

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION

PROPOSAL AND SPECIAL PROVISIONS FOR THE CONSTRUCTION OF DRILLED WELL & PUMP

PROJECT NO. 44774

NEWFIELDS

NOTE: PLANS AND SPECIFICATIONS ON THIS PROJECT CANNOT BE TRANSFERRED TO ANY OTHER FIRM OR ORGANIZATION FOR THE PURPOSE OF SUBMITTING A BID AS A GENERAL CONTRACTOR WITHOUT THE KNOWLEDGE AND AUTHORITY OF THE DEPARTMENT.

NON-TRANSFERABLE: _____

GRAND TOTAL \$ _____

**STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION**

JOHN O. MORTON BUILDING
CONTRACT SECTION

7 HAZEN DRIVE
CONCORD, NH 03302

INVITATION TO BIDS

PROJECT: Drilled Well and Pump

NH DOT Bridge Maintenance,
38 NH 108 Newfields, NH 03856
Project No. 44774

BID OPENING Thursday May 2, 2024, 2:00 P.M.

Well bids must be submitted electronically via <https://nhdot.exevision.com/icx/Index.aspx>.

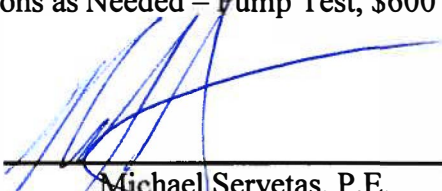
TYPE: 6-inch Drilled Wells & Pumps

COMPLETION DATE: In conformity with the provisions set forth under the Prosecution of Work
December 6, 2024

ESTIMATED QUANTITIES:

Item 662.1626	6" drilled well, 600 LF
Item 662.166	Pilot Hole for 6" well (includes casing), 180 LF
Item 662.41	Trench and Pipe, 75 LF
Item 662.52010	Submersible pump (1.0 HP) and accessories, 1 EA
Item 692.	Mobilization, 1 U
Item 1008.11	Alterations and Additions as Needed - Unanticipated Work, \$3,000
Item 1008.18	Alterations and Additions as Needed - Pump Test, \$600

April 9, 2024



Michael Servetas, P.E.
Director of Operations

For bidding purposes, the Bidder must be prequalified and authorized to bid through the Contracts Office of the Department of Transportation (603-271-3402, Bureau14Con@dot.nh.gov).



Information Report

NEWFIELDS
44774
NON-FEDERAL

County: ROCKINGHAM
 Date Bids Open: 5/2/2024
 Scope of Work: Replace facility well
 Location: 38 NH 108 Newfields
 Completion Date: 12/6/2024
 Proposal Guarantee: 5% of bid amount

Item Number	Item Description	Unit	Estimated Quantity
NEWFIELDS 44774			
706 Well			
662.1626	6" DRILLED WELL	LF	600.00
662.166	PILOT HOLE FOR 6" WELL (INCLUDES 6" CASING)	LF	180.00
662.41	TRENCH AND PIPE	LF	75.00
662.52010	SUBMERSIBLE PUMP (1.0 HP) AND ACCESSORIES	EA	1.00
692.	MOBILIZATION	U	1.00
1008.11	ALTERATIONS AND ADDITIONS AS NEEDED - UNANTICIPATED WORK	\$	3,000.00
1008.18	ALTERATIONS AND ADDITIONS AS NEEDED - PUMPING TEST	\$	600.00

**NEWFIELDS
44774**

March 26, 2024

PROSECUTION OF WORK

DESCRIPTION OF WORK

This project is on the property of: NH DOT Bridge Maintenance, 38 NH 108, Newfields, NH 03856.

The scope of the work includes the installation of a new well and a pump with ancillary equipment.

This contract is to be governed by all the applicable provisions of the 2016 Standard Specifications for Road and Bridge Construction and its Supplementals and Special Provisions.

UTILITIES

There are no known underground utilities within the project limits.

New Hampshire State Law, RSA 374:48-56, requires that anyone who excavates in a public way or utility easement must notify the utility damage prevention system, DIG-SAFE, at least 72 hours prior to starting work.

The Contractor shall be responsible to notify the DIG-SAFE Call Center (Tel. No. 1-888-DIG SAFE (1-888-344-7233)) at least 72 hours in advance of starting any excavation or erecting permanent construction signing. Saturdays, Sundays, and legal holidays are not to be included in the computation of the required 72-hour notice.

EROSION CONTROL AND WATER QUALITY MANAGEMENT

A Storm Water Pollution Prevention Plan will not be required for this project. However, appropriate pollution preventative measures and “Best Management Practices (BMP)” as outlined within the *New Hampshire Stormwater Manual Vol. 3 - Erosion Control and Sediment Controls During Construction (December 2008)*, available on-line at the New Hampshire Department of Environmental Services website, shall be employed by the Contractor to assure that any detrimental impacts are minimized to the extent practicable.

Amend BMPs as necessary to provide for continued erosion and sediment control through the duration of the project. Appropriate temporary measures shall be constructed as necessary to prevent erosion based upon the Contractor's method of operation and schedule. Erosion control is incidental to the project and shall be subsidiary to the Work.

The project is not subject to Notice of Intent and Notice of Termination in accordance with the Construction General Permit (CGP).

ELECTRONIC SCHEDULING

For this project, the Contractor is relieved of the requirements of 108.03.A to provide an electronic Bar Graph or a CPM schedule meeting the requirements of 108.03.A.

CONSTRUCTION REQUIREMENTS

Your attention is called to Item 662.166: Pilot hole for 6” Well (Includes 6” Casing)

For this item, the intention is to install all the 180 LF of 6” casing. Drilling conditions may cause this amount to increase or decrease.

WORK HOURS

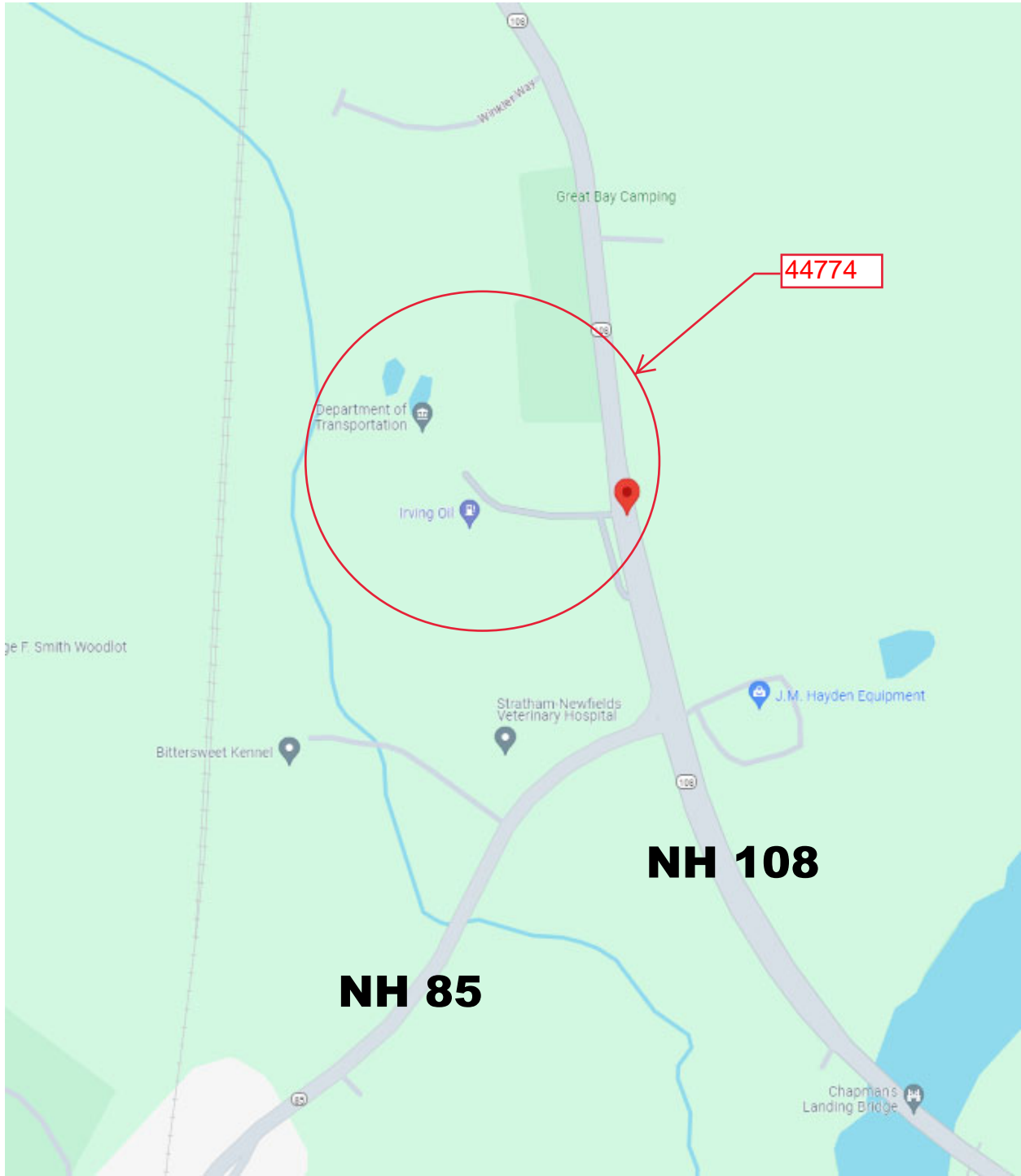
Upon starting the work within the 20 days as set forth by the Contract, the Contractor shall prosecute the work a minimum of 8 hours per working day until completion, excluding breakdowns or inclement weather. If the Contractor finds it impossible to start the work as stated above, the Contractor may make a written request to the Engineer for an extension of times. Any such request shall be made prior to expiration of the allowable 20 days, and shall contain reasons, which the Contractor believes will justify the granting of the request. In the request the Contractor shall submit his proposed starting date.

Do not perform any work involving high noise machinery such as jackhammers or excavating equipment prior to 7:00 a.m. or after 7:00 p.m., unless otherwise permitted in the contract or approved by the Engineer. No work will be permitted on Fridays after 3:00 p.m. and Saturdays, unless otherwise directed.

COMPLETION DATE

The completion date is December 6, 2024.

NEWFIELDS 44774



LOCATION MAP

02/22/24

SSD: 1/7/00, 3/22/00, 6/14/00, 2/8/01, 4/2/01, 1/25/02, 4/1/02, 04/15/03, 04/20/04, 05/06/05, 05/19/06, 09/17/07, 06/12/08, 03/04/09, 08/26/09, 06/28/10, 06/10/11, 04/12/12, 04/18/13, 01/02/14, 10/22/14, 01/16/15, 01/15/16, 09/12/16, 02/09/17, 04/27/17

SPECIAL ATTENTION

QUALIFIED PRODUCTS LIST

The Qualified Products List is available online at www.dot.nh.gov on the *Doing Business with DOT>Contractors* webpage. A link to the Qualified Product List (QPL) is shown under the *Engineering Information* heading of this webpage. The QPL is now considered a live document and periodic updates will occur. The QPL in effect on the date of project advertisement shall apply to this contract.

Products added to the QPL can be used under this contract upon issuance of the updated QPL. The Contractor shall not use the anticipated addition of a product to the QPL as a basis for use of a product. A product removed from an updated QPL can still be used under this contract unless specifically directed by the Department that the removed product shall not be used.

SPECIAL ATTENTION

**STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION,
STANDARD PLANS FOR ROAD CONSTRUCTION & BRIDGE DETAIL SHEETS**

This project will be constructed under the requirements of the 2016 Standard Specifications for Road and Bridge Construction, which has been adopted and will be utilized for projects advertising after March 1, 2016, and the 2010 Standard Plans for Road Construction, including revised Standard Plans.

For Bridge Standard Plans, Bridge Design will include the appropriate standard plans, now referred to as Detail Sheets, in the plan set that pertain to the specific project, as necessary.

The Standard Specifications for Road and Bridge Construction and the Standard Plans for Road Construction manuals are available for purchase from NHDOT Records Section (603-271-3514) or can be viewed on the NHDOT website: www.dot.nh.gov/doing-business-nhdot/contractors. The Standard Specifications, the Standard Plans, and the Bridge Detail Sheets are located under the *Engineering Information* heading.

03/21/18

SSD: 03/01/16, 06/10/16, 6/11/16, 06/27/16, 08/03/16, 10/31/16, 11/28/16, 06/19/17, 11/30/17

Page 1 of 3

SPECIAL ATTENTION**ERRATA SHEET**

The following table is a list of corrections to the 2016 *Standard Specifications for Road and Bridge Construction*, as of the date of this Proposal.

Section	Description	Correction	Date
<i>DIVISION 100</i>			
104.03	Maintenance of Traffic	Amend 'winter work suspensions' in 104.03 to read 'Winter Suspension'.	06/07/07
<i>DIVISION 200</i>			
<i>DIVISION 300</i>			
<i>DIVISION 400</i>			
<i>DIVISION 500</i>			
		Insert the following footnotes under Table 520-1A:	
		¹ See 3.1.6 TESTING	
		² For mixes containing fly-ash, silica fume, slag, or any other pozzolanic or cementitious material, the water/cement ratio of the concrete mix shall be based on the water cementitious (cement + pozzolanic or cementitious material) ratio of the mix. This water to cementitious ratio shall not exceed those listed in Table 1A. The maximum water/cement ratios listed for Concrete Class B and T are for design purposes only.	
		³ Deck Overlays.	
520	Classes of Concrete	⁴ <u>Maximum</u> 84 day Compressive Strength for Flowable Fill, Excavatable shall not exceed 200 psi.	06/11/16
		⁵ These are recommended values that may be used as a starting point for a mix design that has shown ability to meet the requirements. The amount of cement shall be adjusted and fly-ash or ground granulated blast furnace slag shall be used provided the mix design meets the minimum and does not exceed the maximum compressive strength in accordance with 2.11.1.	
		⁶ Target values shown are for mix design approval only and are not intended for use as quality control or quality assurance requirements.	

Section	Description	Correction	Date
520	Classes of Concrete – Performance Requirements (QC/QA)	Amend the title of <i>Table 420-1B - Class of Concrete – Performance Requirements (QC/QA)</i> to <i>Table 520-1B - Class of Concrete – Performance Requirements (QC/QA)</i>	11/28/16
528	Shear Key Grout for Butted Beams	Amend 528.2.9.1 to read: <i>Grout for shear keys shall be an approved grout as listed in Section 528A of the Qualified Products List.</i> Amend 528.2.9.2 to read: <i>For testing, 3 neat 2” cubes shall be molded and cured in accordance with AASHTO T 106 (ASTM C 109). The average compressive strength of the 3 cubes at 7 days shall be a minimum of 6000 psi.</i>	06/10/16
528	Installation of Deck Panels	Replace last sentence of 528.3.22.6.4 to read: <i>If leveling screws are used, they shall be completely removed and the holes filled with grout listed in Section 528A of the Qualified Products List prior to placement of deck concrete.</i>	06/10/16
550	PTFE Surfaces for Bearings	Amend the first sentence of 550.2.10 to read: <i>PTFE for use in expansion bearing assemblies shall be 100 percent virgin (unfilled) polytetrafluoroethylene polymer...</i>	08/03/16
550	Anchor Rods	Amend 550.3.15.4.1 to read: <i>Anchor rods shall be set in one of the following materials:</i> <i>(a) Non-shrinking, non-ferrous, cement-base grout listed in Section 550A of the Qualified Products List. This grout shall be used only when both the temperature of the masonry and the ambient temperature are kept at 40 °F or above until the grout has cured.</i> <i>(b) Sulfur.</i> Amend the first sentence of 550.3.15.4.2 to read: <i>Non-shrinking, non-ferrous, cement base grout shall be a product as included in Section 550A of the Qualified Products List.</i>	06/10/16
563	Bridge Rail	Amend 4.1 to read: <i>Bridge rail, of the type specified, will be measured by the linear foot to the nearest tenth of a foot.</i>	06/27/16
<i>DIVISION 600</i>			
606	Handrail	Amend 606.2.8.2 to read: <i>Grout for anchoring the pipe posts shall be High Strength, Impact Resistant, Non-shrink Grout as included in Section 528A of the Qualified Products List.</i>	06/10/16

Section	Description	Correction	Date
606	Temporary Impact Attenuators	Amend in 606.2.10.2 the reference to 2.12.4 to 2.10.4.	11/28/16
	Repair of Hardened Concrete	Amend in 606.3.7.12.A the reference to <i>Fast Set Non-shrink Patching Mortar</i> to <i>Rapid-Hardening Patching Material</i> .	03/21/18
609	Curbing	Amend the 2 nd sentence of 609.2.5 to read: <i>The non-shrink, non-metallic grout shall be a product as included in Section 550A of the Qualified Products List.</i>	06/10/16
609	Curb anchors	Amend 609.3.1.5.1 to read: <i>Curb anchors shall be set and grouted using non-shrink, non-metallic grout as shown on the plans.</i>	06/10/16
621	Delineators	Add the following to the end of 621.3.1.3: <i>Grout shall be as listed in Section 550A of the Qualified Products List or as directed by the Engineer.</i>	06/10/16
632	Pavement Markings	Amend the AASHTO reference in 3.2.3.1 to read: <i>AASHTO M248 Type F</i>	
<i>DIVISION 700</i>			
707	Cement Mortar	Amend 2.3 to read: <i>Testing for impurities shall comply with AASHTO T 21. Results that are darker than the standard shall be cause for rejection, except as provided in 2.3.1.</i>	10/31/16
		Amend 2.3.1 to read: <i>Sand for mortar not conforming to 2.3 shall be tested in accordance with AASHTO T 71 and shall meet the requirements of 5.2.3 of AASHTO M 45.</i>	

SPECIAL ATTENTION**THIS PROJECT IS TO BE BID AND CONSTRUCTED UNDER THE
2016 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION****NOTICE OF SUPPLEMENTAL SPECIFICATIONS**

The following table is a list of all of the Supplemental Specifications that have been adopted as additions or revisions to the *Standard Specifications for Road and Bridge Construction*, **March 2016** Edition as of the date of this Proposal. The Bidder is responsible to examine each item to determine its effect, if any, upon the Contract.

Note: Due to the limited scope of some projects, not all Supplemental Specifications will be included in all Proposals. All Supplemental Specifications are available on-line: www.dot.nh.gov/about-nh-dot/divisions-bureaus-districts/highway-design/contracts-and-specifications/2016.

Section	Description	Revision	Previous Revision Date	Current Revision Date
<i>DIVISION 100</i>				
101	Definitions and Terms	101.79 – Revises Frequency of QPL Updates (06/06/17) 101.116-119 – Revises Definitions of Weather Days and Working Days (04/02/18)	06/06/17	04/02/18
105.02	Plans and Working Drawings	Section Rewrite-Approval/Acceptance/Documentation (NHDOT: 12/07/23; FHWA: 11/16/23)	-	12/04/23
106.04	Qualified Products List	Revises Frequency of Updates		06/06/17
107.01	Legal Relations and Responsibility to Public	107.01 – Revises References to DES Rules and Regulations		07/06/18
108.09	Prosecution and Progress	108.09 – Amends the Requirements for Liquidated Damages		07/06/18
109.04	Differing Site Conditions, Changes and Extra Work	Revises Rental Rate Blue Book Online Requirements (04/02/18)	01/06/12	04/02/18
<i>DIVISION 200</i>				
211.3.4	Vibration Monitoring	Adds reference to pre- and post-construction survey requirements		04/05/17
<i>DIVISION 300</i>				

DIVISION 400

401	Plant Mix Pavements - General	<p>2.2.3 – Requires Suppliers to participate in NTPEP Asphalt Binder Suppliers (ABS) program (12/15/23) <small>(NHDOT: 03/02/22; FHWA 12/15/23)</small></p> <p>3.9 – Asphalt Release Agents must be listed on QPL (12/15/23) <small>(NHDOT: 03/02/22; FHWA 12/15/23)</small></p> <hr/> <p>Complete reorganization of Section 401, including incorporating all supplemental specifications thus far (01/28/21) <small>(NHDOT: 12/02/20/FHWA: 01/28/21)</small></p> <hr/> <p>2.5.1 - Adds winter binder to the design control points (04/05/17)</p> <p>2.10 – No greater than 1% TRB (06/06/17)</p> <p>3.4.1 – Revises Cold Feeder Requirements (07/06/18)</p> <p>3.4.7.1 – Revises Recycled Materials Weighing Procedures (07/06/18)</p> <p>3.4.11 - 3.4.15 – Describes Introduction of Recycled Materials at a Batch Plant and Controls Minimum Dry Time for Recycled Aggregates (07/06/18)</p> <p>3.5.2 & 3.5.2.1 – Revises Recycled Materials Requirements (07/06/18)</p> <p>3.10.10.1 – Removes penalty for failing tack (06/06/17)</p> <p>3.12 – Allows a reduction in use of pneumatic-tired rollers (06/06/17)</p> <p>3.17.1.3 - Revise NETTCP QA Technologist requirements (11/07/18)</p> <p>3.17.3.1.1 – Revises HMA gradation specification limits, completes addition of winter binder, removes allowance for Aim change after two sub-lots (06/06/17)</p> <p>4.1.1 – Removes reference to Night Items (06/06/17)</p>	01/28/21	12/15/23
403	Pavement Item Numbers	<p>403.1.3, 403.5.1.1 & Item Key - Removes all references to Night Items and removes “percent wear” items. (06/06/17)</p> <p>403 Item Key - Total overhaul of Item Numbers and Descriptions to allow for type of mix in item description (07/27/20)</p>	07/27/20	07/01/21

		403 Item Key & 5.2 - Further Update of Item Descriptions to allow for type of mix (07/01/21) (NHDOT: 12/02/20/FHWA: 01/28/21)		
410	Bituminous Surface Treatment	2.1- Adopts new AASHTO Specifications for Emulsions (04/13/16) 3.4.1.1 – Revises pavement conditions, application rate for tack (01/04/17) 2.1.1, 2.1.2, 3.2, 3.3, 3.4 – Identifies tack sampling and penalties for non-conformance (06/06/17) 3.2 & 3.5.2 – Amends Distribution Equipment and Initiates an Annual Tack Truck Inspection Program (07/06/18)	06/06/17	07/06/18
411	Pneumatic Tired Roller/Remove “AC”	2.1.2/3.4.7 – Update language to remove references to “AC” and ¾” PMST (01/11/24) 3.5.5 – Requires the use of pneumatic tired rollers on all Section 411 paving (06/06/17). 5.1.1 – Ensures Tack Used for PMST and Leveling Course is a Pay Item (07/06/18) Update Pay Item Description (Remove “AC”) (01/11/24) Removes Pay Items (04/02/18 & 01/11/24)	07/06/18	01/11/24
417	Rumble Strip Inlay	2.1 & 3.7 – Specifies PMST as the asphalt inlay to fill in rumble strips		04/02/18
<i>DIVISION 500</i>				
520	Portland Cement Concrete	3.8.1.1 – Revises the acceptable concrete delivery temp to 90° F (04/02/18) 3.1.6.2.1.2 A - Revise NETTCP QA Technologist requirements (11/07/18)	04/02/18	11/07/18
530	Waterproofing Concrete Surfaces	Deletes Section 530		05/21/18
538	Barrier Membrane	3.3.5 – Updates the laydown temperature range.		09/15/16
550	Structural Steel-Shim Plates	3.15.5.5 – Eliminate the use of weathering steel as a bearing shim plate (NHDOT: 01/08/20/FHWA: 03/18/20)		01/28/21

563	Bridge Fence	2.8 – Allows aluminum ties for attaching bridge fence		09/15/16
568	Structural Timber	2.2, 3.4.4 & 3.4.5 – Adds specific references to AWWA Standards & wooden piles		04/02/18
582	Preformed Joint Filler	2.4 – Revises Preformed Joint Filler Requirements		04/02/18
<i>DIVISION 600</i>				
603	Plastic Pipe	2.3, 2.6 & 2.7 – Updated to include Polypropylene Pipe as well as associated UV Requirements (04/13/16) 2.13 – Adds Contractor's Option (06/02/16)	04/13/16	06/02/16
605	Plastic Pipe	2.1 & 2.2 – Updated to include Polypropylene Pipe		04/13/16
606	Guardrail	2.2 – Adds specific references to AWWA Standards & wooden piles		04/02/18
608	Detectable Warning Devices	2.6 – Updates Detectable Warning Device Requirements		04/02/18
609	Curbs	2.4.1.1 – Allows the substitution of PG 76-28 binder in lieu of fibers		04/02/18
615	Cofferdam for Sign Installation	5.1.5 – Revises payment for sheeting and shoring for sign structures		04/02/18
645	Erosion Control	1.1 – Matting Section Revised and Pay Items Revised (04/02/18) 1.1 – 'Stabilization' changed to 'matting' (02/01/17) Incorporates BFM, FRM and SMM into the Standard Specs (07/06/18) 1.2.1 – Add Erosion Control Plans to furnish for SWPPP (11/07/18) 3.1.5 – Update construction dates for allowable area of exposed, unstabilized soil (11/07/18)	07/06/18	11/07/18
<i>DIVISION 700</i>				
702	Bituminous Materials	Amends/Corrects Table 702-1 & 702-2 (04/13/16 & 01/11/24) Amends Tables, and Adds Test Method (05/11/16)	05/11/16	01/11/24

S U P P L E M E N T A L S P E C I F I C A T I O N

AMENDMENT TO SECTION 101 – DEFINITIONS AND TERMS

The intent of the Supplemental Specification is to revise:

- *the frequency of QPL updates (06/06/17)*
- *the definitions of weather days and working days (04/01/18)*

Amend 101.79 to read:

101.79 Qualified Products List (QPL). A list of products prequalified by the Engineer as meeting the Contract requirements for specified materials to be incorporated into the Work. The list is maintained and updated by the Bureau of Materials and Research.

Amend 101.116-119 to read:

101.116 Wear. The percent of wear of aggregate as determined by the AASHTO T 96 (Los Angeles Abrasion Test). The grading shall be Grading A unless otherwise specified.

101.117 Weather Day. Days on which weather conditions beyond the Contractor's control would prevent Work on the Controlling Activities for at least five hours with a work force consistent in size and type for the work to be performed. Should the Contractor prepare to begin work on any day on which inclement weather, or the conditions resulting from the weather, prevent the work from beginning at the usual starting time, and the crew is dismissed as a result, the Contractor will not be charged for a working day whether or not conditions change during the day and the rest of the day becomes suitable for construction operations.

101.118 Wetland. An area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include, but are not limited to swamps, marshes, bogs, and similar areas." (NH Code of Administrative Rules, Env-Wt 101.113)

101.119 Winter Suspension. Winter Suspension shall be such time that the Contractor, utilizing conventional means and methods, is unable to proceed in an efficient manner with construction activity due to unfavorable weather conditions and suspends operations until such time that conditions are favorable for sustained construction activity.

101.120 Winter Work. Winter Work is any work that is done in December, January, February, and March. The Contract may require winter work on all or portions of the project, in which case time will be determined as specified in 108.07 unless otherwise amended.

101.121 Work. The furnishing of all labor, materials, equipment, and incidentals necessary or convenient to the successful completion of the Project, and the carrying out of the duties and obligations imposed by the Contract.

101.122 Working Day. Any calendar day, except Saturdays, Sundays, Contract designated Holidays and Weather Days. Days in December, January, February, and March are not considered working days even if the Engineer allows the Contractor to work and the Contractor so chooses except when:

- (1) The Contract requires Winter Work;
- (2) The Contract Completion Date gets extended into this period and the weather conditions are favorable for the continuation of the remaining Work; however, should weather or site conditions change during the Winter Work period and the Contractor suspend operations as a result, Working Days will not be charged until April 1 whether or not the conditions become suitable for construction operations during the remainder of the Winter Work period.

101.123 Working Drawings. Working Drawings may be submitted for approval or documentation. See 105.02.

S U P P L E M E N T A L S P E C I F I C A T I O N
AMENDMENT TO SECTION 105 – CONTROL OF THE WORK

*The purpose of this Supplemental Specification is to update Section 105.02
to correspond with the updated NHDOT standard stamps.*

Replace Section 105.02 – Plans and Working Drawings with the following:

105.02 Plans and Working Drawings.

Plans shall be supplemented by Contractor-prepared Working Drawings as found necessary to control the Work and its prosecution. Working Drawings consisting of details that are not included in the Plans but are required for the Work shall be furnished to the Department. Working Drawings that include deviations from that which are shown in the Contract including, but not limited to, changes in dimensions, material, fabrication process, and specific design requirements shall be flagged on the drawings and/or accompanied by a written narrative specifically requesting such changes.

The Contractor shall submit the required Working Drawings to the Engineer for approval, acceptance, or documentation. All information the Engineer used in preparation of the Working Drawings shall be furnished in the submittal including, but not limited to, calculations, catalog cuts, sketches or drawings, narrative of work, design assumptions, and manufacturer’s engineering data for prefabricated items, including falsework and forms. The Working Drawings shall be furnished well in advance of the Work to allow the Engineer time to review or distribute the Working Drawings. Any work done or materials ordered for work shown on the Working Drawings prior to approval or distribution of the drawings shall be at the Contractor’s risk.

- A. Approval.** Working Drawings submitted for approval are typically fabrication shop drawings for permanent installations that provide additional detailing to Department designs and do not require a PE stamp. The Department “approval” is for general conformity with the contract plans, proposal, addenda, special provisions, and standard specifications.

Working Drawings submitted for approval shall include, but are not limited to, the following:

- Bending diagrams when required for reinforcing steel
- Bridge mounted sign supports
- Expansion joints (compression seal, strip seal, finger joints)
- Bridge railing
- Bridge bearings (elastomeric, steel)
- Structural steel
- Drilled shafts and micropiles
- Partial-depth precast deck panels
- Full-depth deck panels
- Pipe lining
- Welding procedures

- B. Acceptance.** Working Drawings submitted for acceptance are typically fabrication shop drawings for permanent installations that are designed by the Fabricator/Contractor and are stamped, prepared, and signed by a Licensed Professional Engineer registered in the State of New Hampshire. Calculations for the design shall be submitted for documentation. The Department will perform a review of both the Working Drawings and design calculations. The Department “acceptance” is for general conformity with the contract plans, proposal, addenda, special provisions, and standard specifications.

Working Drawings submitted for acceptance shall include, but are not limited to, the following:

- Overhead sign structures and foundations
- Traffic signal structures
- ITS supports and foundations
- Precast culverts, arches, frames, or other precast elements
- Retaining walls
- Prefabricated bridges
- Bridge bearings (high load multi-rotational, isolation)
- Expansion joints (modular)
- Railroad crossing structures
- Storm Water Pollution Prevention Plan and other environmental plans
- Detour plans (The Contractor may propose detours not shown on the Plans by submitting proposed locations, layout, grade, typical cross-sections, protective fixtures, and signing.)

C. Documentation. Working Drawings submitted for documentation are typically documents for temporary works that are designed by the Contractor and are stamped, prepared, and signed by a Licensed Professional Engineer registered in the State of New Hampshire. The Department will perform a review of both the Working Drawings and design calculations for general conformity with the contract plans, proposal, addenda, special provisions, and standard specifications. The Engineer's receipt of documentation or distribution of the Contractor's Working Drawings for documentation does not relieve the Contractor from responsibility under the Contract for errors in dimensions, incorrect fabrication and erection processes, design requirements specified, or successful completion of the Work.

Working Drawings submitted for documentation shall include, but are not limited to, the following:

- Progress schedules
- Temporary bridges
- Removal of existing bridge structures
- Cofferdams
- Water diversion structures
- Erection procedures
- Temporary support systems
- Falsework plans
- Scaffolding
- Bridge analysis

The Contractor shall submit the Working Drawings for approval and/or acceptance to the Engineer for review. The Engineer will be allowed up to fifteen (15) Working Days for review of each submission. If the Engineer has not responded to the Contractor after fifteen Working Days, the Contractor shall contact the Engineer to inquire about the status of the submittal. If the Engineer requires more time for review and the Contractor believes that an extension of the Contract Time is warranted due to this additional review time, the Contractor shall request a time extension and proceed as required by 104.02 and 108.07. A delay caused by additional time required for review is an Excusable, Non-compensable Delay. Each resubmission including requests for additional information will be treated as a new submission and may require up to fifteen (15) Working Days for review by the Engineer. The fifteen Working Days will begin upon receipt at the Bureau of Construction's main office. The review will be considered complete when the date and status has been placed on the submittal. One set of the drawings will be returned to the Contractor marked with a response. The Department reserves the right to return the Working Drawings for revisions based on the content and non-conformance with the Plans and Specifications.

If the submittal is a paper copy, after approval/acceptance has been given, the Contractor shall supply the Engineer with four sets of the revised Working Drawings. The Contract Amount shall include the cost of furnishing all Working Drawings.

SUPPLEMENTAL SPECIFICATION**AMENDMENT TO SECTION 106 – CONTROL OF MATERIAL**

*The purpose of this Supplemental Specification
is to revise frequency of QPL updates.*

Amend the last paragraph of 106.04 to read:

Products that have been prequalified by Materials and Research and are included on the Qualified Products List (QPL) may be used on projects without further testing, unless otherwise noted on the QPL, but a Certificate of Compliance for the qualified products will be required. The QPL is updated as warranted, and is available online at the Department's Website. A product that is not listed will not be used until qualified through a written request to Materials and Research. Such request should be made with sufficient lead-time to allow necessary testing or research.

SUPPLEMENTAL SPECIFICATION**AMENDMENT TO SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC**

The intent of the Supplemental Specification is to revise references to DES rules and regulations

Amend the last 3 paragraphs in Section 107.01 as follows:

The Contractor shall also protect the atmosphere from particulate and gaseous pollutants in conformance with rules promulgated by the New Hampshire Department of Environmental Services, Air Resources Division.

The Contractor's attention is called to Chapter Env-A 1000 Prevention, Abatement and Control of Open Source Air Pollution, in particular the regulations concerning open burning (Env-A 1001) and the control of fugitive dust (Env-A 1002).

The Air Resources Division may order unauthorized burning to cease and may order authorized burning creating a nuisance to cease. The order may be issued directly to the Contractor or to the Contractor through the Engineer.

5/19/97
Reviewed 6/10

NEWFIELDS
44774

April 2, 2024

SPECIAL PROVISION

AMENDMENT TO SECTION 107 -- LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

AMENDMENT TO SECTION 107.11 - RESPONSIBILITY FOR DAMAGE CLAIMS

Amend 107.11(B.)(3.) to read:

3. Blank.

Amend 107.11(B.)(5.) to read:

5. Blank.

Add to 107.11(B.)(7.):

(b) In addition the State, its officials, employees and volunteers shall be added as “additional insureds” to all liability policies except workers’ compensation policies.

SUPPLEMENTAL SPECIFICATION

AMENDMENT TO SECTION 108 – PROSECUTION AND PROGRESS

The purpose of this Supplemental Specification is to amend the requirements for liquidated damages.

Replace Section 108.09 as follows:

108.09 Failure to Complete on Time.

For each work day that work remains uncompleted after the Contract Time, the sum specified below will be deducted from any money due the Contractor. This sum shall not be considered and treated as a penalty but as liquidated damages to defray the cost to the Department to administer the Contract including but not limited to the cost of engineering, inspection, supervision, inconvenience to the public obstruction of traffic, and interference with business due to the Contractor’s failure to complete the Work on time. Any adjustment of the Contract Time for completion of the Work granted under the provisions of [108.07](#) will be considered in the assessment of liquidated damages.

In the case of a date in the Contract being given for the completion of parts, phases, or stages, the liquidated damages will be deducted for the period during which that particular work remains incomplete.

Permission for the Contractor or Surety to continue and finish work after the Contract Time and approved time extensions have elapsed shall not waive the Department’s rights under the Contract.

The assessment of all or any of the liquidated damages that accrue may be terminated if the Department has determined that the Work is substantially complete and is in a condition for safe and convenient use by the traveling public.

The Work will be considered substantially complete when all necessary signing, striping, guardrail, and other safety appurtenances have been installed, and when applicable opened to the traveling public. For projects that will not be opened to the traveling public, the Contract will be considered substantially complete when it is ready for the subsequent project. This shall not be construed as a Contractual right and its application will be contingent upon the Contractor’s diligence in completing the remaining items of work.

Liquidated damages shall be assessed in accordance with the following schedule:

Original Contract Amount (\$)		Daily Charge(\$)
<u>From more than</u>	<u>To and including</u>	<u>Working Day</u>
0	750,000	850
750,000	2,000,000	1280
2,000,000	5,000,000	1700
5,000,000	10,000,000	2550
10,000,000	20,000,000	3400
20,000,000	20,000,000+	4250

Should the Contractor elect to work on Saturdays, Sundays, holidays, or days from December 1st, to April 1st, inclusive, after the Contract Completion Date, the Contractor will be charged liquidated damages for such days worked.

When the Contract Time is on a calendar date basis, the schedule for calendar date shall be used. When the Contract time is on a working day basis, the schedule for working days shall be used.

When Acceptance has been made by the Engineer as prescribed in [105.17](#), the daily charge will no longer be assessed.

Should the amount of money otherwise due the Contractor be less than the amount of such liquidated damages, the Contractor and the Surety shall be liable to the State for such deficiency.

The Engineer has the right to deduct the amount of anticipated liquidated damages against the Contractor from any estimated payment for Work performed under the Contract; or to claim and recover such sums by process of law. Review of anticipated Contract completion and potential liquidated damages will commence when 80% of the original Contract Time has elapsed.

SUPPLEMENTAL SPECIFICATION

AMENDMENT TO SUBSECTION 109 – MEASUREMENT AND PAYMENT

The purpose of this Supplemental Specification is to amend the Rental Rate Blue Book for Construction Equipment requirements (109.04.4.4; 04/02/18); and to allow positions above the grade of foreman to be included in certain work associated with revisions to the Contract (109.04.4.2; 02/28/24).

Amend 109.04.4.2 to read:

109.04.4.2 Labor.

For all labor, including equipment operators, and foremen in direct charge of the specific operation, the Contractor shall receive the rate of wage agreed to in writing for each and every hour that the labor and foreman are actually engaged in the work. In case the Contractor is required to pay overtime pay or holiday pay to labor engaged in the Work, such rate will be the rate reimbursed. When the Contractor is ordered to return to the project solely to perform Force Account work, labor will be considered as being actually engaged in the Work during the hours while traveling.

No part of the salary or expenses of anyone connected with the Contractor's forces above the grade of foreman or having general supervision of the Work will be included in the labor item as specified above unless approved by the Engineer.

The Contractor will also receive an additional amount (i.e. a labor burden rate) equal to 50 percent of the actual hourly wage rate paid to, or in behalf of workers, for costs of health and welfare benefits, taxes, insurances, retirement, and union benefits. A Contractor can request a different labor burden rate be used if an independently audited breakdown of the actual aforementioned costs, prepared by a Certified Public Accountant, is provided. The audit of the burden rate shall be prepared on current financial data and in conformity with the accounting practices prescribed by the Federal Acquisition Regulations 48 CFR, Part 31.

An amount equal to ten percent of the sum of the above items will also be paid the Contractor to compensate for all field and home office overhead costs and profit.

Subsistence and travel expenses paid by the Contractor will be reimbursed only when the Engineer orders Force Account Work and, in order to perform such work, it is necessary to move workers to the project particularly for that operation. Such subsistence and travel expenses allowed shall be carried on the daily report form under the classification of "Material," without, however, being subject to the added percentage for materials. If work other than such Force Account Work is performed by the individuals during or in connection with that operation, no subsistence or travel expenses will be allowed.

Amend 109.04.4.4 to read:

109.04.4.4 Equipment and Plant.

For any Contractor-owned machinery or special equipment (other than small tools), the use of which is approved by the Engineer, the hourly rate will not exceed that determined from the Rental Rate Blue Book online at "equipmentwatch.com" used in the following manner:

- a. The hourly equipment rental rate R will be determined by formula as follows:

$$R = (A \times B \times C) + D$$

Where A= Monthly rate divided by 176. The listed weekly, hourly, and daily rates will not be used.

B= Regional adjustment factor for New Hampshire.

C= Model year adjustment for the year of equipment manufacture.

D= Estimated operating costs per hour.

This formula is equal to the **FHWA Rate** that is shown in the Rental Rate Blue Book at “equipmentwatch.com”.

- b. The number of hours to be paid for will be the number of hours that the equipment or plant is actually used on a specific Force Account activity and, in addition, shall include the time required to move the equipment to the location of such Force Account activity and return it to the original location or to another location requiring no more time than that required to return it to its original location, except that moving time will not be paid for if the equipment is used during the move on work other than the specific Force Account activity.
- c. The “Rate Effective Date” to be selected online will be the actual date that the work was performed.
- d. Overtime shall be charged at the same rate indicated in subparagraph (a) above.
- e. The estimated operating costs per hour will be used for each hour that the equipment or plant is in operation on the Force Account work. Operating costs are not reimbursable for the time the equipment is idle.
- f. The maximum rental period to be paid for per day shall not exceed eight hours unless the equipment operates for eight or more hours.
- g. If equipment is idled solely due to the responsibility of the Department, then the Contractor may be compensated for such idle equipment at 50% of the rate defined in “A” above (monthly rate divided by 176).
- h. The rates established above shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs, overhauls, and maintenance of any kind, depreciation, storage, field and home office overhead, profits, insurance, and all incidentals.

The Contractor shall provide the Engineer with the following: the manufacturer’s name, equipment type, year of manufacture, model number, type of fuel used, horsepower rating, attachments required, together with their size or capacity, and any further information necessary to ascertain the proper rate. Unless otherwise specified, manufacturer’s ratings and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer. The Contractor is not required to purchase an online subscription, as the equipment rental rates will be provided by the Department.

Equipment used by the Contractor shall be in good working condition and shall be of suitable size and suitable capacity required for the work to be performed. The rate for the basic equipment with the appropriate attachments shall include only the rate for the combined equipment necessary to perform the Extra Work. In case the Contractor elects to use equipment of a higher rental value than that suitable for the work, payment will be made at the rate applicable to the suitable equipment. The equipment actually used and the suitable equipment to be paid for will be recorded as a part of the record for Force Account work. The Engineer will determine the suitability of the equipment. If there is a differential in the rate of pay of the operator of oversize or higher rate equipment, the rate paid for the operator will likewise be that for the suitable equipment.

Payable time periods will not include:

- (1)time elapsed while equipment is inoperative due to breakdowns,
- (2)time spent repairing equipment, or
- (3)time elapsed 24 hours after the Engineer has advised the Contractor that the equipment is no longer needed.

If a piece of equipment is needed that is not listed in the above stated rental rate guide, a rate will be established by the Engineer in writing before the equipment is used. The Contractor may furnish any cost data which might assist the Engineer in the establishment of such rate.

If the Contractor does not own a specific type of equipment or if the Department orders the Contractor to utilize a specific type of equipment and the equipment must be obtained by rental, the Contractor shall inform the Contract Administrator of the need to rent the equipment and of the rental rate for that equipment before using it on the work. Provided that the rate is reasonable, the Contractor will be paid the actual rental cost for the equipment for the time that the equipment is actually used to accomplish the work, plus the cost of moving the equipment onto and away from the job. A 5 percent mark-up will be added to the actual rental cost, provided the total cost does not exceed the *Rental Rate Blue Book for Construction Equipment* rate (in accordance with 109.04.4.4(a)). The Contractor shall provide a copy of the paid receipt or canceled check for the rental expense incurred.

Transportation charges for each piece of equipment, whether owned or rented, moved to and from the site of the work will be paid provided:

- (1)the equipment is obtained from the nearest approved source,
- (2)the return charges do not exceed the delivery charges,
- (3)haul rates do not exceed the established rates of licensed haulers,
- (4)charges are restricted to those units or equipment not already available and not on or near the Project, and
- (5)equipment is not used elsewhere on the project.

11/03/21

Supersedes: 03/03/04, 06/11/12, 08/16/13, 02/03/15, 01/03/17

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NEWFIELDS
44774

April 2, 2024

SPECIAL PROVISION**SECTION 662 – WELLS, PUMPS AND APPURTENANCES****Description**

- 1.1** This work shall consist of drilling, driving, or digging wells of the dimensions indicated to the depth ordered; furnishing pipe, pumps, and accessories; and performing the necessary tests.
- 1.1.1** This work shall consist of grout sealing abandoned drilled well in conformity with the New Hampshire Water Well Board's Code of Administrative Rules, Part We 604 Abandonment of Wells.
- 1.1.2** In connection with the estimated elevation of rock and the length of casing, the Contractor's attention is called to 102.04. The State is not responsible for any variances.
- 1.2** This work shall also consist of supplying and installing an automatic iron filter into the house water system. Provisions shall be made to provide an adequate drainage system for the backwashing of the unit. This work shall include all wiring and plumbing necessary for the proper installation.

Materials

- 2.1** Well Casing Pipe shall conform to ASTM A 53. Pipe less than 8 inches nominal size shall be new, black steel drive pipe, threaded and coupled with drive couplings. Casing, 8 inches nominal diameter and larger shall be schedule No. 30, seamless or threaded and coupled.

TABLE 1 – CASINGS (STEEL)

Nominal Size	Weight, Pounds Per Foot	Inside Diameter Inches	Outside Diameter
4"	10.89	4.026	4.500
6"	17.02	6.125	6.625
8" Seamless	24.70	8.071	8.625
8" Threaded and Coupled	25.55	8.071	8.625

- 2.1.1** The top 20 to 25 feet of 4" casing pipe may be steel per 2.1, as approved by the Engineer, with the remaining length of 4" pipe casing pipe being galvanized steel per AASTHO M232, or the top 20 to 25 feet of 4" casing pipe may be Schedule 40 PVC hung on cable or straps, approved by the Engineer, with the remaining length of the 4" casing pipe being Schedule 40 PVC with Certa-Lok® per ASTM F-480.
- 2.2** Seals shall be either a driveshoe or a Jaswell or accepted equivalent.
- 2.3** Drop Pipes for submersible pumps shall conform to the requirements below:
- ½ HP pump shall have a minimum 160 pound test plastic drop pipe.
 - ¾ HP pump shall have a minimum 200 pound test plastic drop pipe.
 - 1 HP pump shall have a minimum 250 pound test plastic drop pipe, or Schedule 40 galvanized pipe, or Schedule 80 plastic drop pipe.
 - Other pipes unless otherwise specified, shall be a minimum 160 pound test.
- 2.3.1** One torque arrestor of the expandable type such as a Harvard model TA48 or approved equivalent shall be installed approximately 10 feet above the pump.
- 2.4** Conduit for electrical installation in trench shall consist of 1" minimum 100 pound test plastic pipe of sufficient size to accommodate the electrical cable. Conduit is required for all installations.
- 2.4.1** Flexible tubing for a wire sleeve in the well shall be 1" - 100 PSI SIDR-15 (weight per 100' - 11.0 Lbs.) and shall conform to AWWA C-901. Joints shall be insert fittings and clamps.
- 2.4.2** Polyvinyl chloride (PVC) profile wall pipe shall conform to the requirements of ASTM D-1784. PVC pipe shall not be used in applications where it will be exposed to long term ultraviolet light without approved protection for the exposed area.
- 2.5 Submersible Pumps.**
- 2.5.1** Submersible pumps shall conform to the requirements below:
- ½ Horsepower pump shall be capable of producing a minimum of 1 gpm against 40 psi from a pump setting of 200 feet. The pump shall be placed at a depth no greater than 250 feet.
 - ¾ Horsepower pump shall be capable of producing a minimum of 1 gpm against 40 psi from a pump setting of 400 feet. The pump shall be placed at a depth no greater than 400 feet.
 - 1 Horsepower pump shall be capable of producing a minimum of 1 gpm against 40 psi from a pump setting of 500 feet. The pump shall be placed at a depth no greater than 500 feet.
- 2.5.2** The pump shall include a well cap in accordance with The New Hampshire Water Well Board's Rule We 702., a WELL-X-Trol WX203 or approved equivalent, an electrically fused switch box, (2 or 3 wire pump installations are acceptable), a pressure switch and

all necessary electrical cable required for the installation. The pump shall also include a check valve, pressure relief valve, necessary gate valve, plumbing fittings, and pitless well adapter(s). Lighting protection shall be included in the pump system.

- 2.6 Well Level Control shall be a Franklin Electric Pumptec Plus Model 58000600100 or approved equivalent.
- 2.7 **Iron Filters.** The filter shall conform to the requirements of the special provision.
- 2.8 **Special Filters.** These filters shall conform to the requirements of the special provision.
- 2.9 Backwash Pit shall be a 3' x 3' perforated tile with a concrete cover or an approved equivalent.
- 2.10 **Grout.**
 - 2.10.1 Grout for grout sealing abandoned drilled wells shall consist of a mixture of Portland Cement (Type II), 5% Bentonite and water combined in the proportion of one standard (94 lbs) bag to 5.5 to 6 gallons of clear water.
 - 2.10.2 Grout for seals shall consist of a mixture of Type I Portland Cement and water combined in the proportions of four standard (94 lbs) bag to ten gallons of clear water. The mixture shall be worked to a smooth and even consistency and adjustments to the mixture shall be performed as ordered by the Engineer.

Construction Requirements

- 3.1 **Well.**
 - 3.1.1 The Contractor shall notify the Engineer at 3 working days in advance of entering any property before starting operations. The location of the well must be approved prior to drilling.
 - 3.1.2 The well shall be drilled or driven into solid rock and well casing installed. The well casing pipe shall be carried into bedrock a minimum depth of 20 feet or to a sufficient additional depth necessary to seal the well and eliminate all surface water. After the drive pipe has been effectively sealed as specified, drilling may be resumed. Alternative methods of effecting a seal shall be utilized only as authorized. Testing of the seal shall be accomplished as approved by the Engineer.
 - 3.1.3 The Contractor shall furnish the Engineer with a reasonable facility for ascertaining the amount of flow and the quality of water at any depth, when ordered. The Contractor shall suspend drilling operations and test the flow of the well with air or with a bailer.
 - 3.1.3.1 In the event that the test proves that there is an insufficient supply of water, the Engineer may request that the Contractor continue drilling until it is again believed that a sufficient supply may be obtained, when another test may be ordered.

- 3.1.4** When a pumping test is ordered by the Engineer, the Contractor shall perform the test for an uninterrupted period of time as specified, utilizing test pumping equipment capable of pumping to the required point of discharge a minimum of 10 gpm against a free discharge. Adequate equipment shall be provided by the Contractor to conduct the test for the duration of the test period. An approved method of determining the static head during the pumping test shall be provided.
- 3.1.5** All water pumped from a well during the test period or at any time during the Contractor's operations shall be conveyed by him to a place where it will cause no damage.
- 3.2 Casing Top.** The casing shall be cut off at the elevation designated by the Engineer.
- 3.3 Depth of Well.** The Contractor will not be required to drill over 1000 feet unless special arrangements are made.
- 3.4 Trenches.** All trenches for water pipes and conduits on exterior sides of foundation walls shall provide for a minimum cover over pipes of 5 feet unless otherwise ordered. Beneath drives, sidewalks, and highways, additional depth of cover over pipes will be required as ordered to escape the effect of deeper frost penetration in those areas. In areas where 5 feet of cover is impractical such as shallow ledge areas, the water pipe shall be properly insulated with an approved material.
- 3.5 Conduit.** The conduit shall extend through the building foundation to the well cap. The ends shall be neatly trimmed flush and mortared into place. Electrical cable shall be installed in this conduit.
- 3.6 Sand Cushion.** Prior to the backfilling of the trench, all pipes shall be installed with a 6-inch sand cushion completely surrounding the pipe.
- 3.7 Backfill.** Extreme care shall be exercised to ensure that water pipe, or conduit is not displaced or broken during the backfilling of the trench.
- 3.8 Pump and Accessories.** Prior to installation, the Contractor shall contact the Engineer and obtain approval of the pump to be installed. Manufacturer's performance tables shall be the basis for determining conformance with specifications; performance curves will not be considered. When required, a well level control shall be installed according to the manufacturer's recommendations.
- 3.8.1** The Contractor shall furnish and install pump material and equipment specified, together with all accessories, pipe and fittings, and electrical connections as necessary.
- 3.8.2 Jaswell Seals.** When 4" casing is required, two Jaswell seals shall be installed. The Contractor shall place one seal on the bottom of the first piece of pipe installed in the well and a second seal shall be placed at a depth of 20' to 40' from the top of the well and grout installed on top of the upper seal for 5' or as directed by the engineer.

- 3.9 Automatic Iron Filter.** When a filter is required in the contract, it shall be located as per order of the Engineer. The installation shall conform to the manufacturer's recommendations and to acceptable plumbing practices. A by-pass line shall be installed to provide for servicing the filter. A free draining line of 1-1/4 inch plastic pipe for backwashing shall be constructed and connected to a backwash pit, a dry well, or other suitable drain as approved by the Engineer.
- 3.10** When a backwash pit is required in the contract, it shall be located where directed by the Engineer. It shall have a minimum of 6 inches of sand or free-draining material beneath the tile and shall have 4 inches of loam over the cover and be graded to match existing ground.
- 3.11 Maintenance and Clean-Up.**
- 3.11.1** The Contractor shall be responsible for any damages by him until the acceptance of the contract in accordance with the provisions of 107.09.
- 3.11.2** The Contractor shall control the dust from his operations at all times. When rotary drilling machines are used, a minimum of 2 gallons of water per minute shall be injected into the air stream during the drilling operations.
- 3.11.3** Before final acceptance, the Contractor shall clean up the surrounding area of all his debris and shall fine grade the portion of the terrain disturbed by his operations. Loamed or seeded areas disturbed shall be reloaded or reseeded or both.
- 3.12 Workmanship.** All work shall be done in a workmanlike manner conforming to acceptable standards and codes prevailing for the class of work being performed.
- 3.13 Guarantee.** If it appears within one year from the date of installation that the equipment and materials installed hereunder do not meet the warranties specified and set forth by the manufacturer, and the owner notifies the manufacturer promptly, the manufacturer shall thereupon correct any defect, including non-conformance with the specifications, either repairing any defective part or parts, or by making available at the company's plant, a repaired or replacement part. The foregoing shall constitute the sole remedy of the purchaser and the sole liability of the manufacturer.
- 3.14 Grouting.**
- 3.14.1** Grout sealing drilled wells shall be by the pressure grout method with tremi pipe from the bottom of the well to ground level. This process shall be in accordance with the Department of Environmental Services, Water Well Board's Administrative Rule We 603.04.
- 3.14.1.1** Grout for seals, when ordered for 4" steel casing, shall consist of a mixture of Type I Portland Cement and water combined in the proportions of four standard (94 lbs) bags to ten gallons of clear water. The mixture shall be worked to a smooth and even consistency and adjustments to the mixture shall be performed as ordered by the Engineer.

3.14.1.2 Grout for seals, when ordered for 4" PVC casing, shall be placed between the 4" casing and 6" drilled well. The quantity of grout shall be bentonite pumped to the depth of the first Jaswell seal.

3.15 Well Rehabilitation.

3.15.1 The Contractor shall ream and wash the casing and well from top of the casing with a roller bit. Once the desired depth as ordered by the technician is obtained, the well shall be flushed from the bottom of the well with chlorinated water until the water runs clear or at the direction of the technician.

3.15.2 The existing pitless adapters shall be replaced during the new pump installation. The Contractor may remove or drill off the existing pitless adapter to perform the Well Rehabilitation process.

3.15.3 Drilling equipment for this work must be able to develop a minimum of 300 PSI of compressed air at 900 CFM.

Method of Measurement

4.1 Wells will be measured by the linear foot, measured by the difference in elevation between the bottom of the well and the adjacent surrounding ground. Wells abandoned by the Contractor at his request will not be measured. Wells ordered abandoned by the Engineer will be measured for payment.

4.1.1 Pilot holes will be measured from original ground to the bottom of pilot hole casing including drive shoe. A minimum 12" exposed casing and cap will not be measured.

4.1.2 Drilled wells will be measured from the bottom pilot hole casing to depth actually drilled.

4.1.3 Grout sealing will be measured by the linear foot in place.

4.2 Casing pipe including driveshoe will be measured by the linear foot of pipe remaining in place.

4.3 Filters will be measured by the number of units installed of the type and size specified.

4.4 Backwash pits will be measured by the number of pits installed.

4.5 Trench, pipe and conduit will be measured by the linear foot measured from the well to house foundation. See also 5.2.

4.5.1 Flexible tubing will be measured by the linear foot installed.

4.6 Pumps will be measured by the number of pumps installed.

- 4.7 Pumping tests of the duration specified will be measured under Item 1008.18 - Alterations and Additions as Needed – Pumping Test of the actual number of tests authorized, as determined by the Engineer.
- 4.8 Well level controls will be measured by the number installed.
- 4.9 Solid rock and boulders will be measured to the nearest 0.1 of a cubic yard.
- 4.10 Seals for casing pipe will not be measured separately.
- 4.11 Well Rehabilitation will be measured by the hour to the nearest half hour. The hourly rate begins when the roller bit enters the well casing, while reaming/flushing operations are in progress, and end when the roller bit is removed from the casing. No measurement for breakdown time, repairs, equipment warm up, or maintenance will be made.

Basis of Payment

- 5.1 The accepted quantities of pilot holes, drilled wells, casings, trench, and pipe of the type and size specified will be paid for at the contract unit price per linear foot, and per each for pumps, well level controls, filters, and backwash pits complete in place.
 - 5.1.1 Drive shoe, exposed casing and well cap will be subsidiary to the pilot hole item.
 - 5.1.2 Grout sealing abandoned drilled wells will be paid for at the contract unit price per linear foot. Grout for seals in conjunction with well casings will be subsidiary.
- 5.2 All solid rock, which must be blasted, and any boulder measuring 1 cubic yard or more, removed as ordered from any portion of the required trench or required excavation will be paid for under extra work.
- 5.3 When the Engineer orders drilling in excess of that specified in the contract or other additional unforeseen work such work will be paid for under a supplemental agreement or extra work.
 - 5.3.1 Additional depth of excavation for laying pipe for frost protection will be subsidiary.
 - 5.3.2 Insulating materials required for frost protection will be paid for under a supplemental agreement.
- 5.3 If the total depth of the pilot hole and drill well combined equals less than 100 feet, the Contractor will be paid 1.5 times the cost based on bids for that portion of the work.
- 5.4 Pumping Tests will be paid under Item 1008.18 - Alterations and Additions as Needed – Pumping Test. The dollar limit set in the proposal will not limit the Engineer in the value of work performed under this item.
- 5.5 The accepted quantities of well rehabilitation will be paid for at the contract unit price per hour.

5.5.1 No separate payment for breakdown time, repairs, equipment warm up, or maintenance.

Pay items and units:

662.1626	6" Drilled well.....	LF
662.166	Pilot hole for 6" well (includes 6" casing)	LF
662.244	4" well casing including Jaswell seals & grout.....	LF
662.41	Trench and pipe	LF
662.411	Wire and Pipe	LF
662.421	1" PE Flexible Tubing.....	LF
662.52010	Submersible Pump (1.0 hp) and Accessories	EA
662.52050	Submersible Pump (1/2 hp) and Accessories	EA
662.52075	Submersible Pump (3/4 hp) and Accessories	EA

SPECIAL PROVISION

SECTION 1008 – ALTERATIONS & ADDITIONS AS NEEDED

Item 1008.11 – Alterations and Additions as Needed – Unanticipated Work

This section is intended to provide and pay for certain measures which may be required during construction. Engineering judgment indicates that a reasonable estimated dollar allowance is in order in setting up the contract.

Description

1.1 The Contractor may be required to adjust, relocate, or reconstruct certain items found to be in conflict on the proposed work.

Materials

2.1 Materials required to adjust or reconstruct structures or facilities encountered in the work shall conform to those designated in the Materials section for the class of work being performed.

Construction Requirements

3.1 The Contractor shall perform all necessary work to relocate, adjust, reconstruct structures or construct items in accordance with the respective classes of work required.

3.2 Damage to facilities due to negligence or careless operation shall be repaired at no extra cost to the Department.

Method of Measurement

4.1 Work authorized under this section will be measured as provided in 109.01; however when such work falls within the specifications for another item in the contract, the work will be measured according to the method of measurement for that contract item.

Basis of Payment

5.1 Payment for work authorized under this section will be made on a dollar basis according to 109.04. The dollar limit set in the proposal will not limit the Engineer in the value of work performed under this item.

5.1.1 Payment of the amount set in the proposal will not be on a lump sum basis, but only the amount determined for the value of work ordered will be paid.

5.1.2 Repair work to damaged or injured portions of the existing facilities made necessary due to the negligence or carelessness of the Contractor will not be paid for.

5.2 The Bidder's attention is called to the dollar amount inserted in the proposal under these items, which dollar amount is the allowance the Department has set up for the special work. This figure must not be altered by the Bidder on the proposal, and must be included to obtain the grand total of the bid.

Pay items and units:

1008.11 Alterations and Additions as Needed – Unanticipated Work Dollar

SPECIAL PROVISION

SECTION 1008 – ALTERATIONS & ADDITIONS AS NEEDED

Item 1008.18 – Alterations and Additions as Needed – Pumping Test

This section is intended to provide and pay for certain measures which may be required during construction. Engineering judgment indicates that a reasonable estimated dollar allowance is in order in setting up the contract.

Description

1.1 The Contractor may be required to perform a pumping test to ascertain the amount of flow and the quality of water at any depth when installing a well.

Materials/Equipment

2.1 The Contractor shall have all materials, equipment and appurtenances required to perform a pumping test, either with an air or a bailer method.

2.2 The pump shall be adequately sized for the pumping test requirements. The pump and its appurtenances shall be in good working order.

2.3 The Contractor may be required to supply a method and sufficient equipment to generate power to run testing equipment.

Construction Requirements

3.1 The Contractor shall perform all necessary work in accordance with Section 662 – Wells, Pumps and Appurtenances, specifically 3.1.3 through 3.1.5.

3.2 The duration of the pumping test shall be 4 hours.

3.3 Damage to facilities due to negligence or careless operation shall be repaired at no extra cost to the Department.

Method of Measurement

4.1 Work authorized under this section will be measured as provided in 109.01; however, when such work falls within the specifications for another item in the contract, the work will be measured according to the method of measurement for that contract item.

Basis of Payment

5.1 Payment for work authorized under this section will be made on a dollar basis according to 109.04. The dollar limit set in the proposal will not limit the Engineer in the value of work performed under this item.

5.1.1 Payment of the amount set in the proposal will not be on a lump sum basis, but only the amount determined for the value of work ordered will be paid.

5.1.2 Repair work to damaged or injured portions of the existing facilities made necessary due to the negligence or carelessness of the Contractor will not be paid for.

5.1.3 The determined value of the pump tests shall include testing equipment necessary to perform tests, as well as a method and equipment to generate power, if necessary, to run testing equipment.

5.2 The Bidder's attention is called to the dollar amount inserted in the proposal under these items, which dollar amount is the allowance the Department has set up for the special work. This figure must not be altered by the Bidder on the Proposal, and must be included to obtain the grand total of the bid.

Pay items and units:

1008.18	Alterations and Additions as Needed – Pumping Test	Dollar
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Bid Schedule

NEWFIELDS
44774
NON-FEDERAL

NOTE: For complete information concerning these items, see plans, special provisions, supplemental specifications, and 2016 NHDOT Standard Specifications for Road and Bridge Construction.

Item#	Quantity	Description	Unit Price	Amount
662.1626	600.00 LF	6" DRILLED WELL At _____ Dollars Per LF		
662.166	180.00 LF	PILOT HOLE FOR 6" WELL (INCLUDES 6" CASING) At _____ Dollars Per LF		
662.41	75.00 LF	TRENCH AND PIPE At _____ Dollars Per LF		
662.52010	1.00 EA	SUBMERSIBLE PUMP (1.0 HP) AND ACCESSORIES At _____ Dollars Per EA		
692.	1.00 U	MOBILIZATION At _____ Dollars Per U		
1008.11	3,000.00 \$	ALTERATIONS AND ADDITIONS AS NEEDED - UNANTICIPATED WORK At _____ One and 0/100 _____ Dollars Per \$	\$1 00	\$3,000 00
1008.18	600.00 \$	ALTERATIONS AND ADDITIONS AS NEEDED - PUMPING TEST At _____ One and 0/100 _____ Dollars Per \$	\$1 00	\$600 00
Grand Total:				