

STORM WATER POLLUTION PREVENTION PLAN	ILLINOIS APPROACH STRUCTURE FOR NEW I-70 MISSISSIPPI RIVER BRIDGE
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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 ENGINEERING CORPORATION - 000631

THE FOLLOWING STABILIZATION PRACTICES WILL BE USED FOR THIS PROJECT:
 (CHECK ALL THAT APPLY)

- | | |
|---|---|
| <input type="checkbox"/> PRESERVATION OF MATURE VEGETATION | <input type="checkbox"/> EROSION CONTROL BLANKET / MULCHING |
| <input type="checkbox"/> VEGETATED BUFFER STRIPS | <input type="checkbox"/> SODDING |
| <input type="checkbox"/> PROTECTION OF TREES | <input type="checkbox"/> GEOTEXTILES |
| <input checked="" type="checkbox"/> TEMPORARY EROSION CONTROL SEEDING | <input type="checkbox"/> OTHER (SPECIFY)..... |
| <input type="checkbox"/> TEMPORARY TURF (SEEDING, CLASS 7) | <input type="checkbox"/> OTHER (SPECIFY)..... |
| <input type="checkbox"/> TEMPORARY MULCHING | <input type="checkbox"/> OTHER (SPECIFY)..... |
| <input checked="" type="checkbox"/> PERMANENT SEEDING | <input type="checkbox"/> OTHER (SPECIFY)..... |

DESCRIBE HOW THE STABILIZATION PRACTICES LISTED ABOVE WILL BE UTILIZED:

1. TEMPORARY EROSION CONTROL SEEDING - THIS ITEM WILL BE APPLIED TO ALL BARE AREAS EVERY SEVEN DAYS TO MINIMIZE THE AMOUNT OF EXPOSED SURFACE AREAS. EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN 14 DAYS. WITHIN THE CONSTRUCTION LIMITS, AREAS WHICH MAY BE SUSCEPTIBLE TO EROSION AS DETERMINED BY THE ENGINEER SHALL REMAIN UNDISTURBED UNTIL FULL SCALE CONSTRUCTION IS UNDERWAY TO PREVENT UNNECESSARY SOIL EROSION. BARE AND SPARSELY VEGETATED GROUND IN HIGHLY ERODIBLE AREAS AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED AT THE BEGINNING OF CONSTRUCTION WHERE NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN 7 DAYS.

2. PERMANENT SEEDING - ALL AREAS DISTURBED BY CONSTRUCTION WILL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING THE FINISHED GRADING. EROSION CONTROL BLANKETS WILL BE INSTALLED OVER FILL SLOPES WHICH HAVE BEEN BROUGHT TO FINAL GRADE AND HAVE BEEN SEEDED TO PROTECT THE SLOPES FROM RILL AND GULLY EROSION AND ALLOW SEED TO GERMINATE PROPERLY. MULCH, METHOD 2 WILL BE USED ON RELATIVELY FLAT AREAS.

3. STONE RIPRAP - STONE RIPRAP WILL BE USED AS PROTECTION AT THE DISCHARGE END OF MOST STORM SEWER AND CULVERT END SECTIONS TO PREVENT SCOURING AT THE END OF PIPES AND TO PREVENT DOWNSTREAM EROSION.

2. STRUCTURAL PRACTICES: PROVIDED BELOW IS A DESCRIPTION OF STRUCTURAL PRACTICES THAT WILL BE IMPLEMENTED, TO THE DEGREE ATTAINABLE, TO DIVERT FLOWS FROM EXPOSED SOILS, STORE FLOWS OR OTHERWISE LIMIT RUNOFF AND THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. SUCH PRACTICES MAY INCLUDE BUT ARE NOT LIMITED TO: PERIMETER EROSION BARRIER, EARTH DIKES, DRAINAGE SWALES, SEDIMENT TRAPS, DITCH CHECKS, SUBSURFACE DRAINS, PIPE SLOPE DRAINS, LEVEL SPREADERS, STORM DRAIN INLET PROTECTION, ROCK OUTLET PROTECTION, REINFORCED SOIL RETAINING SYSTEMS, GABIONS, AND TEMPORARY OR PERMANENT SEDIMENT BASINS. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE CLEAN WATER ACT.

THE FOLLOWING STRUCTURAL PRACTICES WILL BE USED FOR THIS PROJECT:

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|---|--|
| <input checked="" type="checkbox"/> PERIMETER EROSION BARRIER | <input checked="" type="checkbox"/> ROCK OUTLET PROTECTION |
| <input checked="" type="checkbox"/> TEMPORARY DITCH CHECK | <input checked="" type="checkbox"/> RIPRAP |
| <input type="checkbox"/> STORM DRAIN INLET PROTECTION | <input type="checkbox"/> GABIONS |
| <input type="checkbox"/> SEDIMENT TRAP | <input type="checkbox"/> SLOPE MATTRESS |
| <input type="checkbox"/> TEMPORARY PIPE SLOPE DRAIN | <input type="checkbox"/> RETAINING WALLS |
| <input type="checkbox"/> TEMPORARY SEDIMENT BASIN | <input type="checkbox"/> SLOPE WALLS |
| <input type="checkbox"/> TEMPORARY STREAM CROSSING | <input type="checkbox"/> CONCRETE REVETMENT MATS |
| <input checked="" type="checkbox"/> STABILIZED CONSTRUCTION EXITS | <input type="checkbox"/> LEVEL SPREADERS |
| <input type="checkbox"/> TURF REINFORCEMENT MATS | <input type="checkbox"/> OTHER (SPECIFY)..... |
| <input type="checkbox"/> PERMANENT CHECK DAMS | <input type="checkbox"/> OTHER (SPECIFY)..... |
| <input type="checkbox"/> PERMANENT SEDIMENT BASIN | <input type="checkbox"/> OTHER (SPECIFY)..... |
| <input type="checkbox"/> AGGREGATE DITCH | <input type="checkbox"/> OTHER (SPECIFY)..... |
| <input type="checkbox"/> PAVED DITCH | <input type="checkbox"/> OTHER (SPECIFY)..... |

DESCRIBE HOW THE STRUCTURAL PRACTICES LISTED ABOVE WILL BE UTILIZED:

1. PERIMETER EROSION BARRIER - SILT FENCES WILL BE PLACED ALONG THE CONSTRUCTION LIMITS IN AN EFFORT TO CONTAIN SILT AND RUNOFF FROM LEAVING THE SITE. THE SILT FENCES ARE TO BE PLACED AT THE BEGINNING OF CONSTRUCTION AND REMOVE AT THE TERMINATION OF CONSTRUCTION ACTIVITIES.

2. STONE RIPRAP AND ROCK OUTLET PROTECTION - STONE RIPRAP WILL BE PROVIDED AT BRIDGE STORM AND CULVERT OUTLETS AS A MEASURE FOR EROSION AND SEDIMENT CONTROL WHERE NEEDED DURING AND AFTER CONSTRUCTION.

3. PROTECTIVE SHIELD - A PROTECTIVE SHIELD WILL BE UTILIZED TO PROTECT THE ADJACENT GROUND FROM FALLING MATERIALS FROM THE BRIDGE DECK AND SUPERSTRUCTURE CONSTRUCTION.

AS SOON AS REASONABLE ACCESS IS AVAILABLE TO ALL LOCATIONS WHERE WATER DRAINS AWAY FROM THE PROJECT, AND PERIMETER EROSION BARRIER SHALL BE INSTALLED AS CALLED OUT IN THIS PLAN AND DIRECTED BY THE ENGINEER.

ALL EROSION CONTROL PRODUCTS FURNISHED SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR THE USE SPECIFIED IN THE EROSION CONTROL PLAN. PRIOR TO THE APPROVAL AND USE OF THE PRODUCT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A NOTARIZED CERTIFICATION BY THE PRODUCER STATING THE INTENDED USE OF THE PRODUCT AND THAT THE PHYSICAL PROPERTIES REQUIRED FOR THIS APPLICATION ARE MET OR EXCEEDED. THE CONTRACTOR SHALL PROVIDE MANUFACTURER INSTALLATION PROCEDURES TO FACILITATE THE ENGINEER IN CONSTRUCTION INSPECTION.

3. STORM WATER MANAGEMENT: PROVIDED BELOW IS A DESCRIPTION OF MEASURES THAT WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES THAT WILL OCCUR AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE CLEAN WATER ACT.

a. SUCH PRACTICES MAY INCLUDE BUT ARE NOT LIMITED TO: STORM WATER DETENTION STRUCTURES (INCLUDING WET PONDS), STORM WATER RETENTION STRUCTURES, FLOW ATTENUATION BY USE OF OPEN VEGETATED SWALES AND NATURAL DEPRESSIONS, INFILTRATION OF RUNOFF ON SITE, AND SEQUENTIAL SYSTEMS (WHICH COMBINE SEVERAL PRACTICES).

THE PRACTICES SELECTED FOR IMPLEMENTATION WERE DETERMINED ON THE BASIS OF THE TECHNICAL GUIDANCE IN SECTION 59-8 (EROSION AND SEDIMENT CONTROL) IN CHAPTER 59 (LANDSCAPE DESIGN AND EROSION CONTROL) OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION BUREAU OF DESIGN AND ENVIRONMENT MANUAL. IF PRACTICES OTHER THAN THOSE DISCUSSED IN SECTION 59-8 ARE SELECTED FOR IMPLEMENTATION OR IF PRACTICES ARE APPLIED TO SITUATIONS DIFFERENT FROM THOSE COVERED IN SECTION 59-8, THE TECHNICAL BASIS FOR SUCH DECISIONS WILL BE EXPLAINED BELOW.

b. VELOCITY DISSIPATION DEVICES WILL BE PLACED AT DISCHARGE LOCATIONS AND ALONG THE LENGTH OF ANY OUTFALL CHANNEL AS NECESSARY TO PROVIDE A NON-EROSIVE VELOCITY FLOW FROM THE STRUCTURE TO A WATER COURSE SO THAT THE NATURAL PHYSICAL AND BIOLOGICAL CHARACTERISTICS AND FUNCTIONS ARE MAINTAINED AND PROTECTED (E.G. MAINTENANCE OF HYDROLOGIC CONDITIONS SUCH AS THE HYDROPERIOD AND HYDRODYNAMICS PRESENT PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES).

DESCRIPTION OF STORM WATER MANAGEMENT CONTROLS:

A. STONE RIPRAP CHECK BASINS ARE BEING UTILIZED FOR THIS PROJECT TO CONTROL EROSION UNDERNEATH BRIDGE DECKS ADJACENT TO PROJECT LIMITS. THESE BASINS WILL BE INSTALLED EARLY IN THE PROJECT, PROVIDING CONSTRUCTION CREWS WITH STABILIZED WORK PADS, AND WILL BE LEFT IN PLACE, GIVING BRIDGE INSPECTORS AND HIGHWAY MAINTAINERS SUITABLE, AND NON-DAMAGING MEANS TO PERFORM NECESSARY MAINTENANCE.

B. DUE TO THE FACT THAT THE PROJECT DOES NOT DRAIN TO A DEFINED CONVEYANCE CHANNEL, BUT INSTEAD WILL DRAIN TO ONE OF THE MANY LOW LYING AREAS WHERE WATER PONDS, VOLUMES OF DETENTION WILL NOT BE PROVIDED BY MEANS OF A RESTRICTOR. INSTEAD, THE REQUIRED VOLUME(S) WILL BE PROVIDED THAT ARE EQUAL TO THE VOLUME OF ADDITIONAL RUNOFF THAT IS GENERATED AS A RESULT OF THE INCREASE IN IMPERVIOUS AREA.

C. UNITED STATES ARMY CORPS OF ENGINEERS - SAINT LOUIS DIVISION (USACE-SLD) DEVELOPED 100-YEAR PONDING ELEVATIONS FOR THE AMERICAN BOTTOMS AREA THAT ILLINOIS FOR THE VICINITY OF THE PROJECT. THESE ELEVATIONS WERE ESTABLISHED AS PART OF THE FLOOD INSURANCE STUDIES FOR THE NEARBY COMMUNITIES. COMPENSATORY STORAGE WILL BE PROVIDED WITHIN THE PROJECT LIMITS BASED ON THE CALCULATED DISPLACED STORAGE BELOW THE 100-YEAR FLOOD ELEVATION.

D. THE ILLINOIS STATE WATER SURVEY (ISWS) PERFORMED GROUNDWATER MODELING TO ESTABLISH ELEVATION/DURATION CURVES FOR GROUNDWATER TABLE NEAR THE PROJECT ALIGNMENT. COMPENSATION WILL BE MADE FOR FILL PLACED BELOW THE ESTABLISHED 100-YEAR GROUNDWATER ELEVATION.

4. OTHER CONTROLS:

a. VEHICLE ENTRANCES AND EXITS - STABILIZED CONSTRUCTION ENTRANCES AND EXITS MUST BE CONSTRUCTED TO PREVENT TRACKING OF SEDIMENTS ONTO ROADWAYS.

THE CONTRACTOR WILL PROVIDE THE RESIDENT ENGINEER WITH A WRITTEN PLAN IDENTIFYING THE LOCATION OF STABILIZED ENTRANCES AND EXITS AND THE PROCEDURES (SHE WILL USE TO CONSTRUCT AND MAINTAIN THEM.

b. MATERIAL DELIVERY, STORAGE, AND USE - THE FOLLOWING BMPs SHALL BE IMPLEMENTED TO HELP PREVENT DISCHARGES OF CONSTRUCTION MATERIALS DURING DELIVERY, STORAGE, AND USE:

- ALL PRODUCTS DELIVERED TO THE PROJECT SITE MUST BE PROPERLY LABELED.

- WATER TIGHT SHIPPING CONTAINERS AND/OR SEMI TRAILERS SHALL BE USED TO STORE HAND TOOLS, SMALL PARTS, AND MOST CONSTRUCTION MATERIALS THAT CAN BE CARRIED BY HAND, SUCH AS PAINT CANS, SOLVENTS, AND GREASE.

- A STORAGE/CONTAINMENT FACILITY SHOULD BE CHOSEN FOR LARGER ITEMS SUCH AS DRUMS AND ITEMS SHIPPED OR STORED ON PALLETS. SUCH MATERIAL IS TO BE COVERED BY A TIN ROOF OR LARGE SHEETS OF PLASTIC TO PREVENT PRECIPITATION FROM COMING IN CONTACT WITH THE PRODUCTS BEING STORED.

- LARGE ITEMS SUCH AS LIGHT STANDS, FRAMING MATERIALS AND LUMBER SHALL BE STORED IN THE OPEN IN A GENERAL STORAGE AREA. SUCH MATERIAL SHALL BE ELEVATED WITH WOOD BLOCKS TO MINIMIZE CONTACT WITH STORM WATER RUNOFF.

- SPILL CLEAN-UP MATERIALS, MATERIAL SAFETY DATA SHEETS, AN INVENTORY OF MATERIALS, AND EMERGENCY CONTACT NUMBERS SHALL BE MAINTAINED AND STORED IN ONE DESIGNATED AREA AND EACH CONTRACTOR IS TO INFORM HIS/HER EMPLOYEES AND THE RESIDENT ENGINEER OF THIS LOCATION.

c. STOCKPILE MANAGEMENT - BMPs SHALL BE IMPLEMENTED TO REDUCE OR ELIMINATE POLLUTION OF STORM WATER FROM STOCKPILES OF SOIL AND PAVING MATERIALS SUCH AS BUT NOT LIMITED TO PORTLAND CEMENT CONCRETE RUBBLE, ASPHALT CONCRETE, ASPHALT CONCRETE RUBBLE, AGGREGATE BASE, AGGREGATE SUB BASE, AND PRE-MIXED AGGREGATE. THE FOLLOWING BMPs MAY BE CONSIDERED:

- PERIMETER EROSION BARRIER
- TEMPORARY SEEDING
- TEMPORARY MULCH
- PLASTIC COVERS
- SOIL BINDERS
- STORM DRAIN INLET PROTECTION

THE CONTRACTOR WILL PROVIDE THE RESIDENT ENGINEER WITH A WRITTEN PLAN OF THE PROCEDURES (SHE WILL USE ON THE PROJECT AND HOW THEY WILL BE MAINTAINED).

d. WASTE DISPOSAL. NO MATERIALS, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED INTO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

e. THE PROVISIONS OF THIS PLAN SHALL ENSURE AND DEMONSTRATE COMPLIANCE WITH APPLICABLE STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER OR SEPTIC SYSTEM REGULATIONS.

f. THE CONTRACTOR SHALL PROVIDE A WRITTEN AND GRAPHIC PLAN TO THE RESIDENT ENGINEER IDENTIFYING WHERE EACH OF THE ABOVE AREAS WILL BE LOCATED AND HOW THEY ARE TO BE MANAGED.