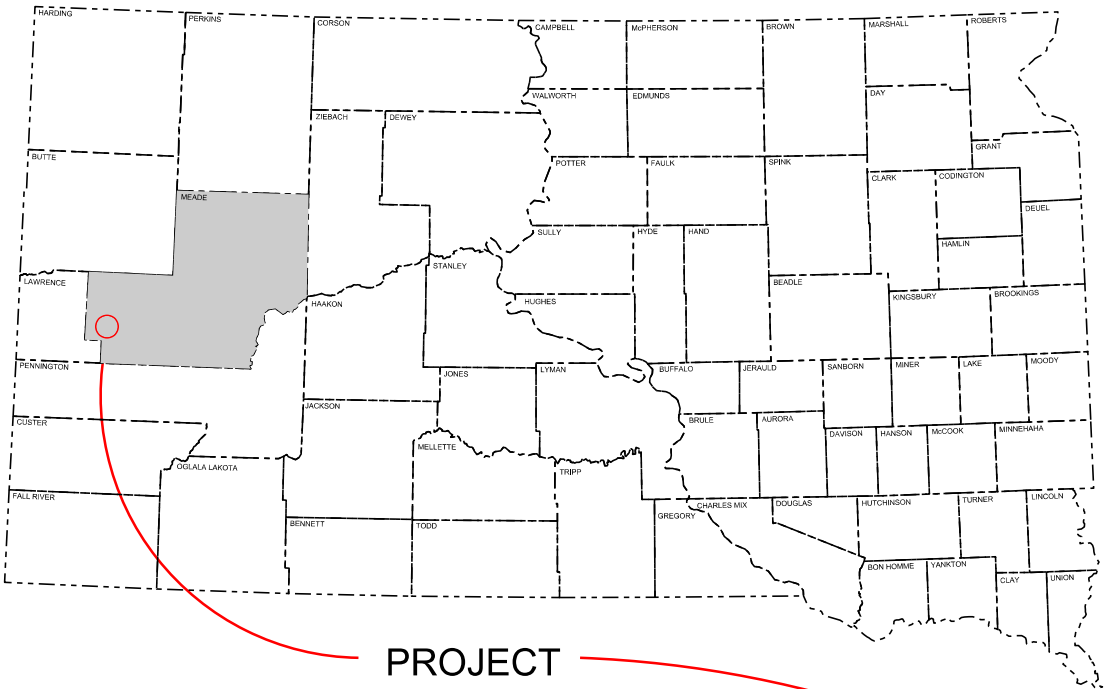


Plot Scale - 1:200

Plotted From - irrc12608



PROJECT

PCN i4gk EB MRM 41.17 to MRM 41.66
PCN i4gL WB MRM 41.32 to MRM 41.81

STORM WATER PERMIT
None Required

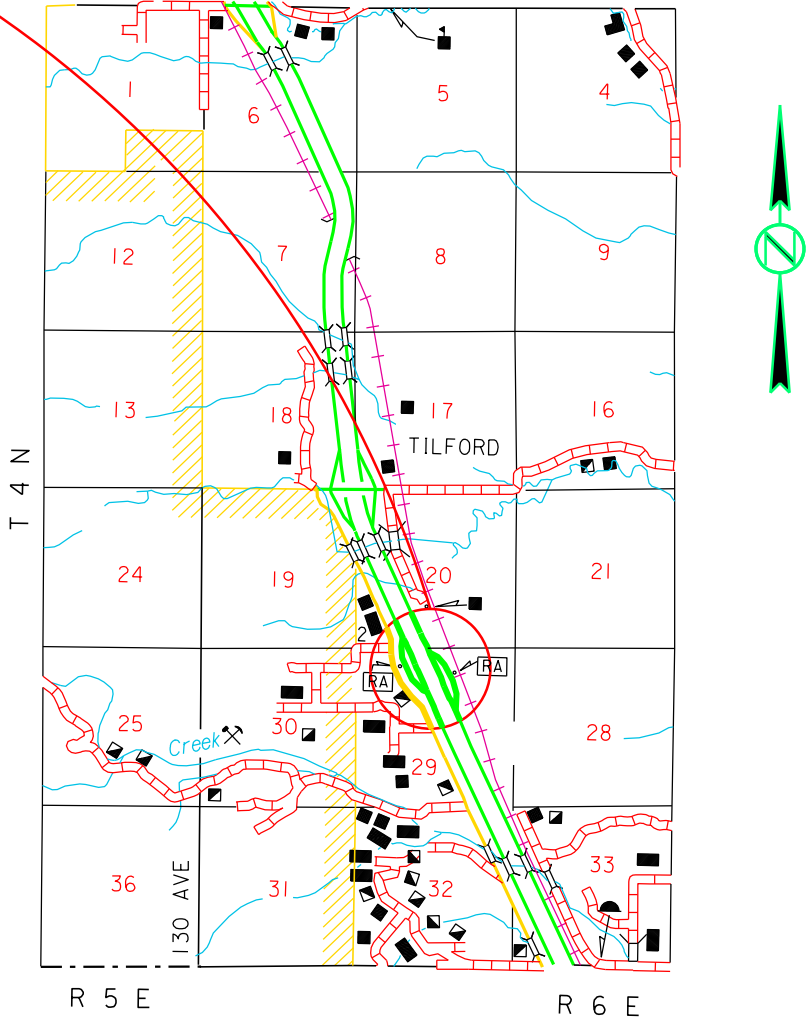
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
**PROJECTS 090 E - 451
& 090 W - 451**
INTERSTATE 90
MEADE COUNTY
REST AREA REMOVAL
PCN i4gk & i4gL

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090 E-451 & 090 W-451	1	10

Plotting Date: 11/28/2016

INDEX OF SHEETS

Sheet No.	1:	Title and Index
Sheets No.	2 - 6:	Notes, Tables, and Estimate of Quantities
Sheets No.	7 - 8:	Layouts
Sheets No.	9 -10:	Standard Plates



ESTIMATE OF QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090 E-451 & 090 W-451	2	10

I-90 EB – i4gk

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0200	Remove Building	1	Each
110E0300	Remove Concrete Curb and/or Gutter	205	Ft
110E0460	Remove Manhole	3	Each
110E0500	Remove Pipe Culvert	48	Ft
110E0510	Remove Pipe End Section	2	Each
110E0605	Remove Chain Link Fence	836	Ft
110E1010	Remove Asphalt Concrete Pavement	1,086.0	SqYd
110E1100	Remove Concrete Pavement	400.0	SqYd
110E1120	Remove Concrete Median Pavement	40.0	SqYd
110E1140	Remove Concrete Sidewalk	772.0	SqYd
110E1540	Remove Luminaire Pole Footing	8	Each
110E1900	Remove Yard Hydrant	2	Each
110E1960	Remove Valve Box	1	Each
110E5100	Salvage Luminaire Pole	8	Each
110E5105	Salvage Luminaire	8	Each
120E0600	Contractor Furnished Borrow Excavation	43	CuYd
230E0020	Contractor Furnished Topsoil	262	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
730E0210	Type F Permanent Seed Mixture	13	Lb
731E0100	Fertilizing	735	Lb
732E0100	Mulching	0.5	Ton

I-90 WB – i4gL

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0200	Remove Building	1	Each
110E0300	Remove Concrete Curb and/or Gutter	275	Ft
110E0460	Remove Manhole	6	Each
110E0605	Remove Chain Link Fence	838	Ft
110E1010	Remove Asphalt Concrete Pavement	945.0	SqYd
110E1100	Remove Concrete Pavement	416.0	SqYd
110E1120	Remove Concrete Median Pavement	95.0	SqYd
110E1140	Remove Concrete Sidewalk	927.0	SqYd
110E1540	Remove Luminaire Pole Footing	7	Each
110E1900	Remove Yard Hydrant	2	Each
110E1960	Remove Valve Box	4	Each
110E5100	Salvage Luminaire Pole	7	Each
110E5105	Salvage Luminaire	7	Each
120E0600	Contractor Furnished Borrow Excavation	64	CuYd
230E0020	Contractor Furnished Topsoil	274	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
730E0210	Type F Permanent Seed Mixture	13	Lb
731E0100	Fertilizing	765	Lb
732E0100	Mulching	0.5	Ton

SPECIFICATIONS

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

WORK DESCRIPTION

Work on this project includes demolition and removal of buildings, picnic shelters, sidewalk, and asphalt pavement at the Tilford rest areas.

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 less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

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:

- 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”.
- 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.

INCIDENTAL WORK, GRADING

Remove Rock Retaining Walls

All of limestone rock retaining walls shall be removed.

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 Sewage Tanks

Sewage storage tanks located at both rest areas shall be removed and the excavated areas backfilled.

Remove Sprinkler System

All sprinkler heads and irrigation pipe associated with the underground sprinkler systems for both eastbound and westbound rest areas shall be removed.

Remove Gas Line

The gas lines from the propane tanks at both eastbound and westbound rest areas shall be removed.

Plug Well

The well at the eastbound rest area shall be plugged by a South Dakota Licensed Water Well Driller and shall be in conformance with Administrative Rule of South Dakota (ARSD) 74:02:04, Sections 67-70. The Contractor and the South Dakota Licensed Water Well Driller shall inspect the site prior to the bid letting in order to determine the material and labor necessary to complete the work.

Remove Electrical Conduit and Wiring

All electrical wiring, conduit, and junction boxes associated with salvaged luminaires shall be removed.

All above work items shall be incidental to the contract unit price per lump sum for Incidental Work, Grading.

INCIDENTAL WORK

Remove Flagpole

Flagpoles and concrete foundations at both the westbound and eastbound rest areas shall be removed.

Remove Picnic Tables

Concrete picnic tables shall be removed.

Remove Sidewalk Railing

Steel railing adjacent to the sidewalk at the eastbound rest area shall be removed.

Remove Dump Station Facilities

All surface facilities associated with the sewage dump stations for both westbound and eastbound rest areas shall be removed.

All above work items shall be incidental to the contract unit price per lump sum for Incidental Work.

REMOVAL OF BUILDING(S)

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

Station	Type
Eastbound Tilford Rest Area	One rest area building and 5 picnic shelters
Westbound Tilford Rest Area	One rest area building and 4 picnic shelters

These buildings shall be removed in accordance with Section 110 of the Specifications and all local codes. The buildings have been inspected for asbestos and asbestos has been removed when required or asbestos was not found.

The disconnecting and capping of utility services shall be the responsibility of the Contractor.

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

SAWING IN EXISTING SURFACING

Where Portland Cement Concrete Pavement (PCCP) or asphalt concrete is being removed adjacent to existing asphalt concrete or PCCP, the existing pavement shall be sawed full depth to a true line with a vertical face. Pavement areas to be removed are shown on the drawings. The removal lines show the final removal limits. No separate payment shall be **made for sawing**.

TABLE OF SIDEWALK REMOVAL

Table of Sidewalk Removal	
	Remove Concrete Sidewalk
	SqYd
Eastbound Rest Area	772
Westbound Rest Area	927

REMOVE ASPHALT CONCRETE PAVEMENT

The Contractor shall remove and dispose of the asphalt pavement as noted on the plans. Refer to the note for sawing in existing surfaces for additional information. The Engineer may direct more or less pavement removal on construction due to existing cracks, joints or other conditions. The Contractor shall dispose of asphalt removed.

Payment for removing and disposing asphalt shall be incidental to the contract unit price per square yard for Remove Asphalt Concrete Pavement. The depth of the existing asphalt is estimated to vary from 3” to 6”.

TABLE OF ASPHALT CONCRETE PAVEMENT REMOVAL

Table of Asphalt Pavement Removal	
	Remove Asphalt Concrete Pavement
	SqYd
Eastbound Rest Area	1086
Westbound Rest Area	945

TABLE OF PCC PAVEMENT REMOVAL

Table of PCC Pavement Removal			
	Remove Concrete Pavement	Remove Concrete Curb and/or Gutter	Remove Concrete Median Pavement
	SqYd	Ft	SqYd
Eastbound Rest Area	400	205	40
Westbound Rest Area	416	275	95

SALVAGE LUMINAIRES

All salvaged items noted on the plans shall be salvaged for future highway use and hauled to the Department of Transportation's Rapid City South Maintenance Yard as directed by the Engineer. 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 work involved in the salvage and delivery of the existing luminaire poles and luminaires shall be incidental to the contract unit price per each Salvage Luminaire Pole and Salvage Luminaire. 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.

REMOVE LUMINAIRE POLE FOOTING

The footings of existing luminaire poles shall be removed by the Contractor to a minimum of 2' below the ground surface. Restoration of the disturbed area shall be to the satisfaction of the Engineer.

All costs for removing the footings of the existing luminaire poles shall be incidental to the contract unit price per each for Remove Luminaire Pole Footing.

TABLE OF SALVAGE LUMINAIRE POLES AND LUMINAIRES

Table of Luminaires			
	Salvage Luminaire	Salvage Luminaire Pole	Remove Luminaire Pole Footing
	Each	Each	Each
Eastbound Rest Area	8	8	8
Westbound Rest Area	7	7	7

REMOVE CHAIN LINK FENCE

Table of Remove Chain Link Fence	
	Remove Chain Link Fence
	(Ft)
Eastbound Rest Area	836
Westbound Rest Area	838

REMOVE CULVERT

The 48' - 24” RCP Arch pipe culvert and two end sections under the approach pavement leading to the ADA parking area on the south side of the eastbound rest area shall be removed.

Table of Culvert Removal		
	Remove Pipe Culvert	Remove Pipe End Section
	Ft	Each
Eastbound Rest Area	48	2

REMOVE MANHOLE

Existing manholes on this project scheduled for removal shall be removed and lawfully disposed of by the Contractor. All costs associated with removing the manholes shall be incidental to the contract unit price per each for Remove Manhole.

REMOVE VALVE BOX

The Contractor shall close the valve then remove and dispose of the valve box. The resulting holes shall be backfilled and compacted per the Standard Specifications. This work will be paid under the contract unit price per each for Remove Valve Box.

TABLE OF SEWER AND WATER MAIN REMOVAL ITEMS

Table of Sewer and Water Line Removal Items			
	Remove Manhole	Remove Yard Hydrant	Remove Valve Box
	Each	Each	Each
Eastbound Rest Area	3	2	1
Westbound Rest Area	6	2	4

CONTRACTOR FURNISHED BORROW, EXCAVATION

Contractor Furnished Borrow, Excavation is provided for filling after removal of manholes and tanks.

Table of Contractor Furnished Borrow, Excavation	
	CuYd
Eastbound Rest Area	43
Westbound Rest Area	64

TRAFFIC CONTROL – GENERAL NOTES

Unless otherwise stated in these plans, no work will be allowed during hours of darkness. Hours of darkness are defined, as ½ hour after sunset until ½ hour before sunrise.

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 work sites 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 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.

A 2 week advanced notice of work is required. DOT will provide all necessary traffic control for the project except for the signs listed below.

INVENTORY OF TRAFFIC CONTROL DEVICES

I-90 EB – i4gk

		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-90 WB – i4gL

		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 all disturbed ground and 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:

<i>Glomus intraradices</i>	25%
<i>Glomus aggregatu</i>	25%
<i>Glomus mosseae</i>	25%
<i>Glomus etunicatum</i>	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.

Prior to placing sod, apply a minimum of 25,000 live propagules of inoculum per 1,000 square feet on bare soil. All costs of inoculating for the sod shall be incidental to the contract unit price per square yard for "Sodding".

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

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090 E-451 & 090 W-451	5	10

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% (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 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 1,500 pounds per acre in accordance with the manufacturer's recommended method of application.

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.

Type F Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana	7
Green Needlegrass	Lodorm	4
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	3
Blue Grama	Bad River, Willis	2
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
Total:		26

MULCHING (GRASS HAY OR STRAW)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090 E-451 & 090 W-451	6	10

Table of Erosion Control Items					
	Area	Contractor Furnished Topsoil	Fertilizing	Type F Permanent Seed Mixture	Mulching
	SqFt	CuYd	Lb	Lb	Ton
Eastbound Rest Area	21219	261.9	735.0	12.7	0.5
Westbound Rest Area	22167	273.6	765.0	13.3	0.5

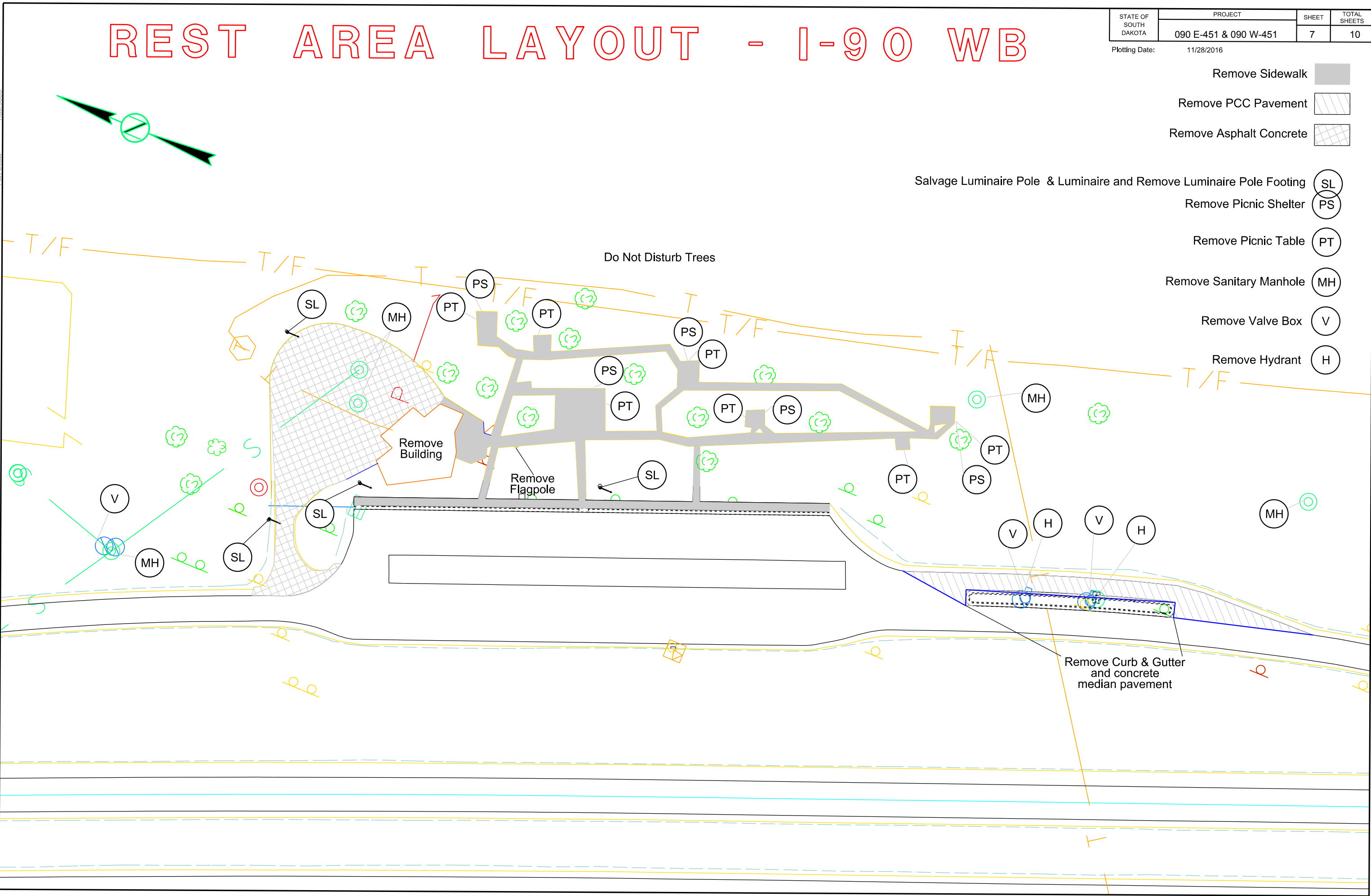
REST AREA LAYOUT - I-90 WB

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090 E-451 & 090 W-451	7	10

Plotting Date: 11/28/2016

- Remove Sidewalk
- Remove PCC Pavement
- Remove Asphalt Concrete

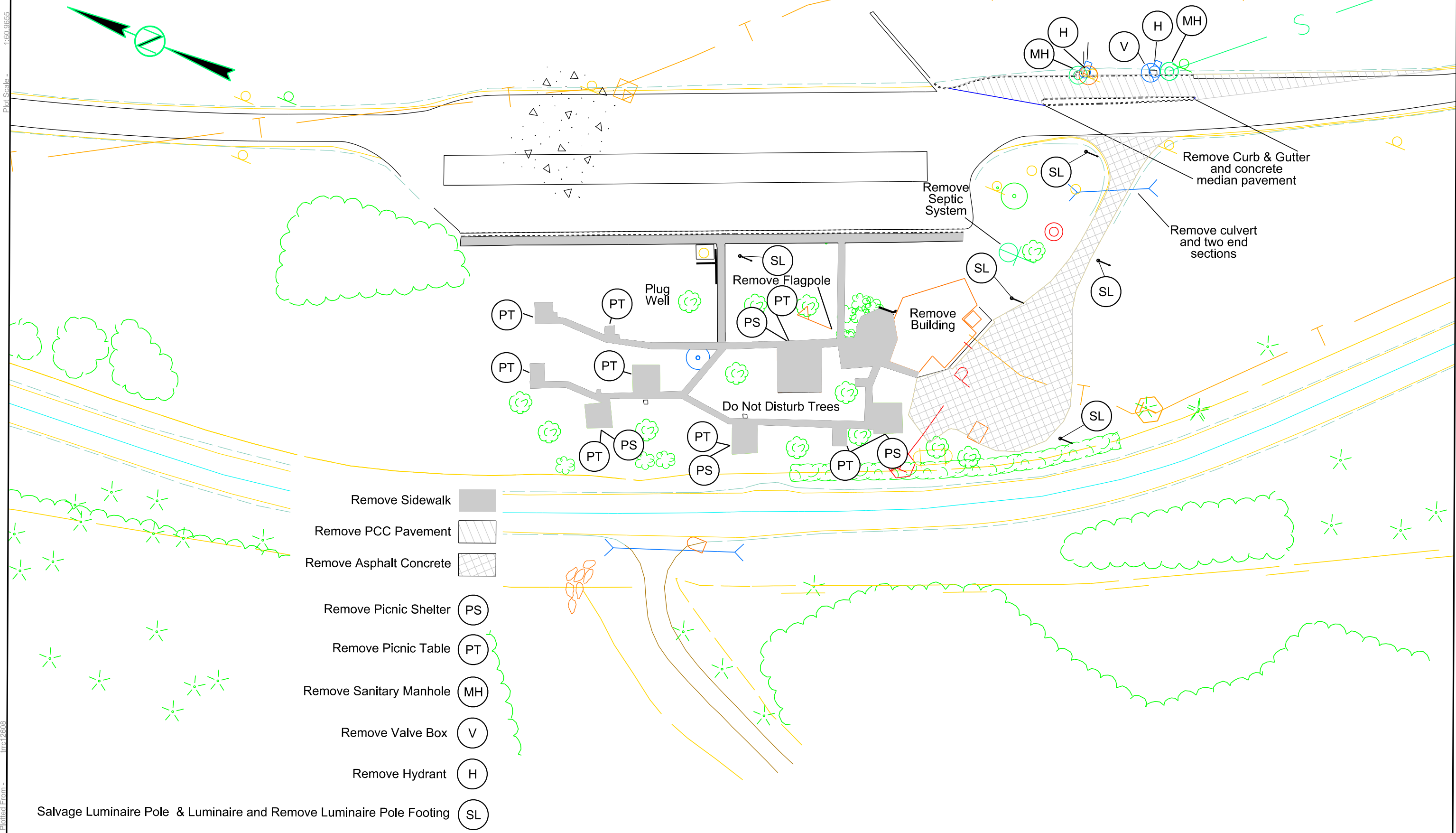
- Salvage Luminaire Pole & Luminaire and Remove Luminaire Pole Footing
- Remove Picnic Shelter
- Remove Picnic Table
- Remove Sanitary Manhole
- Remove Valve Box
- Remove Hydrant



REST AREA LAYOUT - I-90 WB

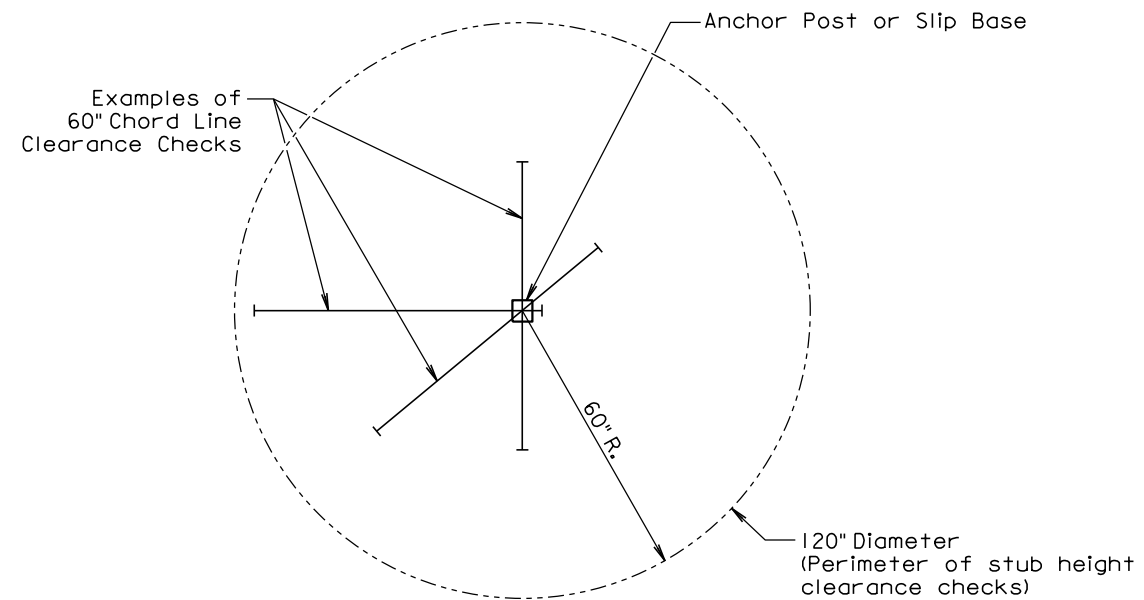
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090 E-451 & 090 W-451	8	10
Plotting Date: 11/28/2016			

Plot Scale - 1:60,965

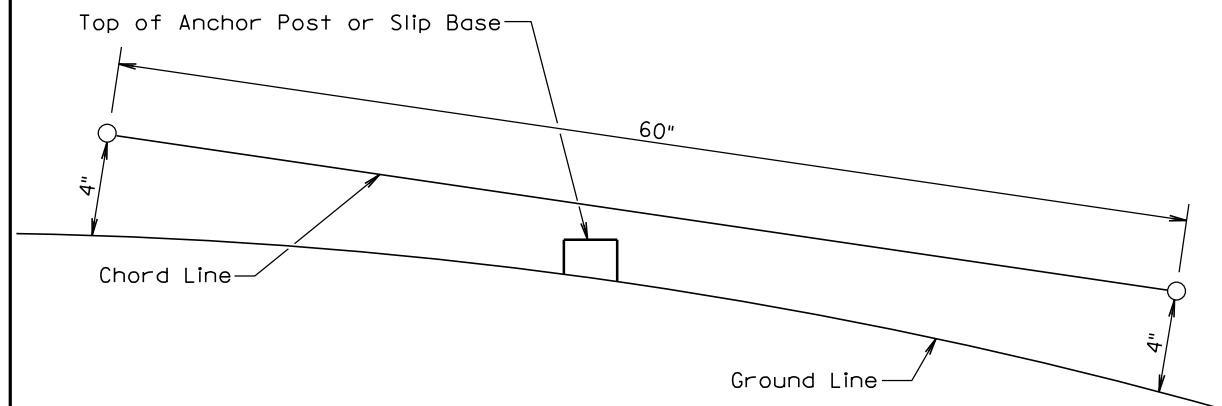


Plotted From - Irrcd2608

File - ...6580 rest.dgn



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: 4th Qtr. 2016

S
D
D
O
T

BREAKAWAY SUPPORT STUB CLEARANCE

PLATE NUMBER
634.99

Sheet 1 of 1