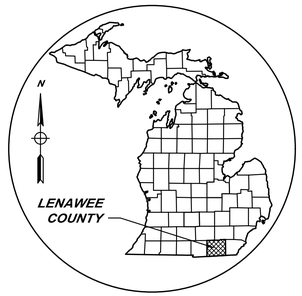
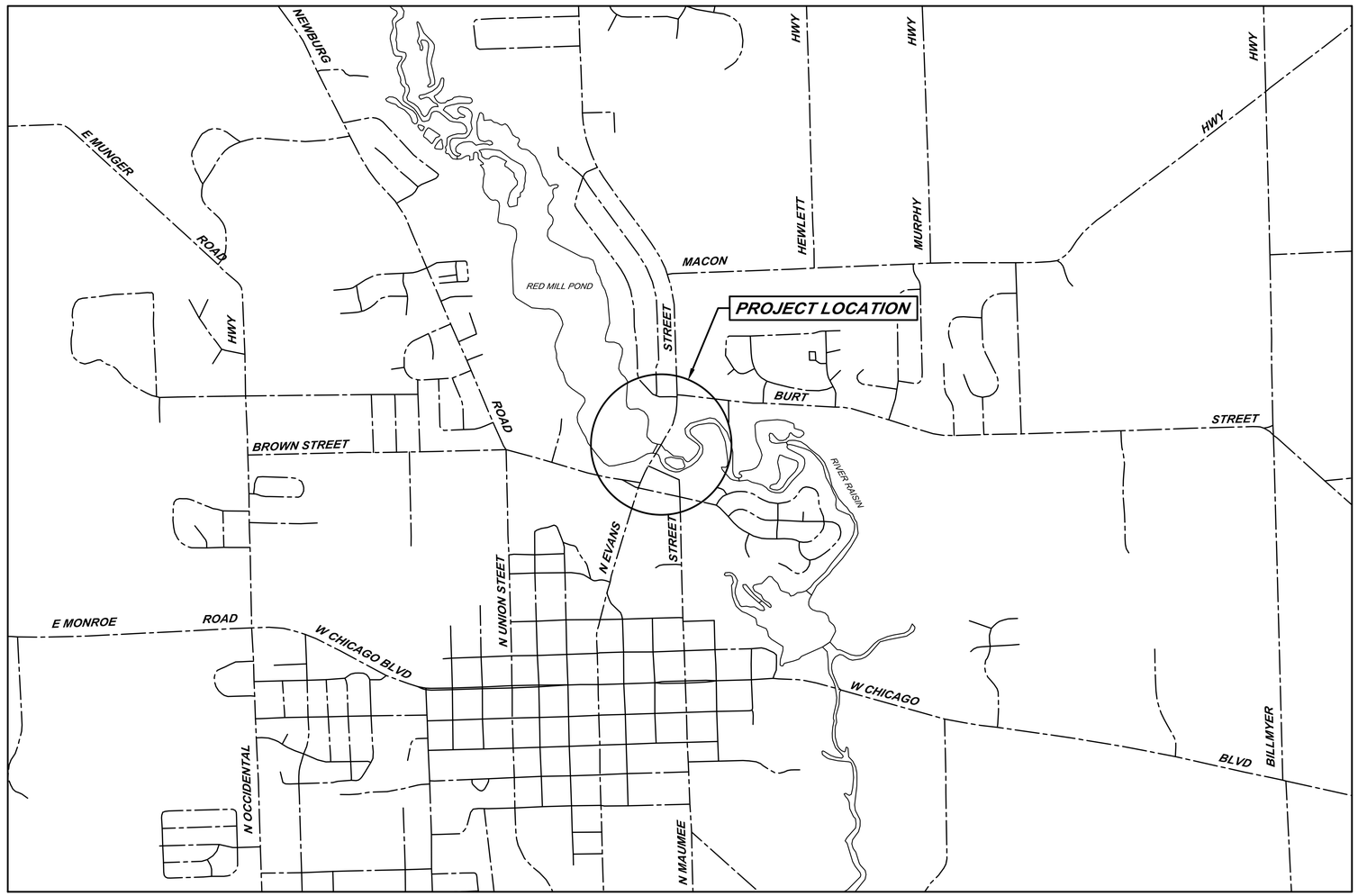
TECUMSEH DAM ID NO. 593

LENAWEE COUNTY DRAIN COMMISSIONER - JENNIFER L. ESCOTT



AREA MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

PLAN INDEX

FILE NO.	DESCRIPTION	NO.
DR-4501-01	COVER SHEET	01
DR-4501-02	CONTACTS, GENERAL NOTES, AND LINE TYPE LEGEND	02
DR-4501-03	SOIL EROSION AND SEDIMENTATION CONTROL PLAN	03
DR-4501-04	SITE OVERVIEW	04
DR-4501-05	AUXILIARY SPILLWAY	05
DR-4501-06	DEMOLITION PLAN	06
DR-4501-07	KAYAK PORTAGE	07
DR-4501-08	SEEPAGE REPAIR	08
DR-4501-09	ACCESS DRIVE	09
DR-4501-10	DETAILS - 1	10
DR-4501-11	DETAILS - 2	11
DR-4501-12	PROPOSED SITE PLAN VIEW OF AUXILIARY SPILLWAY	12
DR-4501-13	PROPOSED AUX. SPILLWAY ABUTMENTS NORTH & SOUTH WALLS	13
DR-4501-14	STRUCTURAL DETAILS	14
DR-4501-15	STRUCTURAL NOTES SHEET	15
DE-1199-01	ELECTRICAL SITE PLANS	16
DE-1199-02	ELECTRICAL POWER DISTRIBUTION	17
DE-1199-03	ELECTRICAL POWER DETAILS	18
DE-1199-04	CONTROL SYSTEM WIRING DIAGRAM	19
DE-1199-05	ELECTRICAL CONTROL PANEL DETAILS	20
DE-1199-06	ELECTRICAL INSTALLATION DETAILS	21
DR-4501-22	PART 31 IMPACTS	22
DR-4501-23	PART 301 IMPACTS	23
DR-4501-24	CROSS SECTIONS	24

SECTION 27 AND 28, T05SN-R04E,
CITY OF TECUMSEH,
TECUMSEH TOWNSHIP,
LENAWEE COUNTY , MICHIGAN

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

COVER SHEET

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.	SHEET 01 OF 24	DR 01	
DATE SEPTEMBER, 2024	FILE NO.		
SCALE NOT TO SCALE	DR-4501-01		

GENERAL NOTES

NO WORK SHALL BE PERFORMED BEFORE 7:00 AM OR AFTER 7:00 PM MONDAY THROUGH SATURDAY. NO WORK SHALL HAPPEN ON SUNDAYS OR HOLIDAYS, UNLESS AUTHORIZED BY THE OWNER.

CONTRACTOR SHALL NOTIFY ENGINEER 48 HOURS PRIOR TO START OF CONSTRUCTION, CONSTRUCTION STAKING AND INSPECTION.

CONTRACTOR SHALL MAINTAIN ACCESS FOR MAIL DELIVERY AND GARBAGE PICKUP AT ALL PARCELS. IF THESE SERVICES CANNOT BE PERFORMED, CONTRACTOR IS RESPONSIBLE FOR TAKING THE NECESSARY MEASURES TO CARRY THEM OUT.

COORDINATE DRIVE CLOSURES AND MAIL BOX RELOCATION WITH LANDOWNERS A MINIMUM OF ONE DAY IN ADVANCE.

CONTRACTOR TO PROVIDE DUST CONTROL AND SWEEP ROADS DAILY.

ALL EXCAVATED MATERIAL NOT TO BE REUSED OR DISPOSED OF ON SITE SHALL BE REMOVED FROM SITE. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF MATERIALS ACCORDING TO LOCAL AND STATE REQUIREMENTS.

UNDERGROUND UTILITIES/MISS DIG
FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 1-800-482-7171 OR 811 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE EXISTING UTILITIES ON THESE DRAWINGS HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND SHALL NOTIFY THE ENGINEER AS TO WHERE POSSIBLE CONFLICT EXISTS.

ALL CONSTRUCTION UNDER EXISTING UTILITIES, INCLUDING HOUSE SERVICES, SHALL BE COMPLETELY BACKFILLED WITH SAND, IN 12" LAYERS, AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT.

ANY UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE SUPPORTED, PER THE SPECIFICATIONS OF THE INDIVIDUAL UTILITY COMPANY CLAIMING OWNERSHIP OF THE UTILITY.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES
APPROPRIATE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTH-DISTURBING ACTIVITIES. PLACE TURF ESTABLISHMENT ITEMS AS SOON AS POSSIBLE ON POTENTIAL ERODABLE SLOPES AS DIRECTED BY OWNER. CRITICAL DITCH GRADES SHALL BE PROTECTED WITH EITHER SOD, SEED/MULCH, OR SEED/MULCH BLANKET AS DIRECTED BY OWNER.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE AND MAINTAINED UNTIL THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MEASURES SHALL ONLY BE PAID FOR ONCE.

ALL CATCHBASINS AND SEDIMENTATION TRAPS/BASINS SHALL BE CLEANED OUT UPON COMPLETION OF THE PROJECT.

CONTRACTOR SHALL CONFORM TO SOIL EROSION AND SEDIMENTATION CONTROL ACT, PART 91 OF ACT 451 OF 1994.

PROPERTY OWNERS
PROPERTY OWNERS' NAMES, WHERE SHOWN, ARE FOR INFORMATION ONLY, AND THEIR ACCURACY IS NOT GUARANTEED.

ADJUSTING MONUMENT BOXES
ALL GOVERNMENT CORNERS ON THIS PROJECT SHALL BE PRESERVED, WHETHER SHOWN OR NOT. IT MAY BE NECESSARY TO PLACE OR ADJUST MONUMENT BOXES, AS REQUIRED.

TRAFFIC
THE CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES. SIGNAGE MUST BE IN ACCORDANCE WITH THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND SHALL BE COORDINATED WITH THE ENGINEER AND GOVERNING ROAD AGENCY. PERMITS MAY BE REQUIRED.

PERMITS
PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED BY THE APPROPRIATE AGENCIES.

CONSTRUCTION PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE AGENCIES.

GENERAL NOTES CONT.

ALL WORK SHALL BE CONFINED TO THE RIGHT-OF-WAY OR CONSTRUCTION LIMITS SHOWN ON THE PLANS. ANY WORK OUTSIDE OF THESE LIMITS SHALL BE AGREED TO BY THE CONTRACTOR AND THE LANDOWNER IN WRITING.

RESTORE ALL LAWN AREAS PER SPECIFICATIONS AND PLANS.

CONTRACTOR TO RESTORE INCIDENTAL DAMAGES ON THE PROJECT AS DIRECTED BY OWNER AND ENGINEER AT THE CONTRACTOR'S EXPENSE.

ALL DRAIN SIDE SLOPES SHALL BE 2H:1V OR FLATTER, UNLESS SPECIFIED OTHERWISE.

THE WORDS "RIGHT SIDE" OR "LEFT SIDE" IMPLY A REFERENCE TO THE DAM FACING DOWNSTREAM.

REMOVE EXISTING FENCES, LANDSCAPING, AND OTHER STRUCTURES IN RIGHT-OF-WAY OR CONSTRUCTION LIMITS AS-NEEDED FOR CONSTRUCTION. COST TO BE INCLUDED IN SITE CLEARING.

REINSTALLATION OF FENCES MUST BE COORDINATED WITH THE LAND OWNER AT THE LAND OWNER'S EXPENSE, UNLESS STATED OTHERWISE IN THE PLANS.

ALL SPRINKLER SYSTEMS DAMAGED SHALL BE REPAIRED BY CONTRACTOR. COST OF THE PAY ITEM BEING INSTALLED, UNLESS OTHERWISE NOTED.

CONTRACTOR TO CLEAR TREES WITHIN THE RIGHT-OF-WAY OR CONSTRUCTION LIMITS AS NECESSARY TO CONSTRUCT PROJECT AND LEVEL SPOILS AS SHOWN IN DETAILS. COORDINATE REMOVALS WITH THE ENGINEER/LANDOWNER.

ROADS, DRIVEWAYS AND SIDEWALKS
ALL JOINTS AT INTERSECTION APPROACHES AND DRIVEWAYS SHALL BE SAW-CUT WITH BUTT-JOINTS.

FOR OPEN CUT PAVEMENT REMOVAL, CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT FULL DEPTH PRIOR TO REMOVAL.

ALL DRIVING SURFACES ARE TO BE RESTORED TO IN-KIND DEPTH AND MATERIAL, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROTECT ALL ROADS NOT SPECIFIED TO BE REMOVED DURING CONSTRUCTION. REPAIR ANY UNAUTHORIZED DAMAGE AT CONTRACTOR'S EXPENSE.

BROKEN CONCRETE AND DEBRIS SHALL BE CONSIDERED WASTE AND SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE. COST SHALL BE INCLUDED IN THE OTHER PAY ITEMS OF THE PROJECT.

MATCH EXISTING TYPE FOR CONCRETE CURB AND GUTTER RESTORATION.

CONTRACTOR SHALL REMOVE AND REPLACE ALL STREET AND TRAFFIC SIGNAGE AS NECESSARY FOR CONSTRUCTION. ALL COST SHALL BE INCLUDED IN THE BID PRICE FOR SITE CLEARING.

CONTRACTOR SHALL COORDINATE LOCATION OF ANY ACCESS ROADS WITH THE LANDOWNER AND THE ENGINEER. ANY ACCESS ROAD SHALL BE REPAIRED TO THE OWNER'S SATISFACTION.

ALL WORK WITHIN THE ROAD RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND GENERAL SPECIFICATIONS OF THE AGENCY WITH JURISDICTION OVER THE ROAD.

MAIL BOXES
CONTRACTOR SHALL REMOVE AND TEMPORARILY RELOCATE ALL EXISTING MAIL BOXES AS NEEDED FOR CONSTRUCTION. COSTS TO BE INCLUDED IN THE UNIT PRICE BID FOR SITE CLEARING.

ALL TEMPORARILY RELOCATED MAIL BOXES, STREET AND TRAFFIC SIGNS TO BE REINSTALLED TO ORIGINAL LOCATIONS AS CONSTRUCTION ALLOWS. COSTS TO BE INCLUDED IN THE UNIT PRICE BID FOR CLEANUP AND RESTORATION.

UTILITIES
UTILITIES LOCATED IN THE ROAD AND DAM RIGHTS-OF-WAY WILL BE RELOCATED BY OTHERS, UNLESS OTHERWISE NOTED ON THE PLANS.

THE DRAIN COMMISSIONER'S MINIMUM CLEARANCE STANDARDS SHALL BE MET WHENEVER RELOCATING EXISTING UTILITIES WITHIN THE DAM RIGHT-OF-WAY.

ALL WATER VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADE. COST SHALL BE INCLUDED IN THE PAY ITEM BEING INSTALLED.

ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

ALL MANHOLE RIMS IN ROADWAYS AND DRIVES SHALL BE ADJUSTED PRIOR TO FINAL PAVING TO BE FLUSH WITH FINISHED GRADE.

GRADING AROUND MANHOLES/CATCHBASINS, FLARED END SECTIONS, AND OTHER INLETS SHALL BE SMOOTH AND SHAPED TO PROVIDE POSITIVE DRAINAGE INTO THE INLETS.

DEMOLISH EXISTING STRUCTURE(S) AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. COST TO BE INCLUDED WITH THE ITEM BEING INSTALLED AS DIRECTED BY OWNER/ENGINEER.

CONTRACTOR SHALL CONNECT ANY AND ALL FIELD TILE OUTLETS AND OTHER STORM LEADS TO PROPOSED STORM SEWER WITH PREMANUFACTURED TEES, WYES, GASKETS, SEALS, COUPLERS, BOOTS, ETC. PER SPECIFICATIONS.

SOIL EROSION SEDIMENT CONTROL
ALL RIPRAP MATERIAL SHALL BE APPROVED BY THE ENGINEER. OWNER AND ENGINEER RESERVES THE RIGHT TO REJECT ANY AND ALL RIPRAP.

CONTRACTOR SHALL FINISH GRADE, SEED, FERTILIZE, AND MULCH DAILY ON ALL DISTURBED AREAS AS DESCRIBED IN THE SPECIFICATIONS.

CONTACTS

LENAWEE COUNTY DRAIN COMMISSION ATT: JENNIFER L. ESCOTT 320 SPRINGBROOK AVENUE SUITE 102 ADRIAN, MI 49221 PHONE: (517) 264-4696	OWNER
SPICER GROUP ATT: RICHARD GRAHAM, P.E. 125 HELLE BLVD, SUITE 2 DUNDEE, MI 48131 PHONE: (248) 495-2927	PROJECT ENGINEER
SPICER GROUP ATT: HANNAH GARNER 125 HELLE BLVD, SUITE 2 DUNDEE, MI 48131 PHONE: (517) 648-9677	DESIGN ENGINEER
CITY MANAGER ATT: DANIEL SWALLOW 309 E. CHICAGO BLVD TECUMSEH, MI 49286 PHONE: (517) 424-6555	CITY OF TECUMSEH CITY MANAGER
DEPARTMENT OF PUBLIC WORKS ATT: TROY ROYBARCH PHONE: (517) 605-2237	CITY OF TECUMSEH DPW DIRECTOR
CITY OF TECUMSEH PARKS ATT: SARAH GILMORE PHONE: (517) 423-5602	CITY OF TECUMSEH PARKS DIRECTOR
CONSUMERS ENERGY/GAS ATT: TREVIN TREVINO PHONE: (517) 262-1623	GAS
CONSUMERS ENERGY/GAS ATT: DAVID SOUTHWARD PHONE: (517) 788-2400	ELECTRIC

ABBREVIATIONS

BC = BACK OF CURB
BM = BENCH MARK
CB = CATCH BASIN
C/C = CENTER TO CENTER
CJ = CONSTRUCTION JOINT
CL = CENTERLINE
CMP = CORRUGATED METAL PIPE
CONC = CONCRETE
CORR = CORRUGATED
CSP = CORRUGATED STEEL PIPE
DI = DUCTILE IRON PIPE
EF = EACH FACE
ELEC = ELECTRIC
EL OR ELEV = ELEVATION
EOM = EDGE OF METAL
EOP = EDGE OF PAVEMENT
EQ/SP = EQUALLY SPACED
ESMT = EASEMENT
EW = EACH WAY
EX OR EXIST = EXISTING
FES = FLARED END SECTION
FF = FINISH FLOOR
FG = FINISH GROUND
FL = FLOW LINE
FS = FINISH SURFACE
FT = FEET
GALV = GALVANIZED
G = GUTTER
GA = GAUGE
HDG = HOT DIP GALVANIZED
HDPE = HIGH DENSITY POLYETHYLENE
HMA = HOT MIX ASPHALT
HOR = HORIZONTAL
HP = HIGH POINT
HYD = HYDRANT
INV = INVERT
LP = LOW POINT
OC = ON CENTER
OH = OVERHEAD
MH = MANHOLE
MIN = MINIMUM
MON = MONUMENT
NFL = NOT FIELD LOCATED
NTS = NOT TO SCALE
PROP = PROPOSED
PVC = POLYVINYL CHLORIDE
RCP = REINFORCED CONCRETE PIPE
ROW = RIGHT OF WAY
SAN = SANITARY
SB = SOIL BORING
SS = STAINLESS STEEL
STA = STATION
STM = STORM
SWR = SEWER
T/B = TOP AND BOTTOM
TC = TOP OF CURB
TOB = TOP OF BANK
TOS = TOE OF SLOPE
TELE = TELEPHONE
TRW = TOP OF RETAINING WALL
TW = TOP OF WALK
UG = UNDERGROUND
UNO = UNLESS NOTED OTHERWISE
VERT = VERTICAL
WM = WATER MAIN
WSEL = WATER SURFACE ELEVATION

LINE TYPE LEGEND

- EXISTING ROAD CENTERLINE
- EXISTING WATER MAIN
- EXISTING SANITARY SEWER OR FORCEMAIN
- EXISTING STORM SEWER
- EXISTING TELEPHONE CABLE
- EXISTING GAS MAIN
- EXISTING ELECTRIC
- EXISTING DRAINS (OTHER)
- PROPOSED UTILITY
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- FENCE LINE
- OVERHEAD UTILITY
- RAILROAD TRACKS
- STATION LINE
- LIMITS OF RIGHT OF WAY
- EASEMENT
- SILT FENCE
- REVERSE PAN CURB & GUTTER
- TREE LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS

SYMBOL LEGEND
EXISTING SYMBOLS

- MANHOLE
- CATCH BASIN
- CURB CATCH BASIN
- FIRE HYDRANT
- GAS VALVE
- WATER VALVE
- TELEPHONE PEDESTAL
- POWER POLE
- TELEPHONE POLE
- POWER AND TELEPHONE POLE
- LIGHT POLE
- GUY ANCHOR AND POLE
- MAIL BOX
- WATER METER
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- M.W. - MONITORING WELL
- HAND HOLE
- TRANSFORMER
- ELECTRICAL PEDESTAL
- BARRIER FREE PARKING
- SPRINKLER
- RAILROAD SIGNAL
- ANTENNA
- SATELLITE DISH
- AC - AIR CONDITIONING UNIT
- SB# - SOIL BORING
- CONTROL POINT
- BENCH MARK
- FOUND SURVEY CORNER
- SET 1/2" IRON ROD
- 1/4 SECTION CORNER
- BREAK IN LINE
- EXISTING SIGN-1 POST
- EXISTING SIGN-2 POST
- STUMP
- WETLANDS
- PINE
- BUSH
- TREE

PROPOSED SYMBOLS

- MANHOLE
- CATCHBASIN
- FIRE HYDRANT
- WATER VALVE
- BARRIER FREE PARKING
- LIGHT POLES
- DRAINAGE FLOW
- 600.00 LABEL - SPOT ELEVATION LABELS
  - G = GUTTER
  - TW = WALK
  - TC = TOP OF CURB
  - FS = FINISH SURFACE

PROJECT DATUM

HORIZONTAL:	STATE PLANE SOUTH MI '83 2113
VERTICAL:	NORTH AMERICAN VERTICAL DATUM '88

BY	MARK	REVISIONS	DATE

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

CONTACTS, GENERAL NOTES, AND LINE TYPE LEGEND

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.		SHEET 02 OF 24	DR 02
DATE SEPTEMBER, 2024		FILE NO.	
SCALE NOT TO SCALE		DR-4501-02	

EROSION CONTROL MEASURES

KEY	SESC MEASURE	SYMBOL	WHERE USED
1	Seeding		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
2	Mulch		On flat areas, slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles when areas are subject to raindrop impact, and erosive forces from wind or water.
15	Riprap		Along drain banks, shorelines, or where concentrated flows occur. Slows velocity, reduces erosion and sediment load.
16	Riprap Toe of Slope		Riprap toe of slope protection is used in areas where velocities are causing drain bank erosion and are too high to stabilize using other methods.
23	Outfall Stabilization		In the stream or drain bank usually above the ordinary high water mark where an enclosed drain or tile discharges to an open drain.
26	Dust Control		As a temporary measure on exposed and unstabilized areas that must be protected from wind or water erosion.
27	Stabilized Surface Cover		in any area to stabilize raw areas where seeding does not occur.
38	Coffer Dam		As a temporary isolation measure during construction

DETAILED DRAWINGS AND SPECIFICATIONS ARE LOCATED IN THE MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS SOIL EROSION AND SEDIMENTATION CONTROL AUTHORIZED PUBLIC AGENCY PROCEDURES MANUAL

SYMBOLOGY FOR INSERTION INTO CONSTRUCTION DRAWINGS:

= PERMANENT MEASURE

= TEMPORARY MEASURE

LENAWEE COUNTY	
SOIL CLASS	SOIL COMPOSITION
FaA	Fox cobbly gravelly loam, 0 to 3 percent slopes
FcB	Fox sandy loam, till plain, 6 to 12 percent slopes, eroded
GfA	Griffin and Genesee loams, 0 to 3 percent slopes
W	Water

GENERAL TIMING & SEQUENCE

1. INSTALL TEMPORARY SESC CONTROL MEASURES.
2. SAW CUTTING AND REMOVAL OF EXISTING CONCRETE WALLS AND FLOOR FROM AUXILIARY SPILLWAY AND RETAINING WALL AS SHOWN ON PLANS.
3. RECONSTRUCTION OF AUXILIARY SPILLWAY.
4. CONSTRUCTION OF UPSTREAM ACCESS.
5. CONSTRUCTION OF KAYAK PORTAGE.
6. SEEPAGE REPAIRS.
7. FINAL REGRADING AND EROSION CONTROL.
8. INSTALL PERMANENT SESC MEASURES
9. REMOVE TEMPORARY SESC CONTROL MEASURES.
10. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING SOIL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE ENTIRE PROJECT.
11. FINAL PAYMENT WILL BE MADE ONCE ALL DRAIN BANKS, SPOILS, AND DISTURBED AREAS HAVE ESTABLISHED VEGETATION GROWING. ALL LAWN AREAS MUST BE RESTORED TO IN KIND CONDITIONS PRIOR TO FINAL PAYMENT.

MAINTENANCE PROGRAM FOR SESC MEASURES

GENERAL MAINTENANCE

- CONTRACTOR SHALL MAINTAIN ALL PERMANENT SESC MEASURES FOR A PERIOD OF 1 YEAR FOLLOWING THEIR INSTALLATION.
- TEMPORARY SESC MEASURES MUST BE INSTALLED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.
- TEMPORARY MEASURES MUST BE MAINTAINED AND IN PLACE UNTIL AREAS ARE PERMANENTLY STABILIZED.
- PERMANENT MEASURES MUST BE INSTALLED AND MAINTAINED BY THE CONTRACTOR UNTIL FINAL COMPLETION.
- DAILY MAINTENANCE IS THE CONTRACTOR'S RESPONSIBILITY.
- TEMPORARY SESC MEASURES MUST BE REMOVED AT THE END OF THE PROJECT ONCE PERMANENT MEASURES ARE ESTABLISHED.
- TEMPORARY SESC MEASURES MUST BE INSTALLED PRIOR TO OR AT THE TIME OF EARTH DISTURBANCE.
- INSPECT WEEKLY AND AFTER EACH RAIN EVENT UNTIL VEGETATION HAS BEEN ESTABLISHED.
- IF NECESSARY, REPAIR AND RE-SEED OR REPLANT ERODED AREAS IMMEDIATELY.

SEEDING AND MULCHING

- SEEDING PRACTICES INCLUDE TOPSOIL (AS DIRECTED BY ENGINEER), SEED, POLYMER, AND MULCH OR MULCH MATTING (AS DIRECTED BY ENGINEER OR WHERE SHOWN ON PLANS).
- WHERE NECESSARY, APPROPRIATE MULCH MUST BE APPLIED BASED ON SLOPE AND GROWING CONDITIONS AS APPROVED BY THE PROJECT ENGINEER.
- ALL SLOPES AND HIGHLY EROSIVE AREAS MUST BE SEEDED, POLYMER APPLIED AND MULCHED AS NEEDED WHEN CONSTRUCTION ACTIVITY IS NOT TAKING PLACE.
- SEED AND MULCH IS TO BE INSPECTED DAILY FOLLOWING EACH RAIN EVENT TO DETERMINE IF CONCENTRATED FLOWS ARE PRESENT.
- IN THE EVENT THAT SEED AND MULCH ARE REMOVED BY EROSIVE RUNOFF, REPAIRS ARE TO BE MADE IMMEDIATELY.
- ALL AREAS DURING CONSTRUCTION MUST BE PERMANENTLY STABILIZED WITHIN 5 CALENDAR DAYS OF FINAL GRADE (GRADE LISTED ON PLAN).

STORM DRAIN INLET PROTECTION

- INSPECT ROUTINELY AND FOLLOWING A PRECIPITATION EVEN THAT RESULTS IN RUNOFF UNTIL SEDIMENT FILTER IS REMOVED.
- ROUTINELY REMOVE SEDIMENT ACCUMULATION.
- REPAIR AND/OR REPLACE CONTROL MEASURES AS NEEDED.

SILT FENCE

- SILT FENCE IS TO BE TRENCHED IN NO LESS THAN 6 INCHES BELOW THE GROUND SURFACE.
- INSPECT SILT FENCE DAILY AND IMMEDIATELY FOLLOWING EACH RAINFALL.
- REPAIR WHEN SILT FENCE IS SAGGING OR HAS BEEN REMOVED/TORN DOWN.
- WHEN SILT COLLECTS TO HALF THE HEIGHT OF THE FENCE ALL SILT IS TO BE REMOVED AND FENCE REPAIRED.
- REMOVE SILT FENCE WHEN PERMANENT SESC MEASURES ARE IN PLACE AND VEGETATION IS ESTABLISHED.

STABILIZED CONSTRUCTION ACCESS

- INSPECT WEEKLY AND AFTER EACH RAINFALL.
- WHEN CONSTRUCTION ACCESS IS NO LONGER EFFECTIVE, SCRAPE THE TOP LAYER AND ADD 2" OF AGGREGATE.

COMPLIANCE WITH PART 91 OF PA 451

- RESPOND IMMEDIATELY TO STORMWATER OPERATOR AND/OR SOIL EROSION AND SEDIMENTATION CONTROL INSPECTOR CONCERNS. MAKE CORRECTIVE MEASURES AS REQUIRED IMMEDIATELY AS DETAILED BY THE APPROVED APA MANUAL(S).

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

1. INSTALL AND MAINTAIN ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE APPROVED PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION OR MASS GRADING. ALL SESC MEASURES MUST BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE SESC PLAN AND PROJECT SPECIFICATIONS.
2. SOIL EROSION CONTROL MEASURES MUST BE INSPECTED BY A STATE CERTIFIED INSPECTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION OR MASS GRADING.
3. DAILY INSPECTION AND MAINTENANCE MUST BE MADE TO ENSURE ALL EROSION CONTROL MEASURES ARE FUNCTIONING PROPERLY AND INTACT. NECESSARY REPAIRS MUST BE PERFORMED WITHIN 24 HOURS.
4. ADDITIONAL SOIL EROSION CONTROL MEASURES MUST BE PROVIDED THROUGHOUT CONSTRUCTION ACTIVITY AS NEEDED AND DETERMINED BY THE APA/ENGINEER. THE SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS TO BE AMENDED TO INCLUDE ADDITIONAL EROSION CONTROL MEASURES IMPLEMENTED ON-SITE.
5. SEDIMENT FROM WORK ON THIS SITE IS TO BE CONTAINED ON THE SITE AND IS NOT TO BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MANMADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS, AND WETLANDS.
6. ALL VISUAL TRACKING INCLUDING MUD, DIRT, AND DEBRIS TRACKED ONTO EXISTING ROADWAYS MUST BE IMMEDIATELY REMOVED NO LESS THAN ON A DAILY BASIS BY SCRAPING AND SWEEPING AND/OR AS DIRECTED BY THE ENGINEER OR APA.
7. DUST CONTROL MUST BE EXERCISED AT ALL TIMES DURING THE PROJECT AND AS DIRECTED BY THE ENGINEER OR APA. APPLY DUST SUPPRESSANT TO SURFACES USING A PRESSURE TYPE WATER DISTRIBUTOR TRUCK EQUIPPED WITH A SPRAY SYSTEM.
8. ALL PERMANENT SOIL EROSION CONTROL MEASURES MUST BE IN PLACE WITHIN 24 HOURS OF FINAL GRADING (GRADE LISTED ON PLANS), THIS INCLUDES ALL VEGETATIVE STABILIZATION. VEGETATIVE STABILIZATION WILL BE ONGOING. TOPSOIL, FERTILIZER, SEED, POLYMER, SILT STOP (OR EQUAL), MULCH AND/OR RIPRAP MUST BE IN PLACE BEFORE PROCEEDING TO THE NEXT WORK AREA. ALL TEMPORARY MEASURES SUCH AS SILT FENCE AND INLET PROTECTION BAGS ARE TO BE REMOVED ONCE PERMANENT SESC MEASURES ARE IN PLACE AND VEGETATION IS ESTABLISHED. REMOVAL OF TEMPORARY MEASURES, FOLLOWING ACCEPTANCE OF THE PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR.
9. PRIOR TO WINTER CONSTRUCTION, ALL EXPOSED SOILS MUST BE STABILIZED WITH A COMBINATION OF SILT STOP 705 POLYMER BLEND, NORTH AMERICAN GREEN EROSION CONTROL BLANKETS, MULCH, OR OTHER APPROVED METHOD IF VEGETATION COULD NOT BE ESTABLISHED DURING THE GROWING SEASON AS DETERMINED BY THE APA OR ENGINEER.
10. WORK AREAS MUST BE STABILIZED WITH TOPSOIL, SEED, FERTILIZER, AND MULCH WITHIN 24 HOURS FOLLOWING CONSTRUCTION. VEGETATIVE STABILIZATION IS ONGOING THROUGHOUT THE PROJECT.
11. ALL SOIL EROSION CONTROL MEASURES MUST BE INSPECTED DAILY, THE STORM WATER OPERATOR IS TO MAKE A WEEKLY INSPECTION OR INSPECT AFTER EACH RAIN EVENT THAT RESULTED IN A DISCHARGE TO ENSURE PROPER MAINTENANCE OF THE SOIL EROSION CONTROL MEASURES. ANY DEFICIENCIES OR REPAIRS TO SOIL EROSION CONTROL MEASURES MUST BE CORRECTED IMMEDIATELY. INLET PROTECTION MEASURES, DANDY BAG II (OR EQUAL), FLEX STORM (OR EQUAL), MUST BE INSTALLED IN CATCHBASINS BEFORE ANY STORMWATER RUNOFF IS ALLOWED TO ENTER THE TOP OF THE STRUCTURES. THE SILT AND SEDIMENT MUST BE REMOVED FROM INLET PROTECTION MEASURES AS NEEDED TO ENSURE PROPER FUNCTION OF THE BAGS.
12. THE NEED FOR TEMPORARY MEASURES SUCH AS SILT FENCE AND DANDY BAG II (OR EQUAL), FLEX STORM (OR EQUAL) FOR EXISTING OR NEW CATCHBASINS MUST BE ASSESSED ON A DAILY BASIS. PIPES ARE TO BE CAPPED AT THE END OF EACH WORKDAY. AT NO TIME SHOULD SEDIMENT COLLECT IN A CATCHBASIN OR AN OFF-SITE AREA. TEMPORARY MEASURES MUST BE REMOVED ONCE PERMANENT MEASURES ARE IN PLACE AND VEGETATION IS ESTABLISHED.
13. IF DEWATERING IS NECESSARY, CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE APA OR ENGINEER FOR APPROVAL.
14. THE NOTICE OF COVERAGE (IF REQUIRED), SOIL EROSION AND SEDIMENTATION CONTROL PLAN, AND STORMWATER OPERATOR LOGS MUST BE LOCATED ON SITE AT ALL TIMES.
15. ALL RESTORATION TO OCCUR WITHIN 5 CALENDAR DAYS OF FINAL GRADING.

CONTINUED MAINTENANCE PROGRAM FOR PERMANENT SESC MEASURES	
RESPONSIBLE PARTY:	LENAWEE COUNTY DRAIN COMMISSIONER
PERMANENT SESC MEASURE	MAINTENANCE PROCEDURE
SEEDING:	REPAIR BARE AREAS, APPLYING SUPPLEMENTAL SEED, MULCH, AND WATER AS NEEDED. MOWING CAN BE USED PERIODICALLY TO DISCOURAGE WEEDS.
RIPRAP:	REPAIR AREAS WHERE ROCK HAS BEEN DISPLACED. EXPAND RIPRAP AREA IF NEEDED.

SOIL EROSION & SEDIMENTATION CONTROL PLAN

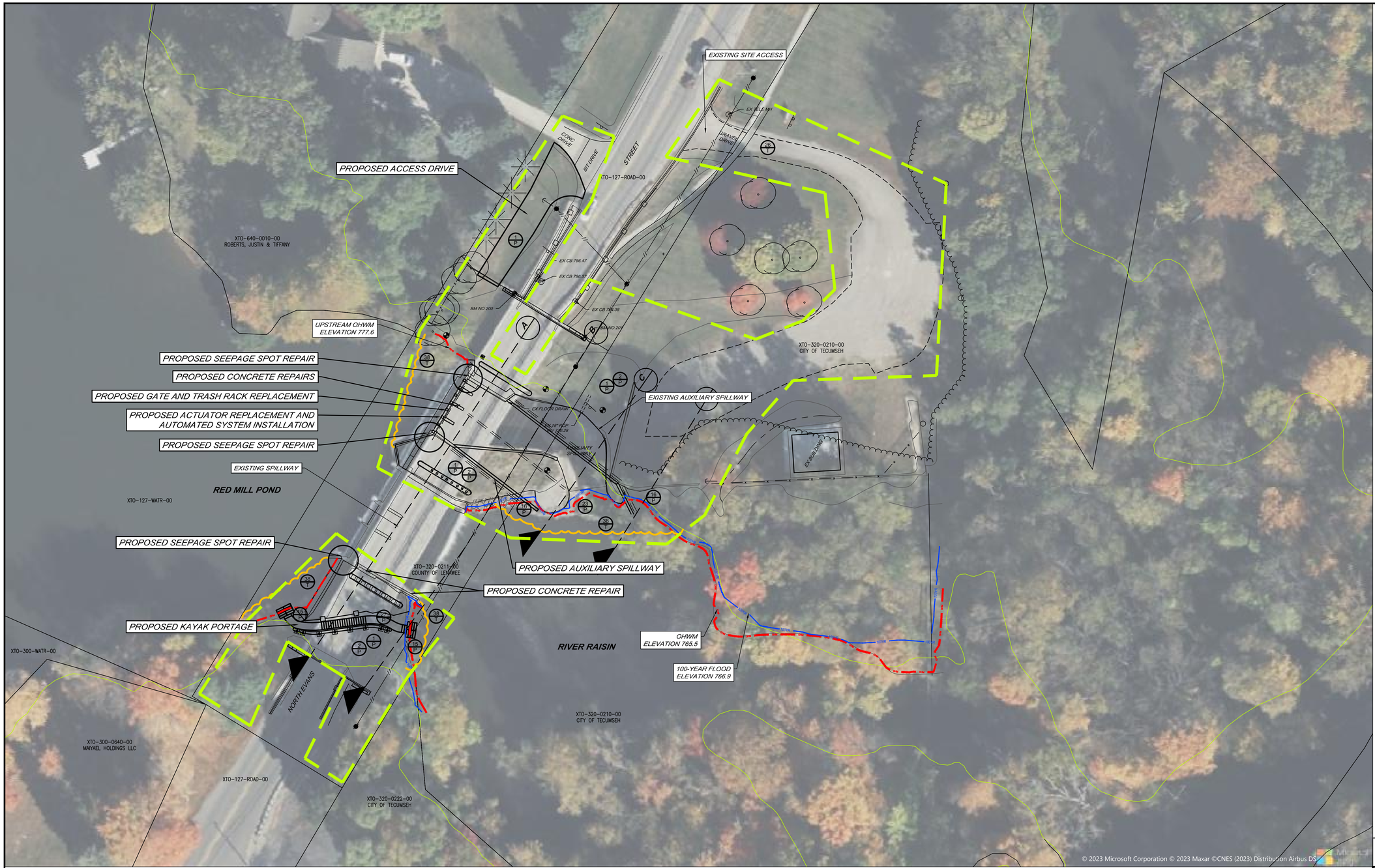
IN COMPLIANCE WITH SECTION 323.1703 OF PART 91, SOIL EROSION AND SEDIMENTATION CONTROL, OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA 451, AS AMENDED.

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

SOIL EROSION AND SEDIMENTATION CONTROL PLAN

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.	SHEET 03 OF 24		DR 03
DATE SEPTEMBER, 2024	FILE NO.		
SCALE NOT TO SCALE	DR-4501-03		



N

0 15 30 60

SCALE: 1" = 30'

SECTION 27 AND 28, T05SN-R04E,
CITY OF TECUMSEH,
TECUMSEH TOWNSHIP,
LENAWEE COUNTY, MICHIGAN

LEGEND

- ORDINARY HIGH WATER MARK (OHWM)
- 100-YR FLOOD ELEVATION
- EXISTING RIPRAP
- EXISTING GRAVEL DRIVE
- EXISTING TREE LINE
- COFFERDAM/WATER CONTROL LIMITS
- PARCEL LINE
- FEMA BASE FLOOD BOUNDARY
- LIMITS OF DISTURBANCE

EARTH DISTURBANCE: 1.5 ACRES OR LESS

BENCHMARKS

BM 200 - CUT SQUARE IN NORTHWEST BRIDGE ABUTMENT WALL.

EL 631.89

BM 201 - CUT SQUARE WITH MAGNAIL IN NORTHEAST BRIDGE ABUTMENT WALL.

EL 631.89

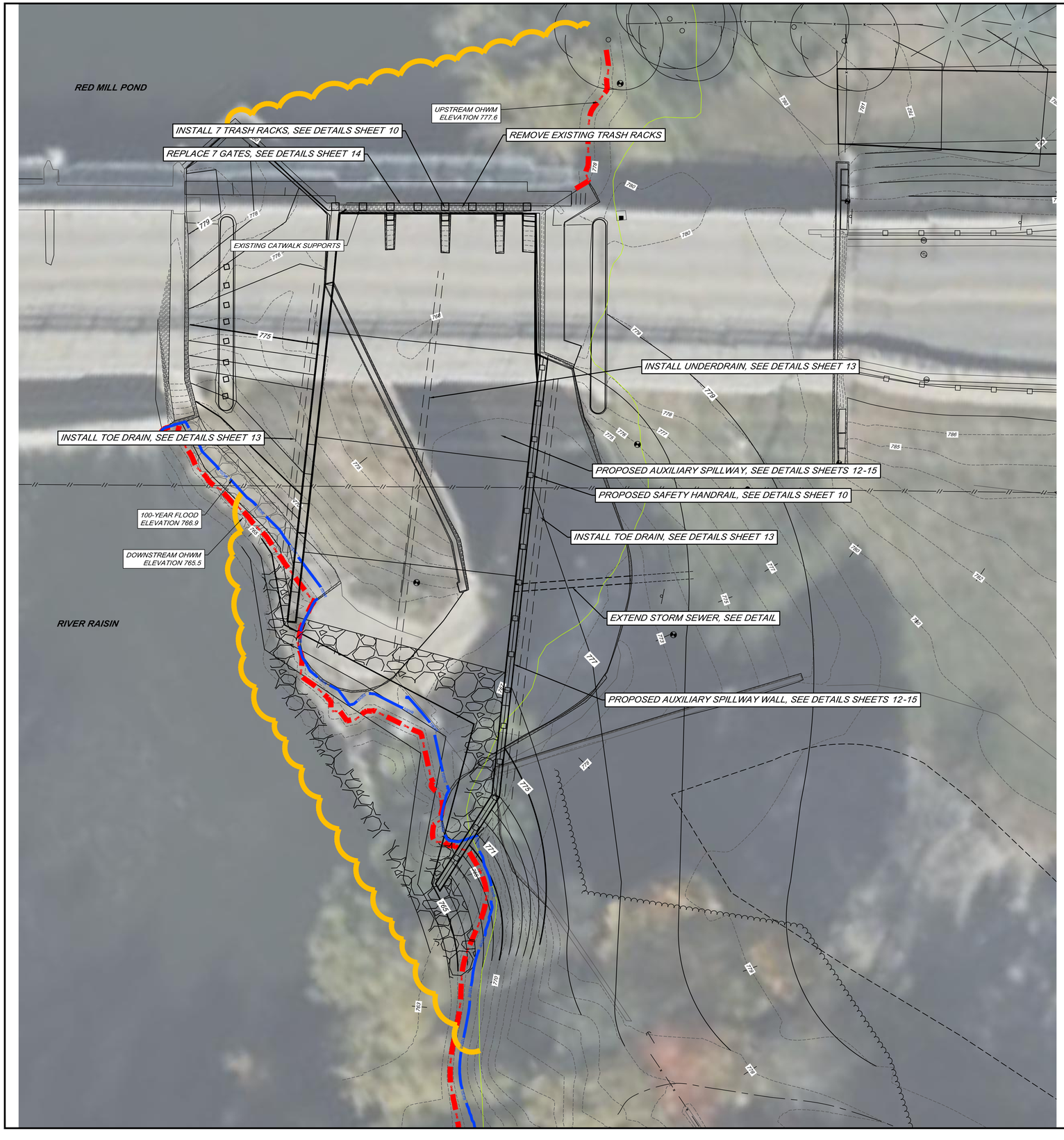
TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

SITE OVERVIEW

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.		SHEET 04 OF 24	DR 04
DATE SEPTEMBER, 2024		FILE NO.	
SCALE 1" = 30'		DR-4501-04	

* HANNAH GARNER



N

0 5 10 20

SCALE: 1" = 10'

SECTION 27 AND 28, T05SN-R04E,
CITY OF TECUMSEH,
TECUMSEH TOWNSHIP,
LENAWEE COUNTY , MICHIGAN

LEGEND

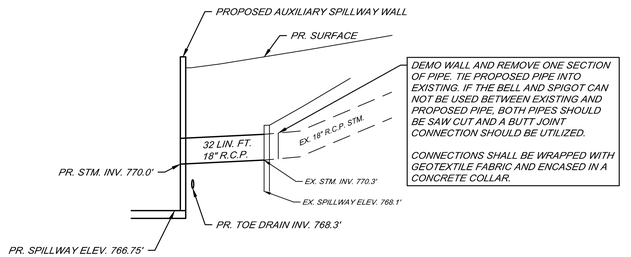
- 100YR — 100YR — 100-YR FLOOD ELEVATION
- OHM OHM OHM — OHWM ELEVATION
- EXISTING RIPRAP
- PROPOSED RIPRAP
- EXISTING GRAVEL DRIVE
- EXISTING TREE LINE
- COFFERDAM/WATER CONTROL LIMITS
- PARCEL LINE
- FEMA BASE FLOOD BOUNDARY
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR

CONSTRUCTION SEQUENCING

1. TIE-IN NEW SPILLWAY WALLS TO EXISTING WALLS
2. CONSTRUCT NEW SPILLWAY FLOOR
3. REPAIR EROSION NEAR BRIDGE PIERS
4. REGRADE PARK AREA AFTER REMOVAL OF RETAINING WALL

QUANTITIES TABLE

ITEM	QUANTITY	UNIT
AUXILIARY SPILLWAY RECONSTRUCTION	1	LUMP SUM
RIPRAP BANK PROTECTION	120	LIN. FT.
HEAVY RIPRAP	105	CU. YDS.
REGRADING (APPROX. 200 CU. YD. NET FILL)	1	LUMP SUM
18" R.C.P.	32	LIN. FT.
TOE DRAIN/UNDERDRAIN	250	LIN. FT.
12" F.E.S.	1	EACH
RETAINING WALL, REM	1	LUMP SUM



STORM SEWER EXTENSION DETAIL

SCALE: 1" = 20'H, 1"=5'V

BENCHMARKS

BM 200 - CUT SQUARE IN NORTHWEST BRIDGE ABUTMENT WALL.

EL 631.89

BM 201 - CUT SQUARE WITH MAGNAIL IN NORTHEAST BRIDGE ABUTMENT WALL.

EL 631.89

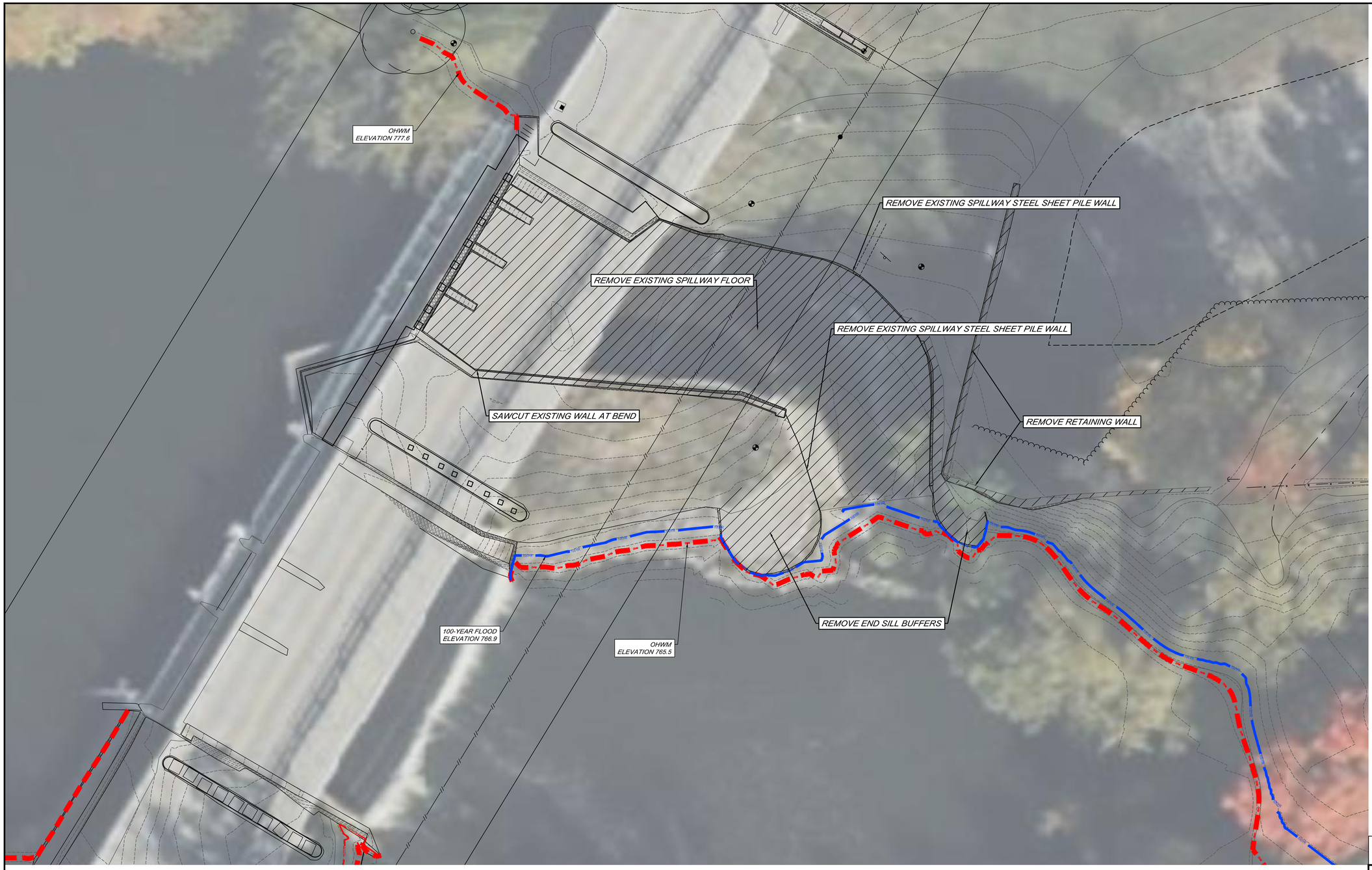
BY	MARK	REVISIONS	DATE

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

AUXILIARY SPILLWAY

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG CH. BY: RVG
DR. BY: HRG APP. BY: NDC
PROJECT NO. 129021SG2020
STDS.
SHEET 05 OF 24
DR 05
DATE September, 24
SCALE NOT TO SCALE
FILE NO. DR-4501-05



N

0 5 10 20

SCALE: 1" = 10'

SECTION 27 AND 28, T05SN-R04E,
CITY OF TECUMSEH,
TECUMSEH TOWNSHIP,
LENAWEE COUNTY , MICHIGAN

LEGEND

- LIMITS OF EXISTING CONCRETE PAVING REMOVAL
- 100YR — 100-YR FLOOD ELEVATION
- OHW — OHWM ELEVATION

GENERAL NOTES

1. ALL WORK AREAS TO BE IDENTIFIED AND PROTECTED WITH SAFETY BARRIERS. ISOLATE WITH TEMPORARY ENCLOSURES FOR DUST AND DEBRIS CONTAINMENT AS REQUIRED.
2. EXTENTS OF THE DEPICTED SAW-CUT LINES ARE APPROXIMATE. ACTUAL LOCATIONS AND EXTENTS WILL BE ADJUSTED ON SITE BASED ON AMOUNT SUBGRADE REQUIRED TO BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL FILL AT EACH LOCATION.
3. EXTENTS AND ELEVATIONS OF EXISTING FOUNDATIONS ARE UNKNOWN. CONTRACTOR TO VERIFY BOTTOM OF EXISTING FOUNDATIONS PRIOR TO EXCAVATING BELOW THAT ELEVATION, SHORE AS REQUIRED.

BENCHMARKS

BM 200 - CUT SQUARE IN NORTHWEST BRIDGE ABUTMENT WALL.

EL 631.89

BM 201 - CUT SQUARE WITH MAGNAIL IN NORTHEAST BRIDGE ABUTMENT WALL.

EL 631.89

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

DEMOLITION PLAN

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.	SHEET 06 OF 24		DR 06
DATE SEPTEMBER, 2024	FILE NO.		
SCALE NOT TO SCALE	DR-4501-06		

"HANNAH GARNER

RED MILL POND

HEAVY RIPRAP TOE OF SLOPE PROTECTION

INSTALL STONE STEPS, SEE DETAIL SHEET 10

UPSTREAM OHWM ELEVATION 777.6

PRIMARY SPILLWAY

BRIDGE ABUTMENT

INSTALL STONE STEPS, SEE DETAIL SHEET 10

STEPPED 12'

FLAT 6'

STEPPED 12'

INSTALL CHAIN LINK SAFETY FENCE

INSTALL SLIDE RAIL SEE DETAIL SHEET 11

INSTALL 8' GATE

REPAIR EROSION

HEAVY RIPRAP TOE OF SLOPE PROTECTION

INSTALL STONE STEPS, SEE DETAIL SHEET 10

100-YEAR FLOOD ELEVATION 766.9

10 CU. YD. HEAVY RIPRAP BARRIER

DOWNSTREAM OHWM ELEVATION 765.5

RIVER RAISIN

LEGEND

- 100-YR FLOOD ELEVATION
- OHWM ELEVATION
- EXISTING RIPRAP
- PROPOSED RIPRAP
- EXISTING GRAVEL DRIVE
- EXISTING TREE LINE
- COFFERDAM/WATER CONTROL LIMITS
- PARCEL LINE
- FEMA BASE FLOOD BOUNDARY
- PROPOSED MINOR CONTOUR ELEVATION
- PROPOSED MAJOR CONTOUR ELEVATION
- EXISTING MINOR CONTOUR ELEVATION
- EXISTING MAJOR CONTOUR ELEVATION
- PROPOSED FENCE

CONSTRUCTION SEQUENCING

1. EXCAVATE AS NECESSARY FOR STEP INSTALLATION.
2. INSTALL GEOTEXTILE AND AGGREGATE.
3. INSTALL ROSETTA STONE STEPS.
4. REGRADE TO REPAIR ERODED AREAS.
5. INSTALL GRAVEL PATH

QUANTITIES TABLE

ITEM	QUANTITY	UNIT
ROSETTA STONE BLOCK	39	EACH
GRAVEL PATH	1	LUMP SUM
HEAVY RIPRAP BARRIER	10	CUBIC YARD
HEAVY RIPRAP TOE OF SLOPE PROTECTION	57	LINEAR FEET
REGRADING (APPROX. 35 CU. YD. NET FILL)	1	LUMP SUM
CHAIN LINK SAFETY FENCE	50	LIN. FEET
8 FOOT CHAIN LINK FENCE GATE	1	EACH
KAYAK SLIDE RAIL	1	LUMP SUM

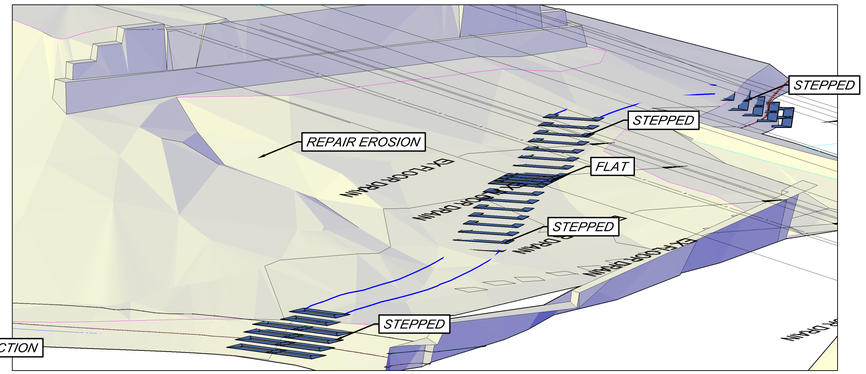
N

0 2.5 5 10

SCALE: 1" = 5'

SECTION 27 AND 28, T05SN-R04E,
CITY OF TECUMSEH,
TECUMSEH TOWNSHIP,
LENAWEE COUNTY, MICHIGAN

STONE STEPS INTO WATER EXAMPLE



PROPOSED STEP LAYOUT

https://www.hrwc.org/elegant-and-innovative-solution-at-a-tricky-portage/

SLIDE RAIL EXAMPLE

BY	MARK	REVISIONS	DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

KAYAK PORTAGE

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG CH. BY: RVG
DR. BY: HRG APP. BY: NDC

PROJECT NO. 129021SG2020

STDS.

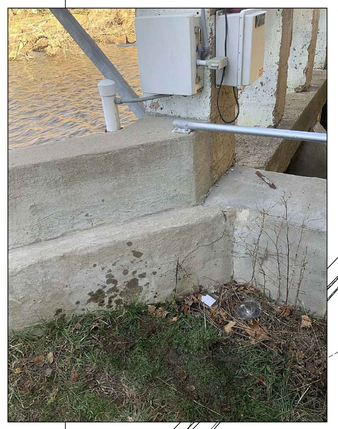
SHEET 07 OF 24

DR 07

DATE SEPTEMBER, 2024
SCALE NOT TO SCALE

FILE NO. DR-4501-07

* HANNAH GARNER



RED MILL POND

RIVER RAISIN

CONCRETE/SEEPAGE REPAIR AREA
SEE RETAINING WALL REPAIR
DETAIL SHEET 10

INJECT EPOXY INTO SEVERE CRACKING
HAND CHIP AND PATCH AS NECESSARY

INJECT EPOXY INTO SEVERE CRACKING
HAND CHIP AND PATCH AS NECESSARY

INJECT EPOXY INTO SEVER CRACKING
HAND CHIP AND PATCH AS NECESSARY

SAW CUT AND REPLACE
DETIORATED ABUTMENT WALL
SEE DETAIL SHEET 10

REPAIR DELAMINATED CONCRETE
SEE PATCHING DETAIL SHEET 10

N EVANS RD

TECUMSEH DAM

SECTION 27 AND 28, T05SN-R04E,
CITY OF TECUMSEH,
TECUMSEH TOWNSHIP,
LENAWEE COUNTY , MICHIGAN

LEGEND

- 100YR — 100-YR FLOOD ELEVATION
- OHW — OHWM ELEVATION
- EXISTING GRAVEL DRIVE
- EXISTING MINOR CONTOUR ELEVATION
- EXISTING MAJOR CONTOUR ELEVATION

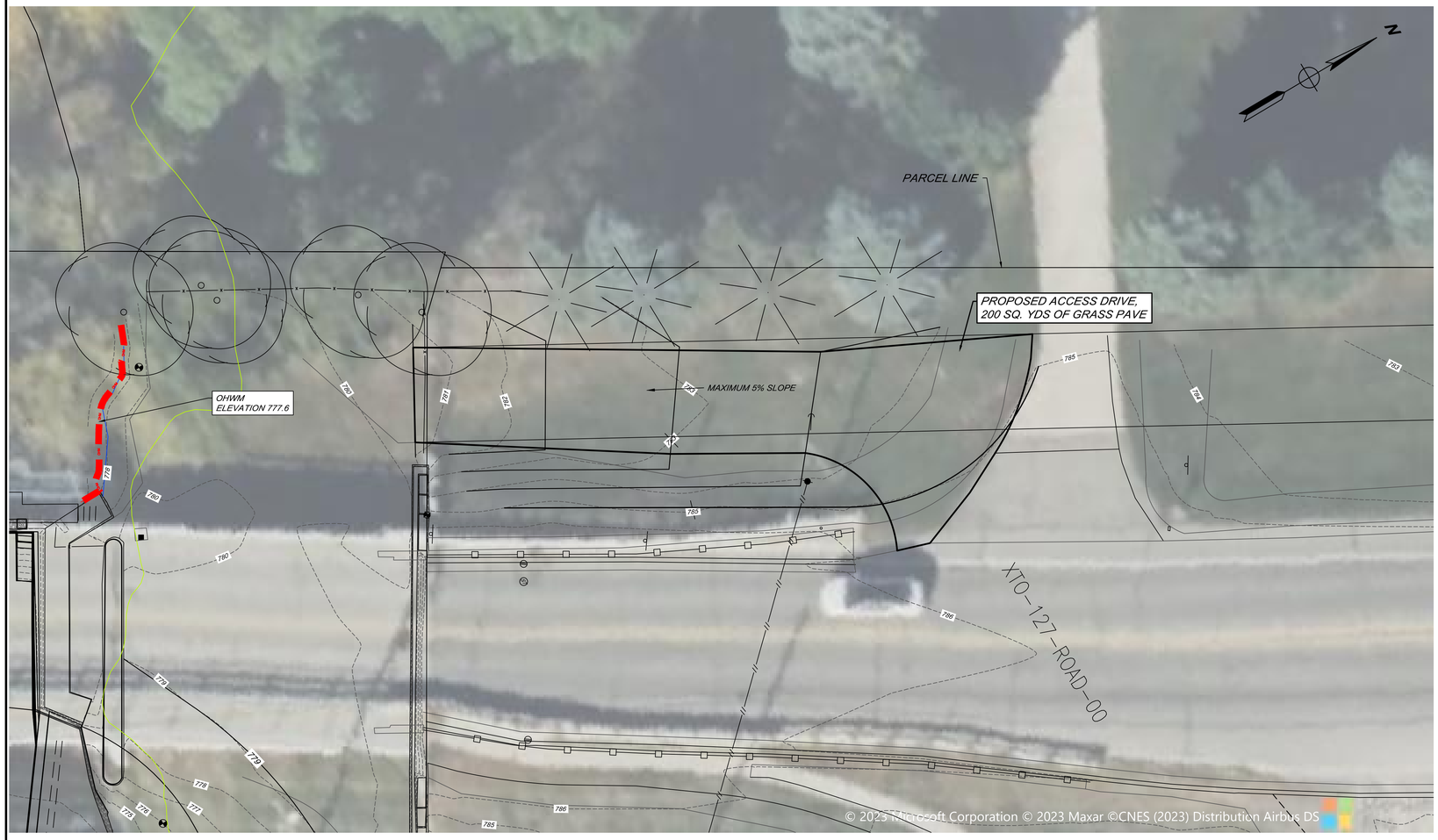
TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

SEEPAGE REPAIR

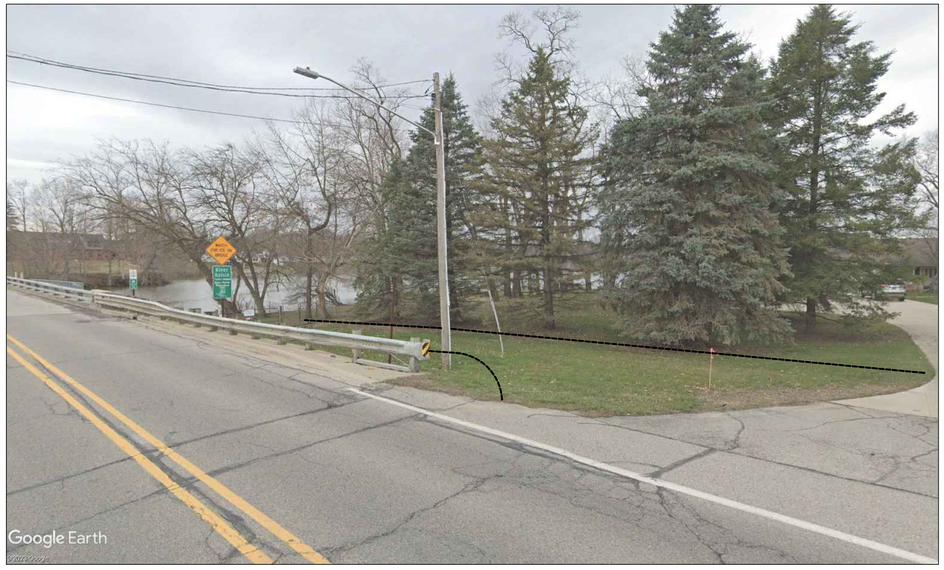
Spicer group 2024
DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.	SHEET 08 OF 24	DR 08	
DATE SEPTEMBER, 2024	FILE NO.		
SCALE NOT TO SCALE	DR-4501-08		

HANNAH GARNER



PROPOSED ACCESS DRIVE PLAN VIEW



PROPOSED ACCESS DRIVE STREET VIEW

SCALE: 1" = 10'

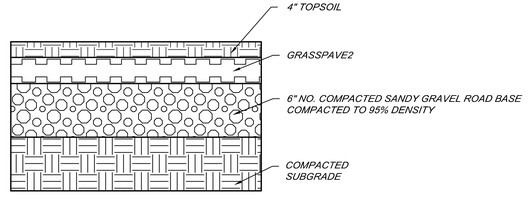
SECTION 27 AND 28, T05SN-R04E,
CITY OF TECUMSEH,
TECUMSEH TOWNSHIP,
LENAWEE COUNTY , MICHIGAN

CONSTRUCTION SEQUENCING:

1. STRIP AND STOCKPILE TOPSOIL
2. EXCAVATE ACCESS DRIVE AREA
3. INSTALL BASE
4. INSTALL GRASSPAVE WITH SAND AND GROW MIX
5. REPLACE TOPSOIL
6. FINAL SEEDING

QUANTITIES TABLE

ITEM	QUANTITY	UNIT
GRASSPAVE ACCESS DRIVE	200	SQUARE YARD



GRASSPAVE2 DETAIL

NOT TO SCALE

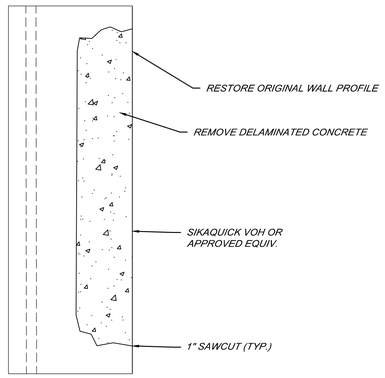
TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

ACCESS DRIVE

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

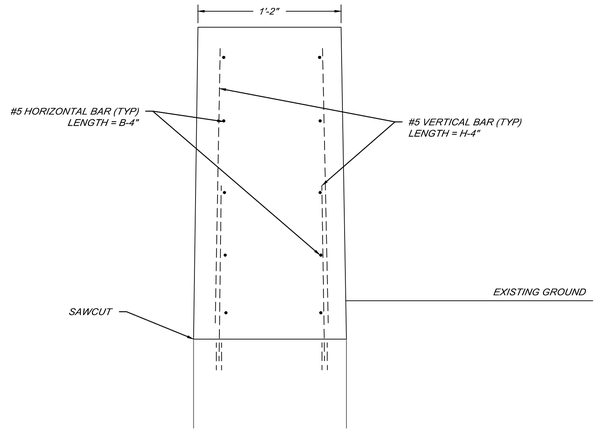
DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.		SHEET 09 OF 24	DR 09
DATE SEPTEMBER, 2024		FILE NO.	
SCALE NOT TO SCALE		DR-4501-09	

HANNAH GARNER



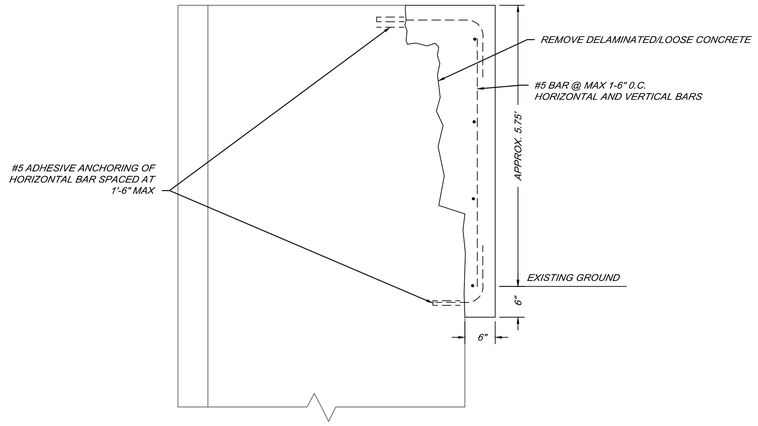
CONCRETE PATCHING DETAIL: AUXILIARY SPILLWAY

NOT TO SCALE



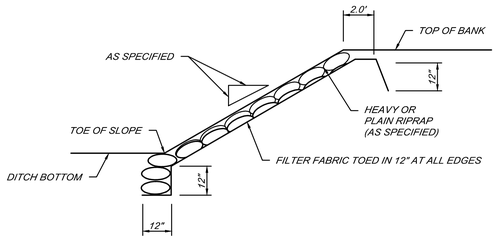
CONCRETE REPAIR DETAIL: SOUTH ABUTMENT WALL - MAIN SPILLWAY

NOT TO SCALE



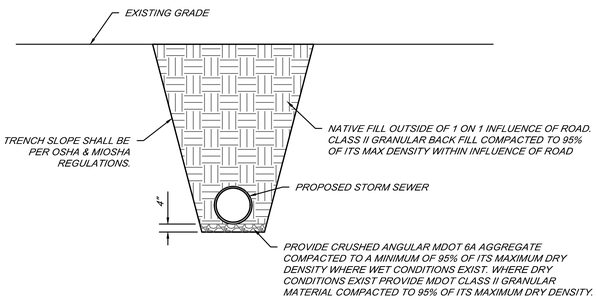
CONCRETE REPAIR DETAIL: SOUTH RETAINING WALL - MAIN SPILLWAY

NOT TO SCALE



(7P) RIPRAP BANK PROTECTION

NOT TO SCALE

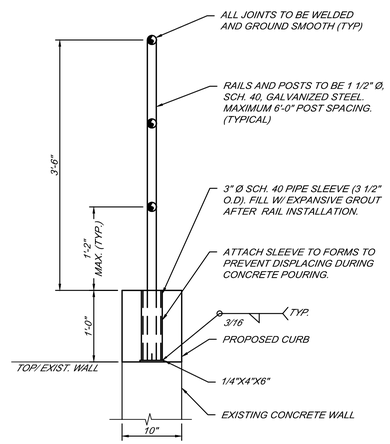


TYPICAL RCP STORM SEWER TRENCH DETAIL

NOT TO SCALE

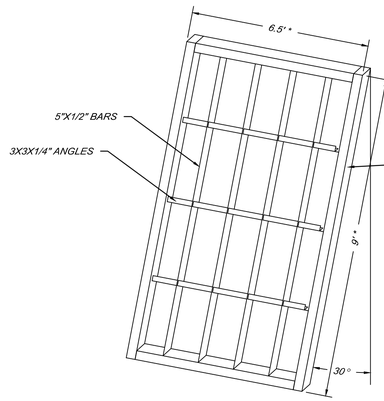
TRENCH WIDTH CHART

PIPE SIZE	MINIMUM	MAXIMUM
8" & 10"	24"	30"
12" & 15"	30"	36"
18"	34"	40"
21"	38"	42"
24"	42"	46"
27"	45"	49"
30"	49"	53"
36"	56"	60"
LARGER THAN 36"	I.D. +20"	I.D. +24"



SAFETY HANDRAIL CONCRETE MOUNTING DETAIL

NOT TO SCALE



TRASH RACK DETAIL TYPICAL

NOT TO SCALE

NOTES:

USE HEAVY DUTY FULL SURFACE MOUNT HINGES.

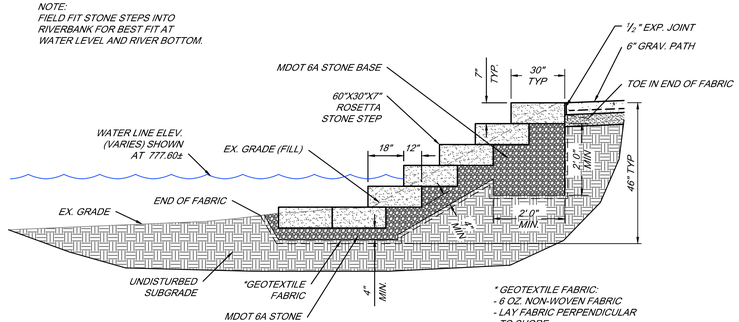
(2) 1/2" ADHESIVE ANCHOR BOLTS PER HINGE, 6" MIN. EMBED.

COMPLETE TRASH TRACK SHALL BE HOT DIPPED GALVANIZED FOLLOWING FABRICATION.

CONTRACTOR TO VERIFY ALL CRITICAL MOUNTING DIMENSIONS AND CLEARANCES WITH SLIDE GATE AS PART OF SHOP DRAWING PROCESS PRIOR TO FABRICATION.

*CONTRACTOR TO FIELD VERIFY TRASH RACK DIMENSIONS, LENGTH, AND WIDTH AS PART OF THE SHOP DRAWING PROCESS PRIOR TO FABRICATION OF THE TRASH RACKS.

NOTE:
FIELD FIT STONE STEPS INTO RIVERBANK FOR BEST FIT AT WATER LEVEL AND RIVER BOTTOM.



KAYAK PORTAGE STEPS TYPICAL SECTION

NOT TO SCALE

* GEOTEXTILE FABRIC:
- 6 OZ. NON-WOVEN FABRIC
- LAY FABRIC PERPENDICULAR TO SHORE
- OVERLAP SEAMS 18"
- SECURE TO SOIL W/ 12" PINS 16" O.C. AT SEAMS & 24" BOTH DIRECTIONS ELSEWHERE

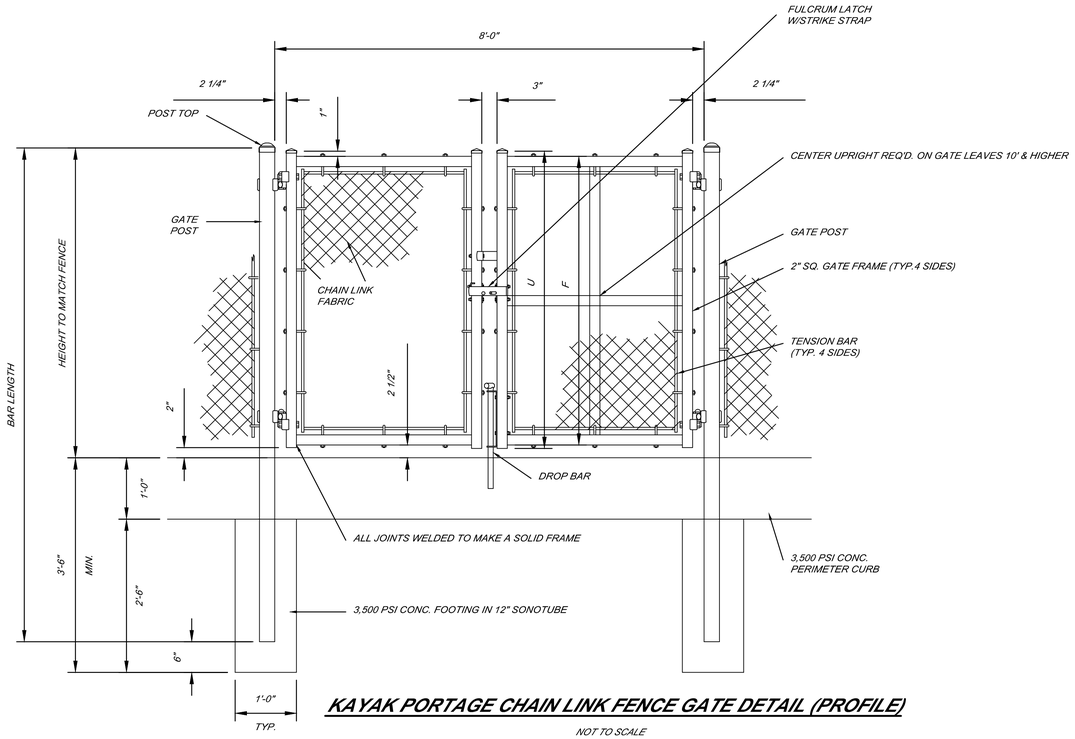
BY	MARK	REVISIONS	DATE
HRG		REVISED FOR BIDDING	9/20/2024
HRG	1	REVISED FOR PERMIT REVISION SUBMITTAL	6/23/2024
HRG	2	REVISED FOR PERMIT REVISION SUBMITTAL	6/20/2024

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

DETAILS - 1

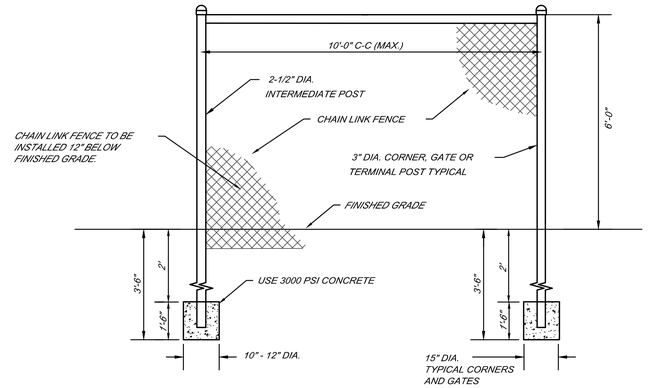
DUNDEE OFFICE
125 Helle Blvd. Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.		SHEET 10 OF 24	DR 10
DATE SEPTEMBER, 2024		FILE NO.	
SCALE NOT TO SCALE	AS NOTED	DR-4501-10	



KAYAK PORTAGE CHAIN LINK FENCE GATE DETAIL (PROFILE)

NOT TO SCALE



KAYAK PORTAGE CHAIN LINK FENCE DETAIL (PROFILE)

NOT TO SCALE

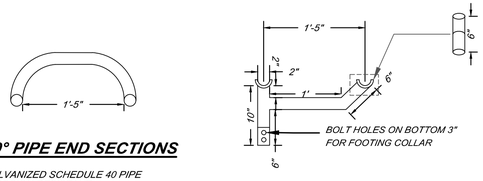
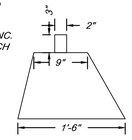


PLATE PIPE SUPPORTS

MUST OVERLAP PIPE CONNECTION
IN THE MIDDLE OF THE PLATE

FOOTING WITH BOLTED COLLAR

BUSH CONCRETE PRODUCTS INC.
FOOTING LOCATED UNDER EACH
JOINT



180° PIPE END SECTIONS

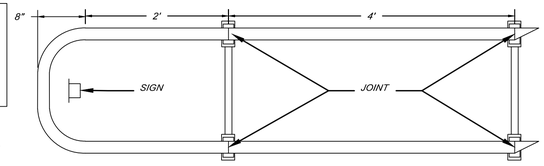
2" GALVANIZED SCHEDULE 40 PIPE
CORROSION RESISTANT

PIPE SUPPORTS

2" GALVANIZED SQUARE TUBING
CORROSION RESISTANT.

BOAT SLIDE INSTRUCTIONS

LIFT AND CENTER CANOE OR KAYAK LENGTHWISE BETWEEN THE RAILS. WALK ALONG SIDE THE BOAT GUIDING IT TO THE OTHER END OF THE SLIDE.
DO NOT RIDE IN THE KAYAK WHEN USING THE SLIDE.

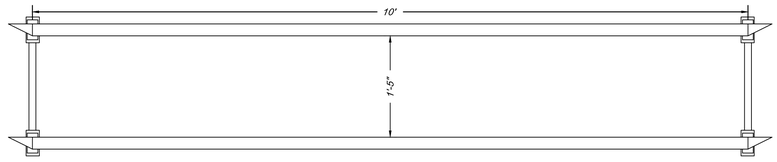


INSTRUCTION SIGN

TO BE PLACED INSIDE OF PIPE
END SECTION

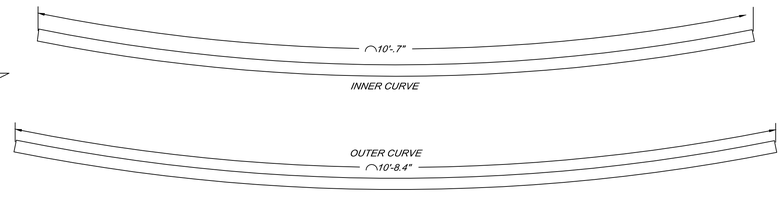
TOP VIEW OF PIPE END SECTIONS

INDICATES JOINT AND SIGN LOCATIONS



TOP VIEW OF STRAIGHT PIPE SECTIONS

INDICATES STRAIGHT SECTIONS OF RAIL



TOP VIEW OF CURVED PIPE SECTIONS

INDICATES CURVED SECTIONS OF RAIL

TYPICAL KAYAK PORTAGE RAIL SLIDE DETAIL

NOT TO SCALE

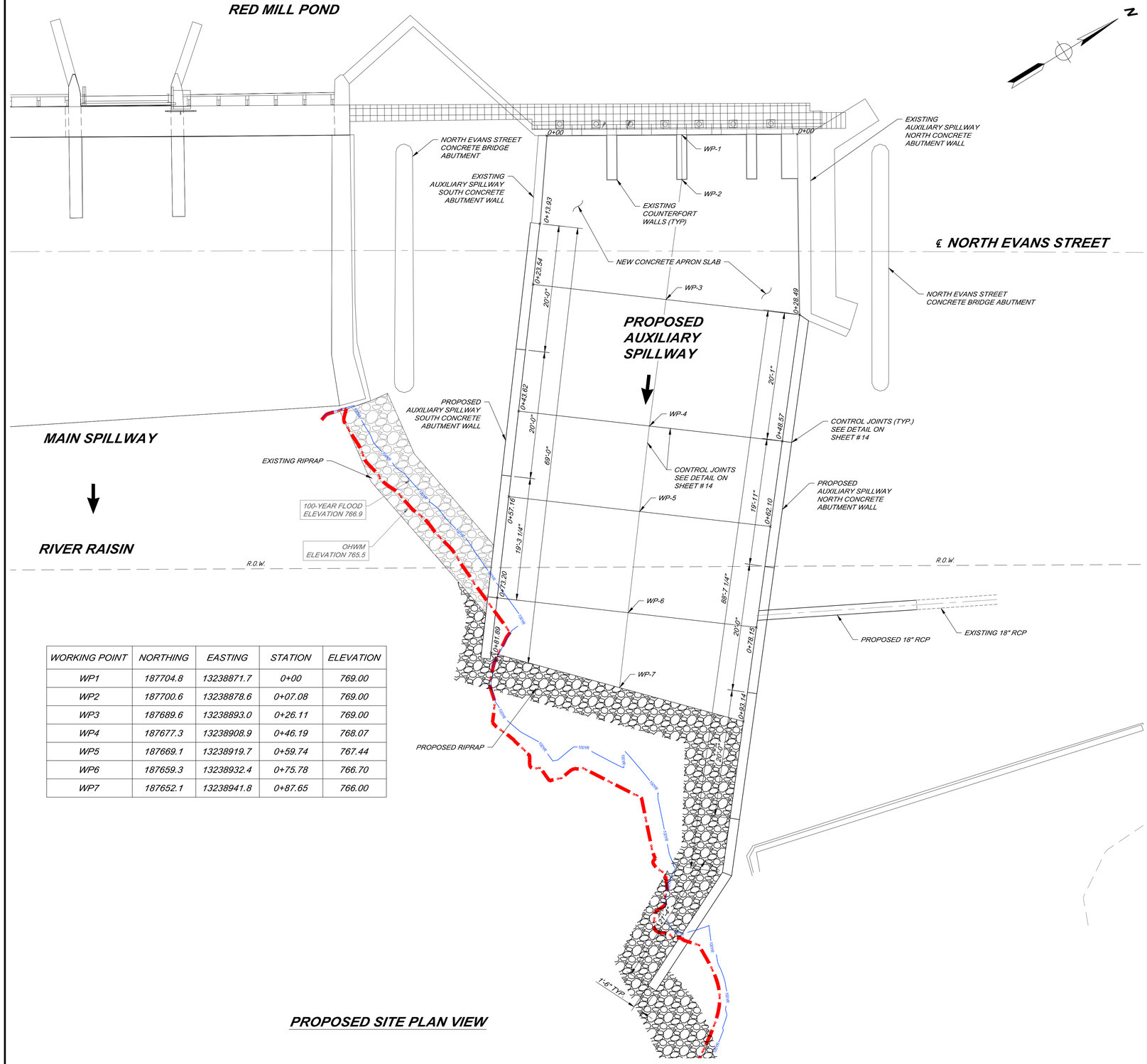
BY	MARK	REVISIONS	DATE
HRG	1	REVISED FOR PERMIT REVISION SUBMITTAL	6/20/2024

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

DETAILS - 2

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.	SHEET 11 OF 24	DR 11	
DATE SEPTEMBER, 2024	FILE NO. DR-4501-11		
SCALE NOT TO SCALE			



WORKING POINT	NORTHING	EASTING	STATION	ELEVATION
WP1	187704.8	13238871.7	0+00	769.00
WP2	187700.6	13238878.6	0+07.08	769.00
WP3	187689.6	13238893.0	0+26.11	769.00
WP4	187677.3	13238908.9	0+46.19	768.07
WP5	187669.1	13238919.7	0+59.74	767.44
WP6	187659.3	13238932.4	0+75.78	766.70
WP7	187652.1	13238941.8	0+87.65	766.00

PROPOSED SITE PLAN VIEW

BY	MARK	REVISIONS	DATE
		ERMIT REVISION SUBMITTAL	8/23/2024

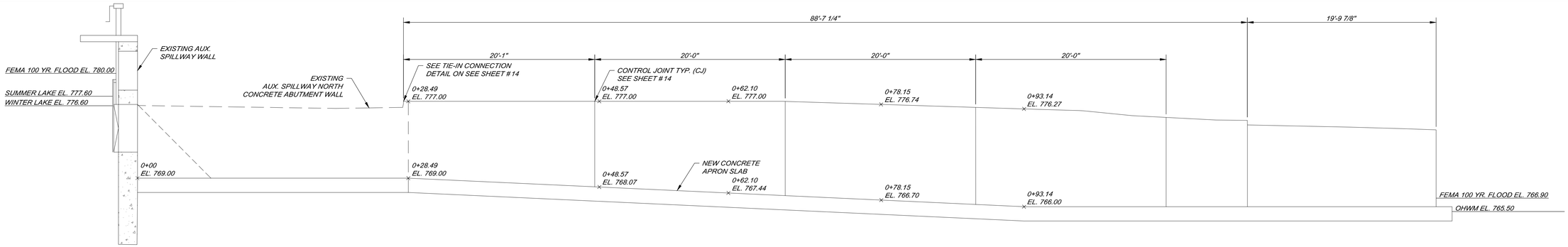
TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

PROPOSED SITE PLAN VIEW OF AUXILIARY SPILLWAY

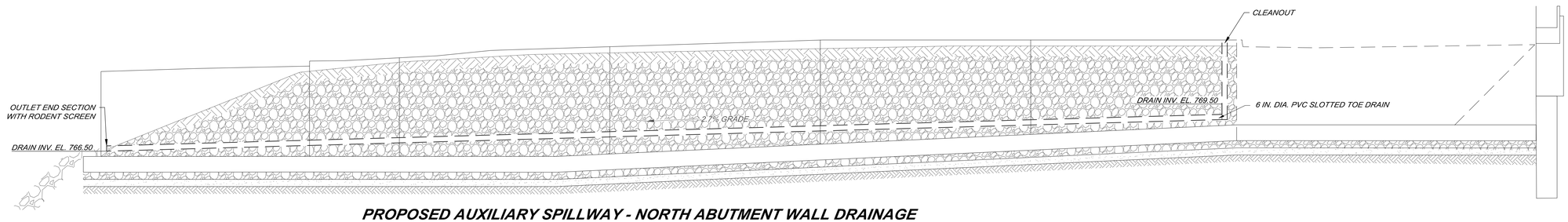
SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel. 989-754-4717
Fax. 989-754-4440
www.SpicerGroup.com

DE. BY: HRG CH. BY: RVG
DR. BY: HRG APP. BY: NDC
PROJECT NO. 129021SG2020
STDS.
SHEET 12 OF 24
DR 12
DATE SEPTEMBER, 2024
SCALE NOT TO SCALE
FILE NO. DR-4501-12

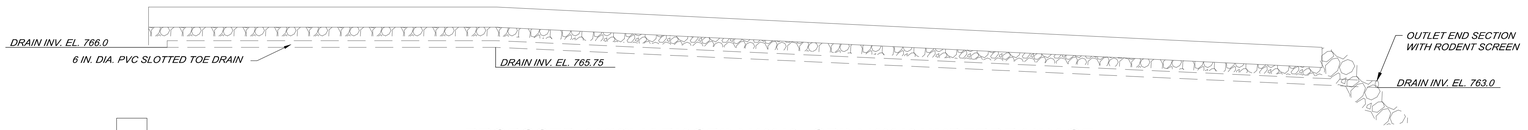
HANNAH GARNER



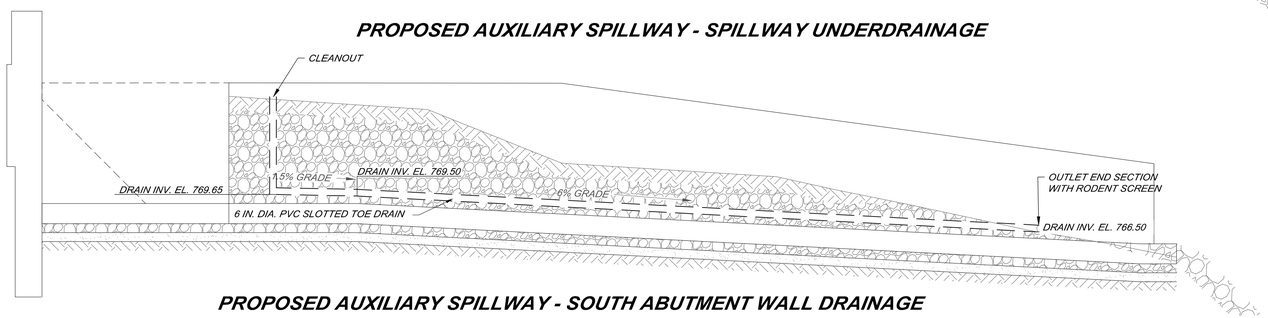
PROPOSED AUXILIARY SPILLWAY - NORTH CONCRETE ABUTMENT WALL



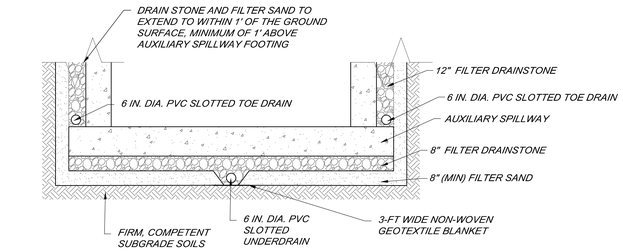
PROPOSED AUXILIARY SPILLWAY - NORTH ABUTMENT WALL DRAINAGE



PROPOSED AUXILIARY SPILLWAY - SPILLWAY UNDERDRAINAGE

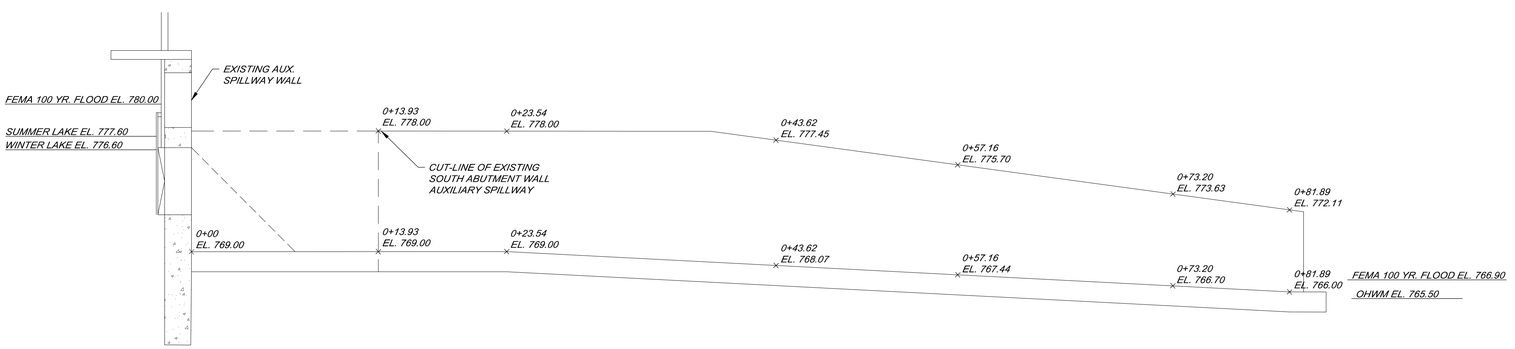


PROPOSED AUXILIARY SPILLWAY - SOUTH ABUTMENT WALL DRAINAGE



AUXILIARY SPILLWAY SUBSURFACE DRAINAGE

NOT TO SCALE



PROPOSED AUXILIARY SPILLWAY - SOUTH CONCRETE ABUTMENT WALL

BY	MARK	REVISIONS	DATE
HRG		REVISED FOR PERMIT REVISION SUBMITTAL	8/23/2024

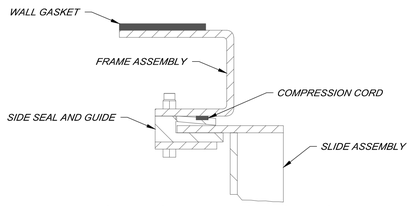
TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

PROPOSED AUX. SPILLWAY ABUTMENTS NORTH & SOUTH WALLS

SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel. 989-754-4717
Fax. 989-754-4440
www.SpicerGroup.com

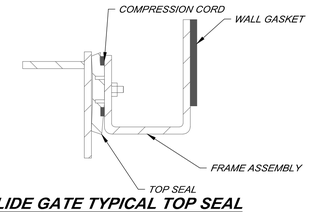
DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: MTS	APP. BY: NDC	129021SG2020	
STDS.	SHEET 13 OF 24	DR 13	
DATE SEPTEMBER, 2023	FILE NO.		
SCALE NOT TO SCALE	DR-4501-13		

HANNAH GARNER



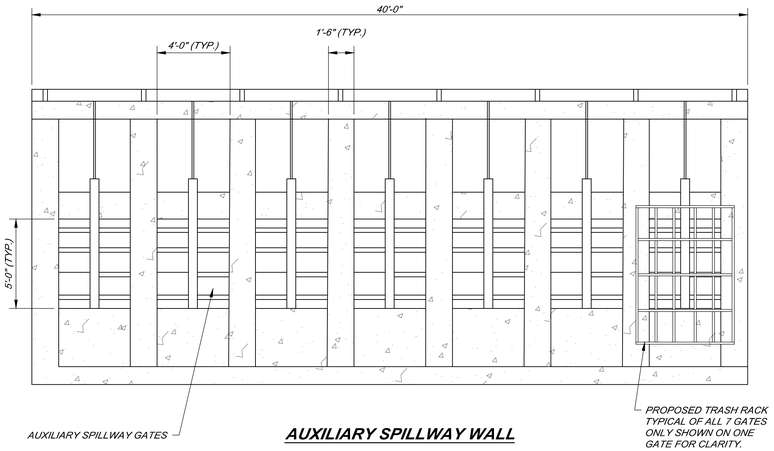
SLIDE GATE TYPICAL SIDE SEAL CROSS SECTION

SCALE: NOT TO SCALE



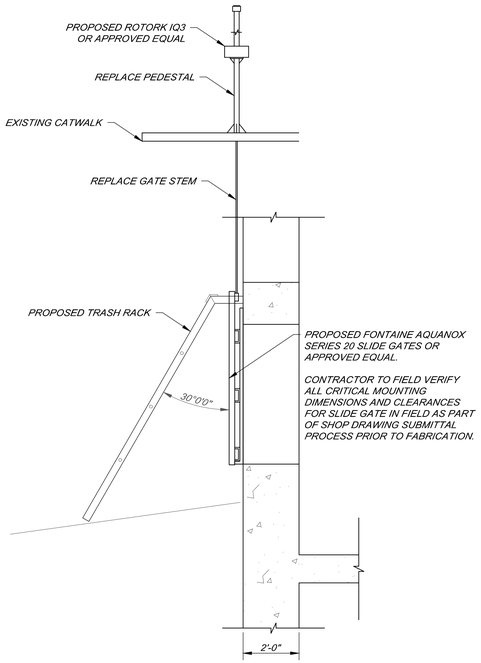
SLIDE GATE TYPICAL TOP SEAL CROSS SECTION

SCALE: NOT TO SCALE



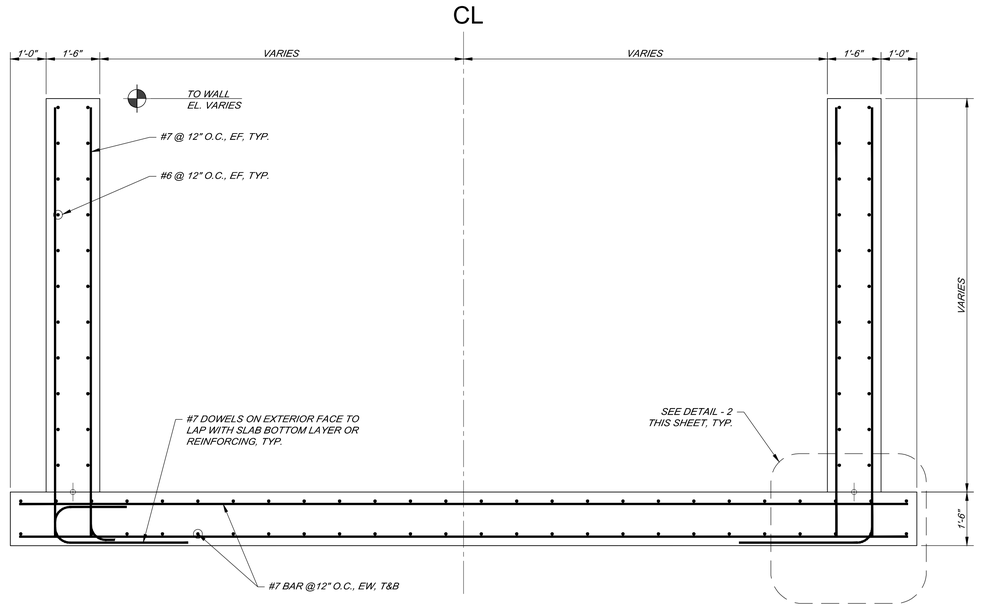
AUXILIARY SPILLWAY WALL

SCALE: NOT TO SCALE



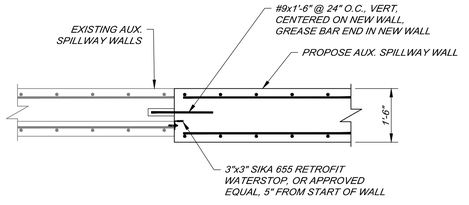
SLIDE GATE AT AUXILIARY SPILLWAY

SCALE: NOT TO SCALE



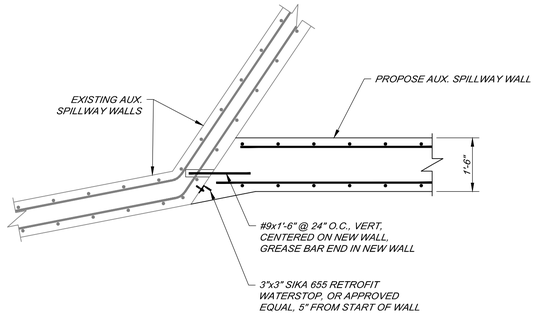
TYPICAL SECTION THRU AUX. SPILLWAY

SCALE: NOT TO SCALE



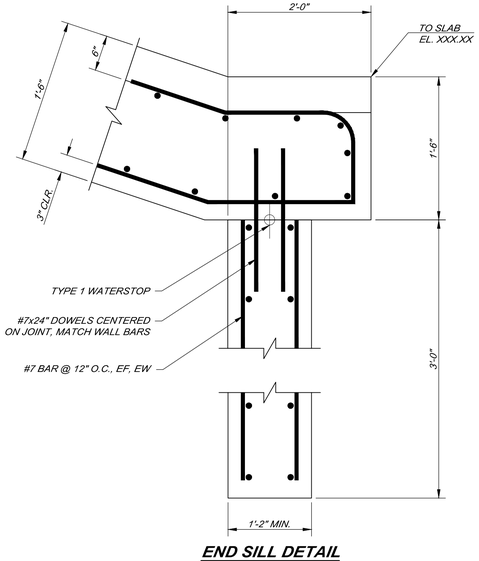
TIE-IN CONNECTION TO PROPOSE AUX. SPILLWAY SOUTH CONCRETE ABUTMENT WALL

SCALE: NOT TO SCALE



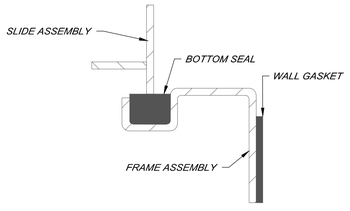
TIE-IN CONNECTION TO PROPOSE AUX. SPILLWAY NORTH CONCRETE ABUTMENT WALL

SCALE: NOT TO SCALE



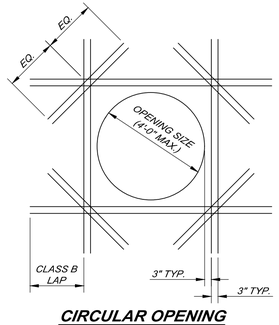
END SILL DETAIL

SCALE: NOT TO SCALE



SLIDE GATE TYPICAL BOTTOM SEAL CROSS SECTION

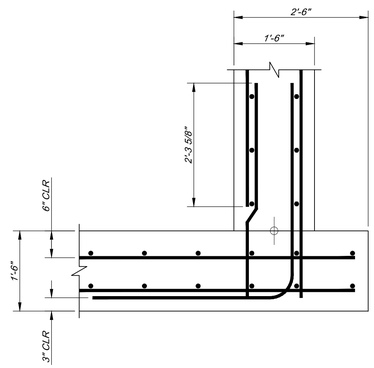
SCALE: NOT TO SCALE



CIRCULAR OPENING

TYP. REINFORCING AT OPENINGS

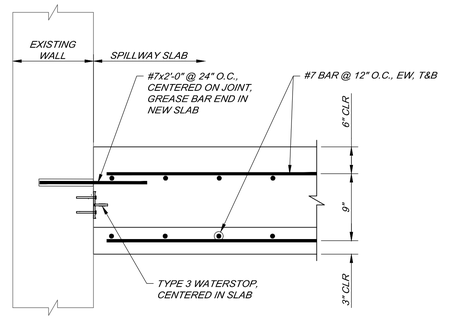
SCALE: NOT TO SCALE



2 / S11

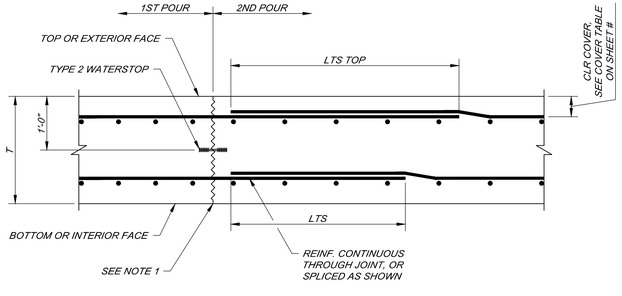
DETAIL - 2
REINFORCING AT SLAB/WALL INTERFACE

SCALE: 3/4" = 1'-0"



DETAIL - 6
TRANSITION CHANNEL TO CULVERT SLAB DOWELS

SCALE: NOT TO SCALE



TYP. CONTROL / CONSTRUCTION JOINTS (CJ)

SCALE: NOT TO SCALE

NOTES:
1. EDGE OF 1ST POUR TO HAVE ROUGHENED SUFACE WITH 1/4" AMPLITUDE OR 1 1/2"x5 1/2" KEY AT 24" O.C..
2. "T" = THICKNESS OF SLAB OR WALL.

BY	MARK	REVISIONS	DATE

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

STRUCTURAL DETAILS

SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel. 989-754-4717
Fax. 989-754-4440
www.SpicerGroup.com

DE. BY: MTS	CH. BY: RVG	PROJECT NO.	
DR. BY: MTS	APP. BY: NDC	129021SG2020	
STDS.	SHEET 14 OF 24	DR 14	
DATE SEPTEMBER, 2024	FILE NO.		
SCALE NOT TO SCALE	DR-4501-14		

HANNAH GARNER

CONCRETE NOTES

1. GENERAL:
   - 1.1. STRUCTURAL CONCRETE WORK ON THIS PROJECT SHALL CONFORM TO ALL REQUIREMENTS OF THE ACI-301 STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE, EXCEPT AS MODIFIED BY THE CONTRACT DOCUMENTS, AND SHALL ALSO MEET THE REQUIREMENTS OF STATE AND LOCAL BUILDING CODE.
   - 1.2. DETAIL BARS IN ACCORDANCE WITH THE LATEST EDITIONS OF PUBLICATION SP-66: "ACI DETAILING MANUAL" WITH ADDED REQUIREMENTS OF THE PROJECT SPECIFICATION AND ACI 318: "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."
   - 1.3. CONCRETE SHALL COMPLY WITH ADDITIONAL REQUIREMENTS PROVIDED IN SPECIFICATION 03 31 00.
2. DIMENSIONS:
   - 2.1. DIMENSIONS ARE TO THE CENTERLINES OF THE BARS UNLESS OTHERWISE SHOWN. CLEAR COVER DIMENSIONS ARE MARKED "CLR". ALL DIMENSIONS TO A JOINT ARE TO THE CENTERLINE OF THE JOINT. BEAMS, COLUMNS, AND WALLS ARE CENTERED ON REFERENCED LINES UNLESS SHOWN OTHERWISE.
   - 2.2. THICKNESS SHOWN FOR WALLS AND SLABS ADJACENT TO UNDISTURBED SOIL OR ROCK ARE MINIMUM DIMENSIONS.
3. SUBMITTALS:
   - 3.1. SEE SPECIFICATION 03 31 00 FOR REQUIREMENTS FOR SHOP AND AS-BUILT DRAWINGS.
   - 3.2. NO CONCRETE WORK SHALL COMMENCE WITHOUT APPROVED SHOP DRAWINGS.
4. STRUCTURAL CONCRETE MIX REQUIREMENTS:
   - 4.1. CONCRETE SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATION UNLESS OTHERWISE INDICATED BELOW. MATERIALS SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATION 701, PORTLAND CEMENT CONCRETE FOR STRUCTURE. PLACEMENT AND TESTING SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATION 706, STRUCTURAL CONCRETE CONSTRUCTION, AND 601, PORTLAND CEMENT CONCRETE FOR PAVEMENT.
   - 4.2. CONCRETE MIXES: SEE SPECIFICATION 03 31 00 FOR ADDITIONAL REQUIREMENTS.
     - 4.2.1. CLASS A1 STRUCTURAL CONCRETE (MDOT 4500HP) - GENERAL USE IN STRUCTURAL REINFORCED CONCRETE ELEMENTS FOR SPILLWAYS, WALLS, SLABS, AND ELEMENTS NOT SPECIFIED OTHERWISE.
     - 4.2.2. CLASS E "MUD MAT" - USED IN NON-REINFORCED APPLICATIONS FOR PROTECTIVE COATING FOR FOUNDATIONS OR SPILLWAY UNDERDRAIN MATERIALS. ALSO USED AS LEVELING CONCRETE TO SUPPORT EPS GEOFOAM.
5. REINFORCING:
   - 5.1. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60, UNCOATED. REINFORCING STEEL SHALL BE DETAILED ACCORDING TO ACI "DETAILS AND DETAILING OF REINFORCEMENT" (ACI 315).
   - 5.2. ALL REINFORCING BARS SHALL USE CLASS "B" LAP SPLICES PER ACI 318-14. DEVELOPMENT LENGTHS SHALL BE IN ACCORDANCE WITH FOLLOWING TABLE BELOW UNLESS NOTED OTHERWISE IN DRAWINGS.
   - 5.3. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL THE NECESSARY CHAIRS, REARS, TIES, SPACERS, ETC. TO SECURE AND SUPPORT THE REINFORCING WHILE PLACING THE CONCRETE.
6. QUALITY ASSURANCE: SEE SPECIFICATION 03 31 00.
7. PLACEMENT:
   - 7.1. CLEAN AND ROUGHEN TO 1/4" AMPLITUDE EXISTING CONCRETE SURFACES TO RECEIVE NEW CONCRETE PRIOR TO PLACEMENT.
   - 7.2. REINFORCING DOWELS, WATER STOPS, AND OTHER EMBED ITEMS SHALL BE INSTALLED AND SECURED PRIOR TO CONCRETE PLACEMENT. "WET-SETTING" OF EMBEDDED ITEMS IS NOT PERMITTED.
8. FINISHING AND CURING:
   - 8.1. PROTECT CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL DAMAGE.
   - 8.2. DO NOT ALLOW CONSTRUCTION VEHICLES OR EQUIPMENT ON CONCRETE UNTIL IT HAS ATTAINED ITS SPECIFIED DESIGN STRENGTH.
   - 8.3. EXPOSED CONCRETE EDGES TO HAVE 1" CHAMFER.
9. JOINTS:
   - 9.1. SUGGESTED JOINTS ARE PROVIDED IN DRAWINGS. CONTRACTOR SHALL INCLUDE JOINT LOCATIONS AS PART OF CONCRETE PLACEMENT PLAN PER SPECIFICATION 03 31 00.
   - 9.2. CJ (CONTROL OR CONSTRUCTION JOINT): LAYOUT SHALL BE DETERMINED BY THE CONTRACTOR, ASPECT RATIO OF JOINTS SHALL BE 1V:1H TO 1.2V:1H. LIFT HEIGHTS AND CONCRETE PRESSURES ON FORMS SHALL MEET ACI 347 REQUIREMENTS.
   - 9.3. CnJ (CONTRACTION JOINT): LAYOUT SHALL BE INSTALLED AT LOCATION SHOWN ON DRAWINGS.
   - 9.4. EJ (EXPANSION JOINT): LAYOUT SHALL BE INSTALLED AT LOCATION SHOWN ON DRAWINGS.
10. WALL AND SLAB DOWELS:
    - 10.1. DOWELS SHALL BE REINFORCING STEEL, ASTM A615, GRADE 60, DEFORMED BAR, UNCOATED. BARS SHALL HAVE A MINIMUM EMBEDMENT LENGTH INDICATED IN THE DRAWINGS OR SCHEDULE.
    - 10.2. ANCHORING ADHESIVE SHALL BE HIT-RE 500V3 OR HIT-HY 200-R V3 EPOXY ADHESIVE MANUFACTURED BY HILITI OR APPROVED EQUAL.
    - 10.3. DRILLING AND CLEANING OF HOLES SHALL BE PERFORMED USING SELF-CLEANING METHOD. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

SCHEDULE OF DEVELOPEMNENT & LAP SPLICE LENGTHS

BAR SIZE		3	4	5	6	7	8	9	10	11	14	18
BARS OTHER THAN TOP BARS *	DEVELOPMENT LENGTH (Ld)	1'-0"	1'-0"	1'-1"	1'-4"	1'-11"	2'-3"	2'-6"	3'-0"	3'-8"	5'4"	9'-6"
	CLASS B LAP SPLICE (Lts)	1'-4"	1'-4"	1'-5"	1'-9"	2'-7"	2'-11"	3'-3"	3'-11"	4'-10"	-	-
TOP BARS *	DEVELOPMENT LENGTH (Ld)	1'-0"	1'-2"	1'-5"	1'-9"	2'-7"	2'-11"	3'-3"	3-11"	4'-10	6'-11	12'-4
	CLASS B LAP SPLICE (Lts)	1'-4"	1'-6"	1'-11"	2'-3"	3'-4"	3'-9"	4'-3"	5'-1"	6'-3"	-	-
STANDARD HOOKS IN TENSION		0'-7"	0'-9"	0'-11"	1'-1"	1'-4"	1'-6"	1'-8"	1'-11"	2'-1"	2'-6"	3'-4"
STRAIGHT BARS IN COMPRESSION		0'-8"	0'-9"	0'-11"	1'-2"	1'-4"	1'-6"	1'-8"	1'-11"	2'-1"	2'-6"	3'-5"

* NOTE: "TOP BARS" ARE HORIZONTAL BARS PLACES SUCH THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW.

SCHEDULES IS VALID FOR THE FOLLOWING CONDITIONS:

COMPRESSIVE STRENGTH OF CONCRETE:	f'c =	4,500	psi	YIELD STRENGTH OF REINFORCEMENT:	fy =	60	KSI
CLEAR COVER ON BARS:	CLR =	3	IN.	MINIMUM BAR SPACING (O.C.):	SP =	6.00	IN.

NON-EPOXY-COATED BARS.

NORMAL-WEIGHT CONCRETE.

STEEL REINFORCING COVER REQUIREMENTS

CONCRETE SECTION	MINIMUM CLEAR COVER
UNIFORM SURFACE IN CONTACT WITH FOUNDATION	4 INCHES
FORMED OR SCREENED SURFACES SUBJECT TO CAVITATION OR ABRASION EROSION: BAFFLE BLOCKS, TRANSITION CHANNEL AND CHUTE	6 INCHES
FORMED OR SCREENED SURFACES NOT SUBJECT TO CAVITATION OR ABRASION EROSION	
EQUAL TO OR GREATER THAN 24 INCHES THICK	4 INCHES
GREATER THAN 12 INCHES AND LESS THAN 24 INCHES THICK	3 INCHES
LESS THAN 12 INCHES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3 INCHES
LESS THAN 12 INCHES EXPOSED TO EARTH OR WEATHER	2 INCHES

STEEL NOTES

1. GENERAL:
   - 1.1. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC CODE.
   - 1.2. ALL ALUMINUM AND STEEL MEMBERS SHALL BE TREATED OR PROPERLY SEPARATED TO PREVENT GALVANIC AND CORROSIVE EFFECTS.
   - 1.3. ORIENT ALL MILL CAMBER UPWARD DURING FABRICATION AND ERECTION.
   - 1.4. SEE SPECIFICATIONS 05 12 00 FOR ADDITIONAL REQUIREMENTS.
2. MATERIALS:
   - 2.1. UNLESS NOTED OTHERWISE ON DRAWINGS, ALL STRUCTURAL STEEL SHALL COMPLY WITH MATERIAL ASTMS IN SPECIFICATIONS 05 12 00.
3. BOLTED CONNECTIONS:
   - 3.1. UNLESS SHOWN OTHERWISE ON DRAWINGS, ALL CONNECTIONS SHALL BE BOLTED WITH A MINIMUM 3/4" DIAMETER A325 HIGH STRENGTH BOLTS OR WELDED. USE FULL DEPTH DOUBLE ANGLE CONNECTIONS ON ALL GIRDER AND BEAM CONNECTIONS TO COLUMNS, UNLESS OTHERWISE NOTED. INFILL BEAM CONNECTIONS SHALL BE FULL DEPTH DOUBLE ANGLE CONNECTIONS, UNLESS NOTED OTHERWISE. BOLTS SHALL BE SPACED AT 3" ON CENTER VERTICALLY OR STANDARD GAGE AS APPROPRIATE.
   - 3.2. ANCHORS AND STRUCTURAL BOLTS SHALL BE STRUCTURAL STEEL, ASTM A 325, STRUCTURAL NUTS SHALL BE STRUCTURAL STEEL ASTM A563. ALL BOLTED STRUCTURAL CONNECTIONS SHALL CONFORM TO THE AISC SPECIFICATION FOR STRUCTURAL JOINTS. ALL STRUCTURAL BOLTED CONNECTIONS SHALL BE BEARING-TYP CONNECTIONS.
   - 3.3. ALL BEARING TYPE BOLTED CONNECTIONS SHALL BE TIGHTENED TO A "SNUG-TIGHT" CONDITION IN WHICH ALL PILES ARE IN FULL CONTACT RESULTING FROM A FEW IMPACTS FROM AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH.
4. WELDING:
   - 4.1. CONFORM TO AWS D1.1. WELDING ELECTRODES FOR PLAIN STRUCTURAL STEEL SHALL BE AWS SERIES E-70. WELDING ELECTRODES FOR GALVANIZED STEEL SHALL BE AWS SERIES E6010 OR E6011.
   - 4.2. ALL SHOP AND FIELD WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS, AS DESCRIBED IN "AMERICAN WELDING SOCIETY'S STANDARD QUALIFICATION PROCEDURE." AWS D1.1, TO PERFORM THE TYPE OF WORK REQUIRED.
5. COATINGS:
   - 5.1. ALL EXPOSED STEEL SHALL BE HOT DIP GALVANIZED UNLESS NOTED OTHERWISE ON DRAWINGS. ANY POINTS OF WELDING SHALL BE TOUCHED UP IN THE FIELD WITH A ZINC-RCH PAINT BY THE STEEL ERECTOR.
   - 5.2. ALL STEEL SHALL HAVE A SHOP COAT OF RUST INHIBITIVE PAINT IF NOT GALVANIZED.
     - 5.2.1. STEEL TO BE THOROUGHLY CLEANED IN ACCORDANCE WITH SSPC-SP3 PRIOR TO PAINTING.

GENERAL DEMOLITION NOTES

1. DEMOLITION PLAN AND DRAWINGS PROVIDE FOR INFORMATION ONLY. THE CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN IN ACCORDANCE WITH SPECIFICATION 02 41 16 - STRUCTURAL DEMOLITION AND REMOVALS.
2. REMOVE SEDIMENTS ACCUMULATED ON SPILLWAY STRUCTURE AND CLEAN TO REMOVE DELETERIOUS MATERIAL AND ALL LOOSE CONCRETE.
3. THE EXISTING SPILLWAY STRUCTURES AND INLET LIP ARE TO DEMOLISHED TO THE LIMITS SHOWN IN THE DRAWINGS AND AS ORDERED BY THE ENGINEER.
4. DEMOLITION SHALL BE PERFORMED IN A MANNER TO PROTECT THE EXISTING STRUCTURES TO REMAIN IN PLACE. PROVIDE SAFETY SHIELDING AS NEEDED TO PROTECT THE EXISTING STRUCTURE.
5. LEAVE NO REBAR EXPOSED UNLESS NOTED OTHERWISE.

BY	MARK	REVISIONS	DATE

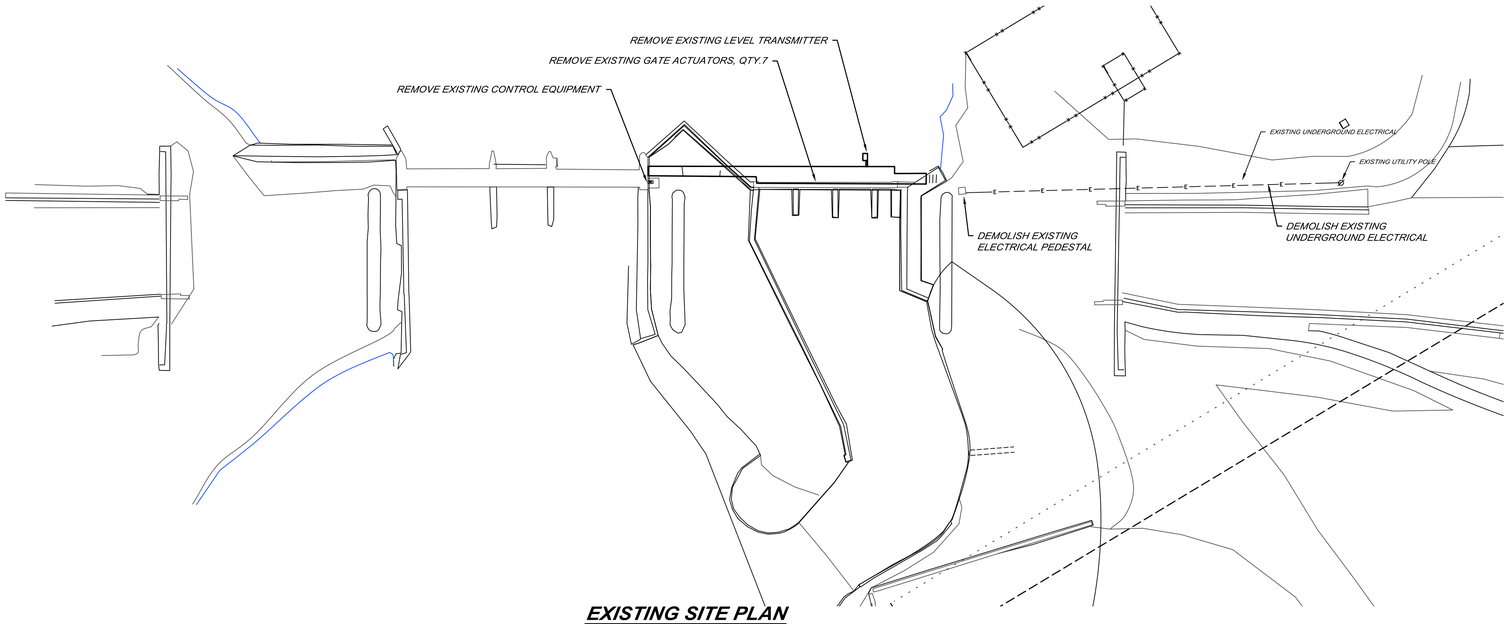
TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

STRUCTURAL NOTES SHEET

SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel. 989-754-4717
Fax. 989-754-4440
www.SpicerGroup.com

DE. BY: MTS	CH. BY: RVG	PROJECT NO. 129021SG2020
DR. BY: MTS	APP. BY: NDC	
STDS.	SHEET 15 OF 24	DR 15
DATE SEPTEMBER, 2024	FILE NO. DR-4501-15	
SCALE NOT TO SCALE		

HANNAH GARNER



EXISTING SITE PLAN

SCALE: 1" = 20'-0"

KEY:

Ω	RECEPTACLE 120V, 20A GFCI-TYPE WITH METALLIC, LOCKABLE, WEATHERPROOF WHILE-IN-USE COVER
$	TOGGLE SWITCH 120V, 20A WITH METALLIC, LOCKABLE, WEATHERPROOF "WHILE-IN-USE" COVER
⌑	LIGHT FIXTURE 120V, 100W (MAX), LED, TYPE II DISTRIBUTION FULL CUTOFF WITH ADJUSTABLE SLIPFITTER MOUNT, ADJUSTABLE LIGHT OUTPUT, AND DUSK-TO-DAWN PHOTOCELL
M	MIXER KASCO, DE-ICE SERIES (OR EQUAL) 120V, 3/4 HP
LE	LEVEL ELEMENT FREE-AIR RADAR TRANSMITTER VEGA PULS, C21 W/ ADJUSTABLE MOUNTING BRACKET

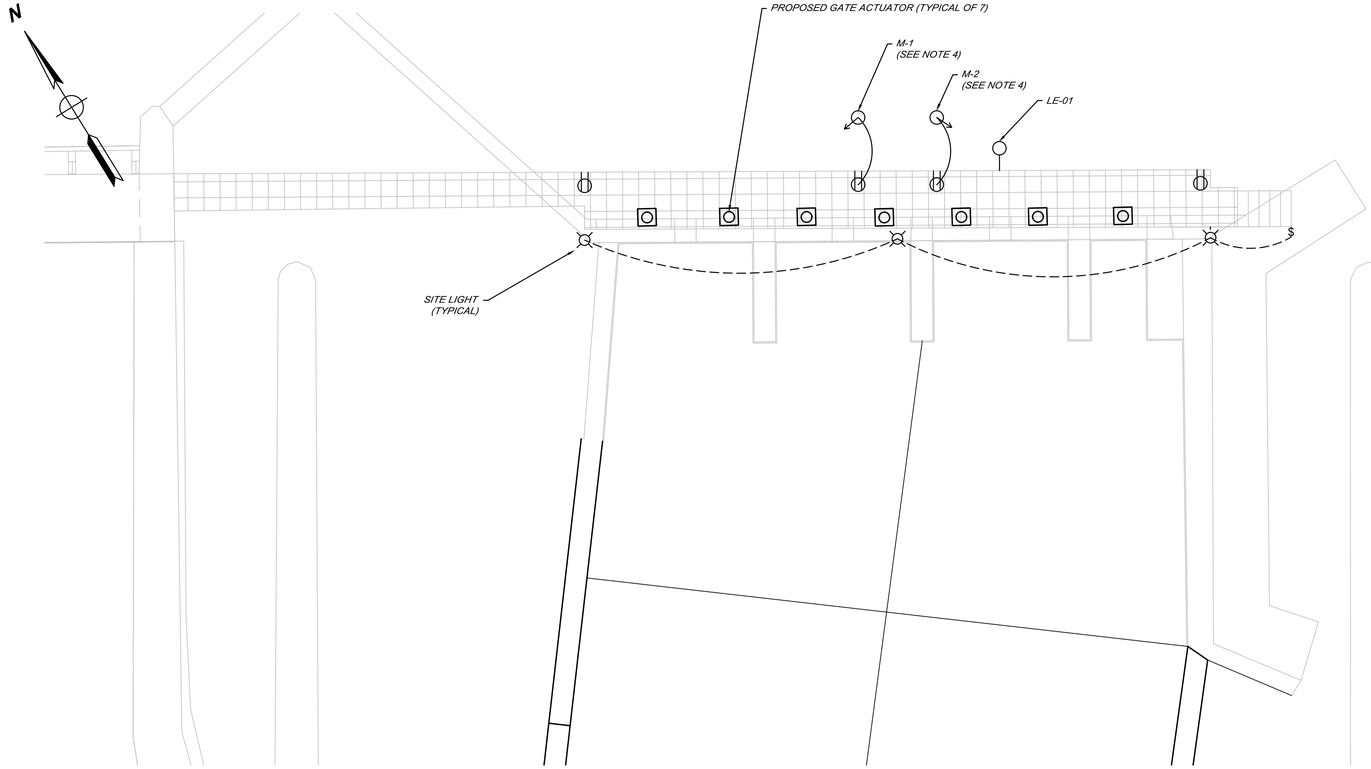
0 15 30 60

SCALE: 1" = 30'

SECTION 27 AND 28, T05SN-R04E,
CITY OF TECUMSEH,
TECUMSEH TOWNSHIP,
LENAWEE COUNTY , MICHIGAN

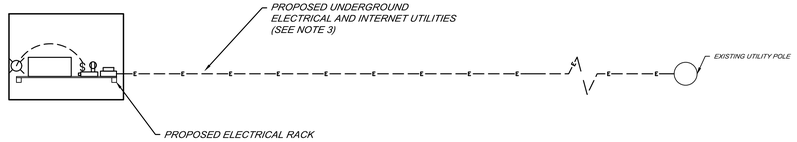
NOTES:

1. ALL CONDUCTORS SHALL BE STRANDED COPPER, THHN TYPE, UNLESS OTHERWISE INDICATED.
2. SEE E-03 AND E-05 FOR INSTALLATION DETAILS.
3. DISTANCE FROM UTILITY POWER POLE TO PROPOSED ELECTRIC UTILITY METER IS APPROXIMATELY 105 FEET.
4. KASCO DE-ICE MIXERS SHALL BE CONTROLLED VIA SWITCHED RECEPTACLE AND AIMED AS INDICATED. MIXERS' DIRECTION OF AIM SHALL BE ADJUSTED AS REQUIRED FOR IDEAL FREEZE PREVENTION.



PROPOSED SITE PLAN

SCALE: 1" = 5'-0"



BY	MARK	REVISIONS	DATE

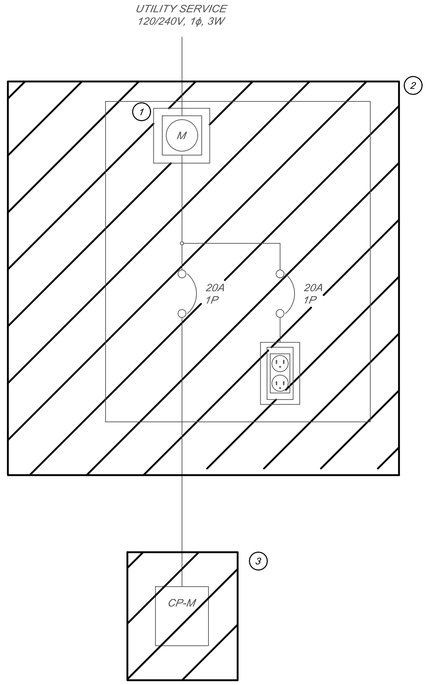
TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

ELECTRICAL SITE PLANS

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: LAM	CH. BY: DWH	PROJECT NO.	
DR. BY: JDS	APP. BY: RVG	129021SG2020	
STDS.	SHEET 16 OF 24	E	
DATE September , 2024	FILE NO.	01	
SCALE AS SHOWN	DE-1199-01		

"LAWRENCEMC



EXISTING/DEMO ONE-LINE DIAGRAM

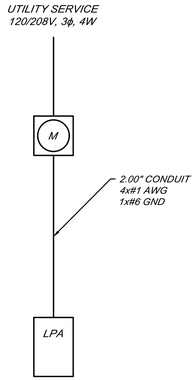
SCALE: N/A

KEY:

M	EXISTING, UTILITY METER
CP-M	EXISTING, MIXER CONTROL PANEL

DEMOLITION NOTES:

1. CONTRACTOR SHALL COORDINATE METER REMOVAL AND SERVICE SHUTDOWN WITH OWNER AND UTILITY COMPANY.
2. DEMOLISH EXISTING SERVICE EQUIPMENT AND CONNECTED CONDUIT AND WIRE.
3. REMOVE AND SALVAGE EXISTING MIXER CONTROL PANEL (CP-M) AND DELIVER TO OWNER.



PROPOSED ONE-LINE DIAGRAM

SCALE: N/A

KEY:

M	PROPOSED, METER UTILITY
LPA	PROPOSED, LIGHTING PANEL A 120/208V, 3ϕ, 100A MAIN (MIN), 100A MCB (SERVICE RATED) 42 SPACES, NEMA 3R LOCKABLE ENCLOSURE

NOTES:

1. ALL CONDUCTORS SHALL BE STRANDED COPPER, THHN TYPE, UNLESS OTHERWISE INDICATED.
2. CONDUIT AND CONDUCTOR SIZES LISTED ARE MINIMUM ACCEPTABLE SIZES. ANY CHANGES FROM DESIGN MUST BE APPROVED BY ENGINEER, IN WRITING, PRIOR TO SUBSTITUTION.
3. ALL BRANCH CIRCUIT BREAKERS SHALL BE SUPPLIED AND INSTALLED, EVEN WHERE DEVICES AND/OR EQUIPMENT IS NOT PRESENT.
4. ALL WIRING SHALL BE CLEARLY LABELED BY BRANCH CIRCUIT NUMBER. THIS INCLUDES "NEUTRAL" CONDUCTORS.
   4.1. EXAMPLE: LPA-02 & LPA-02N
5. TANDEM BREAKERS SHALL NOT BE ALLOWED ANYWHERE ON PROJECT.
6. ALL BRANCH CIRCUIT BREAKER AMPERE RATINGS SHALL BE FIELD VERIFIED AND SHALL BE CONSISTENT WITH WIRE SIZING PER CODE.

PANEL BOARD SCHEDULE

PANEL:	LPA: LIGHTING PANEL
LOCATION:	UTILITYRACK
FED FROM:	UTILITY
VOLTAGE:	120/208V, 3-PH, 4-WIRE
RATINGS:	100A MAIN, 100A MAIN CB
SPACES:	42

LOAD DESCRIPTION	LOAD (W)	CB (A)	CKT #	100A MAIN CB A	B	C	CKT #	CB (A)	LOAD (W)	LOAD DESCRIPTION
G-1 : GATE ACTUATOR 1	816		1				2		5	TVSS-1
	816	15	3				4	15	5	
	816		5				6		5	
G-2 : GATE ACTUATOR 2	816		7				8		4	PMR-1
	816	15	9				10	15	4	
	816		11				12		4	
G-3 : GATE ACTUATOR 3	816		13				14	20	1,200	CP-1 : CONTROL PANEL
	816	15	15				16	20	400	LIGHTS
	816		17				18	20	720	RECS
G-4 : GATE ACTUATOR 4	816		19				20	20	1,500	M-1 : MIXER 1
	816	15	21				22	20	1,500	M-2 : MIXER 2
	816		23				24	20	0	SPARE
G-5 : GATE ACTUATOR 5	816		25				26	20	0	SPARE
	816	15	27				28	20	0	SPARE
	816		29				30	20	0	SPARE
G-6 : GATE ACTUATOR 6	816		31				32	20	0	SPARE
	816	15	33				34	20	0	SPARE
	816		35				36	20	0	SPARE
G-7 : GATE ACTUATOR 7	816		37				38	20	0	SPARE
	816	15	39				40	20	0	SPARE
	816		41				42	20	0	SPARE
TOTALS	17,136			8,421	7,621	6,441			5,347	

CONNECTED AMPS PER PHASE	70.18	63.51	53.68
CONNECTED LOAD	22,483 WATTS		
	62.41 AMPS		
TOTAL SERVICE DEMAND	28,104 WATTS		
(CONNECTED LOAD * 125%)	78.01 AMPS		

PROPOSED PANEL SCHEDULE

SCALE: N/A

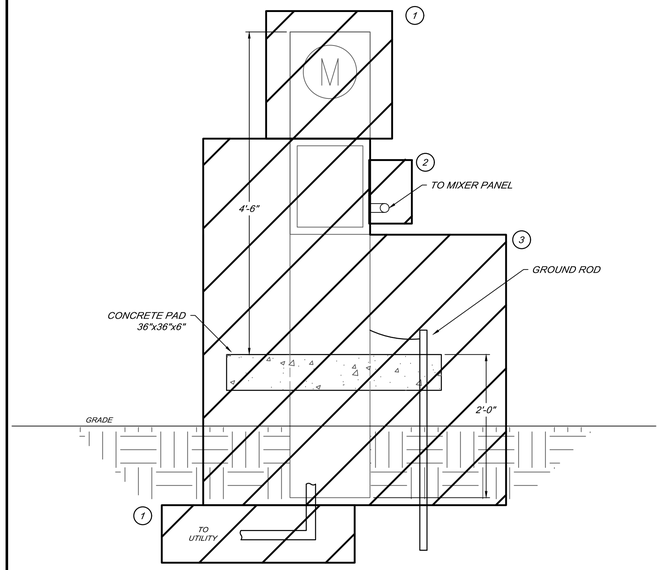
BY	MARK	REVISIONS	DATE

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

ELECTRICAL POWER DISTRIBUTION

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: LAM	CH. BY: DWH	PROJECT NO.	
DR. BY: JDS	APP. BY: RVG	129021SG2020	
STDS.	SHEET 17 OF 24	E	
DATE September, 2024	FILE NO.	02	
SCALE AS SHOWN	DE-1199-02		

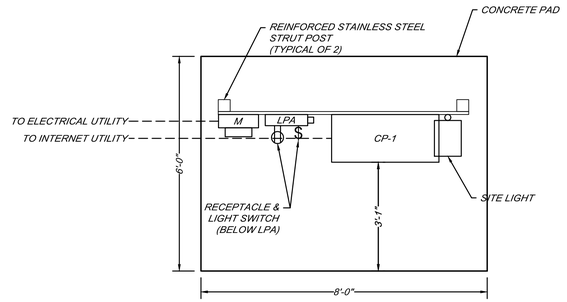


EXISTING ELECTRICAL PEDESTAL

SCALE: 1"=2'-0"

DEMOLITION NOTES:

1. CONTRACTOR SHALL COORDINATE METER AND SERVICE REMOVAL WITH UTILITY COMPANY.
2. DEMOLISH EXISTING CONDUIT AND WIRE.
3. DEMOLISH EXISTING ELECTRICAL EQUIPMENT, CONCRETE PAD, AND GROUND ROD.

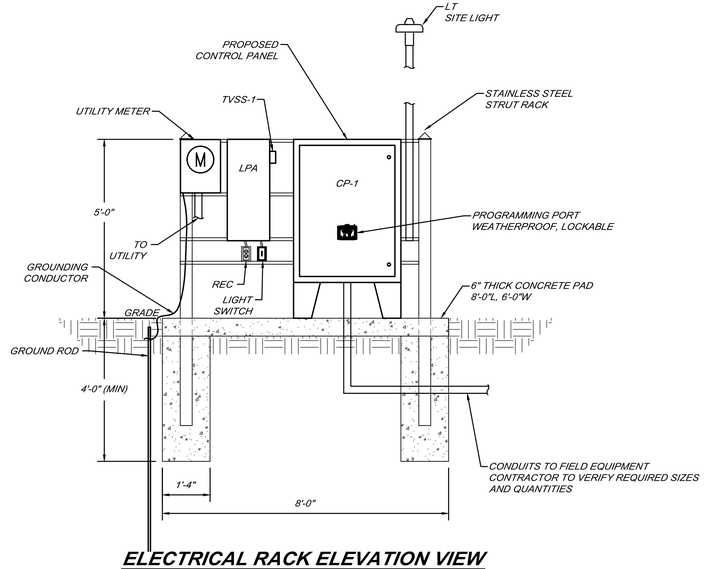


ELECTRICAL RACK PLAN VIEW

SCALE: 1/2"=1'-0"

KEY:

M	PROPOSED, UTILITY METER
LPA	PROPOSED, LIGHTING PANEL A 120/208V, 3ϕ, 100A MAIN (MIN). 100A MCB (SERVICE RATED) 42 SPACES, NEMA 3R LOCKABLE ENCLOSURE
TVSS-1	PROPOSED, TRANSIENT VOLTAGE SURGE SUPPRESSOR
CP-1	PROPOSED, CONTROL PANEL 1
REC	120V, 20A GFCI-TYPE WITH METALLIC, LOCKABLE, WEATHERPROOF WHILE-IN-USE COVER
$	TOGGLE SWITCH 120V, 20A WITH METALLIC, LOCKABLE, WEATHERPROOF "WHILE-IN-USE" COVER
LT	LIGHT FIXTURE 120V, 100W (MAX), LED, TYPE II DISTRIBUTION FULL CUTOFF WITH ADJUSTABLE SLIPFITTER MOUNT, ADJUSTABLE LIGHT OUTPUT, AND DUSK-TO-DAWN PHOTOCELL



ELECTRICAL RACK ELEVATION VIEW

SCALE: 1/2"=1'-0"

NOTES:

1. ALL CONDUCTORS SHALL BE STRANDED COPPER, THHN TYPE, UNLESS OTHERWISE INDICATED.
2. INSULATED BUSHINGS SHALL BE INSTALLED WHERE REQUIRED TO PREVENT CORROSION DUE TO DISSIMILAR METALS..
3. SITE LIGHT SHALL BE AIMED AS DIRECTED BY OWNER.
4. CP-1 ENCLOSURE SHALL BE ANCHORED TO CONCRETE PAD AND STRUT RACK.
5. GROUND ROD SHALL BE 0.75 INCHES IN DIAMETER AND A MINIMUM OF 8'-0" LONG.
6. CP-1'S PROGRAMMING PORT SHALL INCLUDE 120VAC RECEPTACLE (5A MIN.), 1 X RJ45 PORT, AND 2 X USB 3.0 PORTS IN LOCKABLE, METALLIC, WEATHERPROOF ENCLOSURE.

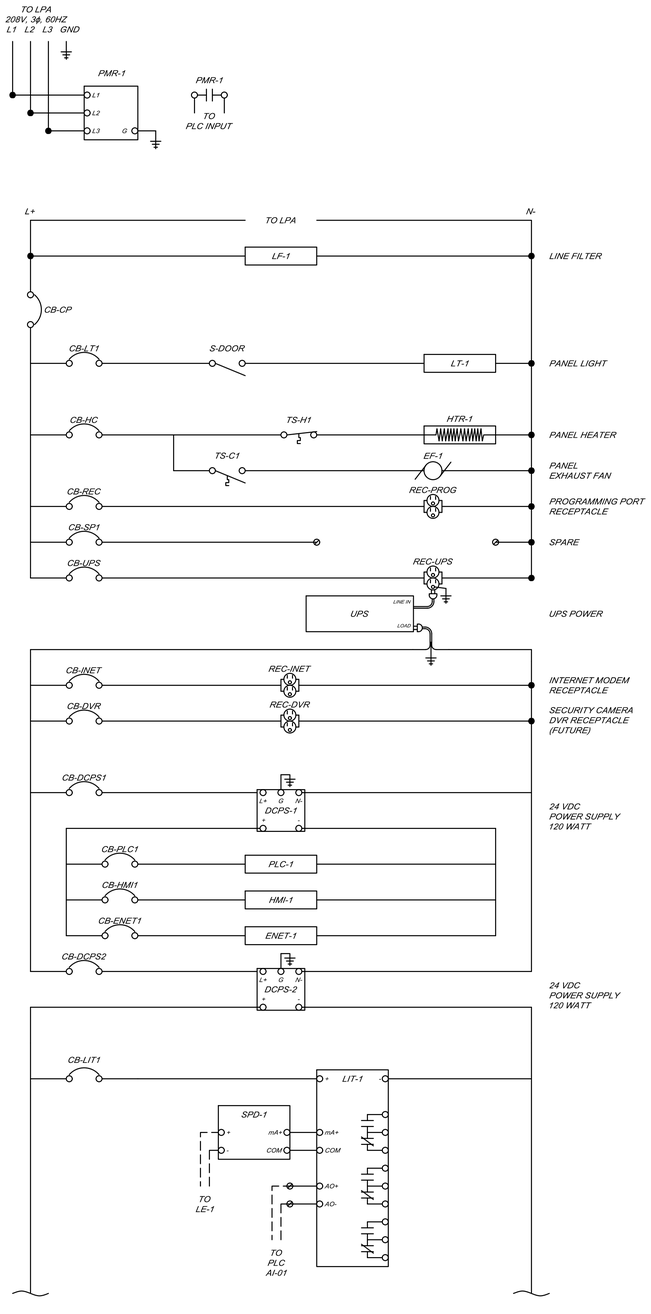
BY	MARK	REVISIONS	DATE

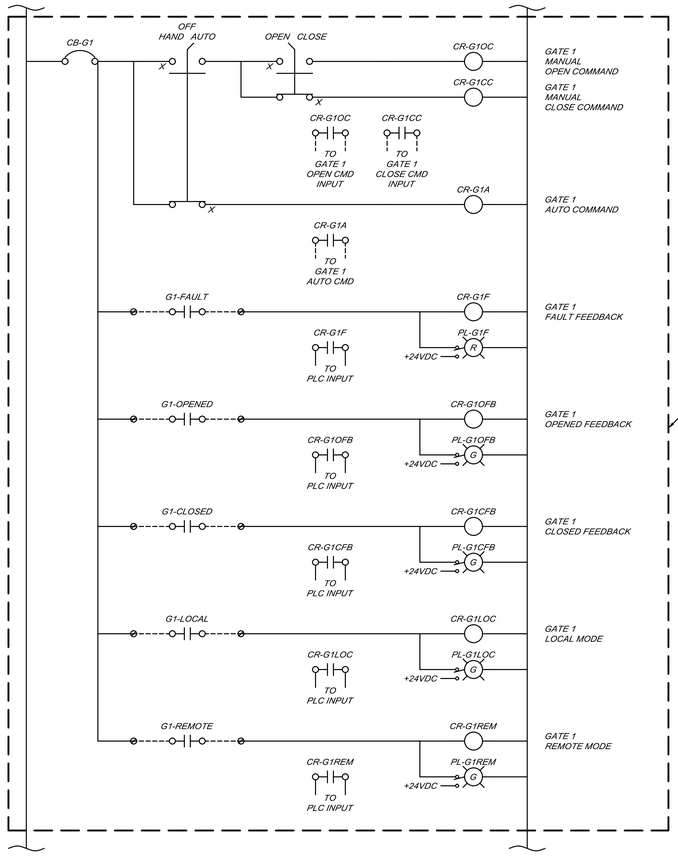
TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

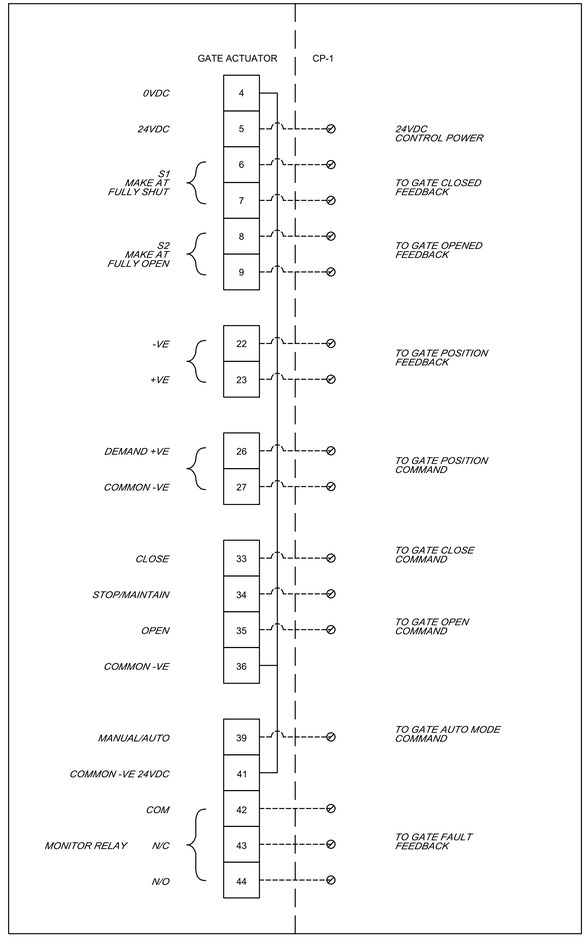
ELECTRICAL POWER DETAILS

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: LAM	CH. BY: DWH	PROJECT NO.	
DR. BY: JDS	APP. BY: RVG	129021SG2020	
STDS.	SHEET 18 OF 24	E 03	
DATE September, 2024	FILE NO.		
SCALE AS SHOWN	DE-1199-03		

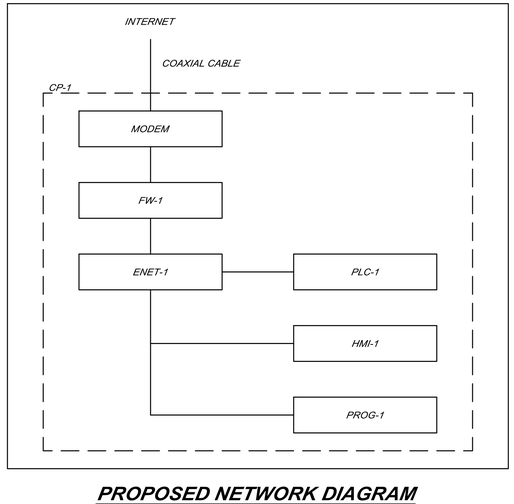






GATE ACTUATOR WIRING DETAIL (TYPICAL OF 7)

SCALE: N/A



PROPOSED NETWORK DIAGRAM

SCALE: N/A

NOTES:
1. ALL NETWORKING CABLES SHALL BE CAT-6A (MINIMUM) UNLESS OTHERWISE STATED.

KEY:

MTS	MANUAL TRANSFER SWITCH
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
LPA	LIGHTING PANEL A
PMR	PHASE MONITORING RELAY
LF	LINE FILTER
CB	CIRCUIT BREAKER
CP	CONTROL PANEL
LT	LIGHT
S	SWITCH
TS	TEMPERATURE SWITCH
	H HEATING
	C COOLING
REC	RECEPTACLE
SCADA	SUPERVISORY CONTROL ALARMING & DATA ACQUISITION
DVR	DIGITAL VIDEO RECORDER
T	TRANSFORMER
UPS	UNINTERRUPTIBLE POWER SUPPLY
DCPS	DC POWER SUPPLY
LIT	LEVEL INDICATING TRANSMITTER
LE	LEVEL ELEMENT
SPD	SURGE PROTECTION DEVICE
CR	CONTROL RELAY
G	GATE
PL	PILOT LIGHT
AUX	AUXILIARY CONTACT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
INET	INTERNET
ENET	ETHERNET
FW	FIREWALL
PLC	PROGRAMMABLE LOGIC CONTROLLER
HMI	HUMAN MACHINE INTERFACE
PROG	PROGRAMMING PORT

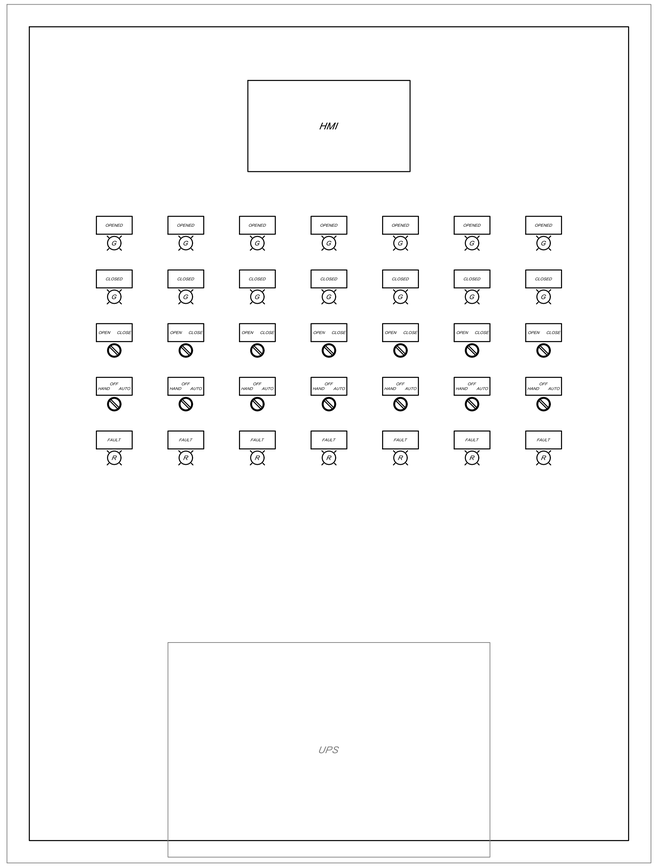
BY	MARK	REVISIONS	DATE

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

CONTROL SYSTEM WIRING DIAGRAM

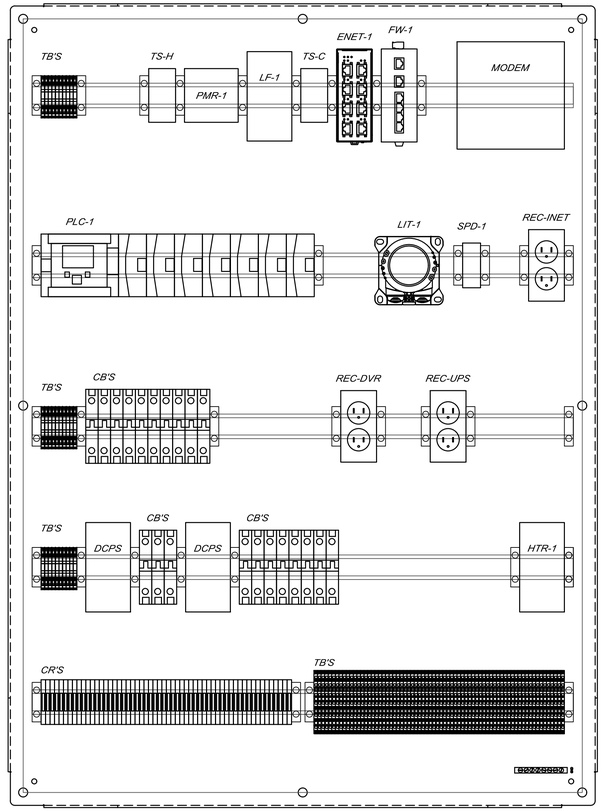
Spicer group
DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: LAM	CH. BY: DWH	PROJECT NO.	
DR. BY: LAM	APP. BY: RVG	129021SG2020	
STDS.	SHEET 19 OF 24	E	
DATE September, 2024	FILE NO.	04	
SCALE AS SHOWN	DE-1199-04		



CONTROL PANEL
DEAD-FRONT PANEL LAYOUT

SCALE: 1/4" = 1'-0"



CONTROL PANEL
INTERIOR LAYOUT

SCALE: 1/4" = 1'-0"

KEY:

CP	CONTROL PANEL
PMR	PHASE MONITORING RELAY
LF	LINE FILTER
CB	CIRCUIT BREAKER
LT	LIGHT
S	SWITCH
TS	TEMPERATURE SWITCH
	H HEATING
	C COOLING
REC	RECEPTACLE
SCADA	SUPERVISORY CONTROL ALARMING & DATA ACQUISITION
DVR	DIGITAL VIDEO RECORDER
UPS	UNINTERRUPTIBLE POWER SUPPLY
DCPS	DC POWER SUPPLY
LIT	LEVEL INDICATING TRANSMITTER
LE	LEVEL ELEMENT
SPD	SURGE PROTECTION DEVICE
CR	CONTROL RELAY
G	GATE
PL	PILOT LIGHT
AUX	AUXILIARY CONTACT
INET	INTERNET
ENET	ETHERNET
FW	FIREWALL
MODEM	INTERNET MODEM
PLC	PROGRAMMABLE LOGIC CONTROLLER
HMI	HUMAN MACHINE INTERFACE
PROG	PROGRAMMING PORT
HTR	HEATER
EF	EXHAUST FAN
TB	TERMINAL BLOCK
CR	CONTROL RELAY

NOTES:

1. STAINLESS STEEL HARDWARE TO BE USED ON ALL STRUCTURAL CONNECTIONS.
   1.1. INSULATED FITTING SHALL BE USED TO PREVENT CORROSION DUE TO DISSIMILAR METALS.
2. PANEL LAYOUTS ARE FOR REFERENCE ONLY. FINAL PANEL DESIGNS SHALL BE DETERMINED BY FINAL SHOP DRAWING APPROVALS.
3. PANEL LIGHT AND DOOR SWITCH SHALL BE MOUNTED TO INTERIOR OF ENCLOSURE.
4. EXHAUST FAN AND INTAKE GRILLE SHALL BE MOUNTED THROUGH SIDE WALL OF ENCLOSURE.
5. OPERATOR DEVICES SUCH AS INDICATOR LIGHTS AND SELECTOR SWITCHES SHALL BE REPLACED BY GRAPHICAL ITEMS ON THE HMI ONLY UPON APPROVAL BY OWNER AND ENGINEER.

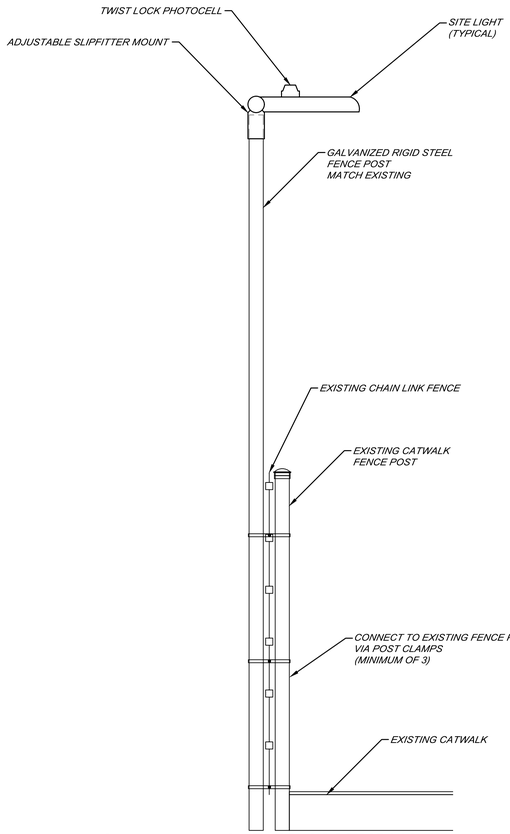
BY	MARK	REVISIONS	DATE

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

ELECTRICAL CONTROL PANEL DETAILS

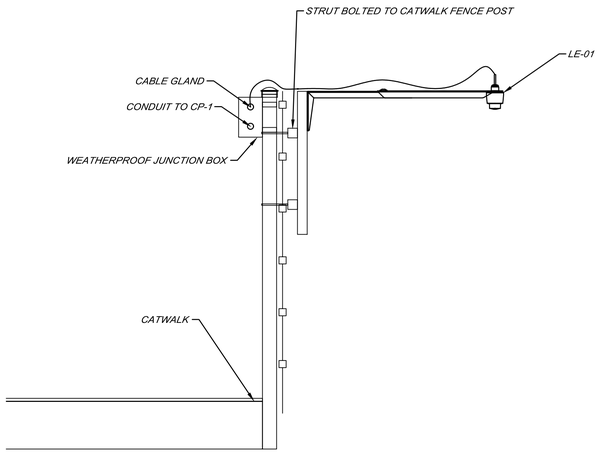
DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: LAM	CH. BY: DWH	PROJECT NO.	
DR. BY: LAM	APP. BY: RVG	129021SG2020	
STDS.		SHEET 20 OF 24	E 05
DATE September, 2024		FILE NO.	
SCALE AS SHOWN		DE-1199-05	



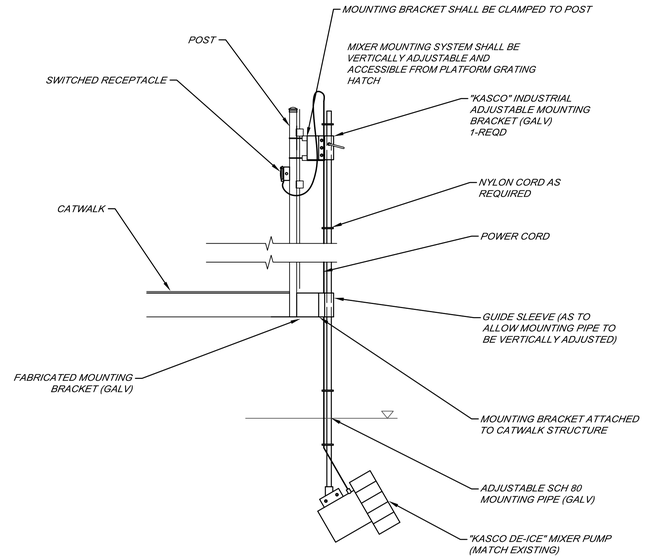
CATWALK LIGHTING ASSEMBLY DETAIL (TYPICAL)

SCALE: 1/2" = 1'-0"



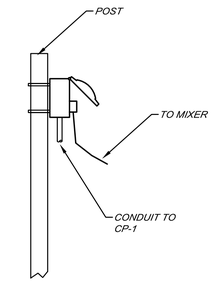
LEVEL ELEMENT INSTALLATION DETAIL ELEVATION VIEW

SCALE: 1/2" = 1'-0"



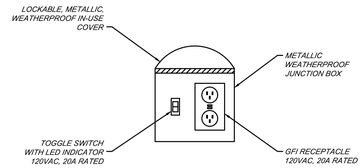
MIXER MOUNTING DETAIL

SCALE: 1/2" = 1'-0"



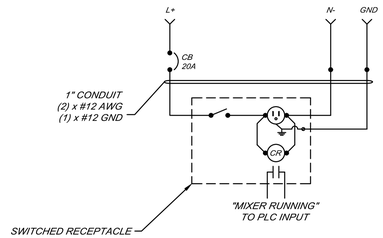
SWITCH RECEPTACLE ASSEMBLY

SCALE: NO SCALE



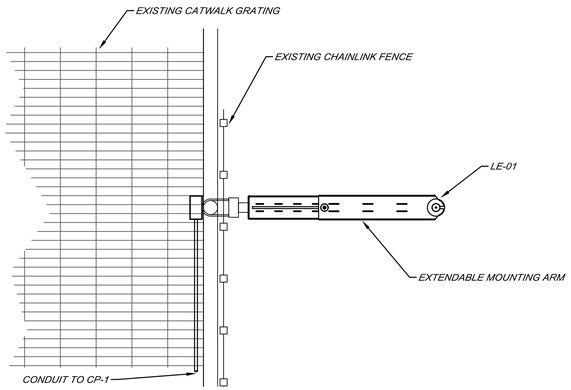
SWITCH RECEPTACLE DETAIL

SCALE: NO SCALE



MIXER WIRING DETAIL

SCALE: N/A



LEVEL ELEMENT INSTALLATION DETAIL PLAN VIEW

SCALE: 1/2" = 1'-0"

NOTES:
1. STAINLESS STEEL HARDWARE TO BE USED ON ALL STRUCTURAL CONNECTIONS.
   1.1. INSULATED FITTINGS SHALL BE USED TO PREVENT CORROSION DUE TO DISSIMILAR METALS.
2. AREA LIGHTS SHALL BE MOUNTED AT 9 FEET ABOVE WALKING SURFACE.
3. SEE E-01 FOR SITE PLANS.

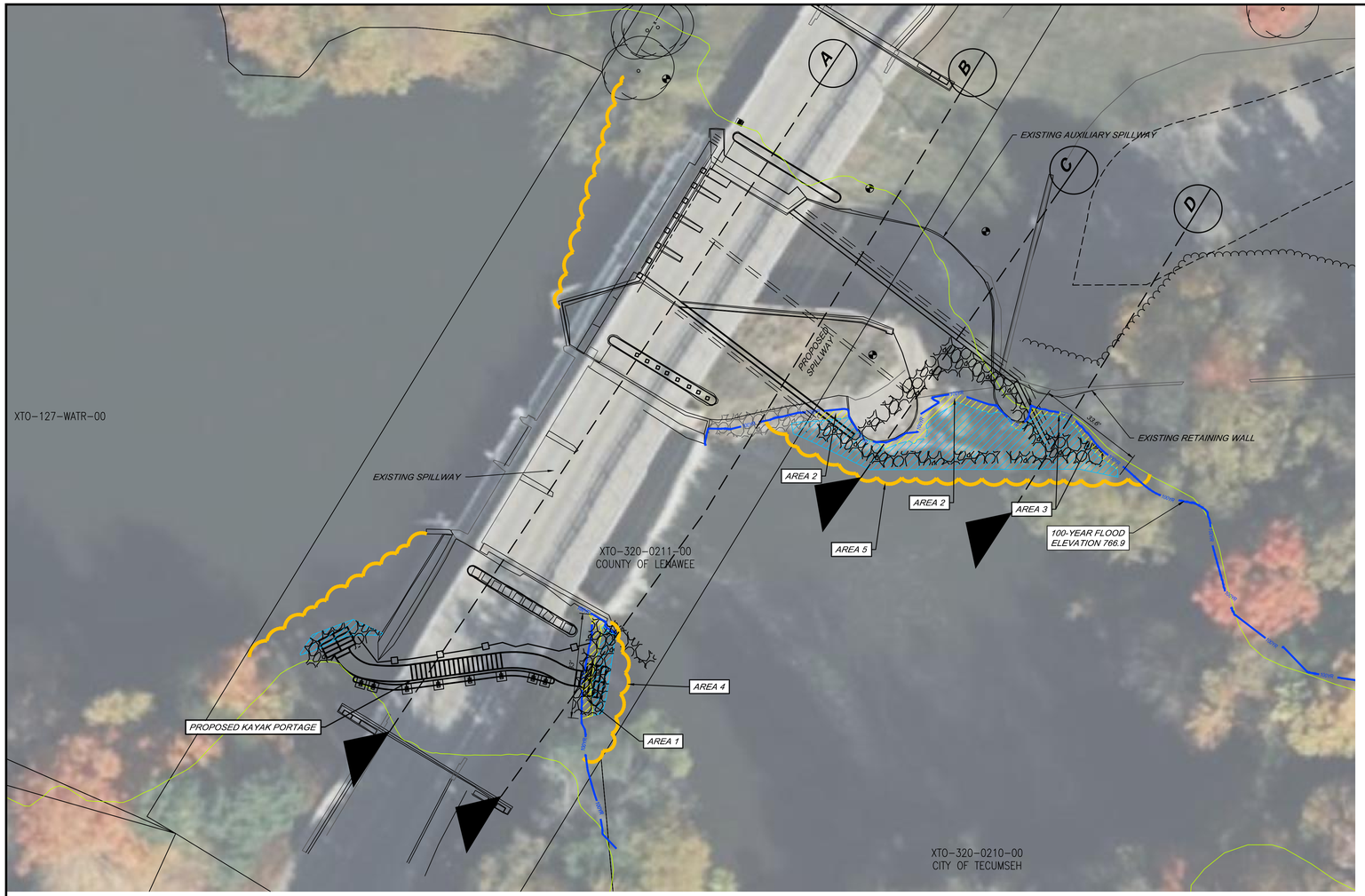
BY	MARK	REVISIONS	DATE

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

ELECTRICAL INSTALLATION DETAILS

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: LAM	CH. BY: DWH	PROJECT NO.	
DR. BY: LAM	APP. BY: RVG	129021SG2020	
STDS.		SHEET 21 OF 24	E 06
DATE September, 2024		FILE NO.	
SCALE AS SHOWN		DE-1199-06	



LEGEND

- 100-YR FLOOD ELEVATION
- 100-YR FLOODPLAIN IMPACTS
- PART 301 IMPACTS
- EXISTING RIPRAP
- PROPOSED RIPRAP
- EXISTING GRAVEL DRIVE
- EXISTING TREE LINE
- COFFERDAM/WATER CONTROL LIMITS
- PARCEL LINE
- FEMA BASE FLOOD BOUNDARY

N

0 10 20 40

SCALE: 1" = 20'

SECTION 27 AND 28, T05SN-R04E,
CITY OF TECUMSEH,
TECUMSEH TOWNSHIP,
LENAWEE COUNTY, MICHIGAN

PROPOSED IMPACTS BELOW 100 YR FLOODPLAIN									
			CUT AREA			FILL AREA			NET FILL
IMPACT AREA	IMPACT TYPE (P/T)	MATERIAL TYPE	AVERAGE LENGTH (FT) X WIDTH (FT) x DEPTH (FT)	CUBIC FEET (FT^3)	CUBIC YARDS (YD^3)	AVERAGE LENGTH (FT) X WIDTH (FT) x DEPTH (FT)	CUBIC FEET (FT^3)	CUBIC YARDS (YD^3)	CUBIC YARDS (YD^3)
1	P	BEDDING STONE/HEAVY RIPRAP	33 x 3 x 1	99	4	33 x 3 x 1	99	4	0
1	P	STONE STEPS	10 x 3 x 1	30	1	10 x 3 x 1	30	1	0
2	P	NATIVE CUT	55 x 3 x 1	165	6			0	-6
3	P	HEAVY RIPRAP				10 x 3 x 2	60	2	2
3	P	FILL			0	35 x 3 x 2	210	8	8
TOTAL PERMANENT IMPACT			TOTAL CUT	294	11	TOTAL FILL	399	15	4
4	T	TEMPORARY COFFERDAM				50 x 1 x 2	100	4	4
5	T	TEMPORARY COFFERDAM				121 x 1 x 2	242	9	9
TOTAL TEMPORARY IMPACT			TOTAL CUT	0	0	TOTAL FILL	342	13	13

CUT/FILL AREA DESCRIPTIONS

- AREA 1 - RIPRAP FILL AND STONE BASE FOR PORTAGE STEPS AND EROSION REPAIR DOWNSTREAM RIGHT BANK
- AREA 1 - HEAVY RIPRAP WAVE BREAK FILL FOR PORTAGE PROTECTION DOWNSTREAM RIGHT EMBANKMENT
- AREA 2 - NATIVE CUT OF EXISTING AUXILIARY SPILLWAY END STRUCTURE DOWNSTREAM LEFT EMBANKMENT
- AREA 3 - FILL AND RIPRAP FOR RETAINING WALL REMOVAL AREA
- AREA 4 - TEMPORARY COFFER DAM DOWNSTREAM RIGHT EMBANKMENT
- AREA 5 - TEMPORARY COFFER DAM DOWNSTREAM LEFT EMBANKMENT

BENCHMARKS

BM 200 - CUT SQUARE IN NORTHWEST BRIDGE ABUTMENT WALL.

EL 631.89

BM 201 - CUT SQUARE WITH MAGNAIL IN NORTHEAST BRIDGE ABUTMENT WALL.

EL 631.89

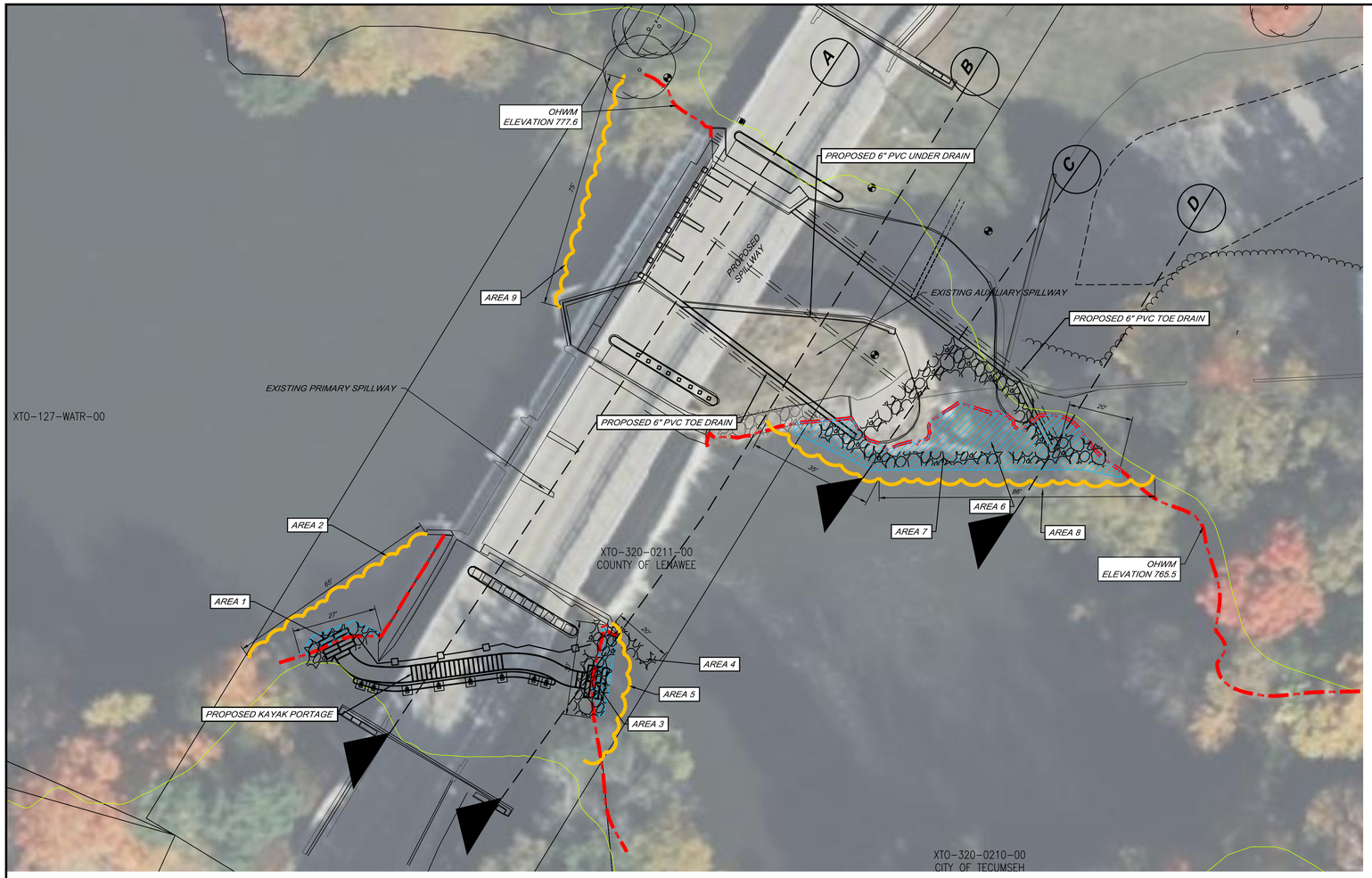
BY	MARK	REVISIONS	DATE

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

PART 31 IMPACTS

DUNDEE OFFICE
125 Helle Blvd, Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.		SHEET 22 OF 24	DR 22
DATE SEPTEMBER, 2024		FILE NO.	
SCALE NOT TO SCALE		DR-4501-22	



LEGEND

- ORDINARY HIGH WATER MARK (OHWM)
- STREAMS AND LAKES IMPACTS
- EXISTING RIPRAP
- PROPOSED RIPRAP
- EXISTING GRAVEL DRIVE
- EXISTING TREE LINE
- COFFERDAM/WATER CONTROL LIMITS
- PARCEL LINE
- FEMA BASE FLOOD BOUNDARY

N

0 10 20 40

SCALE: 1" = 20'

SECTION 27 AND 28, T05SN-R04E,
CITY OF TECUMSEH,
TECUMSEH TOWNSHIP,
LENAWEE COUNTY, MICHIGAN

PROPOSED IMPACTS BELOW OHWM									
			CUT AREA			FILL AREA			NET FILL
IMPACT AREA	IMPACT TYPE/ (P/T)	MATERIAL TYPE	AVERAGE LENGTH (FT) X WIDTH (FT) x DEPTH (FT)	CUBIC FEET (FT^3)	CUBIC YARDS (YD^3)	AVERAGE LENGTH (FT) X WIDTH (FT) x DEPTH (FT)	CUBIC FEET (FT^3)	CUBIC YARDS (YD^3)	CUBIC YARDS (YD^3)
RED MILL POND									
1	P	BEDDING STONE/HEAVY RIPRAP	27 x 5 x 1	135	5	27 x 5 x 1	135	5	0
1	P	STONE STEPS	10 x 3 x 1	30	1	10 x 3 x 1	30	1	0
TOTAL PERMANENT IMPACT			TOTAL CUT	165	6	TOTAL FILL	165	6	0
2	T	COFFERDAM				65 x 1 x 10	650	24	24
9	T	COFFERDAM				75 x 1 x 12	900	33	33
TOTAL TEMPORARY IMPACT			TOTAL CUT	0	0	TOTAL FILL	1550	57	57
RIVER RAISIN - SOUTH EMBANKMENT									
3	P	BEDDING STONE/HEAVY RIPRAP	30 x 5 x 1	150	6	30 x 5 x 1	150	6	0
3	P	STONE STEPS	10 x 4 x 1	40	1	10 x 4 x 1	40	1	0
4	P	HEAVY RIPRAP				20 x 5 x 3	300	11	11
TOTAL PERMANENT IMPACT			TOTAL CUT	190	7	TOTAL FILL	490	18	11
5	T	TEMPORARY COFFERDAM				50 x 1 x 5	250	9	9
TOTAL TEMPORARY IMPACT			TOTAL CUT	0	0	TOTAL FILL	250	9	9
RIVER RAISIN - NORTH EMBANKMENT									
6	P	HEAVY RIPRAP				20 x 9 x 1	180	7	7
6	P	NATIVE CUT	58 x 8 x 1	464	17				-17
7	P	HEAVY RIPRAP				82 x 5 x 5	2050	76	76
6	P	AUXILIARY SPILLWAY WALLS				20 x 2 x 8	320	12	12
6	P	FILL				20 x 13 x 4	1040	39	39
6	P	PROPOSED PVC PIPE				10 x 1 x 1	5	0	0
TOTAL PERMANENT IMPACT			TOTAL CUT	464	17	TOTAL FILL	3595	133	116
8	T	TEMPORARY COFFERDAM				121 x 1 x 7	847	31	31
TOTAL TEMPORARY IMPACT			TOTAL CUT	0	0	TOTAL FILL	847	31	31

CUT/FILL AREA DESCRIPTIONS

- *AREA 1 - RIPRAP FILL AND STONE BASE FOR PORTAGE STEPS AND EROSION REPAIR UPSTREAM RIGHT BANK*
- *AREA 2 - TEMPORARY COFFERDAM FILL UPSTREAM RIGHT EMBANKMENT*
- *AREA 3 - RIPRAP FILL FOR PORTAGE STEPS AND EROSION REPAIR DOWNSTREAM RIGHT EMBANKMENT*
- *AREA 4 - RIPRAP WAVE BREAK FILL FOR PORTAGE PROTECTION DOWNSTREAM RIGHT EMBANKMENT*
- *AREA 5 - TEMPORARY COFFERDAM FILL DOWNSTREAM RIGHT EMBANKMENT*
- *AREA 6 - RIPRAP FILL, NATIVE CUT (EXISTING AUXILIARY SPILLWAY STRUCTURE), AND FILL (REGRADE RETAINING WALL REMOVAL AREA) ALONG AUXILIARY SPILLWAY DOWNSTREAM LEFT EMBANKMENT*
- *AREA 7 - HEAVY RIPRAP FILL FOR ENERGY DISSIPATOR DOWNSTREAM LEFT EMBANKMENT*
- *AREA 8 - TEMPORARY COFFERDAM FILL DOWNSTREAM LEFT EMBANKMENT*
- *AREA 9 - TEMPORARY COFFERDAM FILL UPSTREAM LEFT EMBANKMENT*

BENCHMARKS

BM 200 - CUT SQUARE IN NORTHWEST BRIDGE ABUTMENT WALL.

EL 631.89

BM 201 - CUT SQUARE WITH MAGNAIL IN NORTHEAST BRIDGE ABUTMENT WALL.

EL 631.89

BY	MARK	REVISIONS	DATE
HRG	1	REVISED FOR PERMIT REVISION SUBMITTAL	6/20/2024

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

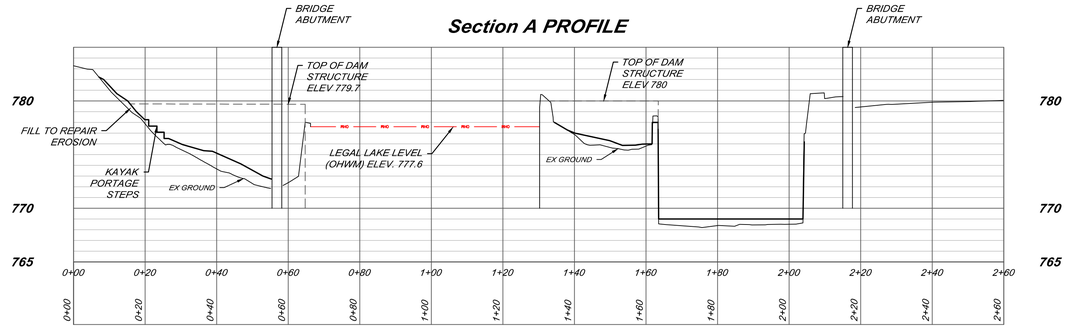
PART 301 IMPACTS

DUNDEE OFFICE
125 Helle Blvd. Suite 2
Dundee, MI 48131
Tel. 734-823-3308
www.SpicerGroup.com

DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.		SHEET 23 OF 24	DR 23
DATE SEPTEMBER, 2024		FILE NO.	
SCALE NOT TO SCALE		DR-4501-23	

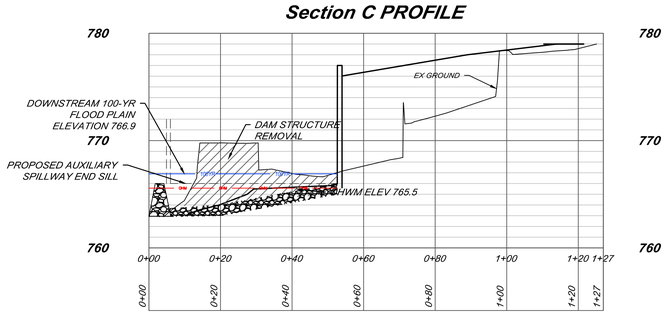
HANNAH GARNER

Section A PROFILE



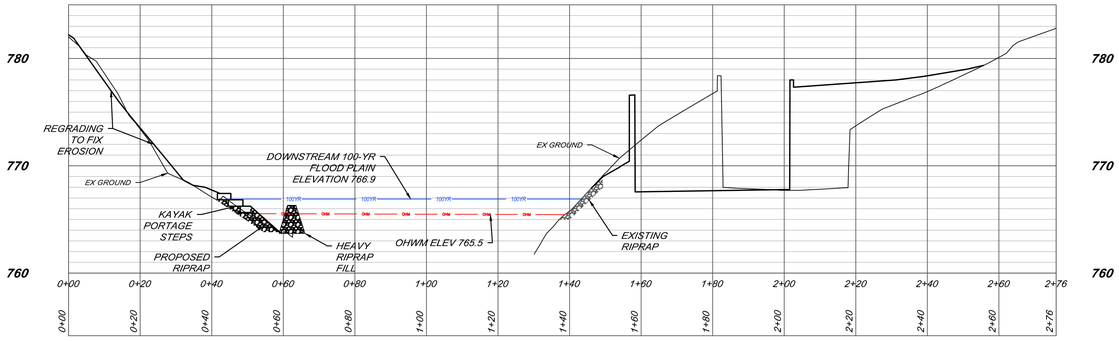
CROSS SECTION A
SCALE: 1" = 20'

Section C PROFILE



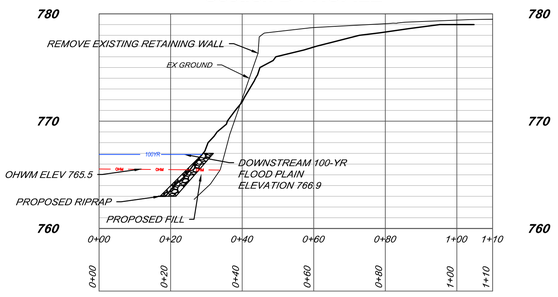
CROSS SECTION C
SCALE: 1" = 20'

Section B PROFILE

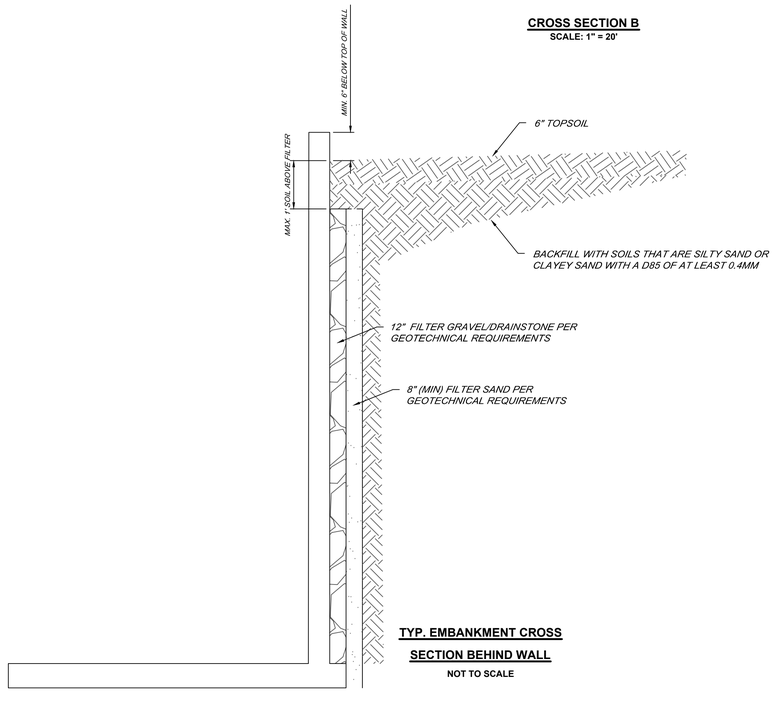


CROSS SECTION B
SCALE: 1" = 20'

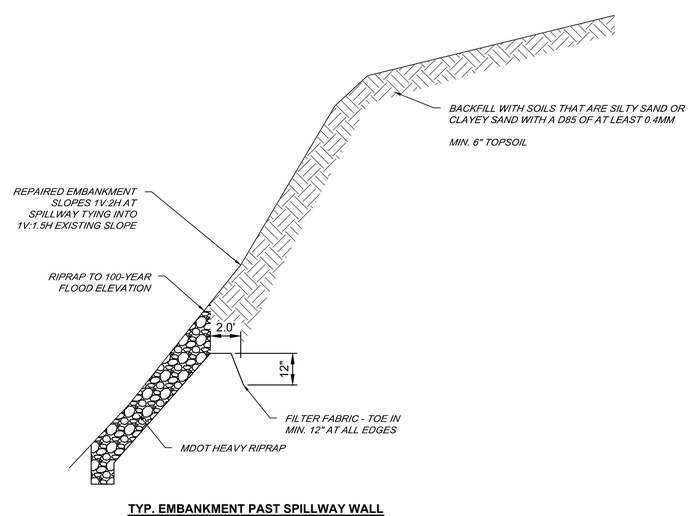
Section D PROFILE



CROSS SECTION D
SCALE: 1" = 20'



TYP. EMBANKMENT CROSS SECTION BEHIND WALL
NOT TO SCALE



TYP. EMBANKMENT PAST SPILLWAY WALL
NOT TO SCALE

BY	MARK	REVISIONS	DATE
HRG		REVISED FOR PERMIT REVISION SUBMITTAL	8/23/2024

TECUMSEH DAM ID NO. 593
LENAWEE COUNTY, MICHIGAN

CROSS SECTIONS

SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel. 989-754-4717
Fax. 989-754-4440
www.SpicerGroup.com

DE. BY: HRG	CH. BY: RVG	PROJECT NO.	
DR. BY: HRG	APP. BY: NDC	129021SG2020	
STDS.	SHEET 24 OF 24	DR 24	
DATE SEPTEMBER, 2024	FILE NO.		
SCALE NOT TO SCALE	DR-4501-24		

HANNAH GARNER