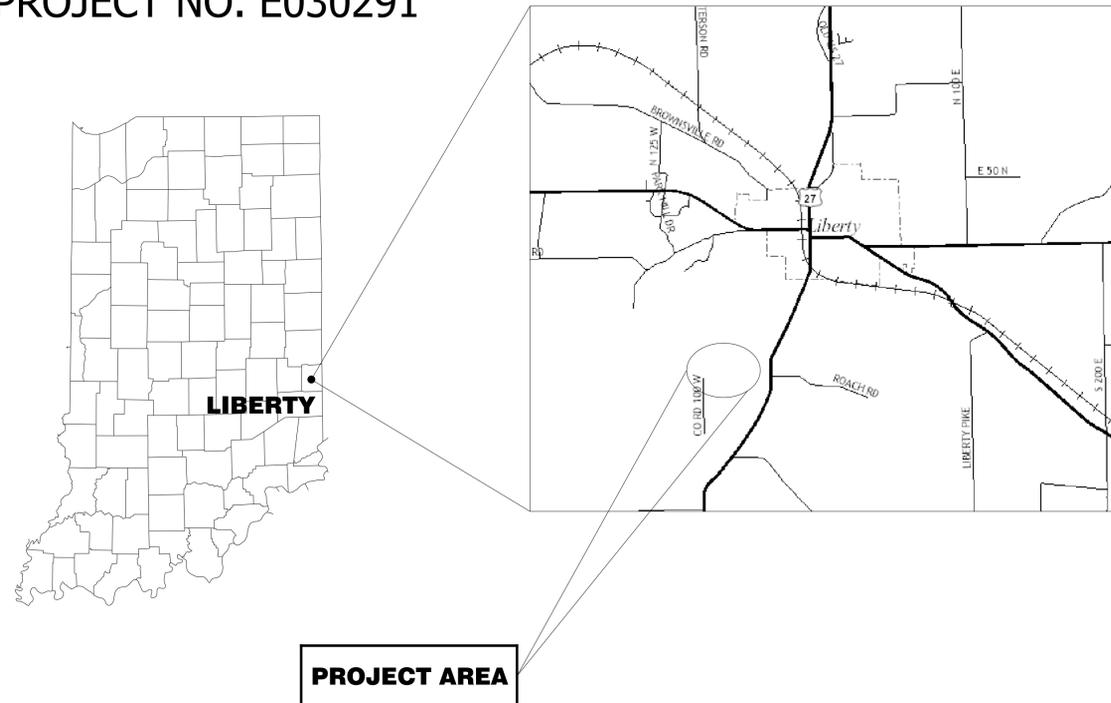


WHITEWATER MEMORIAL STATE PARK CAMPGROUND PAVING IMPROVEMENTS SITE B, ELECTRIC

FOR THE INDIANA DEPARTMENT OF NATURAL RESOURCES LIBERTY, INDIANA JANUARY 2016

PROJECT NO. E030291

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CONTRACT NO. 1-2016

Anthony J. Akles, PE, BCEE
ANTHONY J. AKLES, P.E. INDIANA NO. 10001092

Jan. 12, 2016
DATE



SHEET
1
PROJECT NO. E030291

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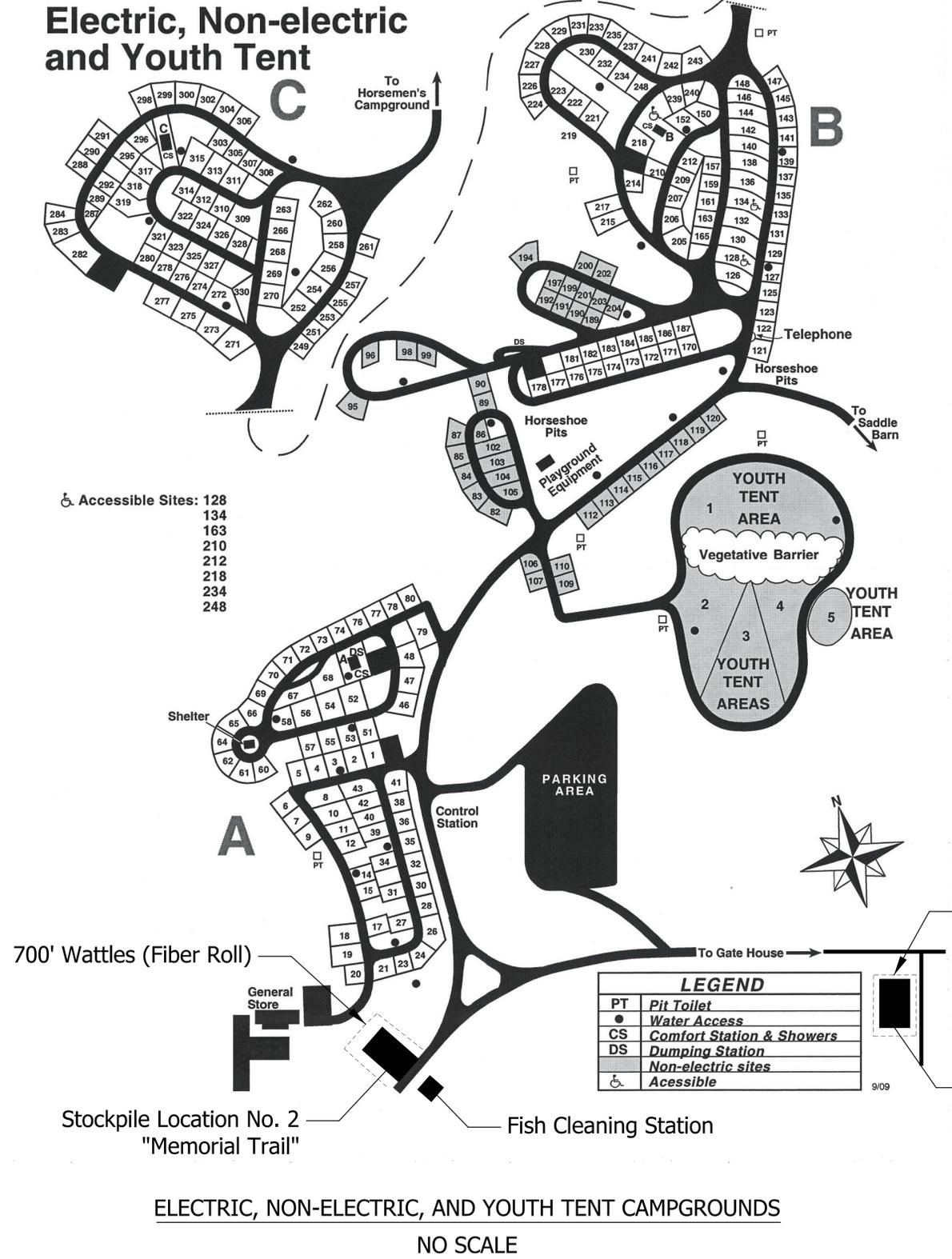
OVERALL LOCATION MAP
WHITEWATER MEMORIAL STATE PARK
CAMPGROUND PAVING IMPROVEMENTS: SITE B, ELECTRIC
INDIANA DEPARTMENT OF NATURAL RESOURCES
LIBERTY, INDIANA

PROJECT NO.
E030291
PROJECT MGR.
TONY AKLES

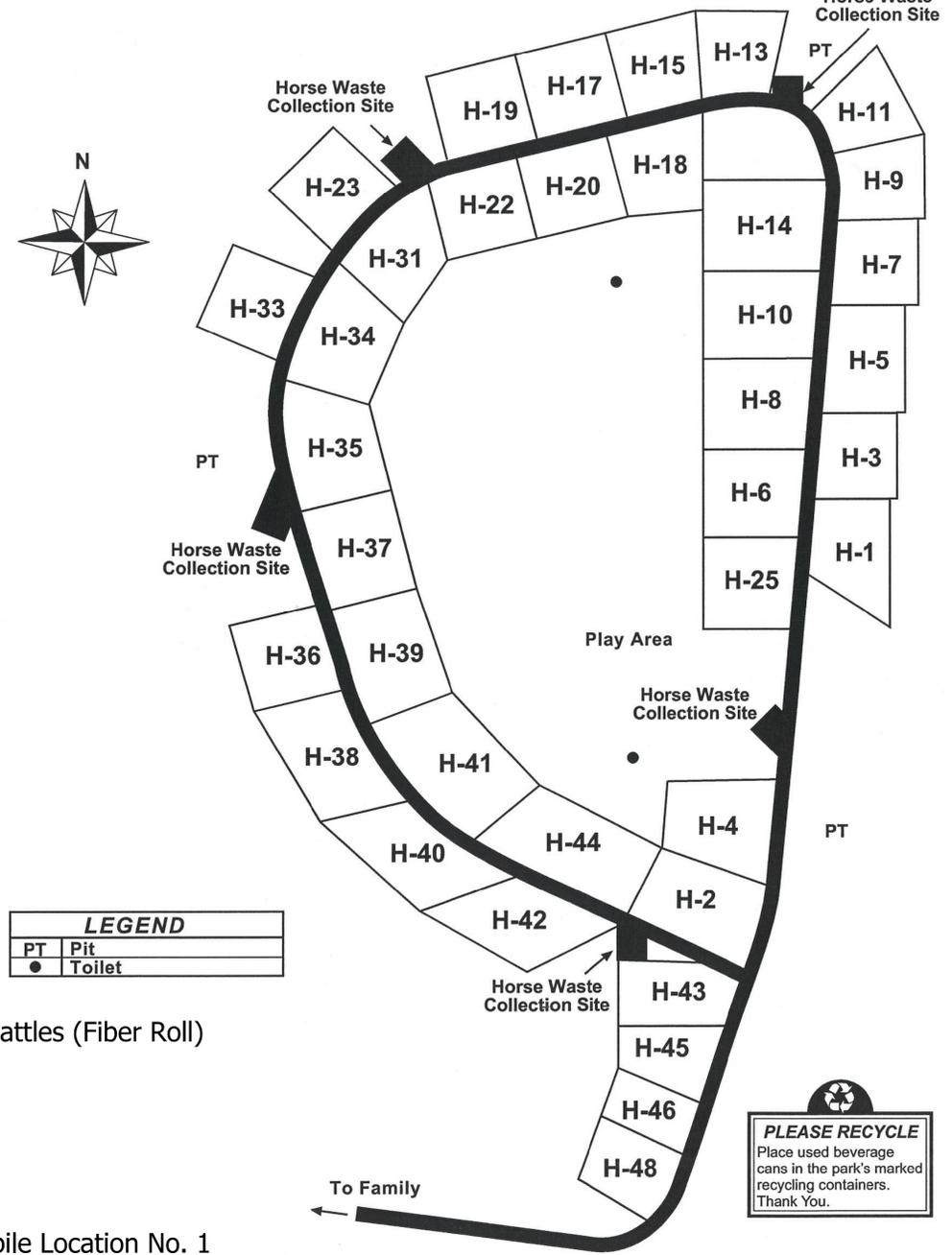


SHEET
2

WHITEWATER MEMORIAL STATE PARK Electric, Non-electric and Youth Tent



WHITEWATER MEMORIAL STATE PARK HORSEMEN'S CAMPGROUND



LEGEND

PT	Pit Toilet
●	Toilet

LEGEND

PT	Pit Toilet
●	Water Access
CS	Comfort Station & Showers
DS	Dumping Station
■	Non-electric sites
♿	Accessible

ELECTRIC, NON-ELECTRIC, AND YOUTH TENT CAMPGROUNDS
NO SCALE

HORSEMEN'S CAMPGROUND
NO SCALE

BEST MANAGEMENT PRACTICES (BMPs) FOR POLLUTION CONTROL DURING CONSTRUCTION

UNITED STATES GEOLOGICAL SURVEY (USGS) HYDROLOGIC UNIT CODE (14 DIGIT)= 05080003070130 (UNION COUNTY)

TEMPORARY EROSION AND SEDIMENT CONTROL

GENERAL NOTES

1. ALL STOCKPILED SOIL IS TO BE CONTAINED WITH FIBER ROLLS, AND TEMPORARILY SEEDED AFTER 7 DAYS OF INACTIVITY.
2. FIBER ROLL SHALL BE INSTALLED AROUND THE PERIMETER OF THE SITE BEFORE LAND ALTERATION ACTIVITIES OCCUR. THE SITE WILL BE SEEDED, SODDED OR MULCHED AFTER 7 DAYS OF INACTIVITY.
3. THE CONTRACTOR IS TO CHECK AND REPAIR EROSION CONTROL WEEKLY AND AFTER EACH STORM EVENT.

TEMPORARY SEEDING

- A. SELECT SEED MIXTURE AND RATE, PLANT ON DATES SPECIFIED, APPLY SEED UNIFORMLY AND TO DEPTH SHOWN ON CHART BELOW.

SEED SPECIES *	RATE/ACRE	DEPTH	OPTIMUM DATES **
Wheat or Rye	150 Lbs.	1 In.	9/15 - 10/30
Spring Oats	100 Lbs.	1-1/2 In.	3/1 - 4/15
Annual Ryegrass	40 Lbs.	1/4 In.	3/1 - 5/1
German Millet	40 Lbs.	1/2 In.	5/1 - 6/1
Sudangrass	35 Lbs.	1/2 In.	5/1 - 7/30

* PERENNIAL SPECIES MAY BE USED AS A TEMPORARY COVER, ESPECIALLY IF THE AREA TO BE SEEDED WILL REMAIN IDLE FOR MORE THAN A YEAR.

** SEEDING DONE OUTSIDE THE OPTIMUM DATES INCREASES THE CHANCES OF SEEDING FAILURE.

B. TEMPORARY SEEDING SHALL BE APPLIED WITH A HAND OPERATED CYCLONE SEEDER OR OTHER APPROVED EQUIPMENT.

C. FERTILIZER SHALL BE STANDARD COMMERCIAL FERTILIZER WITH AN ANALYSIS OF 5-10-5.

D. FERTILIZER SHALL BE APPLIED AT A RATE OF 250 lb/acre.

E. MULCH SHALL BE APPLIED AT A RATE OF 2 tons/acre.

INLET PROTECTION - UNPAVED AREAS

INLET PROTECTION SHALL BE INSTALLED AROUND THE INLET AS SOON AS POSSIBLE. THE PROTECTION SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.

MAINTENANCE:

- A. INSPECT INLET PROTECTION WEEKLY AND AFTER EACH STORM EVENT.
- B. IF FABRIC TEARS, STARTS TO DECOMPOSE OR BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION.
- C. REMOVE DEPOSITED SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE FABRIC AT ITS LOWEST POINT OR IS CAUSING THE FABRIC TO BULGE.
- D. TAKE CARE TO AVOID UNDERMINING THE PROTECTION DURING CLEAN OUT.

FIBER ROLL:

PURPOSE: TO RETAIN SEDIMENT FROM SMALL SLOPING DISTURBED AREAS BY REDUCING THE VELOCITY OF SHEET FLOW.

INSTALLATION:

INSTALL FIBER ROLL PER MANUFACTURER'S SPECIFICATIONS.

MAINTENANCE:

1. INSPECT FIBER ROLL WEEKLY AND AFTER EACH STORM EVENT.
2. IF FIBER ROLL FABRIC TEARS, STARTS TO DECOMPOSE OR BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION.
3. REMOVE DEPOSITED SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE FIBER ROLL AT ITS LOWEST POINT OR IS CAUSING THE FABRIC TO BULGE.
4. TAKE CARE TO AVOID UNDERMINING THE FIBER ROLL DURING CLEAN OUT.
5. AFTER WATERSHED HAS BEEN STABILIZED, REMOVE FIBER ROLL AND SEDIMENT DEPOSITS, BRING THE DISTURBED AREA TO GRADE, AND STABILIZE.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE EXIT

PURPOSE: TO PROVIDE A STABLE ENTRANCE/EXIT CONDITION FROM THE CONSTRUCTION SITE, AND TO KEEP MUD AND SEDIMENT OFF PUBLIC ROADS.

DESIGN REQUIREMENTS:

WIDTH:	20 FEET
LENGTH:	50 FEET (OR TO STABLE SURFACE)
MATERIAL:	2-3 INCH DIAMETER WASHED STONE (INDOT CA NO. 2 OR EQUAL), OVER "AMOCO 4 OZ. NONWOVEN FABRIC" (OR EQUAL).
THICKNESS:	6 INCHES

INSTALLATION:

1. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA.
2. INSTALL PIPE UNDER THE STONE IF NEEDED TO PROVIDE PROPER PUBLIC ROAD DRAINAGE.
3. INSTALL GEOTEXTILE FABRIC ON THE GRADED FOUNDATION.
4. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE TO SEDIMENT TRAP.

MAINTENANCE:

1. INSPECT ENTRANCE PAD FOR SEDIMENT DEPOSITS WEEKLY AND AFTER STORM EVENTS OR HEAVY USAGE.
2. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
3. TOPDRESS WITH CLEAN STONE AS NEEDED.
4. REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROAD BY BRUSHING OR SWEEPING. NO FLUSHING OF SEDIMENT OFF THE STREET.

THE FOLLOWING IS A LIST OF CONSTRUCTION MATERIALS THAT MAY BE USED AND ACTIVITIES THAT MAY BE PERFORMED THAT HAVE THE POTENTIAL TO CONTRIBUTE POLLUTANTS, OTHER THAN SEDIMENT, TO STORM WATER RUNOFF. CONTROL PRACTICES FOR EACH ACTIVITY ARE IDENTIFIED IN THE SECTIONS BELOW:

VEHICLE FLUIDS, INCLUDING OIL, GREASE, PETROLEUM, AND COOLANTS
 ASPHALTIC EMULSIONS ASSOCIATED WITH ASPHALT PAVING OPERATIONS
 CEMENT MATERIALS ASSOCIATED WITH PCC CONCRETE PAVING OPERATIONS AND DRAINAGE STRUCTURES
 BASE AND SUBBASE MATERIAL
 JOINT AND CURING COMPOUNDS
 CONCRETE CURING COMPOUNDS
 PAINTS
 SOLVENTS, THINNERS, ACIDS
 SANDBLASTING MATERIALS
 MORTAR MIX
 RAW LANDSCAPING MATERIALS AND WASTES (TOPSOIL, PLANT MATERIALS, HERBICIDES, FERTILIZERS, MULCH, PESTICIDES)
 TREATED LUMBER (MATERIALS AND WASTE)
 PCC RUBBLE
 MASONRY BLOCK RUBBLE
 GENERAL LITTER

CONSTRUCTION ACTIVITIES THAT HAVE THE POTENTIAL TO CONTRIBUTE SEDIMENT TO STORM WATER DISCHARGES INCLUDE:

CLEAR AND GRUB OPERATIONS
 GRADING OPERATIONS
 SOIL IMPORT OPERATIONS
 UTILITY EXCAVATION OPERATIONS
 SANDBLASTING OPERATIONS
 LANDSCAPING OPERATIONS

DEWATERING OPERATIONS

1. DEWATERING MAY BE IMPLEMENTED TO REMOVE GROUNDWATER AND COLLECTED STORMWATER FROM THE SITE. DEWATERING OPERATIONS MUST COMPLY WITH APPLICABLE LOCAL PERMITS. DISCHARGES FROM THE DEWATERING OPERATION MUST NOT CAUSE EROSION AT THE DISCHARGE POINT.
2. A GRAVITY BAG FILTER, ALSO REFERRED TO AS A DEWATERING BAG, MADE OF NON-WOVEN GEOTEXTILE WILL BE ATTACHED TO THE DISCHARGE HOSE OF THE DEWATERING SYSTEM. THE BAG SHALL BE PLACED ON A 6" #2 STONE FILTER BED TO CAPTURE SEDIMENTS THAT ESCAPE THE BAG.
3. DAILY INSPECTION OF THE FLOW CONDITIONS, BAG CONDITION, BAG CAPACITY, AND THE ROCK FILTER BED IS REQUIRED. THE BAG SHALL BE REPLACED WHEN IT NO LONGER FILTERS SEDIMENT OR PASSES WATER AT A REASONABLE RATE. THE USED BAG SHALL BE DISPOSED OF OFF-SITE.

PAVING OPERATIONS

1. OLD ASPHALT AND CONCRETE PAVEMENT MUST BE DISPOSED OF PROPERLY. DIG OUT ACTIVITIES SHOULD NOT BE CONDUCTED IN THE RAIN. ASPHALT OR CONCRETE PIECELS MUST NOT BE ALLOWED TO ENTER ANY STORM DRAINS OR WATERCOURSES. COLLECT DIGOUT MATERIAL BY MECHANICAL OR MANUAL METHODS. THIS MATERIAL SHALL BE PROPERLY STOCKPILED AND RECYCLED AS BASE MATERIALS WHENEVER POSSIBLE, OR REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.
2. DRAINAGE INLET STRUCTURES AND MANHOLES SHOULD BE COVERED WITH FILTER FABRIC DURING THE APPLICATION OF SEAL COAT OR TACK COAT.
3. RESCHEDULE PAVING OPERATIONS WHEN RAIN IS LIKELY.
4. COVERS WILL BE PLACED OVER EACH INLET ADJACENT TO PAVING OPERATIONS. THE COVERS WILL CONSIST OF SCRAP CARPETING OR HEAVY-DUTY NON-WOVEN GEOTEXTILE PLACED OVER, AND TUCKED UNDER, EACH INLET GRATE. FOLLOWING PAVING OPERATIONS, THE AREA WILL BE SWEEPED, INLET COVERS WILL BE REMOVED, AND THE INLETS WILL BE INSPECTED FOR PAVING MATERIALS.
5. LEAKS AND SPILLS FROM PAVING EQUIPMENT CAN CONTAIN TOXIC LEVELS OF HEAVY METALS, OIL AND GREASE. PLACE DRIP PANS OR ABSORBENT MATERIALS UNDER PAVING EQUIPMENT WHEN NOT IN USE. CLEAN UP SPILLS WITH ABSORBENT MATERIALS RATHER THAN BURYING.
6. CLEAN ASPHALT COATED EQUIPMENT OFFSITE WHENEVER POSSIBLE. WHEN CLEANING DRY, HARDENED ASPHALT FROM EQUIPMENT, MANAGE HARDENED ASPHALT DEBRIS AS DESCRIBED IN SOLID WASTE MANAGEMENT.

VEHICLE AND EQUIPMENT OPERATIONS

1. POWER WASH ANY MECHANICAL EQUIPMENT OR VEHICLE TO BE USED ON THE JOB SITE TO REMOVE MUD AND DEBRIS PRIOR TO TRANSPORTATION TO THE SITE.
2. SEVERAL TYPES OF VEHICLES AND EQUIPMENT MAY BE USED ON SITE THROUGHOUT THE PROJECT. THIS MAY INCLUDE GRADERS, SCRAPERS, EXCAVATORS, LOADERS, PAVING EQUIPMENT, ROLLERS, TRUCKS AND TRAILERS, BACKHOES, FORKLIFTS, GENERATORS, COMPRESSORS, AND TRAFFIC CONTROL EQUIPMENT. THE FOLLOWING BMPs WILL BE UTILIZED TO PREVENT DISCHARGES OF FUEL AND OTHER VEHICLE FLUIDS. EXCEPT FOR CONCRETE WASHOUT, WHICH IS ADDRESSED IN ITS OWN SECTION, VEHICLE CLEANING WILL NOT BE PERFORMED ON SITE.
3. ALL SELF-PROPELLED VEHICLES WILL BE FUELED OFF-SITE. IF A VEHICLE MUST BE FUELED ON-SITE, DRIP PANS WILL BE USED. FUEL TRUCKS, EACH EQUIPPED WITH ABSORBENT SPILL CLEAN-UP MATERIALS, WILL BE USED FOR ALL ON-SITE FUELING. DRIP PANS WILL BE USED FOR ALL MOBILE FUELING. THE FUELING TRUCK WILL BE PARKED ON A PAVED AREA AT LEAST 50 FEET AWAY FROM OPERATIONAL INLETS AND DRAINAGE FACILITIES FOR OVERNIGHT STORAGE.
4. DRIP PANS OR ABSORBENT PADS WILL BE USED FOR ALL VEHICLE AND EQUIPMENT MAINTENANCE ACTIVITIES THAT INVOLVE GREASE, OIL, SOLVENTS, OR OTHER VEHICLE FLUIDS.
5. ALL VEHICLE MAINTENANCE AND MOBILE FUELING OPERATIONS WILL BE CONDUCTED AT LEAST 50 FEET AWAY FROM OPERATIONAL INLETS AND DRAINAGE FACILITIES AND ON A LEVEL GRADED AREA.

CONCRETE SAW-CUTTING

1. SAW-CUTTING OPERATIONS WILL NOT BE CONDUCTED DURING OR IMMEDIATELY PRIOR TO RAINFALL EVENTS. SAW-CUTTING OPERATIONS WILL PRODUCE WASTE SLURRY CONSISTING OF WATER AND FINE PORTLAND CEMENT CONCRETE (PCC) GRIT. THE SLURRY WILL BE VACUUMED AND DISCHARGED TO THE CONCRETE WASHOUT AREA DESCRIBED BELOW. DRIED AND CURED CONCRETE WASTES WILL BE DISPOSED OFF-SITE DURING CONCRETE WASHOUT MAINTENANCE ACTIVITIES.

MATERIAL DELIVERY AND STORAGE

1. IN GENERAL, MATERIAL DELIVERY AND STORAGE BMPs WILL BE IMPLEMENTED TO HELP PREVENT DISCHARGES OF CONSTRUCTION MATERIALS DURING DELIVERY, STORAGE, AND USE. THESE PROCEDURES ARE SUITABLE FOR THE DELIVERY AND STORAGE OF THE FOLLOWING MATERIALS:
 - A. SOIL STABILIZERS AND BINDERS
 - B. PESTICIDE AND HERBICIDES
 - C. FERTILIZERS
 - D. DETERGENTS
 - E. PLASTER
 - F. PETROLEUM PRODUCTS SUCH AS FUEL, OIL, AND GREASE
 - G. ASPHALT AND CONCRETE COMPONENTS
 - H. HAZARDOUS CHEMICALS SUCH AS ACIDS, LIME, GLUES, ADHESIVES, PAINTS, SOLVENTS, AND CURING COMPOUNDS
 - I. CONCRETE COMPOUNDS
 - J. OTHER MATERIAL THAT MAY BE DETRIMENTAL IF RELEASED TO THE ENVIRONMENT.

2. IF SPACE PERMITS, THESE MATERIALS WILL BE STORED INDOORS. IF STORED OUTDOORS, CHEMICALS DRUMS, OR BAGGED MATERIAL WILL BE PLACED ON PALLETS AND COVERED TO PROTECT FROM RAIN. STORAGE AREA SHALL BE LOCATED AWAY FROM DRAINAGEWAYS AND VEHICULAR TRAFFIC.
3. VERY LARGE ITEMS, SUCH AS LIGHT STANDARDS, FRAMING MATERIALS, AND STOCKPILED LUMBER, WILL BE STORED IN THE OPEN IN THE GENERAL STORAGE AREA. SUCH MATERIALS WILL BE ELEVATED WITH WOOD BLOCKS TO MINIMIZE CONTACT WITH RUN-OFF.
4. CHEMICALS SHOULD BE KEPT IN THEIR ORIGINAL LABELED CONTAINERS.
5. CONTRACTOR EMPLOYEES TRAINED IN EMERGENCY SPILL CLEANUP PROCEDURES MUST BE PRESENT WHEN DANGEROUS MATERIALS OR LIQUID CHEMICALS ARE UNLOADED.
6. SPILL CLEAN-UP MATERIALS, MATERIAL SAFETY DATA SHEETS, A MATERIAL INVENTORY, AND EMERGENCY CONTACT NUMBERS WILL BE MAINTAINED AND STORED IN THE JOBSITE CONSTRUCTION OFFICE.

STOCKPILE MANAGEMENT

1. STOCKPILE MANAGEMENT WILL BE IMPLEMENTED TO REDUCE OR ELIMINATE POLLUTION OF STORM WATER FROM STOCKPILES OF SOIL AND PAVING MATERIALS SUCH AS PORTLAND CEMENT CONCRETE (PCC) RUBBLE, ASPHALT CONCRETE (AC), ASPHALT CONCRETE RUBBLE, AGGREGATE BASE, AGGREGATE SUBBASE, AND PRE-MIXED AGGREGATE.
2. STOCKPILES WILL BE LOCATED A MINIMUM OF 50 FEET AWAY FROM CONCENTRATED FLOWS OF STORMWATER, DRAINAGE COURSES, AND INLETS.
3. STOCKPILES WILL BE SURROUNDED WITH A SILT PERIMETER FIBER ROLL OR SANDBAG BARRIER. STOCKPILES SHALL BE COVERED WITH PLASTIC OR COMPARABLE MATERIAL.

SPILL PREVENTION AND CONTROL

1. SPILL PREVENTION AND CONTROL MEASURES WILL BE IMPLEMENTED TO CONTAIN AND CLEAN-UP SPILLS AND PREVENT MATERIAL DISCHARGES TO THE STORM DRAIN SYSTEM.
2. THESE PROCEDURES AND PRACTICES ARE GENERAL. CONTRACTOR SHOULD IDENTIFY APPROPRIATE PRACTICES AND FOR THE SPECIFIC MATERIALS USED OR STORED ONSITE. EMPLOYEES SHOULD BE TRAINED IN SPILL PREVENTION AND CLEANUP.
3. STORE HAZARDOUS MATERIALS AND WASTES IN COVERED CONTAINERS AND PROTECT FROM VANDALISM.
4. PLACE A STOCKPILE OF SPILL CLEANUP MATERIALS WHERE IT WILL BE READILY ACCESSIBLE.
5. SPILLS SHOULD BE COVERED AND PROTECTED FROM STORMWATER DURING RAINFALL TO THE EXTENT THAT IT DOESN'T COMPROMISE CLEANUP ACTIVITIES.
6. DO NOT BURY OR WASH SPILLS WITH WATER.
7. USE A RAG FOR SMALL SPILLS ON PAVED SURFACES, A DAMP MOP FOR GENERAL CLEANUP, AND ABSORBENT MATERIAL FOR LARGER SPILLS. IF THE SPILLED MATERIAL IS HAZARDOUS, THEN THE USED CLEANUP MATERIALS ARE ALSO HAZARDOUS AND MUST BE SENT EITHER TO A CERTIFIED LAUNDRY (RAGS) OR DISPOSED OF AS HAZARDOUS WASTE.
8. DIFFERENT MATERIALS POLLUTE IN DIFFERENT AMOUNTS. MAKE SURE THAT EACH EMPLOYEE KNOWS WHAT A "SIGNIFICANT SPILL" IS FOR EACH MATERIAL THEY USE, AND WHAT IS THE APPROPRIATE RESPONSE FOR "SIGNIFICANT" AND "INSIGNIFICANT" SPILLS.
9. MINOR SPILLS TYPICALLY INVOLVE SMALL QUANTITIES OF OIL, GASOLINE, PAINT, ETC. WHICH CAN BE CONTROLLED BY THE FIRST RESPONDER AT THE DISCOVERY OF THE SPILL. FOLLOW THE PRACTICE BELOW FOR A MINOR SPILL.
 - A. CONTAIN THE SPREAD OF THE SPILL.
 - B. RECOVER SPILLED MATERIALS.
 - C. CLEAN THE CONTAMINATED AREA AND PROPERLY DISPOSE OF CONTAMINATED MATERIALS.
10. SEMI-SIGNIFICANT SPILLS STILL CAN BE CONTROLLED BY THE FIRST RESPONDER ALONG WITH THE AID OF OTHER PERSONNEL ONSITE. THIS RESPONSE MAY REQUIRE THE CESSATION OF ALL OTHER ACTIVITIES. FOLLOW THE PRACTICES BELOW:
 - A. CONTAIN THE SPREAD OF THE SPILL.
 - B. NOTIFY THE PROJECT FOREMAN OR SITE SUPERINTENDENT IMMEDIATELY.
 - C. IF THE SPILL OCCURS ON PAVED OR IMPERMEABLE SURFACES, CLEAN UP USING "DRY" METHODS (ABSORBENT MATERIALS, CAT LITTER AND/OR RAGS). CONTAIN THE SPILL BY ENCIRCLING WITH ABSORBENT MATERIALS AND DO NOT LET THE SPILL SPREAD WIDELY.
 - D. IF THE SPILL OCCURS IN DIRT AREAS, IMMEDIATELY CONTAIN THE SPILL BY CONSTRUCTING AN EARTHEN DIKE. DIG UP AND PROPERLY DISPOSE OF CONTAMINATED SOIL.
 - E. IF THE SPILL OCCURS DURING RAIN, COVER SPILL WITH TARPS OR OTHER MATERIAL TO KEEP FROM CONTAMINATING RUNOFF.
11. FOR SIGNIFICANT OR HAZARDOUS SPILLS THAT CANNOT BE CONTROLLED BY PERSONNEL ON THE JOBSITE THE FOLLOWING STEPS SHOULD BE TAKEN:
 - A. NOTIFY THE LOCAL EMERGENCY RESPONSE BY CALLING 911.
 - B. NOTIFY INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM), THE PROPERTY OWNER(S) AND ANY OTHER APPROPRIATE AGENCIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE ALL EMERGENCY PHONE NUMBERS AT THE SITE.
 - C. NOTIFICATION SHOULD FIRST BE MADE BY TELEPHONE AND FOLLOWED UP WITH WRITTEN REPORT.
 - D. THE SERVICES OF A SPILLS CONTRACTOR OR HAZ-MAT TEAM SHOULD BE OBTAINED IMMEDIATELY. CONSTRUCTION PERSONNEL SHOULD NOT ATTEMPT TO CLEAN UP UNTIL THE APPROPRIATE AND QUALIFIED STAFFS HAVE ARRIVED AT THE SITE.

SOLID WASTE MANAGEMENT

1. SOLID WASTES WILL BE GENERATED BY CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE DAILY CLEANUP AND MONITORING OF THESE WASTE MATERIALS. THESE MAY INCLUDE (BUT ARE NOT LIMITED TO):
 - A. WASTE GENERATED BY LAND CLEARING AND BUILDING DEMOLITION.
 - B. PACKAGING MATERIALS INCLUDING WOOD, PAPER, AND PLASTIC.
 - C. SCRAP OR SURPLUS BUILDING MATERIALS INCLUDING SCRAP METALS, TIMBER, PIPE, RUBBER, PLASTIC, GLASS, AND MASONRY PRODUCTS.
 - D. DOMESTIC WASTES SUCH AS PAPER, PLASTIC AND POLYSTYRENE BEVERAGE CONTAINERS, FOOD WRAPPERS AND BAGS, AND CIGARETTES.
2. A DUMPSTER OF ADEQUATE SIZE SHALL BE MAINTAINED ONSITE AT ALL TIMES. THE DUMPSTER SHALL BE COVERED TO PREVENT WASTE FROM BLOWING OFFSITE. THE DUMPSTER SHALL BE EMPTIED REGULARLY TO AVOID OVERFILLING.
3. SITE TRASH SHALL BE COLLECTED DAILY AND PLACED IN THE DUMPSTER. UNDER WINDY CONDITIONS, SOLID WASTE MATERIALS PRONE TO BLOWING SHALL BE COLLECTED AND DISPOSED OF AS GENERATED.

CONTAMINATED SOIL MANAGEMENT

1. IF ISOLATED CONTAMINATED SOILS ARE ENCOUNTERED, THE CONTAMINATED SOILS WILL BE CONTAINED, COVERED IF STOCKPILED, AND DISPOSED OF PER IDEM REGULATIONS. EMPLOYEES WILL BE INSTRUCTED TO RECOGNIZE EVIDENCE OF CONTAMINATED SOIL, SUCH AS BURIED DEBRIS, DISCOLORED SOIL, AND UNUSUAL ODORS.
2. IF A LARGE QUANTITY OF CONTAMINATED SOIL (SUCH AS THAT ASSOCIATED WITH A LEAKY UNDERGROUND FUEL STORAGE TANK) IS DISCOVERED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROPERTY OWNER. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CONTACT IDEM REGARDING THE CLEANUP OR DISPOSAL OF THE CONTAMINATED MATERIAL.

SANITARY AND SEPTIC WASTE

1. PORTABLE TOILETS WILL BE LOCATED AND MAINTAINED ONSITE FOR THE DURATION OF THE PROJECT. WEEKLY MAINTENANCE WILL BE PROVIDED AND WASTES WILL BE DISPOSED OFF-SITE. THE TOILETS WILL BE LOCATED AWAY FROM CONCENTRATED FLOW PATHS AND TRAFFIC FLOW.



Anthony J. Akles, PE, E030291
 Jan 12, 2016

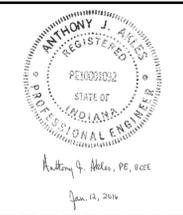
DATE:	REVISIONS	NO.

EROSION CONTROL NOTES
 WHITEWATER MEMORIAL STATE PARK
 CAMPGROUND PAVING IMPROVEMENTS: SITE B, ELECTRIC
 INDIANA DEPARTMENT OF NATURAL RESOURCES
 LIBERTY, INDIANA

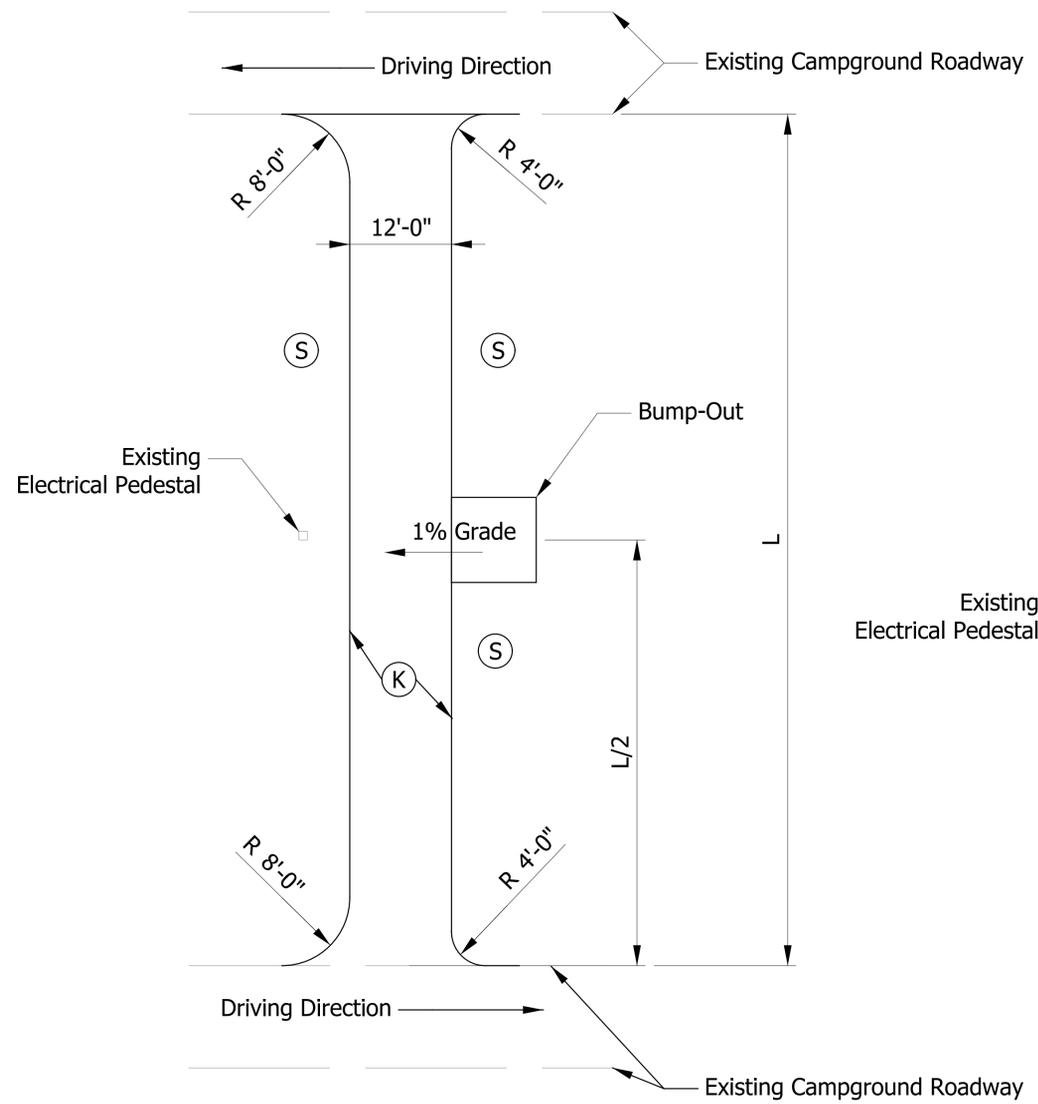
PROJECT NO.
 E030291
PROJECT MGR.
 TONY AKLES



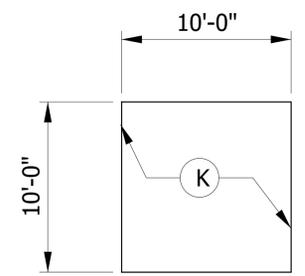
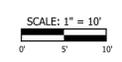
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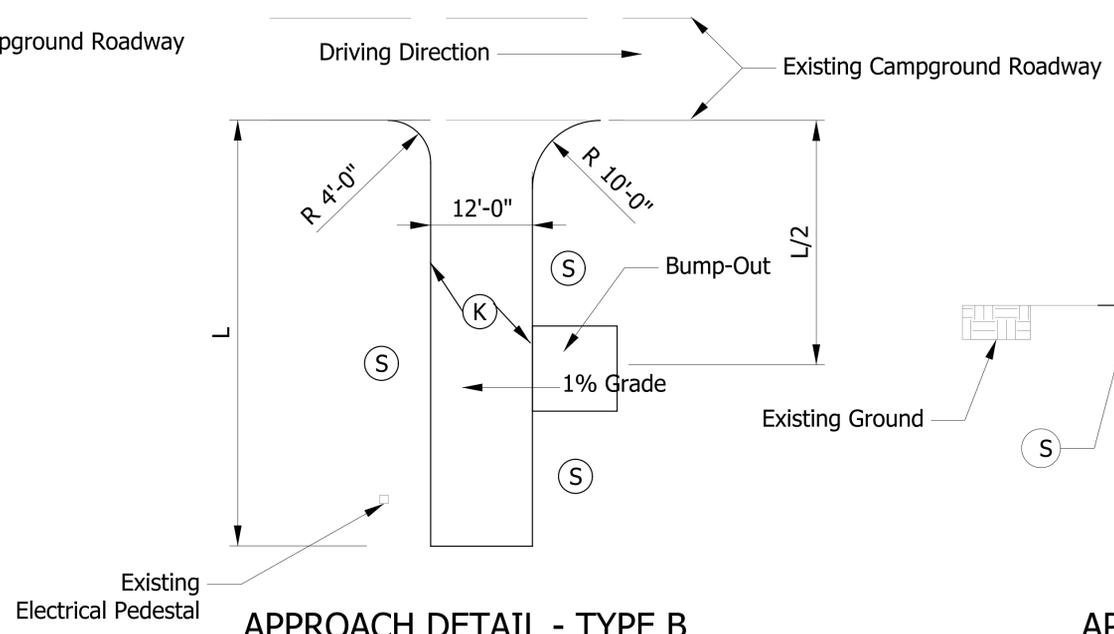
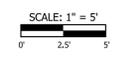
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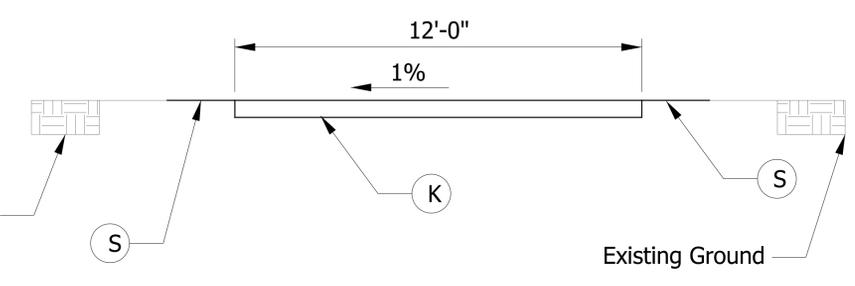
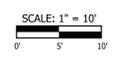
APPROACH DETAIL - TYPE A



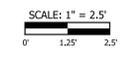
BUMP-OUT DETAIL



APPROACH DETAIL - TYPE B



APPROACH TYPICALS - TYPE A AND B

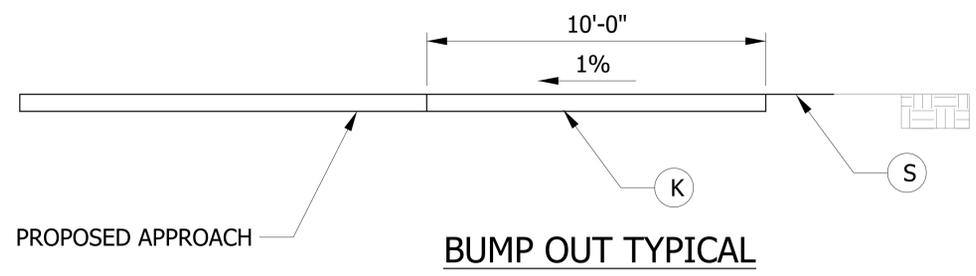


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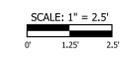
- The appropriate Detail and length of each Campsite is shown on Sheets 8 through 10.
- Bump outs shall be located along approach on opposite side of existing electric pedestal.
- Bump out location subject to change with Owner's approval during construction.
- Permanent Seeding
 - 160 lb/ac - Kentucky Bluegrass
 - 40 lb/ac - Perennial Rye Grass
 - Fertilizer shall be standard commercial fertilizer with an analysis of 5-10-5
 - Fertilizer shall be applied at a rate of 250 lb per acre
 - Mulch shall be applied at a rate of 2 tons per acre

LEGEND

- (K) 220 lb/syd HMA Surface, Type B, on 4" Compacted Aggregate, No. 53, Base
- (S) Permanent Seed Mixture See Note 4



BUMP OUT TYPICAL



APPROACH DETAILS
 WHITEWATER MEMORIAL STATE PARK
 CAMPGROUND PAVING IMPROVEMENTS: SITE B, ELECTRIC
 INDIANA DEPARTMENT OF NATURAL RESOURCES
 LIBERTY, INDIANA

PROJECT NO.
 E030291
PROJECT MGR.
 TONY AKLES

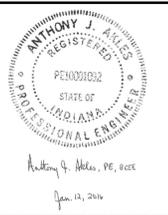


SHEET
 6

SITE NUMBER	DETAIL DESIGNATION (SEE SHEET 6)	WIDTH		LENGTH		RADII		EXCAVATION		HMA SURFACE TYPE B	COMPACTED AGGREGATE NO. 53 BASE	REMARKS
		"W"	"L"	"R1"	"R2"	CYS		220#/SY				
		(ft)	(ft)	(ft)	(ft)	CUT	FILL	TON	TON			
CAMPGROUND B - ELECTRIC												
121	B	12.0	59.0	4.0	10.0	15.4			10.4	20.5		
122	B	12.0	47.0	4.0	10.0	12.8			8.6	17.0		
123	B	12.0	49.0	4.0	10.0	13.2			8.9	17.6		
125	B	12.0	48.0	4.0	10.0	13.0			8.8	17.3		
126	A	12.0	100.0	8.0	4.0	24.7			16.7	32.9		
127	B	12.0	42.0	4.0	10.0	11.6			7.9	15.5		
128	A	12.0	61.0	8.0	4.0	16.0			10.8	21.4	Total Length = 100', 39' of existing paved	
129	B	12.0	42.0	4.0	10.0	11.6			7.9	15.5		
130	A	12.0	100.0	8.0	4.0	24.7			16.7	32.9		
131	B	12.0	40.0	4.0	10.0	11.2			7.6	14.9		
132	A	12.0	100.0	8.0	4.0	24.7			16.7	32.9		
133	B	12.0	40.0	4.0	10.0	11.2			7.6	14.9		
134	A	12.0	60.0	8.0	4.0	15.8			10.7	21.1	Total Length = 98', 38' of existing paved	
135	B	12.0	42.0	4.0	10.0	11.6			7.9	15.5		
136	A	12.0	100.0	8.0	4.0	24.7			16.7	32.9		
137	B	12.0	43.0	4.0	10.0	11.9			8.0	15.8		
138	A	12.0	100.0	8.0	4.0	24.7			16.7	32.9		
139	B	12.0	45.0	4.0	10.0	12.3			8.3	16.4		
140	A	12.0	100.0	8.0	4.0	24.7			16.7	32.9		
141	B	12.0	42.0	4.0	10.0	11.6			7.9	15.5		
142	A	12.0	100.0	8.0	4.0	24.7			16.7	32.9		
143	B	12.0	40.0	4.0	10.0	11.2			7.6	14.9		
144	A	12.0	99.0	8.0	4.0	24.5			16.6	32.6		
145	B	12.0	35.0	4.0	10.0	10.1			6.8	13.4		
146	A	12.0	94.0	8.0	4.0	23.4			15.8	31.1		
147	B	12.0	32.0	4.0	10.0	9.4			6.3	12.6		
148	A	12.0	82.0	8.0	4.0	20.7			14.0	27.6		
150	B	12.0	40.0	4.0	10.0	11.2			7.6	14.9		
152	B	12.0	38.0	4.0	10.0	10.8			7.3	14.3		
157	B	12.0	40.0	4.0	10.0	11.2			7.6	14.9		
159	B	12.0	42.0	4.0	10.0	11.6			7.9	15.5		
161	B	12.0	42.0	4.0	10.0	11.6			7.9	15.5		
165	B	12.0	45.0	4.0	10.0	12.3			8.3	16.4		
						88.4				176.8	20% of Approach Area Excavated to a Depth of 6" and Replaced with No. 53	
Total This Sheet						608.8	0.0		351.5	870.0		

NOTES:

- Quantities on Sheets 8 through 10 are for information only. The Contractor shall visit the site to determine the quantities required to complete the job. The contract shall be bid as lump sum.



DATE	
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APPROACH TABLES
 WHITEWATER MEMORIAL STATE PARK
 CAMPGROUND PAVING IMPROVEMENTS: SITE B, ELECTRIC
 INDIANA DEPARTMENT OF NATURAL RESOURCES
 LIBERTY, INDIANA

PROJECT NO.
E030291
PROJECT MGR.
TONY AKLES

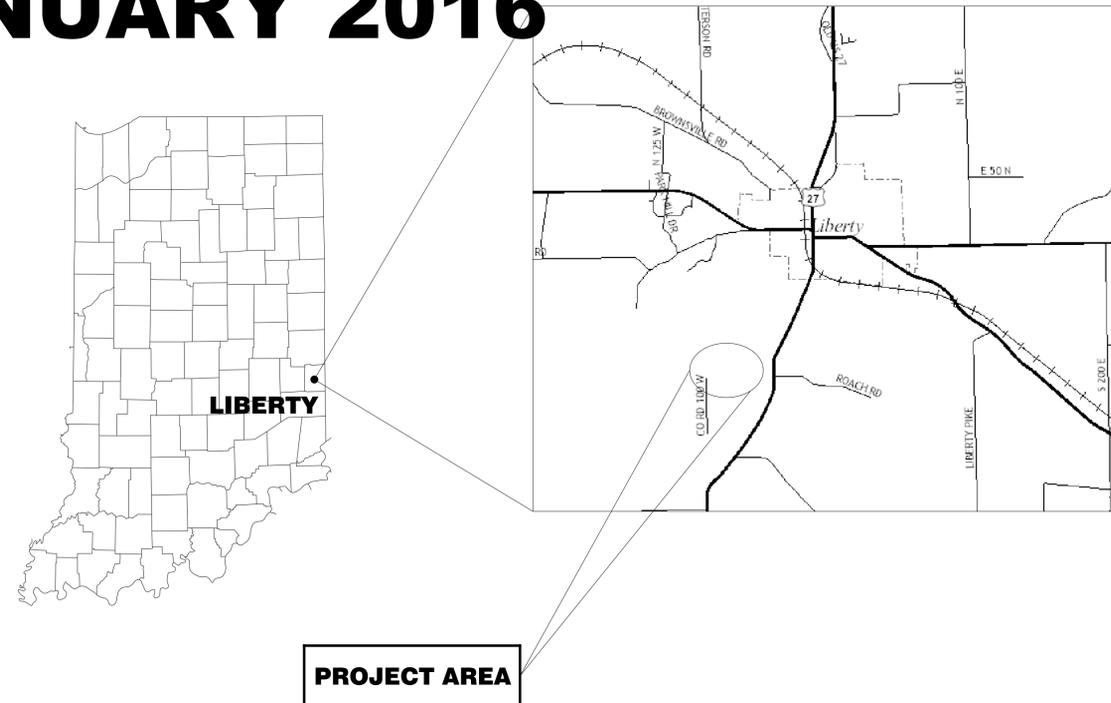


SHEET
8

WHITEWATER MEMORIAL STATE PARK CAMPGROUND PAVING IMPROVEMENTS SITE B, NON-ELECTRIC ALTERNATE BID

FOR THE INDIANA DEPARTMENT OF NATURAL RESOURCES LIBERTY, INDIANA JANUARY 2016

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1	TITLE AND INDEX SHEET
2	OVERALL LOCATION MAP
3	GENERAL NOTES
4-5	EROSION CONTROL
6-7	APPROACH DETAILS
8-9	APPROACH TABLES



629 WASHINGTON STREET
COLUMBUS, IN 47201
812 372-9911
812 372-7190 FAX
www.strand.com

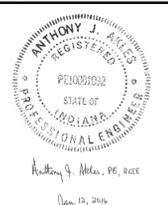
CONTRACT NO. 1-2016

Anthony J. Akles, PE, BCEE
ANTHONY J. AKLES, P.E. INDIANA NO. 10001092

Jan. 12, 2016
DATE

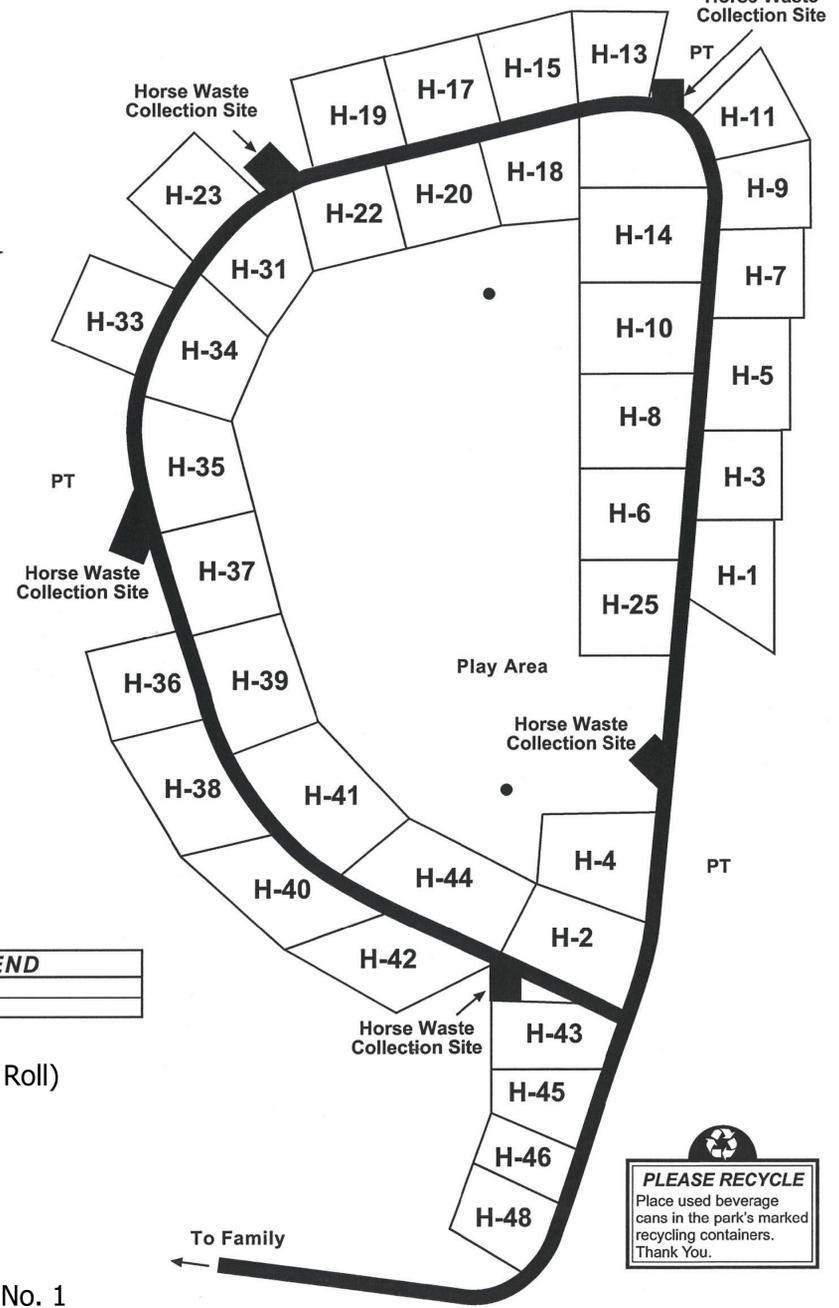
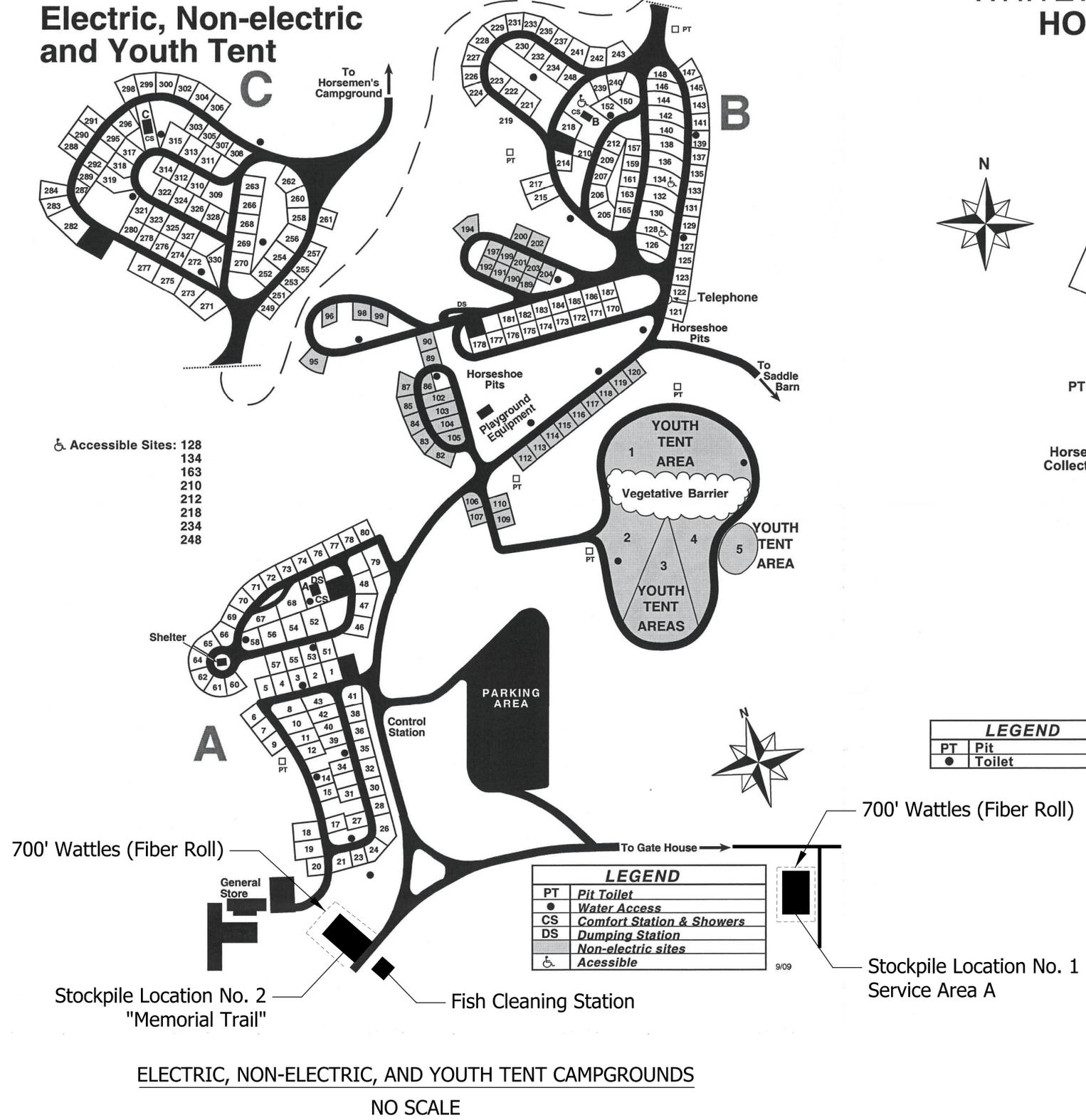


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PROJECT NO. E030291



WHITEWATER MEMORIAL STATE PARK Electric, Non-electric and Youth Tent

WHITEWATER MEMORIAL STATE PARK HORSEMEN'S CAMPGROUND



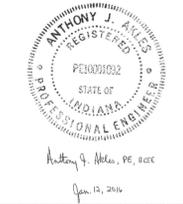
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OVERALL LOCATION MAP
 WHITEWATER MEMORIAL STATE PARK
 CAMPGROUND PAVING IMPROVEMENTS: SITE B, NON-ELECTRIC
 ALTERNATE BID
 INDIANA DEPARTMENT OF NATURAL RESOURCES
 LIBERTY, INDIANA

PROJECT NO.
E030291
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SHEET
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GENERAL NOTES
 WHITEWATER MEMORIAL STATE PARK
 CAMPGROUND PAVING IMPROVEMENTS: SITE B, NON-ELECTRIC
 ALTERNATE BID
 INDIANA DEPARTMENT OF NATURAL RESOURCES
 LIBERTY, INDIANA

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SHEET
 3

GENERAL NOTES

- ALL CAMPGROUND B NON-ELECTRIC CAMPSITES ARE INCLUDED IN THIS CONTRACT.
- ALL ELECTRIC CAMPSITES ARE EXCLUDED FROM THIS CONTRACT:
- THE OWNER SHALL OBTAIN THE NECESSARY PERMITS, BUT THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL REQUIREMENTS OF THE AGENCIES.
- EXISTING UNDERGROUND UTILITIES, ETC. ARE GENERALLY LOCATED WHERE IT IS KNOWN THAT THEY EXIST. THE CONTRACTOR IS RESPONSIBLE FOR THE ACCURATE LOCATION OF ALL UTILITIES, INCLUDING DNR UTILITIES, AND HAZARDS WHETHER SHOWN OR NOT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND/OR REPLACEMENT OF ALL DAMAGED UTILITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL RESIDENTS OF INTERRUPTION TO THEIR UTILITIES THAT WILL BE CAUSED BY THE CONSTRUCTION.
- ERECT AND MAINTAIN ALL NECESSARY BARRICADES, DETOUR SIGNS, WARNING SIGNALS AND LIGHTS BY NIGHT (IN CONFORMANCE WITH THE INDIANA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - LATEST EDITION) REQUIRED TO DIRECT TRAFFIC SAFELY OVER OR AROUND THE PLACE WHERE SUCH WORK IS BEING DONE, SO LONG AS THE WORK IN ANY WAY INTERFERES WITH TRAFFIC.
- CONTRACTOR SHALL SEPARATE TOPSOIL FROM SAND, GRAVEL OR OTHER SOIL MATERIAL AND SHALL REPLACE THE TOPSOIL AT THE TOP OF THE EXCAVATION.
- LOCATION OF ELECTRICAL PEDESTAL SHOWN ON DRAWINGS FOR ESTIMATING PURPOSES ONLY. ACTUAL LOCATION TO BE DETERMINED DURING CONSTRUCTION IN COORDINATION WITH PROPERTY OWNER.
- CONTRACTOR SHALL REAPPLY ALL PAVEMENT MARKINGS THAT ARE REMOVED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT ALL UTILITIES TWO (2) DAYS BEFORE CONSTRUCTION IS STARTED. HE SHALL ALSO REPORT TO A UTILITY OF ANY BREAKS, LEAKS, DENTS, OR ANY DAMAGE TO THE EXISTING UTILITIES.
- INDIANA UNDERGROUND PLAN PROTECTION SERVICE DOES NOT LOCATE CABLE OWNED BY DNR. THE CONTRACTOR SHALL, PRIOR TO EXCAVATING, VERIFY THE LOCATION OF ALL BURIED UTILITIES, PUBLIC AND PRIVATE, INCLUDING BURIED POWER LINES AND FIBER OPTIC CABLES.

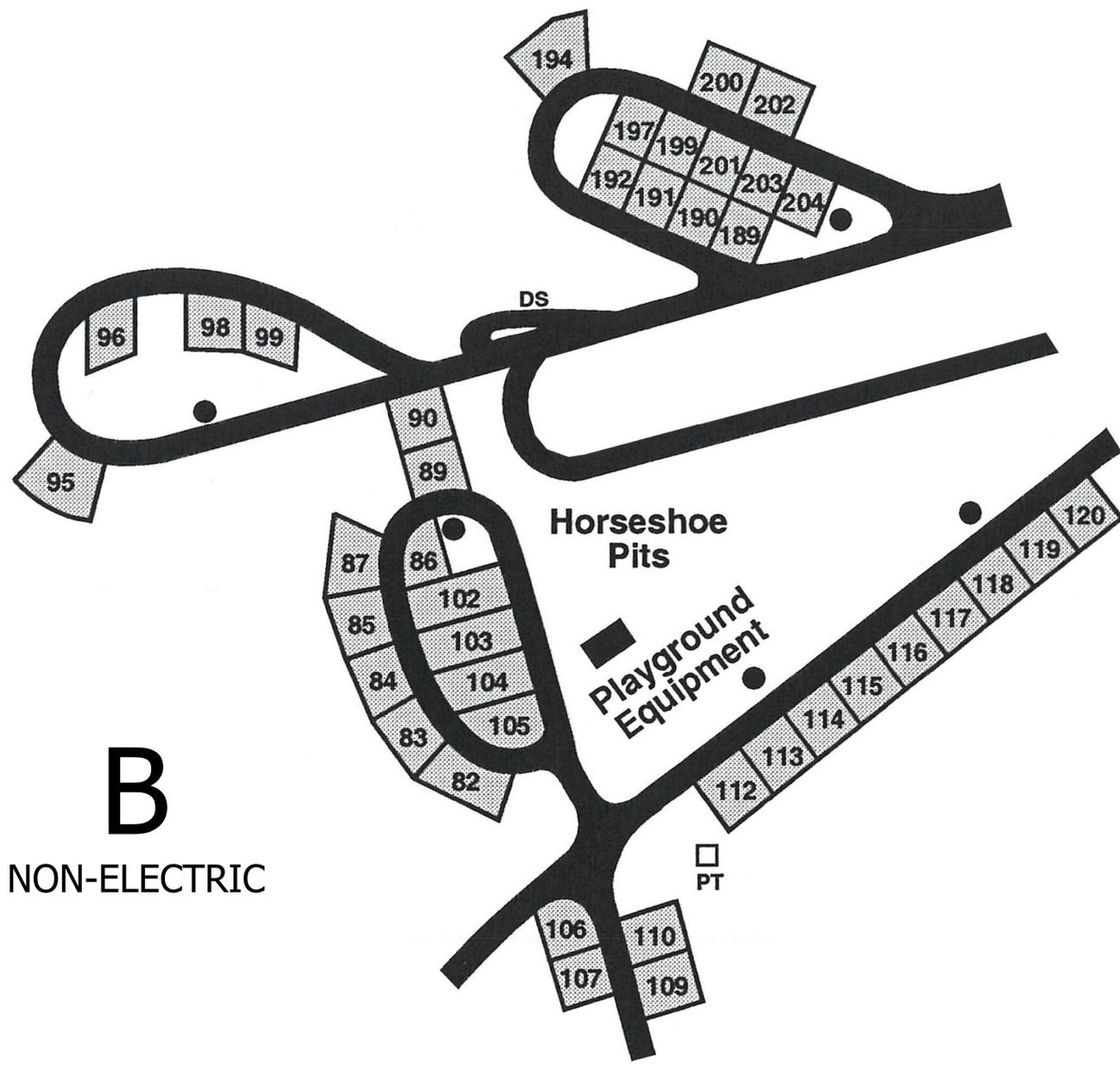
ENVIRONMENTAL MITIGATION MEASURES

NORMAL CONSTRUCTION SHALL BE LIMITED TO DAYLIGHT HOURS TO MINIMIZE DISTURBANCE FROM NOISE AND LIGHTS.

BEGINNING MAY 1, OWNER'S PERMISSION WILL BE REQUIRED FOR WEEKEND WORK. ALL CAMPGROUNDS SHALL BE CLEANED AND READY FOR WEEKEND CAMPGROUND USERS BY 2 PM ON FRIDAY UNLESS PERMISSION IS GIVEN BY OWNER.

REMOVAL OF TREES SHALL NOT BE PERMITTED WITHOUT CONSENT OF THE OWNER. NO TREES GREATER THAN 4-INCHES DBH (DIAMETER AT BREST HEIGHT) SHALL BE REMOVED FROM APRIL 1ST THROUGH SEPTEMBER 30TH.

TEMPORARY SEEDING SHALL BE INSTALLED IF GROUND HAS BEEN DISTURBED AND NO PERMANENT SEEDING HAS BEEN INSTALLED AFTER 7 DAYS OF INACTIVITY.

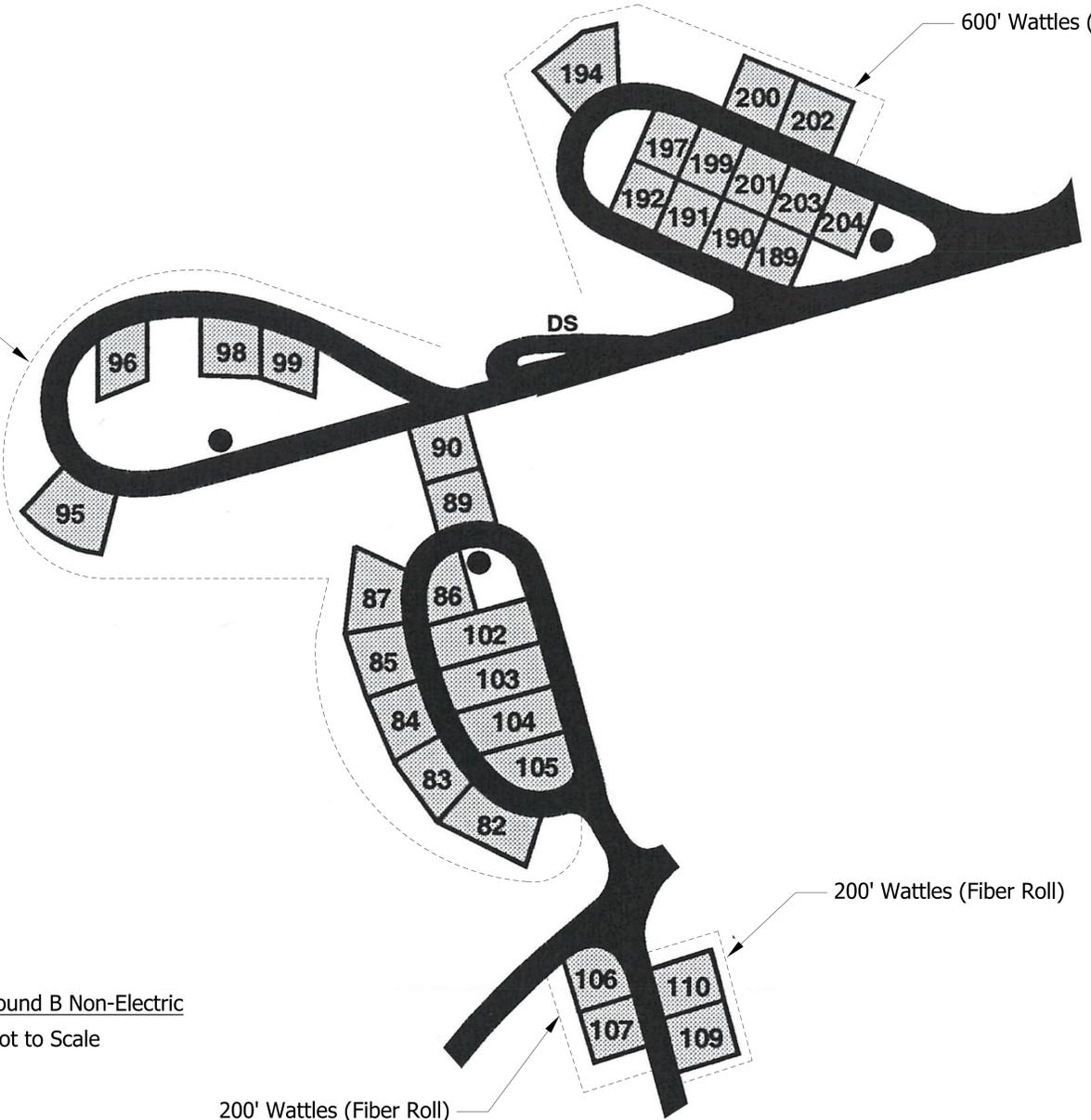


LEGEND	
PT	<i>Pit Toilet</i>
●	<i>Water Access</i>
CS	<i>Comfort Station & Showers</i>
DS	<i>Dumping Station</i>
■	<i>Non-electric sites</i>
♿	<i>Accessible</i>

ELECTRIC CAMPGROUND - B NON-ELECTRIC: SITE LOCATION MAP
NO SCALE



1,000' Wattles (Fiber Roll)



600' Wattles (Fiber Roll)

200' Wattles (Fiber Roll)

200' Wattles (Fiber Roll)

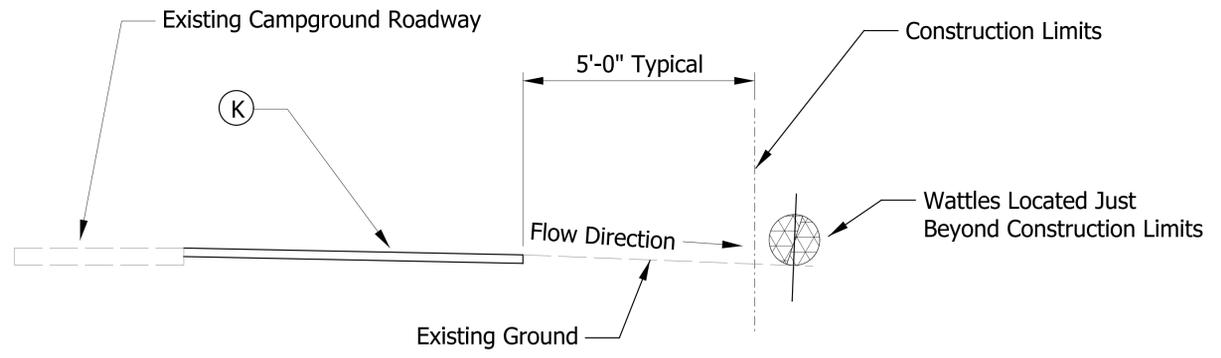
LEGEND

Wattles (Fiber Roll)

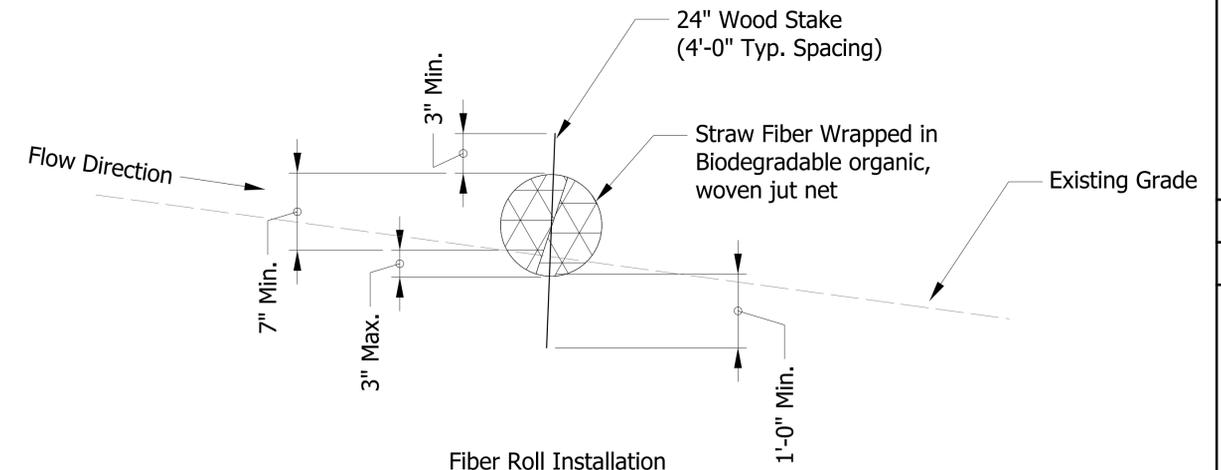
Campground B Non-Electric
Not to Scale

NOTE:

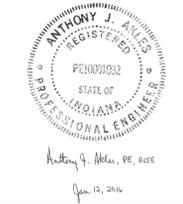
- Contractor shall remove all temporary erosion control measures after the Owner accepts permanent seeding as complete.



Typical Site Fiber Roll Installation
Not to Scale



Fiber Roll Installation
Not to Scale



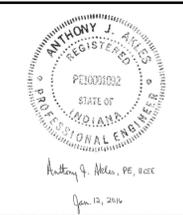
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EROSION CONTROL DETAILS
 WHITEWATER MEMORIAL STATE PARK
 CAMPGROUND PAVING IMPROVEMENTS: SITE B, NON-ELECTRIC
 ALTERNATE BID
 INDIANA DEPARTMENT OF NATURAL RESOURCES
 LIBERTY, INDIANA

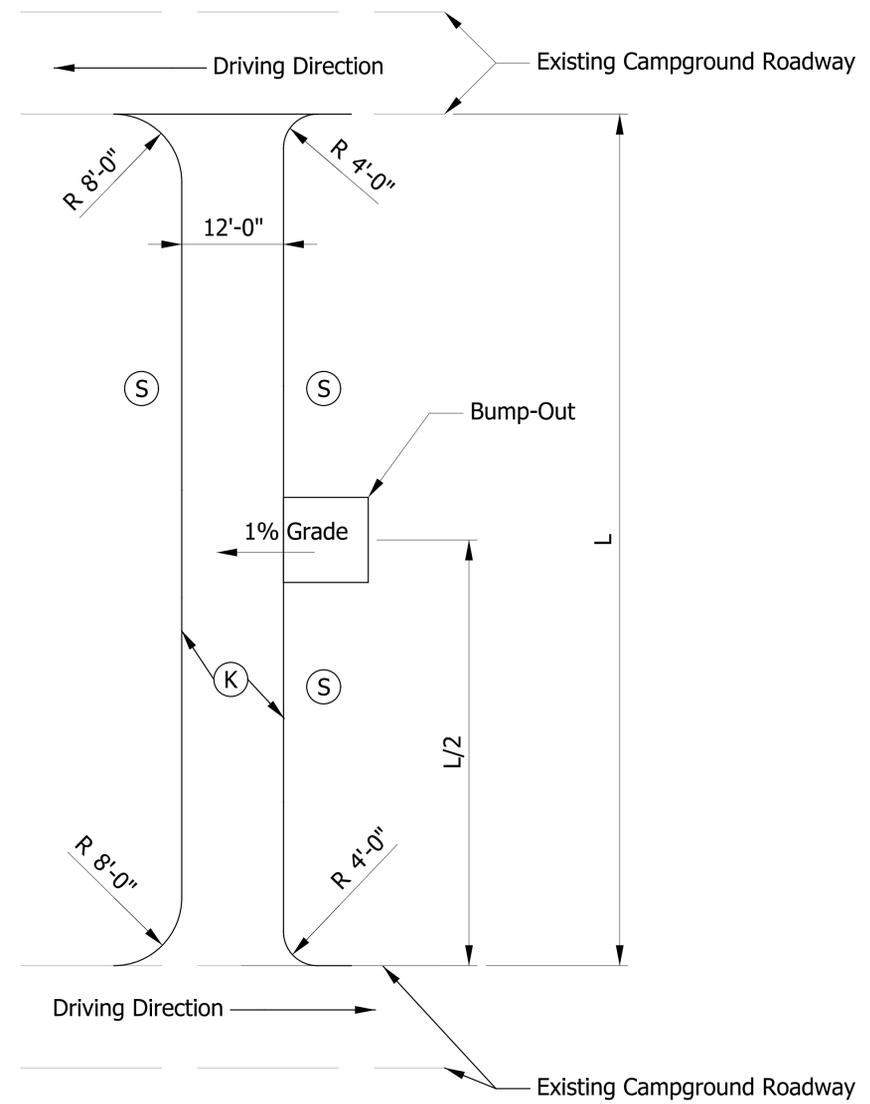
PROJECT NO.
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TONY AKLES



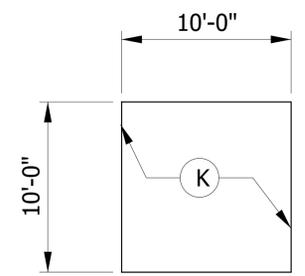
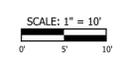
SHEET
5



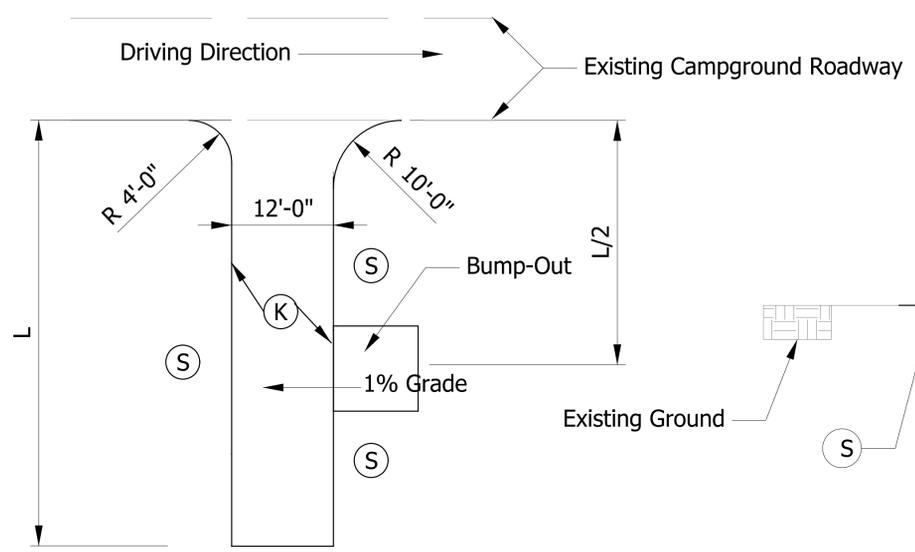
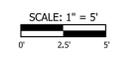
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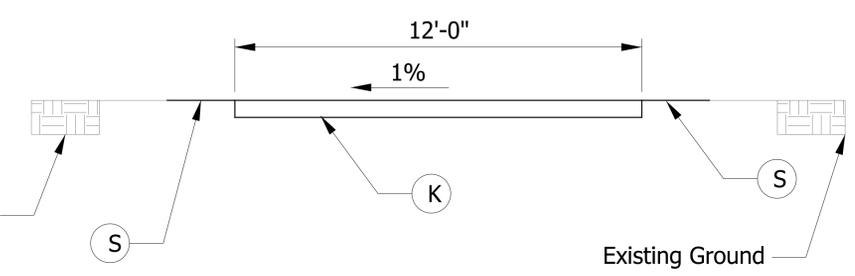
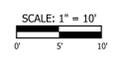
APPROACH DETAIL - TYPE A



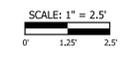
BUMP-OUT DETAIL



APPROACH DETAIL - TYPE B



APPROACH TYPICALS - TYPE A AND B

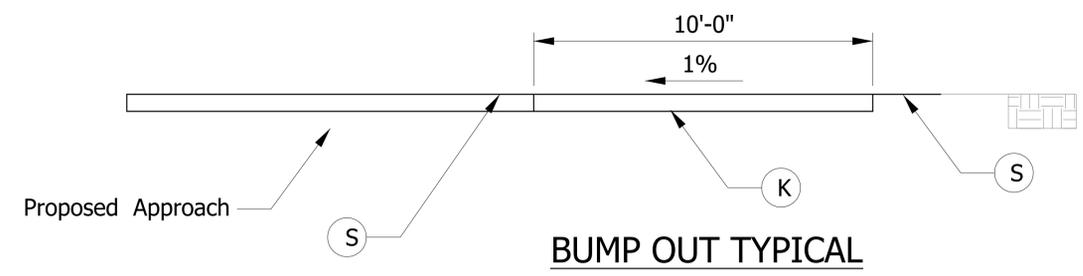


NOTES:

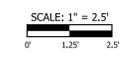
1. The appropriate Detail and length of each Campsite is shown on Sheets 8 and 9.
2. Bump outs shall be located along approach on opposite side of existing electric pedestal.
3. Bump out location subject to change with Owner's approval during construction.
4. Permanent Seeding
 - 160 lb/ac - Kentucky Bluegrass
 - 40 lb/ac - Perennial Rye Grass
 - Fertilizer shall be standard commercial fertilizer with an analysis of 5-10-5
 - Fertilizer shall be applied at a rate of 250 lb per acre
 - Mulch shall be applied at a rate of 2 tons per acre

LEGEND

- (K) 220 lb/syd HMA Surface, Type B, on 4" Compacted Aggregate, No. 53, Base
- (S) Permanent Seed Mixture See Note 4



BUMP OUT TYPICAL

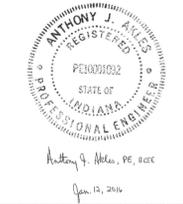


APPROACH DETAILS
 WHITEWATER MEMORIAL STATE PARK
 CAMPGROUND PAVING IMPROVEMENTS: SITE B, NON-ELECTRIC
 ALTERNATE BID
 INDIANA DEPARTMENT OF NATURAL RESOURCES
 LIBERTY, INDIANA

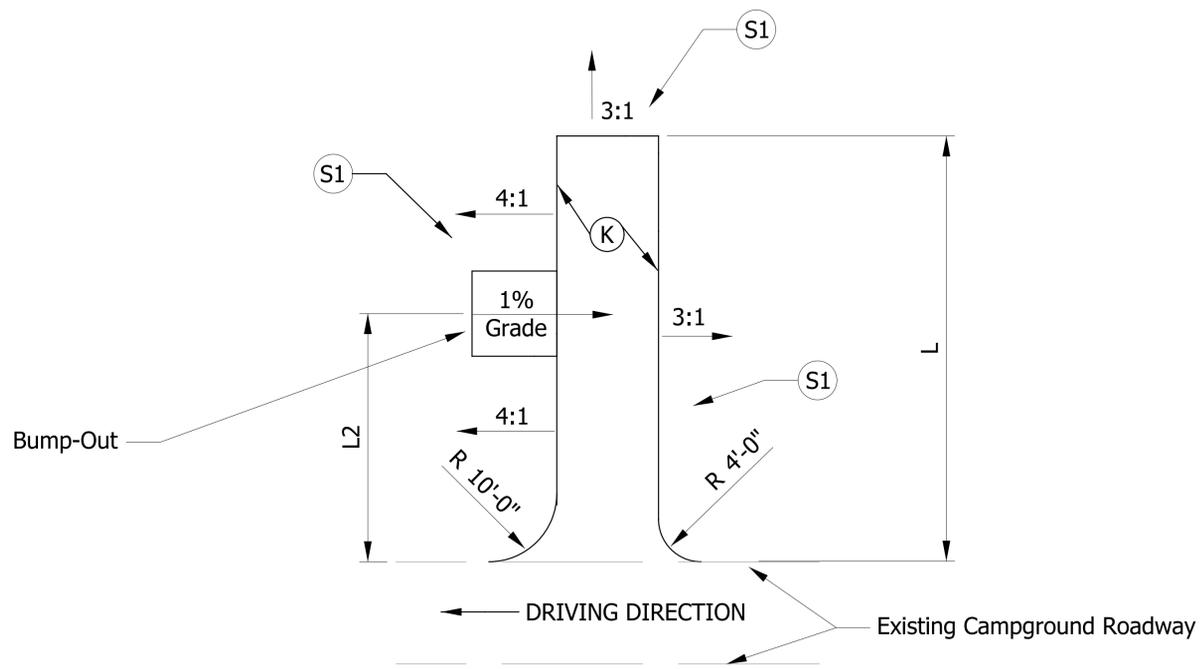
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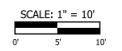
SHEET 6



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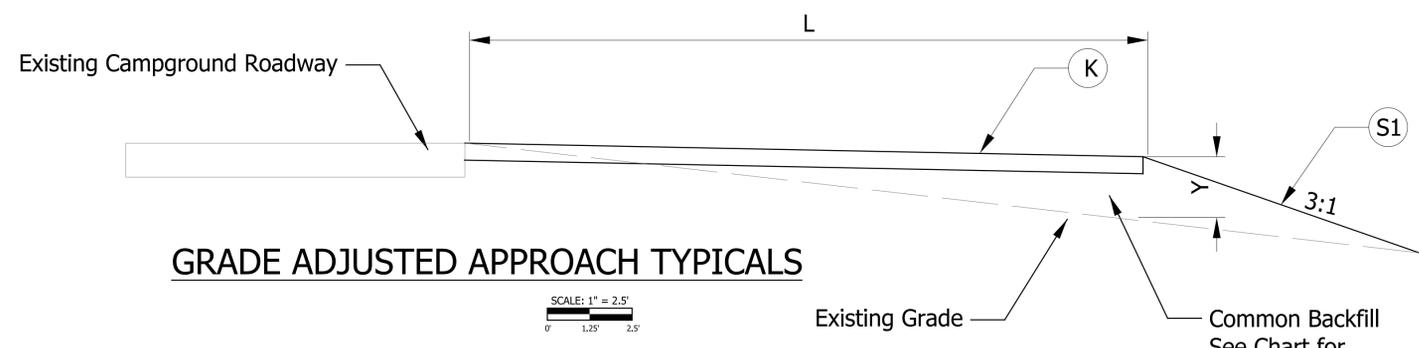
APPROACH FILL DETAIL



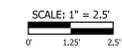
SITE	DIMENSION: Y
200	1'-6"
202	1'-6"

NOTES:

1. The appropriate Detail and length of each Campsite approach are shown on Sheets 8 and 9.
2. Bump outs shall be located along approach on opposite side of existing electric pedestal.
3. Bump out location subject to change with Owner's approval during construction.
4. For the sites listed above, Dimension Y is the elevation adjustment required to achieve a flatter Grade. Living Area side slopes shall be 4:1 slopes; all others shall be 3:1.
5. Common backfill shall be placed in 8-inch loose lifts, and compacted in 6-inch lifts.
6. Permanent Seeding
 - 160 lb/ac - Kentucky Bluegrass
 - 40 lb/ac - Perennial Rye Grass
 - Fertilizer shall be standard commercial fertilizer with an analysis of 5-10-5
 - Fertilizer shall be applied at a rate of 250 lb per acre.
 - Mulch shall be applied at a rate of 2 tons per acre.



GRADE ADJUSTED APPROACH TYPICALS



LEGEND

- (K) 220 lb/syd HMA Surface, Type B, on 4" Compacted Aggregate, No. 53, Base
- (S1) Permanent Seed Mixture on 6" of Top Soil See Note 6

APPROACH DETAILS
 WHITEWATER MEMORIAL STATE PARK
 CAMPGROUND PAVING IMPROVEMENTS: SITE B, NON-ELECTRIC
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SHEET
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