

DOCUMENT MICROFILMING IDENTIFICATION

GEOCRES No. 52B-1

DIST. 19 REGION

W.P. No.

CONT. No.

W. O. No. 72-11145

STR. SITE No. 45-112

HWY. No. 622

LOCATION ATIKOKAN RIVER

BRIDGE REPAIRS

No of PAGES - 1

=====

OVERSIZE DRAWINGS TO BE INCLUDED WITH THIS REPORT.

REMARKS:

Mr. W. D. Birch  
Structural Maintenance Engineer  
Maintenance Operations Section  
MAINTENANCE BRANCH, Downsview

72-1114  
KES  
ACS  
Structural Planning Section  
Northwestern Region

April 9, 1973

Mr. H. W. C. Rahn

Atikokan River Bridge; Hwy. #622;  
Site 45-112; District #19-Thunder Bay.

In order to increase the length of the extra span proposed in your memo of January 4<sup>th</sup>, it is suggested that the extra span consist of 2" x 12" laminations with a timber plank deck and asphalt surface. The span could then be lengthened to 18'.

The deck size would not then match with the existing but this could be accommodated by adding to the size of the existing bearing beam. The slope in front of the rock-filled timber crib would then be flatter.

P. Lester

P. D. Lester  
REGIONAL STRUCTURAL  
PLANNING ENGINEER

PDL/lav

cc: Messrs. W. Matyczuk  
K. Selby ✓



Mr. R.W. Franks,  
District Engineer,  
Thunder Bay, Ontario.

Mr. C.M. Smith,  
Maintenance Engineer.

72-11-145 438  
Structural Maintenance Section  
H.W.C. Rahn,  
for W.D. Birch.

January 4, 1973.

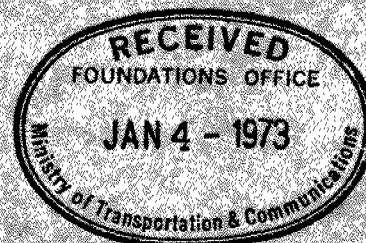
Re: Atikokan River Bridge, Highway 622  
Site No. 45-112, District 19, Thunder Bay

Enclosed please find two copies of two sketches showing proposed north end span remedial treatment to the subject structure. The span length has been modified from that suggested in Mr. K. Selby's memorandum dated December 27, 1972 in order that new deck timber sizes may match those in the existing north span.

May we please have your comments or suggestions with regard to the proposal.

H.W.C. Rahn,  
for W.D. Birch,  
Structural Maintenance Engineer.

HwCR/mm  
c.c. A.E. Argue  
P. Lester  
K.G. Selby ✓



52B-1

72-11-145

11'-0" TOTAL LENGTH

N. SPAN OF  
EXISTING STR.

10'-0" SPAN

52B-1

NOTES: - REMOVE EXISTING  
N. ABUT. RET'G.  
WALL.

APPROX. EXIST.  
GROUND  
LINE

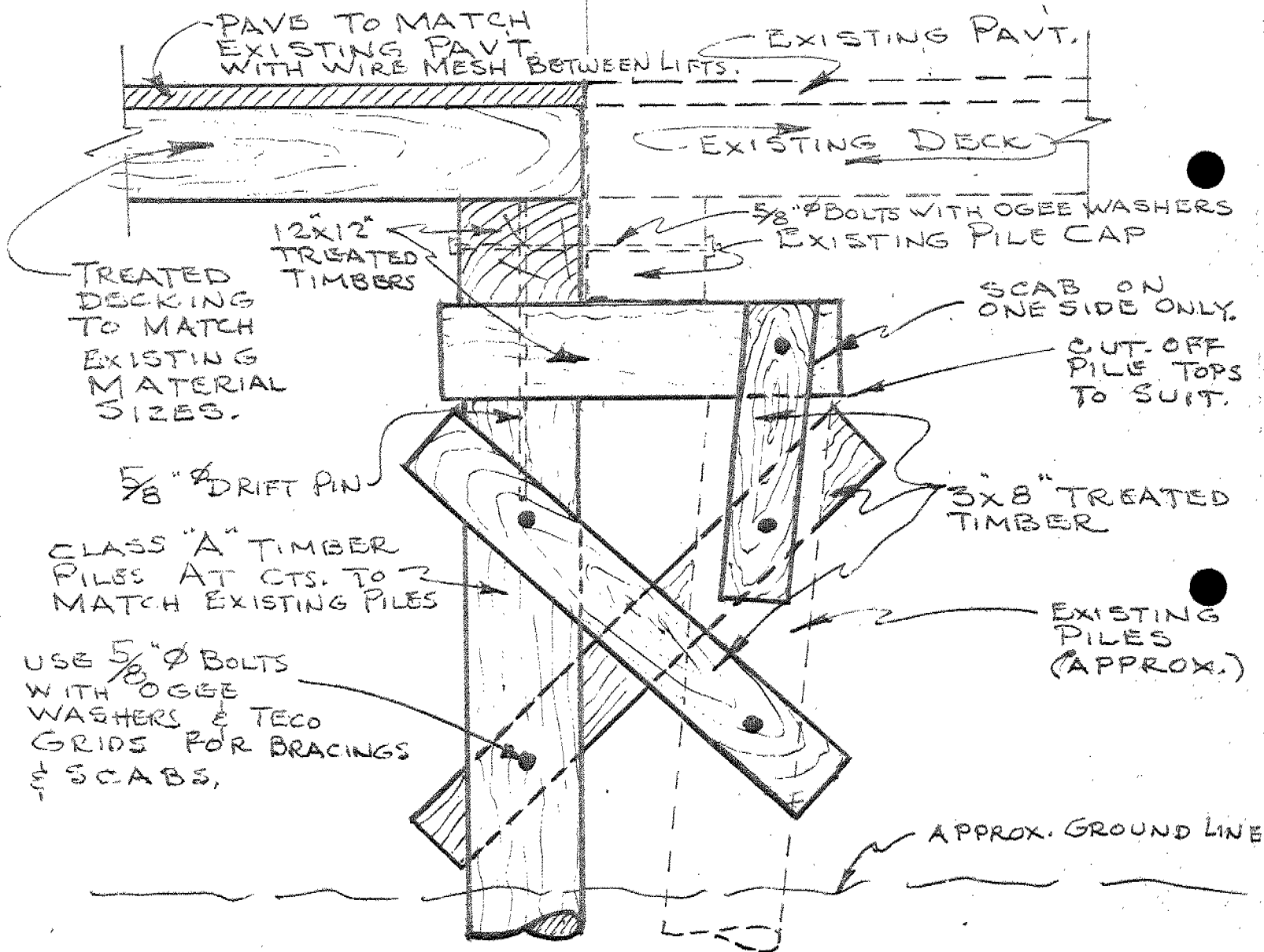
ROCK FILLED  
TIMBER CRIB  
(WASH GRANULAR  
MATERIAL INTO  
VOIDS AS ROCK  
FILL IS PLACED)

2:1  
ROCK FILL

TYPICAL LONGIT. SECT'N.  
OF  
PROPOSED NORTH SPAN  
ATIKOKAN R. BR.  
HWY. 622 SITE: 45E112

ADDITIONAL PROPOSED SPAN

EXISTING N. SPAN



NOT TO SCALE

PROPOSED TYPICAL SECTION

THROUGH

N. PIER BENT.

ATIKOKAN R. BR., HWY 622

SITE 45E 112

DIST. 19

2/1/73.

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS, ONTARIO

MEMORANDUM

TO: Mr. W. D. Birch,  
Structural Maintenance Engr.,  
Head Office.

FROM: K. Selby,  
Supervising Foundation Engr.,  
Foundation Office.

ATTENTION: Mr. C. Rahn,  
Structural Inspection Supvr.

DATE: December 27, 1972.

OUR FILE REF. IN REPLY TO

SUBJECT: D 3292  
Atikokan River Bridge, Hwy. 622  
Site 45E-112, District 19 (Thunder Bay)

52 B - 1  
GEOCRETS No.

This memo summarizes recommendations given to you verbally during recent discussions regarding remedial measures for the north approach to the above-mentioned timber trestle structure.

1. Erosion at the forward slope and/or progressive frost action has resulted in the abutment ballast wall and the northermost pier being pushed forward to the extent that remedial measures should not be further delayed.
2. Borings using hand auger equipment have been carried out by the Regional Materials and Testing staff which indicate the main deposit on the north bank to be loose silty sand. (A copy of the borelogs is attached for your information.)
3. In order to remedy the present situation it is recommended that an extra span be added to the north approach. Thus the existing abutment becomes a pier and the new abutment may be supported on a suitable crib (min. width 6 ft.) founded at a sufficient depth for frost protection. The forward slope should be graded so as to provide a berm of minimum width 5 ft. immediately in front of the crib, with the remainder of the slope not steeper than 2:1. Clearance from top of berm to underside of deck should not be more than 3 ft. As an additional measure it would be advisable to rip rap the forward slope particularly at the toe to prevent further erosion. It is believed that a span length of 14 ft. would be adequate to achieve the foregoing. During construction the excavation for the crib must not be allowed to freeze or large settlement will occur in the spring. Additional piles may be necessary to support the south end of the new span. These should be similar to the piles already in the structure and be 35 ft. long. Such piles should provide a design capacity of 15 tons each.

December 27, 1972.

4. The same treatment can be applied to the south abutment if and when it becomes necessary.

KS/ck  
Attch:

c.c.  
R. W. Franks  
K. Kleinsteinber  
Documents  
Foundations File ✓

*K. Selby*  
K. Selby,  
Supervising Foundation Engr.

ATIKOKAN - Hwy. 622 - 1000' ± N. Hwy. 11B - December 4, 1972

Borehole No. 1 - 35' from  $\phi$  of Rd (D-6') - North-West Corner of Bridge

0" - 2" Tps  
 2" - 14" Br Si (Frozen)  
 14" - 24" Tps  
 24" - 46" Gr Br Cl Si (Sat)  
 46" - 120" Gr Br VF Si Sa (Sat, Loose @ 46"-84", V Soft @ 84"-108", Loose @ 108"-120")

Borehole No. 2 - 30' from  $\phi$  of Rd (D-8') - North-East Corner of Bridge

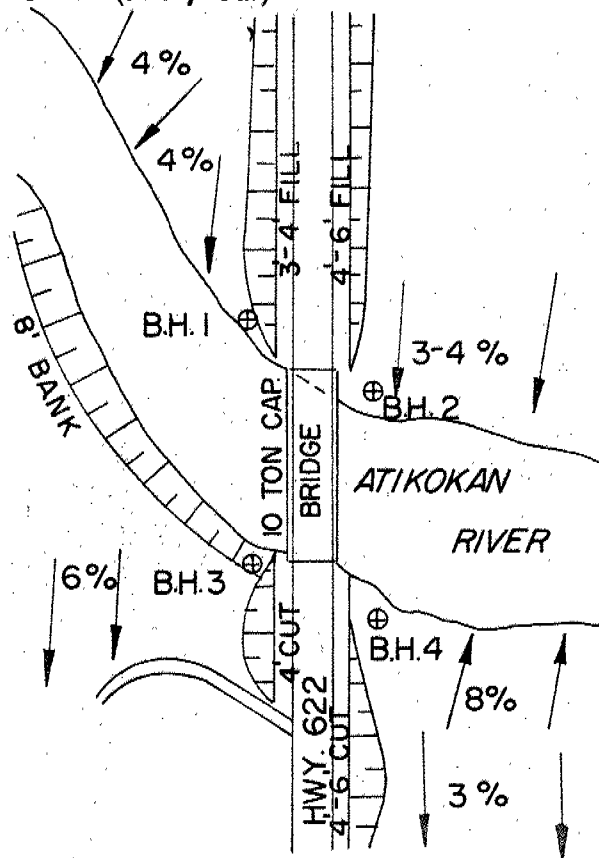
0" - 6" Tps  
 6" - 56" Gr Br Cl Si (Sat)  
 56" - 144" Gr Br VF Si Sa (Sat, Loose @ 56"-144")

Borehole No. 3 - 30' from  $\phi$  of Rd (D±0') - South-West Corner of Bridge

0" - 2" Tps  
 2" - 10" Gr Br Cl Si (Frozen)  
 10" - 14" Dk Br Org (Frozen)  
 14" - 48" Gr Br Cl Si (Wet)  
 48" - 154" Rd Br H Cl (Wet, Sat @ 96"-154", Firm @ 48"-120", Soft @ 120"-150", Firm @ 150"-154")

Borehole No. 4 - 35' from  $\phi$  of Rd (D-1') - South-East Corner of Bridge

0" - 1" Tps  
 1" - 26" Gr Br Cl Si (Frozen)  
 26" - 30" Dk Br Org (Wdy)  
 30" - 60" Br Lt Cl (Wet, Firm)  
 60" - 132" Rd Br H Cl (Wet, Firm, Soft & Sat @ 96"-132")  
 132" - 138" Gr Si (Firm, Sat)





JOB DESCRIPTION

REPAIRS TO BRIDGE  
STRUCTURE

LOCATION

HWY. 622 & ATIKOKAN R.  
DIST. 19 (THUNDERBAY)

W.O. 72-11145

W.P. NIL

REQUESTED BY

C. RAMN

DATE OF REQUEST

DEC. 23 1972

72-11145  
AC8  
DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS

Copy for the information of  
Mr. Ken. Selby  
West Building

December 15, 1972

**BRIDGE INSPECTION REPORT**

**Highway 622, over Atikokan River,  
Structure Site No. 45 - 112  
District 19**

While inspecting several municipal bridges in the Atikokan area on November 27, 1972 the above bridge was inspected.

The structure consists of 7 spans of creosoted laminated timber deck supported on creosoted timber pile bents.

This structure has been repaired in the last year. These repairs consist of;

- collaring split piles
- bolting a 6 x 12 vertical scab on one pile where the pile had moved out from under the pile cap
- missing diagonal bent bracing has been replaced
- Gaps between top of piles and bottom of cap has been shimmed on the westerly piles of the second and third bent from the south end.
- New timber curbs were installed.
- A new precast wall and an additional pile cap has been installed on the north abutment.

At the time of this inspection the structure was found in the following condition:

There are some piles whose edge projects beyond the face of the pile caps on which it is bearing (on about 4 piles by as much as 4 inches). This condition is randomly scattered and although it is not ideal it is considered satisfactory at this time. The major concern is whether the piles on the north abutment are still moving forward or whether they were in their present position when the last repairs were carried out.

On the assumption that the piles have stopped moving the bridge appears capable of carrying full highway loading. This was partially justified by observing two 50 ton log trucks cross the bridge during the inspection.

Re: Bridge Inspection  
Str. Site No. 45 - 112

The bridge is presently posted at 10 tons and as all other bridges in the area across the Atikokan are also posted at 10 tons, heavy trucks are theoretically unable to cross the river.

It is of course the responsibility of the bridge maintenance section to make recommendations on this bridge and any comments made herein are intended only to be of assistance to those directly involved.

ECF/mw

c.c. W. Birch

K. Selby,

P. Lester

A. Pettigrew

E. G. Pines,

Municipal Structural Proj. Eng.





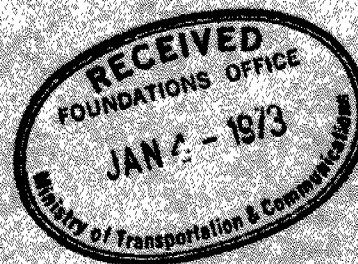
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[illegible]

It is of course, a requirement for the applicant to be a resident of the United Kingdom and to be a British citizen or a person who has the right of abode in the United Kingdom. The applicant must also be a person who is not subject to any legal proceedings in the United Kingdom or any other country.

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

A black and white photograph showing a highly textured, granular surface. The texture is composed of numerous small, irregular particles or grains, creating a complex, mottled pattern of light and dark tones. The overall appearance is similar to a close-up of a rough wall, a piece of coarse fabric, or a mineral specimen. The lighting is somewhat uneven, with brighter areas towards the top and darker, more shadowed regions towards the bottom, emphasizing the three-dimensional quality of the texture.



72-1145

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS, ONTARIO

MEMORANDUM

TO: Mr. A. G. Stermac,  
Principal Foundations Engineer,  
Foundations Office,  
Downsview.

FROM: Materials and Testing,  
Northwestern Region.

ATTENTION: Mr. K. Selby,  
Supervising Foundations Engineer.

DATE: December 6, 1972.

OUR FILE REF.

IN REPLY TO

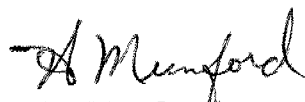
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SUBJECT: Bridge On Highway 622 (Saturn Avenue)  
Site 45E-112

In conversation with you by phone on November 6, 1972,  
I relayed the boring data for the above structure to you verbally.  
Please find attached the log of boreholes and site sketch as  
discussed.

If we can be of further assistance, please do not  
hesitate to contact this office.

HM/le  
Attach.

  
H. Munford,  
Project Soils Supervisor,  
For:  
R. Morgenroth,  
Regional Materials Engineer.

c.c.: Mr. P. D. Lester.



ATIKOKAN - Hwy. 622 - 1000' ± N. Hwy. 11B - December 4, 1972

Borehole No. 1 - 35' from  $\phi$  of Rd (D-6') - North-West Corner of Bridge

0" - 2" Tps  
 2" - 14" Br Si (Frozen)  
 14" - 24" Tps  
 24" - 46" Gr Br Cl Si (Sat)  
 46" - 120" Gr Br VF Si Sa (Sat, Loose @ 46"-84", V Soft @ 84"-108", Loose @ 108"-120")

Borehole No. 2 - 30' from  $\phi$  of Rd (D-8') - North-East Corner of Bridge

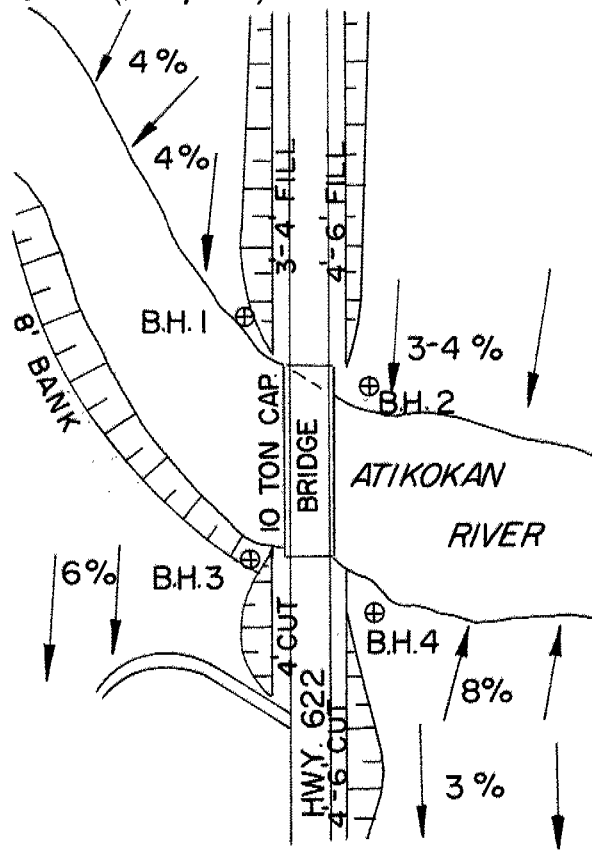
0" - 6" Tps  
 6" - 56" Gr Br Cl Si (Sat)  
 56" - 144" Gr Br VF Si Sa (Sat, Loose @ 56"-144")

Borehole No. 3 - 30' from  $\phi$  of Rd (D±0') - South-West Corner of Bridge

0" - 2" Tps  
 2" - 10" Gr Br Cl Si (Frozen)  
 10" - 14" Dk Br Org (Frozen)  
 14" - 48" Gr Br Cl Si (Wet)  
 48" - 154" Rd Br H Cl (Wet, Sat @ 96"-154", Firm @ 48"-120", Soft @ 120"-150", Firm @ 150"-154")

Borehole No. 4 - 35' from  $\phi$  of Rd (D-1') - South-East Corner of Bridge

0" - 1" Tps  
 1" - 26" Gr Br Cl Si (Frozen)  
 26" - 30" Dk Br Org (Wdy)  
 30" - 60" Br Lt Cl (Wet, Firm)  
 60" - 132" Rd Br H Cl (Wet, Firm, Soft & Sat @ 96"-132")  
 132" - 138" Gr Si (Firm, Sat)





MX DOWN NOV 24/72 11:10 A

TEAD 2 R W FRANKS DIST ENGR

ATT: W J MATYCZUK

CC: TEAR 2 P LESTER REG STRUCTURAL LOCATIONS ENGR

→ TORD I K G SELBY SUPERVISING FOUNDATIONS ENGR

RE: YOUR MEMO DATED NOV 14/72

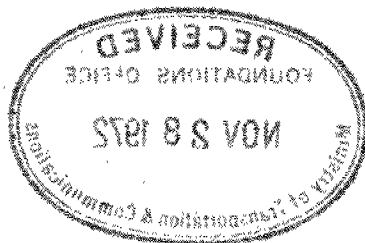
WORK STATUS - BRIDGE INSPECTION REPORTS 1971.

WE NOTE THAT THE KENOSAMI & C N R OVERHEAD AT LONGLAC, HWY 11,  
SITE:- 45E6, WAS NOT INCLUDED IN YOUR REPORT. MAY WE PLEASE HAVE  
YOUR COMMENTS ON THIS STRUCTURE.

WE HAVE REQUESTED THE FOUNDATION SECTION AT HEAD OFFICE TO ADVISE US AS  
TO THE SUITABILITY OF THE SOIL AT THE NORTH APPROACH TO THE ATIKOKAN  
RIVER BRIDGE, HWY 622, SITE:- 45-112, FOR THE SUPPORT OF A TIMBER  
CRIB ON WHICH TO FOUND AN ADDITIONAL SPAN TO THE STRUCTURE AND WILL  
INFORM YOU WHEN INFORMATION IS AVAILABLE.

H W CECIL RAHN FOR W D BIRCH STRUCTURAL MICE ENGR 3679

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