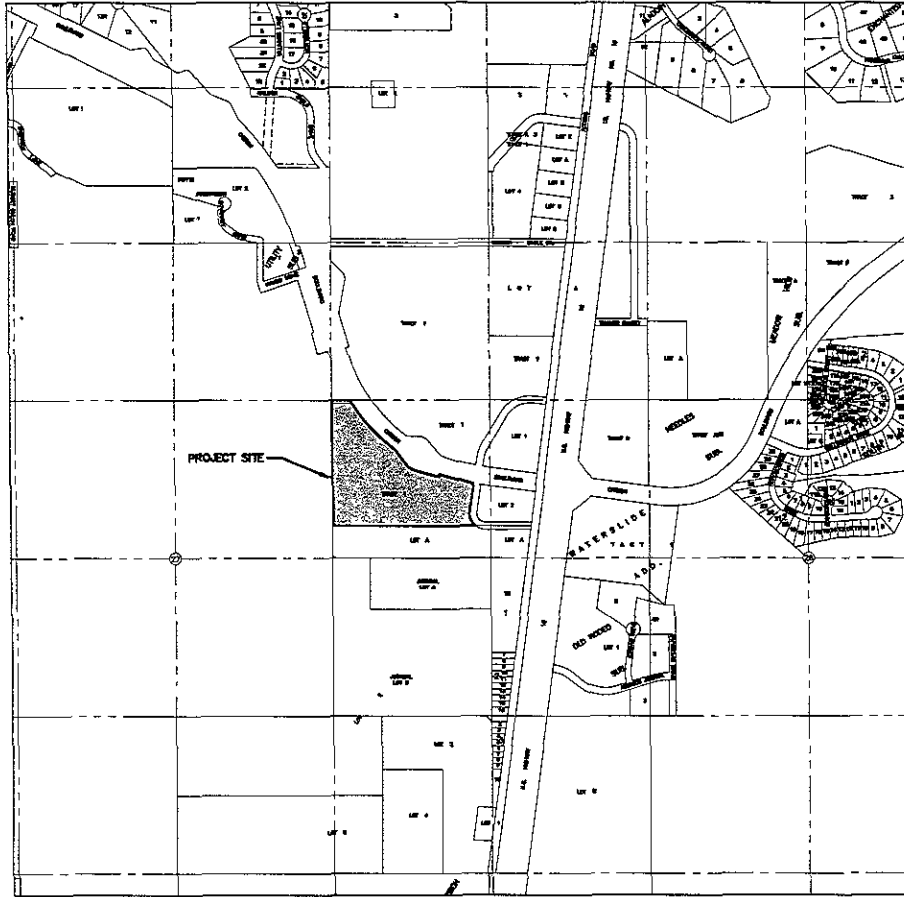


PROPOSED TLC SUBDIVISION

PHASE 1 PLATTING RAPID CITY, SOUTH DAKOTA



VICINITY MAP
SCALE 1" = 500'

INDEX OF SHEETS

1. TITLE SHEET
2. NOTES & DETAILS
3. GRADING PLAN
- 4.-5. PLAN & PROFILE

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Management Department



| | |
|--------------|-----------------------------|
| File Number: | 5001 |
| Location: | NE1/4 SEC 27, T1N, R7E, B2W |
| Surveyed By: | DG/pml/CS/MS |
| Scale: | 1/4" = 500' SEC 200 |
| Designed By: | CS |
| Drawn By: | KLS/PS |
| Checked By: | JD |

PROPOSED TLC SUBDIVISION
PHASE 1 PLATTING
RAPID CITY, SD

| |
|-----------------|
| Revision / Date |
| Sheet Name: |
| TITLE SHEET |
| Sheet Number |

CONSTRUCTION NOTES:

GENERAL NOTES:

1. THE CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS PRIOR TO BEGINNING WORK.
2. ALL EXISTING UTILITIES MAY NOT BE SHOWN ON THE LOCATION MAPS AND UTILITIES LOCATED PRIOR TO BEGINNING WORK. THE CONTRACTOR IS RESPONSIBLE TO HAVE ALL UTILITIES LOCATED PRIOR TO BEGINNING WORK.
3. PROVIDE TRAFFIC CONTROL DURING CONSTRUCTION IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PROVIDE TRAFFIC PLAN TO CITY FOR APPROVAL.

REGULATIONS AND DETAILS TO BE USED:

1. UNLESS OTHERWISE NOTED OR SPECIFIED ALL WORK SHALL COMPLY WITH THE 2007 EDITION OF THE CITY OF RAPID CITY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. UNLESS OTHERWISE SHOWN OR NOTED ALL STANDARD DETAILS SHALL BE PER THE 2000 EDITION OF THE CITY OF RAPID CITY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

UTILITY SERVICE LINES:

1. UNLESS OTHERWISE NOTED IF THE POWER SERVICE LINES SHALL BE CONSTRUCTED TO SERVE EACH LOT. TENTATIVE LOCATIONS ARE SHOWN ON THIS DRAWING HOWEVER THE FINAL LOCATION OF EACH SERVICE SHALL BE DETERMINED BY THE OWNER. SUMP DEVICES TO BE INSTALLED AT LOWEST GRADE UNLESS OTHERWISE APPROVED BY OWNER. MARK END OF SERVICE SERVICE LINES WITH POST.
2. WATER SERVICE LINES ARE NOT BEING CONSTRUCTED WITH THIS PROJECT. WATER SERVICE LINES WILL BE CONSTRUCTED BY OTHERS AT TIME OF LOT DEVELOPMENT.

WATER MAIN JOINT AND FITTING RESTRAINT:

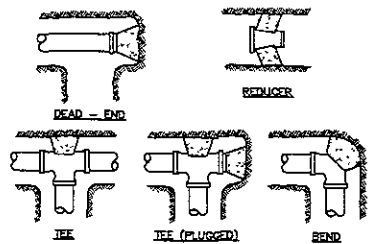
1. CONCRETE THRUST RESTRAINTS AND JOINT RESTRAINING DEVICES SHALL BE PER SECTION 610.00 AND SUBJECT OF THE CITY OF RAPID CITY STANDARD SPECIFICATIONS.

GRADING:

1. THE GRADING PLAN PREPARED FOR SPECIAL GRADING AND BASIC STORM WATER DRAINAGE PATTERNS, THE SUBGRADE, LAND DEVELOPMENT CONTRACTOR, OR PERSONAL LOT DEVELOPER SHALL PROVIDE FOR DETAIL GRADING AND ADJUSTATE STORM WATER DRAINAGE AWAY FROM AND AROUND THE IMPROVEMENTS OR CONSTRUCTION OF EACH LOT OR PARCEL OF GROUND.
2. ALL GRADING FOR STREETS SHALL COMPLY WITH 2007 CITY OF RAPID CITY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. GRADING OUTSIDE OF THE STREET RIGHT OF WAY SHALL COMPLY WITH THE SAME SPECIFICATION AND REQUIREMENT SPECIFICATIONS REQUIRED FOR STREETS.
3. THE SITE GRADING, ELEVATION AND PLACEMENT OF FILL SHALL BE IN ACCORDANCE WITH CURRENT REGULATIONS AND PROCEDURES FOR SUBMISSION, CONSTRUCTION IN RAPID CITY, SD, AND AS SHOWN ON THIS DRAWING. THE CONTRACTOR SHALL OBTAIN A FULL GEOTECHNICAL EVALUATION OF THIS SITE. FIVE INC. HAS COMPLETED LIMITED GEOTECHNICAL INVESTIGATION W/IN THE CITY OF RAPID CITY. THE CONTRACTOR SHALL TAKE THE HIGHEST NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED OF THE ADEQUACY OF SOIL AND FOUNDATION CONDITIONS FOR BUILDINGS, STREETS, UTILITIES AND OTHER STRUCTURAL APPOINTMENTS IRRESPECTIVE OF THE ADEQUACY OF SITE GRADING AND SOIL PLACEMENT OPERATIONS.

EROSION CONTROL:

1. ALL AREAS EXCEPT THOSE AREAS TO BE PAVED, THAT ARE DISTURBED DURING CONSTRUCTION SHALL BE SEEDED, FERTILIZED AND MULCHED FOR EROSION CONTROL, AS DIRECTED BY THE OWNER.
2. TEMPORARY EROSION CONTROL MEASURES TO BE MAINTAINED UNTIL PERMANENT VEGETATION GROWTH HAS BEEN ACHIEVED.
3. SEE ADDITIONAL NOTES ON GRADING PLAN.



1. Place 6 in. polyethylene between concrete and fitting.
2. All thrust blocking shall be made-to-place concrete having a minimum 28-day compressive strength of 4000 psi.
3. Thrust blocking shall be cast against undisturbed earth. Thrust block orientation shall be such that the center of the fitting corresponds with the center of the thrust block.
4. The horizontal dimension of the bearing area shall be between 0.8 and 1.25 times the vertical dimension.

TABLE Pounds of Thrust per 100 psi of Water Pressure
(Minimum bearing area is six sq. ft. for minimum thrust block based on 150 psi and full bearing capacity of 1000 pounds per square foot)

| Pipe Size | The Dead End at In-Line Valve | 90° Bend | 45° Bend | 22 1/2° Bend | 11 1/4° Bend |
|-----------|-------------------------------|-------------|-------------|--------------|--------------|
| 4" | 2200(2.7) | 3600(4.5) | 2500(3.1) | 1900(1) | 800(0.8) |
| 6" | 3600(3.6) | 6000(6.0) | 4300(4.4) | 2200(2.2) | 1200(1.2) |
| 8" | 5600(5.6) | 13600(13.7) | 7300(7.4) | 3700(3.8) | 1900(1.9) |
| 10" | 14900(14.9) | 20800(20.8) | 11100(11.1) | 5700(5.7) | 2900(2.9) |
| 12" | 20800(20.8) | 28100(28.1) | 15700(15.9) | 7900(7.9) | 4000(4.0) |

ADJUST SIZE OF THRUST BLOCK FOR DIFFERENT PRESSURES OR SOIL BEARING CAPACITY.

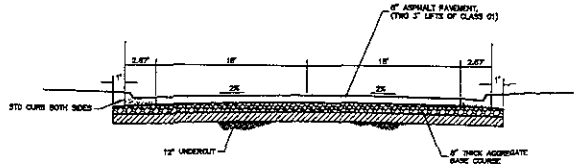
THRUST BLOCK DETAILS
NOT TO SCALE

WATER MAIN JOINT AND FITTING RESTRAINT:

All valves, fittings and pipe joints where the specified restrained length of a valve or fitting must be restrained using the ERSAs, or other, restraining systems. Restrainted lengths were indicated based on a test pressure of 150 psi.

| Min. In-Line Valve Size | Typical (1/2" Overlap) Length on Restrained valves, fittings, elbows | Restrainted Length |
|-------------------------|--|----------------------|
| 12" | 12' x 10' | 30 ft. on Large Pipe |
| 10" | 10' x 10' | |
| 8" | 8' x 8' | |
| 6" | 6' x 6' | |
| 4" | 4' x 4' | |

| Branch Size | Restrainted Length |
|-------------|--------------------|
| 12" | 11' 1/2' |
| 10" | 10' 1/2' |
| 8" | 8' |
| 6" | 6' |
| 4" | 4' |



LES HOLLERS WAY
TYPICAL STREET SECTION
NOT TO SCALE

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3700 Sturgis Road
Rapid City, SD 57705-0817
(605) 342-1111 FAX (605) 342-4422
www.fmgengineering.com



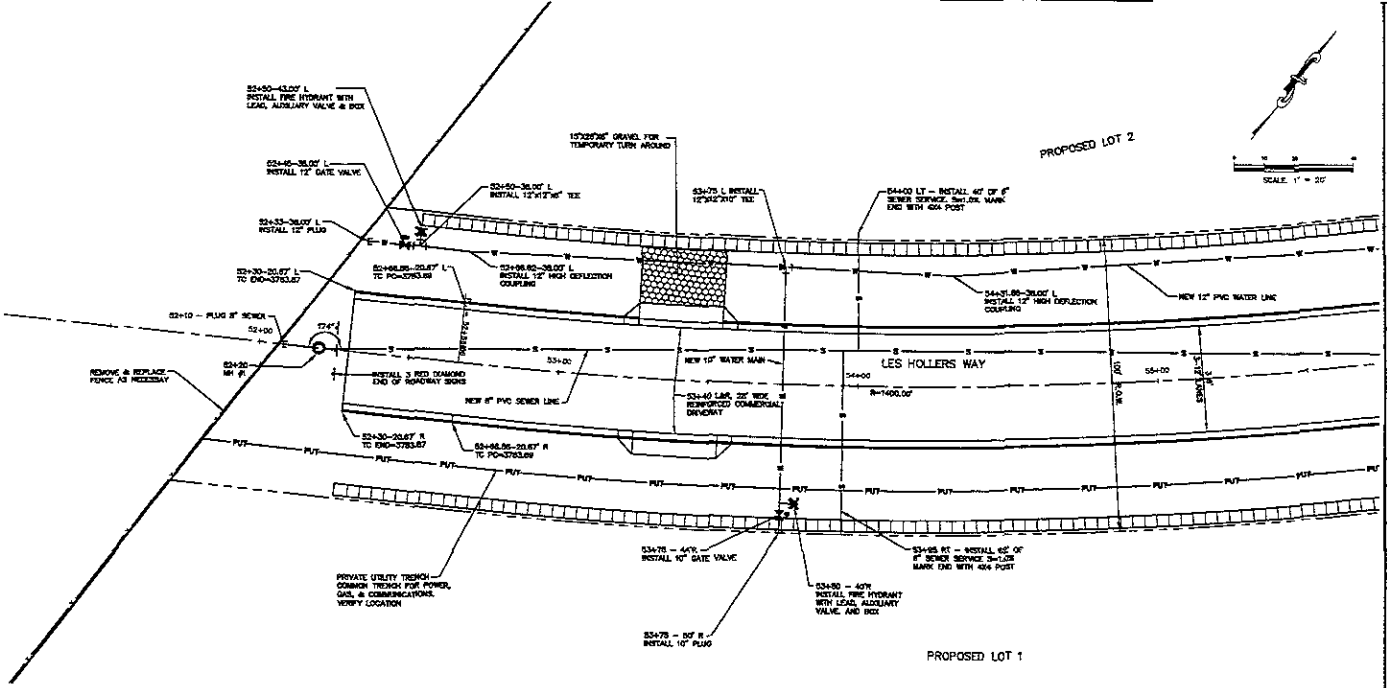
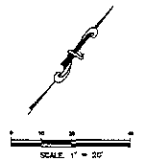
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| Location | NE 1/4 SECTION 27 |
| Drawn By | DR/DAW/02/15 |
| Checked By | KLS/DAW |

PROPOSED TLC SUBDIVISION
PHASE 1 PLATTING
RAPID CITY, SD

Revised / Date
Sheet Name

NOTES & DETAILS

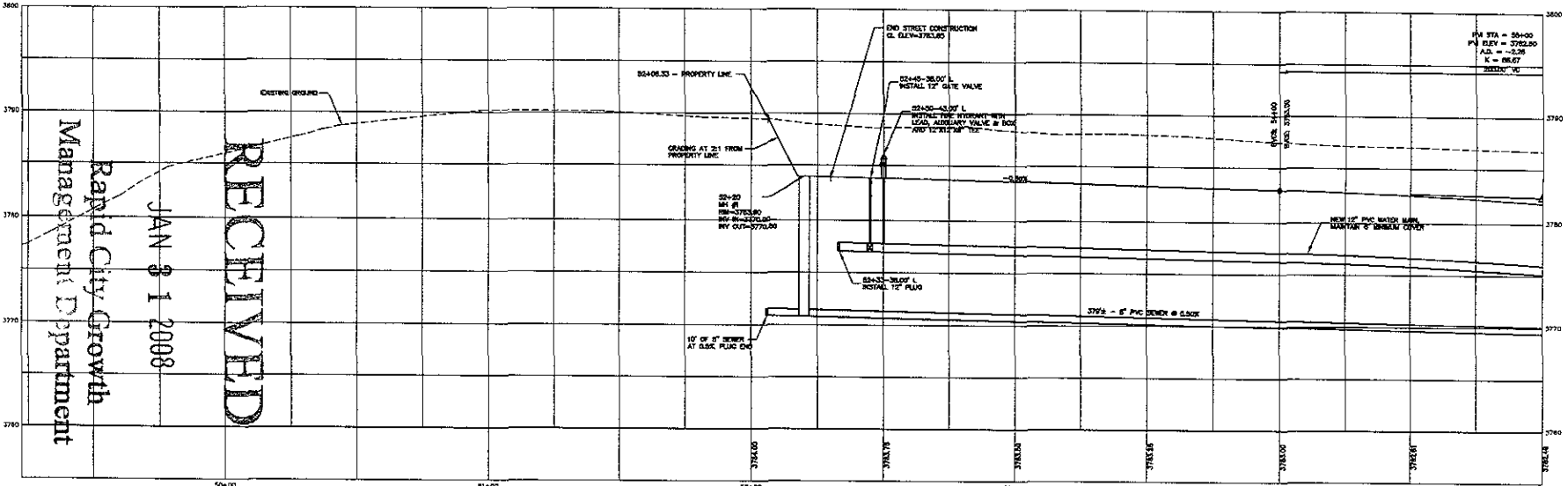
Sheet Number
2 of 5



FMG, Inc.
 3700 Bluffside Road
 Rapid City, SD 57702
 (605) 342-4108 FAX (605) 342-4222
 www.fmgengineering.com

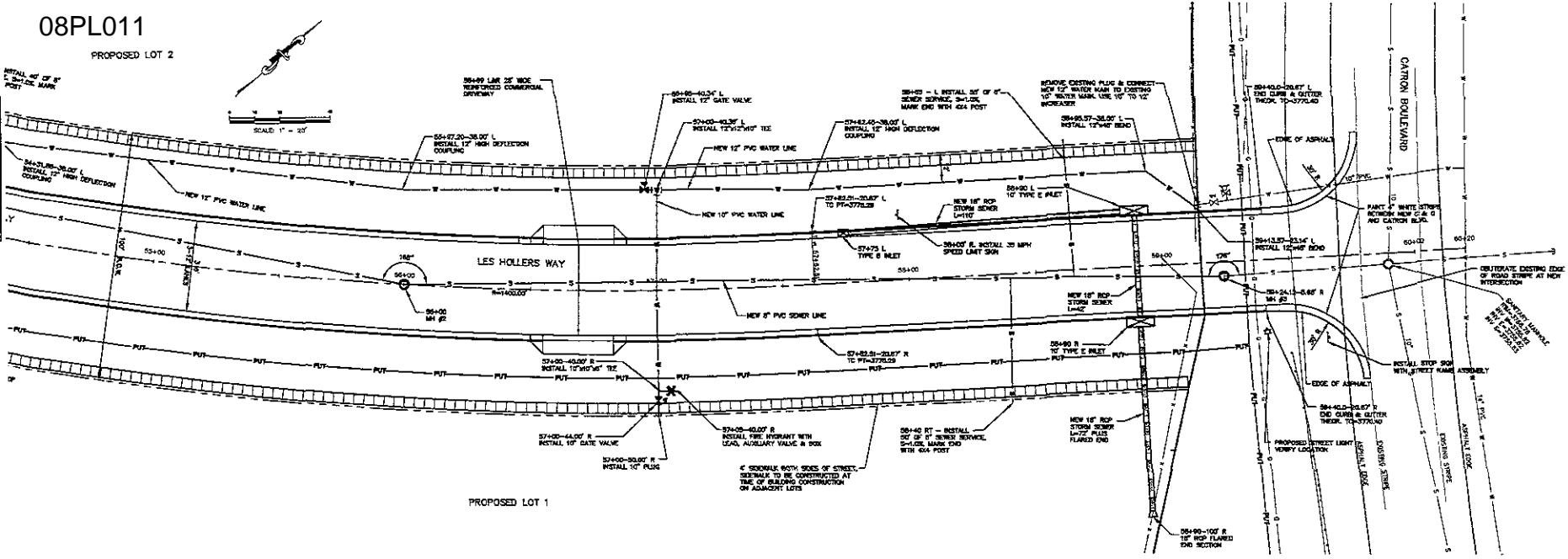
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|-------------|----------------------------------|
| File Number | 2009 |
| Location | REVA SECTION 27 T1N, R7E, S4W |
| Surveyed By | DW/ALJ/CC/RS |
| Date | NOV 2007 - DEC 2007 |
| Designed By | |
| Drawn By | MS/JP |
| Checked By | |

PROPOSED TLC SUBDIVISION
PHASE 1 PLATTING
RAPID CITY, SD



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| Sheet Name | |
| PLAN AND PROFILE | |
| Sheet Number | 4 of 5 |

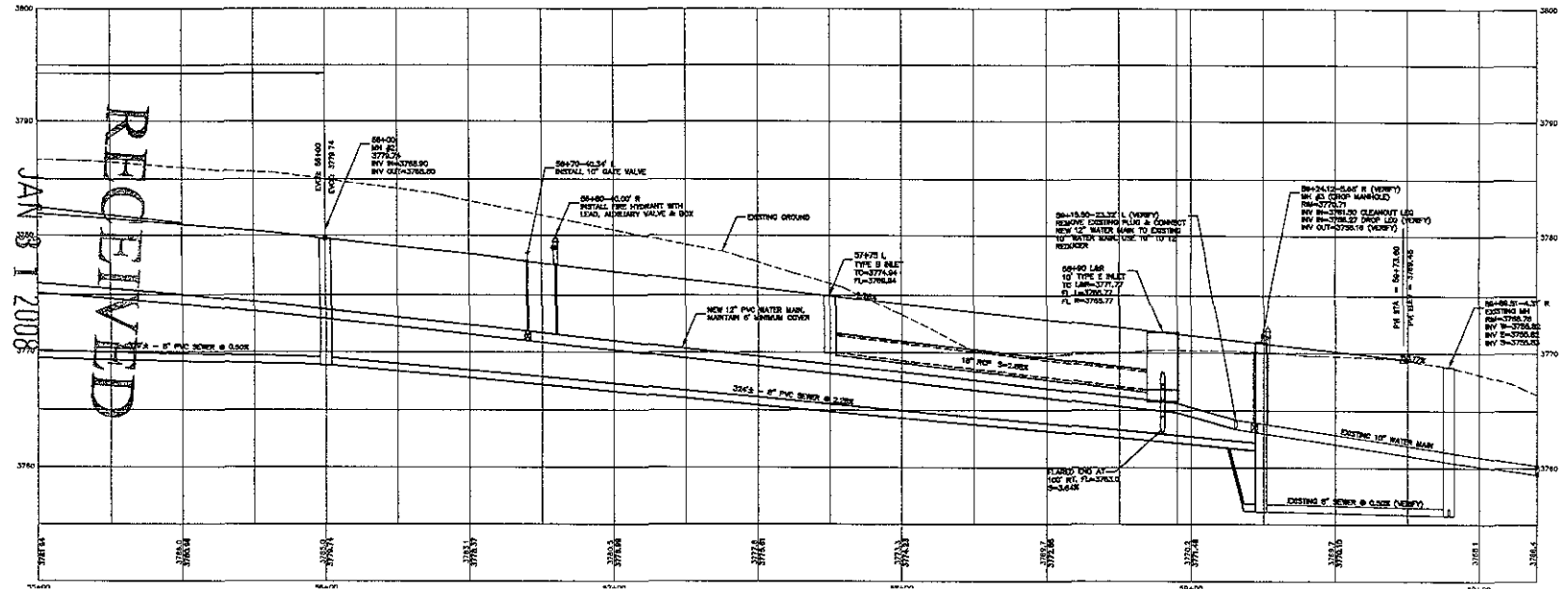


PROPOSED LOT 1

FMG, Inc.
 3700 Glance Road
 Rapid City, SD 57702-0817
 (605) 342-4100 FAX (605) 342-4322
 www.fmgengineering.com

| | |
|-------------|---------------------------------|
| File Number | 2208 |
| Location | HTA SECTION 27 T1N, 27E, 84W |
| Surveyed By | SW/ML/SG/DS |
| Date | 12/07-DEC, 2007 |
| Designed By | JP |
| Drawn By | JP |
| Checked By | JP |

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 RAPID CITY, SD

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|-----------------|------------------|
| Revision / Date | |
| Sheet Name | PLAN AND PROFILE |
| Sheet Number | 5 of 5 |

PRELIMINARY OPINION OF PROBABLE COST SUBDIVISION BOND ESTIMATE
 PHASE 1 PLATTING OF TLC SUBDIVISION, LOTS 1 AND 2 AND LES HOLLERS WAY

Prepared by FMG, Inc., Rapid City, SD
 January 31, 2008

| ITEM NO. | DESCRIPTION | UNIT | ESTIMATED QUANTITY | UNIT COST | EXTENDED COST |
|--|---|------|--------------------|------------|---------------------|
| 1 | Roadway Grading | CU | 12000 | \$2.00 | \$24,000.00 |
| 2 | Asphalt Concrete, Class G, Type 1 | Ton | 1026 | \$89.17 | \$91,488.42 |
| 3 | Base Course | Ton | 1604 | \$20.23 | \$32,448.92 |
| 4 | Gravel Surfacing | Ton | 15 | \$15.98 | \$239.70 |
| 5 | Undercut | CY | 1204 | \$2.70 | \$3,250.80 |
| 6 | Concrete Curb & Gutter | LF | 1420 | \$16.39 | \$23,273.80 |
| 7 | Reinforced Driveway Pavement | SY | 73.3 | \$64.58 | \$4,733.71 |
| 8 | Sidewalk | SF | 5480 | \$5.03 | \$27,564.40 |
| 9 | 10" to 12" Water Main In increaser | EA | 1 | \$527.50 | \$527.50 |
| 10 | 12" PVC Water Main | LF | 681 | \$49.54 | \$33,736.74 |
| 11 | 12" Gate Valve | EA | 2 | \$2,115.17 | \$4,230.34 |
| 12 | 12" Water Main Bend | EA | 2 | \$644.33 | \$1,288.66 |
| 13 | 12" Water Main Plug | EA | 1 | \$354.50 | \$354.50 |
| 14 | 12" Deflection Coupling | EA | 3 | \$303.40 | \$910.20 |
| 15 | 12" Water Main Tee | EA | 3 | \$748.33 | \$2,244.99 |
| 16 | Fire Hydrant w/Lead and Auxiliary Valve | EA | 3 | \$3,280.50 | \$9,841.50 |
| 17 | 10" PVC Water Main | LF | 180 | \$33.29 | \$5,992.20 |
| 18 | 10" Gate Valve | EA | 2 | \$1,665.00 | \$3,330.00 |
| 19 | 10" Plug | EA | 2 | \$195.30 | \$390.60 |
| 20 | 10" Water Main Tee | EA | 2 | \$649.96 | \$1,299.92 |
| 21 | 8" PVC Sanitary Sewer Main | LF | 713 | \$41.71 | \$29,739.23 |
| 22 | 48" Standard Manhole | EA | 2 | \$2,786.38 | \$5,572.76 |
| 23 | 48" Drop MH | EA | 1 | \$4,438.88 | \$4,438.88 |
| 24 | 48" MH Overdepth | VF | 20.6 | \$422.95 | \$8,712.77 |
| 25 | 6" Sanitary Sewer Service | LF | 207 | \$26.55 | \$5,495.85 |
| 26 | 18" RCP | LF | 224 | \$39.20 | \$8,780.80 |
| 27 | 18" RCP Flared End | EA | 1 | \$461.15 | \$461.15 |
| 28 | Type E Inlet | EA | 2 | \$3,780.75 | \$7,561.50 |
| 29 | Type B Inlet | EA | 1 | \$2,657.50 | \$2,657.50 |
| 30 | Seeding, Fertilizing, and Mulching | AC | 2 | \$1,247.15 | \$2,494.30 |
| 31 | Sign Assembly w/Post | EA | 5 | \$325.00 | \$1,625.00 |
| 32 | Temporary Erosion Control | LS | 1 | \$3,000.00 | \$3,000.00 |
| 33 | Incidental Work | LS | 1 | \$1,000.00 | \$1,000.00 |
| 34 | Set Property Corners | LS | 1 | \$1,000.00 | \$1,000.00 |
| Total Estimated Construction Cost | | | | | \$353,686.64 |

Note: Unit prices from October 2007 except Items 1, 31, 32, 33 and 34 which are Engineers Estimate

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