

**SPECIFICATIONS AND PROPOSAL**

**FOR**

**MUNICIPAL PUBLIC WORKS IMPROVEMENTS**

**IN**

**WATER, SANITARY SEWER & STORM SEWER**

**IMPROVEMENT PROJECT #2015-10**

**IN**

**MEADOWLANDS ADDITION**

**MANDAN, NORTH DAKOTA**

**PREPARED FOR:**

**MEADOWLANDS DEVELOPMENT, LLC**

**550 10<sup>TH</sup> STREET**

**SANTA MONICA, CA 90402**

**OWNER:**

**CITY OF MANDAN**

**205 2ND AVENUE NW**

**MANDAN, ND 58554**

**PREPARED BY:**

**SWENSON, HAGEN & CO.**

**909 BASIN AVENUE**

**BISMARCK, ND 58504**

**SPECIFICATION DATE: September 22, 2015**

WATER, SANITARY SEWER & STORM SEWER IMPROVEMENT PROJECT 2015-10  
MEADOWLANDS ADDITION

ENGINEER'S CERTIFICATE

I, Jason Petryszyn, a Registered Professional Engineer in the State of North Dakota, hereby certify that the plans for Water, Sanitary Sewer and Storm Sewer Improvement Project No. 2015-10 for the City of Mandan, North Dakota, were prepared under my supervision and are complete and correct to the best of my knowledge and belief.



A handwritten signature in black ink, appearing to read "Jason Petryszyn", written over a horizontal line.

Jason Petryszyn, P.E.  
Registered Professional Engineer  
ND Registration No. 5345

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**SECTION 00030**  
**INFORMATION TO BIDDERS**

Meadowlands Development, LLC, hereinafter called the “Developer,” will receive bids on the attached proposal form. All blanks on the proposal form must be appropriately filled in. The bid must be properly executed, signed and placed in an envelope addressed to “ Meadowlands, Development, LLC.” and designated as “Bid for Water, Sanitary Sewer and Storm Sewer Improvement Project No. 2015-10, Mandan, North Dakota.”

Contractor shall acknowledge receipt of addenda on both the outside of the envelope and on the appropriate blanks on the proposal document. The bids shall be received at the office of Swenson, Hagen & Co. on October 14, 2015 at 10:00 a.m. where they will be privately opened by the Developer.

The bids shall be received at the office of Swenson, Hagen & Co, 909 Basin Avenue, Bismarck, North Dakota.

In a separate envelope attached to the outside of the envelope containing the proposal, each bidding contractor shall enclose a copy of the license of certificate of renewal thereof issued by the Secretary of State as required by Section 43-07-12 of the North Dakota Century Code as amended. No bid bond will be required.

The party to whom the contract is awarded will be required to enter into a three-way contract between the Developer, the City of Mandan (Owner), and the Contractor. During bidding, a Three-Way Agreement will be made available to Contractors upon request.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the Payment and Performance Bond within seven (7) calendar days from the date when the Notice of Award is delivered to the Contractor. If the Contractor fails to execute the Agreement, the Owner and/or the Developer may at his option consider the Contractor in default.

The Owner and Developer, within seven (7) days of receipt of acceptable performance bond, payment bond, certificate of insurance and Agreement signed by the party of whom the Agreement was awarded, shall sign this Agreement and return to such party an executed duplicate of the Agreement.

The anticipated date for allowing construction to start will be October 30, 2015. The Contractor shall have until May 19, 2016 to complete the project to the satisfaction of the project engineer. The Contractor shall be responsible for maintaining the erosion control for up to thirty (30) days after completion of the project or until arrival of the pavement contractor in that area of construction, whichever occurs first.

The Notice to Proceed will be issued after the Developer's escrow account or letter of credit is established by the Developer and all other necessary paperwork is completed.

The Developer reserves the right to reject any and all bids, to waive any irregularities and to hold all bids for a period not to exceed fourteen (14) days after the date of the opening thereof.

The Developer will pay for the original construction staking. The Contractor shall protect and preserve all property line monuments and construction staking. The Contractor shall be responsible for all costs of replacing any property monuments and/or construction stakes disturbed during construction.

The Contractor shall be responsible for all costs associated with soil testing to meet compaction testing.

The cost of the bid proposal, set of plans and specifications is \$20.00 and is non-refundable.

**SECTION 00050**  
**GENERAL CONDITIONS**

The work shall be performed in accordance with the most recent edition of the City of Mandan Construction Specifications as supplemented or modified with the enclosed Special Provisions.

The enclosed Special Provisions and the City of Mandan Specifications described above, the Plans and the Information to Bidders are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete project. Anything in the Specifications and not on the Plans, or on the Plans and not in the Specifications, shall be as though shown or mentioned in both. In case of discrepancy, calculated dimensions will govern over scaled dimensions; plans will govern over Specifications, Special Provisions will govern over Specifications and Plans.

The Contractor shall take no advantage of any apparent error or omission in the plans or specifications. In the event the Contractor discovers such an error or omission, the Contractor shall immediately notify the Engineer. The Engineer will then make such corrections and interpretations as may be necessary for fulfilling the intent of the plans and specifications.

While it is believed that much of the information pertaining to conditions, which may affect the cost of the Work, will be shown on the Plans or indicated in the Specifications, Swenson, Hagen & Co. does not warrant the completeness or accuracy of such information. The Contractor shall ascertain the existence of conditions affecting the cost of the Work, which would have been disclosed by reasonable examination of the site.

The Contractor shall give the work the constant attention necessary to facilitate the progress thereof, and shall cooperate with all of the Developer's Representatives or Consultants, the City of Mandan Engineering Department, and other contractors in every reasonable way.

The Contractor shall consider all federal, state and local laws and regulations that may affect the cost, progress and performance of the work.

## SPECIAL PROVISION NO. 1

### Deletions from the General Provisions

The following sections from the General Provisions shall be deleted:

*Section 100-2 Proposals*

*Section 100-3 Bidder's Bond*

*Section 100-30 Transportation of Materials*

## SPECIAL PROVISION NO. 2

### Additions / Revisions to the General Provisions

Section 100-4 Awards and Contract Security has been revised as follows:

*The Contractor to whom the award is made will be required to enter into a Three-Way Agreement with the City of Mandan and the Developer. Simultaneously with his delivery of the executed Three-Way Agreement, the Contractor shall furnish a performance bond in an amount at least equal to one hundred percent (100%) of the total contract amount as security for the faithful performance of the contract and also a payment bond in an amount not less than one hundred percent (100%) of the total contract amount as security for the payment of all persons performing labor on the project under the contract and furnishing materials in connection with the contract.*

*After the proposals are opened and read, the products of the quantities, the respective unit prices bid and the summation of said products in each proposal will be verified or corrected. In case of discrepancy, the bidding contractor's apparent intent indicated shall govern. However, if the bidding contractors's intent is not apparent, the proposal will be rejected. The verified or corrected totals of the proposals considered will be compared and the results of such comparison will be made available to the bidding contractors. Until the award of the contract; however, the right will be reserved to reject any and all proposals and to waive technicalities as may be deemed best for the interests of the Developer. The Developer reserves the right to award the Contract to any of the Contractors without any liability.*

Section 100-5 Engineer has been revised as follows:

*Where the word "Engineer" is used in the specifications or in the contract, it shall be and is mutually understood to refer to Swenson, Hagen & Co. except where the word "City" precedes "Engineer." The Engineer will give the grades and locations for all work and no work depending upon such grades or locations shall be commenced until after the same have been established. Upon all questions concerning the interpretations of these specifications, the plans or the execution of the work, the decision of the Engineer shall be binding upon both parties. Detail plans of all work not completely shown on the plans now on file will be furnished by the Engineer from time to time and the work shall be executed in accordance with such detail plans.*

Section 100-23 Time of Beginning and Completion of Work has been revised as follows:

*See Section 00030 "Information to Bidders."*

Section 100-25 As-Built Drawings shall be referred to and considered as "Record Drawings" and has been revised as follows:

*This project will not be approved or accepted by the Mandan Board of City Commissioners without the appropriate "Record Drawings" being submitted. Final payment will be subject to acceptance by the Mandan Board of City Commissioners.*

*The Contractor shall be responsible to record distances between manholes and wyes and distances between watermain fittings to corporations. Record drawings of the locations of the sewer service ends, curb stop boxes and gate valves shall be measured by the Contractor. Recorded distances shall be to permanent objects such as hydrants and manholes. Elevations of sewer service ends will be required. Recording of distances and all other pertinent information shall be coordinated with the Consulting Engineer throughout the construction of the project. The above information plus the type of material and supplier shall be added to the original drawing by the Consulting Engineer.*



Section 100-28 Liquidated Damages shall have the following information added to this section:

*By submitting this proposal, the Contract acknowledges the ability to complete the project within the time specified and agrees with the Owner that the actual costs that would be incurred by the Owner caused by the Contractor's failure to complete the project in the time specified are impossible to determine with any degree of precision. Therefore, it is agreed that the Contractor shall be liable to pay the Owner Five Hundred Dollars (\$500.00) per calendar day the project is not completed beyond the completion date. The minimum \$500.00 per calendar day includes but is not limited to extra maintenance, administrative costs, legal costs and engineering fees. The Owner reserves the right to compute actual costs incurred due to Contractor's failure to complete the project and be reimbursed by the Contractor.*

Section 100-29 Barricades and Warnings shall have the following information added to this section:

*All traffic control including but not limited to barricades, signing, flagging, detours, and access to residential properties shall be coordinated with the governing jurisdiction and any directly affected property owners. Street or lane closures will require advance notification to the Fire, Police and Emergency Medical Departments. Temporary access shall be provided wherever practical and signed detours shall be established and maintained during construction activities at the direction and approval of the governing jurisdiction. The Contractor shall provide flagmen, barricades and other traffic control devices or measures to protect the public.*

*All traffic control devices or measures shall meet the requirements of the most recent edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, United States Department of Transportation. Traffic Control devices used on the project will be rated according to the American Traffic Safety Services Association (ATSSA) Quality for Work Zone Traffic Control Devices. The definitions of "acceptable," "marginal," "unacceptable" and the evaluation guidelines shall be as defined in ATSSA's Quality for Work Zone Traffic Control Devices.*

*Payment for "Traffic Control" shall be considered incidental to other bid items.*

Section 100-33 Contractor's Insurance shall have the following information added:

*The Owner (City of Mandan), Developer (Meadowlands Development, LLC) and Engineer (Swenson, Hagen & Co.) shall also be listed as an additional insured under all of the policies.*

Add the following section:

*Section 100-35 Damages. The Contractor will be held responsible and be required to make good, at his own expense, any and all damages to personal property caused by carelessness, neglect or want of due precaution on the part of the Contractor, his agent, employees or workmen.*

Add the following section:

*Section 100-36 Project Observation. Project observation of the work shall be performed by the Consulting Engineer and shall be paid for by the Developer. All requests for clarification, changes, additions, etc. by either the Developer, the Mandan Board of City Commissioners or Mandan City Engineer shall be coordinated through the Consulting Engineer.*

Add the following section:

*Section 100-37 Indemnity Agreement for Contractors. The Contractor agrees to indemnify and save harmless the City of Mandan, the Developer and the Engineer from and against all loss or expense, including attorney's fees and costs by reason of liability imposed by law upon the City, its elected or appointed officials or employees for damages because of bodily injury including death at any time resulting therefrom sustained by any person or persons and on account of damage to property including loss of use thereof, arising out of or in consequence of the performance of this work, whether such injuries to persons or damage to property is due to the negligence of the Contractor, his agents or employees, his subcontractors, their employees, City of Mandan, its appointed or elected officers, employees, or the Engineer.*

Add the following section:

*Section 100-38 Conformity with Plans and Specifications. Unless specific tolerances are specified all work performed and all materials furnished shall be in reasonably close conformity with the lines, grades, cross sections, dimensions and material requirements shown on the plans, indicated in the specifications or as industry standard. Plan dimensions and contract specification values are to be considered as the target value to be strived for as the design value from which any deviations are allowed. It is the intent of the specifications that the materials and workmanship shall be uniform in character and shall conform as nearly as realistically possible to the prescribed target value or to the middle portion of the tolerance range. The purpose of the tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons. When a maximum or minimum value is specified, the production and processing of the material and the performance of the work shall be so controlled that the material or work will not be preponderantly of borderline quality or dimension.*

*In the event the Engineer finds the materials or the finished product in which the materials are used are not within reasonably close conformity with the plans and specifications but that reasonably acceptable work has been produced, the Engineer will then make a determination if the work will be accepted and remain in place. In this event, the Engineer will document the basis of acceptance by contract modification which will provide for an appropriate adjustment in the contract price for such work or materials as the Engineer deems necessary to conform to a determination based upon engineering judgement.*

*In the event the Engineer finds the materials or the finished product in which the materials are used or the work performed are not in reasonably close conformity with the plans and specifications and have resulted in an inferior or unsatisfactory product, the work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.*

Add the following section:

*Section 100-39 Availability of Lands for Work. During the performance of the work of this Contract, the Contractor shall have the authority to access across private property and to store materials on private property of the Developer within Meadowlands Addition. The Contractor shall make every reasonable attempt not to otherwise disturb said private property. Granting of authority for access across private property and for storage shall not confer any liability onto the Developer. The Contractor shall retain any and all liabilities associated with said activities.*

Add the following section:

*Section 100-40 Safety. In accordance with generally accepted construction practices, the Contractor will be solely and completely responsible for conditions of the job site including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal business hours.*

Add the following section:

*Section 100-41 Site Examination. Before submitting a bid, each Contractor shall be responsible to obtain such additional or supplementary examination, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of contraction to be employed by the Contractor and safety precautions and programs incident thereto or which the Contractor deems necessary to determine its bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.*

*On request, the Owner and the Developer will provide each bidding contractor access to the site to conduct such examinations, investigations, explorations, tests and studies as each Contractor deems necessary for submissions of a bid. The Contractor must fill all holes and clean up and restore the site to its former condition upon completion of such explorations, investigations, tests and studies.*

*Granting of authority to perform subsurface exploration shall not confer any liability to the Developer, Engineer or City. The Contractor shall retain any and all liabilities.*

### **SPECIAL PROVISION NO. 3**

#### **Erosion and Sediment Control**

##### **Description:**

The Contractor shall be responsible for installing and maintaining all of the erosion and sediment control measures shown on the plans or as deemed necessary by the Engineer to effectively control pollution of waterways and sedimentation onto adjacent properties or into any downstream drainage facilities.

Erosion control measures shall be sufficient to contain sediments within the construction limits. If any excavation or embankment material does flow onto adjacent properties or downstream, the Contractor shall immediately rectify the problem and repair any damages.

Any failure of the erosion and sedimentation control measures shall be repaired within 48 hours of the runoff event along with any erosion damages at the Contractor's expense. The Contractor shall be required to maintain erosion and sediment control installations until such time as the project is accepted as complete by the Engineer.

Protection of Water Resources. The Contractor shall dispose of all fuels, lubricants and other organic or inorganic wastes at locations approved by regulatory agencies. Fueling, lubricating and overhauling of all equipment shall be accomplished at locations and in such a manner that contaminants can be controlled and disposed of without polluting surface or subsurface waters.

Surface drainage from cuts and fills within the project limits, whether or not complete, and from borrow and waste disposal areas, shall be held in suitable sedimentation ponds or shall be graded to control erosion within acceptable limits. Temporary erosion and sediment control measures such as berms, dikes, drains, silt fences, bales and sedimentation basins, if required to meet the above standards, shall be provided and maintained until permanent drainage and erosion control facilities are complete and operative.

The Contractor will be required to maintain all excavating, embankments, stockpiles, haul roads, plant sites, waste areas, borrow areas, and all other work areas free from dust which would cause a hazard or nuisance to others. The Contractor must have sufficient, competent equipment on the job to control dust. Dust control will be performed as the work proceeds and whenever a dust nuisance or hazard occurs.

The Contractor shall maintain all facilities constructed for pollution control for as long as the operations creating the particular pollutant are being carried out or until the materials of concern become stabilized to the extent that pollution is no longer being created.

**Materials:**

Silt Fence. Silt fence shall be Synthetic Industries GEOTEX or approved equal. Said fence shall be reinforced with steel or wood fence posts at ten foot (10') maximum spacing.

Installation shall be done in accordance with details or Best Management Practices.

**SPECIAL PROVISION NO. 4**

**Unstable, Suitable, Unsuitable and Unsatisfactory Soil**

**Unstable Soils**

Unstable soils are those soils which in their natural or existing condition require manipulation, aeration or wetting, and recompaction to obtain the required density for a suitable subgrade foundation. This condition is usually caused by too high a moisture content for cohesive soils and too loose and/or dry for granular soils.

In the case of cohesive soils where in their natural state the moisture content exceeds optimum moisture, they begin to behave as a plastic rather than a solid. Scarifying or windrowing to a depth of nine to twelve inches and recompacting the soil in six inch lifts to prescribed density requirements will usually correct this condition. The other alternative is to subcut to prescribed depth and replacing the granular material again in accordance with specifications.

In the case of granular soils that are too loose, usually subcutting those and replacing them again in six inch lifts to prescribed density will correct this condition also.

In either case, it is not that these soils have to be replaced with more desirable soil, it is merely that in their natural state they are unstable but not unsuitable for subgrade foundation.

### Unsuitable Soils

Unsuitable soils are those soils which in their natural state are unsuitable for subgrade foundation due to a high organic content such as vegetation, matted roots, peat or muck. Soils of these types are very susceptible to consolidation due to the decaying of this organic matter. Other unsuitable soils are those which contain decomposable debris and ashes.

The frozen condition of any soil or material shall not constitute a basis for a change of classification.

### Suitable Materials

Suitable materials are those materials which have been determined to be satisfactory for subgrade foundations and includes all stable or unstable soils and any other materials deemed satisfactory by the Engineer for use in subgrades or embankments.

### Unsatisfactory Materials

Unsatisfactory materials are those materials which have been determined to be unsuitable for subgrade foundations and includes all unsuitable soils, rock, shale hardpan, loose rock, boulders, concrete chinks or slabs, debris and any other materials deemed unsatisfactory by the Engineer for use in subgrades or embankments.

### **SPECIAL PROVISION NO. 5**

#### **PVC Sewer Pipe**

PVC sewer pipe, main line and service line, shall have an SDR of 35. PVC sewer fittings shall have an SDR of 26.

### **SPECIAL PROVISION NO. 6**

#### **Marking Tape**

The Contractor will be required to furnish and install marking tape over the top of the sanitary sewer mains and water mains installed under this contract. The tape shall be of the non-detectable type and shall have a minimum width of five inches (5"). The tape shall be green in color with the words "CAUTION SEWER LINE BELOW" imprinted on the tape in black capital letters for the sanitary sewer. The tape shall be blue in color with the words "CAUTION WATER LINE BELOW" imprinted on the tape in black capital letters for the water main. The marking tape shall be equal to that manufactured by Griffolyn Company, Inc.

Cost of marking tape and installation shall be considered incidental to other items and no direct payment will be made therefore.

**SPECIAL PROVISION NO. 7**

**Backfilling of the Pipe Trench**

Modify the following statement from Section 801-3.6b Class A Backfill:

*“The remaining trench shall be backfilled in layers and compacted by any approved method or equipment which will produce a uniform density meeting the requirement to obtain not less than eighty percent eighty percent (80%) maximum dry density at optimum moisture made in accordance with ASTM D1557. . .”*

Change the eighty percent (80%) to ninety percent (90%).

**SPECIAL PROVISION NO. 8**

**Soil Moisture Content**

The moisture content of the soil at the time of compacting shall not be less than three (3) percentage points below optimum moisture content and not more than four (4) percentage points above optimum moisture content. It is recommended that the Contractor mix soils to acquire the proper moisture content.

**SPECIAL PROVISION NO. 9**

**Compaction Testing**

The Contractor shall engage an independent soils testing laboratory, approved by the Engineer, to determine the soil moisture density relationships and perform the required compaction testing to be determined by the Engineer.

The compaction control tests for this section are based on one individual compaction test per 300 feet of trench per thirty inches (30") of backfill and a minimum of one test per service line, between 2 feet above the pipe to 1 foot below finished grades or where directed. The Contractor shall be responsible for all retesting of failing tests and a proctor determination to represent each soil condition to be encountered on the project. The time, locations, depths and frequency of compaction testing shall be at the discretion of the Engineer during construction.

Compaction testing to determine densities may be accomplished with a nuclear density testing apparatus and/or the sand cone method. Should disputes arise concerning test results, they will be resolved by using the sand cone.

Written reports of all test results shall be supplied to the Engineer and the Contractor by the testing laboratory as soon as possible. To expedite construction progress, it is necessary that the Contractor and Engineer be furnished with the results of all tests as soon as testing is completed.

The availability of the independent testing laboratory when needed and speed of testing and reporting are to be considered the responsibility of the Contractor.

Compaction control tests as stated above shall be incidental to the price bid for the construction item which the test was taken for or associated with.

**SPECIAL PROVISION NO. 10**  
**Infiltration / Exfiltration**

If groundwater is found to be present by the Engineer, the sewer lines shall be tested for infiltration/exfiltration by performing an air test. The air test shall conform to the test procedures described in ASTM F-1417 for plastic pipe.

“The ground water elevation shall be measured within 24 hours of testing. Slowly add pressure air into the test section until the pressure inside the pipe reaches 4.0 psig greater than the average ground water pressure (ground water back pressure = 0.43 X average height of ground water, in feet, above the test section) on the test section. Regulate the air supply so the pressure is maintained between 3.5 to 4.0 psig above the average ground water back pressure for at least two (2) minutes to allow the air to stabilize. After the test section has stabilized, disconnect the air supply and decrease the pressure to 3.5 psig above the average ground water back pressure. The allowable air loss is shown in the following tables for 1.0 psig pressure drop and 0.5 psig pressure drop.”

<b>Minimum Specified Time Required for a 1.0 psig Pressure Drop for Size and Length of Pipe Indicated</b>										
Pipe Diameter, in.	Minimum Time, min:s	Length for Minimum Time, ft	Time for Longer Length, s	Specification Time for Length (L) Shown, min:s						
				100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft
4	3:46	597	0.380 L	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	0.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:42
8	7:34	298	1.520 L	7:34	7:34	7:34	7:34	7:36	8:52	10:08
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:49
12	11:20	199	3.418 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47



Minimum Specified Time Required for a 0.5 psig Pressure Drop for Size and Length of Pipe Indicated										
Pipe Diameter, in.	Minimum Time, min:s	Length for Minimum Time, ft	Time for Longer Length, s	Specification Time for Length (L) Shown, min:s						
				100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft
4	1:53	597	0.190 L	1:53	1:53	1:53	1:53	1:53	1:53	1:53
6	2:50	398	0.427 L	2:50	2:50	2:50	2:50	2:50	2:50	2:51
8	3:47	298	0.760 L	3:47	3:47	3:47	3:47	3:48	4:26	5:04
10	4:43	239	1.187 L	4:43	4:43	4:43	4:57	5:56	6:55	7:54
12	5:40	199	1.709 L	5:40	5:40	5:42	7:08	8:33	9:58	11:24

Sewer service lines will not be included for computing required test time if the test time requirements are met. If the test section fails, time shall be recomputed to include all the lateral lengths. If groundwater is observed in the new sewer system after testing has been completed and accepted, the Contractor shall be responsible to locate the leak, repair it and retest that section. All testing shall be observed by the Engineer.

All costs associated with performing infiltration/exfiltration testing shall be considered incidental to the "8" Sanitary Sewer" bid item.

**SPECIAL PROVISION NO. 11**

**State Health Department Requirements**

All products that may come in contact with water intended for use in a public water system shall meet American National Standards Institute (ANSI)/National Sanitary Foundation International (NSF) Standard 61. A product will be considered as meeting this standard if so certified by NSF the Underwriters Laboratories or other organization accredited by ANSI to test and certify such products.

**SPECIAL PROVISION NO. 12**

**Gate Valve Extension Stems**

All stem extensions shall be capable of being fastened to the operating nut with a set screw. Do not fasten to the operating nut unless directed to by the Engineer at the time of construction. The operating nut shall be drilled or otherwise indented to accept the set screw and provide a secure connection that will prevent an extension from coming loose during operation. The extension stem shall rise to within one foot (1') of the proposed finished ground surface.

**SPECIAL PROVISION NO. 13**

**Valve Boxes**

Add the following information to Section 901-2.10 Valve Boxes:

*All valve boxes shall be capable of a minimum six inch (6") top adjustment in either direction, up or down, to or from, the finished curb grades shown in the plans.*

*Styrofoam or plastic mud plugs shall be provided and are considered incidental. All new valve boxes shall extend to the surface without the use of extension pieces.*

**SPECIAL PROVISION NO. 14**

**Watermain Testing**

The watermain shall be tested as specified in the Construction Specifications for the City of Mandan.

**SPECIAL PROVISION NO. 15**

**Watermain Bolts**

Bolts for mechanical joint fittings shall be alternated with one-half stainless steel and one-half low alloy steel per fittings. Low alloy steel bolts shall contain a maximum content of carbon at 0.20 percent, manganese at 1.25 percent and sulfur at 0.05 percent and a minimum content of nickel at 0.25 percent, copper at .20 percent, and a combined content of nickel, copper and chromium of 1.25 percent.

**SPECIAL PROVISION NO. 16**

**Bacteriological Testing**

After final flushing and before the new watermain is connected to the distribution system, two consecutive sets of acceptable samples, taken at least 24 hours apart, shall be collected from the new main. The Contractor or testing laboratory, in the presence of the Engineer, shall perform the sampling. The Contractor shall record the locations the samples were taken. Sampling shall be performed with due care to prevent contamination using sterile bottles provided by the testing laboratory. It is not recommended that samples be collected from hoses or fire hydrants. The testing of the samples shall be performed by a State of North Dakota certified testing laboratory selected by the Contractor and approved by the Engineer. Taps shall be provided so at least one set of samples may be collected from every 1,200 feet of new watermain, with one set from the end of the line and at least one set from each branch exceeding fifty feet (50') in length. All samples shall be tested for bacteriological quality and shall show the absence of coliform organisms.

If trench water has entered the new main during construction or, if in the opinion of the Engineer, excessive quantities of dirt or debris have entered the new main, bacteriological samples shall be taken at intervals of approximately 200 feet and shall be identified by location. Samples shall be taken of water that has stood in the new main for at least sixteen (16) hours after final flushing has been completed.

The testing laboratory shall test for coliforms and e-coli using the "Colilert" or other Engineer approved equivalent test. The "Colilert" test is a pass/fail test that does not quantify the amount of bacteria. Any presence of coliforms or e-coli shall qualify as a failed test.

If the initial disinfection fails to produce satisfactory bacteriological results, the new main may be flushed and shall be resampled. If check samples also fail to produce acceptable results, the main shall be rechlorinated by the continuous-feed or slug method of chlorination until satisfactory results are obtained.

#### **SPECIAL PROVISION NO. 17**

##### **Water for Backfill**

During the course of backfilling, it may become necessary for water to be added to meet moisture requirements. This water may be obtained from City of Mandan hydrants. The Contractor shall be required to notify and obtain all necessary permits, meters and permissions from the City of Mandan prior to making any connections. All costs for purchasing water for transportation and application of the water shall be considered incidental to other bid items.

#### **SPECIAL PROVISION NO. 18**

##### **Crossings**

All watermain and sanitary sewer crossings shall conform to the following policy:

1. Where both water and sewer are of new construction:
  - (a) No additional protection is needed if watermain crosses at least five (5) feet above the sewer.
  - (b) If the watermain crosses with three to five (3 to 5) feet above the sewer, a full length of watermain shall be centered over the sewer.
  - (c) If the watermain crosses with three (3) feet above the sewer, a full length of watermain shall be centered over the sewer and the sewer joints located within ten (10) feet of the crossing shall be able to withstand 25 psi internal pressure.

2. Where watermain crosses over an existing sewer:
  - (a) No additional protection will be needed if watermain is at least three feet (3') above the sewer. (Intervening dirt must be left undisturbed.)
  - (b) If crossing is within three feet (3') above sewer, a full length of watermain must be centered over the sewermain.
  
3. Where watermain crosses under the sewer:
  - (a) In all cases, additional protection shall be provided by centering a full length of watermain under the sewermain. All sewer joints located within ten feet (10') of the crossing shall be able to withstand 25 psi internal pressure.

#### **SPECIAL PROVISION NO. 19**

##### **Precast Reinforced Concrete Pipe Manhole with Monolithic Base**

Precast reinforced concrete risers, top sections and bases shall conform to ASTM C478. All manhole bases shall be a minimum of 12 inches thick and have a minimum diameter of 86 inches. All precast bases shall be reinforced with a minimum of No. 4 reinforcing bar spaced eight inches on center (8" o.c.) in both directions at mid depth of the base. The base and bottom barrel section shall be cast monolithically (integral base). The pipe connections to the manhole shall be rubber with stainless steel straps, Press-Seal Gasket Corporation model Press-Boot or an Engineer approved equal. All barrel to barrel joints shall be integral rubber gasket, P2 joint as manufactured by Cretex Concrete Products West, Inc. or an Engineer approved equal.

The manhole frame and cover shall be of the type manufactured by the Neenah Foundry Company Number R-1755-F2 or East Jordan Iron Works Number 1893 with concealed pick holes and self sealing Platen lid or Engineer approved equal. The space between the cover and the inner lid shall be filled with bat insulation.

The manhole steps to be furnished and installed shall be rubber coated over steel reinforcing of the type manufactured by the Delta Products (Delta-Surefoot Company) or an Engineer approved equal. The maximum spacing between steps shall be 16 inches.

**SPECIAL PROVISION NO. 20**

**Concrete Manhole Flow Lines**

The flow lines of the concrete manholes shall be smooth and provide for a continuous sloped grade through the manhole. The Engineer shall have the authority to reject and require repouring of concrete or other repairs to provide a smooth continuous slope.

**SPECIAL PROVISION NO. 21**

**Curb Stop**

Curb stops shall be Mueller No. B-25154 without drain, having a Minneapolis Pattern, or Engineer-approved equal. All curb stops shall be furnished with an extension stem that rises to within one foot (1') of the ground surface.

**SPECIAL PROVISION NO. 22**

**Tapping Saddles**

Tapping saddles shall be a Romac Industries 306 style stainless steel double bolt suitable for polyvinyl chloride complete with stainless steel bolts, nuts and washers or Engineer-approved equal.

**SPECIAL PROVISION NO. 23**

**Service Line Construction Requirements**

Construction requirements shall conform to Sub-Section 801-3 for sewer service connections and Sub-Section 901-3 for water service connections. All pipe and fittings shall be installed in accordance with the manufacturer's recommendations unless otherwise specified herein.

For each sewer stubout a two inch by four inch (2" x 4") wood marker shall be placed a minimum of one foot (1') from the end of the sewer stubout, and shall extend vertically to not less than three feet (3') above the existing surrounding ground. The end of the wood marker shall be painted green. At each water curb stop a steel post with a blue painted top shall be placed.

The Contractor shall be responsible for maintaining the markers until the project has been accepted by the Engineer. The cost of the stubout markers shall be considered incidental to other bid items.

All water service line stubouts shall be thoroughly flushed prior to testing of mains or stubouts. Curb Stops shall be installed on a ½ square foot by four inch (4") thick concrete pad.

**SPECIAL PROVISION NO. 24**

**Hydrants**

The hydrant nozzle shall be eighteen (18) inches above the final plan ground elevation. All hydrants shall have an 8.5 foot bury depth.

**SPECIAL PROVISION NO. 25**

**Permits**

The Contractor shall be required to obtain all City, State and Federal permits. Copies of all permits shall be provided to Swenson, Hagen & Co.

**SECTION 01500  
PROPOSAL FORM**

**FOR**

**WATER, SANITARY SEWER & STORM SEWER  
IMPROVEMENT PROJECT NO. 2015-10**

**IN**

**MEADOWLANDS ADDITION  
MANDAN, NORTH DAKOTA**

1. The bidding contractor hereby certifies that he has personally examined the location and construction details of work outlined on the plans and specifications for the construction of water, sewer and storm in and for Water, Sanitary Sewer and Storm Sewer Improvement Project No. 2015-10 in the City of Mandan, North Dakota.
2. Further, the bidding contractor certifies that he has read and thoroughly understands the plans and specifications and contract documents governing the work embraced in these improvements and the method by which payment will be made for said work.
3. The bidding contractor hereby proposes to undertake and complete the work embraced in these improvements in accordance with said plans, specifications and contract documents and at the following schedule of rates and prices:

**WATER, SANITARY SEWER & STORM SEWER IMPROVEMENT PROJECT NO. 2015-10  
MEADOWLANDS ADDITION**

<u>WATERMAIN ITEMS</u>	<u>QUANTITY</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
Bedding Material	600 TON	\$ _____	\$ _____
Rock Excavation	50 CY	\$ _____	\$ _____
Ductile Iron Fittings	incidental		\$ _____
6" PVC Watermain	50 LF	\$ _____	\$ _____
8" PVC Watermain	1,977 LF	\$ _____	\$ _____
6" Gate Valve and Box	5 EA	\$ _____	\$ _____
8" Gate Valve and Box	5 EA	\$ _____	\$ _____
Meter Manhole	1 EA	\$ _____	\$ _____
6" Hydrant	5 EA	\$ _____	\$ _____
8" Hydrant	1 EA	\$ _____	\$ _____
2" Copper Water Serv. Pipe	224 LF	\$ _____	\$ _____
2" Water Service Connection	4 EA	\$ _____	\$ _____
2" Ball Valve Curb Stop & 1 ½ Box	4 EA	\$ _____	\$ _____
8" Watermain Site Work	1 LS	\$ _____	\$ _____
Dewatering	2420 LF	\$ _____	\$ _____

**WATERMAIN SUBTOTAL**      \$ \_\_\_\_\_

<u>SANITARY SEWER ITEMS</u>	<u>QUANTITY</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
8" Sanitary Sewer	1,403 LF	\$ _____	\$ _____
Televise Sewer Main	1,403 LF	\$ _____	\$ _____
Bedding Material	343 TON	\$ _____	\$ _____
Rock Excavation	50 CY	\$ _____	\$ _____
48" Concrete Manhole	5 EA	\$ _____	\$ _____
6" Sewer Service Pipe	613 LF	\$ _____	\$ _____
8" x 6" Wye Branch	14 EA	\$ _____	\$ _____
6" 45° Bend	12 EA	\$ _____	\$ _____



6" 22.5° Bend	2	EA	\$ _____	\$ _____
Existing Manhole Connection	1	LS	\$ _____	\$ _____
Dewatering	1403	LF	\$ _____	\$ _____

**SANITARY SEWER SUBTOTAL** \$ \_\_\_\_\_

<u>STORM SEWER ITEMS</u>	<u>QUANTITY</u>		<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
24" Storm Sewer Pipe	223	LF	\$ _____	\$ _____
30" Storm Sewer Pipe	669	LF	\$ _____	\$ _____
22.5" x 36.25" Arch Storm Sewer Pipe	187	LF	\$ _____	\$ _____
36" Storm Sewer Pipe	17	LF	\$ _____	\$ _____
Bedding Material	500	TON	\$ _____	\$ _____
Rock Excavation	25	CY	\$ _____	\$ _____
Type 72" Inlet	3	EA	\$ _____	\$ _____
Type 108" Inlet	3	EA	\$ _____	\$ _____
72" Concrete Manhole	2	EA	\$ _____	\$ _____
84" Concrete Manhole	2	EA	\$ _____	\$ _____
96" Concrete Manhole	1	EA	\$ _____	\$ _____
Dewatering	1079	LF	\$ _____	\$ _____

**STORM SEWER SUBTOTAL** \$ \_\_\_\_\_

**TOTAL COST** \$ \_\_\_\_\_

4. The quantities shown are estimated quantities based on information available at the time of design. It is mutually understood that these quantities may change at the time of construction due to unforeseen conditions which may be encountered during construction. Payment will be made for the final amount of work completed at unit prices specified in the contract. Linear foot quantities will be rounded to the nearest foot. Cubic yard and tonnage quantities will be measured to the nearest tenth of a yard or ten.
  
5. In submitting this bid it is understood that the right to reject any and all bids is reserved by the Engineer, and it is agreed that this bid may not be withdrawn during the period of days provided in the Contract Documents.
  
6. The bidding contractor hereby certifies:
  - a. That this bid is genuine and is not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules or any groups, association, or organization.
  - b. That he has not directly or indirectly induced or solicited any other contractor to put in a false or sham bid.
  - c. That he has not solicited or induced any person, firm or corporation to refrain from bidding.
  - d. That he has not sought by collusion or otherwise to obtain from himself any advantage over any other contractor or over the Owner.
  - e. Sub-Contracting – All work performed under this contract shall be by the company or firm to which the contract is awarded and no portion shall be awarded to a subcontractor unless authorized in writing by the Engineer.
  - f. He has received addenda:

No.	Dated	Initial
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

7. The following documents are attached and made a condition of this bid:
  - a. Copy of North Dakota Contractors License or Certificate of Renewal.

8. The Contractor shall be required to submit the entire Specification with the Proposal attached.

License Information:

North Dakota License Class \_\_\_\_\_  
License No. \_\_\_\_\_  
Issue/Renewal Date \_\_\_\_\_

Firm Information:

Is your firm a(n)            Individual \_\_\_\_\_  
   Partnership \_\_\_\_\_  
   Corporation \_\_\_\_\_

Full Legal Name of Firm \_\_\_\_\_  
Street Address \_\_\_\_\_  
City, State, Zip \_\_\_\_\_  
Signature \_\_\_\_\_  
Title \_\_\_\_\_

Proposed Construction Foreman \_\_\_\_\_

Office Phone # \_\_\_\_\_ Foreman Phone # \_\_\_\_\_

**PLAN HOLDER'S LIST FOR  
 SANITARY SEWER & STORM SEWER IMPROVEMENT PROJECT 2015-10  
 MEADOWLANDS ADDITION  
 MANDAN, NORTH DAKOTA**

PLAN HOLDER	RECEIVED	BILLED \$25	
1. City of Mandan		N/A	
2. ND Health Dept		N/A	
3. ND Health Dept		N/A	
4. Barry Jennings			
5. Cretex West			
6. Fargo Water Equipment			
7. Northern Water Works			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			