

Helena's rocks: The WOLSEY SILTSTONE

Louis Reeder was a practical man. While putting his "Alley" together in the years from 1872 to 1884, he picked up much of his building material on site, within a few paces of whichever wall he was working on. The site is a gully running between two kinds of rock, Flathead Quartzite in the north bank (see page 8 in this series) and warmly colorful stuff called Wolsey Siltstone in the south bank. The buildings backing into the quartzite bank are made mostly of the quartzite, while the ones at the siltstone bank are made of siltstone and brick.

A good place to see Reeder's way with brick and Wolsey rock is on the Alley's upper level, near the little log cabin which seems to have been the nucleus of the place. The building we've drawn here backs into an outcrop of the same stuff that Reeder used to build most of it. The brick around the window and door openings and at the corner is there for added strength and precision, but otherwise the structure might as well be an extension of the bedrock. Reeder always got along well with his bedrock (we'll say more about his Alley later on in these pages) and in the Wolsey Siltstone he found a particularly agreeable material, one that was to make a greater contribution to old Helena's built landscape, in the hands of many builders, than any other rock.

It was, for several decades, our everyday utilitarian building stone, quarried at several points above Reeder's Alley and behind the hill in the loop where Montana Avenue now turns into Diehl Drive. It seldom got the starring role in the architecture (with the notable exceptions of the First Christian Church on Benton and a few big houses), but it got the supporting roles. It's the stuff of countless foundations, retaining walls, side walls for downtown buildings whose fronts are made of something fancier, and whole buildings of the warehouse or workshop sort. Below we've drawn the Wolsey rock supporting walls for the Morelli Bridge (so named because a man named Carlo Morelli led the crew that built it, around 1893. Like Reeder, Morelli is one of the few old Helena builders whose name we know).

A few more Wolsey rock landmarks downtown are that long retaining wall holding the South Benton walkway as it approaches Reeder's Alley (also dating to around 1893), the wall making

the terrace on which the Bluestone House is built, and the tall side walls of the Iron-Front Building -- which, thanks to our crooked main street, gives such fine visual definition to the north end of the old downtown.

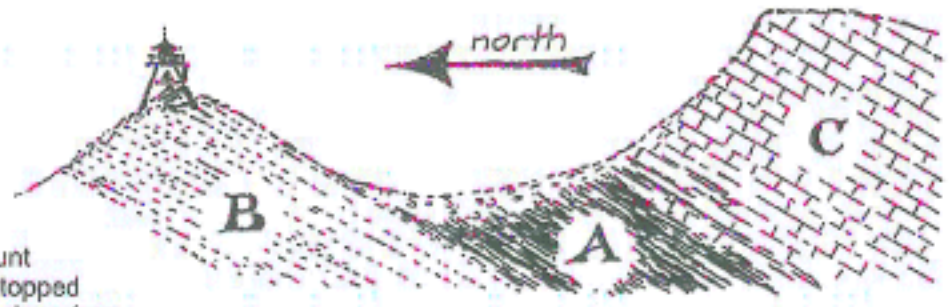
There's so much Wolsey rock to see, we're lucky it's such beautiful stuff, both at a distance and close-up. It comes banded and rippled in a range of warm and dusty grays and tans, ochre and cream, smoky blues and olive green, sometimes weathering to deep and complex browns like old iron and bronze. It's wonderfully variable and it always looks like it was just
(over)



rolled out of an outcrop, with all its native peculiarity intact. It has character.

It's useful to think of it as a native.

It's as much a part of Helena's particular natural landscape as it is part of our built landscape -- though, again, it seldom gets the starring role. It doesn't make impressive escarpments like the Meagher Limestone does atop the north side of Mount Helena or Acropolis Hill, or a row of rocky-topped hills and ridges like the Flathead Quartzite does (see page 8 in this series). We're lucky, in fact, that it has so many man-made exposures, those beautiful old walls, to make up for its lack of natural ones.



Like the Flathead Quartzite and the Meagher Limestone, the Wolsey siltstone is part of the tilted stack of ancient sedimentary layers whose exposed edges comprise our South Hills, but, unlike them, it's a relatively easily eroded rock. The stubborn quartzite and limestone edges stand out as rows of convex landforms trending east-west across our landscape, while the not-so-stubborn siltstone has yielded to make the gentler, often concave, places between those rows. We show it at its most concave in the drawing above, a simplified north-south section across Firetower and Acropolis Hills ("A" is the Wolsey layer, "B" and "C", respectively, are the Flathead and Meagher layers). More often, as behind Sugarloaf Hill or above Reeder's Alley, it makes an elevated bench or a broad saddle. As it angles across the north slope of Mount Helena, between the Flathead Quartzite and the cliffs, it makes a vague sort of shelf that holds the Prairie Trail from the point where it levels off just north of the "H" all the way up to its junction with the West End Trail, buried most of the way under material weathered from above.

Back downtown, the best place to see Wolsey siltstone in its unquarried state is in the banks of Reeder's gully, an erosional feature young enough to have left a relatively fresh edge -- not so fresh, of course, that it hasn't had time to weather to its deepest, bronziest, shades as displayed in that bank at the Alley's upper level. Across the gully there's that slab of bedrock we mentioned on page 8 of this series, next to the little crab-apple tree where the South Benton walkway meets the Alley. The ripply-looking surface of that slab records a moment in mid-Cambrian time (half a billion years ago, more or less) when a layer of silt, the future Wolsey Siltstone, began to settle over the sand that was to become the Flathead Quartzite. It's tempting to call it the very moment when these two Helena rocks first began to assert their differences, but there's another eloquent bit of exposed bedrock a few hundred feet up the gully, where Howie Street drops to the Morelli Bridge, which has more to say on the matter.

Howie drops through a man-made cut, probably dating to 1893 when the bridge was built. The rock in the cut shows that the initial differentiation was a halting affair, with many such moments. There, in cross-section plain to read at arm's reach, are what appear to be the first layers of silt alternating with the last layers of sand -- quartzite now giving way, by fits and starts, to siltstone.

An urban landscape owes its specific look and feel -- its peculiarity of place -- not only to the imagination and ingenuity of its builders, but to the stuff it's built of and its topography, all the more so when the stuff it's built of comes right out of the topography. Our Wolsey Siltstone deserves at least as much credit as our fancier local rocks -- that smoky red volcanic breccia and blue Meagher rock employed by James Stranahan, for example (see page 9 in this series) -- for making old Helena the distinct place it is.



The Sesquicentennial Project

2014 will be Helena's sesquicentennial year, its 150th year. How'll we mark it?

The best way, we think, is to celebrate what's authentically peculiar to our town -- to sharpen our sense of place.

We won't define "sense of place", beyond saying that it acts much like a sense of humor. Either you "get" a place or you don't. If you get it, it's engaging and invigorating and good for the imagination. You'll want to savor it.

We get Helena, so, from now to the sesquicentennial, we'll publish these free bits of information, one page at a time, about Helena's architecture, landscape, weather, history, whatever tickles our sense of place.

Look for these pages. Pick them up. We can't say how many there'll be, but we'll number them. Keep them and you'll build a trove of well-mulled Helena lore.