

MOUNT RUSHMORE ROAD UTILITY RECONSTRUCTION FLORMANN STREET to SAINT JAMES STREET

FOR BIDDING PURPOSES ONLY

PROJECT: 12-2051 CIP NO.50867

PCN X02P

RAPID CITY, SOUTH DAKOTA



ONE CALL
BEFORE DIGGING
1-800-781-7474

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- SECTION G: UTILITY PLANS
- SECTION H: LANDSCAPING PLANS

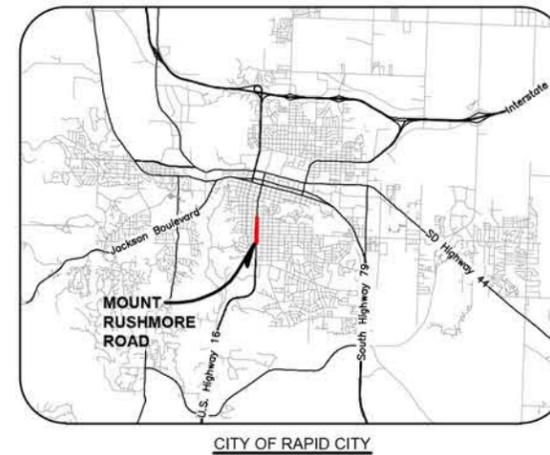
We, the undersigned, certify that we have read and understand the provisions contained in the City of Rapid City Standard Specifications for Public Works Construction, current edition and the City of Rapid City's adopted Design Criteria Manuals. The drawings and specifications contained here within, to the best of our knowledge, were prepared in accordance with these documents or a properly executed exception to the Standard Specifications and/or Infrastructure Design Criteria Manual has been secured.

Greg Wierenga 8/19/16
Greg Wierenga, P.E. Date:

Patrick H. Wyss 8/19/16
Patrick H. Wyss, PLA Date:



Wyss Associates, Inc.
Golf Course Architecture Landscape Architecture Land Planning
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VICINITY MAP



August 17, 2016 1:50:27 PM C:\Users\jw\Documents\PROJECTS\111119.00 MOUNT RUSHMORE RD. UTILITY RECONSTRUCTION\DRAWINGS\SHEETS\PHASE 2 - FLORMANN TO SAINT JAMES\Drawing TitleSheet.dwg (JOB) Drawing

SECTION A

ESTIMATE OF QUANTITIES, GENERAL PROJECT NOTES, & INFORMATION



PROJECT LOCATION MAP

INDEX OF SHEETS

SHEET NUMBER	DESCRIPTION
A1	PROJECT LOCATION WITH INDEX
A2-A3	ESTIMATE OF QUANTITIES
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A6	SURVEY CONTROL DATA
A7-A8	HORIZONTAL ALIGNMENT DATA
A9-A10	PROPERTY OWNERSHIP INFORMATION
A11	TOPOGRAPHY LEGEND




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August 17, 2016 12:50:33 p.m. Drawing: ILLUSHEETING (JOB) (P:\PROJECTS & PROPOSALS\11119.00 MT. RUSHMORE RD. UTILITIES RECONSTRUCTION\DRAWINGS\SHEETS\PHASE 2 - FLORMANN TO SAINT JAMES)



Prepared By:  

Public Works Department

Scale:
 Designed By: GW
 Design Date: 02.2016 - 04.2016
 Internal Job No: 11119.04
 Surveyed By: SDDOT
 Project Number: 12-2051, CIP NO.50867, PCN X02P

Drawn By:
 Print Date: 09.02.2016
 Survey Date: 2012

Revisions:
 Number:
 Description:

FOR BIDDING PURPOSES ONLY

SECTION C ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	100.0	Hour
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0700	Traffic Control Movable Concrete Barrier	34	Each
634E0705	Remove and Reset Traffic Control Movable Concrete Barrier	100	Each
634E2000	Longitudinal Pedestrian Barricade	600	Ft
734E5010	Sweeping	30	Hour

SECTION D ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
100E0100	Clearing	Lump Sum	LS
110E1690	Remove Sediment	20	CuYd
110E1693	Remove Erosion Control Wattle	600	Ft
110E1695	Remove Sediment Filter Bag	600	Ft
230E0020	Contractor Furnished Topsoil	20	CuYd
731E0100	Fertilizing	3	Lb
733E0100	Sodding	100	SqYd
734E0154	12" Diameter Erosion Control Wattle	600	Ft
734E0165	Remove and Reset Erosion Control Wattle	100	Ft
734E0180	Sediment Filter Bag	600	Ft
734E0185	Remove and Reset Sediment Filter Bag	100	Ft

SECTION G ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3200	Construction Staking	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	38	Ft
110E0370	Remove Curb Stop	24	Each
110E0460	Remove Manhole	6	Each
110E0520	Remove Sewer Pipe	908	Ft
110E1010	Remove Asphalt Concrete Pavement	640.9	SqYd
110E1100	Remove Concrete Pavement	42.6	SqYd
110E1950	Remove Contaminated Water	20	MGal
110E5740	Salvage Fire Hydrant	11	Each
110E5765	Salvage Valve and Valve Box	33	Each
120E0900	Contaminated Material Excavation	200	CuYd

SECTION G ESTIMATE OF QUANTITIES CONT.

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
250E0010	Incidental Work	Lump Sum	LS
260E1010	Base Course	199.4	Ton
260E6010	Granular Material	150.0	Ton
320E1200	Asphalt Concrete Composite	156.1	Ton
380E3020	6" PCC Driveway Pavement	42.6	SqYd
451E0301	Pipe Encasement	7	Each
451E0654	4" PVC Restrained Joint Water Main	59	Ft
451E0656	6" PVC Restrained Joint Water Main	244	Ft
451E0658	8" PVC Restrained Joint Water Main	1855	Ft
451E0662	12" PVC Restrained Joint Water Main	2879	Ft
451E0666	16" PVC Restrained Joint Water Main	348	Ft
451E0802	1" Copper Pipe	608	Ft
451E0806	1.5" Copper Pipe	74	Ft
451E0808	2" Copper Pipe	43	Ft
451E1008	8" PVC Sewer Pipe	3092	Ft
451E1204	4" Sewer Service	683	Ft
451E1504	4" Sanitary Sewer Service Cleanout	18	Each
451E2213	8"x 6" Pipe Tee	5	Each
451E2214	8 x 8" Pipe Tee	2	Each
451E2230	12" x 4" Pipe Tee	1	Each
451E2231	12"x 6" Pipe Tee	6	Each
451E2232	12"x 8" Pipe Tee	3	Each
451E2251	16" x 6" Pipe Tee	2	Each
451E2332	12" x 8" Pipe Cross	3	Each
451E2334	12" x 12" Pipe Cross	1	Each
451E2352	16" x 12" Pipe Cross	3	Each
451E2413	8" x 6" Pipe Reducer	4	Each
451E2432	12" x 8" Pipe Reducer	1	Each
451E2802	1" Corporation Stop with Tapping Saddle	18	Each
451E2806	1.5" Corporation Stop with Tapping Saddle	2	Each
451E2808	2" Corporation Stop with Tapping Saddle	2	Each
451E2902	1" Curb Stop with Box	18	Each
451E2906	1.5" Curb Stop with Box	2	Each
451E2908	2" Curb Stop with Box	2	Each
451E3006	6" Pipe Bend	12	Each
451E3008	8" Pipe Bend	6	Each
451E3012	12" Pipe Bend	6	Each
451E3104	4" Pipe Cap	1	Each

SECTION G ESTIMATE OF QUANTITIES CONT.

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
451E3112	12" Pipe Cap	1	Each
451E3206	6" Pipe Coupling	2	Each
451E3208	8" Pipe Coupling	7	Each
451E3212	12" Pipe Coupling	4	Each
451E3306	6" Pipe Transition Coupling	2	Each
451E3308	8" Pipe Transition Coupling	3	Each
451E3412	6" Pipe Plug	1	Each
451E3456	16" Pipe Plug	2	Each
451E4204	4" Gate Valve with Box	1	Each
451E4208	8" Gate Valve with Box	11	Each
451E4212	12" Gate Valve with Box	14	Each
451E4216	16" Gate Valve with Box	3	Each
451E4380	Tracer Wire Access Box	13	Each
451E4584	Flushing Hydrant	1	Each
451E4585	Fire Hydrant with Auxiliary Valve & Box	13	Each
451E4903	Type 2 Foundation Material	400.0	Ton
451E4904	Type 3 Foundation Material	400.0	Ton
451E4918	Imported Trench Backfill	200	CuYd
451E5010	Rock Excavation, Trench	100	CuYd
451E5101	Bore and Jack 1" Pipe	18	Ft
451E6100	Reconnect Water Service	21	Each
451E6105	Connect To Existing Water Main	14	Each
451E7010	Reconnect Sewer Service	14	Each
451E7016	Connect to Existing Sewer Main	12	Each
451E7020	Sewer Bypass Pumping	Lump Sum	LS
451E7402	Test Station	13	Each
451E7520	Exploratory Excavation	10	Hour
464E0100	Controlled Density Fill	50.0	CuYd
650E0060	Type B66 Concrete Curb and Gutter	26	Ft
650E4660	Type P6 Concrete Gutter	12	Ft
671E1048	48" Manhole	14	Each
671E1348	48" Drop Manhole	3	Each
671E5510	Extra Depth for 48" Manhole	79.8	Ft
671E6035	Special Manhole Frame & Lid	10	Each
671E7022	Reshape Manhole Invert	1	Each
671E8000	Reconstruct Manhole	1	Each
831E0200	Woven Separator Fabric	200	SqYd
900E2090	AASHTO T-180 Soil Test	30	Each

SECTION H ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E0010	Unclassified Excavation	100	CuYd
230E0020	Contractor Furnished Topsoil	150	CuYd
260E1010	Base Course	120	Ton
380E2574	4" Barrier Type Colored & Patterned Median PCC Pavement	390	SqYd
451E4901	Type 1 Bedding Material	41	Ton
530E0300	Type C Concrete Retaining Wall	64	SqFt
651E0750	5" Reinforced Colored Concrete Sidewalk	304	SqFt
680E0240	4" Corrugated Polyethylene Drainage Tubing	528	Ft
680E0440	4" Slotted Corrugated Polyethylene Drainage Tubing	175	Ft
735E0110	1 Gallon Perennial Plant, Furnish and Plant	289	Each
735E1205	1 Gallon Deciduous Shrub, Furnish and Plant	24	Each
735E1510	1 Gallon Coniferous Shrub, Furnish and Plant	96	Each
735E3010	Salvage, Store, and Replant Tree	2	Each
735E5010	1 Gallon Ornamental Grass, Furnish and Plant	70	Each
900E2030	Miscellaneous Work	2	Site
900E5156	3" Depth Shredded Bark Mulch	280	SqYd
900E5160	Planter	13	Each
900E5430	Irrigation System	1	LS



SPECIFICATIONS

Standard Specifications shall be the City of Rapid City Standard Specifications for Public Works Construction, 2007 Edition, with current updates, revisions, except as modified herein via plans, plan notes, and special provisions included in the contract/bid documents.

Please note that supplemental Sections 8A and 8B shall replace Section 8 of the specifications

PROJECT DESCRIPTION, COORDINATION AND SCHEDULING

Work on the project includes City of Rapid City water and sewer utility infrastructure as well as landscaping specific areas of the project.

All work on this project shall be closely coordinated with project NH 0016(84)67 PCN 049F, the roadway portion of the Mount Rushmore Road reconstruction project.

The Contractor shall coordinate the work and water service shutdown with the City of Rapid City Utility Maintenance Staff and the affected property owners at least 48 hours prior to the work. The Contractor shall complete all water service shut downs and tie-ins so the landowner/business maintains water service during normal business hours. This will require water service tie-ins either before or after hours. Water service shall always be restored as soon as possible. Temporary taps, caps, plugs, hydrants etc. and or water service connections to maintain water service shall be considered incidental to the associated bid items.

Stationing and offsets are based on the roadway centerline alignments for Mount Rushmore Road and intersecting streets. Horizontal alignment data has been included herein.

The Contractor will be required to attend preconstruction as well as construction progress meetings to coordinate the work, discuss issues with the public, and provide a look ahead at project work. It is estimated that these meetings will be on a weekly basis. The Engineer will establish frequency, time, and location of the periodic meetings.

Section C of this plan set provides estimated quantities of traffic control barriers estimated to be needed for deep excavations adjacent to the traveling public. All utility work shall be coordinated with the roadway reconstruction project and phasing.

Section D of this plan set provides estimated quantities of erosion and sediment controls to be coordinated with the erosion controls for the roadway reconstruction project. Site restoration work shall be completed by project NH 0016(84)67 with the exception of the proposed plantings located in Section H of this plan set. Also included in Section D is a Storm Water Pollution Prevention Plan(SWPPP) to be coordinated with the SWPPP for NH 0016(84)67.

GEOTECHNICAL REPORT

The proposed work includes subsurface conditions which were evaluated by Terracon Consultants, Inc. A copy of the Geotechnical Engineering Reports titled "Mt. Rushmore Road Utility Reconstruction-Phase II, St. Patrick Street to Kansas City Street, Rapid City, South Dakota, March 12, 2013, Terracon Project No. B4135003, City of Rapid City Project No. 12-2051/CIP No. 50867" and "Mt. Rushmore Road Utility Reconstruction, Tower Road to St. Patrick Street, Rapid City, South Dakota, November 14, 2011, Terracon Project No. B4115030, City of Rapid City Project No. SSW11-1926/CIP No. 50840" are included in the bid documents and the Contractor is urged to review the reports. The reports are for information only and are not a guarantee of subsurface conditions. It should be noted that groundwater was not present at the time of sampling but ground water levels can and do change over time.

SUBMITTALS

Submittals are required for all materials to be installed under the contract, including but not limited to:

- Construction schedule plan consistent with the Contractor's construction schedule
- A list of key personnel
- Subcontractors and suppliers
- Hydrants, Pipes, fittings, valves, couplings & appurtenances etc.
- Corrosion materials and suppliers
- Concrete structures & castings
- Bedding, foundation and all other specified materials
- All City and State permits required per plans and specifications
- Sewer bypass pumping plan
- Water main disinfection and de-chlorination plan
- Traffic control plan
- Erosion control materials/products
- Dewatering and sediment collection plan.
- City of Rapid City Trench and Utility Licenses
- Sod and Fertilizer
- Topsoil
- Related work and others as required in the Specifications and these plans.

At least seven (7) working days before his/her need for approval, the Contractor shall forward to the Engineer a minimum of five (5) copies of submittals for all Contractor-furnished products. Submittals shall clearly identify any deviation from the Specifications, and shall be certified and dated by the Contractor. Submittals will be accepted only from the Contractor.

CONSTRUCTION WORK LIMITS/STAGING AREA.

The Contractor shall limit all construction activities to the street right-of-way and project easements. The Contractor shall be responsible for any and all disturbance outside of the work limits on this project at no cost to the Owner. Staging/stockpile locations shall be acquired by the Contractor. Quantities for final restoration of the staging areas have not been included in the estimated quantities and shall be the responsibility of the Contractor. Security of the stage/storage site(s) is the responsibility of the Contractor.

CONTRACTOR FURNISHED PROGRESS SCHEDULES

At least two weeks prior to the start of the work the Contractor shall furnish the Engineer two copies of a progress schedule. The Schedule shall consist of a construction schedule and a brief written narrative in accordance with section 7.70 of the Standard Specifications and coordinated with the proposed sequence for the roadway work in project NH 0016(84)67. The schedule shall contain at a minimum the following information:

1. A time scale to graphically show percentage of work scheduled for completion within the contract completion requirements.
2. Definition and relation of work activities to contract pay items.
3. Work activities (prime contractor and all subcontractor activities) in the order the work will be performed including submittals, approvals, deliveries, and temporary traffic control.
4. All major work activities that are controlling factors in the completion of the work.
5. The time required for each activity and its relationship in time to other activities.
6. The total expected time to complete all work.
7. The expected work shifts in days per week and hours per day and the days when work is not expected to be performed.

INCIDENTAL WORK

Items not included in the bid form as a pay item under the contract but are included in the plans and specifications as needed to complete the work shall be incidental to the contract lump sum price for Incidental Work. Payment for Incidental work will be made per Section 19 of the specifications.

CONSTRUCTION STAKING

The Contractor shall furnish all construction staking on the project in accordance with the Standard Specifications. Electronic files will not be made available to the Contractor. All costs for construction staking shall be incidental to the contract lump sum price for Construction Staking.

MOBILIZATIONS

The project will require multiple mobilizations throughout construction. Multiple mobilizations shall not be paid for individually on a case by case basis. The contract lump sum price for Mobilization shall be the total dollar amount of all mobilizations necessary to complete the entire project.



UTILITY COMPANY NOTIFICATION

The Contractor shall be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor shall contact each utility owner and confirm the status of all existing and new utility facilities. The utility contact information is provided elsewhere in the plans or bidding documents.

The Contractor shall be responsible for protecting all existing utilities in place. The Contractor shall coordinate any relocation with the utility companies. The Contractor shall utilize the South Dakota One Call (1-800-781-7474) notification process to provide advance notice of at least 48 hours, excluding weekends and holidays, to inform all South Dakota underground facility operators of intended excavation. The Contractor shall contact all utility companies before work is commenced. Protection and coordination of relocations or adjustment of utilities is the responsibility of the Contractor and no additional payment will be made for this work.

PERMITS

The Contractor shall be responsible for obtaining the following permits. All fees and costs associated with obtaining the permits shall be incidental to the contract lump sum price for Incidental Work:

1. Coverage under the SD DENR General Permit for Storm Water Discharges Associated with Construction Activities.
2. SD DENR Dewatering Permit – General Permit to discharge under the South Dakota Surface Water Discharge System for temporary discharge activities in South Dakota
3. City of Rapid City Erosion and Sediment Control Permit
4. City of Rapid City Air Quality Construction Permit
5. SDDOT Permit to Occupy ROW

Fees identified in the contract shall be paid for by the City.

WASTE DISPOSAL SITE

All material generated by this project must be disposed of at a permitted site. Depending on what material is generated and whether it is contaminated or uncontaminated will determine which permitted facility can accept it. Permitted facilities include construction and demolition debris sites, restricted use sites, and regional landfills. Contact SD DENR Waste Management Program at 605-773-3153 to identify locally permitted disposal sites for various categories of contaminated and uncontaminated materials.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) shall be incidental to the various contract items.

MATERIAL TICKET SUBMITTALS

The Contractor shall submit all tickets for measurement and payment to the Inspector within 48 hours, per Standard Specifications. Any ticket received later than 48 hours will not be accepted and payment for that item will not be made.

PRESS RELEASE ANNOUNCEMENTS

The Contractor shall prepare a Press Release to be released 48 hours prior to any phase change or any other major change that affects traffic flow. A copy of the Press Release shall be given to the Engineer three days prior to the change. The Contractor shall be responsible to keep law enforcement, emergency services, and the traveling public notified of changes in project access. All costs for the Press Releases shall be incidental to the various bid items.

EXPLORATORY EXCAVATION

The Contractor shall provide exploratory excavation as needed to determine the location of existing water mains, sewer mains, storm sewer, gas, telephone, fiber optics, electric and other utilities as required. Exploratory excavation shall be completed in advance of sewer and water installation to determine sizing, relocations, grade adjustments or other work required. The exploratory excavation is necessary to verify and/or determine the size, material, type and elevation of the existing underground utilities. The locations and sizes of utilities may not be fully known and must be verified upon construction.

No direct payment will be made for the exploratory excavation on the project. The contractor is responsible for all work necessary to complete the project.

MAIL DELIVERY

The Contractor shall be responsible to contact and coordinate with the appropriate postal representative to ensure delivery of mail to businesses located within the project limits. This work shall be considered incidental to the contract lump sum price for Incidental Work.

MAINTENANCE OF SOLID WASTE DISPOSAL SERVICE

The streets within the project areas are used for pickup and removal of solid waste from the properties within the project areas. The Contractor shall provide notification of the work to all affected properties and coordinate with city solid waste division (355-3496) to assure alternative locations for weekly solid waste pickup are provided as needed. If necessary the contractor shall transport or convey disposal containers (including containers for recyclable materials) to the alternative locations and return them to the usual collection location on the property following collection on designated solid waste pickup days. This work shall be considered incidental to the contract lump sum price for Incidental Work.

WARRANTY PERIOD

The warranty period for this project shall start when the project is 100% complete and a letter of acceptance has been issued by the City of Rapid City per Section 7.65 of the Standard Specifications.

WEEKEND, HOLIDAY AND NIGHT WORK

Section 7.48 of the specifications restricts weekend, holiday, and night work.

Work on Saturdays and Sundays will be granted but shall be in accordance with the SDDOT contractual requirements for Project NH 0016(84)67 PCN 049F and it is expected that the Contractor will notify the Engineer and schedule this work according to the following schedule:

Permission to work on Saturday shall be requested at least 72 hours in advance of the given Saturday.

Permission to work on Sunday shall be requested at least 72 hours in advance of the given Sunday.

No work will be allowed on legal holidays except for emergency purposes per Section 7.48. Night work will be restricted per the specifications unless it is necessary for water/sewer service tie-in work in which case the Contractor shall coordinate with the Engineer, City of Rapid City Utility Maintenance Staff, and the affected property/business Owner at least 48 hours in advance of the service shut down.

SNOW REMOVAL

Snow removal on Mount Rushmore Road and the intersecting roadways within the project limits shall be the responsibility of the Contractor as long as temporary traffic control devices remain and are in place on the project. The Contractor shall be responsible to remove snow from the project to provide for a safe jobsite. Typically snowfall amounts of 2" and greater shall be removed from the project by the Contractor. However, if smaller snowfall amounts are not able to be treated with chemical or sanding operations, the Contractor will be required to remove the snow. Sanding and chemical treatment will be completed by City of Rapid City Forces once snow is removed from the project.

If all paving operations for curb and gutter and traffic lanes are complete and traffic is returned to full operational use of the roadway, and all temporary traffic controls are removed from the project, then snow removal will be completed by City of Rapid City Forces.

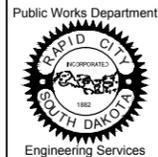
All costs for materials, labor, and equipment for snow removal shall be incidental to the contract lump sum price for Incidental Work.



Prepared By:



Prepared For:



Scale: AS NOTED

Designed By: GW	Drawn By: MS
Design Date: 02.2016 - 04.2016	Print Date: 08.19.2016
Internal Job No: 11119.04	Survey Date: 2012
Surveyed By: SDDOT	Project Number: 12-2051, CIP NO.50867, PCN X02P

Revisions:

Number:	Description:

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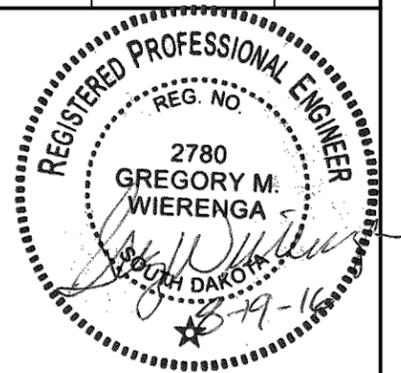
MOUNT RUSHMORE ROAD
UTILITY RECONSTRUCTION

Sheet Title:

SURVEY
CONTROL
DATA

Sheet No:

A6
of
A11



HORIZONTAL AND VERTICAL CONTROL POINTS

Point	Station	Offset	Description	Northing	Easting	Elevation
CP1	44+35.20	37.77 RT	SE CORNER 8TH ST/ST PATRICK ST UNDER WALGREEN SIGN BACK SW	645329.96	1206736.32	3328.23
CP2	35+04.76	32.79 LT	W SIDE 8TH ST N OF PAPA T'S SIGN BACK SW	644402.96	1206630.63	3335.11
CP3	29+04.64	32.49 RT	SE CORNER 8TH ST/MEADE ST 10' N OF SONIC DRIVEWAY BACK SW	643800.91	1206674.57	3357.13
CP1002	67+69.21	42.13 LT	NW QUAD 8TH ST/FAIRVIEW ST	647665.75	1206734.17	3285.22
CP1003	67+09.92	54.51 RT	SE QUAD 8TH ST/FAIRVIEW ST	647603.11	1206828.68	3287.52
CP1004	59+50.52	51.96 LT	SW QUAD 8TH ST/ST CLOUD ST	646847.78	1206695.35	3298.47
CP1005	60+02.54	53.55 RT	NE QUAD 8TH ST/ST CLOUD ST	646896.16	1206802.60	3295.86
CP1012	50+05.20	52.99 RT	HUNAN RESTAURANT E OF 8TH ST	645899.48	1206768.32	3318.44
CP9431	53+81.13	40.48 LT	W SIDE 8TH ST NE CORNER OF LOAF N JUG	646278.42	1206687.93	3309.35

THE COORDINATES SHOWN ON THIS SHEET ARE BASED ON THE SOUTH DAKOTA STATE PLANE COORDINATE SYSTEM.
SOUTH ZONE (NAD 83/96) SF = 0.9997870216
THE ELEVATIONS SHOWN ON THIS SHEET ARE BASED ON NAVD 88

ALIGNMENTS

Alignment information provided below was generated using data obtained from SDDOT project alignments. Please contact the Engineer immediately if any discrepancies are discovered between the information provided below and the alignment information provided in the roadway plan set for Project NH 0016(84)67 PCN 049F.

MOUNT RUSHMORE ROAD/US HIGHWAY 16

Start Station	End Station	Type	Start Point	End Point	Length	Radius	Direction	Delta angle	PI Station	PI Point
0+00	17+00	Line	(1206543.78',640899.18',0.00')	(1206600.51',642598.24',0.00')	1700.00'		N01°54'45"E			
17+00	19+44.33	Line	(1206600.51',642598.24',0.00')	(1206607.67',642842.46',0.00')	244.33'		N01°40'42"E			
19+44.33	20+55.58	Curve	(1206607.67',642842.46',0.00')	(1206612.17',642953.61',0.00')	111.24'	5000.00'		001°16'29"	19+99.96	(1206609.30',642898.06')
20+55.58	22+99.36	Line	(1206612.17',642953.61',0.00')	(1206624.73',643197.07',0.00')	243.78'		N02°57'12"E			
22+99.36	25+00.63	Curve	(1206624.73',643197.07',0.00')	(1206631.05',643398.23',0.00')	201.27'	5000.00'		002°18'23"	24+00.01	(1206629.91',643297.59')
25+00.63	26+34.20	Line	(1206631.05',643398.23',0.00')	(1206632.56',643531.79',0.00')	133.57'		N00°38'49"E			
26+34.20	29+44.53	Line	(1206632.56',643531.79',0.00')	(1206643.51',643841.93',0.00')	310.33'		N02°01'20"E			
29+44.53	33+57.08	Line	(1206643.51',643841.93',0.00')	(1206658.24',644254.21',0.00')	412.55'		N02°02'46"E			
33+57.08	37+33.53	Line	(1206658.24',644254.21',0.00')	(1206671.40',644630.43',0.00')	376.45'		N02°00'12"E			
37+33.53	41+09.01	Line	(1206671.40',644630.43',0.00')	(1206684.66',645005.68',0.00')	375.48'		N02°01'29"E			
41+09.01	44+81.81	Line	(1206684.66',645005.68',0.00')	(1206700.58',645378.14',0.00')	372.81'		N02°26'51"E			
44+81.81	48+33.69	Line	(1206700.58',645378.14',0.00')	(1206709.42',645729.91',0.00')	351.88'		N01°26'23"E			
48+33.69	55+91.26	Line	(1206709.42',645729.91',0.00')	(1206735.67',646487.03',0.00')	757.57'		N01°59'08"E			
55+91.26	59+71.92	Line	(1206735.67',646487.03',0.00')	(1206747.98',646867.48',0.00')	380.66'		N01°51'12"E			
59+71.92	63+50.56	Line	(1206747.98',646867.48',0.00')	(1206761.61',647245.88',0.00')	378.64'		N02°03'46"E			
63+50.56	75+78.91	Line	(1206761.61',647245.88',0.00')	(1206804.64',648473.47',0.00')	1228.34'		N02°00'28"E			
75+78.91	76+91.46	Curve	(1206804.64',648473.47',0.00')	(1206820.89',648584.61',0.00')	112.55'	511.00'		012°37'11"	76+35.41	(1206806.62',648529.94')
76+91.46	103+76.67	Line	(1206820.89',648584.61',0.00')	(1207498.99',651182.80',0.00')	2685.213'		N14°37'38"E			



ST ANNE STREET

Start Station	End Station	Type	Start Point	End Point	Length	Radius	Direction	Delta angle	PI Station	PI Point
0+00'	2+74.27'	Line	(1206238.36',644635.40',0.00')	(1206512.46',644625.86',0.00')	274.27'		S88°00'22"E			
2+74.27'	2+88.68'	Curve	(1206512.46',644625.86',0.00')	(1206526.87',644625.88',0.00')	14.41'	200.00'		004°07'42"	2+81.48'	(1206519.66',644625.61')
2+88.68'	5+60.51'	Line	(1206526.87',644625.88',0.00')	(1206798.51',644636.00',0.00')	271.83'		N87°51'57"E			
5+60.51'	5+73.43'	Curve	(1206798.51',644636.00',0.00')	(1206811.43',644636.06',0.00')	12.92'	200.00'		003°42'05"	5+66.97'	(1206804.97',644636.24')
5+73.43'	9+55.68'	Line	(1206811.43',644636.06',0.00')	(1207193.54',644625.61',0.00')	382.25'		S88°25'58"E			

ST FRANCIS STREET

Start Station	End Station	Type	Start Point	End Point	Length	Radius	Direction	Delta angle	PI Station	PI Point
0+00'	3+44.29'	Line	(1206251.77',645016.88',0.00')	(1206595.79',645003.47',0.00')	344.29'		S87°46'08"E			
3+44.29'	3+66.67'	Curve	(1206595.79',645003.47',0.00')	(1206618.17',645003.31',0.00')	22.38'	350.00'		003°39'48"	3+55.48'	(1206606.98',645003.04')
3+66.67'	5+01.36'	Line	(1206618.17',645003.31',0.00')	(1206752.82',645006.68',0.00')	134.69'		N88°34'04"E			
5+01.36'	5+20.23'	Curve	(1206752.82',645006.68',0.00')	(1206771.69',645006.64',0.00')	18.87'	350.00'		003°05'23"	5+10.80'	(1206762.25',645006.92')
5+20.23'	9+51.26'	Line	(1206771.69',645006.64',0.00')	(1207202.54',644994.18',0.00')	431.03'		S88°20'33"E			

ST PATRICK STREET

Start Station	End Station	Type	Start Point	End Point	Length	Direction
0+00'	4+17.07'	Line	(1206283.86',645395.13',0.00')	(1206700.58',645378.09',0.00')	417.07'	S87°39'27"E
4+17.07'	9+30.61'	Line	(1206700.58',645378.09',0.00')	(1207213.86',645361.67',0.00')	513.55'	S88°10'04"E

ST PATRICK STREET / ST ANDREW STREET ALLEY

Start Station	End Station	Type	Start Point	End Point	Length	Direction
0+00'	0+20'	Line	(1206617.50',645540.63',0.00')	(1206637.49',645539.93',0.00')	20.00'	S88°00'29"E
0+20'	0+73.89'	Line	(1206637.49',645539.93',0.00')	(1206691.34',645537.88',0.00')	53.89'	S87°49'11"E
0+73.89'	1+35.29'	Line	(1206691.34',645537.88',0.00')	(1206752.70',645535.65',0.00')	61.40'	S87°54'54"E
1+35.29'	1+55.29'	Line	(1206752.70',645535.65',0.00')	(1206772.69',645534.94',0.00')	20.00'	S87°58'42"E

ST ANDREW STREET

Start Station	End Station	Type	Start Point	End Point	Length	Direction
0+00'	10+00'	Line	(1206209.70',645745.79',0.00')	(1207209.03',645709.39',0.00')	1000.00'	S87°54'50"E

ST CHARLES STREET

Start Station	End Station	Type	Start Point	End Point	Length	Radius	Direction	Delta angle	PI Station	PI Point
0+00'	10+00'	Line	(1206222.77',646123.50',0.00')	(1207222.19',646089.41',0.00')	1000.00'		S88°02'46"E			
10+00'	10+00.05'	Line	(1207222.19',646089.41',0.00')	(1207222.23',646089.41',0.00')	0.05'		S87°03'35"E			
10+00.05'	10+00.06'	Curve	(1207222.23',646089.41',0.00')	(1207222.24',646089.41',0.00')	0.01'	0.16'		003°33'07"	10+00.05'	(1207222.24',646089.41')
10+00.06'	10+00.09'	Line	(1207222.24',646089.41',0.00')	(1207222.28',646089.40',0.00')	0.04'		S83°30'27"E			

ST CHARLES STREET / FRANKLIN STREET ALLEY

Start Station	End Station	Type	Start Point	End Point	Length	Direction
0+00'	0+49.08'	Line	(1206680.00',646297.74',0.00')	(1206729.04',646295.88',0.00')	49.08'	S87°49'38"E
0+49.08'	1+00.32'	Line	(1206729.04',646295.88',0.00')	(1206780.26',646294.11',0.00')	51.25'	S88°00'52"E
1+00.32'	1+20.32'	Line	(1206780.26',646294.11',0.00')	(1206800.26',646293.72',0.00')	20.00'	S88°53'09"E

FRANKLIN STREET

Start Station	End Station	Type	Start Point	End Point	Length	Direction
0+00'	10+00'	Line	(1206236.00',646505.14',0.00')	(1207235.31',646468.02',0.00')	1000.00'	S87°52'22"E

FRANKLIN STREET / ST CLOUD STREET ALLEY

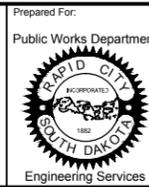
Start Station	End Station	Type	Start Point	End Point	Length	Direction
0+00'	0+12.24'	Line	(1206649.44',646678.40',0.00')	(1206661.67',646677.92',0.00')	12.24'	S87°46'14"E
0+12.24'	0+77.41'	Line	(1206661.67',646677.92',0.00')	(1206726.70',646673.64',0.00')	65.17'	S86°14'05"E
0+77.41'	1+36.96'	Line	(1206726.70',646673.64',0.00')	(1206786.23',646671.88',0.00')	59.56'	S88°18'09"E
1+36.96'	1+56.96'	Line	(1206786.23',646671.88',0.00')	(1206806.22',646671.12',0.00')	20.00'	S87°50'11"E

ST CLOUD STREET

Start Station	End Station	Type	Start Point	End Point	Length	Radius	Direction	Delta angle	PI Station	PI Point
0+00'	10+00'	Line	(1206248.32',646885.90',0.00')	(1207247.60',646847.93',0.00')	1000.00'		S87°49'26"E			
10+00'	10+00.24'	Line	(1207247.60',646847.93',0.00')	(1207247.84',646847.92',0.00')	0.24'		S86°01'54"E			
10+00.24'	10+00.74'	Curve	(1207247.84',646847.92',0.00')	(1207248.34',646847.90',0.00')	0.50'	8.11'		003°32'02"	10+00.49'	(1207248.09',646847.90')
10+00.74'	10+01'	Line	(1207248.34',646847.90',0.00')	(1207248.60',646847.89',0.00')	0.26'		S89°33'56"E			



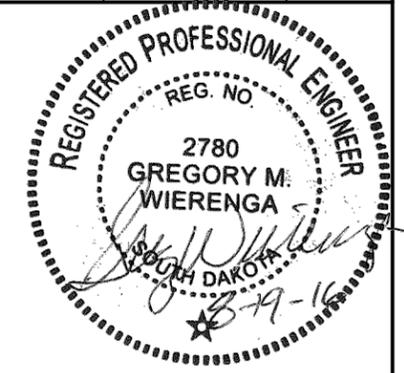
Prepared By:



Prepared For: Public Works Department
 Scale: AS NOTED
 Designed By: GW
 Drawn By: MS
 Design Date: 02.2016 - 04.2016
 Print Date: 08.19.2016
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 Surveyed By: SDDOT
 Survey Date: 2012
 Project Number: 12-2051, CIP NO.50867, PCN X02P

Revisions: Number: Description:
 FOR BIDDING PURPOSES ONLY

Sheet Title: MOUNT RUSHMORE ROAD UTILITY RECONSTRUCTION
 Sheet No: A9 of A11
 PROPERTY OWNERSHIP INFORMATION



1 VACANT
 2101 Mount Rushmore Road
 Phone: N/A
 Owner: BH Hotels, LLC
 Lot 12-23 of Block 8 of St Elmo #1

2 GOLD DIGGER'S BLACK HILLS GOLD
 2107 Mount Rushmore Road
 Phone: 605-341-9655
 Owner: Cindy's, LLC
 Lot 20-21 of Block 5 of St Elmo #1
 Lot 22 of Block 5 of St Elmo #1
 Lot 23 Block 5 of St Elmo #1

3 PIZZA HUT
 2005 Mount Rushmore Road
 Phone: 605-342-1542
 Owner: Glenn R Hermanson
 Gary D. Hermanson
 Lot 12-14 of Block 5 of St Elmo #1
 Lot 15-19 of Block 5 of St Elmo #1

4 MOSTLY CHOCOLATES/POTTERY TO PAINT
 804 Saint Francis Street
 Phone: 605-341-2264
 Owner: Dean H. and Peggy Kelly
 S 10ft of Lot 18; Lot 19-23
 of Block 2 of St Elmo #1

5 VACANT
 1909 Mount Rushmore Road
 Phone: 605-341-2264
 Owner: Dean Kelly and Peggy Kelly
 Lot 16-17 and N 15ft of Lot 18
 of Block 2 of St Elmo #1



6 BURSCH TRAVEL
 803 Saint Patrick Street
 Phone: 605-342-2700
 Owner: Frederic W. and Teresa Bursch
 Lot 12-15 of Block 2 of St Elmo #1

7 STARBUCK'S
 1819 Mount Rushmore Road
 Phone: 605-341-3291
 Owner: Green Star Properties, LLC
 Lot 27-30 of Block 22 of West Boulevard

8 ADVANCED FAMILY DENTAL
 1801 Mount Rushmore Road
 Phone: 605-716-7800
 Owner: DKOTA Dawson, LLC
 Lot 1 of Block 22 of West Boulevard

9 WILSON PARK
 Owner: City of Rapid City
 Lot 1-30; Vacated Alley and Vacated Saint Charles St Located Between W 5ft of Lot 8-Lot 15 of Block 19 and Lot 16-22 and W 5ft of Lot 23 of Block 12 of West Boulevard and Block 19 of West Boulevard

10 SAFEWAY
 2120 Mount Rushmore Road
 Phone: 605-348-5125
 Owner: Safeway Store, 46 Inc.
 Lot 6-10 and Vacated 20ft Alley of Block 7 of St Elmo #2 and Lot 1-5 Less Lots H1 of Block 7 of St Elmo #2 and Lot 16 of Block 15 of South Boulevard and Lot 4-15; Lot 17-29; Vacated 20ft Alley of Block 15 of South Boulevard

11 PIONEER BANK AND TRUST
 2018 Mount Rushmore Road
 Phone: 605-399-1510
 Owner: Pioneer Bank and Trust
 Lot 6-10 of Block 6 of St Elmo #2 and Lot 17-18 of Block 6 of South Boulevard and LOT 19-22 of Block 6 of South Boulevard

12 (UNDER CONSTRUCTION)
 2006 Mount Rushmore Road
 Phone: N/A
 Owner: Black Hills Family Practice
 Lot 1-2 of Block 5 of St Elmo #2
 Lot 3-5 of Block 6 of St Elmo #2
 Lot 15-16 of Block 6 of South Boulevard

13 WALGREENS
 1902 Mount Rushmore Road
 Phone: 605-342-0194
 Owner: Waltrust Properties, Inc.
 Lot 6-10 Less Lot H-1 of South Boulevard Addition and Block 5 Lot 17-19 and 1/2 of Vacated Alley Block 1 St Elmo #2

Lot 1-5 and 1/2 Vacated Alley Less Lot H1 of Block 1 of St Elmo #2
 Lot 14-16 and 1/2 Vacated Alley of Block 5 of South Boulevard

14 CORNER PANTRY
 1818 Mount Rushmore Road
 Phone: 605-342-0730
 Owner: MG Oil Co.
 Lot 4-6 of Block 21 of West Boulevard

15 RUSHMORE CASINO
 Phone: 605-348-7762
 1808 Mount Rushmore Road
 Owner: McCollam, LLC
 Lot 1-3 of Block 21 of West Boulevard

16 HUNAN
 1720 Mount Rushmore Road
 Phone: 605-341-3888
 Owner: Guang H. Huang and Jian Liang
 Lot 4-6 of Block 20 of West Boulevard
 Lot 17-18 of Block 26 of Flormann

17 DAIRY QUEEN
 1702 Mount Rushmore Road
 Phone: 605-342-4874
 Owner: Douglas L. and Julie Jensen
 Lot A-C of Block 20 of West Boulevard

August 17, 2016, 10:33:04 a.m., Drawing: LAND OWNERSHIP.DWG (A-EKIS) (P:\PROJECTS & PROPOSALS\11119.00 MT. RUSHMORE RD. UTILITIES RECONSTRUCTION\DRAWINGS\SHEETS\PHASE 2 - FLORMANN TO SAINT JAMES)

Prepared By:



Public Works Department
RAPID CITY
SOUTH DAKOTA
Engineering Services

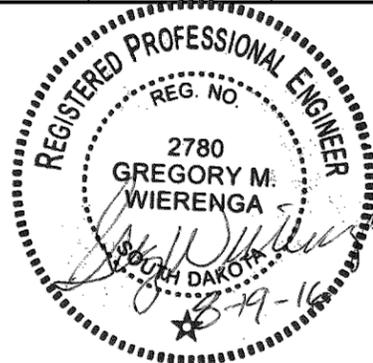
Scale: AS NOTED
Designed By: GW
Design Date: 02.2016 - 04.2016
Internal Job No: 11119.04
Surveyed By: SDDOT
Project Number: 12-2051, CIP NO.50867, PCN X02P

Revisions:
Number: Description:

FOR BIDDING PURPOSES ONLY

MOUNT RUSHMORE ROAD UTILITY RECONSTRUCTION

Sheet Title: PROPERTY OWNERSHIP INFORMATION
Sheet No: A10 of A11



1 LOAF N JUG
1627 Mount Rushmore Road
Phone: 605-348-9580
Owner: Leroy A and Rosalee Granaas, Trustees
Lot 26-30 of Block 12 of West Boulevard

2 8TH STREET PLAZA
1601 Mount Rushmore Road
Owner: JB Properties, LLC
DAKOTA TREASURES
PAK N MAIL
QUILT TIQUES
BUDGET OPTICAL
LITTLE CAESAR'S
Lot 1-7 of Block 12 of West Boulevard

3 BIG D SINCLAIR
1515 Mount Rushmore Road
Phone: 605-348-4222
Owner: Big D Oil Co.
Lot 22-27 of Block 9 of West Boulevard

4 DAKOTA TRAVEL
1511 Mount Rushmore Road
Phone: 605-341-0744
Owner: Emmet F. and Catherine Sullivan
Lot 1 of Block 9 of West Boulevard

5 LA BELLE VIE
1407 Mount Rushmore Road
Phone: 605-593-7477
Owner: Gary D. Hermanson
Glenn Hermanson
Lot 30 of Block 2 of West Boulevard

6 OMNI
1417 Mount Rushmore Road
Phone: 605-716-6005
Owner: Gary D. Hermanson
Glenn Hermanson
Lot 30 of Block 2 of West Boulevard
N 35ft of Lot 28-29 of Block 2 of West Boulevard

7 1405 Mount Rushmore Road
Phone: N/A
Owner: Gary D. Hermanson
Glenn Hermanson
Lot 1 and E 10ft of Lot 2 of Block 2 of West Boulevard

8 CAR WASH WORLD
1620 Mount Rushmore Road
Phone: 605-673-4007
Owner: Topaz Properties, LLC
Lot 4-6 of Block 11 of West Boulevard

9 SUPER LUBE
1602 Mount Rushmore Road
Phone: 605-342-8778
Owner: Topaz Properties, LLC
Lot 1-3 of Block 11 of West Boulevard

10 MOUNTAIN PLAINS AUDIOLOGY
1522 Mount Rushmore Road
Phone: 605-341-1288
Owner: Norman Sorensen
Lot 7-9 of Block 10 of West Boulevard

11 1512 Mount Rushmore Road
Phone: N/A
Owner: Chalres W. Weldy, Jr.
Lot 6 of Block 10 of West Boulevard

12 1510 Mount Rushmore Road
Phone: N/A
Owner: Charles W. Weldy, Jr.
Lot 4-5 of Block 10 of West Boulevard

13 1510 Mount Rushmore Road
Phone: 605-342-3694
Owner: Gary N. Johnson
and Joyce L. Johnson
S 47ft of Lot 1-3 of Block 10
of West Boulevard

14 1508 Mount Rushmore Road
Phone: 605-342-3694
Owner: Gary N. Johnson
and Joyce L. Johnson
N 93ft of Lot 1-3 of Block 10
of West Boulevard

15 BOYD'S LIQUOR MART
1424 Mount Rushmore Road
Phone: 605-348-5332
Owner: Mills Drug Store, Inc
Lot 4-6 of Block 1 of West Boulevard
Lot 17-18 of Block 15 of Flormann

16 LECY CHIROPRACTIC CLINIC
1406 Mount Rushmore Road
Phone: 605-343-7440
Owner: D L Properties, LLC
W 6.13ft of N50ft of Lot 1 and N50ft
of Lot 2-3 of Block 1 of West Boulevard
S 45ft of N 95ft of Lot 1-3 of
Block 1 of West Boulevard
S 45ft of Lot 1-3 of Block 1 of
West Boulevard
Lot 15-16 of Block 15 of Flormann



Prepared By:



Prepared For:



Scale: AS NOTED

Designed By:	Drawn By:
GW	MS
Design Date:	Print Date:
02.2016 - 04.2016	08.19.2016
Internal Job No:	Surveyed By:
11119.04	SDDOT
	Survey Date:
	2012
Project Number:	
12-2051, CIP NO.50867, PCN X02P	

Revisions:

Number:	Description:

FOR BIDDING PURPOSES ONLY

MOUNT RUSHMORE ROAD
UTILITY RECONSTRUCTION

Sheet Title:

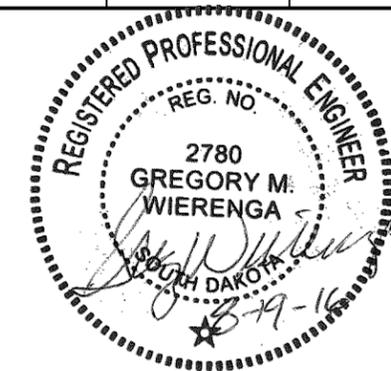
TOPOGRAPHY LEGEND

Sheet No:

A11

of

A11



TOPO LEGEND

- ▲ CONTROL POINT
- ◻ TEMPORARY CONTROL POINT
- ⊗ R.O.W. MONUMENT
- IRON PIPE
- IRON ROD
- ⊕ POWER POLE
- ⊕ POWER/LIGHT POLE
- ⊕ LIGHT POLE
- GUY POLE
- GUY WIRE
- ⊕ TRAFFIC LIGHT
- ⊕ ELECTRIC MANHOLE OR METER
- ⊕ TELEPHONE
- ⊕ TELEPHONE BOX
- ⊕ TELEPHONE MANHOLE
- ⊕ CABLE TV BOX
- ⊕ GAS METER/VALVE
- ⊕ WATER MANHOLE
- ⊕ WELL/TYPE
- ⊕ WATER VALVE
- ⊕ POST INDICATOR VALVE
- ⊕ CURB STOP
- ⊕ FIRE HYDRANT
- ⊕ YARD HYDRANT
- ⊕ SPRINKLER HEAD
- ⊕ WATER METER
- ⊕ CATHODIC TEST STATION
- ⊕ HOSEBIB
- ⊕ SANITARY MANHOLE
- ⊕ SEWER CLEAN OUT
- ⊕ SEPTIC TANK
- WOOD OR STEEL POST
- ⊕ VENT
- ⊕ STUMP
- ⊕ BUSH
- ⊕ DECIDUOUS TREE
- ⊕ CONIFEROUS TREE
- ⊕ STORM SEWER MANHOLE
- ⊕ STORM INLET
- ⊕ SINGLE POST SIGN OR PARK METER
- ⊕ MULTI POST SIGN
- ⊕ DELINEATOR
- BRIDGE COLUMN

- ⊕ RAILROAD SIGNAL
- BOLLARD
- BPH# BOREHOLE OR TESTHOLE
- UNKNOWN MANHOLE
- COLUMN
- ⊕ M.B. MAILBOX
- RIGHT OF WAY
- ▨ BUILDING
- ▨ CONCRETE
- GUARDRAIL
- RAILROAD
- S SANITARY SEWER
- W WATER LINE
- X" SS STORM SEWER
- X—X—X BARBED WIRE FENCE
- /— /— /— CHAIN LINK FENCE
- □— □— WOOD FENCE
- =— WOVEN WIRE FENCE
- OHP— OVERHEAD POWER
- OHC— OVERHEAD CABLE TV
- OHT— OVERHEAD TELEPHONE
- TV— UG CABLE TV (UNKNOWN)
- UGE— UNDERGROUND ELECTRIC (UNKNOWN)
- UGT— UNDERGROUND TELEPHONE (UNKNOWN)
- FO— FIBER OPTIC
- G— GAS LINE (UNKNOWN)
- KNB— KANEB PIPELINE
- MDU— MONTANA DAKOTA UTILITIES
- WBI— WILLISTON BASIN INTERSTATE PIPELINE
- BEC— BUTTE ELECTRIC UG
- BHE— BLACK HILLS ELEC UG
- BHP— BLACK HILLS POWER UG
- GWT— GOLDEN WEST
- KNO— KNOLOGY COMMUNICATIONS
- MIDCO— MIDCONTINENT COMMUNICATIONS
- MRT— MOUNT RUSHMORE TELEPHONE
- CLNK— CENTURY LINK COMMUNICATIONS
- WRE— WEST RIVER ELEC UG
- ACP— ASBESTOS CEMENT PIPE
- CIP— CAST IRON PIPE
- CMP— CORRUGATED METAL PIPE
- DIP— DUCTILE IRON PIPE
- FRP— FIBERGLASS REINFORCED PIPE
- HDPE— HIGH DENSITY POLYETHYLENE PIPE
- PVC— POLYVINYL CHLORIDE PIPE
- RCP— REINFORCED CONCRETE PIPE
- VCP— VITRIFIED CLAY PIPE

PROPOSED WATER AND SEWER LEGEND

- 11 1/4" BEND
- 22 1/2" BEND
- 45° BEND
- 90° BEND
- CAP OR PLUG
- COUPLING
- VERTICAL BEND
- CROSS
- CURB STOP
- GATE VALVE
- FIRE HYDRANT
- REDUCER/INCREASER
- TEE
- THRUSTBLOCK
- CATHODIC TEST STATION
- TRACER WIRE ACCESS BOX
- CLEANOUT
- MANHOLE
- SANITARY SEWER MAIN
- WATER MAIN
- RIGHT OF WAY
- WORK LIMIT
- ▨ RIGID INSULATION