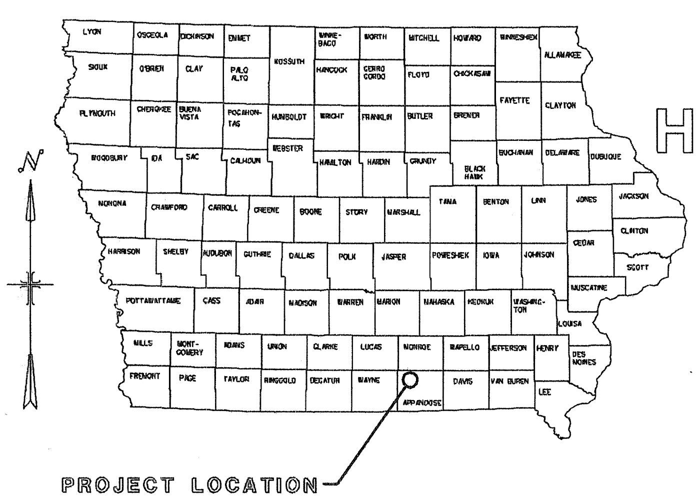
LETTING DATE: APRIL 16, 2009

IOWA DEPARTMENT OF NATURAL RESOURCES

LOCATION MAP



CONSTRUCTION PLANS FOR HONEY CREEK STATE PARK

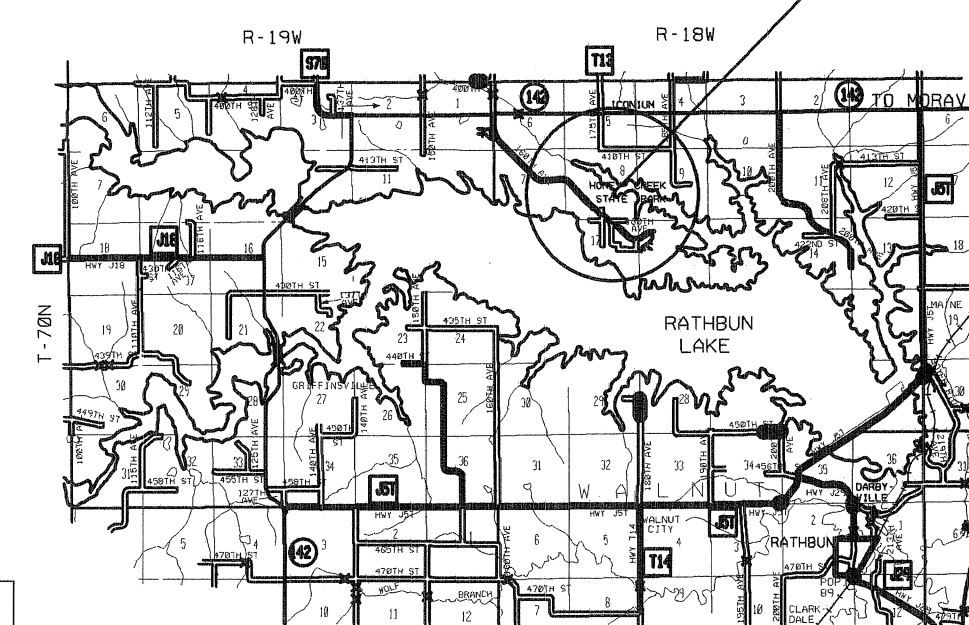
APPANOOSE COUNTY

ROADWAYS RECONSTRUCTION

The Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, series of 2001, plus current Supplemental Specifications and Special Provisions shall apply to construction work on this project

DNR PROJECT NO. - 08-05-04-13
D.O.T. PROJECT NO. - SP-675-0(3)--7C-04

PLANS PREPARED BY
ENGINEERING BUREAU
DIVISION OF ADMINISTRATION



VICINITY MAP

APPROVED FOR LETTING

DONALD R. LABATE - CHIEF - ENGINEERING BUREAU	DATE 3-18-09
KENNETH HERRING, ADMINISTRATOR - CONSERVATION & RECREATION DIVISION	DATE 3-19-09
PATRICIA L. BODDY, DEPUTY DIRECTOR - DEPARTMENT OF NATURAL RESOURCES	DATE 3-19-09

DNR NO. 08-05-04-13
DOT SP-675-0(3)--7C-04

STANDARD ROAD PLANS — 105-4 06-17-77

The following Standard Road Plans shall be considered applicable to construction work on this peoject.

NUMBER	DATE	NUMBER	DATE	NUMBER	DATE
RF-3	04/15/08	RH-50			
RF-5	10/03/00	RH-51			
RF-7	10/16/07				
RF-19C	10/18/05				
RF-19E	10/16/07				
TC-252	04/15/08				

NOTE: NPDES STORMWATER PERMITS ARE REQUIRED FOR ANY LAND DISTURBING ACTIVITY THAT EXCEEDS ONE ACRE IN SIZE.

FOR STORMWATER GENERAL PERMIT ASSISTANCE, CONTACT IDNR STORMWATER COORDINATOR. (515)281-7017

INDEX OF SHEETS — 105-3 07-21-87

NO.	DESCRIPTION
1	TITLE SHEET, INDEX, LOCATION MAPS
2	ESTIMATE OF QUANTITIES AND GENERAL NOTES
3	OVERALL SITE PLAN
4-13	SITE PLAN (SITES 1-10)
14	SITE NOTES
15	SUBBASE DETAILS
16	SCOUR STOP DETAILS
17	SHOULDER DETAILS
18	ROAD PAINT DETAILS

IOWA ONE CALL
800/292-8989
TOLL FREE
CALL - BEFORE - YOU DIG

MILEAGE SUMMARY

SITE	MILES
1	0.62
2	1.55
3	1.40
4	0.51
5	0.82
6	1.11
7	0.17
8	0.40
9	0.41
10	0.15
TOTAL	7.14

LICENSED PROFESSIONAL ENGINEER
DONALD R. LABATE
12599
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Donald R. Labate — Date 3-18-09

My license renewal date is December 31, 2010

Pages or sheets covered by this seal: 1 thru 18.

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK
APPANOOSE COUNTY
ROADWAY RECONSTRUCTION

DECEMBER 2008

NATHAN WOLFE - DECEMBER 2008

APPANOOSE COUNTY	PROJECT NUMBER	DNR NO. 08-05-04-13 IDOT SP-675-0(3)--7C-04	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
			IOWA	6	09	1	18

ESTIMATED PROJECT QUANTITIES

100-1C
MODIFIED

ITEM CODE	ITEM	UNIT	SITE #1 P&I	SITE #2 P&I	SITE #3 P&I	SITE #4 P&I	SITE #4 NON-P&I	SITE #5 P&I	SITE #6 P&I	SITE #6 NON-P&I	SITE #7 P&I	SITE #8 P&I	SITE #9 P&I	SITE #10 P&I	TOTAL P&I	TOTAL NON-P&I
2101-0850001	CLEARING AND GRUBBING, AS NEEDED	L.S.	0.1	0.1	0.1	0.1		0.1	0.1		0.1	0.1	0.1	0.1	1	
2102-2713070	EXCAVATION, CLASS 13, ROADWAY AND BORROW	C.Y.	2368.9	5592.9	4752.2	1433.3		2433.2	1180.5		565.9	1334.1	1466.7	0	21585.5	
2123-7450000	SHOULDER CONSTRUCTION EARTH	STA	65.6	158.35	146.92	41.25		71.74	81.82		17.98	41.74	40	0	665.4	
2301-1032100	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 2 DURALITY, 6 IN.	S.Y.	11662.2	21560.6	24800	6162.1		10075.8	6781.8		2063.8	4872.7	7333.3	0	95312.3	
2312-8260050	GRAN. SURFACING ON ROAD, CL. A CRUSHED STONE	TONS	0	0	0	0	173	0	325	29	0	0	1.6	127.3	453.9	202
2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TONS	0	32.5	2.8	0.7		45.4	102.5		0	0	23.1	0	207	
2417-0225015	APRONS, METAL, 15 IN. DIA.	EACH	0	0	2	0		0	0		0	0	0	0	2	
2417-0225018	APRONS, METAL, 18 IN. DIA.	EACH	0	0	2	0		0	0		0	0	1	0	3	
2417-1060015	CULVERT, CORRUGATED METAL ROADWAY PIPE, 15 IN. DIA., EXTENSTION	LF	0	0	16	0		0	0		0	0	0	0	16	
2417-1060018	CULVERT, CORRUGATED METAL ROADWAY PIPE, 18 IN. DIA., EXTENSTION	LF	0	0	20	0		0	0		0	0	0	0	20	
2416-15401036	REMOVE & REINSTALL RIGID PIPE CULVERT LESS THAN OR EQUAL TO 36'	L.S.	.5	.5	0	0		0	0		0	0	0	0	1	
2426-6772016	REMOVE & REINSTALL CONCRETE PIPE APRONS LESS THAN OR EQUAL TO 36'	L.S.	.5	.5	0	0		0	0		0	0	0	0	1	
2502-8212014	SUBDRAIN, LONGITUDINAL, 4 IN. DIA.	L.F.	3280	8199	7370	2701		4337	4091		899	2087	2200	0	35164	
2502-8220193	SUBDRAIN OUTLET (RF-19C)	EACH	7	16	15	6		9	8		2	4	5	0	72	
2507-6800042	REVETMENT, CLASS D	TONS	0	60	90	0		5	0		0	0	0	0	155	
2510-6750501	REMOVAL AND CRUSHING OF PAVEMENT	S.Y.	8746.7	20650.7	18600	6162.1		10075.8	6781.8		2063.8	4872.7	5377.8	0	83332.2	
2512-1725256	CURB AND GUTTER, P.C. CONCRETE, 2.5 FT.	L.F.	0	0	0	216		0	0		0	0	0	0	216	
2527-9263109	PAINTED PAVEMENT MARKINGS,WATERBORNE OR SOLVENT BASED	STA.	131.20	135.80	263.20	36.9		67.68	0		11.96	31.44	88	0	774.08	
2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	12	0	16	0		0	0		0	0	9	0	37	
2528-8445110	TRAFFIC CONTROL	L.S.	0.1	0.1	0.1	0.1		0.1	0.1		0.1	0.1	0.1	0.1	1	
2533-4980005	MOBILIZATION	L.S.	0.1	0.1	0.1	0.1		0.1	0.1		0.1	0.1	0.1	0.1	1	
2601-2636041	SEEDING AND FERTILIZING	L.S.	0.1	0.1	0.1	0.1		0.1	0.1		0.1	0.1	0.1	0.1	1	
	SCOUR STOP	S.F.	800	0	0	0		0	0		0	0	0	0	800	
	FLY ASH	TONS	925	1670	1979.4	505.6		796.5	528.8		169	398.4	584	0	7556.7	
	FLY ASH STABILIZATION	S.Y.	12391.1	22371.6	26513.3	6772.5		10669.1	7082.9		2263.6	5336.4	7822.2	0	101222.7	

ESTIMATE REFERENCE INFORMATION

100-4A
03-29-94

Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM CODE	DESCRIPTION
--	- All stationing is approximate.
2301-1032100	- Blading and Shaping of existing roadway is incidental to this bid item. - Edges where new construction abuts existing pavement to be saw cut, and shall be incidental to this bid item. - The road will be closed to traffic for the duration of the project. - Relocate signs as required by the engineer (Incidental).
2101-0850001	- Clear & Grub 16 ft. past edge of new pavement on both sides.
2301-1032100	- The construction will be completed in three phases. Phase 1 will include sites 2 and 4 which will be closed to the public beginning July 7, 2009. Phase 2 will be closed to the public on August 3 and includes sites 3,6,7,8,9,10, and the portion of site 1 south of intersection with the road leading to the south boat ramp(site 5). Phase 3 includes the remaining portion of site 1(park entrance) and site 5. It will be closed to the public on September 9, 2009.

06-07-94 232-8
The top six (6) inches of the disturbed areas shall be free of rock and debris and shall be suitable for the establishment of vegetation, subject to the approval of the DNR Project Engineer.

09-29-92 203-4
The contractor is encouraged to take full advantage of specification 1105.15 - Value Engineering Incentive Proposal. A pamphlet and conceptual proposal form will be available at the preconstruction conference.

10-29-02 213-1
It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. These areas shall not impact wetlands or "Waters of the U.S." No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans.

04-30-02 213-7
Unless otherwise directed or authorized, all hot mix asphalt and other bituminous materials which are not specifically addressed or described in the plans shall become the property of the Contractor.

The Contractor, in accordance with current rules and regulations of the Iowa Department of Natural Resources, may:

1.) With the approval of the Engineer, blend or otherwise process the material for use with shoulder or special backfill aggregate, for use on the project.

2.) With the approval of the Engineer, place with material in areas designated by the Engineer as soil aggregate subbase without extra charge.

3.) Remove the material from the project and stockpile for the Contractor's future use.

01-20-84 232-5
The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service area(s) will be subject to the approval of the DNR Project Engineer.

TRAFFIC CONTROL PLAN

108-23
04-04-89

1. During each stage of construction, refer to Estimate Reference Information section for road closure information.
2. Traffic control on this project shall be in accordance with Standard Road Plans TC-252. For additional complementary information refer to current "Supplemental Specification for Traffic Controls".
3. All traffic control devices shall be furnished, erected, maintained and removed by the contractor.
4. The location for parking and storage of equipment by the contractor will be as approved by the engineer in charge of construction.
5. Article 2528.12 of the Standard Specifications requires maintenance of all traffic control devices, including maintenance of the devices during nonworking hours in order to assure proper operation.
6. Where possible, all post mounted signs shall be placed a minimum of 2 feet beyond the curb or edge of shoulder.
7. When used for traffic control or protection of the work site, safety fence must be firmly supported in a vertical position. Related costs will be included in the traffic control bid item.
8. Proposed sign spacing may be modified, as approved by the engineer, to meet existing field restrictions or to prevent obstruction of the motorist's view of permanent signing.
9. Permanent signing conveying messages contrary to the message of the temporary signing and not applicable to the working conditions shall be covered by the contractor when directed by the engineer.
10. Proposed changes in the traffic control plan shall be reviewed with the office of construction before changes are made.
11. The bid item, "Traffic Control" shall include the cost for all traffic control measures, required of the contractor except for those which are separate bid items or are incidental to other bid items.

DNR MODIFIED 201-1
The contractor shall check for location of utilities, drainage, or other facilities in the construction area. Any damage to such facilities due to the contractor's carelessness shall be corrected at his own expense.

03-28-95 232-3
EROSION CONTROL:

Following completion of work on this project seeding, fertilizing, and mulching of all disturbed areas shall be done as directed by the engineer.

SEEDING:

3 lbs. of Fescue, Kentucky 31 or Fawn per 1000 sq. ft.

FERTILIZER:

17 lbs. of 13-13-13 (or equivalent) chemically combined fertilizer per 1000 sq. ft.

MULCH:

70 lbs. of dry cereal straw per 1000 sq. ft. All mulch to be consolidated into the soil with the mulch stabilizer.

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING AND REALTY SERVICES BUREAU

HONEY CREEK STATE PARK

ESTIMATE OF QUANTITIES & GENERAL NOTES

ROADWAY RECONSTRUCTION
APPANOOSE COUNTY

DECEMBER 2008

DESIGNED BY NJW TRACED BY
DETAILED BY CHECKED BY

APPANOOSE COUNTY

PROJECT NUMBER D. N. R. 08-05-04-13
D.O.T- SP-675-0(3)--7C-04

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	6	09	2	18

NOT TO SCALE

NATHAN WOLFE - DEC 2008

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK

SITE PLAN

ROADWAY RECONSTRUCTION

APPANOOSE COUNTY

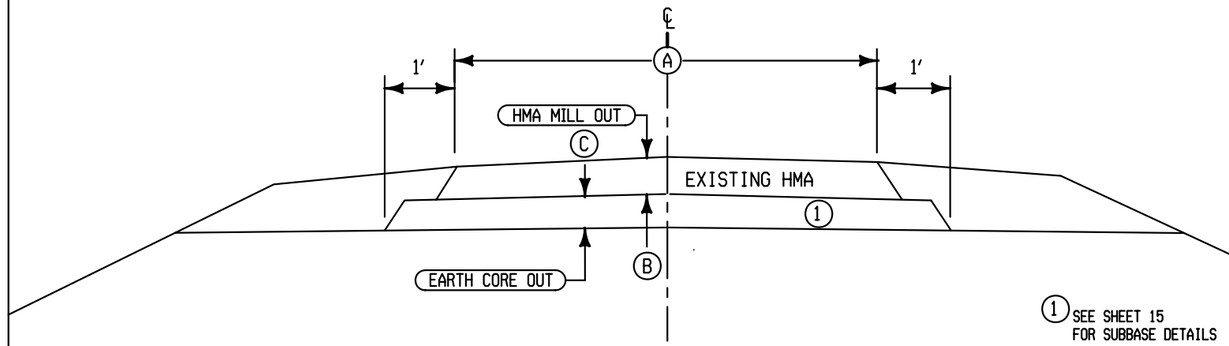
DEC 2008

DESIGNED BY_____
DETAILED BY_____

APPANOOSE COUNTY

PROJECT NUMBER	DNR 08-05-04-13 IDOT SP-675-0(3)--7C-04	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		IOWA	7	09	3	18

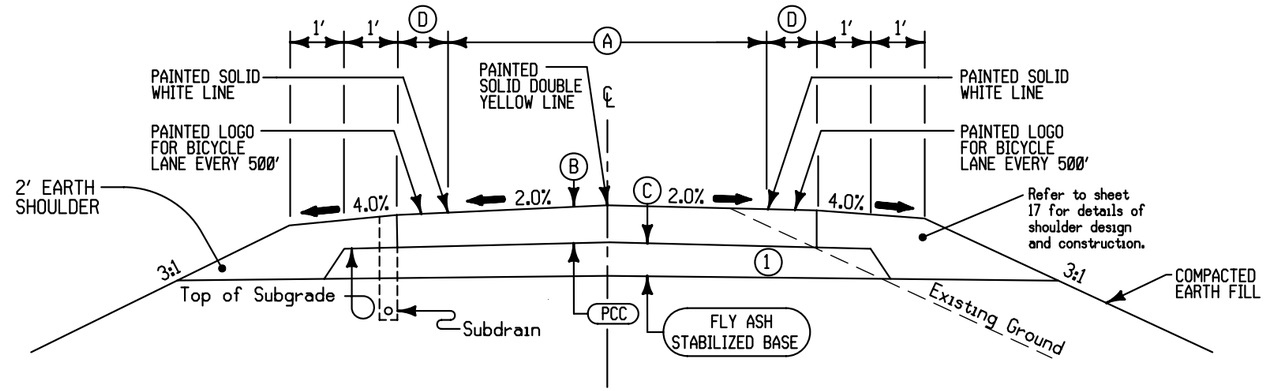
PAVEMENT WIDENING



1 SEE SHEET 15 FOR SUBBASE DETAILS

PAVEMENT REMOVAL &
CORE OUT DETAIL
NOT TO SCALE

LOCATION		TOTAL LENGTH	A	B	C	REMOVAL OF PAVEMENT	CLASS 13 EXCAVATION
ROAD IDENTIFICATION	STATION TO STATION	Feet	Feet	Inches	Inches	(SY)	(CY)
SITE 1	100+00 - 132+80	3280	24	6	9	8746.7	2368.9



ROADWAY CONSTRUCTION &
PAVING DETAIL
NOT TO SCALE

1 SEE SHEET 15 FOR SUBBASE DETAILS

LOCATION		TOTAL LENGTH	A	B	C	D	PCC PAVING	EARTH SHOULDER	FLY ASH STAB. BASE
ROAD IDENTIFICATION	STATION TO STATION	Feet	Feet	Inches	Inches	Feet	(SY)	(STA.)	(SY)
SITE 1	100+00 - 132+80	3280	24	6	12	4	11662	65.6	12391.1

Notes:

PLACE LONGITUDINAL JOINTS EVERY 8′ (QUARTER-POINTS OF ROADWAY)

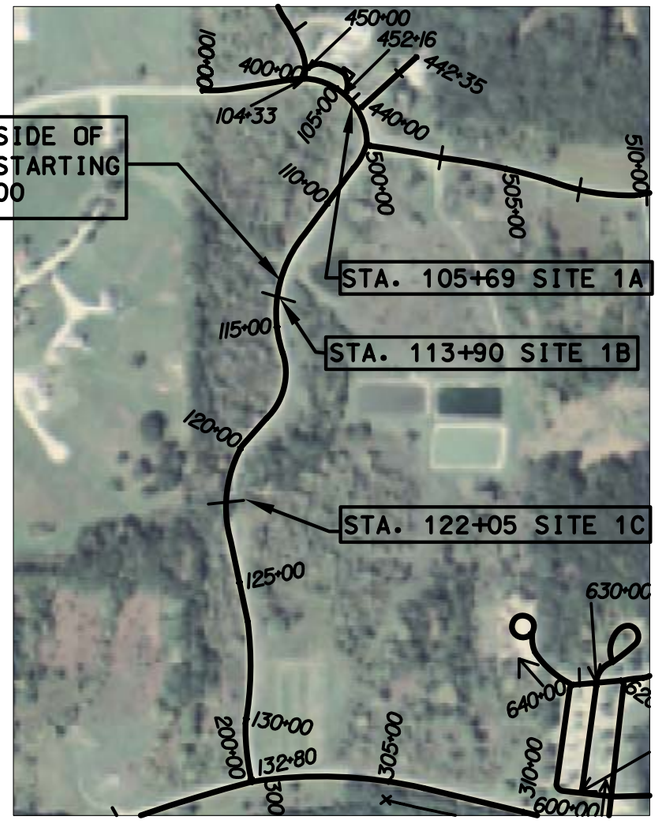
USE TYPE 7A SUBDRAIN INSTALLATION REFER TO RF-19C AND RF-19E

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or super-elevated curves.

Subdrains should always be placed on the opposite side of pavement widening. If there is no widening required install on side approved by the Engineer.

SITE 1

WIDEN WEST SIDE OF ROAD BY 8′ STARTING @ STA. 100+00



N

NOT TO SCALE

NOTES:

1. FOR SITES 1A – 1C SEE SHEET 14 FOR DETAILS.
2. FOR ROAD PAINT DETAILS SEE SHEET 18

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK
SITE 1
ROADWAY RECONSTRUCTION
APPANOOSE COUNTY
DEC 2008

NATHAN WOLFE - DEC 2008

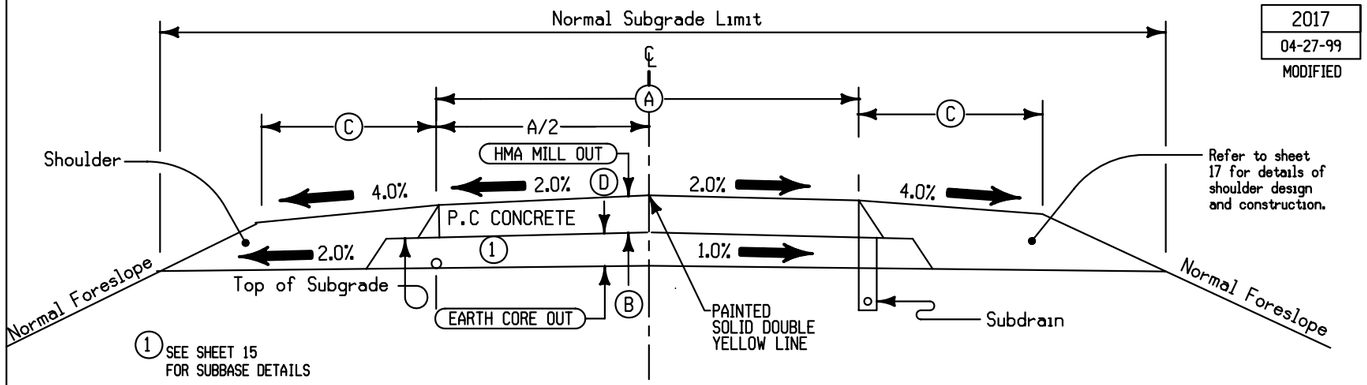
DESIGNED BY NJW
DETAILED BY

APPANOOSE COUNTY

PROJECT NUMBER	DNR 08-05-04-13 IDOT SP-675-0(3)--7C-04	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		IOWA	7	09	4	18

NO WIDENING

LOCATION		TOTAL LENGTH	(A)	(B)	(C)	(D)	REMOVAL OF PAVEMENT	CLASS 13 EXCAVATION	DRIVEWAY SURFACING	EARTH SHLDR QUANTITY	FLY ASH STAB. BASE	P.C. PAVING
ROAD IDENTIFICATION	STATION TO STATION	Feet	Feet	Inches	Feet	Inches	(SY)	(CY)	TONS	STA.	(SY)	(SY)
SITE 2	200+00 - 267+90	6790	24	6	2	9	18106.7	4903.9	19.3	132.45	19615.6	18106.6
SITE 2	280+00 - 284+55	455	18	0	2	0	0	0	10.4	7.30	0	910
SITE 2	290+00 - 299+54	954	24	6	2	9	2544	689	2.8	18.60	2756	2544
						TOTAL	20650.7	5592.9	32.5	158.35	22371.6	21560.6



Note:

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or super-elevated curves.

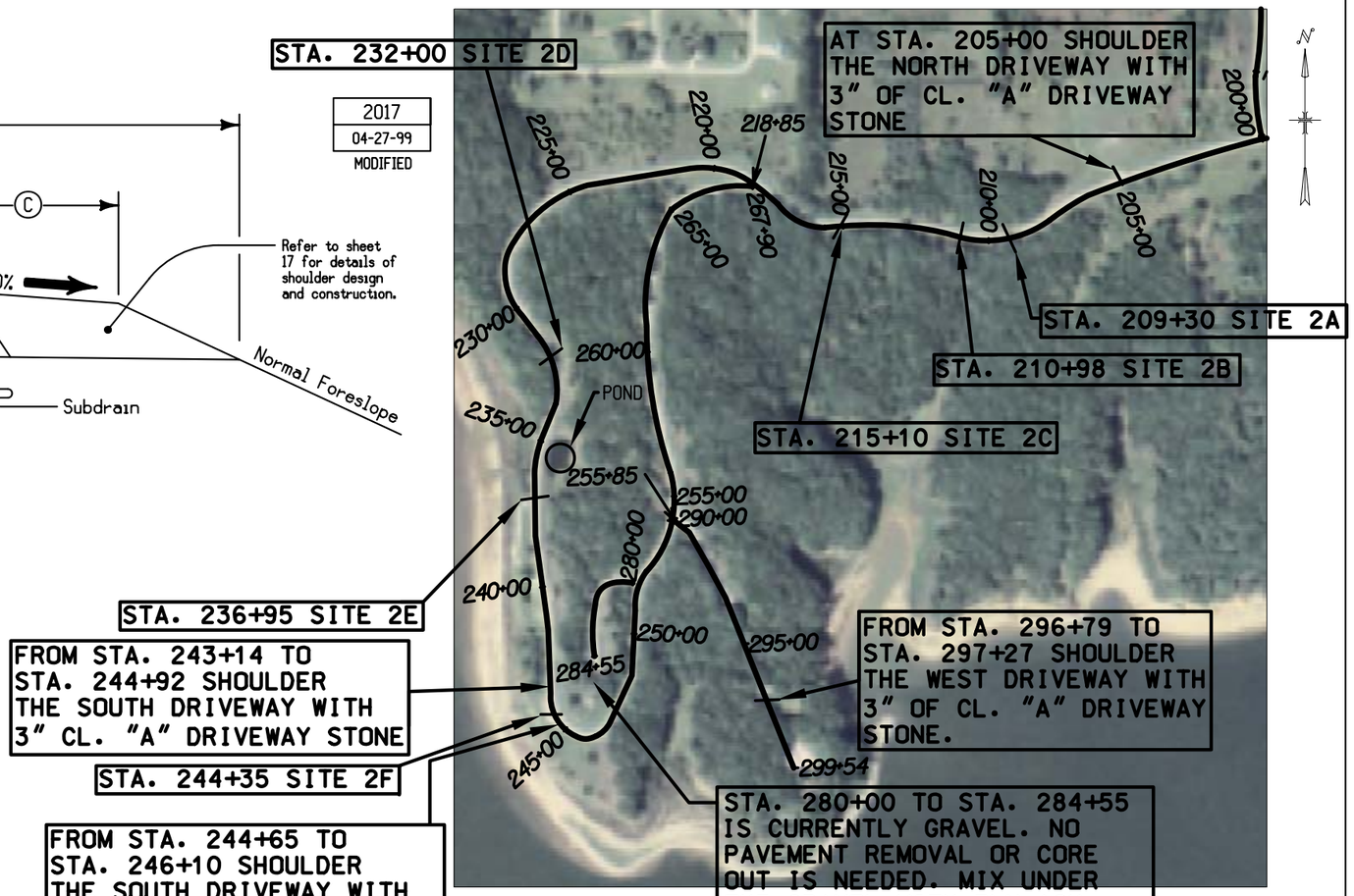
"D" shall be earth core out plus 1' on each side. Core depth is varied, see table above.

Subdrains should always be placed on the opposite side of pavement widening. If there is no widening required install on side approved by the Engineer.

TYPICAL CROSS SECTION
2-LANE P.C. ROADWAY
NOT TO SCALE

2017
04-27-99
MODIFIED

SITE 2



NOT TO SCALE

NOTES:

1. FOR SITES 2A – 2G SEE SHEET 14 FOR DETAILS.
2. FOR ROAD PAINT DETAILS SEE SHEET 18

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK
SITE 2
ROADWAY RECONSTRUCTION
APPANOOSE COUNTY
DEC 2008

NATHAN WOLFE - DEC 2008

DESIGNED BY_____
DETAILED BY_____

APPANOOSE COUNTY

PROJECT NUMBER	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DNR 08-05-04-13 IDOT SP-675-0(3)--7C-04	IOWA	7	09	5	18

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK

SITE 3

ROADWAY RECONSTRUCTION

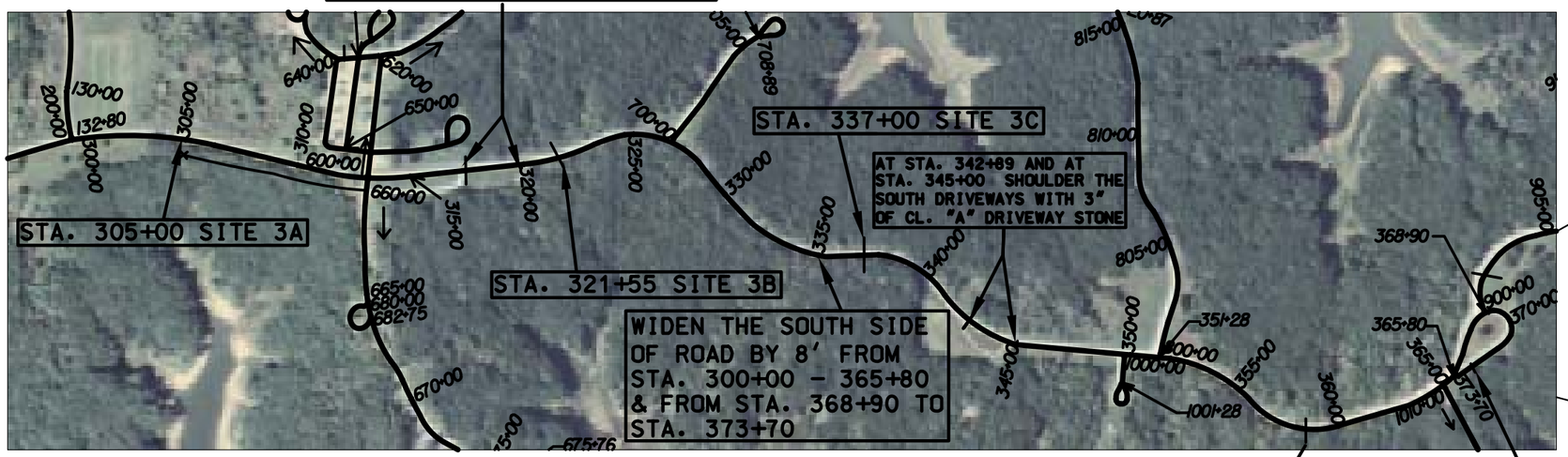
APPANOOSE COUNTY

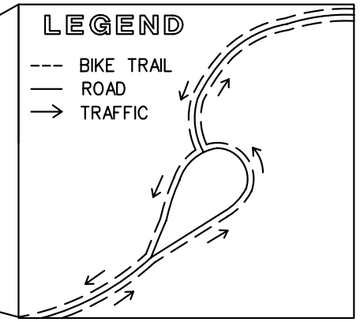
DEC 2008

PAVEMENT WIDENING

AT STA. 317+44 AND AT STA. 320+00 SHOULDER THE SOUTH DRIVEWAYS WITH 3" OF CL. "A" DRIVEWAY STONE

SITE 3

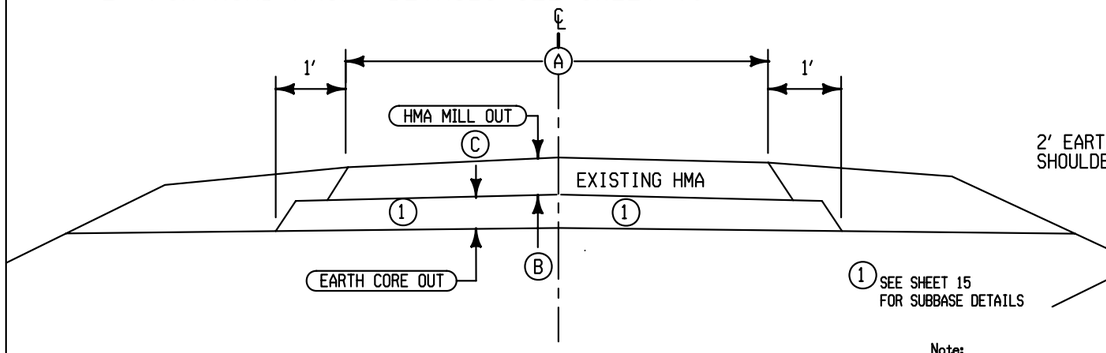




NOT TO SCALE

NOTES:

1. FOR SITES 3A – 3E SEE SHEET 14 FOR DETAILS.
2. FOR ROAD PAINT DETAILS SEE SHEET 18



PAVEMENT REMOVAL & CORE OUT DETAIL

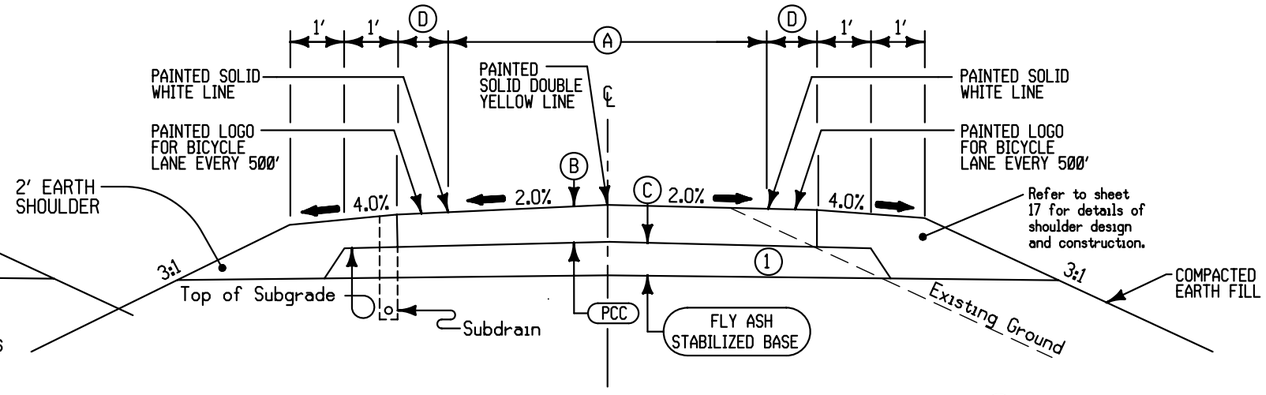
NOT TO SCALE

LOCATION		TOTAL LENGTH	(A)	(B)	(C)	REMOVAL OF PAVEMENT	CLASS 13 EXCAVATION
ROAD IDENTIFICATION	STATION TO STATION	Feet	Feet	Inches	Inches	(SY)	(CY)
SITE 3	300+00 - 365+80	6580	24	6	9	17546.7	4752.2
SITE 3	365+80 - 368+90	310	12	6	9	413.3	137.8
SITE 3	368+90 - 373+70	480	12	6	9	640	320
					TOTAL	18600	5210

Note:

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or super-elevated curves.

Subdrains should always be placed on the opposite side of pavement widening. If there is no widening required install on side approved by the Engineer.



ROADWAY CONSTRUCTION & PAVING DETAIL

NOT TO SCALE

LOCATION		TOTAL LENGTH	(A)	(B)	(C)	(D)	PCC PAVING	EARTH SHOULDER	DRIVEWAY SURFACING	FLY ASH STAB. BASE
ROAD IDENTIFICATION	STATION TO STATION	Feet	Feet	Inches	Inches	Feet	(SY)	(STA.)	TONS	(SY)
SITE 3	300+00 - 365+80	6580	24	6	12	4	23395.6	132.45	2.8	1855.8
SITE 3	365+80 - 368+90	310	12	6	12	4	551.1	7.30	0	36
SITE 3	368+90 - 373+70	480	12	6	12	4	853.3	18.60	0	87.6
						TOTAL	24800	158.35	2.8	1979.4

NATHAN WOLFE - DEC 2008

DESIGNED BY_____
DETAILED BY_____

APPANOOSE COUNTY

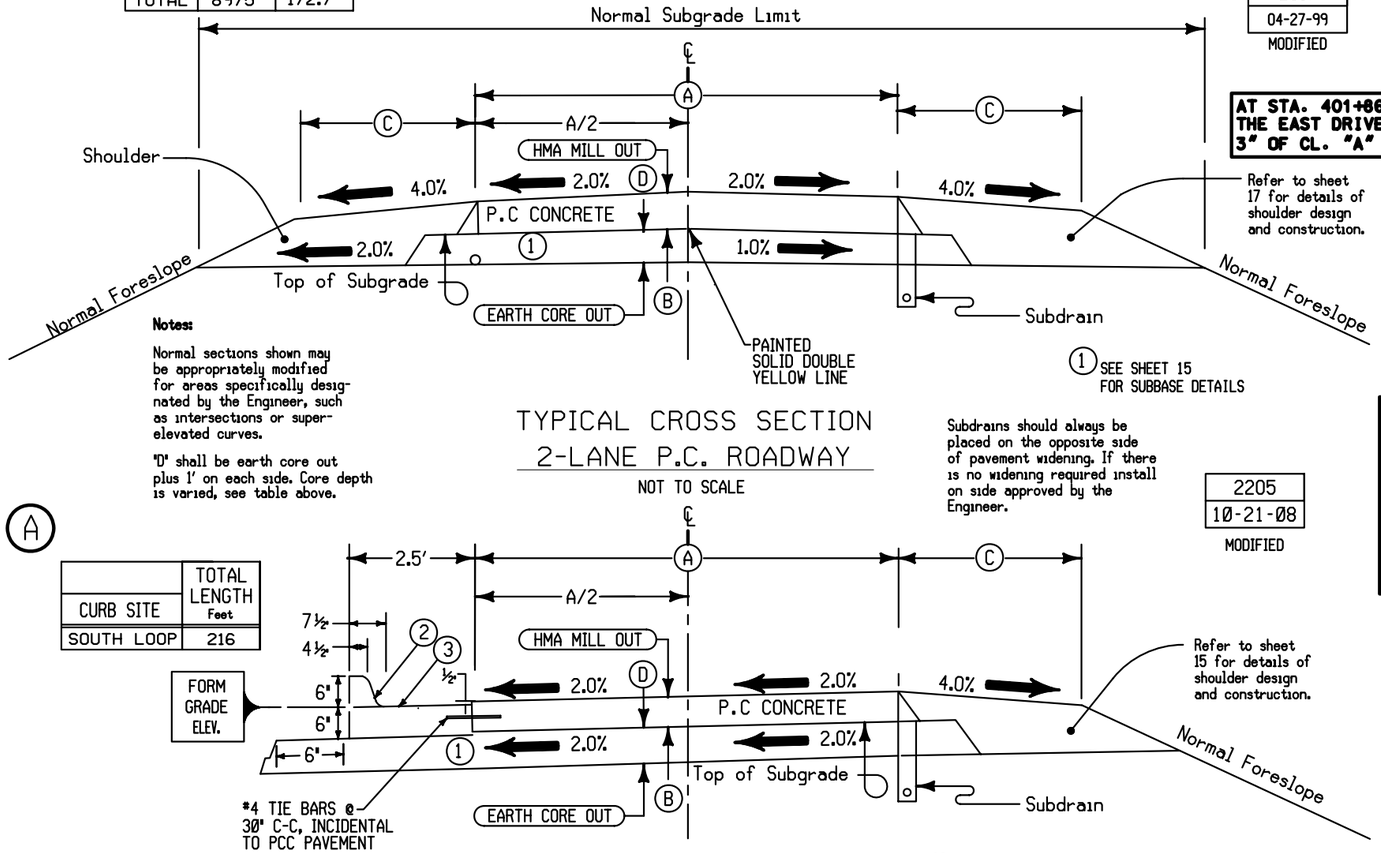
PROJECT NUMBER: DNR 08-05-04-13
IDOT SP-675-0(3)--7C-04

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7	09	6	18

NO WIDENING

ROAD IDENTIFICATION	LOCATION: STATION TO STATION	TOTAL LENGTH Feet	(A) Feet	(B) Inches	(C) Feet	(D) Inches	REMOVAL OF PAVEMENT (SY)	CLASS 13 EXCAVATION (CY)	EARTH SHLDR QUANTITY STA.	DRIVEWAY SURFACING TONS	FLY ASH STAB. BASE (SY)	P.C. PAVING (SY)
SITE 4	400+00 - 412+13	1213	17	6	4	9	2291.2	640.2	14.26	0.70	2560.8	2291.2
SITE 4	412+13 - 418+50	637	26	6	4	6	1840.2	330.3	12.47	0	1981.8	1840.2
SITE 4	420+00 - 422+75	275	17	6	2	6	519.4	96.8	5.50	0	580.5	519.5
BOAT RAMP LOOP	N/A	N/A	N/A	6	N/A	6	509	182.3	0	0	547	509
SITE 4	440+00 - 442+35	235	20	6	2	6	522.2	95.7	4.70	0	574.4	522.2
SITE 4 - A	450+00 - 452+16	216	20	6	2	6	480	88	4.32	0	528	480
						TOTAL	6162.1	1433.3	41.25	0.70	6772.5	6162.1

PARKING SITE	TOTAL AREA (SF)	CL. "A" STONE (TONS) + 10%
SOUTH LOOP (EAST)	650	12.5
NORTH LOOP	8325	160.2
TOTAL	8975	172.7



Notes:

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or superelevated curves.

"D" shall be earth core out plus 1' on each side. Core depth is varied, see table above.

TYPICAL CROSS SECTION 2-LANE P.C. ROADWAY

NOT TO SCALE

2017
04-27-99
MODIFIED

Subdrains should always be placed on the opposite side of pavement widening. If there is no widening required install on side approved by the Engineer.

(A)

CURB SITE	TOTAL LENGTH Feet
SOUTH LOOP	216

CURB AND GUTTER UNIT
(STANDARD CURB - ADJACENT TO PCC)

Normal sections shown may be appropriately modified for areas specifically designated by the engineer, such as intersections or superelevated curves.

TYPICAL CROSS SECTION PCC AUXILIARY LANE

NOT TO SCALE

1 SEE SHEET 15 FOR SUBBASE DETAILS

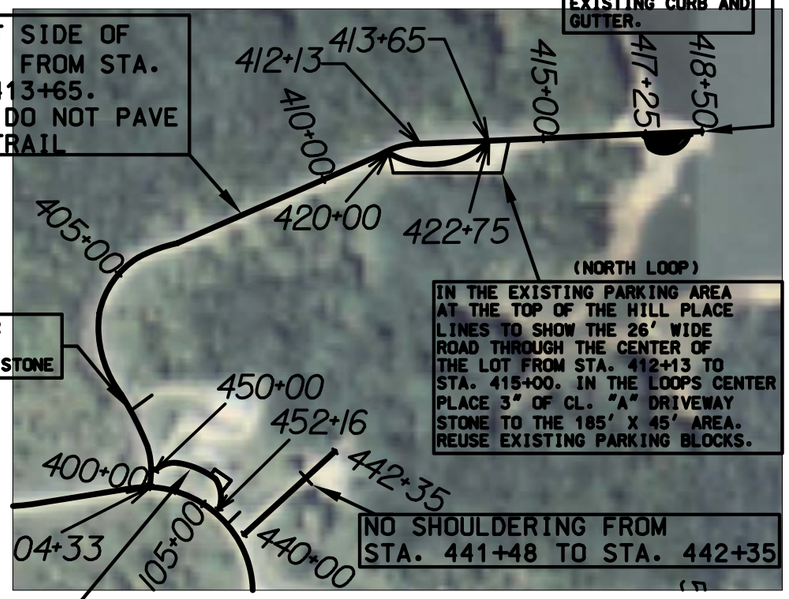
2 3" RADIUS

3 PLACE C JOINT AT 20' CENTERS SEE STANDARD ROAD PLAN RH-50

For Joint details see Standard Road Plan RH-51.

2205
10-21-08
MODIFIED

SITE 4

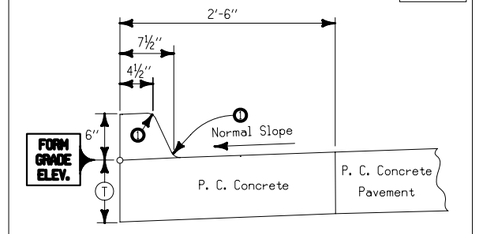


NOT TO SCALE

NOTE:

FOR ROAD PAINT DETAILS SEE SHEET 18

6131
11-10-92



CURB AND GUTTER UNIT
(STANDARD CURB - ADJACENT TO P.C.C.)

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK

SITE 4

ROADWAY RECONSTRUCTION

APPANOOSE COUNTY

DEC 2008

NATHAN WOLFE - DEC 2008

DESIGNED BY_____
DETAILED BY_____

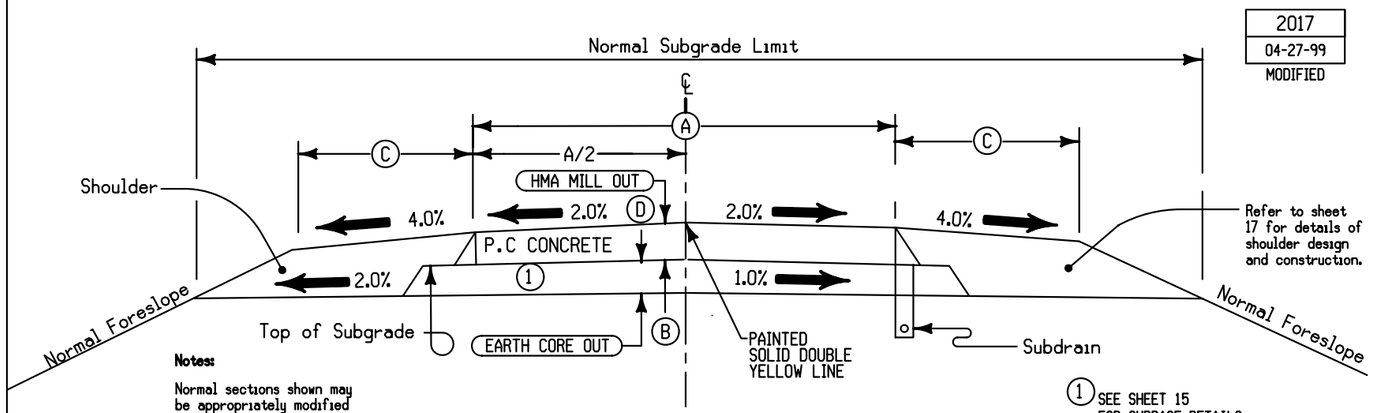
APPANOOSE COUNTY

PROJECT NUMBER	DNR 08-05-04-13 IDOT SP-675-0(3)--7C-04

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7	09	7	18

NO WIDENING

LOCATION		TOTAL LENGTH	(A)	(B)	(C)	(D)	REMOVAL OF PAVEMENT	CLASS 13 EXCAVATION	DRIVEWAY SURFACING	EARTH SHLDR QUANTITY	FLY ASH STAB. BASE	P.C. PAVING
ROAD IDENTIFICATION	STATION TO STATION	Feet	Feet	Inches	Feet	Inches	(SY)	(CY)	TONS	STA.	(SY)	(SY)
SITE 5	500+00 - 526+70	2670	22	6	2	9	6526.7	1780	3.5	52.80	7120	6526.7
SITE 5	526+70 - 533+84	714	22	6	2	6	1745.3	317.3	41.2	0	1745.3	1745.3
SITE 5 - B	540+00 - 542+39	239	20	6	2	6	531.1	97.4	0	4.78	531.1	531.1
SITE 5 - B	542+39 - 544+57	218	14	6	2	6	339.1	64.5	0	4.36	339.1	339.1
SITE 5 - B	544+57 - 547+00	243	20	6	2	6	540	99	0.7	4.74	540	540
SITE 5 - B	547+00 - 549+53	253	14	6	2	6	393.6	75	0	5.06	393.6	393.6
						TOTAL	10075.8	2433.2	45.4	71.74	10669.1	10075.8



2017
04-27-99
MODIFIED

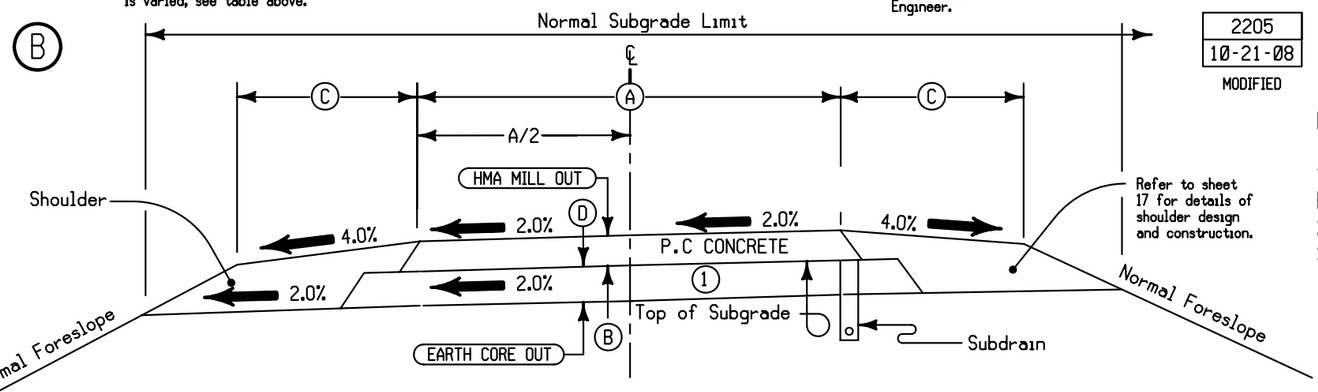
Notes:

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or super-elevated curves.

"D" shall be earth core out plus 1' on each side. Core depth is varied, see table above.

Subdrains should always be placed on the opposite side of pavement widening. If there is no widening required install on side approved by the Engineer.

TYPICAL CROSS SECTION
2-LANE P.C. ROADWAY
NOT TO SCALE



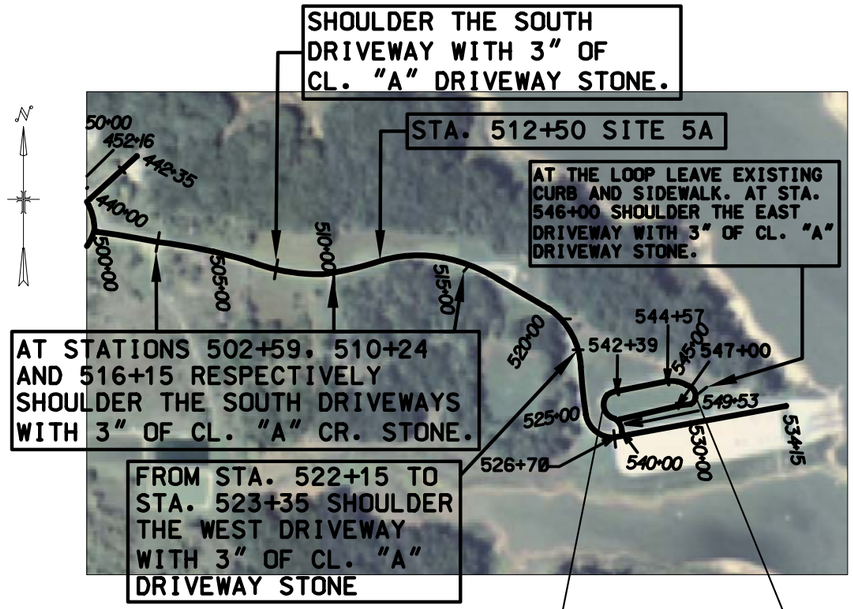
2205
10-21-08
MODIFIED

Subdrains should always be placed on the opposite side of pavement widening. If there is no widening required install on side approved by the Engineer.

TYPICAL CROSS SECTION
PCC AUXILIARY LANE
NOT TO SCALE

For Joint details see Standard Road Plan RH-51.

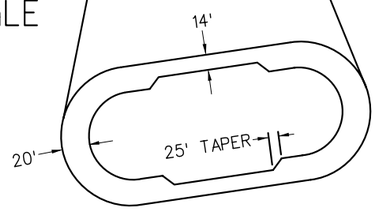
SITE 5



NOT TO SCALE

NOTES:

1. FOR SITES 5A SEE SHEET 14 FOR DETAILS.
2. FOR ROAD PAINT DETAILS SEE SHEET 18



Note: Use a 25' taper at the beginning and end of each curve to change roadway width.

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK
SITE 5
ROADWAY RECONSTRUCTION
APPANOOSE COUNTY
DEC 2008

NATHAN WOLFE - DEC 2008

DESIGNED BY
DETAILED BY

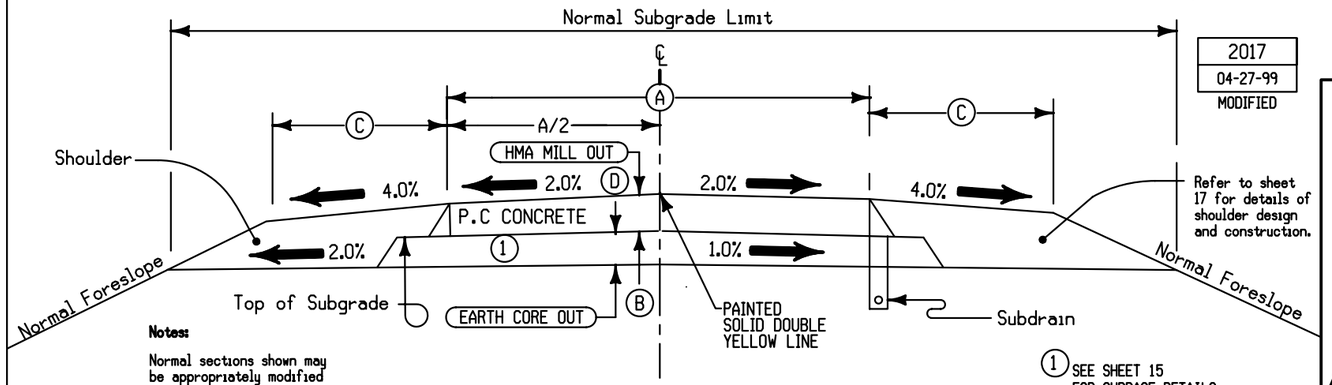
APPANOOSE COUNTY

PROJECT NUMBER: DNR 08-05-04-13
IDOT SP-675-0(3)--7C-04

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7	09	8	18

NO WIDENING

LOCATION		TOTAL LENGTH	(A)	(B)	(C)	(D)	REMOVAL OF PAVEMENT	CLASS 13 EXCAVATION	EARTH SHLDR QUANTITY	FLY ASH STAB. BASE	P.C. PAVING
ROAD IDENTIFICATION	STATION TO STATION	Feet	Feet	Inches	Feet	Inches	(SY)	(CY)	STA.	(SY)	(SY)
SITE 6	600+00 - 605+28	528	14	6	2	6	821.3	156.4	10.56	938.6	821.3
SITE 6	605+28 - 607+11	183	28	6	2	6	569.3	101.7	3.66	610	569.3
SITE 6	607+11 - 612+10	499	14	6	2	6	776.2	147.8	9.98	887.1	776.2
SITE 6	640+00 - 643+42	342	14	0	2	0	532	0	6.84	0	532
SITE 6	650+00 - 653+88	388	14	6	2	6	603.6	115	7.76	689.8	603.6
SITE 6	660+00 - 675+76	1576	14	6	2	6	2451.6	467	31.52	2801.8	2451.6
SITE 6	675+76 - 678+76	300	18	6	2	6	600	111.1	6.00	666.7	600
SITE 6	680+00 - 682+75	275	14	6	2	6	427.8	81.5	5.50	488.9	427.8
						TOTAL	6781.8	1180.5	81.82	7082.9	6781.8



Refer to sheet 17 for details of shoulder design and construction.

2017
04-27-99
MODIFIED

Notes:

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or super-elevated curves.

"D" shall be earth core out plus 1' on each side. Core depth is varied, see table above.

(1) SEE SHEET 15 FOR SUBBASE DETAILS

TYPICAL CROSS SECTION
2-LANE P.C. ROADWAY
NOT TO SCALE

LOCATION		TOTAL LENGTH	(A)	(B)	GRANULAR SURFACING
ROAD IDENTIFICATION	STATION TO STATION	Feet	Inches	Feet	(TONS) +10%
SITE 6	612+10 - 618+53	643	2	2	115.8
SITE 6	620+00 - 626+94	694	2	2	124.9
SITE 6	630+00 - 634+65	465	2	2	83.7
				TOTAL	325

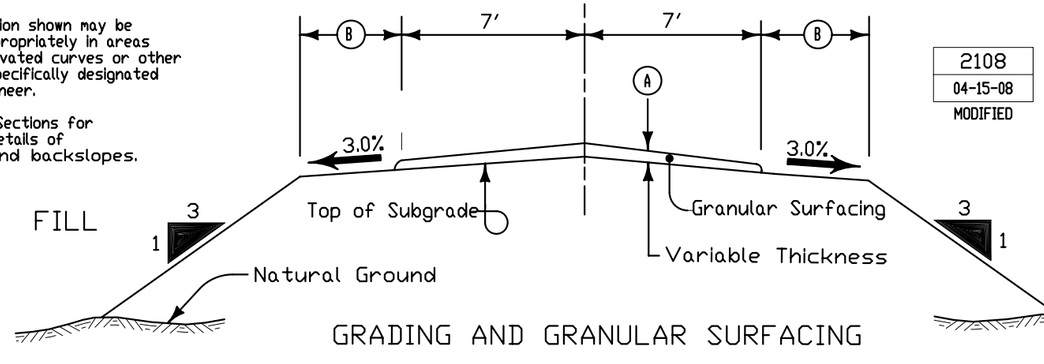
DRIVEWAY SURF. SITES	ENTRANCE SITES TOTAL	DRIVEWAY SURFACING TONS
CAMPSITE ENTRANCES	148	102.6

PARKING SITE	TOTAL AREA (SF)	CL. "A" STONE (TONS) + 10%
SE LOOP	1500	29

Notes:

Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

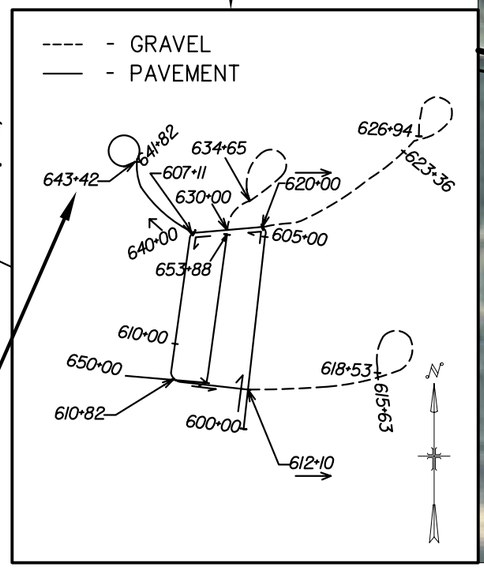
See Cross Sections for additional details of ditches and backslopes.



GRADING AND GRANULAR SURFACING

2108
04-15-08
MODIFIED

STA. 640+00 TO STA. 643+42 IS CURRENTLY GRAVEL. LEAVE EXISTING ROCK. MIX UNDER WITH FLY ASH 12" DEEP AND PAVE OVER.

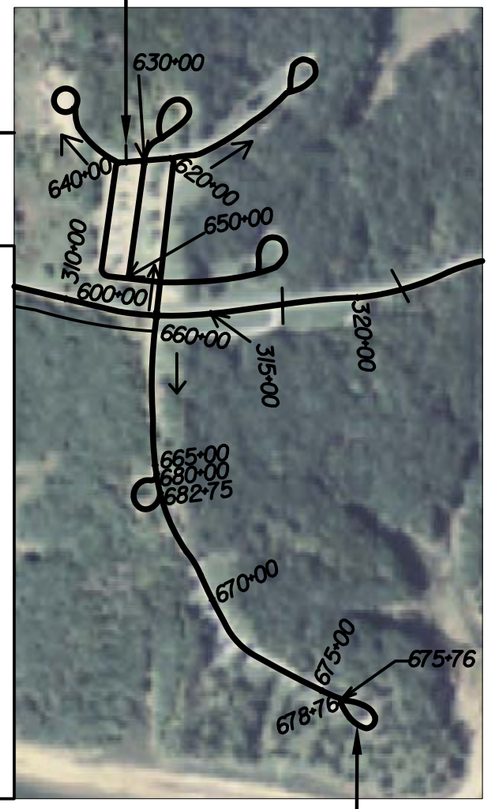


NOTES:

1. FOR SITES 6A SEE SHEET 14 FOR DETAILS.
2. FOR ROAD PAINT DETAILS SEE SHEET 18

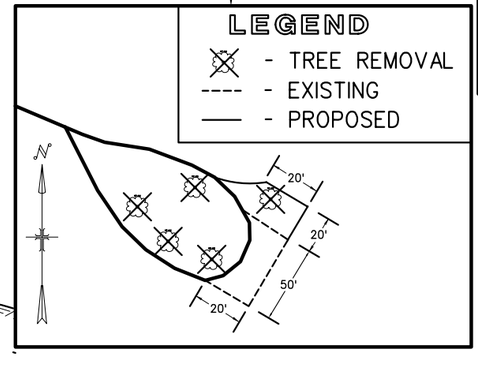
STA. 606+80 SITE 6A

SITE 6



NOT TO SCALE

WIDEN LOOP AT THE END OF SITE 6 TO 18' KEEPING OUTSIDE EDGE IN THE SAME LOCATION. WIDEN THE INSIDE AND CUT DOWN FIVE TREES. ADD 3" TO EXISTING PARKING AREA AND EXTEND TO THE NORTHEAST BY 20' TO MAKE A 70' X 20' LOT.



IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK
SITE 6
ROADWAY RECONSTRUCTION
APPANOOSE COUNTY

DEC 2008

NATHAN WOLFE - DEC 2008

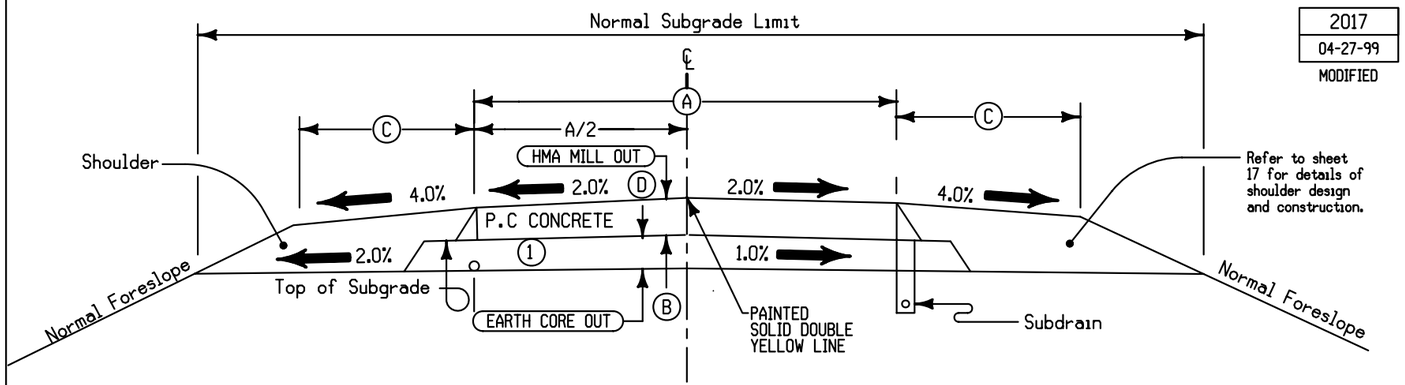
DESIGNED BY
DETAILED BY

APPANOOSE COUNTY

PROJECT NUMBER	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DNR 08-05-04-13 IDOT SP-675-0(3)--7C-04	IOWA	7	09	9	18

NO WIDENING

LOCATION		TOTAL LENGTH	A	B	C	D	REMOVAL OF PAVEMENT	CLASS 13 EXCAVATION	EARTH SHLDR QUANTITY	FLY ASH STAB. BASE	P.C. PAVING
ROAD IDENTIFICATION	STATION TO STATION	Feet	Feet	Inches	Feet	Inches	(SY)	(CY)	STA.	(SY)	(SY)
SITE 7	700+00 - 705+98	598	22	6	2	9	1461.8	398.7	11.96	1594.7	1461.8
SITE 7	705+98 - 708+99	301	18	6	2	9	602	167.2	6.02	668.9	602
						TOTAL	2063.8	565.9	17.98	2263.6	2063.8



Note:

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or super-elevated curves.

"D" shall be earth core out plus 1' on each side. Core depth is varied, see table above.

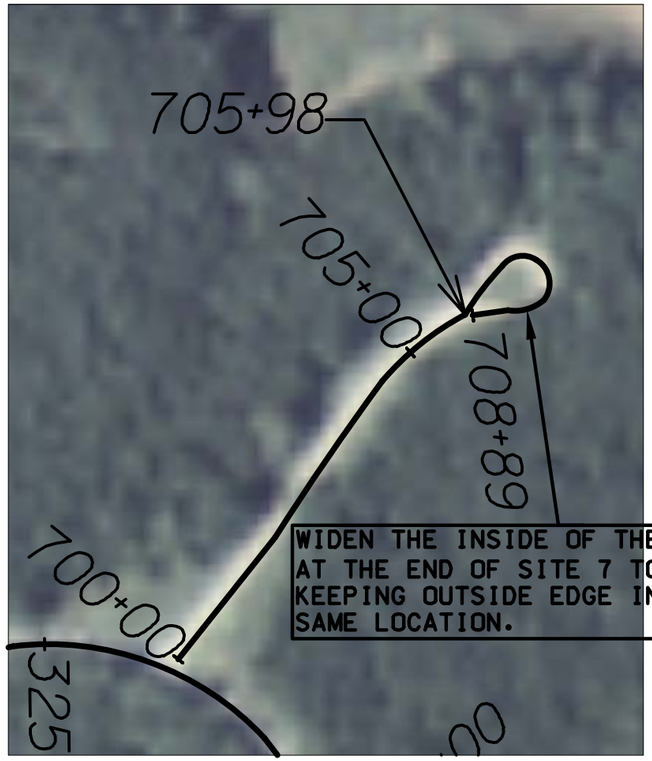
Subdrains should always be placed on the opposite side of pavement widening. If there is no widening required install on side approved by the Engineer.

(1) SEE SHEET 15 FOR SUBBASE DETAILS

TYPICAL CROSS SECTION
2-LANE P.C. ROADWAY
NOT TO SCALE

2017
04-27-99
MODIFIED

SITE 7



NOT TO SCALE

NOTE:

FOR ROAD PAINT DETAILS SEE SHEET 18

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK
SITE 7
ROADWAY RECONSTRUCTION
APPANOOSE COUNTY
DEC 2008

NATHAN WOLFE - DEC 2008

DESIGNED BY_____
DETAILED BY_____

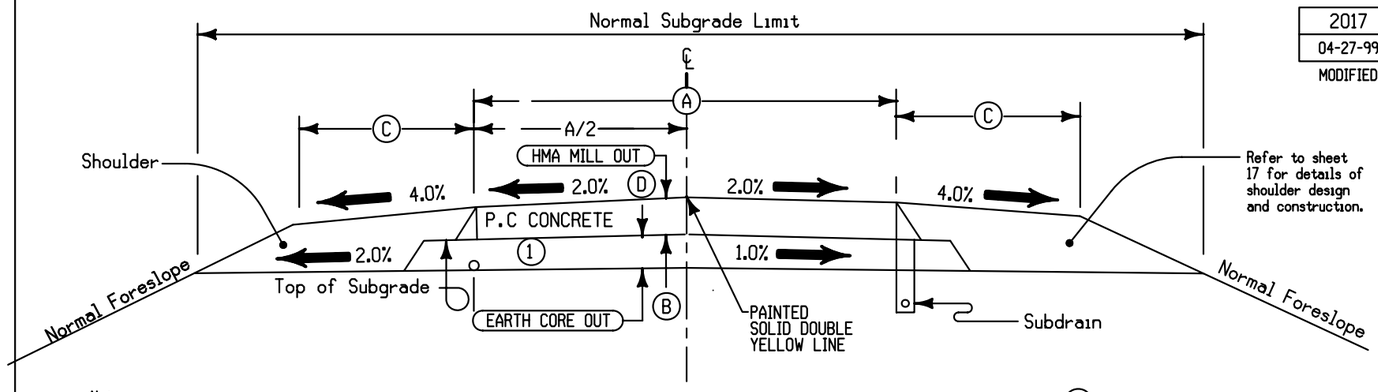
APPANOOSE COUNTY

PROJECT NUMBER	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DNR 08-05-04-13 IDOT SP-675-0(3)--7C-04	IOWA	7	09	10	18

NO WIDENING

SITE 8

LOCATION		TOTAL LENGTH	(A)	(B)	(C)	(D)	REMOVAL OF PAVEMENT	CLASS 13 EXCAVATION	EARTH SHLDR QUANTITY	FLY ASH STAB. BASE	P.C. PAVING
ROAD IDENTIFICATION	STATION TO STATION	Feet	Feet	Inches	Feet	Inches	(SY)	(CY)	STA.	(SY)	(SY)
SITE 8	800+00 - 815+72	1572	22	6	2	9	3842.7	1048	31.44	4192	3842.7
SITE 8	815+72 - 820+87	515	18	6	2	9	1030	286.1	10.30	1144.4	1030
						TOTAL	4872.7	1334.1	41.74	5336.4	4872.7



2017
04-27-99
MODIFIED

1 SEE SHEET 15 FOR SUBBASE DETAILS

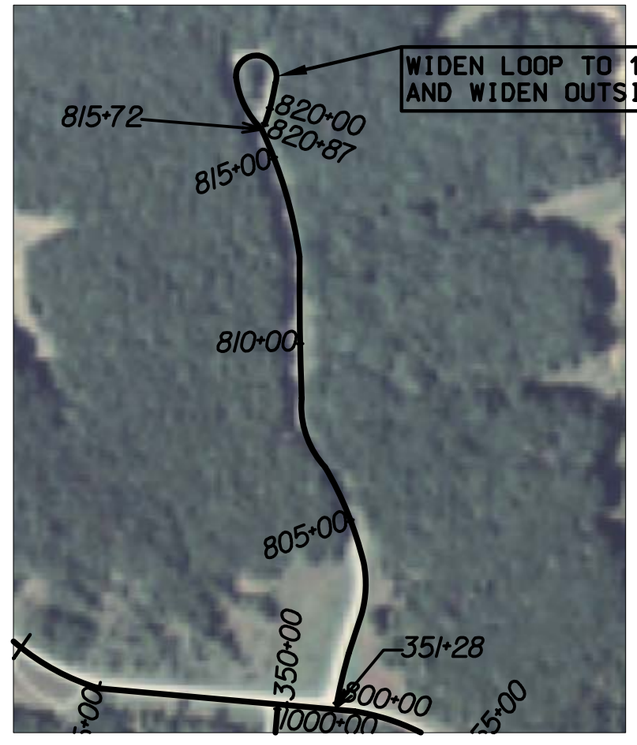
Note:

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or super-elevated curves.

"D" shall be earth core out plus 1' on each side. Core depth is varied, see table above.

Subdrains should always be placed on the opposite side of pavement widening. If there is no widening required install on side approved by the Engineer.

TYPICAL CROSS SECTION
2-LANE P.C. ROADWAY
NOT TO SCALE



NOT TO SCALE

NOTE:

FOR ROAD PAINT DETAILS SEE SHEET 18

NATHAN WOLFE - DEC 2008

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK
SITE 8
ROADWAY RECONSTRUCTION
APPANOOSE COUNTY
DEC 2008

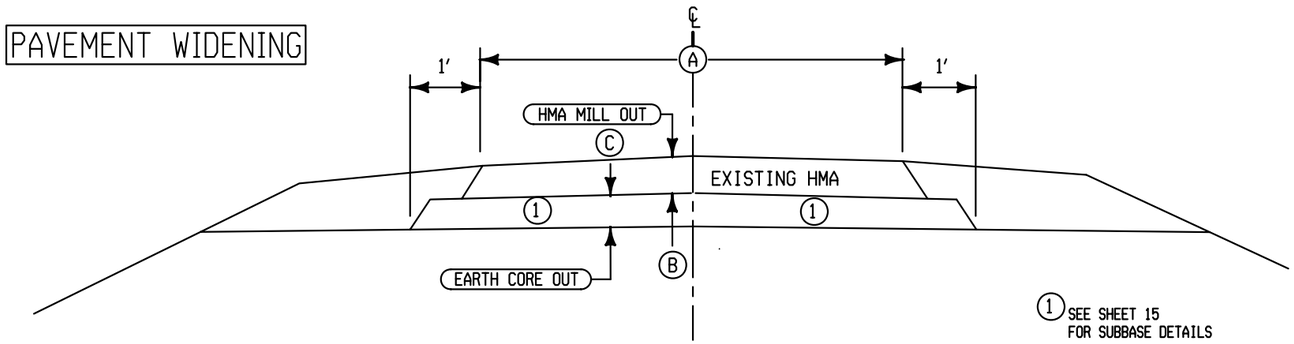
DESIGNED BY
DETAILED BY

APPANOOSE COUNTY

PROJECT NUMBER: DNR 08-05-04-13
IDOT SP-675-0(3)--7C-04

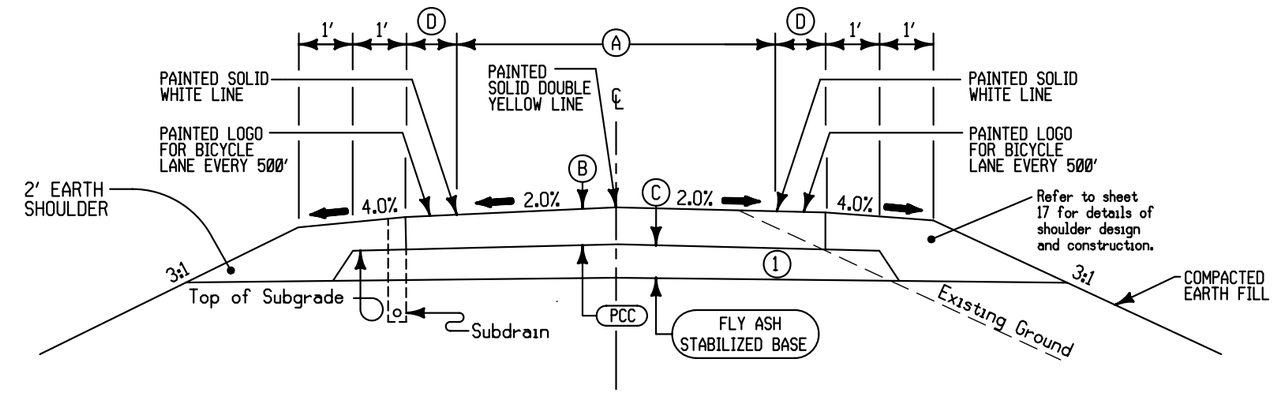
STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7	09	11	18

PAVEMENT WIDENING



PAVEMENT REMOVAL &
CORE OUT DETAIL
NOT TO SCALE

LOCATION		TOTAL LENGTH	A	B	C	REMOVAL OF PAVEMENT	CLASS 13 EXCAVATION
ROAD IDENTIFICATION	STATION TO STATION	Feet	Feet	Inches	Inches	(SY)	(CY)
SITE 9	900+00 - 920+00	2000	22	6	9	4889	1333.33
SITE 9	920+00 - 922+00	200	22	6	9	489	133.33
					TOTAL	5378	1466.66



ROADWAY CONSTRUCTION &
PAVING DETAIL
NOT TO SCALE

1 SEE SHEET 15 FOR SUBBASE DETAILS

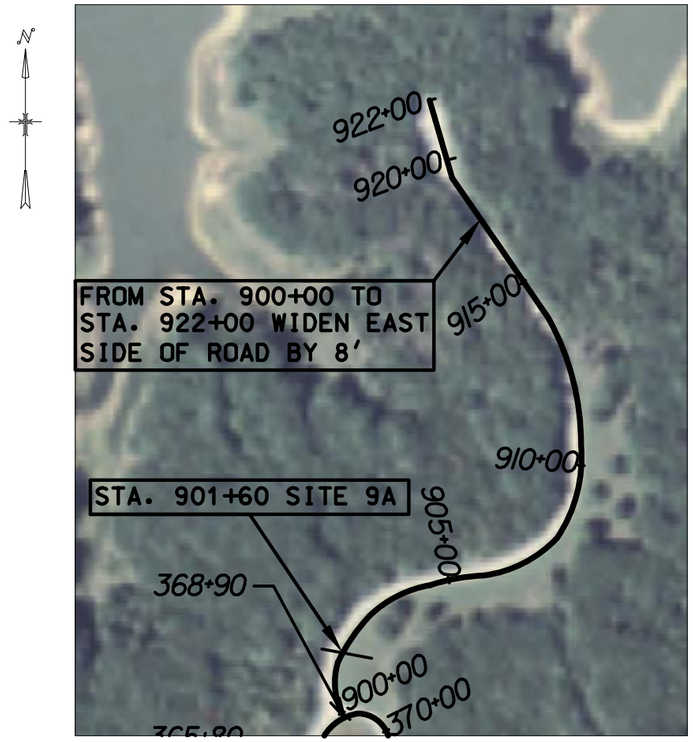
Note:

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or super-elevated curves.

Subdrains should always be placed on the opposite side of pavement widening. If there is no widening required install on side approved by the Engineer.

LOCATION		TOTAL LENGTH	A	B	C	D	PCC PAVING	EARTH SHOULDER	FLY ASH STAB. BASE
ROAD IDENTIFICATION	STATION TO STATION	Feet	Feet	Inches	Inches	Feet	(SY)	(STA.)	(SY)
SITE 9	900+00 - 920+00	2000	22	6	12	4	6666.7	40.00	7111.1
SITE 9	920+00 - 922+00	200	22	6	12	4	666.7	0	711.1
							7333.3	40.00	7822.2

SITE 9



NOT TO SCALE

NOTES:

1. FOR SITES 9A SEE SHEET 14 FOR DETAILS.
2. FOR ROAD PAINT DETAILS SEE SHEET 18

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK
SITE 9
ROADWAY RECONSTRUCTION
APPANOOSE COUNTY
DEC 2008

NATHAN WOLFE - DEC 2008

DESIGNED BY
DETAILED BY

APPANOOSE COUNTY

PROJECT NUMBER	DNR 08-05-04-13 IDOT SP-675-0(3)--7C-04	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		IOWA	7	09	12	18

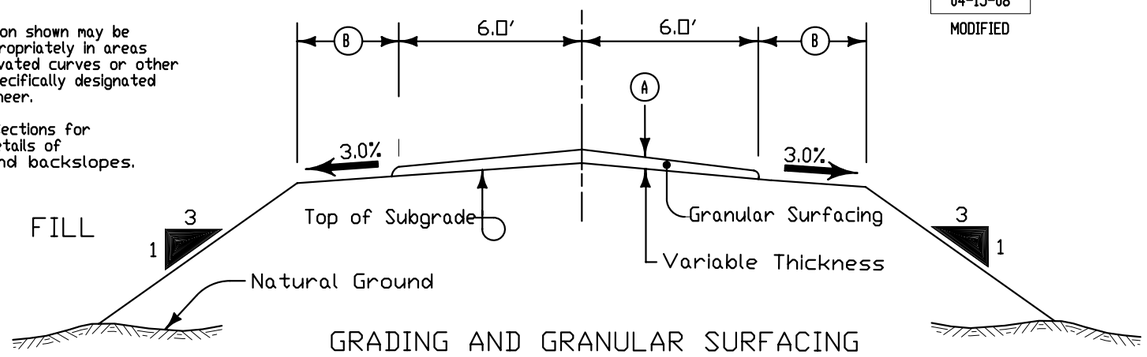
SITE 10

LOCATION		TOTAL LENGTH Feet	(A) Inches	(B) Feet	GRANULAR SURFACING (TONS) +10%
ROAD IDENTIFICATION	STATION TO STATION				
SITE 10	1000+00 - 1003+50	350	2	2	54
SITE 10	1010+00 - 1014+75	475	2	2	73.3
				TOTAL	127.3

Notes:

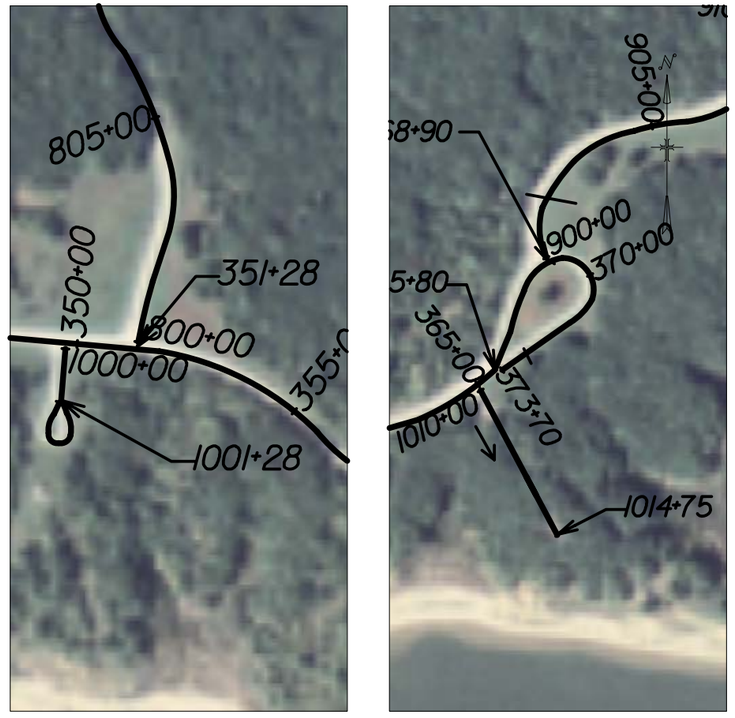
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Cross Sections for additional details of ditches and backslopes.



GRADING AND GRANULAR SURFACING

2108
04-15-08
MODIFIED



NOT TO SCALE

NATHAN WOLFE - DEC 2008

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK

SITE 10

ROADWAY RECONSTRUCTION

APPANOOSE COUNTY

DEC 2008

DESIGNED BY_____
DETAILED BY_____

APPANOOSE COUNTY

PROJECT NUMBER: DNR 08-05-04-13
IDOT SP-675-0(3)--7C-04

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7	09	13	18

SITE 1

1A. AT STA. 105+69: PLUG CULVERT AND FILL DITCH LOCATED BETWEEN THE PARK OFFICE AND GARAGE DRIVEWAY. SEE SHEET 14 FOR STANDARD PIPE DETAILS.

1B. ON THE LEFT AND RIGHT SIDE OF THE ROAD AT STA. 113+90 RECONNECT AND TIE TOGETHER BOTH 30" RCP APRONS AND ADD 12' X 60' SECT. OF 4' X 4' PANELS OF SCOUR STOP AT THE END OF EACH APRON. ALSO ADD 4' X 20' OF SCOUR STOP AT A 3:1 SLOPE ON EACH SIDE OF DRAINAGE AREAS. SEE SHEET 15 FOR SCOUR STOP DETAILS.

1C. ON THE LEFT SIDE OF THE ROAD AT STA. 122+05 RECONNECT AND TIE TOGETHER 4 36" RCP SECTIONS. 1 RCP APRON AND ADD 12' X 60' SECT. OF 4' X 4' PANELS OF SCOUR STOP AT THE END THE RECONNECTED APRON. ALSO ADD 4' X 20' OF SCOUR STOP AT A 3:1 SLOPE ON EACH SIDE OF DRAINAGE AREAS. ON THE RIGHT SIDE OF THE ROAD RECONNECT AND TIE TOGETHER 1 RCP SECTION.

SITE 1 QUANTITIES	
ITEM	QUANTITY
SCOUR STOP	50 PANELS - 4' X 4'
30" RCP APRON	2
36" RCP SECTION	4

SITE 2

2A. ON THE LEFT SIDE AT STA. 209+30 REATTACH 5 SECT. OF 18" RCP AND ADD 20 TONS OF CL. "D" REVET.

2B. ON THE LEFT SIDE AT STA. 210+98 REATTACH 4 SECT. OF 18" RCP AND ADD 20 TONS OF CL. "D" REVET.

2C. ON THE LEFT SIDE AT STA. 215+10 RECONNECT AND TIE TOGETHER APPROX. SIX SECTIONS OF 18" RCP. ADD 20 TONS OF CL. "D" REVET. TO DITCHES. CLEAR WHERE NECESSARY.

2D. ON THE RIGHT SIDE OF THE ROAD AT STA. 232+00 CLEAR NECESSARY TREES AND RECONNECT AND TIE TOGETHER THE 18" RCP APRON.

2E. ON THE LEFT SIDE OF THE ROAD AT STA. 236+95 CLEAR NECESSARY TREES AND RECONNECT AND TIE TOGETHER THE 18" RCP ARPON. ON THE RIGHT SIDE RECONNECT AND TIE TOGETHER APPROX. SIX SECTIONS OF 18" RCP.

2F. ON THE LEFT SIDE OF THE ROAD AT STA. 244+35 REGRADE, RECONNECT AND TIE TOGETHER THE 18" RCP APRON. ON THE RIGHT SIDE OF THE ROAD RECONNECT AND TIE TOGETHER APPROX. SIX SECTIONS OF 18" RCP.

SITE 2 QUANTITIES	
ITEM	QUANTITY
18" RCP SECTION	27
18" RCP APRON	3
CLASS "D" RIPRAP	60 TONS

SITE 3

3A. AT STA. 305+00 ADD 60 TONS OF CL. "D" REVET. FROM THE DRAINAGE AREA SOUTH OF THE ROAD TO THE APPROACH. USE THE ACCESS ROAD BEGINNING AT APPROX. STA. 680+50 HEADING WEST .

3B. AT STA. 321+55 EXTEND THE 18" CMP PIPE 10' ON SOUTH SIDE AND ADD AN APRON. ADD 20 TONS OF CL."D" REVETMENT.

3C. AT STA. 337+00 ADD 10 TONS OF CL. "D" REVET. ON THE NORTH SIDE. EXTEND 18" CMP 10' AND ADD AN APRON ON THE SOUTH SIDE.

3D. AT STA. 372+95 EXTEND THE 15" CMP 10' ON THE SOUTH SIDE AND ADD AN APRON.

3E. AT STA. 358+60 EXTEND 15" CMP 6'ON THE SOUTH SIDE OF ROAD AND ADD AN APRON.

SITE 3 QUANTITIES	
ITEM	QUANTITY
18" CMP EXTENSION	20 L.F.
18" CMP APRON	2
15" CMP EXTENSION	16 L.F.
15" CMP APRON	2
CLASS "D" RIPRAP	90 TONS

SITE 5

5A. AT STA. 512+50 ADD 5 TONS OF CL. "D" REVET. TO THE DRAINAGE AREA ON THE SOUTH SIDE

SITE 6

6A. AT STA. 606+80 CONSTRUCT A 6" SWALE 38' LONG FOR POSITIVE DRAINING TO THE NORTHWEST

SITE 9

9A. AT STA. 901+60 ADD AN 18" CMP APRON.

TOTAL SITE QUANT.	
ITEM	QUANTITY
SCOUR STOP	50 PANELS - 4' X 4'
30" RCP APRON	2
36" RCP SECTION	4
18" RCP SECTION	27
18" RCP APRON	3
18" CMP EXTENSION	36 L.F.
18" CMP APRON	3
15" CMP EXTENSION	16 L.F.
15" CMP APRON	2
CLASS "D" RIPRAP	155 TONS

NATHAN WOLFE - DEC 2008

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK

SITE NOTES

ROADWAY RECONSTRUCTION

APPANOOSE COUNTY

DEC 2008

DESIGNED BY_____
DETAILED BY_____

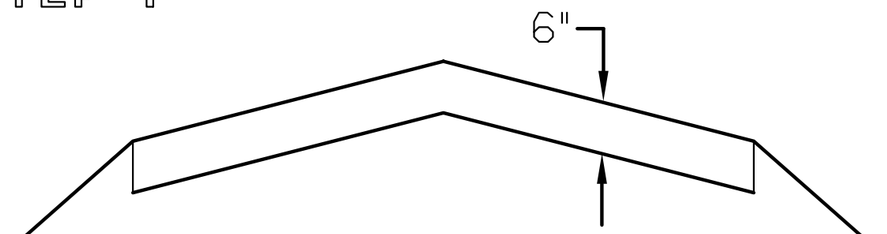
APPANOOSE COUNTY

PROJECT NUMBER: DNR 08-05-04-13
IDOT SP-675-0(3)--7C-04

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7	09	14	18

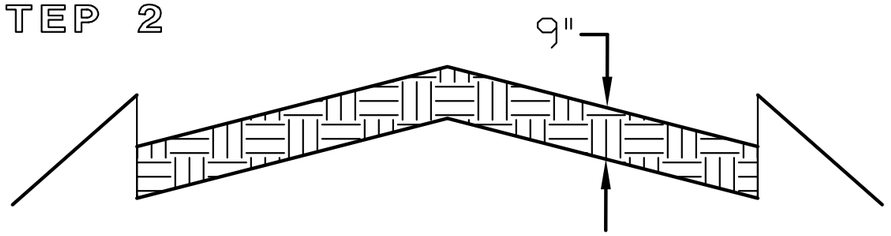
SUGGESTED CONSTRUCTION SEQUENCE

STEP 1



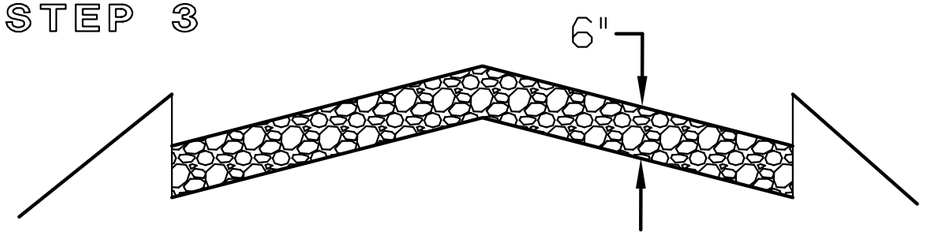
MILL OUT 6" OF ASPHALT

STEP 2



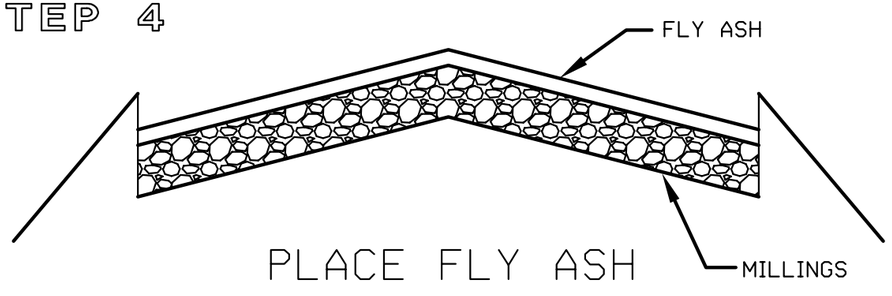
CORE OUT 9" OF EARTH
(FOR USE IN PAVEMENT WIDENING)

STEP 3



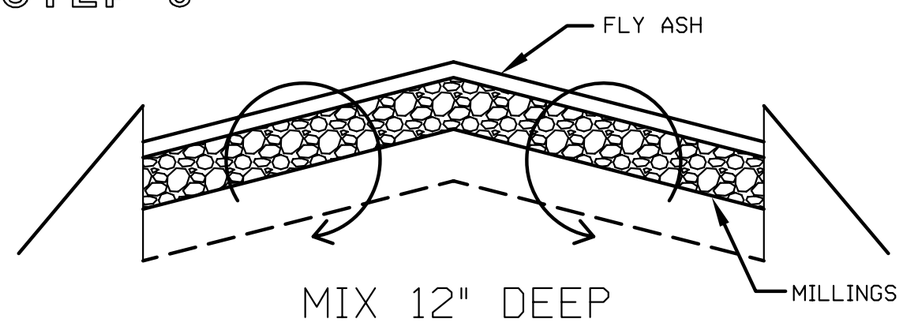
PLACE MILLINGS APPROX. 6"

STEP 4



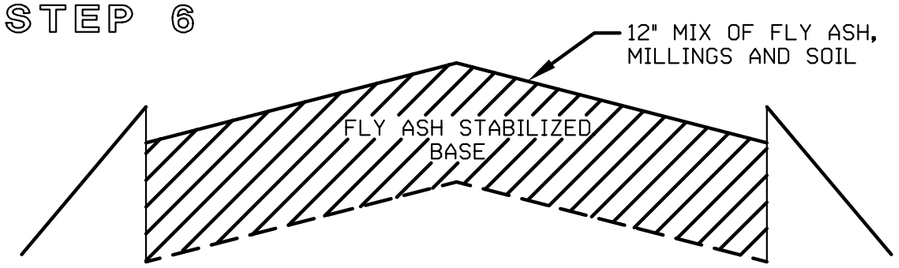
PLACE FLY ASH

STEP 5



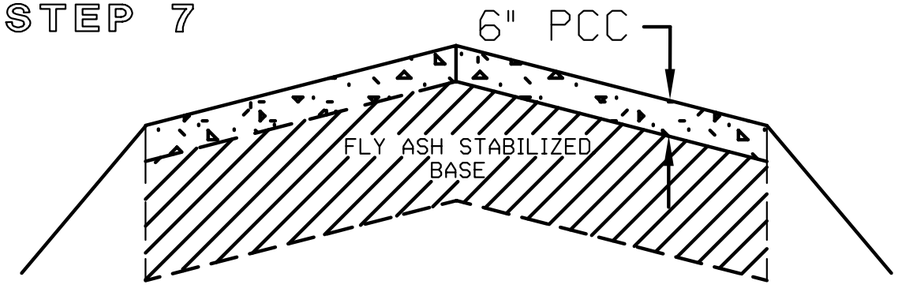
MIX 12" DEEP

STEP 6



COMPACT WITH SHEEPSFOOT

STEP 7



PAVE 6" PCC

NOTE: SEE SPEC BOOK FOR
FLY ASH MIXTURE DETAILS

NATHAN WOLFE - DEC 2008

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK

SUBBASE DETAILS

ROADWAY RECONSTRUCTION

APPANOOSE COUNTY

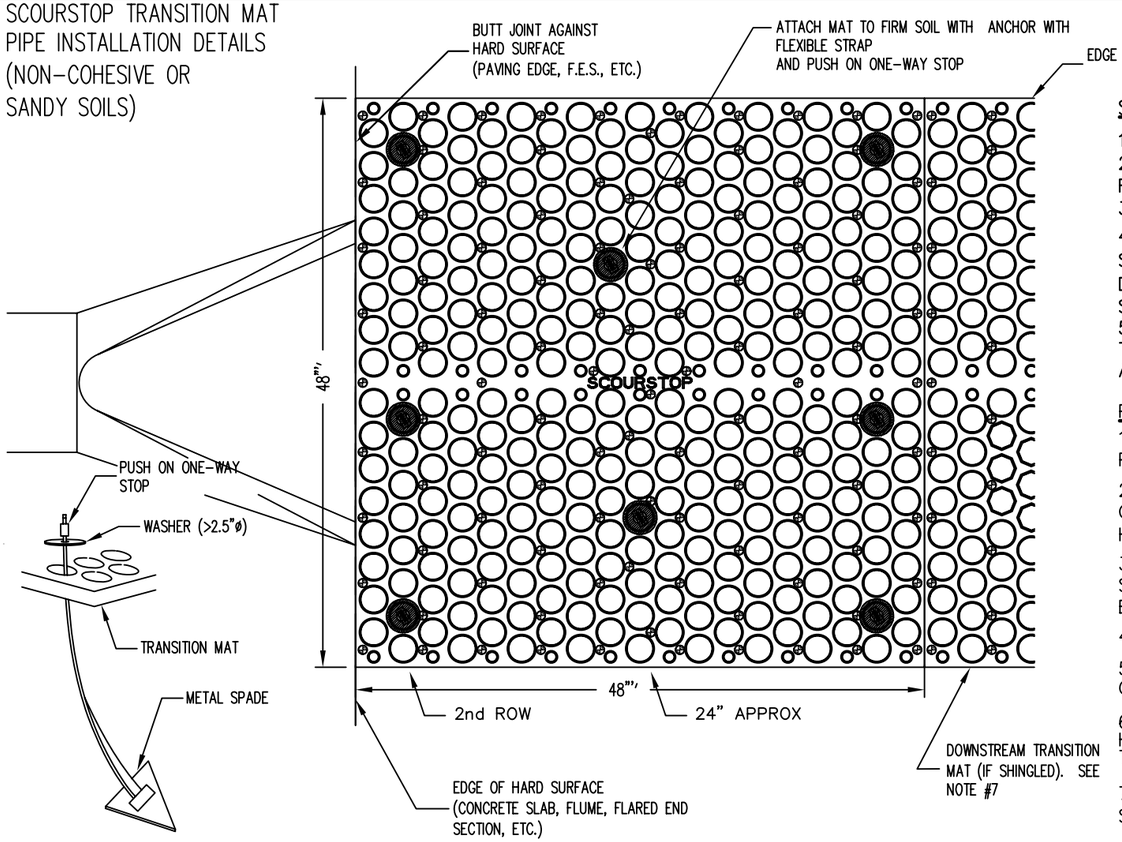
DEC 2008

DESIGNED BY	NJW
DETAILED BY	

APPANOOSE COUNTY

PROJECT NUMBER	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DNR 08-05-04-13 IDOT SP-675-0(3)--7C-04	IOWA	7	09	15	18

SCOURSTOP TRANSITION MAT PIPE INSTALLATION DETAILS (NON-COHESIVE OR SANDY SOILS)



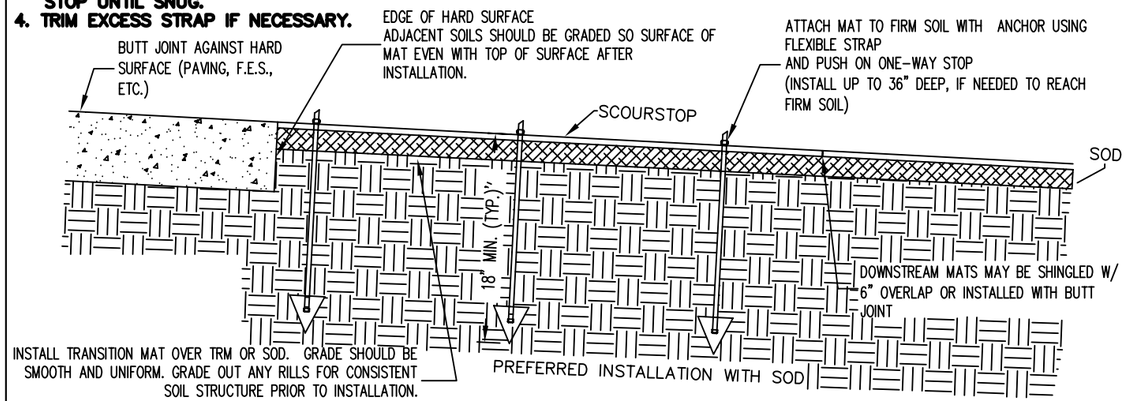
ANCHOR AND FLEXIBLE STRAP NO SCALE

SCOURSTOP MAT TRANSITION DETAILS – NO SCALE

PIPE DIAMETER	DISCHARGE (CFS)	SCOURSTOP WIDTHxLENGTH
12"	8	4' x 4'
24"	30	4' x 8'
36"	75	8' x 12'
48"	100	12' x 16'
60"	150	12' x 20'
72"+		SEE DETAILS

ANCHOR INSTALLATION INSTRUCTIONS:

1. **PUSH SPADE THROUGH SOIL WITH STAKE OR BY OTHER MEANS TO MINIMUM DEPTH OF 18". SPADE MUST BE INSTALLED INTO FIRM SOILS.**
2. **LOOP STRAP TROUGH SCOURSTOP MAT.**
3. **PULL STRAP TIGHT AND PUSH ON ONE-WAY STOP UNTIL SNUG.**
4. **TRIM EXCESS STRAP IF NECESSARY.**



SCOURSTOP TRANSITION MAT APPLICATIONS AND POST CONSTRUCTION BMP

1. INTENDED AS AN BIOTECHNICAL REPLACEMENT FOR RIP-RAP AND HARD ARMOR.
2. PRIMARY USE TO PROVIDE TRANSITION FROM SMOOTH CONCRETE OR OTHER HARD SURFACE TO TURF REINFORCEMENT MATS (TRMs), SOD, OR REINFORCED SOD.
3. ELIMINATES NEED TO INSTALL TRENCH CHECK ON UPSTREAM END OF ADJOINING TRM.
4. SCOURSTOP STANDARD SIZE IS 4' X 4' X ½" SHEET WITH MULTIPLE VOIDS FOR VEGETATION GROWTH, PROVIDING SOIL PROTECTION FOR: 1) THE SUSCEPTIBLE, EROSIVE AREA DIRECTLY BELOW OUTLETS UNTIL SHEAR FORCE HAS DISSIPATED THROUGH DOWNSTREAM AREA EXPANSION; 2) ANY HIGHLY EROSIVE AREA; 3) SHORELINE AND STREAMBANK PROTECTION.
5. PRIMARY BENEFITS OVER RIP-RAP ARE: UTILIZATION OF VEGETATION, LOWER INSTALLATION COSTS, LOWER LONG TERM MAINTENANCE, AESTHETICALLY PLEASING MOWABLE GRASS SURFACE, AND IMPROVED SAFETY THROUGH ABSENCE OF JAGGED ROCKS AND TRAPPED DEBRIS.

PREFERRED INSTALLATION SPECIFICATIONS

1. FOR A PIPE OUTLET WITH NO APRON, TRANSITION MAT SHOULD BE INSTALLED DIRECTLY ABUTTING THE END OF PIPE.
2. SCOURSTOP SHALL NOT BE INSTALLED OVER BARE SOIL. OPTIONAL SOIL COVERS ARE SOD, TRMs, AND GEOTEXTILES. SOIL COVERS MAY NEED TO EXTEND DOWNSTREAM OF SCOURSTOP INSTALLATION IN AREAS OF HIGHER VELOCITY OR SHEAR (CHECK WITH DESIGNER PRIOR TO INSTALLATION).
3. PROJECT DESIGNER SHOULD NOTE ON SITE PLAN OR CONSTRUCTION DRAWINGS THAT PIPE OUTLET FOOTINGS SHOULD NOT EXTEND PAST THE END OF PIPE, HEADWALL OR FLARED END SECTION. THIS IS TO AVOID A GAP BEING CREATED BETWEEN THE OUTLET AND TRANSITION MAT INSTALLATION.
4. CAN BE INSTALLED AS A BUTT JOINT, OR PERMANENTLY ATTACHED TO THE HARD SURFACE.
5. AVOID IMPACT EROSION ONTO THE MATS ARISING FROM 25 OUTLET CHANNEL SLOPES. GRADE DOWNSTREAM SLOPE AS LONG AND FLAT AS POSSIBLE.
6. INSURE LOCATION HAS ADEQUATE SUNLIGHT FOR HEALTHY VEGETATION, OTHERWISE CONSIDER UTILIZING THE HIGH PERFORMANCE TRM INSTALLATION. INSTALL APPROPRIATE SOIL UNDER THESE INSTALLATIONS TO IMPROVE THE GROWING ENVIRONMENT.
7. INSTALL AT LEAST ONE 4' MAT LENGTH FOR EVERY 9" OF PIPE DIAMETER. PANELS MAY BE SHINGLED AS SHOWN. MATS SHALL NOT BE INSTALLED IN PARTIAL LENGTHS.
8. FOR INSTALLATIONS ON SLOPES > 10%, SEE DETAILS ON PAGE 2 OF THIS SPECIFICATION. ADD TRANSITION MATS AT THE BOTTOM OF SLOPE.
9. PRIOR TO INSTALLATION SOIL SHALL BE GRADED AS LEVEL AND SMOOTH AS POSSIBLE FOR CONSISTENT TRANSITION MAT CONTACT WITH THE SOIL. SOIL ANCHORS SHALL BE DRIVEN AT LEAST 18" DEEP, OR DEEPER AS NEEDED INTO FIRM SOIL. USE FLEXIBLE STRAPPING, FLAT WASHERS (>2.5" THE TRANSITION MAT INSTALLATION INTO THE SOIL. FIRMLY PULL STRAP TO SNUG THE TRANSITION MAT DOWN AGAINST THE SOIL WITH THE WASHER AND ONE-WAY STOP. A 3-2-3 ANCHOR CONFIGURATION SHOULD BE ADEQUATE IN MOST CASES. PROPER ANCHORING IS CRITICAL TO PERFORMANCE.
10. CONSTRUCT SCOUR AREA WIDTH NOT LESS THEN 5 TIMES THE PIPE DIAMETER, WITH A SLOPE NO STEEPER THAN 3:1. DISCHARGE AREA WIDTH SHOULD BE AS LEVEL AS POSSIBLE TO AVOID WATER CONCENTRATION AND RILLING.

NOTE:

FOR ADDITIONAL DESIGN DETAILS REFER TO THE SPECIFICATIONS OR REFER TO "DESIGN METHODOLOGY" AT WWW.SCOURSTOP.COM

ADD ADDITIONAL ANCHORS IF MATS ARE TO BE PLACED ON UNEVEN FINISHED SURFACES TO ENSURE CONSISTENT CONTACT WITH SOIL.

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK

SCOUR STOP DETAILS

ROADWAY RECONSTRUCTION

APPANOOSE COUNTY

DEC 2008

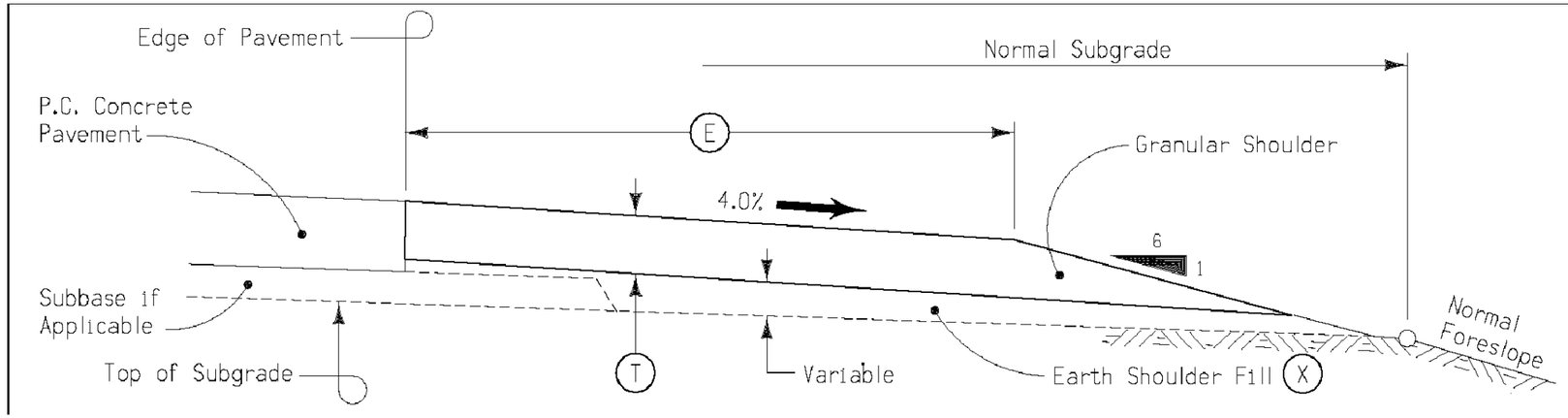
NATHAN WOLFE - DEC 2008

DESIGNED BY NJW
DETAILED BY

APPANOOSE COUNTY

PROJECT NUMBER	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DNR 08-05-04-13 IDOT SP-675-0(3)--7C-04	IOWA	7	09	16	18

7110
04-19-05



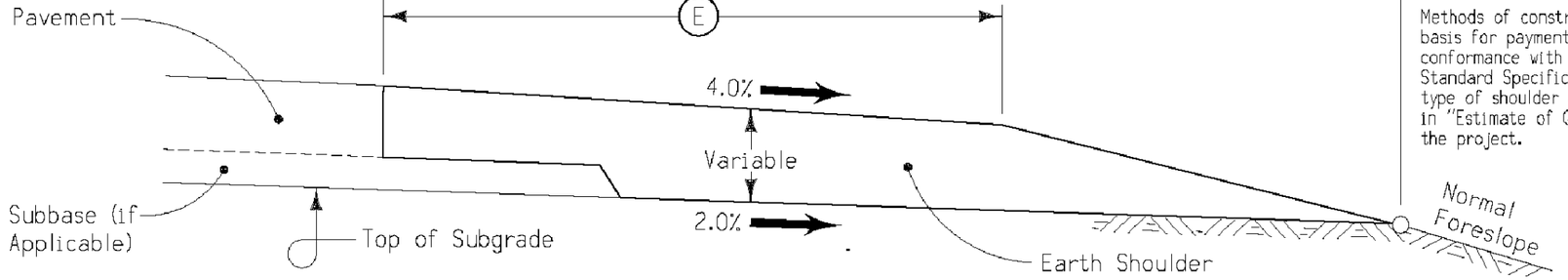
Ⓔ = 3′

Ⓣ = 2"

TYPICAL CROSS SECTION
TYPE 'A' OR 'B' GRANULAR SHOULDER
ADJACENT TO PCC PAVEMENT

NOT TO SCALE

7112
04-03-01



Note:

Methods of construction and basis for payment shall be in conformance with current Standard Specifications for the type of shoulder work specified in "Estimate of Quantities" for the project.

Ⓔ = 2′

TYPICAL CROSS SECTION
EARTH SHOULDER
ADJACENT TO PCC PAVEMENT

NOT TO SCALE

NATHAN WOLFE - DEC 2008

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK

SHOULDER DETAILS

ROADWAY RECONSTRUCTION

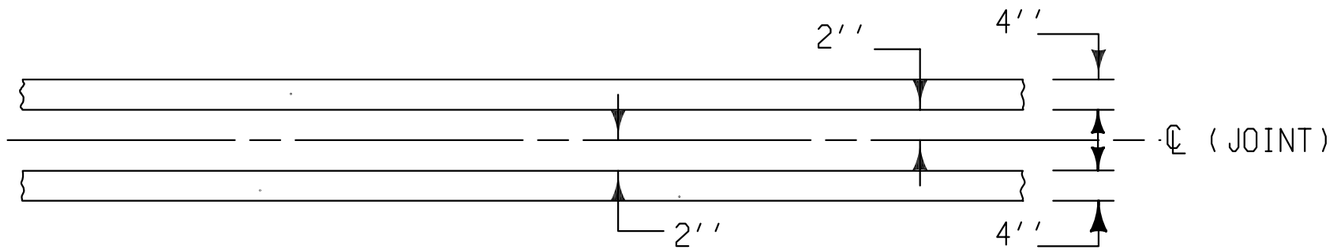
APPANOOSE COUNTY

DEC 2008

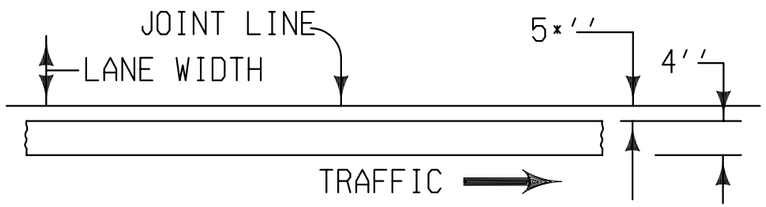
DESIGNED BY	NJW
DETAILED BY	

APPANOOSE COUNTY

PROJECT NUMBER	DNR 08-05-04-13 IDOT SP-675-0(3)--7C-04	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		IOWA	7	09	17	18



③ DOUBLE CENTER LINE (YELLOW)



⑩ SOLID LANE LINE (WHITE)

NOTE:

PAINTED BICYCLE LANE SYMBOL SHALL CONFORM TO SUPPLIER STANDARDS AND BE APPROVED BY DNR INSPECTOR

PAINT LINES		PAINT TYPE	STATIONS	BIKE SYMBOLS
ROAD IDENTIFICATION	STATION TO STATION			
SITE 1	100+00 - 132+80	3 , 10	131.20	12
SITE 2	200+00 - 267+90	3	135.80	----
	280+00 - 284+55	NO PAINT	----	----
	290+00 - 299+54	NO PAINT	----	----
SITE 3	300+00 - 365+80	3 , 10	263.20	14
	365+80 - 368+90	10	3.10	1
	368+90 - 373+70	10	4.80	1
SITE 4	400+00 - 412+13	3	24.16	----
	412+13 - 418+50	3	12.74	----
	BOAT RAMP LOOP	NO PAINT	----	----
	420+00 - 422+75	NO PAINT	----	----
	440+00 - 442+35	NO PAINT	----	----
	450+00 - 452+16	NO PAINT	----	----
SITE 5	500+00 - 526+70	3	53.40	----
	526+70 - 533+84	3	14.28	----
	540+00 - 542+39	NO PAINT	----	----
	542+39 - 544+57	NO PAINT	----	----
	544+57 - 547+00	NO PAINT	----	----
	547+00 - 549+53	NO PAINT	----	----
SITE 6	CAMPGROUND	NO PAINT	----	----
	660+00 - 675+76	NO PAINT	----	----
	675+76 - 678+76	NO PAINT	----	----
	680+00 - 682+75	NO PAINT	----	----
SITE 7	700+00 - 705+98	3	11.96	----
	705+98 - 708+99	NO PAINT	----	----
SITE 8	800+00 - 815+72	3	31.44	----
	815+72 - 820+87	NO PAINT	----	----
SITE 9	900+00 - 920+00	3 , 10	80.00	8
	920+00 - 922+00	3 , 10	8.00	1
		TOTAL	774.08	37

NATHAN WOLFE - DEC 2008

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION SERVICES BUREAU

HONEY CREEK STATE PARK

ROAD PAINT DETAILS

ROADWAY RECONSTRUCTION

APPANOOSE COUNTY

DEC 2008

DESIGNED BY NJW
DETAILED BY

APPANOOSE COUNTY

PROJECT NUMBER	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DNR 08-05-04-13 IDOT SP-675-0(3)--7C-04	IOWA	7	09	18	18