

Sweet Grass Rest Area

Sweet Grass, Montana

Architect: DT Architecture

A rest area is a unique oasis in Montana. Across some vast expanses of the state, it may be the only comfortable place for miles to stop, stretch your legs and have a picnic. This isolation, which can be powerful and inspiring, can also present issues of energy and natural resource demands. The more the buildings systems are self-sustaining, the better. Sweet Grass Rest Area addresses the safety issues that are needed in an isolated environment by providing a facility fully visible from the parking lot, and a common lobby for men and women. Appropriate materials were selected for a remote site — materials that are locally available and visually fitting.

The Montana Department of Transportation (MDoT) commissioned DT Architecture of Helena, Montana, as the building design consultant to Stelling Engineers, to design a new prototype rest area for Montana. Sweet Grass was chosen as the first location to build this new “prototype” rest area. Determined to provide user-friendly, safe and pleasing rest areas in the state, MDoT conducted a survey of rest area users to assess the issues of safety, aesthetics and energy efficiency. The design is a response to these issues.

Through the concept of a “local wall”, DT Architecture created a rest area that has a consistently recognizable form and yet would make exciting and unexpected transformations across the state. All of the functions that are normally strewn about the site at a rest area are organized along this “local wall” with the rest area



Photos Courtesy of DT Architecture

building itself being completely earth sheltered behind the wall. The structure is one that can be replicated across the region and with changes in material, fit comfortably into the vast diversity of landscapes found in Montana.

In reflecting the coloring of materials found on site in Sweet Grass, the retaining wall is a colored pre-cast concrete with sandstone inserts. A great deal of sandstone was found in excavation and became landscaping elements throughout the site. Native grasses can be viewed through openings in the upper portion of the wall, as well as on trails that take visitors through a diversity of landscape

features representative of the Sweet Grass area.

A ground-source heat pump running underneath the filled berm provides stable temperatures for heating and cooling the building. Shaded southern-exposure windows allow for winter heat-gain and summer shading.

The 450-square-foot lobby houses area information and maps, drinking fountains and access to the eight single-use restrooms. The lobby and each restroom door are fully visible from the parking area through a glass wall. Four of the eight restrooms are handicapped accessible, two are designated unisex, three are women’s and three are men’s. All restrooms are child friendly with four having diaper-changing stations and all having baby seats.

Situated on the United States side of the Canadian border, the rest area gives travelers a safe, earthen refuge from the harsh environment, a place that goes beyond the simple call of a “rest stop”.

MANUFACTURERS/SUPPLIERS

DIV 07: *Waterproofing:* MiraDrain® by Carlisle; *Insulation:* Atlas Roofing Corporation; *Metal:* Integris Metals.

DIV 08: *Metal Doors & Frames:* Curries; *Overhead Doors:* Raynor; *Entrances & Storefronts:* Vistawall; *Glazing:* PPG; *Hardware:* McKinney, Schlage, Sargent, Pemko.

DIV 09: *Tile:* Crossville Ceramics; *Paint:* Sherwin Williams.



ARCHITECT

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Helena, MT 59601
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FILE UNDER

CIVIC
Sweet Grass, Montana

CONSTRUCTION TEAM

GENERAL CONTRACTOR: Swank Enterprises

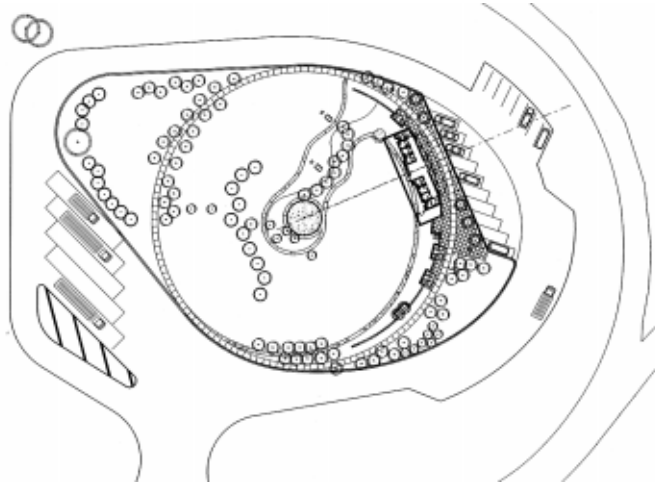
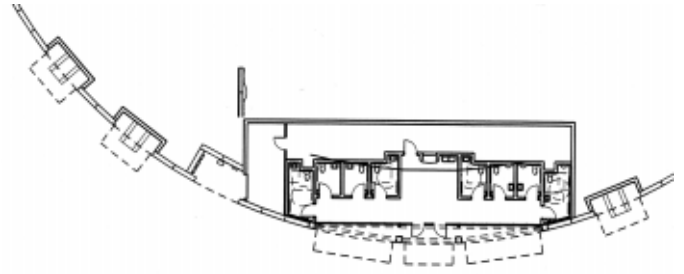
615 Pondera, Valier, MT 59486

STRUCTURAL ENGINEER: Stelling Engineers

600 Central Avenue, #211, Great Falls, MT 59401

LANDSCAPE ARCHITECT: Fischer & Associates

2815 Montana Avenue, Billings, MT 59101



GENERAL DESCRIPTION

SITE: 5.9 acres, 257,082 square feet.

NUMBER OF BUILDINGS: One; rest area facility that is integral with a long retaining wall including picnic shelters and planting area.

BUILDING SIZES: Subterranean, 1,852; covered walkways, 330; total, 2,182 square feet*.

BUILDING HEIGHT: Subterranean 18'3 1/2"; total, 18' 3 1/2".

BASIC CONSTRUCTION TYPE: V-N/New.

FOUNDATION: Concrete stemwall, footings.

EXTERIOR WALLS: Precast, retaining wall.

ROOF: Membrane, metal.

FLOORS: Tile.

INTERIOR WALLS: Burnished concrete block.

SWEET GRASS REST AREA

Date Bid: Apr 2001 • Construction Period: June 2001 to Mar 2002 • Total Square Feet: 2,182*

C.S.I. Divisions (1 through 16)	COST	% OF COST	SQ.FT. COST	SPECIFICATIONS
BIDDING REQUIREMENTS	—	—	—	—
1. GENERAL REQUIREMENTS	58,240	11.17	28.87	1 Measurement & payment, coordination, project meetings, submittals, quality control, construction facilities & temporary controls, material & equipment, facility startup/commissioning, contract closeout.
3. CONCRETE	127,000	24.36	62.96	3 Formwork, reinforcement, cast-in-place, precast.
4. MASONRY	38,000	7.29	18.84	4 Unit, stone.
5. METALS	46,000	8.83	22.81	5 Structural metal framing, fabrications.
6. WOOD & PLASTICS	2,000	0.38	0.99	6 Rough carpentry, finish carpentry.
7. THERMAL & MOIST. PROTECT	16,400	3.15	8.13	7 Waterproofing, insulation, manufactured roofing & siding, flashing & sheet metal, joint sealers.
8. DOORS & WINDOWS	31,000	5.95	15.37	8 Metal doors & frames, special doors, entrances & storefronts, hardware, glazing.
9. FINISHES	26,600	5.10	13.19	9 Gypsum board, tile, special ceiling surfaces, painting.
10. SPECIALTIES	15,000	2.88	7.44	10 Visual display board, identifying devices, toilet & bath accessories.
11. EQUIPMENT	—	—	—	11 —
12. FURNISHING	—	—	—	12 —
13. SPECIAL CONSTRUCTIONS	—	—	—	13 —
14. CONVEYING SYSTEMS	—	—	—	14 —
15. MECHANICAL	120,000	23.02	59.49	15 Basic materials & methods, insulation, plumbing, heat generation, refrigeration, heat transfer, air distribution, controls, testing, adjusting & balancing.
16. ELECTRICAL	41,000	7.87	20.33	16 Basic materials & methods, service & distribution, lighting.
TOTAL BUILDING COST	521,240	100%	\$258.42**	
2. SITE WORK	320,260			2 Demolition, preparation, earthwork, paving & surfacing, utility piping materials, water distribution, sewerage & drainage, power & communications, improvements, retaining wall, landscaping. Included in Site Work.
LANDSCAPING & OFFSITE WORK	—			
TOTAL PROJECT COST	841,500			(Excluding architectural and engineering fees)

UPDATED ESTIMATE TO JUNE 2003: \$280.40 PER SQUARE FOOT

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* These calculations are based on covered walkways divided in half, giving the total square footage to calculate from of 2,017, according to AIA document D-101.

** Montana Department of Transportation Project at remote site with nearest point of supply 120 miles away.