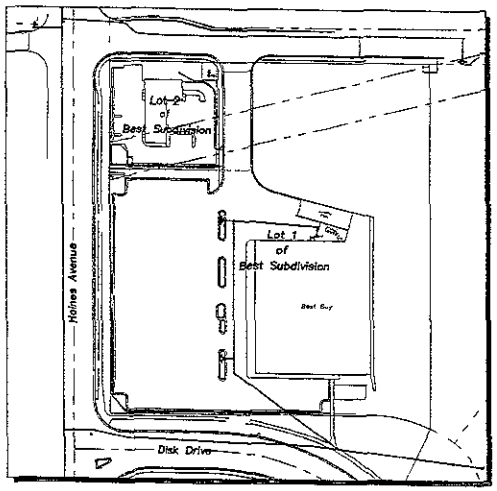
07PD064

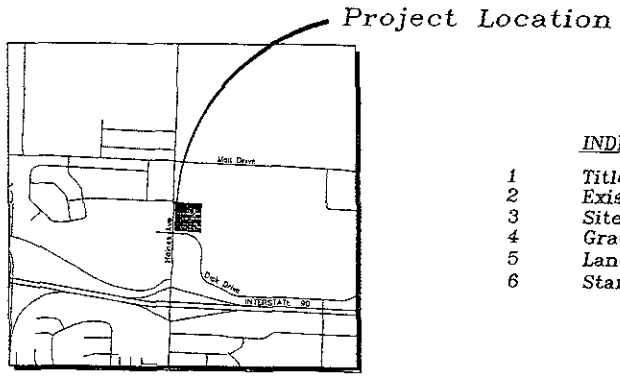
Grease Monkey

Lot 2 of Best Subdivision

Located in the NW1/4 NE1/4 of Section 25, T2n, R7E, BHM
Rapid City, Pennington County, South Dakota



Fire Hydrant Location Map



Project Location Map – 1" = 1000'

INDEX OF SHEETS

Stormwater Pollution Prevention Plan
DRAINAGE AND EROSION CONTROL NOTES

All grading and erosion control shall be in accordance with the City of Rapid City Standard Specifications for Public Works Construction (2007 edition).

The approach location shown hereon shall serve as Rock Construction Entrance and be maintained in accordance with the Standard Specifications.

Soil stockpiles (as necessary) shall be located such that stormwater containment to the west/south will be sufficient.

The Detention Cell at the southwest corner of the site shall be constructed first and the area surrounding it shall serve as a temporary sediment basin during the construction process. This basin shall be mucked and maintained as necessary to prevent stormwater pollution discharge.

All disturbed unpaved areas shall be reseeded and maintained until vegetation is established. Stormwater pollution prevention measures (silt fence, Rock Construction Entrances (as practical), etc) shall remain in place until vegetation is established and paving is complete.

The site currently drains from the northeast to the west/southwest. Drainage is then focused into an existing area inlet. The proposed grading plan splits the historic pattern but stormwater is focused into curb and gutter on the west and south sides of the site where discharge occurs into a detention cell whose outfall connects to the existing area inlet.

The project consists of an oil change /carwash facility with associated parking and circulation. The proposed Site realizes a net gain in impervious surface which is offset by the detention cell. See calculations for detention cell attached hereto.

UTILITY CONSTRUCTION NOTES

All utility work shall be in accordance with the City of Rapid City Standard Specifications for Public Works Construction (2007 edition)

Existing utility lines and appurtenances (power, telco and natural gas) shall be utilized for the proposed building. The proposed route and construction activity shall be coordinated with service providers.

Sewer and water services shall be constructed as shown hereon

Sewer service includes a sand/oil interceptor as shown. Cleanouts shall be installed at maximum 75' intervals and at all bend points. Cleanouts which fall in the parking/circulation areas shall have a traffic rated cover

Sewer and water services connect to existing mains in the access easement as shown hereon.

PAVING NOTES

Reinforced approaches are to be constructed in accordance with the City of Rapid City Standard Specifications for Public Works Construction (2007 edition)

Paving Sections, reinforcing schedules and maximum panel sizes as enumerated in the Geotechnical Exploration shall be followed.

GENERAL NOTES

All work shall be in accordance with the City of Rapid City Standard Specifications for Public Works Construction (2007 edition)

Contractor shall be responsible for all permit aquisition, and permit compliance

Contractor shall prepare and submit a traffic control plan prior to commencement of work within the right-of-way or shared access easements

All signage and traffic control measures within the right-of-way and shared access easements shall be in conformance with the MUTCD (current edition)

ONE CALL
BEFORE DIGGING
1-800-781-7474

Fisk Land Surveying & Consulting Engineers, Inc.
1022 Jackson Street - P.O. Box 8154
Rapid City, South Dakota 57709
(605) 348 1538 (ph) (605) 341-1112 (fx)
fisklsec@rushmore.com

Title Sheet – Grease Monkey
Lot 2 of Best Subdivision
located in the NW1/4 NE1/4 of Section 25, T2N, R7E, B.H.M.
Rapid City, Pennington County, South Dakota

Surveyed by	BLMR
Date	6/21/07
Drawn by	BLRWF
Date	6/8/07
Checked by	WF
Revisions	
Project No.	07-06-05

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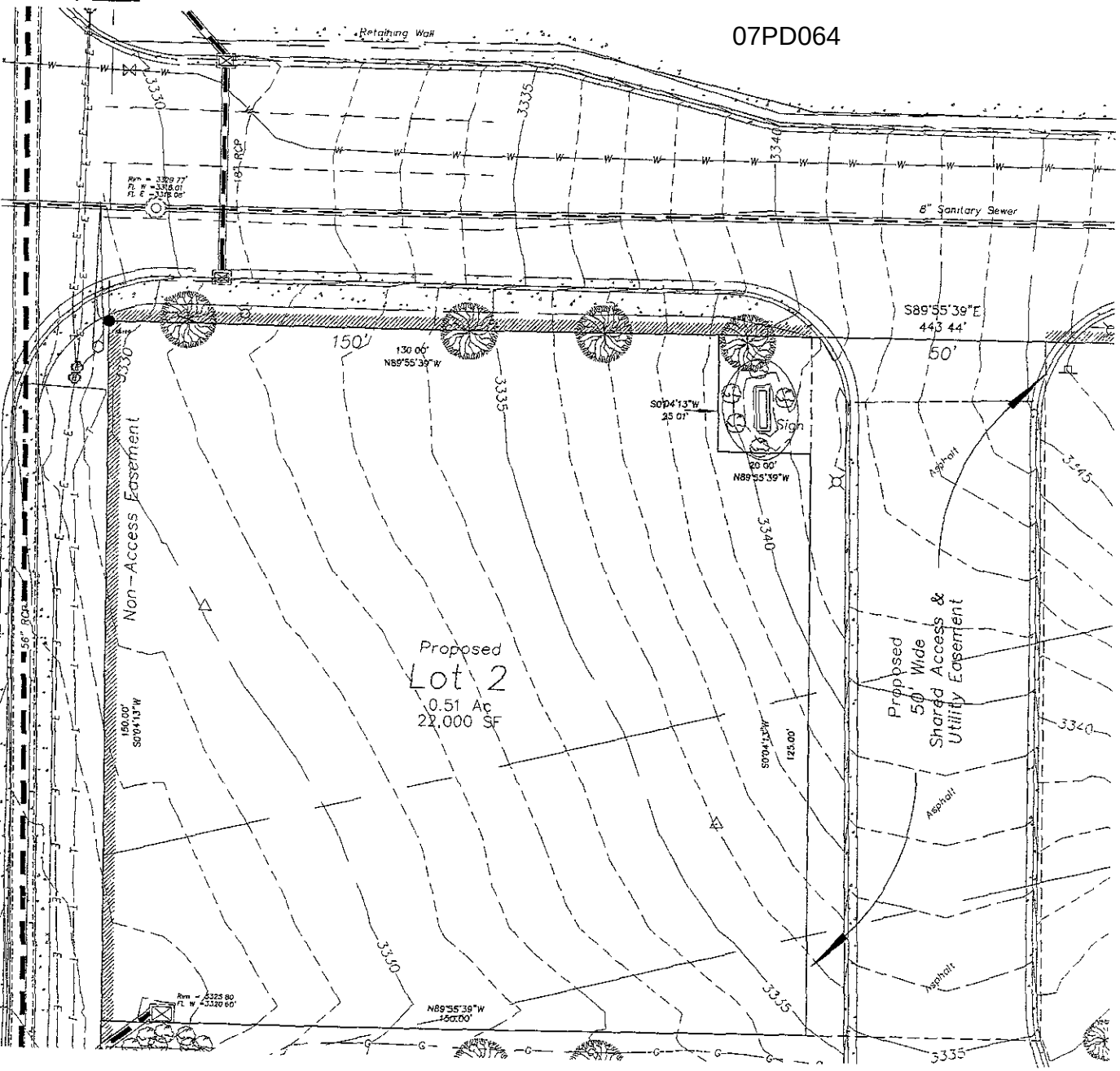
07PD064



0 10 20

1" = 10'
June 24, 2007

SURVEYOR'S NOTES

Utilities shown are from visual inspection, sketches provided by individual service providers and Utility Locates performed by South Dakota One Call, Ticket Number 071640421. The actual location of utilities and service lines may vary from the information shown hereon. We assume no liability for utilities and services that are not marked or are incorrectly defined by utility locators.

Bench Mark: STA 2039 3336.6 NGVD 29

Basis of Bearings: GPS Observation

LEGEND

- = Sanitary Sewer Manhole (Unless noted)
- = Sanitary Sewer Service Line Cleanout
- = Fire Hydrant
- = Water Valve
- = Curb Stop
- = Utility Pole
- = Light Pole
- = Street Light
- = Guy Wire
- = Electric Meter
- = Electric Box
- = Traffic Light
- = Telecommunications Pedestal
- = Natural Gas Meter
- = Sign
- = Mail Box
- = Bollard
- = Fence Line
- = Underground Electric
- = Overhead Utility Line
- = Underground Telephone
- = Storm Sewer Line
- = Sanitary Sewer Line
- = Water Main
- = Natural Gas Line
- = Found Survey Monument as noted
- = Set Rebar with cap marked "RW Fisk 6585"
- = Control Point
- = Tree (Coniferous)
- = Tree (Deciduous)
- = Bush

Fisk Land Surveying & Consulting Engineers, Inc.
1022 Main Street - P.O. Box 8154
Rapid City, South Dakota 57709
(605) 348-1538 (ph) (605) 341-1112 (fx)

PROFESSIONAL ENGINEER & LAND SURVEYOR
REGISTERED
RANDY L. FISK
SOUTH DAKOTA

Existing Topography
Lot 2 of Best Subdivision
located in the NW1/4 NE1/4 of Section 25, T2N, R7E, B.H.M.
Rapid City, Pennington County, South Dakota

Surveyed by	BL,ML
Date	6/21/07
Drawn by	BL,RWF
Date	6/24/07
Checked by	RF,MF

Revisions

Project No
07-06-05

Sheet
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of

07PD064

Grease Monkey - detention volume

Q_{10} undeveloped

$A = 150' \times 150' = 22,500'^2 = 0.516$ Ac.

$c = 0.4$ i_{10} for t_c of 5 min $= 6.37$

$Q_{10} = 0.4 \times 6.37 \times 0.516 = 1.31$ cfs.

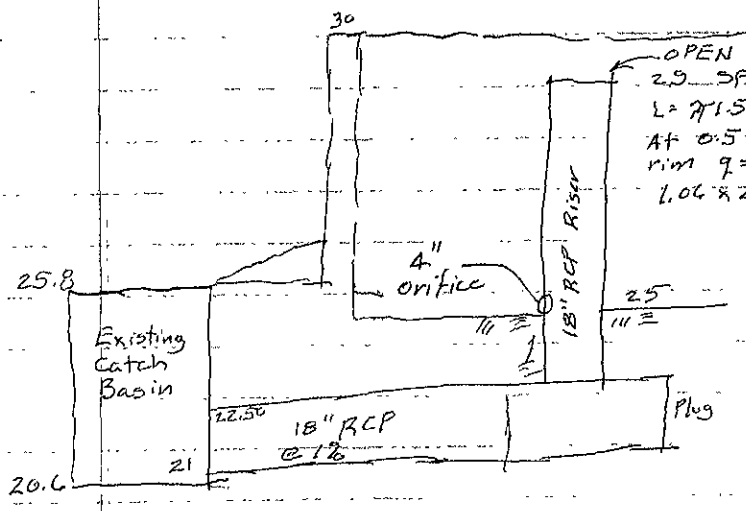
c: 72% hard $= 0.85$

Q_p	i_{100}	
5	9.48	4.15 cfs
10	7.50	3.29 "
15	6.26	2.74 "
20	5.39	2.36 "
30	4.49	1.96 "

$V_s = 60 (Q_p - Q_o)$

5	$60 \times 5 (4.15 - 1.31)$	$= 852$
10	$60 \times 10 (3.29 - 1.31)$	$= 1188$ ~~1444~~
15	$60 \times 15 (2.74 - 1.31)$	$= 1287$ ←
20	$60 \times 20 (2.36 - 1.31)$	$= 1260$
30	$60 \times 30 (1.96 - 1.31)$	$= 1170$

PROFESSIONAL ENGINEER & LAND SURVEYOR
REG. NO. 1771
WARREN L. FISK
4/6/07
SOUTH DAKOTA



4" orifice $h = 3.83$

$V_j = \sqrt{3.83(2.9)} = 15.7$

$Q = 1.37$ cfs $= Q_{100}$

18" @ 1% carries 11+ cfs. full