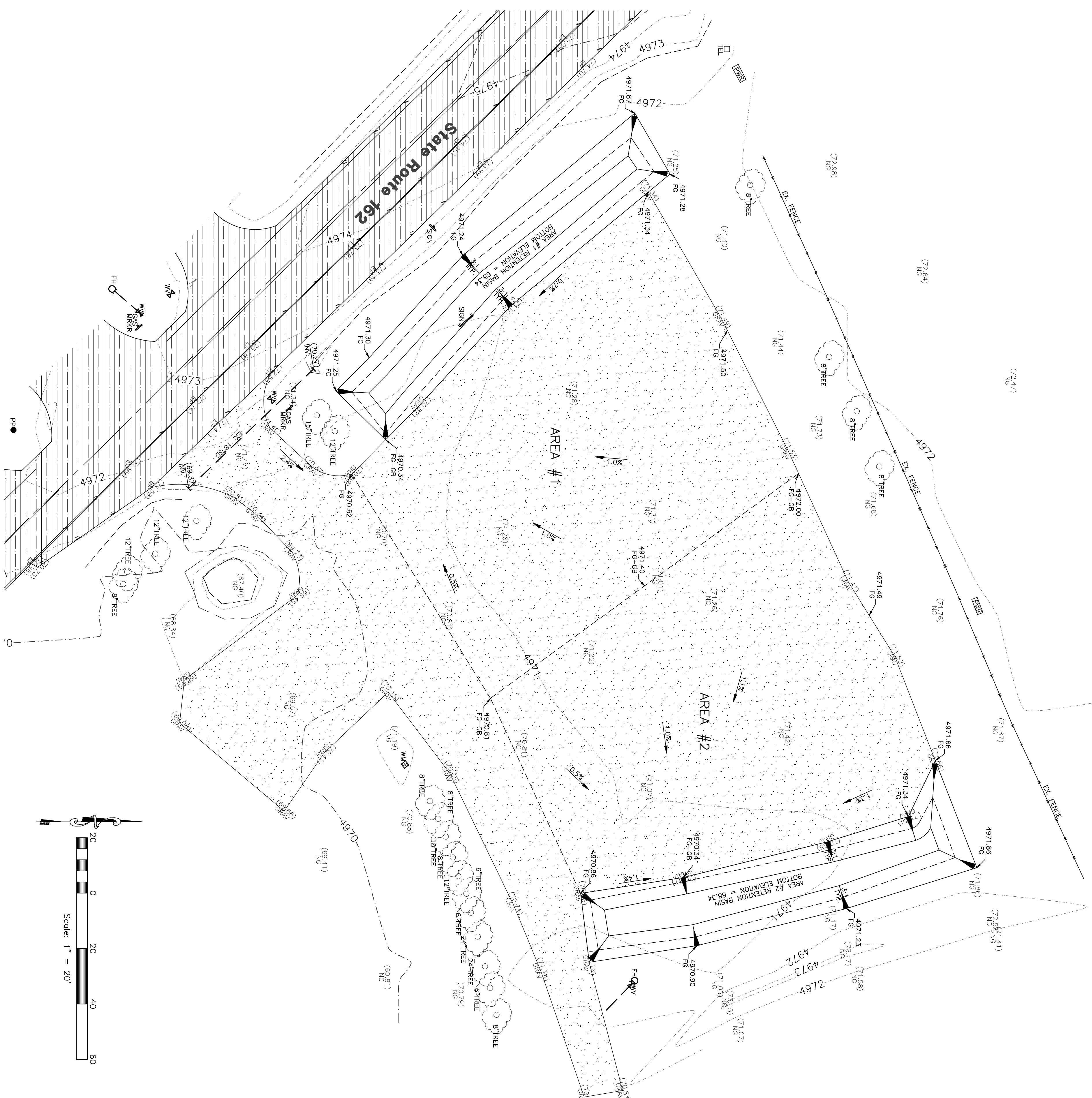


Powder Mountain Park & Ride Grading Plan

WEBER COUNTY, UTAH
OCTOBER, 2011



Legend

| | |
|-------|--------------------------------|
| FG | = FINISHED GRADE |
| FW | = PROPOSED CULINARY WATER LINE |
| EX-W | = EXISTING CULINARY WATER LINE |
| SD | = PROPOSED STORM DRAIN LINE |
| EX-SD | = EXISTING STORM DRAIN LINE |
| X-X | = FENCE LINE |
| O | = EXISTING FIRE HYDRANT |
| PP | = EXISTING MANHOLE |
| SD | = EXISTING GATE VALVE |
| W | = EXISTING WATER METER |
| WM | = EXISTING WATER METER |
| W | = CULINARY WATER |
| WM | = WATER METER |
| EP | = EDGE OF PAVEMENT |
| --- | = SIGN |
| --- | = STRAFT LIGHT |
| --- | = EXISTING PAVEMENT |
| --- | = EXISTING GRAVEL |

Storm Runoff Calculations

Powder Mountain Park & Ride Area #1
10/26/2011

The following runoff calculations are based on the Rational - Hershby - Duration Method. Area 1, using a 100 year storm.

Runoff from water that has been collected from the different parts of a catchment, the difference between the two quantities will be retained in a holding pond and will percolate into the natural ground at 60.00 minutes per inch.

The calculations are as follows:

| | |
|---|------------|
| 1. Runoff from the undeveloped existing land: | C = 0.2 |
| Runoff Coefficient | 0.2 |
| Runoff Quantity | 0.4 |
| Area | 0.34 ACRES |
| Q _{UD} = CVA = | 0.02 CFS |
| (calc. release rate per acre. min) | |

| | |
|------------------------------------|----------|
| 2. Runoff from developed land: | C = 0.2 |
| Runoff Coefficient | 0.2 |
| Runoff Quantity | 0.0 |
| Area | 0 |
| Q _{UD} = CVA = | 0.02 CFS |
| (calc. release rate per acre. min) | |

| | |
|------------------------------------|----------|
| 3. Detention Basin: | C = 0.00 |
| Runoff Coefficient | 0.00 |
| Runoff Quantity | 0 |
| Area | 0 |
| Q _{UD} = CVA = | 0.02 CFS |
| (calc. release rate per acre. min) | |

The capacity of the retention basin is calculated as the maximum difference between the volume flowing in and the volume flowing out.

The outflow from the retention basin is limited to outflow if undeveloped.

Use 0.02 cfs for Q outflow

Retention Area of Basin 2,492 cubic feet

Excavation out of Basin (randomly)(7/25/11)(minutes)/Area of Basin 0.023

Storm Runoff Calculations

Powder Mountain Park & Ride Area #2
10/26/2011

The following runoff calculations are based on the Rational - Hershby - Duration Method. Area 2, using a 100 year storm.

Runoff from water that has been collected from the different parts of a catchment, the difference between the two quantities will be retained in a holding pond and will percolate into the natural ground at 60.00 minutes per inch.

The calculations are as follows:

| | |
|---|------------|
| 1. Runoff from the undeveloped existing land: | C = 0.2 |
| Runoff Coefficient | 0.2 |
| Runoff Quantity | 0.4 |
| Area | 0.35 ACRES |
| Q _{UD} = CVA = | 0.02 CFS |
| (calc. release rate per acre. min) | |

| | |
|------------------------------------|----------|
| 2. Runoff from developed land: | C = 0.2 |
| Runoff Coefficient | 0.2 |
| Runoff Quantity | 0.0 |
| Area | 0 |
| Q _{UD} = CVA = | 0.02 CFS |
| (calc. release rate per acre. min) | |

| | |
|------------------------------------|----------|
| 3. Detention Basin: | C = 0.00 |
| Runoff Coefficient | 0.00 |
| Runoff Quantity | 0 |
| Area | 0 |
| Q _{UD} = CVA = | 0.02 CFS |
| (calc. release rate per acre. min) | |

The capacity of the retention basin is calculated as the maximum difference between the volume flowing in and the volume flowing out.

The outflow from the retention basin is limited to outflow if undeveloped.

Use 0.02 cfs for Q outflow

Retention Area of Basin 2,626 cubic feet

Excavation out of Basin (randomly)(7/25/11)(minutes)/Area of Basin 0.023

AREA #1 DETENTION VOLUME CALCULATIONS
HIGH WATER AREA (69.84) = 2,346 S.F.
BOTTOM AREA (68.34) = 989 S.F.
1.782 S.F. x 1.5' DEEP = 2,673 C.F.
2,498 C.F. > 2,673 C.F. (RECD) = OK

AREA #2 DETENTION VOLUME CALCULATIONS
HIGH WATER AREA (69.84) = 2,424 S.F.
BOTTOM AREA (68.34) = 714 S.F.
1.782 S.F. x 1.5' DEEP = 2,673 C.F.
2,673 C.F. > 2,626 C.F. (RECD) = OK

Engineer's Notice To Contractors

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED FROM AVAILABLE INFORMATION PROVIDED BY THE FIELD BY THE CONTRACTOR. SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT, THE CONTRACTOR IS REQUIRED TO CONTACT THE UTILITIES COMPANIES AND TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ANY UTILITY LINES SHOWN, AND ANY OTHER LINES OBTAINED BY THE CONTRACTOR'S RESEARCH, AND OTHERS NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

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Blue Sticks Location Center
Call Toll Free
1-800-662-4111
Two Working Days Before You Dig

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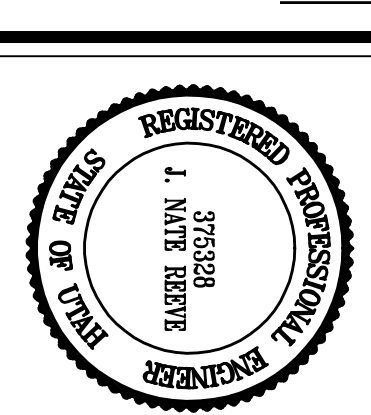
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| REVISIONS | DESCRIPTION |
|-----------|-------------|
| DATE | |
| | |
| | |
| | |

Powder Mountain Park & Ride

WEBER COUNTY, UTAH

Street Cross-Sections/ Master Legend/Notes



Project Info.
Engineer: GREGG GREER
Drafter: S. KATIE REEVE, P.E.
R. HANSEN
Begin Date: OCTOBER 26, 2011
Name: POWDER MOUNTAIN PARK & RIDE
Number: 5837-03

Sheet 1 of 1
1 Sheets