PLOT SCALE - 1:6000

PLOT NAME - 1

FILE - ...\MICROSTATION\TITLE SHEET.DGN

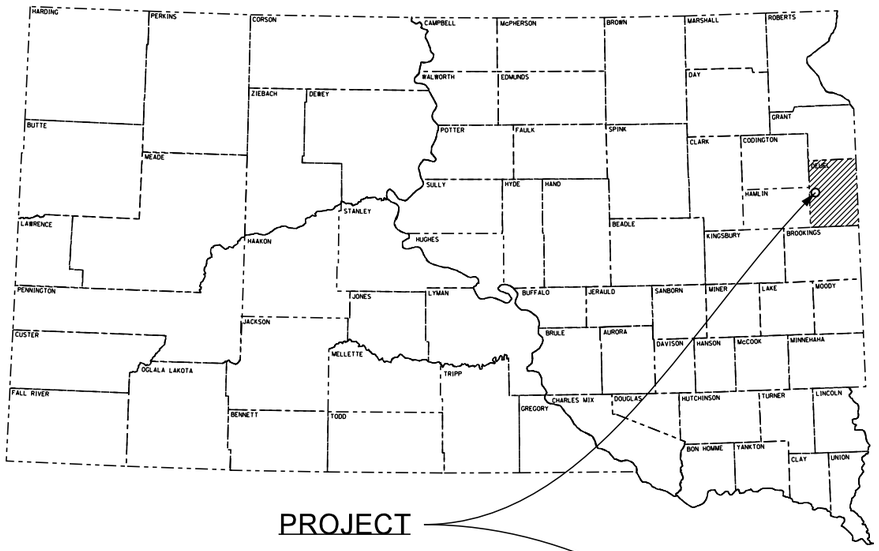
PLOTTED FROM - TRAB10200

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	1	30
Plotting Date: 04/19/2017			

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

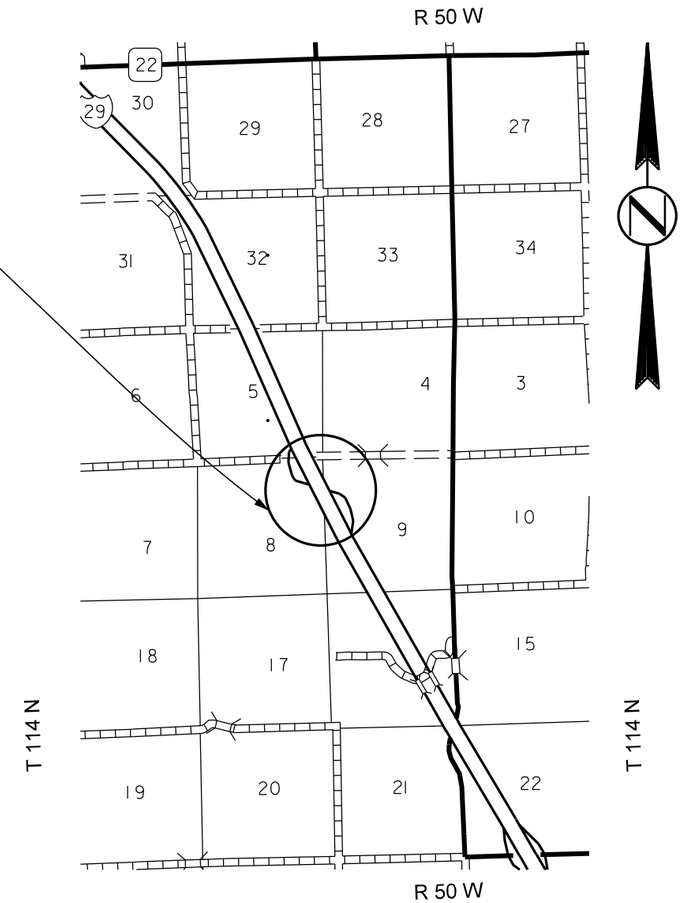
PROJECTS 029 S – 171 & 029 N – 171 INTERSTATE 29 DEUEL COUNTY

REST AREA REMOVAL
PCN i4LX & i4LY



PROJECT

PCN i4LX SB MRM 160.65 to MRM 161.27
PCN i4LY NB MRM 160.37 to MRM 160.92



INDEX OF SHEETS

STORM WATER PERMIT
Major Receiving Body of Water: Hidewood Creek
Total Project Area: 48.72 Acres
Area Disturbed: 4.57 Acres
SB Latitude & Longitude:
NB Latitude & Longitude:

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	029 S – 171 & 029 N – 171	2	30

Estimate of Quantities – i4LX (SB Rest Area)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0210	Remove Building(s)	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	920	Ft
110E1950	Remove Contaminated Water	145.0	MGal
120E0600	Contractor Furnished Borrow Excavation	453	CuYd
120E0900	Contaminated Material Excavation	65	CuYd
230E0020	Contractor Furnished Topsoil	469	CuYd
250E0010	Incidental Work	Lump Sum	LS
250E0020	Incidental Work, Grading	Lump Sum	LS
634E0110	Traffic Control Signs	40.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
730E0204	Type C Permanent Seed Mixture	41	Lb
731E0100	Fertilizing	2,302	Lb
734E0154	12" Diameter Erosion Control Wattle	75	Ft

Estimate of Quantities – i4LY (NB Rest Area)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0210	Remove Building(s)	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	410	Ft
110E1950	Remove Contaminated Water	130.0	MGal
120E0600	Contractor Furnished Borrow Excavation	422	CuYd
120E0900	Contaminated Material Excavation	65	CuYd
230E0020	Contractor Furnished Topsoil	405	CuYd
250E0010	Incidental Work	Lump Sum	LS
250E0020	Incidental Work, Grading	Lump Sum	LS
634E0110	Traffic Control Signs	40.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
730E0204	Type C Permanent Seed Mixture	41	Lb
731E0100	Fertilizing	2,274	Lb
734E0154	12" Diameter Erosion Control Wattle	75	Ft

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance.

Action Taken/Required:

The DENR and the US Environmental Protection Agency (EPA) have issued separate general permits for the discharge of storm water runoff. The DENR permit applies to discharges on state land and the EPA permit applies to discharges on federal or reservation land. The Contractor is advised this project is regulated under the Phase II Storm Water Regulations and must receive coverage under the General Permit for Construction Activities. A Notice of Intent (NOI) will be submitted to DENR a minimum of 15 days prior to project start by the DOT Environmental Office. A letter must be received from DENR that acknowledges project coverage under this general permit before project start. The Contractor is advised that permit coverage may also be required by off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

The Contractor shall adhere to the "Special Provision Regarding Storm Water Discharges to Waters of the State".

A major component of the storm water construction permits is development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which is a joint effort and responsibility of the SDDOT and the Contractor. Erosion control measures and best management practices will be implemented in accordance with the SWPPP. The SWPPP is a dynamic document and is to be available on-site at all times.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT:
http://www.sddot.com/business/environmental/stormwater/Default.aspx

DENR: http://www.denr.sd.gov/des/sw/stormwater.aspx

EPA: http://cfpub.epa.gov/npdes/home.cfm?program_id=6

Contractor Certification Form: Revised: 6/6/17 MD

The "Department of Environmental and Natural Resources – Contractor Certification Form" (SD EForm – 2110LDV1-ContractorCertification.pdf) shall be completed by the Contractor or their certified Erosion Control Supervisor after the award of the contract. Work may not begin on the project until this form is signed.

The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the Surface Water Discharge General Permit for Storm Water Discharges Associated with Construction Activities for the Project.

The online form can be found at:
http://denr.sd.gov/des/sw/eforms/E2110LDV1-ContractorCertification.pdf

ENVIRONMENTAL COMMITMENTS

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) shall not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements shall apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the Public ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating “No Dumping Allowed”.

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) shall be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

UTILITIES

The Contractor shall be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project. The Contractor shall contact the utility companies in sufficient time to allow the company to terminate services and disconnect/remove utility lines from the rest area site.

Utility Company	Address	Phone Number	Contact
H D Electric Coop Inc.	PO Box 1007 Clear Lake, SD 57226	(605) 874-2171	Troy Kwasniewski
Sioux Rural Water Inc.	45703 176th St. Watertown, SD 57201	(605) 881-6021	Todd Goodfellow
Interstate Telecom Coop Assoc.	312 4th St. West Clear Lake, SD 57226	(605) 874-8324	Terry Pederson

PERMITS AND LICENSES

The Contractor shall obtain all necessary State and/or County Permits and/or Licenses in accordance with Section 7.2 of the Standard Specifications

CONTRACTOR FURNISHED BORROW EXCAVATION

The Contractor shall provide a suitable site for Contractor furnished borrow excavation material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material shall be approved by the Engineer. The quantity for "CONTRACTOR FURNISHED BORROW EXCAVATION" as shown in the Estimate of Quantities has been included for bidding purposes only. The quantity used per cubic yard on site will be the basis of pay for this bid item.

Restoration of the Contractor furnished borrow excavation site shall be the responsibility of the Contractor.

REMOVAL OF BUILDINGS

Included in these plans is the removal and disposal of several buildings. The locations and types of buildings are as follows:

Station	Type
Southbound Hidewood Rest Area	1 rest area building & 4 picnic shelters
Northbound Hidewood Rest Area	1 rest area building & 4 picnic shelters

These buildings shall be removed in accordance with Section 110 of the Specifications and all local codes with the exception of the building footings. All building footings must be removed to a minimum depth of 4' below finished ground elevation. The buildings have been inspected for asbestos and asbestos has been removed when required or asbestos was not found. It is the responsibility of the Contractor to visit the site to determine the extent of work required to complete the project. All costs associated with this work shall be incidental contract lump sum price for REMOVE BUILDING(S).

Both the northbound and southbound rest area sites have four picnic shelter buildings that shall be removed. All footings and concrete associated with these buildings shall be removed as well. See "Original Construction Plans" sheets for details on these buildings.

All furniture remaining within the building shall become property of the Contractor.

INCIDENTAL WORK, GRADING

All work items below shall be incidental to the contract lump sum price for INCIDENTAL WORK, GRADING. Everything removed per bid item, INCIDENTAL WORK, GRADING shall become property of the Contractor for his/her disposal, unless otherwise indicated.

Sealing Water and Sewer Mains

The Contractor shall seal all open ends of water and sewer mains to be abandoned with a concrete plug having a length equal to the diameter of the pipe being plugged.

Remove Sprinkler System

All sprinkler heads, valve boxes and irrigation pipe associated with the underground sprinkler system for both northbound and southbound rest areas shall be removed. See "Original Construction Plans" sheets for details on sprinkler head and valve box locations.

Remove Electrical Conduit and Wiring

All electrical wiring, conduit and junction boxes associated with the luminaries shall be removed.

Remove Underground Potable Water Storage Tank

12'x19.5' Fiberglass water storage tanks and all hardware at both the northbound and southbound rest areas shall be removed.

Remove Manholes

All existing manholes shall have the top 4' collapsed within themselves or removed, then filled to maintain even earth contours. See "Original Construction Plans" sheets for details and locations of manholes.

Remove Trees

Only trees that interfere with demolition work shall be removed from the work sites at both the northbound and southbound rest areas. The number of trees removed may differ from the quantity provided in the table as deemed necessary by the Contractor and approved by the Engineer.

Remove Luminaires, Poles and Pole Footings

All luminaires, poles and pole footings associated with the luminaires shall be removed from both the northbound and southbound rest areas. The detail of the footings can be found in the "Original Construction Plans" sheets.

High Mast Light Towers & Footings

Each rest area includes a high mast light tower. The detail of the footings for these towers can be found in the "Original Construction Plans" sheets. All material associated with the high mast tower shall be removed; including luminaires, poles, and footings.

Remove Underground Propane Tanks

Each rest area has two 1000 gallon underground propane tanks that shall be removed. Each tank is approximately 16' long with a 41" diameter.

INCIDENTAL WORK

All work items below shall be incidental to the contract lump sum price for INCIDENTAL WORK. Everything removed per bid item, INCIDENTAL WORK shall become property of the Contractor for his/her disposal, unless otherwise indicated.

Remove Concrete Sidewalk

All concrete sidewalk at both the northbound and southbound rest areas shall be removed.

Remove Flagpole

Flagpoles, concrete foundations and lighting at both northbound and southbound rest areas shall be removed.

Remove Picnic Tables

Concrete picnic tables shall be removed.

Remove Dump Station Facilities

All surface facilities associated with the sewage dump stations for both northbound and southbound rest areas shall be removed to a depth of 2' below finished ground elevation.

Salvage Historical Marker

The Historical Markers plaques located at both the northbound and southbound rest areas shall be removed and salvaged. The remaining brick foundations shall be removed.

Remove Chain Link Fence & Swing Gate

The chain link fence that surrounds both northbound and southbound wastewater lagoons shall be removed. This removal shall include the gate and any footings for posts.

Remove Traffic Control Signs

All traffic control signs shall be removed from the rest area sites. Only signs that direct the existing truck parking traffic shall remain in place.

REMOVE CONCRETE CURB AND/OR GUTTER

Only the southbound rest area site will require curb and gutter removal. As part of this removal, a full depth saw cut is required prior to removing. All costs associated with this work, including the saw cut, are incidental to the contract unit price per foot for REMOVE CONCRETE CURB AND/OR GUTTER.

WASTEWATER LAGOON CLEANOUT

The Contractor shall be responsible for removal and disposal of both liquid and sludge (biosolid) residue in the wastewater stabilization ponds at both rest areas. Sludge and water sampling to determine the Biosolid Concentration Analysis and other elements is a Contractor obligation. City of Brookings Landfill does accept the sludge. All landfill fees, including sampling and testing charges, are the responsibilities of the Contractor.

Sludge quantities will be determined by the truck haul method and the Engineer and Contractor shall agree on the haul amount in each truck prior to hauling sludge material. All costs for the excavation, hauling and disposal of sludge material shall be incidental to the contract unit price per cubic yard for CONTAMINATED MATERIAL EXCAVATION. A quantity of 65 cubic yards is included in the Estimate of Quantities for both the northbound and southbound rest areas for bidding purposes.

If water is present in wastewater lagoons dewatering is required. The contaminated water shall be pumped into calibrated storage containers or tanks and disposed of at a SDDENR permitted facility or landfill for disposal. Discharge of contaminated water to the ground will not be allowed.

Contaminated water quantities will be measured by the MGal and pumped to a storage container or tank and hauled to and disposed of at a SDDENR permitted facility. The Contractor and Engineer shall agree on the amount of water pumped into the truck prior to hauling. Payment for removing, hauling, and disposing of the contaminated water shall be incidental to the contract unit price per MGal for REMOVE CONTAMINATED WATER. A quantity of 275 MGal has been included in the Estimate of Quantities for both the Northbound and Southbound Rest areas for bidding purposes.

Location of the disposal sites shall be provided to the Area Engineer at the Preconstruction meeting. It is the Contractors responsibility to arrange for disposal site locations and pay any fees associated with disposal of sludge/water.

Breakdown of Contractor Furnished Borrow Excavation (Information Only)

	Rest Area Building	Picnic Shelters	Water Storage Tank	Light Pole Footings	Manholes	Drinking Fountain Foundation	Concrete Sidewalk	Underground Propane Tanks	
	Cu. Yd.								**TOTAL**
Southbound Rest Area	48	20	155	83	67	1	45	34	453
Northbound Rest Area	48	20	155	78	42	1	44	34	422
Totals	96	41	310	161	109	2	89	68	**875**

Table of Incidental Work, Grading (Information Only)

	Remove Sanitary Manhole	Remove Sprinkler System	Remove Underground Water Storage Tank	Remove Luminaire Pole Footing	Remove High Mast Light Tower & Footing	Remove Trees
	Each	Each	Each	Each	Each	Each
Southbound Rest Area	8	1	1	11	1	7
Northbound Rest Area	5	1	1	8	1	6
Totals	13	2	2	19	2	13

Table of Incidental Work (Information Only)

	Remove Concrete Sidewalk	Remove Flagpole & Light	Remove Lagoon Chain Link Fence	Remove Lagoon Chain Link Swing Gate	Remove Concrete Picnic Tables	Remove Trailer Waste Station	Remove Historical Marker Foundation
	Sq. Yd.	Each	Ft	Each	Each	Each	Each
Southbound Rest Area	1,010	1	848	1	8	1	1
Northbound Rest Area	951	1	828	1	8	1	1
Totals	1,961	2	1,676	2	16	2	2

SALVAGED ITEMS

All salvaged items noted in the following table shall be salvaged for future highway use and hauled to the Department of Transportation's Aberdeen Yard as directed by the Engineer. The SDDOT Aberdeen Yard is located 0.9 miles west of the US12 & US281 junction. Care shall be taken not to damage the structural properties of the items during dismantling and transporting. All broken concrete and materials not salvaged shall be disposed of in accordance with the Specifications. All costs for salvaging and transporting the items shall be incidental to the contract lump sum price for INCIDENTAL WORK, GRADING. All items that are to be salvaged shall be protected from the elements after they have been removed and before transporting. Before preparing his/her bid, the Contractor shall make a visual inspection of the project to verify the extent of the work and material involved.

Prior to delivery of the salvaged items, the Contractor shall contact

Brian Wacholz,
Office (605) 626-7888
Cell (605) 228-7618

to schedule a time of delivery for all salvaged materials.

Table of Salvaged Materials

	Chain Link Swing Gate from Building	Chain Link Fence from Building Perimeter	Lobby Bulletin Boards	Computer Monitor & Steel Enclosure in Building Lobby	Irrigation Pumps	Hanging Heaters & Thermostat	Surveillance System Hardware in Mechanical Room	Surveillance Cameras	Furnaces & Thermostat	Outdoor Garbage Containers	Historical Marker Plaque	3 Unit Outdoor Tourism Panels & Hardware
	Each	Ft	Each	Each	Each	Each	Each	Each	Each	Each	Each	Each
Southbound Rest Area	1	330	1	1	1	1	1	7	2	9	1	3
Northbound Rest Area	1	330	1	1	1	1	1	7	2	9	1	3
Totals	2	660	2	2	2	2	2	14	4	18	2	6

TRAFFIC CONTROL – GENERAL NOTES

Unless otherwise stated in these plans, no work will be allowed during the hours of darkness.

Storage of vehicles and equipment shall be as near the right-of-way as possible. Contractor's employees should mobilize at a location off the right-of-way and arrive at the worksites in a minimum number of vehicles necessary to perform the work. Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage of the vegetation, surfacing, embankment, delineators and existing signs or barricades resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

All materials and equipment shall be stored a minimum distance of 30' from the traveled way during nonworking hours.

Traffic Control Devices shall be installed per Standard Plate 634.01 starting at the off ramp for each rest area.

The Contractor shall be responsible for maintaining the present roadway closure within the rest area and shall cause as minimal disturbance to the existing truck parking as possible. Parking of equipment within the truck parking area will not be permitted.

INVENTORY OF TRAFFIC CONTROL DEVICES

I-29 SB – i4LX

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			40.0

I-29 NB – i4LY

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			40.0

CONTRACTOR FURNISHED TOPSOIL

It is anticipated that a larger volume of topsoil will be needed for the new grade than can be salvaged from the existing grade. The Contractor will be required to furnish and place 4 inches of topsoil on areas as determined by the Engineer during construction.

Contractor furnished topsoil shall be free from clay lumps, stones, coarse gravel, or similar objects larger than 1/2 inch in diameter. Brush, stumps, roots, wood, objectionable weeds, litter, or any other material which may be harmful to plant growth will not be allowed. Organic material shall be decomposed.

All costs to furnish and place the Contractor furnished topsoil shall be incidental to the contract unit price per cubic yard for CONTRACTOR FURNISHED TOPSOIL.

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum shall 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 shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

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

All seed shall be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed shall be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

The mycorrhizal inoculum shall be as shown below or an approved equal:

Product	Manufacturer
MycoApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 www.mycorrhizae.com

FERTILIZING

The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum guaranteed analysis of 4-6-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 3.2%, a minimum of 6% (P_2O5) 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 shall 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 shall 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 shall 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 fertilizer shall be applied at a rate of 1,000 pounds per acre in accordance with the manufacturer's recommended method of application.

The quantity of fertilizer provided in the Estimate of Quantities accounts for the use of fertilizer on the wastewater lagoons located at each rest area. These areas are to be closed by SDDOT personnel; placement of fertilizer shall wait until the lagoons are completely closed.

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

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com

PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways, temporary easements under cultivation, and areas designated to be sod.

The quantity of Permanent Seeding provided in the Estimate of Quantities accounts for the use of seed on the wastewater lagoons located at each rest area. These areas are to be closed by SDDOT personnel; placement of the permanent seeding shall wait until the lagoons are completely closed.

Type C Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana	16
Canada Wildrye	Mandan	2
	Total:	18

EROSION CONTROL WATTLE

Erosion control wattles for restraining the flow of runoff and sediment shall be installed at locations noted in the table and at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

The Contractor shall provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles shall remain on the project to decompose.

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

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

TABLE OF EROSION CONTROL WATTLE

Location	Diameter (Inch)	Quantity (Ft)
Southbound Rest Area	12	50
Northbound Rest Area	12	50
	Additional Quantity:	50
	Total:	150

Table of Erosion Control Items

	Main Rest Area Demolition						Closing of Lagoons			
	Area		Contractor Furnished Topsoil	Fertilizer	Type C Permanent Seed Mixture	Erosion Control Wattle	Lagoon Area		Fertilizer for Lagoons	Type C Permanent Seed Mixture for Lagoons
	Sq. Ft.	Acres	Cu. Yd.	Lb	Lb	Ft	Sq. Ft.	Acres	Lb	Lb
Southbound Rest Area	37,967	0.87	469	872	16	75	62,488	1.43	1,430	26
Northbound Rest Area	32,842	0.75	405	754	14	75	66,413	1.52	1,520	27
Totals	70,810	1.63	874	1,626	29	150	128,901	2.96	2,950	53

STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

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

SITE DESCRIPTION (4.2 1)

- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **Major Soil Disturbing Activities** (check all that apply)
  - ☐ Clearing and grubbing
  - ☐ Excavation/borrow
  - ☒ Grading and shaping
  - ☒ Filling
  - ☐ Cutting and filling
  - ☒ Other (describe): Rest Area Demolition
- **Total Project Area**: 48.72 Acres **(4.2 1.b.)**
- **Total Area To Be Disturbed**: 4.57 Acres **(4.2 1.b.)**
- **Existing Vegetative Cover (%)** 90%
- **Soil Properties:** USDA-NRCS Soil Series Classification: Kranzburg-Brookings silty clay loams **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies**: Hidewood Creek **(4.2 1.e.)**

ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)

(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)

- **Install perimeter protection where runoff sheets from the site.**
- **Install channel and ditch bottom protection.**
- **Clearing and grubbing.**
- **Remove and store topsoil.**
- **Stabilize disturbed areas.**
- **Complete final grading.**
- **Reseed areas disturbed by removal activities**.

EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))

- **Stabilization Practices (See Detail Plan Sheets)**
  - ☐ Temporary Seeding (Cover Crop Seeding)
  - ☒ Permanent Seeding
  - ☐ Sodding
  - ☐ Planting (Woody Vegetation for Soil Stabilization)
  - ☐ Mulching (Grass Hay or Straw)
  - ☐ Hydraulic Mulch (Wood Fiber Mulch)
  - ☐ Soil Stabilizer
  - ☐ Bonded Fiber Matrix
  - ☐ Erosion Control Blankets or Mats
  - ☐ Vegetation Buffer Strips
  - ☐ Roughened Surface (e.g. tracking)
  - ☐ Other:
- **Structural Temporary Erosion and Sediment Controls**
  - ☐ Silt Fence
  - ☐ Floating Silt Curtain
  - ☐ Straw Bale Check
  - ☐ Temporary Berm
  - ☐ Temporary Slope Drain
  - ☒ Straw Wattles or Rolls
  - ☐ Turf Reinforcement Mat
  - ☐ Rip Rap
  - ☐ Gabions
  - ☐ Rock Check Dams
  - ☐ Sediment Traps/Basins
  - ☐ Inlet Protection
  - ☐ Outlet Protection
  - ☐ Surface Inlet Protection (Area Drain)
  - ☐ Curb Inlet Protection
  - ☐ Stabilized Construction Entrances
  - ☐ Entrance/Exit Equipment Tire Wash
  - ☐ Interceptor Ditch
  - ☐ Concrete Washout Facility
  - ☐ Temporary Diversion Channel
  - ☐ Work Platform
  - ☐ Temporary Water Barrier
  - ☐ Temporary Water Crossing
  - ☐ 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.
- **Storm Water Management (4.2 2.b., (1) and (2))**
  Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.
- **Other Storm Water Controls (4.2 2.c., (1) and (2))**
  - **Waste Disposal**
    All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. 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 in the field office. The general Contractor's representative responsible for the conduct of work on the site will be responsible for seeing 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 individual designated as the Contractor's on-site representative 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 in a timely manner by a licensed waste management Contractor or as required by any local regulations.

MAINTENANCE AND INSPECTION (4.2 3. and 4.2 4.)

- **Maintenance and Inspection Practices**
  - Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
  - 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 in order 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, 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.

NON-STORM WATER DISCHARGES (3.0)

The following non-storm water 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.

MATERIALS INVENTORY (4.2. 2.c.(2))

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 headings "EROSION AND SEDIMENT CONTROLS" and "SPILL PREVENTION" (check all that apply).

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

SPILL PREVENTION (4.2 2.c.(2))

- **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 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.
    - Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.

  - Hazardous Materials
    - Products will be kept in original containers unless the container is not resealable.
    - 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 storm water system or storm water 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 storm water runoff.

- **Product Specific Practices (6.8)**

  - 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 storm water. 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 storm water outlet of the site. Upon completion of construction, the area at the washout facility will be properly stabilized.

- **Spill Control Practices (4.2 2 c.(2))**

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. The Contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

- **Spill Response (4.2 2 c.(2))**

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water 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 SD DENR.
- Personnel with primary responsibility for spill response and clean up 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.

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 DENR immediately **if any one of the following** conditions exists:
  - The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).
  - The discharge causes an immediate danger to human health or safety.
  - The discharge exceeds 25 gallons.
  - The discharge causes a sheen on surface water.
  - The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.
  - The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.
  - The discharge of any substance that harms or threatens to harm wildlife or aquatic life.
  - The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42 gallons).

To report a release or spill, call DENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central time). To report the release after hours, on weekends or holidays, call State Radio Communications at 605-773-3231. Reporting the release to DENR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, the responsible person must also contact local authorities to determine the local reporting requirements for releases. DENR recommends that spills also be reported to the National Response Center at (800) 424-8802.

CONSTRUCTION CHANGES (4.4)

When changes are made to the construction project that will require alterations in the temporary erosion controls of the site, the Storm Water Pollution Prevention Plan (SWPPP) will be amended to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP plan (DOT 298) and drawings to reflect the needed changes. Copies of changes will be routed per DOT 298. Copies of forms and the SWPPP will be retained in a designated place for review over the course of the project.

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.

Tom Wahlstrom

Authorized Signature (See the General Permit, Section 6.9.1.C.)

- **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.

_____

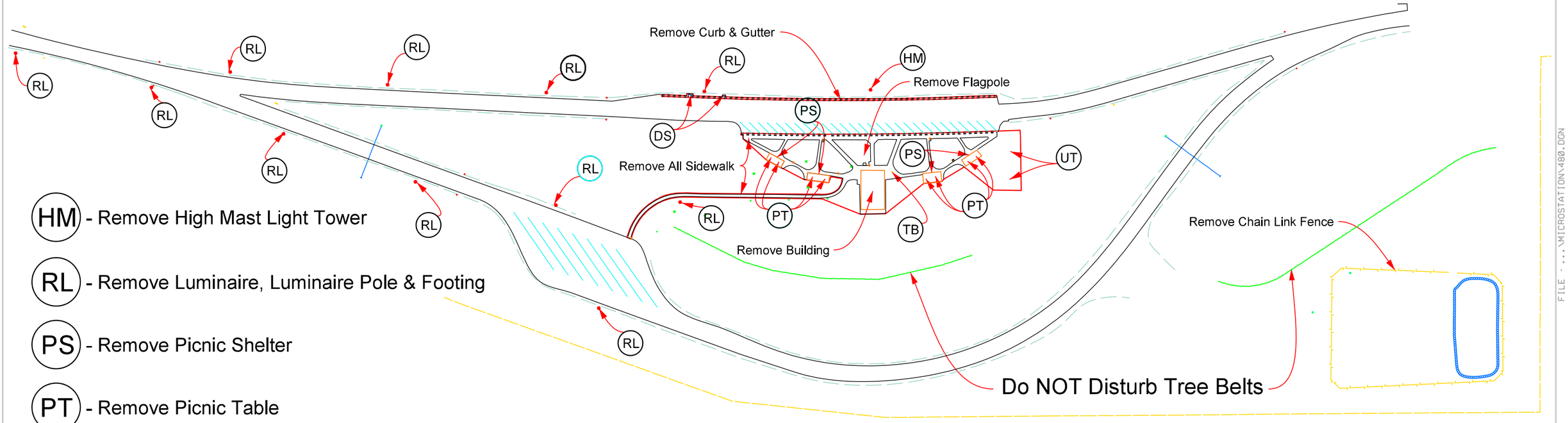
Authorized Signature

CONTACT INFORMATION

- **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: _____
- **SD DENR Contact Spill Reporting**
  - Business Hours Monday-Friday (605) 773-3296
  - Nights and Weekends (605) 773-3231
- **SD DENR Contact for Hazardous Materials.**
  - (605) 773-3153
- **National Response Center Hotline**
  - (800) 424-8802.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	11	30
Plotting Date: 04/19/2017			

REST AREA LAYOUT - I-29 SB



HM - Remove High Mast Light Tower

RL - Remove Luminaire, Luminaire Pole & Footing

PS - Remove Picnic Shelter

PT - Remove Picnic Table

DS - Remove Dump Station Facilities

TB - Salvage Tourist Information Boards

UT - Remove Underground Propane Tanks

REST AREA LAYOUT - I-29 NB

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	12	30
Plotting Date: 04/19/2017			

RL - Remove Luminaire, Luminaire Pole & Footing

PS - Remove Picnic Shelter

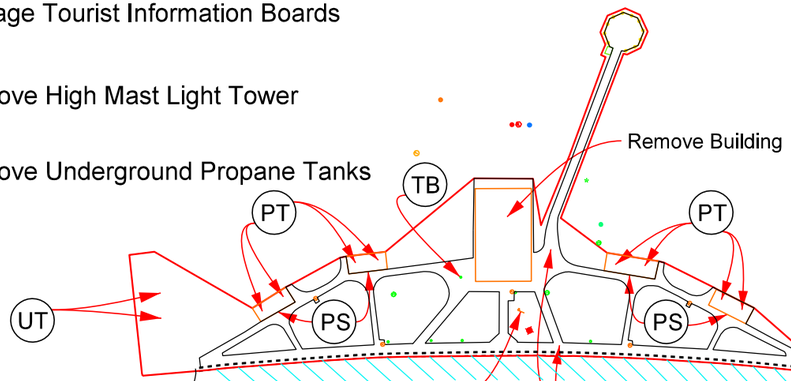
PT - Remove Picnic Table

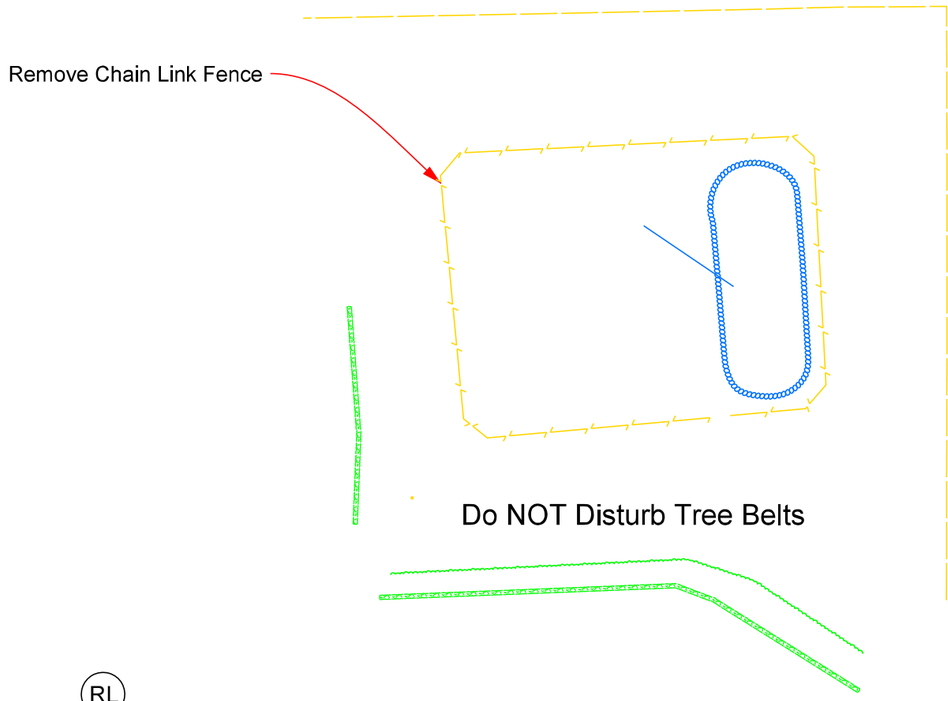
DS - Remove Dump Station Facilities

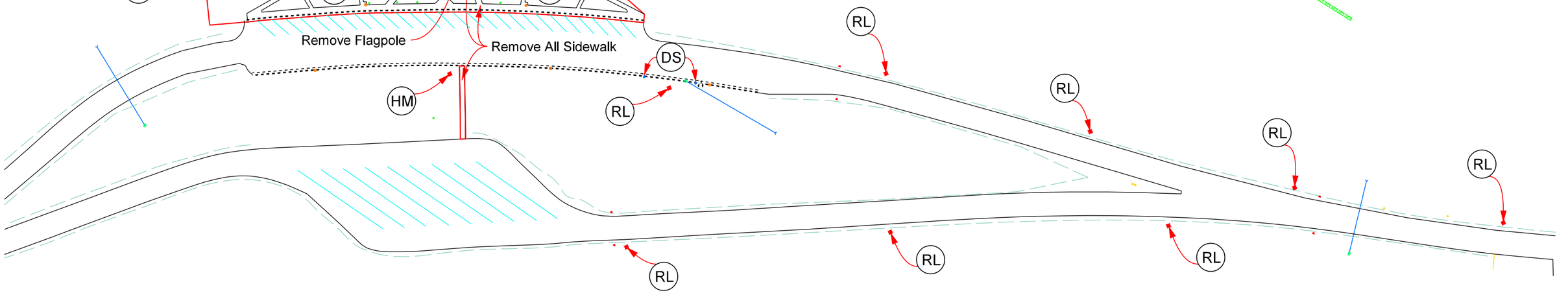
TB - Salvage Tourist Information Boards

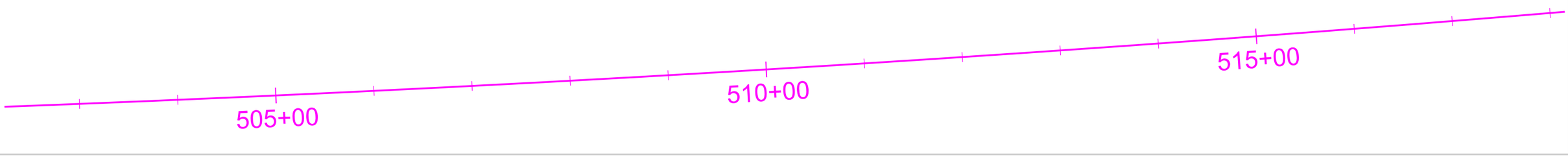
HM - Remove High Mast Light Tower

UT - Remove Underground Propane Tanks









SOUTHBOUND SITE LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	13	30
Plotting Date: 04/19/2017			

Remove Luminaire

Remove
Dump Station
Facilities

Remove
High Mast
Light Tower

Remove Concrete
Curb & Gutter

Remove all Concrete Sidewalk

Remove all Concrete Sidewalk

Remove all Concrete Sidewalk

Remove all Concrete Sidewalk

Remove all Concrete Sidewalk

Remove Picnic
Building

Remove Picnic
Building

Remove Picnic
Building

Remove Picnic
Building

Remove Underground
Propane Tanks

* Salvage all Outdoor Trash Cans

Remove all Concrete Sidewalk

Remove all Concrete Sidewalk

Remove Luminaire

Remove
Building

Approximate
Construction
Limits

PLOT SCALE - 1140

PLOT NAME - 1

FILE - ...\MICROSTATION\SB BUILDING.DGN

PLOTTED FROM - TRAB10200

NORTHBOUND SITE LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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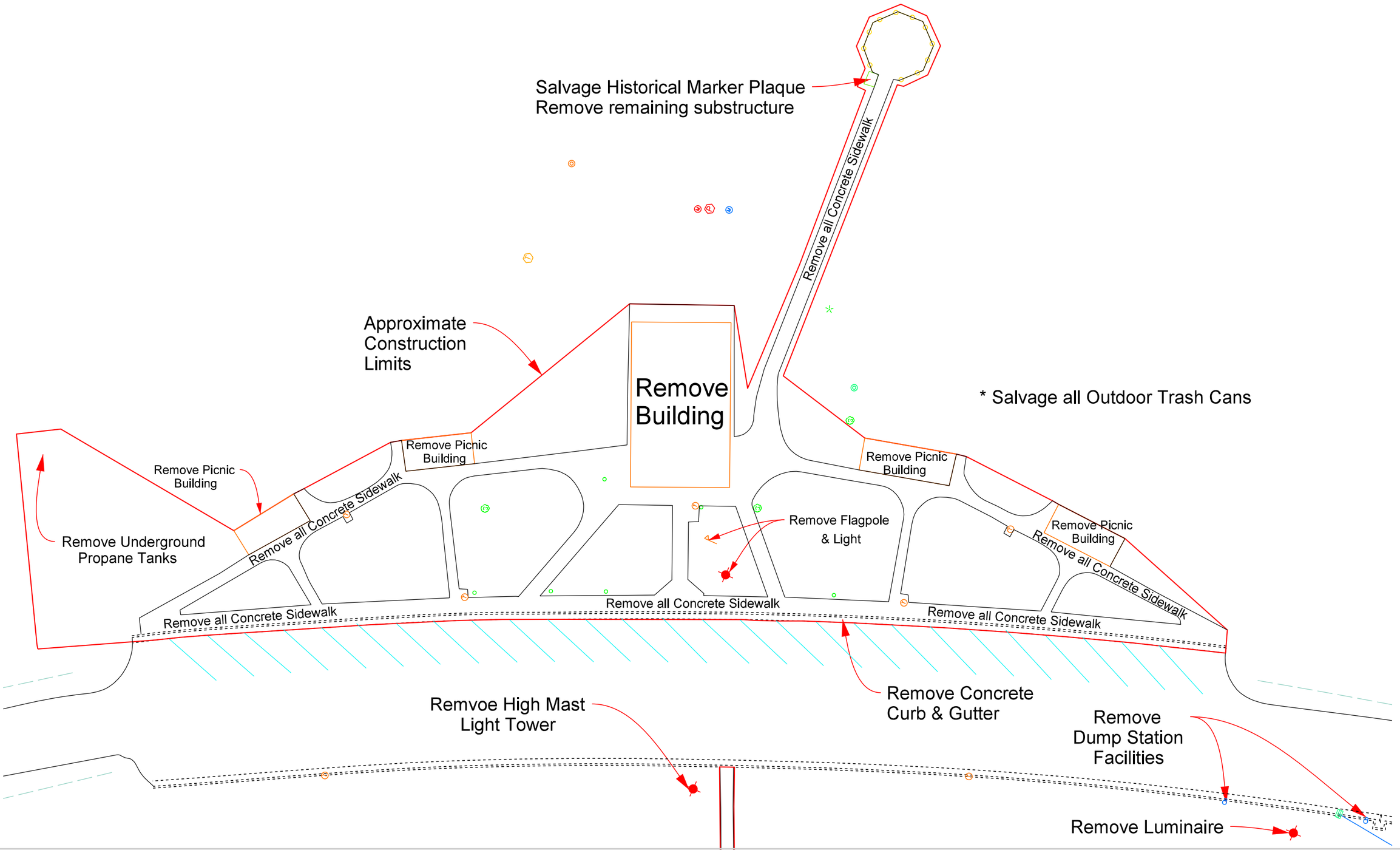
Plotting Date: 04/19/2017			



SOUTHBOUND REST AREA BUILDING

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	15	30

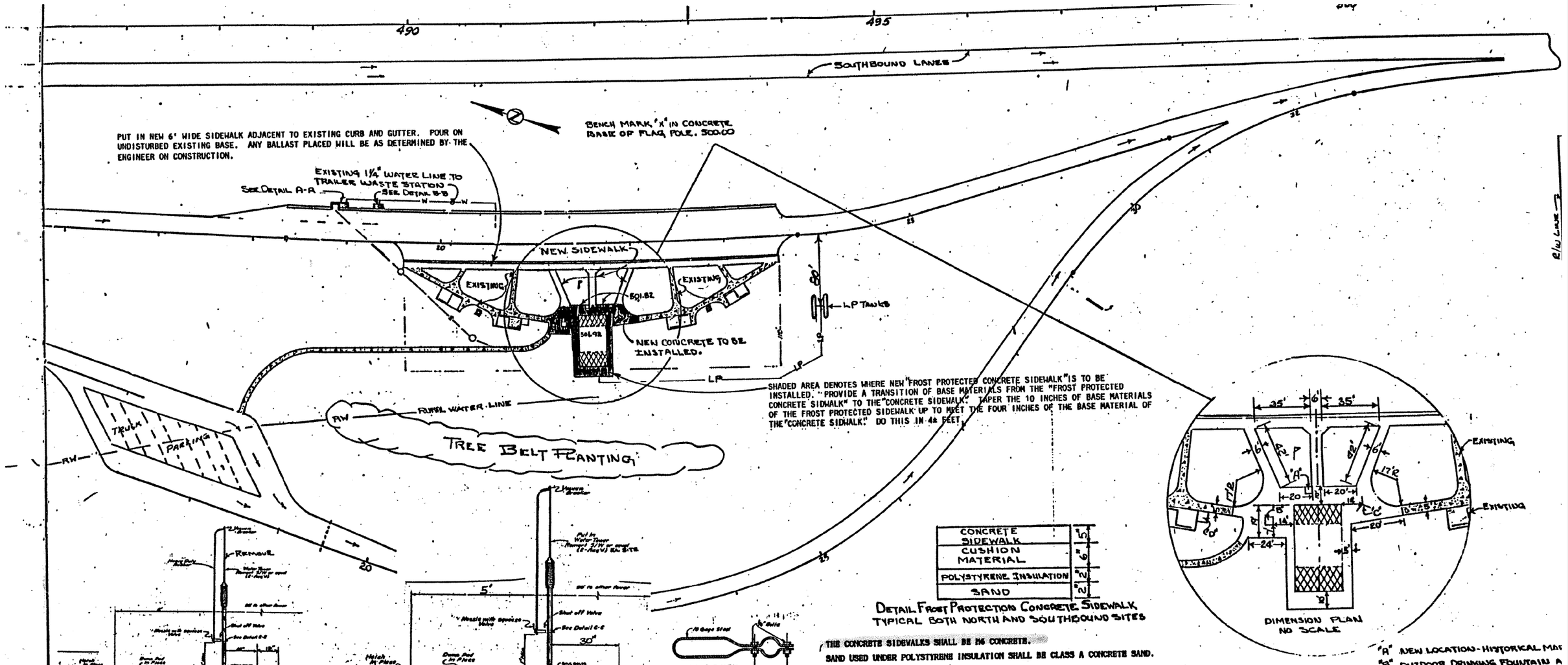
NORTHBOUND REST AREA BUILDING

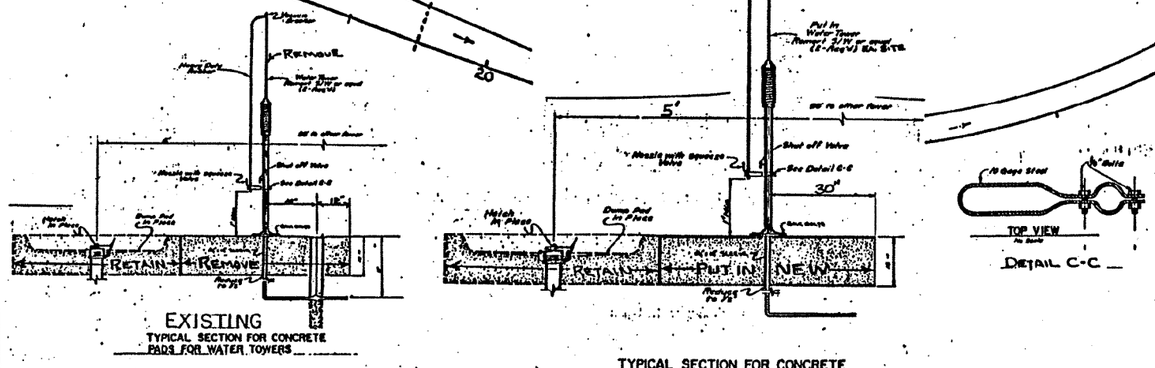
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	16	30

PLOTTED FROM - TRAB10200

ORIGINAL CONSTRUCTION PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	17	30



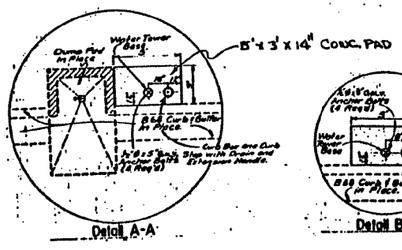


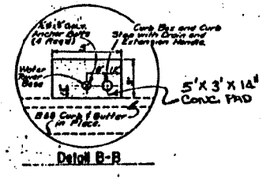
EXISTING
TYPICAL SECTION FOR CONCRETE PADS FOR WATER TOWERS

TYPICAL SECTION FOR CONCRETE PADS FOR WATER TOWERS

CONCRETE SIDEWALK	5"
CUSHION MATERIAL	6"
POLYSTYRENE INSULATION	2"
SAND	2"

DETAIL FROST PROTECTION CONCRETE SIDEWALK
TYPICAL BOTH NORTH AND SOUTHBOUND SITES





WATER TOWER DETAILS ARE TYPICAL OF EXISTING TRAILER WASTE STATION INSTALLATIONS BOTH NORTHBOUND AND SOUTHBOUND REST AREAS. EXISTING WATER TOWERS AND CONCRETE PADS ARE TO BE REMOVED - TWO EACH REST AREA. REPLACE WITH NEW TOWERS AND CONCRETE PADS; CURB STOPS AND DRAINS NOT REQUIRED. PROVIDE NEW PIPING FROM EXISTING 1 1/4" FEED LINE TO NEW TOWERS. THIS WORK WILL BE PAID FOR UNDER THE BID ITEM, "TRAILER WASTE STATION APPURTENANCES".

THE CONCRETE SIDEWALKS SHALL BE M6 CONCRETE.

SAND USED UNDER POLYSTYRENE INSULATION SHALL BE CLASS A CONCRETE SAND.

CUSHION MATERIAL SHALL COMPLY WITH SECTION 651.2 OF THE STANDARD SPECIFICATION.

EXTRUDED INSULATION BOARD (POLYSTYRENE) SHALL MEET SPECIFICATION REQUIREMENT AASHTO-M230-70.

THE COMPACTION OF SAND AND CUSHION MATERIAL SHALL BE SATISFACTORY TO THE ENGINEER.

THE CONCRETE SHALL HAVE A BROOMED FINISH.

THE SAND AND POLYSTYRENE INSULATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE SIDEWALK.

THE COST OF HAULING AND PLACING THE CUSHION MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE SIDEWALK.

EXCAVATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE SIDEWALK.

ONE-HALF INCH PREFORMED EXPANSION JOINT FILLER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE SIDEWALK.

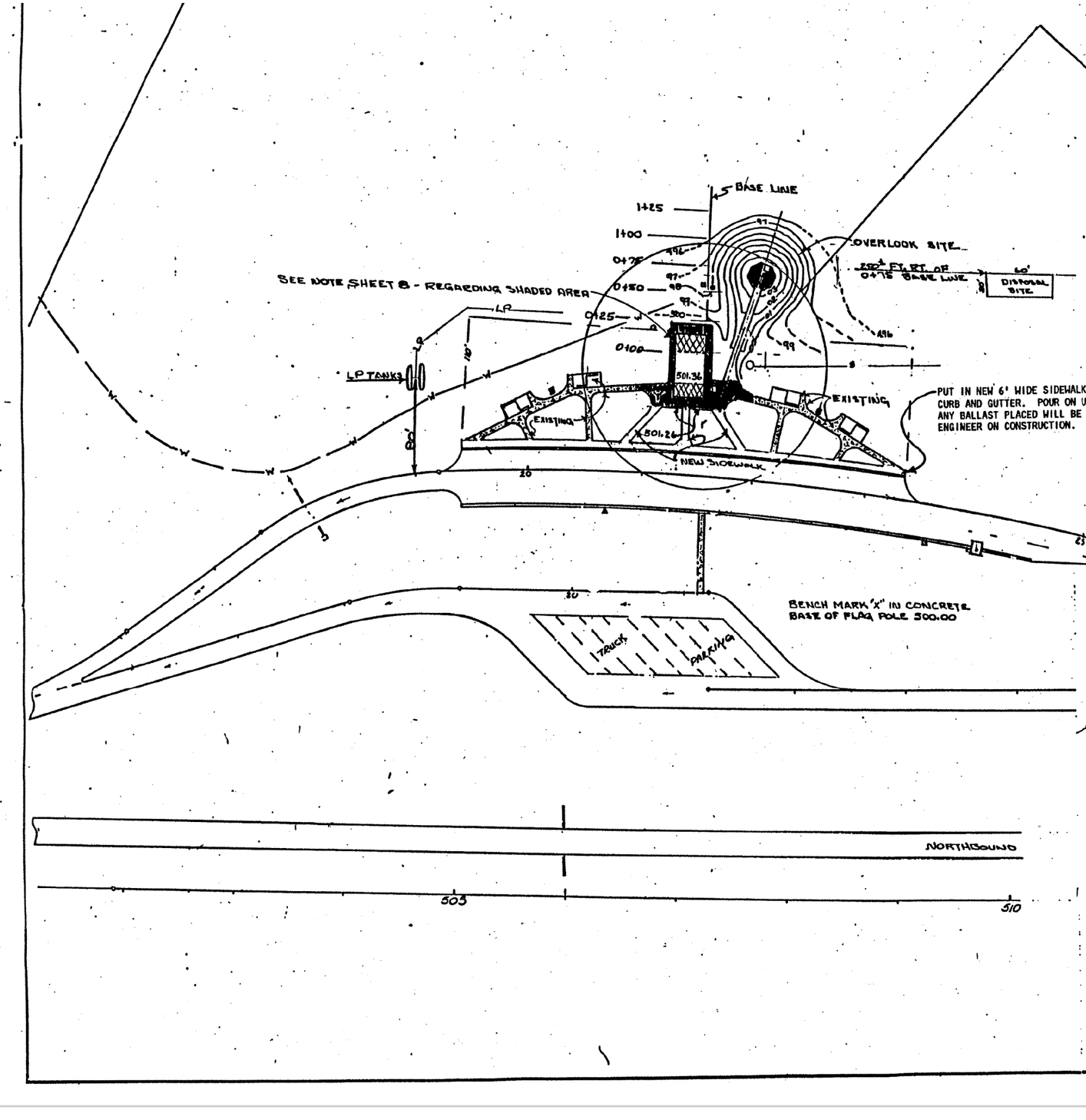
PLACE, 1/2" PREFORMED EXPANSION JOINT MATERIAL, CONSTRUCTION AND CONTRACTION JOINTS AT LOCATIONS DETERMINED BY THE ENGINEER ON CONSTRUCTION.

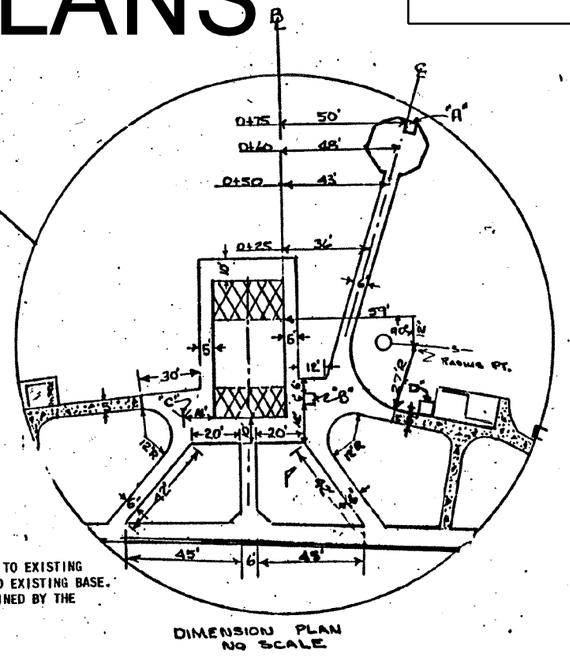
CONCRETE SIDEWALK	5"
CUSHION MATERIAL	4"

DETAIL CONCRETE SIDEWALK
TYPICAL BOTH NORTH AND SOUTH BOUND SITES.

ORIGINAL CONSTRUCTION PLANS

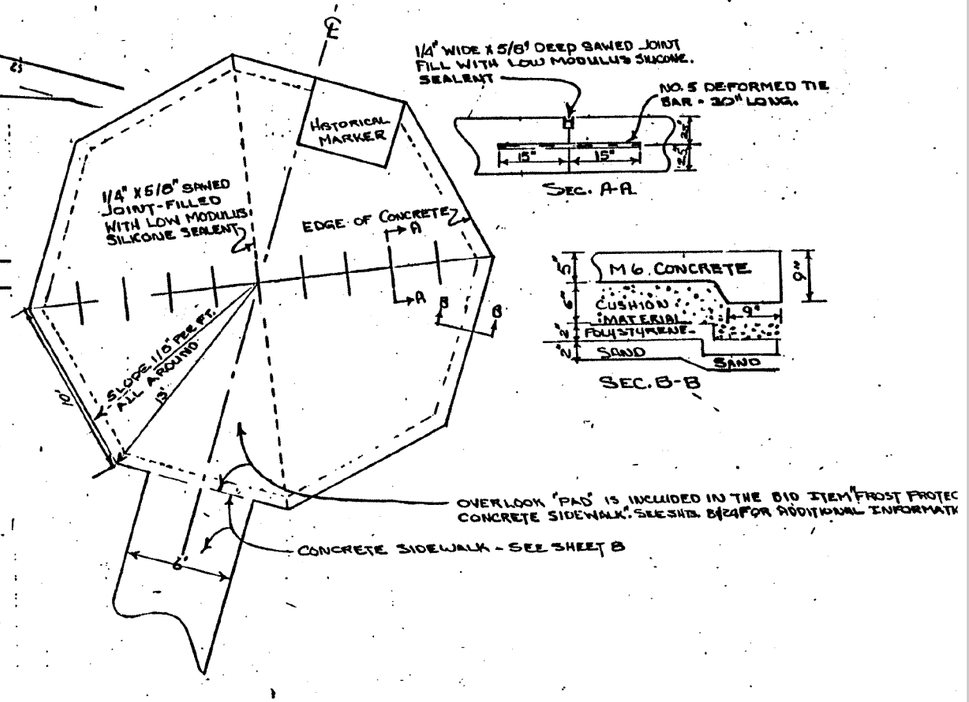
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	18	30





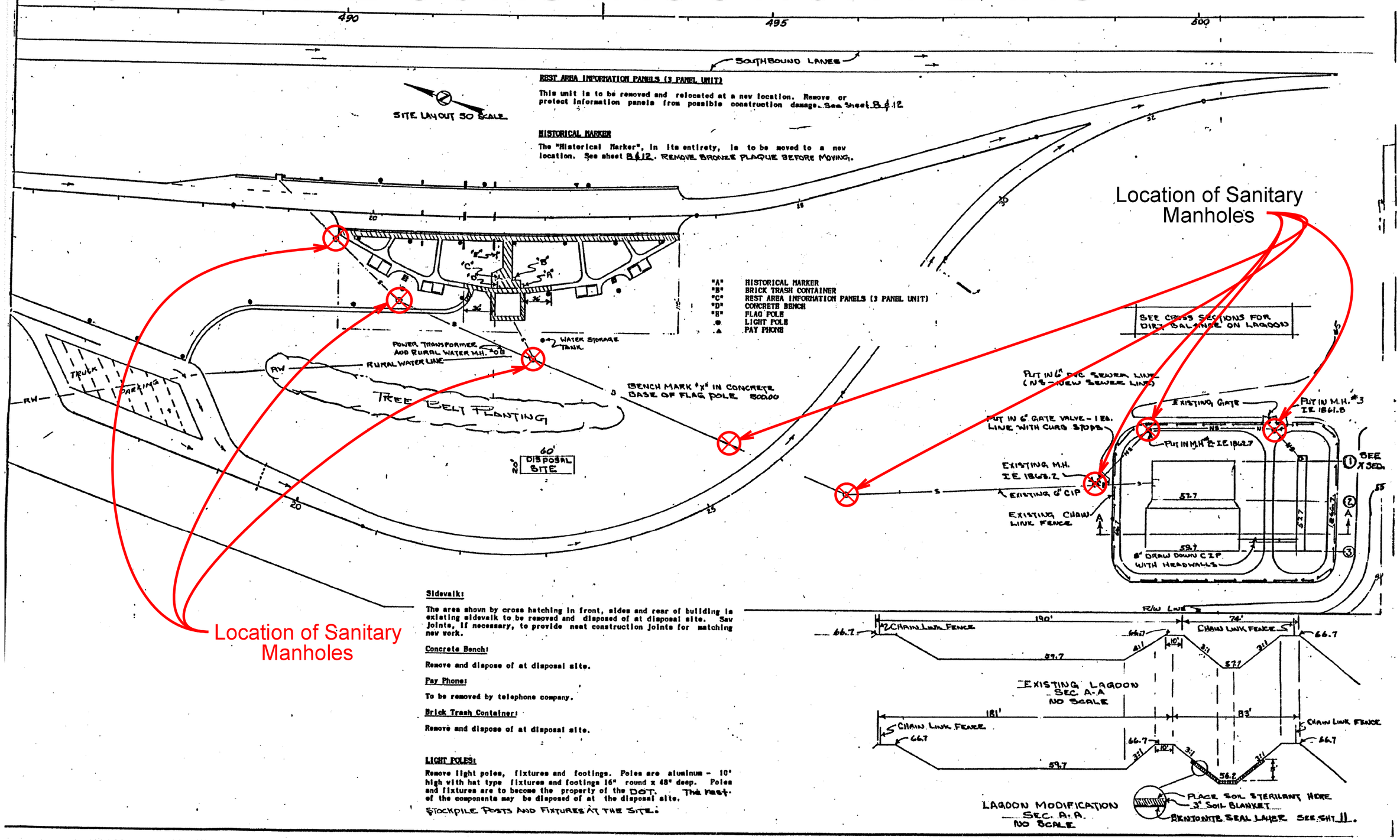
DIMENSION PLAN
NO SCALE

"A" NEW LOCATION-HISTORICAL MARKE
"B" OUTDOOR DRINKING FOUNTAIN AND JUG FILLER
"C" NEW LOCATION PICNIC AREA IN FORMATION PAVERS (3 PAVER UNITS)
"D" VENDING-ADDITION TO PICNIC SHELTER.



ORIGINAL CONSTRUCTION PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	19	30



Sidewalk:

The area shown by cross hatching in front, sides and rear of building is existing sidewalk to be removed and disposed of at disposal site. Saw joints, if necessary, to provide neat construction joints for matching new work.

Concrete Bench:

Remove and dispose of at disposal site.

Pay Phone:

To be removed by telephone company.

Brick Trash Container:

Remove and dispose of at disposal site.

LIGHT POLES:

Remove light poles, fixtures and footings. Poles are aluminum - 10' high with hat type fixtures and footings 16" round x 48" deep. Poles and fixtures are to become the property of the DOT. The rest of the components may be disposed of at the disposal site.

STOCKPILE POSTS AND FIXTURES AT THE SITE.

ORIGINAL CONSTRUCTION PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	20	30

BORROW SITE

The borrow site will be developed in the general area shown. The material to be removed, in the amount of 1365± cu. yds., is to be used to develop the overlook site. Following excavation the site is to be graded to provide smooth contours, with slopes 6:1 or flatter. Topsoil is to be replaced and the borrow site seeded, fertilized and mulched.

OVERLOOK SITE

The overlook site shall be graded to the approximate contours shown. The cost of excavating hauling and placing site borrow material at the overlook site shall be included in the Bid Item "Unclassified Excavation".

DASHED CONTOURS Denote existing ground line.

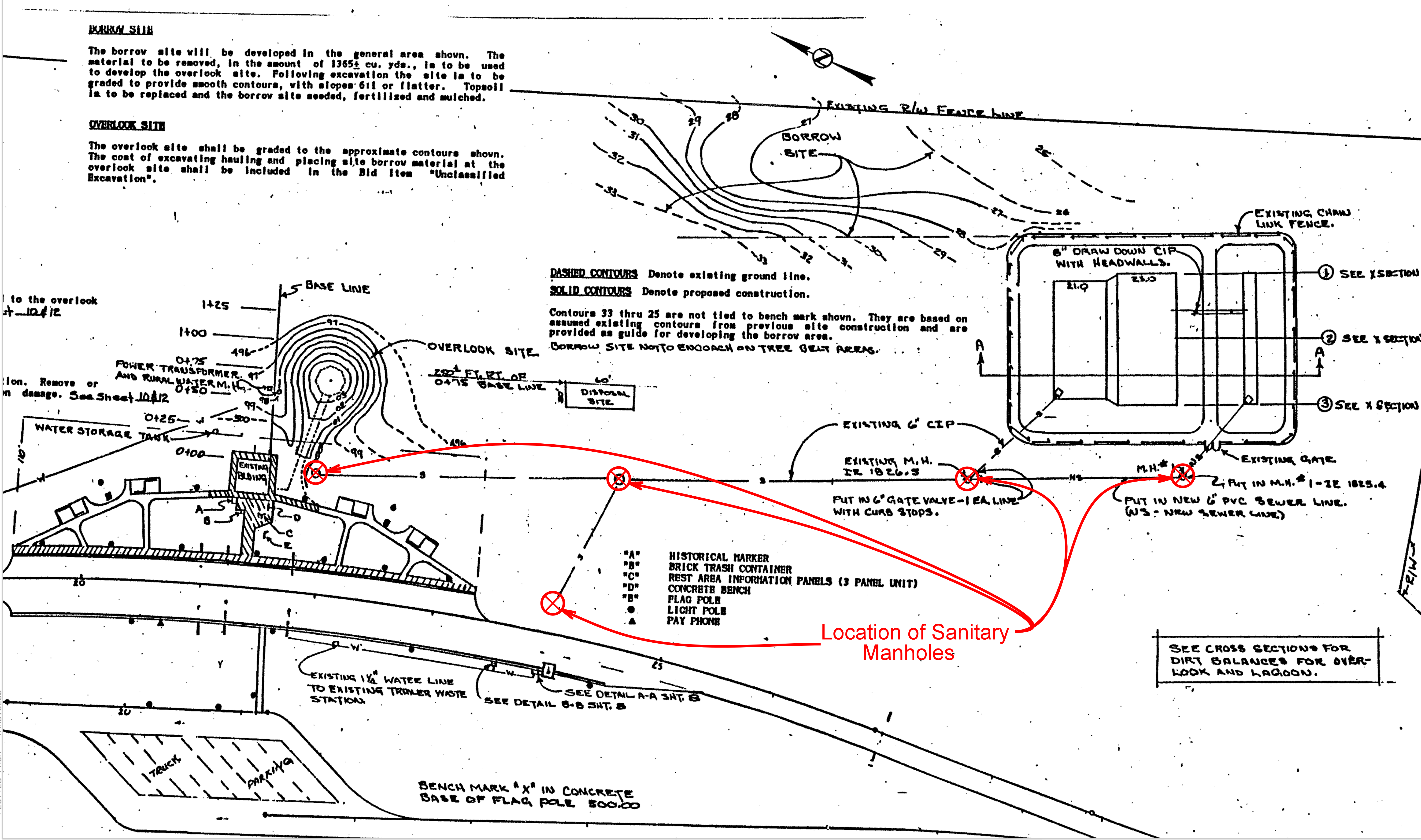
SOLID CONTOURS Denote proposed construction.

Contours 33 thru 25 are not tied to bench mark shown. They are based on assumed existing contours from previous site construction and are provided as guide for developing the borrow area.

BORROW SITE NOT TO ENCROACH ON TREE BELT AREAS.

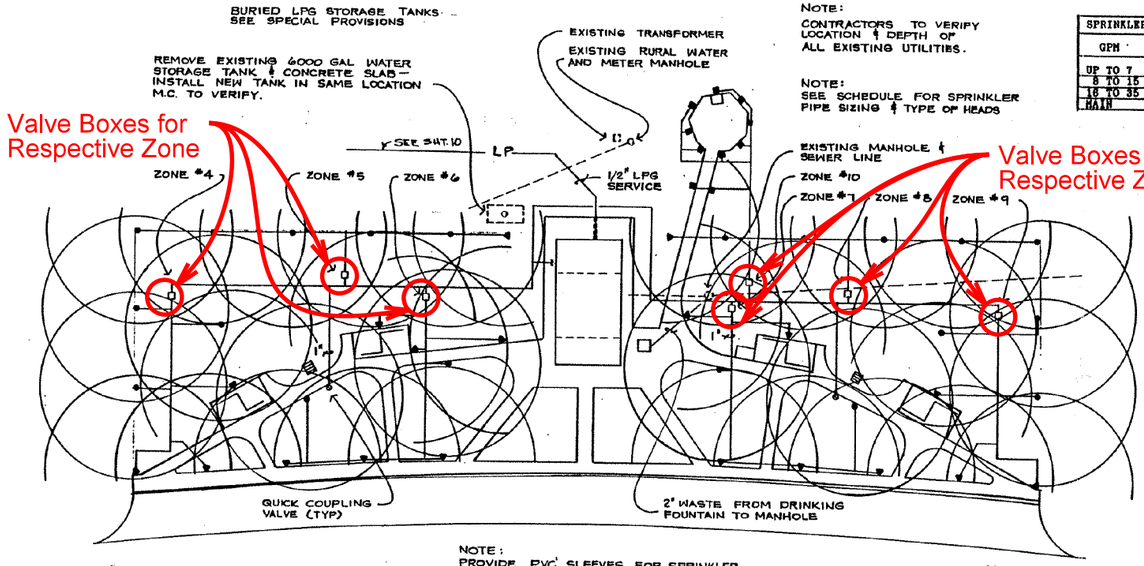
"A" HISTORICAL MARKER
"B" BRICK TRASH CONTAINER
"C" REST AREA INFORMATION PANELS (3 PANEL UNIT)
"D" CONCRETE BENCH
"E" FLAG POLE
● LIGHT POLE
▲ PAY PHONE

SEE CROSS SECTIONS FOR DIRT BALANCES FOR OVERLOOK AND LAGOON.



ORIGINAL CONSTRUCTION PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	21	30



NOTE:
CONTRACTORS TO VERIFY LOCATION & DEPTH OF ALL EXISTING UTILITIES.

NOTE:
SEE SCHEDULE FOR SPRINKLER PIPE SIZING & TYPE OF HEADS

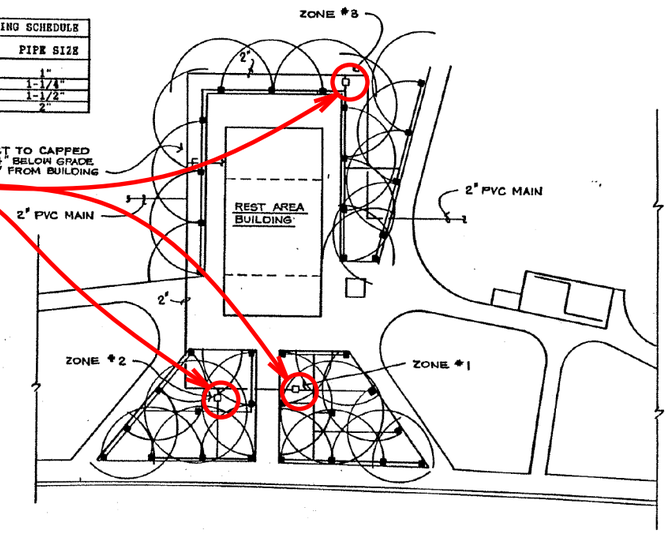
NOTE:
PROVIDE PVC SLEEVES FOR SPRINKLER SYSTEM PIPING UNDER ALL SIDEWALKS (TYP.)

NOTE:
SPRINKLER CONTRACTOR TO REMOVE ALL EXISTING SPRINKLER HEADS & QUICK COUPLING VALVES. EXISTING PIPING TO BE ABANDONED.

N

MECHANICAL SITE PLAN & SPRINKLER SYSTEM LAYOUT - NORTHBOUND
SCALE : 1" = 30'-0"

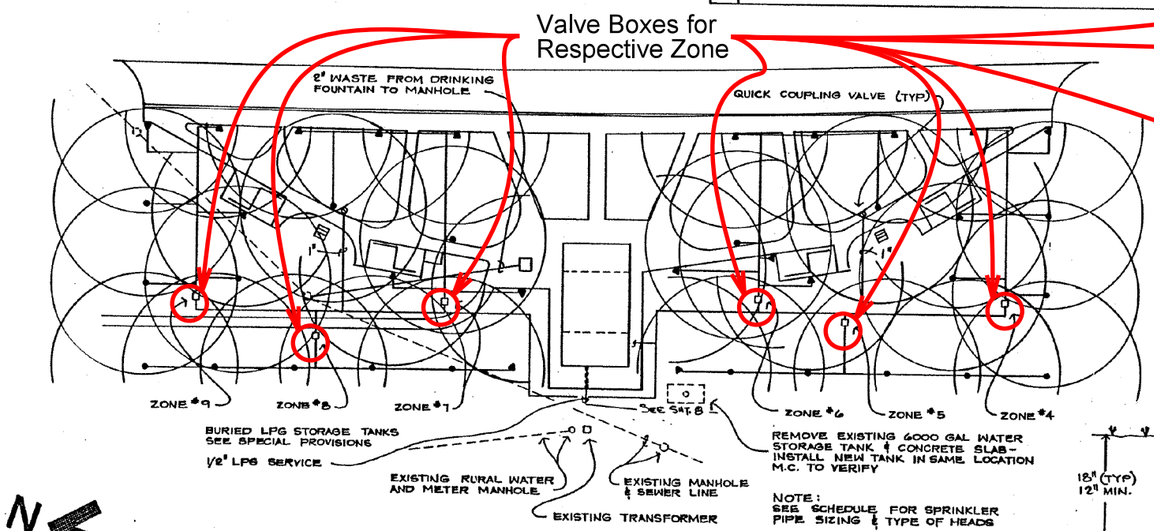
SPRINKLER SYSTEM PIPE SIZING SCHEDULE	
GPM	PIPE SIZE
UP TO 7	1"
8 TO 15	1-1/4"
16 TO 35	1-1/2"
MAIN	2"



BUILDING SPRINKLER SYSTEM PLAN - NORTHBOUND
SCALE : 1" = 20'-0"

SPRINKLER SYSTEM SCHEDULE					
SYMBOL	PATTERN	GPM	PRESSURE	RADIUS	MFG. NO.
■	Q-CIRCLE	1.0	30 PSI	15'	TORO #570C-SP WITH QUARTER CIRCLE NOZZLE.
▌	H-CIRCLE	2.0	30 PSI	15'	TORO #570C-SP WITH HALF CIRCLE NOZZLE.
●	F-CIRCLE	4.0	30 PSI	15'	TORO #570C-SP WITH FULL CIRCLE NOZZLE.
▌	H-CIRCLE	2.5	30 PSI	41'	TORO #5600-PC-2.5 WITH ADJUSTABLE HALF CIRCLE NOZZLE.
●	F-CIRCLE	5.0	30 PSI	42'	TORO #5600-PC-5.0 WITH FULL CIRCLE NOZZLE.
●	- - -	10.0	30 PSI	- - -	RAINBIRD #33DLRC QUICK COUPLING VALVE.
□	- - -	35.0	30 PSI	- - -	TORO #252-06-06, 1-1/2", 24 VOLT CONTROL VALVE.

SPRINKLER SYSTEM NOTES	
1.	STAKE ALL HEAD AND SPRINKLER LINE LOCATIONS FOR FUTURE REFERENCE.
2.	ADJUST HEAD LOCATIONS AS NECESSARY TO CONFORM TO FINAL FACILITY LOCATIONS AND TO PROVIDE ADEQUATE COVERAGE.
3.	SEE SHEET M-3 FOR CONTINUATION OF SPRINKLER SYSTEM SUPPLY PIPING.
4.	CONTRACTOR TO VERIFY SIDEWALK LOCATION AND SIZE.



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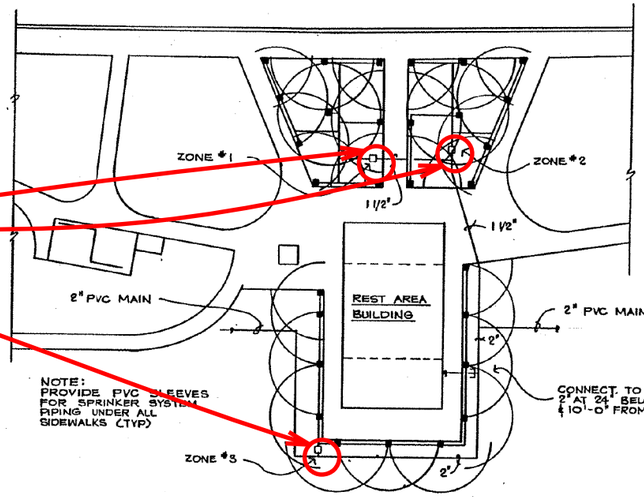
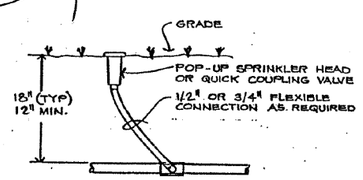
MECHANICAL SITE PLAN & SPRINKLER SYSTEM LAYOUT - SOUTHBOUND
SCALE: 1" = 30'-0"



BUILDING SPRINKLER SYSTEM PLAN - SOUTHBOUND
SCALE: 1" = 20'-0"



SPRINKLER SWING JOINT
NO SCALE

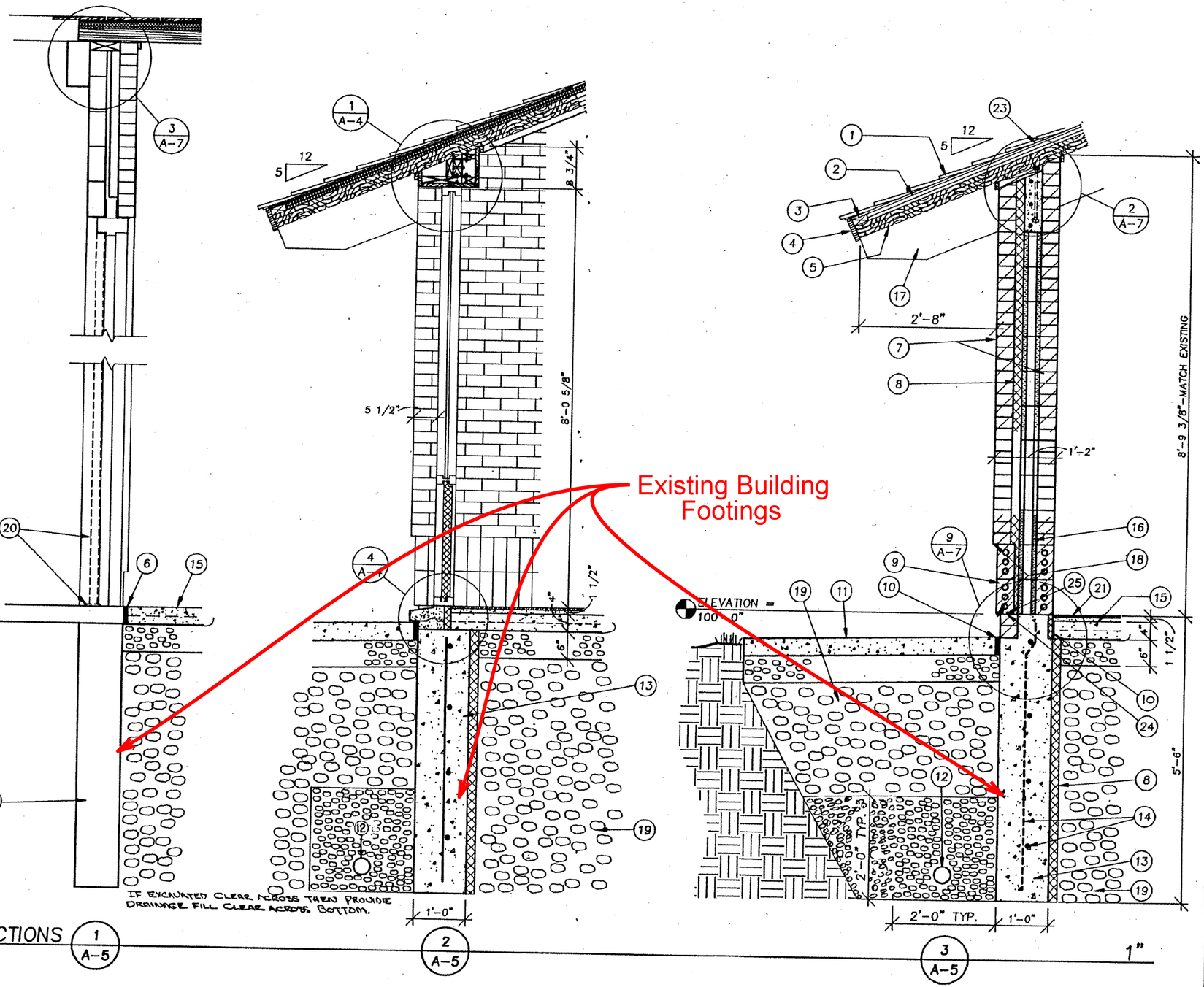
Engineering Services
Consulting Engineers
2920 South Oakfield Avenue — Sioux Falls, S.D. 57105
Phone: (605) 336-6550

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered ENGINEER under the laws of the State of SOUTH DAKOTA
Charles H Nellis
Date 11-4-91 Reg. No. 1606

DATE	SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
11-4-91	DEUEL COUNTY REST AREA BUILDING
REVISIONS	SOUTH DAKOTA PROJECT #IR 29-6 (18) 160
	ARCHITECTURE AUTOMATED, INC. 600 WEST AVENUE NORTH SIOUX FALLS, SOUTH DAKOTA 57104 (605) 336-3722
	SHEET M-1

ORIGINAL CONSTRUCTION PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	22	30



KEYED NOTES

1. HAND SPLIT CEDAR SHAKE SHINGLES ON 30# FELT.
2. 2 LAYERS OF 3/4" RIGID INSULATION.
3. TREATED 2x4 NAILER.
4. 1x6 ROUGH SAWN CEDAR FASCIA.
5. LAMINATED WOOD DECKING.
6. BREAK BOND W/ 15# FELT.
7. FACE BRICK STRETCHER.
8. 2" RIGID INSULATION.
9. FACE BRICK SOLDIERS.
10. EXPANSION JOINT.
11. SIDEWALK AND DRAINAGE FILL, SEE DETAIL.
12. 4" SLOTTED A.D.S. TUBING SURROUNDED W/ DRAINAGE FILL, 2'-0" HIGH AND 2'-0" WIDE.
13. 12" CONCRETE FOUNDATION WALL.
14. #4'S VERTICAL & HORIZONTAL @ 15" O.C. EACH WAY.
15. 4" CONCRETE SLAB W/ 6x6-10/10 W.W.F. ON VAPOR BARRIER ON 6" DRAINAGE FILL.
16. 4" CONCRETE BLOCK.
17. 5"x10 1/2" LAMINATED WOOD BEAM.
18. 1" PROJECTION.
19. ENGINEERED FILL TO BOTTOM OF CONCRETE AND AT PERIMETER AROUND BUILDING.
20. REMOVE EXISTING DOOR AND THRESHOLD, FRAME TO REMAIN.
21. 1/2" THICK QUARRY TILE ON 1" SETTING BED.
22. EXISTING CONCRETE FOUNDATION WALL.
23. 1/2" NAIL BASE PLYWOOD.
24. 30 MIL FLASHING.
25. WEEP HOLES @ 2'-6" O.C.

DATE	SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION DEUEL COUNTY REST AREA BUILDING SOUTH DAKOTA PROJECT #IR 29-6 (18) 160
11-4-91	
REVISIONS	

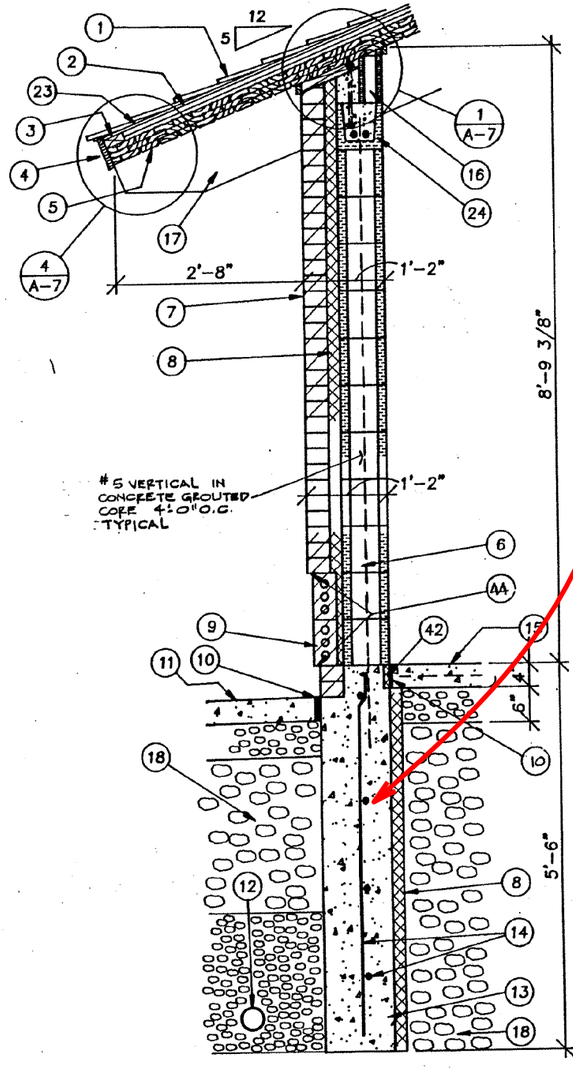
ARCHITECTURE AUTOMATED, INC.
600 WEST AVENUE NORTH
SIOUX FALLS, SOUTH DAKOTA 57104
(605) 336-3752

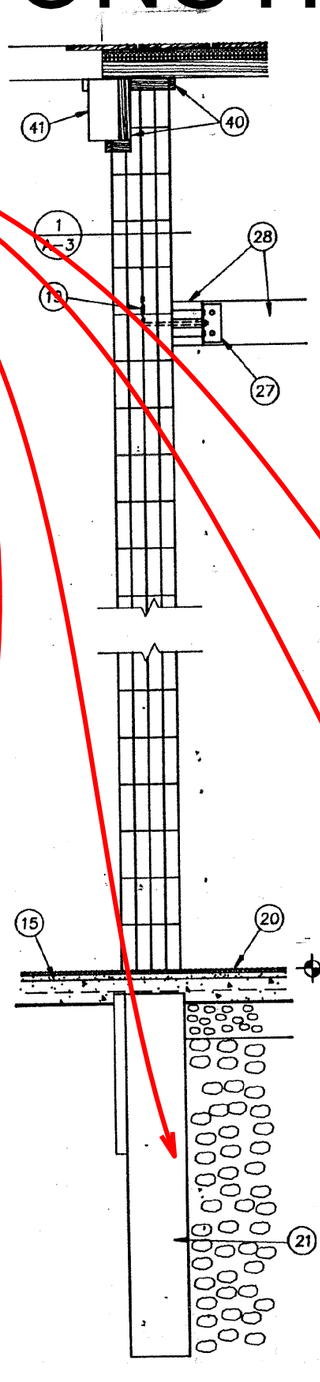
SHEET A-5

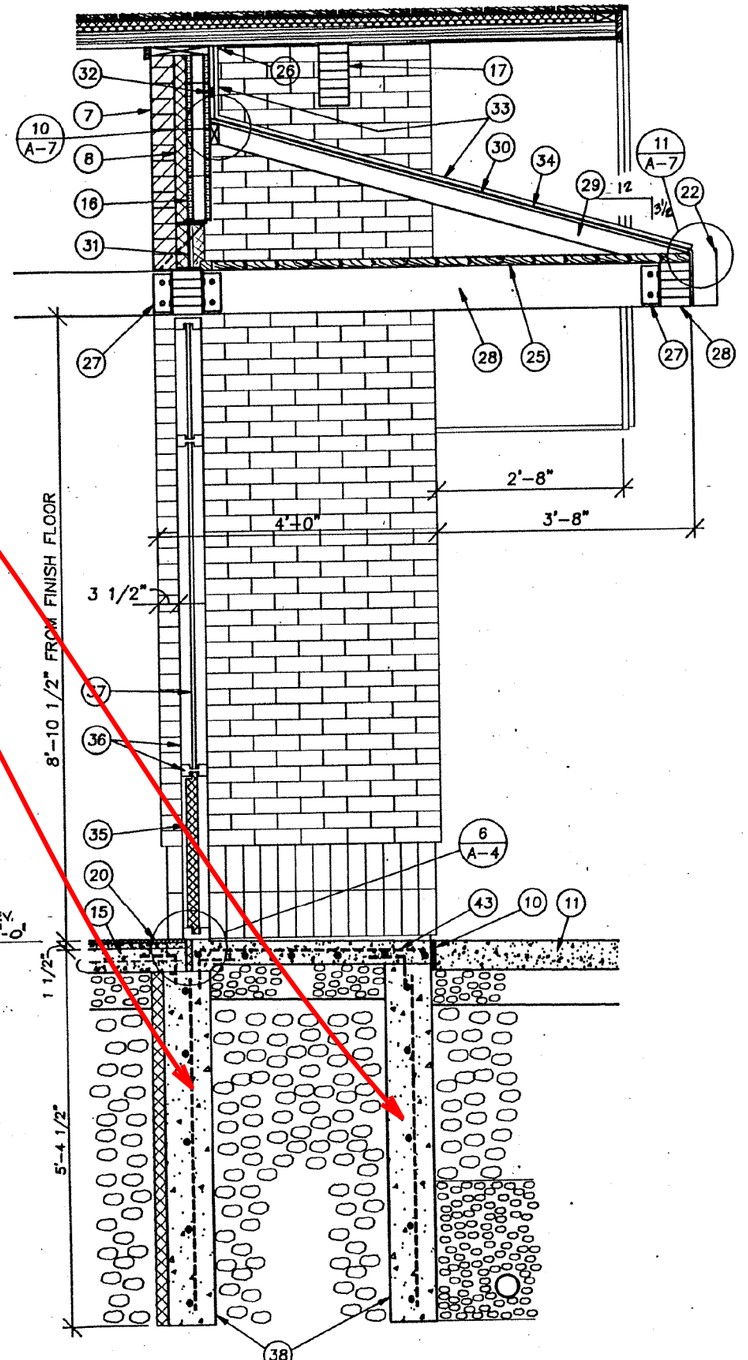
ORIGINAL CONSTRUCTION PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	23	30

Existing Building Footings







WALL SECTIONS

1 A-6 | 2 A-6 | 3 A-6

1"

KEYED NOTES

1. HAND SPLIT CEDAR SHAKE SHINGLES ON 30# FELT.
2. 2 LAYERS OF 3/4" RIGID INSULATION.
3. 2x4 TREATED WOOD NAILER.
4. 1x6 ROUGH SAWN CEDAR FASCIA.
5. LAMINATED WOOD DECKING.
6. 8" CONCRETE BLOCK.
7. FACE BRICK STRETCHER.
8. 2" RIGID INSULATION.
9. FACE BRICK SOLDIERS.
10. EXPANSION JOINT.
11. SIDEWALK AND DRAINAGE FILL, SEE DETAIL.
12. 4" SLOTTED A.D.S. TUBING SURROUNDED W/ DRAINAGE FILL, 2'-0" HIGH AND WIDE.
13. 12" CONCRETE FOUNDATION WALL.
14. #4'S VERTICAL & HORIZONTAL @ 15" O.C. EACH WAY.
15. 4" CONCRETE SLAB W/ 6x6-10/10 W.W.F. ON VAPOR BARRIER ON 6" DRAINAGE FILL.
16. 4" CONCRETE BLOCK.
17. 5"x10 1/2" LAMINATED WOOD BEAM.
18. ENGINEERED FILL TO BOTTOM OF CONCRETE AND AT PERIMETER AROUND BUILDING.
19. 1/2"ø ANCHOR BOLTS, 2 @ EACH END.
20. 1/2" THICK QUARRY TILE ON 1" SETTING BED.
21. EXISTING CONCRETE FOUNDATION WALL.
22. COPPER GUTTER.
23. 1/2" NAIL BASE PLYWOOD.
24. 8" BOND BEAM W/ 2-#4'S.
25. 2" SOLID WOOD DECKING (2x6 T & G).
26. SEALANT.
27. ∠-3"x3"x3/16" AND 1/2"ø BOLTS BY LAMINATED BEAM SUPPLIER.
28. 5"x7 1/2" LAMINATED WOOD BEAM.
29. 2x4 WOOD RAFTERS @ 16" O.C.
30. 5/8" "C-D" EXTERIOR FIR PLYWOOD.
31. STEEL LINTEL. SEE STRUCTURAL SHEET.
32. 1x2 FURRING STRIPS.
33. PRE-FINISHED STANDING SEAM METAL ROOFING.
34. 30# FELT.
35. 2" THICK PORCELAIN ENAMAL PANEL.
36. 2"x4 1/2" ALUMINUM FRAMING SYSTEM.
37. 1" INSULATING GLASS.
38. 8" CONCRETE FOUNDATION WALL.
39. ~~CRAWL BOND W/ 15# FELT.~~
40. 1x2 ROUGH SAWN CEDAR TRIM.
41. EXISTING LAMINATED WOOD BEAM.
42. 1" RIGID INSULATION.
43. #4'S @ 8" O.C. EACH WAY.
44. 1" PROJECTION

DATE	11-4-91
REVISIONS	

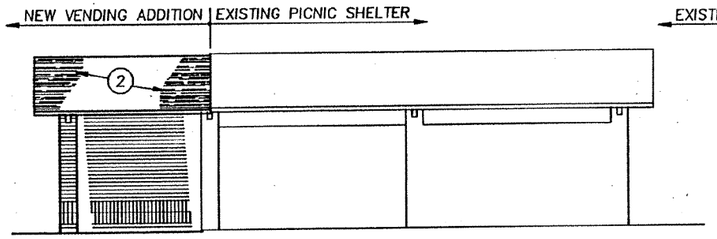
SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
DEUEL COUNTY REST AREA BUILDIN
SOUTH DAKOTA PROJECT #IR 29-6 (18) 1

ARCHITECTURE AUTOMATED, INC.

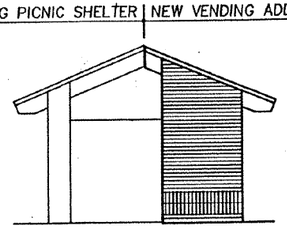
SHEET A-

ORIGINAL CONSTRUCTION PLANS

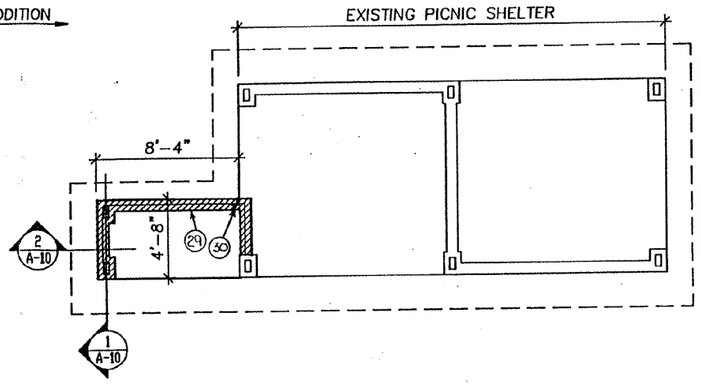
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	24	30



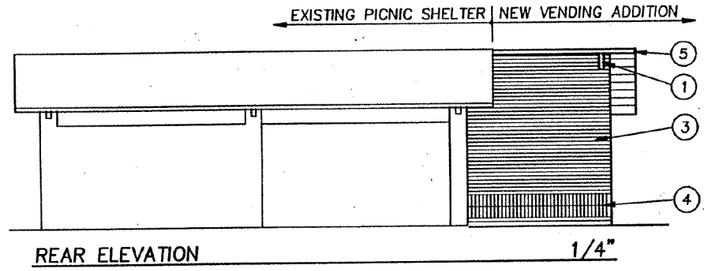
FRONT ELEVATION 1/4"



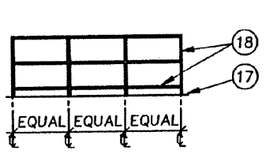
SIDE ELEVATION 1/4"



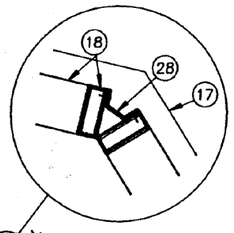
FLOOR PLAN–
VENDING ADDITION TO PICNIC SHELTER 1/4"



REAR ELEVATION 1/4"

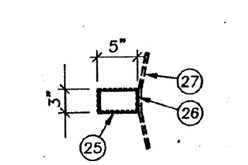


3 A-10 RAILING ELEVATION 1/4"

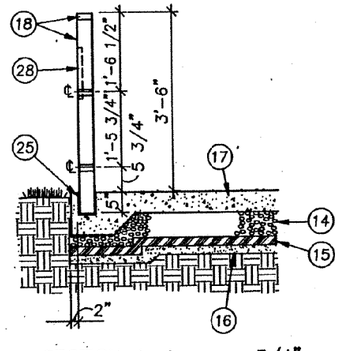


SEE SHT. 10 FOR ADDITIONAL INFORMATION.

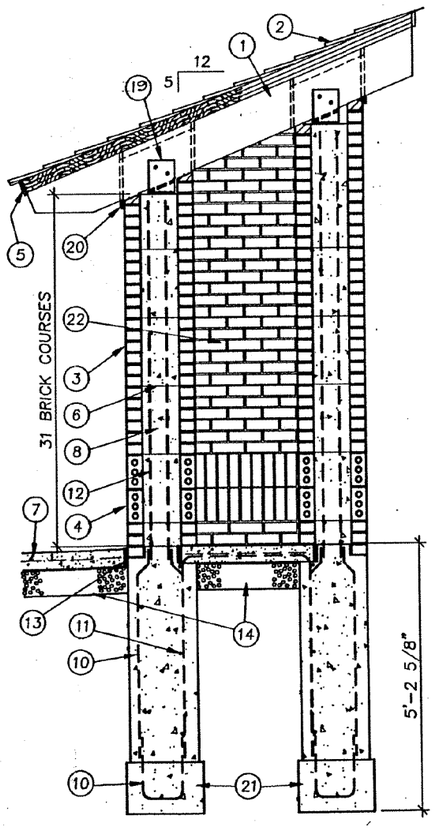
SCENIC OVERLOOK PLAN 1/4"

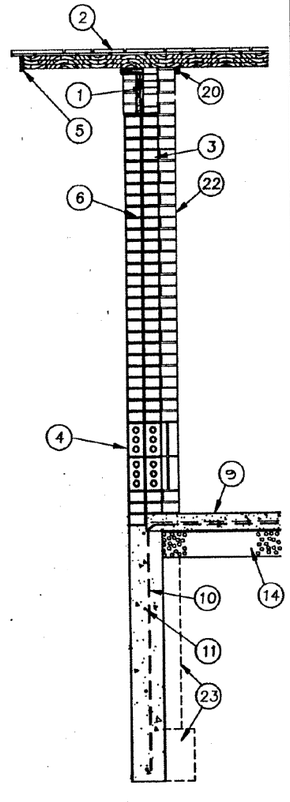


STEEL SLEEVE N.T.S.



SECTION A–A 3/4"





WALL SECTIONS 1 A-10 2 A-10 3/4"

KEYED NOTES

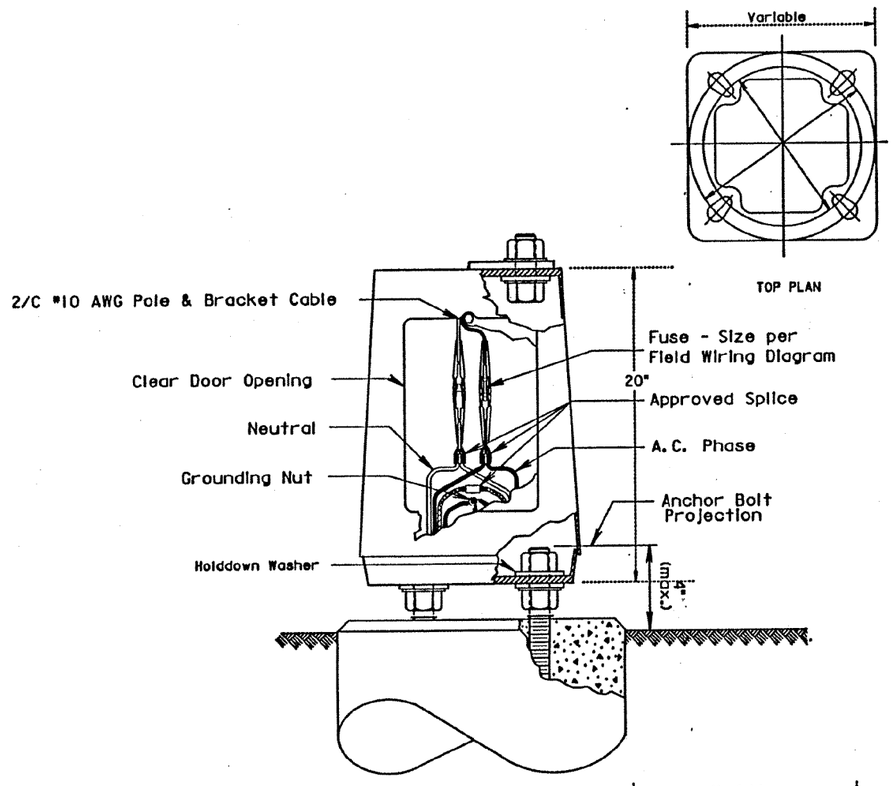
1. 3 1/2" x 10 1/2" LAMINATED WOOD BEAM.
2. CEDAR SHAKES ON 1 LAYER OF 30# FELT ON 3" LAMINATED WOOD DECK.
3. FACE BRICK STRETCHER.
4. FACE BRICK SOLDIERS.
5. 1x4 ROUGH SAWN CEDAR FASCIA.
6. MASONRY TIES @ 16" O.C.
7. 5" CONCRETE SIDEWALK.
8. CONCRETE PIER.
9. 4" CONCRETE SLAB W/ 6x6–10/10 W.W.M. ON 6 MIL VAPOR BARRIER.
10. #5 VERTICAL.
11. #5 HORIZONTAL.
12. #4 REBAR.
13. 1 3/8" EXPANSION JOINT.
14. 6" DRAINAGE FILL.
15. 2" POLYSTYRENE.
16. 2" SAND.
17. 5" CONCRETE SLAB.
18. 1 3/4"x4" ALUMINUM TUBE.
19. ∠–8" x 4" x 7/16" W/ 7/16" BEARING PLATE WELDED BETWEEN TO ACCEPT LAM. WOOD BEAM. BEAM SOCKET IS ANCHORED TO WALL W/ 4–3/8"ø STUDS @ EACH JOIST (TYP.).
20. 1x2 ROUGH SAWN CEDAR TRIM @ ALL MASONRY AND LAMINATED WOOD DECK JUNCTIONS.
21. 1'–6" x 1'–6" x 1'–0" DEEP PAD (TYP.).
22. BRICK BEYOND.
23. CONCRETE FOUNDATION WALL AND PAD BEYOND.
24. HISTORICAL MARKER
25. 3"x5"x3/16" THICK x 5" LONG STEEL SLEEVE W/ CLOSED BOTTOM, SEE DETAIL THIS SHEET.
26. WELD.
27. #5ø x 12" LONG.
28. 1/4" ALUMINUM ⌒ x 12" LONG. INSTALL PL. 8" FROM THE TOP OF THE RAIL W/ 3 S. S. SCREWS EACH SIDE.
29. NEW FOUNDATION CONTINIOUS TO EXISTING PICNIC SHELTER FOUNDATION.
30. PROVIDE 'L' AS SHOWN IN DETAIL 3/A-3 AND KEYED NOTE 11 BOTH ON SHEET 17.

DATE	SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
11–4–91	DEUEL COUNTY REST AREA BUILDIN
REVISIONS	SOUTH DAKOTA PROJECT #IR 29–6 (18) 1(
	ARCHITECTURE AUTOMATED, INC. 600 WEST AVENUE NORTH SIOUX FALLS, SOUTH DAKOTA 57104 (605) 336-3722
	SHEET A–1

* Plaque to become property of SDDOT and Contractor shall dispose of remaining unit

ORIGINAL CONSTRUCTION PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	25	30



NOTES:
Base details are provided for example only and are not intended to be a complete design.

The Connector on the line side shall be fused and the Connector on the neutral side shall be unfused and have a white marking.

Connectors shall be breakaway type with the male plug pointing down on the line side and up on the neutral side.

JANNUARY 31,1991

SPECIFICATION REFERENCE NO. 635	STATE OF SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION TRANSFORMER BASE FOR ROADWAY LIGHTING BREAKAWAY BASE DETAIL (NEUTRAL)	PLATE NUMBER 635.12E

Conduits and bushings may project 2½" to 6" above footing for Fixed Base Poles but shall not project above the Slip Plane or Fracture Plane for Breakaway Poles.

The contour of the area surrounding breakaway poles shall be flat, though not necessarily level, for a distance of 7ft. in all directions. The contractor may be required to provide this finish grading at some breakaway locations.

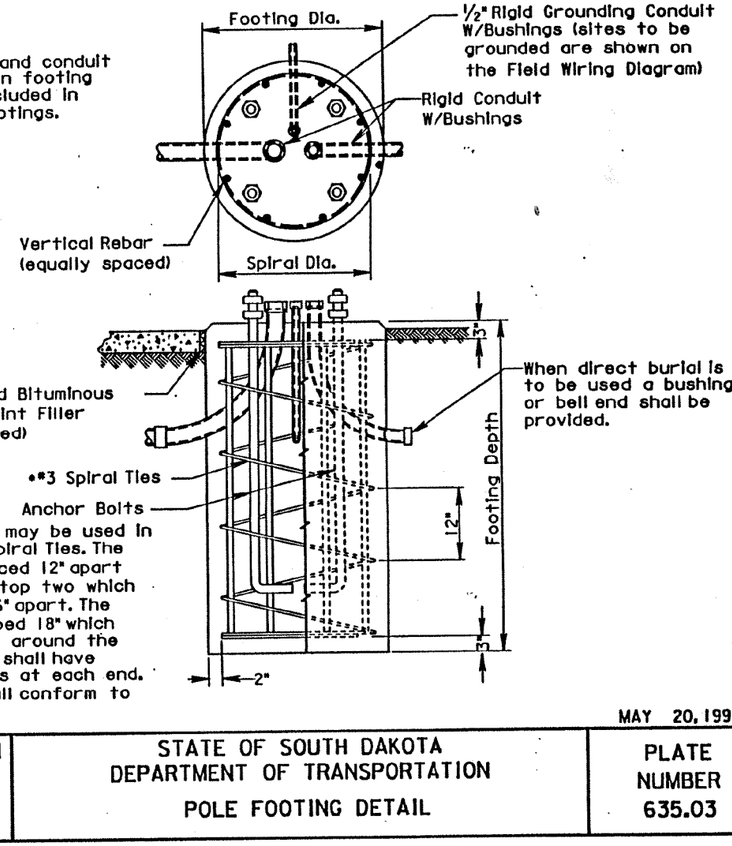
Conduits shall be sealed water-tight during all phases of construction until poles are in place.

For footing materials see section 985 of the Standard Specifications.

Footings:
Cost of Conduit and conduit bushings shown on footing detail shall be included in price bid for footings.

FOOTING DATA					
SITE DESIGNATION	FOOTING DIAMETER	FOOTING DEPTH	SPIRAL DIAMETER	APPROX. SPIRAL LENGTH	VERTICAL REBAR
N1-N8 S1-S11	2'-0"	8'-0"	1'-8"	54'-9" ±	6 #8x7'-6" 8 #7x7'-6"

Luminaire Pole Footing dimensions and quanitity



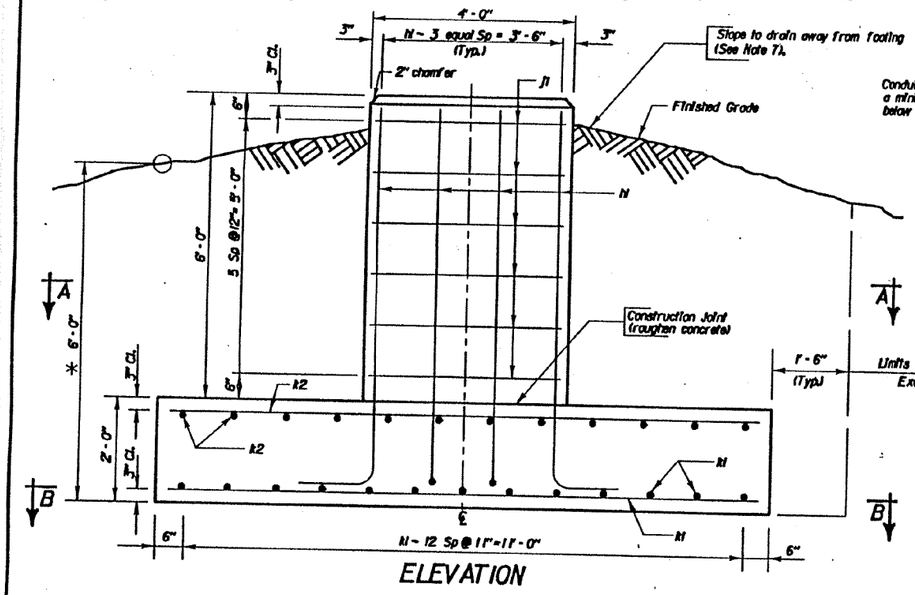
#3 Circular Ties may be used in lieu of the #3 Spiral Ties. The ties shall be spaced 12" apart except for the top two which shall be spaced 6" apart. The ties shall be lapped 18" which will be staggered around the cage. Spiral ties shall have 1-1/2 extra turns at each end. Circular Ties shall conform to ASTM 82.

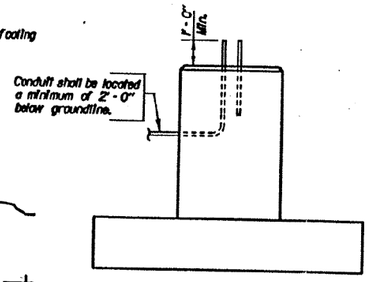
MAY 20, 1991

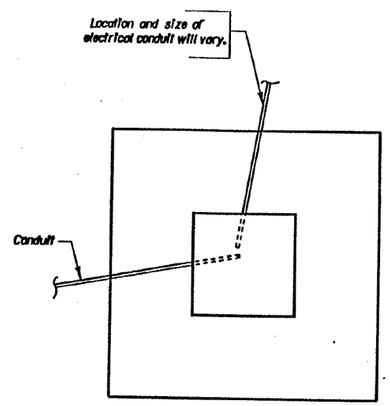
SPECIFICATION REFERENCE NO. 635	STATE OF SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION POLE FOOTING DETAIL	PLATE NUMBER 635.03

ORIGINAL CONSTRUCTION PLANS

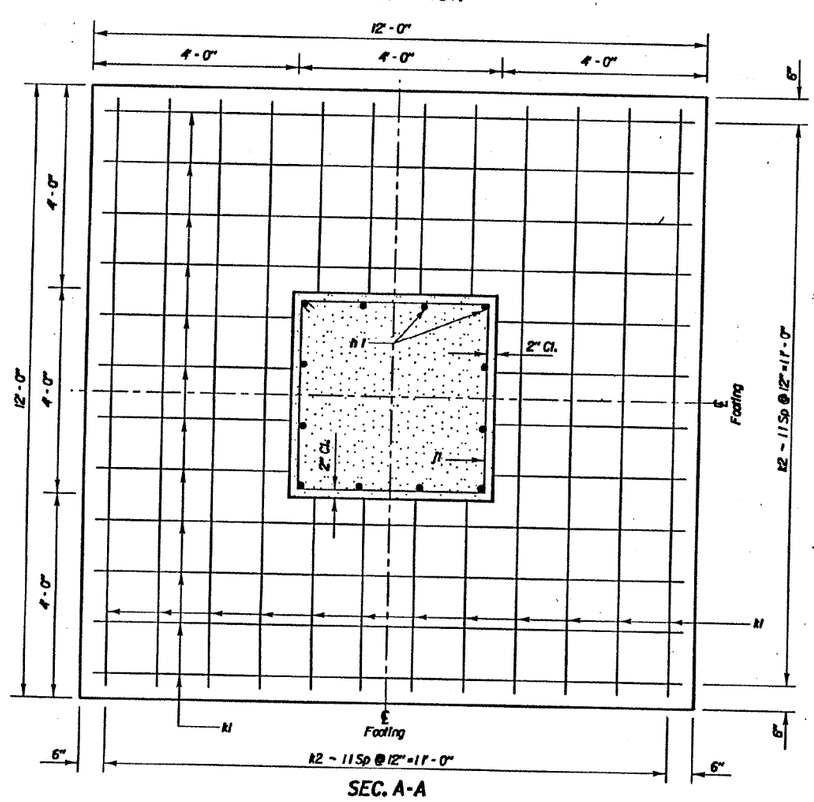
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	26	30

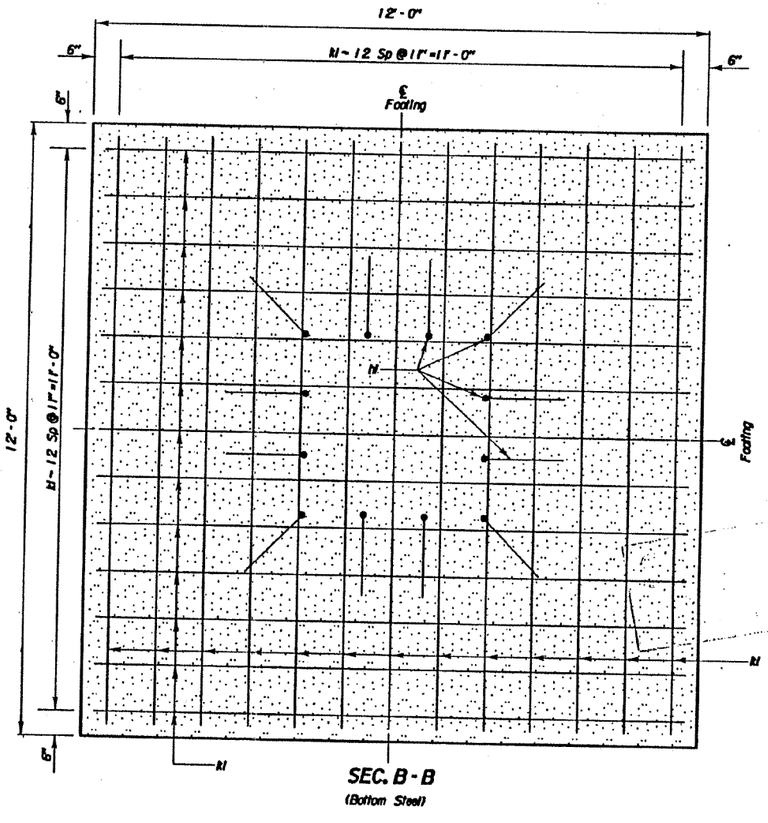






* NOTE: Bottom of footing to be a minimum of 6'-0" below low ground elevation at each footing location. Maintain minimum 4'-0" cover over footing.





SPECIFICATION NOTE-

Use South Dakota Standard Specifications for Roads and Bridges, 1990 Edition and Required Provisions, Supplemental Specifications and/or Special Provisions as Included in the Proposal.

GENERAL NOTES-

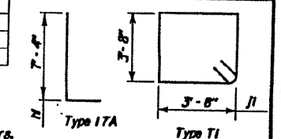
1 - All exposed edges shall be chamfered ¾" except as shown.
2 - All reinforcing steel shall conform to A.S.T.M.- A615 Grade 60.
3 - Unit Stresses: Concrete f'c = 1800 p.s.i.
Reinforcing Steel fs = 24000 p.s.i.
4 - Design Specifications: A.A.S.H.T.O. Specifications for Highway Bridges, 1990 Edition with 1991 Interims; and A.A.S.H.T.O. Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 1985 Edition with 1986 - 1991 Interims.
5 - The cost of Furnishing and Installing the Conduits embedded in the Footings shall be absorbed in the Unit Price Bid for Class A45 Concrete, Miscellaneous.
6 - Prior to fabrication, details of the Tower Anchorage Assembly (including anchor bolts) shall be submitted to the Office of Bridge Design for approval. Any modifications of the Footings shown to accommodate the Tower Anchorage Assembly must be submitted to and approved by the Office of Bridge Design. Additional quantities of materials resulting from modifications to accommodate the Tower Anchorage Assembly will not be measured for payment.
7 - Structure Excavation, Light Tower, shall be in accordance with the applicable sections of Section 420 of the Standard Specification. The Light Tower Footing shall be backfilled to existing groundline. Care shall be taken during backfilling to ensure that drainage will be away from the Tower Pedestal.
8 - After excavation and backfill, excess material shall be disposed of on site obtained by the Contractor and approved by the Engineer.

DESIGN MIX OF CONCRETE-

1 - Mix shall be designed to produce a concrete having a minimum compressive strength of 4500 p.s.i. at 28 days.
2 - Type II Cement is required.

REINFORCING SCHEDULE
(For One Footing)

Mk.	No.	Size	Length	Type	Bending Details
N1	12	8	8'-8"	17A	
J1	6	4	15'-5"	T1	
N1	25	8	11'-6"	Str.	
N2	24	5	11'-6"	Str.	



All dimensions are out to out of bars.

ESTIMATED QUANTITIES
(For One Footing)

ITEM	UNIT	QUANTITY
Class A45 Concrete, Misc.	Cu. Yd.	14.2
Reinforcing Steel	Lb.	1426
Structure Excavation, Light Tower	Cu. Yd.	64.6

DETAILS FOR 120' LIGHT TOWER FOOTINGS

I-29 AT HIDEWOOD REST AREA
IR 29-6(118)160
PCEMS NO. 2767

DEUEL COUNTY
S. D. DEPT. OF TRANSPORTATION
NOVEMBER 1991

(1) OF (1)

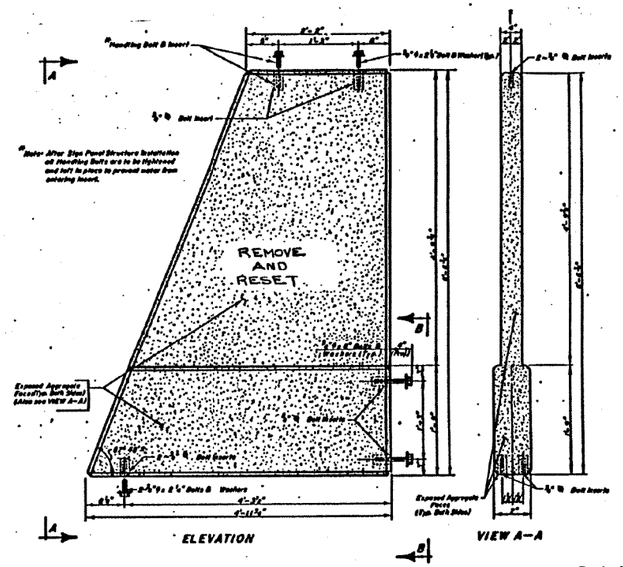
PLANS BY : OFFICE OF BRIDGE DESIGN, SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
DC/HE BDUE12767	DC 2767DC01	DC/HE	BRIDGE ENGINEER

ORIGINAL CONSTRUCTION PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	029 S - 171 029 N - 171	27	30

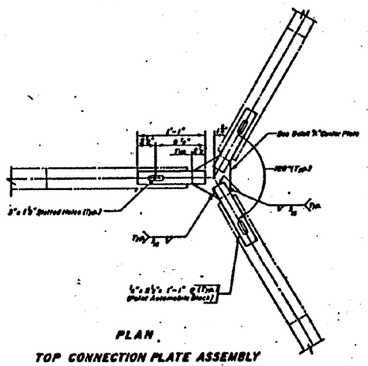
* Tourist Information Boards are to be removed and Salvaged as noted in the table of salvaged items.



ELEVATION

VIEW A–A

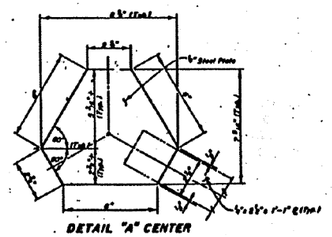
VIEW B–B



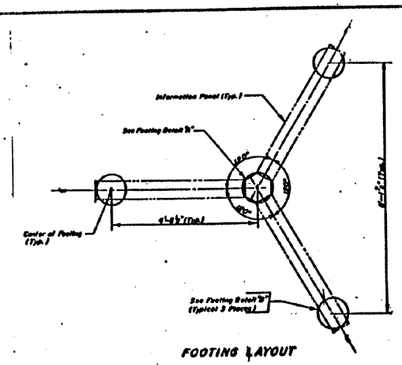
PLAN

TOP CONNECTION PLATE ASSEMBLY

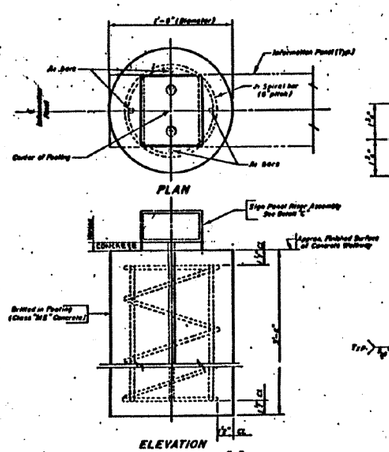
RETAIN AND REUSE



DETAIL "A" CENTER PLATE



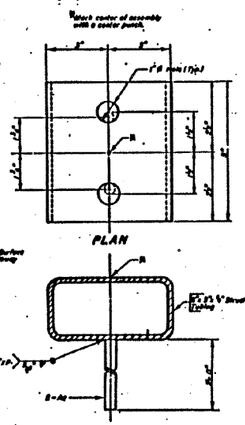
FOOTING LAYOUT



PLAN

ELEVATION

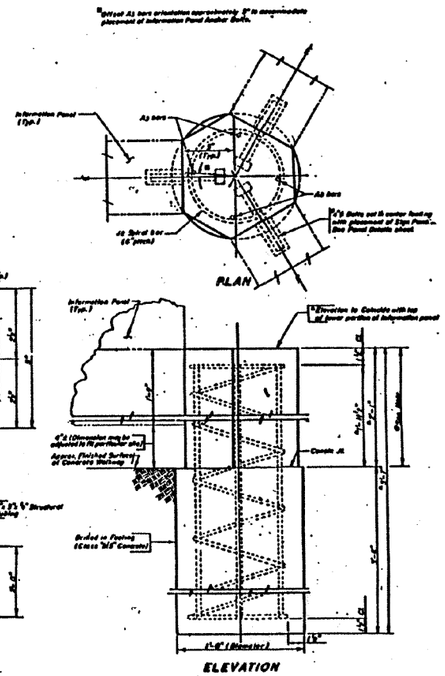
FOOTING DETAIL "B"



PLAN

ELEVATION

DETAIL "C"



PLAN

ELEVATION

FOOTING DETAIL "A"

* Note: Use "White" cement concrete, or a concrete mixture that matches the color of the information panels for portion of center footing placed above construction joint.

REMOVE FOOTINGS - BOLTS AND WASHERS MAY BE REUSED IF APPROVED BY THE ENGINEER. PROVIDE NEW FOOTINGS AND REINFORCEMENT.

EXERCISE CARE IN CENTER RISER REMOVAL.

REINFORCING SCHEDULE

Mk	No	Size	Length	Type	Bending Details
A1	12	4	3'-3"	Str.	
*A2	6	4	2'-0"	Str.	
A3	4	4	5'-4"	Str.	
*J1	3	3	21'-2"	Spiral	
*J2	1	3	30'-5"	Spiral	

Spiral

* May be replaced with 1/2" ϕ End Welded Deformed Bar Anchor Studs.

* Hoops with 12" minimum laps and 6 1/2" spacing may be substituded for spirals at no additional cost to the state.

Spirals – Use 6" pitch and one extra turn at each end. Spirals may be smooth bars.

All dimension are out of out bars.

QUANTITIES FOR FOOTINGS AND CONECTING HARDWA
FOR INFORMATIONAL PURPOSES ONLY

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CLASS "MS" CONCRETE	CU.YDS.	0.6
REINFORCEMENT FOR CONC. MASONRY	LBS	82
STRUCTURAL STEEL	LBS	INPLACE
STRUCTURE EXCAVATION	CU. YDS.	0.4

The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

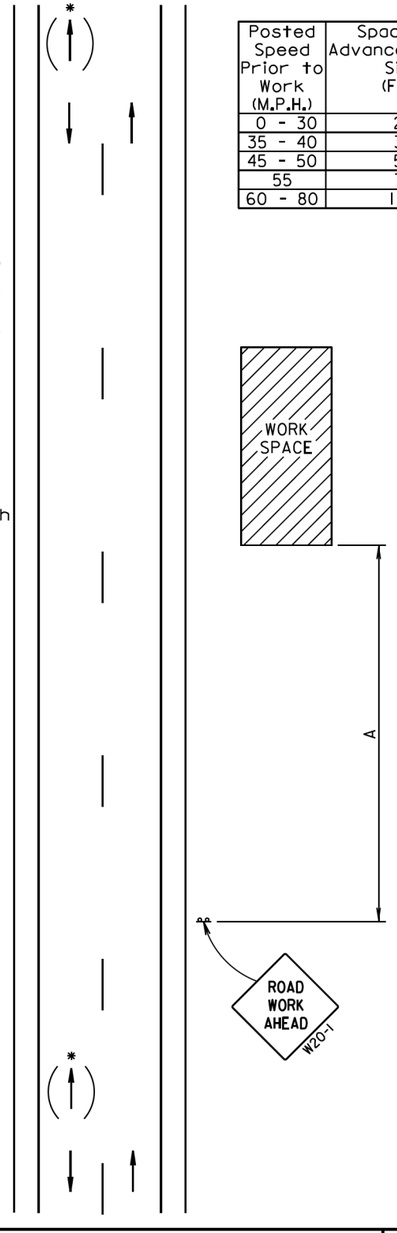
The signs illustrated shall be used where there are distracting situations; such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000



April 15, 2015

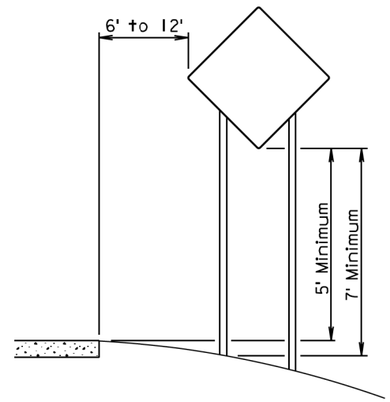
Published Date: 1st Qtr. 2017

SDDOT

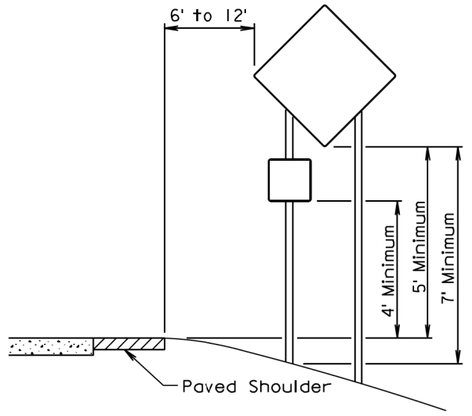
GUIDES FOR TRAFFIC CONTROL DEVICES
WORK BEYOND THE SHOULDER

PLATE NUMBER 634.01

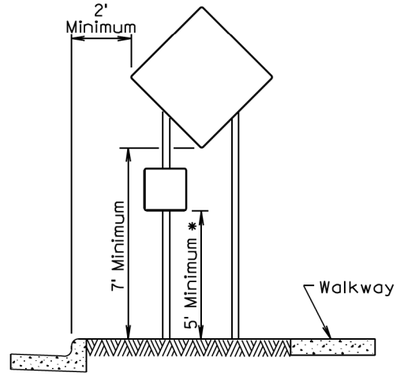
Sheet 1 Of 1



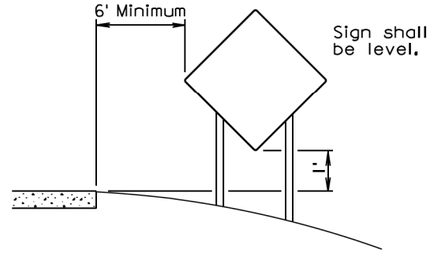
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT



RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

September 22, 2014

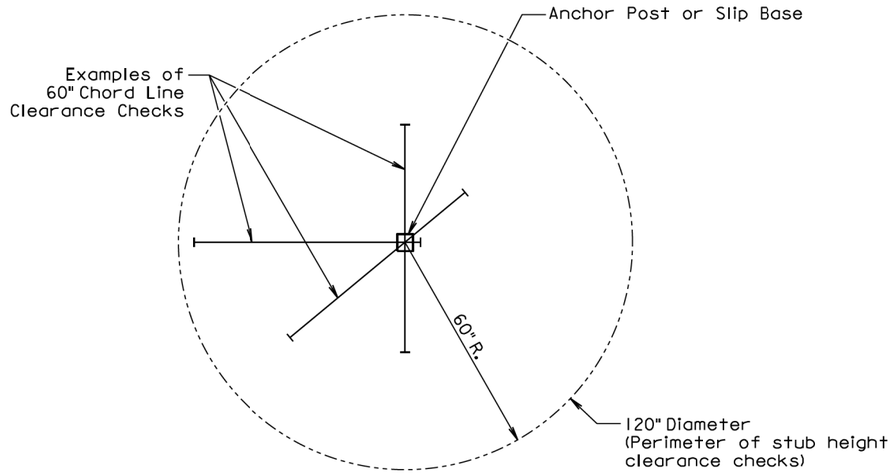
Published Date: 1st Qtr. 2017

SDDOT

CRASHWORTHY SIGN SUPPORTS
(Typical Construction Signing)

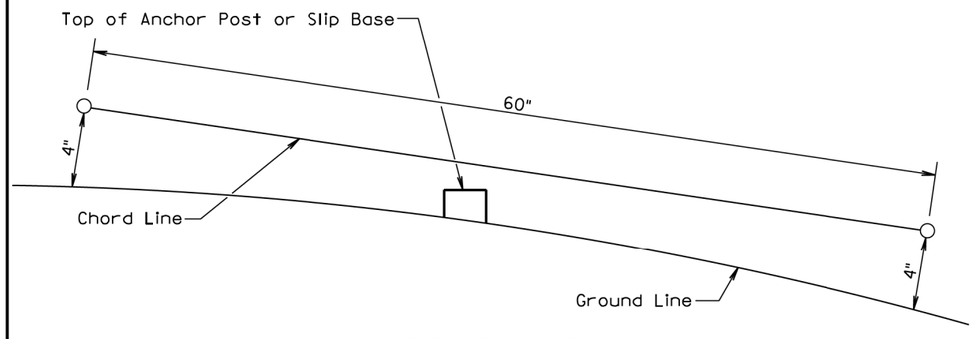
PLATE NUMBER 634.85

Sheet 1 of 1



PLAN VIEW

(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

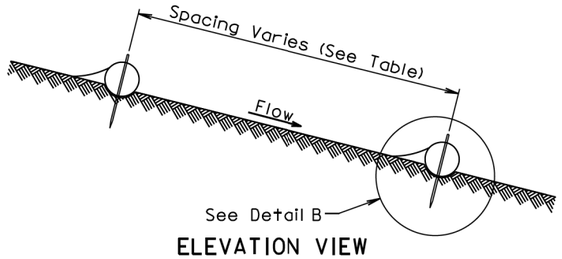
The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

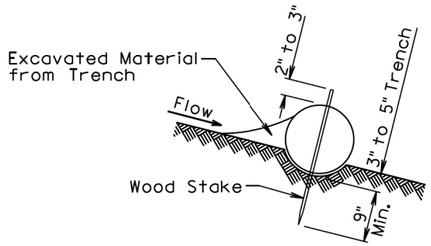
July 1, 2005

Published Date: 1st Qtr. 2017	SDDOT	***BREAKAWAY SUPPORT STUB CLEARANCE***	*PLATE NUMBER* 634.99 *Sheet 1 of 1*

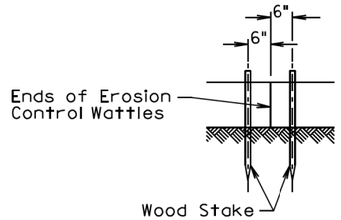


ELEVATION VIEW
CUT OR FILL SLOPE INSTALLATION

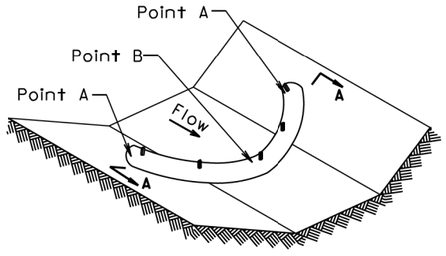
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft)
1:1	10
2:1	20
3:1	30
4:1	40



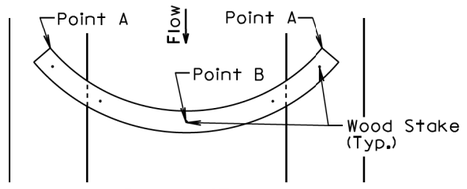
DETAIL B
(TYPICAL OF ALL INSTALLATIONS)



DETAIL C

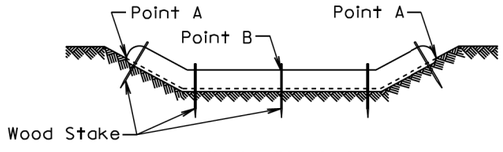


ISOMETRIC VIEW
DITCH INSTALLATION



PLAN VIEW
DITCH INSTALLATION

DITCH INSTALLATION	
Grade	Spacing (Ft)
2%	150
3%	100
4%	75
5%	50



SECTION A-A

December 23, 2004

Published Date: 1st Qtr. 2017	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 1 of 2

GENERAL NOTES:

At cut or fill slope installations, wattles shall 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 shall 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 shall 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 shall be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles shall be 3' to 4'.

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

The Contractor and Engineer shall inspect the erosion control wattles once every week and within 24 hours after every rainfall event greater than ½". The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping shall be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping shall 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 shall be incidental to the contract unit price per foot for the corresponding erosion control wattle bid item.

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

December 23, 2004

Published Date: 1st Qtr. 2017	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2