SECTION D: EROSION AND SEDIMENT CONTROL PLANS

	STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
		NH 0212(202)38 P 0079(88)133	D1	D23

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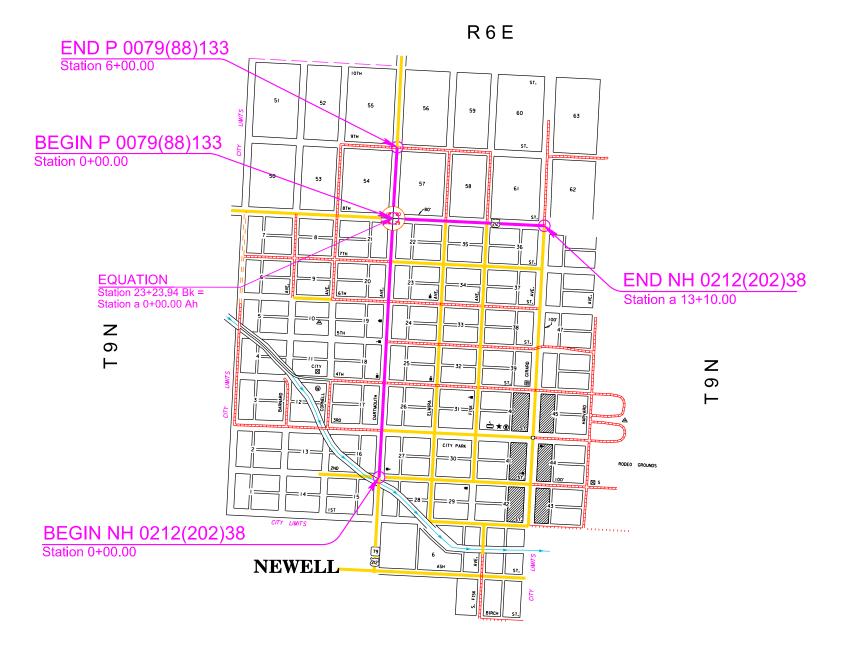
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Stormwater Pollution Prevention Plan Checklist D2-D4 D5-D8 Erosion and Sediment Control Legend

D10-D20 Erosion and Sediment Control Plan Sheets Dewatering and Sediment Collection System Details

D22 SDDOT Construction Entrance Details

Standard Plates



R6E



SECTION D ESTIMATE OF QUANTITIES

06G1

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
230E0010	Placing Topsoil	25	CuYd
730E0206	Type D Permanent Seed Mixture	14	Lb
731E0100	Fertilizing	68	Lb
732E0250	Fiber Mulching	138	Lb
734E0845	Sediment Control at Inlet with Frame and Grate	1	Each

06G2

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
230E0010	Placing Topsoil	76	CuYd
730E0206	Type D Permanent Seed Mixture	43	Lb
731E0100	Fertilizing	211	Lb
732E0250	Fiber Mulching	426	Lb
734E0845	Sediment Control at Inlet with Frame and Grate	2	Each

PLACING TOPSOIL

The thickness will be approximately 4 inches within the right-of-way and 6 inches on temporary easements.

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum 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 a minimum 25% the fungal species *Rhizophagus intraradices*. The remaining 75% may include other endomycorrhizal fungal species.

All seed will be inoculated by the seed supplier with a minimum of 20,000 live propagules of mycorrhizal fungi per 1,000 square feet. 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 as shown below or an approved equal:

<u>Product</u>	<u>Manufacturer</u>
MycoApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 www.mycorrhizae.com
AM 120 Multi Species Blend	Reforestation Technologies Int. Gilroy, CA Phone: 1-800-784-4769 www.reforest.com
LALRISE Prime and Max WP	Lallemand Specialties Inc. Milwaukee, WI Phone: 1-844-590-7781 www.lallemandplantcare.com

PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways, alleys, and sidewalks.

Lawn and turf seed, such as the Type D Permanent Seed Mixture, will be tested within 12 months prior to planting, exclusive of the calendar month in which the test was completed.

Type D Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000 SqFt)
Kentucky Bluegrass	Avalanche, Appalachian, Wildhorse, Blue Bonnet, Action	1.4
Perennial Ryegrass	Turf Type Varieties	1.4
Creeping Red Fescue	Epic, Boreal, Chantilly	1.4
Chewings Fescue	Ambrose, K2, Zodiac, Shadow III	1.4
Alkali Grass	Fults, Fults II, Quill, Salty	1.4
	Total:	7

FIBER MULCHING

Fiber mulch will be applied to all areas that are to be permanently seeded and in a separate operation following permanent seeding.

Fiber mulch will be applied at the rate of 3,000 pounds per acre.

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

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

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FERTILIZING

The Contractor will apply an all-natural slow-release fertilizer prior to seeding or placing sod. The all-natural fertilizer will have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 2.07%, a minimum of 4% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer will be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer will have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer will also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The application rate is 34 pounds per 1,000 square feet.

The all-natural slow-release fertilizer will be as shown below or an approved equal:

<u>Product</u>	<u>Manufacturer</u>
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com
Perfect Blend	Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890 www.perfect-blend.com
Nature Safe	Nature Safe Fertilizers Irving, TX Phone: 1-605-759-5622 www.naturesafe.com

SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES

This type of sediment control device should be used where there is pavement in the vicinity of the drop inlets and storm water or sediment could possibly enter the frame and grate. Sediment Control at Inlet with Frame and Grate will be installed prior to working in the vicinity of the drop inlets.

The Contractor will be responsible for maintaining and repairing the sediment control devices for the duration of the project for which sediment control measures are required. Maintenance will be scheduled to prevent storm water from backing up into the driving lane.

"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:

GR-8 Guard

Combo Guard

A sediment control device as shown on Standard Plate 734.10. Filter fabric used for constructing the sediment control at inlets with frames and grates will be the same type of fabric that is used in high flow silt fence from the approved product list. The approved product list may be viewed at the following internet site:

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

Codiment Control of Inlet with Frame and Crote Annuary d Liet

Sediment Control at Inlet with Frame and Grate Approved List:		
	<u>Product</u>	<u>Manufacturer</u>
	InfraSafe Debris Collection Device with filter sock	Royal Environmental Systems, Inc. Stacy, MN Phone: 1-800-817-3240 www.royalenterprises.net
	Dandy Curb Sack and Dandy Curb Bag for curb inlets. Dandy Bag, Dandy Sack, and Dandy Pop for median drains.	Dandy Products Inc. Powell, OH Phone: 1-800-591-2284 www.dandyproducts.com
	Silt Trapper	Storm Water Solutions Lakeville, MN Phone: 1-952-461-4376 www.silttrapper.com
	DIP Basket	Skyview Construction Co., LLC Summit, SD Phone: 1-605-520-0555
	FLEXSTORM Inlet Filters	Inlet and Pipe Protection, Inc. Naperville, IL Phone: 1-866-287-8655 www.inletfilters.com

ERTEC Environmental Systems LLC

Alameda, CA

Phone: 1-866-521-0724

www.ertecsystems.com

BX Inlet Sediment Boxes BX Civil and Construction

> Dell Rapids, SD Phone: 1-605-428-5483

http://www.bx-cc.com

EZ-Flo and EZ-Catch Flo-Water, LLC

> West Des Moines, IA Phone: 1-515-577-6763 www.flo-water.net

TABLE OF SEDIMENT CONTROL AT INLETS WITH FRAMES AND **GRATES**

<u>06G1</u>

Station		Quantity (Each)
5+79 – 22.2' L (Dartmouth Ave)	_	1
	Total:	1

06G2

Station		Quantity (Each)
0+26.5 – 20.3 R (xr9)		1
0+25.9 – 10.9' R (xr16)		1
	Total:	2

DEWATERING AND SEDIMENT COLLECTING

The Contactor has the option to treat sediment laden water trapped within the project limits or the Contractor may elect to transport sediment laden water off the project. Refer to the OPTIONS FOR DEWATERING AND SEDIMENT COLLECTING detail sheet for more information.

Water transported off the project limits will not be disposed of in an area where it can enter a waterway. The disposal site must be approved by the Engineer.

Separate payment will not be made for any Dewatering and Sediment Collection efforts. All costs involved with necessary Dewatering and Sediment Collection efforts will be incidental to other contract items

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CONSTRUCTION ENTRANCE

The Contractor will install a Construction Entrance at locations where there is a potential for mud tracking and sediment flow from the construction site and work area onto a paved public roadway.

It is the Contractor's option to use the SDDOT Construction Entrance (See SDDOT Construction Entrance notes and details), a product from the list provided in these notes, or other products or processes as approved by the Engineer during construction.

If the Contractor elects to use one of the products listed in the table, then the Contractor will install the construction entrance product in accordance with the manufacturer's installation instructions or as directed by the Engineer.

The Contractor will maintain the construction entrance such that mud tracking and sediment flow will not enter the roadway or adjacent drainage areas. The construction entrance will be routinely inspected, and the Contractor will repair or replace material as deemed necessary by the Engineer.

The following table is a list of known construction entrance products available for use:

Product

Grizzly Rumble Grate (10' width and 24' length required)

Pro Grid (12' width and 24' length including combination of grids and ramps required)

Tracking Pad (12' width and 24' length (2 - 12'x12' pads)and 2 – 4'x4' turning flares)

FODS Trackout Control Mat (12' width and 5 mats to get a 35' length)

DuraDeck and MegaDeck HD An adequate quantity is needed to prevent tires from becoming muddy (does not remove mud)

> Track-Out Control Mat (10' width and 24' length required)

Manufacturer

Trackout Control, LLC Tempe, AZ Phone: 1-800-761-0056 www.trackoutcontrol.com

Pro-Tec Equipment, Inc. Charlotte, MI

Phone: 1-800-292-1225 www.pro-tecequipment.com

Tracking Pads LLC Commerce City, CO Phone: 1-303-501-5640 www.trackingpads.com

FODS, LLC Denver, CO

Phone: 1-844-200-3637 http://www.getfods.com

Signature Systems Group, LLC

Flower Mound, TX Phone: 1-800-931-7301

https://www.signature-systems.com/

RubberForm Recycled Products, LLC

Lockport, NY

Phone: 1-716-478-0408 www.rubberform.com

SDDOT CONSTRUCTION ENTRANCE

If the SDDOT Construction Entrance is utilized, then the Contractor will install the SDDOT Construction Entrance in accordance with these notes and the detail drawings.

Pit run material will be obtained from a granular source and will conform to the following gradation:

Sieve Size	Percent Passing
6"	100%
#4	0-60%
#200	0-20%

The pit run material will be compacted to the satisfaction of the Engineer.

The aggregate for the granular material will conform to the following gradation requirements:

Sieve Size	<u>Percent Passing</u>
3"	100%
2 ½"	90-100%
1 ½"	25-60%
3/4"	0-10%
1/2"	0-5%

The granular material will be placed in 6" maximum lifts.

It is anticipated that the granular material will need to be periodically removed and replaced as it becomes inundated with mud and sediment.

The Reinforcement Fabric (MSE) will be in conformance with Section 831 of the Specifications. The Reinforcement Fabric (MSE) will be on the Approved Products List for this material or will be certified by the supplier to meet this specification prior to installation.

The Reinforcement Fabric (MSE) should be kept as taut as possible prior to placing.

Equipment will not be allowed on the Reinforcement Fabric (MSE) until the first lift of granular material is in place.

All seams in the Reinforcement Fabric (MSE) will be overlapped at least 2' and shingled.

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STORMWATER POLLUTION PREVENTION PLAN CHECKLIST

(The numbers left of the title headings are **reference numbers** to the <u>GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED</u> 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
 - Texcavation/borrow
 - Grading and shaping
 - Filling
- Other (describe): ADA Upgrades
- > 5.3 (3b): Total Project Area 19.7 Acres
- > 5.3 (3b): Total Area to be Disturbed 13.6 Acres
- > 5.3 (3c): Maximum Area Disturbed at One Time 13.6 Acres
- > 5.3 (3d): Existing Vegetative Cover 80%
- > 5.3 (3d): Description of Vegetative Cover Typical urban vegetation
- > 5.3 (3e): Soil Properties: Clay
- > 5.3 (3f): Name of Receiving Water Body/Bodies Horse Creek
- > 5.3 (3g): Location of Construction Support Activity Areas

5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES

> Special sequencing requirements (see Section C). The Contractor will enter the Estimated Start Date.

Description	Estimated Start Date
Install perimeter protection where runoff may exit site.	
Install inlet protection.	
Clearing and grubbing.	
Remove and stockpile topsoil.	
Stabilize disturbed areas.	
Install sidewalks, and curb and gutter.	
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
☐ Natural Buffers (within 50 ft of Waters of State)	
☐ Silt Fence	
☐ Erosion Control Wattles	
☐ Temporary Berm / Windrow	
☐ Floating Silt Curtain	
Stabilized Construction Entrances	
☐ Entrance/Exit Equipment Tire Wash	
Other:	

Structural Erosion and Sediment Controls

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

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Dust Controls

Description	Estimated Start Date
☐ Tarps & Wind impervious fabrics	
☐ Watering	
☐ Stockpile location/orientation	
☐ Dust Control Chlorides	
Other	

Dewatering BMPs

Description	Estimated Start Date
☐ Sediment Basins	
☐ Dewatering bags	
☐ Weir tanks	
☐ Temporary Diversion Channel	
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
☐Vegetation Buffer Strips	
☐ Temporary Seeding (Cover Crop Seeding)	
□ Permanent Seeding	
Sodding	
☐ Planting (Woody Vegetation for Soil Stabilization)	
☐ Mulching (Grass Hay or Straw)	
☐ Fiber Mulching (Wood Fiber Mulch)	
☐ Soil Stabilizer	
☐ Bonded Fiber Matrix	
☐ Fiber Reinforced Matrix	
☐ Erosion Control Blankets	
Surface Roughening (e.g. tracking)	
Other:	

Wetland Avoidance

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes \(\subseteq \) No \(\subseteq \) 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.

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 ½ 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.

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- 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 SDDANR.
- 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).

\triangleright	☐ Concrete and Portland Cement
\triangleright	□ Detergents
\triangleright	Paints
	☐ Metals
	☐ Bituminous Materials
	Petroleum Based Products
	Diesel Exhaust Fluid
\triangleright	Cleaning Solvents
	Wood
\triangleright	Cure
\triangleright	☐ Texture
\triangleright	☐ Chemical Fertilizers
\triangleright	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.
\triangleright	☐ Pavement wash-water, where no spills or leaks of toxic or
	hazardous materials have occurred.
\triangleright	☐ 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 SDDANR 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 SDDANR 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 SDDANR 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 SDDANR within 14 days of the discharge.

STATE OF	PROJECT	SHEET	TOTAL SHEETS
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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	_

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:

Name:

> SDDOT Project Engineer

Business Address:			
Job Office Location:			
• City:	State:	Zip:	
Office Phone:	Field: _		
■ Call Phone:	Fav:		

SDDANR Contact Spill Reporting

- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

> SDDANR Contact for Hazardous Materials.

(605) 773-3153

> National Response Center Hotline

(800) 424-8802.

> SDDANR Stormwater Contact Information

- SDDANR Stormwater (800) 737-8676
- Surface Water Quality Program (605) 773-3351

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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, SDDANR, 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
- 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.

EROSION AND SEDIMENT CONTROL LEGEND

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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V	Silt Fence J-Hooks
	Low Flow Silt Fence
	High Flow Silt Fence
17	High Flow Silt Fence at Pipe
口	Sediment Control at Inlet After Placement of Surfacing
	Sediment Control at Inlet Before Placement of Surfacing
	Temporary Sediment Barrier
∞	Temporary Water Barrier
^	Floating Silt Curtain
∞	Sediment Filter Bags
\bigoplus	Triangular Silt Barriers
	Erosion Control Wattles on Slopes
@	Erosion Control Wattles at Inlets
\approx	Erosion Control Wattles in Ditches
	Erosion Bales
////	Surfacing Roughening
$\times\!\!\times\!\!\times$	Temporary Grass Hay or Straw Mulch/ Soil Stabilizer
· '	Cut Interceptor Ditch
	Temporary Slope Drain
³ √√	Bonded Fiber Matrix/ Fiber Reinforced Matrix
23	Rock Check Dam
	Type 1 Erosion Control Blanket
	Type 2 Erosion Control Blanket
	Type 3 Erosion Control Blanket
	Type 4 Erosion Control Blanket
	Type 1 Turf Reinforcement Mat
	Type 2 Turf Reinforcement Mat
	Type 3 Turf Reinforcement Mat
00000	Transition Mat
ΦΦΦΦΦ	Articulated Concrete Matress

Silt Trap (See Standard Plate 734.04)

BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are split into three categories and are to be used throughout construction.

INITIAL PHASE

BMPs from the Legend shown as Orange Symbols on the Erosion and Sediment Control Plan Sheets are to be installed in the Initial Phase prior to earth disturbing activitles and remain in place for the Intermediate Phase for temporary stabilization and in the Final Phase to achieve final stabilization.

INTERMEDIATE PHASE

BMPs from the Legend shown as Blue Symbols on the Erosion and Sediment Control Plan Sheets are to be installed in the Intermediate Phase for temporary stabilization and remain in place in the Final Phase to achieve final stabilization.

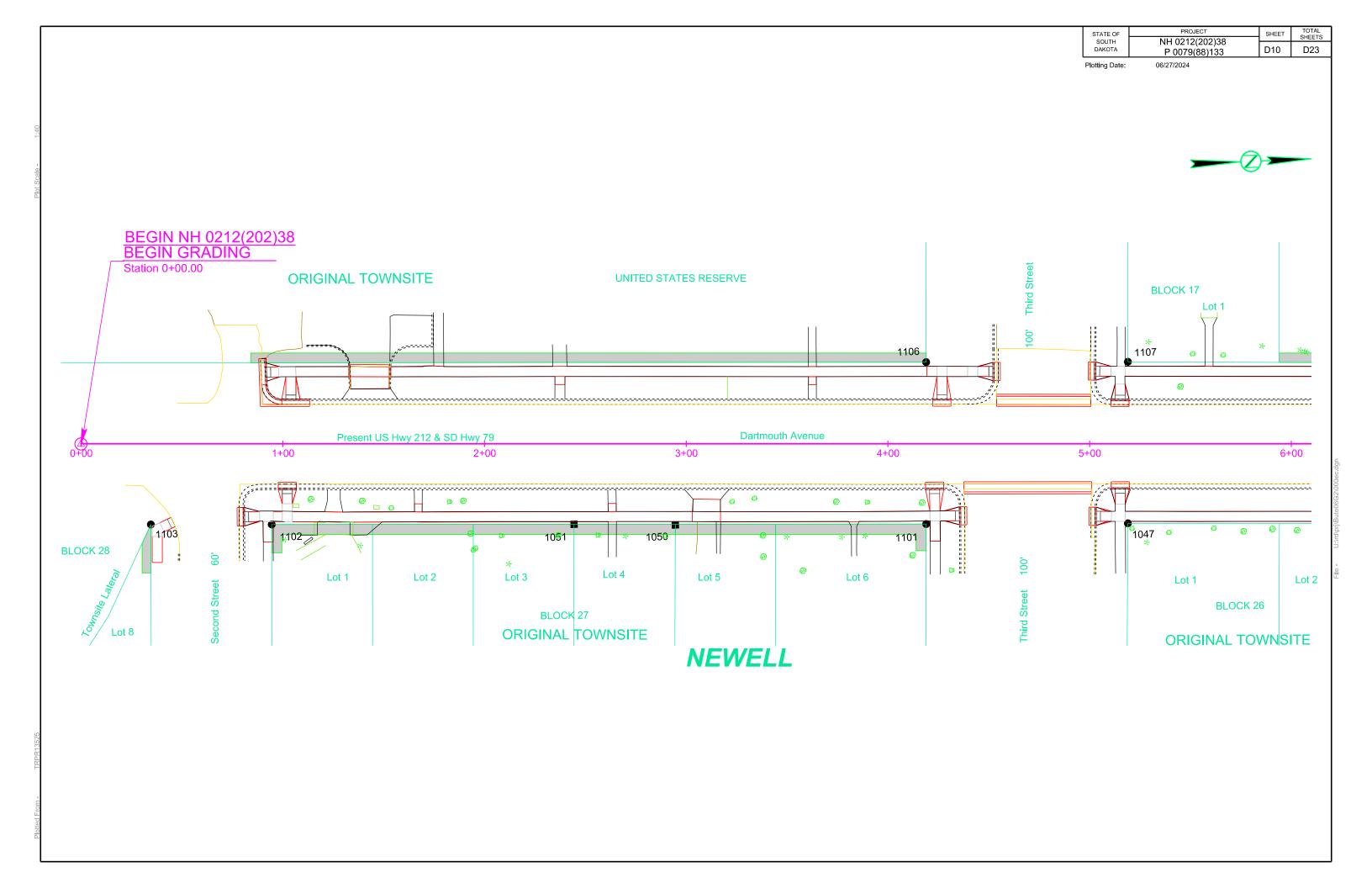
FINAL PHASE

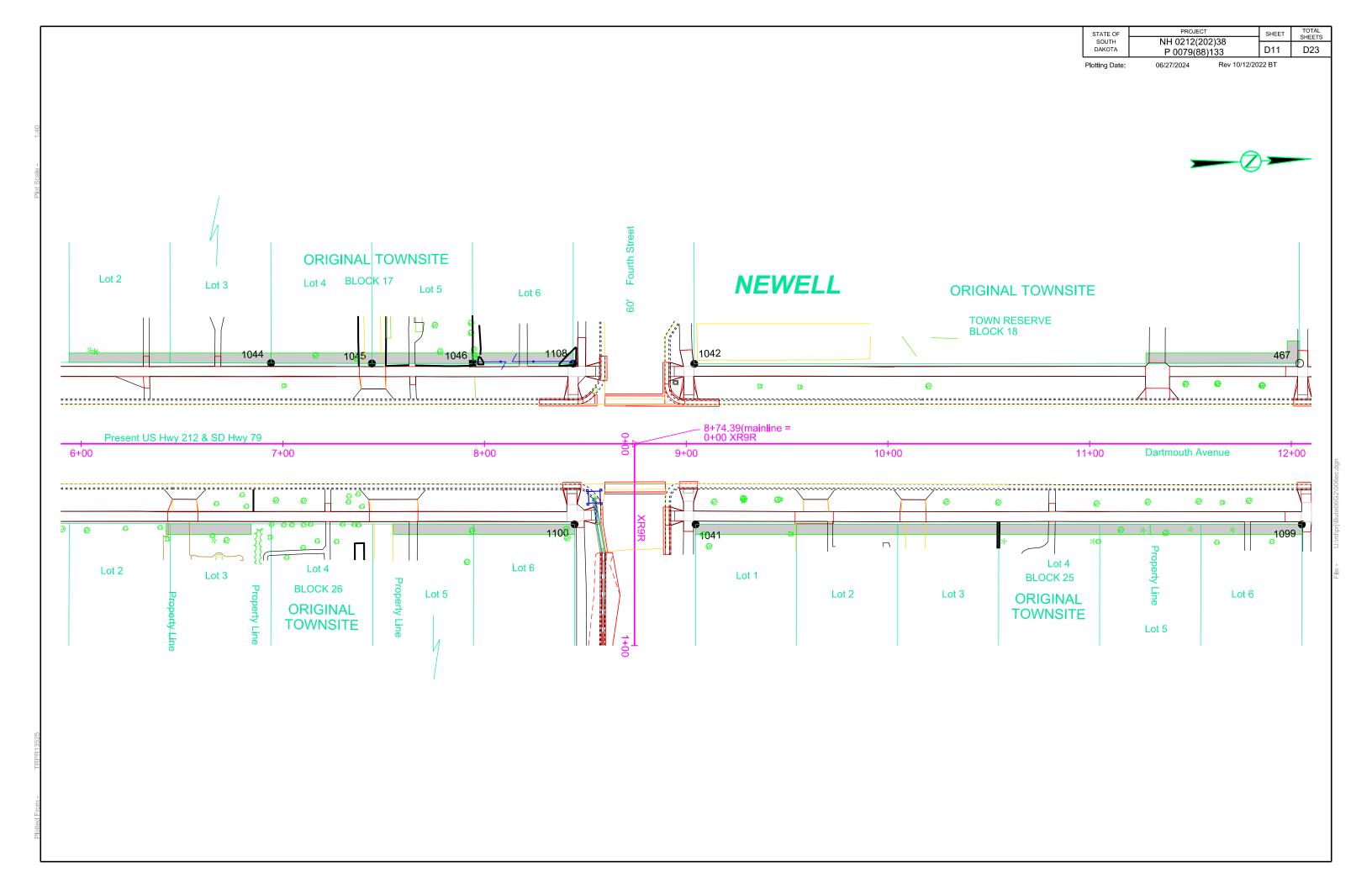
BMPs from the Legend shown as Green Symbols on the Erosion and Sediment Control Plan Sheets are to be installed in the Final Phase to achieve final stabilization.

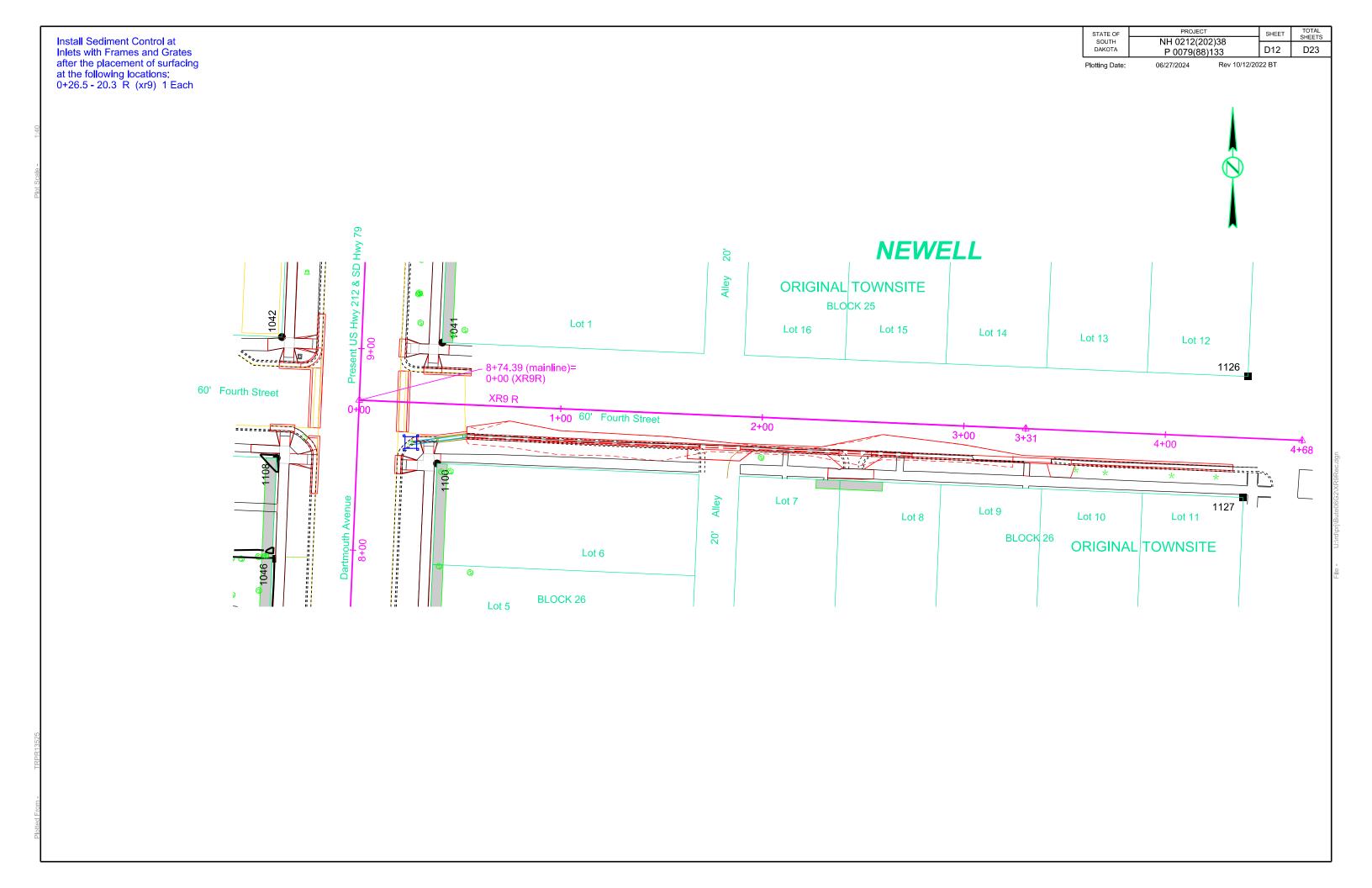
If these items are applicable they are to be shown in the updated SWPPP using the Symbols given.

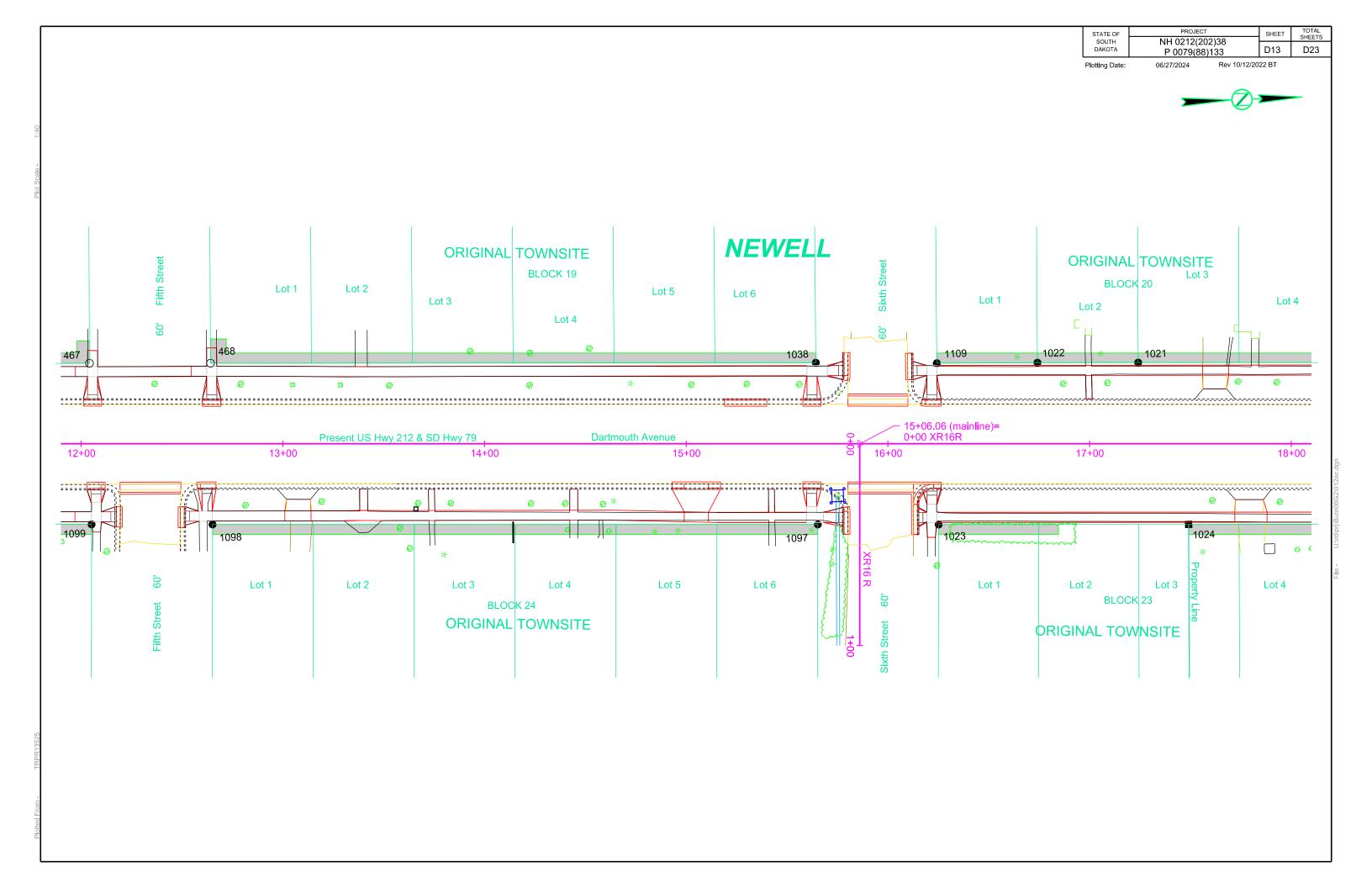
icac itci	ns are applicable they are to be shown in t	ne upuate	a Svvi i i asing the Symbols given.
TS	Topsoil Stockpile	\boxed{M}	On-Site Construction Material Storage Area
В	Borrow Area	(SK)	Spill Kit
CE	Stabilized Construction Entrance	WP	Work Platform
VB	Vegetated Buffer Strip	\bigcirc CC	Cover Crop Seeding
CW	Concrete Washout	PT	Portable Toilet
AP	Asphalt Plant Site		
СР	Concrete Plant Site		
V	Vehicle and Equipment Parking Area, Fueling Are	ea, or Mainte	enance Area

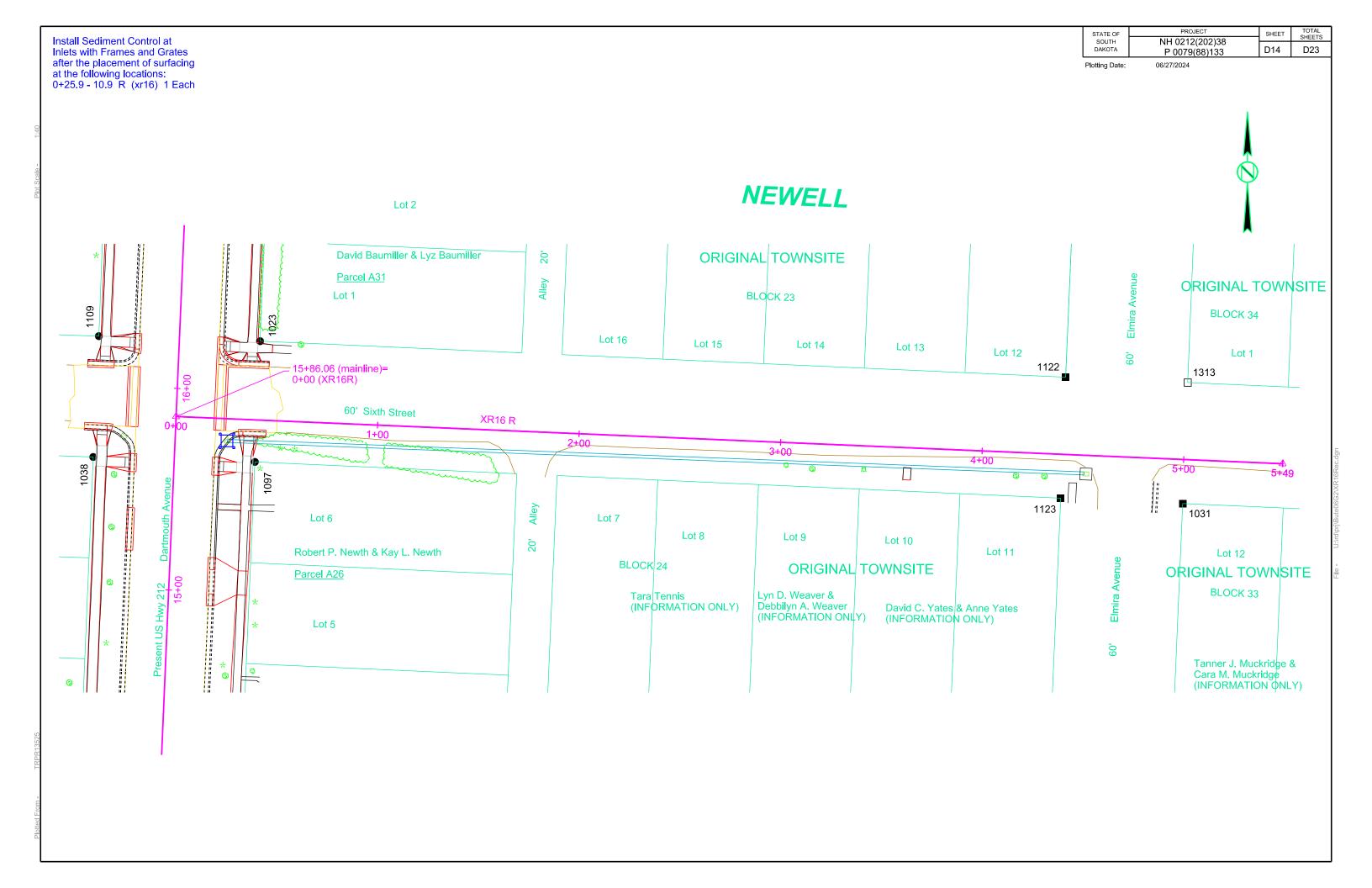
Dumpster or other Trash and Debris Containers

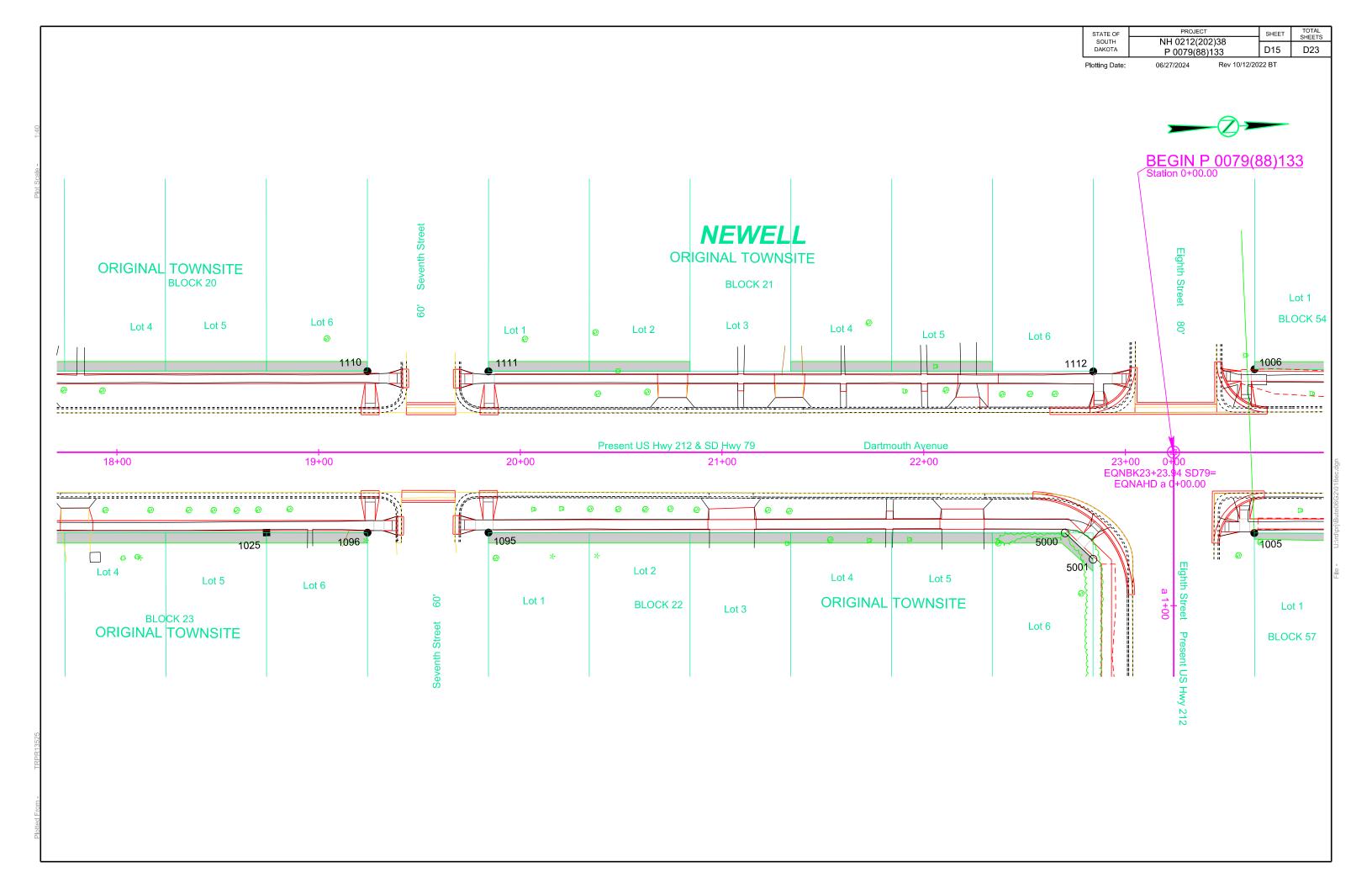


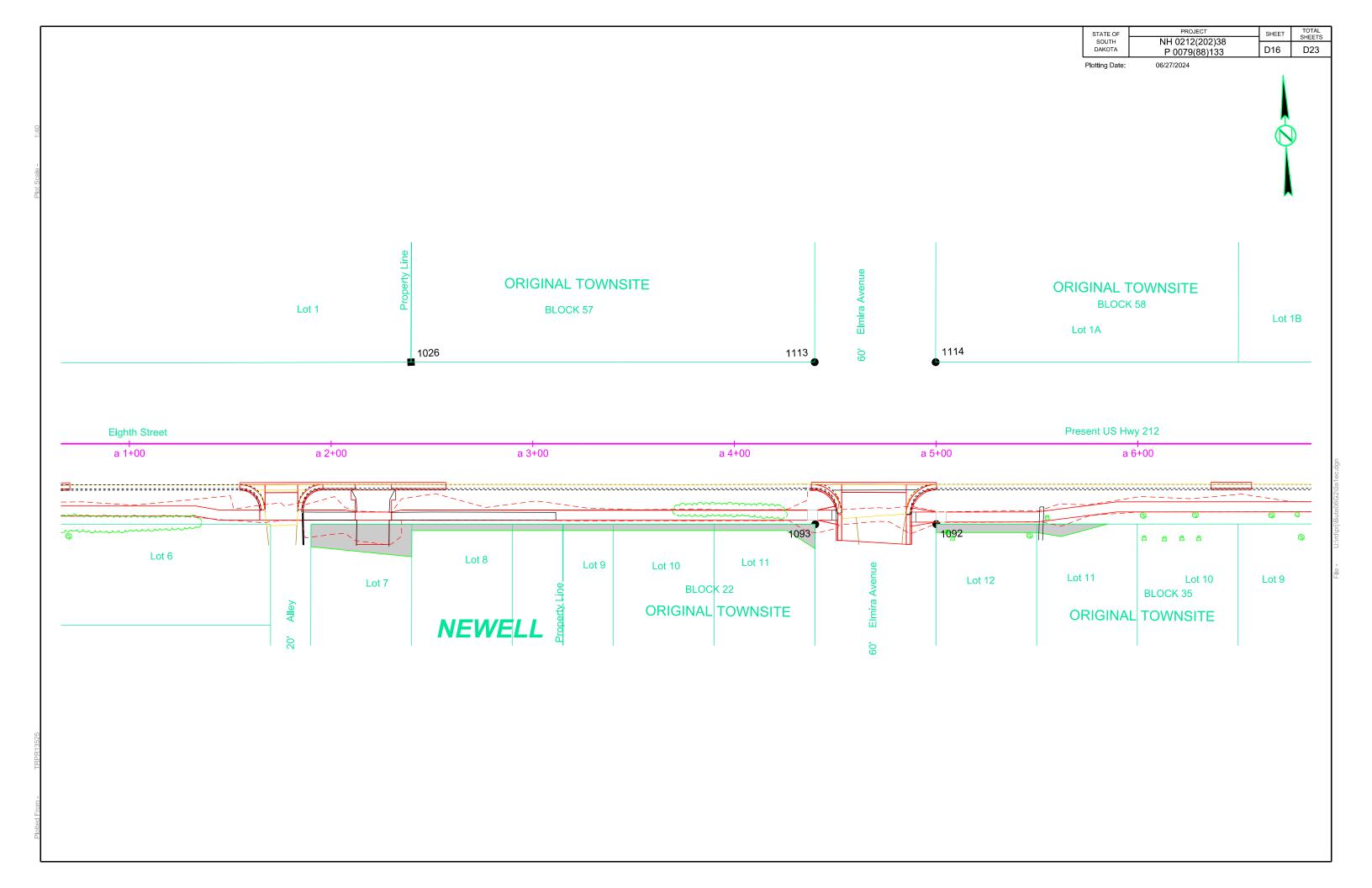


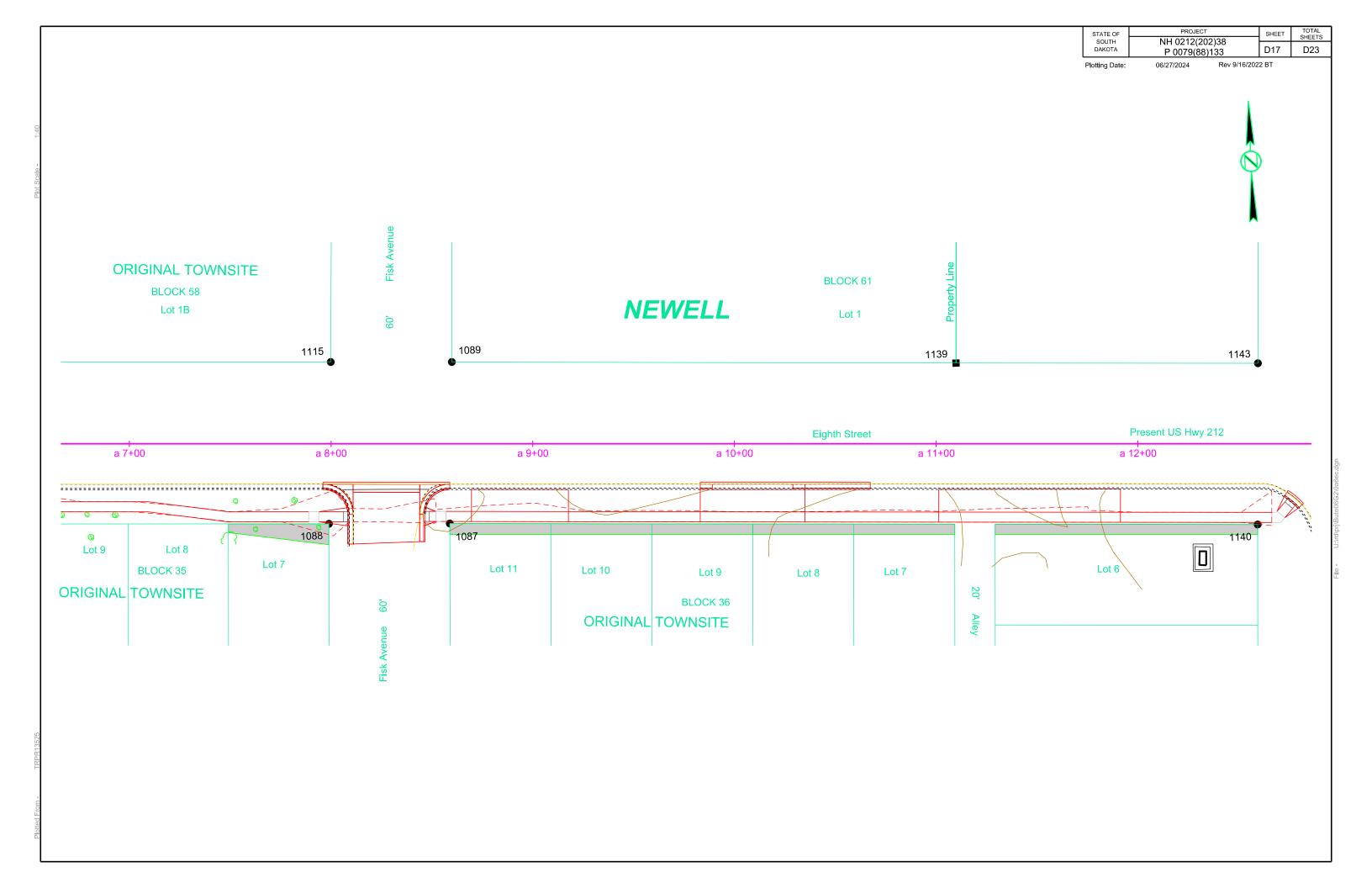


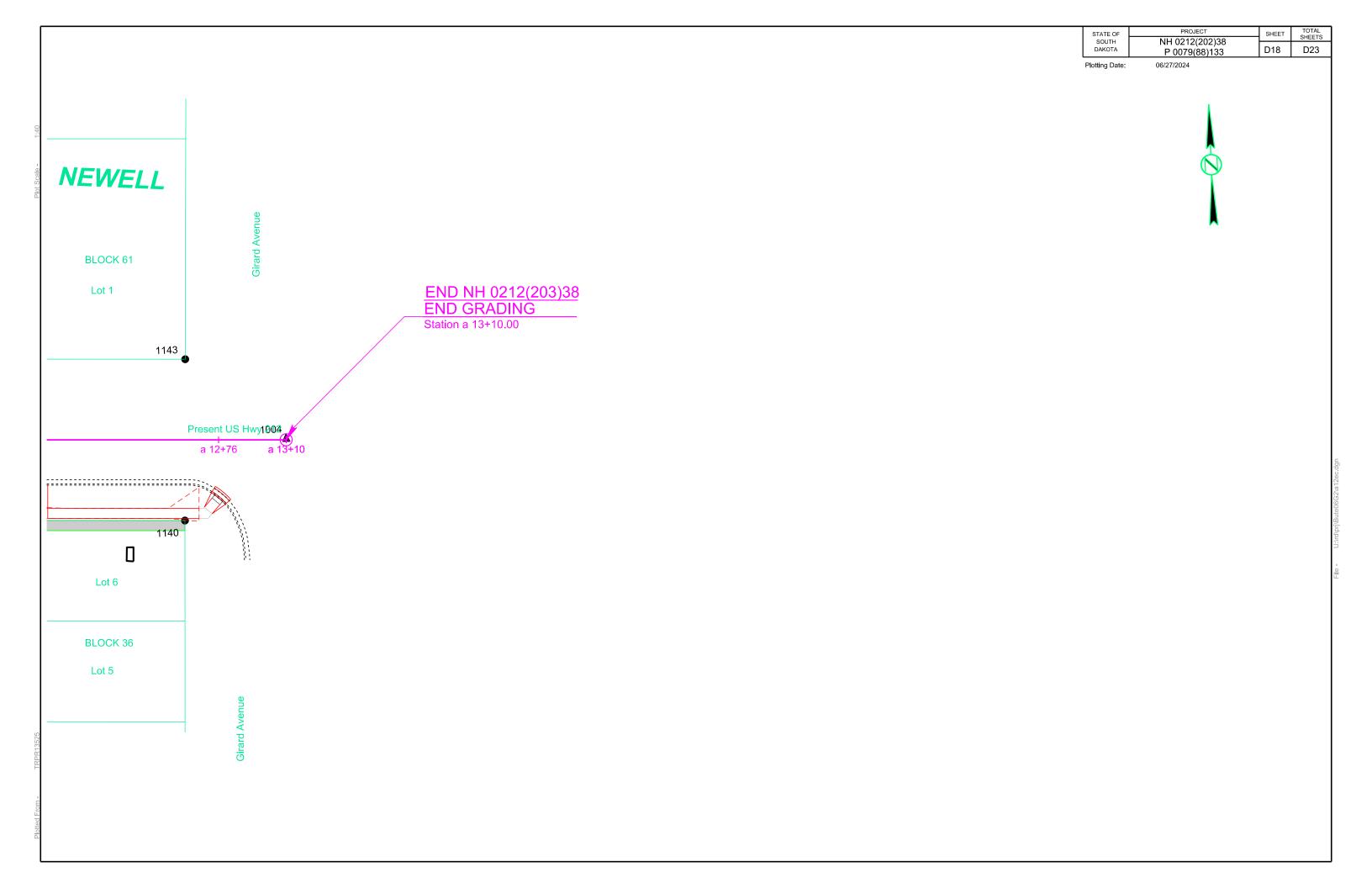


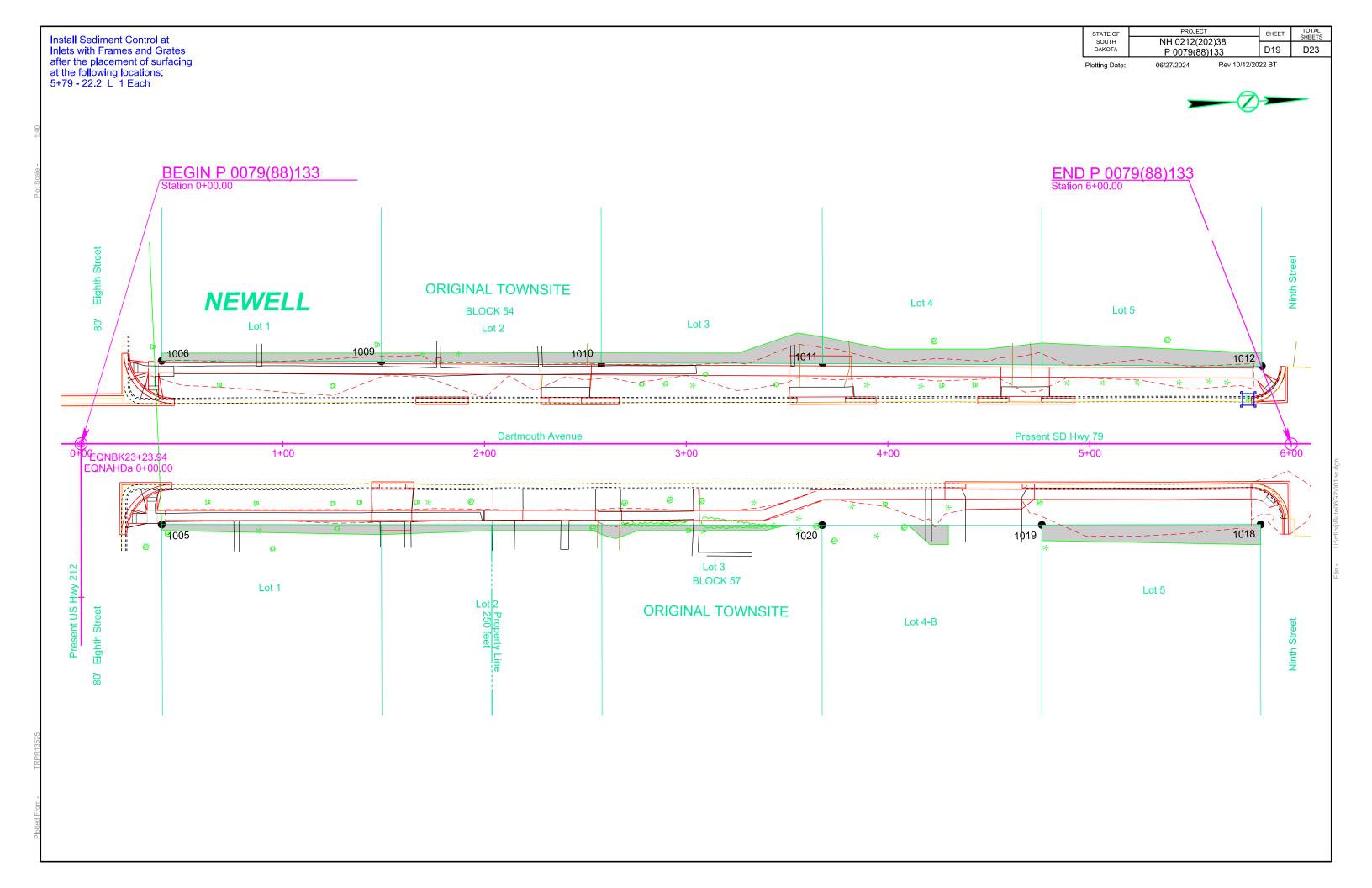












 STATE OF SOUTH DAKOTA
 PROJECT SHEET
 SHEET SHEETS

 D 079(88)133
 D20
 D23

Plotting Date:

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Clifton E. Nuckolls Revocable Trust

ORIGINAL TOWNSITE

BLOCK 55

Lot 1

Ninth

09



Present SD Hwy 79 Dartmouth Avenue

7+00

6+00

Ninth Street

5

Lot 1-D

BLOCK 56

ORIGINAL TOWNSITE

Newell Evangelical Church (INFORMATION ONLY)

TDDD13535

NO MATTER THE SYSTEM OR METHOD USED. THE CONTRACTOR MUST MEET THE TERMS OF THE TEMPORARY DISCHARGE PERMIT AND THE STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES.

Various systems, devices, and products are shown on this sheet to give the Contractor ideas of what may be used for water treatment. Other systems, devices, and products are available and can be used with approval from the Engineer.

The Contractor may elect to block a portion of storm sewer near the outfall with sand bags and pump the water out to be treated with a flocculent or allow the water to set in a lined dumpster until sediment to falls out of suspension before discharging the water. Drop inlet protection devices could also be used as part of a treatment train. The Contractor may pump dirty water into a hydroseeder and mix it with a flocculent, and spray the mixture back onto a sediment pond.

PURPOSE

The purpose of a dewatering and sediment collection system is to collect turbid storm water on the project, treat it with flocculents as needed, and capture the sediment that falls out of suspension before the water is discharged into "Waters of the US" or "Waters of the State". Refer to the Environmental Commitments for the specific requirements for each body of water on this project.

The Contractor will need to create a Pollution Prevention Plan (PPP) for dewatering and sediment collection if the Contractor choses to discharge the water into "Waters of the US" or "Waters of the State" instead of disposing of the water off-site, using it for irrigation, or using it for hydroseeding. The Contractor will also need to obtain a Temporary Discharge Permit from the South Dakota Department of Agriculture & Natural Resources (DANR) on all projects outside of Indian Reservation boundaries.

Suggestions for dewatering and sediment collection may be shown on the plan sheets. It is the Contractor's responsibility to dewater and collect sediment. The Contractor will have to intercept and treat the stormwater before storm sewer outfalls into "Waters of the US" or "Waters of the State". The Contractor may need more than one dewatering and sediment collection system to capture and treat stormwater at multiple outfalls and/or locations simultaneously during each phase of the project.

PAYMENT

No additional payment will be made for Dewatering and Sediment Collecting. Dewatering and Sediment Collecting will be incidental to other items on the project.

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DEWATERING BAGS AND SOCKS capture sediment and should be placed on pavement, vegetated areas, or gravel.

Non-woven Sediment Filter Bags

Indian Valley Industries, Inc.

Johnson City, NY

Phone: 1.800.659.5111

www.iviindustries.com

Dandy Dewatering Bag Dandy Products, Inc. Powell, OH Phone: 1.800.591.2284 www.dandyproducts.com

Ultra-Dewatering Bag UltraTech International, Inc Jacksonville, FL

Phone: 1.800.764.9563 www.spillcontainment.com

Heavy Duty Dirtbag 55 ACF Environmental Richmond, VA Phone: 1.800.223.9021 www.acfenvironmental.com Taurus Dewatering Bags/Socks SolHuTec Group, Inc. Sebastian, FL Phone: 1.888.703.9889 www.solhutec.com

> Pump-It Tube Flo-Water, LLC West Des Moines, IA Phone: 1.515.577.6763 www.flo-water.net

FLOCCULENTS listed below are considered to be safe for the environment, if used as directed:

APS 700 Series Floc Logs Applied Polymer Systems, Inc. Woodstock, GA

Phone 1 866 200 9868 http://www.siltstop.com

Terra-Tubes **ACF Environmental** Buffalo Grove. IL Phone: 1.800,366,1180 www.terratubes.com

Floc. Floc Soc. Floc Bag Innovative Turf Solutions Products

http://www.innovativeturfsolutions.com

Cincinnati. OH Phone 1.513.317.8311

FI-3500 Tablets JRM Chemical, Inc.

Cleveland, OH Phone: 1.216.475.8488 http://www.soilmoist.com Biostar CH Hild & Associates, Inc. Stillwater. MN Phone: 1.715.426.5131 www.biostar-ch.com

Tigerfloc Floc Systems Inc. Surrey, British Columbia Phone: 1.604.343.2046 www.flocsvstems.com

PORTABLE FLOCCULENT SYSTEMS

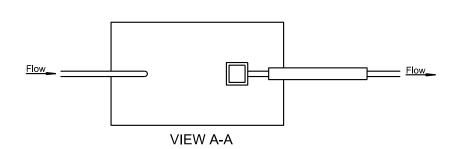
Eco Pond Rescue Water Wagon Eco Pond Rescue LLC Seminole, Florida Phone: 1.727.412.4323 www.ecopondrescue.com

WTS2000 Portable Sediment Tank Aqualete Industries, LLC Ocean, New Jersey Phone: 1.732.695.6336 http://aqualeteindustries.com

Dry Flocculent Mixing System Innovative Equipment Solutions Hot Springs, Arkansas Phone: 1.501.525.8484 http://www.neptunewash.com

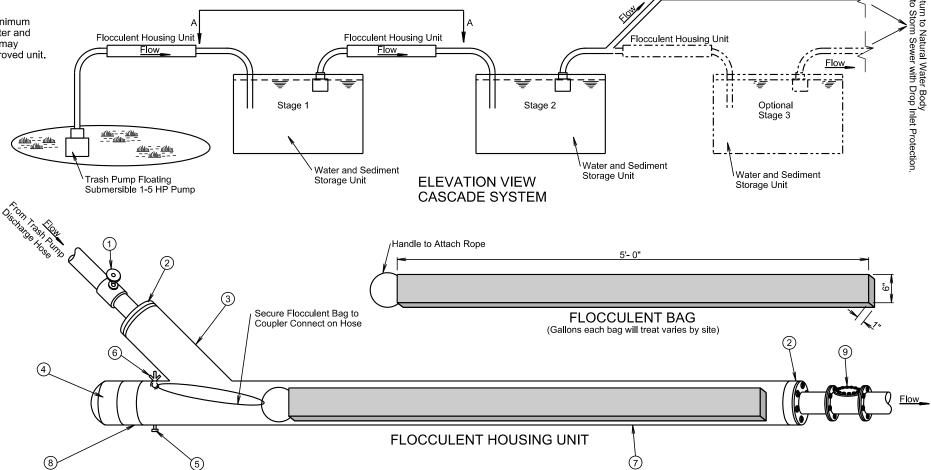
THE CASCADE SYSTEM

The cascade system is shown below and to the right for conceptual purposes only; however, the cascade system will at a minimum incorporate the use of 2 flocculent housing units and 2 water and sediment storage units. Design and construction of the water and sediment storage units are project site specific and will be the Contractor's responsibility. A water and sediment storage unit may consist of a storage bin lined with plastic, the bed of a dump truck lined with plastic, a sediment basin, or other Engineer approved unit. The treatment flocculent bag may be from the list or an approved equal.



	FLOCCULENT HOUSING UNIT (estimated quantities for information only)					
NO.	```					
1	4" or 6" Dia. Sch. 40 Gate Valve	1	Each			
2	4" X 6" or 6" X 8" Sch. 40 PVC Bushing	2	Each			
3	6" or 8" Dia. Sch. 40 PVC "Y"	1	Each			
4	6" or 8" Dia. Sch. 40 PVC Female Threaded Cap	1	Each			
5	1" Dia. Sch. 80 PVC Drain Valve	1	Each			
6	1/2" Eye Bolt with Wing Nut and Rubber Gromets	1	Each			
7	6" or 8" Dia. Sch. 40 PVC Pipe	10	Ft.			
8	6" or 8" Dia. Sch. 40 PVC Male Adapter	1	Each			
9	4" or 6" Dia, Sch. 40 PVC Swing Check Valve	1	Each			

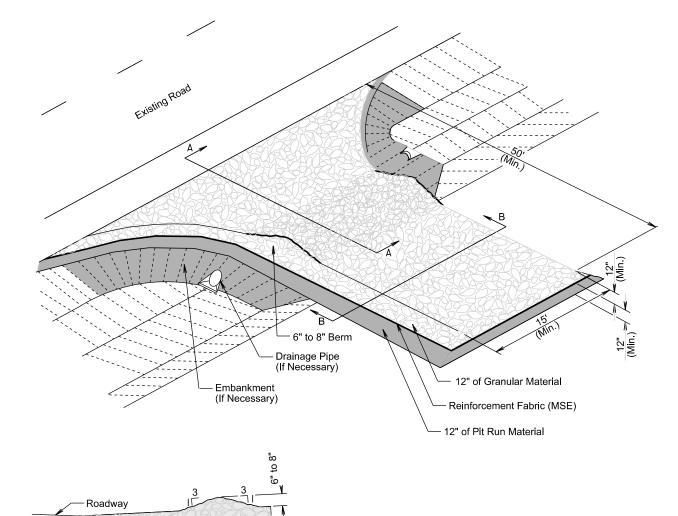
FLOW RAT	E ESTIMATE
Pump Type	Flow Rate (gpm)
2"	50-250
3" Gas	250-350
4" Diesel	500-750
6" Diesel	750-1000

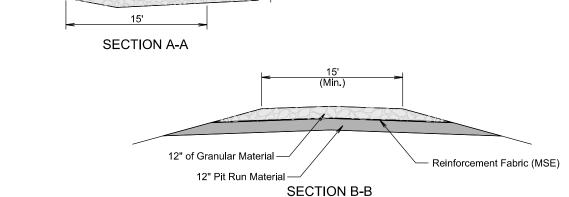


SDDOT CONSTRUCTION ENTRANCE

PROJECT TOTAL SHEETS SHEET STATE OF NH 0212(202)38 D22 D23 DAKOTA P 0079(88)133







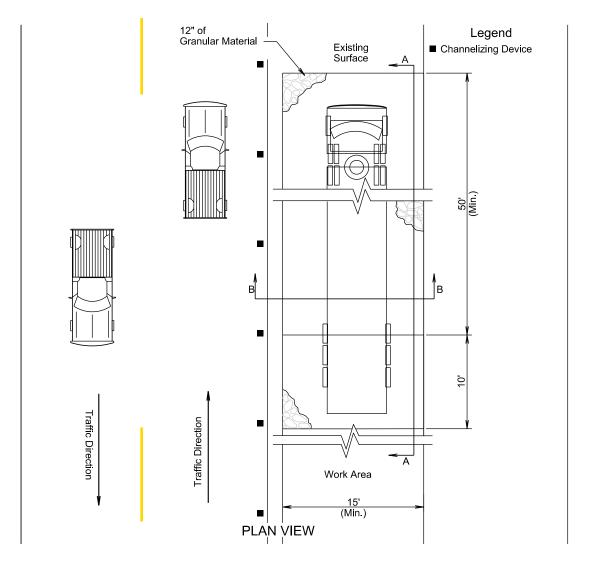
GENERAL NOTES:

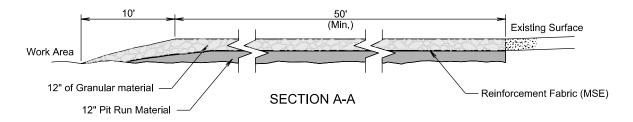
If the grade of the entrance slopes down to the roadway, a berm of extra rock will be used to prevent sediment or mud from being deposited on the roadway.

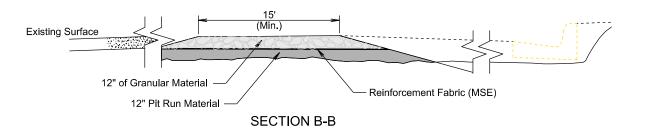
If a drainage pipe is necessary the size and type will be determined by the Contractor to meet field conditions. All cost will be incidental to the various contract items.

If embankment is necessary it will be pit run material.

TRANSVERSE TO ROADWAY







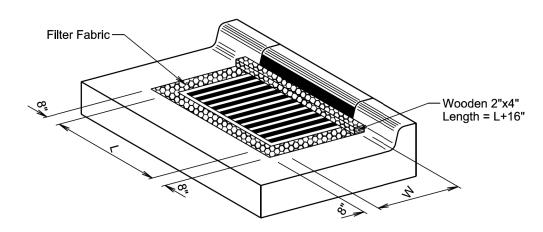
PARALLEL TO ROADWAY

STATE OF	PROJECT	SHEET	TOTAL SHEETS
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L = Length of Grate W = Width of Grate



ISOMETRIC VIEW

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 PLATE NUMBER

> > 734.10

SEDIMENT CONTROL AT INLETS

Sheet I of I

Published Date: 2025

S D D O

WITH FRAMES AND GRATES