusters. This

yard has been constructed as per the plan -
Harriman, Tenn. about 200 cars, also tracks
for detouring trains of the C.N.O. & T.P. Ry. and
N. & N.E. Ry. and providing joint depot facilities.
This plan also carries regular engine terminal
facilities, such as round house, turntable, ash pits,
coal & sand station &c.

Newport, Tenn. yard of 350 cars capacity,
and equipped as modern engine terminal, estimate
carrying \$350,000.00 for yard complete.

Chattanooga, Tenn. - yard for teaming,
and transferring freight - Blue print showing
this plan is attached hereto.

Full survey had to be made at each
of the above places in order to prepare plans
& estimates - these surveys were all made
personally. At the time the plan for yard
& engine terminal at Newport, Tenn. was prepared,
the Engineer Maintenance of way spoke of it as
being presenting the best track & location plan of

five such plans prepared in this office -
the other four plans were for other points on the
District.

Have made a number of surveys, plans &
estimates for new passenger and freight depots,
notably, Morristown, Tenn (copy of one plan enclosed).
Johnson City, Tenn. (copy of one plan enclosed) * At
both the above points, alternative plans were sub-
mitted.

Track locations too numerous to mention,
have been made. The longest made alone
was at Columbus, Ga. Ran preliminary line,
took topography over entire line $3\frac{1}{2}$ miles long.
Reduced maximum curvature from 8° to 4° ,
and maximum grade from 2% to ~~2.5%~~ 0.5%
uniform grade; eliminated 32 ft. of rise & fall.

I do more track location possibly than
anything else. About 6 months ago, located 3
new leads approaching shop yard at Coaster Shops
(Knoxville), also about ten turnouts into lumber

yard & to various buildings, tracks connected with through shop tracks. About 15 crossing angles had to be taken. When these tracks (aggregating $2\frac{1}{2}$ miles) are built, I will have charge of the work.

Have made a number of masonry plans, both plain & reinforced concrete, Bridge abutments, & piers, pump foundations &c. Made pipe plan for new Asheville pump. Had charge of repairs to turntable at Sheffield Ala. Shops. Straightened table & put up circular track on concrete foundation, within $\frac{1}{8}$ " of level all around.

For the last 15 months I have had charge of the engineering details both in the office & on the road, and reporting to the E. M. W. part of the time had 6 men, now only 3. My duty is to gather all information and submit it to the E. M. W. in finished shape.

Hydraulic plans are seldom found necessary to be made in this office. The only one I have made that is worthy of

mention is a plan for additional fire protection at the Carter shops (Knoxville) - this involves an almost entirely new layout of pipes. Had given an initial pressure of $80 \frac{\text{lb}}{\text{in}^2}$, and had to hold the pressure up to 70 lb. at fire hydrants at West end of Shop yard. Plan was accompanied by estimate.

If any further information is wanted, I will gladly furnish it.

J. B. Akers Jr.