

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING BUREAU
WALLACE STATE OFFICE BUILDING

ADDENDUM No. 1

GEODE STATE PARK
CAMPGROUND UPGRADE PROJECT
HENRY COUNTY, IOWA
PROJECT NUMBER: 18-06-44-01

November 14, 2017

This Addendum is issued to modify, explain or correct the original Drawings and Specifications, and is hereby made a part of the Contract Documents. Please attach this Addendum to the Project Manual in your possession. Insert the number and issue date of this Addendum in the blank space provided on the Proposal Form.

SPECIFICATIONS:

- A. Section #003, Enumeration of Drawings had the incorrect project number.
- B. Section #300, Proposal Form, had incorrect quantities for Items #49, 50 and 51.
- C. Section #500, Contract Form had the incorrect project number.
- D. Add Section #02785, Electrical Power Transmission.

PLANS:

- A. Revised Sheet #3, QUANTITIES & GENERAL NOTES, Bid items #49, 50 and 51 have been updated. Item description for #11, RV SANITARY SEWER CLEANOUT CONNECTION has been revised to reference Sheet #10.
- B. Revised Sheet #10, SANITARY PLAN (SOUTH PORTION), the detail for the RECREATIONAL VEHICLE TO SANITARY SEWER CONNECTION note for the self-closing sewer cap has been revised and references (2) different suppliers for the clean-out.
- C. Revised Sheet #26, ELECTRICAL DETAILS, the sheet has been revised to include a detail for the 50-amp campsite outlet post.
- D. On Sheets #11 & 38, disregard the "6" PCC SLAB, 2" INSULATION & 4" GRANULAR BASE" for the PROPOSED SHOWER BUILDING note. The Huffcutt shower building is to be installed per manufacturer specifications.

SECTION 00003
ENUMERATION OF DRAWINGS

GEODE STATE PARK
CAMPGROUND UPGRADE PROJECT
HENRY COUNTY, IOWA
PROJECT NO. 18-06-44-01

CONSTRUCTION DRAWINGS - SHEET NO. 1 THROUGH NO.42 INCLUSIVE

Sheet No. 1 -- Cover Sheet
Sheet No. 2 -- Vicinity Maps
Sheet No. 3 -- Quantities & General Notes
Sheet No. 4 -- Overall Demolition Plan
Sheet No. 5 -- Demolition Plan (Northwest)
Sheet No. 6 -- Demolition Plan (Northeast)
Sheet No. 7 -- Demolition Plan (Southwest)
Sheet No. 8 -- Demolition Plan (Southeast)
Sheet No. 9 -- Overall Sanitary Plan
Sheet No. 10 -- Sanitary Plan (South Portion)
Sheet No. 11 -- Sanitary Plan (West Portion)
Sheet No. 12 -- Sanitary Disposal Station
Sheet No. 13 -- Sanitary Disposal Station Details
Sheet No. 14 -- Sanitary Disposal Station Details
Sheet No. 15 -- Sanitary Sewer Profiles
Sheet No. 16 -- Sanitary Sewer Profiles
Sheet No. 17 -- Sanitary Sewer Profiles
Sheet No. 18 -- Overall Water Plan
Sheet No. 19 -- Water Plan (Northwest Area)
Sheet No. 20 -- Water Plan (East Area)
Sheet No. 21 -- Water Plan (South Area)
Sheet No. 22 -- Overall Electrical Plan
Sheet No. 23 -- Electrical Plan (Northwest)
Sheet No. 24 -- Electrical Plan (Northeast)
Sheet No. 25 -- Electrical Plan (South)
Sheet No. 26 -- Electrical Plan Details
Sheet No. 27 -- Electrical Plan Details
Sheet No. 28 -- Overall Grading Plan
Sheet No. 29 -- Grading Plan (Northwest)
Sheet No. 30 -- Grading Plan (Northeast)
Sheet No. 31 -- Grading Plan (South)
Sheet No. 32 -- Air Release Valve Replacement
Sheet No. 33 -- Double Vault Restroom Building
Sheet No. 34 -- Vault Building Details
Sheet No. 35 -- Vault Building Details
Sheet No. 36 -- Vault Building Details
Sheet No. 37 -- Vault Building Details
Sheet No. 38 -- Shower Building Site Plan
Sheet No. 39 -- Shower Building Parking Details
Sheet No. A.01 -- Shower Building Floor Plan
Sheet No. C.01 -- Seal Coat General Notes

ENUMERATION OF DRAWINGS
00003-1

11/1/2017

SECTION 00003
ENUMERATION OF DRAWINGS

Sheet No. D.01 – Seal Coat Site Plan

Time and Date of Letting **11:00 AM, November 22, 2017**

PROPOSAL

Project No. **18-06-44-01**

Project Description and Location

**GEODE STATE PARK
CAMPGROUND UPGRADE PROJECT
HENRY COUNTY, IOWA**

Proposal of: _____
(Name of Bidder)

Located at: _____ () _____
(Address) (Area) (Telephone)

Amount of Proposal Guarantee	Specified completion date or Number of Working Days	Approx. or Specified Starting Date or Number of Working Days	Liquidated Damages Per Day
\$53,000.00	12/1/2018	March 1, 2018	\$600.00

The undersigned hereby agrees, if awarded the contract, to execute the proposed contract and to furnish an approved performance bond in a amount not less than 100 percent of the contract award within 30 days after the date of approval of award of the contract, and to provide all labor, materials, and equipment required to complete the project designated above, for the price hereinafter set forth, in strict compliance with the contract documents prepared by the Iowa Department of Natural Resources.

The undersigned agrees, if awarded the contract, to commence the work within a reasonable time after the preconstruction conference or by the specific starting date, if so specified, and to complete the work within the contract period, or to pay liquidated damages in the amount stipulated herein for each calendar day the work remains uncompleted after the expiration of the contract period or any authorized reduction thereof.

A proposal guarantee in the amount stipulated herein is included with this proposal, to be forfeited to the Iowa Department of Natural Resources if the undersigned fails to execute the contract and furnish an approved performance bond, if awarded the contract.

By virtue of statutory authority, preference will be given to products and provisions grown and coal produced within the state of Iowa, and also, a resident bidder shall be allowed a preference against a nonresident bidder from a state or foreign country which gives or requires a preference to bidders from that state or foreign country on projects in which there are no federal funds involved.

BY

(Iowa Contractor Registration No.)

(Signed) _____
(Date)

(FID/EIN/SSN)

(Phone Number) _____
(Fax Number)

(Email Address)

By signing and submitting the proposal, the bidder:

1. Gives an unsworn declaration on behalf of each person, firm, association, partnership, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract, and is not under debarment currently by the Federal government for a criminal violation which is reasonably related to bidding and contracting procedures; and
2. Affirms to have examined the plans, specifications, and job site to become acquainted with the adjacent areas, means of approach to the site, conditions of the actual job site, and the facilities for delivering, storing, placing, and handling of materials and equipment.

SCHEDULE OF PRICES

Project Description and Location

CAMPGROUND UPGRADE PROJECT, GEODE STATE PARK, HENRY COUNTY

Name of Bidder

THE "UNIT PRICE" AND "AMOUNT" COLUMNS MUST BE FILLED IN FOR THIS PROPOSAL TO BE CONSIDERED COMPLETE. IF THERE IS A DISCREPANCY BETWEEN UNIT BID PRICES, EXTENSIONS, OR TOTAL AMOUNTS OF BID, THE UNIT PRICES SHALL GOVERN.

Item No.	Description	Estimated Quantity	Unit Price	Amount
1	Clearing and Grubbing	1 Lump Sum		
2	Demolition	1 Lump Sum		
3	Full Depth Saw Cut	96 LF		
4	HMA Pavement Removal/Replacement	28 SY		
5	Grading	1 Lump Sum		
6	Type SW-301 48" Diameter Sanitary Manhole W/Typ 'A' Casting	5 EA		
7	Sanitary Sewer Connections to Existing Structures	2 EA		
8	6-inch Sanitary Sewer Service (PVC SDR 23.5)	1050 LF		
9	4-inch Sanitary Sewer Service (PVC SDR 23.5)	353 LF		
10	Sanitary Sewer Cleanout	1 EA		
11	RV Sanitary Sewer Cleanout Connection	14 EA		
12	Sanitary Disposal Stations	2 EA		
13	Sanitary Sewer Road Crossings	2 EA		
14	6"x4" Wye	14 EA		
15	Replace Air Pressure Release Valve in Existing Manhole	1 EA		
16	3-inch Water Main Connections	2 EA		
17	1-inch HDPE Pipe	1068 LF		
18	2-inch HDPE Pipe	457 LF		
19	3-inch HDPE Pipe	1382 LF		
20	3x3x3 HDPE Tee	1 EA		
21	3x3x2 HDPE Tee	2 EA		
22	3x3x1 HDPE Tee	19 EA		
23	2x2x2 HDPE Tee	1 EA		

24	2x2x1 HDPE Tee	6 EA		
25	3x2 HDPE Reducer	1 EA		
26	2x1 HDPE Reducer	3 EA		
27	3-inch Valve	1 EA		
28	2-inch Valve	3 EA		
29	2-inch Type 'K' Copper Pipe	11 LF		
30	Woodford Model S-3 Sanitary Yard Hydrants	24 EA		
31	Drain Down Pit	1 EA		
32	Road Crossings For Bored Water Lines	11 EA		
33	Disinfection	1 Lump Sum		
34	Single Campsite Outlet Post-50 Amp	52 EA		
35	No. 2 AWG Grounding Conductor Cable, Type THW or USE	4449 LF		
36	No. 3/0 AWG Single Conductor Cable, Type USE	1971 LF		
37	No. 4/0 AWG Single Conductor Cable, Type USE	1830 LF		
38	No. 250 MCM Single Conductor Cable, Type USE	5118 LF		
39	No. 300 MCM Single Conductor Cable, Type USE	4428 LF		
40	Roadway Crossing Conduit-Schedule 80 PVC	225 LF		
41	Detectable Warning Tape, 3" Electric	3619 LF		
42	Trench, Single Circuit Secondary	3619 LF		
43	Install 200 Amp Circuit Breakers Into Existing Panels	7 EA		
44	Re-Connect Wiring to Light Pole	1 Lump Sum		
45	Engineering Fabric	9831 SY		
46	Macadam Stone	1917 Tons		
47	3/8" Minus Crushed Limestone	1033 Tons		
48	Class 'A' Crushed Stone	36 Tons		
49	Granular Base	111 Tons		
50	6-inch Non-Reinforced PCC	256 SY		
51	5-inch Non-Reinforced PCC Sidewalk	156.5 SY		
52	Huffcutt Iowa Standard Tamarack Shower Building	1 EA		

53	Huffcutt Iowa Standard Double Vault Restroom Building	1 EA		
54	Seeding, Fertilizing and Mulching	1 Lump Sum		
55	1/2-inch Crushed Stone	127 Tons		
56	Binder Bitumen	3761 Gallons		
57	Traffic Control	1 Lump Sum		
58	NPDES General Permit #2 & SWPPP	1 Lump Sum		
59	Mobilization	1 Lump Sum		
60	Parking Space Striping and Handicap Pavement Markings	1 Lump Sum		
61	Concrete Parking Wheel Stops	4 EA		
		TOTAL		

Bidder Acknowledges Receipt of Any Issued Addenda Below (Number and Date)

**GEODE STATE PARK
CAMPGROUND UPGRADE PROJECT
PROJECT NO. 18-06-44-01
HENRY COUNTY, IOWA**

THIS AGREEMENT, made this _____ day of, _____ 20_____ by and between the state of Iowa acting through the Department of Natural Resources hereinafter called the **DEPARTMENT** and:

located at

hereinafter called the **CONTRACTOR**

WITNESSETH: That the **DEPARTMENT** agrees to pay the **CONTRACTOR** the contract price provided herein for the fulfillment of the work and the performance of the covenants set forth herein, and the **CONTRACTOR** agrees with the **DEPARTMENT** to commence and complete the project described as follows:

THIS PROJECT CONSISTS OF REMOVAL OF THE EXISTING CAMPGROUND CAMP PADS, ELECTRIC SERVICE LINES, DUMP STATION AND SHOWER & RESTROOM VAULT BUILDINGS AND INSTALLING NEW GRAVEL CAMP PADS, ELECTRIC SERVICES, WATER SERVICES, SANITARY SEWER SERVICES, A NEW SHOWER BUILDING, A NEW VAULT RESTROOM BUILDING AND INSTALLING A NEW DUMP STATION LOCATED AT GEODE STATE PARK IN HENRY COUNTY, IOWA.

For the Sum of:

Dollars (\$)

and all extra work in connection therewith, all in accordance with the terms and conditions herein contained: and to furnish at the **CONTRACTOR'S** own proper cost and expense, all material, equipment, labor, insurance, and other accessories and services necessary to construct and complete, in a workmanlike manner, ready for continuous operation, the above mentioned project. The work shall be performed in accordance with the requirements and provisions of the following documents, all of which are made a part hereof and collectively evidence and constitute the contract:

1. Notice to Bidders.
2. Instructions to bidders.
3. IDNR Standard Specifications and Current Supplemental Specifications
4. Project Specifications Including Addenda Number _____ Through _____
5. Drawings, Sheet Number _____ 1 Through _____ 42 Inclusive
6. Contractor's Proposal.
7. Proposal Guarantee Bond.
8. Performance Bond.
9. This Instrument.
10. Modifications or Change Orders pursuant to IDNR Standard Specifications
11. Resident Bidder Preference Certification on Non-Federal-Aid Projects

The parties to this contract understand that time of completion of the work under this contract is the essence to the contract. The **CONTRACTOR** hereby agrees to commence work under this contract in accordance with Section 1108 of the IDNR Standard Specifications and to complete all the work by

12/1/2018

The **CONTRACTOR** hereby agrees that liquidated damages in the amount of _____ Six Hundred Dollars \$ 600.00

shall be retained or assessed against the **CONTRACTOR** for each day and every day the completion of the work is delayed beyond the time specified herein, not as a penalty, but as a mutually agreed to, predetermined amount to reimburse the **DEPARTMENT** for salaries of engineers and reviewers, clerk hire, interest charged during the period for delays and loss of use.

It is understood that the **CONTRACTOR** consents to the jurisdiction of the courts of Iowa, to hear, determine and render judgment as to any controversy arising hereunder, and that this contract shall be governed by, and construed according to, the laws of the state of Iowa.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, in the day and year first above mentioned.

FOR THE DEPARTMENT:

Deputy Director

This contract was approved by the **NATURAL RESOURCES COMMISSION** at its meeting held on

(Date)

FOR THE CONTRACTOR:

(Signature and Title)

(Firm)

(Address and Zip Code)

Seal if by a Corporation:

Identification Number _____

Soc. Sec. No. _____

Or Fed. I. D. No. _____

PART 1 - GENERAL

1.01 SUMMARY:

- A. Section Includes: Providing all material, tools, equipment, and labor necessary to complete the following:
1. Provide complete and functioning electrical power transmission, services and systems as shown on the Drawings, as specified herein, and as required for a complete and proper installation of a campground electrical system including, but not limited to:
 - a. Electrical service, complete, of size, voltage and type indicated or required to point of connection with utility company's equipment; all conductors shall be copper.
 - b. Service entrance with metering equipment and feed switches or breakers.
 - c. Main distribution panels and distribution panels or boards as needed.
 - d. Complete feeder system, underground, from the main distribution panels to individual campsite power outlets and branch panels.
 - e. Complete branch circuit wiring for receptacles, junction boxes, area lighting, and similar uses.
 - f. Exterior lighting fixtures, lamps and poles, terminal and splice boxes, campsite power outlets, switches, receptacles, controls, and motors, motor starters, detectable tape, and similar items.
 - g. Hangers, anchors, sleeves, bushings, conduits, conduit risers and elbows, supports for fixtures, equipment mounting structures, transformer pads and other electrical materials and equipment in association therewith.
 - h. Trenching and backfilling for underground electrical installation not specified elsewhere.
 - i. Connections to distribution panels in Buildings or existing utility company equipment, as shown on the Drawings.
 2. The omission of direct reference to an essential part, the necessity or use of which is reasonably implied shall not release the Contractor from providing the same.
 3. Inspect the site as necessary to become familiar with all existing conditions affecting the performance of the work under this Contract. Extras will not be allowed for failure to do so.
- B. Related Sections: Drawings and General Provisions of the contract, including the General Covenants and Provisions, Supplementary Covenants and Provisions and General Requirements as well as, but not necessarily limited to, the following:

Section 02220 Trenching, Backfilling and Compacting

- C. Certain material may be provided by others to be installed under this contract. Coordinate with DNR Construction Inspector, utility company and other slated to provide material to be installed as part of this contract.

1.02 REFERENCES:

- A. Codes, Ordinances, and Standards: Comply with all applicable codes and regulations of the following:
 - 1. National Electric Code, latest edition;
 - 2. Local Utility Company Regulations;
 - 3. Underwriter's Laboratories.

1.03 SYSTEM DESCRIPTION:

- A. Power system shall be a 120/240 volt, 60 cycle, single phase 3-wire solid neutral, underground system.
 - 1. Ground circuits at the transformer/main distribution panel with a No.6 AWG continuous copper grounding conductor type THW routed with the circuit conductors.
- B. Verify the exact location of primary service, secondary service, and transformers at the job site.
- C. Underground Service Entrance: Unless otherwise specified elsewhere conductors will be continuous direct burial cable, USE or UF neoprene jacket insulated and moisture resistant non-metallic outer covering.
 - 1. Minimum burial depth 24 inches.
 - 2. Furnish and install number and size of conductors shown or as required by N.E.C.
 - a. All conductors shall be copper.

1.04 SUBMITTALS:

- A. Submit shop drawings, diagrams, and product information, material lists and manufacturer's specifications to Project Engineer before obtaining material, including but not necessarily limited to the following:
 - 1. Panelboards, power outlets, and equipment.
 - 2. Each specialized installation or system, including assembly or coordination Drawings.
- C. Product Data, Submit:
 - 1. Materials list of items proposed to be provided under this section;

2. Manufacturers' specifications and other data needed to prove compliance with the specified requirements;
 3. Manufacturers' recommended installation procedures which, when approved by the Project Engineer, will become the basis for accepting or rejecting actual installation procedures used on the work.
- D. Manual: Upon completion of this portion of the work, and as a condition of its acceptance, deliver to the Project Engineer two copies of an operation and maintenance manual, which shall include:
1. Copy of the approved Record Documents for this portion of the work;
 - a. Shop drawings, diagrams, material lists, and product information.
 - b. As-built drawings showing any changes in construction, additions and/or deletions from the Project Engineer's Drawings.
 2. Copies of all circuit directories;
 3. Copies of all warranties and guarantees.

1.05 QUALITY ASSURANCE:

- A. Qualification of Installers: For the actual fabrication, installation, and testing of the work in this section, use only thoroughly trained, licensed, experienced workers completely familiar with the items required and with the manufacturer recommended methods of installation.
1. In acceptance or rejection of installed work, no allowance will be made for lack of skill on part of workers.
- B. Provide only new materials of grade and quality specified. Unless otherwise approved or specified, provide only materials, equipment, devices, fittings, etc., of U.S. manufacture.
- C. Except as otherwise indicated, comply with the provisions of NEC and the standards by NEMA for electrical components.
1. Provide UL listed and labeled products where applicable.

1.06 DELIVERY, STORAGE, AND HANDLING:

- A. Protection: Use all means necessary to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.
- B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Project Engineer/DNR Construction Inspector and at no additional cost to the Owner.

1.07 SEQUENCING AND SCHEDULING:

- A. Coordination of Work: Plan all work so that it proceeds with a minimum of interference with the work of other trades.
 - 1. Coordinate all openings, special frames and sleeves required in the building construction for electrical work with the construction work of others both within and outside of this Contract.
- B. Cooperation with Other Trades: Coordinate the work to be performed in compliance with the requirements of other trades and afford other trades reasonable opportunity for the execution of their work.
 - 1. Coordinate this work shall with the work of other trades at such time and in such a manner as not to delay or interfere with their work.
 - 2. Examine the Contract Documents to determine the requirements of other similar trades.

1.08 WARRANTY:

- A. Guarantee the entire installation, including every part and every specialized system, to the exception of lamps, from the standpoint of workmanship and material for one year after formal acceptance by the Project Engineer.
- B. Correct any defects becoming apparent during the guarantee period at no cost to the Owner.
- C. Do not construe this guarantee requirements as obligating the Contractor to make repair or replacements for equipment failure as a result of improper operation or maintenance by the Owner.

1.09 MAINTENANCE STOCKS:

- A. Provide 5 percent excess over the required amount of spring-loaded nuts, washers, conduit clamps, and other specialized fasteners for mounting electrical equipment.
 - 1. Store where directed by the DNR Construction Inspector.
- B. Prior to the acceptance of the equipment with plug-in receptacles and ground fault interrupters, provide two GFI testers to be used by the DNR for testing and remain the property of the DNR thereafter.

PART 2 - PRODUCTS

2.01 MANUFACTURERS:

- A. Subject to compliance with requirements, manufacturer offering electrical material and components which may be incorporated in the work include, but are not limited to, the following:
 - 1. Square D
 - 2. General Electric

3. ITE
4. Westinghouse
5. Hubbell
6. Bryant
7. Arrow-Hart

2.02 MATERIALS:

- A. Provide only materials that are new, of the type and quality specified.
 1. Where Underwriter's Laboratories, Inc. have established standards for such materials, provide only materials bearing the UL label.
- B. Provide only copper conductors as part of permanent installation within this project, from connection with the power company's equipment to connection to fixtures, receptacles or other devices or appliance as specified herein.
 1. The Project Engineer will not approve others for use anywhere within this project at any location.
 2. Remove any wire or cable used on this project which does not meet this requirement and replace at no cost to the Owner.
- C. Temporary Power:
 1. In addition to providing temporary power, provide and pay the costs for installing permanent electrical meter or meters as required;
 2. When permanent metering is in place and connected, the Owner will pay the costs for electrical power charged against the meter or meters.

2.03 COMPONENTS:

- A. Distribution Panels:
 1. Circuit breaker type with single main disconnect, solid neutral with voltage and main bus rating equal to or exceeding rating on panel schedule.
 2. Boxes: Code gauge steel, galvanized, with surface cover.
 3. Trim: Code gauge steel with grey enamel finish and door, complete with directory of circuits and key locked.
 4. Branch circuit breakers: Plug-in or bolt-in, of rating and poles indicated, with thermal-magnetic tripping mechanism at each pole, with quick-make and quick-break action, toggle type operating mechanism.
 - a. Provide multiple pole breakers with a common trip.
 - b. Provide breakers with ground fault protection for outlets as required by Code, except for outlets requiring ground fault interruption as indicated on the

Drawings for which separate and individual ground fault protection and reset features will be provided integral to the outlet.

5. Provide panels, for 200-Amp or less and 120/240 volt service, with amperage indicated, as manufactured by, but not limited to, one of the following:
 - a. Square D
 - b. General Electric
 - c. ITE
 - d. Westinghouse
6. Provide main distribution panels: For 225-Amp, 400-Amp, or 600-Amp, and 120/240 volt service, as shown on the Drawings, provide main distribution panels with solid neutral and equipment ground bar installed, dead-front enclosed board assembly, NEMA type 3R rain-proof cabinet with concealed door hinge, gasketed door, 3-point vault-type locking mechanism with chrome finish padlock handle, with rust inhibiting primer and a finish coat of standard grey baked enamel, as manufactured by, but not limited to one of the following:
 - a. Square D
 - b. General Electric
 - c. Others as approved by the Project Engineer
7. U.L. approved and N.E.C. rated.

B. Wiring Devices:

1. Receptacles: Specification grade, duplex, 3-pole grounding type, amperage as shown, 125 V AC as manufactured by, but not limited to, one of the following:
 - a. Hubbell
 - b. Bryant
 - c. Leviton

C. Fittings, Boxes, Etc.:

1. All outlet boxes, junction boxes, and switch boxes shall be code gauge galvanized steel.
2. Boxes shall be square, rectangular, or octagonal of a suitable and ample size.

D. Raceways and Fittings:

1. Conduit shall be rigid galvanized steel conduit with compression or tap-on type fittings.
2. Conduit installed in concrete slab or underground shall be rigid galvanized coated with asphaltum paint.
3. All conduit and fittings shall be U.L. approved and N.E.C. rated.
4. No conduit smaller than 3/4" shall be used.

5. Roadway conduit: Unless otherwise noted on the Drawings or elsewhere in the specifications, provide 2-1/2" diameter, schedule 80 PVC, UI listed at 90 degrees, UV resistant electrical conduit for the installation of conductors beneath roadways.
 6. Provide rigid galvanized steel electrical conduits, threaded at the top to accept rain-tight cap, for mounting of distribution of panels and equipment.
 - a. Rain-tight cap: galvanized steel, threaded fitting suitable for capping open end of rigid steel electrical conduit.
 7. Corrugated flexible PVC Conduit: Where direct burial cable is not used provide unspliced, high tensile pvc corrugated flexible conduit to IPS dimensions, suitable for underground secondary distribution and under roadway application for protection of type TW, THW, RHW, or XHHW conductors used underground.
 - a. Provide IPS dimensions, schedule 430 PVC accessories including, but not necessarily limited to, couplings, adaptors, end bells and plugs, and PVC solvent cement suited for watertight joints.
 - b. Provide Corrugate flexible PVC conduit and accessories manufactured by Carlon, Cleveland, Oh., or approved equals.
- E. Interior Conductors and Conductors Installed in Watertight Underground Conduits:
1. Wire and cable shall be 600 V insulated N.E.C. standard type TW, THW, RHW, or XHHW, and color coded.
 2. All wiring shall be copper and No.12 AWG or larger, wires No.8 and larger shall be stranded.
- F. Direct Burial Conductors:
1. Wire and Cable: 600 V insulated, NEC standard, type USE or UF, as shown on the Drawings
 2. All wiring shall be copper and No.12 AWG or larger, wires No.8 and larger shall be stranded.
- G. Grounding devices:
1. Grounding Electrodes: 5/8" diameter, minimum 10 feet long unless otherwise shown, "Copperweld" ground rods.
 2. Electrode Conductor: Copper, no.6 AWG or larger, and type THW. Use clamp suitable for burial to fasten grounding conductor to rod.
- H. Safety Switches:
1. Provide heavy duty, horsepower rated, quick-make and quick-break design, externally operated with provision for padlocking, fusible or non-fusible as shown on the Drawings.

- a. Equip with field or factory installed solid neutral assembly and service grounding kit.
 - 2. Provide enclosure clearly marked for maximum voltage and horsepower rating, and:
 - a. Indoor: NEMA type 1.
 - b. Outdoor: NEMA type 3R, rain tight.
 - 3. For dual rated switches, provide rating indicated on a metal plate riveted or otherwise permanently fastened to the enclosure.
 - 4. Provide safety switches for 120/240 volt service, amperage as indicated as manufactured by, but not limited to one of the following:
 - a. Square D
 - b. General Electric
 - c. ITE
 - d. Westinghouse
 - 5. Safety switches shall be UL approved and NEC rated.
- I. Campsite Power Outlets:
- 1. The following are the only approved receptacle to be provided for recreational vehicle use on campsites:
 - a. 5-20R GFI, 20 AMP duplex, 125 volts, in accordance with ANSI/NEMA WD 6-1989, for recreational vehicles.
 - b. R-32-U, 30 AMP duplex, 125 volts, in accordance with ANSI/NEMA WD 6-1989, for recreational vehicles.
 - c. 14-50R, 50 AMP duplex, 125/250 volts in accordance with ANSI/NEMA WD 6-1989, for recreational vehicles.
 - 2. Provide individual recreational vehicle site service entrance equipment, as shown on the Drawings, UI listed and labeled "Suitable for Recreational Vehicle Service Equipment", as manufactured by Midwest Electrical Products, Inc. P.O. Box 910, Mankato, Minnesota, Tel No. 507/625-4414, or approved equal.
 - 3. Metallic R.V. Equipment: Unless otherwise noted on the Drawings, power outlets shall contain the circuit breaker and receptacles as specified herein.
 - a. Single unit Midwest Model No. U075CP6010, single unit Millbank Model No. U5200-XL-75 or approved equal for 50 Amp sites.
 - b. Double unit Midwest Model No. U075CB6010, double unit Millbank Model No. U5220-XL-75 or approved equal for 50 Amp sites.

- c. Provide NEMA 3R, light grey baked enamel, uni-post mounted power outlets, completely factory wired and assembled, with loop-feed lugs to accept specified wire size. Power outlet box to be 14-gauge galvanized steel. Post to be 12-Gauge galvanized steel.
 - d. Install stabilizer foot and post extension on pedestal as a footing base unless otherwise shown on the Drawings, or an alternate stabilization method is approved.
 - 4. Nonmetallic R.V. Equipment: Injection Molded, thermoplastic enclosure with Corrosion resistant internal components, factory wired power receptacles in 20 and 30 AMP configuration, protected by a 30 AMP ground fault interrupter main breaker, a hinged cover to protect R.V. plugs. Midwest model No. U71 "Parkmate" or approved equal.
 - a. Terminal lugs will accept 1/0 copper cables.
 - b. The power center will be rated 100 AMP maximum, 120/240 volts, single phase, 3 wire with ground.
 - c. Power to be factory mounted on 12 gauge galvanized steel, grey baked on enamel, vented post for underground services, with loop-feed twin 2-300 MCM terminal per phase lugs.
 - d. Install stabilizer foot and post extension on pedestal as a footing base unless otherwise shown on the Drawings, or an alternate stabilization method is approved.
 - e. Provide a seven watt fluorescent light protected by an in-line fuse circuit protection and molded polycarbonate light cover.
 - f. Provide additional options as shown on the Drawings. Other options may include a light with manual switch or photo electric sensor, single service cable TV jack for type RG-59 coax cable, single service telephone jack type PH6596.
- J. Detectable Warning Tape: 3-inch wide electronically detectable tape with markings: "Caution - Electrical Power Lines Below" provided by, but not necessarily limited to, one of the following:
 - 1. Terra Tape D, Reef Industries, Inc., Houston, Texas
 - 2. Dectatape, Allen Systems, Houston, Texas
 - 3. Detectable Marking Tape III, Lineguard, Inc., Weaton, Illinois
- K. GFCI Testers: Provide GFCI testers capable of indicating wiring errors and faulty GFI equipment.
 - 1. Unitest GFI model No. 5708 manufactured by Beha Corporation, Clearwater, Fl. or approved equals.

- L. Mounting Channels and accessories: Provide 1-5/8" series, galvanized steel channels and accessories for mounting distribution panels, meters, and safety switches, including conduit clamps and spring-loaded nuts, provided by, but not necessarily limited to, one of the following:
 - 1. Unistrut, GTE Products Corp., Wayne, MI.
 - 2. Power-Strut, Elcen Metal Product Co., Franklin Park, IL.
- M. Terminal and Splice Boxes: NEMA type 3R rain proof code approved cabinets, with removable door with stay-open position, provision for padlocking, concentric knockouts, and heavy zinc-coated finish, of sufficient voltages.
 - 1. Include field or factory installed grounding kit.
 - 2. Provide boxes for 120/240 service, UL approved and NEC rated, of amperage indicated, as manufactured by, but not limited to, one of the following:
 - a. Square D
 - b. Midwest Electric Products, Inc.
- N. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Project Engineer.

PART 3 - EXECUTION

3.01 EXAMINATION:

- A. Examine the areas and conditions under which the work of this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.
- B. Verify location and configuration of existing facilities in relation to the work of this section before preparing bid.
- C. Verify depths and location so all existing underground utilities

3.02 PREPARATION:

- A. Coordination: Coordinate installation of electrical items with the schedules for other work, to prevent unnecessary delays in the total work.
- B. Where electrical items are shown in conflict with locations of structural members and mechanical or other equipment, provide all required supports and wiring to clear the encroachment.
- C. Accuracy of Data: The data indicated on the Drawings and in these Specifications are as exact as could be secured, but their absolute accuracy is not guaranteed.

1. Exact locations, distances, levels, and other conditions will be governed by actual construction.
 2. Use the Drawings and these Specifications for guidance, and secure the DNR Construction Inspector's approval of all changes in locations.
- D. Measurements: Verify all measurements at the site.
1. No extra compensation will be made because of differences between locations shown on the Drawings and measurements at the site, except as provided In the General Covenants and Provisions.
- E. Circuiting: The branch circuits have been designed for maximum economy consistent with sizes for voltage drop and other considerations.
1. Circuits and wire sizes shall be in accordance with the N.E.C. Install circuits as shown on the Drawings unless otherwise approved by The Project Engineer.
- F. Electrical circuit drawings are diagrammatic in nature but are to be followed as closely as made possible by the actual construction and interface with the work of other trade in this or other contracts.
1. Where deviations are approved to conform with actual construction and the work of other trades, make such deviation without additional costs to the Owner, except as provided elsewhere in the Contract Documents.
- G. Trenching and backfilling is required for installation of the work of this section. Perform all such trenching and backfilling in strict accordance with the provisions of Section 02200 of these Specifications.

3.03 INSTALLATION:

A. Conduits:

1. Where conduit is installed in concrete slabs, on the ground, underground, or exposed to the weather, make all joints liquidtight and gastight.
 - a. Bury all underground conduit to a depth of 2'0" below finished grade unless otherwise shown on the Drawings.
 - b. Install necessary sleeves, chases, bushings, and approved sealants where conduits pass through slabs, floors, walls and other structures.
 - c. Make necessary openings and spaces while keeping cutting and patching of work by other to an acceptable minimum.
2. Install bushing at conduit ends, to protect wires from abrasions, where conduit enters box or other fittings.
3. No conduit smaller than 3/4" shall be used for a branch circuit in this project.

- a. Unless otherwise specified, provide code-size conduit for number and size of wire required by Code.
- 4. Where conduit is exposed, run parallel to or at right angle with lines of the building.
 - a. Make bends free from dents and flattening with standard conduit elbows or conduit bent to not less than the same radius.
- B. Roadway Crossing Electrical conduit:
 - 1. Install specified conduit at location indicated on the Drawings by boring, jacking into place, or trenching, when permitted by the DNR Construction Inspector, into unpaved roadways.
 - 2. Identify roadway crossing location by placing two 2" P-K nails, one inch apart, six inches from each side of pavement.
 - a. In addition install a 12-inch long reinforcing rod or a 24-inch long treated wood stake at each end of conduit.
 - 3. Plug and cap each end of conduit placed beneath roadway for future circuit installation.
 - a. Sand fill around each end to aid future location and installation.
 - 4. Install conduit for primary circuits below the location of conduit for primary circuit where they are indicated on the Drawings to cross at the same location.
- C. Installation of Conductors:
 - 1. All conductors used for branch circuits will be minimum number 12 protected by 20 ampere circuit breakers.
 - a. Install larger wires where necessary to limit voltage drop or as required by NEC.
 - 2. Conductors will be installed continuous from outlet to outlet and no splices shall be made except within outlet or junction boxes.
 - 3. No underground splice will be permitted.
 - a. Conductors will run continuously from the main distribution panel to the terminal bar located in the first R.V. site service entrance equipment post on the circuit and continuously thereafter from terminal bar to terminal bar.
 - 4. Balance the campsite loads between the two phase conductors by connecting the loads to alternate sides of each 120/240 volt, three wire circuit.
 - a. Follow NEC requirements to provide for coding convention to consistently identify conductors throughout the project.
 - 3. No more than three circuits will be permitted in one raceway.

- a. A common neutral may be used as permitted by the National Electric Code.
4. Terminals and Splices: Stranded conductors shall be terminated with approved copper connecting lugs, accommodating the full diameter of the bare conductor.
 - a. Mains and feeders shall run their entire lengths in continuous sections without joints or splices.
5. Splices will be permitted only at outlet or junction boxes.
 - a. Splices shall be thoroughly cleaned, mechanically and electrically secured without solder, then soldered.
 - b. After soldering, wrap rubber and friction tape.
 - c. Vinyl plastic tape will be acceptable subject to the approval of local inspection authorities.
 - d. Scotch lock type S, M, L, and D connectors will be approved as equal to soldering.

D. Installation of main distribution panels:

1. Mount main distribution panels using specified conduit support posts and mounting channels, clamps and accessories as shown on the Drawings.
 - a. Install the rain-tight cap on top of support posts.
2. Unless otherwise specified, install copper studs and spade type bushings in utility company transformer, and install secondary connections between transformer and the main distribution panel.
 - a. Seek approval of utility company representative prior, during and after installation.
3. Install meter where indicated on The Drawings or as instructed by the utility company.
 - a. Installation subject to approval of utility company.
 - b. Provide utility company approved meter if so instructed by utility company.
4. Directories: Mount a typewritten directory behind glass or plastic on the inside of each panel door.
 - a. Show circuit numbers and circuit description for all outlets in each circuit.
5. Mounting Heights: To center of box above finished floor for the below-named items, shall be as follows, unless otherwise shown or indicated.
 - a. Flush toggle switches: 48".

- b. Convenience outlets and similar: 12" - finished areas (unless noted otherwise).
 - c. Convenience outlets and power outlets: 48".
 - d. Safety switches: 54" to operator.
 - e. Motor controllers: 54" or top even with safety switch.
 - f. Panelboards: 72" to top.
 - g. Other mounting heights are indicated on the Drawings by detail or by a plus dimension shown adjacent to the symbol.
- E. Grounding System: Ground all equipment including panelboards, transformers, conduits systems, junction and splice boxes, RV site service equipment, motors and other apparatus, by conduit or conductor to grounding electrode as shown on the Drawings, using grounding clams suitable to direct burial.
- 1. Locate grounding electrode in area which will receive ground water regularly, and drive rod to depth of at least 8 feet.
 - 2. Test to measure ground resistance, and provide not more than 5 ohms resistance, adding ground rods as required to achieve that level.

3.04 FIELD QUALITY CONTROL:

- A. Testing: At the conclusion of the work, test each and every circuit to establish the proper operation of electric equipment and freedom from improper ground and to ascertain the insulation values which shall not be lower than those required by the National Electrical Code.
 - 1. Test of equipment grounding conductors will show a resistance of no more than 25 ohms at any point on the circuit, except for grounding electrode which will show a resistance of no more than 5 ohms.
- B. Carry out final test in the presence of the Project Engineer/DNR Construction Inspector.
- C. Correct all work not meeting code requirements, and all circuits which fail testing, at no additional cost to the Owner.

3.05 CLEANING:

- A. Exposed conduits, panel boards, fixtures, switches, hangers, and equipment exposed shall be thoroughly cleaned.
- B. Fixture glass and shields shall be cleaned and washed.
- C. Keep premises free from unnecessary accumulation of rubbish and debris resulting from the work of this section.
- D. Dispose of all debris resulting from the work of this contract at no additional cost to the Owner.

END OF SECTION 02785

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY
1	CLEARING AND GRUBBING	LS	1
2	DEMOLITION	LS	1
3	FULL DEPTH SAW CUT	LF	96
4	HMA PAVEMENT REMOVAL/REPLACEMENT	SY	28
5	GRADING	LS	1
6	TYPE SW-301 48" DIAMETER SANITARY MANHOLE W/TYPE 'A' CASTING	EA	5
7	SANITARY SEWER CONNECTIONS TO EXISTING STRUCTURES	EA	2
8	6-INCH SANITARY SEWER (PVC SDR 23.5)	LF	1,050
9	4-INCH SANITARY SEWER SERVICE (PVC SDR 23.5)	LF	353
10	SANITARY SEWER CLEANOUT	EA	1
11	RV SANITARY SEWER CLEANOUT CONNECTION	EA	14
12	SANITARY DISPOSAL STATIONS	EA	2
13	SANITARY SEWER ROAD CROSSINGS	EA	2
14	6"x4" WYE	EA	14
15	REPLACE AIR PRESSURE RELEASE VALVE IN EXISTING MANHOLE	EA	1
16	3-INCH WATER MAIN CONNECTIONS	EA	2
17	1-INCH HDPE PIPE	LF	1,068
18	2-INCH HDPE PIPE	LF	457
19	3-INCH HDPE PIPE	LF	1,382
20	3x3x3 HDPE TEE	EA	1
21	3x3x2 HDPE TEE	EA	2
22	3x3x1 HDPE TEE	EA	19
23	2x2x2 HDPE TEE	EA	1
24	2x2x1 HDPE TEE	EA	6
25	3x2 HDPE REDUCER	EA	1
26	2x1 HDPE REDUCER	EA	3
27	3-INCH VALVE	EA	1
28	2-INCH VALVE	EA	3
29	2-INCH TYPE 'K' COPPER PIPE	LF	11
30	WOODFORD MODEL S-3 SANITARY YARD HYDRANTS	EA	24
31	DRAIN DOWN PIT	EA	1
32	ROAD CROSSINGS FOR BORED WATER LINES	EA	11
33	DISINFECTION	LS	1
34	SINGLE CAMPSITE OUTLET POST-50 AMP	EA	52
35	NO. 2 AWG GROUNDING CONDUCTOR CABLE, TYPE THW OR USE	LF	4,449
36	NO. 3/0 AWG SINGLE CONDUCTOR CABLE, TYPE USE	LF	1,971
37	NO. 4/0 AWG SINGLE CONDUCTOR CABLE, TYPE USE	LF	1,830
38	NO. 250 MCM SINGLE CONDUCTOR CABLE, TYPE USE	LF	5,118
39	NO. 300 MCM SINGLE CONDUCTOR CABLE, TYPE USE	LF	4,428
40	ROADWAY CROSSING CONDUIT-SCHEDULE 80 PVC	LF	225
41	DETECTABLE WARNING TAPE, 3" ELECTRIC	LF	3,619
42	TRENCH, SINGLE CIRCUIT SECONDARY	LF	3,619
43	INSTALL 200 AMP CIRCUIT BREAKERS INTO EXISTING PANELS	EA	7
44	RE-CONNECT WIRING TO LIGHT POLE	LS	1
45	ENGINEERING FABRIC	SY	9,831
46	MACADAM STONE	TONS	1,917
47	3/8" MINUS CRUSHED LIMESTONE	TONS	1,033
48	CLASS 'A' CRUSHED STONE	TONS	36
49	GRANULAR BASE	TONS	111
50	6-INCH NON-REINFORCED PCC	SY	256
51	5-INCH NON-REINFORCED PCC SIDEWALK	SY	156.5
52	HUFFCUTT IOWA STANDARD TAMARACK SHOWER BUILDING	EA	1
53	HUFFCUTT IOWA STANDARD DOUBLE VAULT RESTROOM BUILDING	EA	1
54	SEEDING, FERTILIZING AND MULCHING	LS	1
55	1/2-INCH CRUSHED STONE	TONS	127
56	BINDER BITUMEN	GALLONS	3,761
57	TRAFFIC CONTROL	LS	1
58	NPDES GENERAL PERMIT #2 & SWPPP	LS	1
59	MOBILIZATION	LS	1
60	PARKING SPACE STRIPING AND HANDICAP PAVEMENT MARKINGS	LS	1
61	CONCRETE PARKING WHEEL STOPS	EA	4

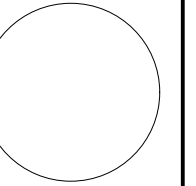
GENERAL NOTES

- TWO WEEKS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY:
A. IOWA DNR PROJECT MANAGER: BRETT JOHNSON 515-250-3711
B. DISTRICT INSPECTOR: MICHAEL DUFOE 515-985-9198
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH STATEWIDE URBAN STANDARD DESIGN SPECIFICATIONS FOR PUBLIC IMPROVEMENTS (SUDAS). ALL CONSTRUCTION TESTING TO BE IN ACCORDANCE WITH SUDAS AND IS THE EXPENSE OF THE CONTRACTORS.
- THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ABOVE MENTIONED CONTACTS OF ANY DISCREPANCIES.
- THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS FOR EXISTING FACILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL PUBLIC AND/OR PRIVATE UTILITIES SERVING THE AREA TO DETERMINE THE PRESENT EXTENT AND LOCATION OF THEIR FACILITIES BEFORE BEGINNING WORK.
- THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROPER UTILITY IMMEDIATELY UPON BREAKING OR DAMAGE TO ANY UTILITY LINE OR APPURTENANCE, OR THE INTERRUPTION OF THEIR SERVICE. HE SHALL NOTIFY THE PROPER UTILITY INVOLVED. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED.
- CONTRACTOR TO PROTECT ALL UTILITY, PAVING, BUILDINGS, ETC. OUTSIDE OF LIMITS OF PROPOSED CONSTRUCTION.
- PROTECT EXISTING TREES AND VEGETATION OUTSIDE OF CONSTRUCTION AREAS.
- ALL TREE REMOVAL NEEDS TO BE COMPLETED PRIOR TO MARCH 31, 2018.
- THE DNR WILL PERFORM ALL CONSTRUCTION SURVEY STAKING FOR THIS PROJECT.
- THE SEAL COATING PART OF THIS PROJECT SHALL CONFORM TO IDOT DIVISION 23. SURFACE COURSES OF THE IOWA DOT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015.

ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
1	CLEARING AND GRUBBING A. CONTRACTOR TO CLEAR AND GRUB THE PROJECT SITE AND REMOVE EXISTING TREES AS SHOWN ON THE DEMOLITION PLAN (SHEETS #4-8). CONTRACTOR TO COORDINATE BURNING OF TREES WITH DNR INSPECTOR. APPROXIMATELY 63 INDIVIDUAL TREES AND 0.1 ACRES OF CLEARING, TREES NEED TO BE TAKEN DOWN BEFORE 3/31/2018.
2	DEMOLITION A. CONTRACTOR TO REMOVE AND SALVAGE THE EXISTING CAMP POSTS MARKERS (70±), CAMPFIRE RINGS & GRAVEL BASES (64±), (2) HYDRANTS, (2) VALVES AND PCC PADS, (66) GRAVEL CAMP PADS, CAMP PAD ELECTRICAL BOXES (71), WOOD BOLLARDS (66±), EXISTING SHOWER BUILDING & 37 SY OF PCC SIDEWALK, DUMP STATION, (3) MANHOLES, SANITARY SEWER PIPES (200 LF±), EXISTING VAULT RESTROOM BUILDING & 12 SY PCC SIDEWALK AS SHOWN ON SHEETS #4-8.
3	FULL DEPTH SAW CUT - CONTRACTOR SHALL SAW CUT EXISTING PAVEMENTS FULL DEPTH IN THE LOCATIONS SHOWN ON THE PLANS.
4	HMA REMOVAL/REPLACEMENT - CONTRACTOR SHALL REMOVE/REPLACE THE EXISTING HMA CAMPGROUND ROAD FOR THE CROSSING SHOWN ON SANITARY SEWER SHEET #10.
5	GRADING - CONTRACTOR SHALL GRADE THE SITE (APPROXIMATELY 2,000 CY) AS DETAILED ON SHEETS #28-31. TOPSOIL TO BE STRIPPED AND STOCKPILED AND RESPREAD TO A MINIMUM DEPTH OF 4-INCHES. EXISTING CAMP PAD GRAVEL MATERIAL CAN BE USED AS BASE FILL MATERIAL BELOW NEW CAMP PAD LOCATIONS AND IN DEEPER FILL LOCATIONS.
6	TYPE SW-301 48" DIAMETER MANHOLE WITH TYPE 'A' CASTING - AS DETAILED ON SHEETS #9-12.
7	SANITARY SEWER CONNECTIONS TO EXISTING STRUCTURES - INSTALL SANITARY SEWER CONNECTIONS AS DETAILED ON SHEET #10.
8	6-INCH SANITARY SEWER (PVC SDR 23.5) - INSTALL 6-INCH SANITARY SEWER WITH LOCATOR TAPE AS DETAILED ON SHEETS #9-12.
9	4-INCH SANITARY SEWER SERVICE (PVC SDR 23.5) - INSTALL 4-INCH SANITARY SEWER SERVICE WITH LOCATOR TAPE AS DETAILED ON SHEETS #9-12.
10	SANITARY SEWER CLEANOUT - CONTRACTOR SHALL INSTALL SANITARY SEWER CLEANOUT AS DETAILED ON SHEET #11.
11	RV SANITARY SEWER CLEANOUT CONNECTION - CONTRACTOR SHALL INSTALL RV SANITARY SEWER CONNECTIONS AS DETAILED ON SHEET #10.
12	SANITARY DISPOSAL STATIONS - CONTRACTOR SHALL INSTALL SANITARY DISPOSAL STATIONS AS DETAILED ON SHEETS #12-14.
13	SANITARY SEWER ROAD CROSSINGS - CONTRACTOR SHALL EITHER BORE THE 6-INCH SANITARY SEWER UNDER ROADS OR SAW & OPEN CUT THE EXISTING PAVEMENT. IF OPEN CUT, CONTRACTOR SHALL INCLUDE COST OF SAW CUTTING, COMPACTION OF BACKFILL, INSTALL 6-INCHES OF COMPACTED GRANULAR BASE, & 6-INCHES OF MATCHING PAVEMENT TYPE, EITHER ACC OR PCC. WHICHEVER METHOD IS USED, THE TOTAL COST OF THESE CROSSINGS SHALL BE INCLUDED IN THIS BID ITEM.
14	6x4 WYE - CONTRACTOR SHALL INSTALL WYES AS SHOWN ON SHEET #11.
15	REPLACE AIR PRESSURE RELEASE VALVE - CONTRACTOR SHALL REPLACE THE AIR RELEASE VALVE AS DETAILED ON SHEET #32.
16	3-INCH WATER MAIN CONNECTIONS - CONTRACTOR SHALL CONNECT 3-INCH HDPE PIPE TO EXISTING 3-INCH WATER LINE AS DETAILED ON SHEETS #18-21.
17	1-INCH HDPE PIPE - CONTRACTOR SHALL INSTALL 1-INCH HDPE WITH LOCATOR TAPE AS DETAILED ON SHEET #18-21.
18	2-INCH HDPE PIPE - CONTRACTOR SHALL INSTALL 2-INCH HDPE WITH LOCATOR TAPE AS DETAILED ON SHEET #18-21.
19	3-INCH HDPE PIPE - CONTRACTOR SHALL INSTALL 3-INCH HDPE WITH LOCATOR TAPE AS DETAILED ON SHEET #18-21.
20	3x3x3 HDPE TEE - CONTRACTOR SHALL INSTALL 3x3x3 HDPE TEE AS DETAILED ON SHEETS #18-21.
21	3x3x2 HDPE TEE - CONTRACTOR SHALL INSTALL 3x3x2 HDPE TEE AS DETAILED ON SHEETS #18-21.
22	3x3x1 HDPE TEE - CONTRACTOR SHALL INSTALL 3x3x1 HDPE TEE AS DETAILED ON SHEETS #18-21.
23	2x2x2 HDPE TEE - CONTRACTOR SHALL INSTALL 2x2x2 HDPE TEE AS DETAILED ON SHEETS #18-21.
24	2x2x1 HDPE TEE - CONTRACTOR SHALL INSTALL 2x2x1 HDPE TEE AS DETAILED ON SHEETS #18-21.
25	3x2 HDPE REDUCER - CONTRACTOR SHALL INSTALL 3x2 HDPE REDUCER AS DETAILED ON SHEETS #18-21.
26	2x1 HDPE REDUCER - CONTRACTOR SHALL INSTALL 2x1 HDPE REDUCER AS DETAILED ON SHEETS #18-21.
27	3-INCH VALVE - CONTRACTOR SHALL INSTALL 3-INCH VALVE AS DETAILED ON SHEETS #18-21.
28	2-INCH VALVE - CONTRACTOR SHALL INSTALL 2-INCH VALVE AS DETAILED ON SHEETS #18-21.
29	2-INCH TYPE 'K' COPPER WATER PIPE - CONTRACTOR SHALL INSTALL 2-INCH COPPER WATER LINE AS DETAILED ON SHEET #19.
30	WOODFORD MODEL S-3 SANITARY YARD HYDRANT - CONTRACTOR TO INSTALL WOODFORD MODEL S-3 SANITARY YARD HYDRANT (INCLUDING CURB STOPS & CONCRETE PADS) AS DETAILED ON SHEETS #18-21.
31	DRAIN DOWN PIT - CONTRACTOR SHALL INSTALL DRAIN DOWN PIT AS DETAILED ON SHEET #19.
32	ROAD CROSSINGS FOR BORED WATER LINES - COST FOR CONTRACTOR TO BORE WATER LINES UNDER EXISTING PAVEMENT IN LOCATIONS SHOWN ON SHEETS #18-21.
33	DISINFECTION - COST OF DISINFECTION OF THE WATER LINES IN ACCORDANCE TO SUDAS.
34	SINGLE CAMPSITE OUTLET POST, 50 AMP - CONTRACTOR TO INSTALL 50-AMP OUTLET POSTS AS DETAILED ON SHEETS #22-27.
35	NO. 2 AWG GROUNDING CONDUCTOR CABLE, TYPE THW OR USE - CONTRACTOR TO INSTALL NO. 2 AWG GROUNDING CONDUCTOR CABLE AS DETAILED ON SHEETS #22-27.
36	NO. 3/0 AWG SINGLE CONDUCTOR CABLE, TYPE USE - CONTRACTOR TO INSTALL NO. 3/0 AWG SINGLE CONDUCTOR CABLE, TYPE USE AS DETAILED ON SHEETS #22-27.
37	NO. 4/0 AWG SINGLE CONDUCTOR CABLE, TYPE USE - CONTRACTOR TO INSTALL NO. 4/0 AWG SINGLE CONDUCTOR CABLE, TYPE USE AS DETAILED ON SHEETS #22-27.
38	NO. 250 MCM SINGLE CONDUCTOR CABLE, TYPE USE - CONTRACTOR TO INSTALL NO. 250 MCM SINGLE CONDUCTOR CABLE, TYPE USE AS DETAILED ON SHEETS #22-27.
39	NO. 300 MCM SINGLE CONDUCTOR CABLE, TYPE USE - CONTRACTOR TO INSTALL NO. 300 MCM SINGLE CONDUCTOR CABLE, TYPE USE AS DETAILED ON SHEETS #22-27.
40	ROADWAY CROSSING CONDUIT-SCHEDULE 80 PVC - CONTRACTOR TO INSTALL CONDUIT FOR EXISTING ROAD CROSSINGS AS DETAILED ON SHEETS #22-27.
41	DETECTABLE WARNING TAPE, 3" ELECTRIC - CONTRACTOR TO INSTALL DETECTABLE WARNING TAPE, 3" ELECTRIC AS DETAILED ON SHEETS #22-27.
42	TRENCH, SINGLE CIRCUIT SECONDARY - CONTRACTOR TO TRENCH FOR ELECTRIC CABLE LINES AS DETAILED ON SHEETS #22-27.
43	INSTALL 200 AMP CIRCUIT BREAKERS INTO EXISTING PANELS - CONTRACTOR TO REMOVE EXISTING BREAKERS & INSTALL 200 AMP BREAKERS INTO EXISTING DISTRIBUTION PANELS AS DETAILED ON SHEETS #22-27.
44	RE-CONNECT WIRING TO LIGHT POLE - CONTRACTOR TO RE-CONNECT WIRING TO EXISTING LIGHT POLE FROM CAMPPAD #45 OUTLET POST AS DETAILED ON SHEET #24.
45	ENGINEERING FABRIC - CONTRACTOR SHALL INSTALL ENGINEERING FABRIC, MIRAFI 600X OR APPROVED EQUAL, BELOW CAMP PADS AS LOCATED IN THE PLANS. FABRIC SHALL CONFORM TO IOWA DOT SPECIFICATION SECTION 4196.01.
46	MACADAM STONE - CONTRACTOR TO INSTALL 4-INCH DEPTH MACADAM STONE ON TOP OF ENGINEERING FABRIC IN CAMP PADS AS LOCATED IN THE PLANS. MATERIAL SHALL CONFORM TO IOWA DOT SPECIFICATION SECTION 4122.02.
47	3/8" MINUS CRUSHED LIMESTONE - CONTRACTOR TO INSTALL 2-INCHES OF 3/8" MINUS CRUSHED LIMESTONE ON TOP OF MACADAM STONE IN CAMP PADS AS LOCATED IN THE PLANS.
48	CLASS 'A' CRUSHED STONE - CONTRACTOR TO INSTALL CLASS 'A' CRUSHED STONE FOR NEW SANITARY DISPOSAL STATIONS AS DETAILED ON SHEET #12.
49	GRANULAR BASE - CONTRACTOR TO INSTALL 6-INCH GRANULAR BASE FOR PCC PARKING AREA AND 4-INCH BASE FOR PCC SIDEWALKS AS DETAILED IN THE PLANS.
50	6-INCH NON-REINFORCED PCC - CONTRACTOR TO INSTALL 6-INCH NON-REINFORCED PCC FOR THE SHOWER PARKING AREA AS DETAILED ON SHEET #38.
51	5-INCH NON-REINFORCED PCC SIDEWALK - CONTRACTOR TO INSTALL 5-INCH NON-REINFORCED PCC FOR SIDEWALKS AS DETAILED ON SHEETS #33 & #38.
52	HUFFCUTT IOWA STANDARD TAMARACK SHOWER BUILDING - CONTRACTOR TO INSTALL HUFFCUTT TAMARACK SHOWER BUILDING AS DETAILED ON SHEETS #38-39.
53	HUFFCUTT IOWA STANDARD DOUBLE VAULT RESTROOM BUILDING - CONTRACTOR TO INSTALL HUFFCUTT DOUBLE VAULT BUILDING AS DETAILED ON SHEETS #33-37.
54	SEEDING, FERTILIZING AND MULCHING - CONTRACTOR SHALL SEED, FERTILIZE AND MULCH ALL DISTURBED AREAS (APPROXIMATELY 4 ACRES). SEED WITH SUDAS TYPE 1 SEED MIXTURE (PERMANENT LAWN MIXTURE).
55	1/2-INCH CRUSHED STONE - CONTRACTOR TO INSTALL 1/2-INCH CRUSHED STONE FOR SEAL COATING THE EXISTING HMA ROADS AS DETAILED ON SHEETS #C.01 & D.01.
56	BINDER BITUMEN - CONTRACTOR TO INSTALL BINDER BITUMEN AS DETAILED ON SHEETS #C.01 & D.01.
57	TRAFFIC CONTROL - CONTRACTOR TO INSTALL TYPE III BARRICADES AS DETAILED ON SHEET #D.01.
58	NPDES GENERAL PERMIT #2 & SWPPP - CONTRACTOR SHALL OBTAIN THE NECESSARY NPDES GENERAL PERMIT #2 AS GREATER THAN 1 ACRE OF AREA IS BEING DISTURBED WITH THIS PROJECT AND TO PREPARE A SWPPP IN ACCORDANCE WITH PERMIT #2. CONTRACTOR IS RESPONSIBLE FOR SUPPLYING INSPECTIONS & RECORD KEEPING.
59	MOBILIZATION - COST FOR CONTRACTOR TO MOBILIZE.
60	PARKING SPACE STRIPING AND HANDICAP PAVEMENT MARKINGS - SEE SHEETS #38-39.
61	CONCRETE PARKING WHEEL STOPS - CONTRACTOR TO INSTALL CONCRETE PARKING WHEEL STOPS, SEE SHEETS #38-39.

CONSULTANT



IOWA DEPARTMENT OF
NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST. DES MOINES, IA 50319-0034



QUANTITIES & GENERAL NOTES

CAMPGROUND UPGRADE PROJECT FOR:
GEODE STATE PARK

HENRY COUNTY, IOWA

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:
18-06-44-01

CH'D BY: DATE:
11/1/2017

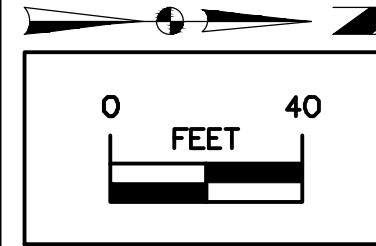
SHEET NO:

GEODE SANITARY RUN #1, EXISTING STRUCTURE TO NEW MH#1, MAINTAIN SAME FLOWLINES AS EXISTING

No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	179.69'	6% @ 1.20%	N35° 27' 40"W	0+00.00'	1+79.69'	(2226654.1469', 306963.1596') SANITARY VAULT (2226549.8970', 307109.5220') MH#1

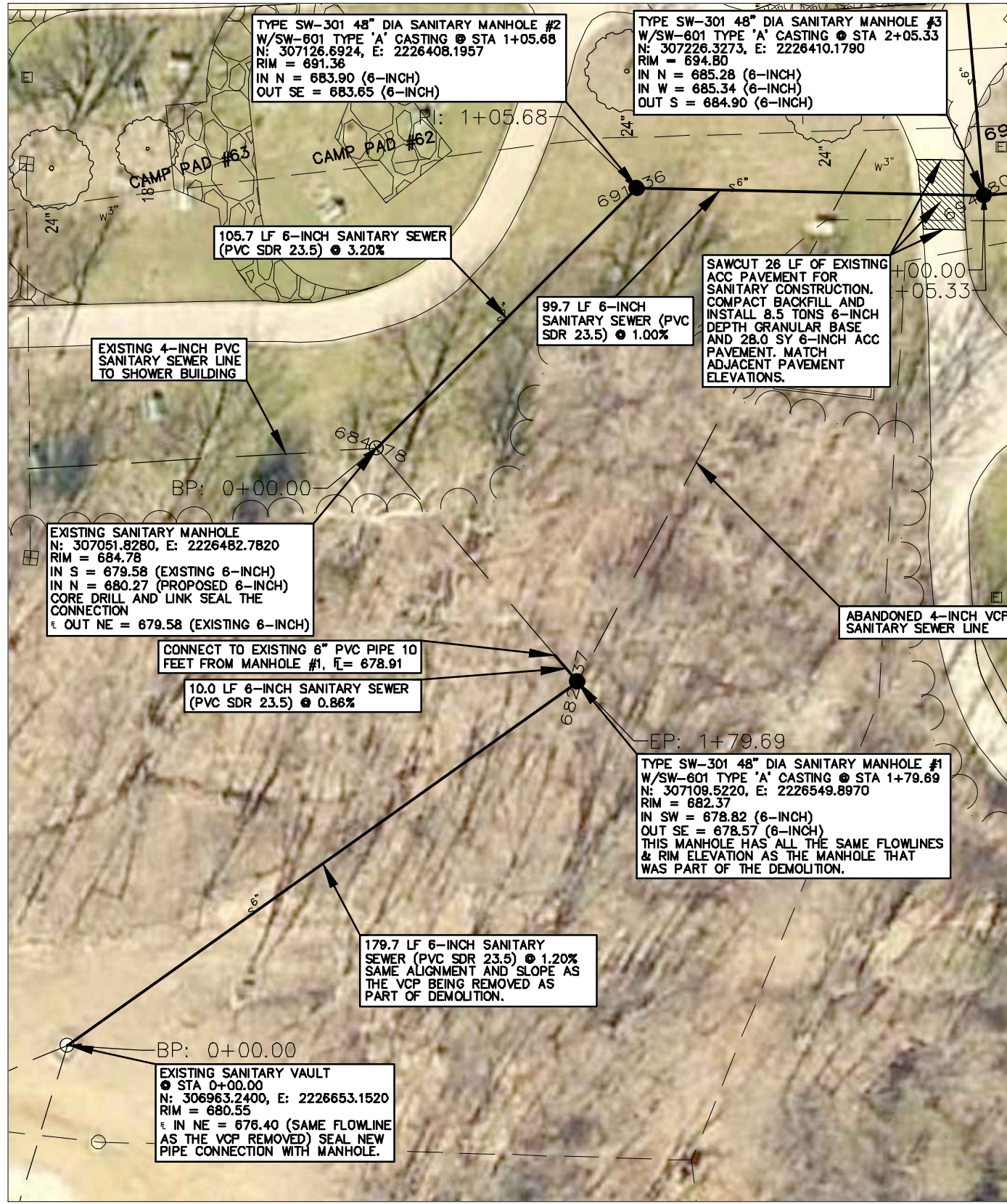
GEODE SANITARY RUN #2, EXISTING MH TO CAMP PADS TO THE NORTH

No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	105.68'	6" @ 3.20%	N44° 53' 36"W	0+00.00'	1+05.68'	(2226482.7820', 307051.8280') EXISTING MH (2226408.1957', 307126.6924') MH#2
2	Line	99.65'	6" @ 1.00%	N1° 08' 25"E	1+05.68'	2+05.33'	(2226408.1957', 307126.6924') MH#2 (2226410.1790', 307226.3273') MH#3



LEGEND

EXISTING/PROPOSED	
— SAN 8"	SANITARY SEWER
— ST 8"	STORM SEWER
— E 2"	ELECTRIC LINE
— W 2"	WATER MAIN
○ ●	MANHOLE/CLEANOUT
~~~~~	TREE LINE

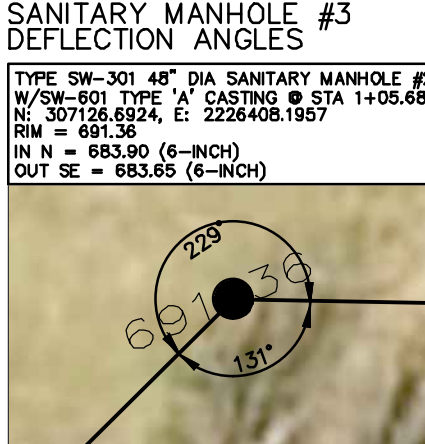
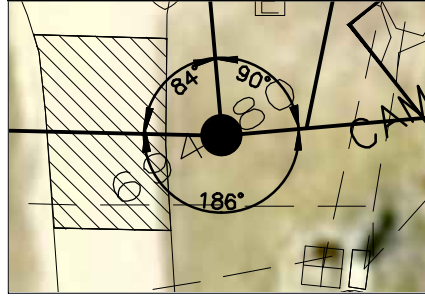
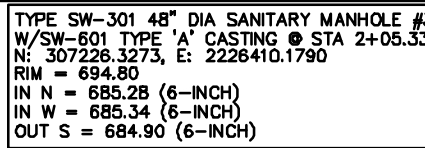


WEST SAW CUT LINE FOR SANITARY SEWER CROSSING

No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	13.81'	N1° 08' 25"E	0+00.00'	0+13.81'	(2226399.7871', 307206.7420')	(2226400.0620', 307220.5517')

EAST SAW CUT LINE FOR SANITARY SEWER CROSSING

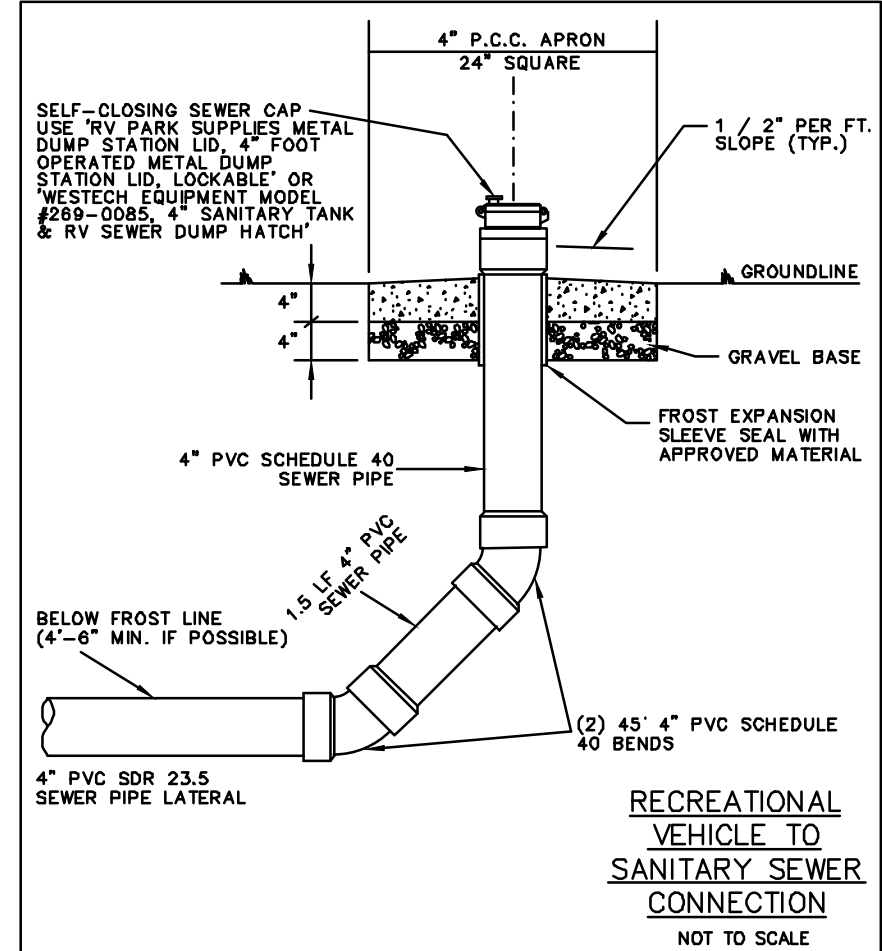
No.	Type	Length	Direction	Start Station	End Station	Start Point	End Point
1	Line	12.16'	N1° 08' 25"E	0+00.00'	0+12.16'	(2226419.8333', 307208.8637')	(2226420.0752', 307221.0180')



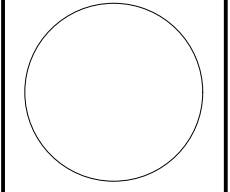
**SANITARY SEWER NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH STATEWIDE URBAN STANDARD DESIGN SPECIFICATIONS FOR PUBLIC IMPROVEMENTS (SUDAS).
- SANITARY SEWER CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE DRILLED AND USE LINK SEAL CONNECTIONS.
- THERE ARE 2 OTHER SANITARY SEWER ROAD CROSSINGS. THERE IS A BID LINE ITEM FOR THESE CROSSINGS. CONTRACTOR SHALL EITHER BORE THE PIPE ACROSS OR SAW CUT AND OPEN CUT THE EXISTING PAVEMENT. IF OPEN CUT, THE CONTRACTOR SHALL INCLUDE THE COST OF SAW CUTTING, COMPACTION OF THE BACKFILL, INSTALL 6-INCHES OF COMPACTED GRANULAR BASE AND 6-INCHES OF MATCHING PAVEMENT TYPE, EITHER ACC OR PCC. WHICHEVER METHOD THE CONTRACTOR CHOOSES, THE TOTAL COST OF THESE CROSSINGS SHALL BE INCLUDED IN THIS BID LINE ITEM.

SEE SHEETS #15-17 FOR SANITARY SEWER PROFILE INFORMATION



CONSULTANT:



IOWA DEPARTMENT OF  
NATURAL RESOURCES  
ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-0034



SANITARY PLAN (SOUTH PORTION)

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

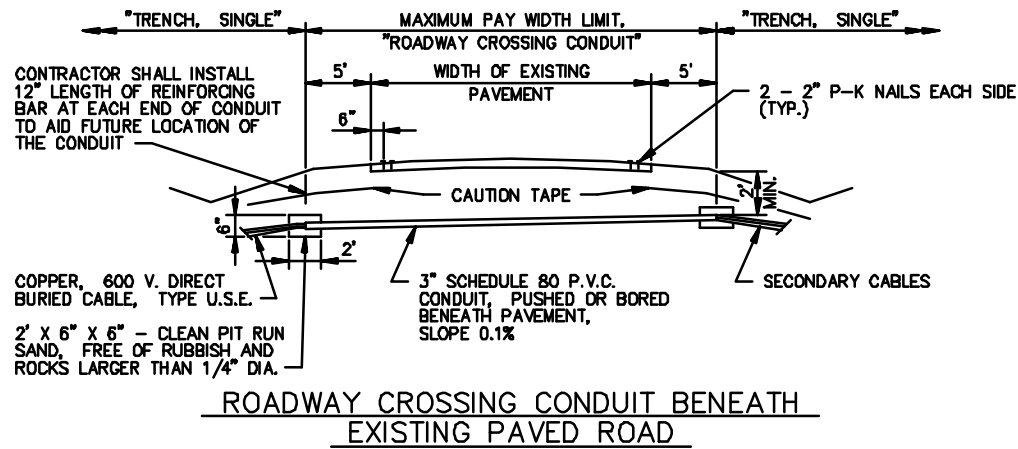
HENRY COUNTY, IOWA

NO.	BY	DATE	REVISION

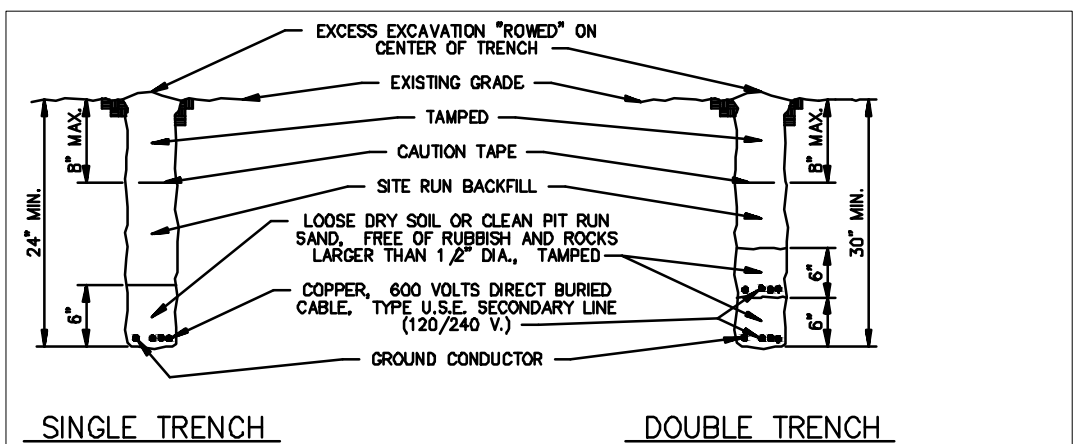
DRAWN BY: PROJECT NUMBER: 18-06-44-01

CHKD BY: DATE: 11/1/2017

SHEET No: 10

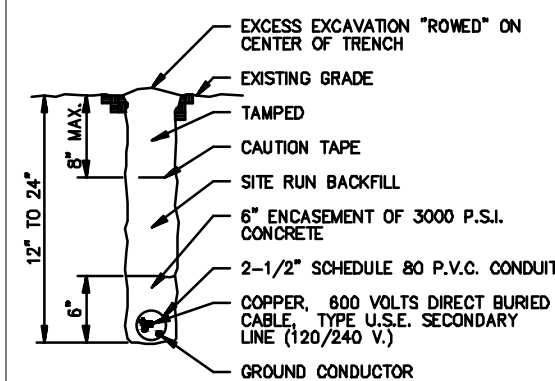


CAMPGROUND ELECTRICAL SYSTEM  
STANDARD DRAWING NO. RC-1  
DETAILS OF ROADWAY  
CROSSING CONDUITS  
FOR SECONDARY CIRCUITS  
REVISION DATE 1/25/95

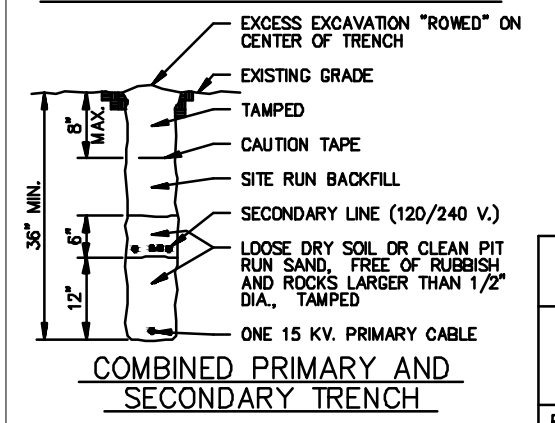


SINGLE TRENCH

DOUBLE TRENCH



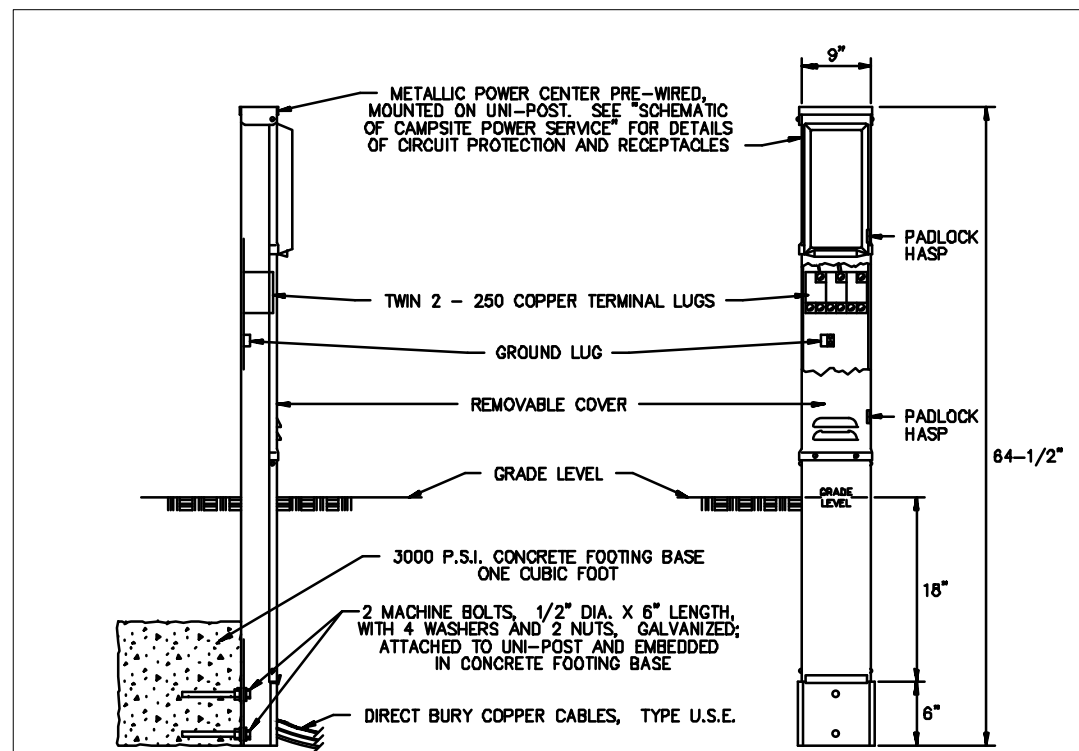
SINGLE TRENCH WITH LESS  
THAN MINIMUM BURIAL DEPTH



COMBINED PRIMARY AND  
SECONDARY TRENCH

- NOTES:
1. AFTER INSTALLATION OF THE ELECTRICAL CONDUCTORS, AND AT LOCATIONS WHERE THE TRENCHING OPERATIONS CROSS THE CAMPSITE VEHICLE PARKING PADS, THE CONTRACTOR SHALL PLACE AND COMPACT A MINIMUM OF 4" OF GRANULAR SURFACING ABOVE THE COMPACTED TRENCH BACKFILL.
  2. THE CONTRACTOR SHALL SEED AREAS DISTURBED BY TRENCHING ACTIVITY WITH AN "URBAN" OR "RURAL" SEED MIXTURE, AS SPECIFIED ON THE PLAN DRAWINGS. THE COST OF SEEDING SHALL BE CONSIDERED AS INCIDENTAL TO OTHER ITEMS OF WORK.
  3. TRENCHING AND BACKFILL SHALL CONFORM TO SECTION 02200, PART 3.05 OF THE TECHNICAL SPECIFICATIONS.

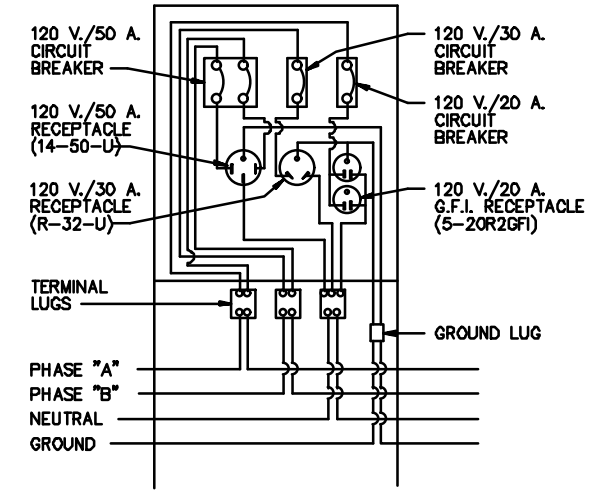
CAMPGROUND ELECTRICAL SYSTEM  
STANDARD DRAWING NO TS-1  
DETAILS OF TRENCHES  
FOR SECONDARY CIRCUITS  
REVISION DATE 1/21/97



SIDE VIEW

FRONT VIEW

- NOTES:
1. A "SINGLE CAMPSITE OUTLET POST-50 AMP" SHALL HAVE THE FOLLOWING CONFIGURATION: AN UNMETERED, POST MOUNTED CABINET WITH A 5-20R2GF1 20 AMP DUPLEX RECEPTACLE, A R32U 30 AMP RECEPTACLE, A 14-50R 50 AMP RECEPTACLE, A SINGLE POLE 20 AMP CIRCUIT BREAKER, A SINGLE POLE 30 AMP CIRCUIT BREAKER, AND A DOUBLE POLE 50 AMP CIRCUIT BREAKER; MIDWEST MODEL U075CP6010, MILLBANK U5200-XL-75, OR APPROVED EQUAL, SHALL BE USED FOR SINGLE CAMPSITE OUTLET POST WITH METALLIC POWER CENTER.
  2. SEE TRENCH DETAILS, STANDARD DRAWING NO. TS-1, FOR DETAILS OF INSTALLATION OF DIRECT BURY COPPER CABLES TO CAMPSITE OUTLET POST.
  3. THE CONDUCTOR SIZES AND THE PLAN ARRANGEMENT OF THE LOADS ON EACH CIRCUIT SHALL BE SELECTED TO LIMIT THE MAXIMUM CIRCUIT VOLTAGE DROP, FROM THE TRANSFORMER TO THE FURTHEST CAMPSITE OUTLET ON THE CIRCUIT, TO 3% (3.6 VOLTS ON EACH 120 V. PHASE). ADJUST CONDUCTOR SIZE BASED ON ACTUAL ROUTING WITH NO ADDITIONAL COMPENSATION.
  4. PROVIDE TWO EXTRA COMPLETE OUTLET POSTS AND TURN OVER TO OWNER.



SCHEMATIC OF CAMPSITE  
50 AMP POWER SERVICE

CAMPGROUND ELECTRICAL SYSTEM  
STANDARD DRAWING NO. SC-1  
DETAILS OF  
CAMPSITE OUTLET POST  
REVISION DATE 10/28/08

CONSULTANT:

IOWA DEPARTMENT OF  
NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-0034



ELECTRICAL DETAILS

CAMPGROUND UPGRADE PROJECT FOR:

GEODE STATE PARK

HENRY COUNTY, IOWA

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:  
**18-06-44-01**  
CH'D BY: DATE:  
11/1/2017

SHEET No: