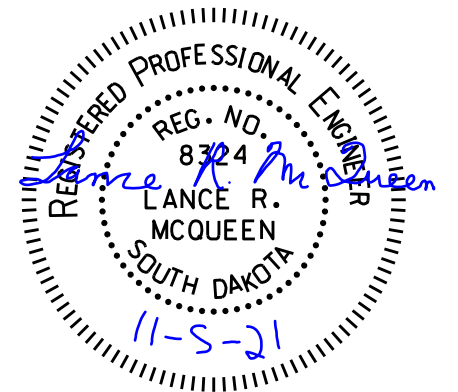
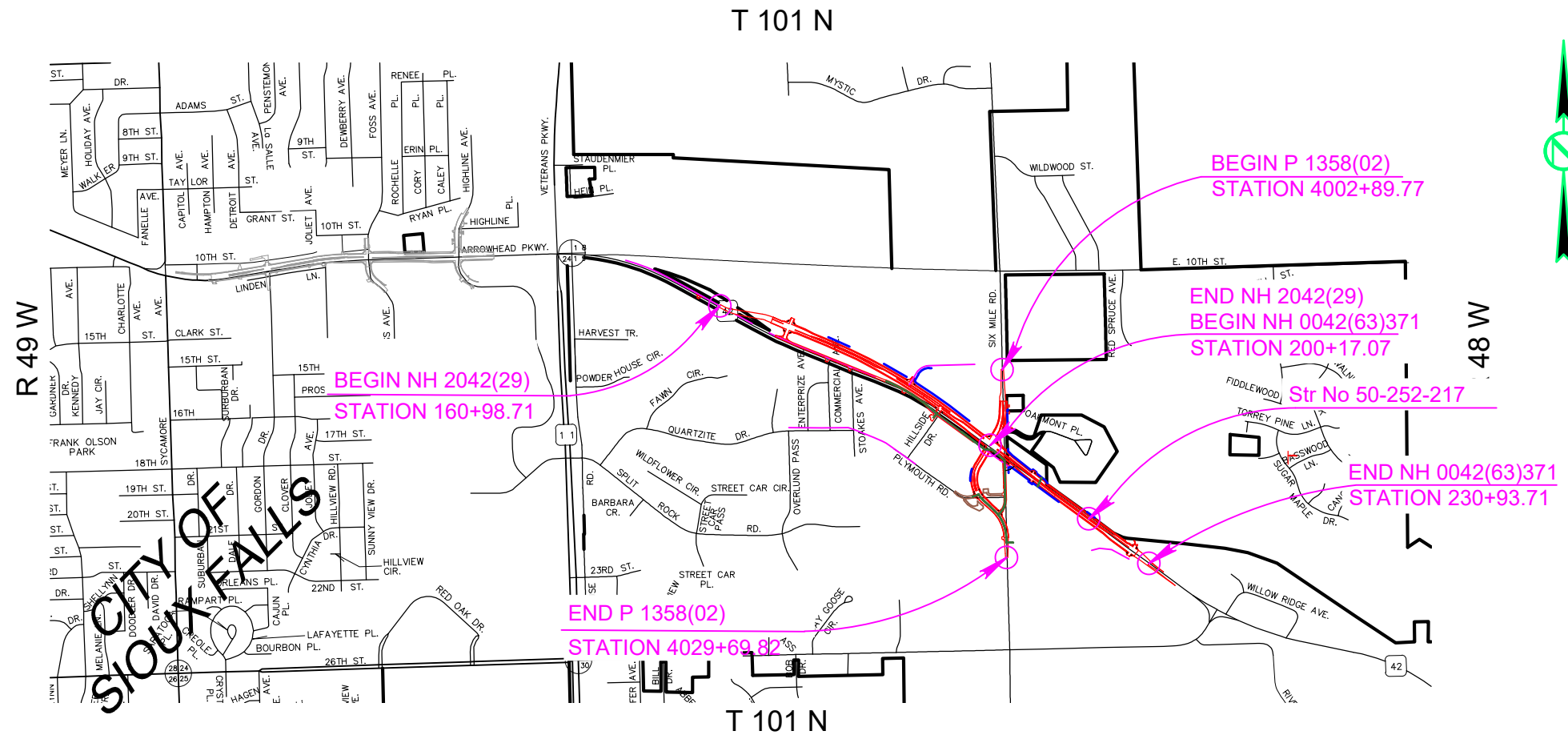


Section D: Erosion Control & Sediment Control Plans

INDEX OF SECTIONS

- D1 General Layout W/Index
- D2-D15 Estimate with General Notes & Tables
- D16-D37 Erosion and Sediment Control Plan Sheets
- D38-D41 Standard Plates



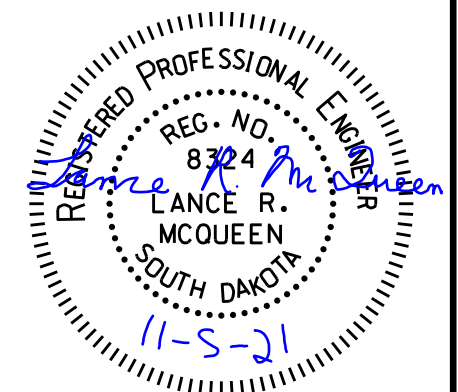
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SECTION D - ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity				Unit
		PCN 06YQ west Arrowhead	PCN 05C6 east Arrowhead	PCN 05C2 Six Mile Road	Total	
110E1700	Remove Silt Fence	2,058	1,633	1,754	5,445	Ft
120E6000	Water for Dust Control	40.0	40.0	40.0	120.0	MGal
120E6300	Water for Vegetation	4,460.6	2,418.9	2,373.4	9,252.9	MGal
230E0010	Placing Topsoil	6,057	3,167	3,071	12,295	CuYd
230E0020	Contractor Furnished Topsoil	11,072	8,508	6,066	25,646	CuYd
730E0100	Cover Crop Seeding	4.6	2.7	3.0	10.3	Bu
730E0251	Special Permanent Seed Mixture 1	4,609	1,800	2,453	8,862	Lb
730E0252	Special Permanent Seed Mixture 2	-	31	-	31	Lb
730E0253	Special Permanent Seed Mixture 3	-	17	-	17	Lb
731E0100	Fertilizing	5,069	2,749	2,698	10,516	Lb
732E0200	Fiber Mulching	7.6	3.1	2.4	13.1	Ton
732E0300	Bonded Fiber Matrix	18.4	12.2	13.6	44.2	Ton
734E0044	Soil Stabilizer	1.0	1.0	1.0	3.0	Acre
734E0102	Type 2 Erosion Control Blanket	500	20,854	500	21,854	SqYd
734E0154	12" Diameter Erosion Control Wattle	14,060	10,740	9,050	33,850	Ft
734E0510	Shaping for Erosion Control Blanket	50	2,500	50	2,600	Ft
734E0602	Low Flow Silt Fence	2,058	1,633	1,754	5,445	Ft
734E0610	Mucking Silt Fence	62	49	53	164	CuYd
734E0620	Repair Silt Fence	412	327	351	1,090	Ft
734E0840	Sediment Control at Type B Reinforced Concrete Drop Inlet	92	80	93	265	Each
734E0845	Sediment Control at Inlet with Frame and Grate	7	3	3	13	Each
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	60	48	24	132	Ft
734E5010	Sweeping	40	40	40	120	Hour
900E1310	Concrete Washout Facility	1	1	2	4	Each
900E1320	Construction Entrance	3	3	5	11	Each
900E2030	Miscellaneous Work	1	1	1	3	Site



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STORMWATER POLLUTION PREVENTION PLAN CHECKLIST

(The numbers left of the title headings are **reference numbers** to the **GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES** (Stormwater Permit))

5.3 (2): STAFF TRAINING/SWPPP IMPLEMENTATION

To promote stormwater management awareness specific for this project, the Contractor's Erosion Control Supervisor should provide correspondence of how the SWPPP will be implemented. The Contractor's Erosion Control Supervisor is responsible for providing this information at the preconstruction meeting, and subsequently completing an attendance log, which should identify site-specific implementation of the SWPPP and the names of the personnel who attended the preconstruction meeting. Documentation of the preconstruction meeting will be filed with the SWPPP documents.

5.3 (3): DESCRIPTION OF CONSTRUCTION ACTIVITIES

- > **5.3 (3a): Project Limits** (See Title Sheet)
- > **5.3 (3a): Project Description** (See Title Sheet)
- > **5.3 (4): Site Map(s)** (See Title Sheet and Plans)
- > **Major Soil Disturbing Activities** (check all that apply)
 - Clearing and grubbing
 - Excavation/borrow
 - Grading and shaping
 - Filling
 - Other (describe):
- > **5.3 (3b): Total Project Area** 60.0 Acres
- > **5.3 (3b): Total Area to be Disturbed** 60.0 Acres
- > **5.3 (3c): Maximum Area Disturbed at One Time** 60.0 Acres
- > **5.3 (3d): Existing Vegetative Cover (%)** 99%
- > **5.3 (3d): Description of Vegetative Cover** Topsoil/Grass
- > **5.3 (3e): Soil Properties:**
 - brown silt clay to clay silt with occasional gravel layers
- > **5.3 (3f): Name of Receiving Water Body/Bodies** local storm sewer system / piping eventually leading to the Big Sioux River
- > **5.3 (3g): Location of Construction Support Activity Areas** on-site

5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES

- > **Special sequencing requirements** see Section C – Traffic Control for the project phasing required for the project.

The Contractor will enter the Estimated Start Date.

Description	Estimated Start Date
Install stabilized construction entrance(s).	
Install perimeter protection where runoff may exit site.	
Install perimeter protection around stockpiles.	
Install channel and ditch bottom protection.	
Clearing and grubbing.	
Remove and stockpile topsoil.	
Stabilize disturbed areas.	
Install utilities, storm sewers, curb and gutter.	
Install inlet and culvert protection after completing storm drainage and other utility installations.	
Final grading.	
Final paving.	
Removal of protection devices.	
Reseed areas disturbed by removal activities.	

5.3 (5): DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES

All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report. Include the technical reasoning for selecting each control. (check all that apply)

Perimeter Controls (See Detail Plan Sheets)

Description	Estimated Start Date
<input type="checkbox"/> Natural Buffers (within 50 ft of Waters of State)	
<input checked="" type="checkbox"/> Silt Fence	
<input checked="" type="checkbox"/> Erosion Control Wattles	
<input type="checkbox"/> Temporary Berm / Windrow	
<input type="checkbox"/> Floating Silt Curtain	
<input checked="" type="checkbox"/> Stabilized Construction Entrances	
<input type="checkbox"/> Entrance/Exit Equipment Tire Wash	
<input type="checkbox"/> Other:	

Structural Erosion and Sediment Controls

Description	Estimated Start Date
<input checked="" type="checkbox"/> Silt Fence	
<input type="checkbox"/> Temporary Berm/Windrow	
<input checked="" type="checkbox"/> Erosion Control Wattles	
<input type="checkbox"/> Temporary Sediment Barriers	
<input type="checkbox"/> Erosion Bales	
<input type="checkbox"/> Temporary Slope Drain	
<input type="checkbox"/> Turf Reinforcement Mat	
<input checked="" type="checkbox"/> Riprap	
<input type="checkbox"/> Gabions	
<input type="checkbox"/> Rock Check Dams	
<input type="checkbox"/> Sediment Traps/Basins	
<input checked="" type="checkbox"/> Culvert Inlet Protection	
<input type="checkbox"/> Transition Mats	
<input checked="" type="checkbox"/> Median/Area Drain Inlet Protection	
<input checked="" type="checkbox"/> Curb Inlet Protection	
<input type="checkbox"/> Interceptor Ditch	
<input checked="" type="checkbox"/> Concrete Washout Facility	
<input type="checkbox"/> Work Platform	
<input type="checkbox"/> Temporary Water Barrier	
<input type="checkbox"/> Temporary Water Crossing	
<input type="checkbox"/> Permanent Stormwater Ponds	
<input type="checkbox"/> Permanent Open Vegetated Swales	
<input type="checkbox"/> Natural Depressions to allow for Infiltration	
<input type="checkbox"/> Sequential Systems that combine several practices	
<input type="checkbox"/> Other:	

Dust Controls

Description	Estimated Start Date
<input type="checkbox"/> Tarps & Wind impervious fabrics	
<input checked="" type="checkbox"/> Watering	
<input type="checkbox"/> Stockpile location/orientation	
<input type="checkbox"/> Dust Control Chlorides	
<input type="checkbox"/> Other	

Dewatering BMPs

Description	Estimated Start Date
<input type="checkbox"/> Sediment Basins	
<input type="checkbox"/> Dewatering bags	
<input type="checkbox"/> Weir tanks	
<input type="checkbox"/> Temporary Diversion Channel	
<input type="checkbox"/> Other:	

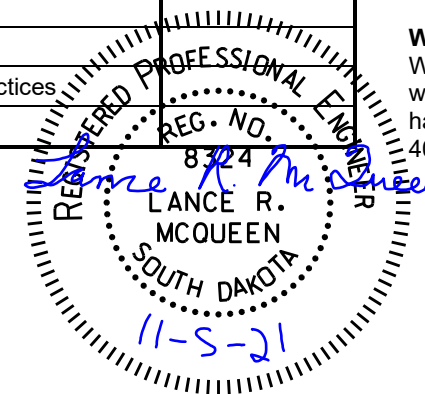
Stabilization Practices (See Detail Plan Sheets)

(Stabilization measures will begin the following work day whenever earth disturbing activity on any portion of the site has temporarily or permanently ceased. Temporary stabilization will be completed as soon as practicable but no later than 14 days after initiating soil stabilization activities (3.18))

Description	Estimated Start Date
<input type="checkbox"/> Vegetation Buffer Strips	
<input checked="" type="checkbox"/> Temporary Seeding (Cover Crop Seeding)	
<input checked="" type="checkbox"/> Permanent Seeding	
<input type="checkbox"/> Sodding	
<input checked="" type="checkbox"/> Planting (Woody Vegetation for Soil Stabilization)	
<input type="checkbox"/> Mulching (Grass Hay or Straw)	
<input checked="" type="checkbox"/> Fiber Mulching (Wood Fiber Mulch)	
<input checked="" type="checkbox"/> Soil Stabilizer	
<input checked="" type="checkbox"/> Bonded Fiber Matrix	
<input type="checkbox"/> Fiber Reinforced Matrix	
<input checked="" type="checkbox"/> Erosion Control Blankets	
<input type="checkbox"/> Surface Roughening (e.g. tracking)	
<input type="checkbox"/> Other:	

Wetland Avoidance

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes No If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.



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5.3 (6): PROCEDURES FOR INSPECTIONS

- Inspections will be conducted at least once every 7 days.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
- Silt fence will be inspected for depth of sediment and for tears to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches 1/3 of the height of the silt fence.
- Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
- Check dams will be inspected for stability. Sediment will be removed when depth reaches 1/2 the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
- The SDDOT Project Engineer and Contractor's Erosion Control Supervisor are responsible for inspections. Maintenance and repair activities are the responsibility of the Contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

5.3 (7): POST CONSTRUCTION STORMWATER MANAGEMENT

Stormwater management will be handled by temporary controls outlined in "DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES" above, and any permanent controls needed to meet permanent stormwater management needs in the post construction period will be shown in the plans and noted as permanent.

5.3 (8): POLLUTION PREVENTION PROCEDURES

5.3 (8a): Spill Prevention and Response Procedures

- **Material Management**
 - Housekeeping
 - Only needed products will be stored on-site by the Contractor.
 - Except for bulk materials the contractor will store all materials under cover and/or in appropriate containers.
 - Products must be stored in original containers and labeled.
 - Material mixing will be conducted in accordance with the manufacturer's recommendations.
 - When possible, all products will be completely used before properly disposing of the container off-site.
 - The manufacturer's directions for disposal of materials and containers will be followed.
 - The Contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
 - Dust generated will be controlled in an environmentally safe manner.

Hazardous Materials

- Products will be kept in original containers unless the container is not resealable and provide secondary containment as applicable.
- Original labels and material safety data sheets will be retained in a safe place to relay important product information.
- If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
- Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any stormwater system or stormwater treatment system.
- Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of stormwater runoff.

➤ **Spill Control Practices**

- In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.
- For all hazardous materials stored on site, the manufacturer's recommended methods for spill cleanup will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
 - Appropriate cleanup materials and equipment will be maintained by the Contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for cleanup purposes.
 - All spills will be cleaned immediately after discovery and the materials disposed of properly.
 - The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
 - After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
 - The Contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator.

➤ **Spill Response**

- The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into stormwater runoff and conveyance systems. If the release has impacted on-site stormwater, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens stormwater or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.
- The Contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
 - If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
 - Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the Contractor at the site.
 - If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The Contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
 - If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SDDENR.
 - Personnel with primary responsibility for spill response and cleanup will receive training by the Contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
 - Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

5.3 (8b): WASTE MANAGEMENT PROCEDURES

➤ **Waste Disposal**

- All liquid waste materials will be collected and stored in approved sealed containers. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal and notices stating proper practices will be posted. The Contractor is responsible for ensuring waste disposal procedures are followed.

➤ **Hazardous Waste**

- All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the Contractor will be responsible for seeing that these practices are followed.

➤ **Sanitary Waste**

- Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units which must be secured to prevent tipping and serviced in a timely manner by a licensed waste management Contractor or as required by any local regulations.



5.3 (9): CONSTRUCTION SITE POLLUTANTS

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the heading "POLLUTION PREVENTION PROCEDURES" (check all that apply).

- Concrete and Portland Cement
- Detergents
- Paints
- Metals
- Bituminous Materials
- Petroleum Based Products
- Diesel Exhaust Fluid
- Cleaning Solvents
- Wood
- Cure
- Texture
- Chemical Fertilizers
- Other:

Product Specific Practices

▪ **Petroleum Products**

All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

▪ **Fertilizers**

Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to stormwater. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

▪ **Paints**

All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.

▪ **Concrete Trucks**

Contractors will provide designated truck washout facilities on the site. These areas must be self-contained and not connected to any stormwater outlet of the site. Upon completion of construction, the area at the washout facility will be properly stabilized.

5.3 (10): NON-STORMWATER DISCHARGES

The following non-stormwater discharges are anticipated during the course of this project (check all that apply).

- Discharges from water line flushing.
- Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- Uncontaminated ground water associated with dewatering activities.

5.3 (11): INFEASIBILITY DOCUMENTATION

If it is determined to be infeasible to comply with any of the requirements of the Stormwater Permit, the infeasibility determination must be thoroughly documented in the SWPPP.

7.0: SPILL NOTIFICATION

In the event of a spill, the Contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to SDDENR immediately **if any one of the following** conditions exists:
 - The release or spill threatens or is able to threaten waters of the state (surface water or ground water)
 - The release or spill causes an immediate danger to human health or safety
 - The release or spill exceeds 25 gallons
 - The release or spill causes a sheen on surface water
 - The release or spill of any substance that exceeds the ground water quality standards of ARSD Chapter 74:54:01
 - The release or spill of any substance that exceeds the surface water quality standards of ARSD Chapter 74:51:01
 - The release or spill of any substance that harms or threatens to harm wildlife or aquatic life
 - The release or spill is required to be reported according to Superfund Amendments and Reauthorization Act (SARA) Title III List of Lists, Consolidated List of Chemicals Subject to Reporting Under the Emergency Planning and Community Right to Know Act, US Environmental Protection Agency.
- To report a release or spill, call SDDENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central Standard Time). To report the release after hours, on weekends or holidays, call South Dakota Emergency Management at 605-773-3231. Reporting the release to SDDENR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, you must also contact local authorities to determine the local reporting requirements for releases. A written report of the unauthorized release of any regulated substance, including quantity discharged, and the location of the discharge will be sent to SDDENR within 14 days of the discharge.

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5.4: SWPPP CERTIFICATIONS

➤ **Certification of Compliance with Federal, State, and Local Regulations**

The Storm Water Pollution Prevention Plan (SWPPP) for this project reflects the requirements of all local municipal jurisdictions for storm water management and sediment and erosion control as established by ordinance, as well as other state and federal requirements for sediment and erosion control plans, permits, notices or documentation as appropriate.

➤ **South Dakota Department of Transportation**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

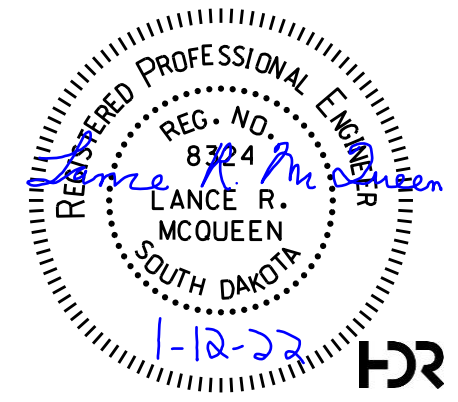
Authorized Signature (See the General Permit, Section 7.4 (1))

➤ **Prime Contractor**

This section is to be executed by the General Contractor after the award of the contract. This section may be executed any time there is a change in the Prime Contractor of the project.

I certify under penalty of law that this document and all attachments will be revised or maintained under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Signature



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CONTACT INFORMATION

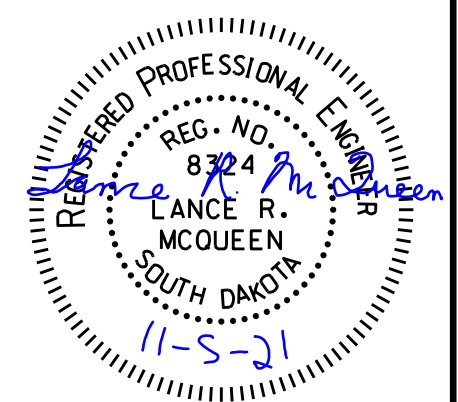
The following personnel are duly authorized representatives and have signatory authority for modifications made to the SWPPP:

- **Contractor Information:**
 - Prime Contractor Name: _____
 - Contractor Contact Name: _____
 - Address: _____
 - _____
 - City: _____ State: _____ Zip: _____
 - Office Phone: _____ Field: _____
 - Cell Phone: _____ Fax: _____
- **Erosion Control Supervisor**
 - Name: _____
 - Address: _____
 - _____
 - City: _____ State: _____ Zip: _____
 - Office Phone: _____ Field: _____
 - Cell Phone: _____ Fax: _____
- **SDDOT Project Engineer**
 - Name: _____
 - Business Address: _____
 - Job Office Location: _____
 - City: _____ State: _____ Zip: _____
 - Office Phone: _____ Field: _____
 - Cell Phone: _____ Fax: _____
- **SDDENR Contact Spill Reporting**
 - Business Hours Monday-Friday (605) 773-3296
 - Nights and Weekends (605) 773-3231
- **SDDENR Contact for Hazardous Materials.**
 - (605) 773-3153
- **National Response Center Hotline**
 - (800) 424-8802.
- **SDDENR Stormwater Contact Information**
 - SDDENR Stormwater (800) 737-8676
 - Surface Water Quality Program (605) 773-3351

5.5: REQUIRED SWPPP MODIFICATIONS

- **5.5 (1): Conditions Requiring SWPPP Modification**
The SWPPP must be modified, including the site map(s), in response to any of the following conditions:
 - When a new operator responsible for implementation of any part the SWPPP begins work on the site.
 - When changes to the construction plans, sediment and erosion control measures, or any best management practices on site that are no longer accurately reflected in the SWPPP. This includes changes made in response to corrective actions triggered by inspections.
 - To reflect areas on the site map where operational control has been transferred (including the date of the transfer) or has been covered under a new permit since initiating coverage under this general permit.
 - If inspections by site staff, local officials, SDDENR, or U.S. EPA determine that SWPPP modifications are necessary for compliance with the Stormwater Permit.
 - To reflect any revisions to applicable federal, state, or local requirements that affect the control measures implemented at the site.
 - If approved by the Secretary, to reflect any changes in chemical water treatment systems or controls, including the use of a different water treatment chemical, age rates, different areas, or methods of application.
- **5.5 (2): Deadlines for SWPPP Modification**
Any required revisions to the SWPPP must be completed within 7 calendar days following any of the items listed above.
- **5.5 (3): Documentation of Modifications to the Plan**
All SWPPP modification records are required to be maintained showing the dates of when the modification occurred. The records must include the name of the person authorizing each change and a brief summary of all changes.
- **5.5 (4): Certification Requirements**
All modifications made to the SWPPP must be signed and certified as required in Section 7.4.
- **5.5 (5): Required Notice to Other Operators**
If there are multiple operators at the site, the Contractor's Erosion Control Supervisor must notify each operator that may be impacted by the change to the SWPPP within 24 hours.

When modifications as described above occur, the SWPPP will be modified to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP using the DOT 298 form and drawings on the plan will be modified to reflect the needed changes. Copies of the DOT 298 forms and the SWPPP will be retained on site in a designated place for review throughout the course of the project. A copy of the DOT 298 form will be given to the Contractor Erosion Control Supervisor and a copy will be emailed to the SDDOT Environmental Section in accordance with the DOT 298 Form.



DUST CONTROL

Dust control materials will be applied to the site as determined in the field by the Engineer and Owner.

All costs to furnish and install water for dust control will be incidental to the contract unit price per MGAL for "Water for Dust Control". This item will follow the SDDOT Specifications, Section 205.

TEMPORARY VEHICLE TRACKING CONTROL

Maintenance Requirements: Temporary vehicle tracking control should be inspected frequently to ensure that mud and dirt are not being tracked onto the roadway. Temporary vehicle tracking control material must be cleaned or replaced when the effectiveness of dirt removal is reduced.

Measurement: Temporary vehicle tracking control will be measured per each. Additional measurement will not be made for temporary vehicle tracking control that has been maintained, which includes replacement or repair at individual locations or for vehicle tracking control removed and reset in the same location to facilitate the contractor's method of operation.

Payment: Temporary vehicle tracking control will be paid for at the contract unit price per each for "Construction Entrance". Payment will be full compensation for all materials, labor, equipment, and incidentals required to install, maintain, and remove the temporary vehicle tracking control.

SILT FENCE

Maintenance Requirements: Areas of damage including water damage, fabric tears, and failures will be repaired. When accumulated sediment reaches one half of the height of the fence, new silt fence will be installed. When site conditions require that silt fence be cleaned and mucked out, rather than replaced, care must be taken to ensure the existing silt fence is not damaged.

Mucking silt fence is the removal of muck trapped by the silt fence as described above. Removed muck should be spread out and stabilized within the projects limits or at an alternate location approved by the Engineer.

Repair Silt Fence will consist of repairing silt fence to meet installation requirements specified in the plans.

Measurement:

Silt Fence will be measured to the nearest foot.

Mucking Silt Fence will be measured to the nearest cubic yard.

Repair Silt Fence will be measured to the nearest foot. Repair silt fence will only be measured if the corresponding bid item has been included in the plans. If included, repair silt fence will only be measured when needed for damage caused by runoff. No measurement will be made for silt fence damaged by the contractor's methods and operations.

Remove Silt Fence will be measured to the nearest foot.

Payment:

Silt Fence will be paid for at the contract unit price per foot. Payment will be full compensation for furnishing, installing, maintaining except as otherwise noted, labor, equipment and incidentals.

Mucking Silt Fence will be paid for at the contract unit price per cubic yard. Payment will be full compensation for labor, equipment and incidentals required to remove, spread this material evenly over the adjacent area as determined by the Engineer, and seed.

Repair Silt Fence will be paid for at the contract unit price per foot if specified. Payment will be full compensation for repair and inspection of the silt fence. If the corresponding bid item has not been included in the plans, repairing silt fence will be considered incidental to the contract.

Remove Silt Fence will be paid for at the contract unit price per foot. Payment will be full compensation for labor, equipment, and incidentals.

STREET SWEEPING

Construction Requirements: Street sweeping is required during construction and before final completion of work to keep streets adjacent to and within the project area clean. The minimum equipment to be used for street sweeping will be a skid loader with a pick up broom attachment or engineer approved equal. No rotary broom without the pick up broom attachment/containment system will be acceptable to perform this work.

Maintenance: Sweeping will be performed as needed to remove tracked mud from the roadway and sediment/debris from pavement and curb. Daily sweeping may be necessary if project conditions warrant.

Measurement: Street sweeping will be measured to the nearest tenth of an hour.

Payment: Street sweeping will be paid for at the contract unit price per hour. Payment will be full compensation for all labor, equipment, and incidentals.

SEDIMENT CONTROL AT TYPE B REINFORCED CONCRETE DROP INLET

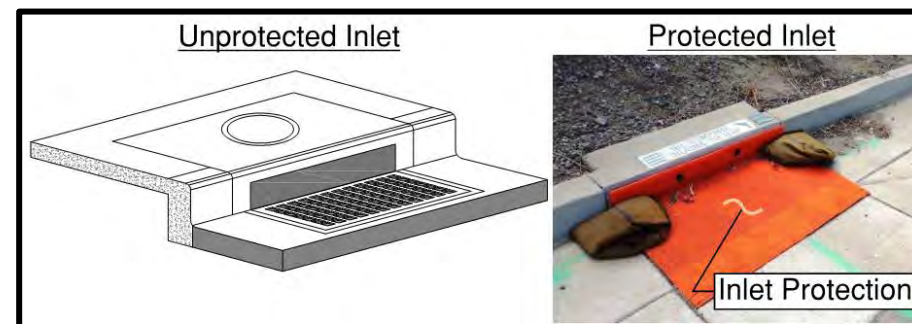
"Sediment Control at Type B Reinforced Concrete Drop Inlet" will be paid for one time at each location, regardless of the number of times the sediment control devices are installed, inspected, cleaned, removed, repaired, or replaced.

All costs associated with furnishing, installing, inspecting, maintaining, cleaning, sediment removal, and repairing Sediment Control at Type B Reinforced Concrete Drop Inlet will be incidental to the contract unit price per each for "Sediment Control at Type B Reinforced Concrete Drop Inlet".

Sediment collection devices will be a commercial made sediment collection device. The device will be Top Guard Drainage Inlet Protection "Combo Guard™ for Combo Curb and Grate Inlets" as manufactured by ERTEC or approved equal.

The website for this product is located at <http://ertecsystems.com/Products/Top-Guard---Drain-Inlet-Protection>.

A diagram / photo of this device is shown below.



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SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES

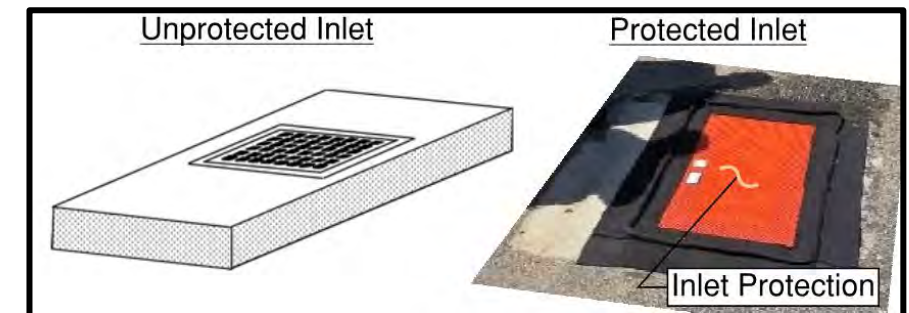
"Sediment Control at Inlet with Frame and Grate" will be paid for one time at each location, regardless of the number of times the sediment control devices are installed, inspected, cleaned, removed, repaired, or replaced.

All costs associated with furnishing, installing, inspecting, maintaining, cleaning, sediment removal, and repairing Sediment Control at Inlet with Frame and Grate will be incidental to the contract unit price per each for "Sediment Control at Inlet with Frame and Grate".

Sediment collection devices will be a commercial made sediment collection device. The device will be Top Guard Drainage Inlet Protection "GR8 Guard™ for Grated Inlets in Paved Areas" as manufactured by ERTEC or approved equal.

The website for this product is located at <http://ertecsystems.com/Products/Top-Guard---Drain-Inlet-Protection>.

A diagram / photo of this device is shown below.



SEDIMENT CONTROL AT TYPE S REINFORCED CONCRETE DROP INLET

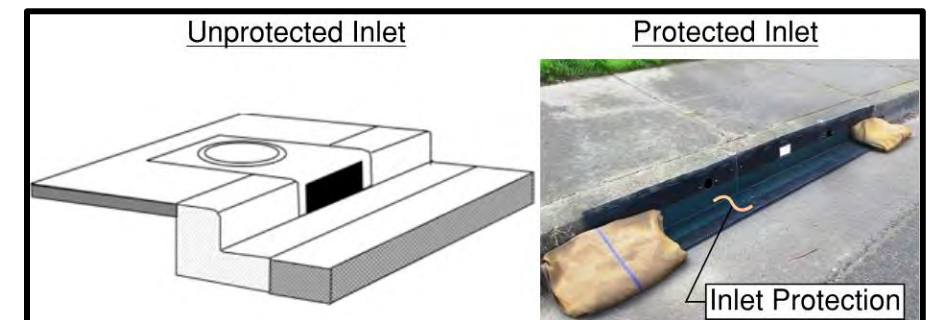
"Sediment Control at Type S Reinforced Concrete Drop Inlet" will be paid for one time at each location, regardless of the number of times the sediment control devices are installed, inspected, cleaned, removed, repaired, or replaced.

All costs associated with furnishing, installing, inspecting, maintaining, cleaning, sediment removal, and repairing Sediment Control at Type S Reinforced Concrete Drop Inlet will be incidental to the contract unit price per linear foot for "Sediment Control at Type S Reinforced Concrete Drop Inlet".

Sediment collection devices will be a commercial made sediment collection device. The device will be Top Guard Drainage Inlet Protection "Curb Inlet Guard™ for Curb Inlets without Grates" as manufactured by ERTEC or approved equal.

The website for this product is located at <http://ertecsystems.com/Products/Top-Guard---Drain-Inlet-Protection>.

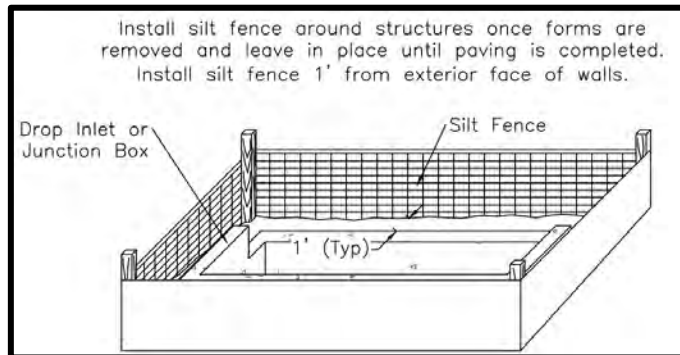
A diagram / photo of this device is shown below.



INTERIM SEDIMENT CONTROL AT INLETS AND JUNCTION BOXES AFTER SURFACING REMOVAL AND BEFORE PLACEMENT OF FINAL SURFACING

All existing and proposed inlets and junction boxes will be protected with sediment control throughout the project and immediately after their installation.

Silt fence will be installed around the inlets and junction boxes as shown below. The silt fence will be paid at the contract unit price per foot for "Low Flow Silt Fence".



MISCELLANEOUS WORK

The contract unit price per site for "Miscellaneous Work" will include, but not be limited to the following:

- Extra mobilization and labor costs for installation and maintenance of the erosion and sediment control items that are anticipated for installation upon SWPPP inspections that occur weekly and after rain events. All items installed will be paid under their appropriate bid item, with the bid item "Miscellaneous Work" covering the extra mobilization and labor costs anticipated due to the untimely nature of these inspections
- Extra mobilization, labor and materials costs for removing, reinstalling and maintaining erosion and sediment control devices due to construction operations and project phasing
- All costs, labor and materials for constant and daily maintenance of the erosion and sediment control items installed with this project to comply with this section and the SWPPP
- All costs, labor and materials to furnish, install, maintain, relocate and remove any miscellaneous erosion and sediment control devices as deemed necessary by the Contractor, Engineer or Owner during the construction phases
- Salvaging and reinstallation of existing landscaping.
- Weed control during construction.
- Weed control for final restoration.

CONCRETE WASHOUT AREA

Construction Requirements: A concrete washout area will be installed on the project site at a location approved by the Engineer if concrete trucks deliver concrete to the site. No washout area is necessary if all concrete trucks are going to wash out at approved site constructed by the concrete supplier.

Maintenance Requirements: The concrete washout area must be kept in a condition to maintain the capacity for all wasted concrete and washout water on the project.

Measurement: Concrete washout area will only be measured if the corresponding bid item has been included in the plans and a concrete washout area has been constructed on the project site. Measurement for the concrete washout area will be per each.

Payment: Payment for the concrete washout area will be at the contract unit price per each if specified. Payment will be full compensation for all materials, labor, equipment, and incidentals required to install, maintain, and remove the concrete washout area.

EROSION CONTROL WATTLE

Construction Requirements: The Contractor will provide certification that the sediment control wattles do not contain noxious weed seeds.

Maintenance: Sediment should be removed on a routine basis when the level of sedimentation reaches one-half the height of the exposed wattle. Damaged areas should be repaired immediately until the vegetation is established and growing through the material.

Measurement: Sediment control wattles will be measured to the nearest foot.

Payment: Sediment control wattles will be paid for at the contract unit price per lineal foot. Payment for all materials, labor and equipment necessary to install, maintain, repair, and remove the sediment control wattles will be included in the contract unit price per lineal foot.

Materials: The erosion control wattle will be 12" diameter with biodegradable netting and selected from the manufacturers listed below, or approved equal:

Manufacturer	Product Name
American Excelsior Company Arlington, TX Phone: 1-800-777-7645 www.amerexcel.com	Curlex Sediment Log
Western Excelsior Corporation Mancos, CO Phone: 1-800-833-8573 www.westernexcelsior.com	Aspen Fiber Logs and Straw Logs
R.H. Dyck Inc. Winters, CA Phone: 1-530-662-7700 www.earth-savers.com	Earth-saver Rice Straw Wattles

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TOPSOIL

Topsoil will be placed over all disturbed areas to a depth of 6 inches unless otherwise specified by the Engineer. The placement of the topsoil will be completed within 5 days of final grading. Soil stabilization will be in accordance with the SWPPP. Contractor will preserve and place existing topsoil and minimize soil compaction where feasible.

Salvaged Topsoil:

Topsoil salvaged in areas listed below will not be required to be screened. Pulverizing will still be required. In these locations the topsoil will be smooth, uniform and free of stones 1 inch or larger in any dimension, roots and other extraneous or undesirable material harmful to plant growth.

- 1 inch minus excludes screening
- Arrowhead Parkway & frontage roads - entire length
- Six Mile Road - entire length

All cost to install the salvaged topsoil will be paid under the unit price per cubic yard for "Placing Topsoil."

Contractor Furnished Topsoil:

Contractor Furnished Topsoil placed will be screened and pulverized and meet the requirements of the following table:

Contractor Furnished Topsoil Requirements		
	Minimum	Maximum
Material Passing #10 Sieve	95%	-
Clay	5%	50%
Silt	10%	70%
Sand and Gravel	10%	60%
Organic Matter (as determined by weight)	4%	15%
pH (ASTM D 5268)	6.0	8.0

The topsoil provided will be smooth, uniform, and free of stones 1 inch or larger in any dimension, roots and other extraneous or undesirable material harmful to plant growth. The Contractor will submit to the Engineer the prospective source for the topsoil at least 1 month prior to time of placement to allow adequate time for inspecting, testing and approving the source. A companion topsoil test may be performed on site after placement. Texture will be determined by the method described in AASHTO T 88.



SOIL STABILIZER

An estimated quantity of 3 acres of soil stabilizer has been included in the Estimate of Quantities. The soil stabilizer will be applied on disturbed areas when final stabilization is delayed due to seasonal limitations.

The Contractor will apply soil stabilizer according to the manufacturer's recommendations and at the rate specified.

Wood fiber mulch that contains a green dye will be mixed with the soil stabilizer to be used as a tracer when the soil stabilizer is applied hydraulically. Wood fiber mulch will be added at a rate of 300 pounds per acre to all of the approved soil stabilizers listed in the table except for the Pam-12 Plus product. The wood fiber mulch will be a 100% wood fiber product and does not need to contain a tackifier.

All costs for furnishing and applying the soil stabilizer including wood fiber mulch, hauling, materials, equipment, labor, and incidentals necessary will be paid for at the contract unit price per Acre for "Soil Stabilizer".

The soil stabilizer will be from the list below or an approved equal:

Product	Manufacturer
StarTak 600 Applied at a rate of 150 Lb/Acre	Chemstar Products Company Minneapolis, MN Phone: 1-800-328-5037 www.chemstar.com
M-Binder Applied at a rate of 150 Lb/Acre	Ecology Controls Carpinteria, CA Phone: 1-805-684-0436 www.ssseeds.com
FiberRX Applied at a rate of: Slope None to 4:1 50 Lb/Acre 3:1 60 Lb/Acre 2:1 70 Lb/Acre 1:1 or steeper 80 Lb/Acre	Hydrostraw, LLC Manteno, IL Phone: 1-800-545-1755 http://hydrostraw.com/
EnviroPam Applied at a rate of 9 Lb/Acre	Innovative Turf Solutions, LLC Cincinnati, OH Phone: 1-513-317-8311 www.innovativeturfsolutions.com
HydraTack, Tack Plus, Tack-P, or Tack-P Plus Applied at a rate of 30 Lb/Acre	Innovative Turf Solutions, LLC Cincinnati, OH Phone: 1-513-317-8311 www.innovativeturfsolutions.com
FI-1045 Hydrobond or FI-1046 Hydrobond Applied at a rate of 15 Lb/Acre	JRM Chemical, Inc. Cleveland, OH Phone: 1-216-475-8488 www.soilmoist.com
HF5000 Tack Applied at a rate of 60 Lb/Acre	Rantec Corporation Ranchester, WY Phone: 1-307-655-9565 www.ranteccorp.com
R-Tack Applied at a rate of 150 Lb/Acre	Rantec Corporation Ranchester, WY Phone: 1-307-655-9565 www.ranteccorp.com
SpecTac Applied at a rate of: Slope None 30 to 80 Lb/Acre 4:1 50 to 100 Lb/Acre 3:1 80 to 120 Lb/Acre 2:1 100 to 170 Lb/Acre	Rantec Corporation Ranchester, WY Phone: 1-307-655-9565 www.ranteccorp.com
Super Tack Applied at a rate of 60 Lb/Acre	Rantec Corporation Ranchester, WY Phone: 1-307-655-9565 www.ranteccorp.com
EarthGuard SFM Applied at a rate of 60 LB/Acre (approx. 6 Gallons/Acre)	Terra Novo Inc. Bakersfield, CA Phone: 1-661-747-5956 www.terranovo.com

SEEDBED PREPARATION

The initial preparation of the newly graded area for seeding will consist of removing existing grass, vegetation and turf. Do not mix into topsoil. Loosen soil to a depth of at least 6 inches. Remove stones larger than 1" in any dimension, sticks, roots, trash and other extraneous matter. Grade the planting areas to a smooth, uniform surface that is loose and uniformly fine textured. Grade to within +/- 0.5" of the finish elevation. Roll and rake, remove ridges, pulverize soil clods to less than 1" and fill depressions to meet finish grades. The Contractor will need prior authorization from the Engineer to commence seeding. Seedbed preparation will be incidental to the appropriate "Seed Mixture" pay item.

SEED TESTING

Seed will be tested within 9 months prior to planting, exclusive of the calendar month in which the test was completed. Testing will be performed in accordance with SDDOT Specifications, Section 730.2C. The certified test report will be furnished to the Engineer prior to the start of the seeding operations.

LABELING

Each bag of seed delivered to the project will bear a tag which conforms to the SDDOT Specifications, Section 730.2D. There will be no payment for seed used without the proper labeling.

WEED CONTROL DURING CONSTRUCTION

The Contractor will be responsible to control all legumes, noxious weeds, and grass within the project limits, in both disturbed areas and undisturbed areas, throughout the duration of the project. Legumes, noxious weeds and grass will be controlled by hand pulling, mowing, and/or inoculation.

If the Contractor chooses to inoculate weeds, the inoculation must be performed in accordance with the manufacturer's recommendations and all applicable federal, state, and local laws and ordinances. The Contractor is responsible for keeping all required chemical application records, and must provide them to the Engineer upon request. The inoculation product must be approved by the Engineer prior to application.

The amount of weed control required on the project will be at the discretion of the Engineer. All materials, equipment, tools, labor, and other appurtenances required to control all legumes, noxious weeds, and grass throughout the duration of the project will be incidental to the contract unit price per site for "Miscellaneous Work".

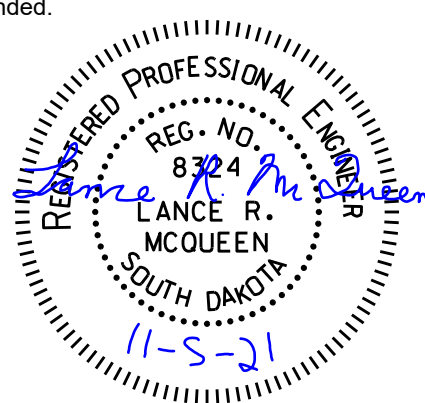
WEED CONTROL FOR FINAL RESTORATION

Legumes and noxious weeds will be controlled in all newly seeded and/or sodded areas by hand pulling, mowing, and/or inoculation for the duration of the 45 day maintenance period and until a uniform, perennial vegetative cover with a density of 70% of the native grasses has been established. This requirement applies to the project limits and to all contractor staging areas. If areas are dormant seeded, this requirement will remain in effect until the following spring.

If the Contractor chooses to inoculate weeds, the inoculation must be performed in accordance with the manufacturer's recommendations and all applicable federal, state, and local laws and ordinances. The Contractor is responsible for keeping all required chemical application records, and must provide them to the Engineer upon request. The inoculation product must be approved by the Engineer prior to application.

More than one weed control application may be required depending on site conditions. The amount of weed control required on the project will be at the discretion of the Engineer. A pre-emergent application is recommended.

All materials, equipment, tools, labor and other appurtenances required to control all legumes and noxious weeds throughout the 45 day maintenance period and until a uniform, perennial vegetative cover with a density of 70% of the native grasses has been established will be included to the contract unit price per site for "Miscellaneous Work".



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SEEDING

Construction Requirements: Seeding and fertilizing will comply with sections 730 and 731 of the SDDOT Standard Specifications for Roads and Bridges except as noted below. Seasonal limitations have been designated below. If seasonal limitations cannot be met, then an alternate soil stabilization practice must be used. Payment will be made to the Contractor for these alternate practices if caused by the conditions and sequencing of the plans and/or specifications and not the result of the Contractor's negligence.

Seed Mixes:

When to Plant:
Spring: April – June 15
Fall: August – Early September
Dormant: November – Freeze Up

Specifications:
Minimum Purity 97% and Minimum Germination 85%
Maximum Other Crop Content 0.10% and Maximum Weed Content 0.10%
Components and/or percentages of the above blend may vary

Special Permanent Seed Mixture 1 (Arterial and Collector) will consist of the following:

Grass Species	Pure Live Seed (PLS) (Pounds/Acre)
Kentucky Bluegrass	60
Fine-Leaf Perennial Ryegrass	60
Creeping Red Fescue	60
Salty Alkaligrass	60
Chewings Fescue	60
TOTALS	300

Special Permanent Seed Mixture 2 (Slope) will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Sideoats Grama	Bouteloua curtipendula	2.50
Blue Grama	Bouteloua gracilis	3.00
Buffalograss	Bouteloua dactyloides	1.75
Little Bluestem	Schizachyrium scoparium	2.38
Prairie Dropseed	Sporobolus heteroepis	0.37
Black-eyed Susan	Rudbeckia hirta	0.40
Purple Prairie Clover	Dalea purpurea	0.15
Purple Coneflower	Echinacea angustifolia	0.15
Yarrow	Achillea millefolium	0.15
Hoary Vervain	Verbena stricta	0.15
Total:		11.00



Special Permanent Seed Mixture 3 (Transitional) will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Grasses		
Western Wheatgrass	Agropyron smithii	1.00
Big Bluestem	Andropogon gerardii	2.75
Blue Joint Reed Grass	Calamagrostis canadensis	0.05
Virginia Wild Rye	Elymus virginicus	2.00
Reed Manna Grass	Glyceria grandis	0.10
Fowl Manna Grass	Glyceria striata	0.05
Switchgrass	Panicum virgatum	0.25
White Top	Scolochloa festucacea	0.03
Indiangrass	Sorghastrum nutans	1.20
Prairie Cord Grass	Spartina pecinata	0.45
Prairie Wedgegrass	Sphenopholis obtusata	0.35
Forbs		
Swamp Milkweed	Asclepias incarnata	0.05
New England Aster	Aster novae-angliae	0.02
Showy Tick Trefoil	Desmodium canadense	0.02
Joe Pye Weed	Eupatorium maculatum	0.03
Boneset	Eupatorium perfoliatum	0.02
Sneezeweed	Helenium autumnale	0.05
Sawtooth Sunflower	Helianthus grosseserratus	0.03
False Sunflower	Heliopsis helianthoides	0.13
Prairie Blazingstar	Liatris pycnostachya	0.05
Black-Eyed Susan	Rudbeckia hirta	0.09
Rosin Weed	Silphium integrifolium	0.06
Cup Plant	Silphium perfoliatum	0.07
Blue Vervain	Verbena hastata	0.10
Ironweed	Vernonia fasciculata	0.05
Golden Alexanders	Zizia aurea	0.13
Wetland Species		
American Slough Grass	Beckmannia syzigachne	0.52
Brown Fox Sedge	Carex vulpinodea	0.20
Wool Grass	Scirpus cyperinus	0.05
Softstem Bulrush	Scirpus validus	0.10
Total:		10.00

Cover Crop Seeding:

A cover crop seed mixture will be applied. Cover crop seed will consist of 30 pounds of oats or winter wheat (min. 75% PLS). Total seeding rate for cover crop will be 0.5 bushel per acre.

Species	Growth Season	Pounds of Pure Live Seed (PLS)/acre ^b
Annual ryegrass	Cool	20
Cereal rye	Cool	30
Winter wheat/barley	Cool	30
Spring wheat/barley	Cool	30
Millet	Warm	20
Oats		60

^a Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead plant material residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching shall be done as a separate operation to prevent the seeds from being encapsulated in the mulch.

^b Seeding rates shall be increased by 50 percent if seeding is done by hydraulic seeding or using a Brillion Drill; or doubled if seed is broadcast.

If irrigation water is available and applied in an appropriate manner, seeding dates for annual grasses can be extended throughout most of the growing season.

Seed will be delivered to the project in bags with seed tags attached. The tags will be collected from the bags by the Engineer during seeding. See plan notes on Labeling. Seed will be applied using a press drill or slit seeder in all areas where possible. Hand seeding will be kept to a minimum and only done when site conditions prohibit the use of a drill or slit seeder.

These rates will be doubled if seed is broadcast and will be increased by 50 percent if the seeding is applied through hydraulic seeding. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching will be done as a separate operation. All seed will be drilled in with an approved drill and incorporated to the top 1/4" +/- of topsoil. Small areas not accessible with a drill may be broadcast and dragged or raked in.

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Mycorrhizal Inoculum: This will be applied with the above seed mixes. It will consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier will provide certification of the fungal species claimed and the live propagule count. The inoculum will include the following fungal species:

Glomus intraradices	25%
Glomus aggregatu	25%
Glomus mosseae	25%
Glomus etunicatum	25%

All wetland and native seed will be inoculated with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All turf seed will be inoculated with a minimum of 1,000,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed will be incidental to the contract unit price per pound for the corresponding permanent seed mixture. The Mycorrhizal Inoculum will be incidental to the specified seed mix.

Maintenance: Maintain and establish turf for 45 days by watering, fertilizing, weeding, mowing, trimming, replanting and performing other operations as required to establish healthy, viable turf. Roll, regrade and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence. In areas where mulch has been disturbed, add new mulch.

Bare spots or locations of erosion will be re-seeded and maintained by the contractor for an additional 45 days and until the area has met the vegetative cover requirement of 70% of the native cover. This additional material and labor will be at no additional cost to the owner.

Seed will be measured and paid for in accordance with the SD Standard Specifications for Roads and Bridges Section 730.4 and 730.5.

FERTILIZING

Fertilizer Type: For use in both seed and sod applications. Fertilizer will have a minimum guaranteed analysis of 13-13-13 with a minimum of 25% SCU for slow release properties.

The application rate will be 330 lbs/acre.

Any other fertilizer analysis and/or application rate must be approved by the Engineer prior to application.

Fertilizer will be delivered to the site in bags, each fully labeled, conforming to the specifications and bearing the name and warranty of the producer. Appropriate documentation will be given to the Engineer for approval prior to application. Fertilizer will be measured and paid for in accordance with the SDDOT Specifications, Section 731.4 and 731.5.



HYDROMULCHING

Mulch will be installed as follows:

- Fiber Mulching will be installed on areas seeded during the spring or fall timeframe.
- Bonded Fiber Matrix will be installed on areas seeded during the dormant timeframe.
- Quantities for both mulches have been included in the plans, but both may be increased / reduced due to the installation time of the seed installed for the project. The Contractor will allow for quantity adjustments within the unit costs submitted for these bid items.

Fiber Mulching:

Fiber mulching will be applied in a separate operation following permanent seeding. It will be virgin wood cellulose fiber made from whole wood fibers. It will be applied and conform to the SD Standard Specifications for Roads and Bridges, Section 732.2B. It will be dyed an appropriate color to allow visual metering for its application. The fiber mulching material will be supplied to the project in packages marked by the manufacturer. The fiber mulching products in the approved products list contain tackifier premixed at a rate of 3% by weight.

An additional 2% by weight of tackifier will be added to the fiber mulching product selected from the approved product list. If the product selected has guar gum tackifier included, then the additional 2% of tackifier will be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier will be synthetic.

Fiber mulching will be applied at the rate of 2000 pounds per acre.

The Contractor will allow the fiber mulching to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

The fiber mulching provided will be from the approved product list. The approved product list for fiber mulch may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

Appropriate documentation will be given to the Engineer for prior approval before application. Material, equipment and labor will be paid for at the contract unit price per ton for "Fiber Mulching". All costs for the additional tackifier added to the fiber mulch including labor, equipment, and materials will be incidental.

Maintenance: Bare spots or locations of erosion should be re-seeded at no additional cost to the City.

Bonded Fiber Matrix: Bonded Fiber Matrix (BFM) will consist of a continuous layer of elongated fiber strands held together by a water restraint bonding agent. It will be hydraulically applied and conform to the SDDOT Specifications, Section 732.2C. It will be dyed an appropriate color to allow visual metering for its application. The material will be supplied to the project in packages marked by the manufacturer. Appropriate documentation will be given to the Engineer for prior approval before application. The Bonded Fiber Matrix will be spray-applied at a rate of 3900 pounds per acre, utilizing standard hydraulic seeding equipment in successive layers as to achieve 100% coverage of all exposed soil. The mix will consist of 50 pounds bonded fiber matrix to 125 gallons water unless otherwise specified by the Engineer. It will be installed by a Contractor certified by the manufacturer's recommendations. Bonded fiber matrix will be placed on a given area as soon as possible or within 48 hours after seeding. The Bonded Fiber Matrix will not be applied immediately before, during or after rainfall, such that the matrix will have the opportunity to dry for up to 24 hours after installation. It will be measured to the nearest 0.1 ton of mulch applied. Bonded fiber matrix will be paid for at the contract unit price per ton. Payment will be full compensation for furnishing, hauling, placing and for materials, equipment, labor, tools and incidentals necessary.

The Contractor will use a bonded fiber matrix from the approved products list, or an approved equal. The approved product list for bonded fiber matrix may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

Maintenance: Bare spots or locations of erosion should be re-seeded at no additional cost to the City.

MULCH FOR STOCKPILES AND INTERIM GRADING AREAS

If the Contractor creates stockpiles or has other disturbed areas that will remain dormant for a period of longer than 21 days, then methods described in the Soil Stabilizer note will be used. A quantity of 2 Acres of soil stabilizer has been included in the estimate of quantities based on anticipated construction methods and timeframes. The Contractor will be required to grade the stockpiles in a manner to properly apply the soil stabilizer. No payment will be made for soil stabilizer that must be applied as a result of the Contractor not meeting the specified completion dates of the project or as a result of changes to the sequence of operations.

WATERING

Watering needs for the project may be reduced due to the season or the amount of rainfall occurring during the time of the seeding, sodding and tree planting.

- Watering quantities shown in the plans have been calculated for full watering of the project per the requirements discussed in this section.
- The Contractor will coordinate with the Engineer to determine when watering is required and when it can be reduced or omitted.
- The Contractor will allow for quantity adjustments within the unit cost submitted for the bid item "Water for Vegetation". Final quantities for watering will be field measured by the use of water meters placed on the water source.

Seed: Contractor is required to provide adequate water for all newly seeded areas for a period of 45 days after installation, and until a uniform, perennial vegetative cover with a density of 70% of the native grasses has been established.

The Contractor will be required to maintain the soil and mulch in a moist condition to a depth of at least 1 inch below the surface to ensure proper growth of the seed. The water application rate should allow the water to soak into the ground without runoff. The Contractor will use a fine spray and low pressure to avoid erosion and runoff. Multiple passes may be needed. The Contractor will be responsible to repair any areas of erosion or bare spots at no additional cost to the City.

Watering quantities were calculated based on 60 gallons of water per square yard of seeded area, which assumes the Contractor will apply 0.5" of water over the seeded areas 3-4 times per week. This quantity is for estimating purposes only. More or less water for vegetation may be required to ensure adequate grass growth within the seeded areas at the end of the 45 day maintenance period.

If the Contractor fails to provide adequate water for the newly seeded areas, the Contractor will be required to reseed and maintain the area for an additional 45 days at no additional expense to the City. No payment will be made for reseeding, watering, or other associated costs during the additional 45 day maintenance period (if required).

Watering Restrictions: The Contractor must comply with all watering restrictions in place. A listing of watering restrictions can be found on the City's website. If even/odd or more restrictive watering restrictions are in place, a watering permit must be obtained from the Public Works Office. This permit will allow daily watering (outside the noon to five restrictions) for a period of up to 4 weeks. After 4 weeks, the Contractor must comply with the current watering restrictions. For clarification, the whole project will be treated as one address so the watering can occur on the entire project on the same day. Based on weather conditions and current watering restrictions the Contractor may request the seeding or sodding be delayed until weather conditions and watering restrictions are more favorable.

The Contractor will not utilize adjacent property owner watering system without their permission. If the Contractor chooses to do so, it will be the Contractor's responsibility to reimburse the property owner for the water used. The volume of water used will be paid for at the contract unit price per MGAL for "Water for Vegetation".

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) NH 0042(63)371 P 1358(02)	SHEET NO. D11	TOTAL SHEETS D41
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Plotting Date: 11/5/2021

EROSION CONTROL BLANKET

Erosion control blanket will be installed 16 feet wide at the locations noted in the table and at locations determined by the Engineer during construction.

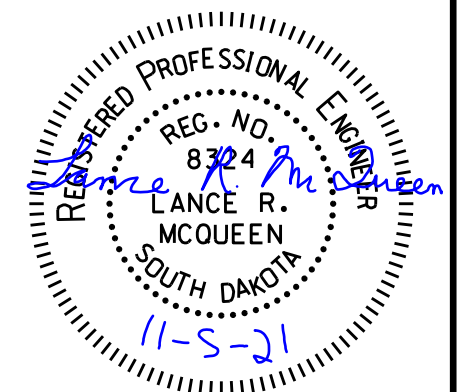
The erosion control blanket provided will be from the approved product list. The approved product list for erosion control blanket may be viewed at the following internet site:

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

An additional quantity of Erosion Control Blanket has been added to the Estimate of Quantities for temporary erosion control.

SHAPING FOR EROSION CONTROL BLANKET

The ditches will be shaped for the erosion control blanket as specified on Standard Plate 734.01.



SALVAGE AND REINSTALL EXISTING LANDSCAPING

Along Arrowhead Pkwy, by Sta. 223+70 and along Six Mile Road, by Sta. 4010+40, the existing landscaping at the Willow Run golf course entrance will be salvaged and reinstalled. Photos of this existing landscaping is shown on this page.

The existing landscaping consists of:

- Small rock, large rocks and shrubs.
- The small rock is approximately 1" diameter
 - The small rock is **anticipated to have weed fabric** beneath it.
- There is a retaining wall that is approximately 20' long
- The total area of landscaping is as follows:
 - NH 0042(63)371 PCN05C6
 - Total area of landscaping is 170 SqYd
 - P 1358(02) PCN 05C2
 - Total area of landscaping is 360 SqYd

Any of the existing landscaping items that are damaged during this work will be repaired or replaced by the Contractor at no cost to the Owner.

- If the weed fabric is damaged during the salvaging process, new weed fabric will be reinstalled by the Contractor at no cost to the Owner.

All landscaping items will be salvaged and reinstalled per the landscape owner's direction.

All costs for this work will be incidental to the contract unit price per site for "Miscellaneous Work".

FOR BIDDING PURPOSES ONLY

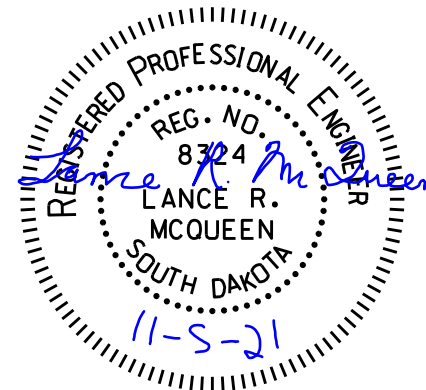
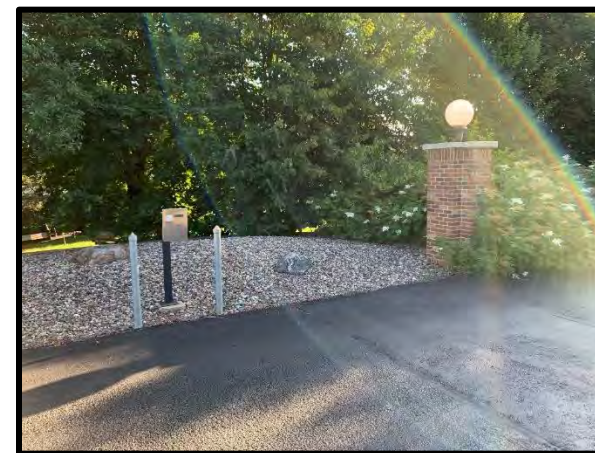
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
SOUTH DAKOTA	NH 2042(29) NH 0042(63)371 P 1358(02)	D12	D41

Plotting Date: 11/5/2021

Landscaping at Willow Run Golf Course



Landscaping at Oakmont Entrance



EROSION CONTROL TABULATED QUANTITIES

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) NH 0042(63)371 P 1358(02)	SHEET NO. D13	TOTAL SHEETS D41
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Plotting Date: 11/5/2021

TABLE OF LOW FLOW SILT FENCE NH 2042(29) PCN 06YQ				
Location	Quantity (Ft)	Remove Silt Fence (Ft)	Mucking Silt Fence* (CuYd)	Repair Silt Fence** (Ft)
for Inlet Protection	1808	1808	54	362
Field Determined	250	250	8	50
Total	2058	2058	62	412

*Quantity calculated using 20% of the silt fence quantity and using a 2' tall by 2' wide square of muck behind the silt fence.
**Quantity calculated using 20% of the installed quantity.

TABLE OF SWEEPING NH 2042(29) PCN 06YQ	
Location	Quantity (Hour)
Field Determined	40
Total	40

TABLE OF 12" DIAMETER EROSION CONTROL WATTLE NH 2042(29) PCN 06YQ			
Station to	Station	Offset	Quantity (Ft)
Arrowhead PKWY, LT Side			
157+00	170+20	LT	1120
170+20	187+50	LT	2560
187+50	200+50	LT	1480
Arrowhead PKWY, RT Side			
157+00	170+20	Rt	890
170+20	192+70	Rt	5450
192+70	200+50	Rt	1560
Field Determined			1000
Total			14060

TABLE OF LOW FLOW SILT FENCE NH 0042(63)371 PCN 05C6				
Location	Quantity (Ft)	Remove Silt Fence (Ft)	Mucking Silt Fence* (CuYd)	Repair Silt Fence** (Ft)
for Inlet Protection	1383	1383	41	277
Field Determined	250	250	8	50
Total	1633	1633	49	327

*Quantity calculated using 20% of the silt fence quantity and using a 2' tall by 2' wide square of muck behind the silt fence.
**Quantity calculated using 20% of the installed quantity.

TABLE OF CONCRETE WASHOUT FACILITY NH 2042(29) PCN 06YQ	
Location	Quantity (Each)
Field Determined	1
Total	1

TABLE OF 12" DIAMETER EROSION CONTROL WATTLE NH 0042(63)371 PCN05C6			
Station to	Station	Offset	Quantity (Ft)
Arrowhead PKWY, LT Side			
200+50	215+00	Lt	1380
215+00	223+70	Lt	1200
223+70	232+00	Lt	580
Arrowhead PKWY, RT Side			
200+50	215+00	Rt	1520
215+00	223+70	Rt	4200
223+70	232+00	Rt	860
Field Determined			1000
Total			10740

TABLE OF LOW FLOW SILT FENCE P 1358(02) PCN 05C2				
Location	Quantity (Ft)	Remove Silt Fence (Ft)	Mucking Silt Fence* (CuYd)	Repair Silt Fence** (Ft)
for Inlet Protection	1504	1504	45	301
Field Determined	250	250	8	50
Total	1754	1754	53	351

*Quantity calculated using 20% of the silt fence quantity and using a 2' tall by 2' wide square of muck behind the silt fence.
**Quantity calculated using 20% of the installed quantity.

TABLE OF CONSTRUCTION ENTRANCE NH 2042(29) PCN 06YQ	
Location	Quantity (Each)
Arrowhead	
West End	2
Field Determined	1
Total	3

TABLE OF 12" DIAMETER EROSION CONTROL WATTLE P 1358(02) PCN 05C2			
Station to	Station	Offset	Quantity (Ft)
Six Mile Road, LT Side			
4002+00	4014+20	LT	1030
4014+20	4023+90	LT	950
4023+90	4030+50	LT	840
Six Mile Road, RT Side			
4002+00	4014+20	Rt	990
4014+20	4020+20	Rt	1070
4020+20	4030+50	Rt	1670
OLD Six Mile Road, LT Side			
0+40	7+10	LT	620
OLD Six Mile Road, RT Side			
0+40	7+10	Rt	880
Field Determined			1000
Total			9050

TABLE OF WATER FOR DUST CONTROL NH 2042(29) PCN 06YQ				
Location	Area (SqYd)	Application Rate (Gal/SqYd)	# of Applications	Quantity (MGal)
Field Determined	20,000	1.0	2.0	40
Total				40

TABLE OF CONCRETE WASHOUT FACILITY NH 0042(63)371 PCN05C6	
Location	Quantity (Each)
Field Determined	1
Total	1

TABLE OF CONCRETE WASHOUT FACILITY P 1358(02) PCN 05C2	
Location	Quantity (Each)
Field Determined	2
Total	2

TABLE OF CONSTRUCTION ENTRANCE NH 0042(63)371 PCN05C6	
Location	Quantity (Each)
Arrowhead	
East End	2
Field Determined	1
Total	3

TABLE OF CONSTRUCTION ENTRANCE P 1358(02) PCN 05C2	
Location	Quantity (Each)
Six Mile RD	
north end	2
south end	2
Field Determined	1
Total	5

TABLE OF WATER FOR DUST CONTROL NH 0042(63)371 PCN05C6				
Location	Area (SqYd)	Application Rate (Gal/SqYd)	# of Applications	Quantity (MGal)
Field Determined	20,000	1.0	2.0	40
Total				40

TABLE OF WATER FOR DUST CONTROL P1358(02) PCN 05C2				
Location	Area (SqYd)	Application Rate (Gal/SqYd)	# of Applications	Quantity (MGal)
Field Determined	20,000	1.0	2.0	40
Total				40



Plotting Date: 11/5/2021

FOR BIDDING PURPOSES ONLY

TABLE OF SEEDING, FERTILIZING AND MULCHING NH 2042(29) PCN 06YQ												
Station to	Station	Offset	Descript.	Area (SqYd)	Weed Control ¹ (SqYd)	Special Seed Mix One ² (Lb)	Cover Crop ³ (Bu)	Fertilizer ⁴ (Lb)	Mulch		Water ⁷ (MGal)	
									Fiber Mulch ⁵ (Ton)	Bonded Fiber ⁶ (Ton)		
Arrowhead Pkwy, Lt Side												
157+00	170+20	Lt	Exterior	5302.0	5302.0	328.7	0.3	361.5	1.1		318.2	
170+20	187+50	Lt	Blvd	885.8	885.8	55.0	0.1	60.4	0.2		53.2	
170+20	187+50	Lt	Exterior	12384.1	12384.1	767.7	0.7	844.4	2.6		743.1	
187+50	200+50	Lt	Blvd	632.1	632.1	39.2	0.1	43.1	0.2		38.0	
187+50	200+50	Lt	Exterior	10179.9	10179.9	631.0	0.6	694.1	2.2		610.8	
Arrowhead Pkwy, Rt Side												
157+00	170+20	Rt	Exterior	8029.8	8029.8	497.8	0.5	547.5		3.3	481.8	
170+20	192+70	Rt	Blvd	1163.0	1163.0	72.1	0.1	79.3		0.5	69.8	
170+20	192+70	Rt	Exterior	25486.1	25486.1	1579.8	1.4	1737.7		10.3	1529.2	
192+70	200+50	Rt	Blvd	368.6	368.6	22.9	0.1	25.2		0.2	22.2	
192+70	200+50	Rt	Exterior	3903.9	3903.9	242.0	0.3	266.2		1.6	234.3	
Field Determined				6000.0	6000.0	372.0	0.4	409.1	1.3	2.5	360.0	
Total				74335.2	74335.2	4608.2	4.6	5068.5	7.6	18.4	4460.6	

1 - Weed Control will be incidental to the contract unit price per site for "Miscellaneous Work".
2 - Special Seed Mix One rate = 300 Lb/acre.
3 - Cover Crop Mix rate = 1 Bu/acre @ 25% of the area.
4 - Fertilizer rate = 330 Lb/acre.
5 - Fiber Mulching rate = 1.00 Ton/acre.
6 - Bonded Fiber Matrix rate = 1.95 Ton/acre.
7 - Watering = 60 gal/sqyd for seed.

TABLE OF SEEDING, FERTILIZING AND MULCHING NH 0042(63)371 PCN 05C6													
Station to	Station	Offset	Descript.	Area (SqYd)	Weed Control ¹ (SqYd)	Special Seed Mix One ² (Lb)	Special Seed Mix Two ³ (Lb)	Special Seed Mix Three ⁴ (Lb)	Cover Crop ⁵ (Bu)	Fertilizer ⁶ (Lb)	Mulch		Water ⁹ (MGal)
											Fiber Mulch ⁷ (Ton)	Bonded Fiber ⁸ (Ton)	
Arrowhead Pkwy, Lt Side													
200+50	215+00	Lt	Blvd	714.9	714.9	44.4			0.1	48.8	0.2		42.9
200+50	215+00	Lt	Exterior	5283.7	5283.7	327.5			0.3	360.3	1.1		317.1
215+00	223+70	Lt	Blvd	451.3	451.3	28.0			0.1	30.8	0.1		27.1
215+00	223+70	Lt	Exterior	2600.1	2600.1	161.2			0.2	177.3	0.6		156.1
223+70	232+00	Lt	Exterior	1666.1	1666.1	103.3			0.1	113.6	0.4		100.0
Arrowhead Pkwy, Rt Side													
200+50	215+00	Rt	Blvd	708.1	708.1	43.9			0.1	48.3		0.3	42.5
200+50	215+00	Rt	Exterior	4059.9	4059.9	251.7			0.3	276.9		1.7	243.6
215+00	223+70	Rt	Blvd	449.0	449.0	27.9			0.1	30.7		0.2	27.0
215+00	223+70	Rt	Exterior	17924.2	17924.2	411.2	23.9	1.7	1.0	1222.2		7.3	1075.5
223+70	232+00	Rt	Exterior	3451.2	3451.2	214.0			0.2	235.4		1.4	207.1
Field Determined				3000.0	3000.0	186.0	6.9	14.6	0.2	204.6	0.7	1.3	180.0
Total				40308.6	40308.6	1799.1	30.8	16.3	2.7	2748.9	3.1	12.2	2418.9

1 - Weed Control will be incidental to the contract unit price per site for "Miscellaneous Work".
2 - Special Seed Mix One rate = 300 Lb/acre.
3 - Special Seed Mix Two rate = 11 Lb/acre.
4 - Special Seed Mix Three rate = 10 Lb/acre.
5 - Cover Crop Mix rate = 1 Bu/acre @ 25% of the area.
6 - Fertilizer rate = 330 Lb/acre.
7 - Fiber Mulching rate = 1.00 Ton/acre.
8 - Bonded Fiber Matrix rate = 1.95 Ton/acre.
9 - Watering = 60 gal/sqyd for seed.

TABLE OF SEEDING, FERTILIZING AND MULCHING P 1358(02) PCN 05C2												
Station to	Station	Offset	Descript.	Area (SqYd)	Weed Control ¹ (SqYd)	Special Seed Mix One ² (Lb)	Cover Crop ³ (Bu)	Fertilizer ⁴ (Lb)	Mulch		Water ⁷ (MGal)	
									Fiber Mulch ⁵ (Ton)	Bonded Fiber ⁶ (Ton)		
Six Mile Rd, Lt Side												
4002+00	4011+50	Lt	Blvd	216.4	216.4	13.5	0.1	14.8	0.1		13.0	
4002+00	4011+50	Lt	Exterior	4748.2	4748.2	294.4	0.3	323.8	1.0		284.9	
4014+20	4023+90	Lt	Blvd	502.3	502.3	31.2	0.1	34.3		0.3	30.2	
4014+20	4023+90	Lt	Exterior	3086.2	3086.2	191.3	0.2	210.5		1.3	185.2	
4023+90	4030+50	Lt	Exterior	5994.1	5994.1	371.6	0.4	408.7		2.5	359.7	
Six Mile Rd, Rt Side												
4002+00	4011+50	Rt	Blvd	258.4	258.4	16.1	0.1	17.7	0.1		15.6	
4002+00	4011+50	Rt	Exterior	2376.3	2376.3	147.3	0.2	162.1	0.5		142.6	
4014+20	4020+20	Rt	Blvd	341.6	341.6	21.2	0.1	23.3		0.2	20.5	
4014+20	4020+20	Rt	Exterior	6407.7	6407.7	397.2	0.4	436.9		2.6	384.5	
4020+20	4030+50	Rt	Blvd	5.4	5.4	0.4	0.1	0.4		0.1	0.4	
4020+20	4030+50	Rt	Exterior	8445.6	8445.6	523.5	0.5	575.9		3.5	506.8	
Old Six Mile Rd, Lt Side												
0+40	7+10	Lt	Exterior	2537.8	2537.8	157.4	0.2	173.1		1.1	152.3	
Old Six Mile Rd, Rt Side												
0+40	7+10	Rt	Exterior	1628.2	1628.2	101.0	0.1	111.1		0.7	97.7	
Field Determined				3000.0	3000.0	186.0	0.2	204.6	0.7	1.3	180.0	
Total				39548.3	39548.3	2452.1	3.0	2697.2	2.4	13.6	2373.4	

1 - Weed Control will be incidental to the contract unit price per site for "Miscellaneous Work".
2 - Special Seed Mix One rate = 300 Lb/acre.
3 - Cover Crop Mix rate = 1 Bu/acre @ 25% of the area.
4 - Fertilizer rate = 330 Lb/acre.
5 - Fiber Mulching rate = 1.00 Ton/acre.
6 - Bonded Fiber Matrix rate = 1.95 Ton/acre.
7 - Watering = 60 gal/sqyd for seed.

TABLE OF INLET PROTECTION NH 2042(29) PCN 06YQ				
INLET	PAVING IN-PLACE		NO PAVEMENT	
	Inlet Protection			Silt Fence
	Type B (Eac)	Frame & Grate (Each)	Type S (Ft)	
D#52	3			38
D#53	3			38
D#54	1			22
D#55	3			22
D#56	3			22
D#57	3			38
D#58			12	38
D#59			12	38
D#60	1			38
D#61	3			38
D#62	3			38
D#63A	1			38
D#63	3			38
D#64	3			42
D#65A	1			38
D#65	3			38
D#66	3			42
D#67A	1			38
D#67	3			38
D#68	3			42
D#69	3			38
D#70	3			38
D#71	1			28
D#72	3			38
D#73	3			42
D#74A	3			38
D#74	3			38
D#75	1			38
D#76A	3			38
D#76	3			38
D#77	1			38
D#78	3			38
D#79	3			38
D#80B		1		36
D#80A		1		36
D#80		1		36
D#81	3			42
D#82	3			42
D#83			12	38
D#84	3			42
JB#1				30
JB#11				30
ED#1		1		30
Field Determined	6	3	24	234
Total	92	7	60	1808



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) NH 0042(63)371 P 1358(02)	SHEET NO. D15	TOTAL SHEETS D41
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Plotting Date: 11/5/2021

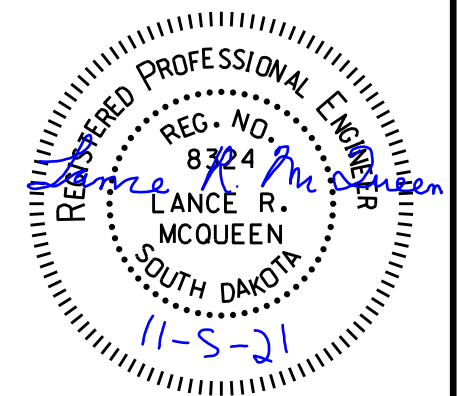
TABLE OF INLET PROTECTION NH 0042(63)371 PCN 05C6				
INLET	PAVING IN-PLACE		NO PAVEMENT	
	Inlet Protection			Silt Fence (Ft)
	Type B (Each)	Frame & Grate (Each)	Type S (Ft)	
D#115	3			38
D#116	3			38
D#117	3			42
D#118	3			38
D#119	3			42
D#120	3			38
D#121	3			38
D#122	3			42
D#123	3			38
D#124	3			42
D#125	3			38
D#126	3			42
D#127	3			38
D#128	1			38
D#129	3			38
D#130	3			42
D#131			12	38
D#132			12	38
D#133	3			38
D#134	3			38
D#134A	3			38
D#135	3			38
D#136	3			38
D#136A	3			38
D#137	3			38
D#138	3			38
D#139	3			38
D#140	1			28
JB#2				41
JB#4				30
Field Determined	6	3	24	234
Total	80	3	48	1383

TABLE OF INLET PROTECTION P 1358(02) PCN 05C2				
INLET	PAVING IN-PLACE		NO PAVEMENT	
	Inlet Protection			Silt Fence (Ft)
	Type B (Each)	Frame & Grate (Each)	Type S (Ft)	
D#85	3			38
D#86	1			28
D#86A	3			38
D#87	3			38
D#88	1			28
D#88A	3			38
D#89	3			38
D#90	1			28
D#90A	3			38
D#91	3			38
D#92	3			38
D#92A	1			28
D#93	1			28
D#94	3			38
D#95	3			38
D#96	3			38
D#97	3			38
D#98	3			38
D#99	3			38
D#100	1			28
D#101	3			38
D#102	3			38
D#103	3			38
D#104	3			38
D#105	3			38
D#106	3			38
D#107	3			38
D#108	3			38
D#109	3			38
D#110	3			38
D#111	3			38
D#112	3			38
D#114	3			38
JB#3				38
JB#12				38
Field Determined	6	3	24	234
Total	93	3	24	1504

TABLE OF EROSION CONTROL BLANKET NH 2042(29) PCN 06YQ	
Station to Station	Quantity (SqYd)
Arrowhead Pkwy	
Field Determined	500
Total	500

TABLE OF EROSION CONTROL BLANKET NH 0042(63)371 PCN05C6	
Station to Station	Quantity (SqYd)
Arrowhead Pkwy	
STA 213+00 to STA 223+65	18854
Field Determined	2000
Total	20854

TABLE OF EROSION CONTROL BLANKET	
Station to Station	Quantity (SqYd)
Six Mile Road	
Field Determined	500
Total	500



Arrowhead Pkwy

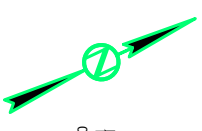
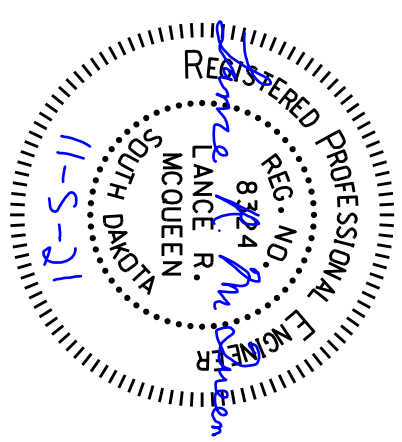
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LEGEND

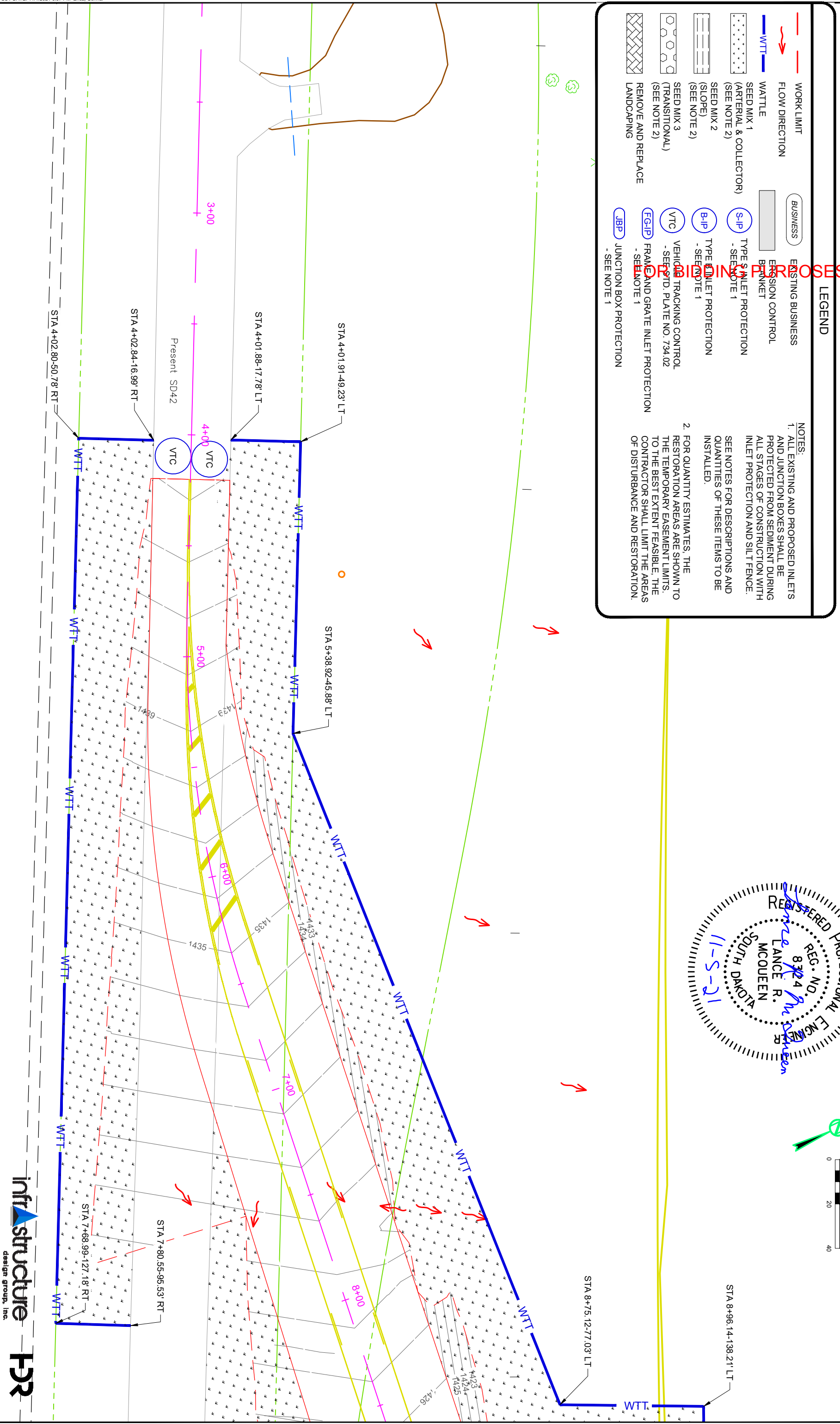
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NOTES:

1. ALL EXISTING AND PROPOSED INLETS AND JUNCTION BOXES SHALL BE PROTECTED FROM SEDIMENT DURING ALL STAGES OF CONSTRUCTION WITH INLET PROTECTION AND SILT FENCE. SEE NOTES FOR DESCRIPTIONS AND QUANTITIES OF THESE ITEMS TO BE INSTALLED.
2. FOR QUANTITY ESTIMATES, THE RESTORATION AREAS ARE SHOWN TO THE TEMPORARY EASEMENT LIMITS. TO THE BEST EXTENT FEASIBLE, THE CONTRACTOR SHALL LIMIT THE AREAS OF DISTURBANCE AND RESTORATION.



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
NH 2042(29) P 1358(02) NH 0042(6)3171		D16	D41



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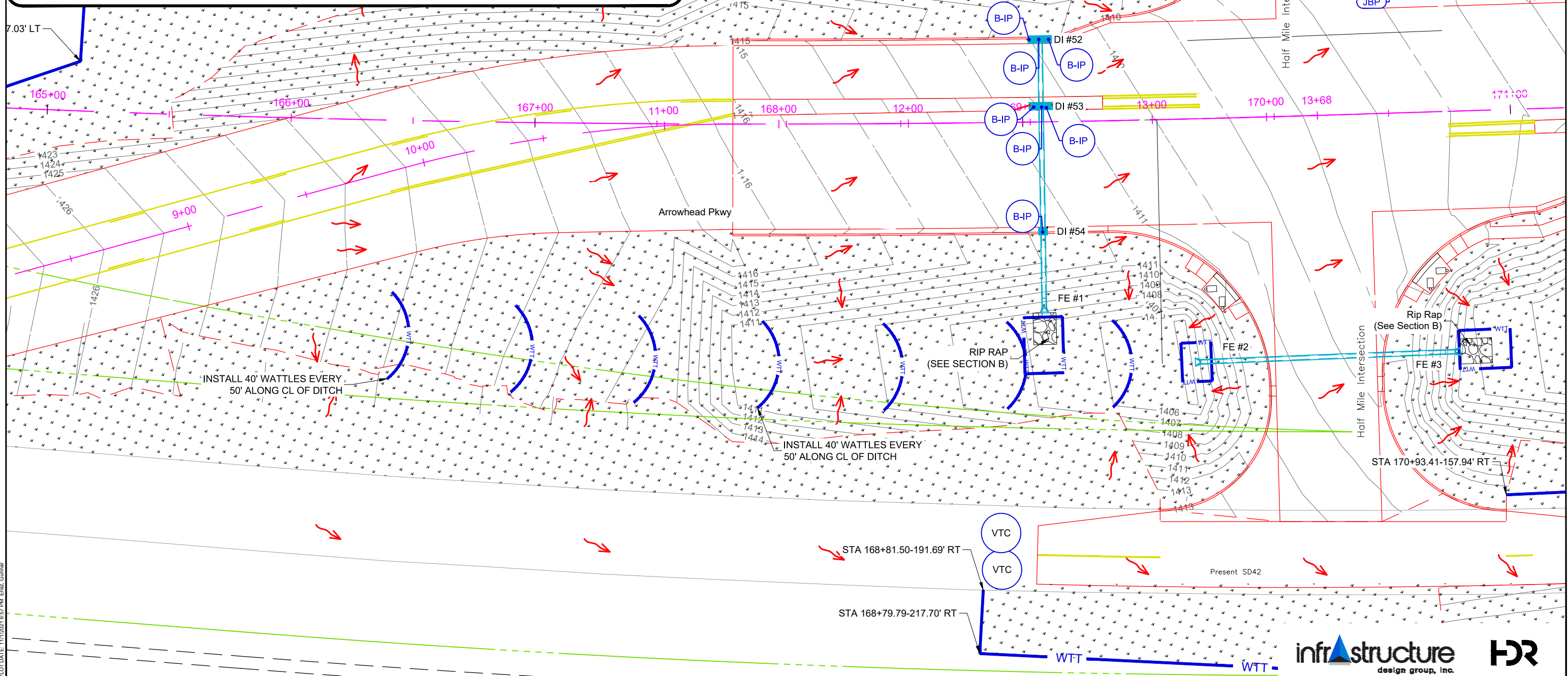
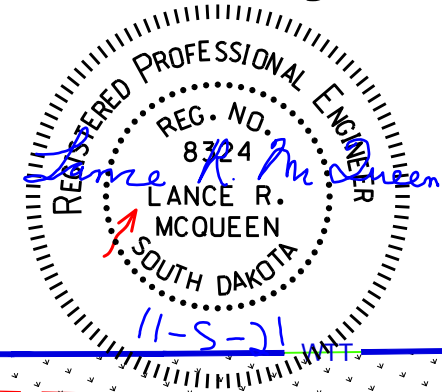
STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) P 1358(02) NH 0042(63)371	SHEET NO. D17	TOTAL SHEETS D41
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LEGEND

- WORK LIMIT
- FLOW DIRECTION
- WATTLE
- SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)
- SEED MIX 2 (SLOPE) (SEE NOTE 2)
- SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)
- REMOVE AND REPLACE LANDSCAPING
- EXISTING BUSINESS
- EROSION CONTROL BLANKET
- TYPE S INLET PROTECTION - SEE NOTE 1
- TYPE B INLET PROTECTION - SEE NOTE 1
- VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
- FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
- JUNCTION BOX PROTECTION - SEE NOTE 1

NOTES:

- ALL EXISTING AND PROPOSED INLETS AND JUNCTION BOXES SHALL BE PROTECTED FROM SEDIMENT DURING ALL STAGES OF CONSTRUCTION WITH INLET PROTECTION AND SILT FENCE.
- FOR QUANTITY ESTIMATES, THE RESTORATION AREAS ARE SHOWN TO THE TEMPORARY EASEMENT LIMITS. TO THE BEST EXTENT FEASIBLE, THE CONTRACTOR SHALL LIMIT THE AREAS OF DISTURBANCE AND RESTORATION.



INSTALL 40' WATTLES EVERY 50' ALONG CL OF DITCH

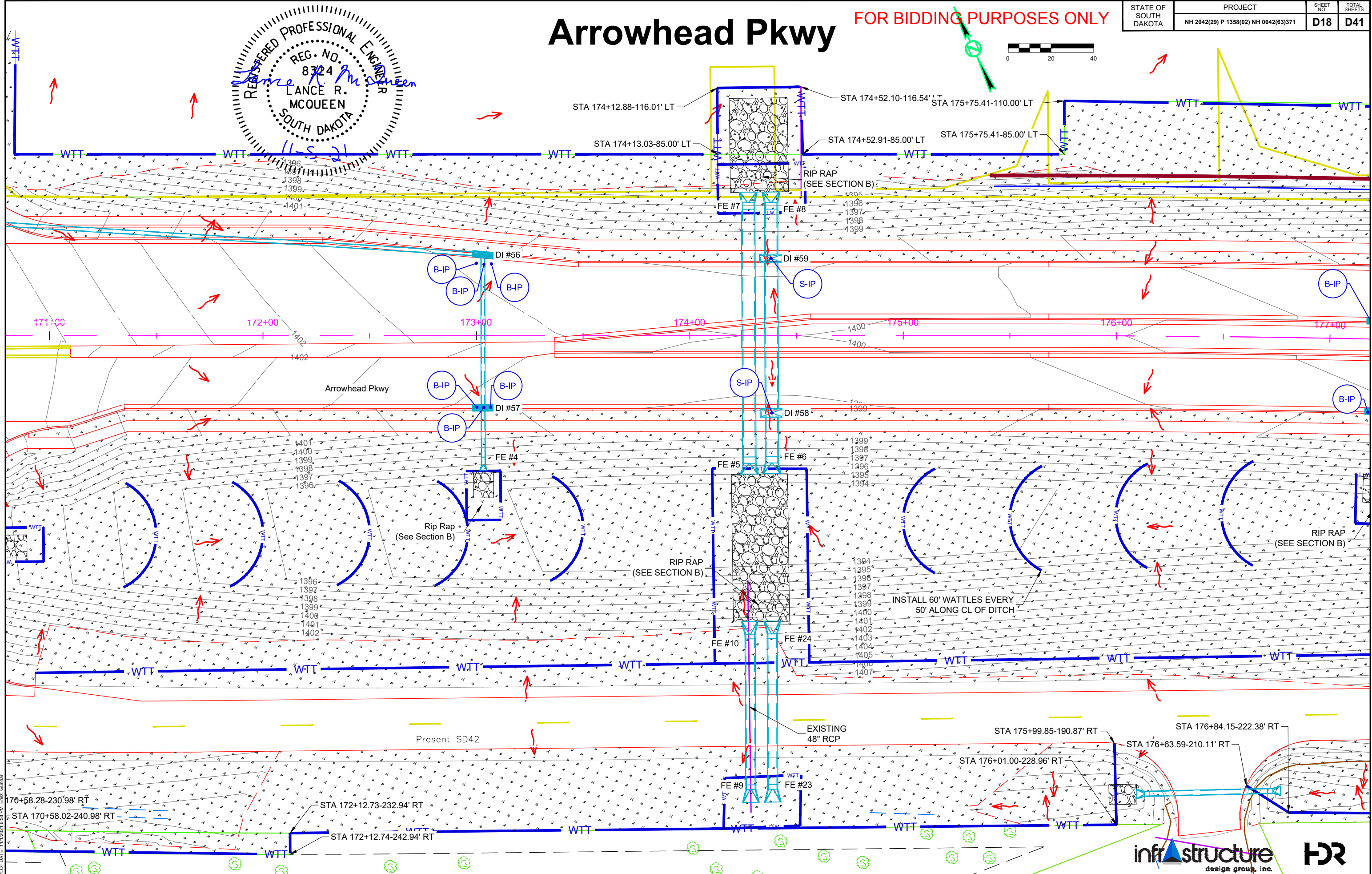
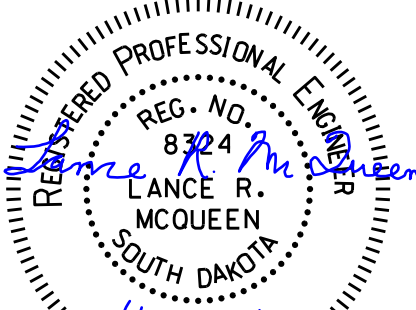
INSTALL 40' WATTLES EVERY 50' ALONG CL OF DITCH

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Arrowhead Pkwy

FOR BIDDING PURPOSES ONLY

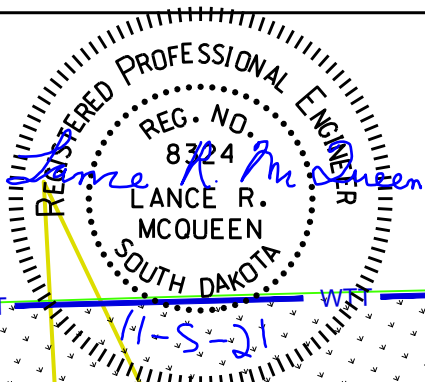
STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) P 1358(02) NH 0042(63)371	SHEET NO. D18	TOTAL SHEETS D41
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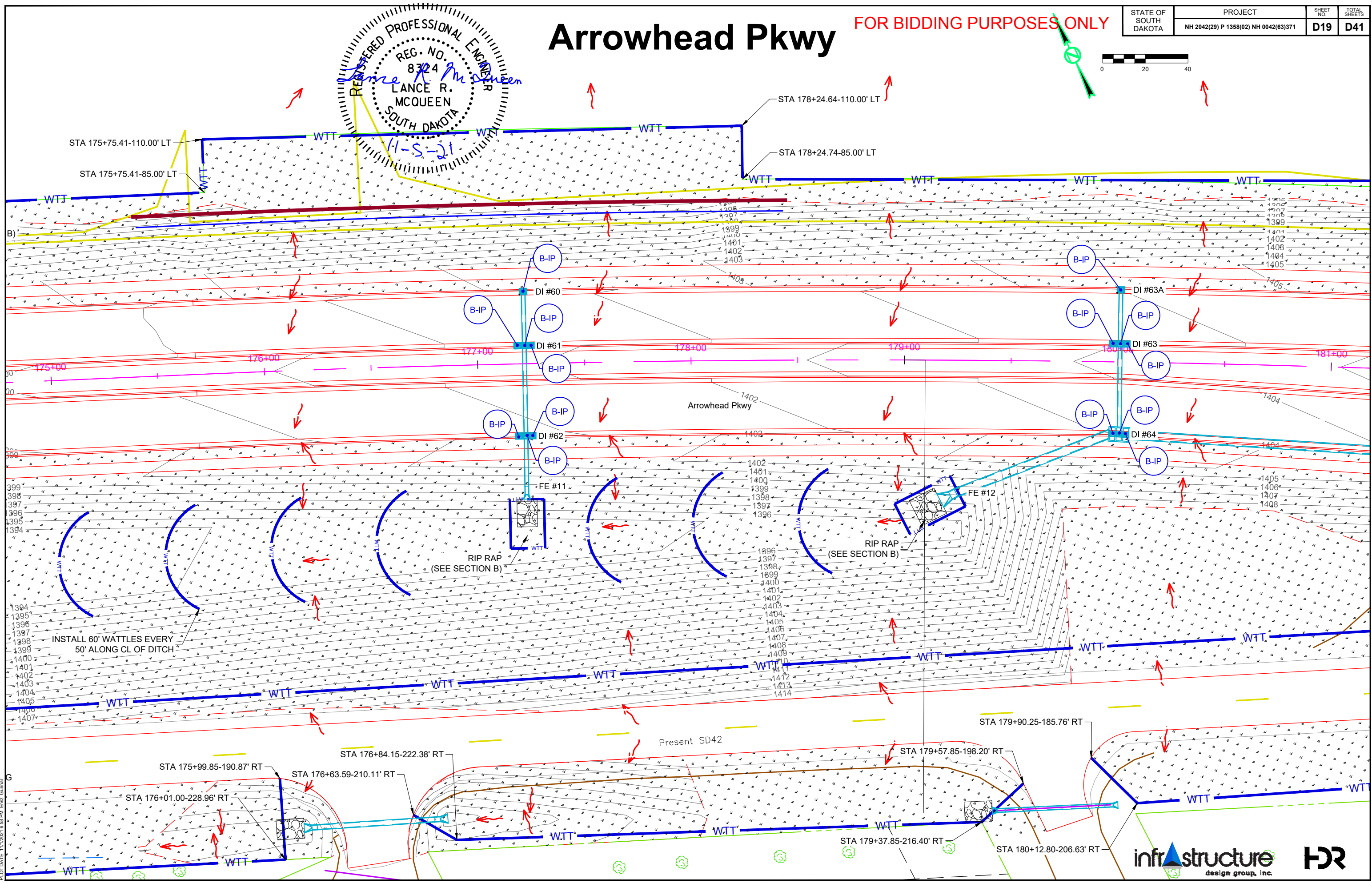
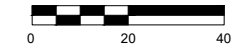
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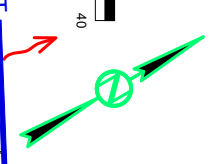
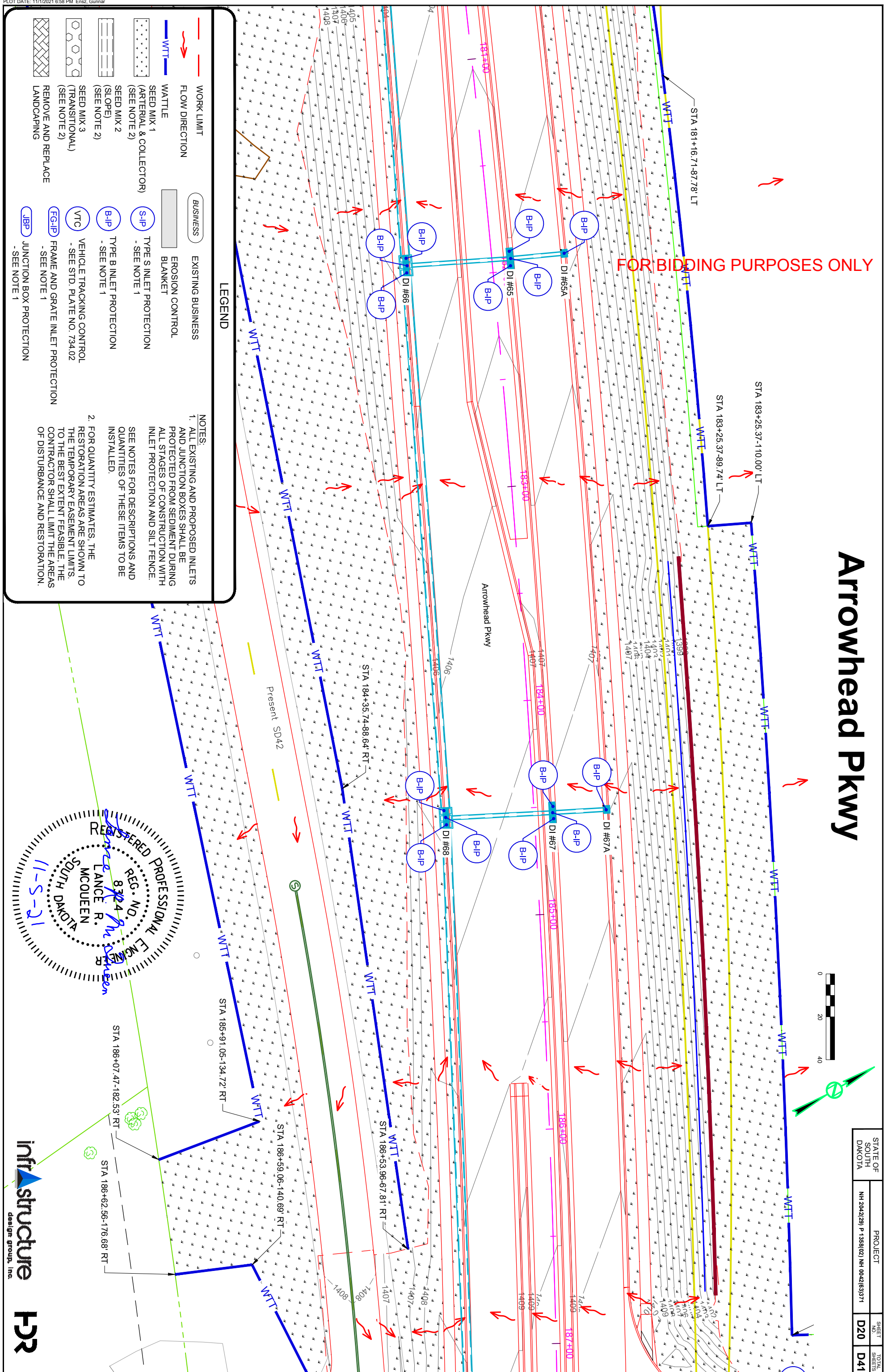
STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) P 1358(02) NH 0042(63)371	SHEET NO. D19	TOTAL SHEETS D41
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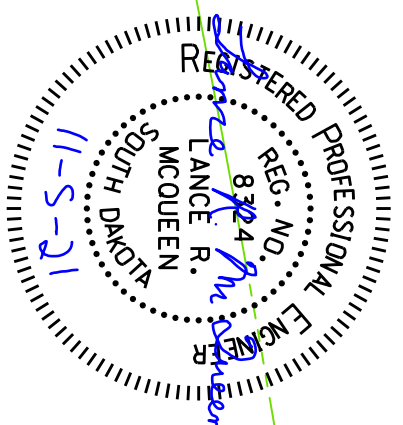


LEGEND

	WORK LIMIT		EXISTING BUSINESS
	FLOW DIRECTION		EROSION CONTROL BLANKET
	WATTLE		TYPE S INLET PROTECTION - SEE NOTE 1
	SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)		TYPE B INLET PROTECTION - SEE NOTE 1
	SEED MIX 2 (SEE NOTE 2)		VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
	SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)		FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
	REMOVE AND REPLACE LANDSCAPING		JUNCTION BOX PROTECTION - SEE NOTE 1

NOTES:

1. ALL EXISTING AND PROPOSED INLETS AND JUNCTION BOXES SHALL BE PROTECTED FROM SEDIMENT DURING ALL STAGES OF CONSTRUCTION WITH INLET PROTECTION AND SILT FENCE. SEE NOTES FOR DESCRIPTIONS AND QUANTITIES OF THESE ITEMS TO BE INSTALLED.
2. FOR QUANTITY ESTIMATES, THE RESTORATION AREAS ARE SHOWN TO THE BEST EXTENT FEASIBLE. THE CONTRACTOR SHALL LIMIT THE AREAS OF DISTURBANCE AND RESTORATION.

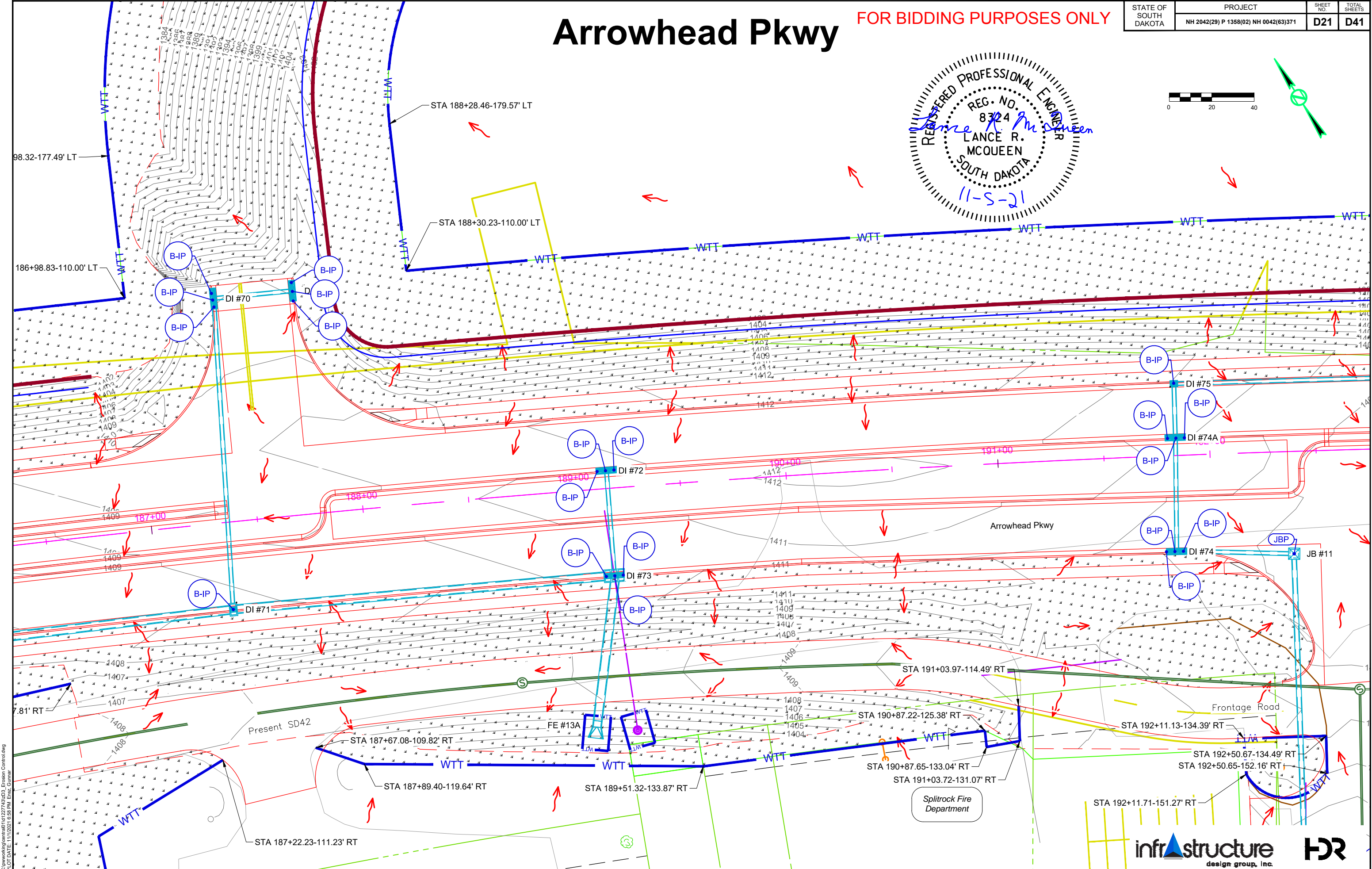
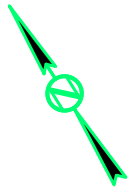
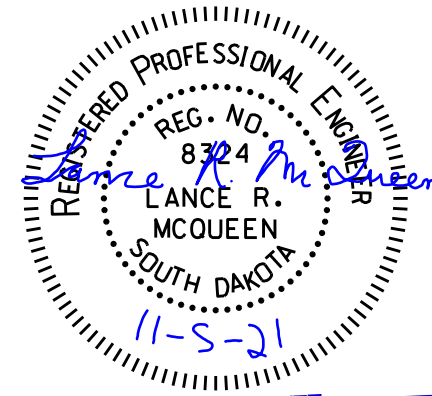


STATE OF SOUTH DAKOTA	PROJECT	SHEET NO. D20	TOTAL SHEETS D41
	NH 204(2/29) P 1358(02) NH 0042(6/3/17)		

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STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) P 1358(02) NH 0042(63)371	SHEET NO. D21	TOTAL SHEETS D41
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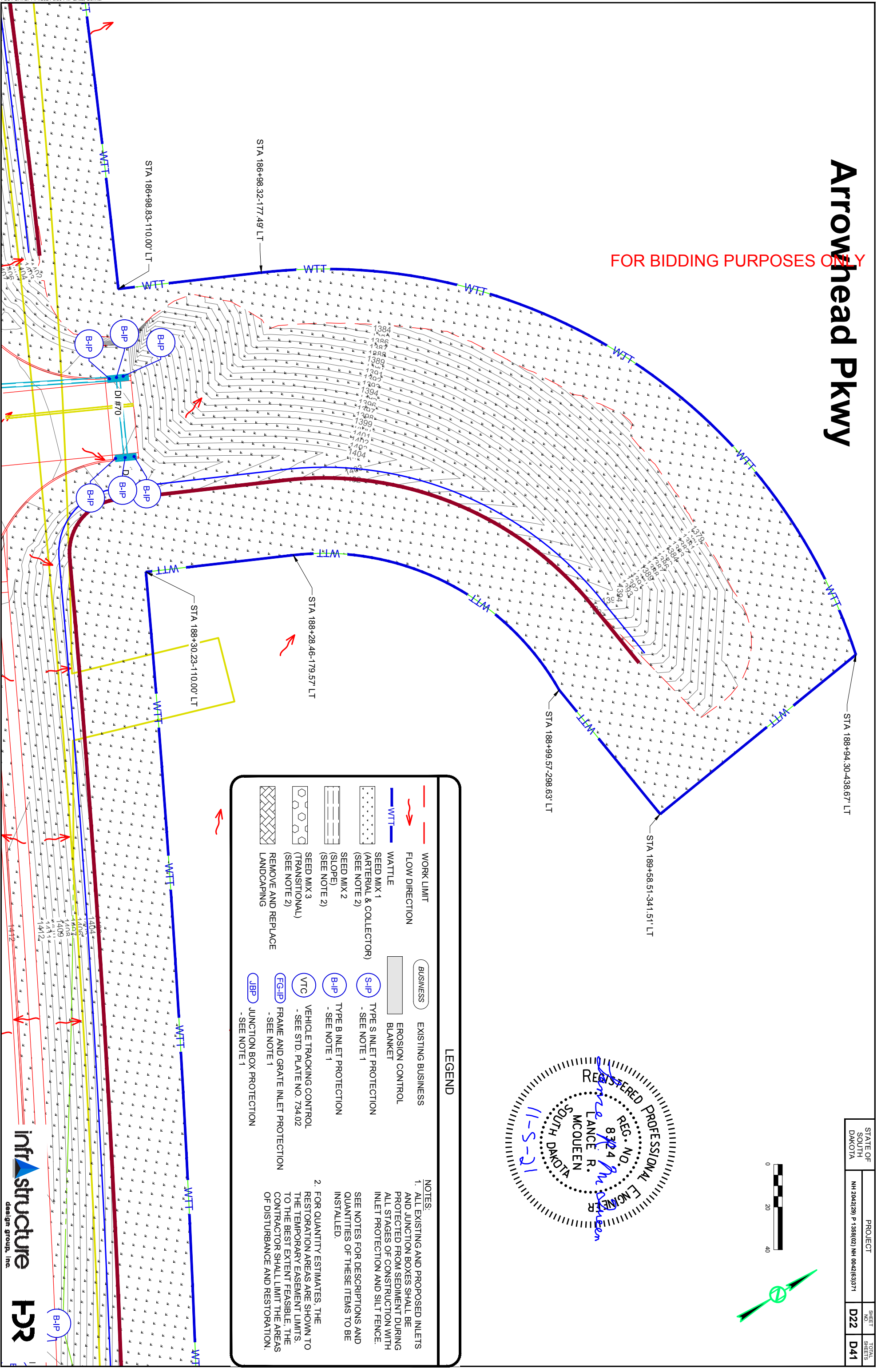


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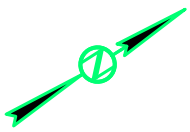
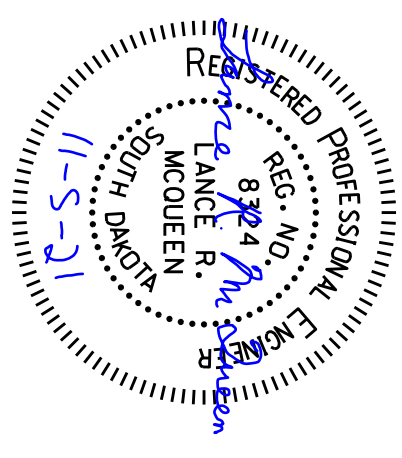


LEGEND

	WORK LIMIT		EXISTING BUSINESS
	FLOW DIRECTION		EROSION CONTROL BLANKET
	WATTLE		TYPE S INLET PROTECTION - SEE NOTE 1
	SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)		TYPE B INLET PROTECTION - SEE NOTE 1
	SEED MIX 2 (SLOPE) (SEE NOTE 2)		VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
	SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)		FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
	REMOVE AND REPLACE LANDSCAPING		JUNCTION BOX PROTECTION - SEE NOTE 1

NOTES:

1. ALL EXISTING AND PROPOSED INLETS AND JUNCTION BOXES SHALL BE PROTECTED FROM SEDIMENT DURING ALL STAGES OF CONSTRUCTION WITH INLET PROTECTION AND SILT FENCE. SEE NOTES FOR DESCRIPTIONS AND QUANTITIES OF THESE ITEMS TO BE INSTALLED.
2. FOR QUANTITY ESTIMATES, THE RESTORATION AREAS ARE SHOWN TO THE TEMPORARY EASEMENT LIMITS. TO THE BEST EXTENT FEASIBLE, THE CONTRACTOR SHALL LIMIT THE AREAS OF DISTURBANCE AND RESTORATION.

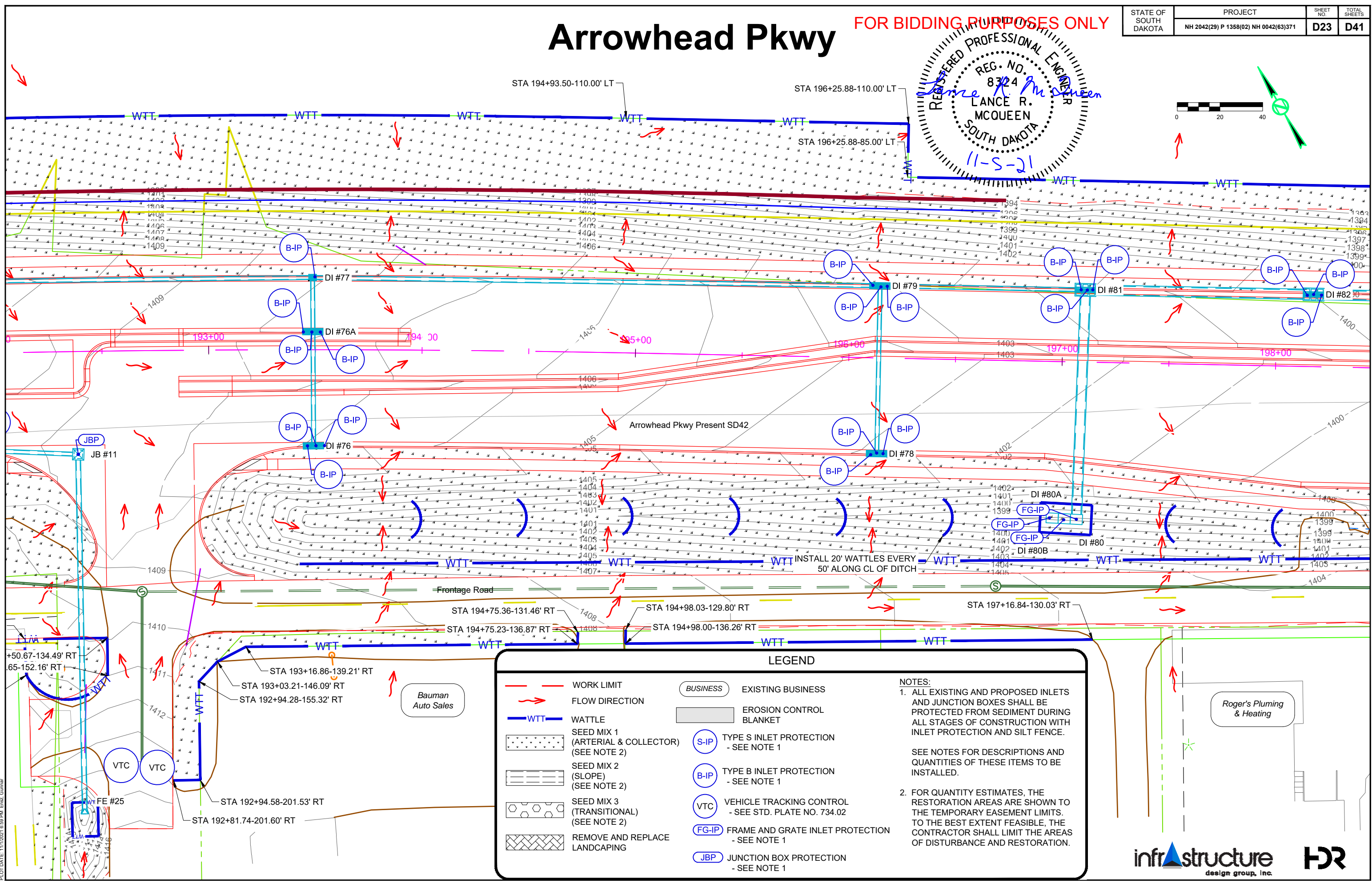
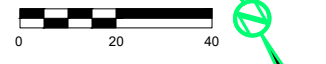
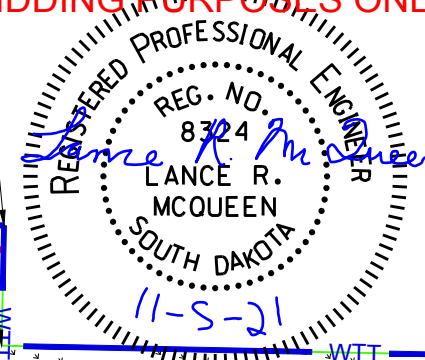


STATE OF SOUTH DAKOTA	PROJECT	SHEET NO. D22	TOTAL SHEETS D41
	NH 204(2/29) P 1358(02) NH 0042(6/3/17)		

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STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) P 1358(02) NH 0042(63)371	SHEET NO. D23	TOTAL SHEETS D41
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LEGEND

	WORK LIMIT		EXISTING BUSINESS
	FLOW DIRECTION		EROSION CONTROL BLANKET
	WATTLE		TYPE S INLET PROTECTION - SEE NOTE 1
	SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)		TYPE B INLET PROTECTION - SEE NOTE 1
	SEED MIX 2 (SLOPE) (SEE NOTE 2)		VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
	SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)		FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
	REMOVE AND REPLACE LANDSCAPING		JUNCTION BOX PROTECTION - SEE NOTE 1

NOTES:

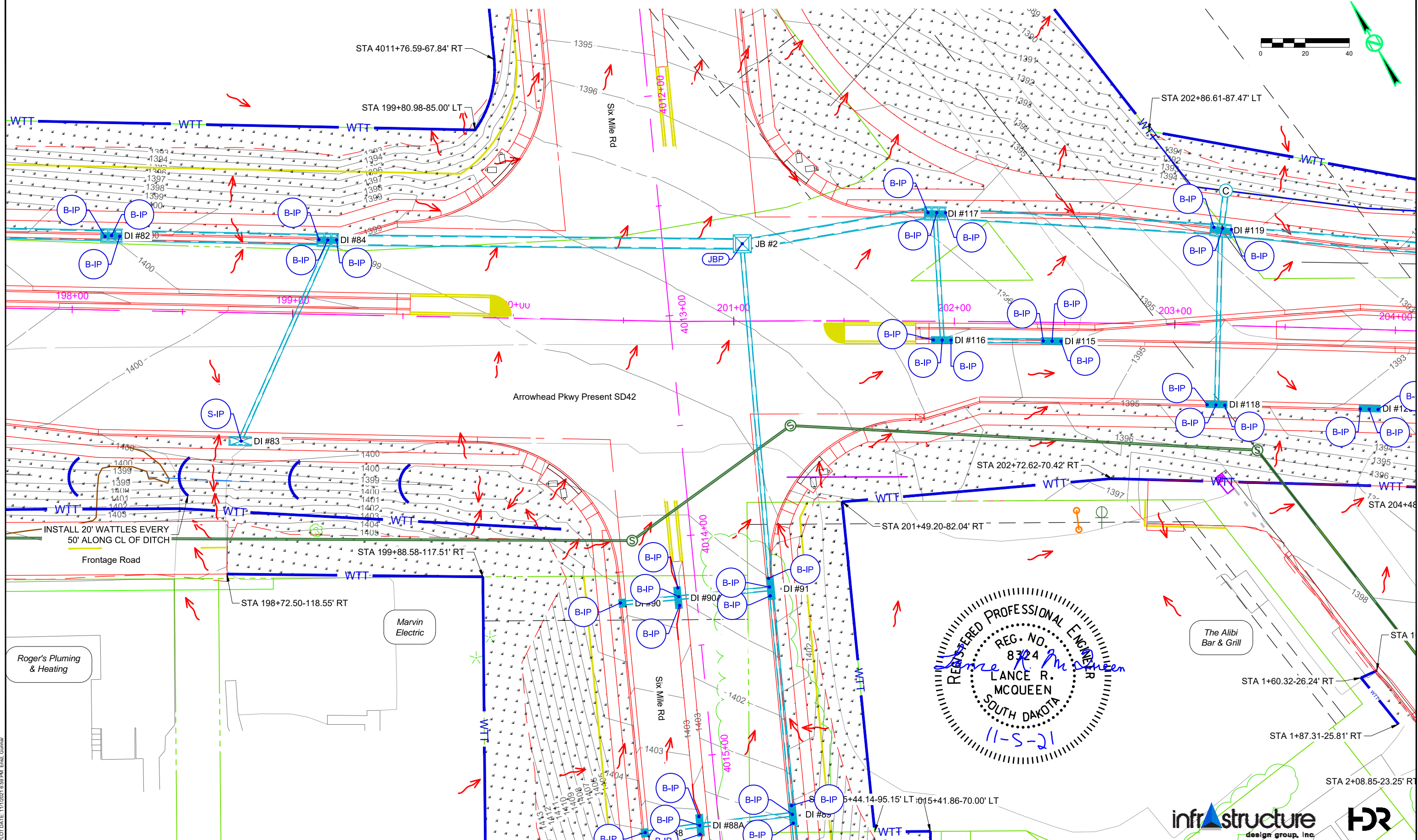
- ALL EXISTING AND PROPOSED INLETS AND JUNCTION BOXES SHALL BE PROTECTED FROM SEDIMENT DURING ALL STAGES OF CONSTRUCTION WITH INLET PROTECTION AND SILT FENCE. SEE NOTES FOR DESCRIPTIONS AND QUANTITIES OF THESE ITEMS TO BE INSTALLED.
- FOR QUANTITY ESTIMATES, THE RESTORATION AREAS ARE SHOWN TO THE TEMPORARY EASEMENT LIMITS. TO THE BEST EXTENT FEASIBLE, THE CONTRACTOR SHALL LIMIT THE AREAS OF DISTURBANCE AND RESTORATION.

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Arrowhead Pkwy

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	NH 2042(29) P 1358(02) NH 0042(63)371	D24	D41



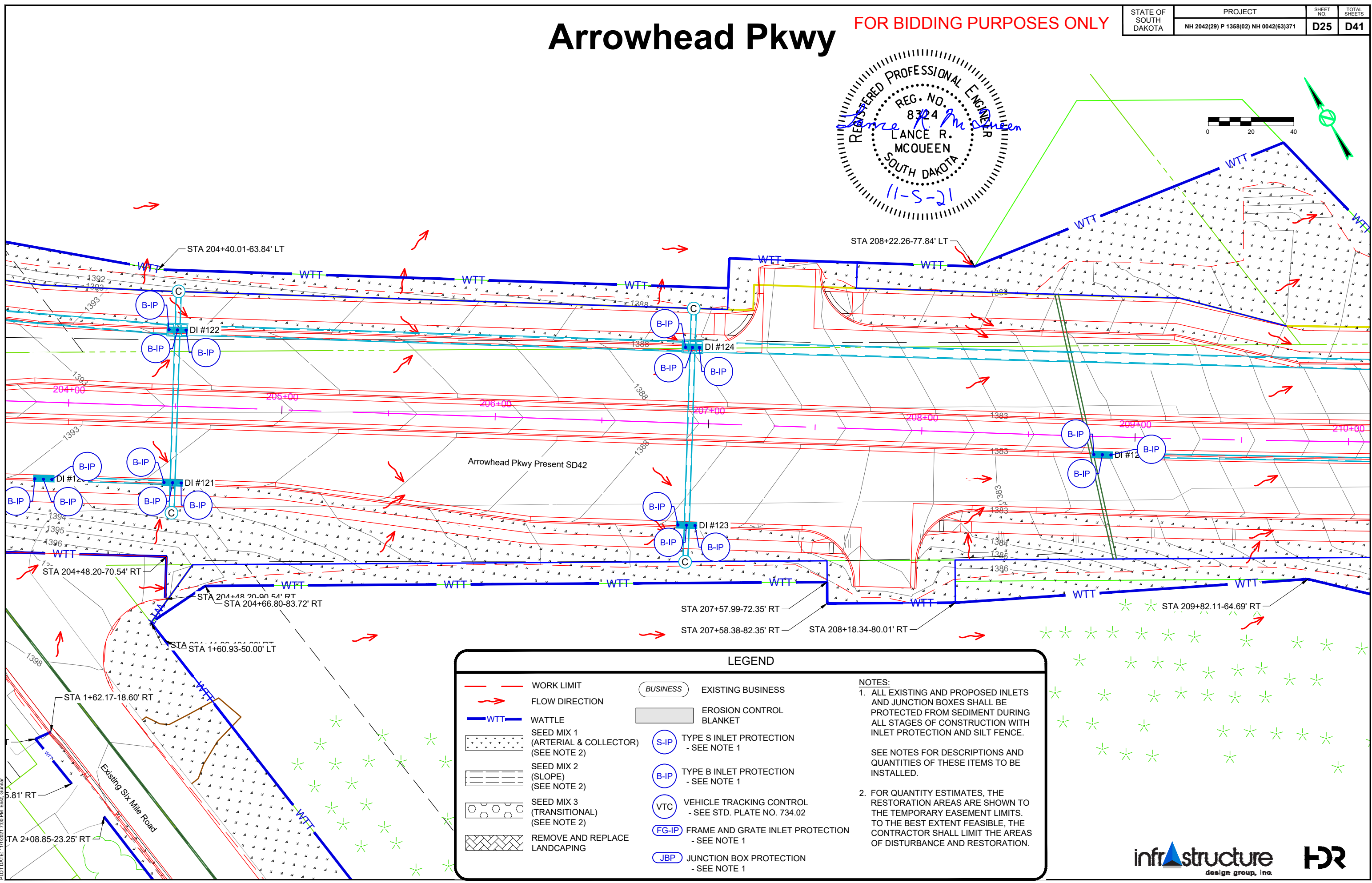
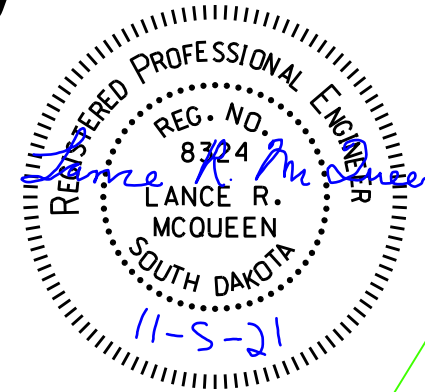
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REG. NO. 8324
LANCE R. MCQUEEN
SOUTH DAKOTA
11-5-21

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STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) P 1358(02) NH 0042(63)371	SHEET NO. D25	TOTAL SHEETS D41
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LEGEND

	WORK LIMIT		EXISTING BUSINESS
	FLOW DIRECTION		EROSION CONTROL BLANKET
	WATTLE		TYPE S INLET PROTECTION - SEE NOTE 1
	SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)		TYPE B INLET PROTECTION - SEE NOTE 1
	SEED MIX 2 (SLOPE) (SEE NOTE 2)		VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
	SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)		FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
	REMOVE AND REPLACE LANDSCAPING		JUNCTION BOX PROTECTION - SEE NOTE 1

NOTES:

- ALL EXISTING AND PROPOSED INLETS AND JUNCTION BOXES SHALL BE PROTECTED FROM SEDIMENT DURING ALL STAGES OF CONSTRUCTION WITH INLET PROTECTION AND SILT FENCE.

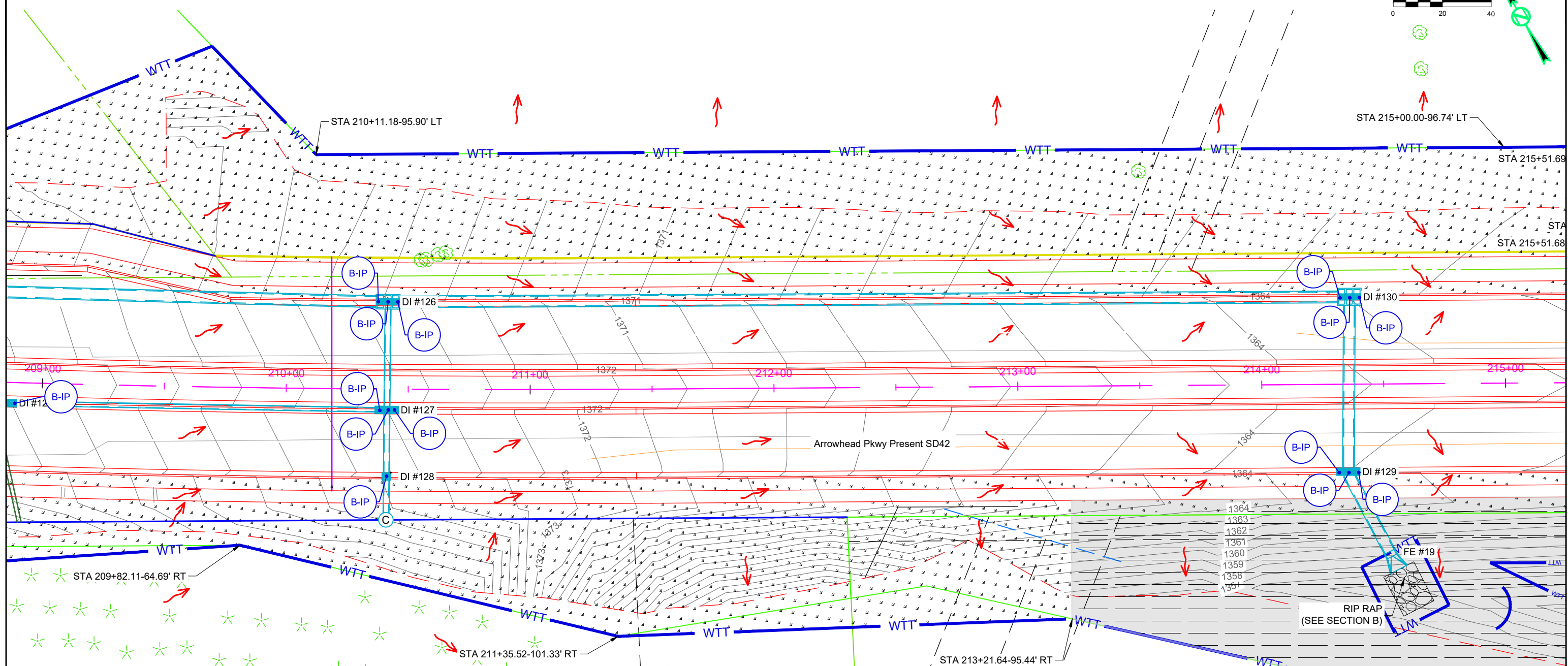
SEE NOTES FOR DESCRIPTIONS AND QUANTITIES OF THESE ITEMS TO BE INSTALLED.
- FOR QUANTITY ESTIMATES, THE RESTORATION AREAS ARE SHOWN TO THE TEMPORARY EASEMENT LIMITS. TO THE BEST EXTENT FEASIBLE, THE CONTRACTOR SHALL LIMIT THE AREAS OF DISTURBANCE AND RESTORATION.

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STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) P 1358(02) NH 0042(63)371	SHEET NO. D26	TOTAL SHEETS D41
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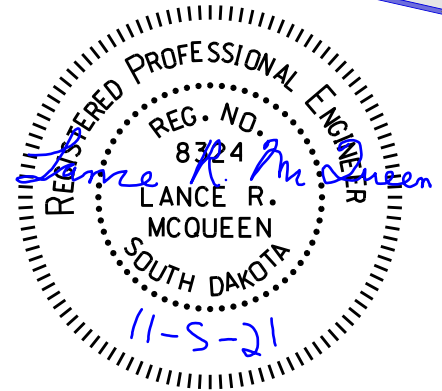
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	WORK LIMIT		EXISTING BUSINESS
	FLOW DIRECTION		EROSION CONTROL BLANKET
	WATTLE		TYPE S INLET PROTECTION - SEE NOTE 1
	SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)		TYPE B INLET PROTECTION - SEE NOTE 1
	SEED MIX 2 (SLOPE) (SEE NOTE 2)		VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
	SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)		FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
	REMOVE AND REPLACE LANDCAPING		JUNCTION BOX PROTECTION - SEE NOTE 1

NOTES:

- ALL EXISTING AND PROPOSED INLETS AND JUNCTION BOXES SHALL BE PROTECTED FROM SEDIMENT DURING ALL STAGES OF CONSTRUCTION WITH INLET PROTECTION AND SILT FENCE.

SEE NOTES FOR DESCRIPTIONS AND QUANTITIES OF THESE ITEMS TO BE INSTALLED.
- FOR QUANTITY ESTIMATES, THE RESTORATION AREAS ARE SHOWN TO THE TEMPORARY EASEMENT LIMITS. TO THE BEST EXTENT FEASIBLE, THE CONTRACTOR SHALL LIMIT THE AREAS OF DISTURBANCE AND RESTORATION.

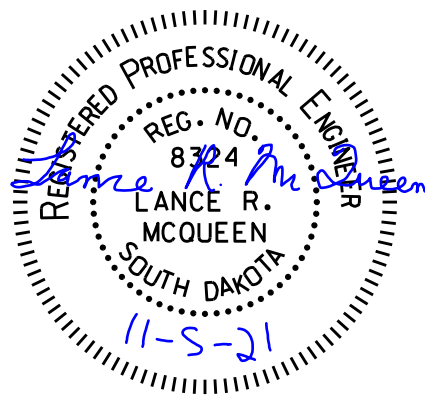
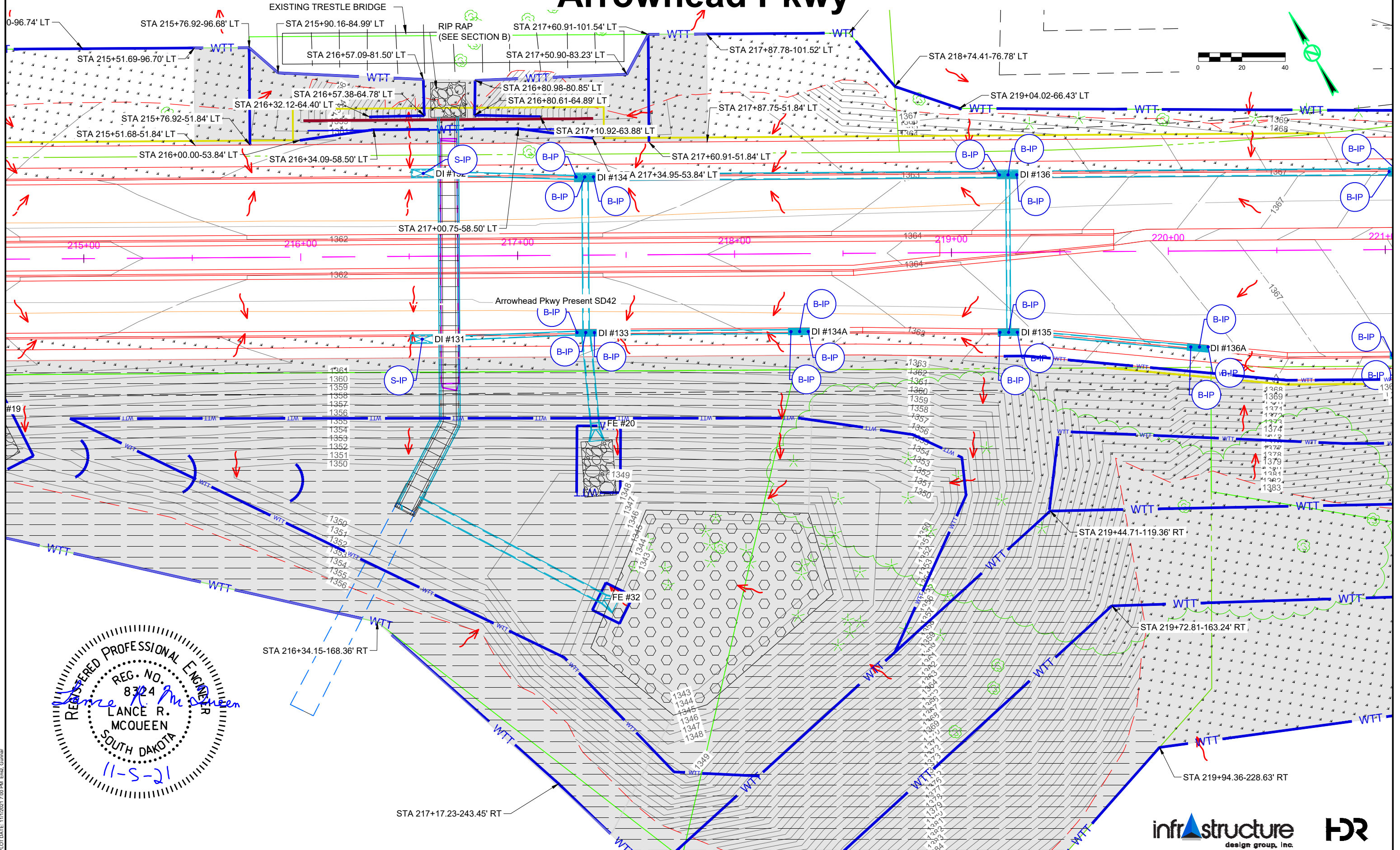


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	NH 2042(29) P 1358(02) NH 0042(63)371	D27	D41

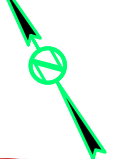
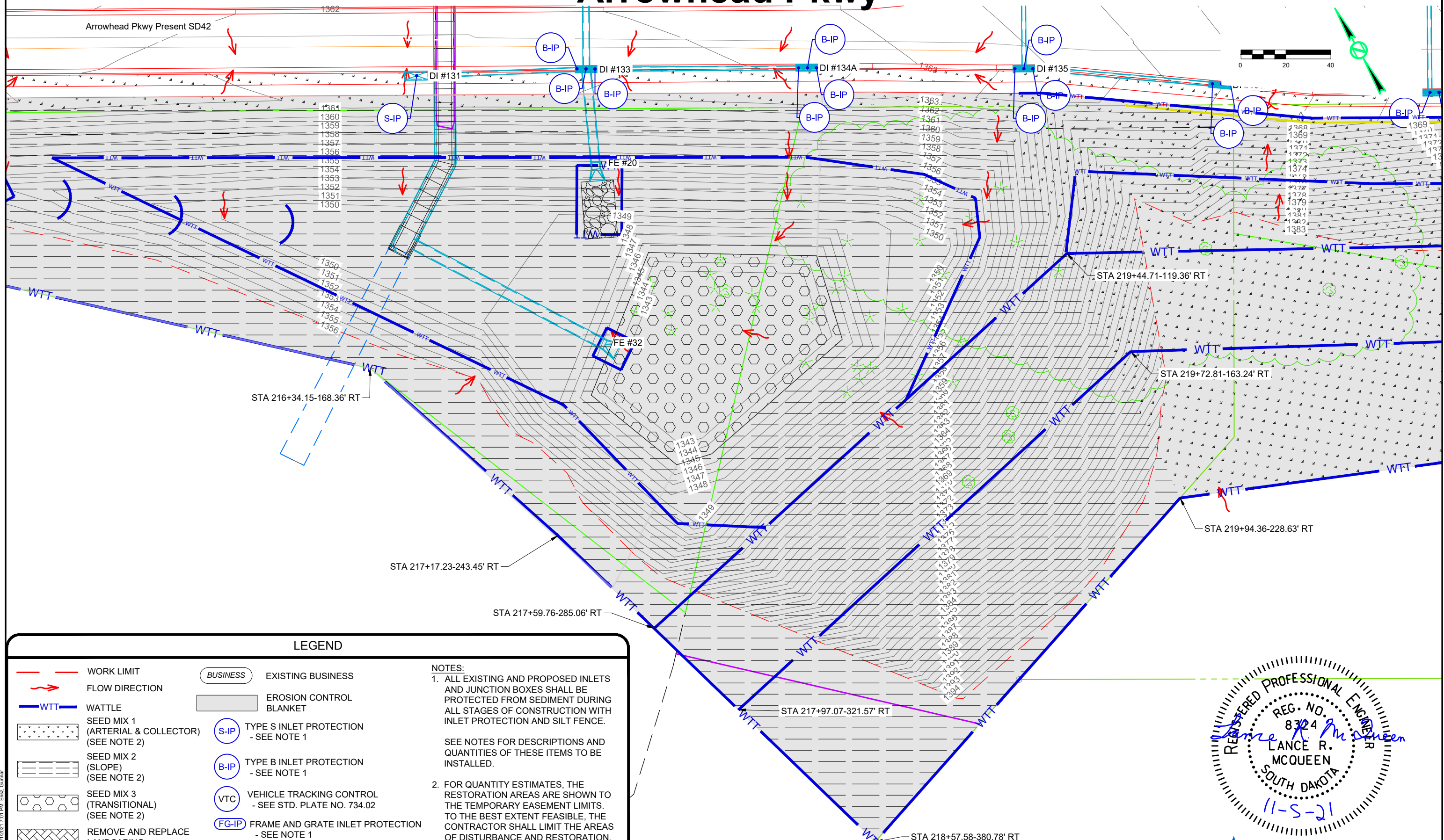


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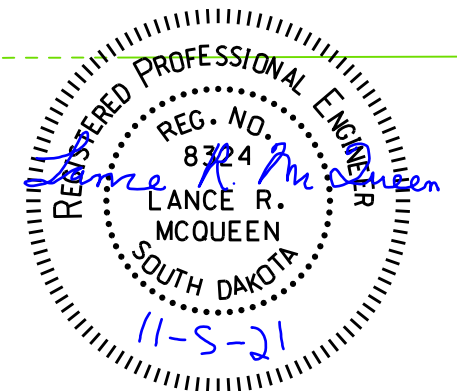


LEGEND

- WORK LIMIT
- FLOW DIRECTION
- WATTLE
- SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)
- SEED MIX 2 (SLOPE) (SEE NOTE 2)
- SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)
- REMOVE AND REPLACE LANDSCAPING
- EXISTING BUSINESS
- EROSION CONTROL BLANKET
- TYPE S INLET PROTECTION - SEE NOTE 1
- TYPE B INLET PROTECTION - SEE NOTE 1
- VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
- FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
- JUNCTION BOX PROTECTION - SEE NOTE 1

NOTES:

- ALL EXISTING AND PROPOSED INLETS AND JUNCTION BOXES SHALL BE PROTECTED FROM SEDIMENT DURING ALL STAGES OF CONSTRUCTION WITH INLET PROTECTION AND SILT FENCE. SEE NOTES FOR DESCRIPTIONS AND QUANTITIES OF THESE ITEMS TO BE INSTALLED.
- FOR QUANTITY ESTIMATES, THE RESTORATION AREAS ARE SHOWN TO THE TEMPORARY EASEMENT LIMITS. TO THE BEST EXTENT FEASIBLE, THE CONTRACTOR SHALL LIMIT THE AREAS OF DISTURBANCE AND RESTORATION.

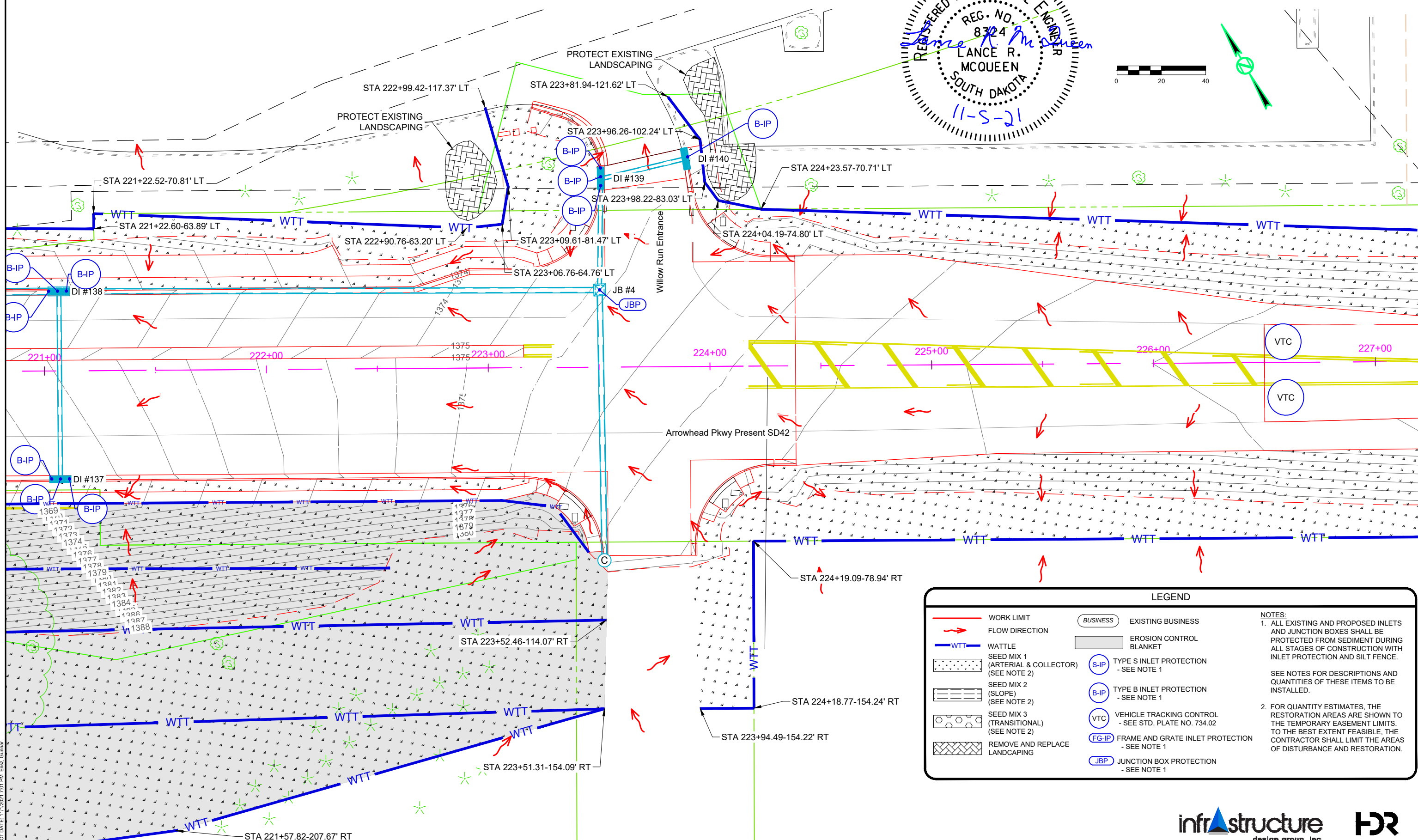
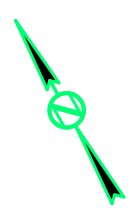
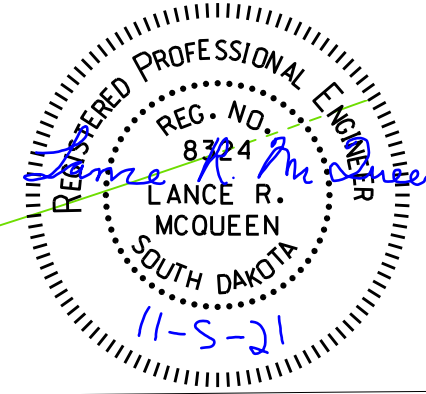


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STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) P 1358(02) NH 0042(63)371	SHEET NO. D29	TOTAL SHEETS D41
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LEGEND

WORK LIMIT	EXISTING BUSINESS
FLOW DIRECTION	EROSION CONTROL BLANKET
WATTLE	TYPE S INLET PROTECTION - SEE NOTE 1
SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)	TYPE B INLET PROTECTION - SEE NOTE 1
SEED MIX 2 (SLOPE) (SEE NOTE 2)	VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)	FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
REMOVE AND REPLACE LANDSCAPING	JUNCTION BOX PROTECTION - SEE NOTE 1

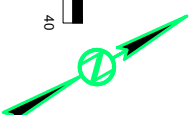
NOTES:

- ALL EXISTING AND PROPOSED INLETS AND JUNCTION BOXES SHALL BE PROTECTED FROM SEDIMENT DURING ALL STAGES OF CONSTRUCTION WITH INLET PROTECTION AND SILT FENCE. SEE NOTES FOR DESCRIPTIONS AND QUANTITIES OF THESE ITEMS TO BE INSTALLED.
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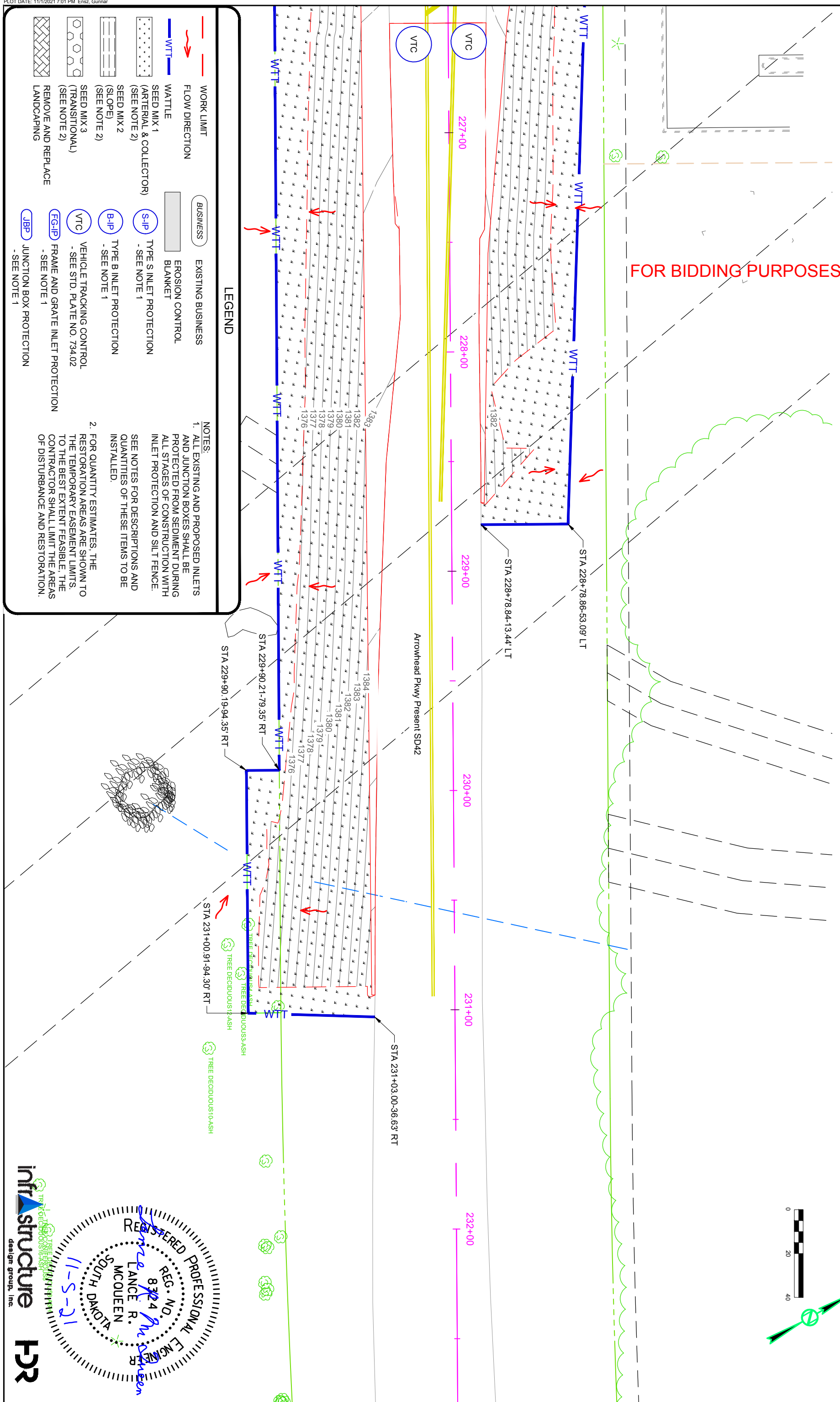
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Arrowhead Pkwy

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
NH 204(2/29) P 1358(02) NH 0042(6/3/71)		D30	D41



LEGEND

	WORK LIMIT		EXISTING BUSINESS
	FLOW DIRECTION		EROSION CONTROL BLANKET
	WATTLE		TYPE S INLET PROTECTION - SEE NOTE 1
	SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)		TYPE B INLET PROTECTION - SEE NOTE 1
	SEED MIX 2 (SLOPE) (SEE NOTE 2)		VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
	SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)		FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
	REMOVE AND REPLACE LANDCAPING		JUNCTION BOX PROTECTION - SEE NOTE 1

NOTES:

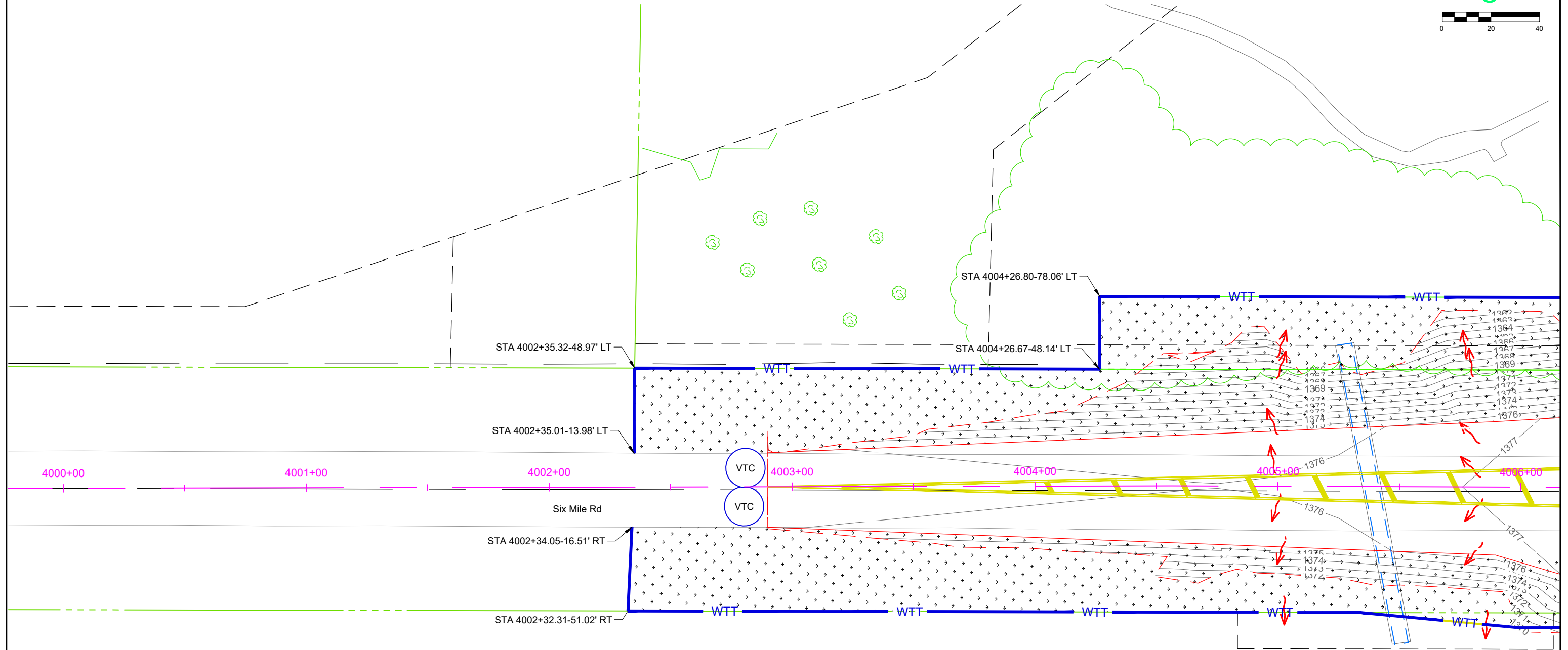
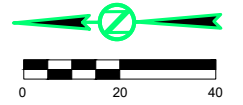
- ALL EXISTING AND PROPOSED INLETS AND JUNCTION BOXES SHALL BE PROTECTED FROM SEDIMENT DURING ALL STAGES OF CONSTRUCTION WITH INLET PROTECTION AND SILT FENCE. SEE NOTES FOR DESCRIPTIONS AND QUANTITIES OF THESE ITEMS TO BE INSTALLED.
- FOR QUANTITY ESTIMATES, THE RESTORATION AREAS ARE SHOWN TO THE TEMPORARY EASEMENT LIMITS, TO THE BEST EXTENT FEASIBLE, THE CONTRACTOR SHALL LIMIT THE AREAS OF DISTURBANCE AND RESTORATION.

infrastucture H2R
 design group, inc.

Six Mile Road

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	NH 2042(28) NH 2042(29) NH 0011(101)72 NH 1157(02) P 1358(02) NH 0042(63)371	D31	D41

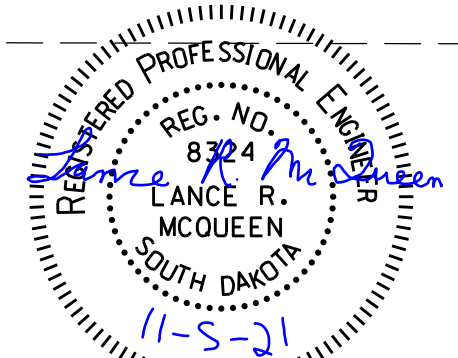


LEGEND

	WORK LIMIT		EXISTING BUSINESS
	FLOW DIRECTION		EROSION CONTROL BLANKET
	WATTLE		TYPE S INLET PROTECTION - SEE NOTE 1
	SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)		TYPE B INLET PROTECTION - SEE NOTE 1
	SEED MIX 2 (SLOPE) (SEE NOTE 2)		VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
	SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)		FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
	REMOVE AND REPLACE LANDCAPING		JUNCTION BOX PROTECTION - SEE NOTE 1

NOTES:

- ALL EXISTING AND PROPOSED INLETS AND JUNCTION BOXES SHALL BE PROTECTED FROM SEDIMENT DURING ALL STAGES OF CONSTRUCTION WITH INLET PROTECTION AND SILT FENCE. SEE NOTES FOR DESCRIPTIONS AND QUANTITIES OF THESE ITEMS TO BE INSTALLED.
- FOR QUANTITY ESTIMATES, THE RESTORATION AREAS ARE SHOWN TO THE TEMPORARY EASEMENT LIMITS. TO THE BEST EXTENT FEASIBLE, THE CONTRACTOR SHALL LIMIT THE AREAS OF DISTURBANCE AND RESTORATION.



Six Mile Road

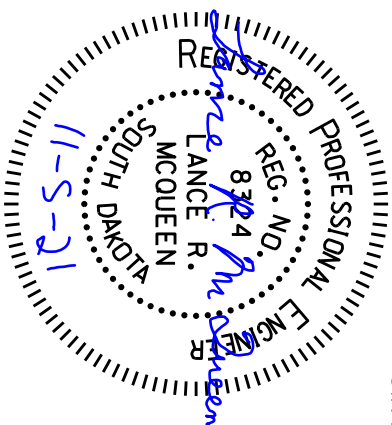
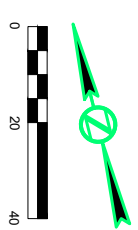
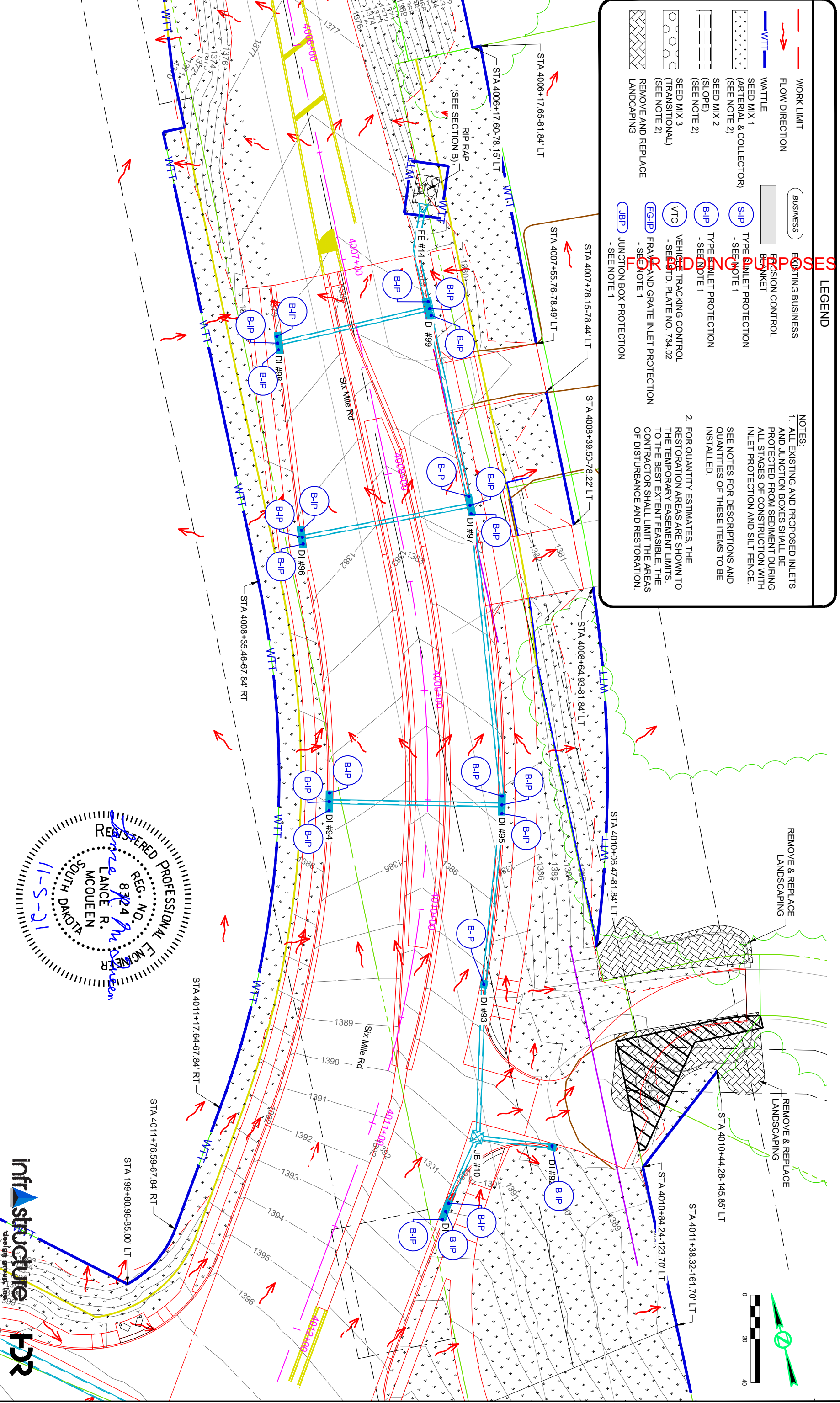
FOR BIDDING PURPOSES ONLY

LEGEND

	WORK LIMIT		EXISTING BUSINESS
	FLOW DIRECTION		EROSION CONTROL
	WATTLE		SEED MIX 1 (SEE NOTE 2)
	SEED MIX 1 (ARTERIAL & COLLECTOR)		SEED MIX 2 (SEE NOTE 2)
	SEED MIX 2 (SEE NOTE 2)		SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)
	SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)		REMOVE AND REPLACE LANDSCAPING
	SEED MIX 1 (SEE NOTE 1)		(BUSINESS) EXISTING BUSINESS
	SEED MIX 2 (SEE NOTE 1)		(E) EROSION CONTROL
	SEED MIX 3 (SEE NOTE 1)		(S-I-P) TYPE S-INLET PROTECTION -SEE NOTE 1
	VEHICLE TRACKING CONTROL -SEE STD. PLATE NO. 734.02		(B-I-P) TYPE INLET PROTECTION -SEE NOTE 1
	FRAME AND GRATE INLET PROTECTION -SEE NOTE 1		(VTC) VEHICLE TRACKING CONTROL -SEE STD. PLATE NO. 734.02
	JUNCTION BOX PROTECTION -SEE NOTE 1		(EG-I-P) FRAME AND GRATE INLET PROTECTION -SEE NOTE 1
			(JBP) JUNCTION BOX PROTECTION -SEE NOTE 1

NOTES:

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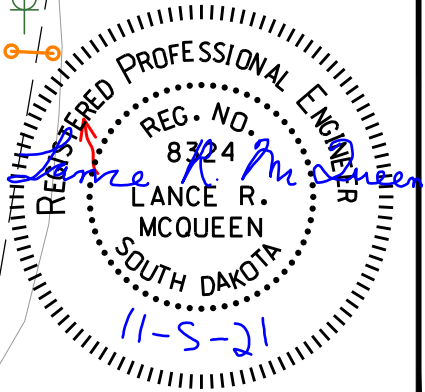
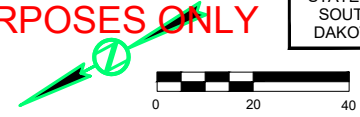


STATE OF SOUTH DAKOTA	PROJECT NH 2042(29) NH 2042(29) NH 001(10)172 NH 1157(02) P 158(02) NH 0042(6)9371	SHEET NO. D32	TOTAL SHEETS D41
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Six Mile Road

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STATE OF SOUTH DAKOTA	PROJECT NH 2042(28) NH 2042(29) NH 0011(101)72 NH 1157(02) P 1358(02) NH 0042(63)371	SHEET NO. D33	TOTAL SHEETS D41
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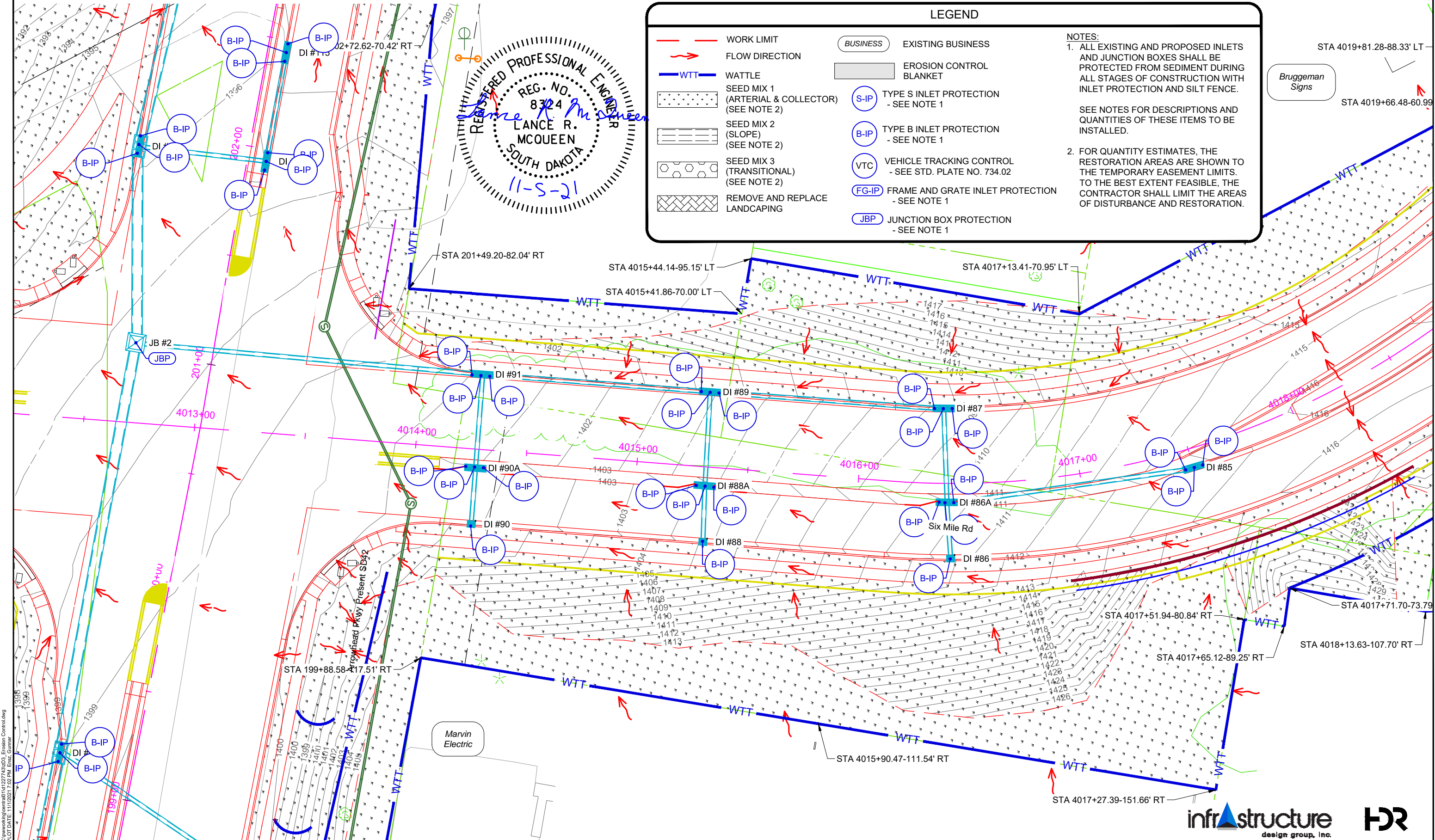
LEGEND

	WORK LIMIT		EXISTING BUSINESS
	FLOW DIRECTION		EROSION CONTROL BLANKET
	WATTLE		TYPE S INLET PROTECTION - SEE NOTE 1
	SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)		TYPE B INLET PROTECTION - SEE NOTE 1
	SEED MIX 2 (SLOPE) (SEE NOTE 2)		VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
	SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)		FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
	REMOVE AND REPLACE LANDSCAPING		JUNCTION BOX PROTECTION - SEE NOTE 1

NOTES:

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Bruggeman Signs
 STA 4019+81.28-88.33' LT
 STA 4019+66.48-60.99'

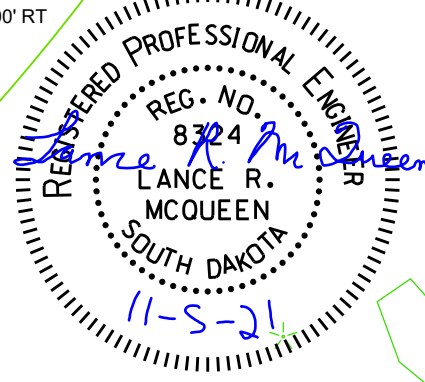
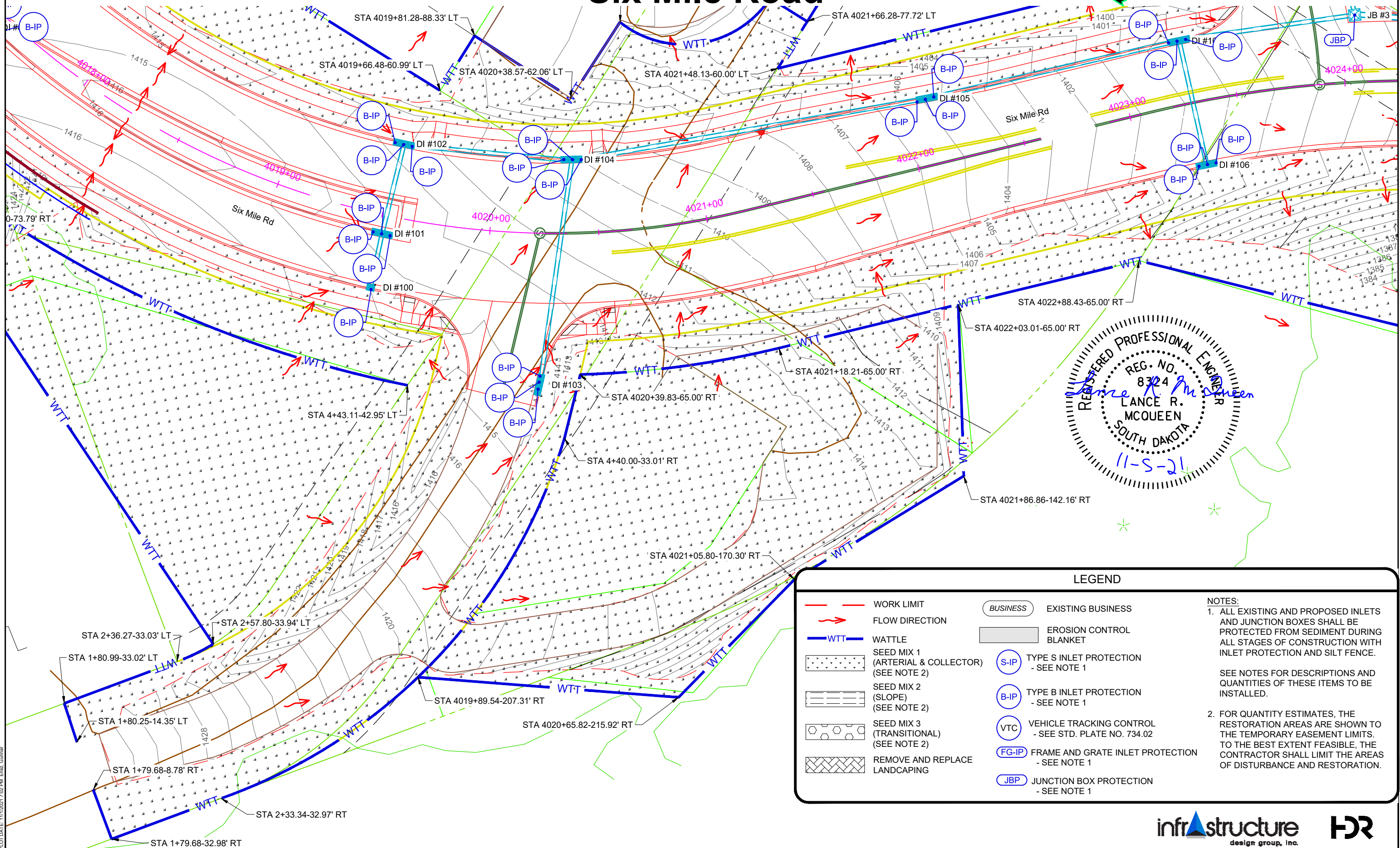


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Six Mile Road

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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LEGEND

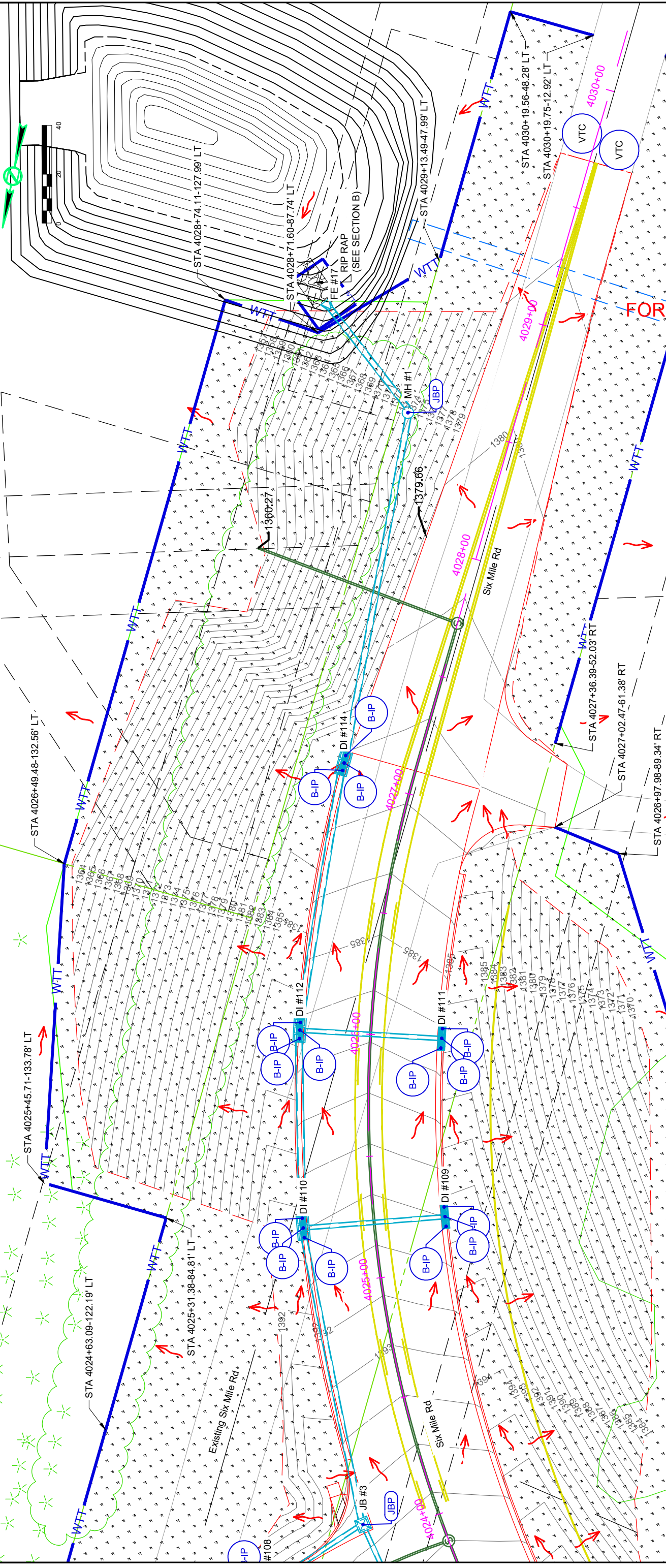
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	FLOW DIRECTION		EROSION CONTROL BLANKET
	WATTLE		TYPE S INLET PROTECTION - SEE NOTE 1
	SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)		TYPE B INLET PROTECTION - SEE NOTE 1
	SEED MIX 2 (SLOPE) (SEE NOTE 2)		VEHICLE TRACKING CONTROL - SEE STD. PLATE NO. 734.02
	SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)		FRAME AND GRATE INLET PROTECTION - SEE NOTE 1
	REMOVE AND REPLACE LANDSCAPING		JUNCTION BOX PROTECTION - SEE NOTE 1

NOTES:

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Six Mile Road

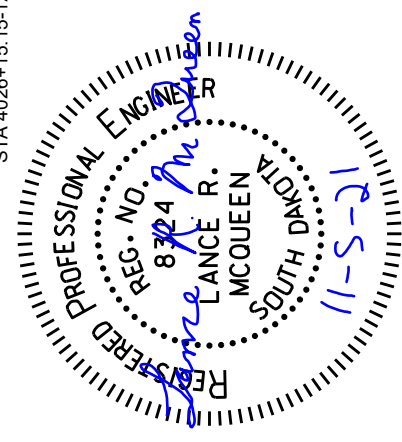


LEGEND

	WORK LIMIT		BUSINESS		EXISTING BUSINESS
	FLOW DIRECTION				EROSION CONTROL BLANKET
	WATTLE				JUNCTION BOX PROTECTION
	SEED MIX 1 (ARTERIAL & COLLECTOR) (SEE NOTE 2)				VEHICLE TRACKING CONTROL (SEE STD. PLATE NO. 734.02)
	SEED MIX 2 (SLOPE) (SEE NOTE 2)				FRAME AND GRATE INLET PROTECTION (SEE NOTE 1)
	SEED MIX 3 (TRANSITIONAL) (SEE NOTE 2)				REMOVE AND REPLACE LANDCAPING

NOTES:

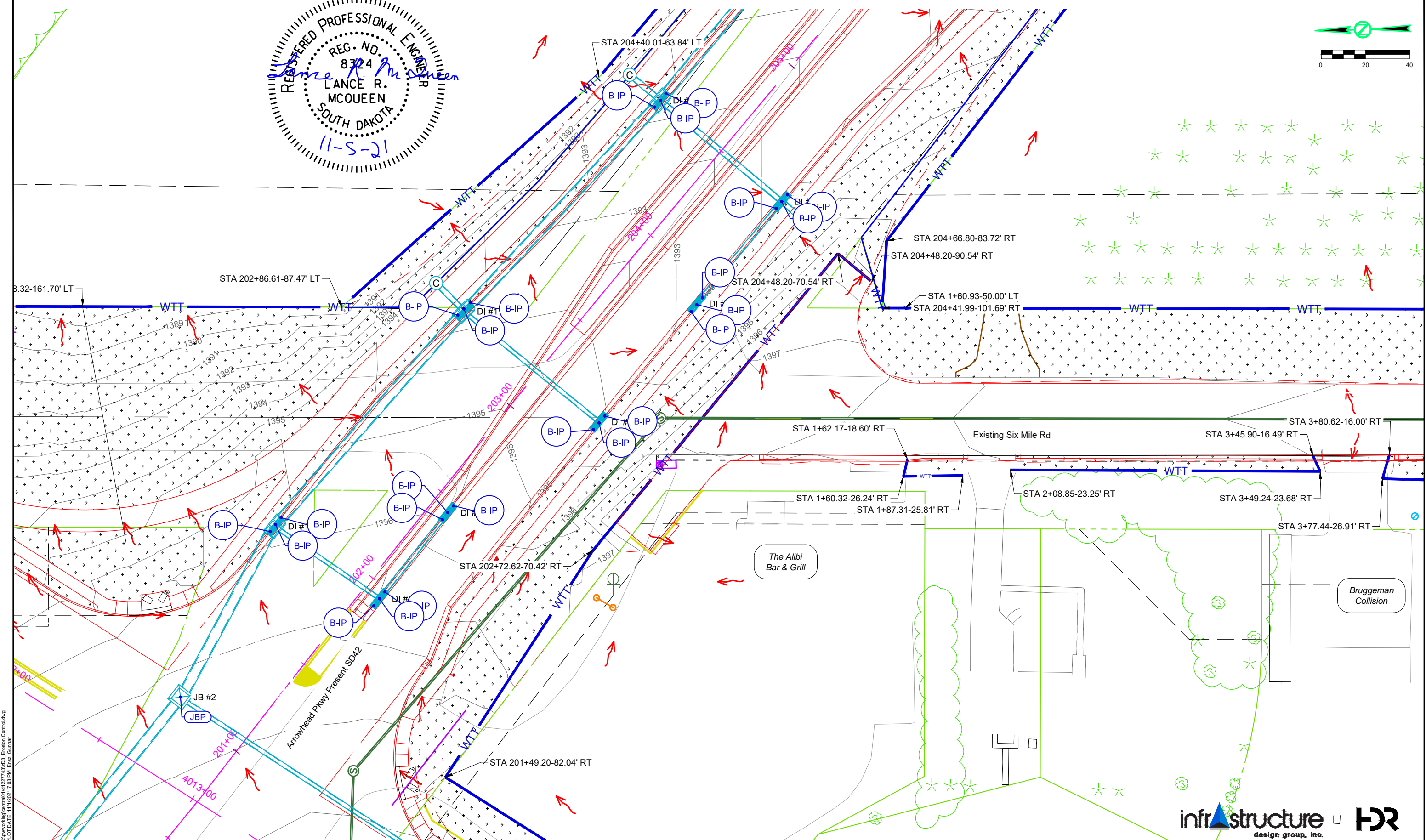
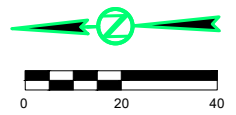
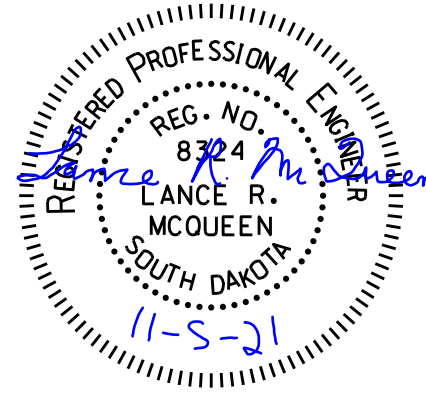
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Six Mile Road

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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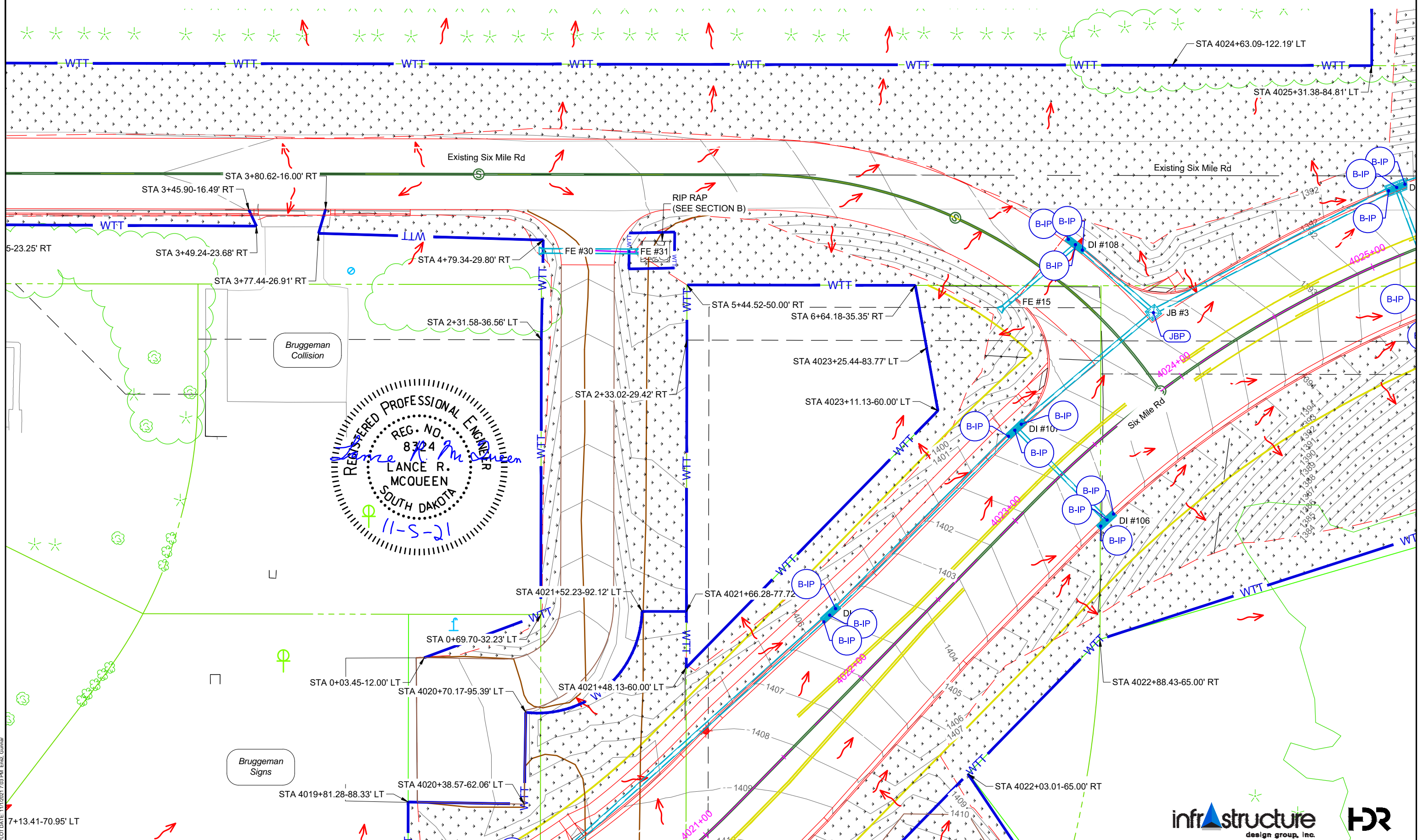


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Six Mile Road

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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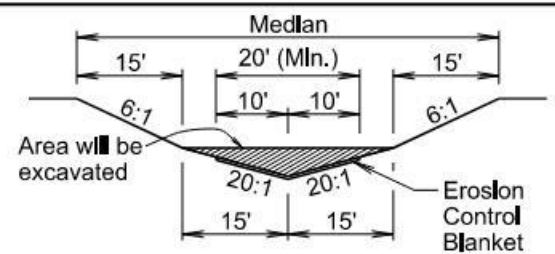
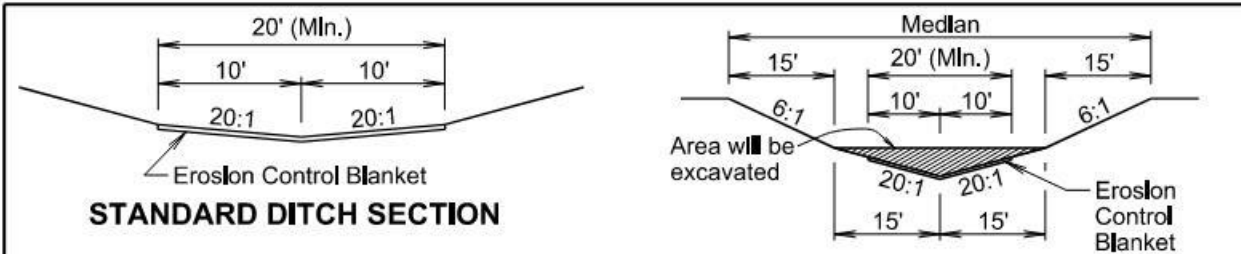


REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8324
LANCE R. MCQUEEN
SOUTH DAKOTA
11-S-21

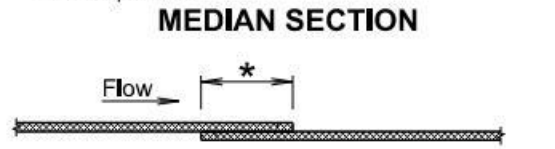
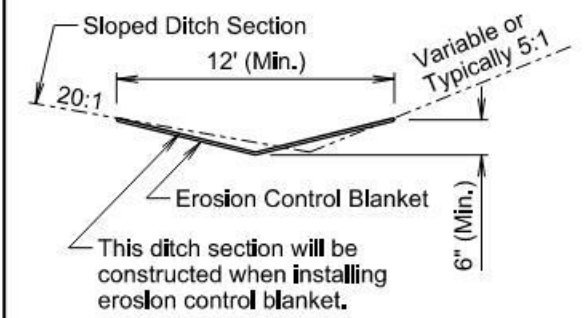
Bruggeman Collision

Bruggeman Signs

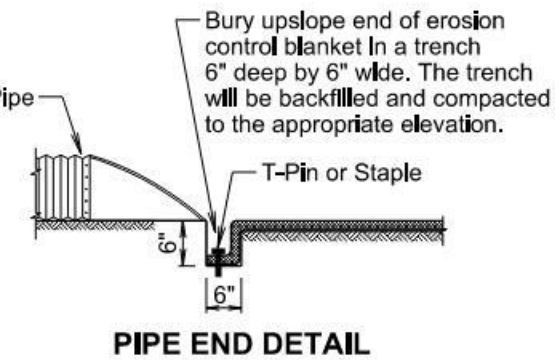
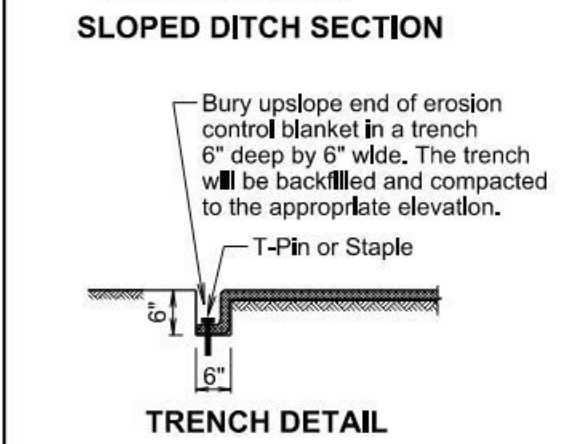
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The median will be shaped to the limits shown in this detail where the erosion control blanket will be placed.



- * Use a 4" (Min.) overlap wherever two widths of erosion control blanket are applied side by side.
- * Use a 6" (Min.) overlap wherever one roll of erosion control blanket ends and another begins.



GENERAL NOTES:

Prior to placement of the erosion control blanket, the areas will be properly prepared, shaped, seeded, and fertilized.

Erosion control blanket will be unrolled in the direction of the flow of water when placed in ditches and on slopes. The upslope end of the erosion control blanket will be buried in a trench 6" wide by 6" deep. There will be at least a 6" overlap wherever one roll of erosion control blanket ends and another begins, with the upslope erosion control blanket placed on top of the downslope erosion control blanket.

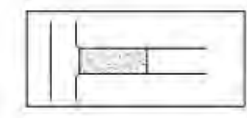
The erosion control blanket will be pinned to the ground according to the manufacturer's installation recommendations.

After the placement of the erosion control blanket, the Contractor will fine grade along all edges of the blanket to maintain a uniform slope adjacent to the blanket and level any low spots which might prevent uniform and unrestricted flow of side drainage directly onto the erosion control blanket.

All ditch sections will be shaped when installing the erosion control blanket. All costs for shaping the ditches will be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

February 14, 2020

Published Date: 4th Qtr. 2021	S D D O T	EROSION CONTROL BLANKET	PLATE NUMBER 734.01
			Sheet 1 of 1



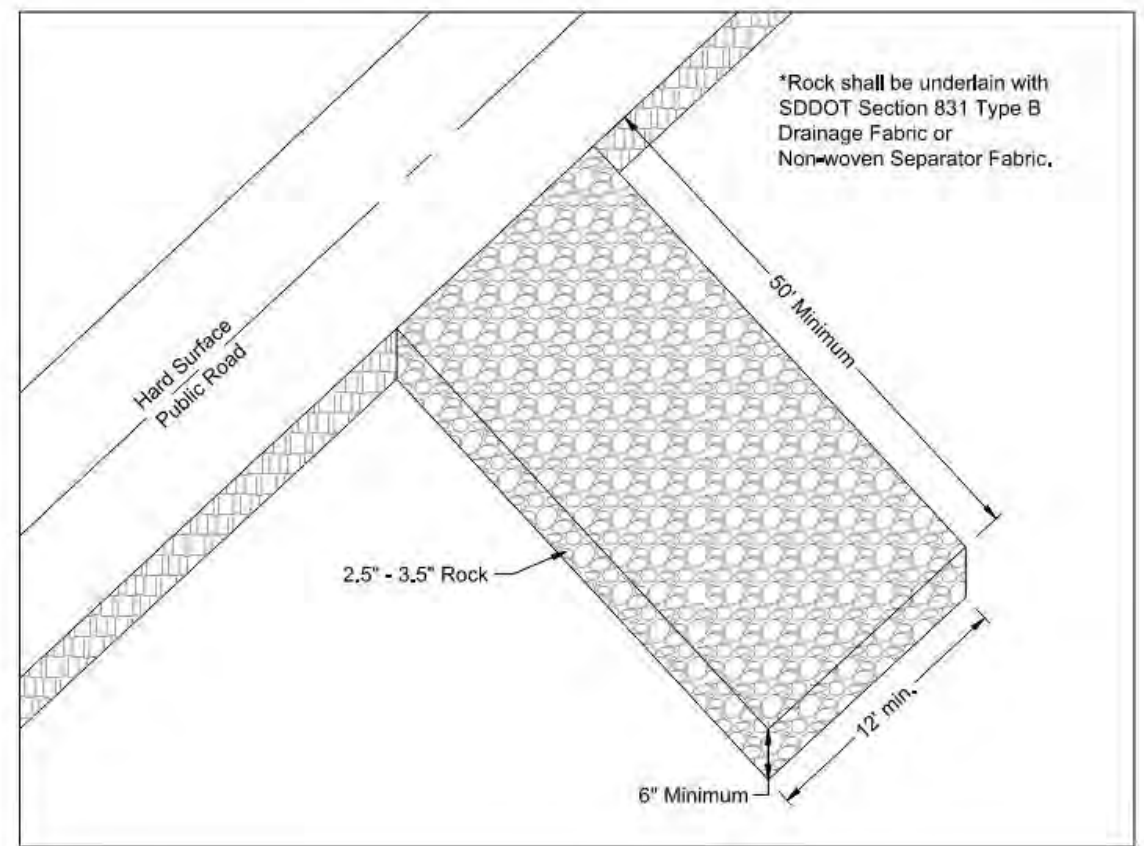
Vehicle Tracking Control

Definition:

A stone stabilized pad located at points of vehicular ingress and egress on a construction site.

Purposes:

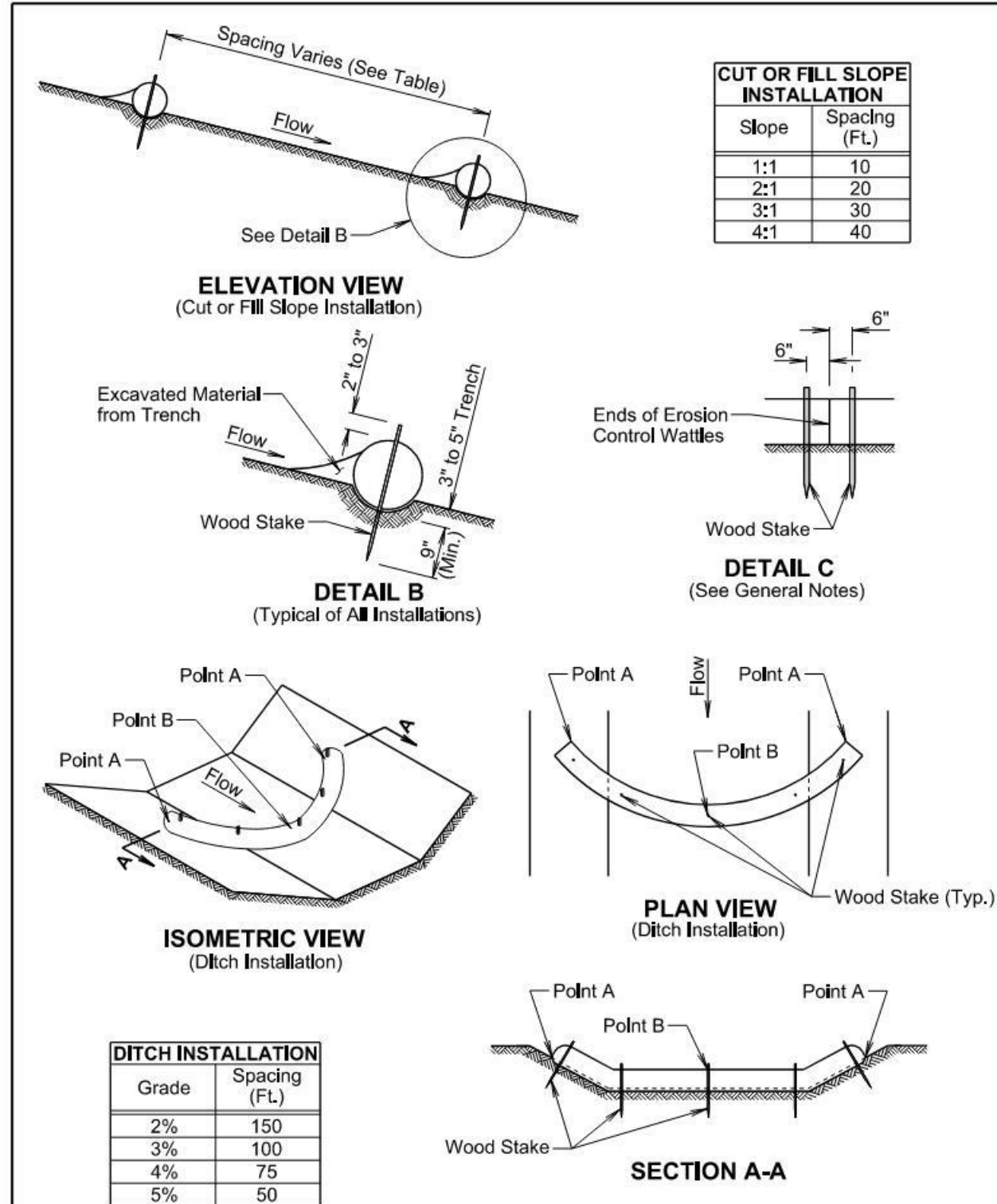
To reduce the amount of mud transported onto public roads by motor vehicles or runoff.



Revised: May 2019

	Temporary Vehicle Tracking Control	Specification Reference No. 734	Plate Number 734.02





February 14, 2020

Published Date: 4th Qtr. 2021	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 1 of 2

GENERAL NOTES:

At cut or fill slope installations, wattles will be installed along the contour and perpendicular to the water flow.

At ditch installations, point A must be higher than point B to ensure that water flows over the wattle and not around the ends.

The Contractor will dig a 3" to 5" trench, install the wattle tightly in the trench so that daylight can not be seen under the wattle, and then compact the soil excavated from the trench against the wattle on the uphill side. See Detail B.

The stakes will be 1"x2" or 2"x2" wood stakes, however, other types of stakes such as rebar may be used only if approved by the Engineer. The stakes will be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles will be 3' to 4'.

Where installing running lengths of wattles, the Contractor will butt the second wattle tightly against the first and will not overlap the ends. See Detail C.

The Contractor and Engineer will inspect the erosion control wattles in accordance with the storm water permit. The Contractor will remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping will be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping will be incidental to the contract unit price per cubic yard for "Remove Sediment".

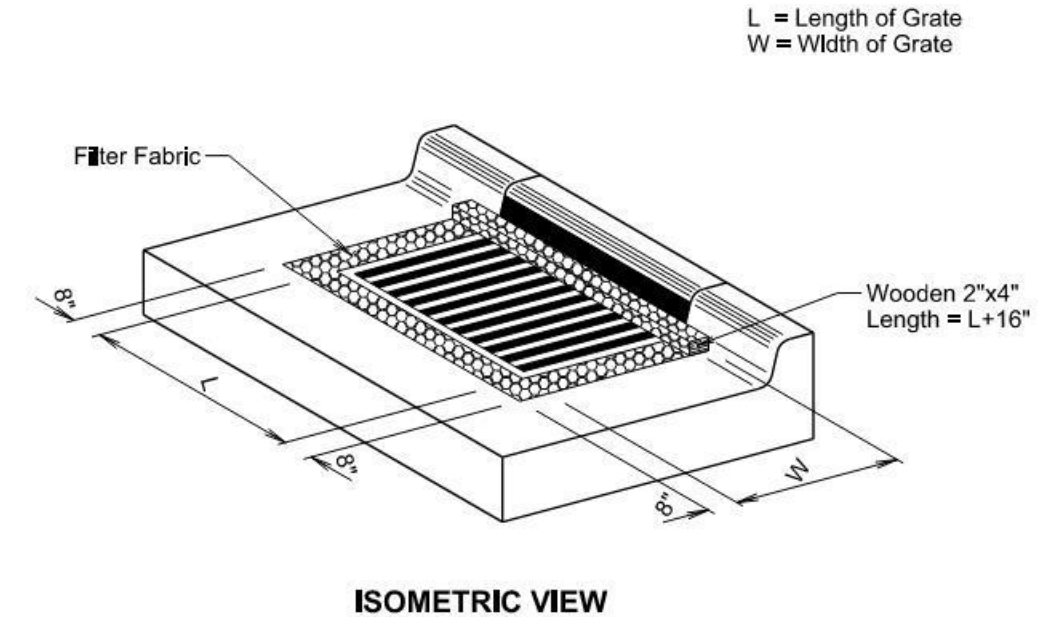
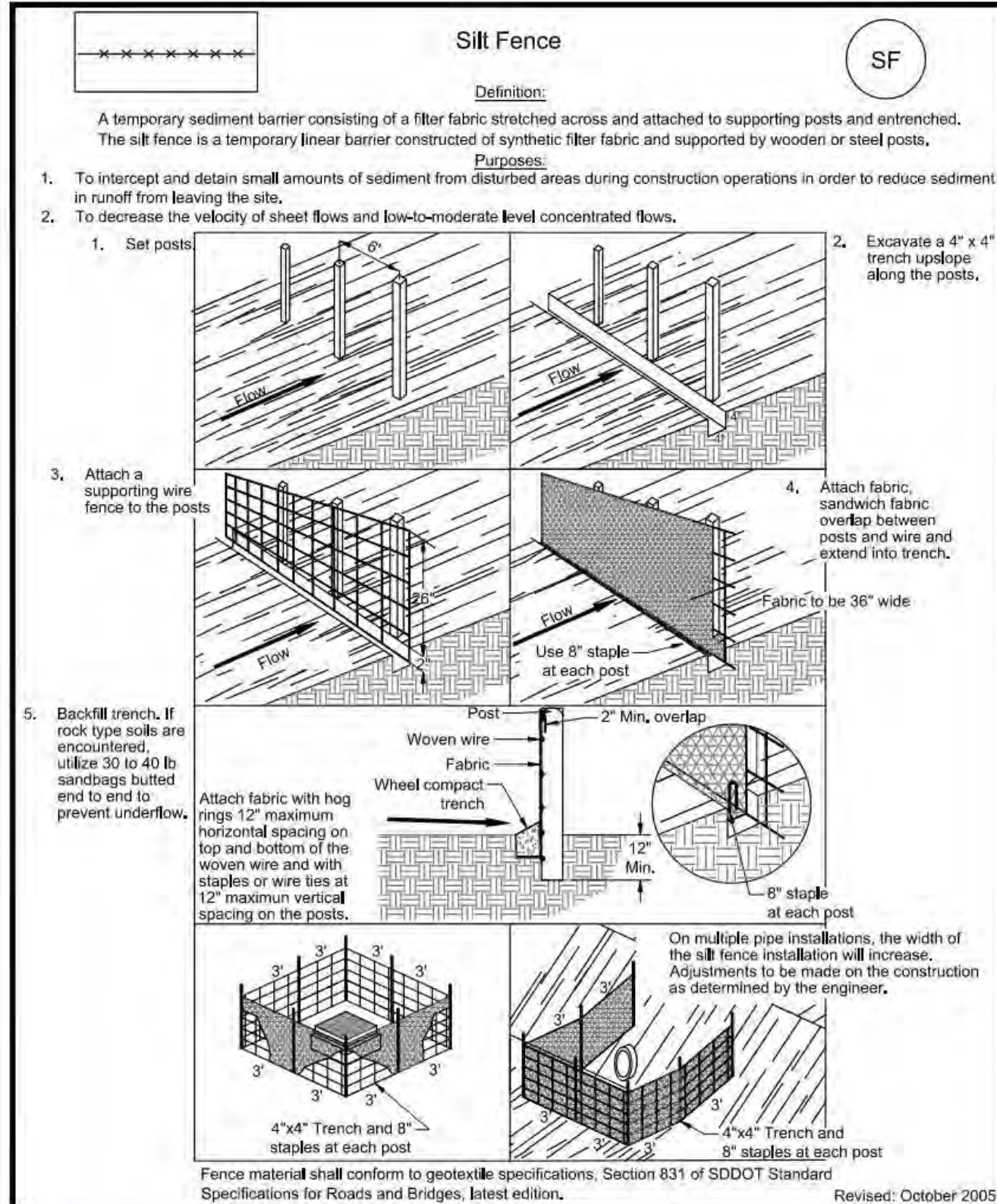
All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials will be incidental to the contract unit price per foot for the corresponding erosion control wattle contract item.

All costs for removing the erosion control wattle from the project including labor, equipment, and materials will be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

February 14, 2020

Published Date: 4th Qtr. 2021	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2





GENERAL NOTES:

The grate and curb and gutter shown are for illustrative purposes only.

The sediment control at Inlet with frame and grate will be placed at locations stated in the plans or at locations determined by the Engineer.

The filter fabric will be the type specified in the plans.


The filter fabric will be placed in the Inlet opening prior to placing the grate. Approximately 18 inches of excess filter fabric will be wrapped around the 2"x4" and stapled securely to the 2"x4" after the grate has been placed.

The Contractor and Engineer will inspect the sediment control device in accordance with the storm water permit. The Contractor will maintain the sediment control device by removing accumulated sediment and replacing torn filter fabric with new filter fabric.

The removed sediment will be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.

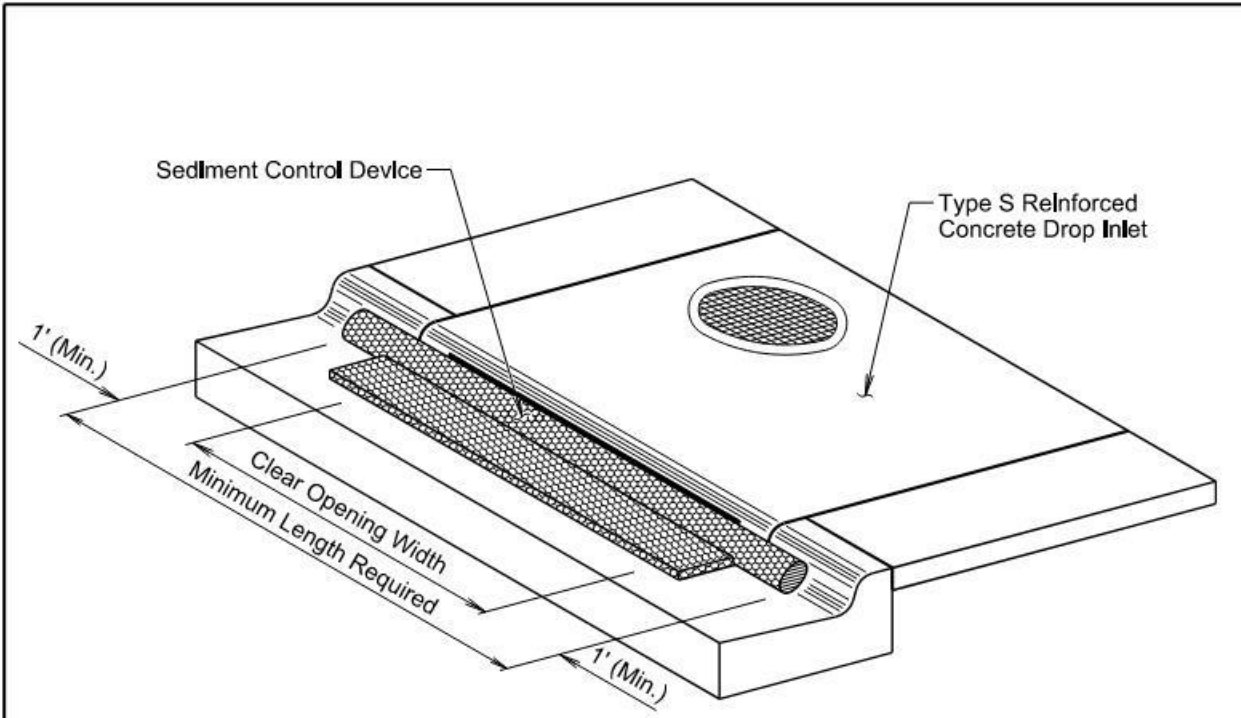
All costs for furnishing, installing, inspecting, maintaining, removing, and replacing the sediment control device at the Inlet including labor, equipment, and materials will be incidental to the contract unit price per each for "Sediment Control at Inlet with Frame and Grate".

February 14, 2020

 <p>CITY OF SIOUX FALLS PUBLIC WORKS Providing a Better Quality of Life for You!</p>	<p style="text-align: center;">Silt Fence (Woven Wire)</p>	Specification Reference	Plate Number
		No. 734	734.09

<p style="text-align: center;">SDDOT</p> <p>Published Date: 4th Qtr. 2021</p>	<p style="text-align: center;">SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES</p>	PLATE NUMBER
		734.10

Sheet 1 of 1



ISOMETRIC VIEW

GENERAL NOTES:

- The type of sediment control device shown is for illustrative purposes only.
- The type of sediment control device used will be one of the types as specified in the plans.
- The sediment control device will be placed at the drop inlets according to the manufacturer's installation instructions.
- The sediment control at inlet for type S reinforced concrete drop inlet will be placed at locations stated in the plans or at locations determined by the Engineer.
- The Contractor and Engineer will inspect the sediment control device in accordance with the storm water permit. The Contractor will maintain the sediment control device by removing the device, removing accumulated sediment, and resetting the device.
- The removed sediment will be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.
- Payment for the "Sediment Control at Type S Drop Inlet" will be based on the minimum length required at the drop inlets. Some of the sediment control devices specified in the plans will have to be longer due to available length.
- All costs for furnishing, installing, inspecting, maintaining, removing, and resetting the sediment control device at the drop inlet including labor, equipment, and materials will be incidental to the contract unit price per foot for "Sediment Control at Type S Reinforced Concrete Drop Inlet".

February 14, 2020

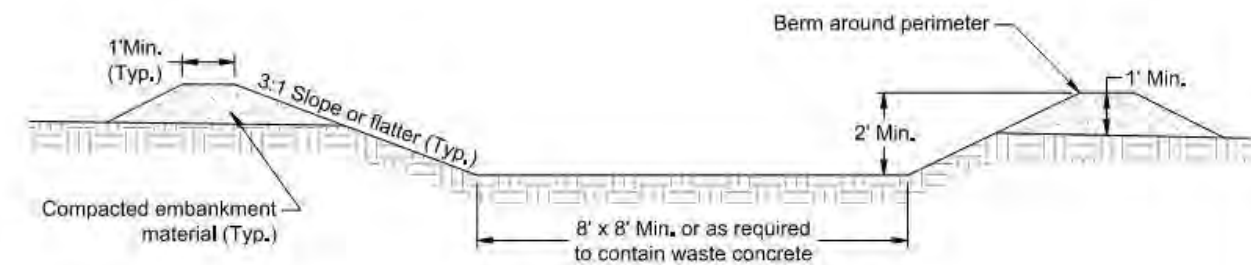
Published Date: 4th Qtr. 2021	S D D O T	SEDIMENT CONTROL AT INLETS FOR TYPE S REINFORCED CONCRETE DROP INLETS	PLATE NUMBER 734.11
			Sheet 1 of 1

Concrete Washout Facility



Notes:

- Concrete washout facility shall be installed prior to any concrete placement on site.
- A sign shall be installed adjacent to each washout facility to inform concrete equipment operators to utilize the CWF.
- The concrete washout facility shall be repaired and enlarged or cleaned out as necessary to maintain capacity for wasted concrete.
- When CWF are no longer required for the work, the hardened concrete and materials used to construct the CWF shall be removed and disposed of.
- When the concrete washout facility is removed, the holes, depressions or other ground disturbance shall be backfilled, repaired and stabilized.



Cross Sectional View

Revised: December 2008

	Concrete Washout Facility	Specification Reference	Plate Number
		No. 734	734.28

