GENERAL CONSTRUCTION NOTES

EMERGENCY CONTACTS
BEFORE BEGINNING WORK ON THE PROJECT, THE CONTRACTOR SHALL PROVIDE THE OWNER WITH THE NAMES AND TELEPHONE NUMBERS OF EMERGENCY CONTACTS. AT LEAST ONE PERSON REPRESENTING THE CONTRACTOR SHALL BE AVAILABLE TO RESPOND TO EMERGENCIES THROUGHOUT THE LIFE OF THE PROJECT, 24 HOURS A DAY, 7 DAYS A WEEK.

UNDERGROUND UTILITY IDENTIFICATION AND LOCATION
THE CONTRACTOR SHALL CALL MISS DIG (1-800-482-7171) A MINIMUM OF THREE WORK DAYS IN ADVANCE OF BEGINNING EXCAVATION. THE CONTRACTOR IS RESPONSIBLE TO IDENTIFY AND NOTIFY UTILITY AGENCIES WITHIN THE PROJECT AREA WHICH DO NOT PARTICIPATE IN THE MISS DIG NOTIFICATION PROGRAM.

PUBLIC UTILITIES
EXISTING UTILITIES ARE SHOWN BASED UPON RECORDS AND LOCATIONS PROVIDED BY UTILITY AGENCIES. THE INFORMATION SHOWN IS CONSIDERED APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR. UNLESS THE PLANS SPECIFICALLY SHOW THAT EXISTING UTILITIES ARE TO BE MOVED, THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN EXISTING UTILITIES.

VERIFICATION OF UNDERGROUND UTILITIES
THE CONTRACTOR SHALL EXCAVATE AND LOCATE ALL EXISTING UTILITIES IN THE PROJECT AREA IN ADVANCE OF CONSTRUCTION TO VERIFY THEIR ACTUAL LOCATION. POTENTIAL CONFLICTS SHALL BE REPORTED TO THE OWNER. THE CONTRACTOR SHALL MAKE SUCH CHANGES TO GRADE AND ALIGNMENT OF PROPOSED WORK AS DIRECTED BY THE OWNER TO AVOID CONFLICTS, AT NO INCREASE IN COST TO THE OWNER.

UTILITY SERVICE
UNLESS SPECIFICALLY PROVIDED OTHERWISE IN THE CONTRACT DOCUMENTS, ALL EXISTING UTILITIES ARE TO REMAIN IN SERVICE DURING THE PROJECT.

SOIL BORINGS / PAVEMENT CORES
IF PROVIDED ON THE PLANS OR IN THE CONTRACT DOCUMENTS, LOGS OF SOIL BORINGS OR PAVEMENT CORES REPRESENT THE SUBSURFACE CONDITIONS ENCOUNTERED AT SPECIFIC POINTS. THE INFORMATION IS PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY.

MAINTAINING TRAFFIC
LOCAL AND EMERGENCY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES WITHIN THE PROJECT AREA.

WHEN EXCAVATION, FRESH CONCRETE, OR OTHER CONSTRUCTION WORK WILL RESULT IN THE CLOSURE OF A STREET OR DRIVEWAY FOR A PERIOD OF TIME, THE CONTRACTOR IS RESPONSIBLE TO NOTIFY ALL AFFECTED RESIDENTS AND BUSINESSES IN ADVANCE.

THE CONTRACTOR SHALL NOTIFY EMERGENCY RESPONSE AGENCIES IN ADVANCE OF ROAD CLOSURES OR THE ESTABLISHMENT OF DETOURS.

TRAFFIC SIGNS
TRAFFIC SIGNS WHICH INTERFERE WITH CONSTRUCTION SHALL BE REMOVED AND REPLACED BY THE AGENCY HAVING JURISDICTION OVER THE STREETS OR ROADS IN THE PROJECT AREA. THE CONTRACTOR IS RESPONSIBLE TO CONTACT THE AGENCY TO ARRANGE FOR REMOVAL OF THE SIGN AND IS RESPONSIBLE TO PAY ANY FEES ASSOCIATED WITH THE REMOVAL AND REPLACEMENT OF THE SIGNS.

SCHEDULE
THE CONTRACTOR SHALL COMPLETE ALL WORK IN AN EXPEDITIOUS MANNER AND SHALL NOT STOP WORK ON THE PROJECT ONCE BEGUN.

ALIGNMENT
ALIGNMENT AND GRADES FOR CURB AND GUTTER (INCLUDING THROUGH RAMPS AND DRIVEWAY OPENINGS) SHOWN ON THE PLANS ARE FOR THE TOP, BACK OF CURB, UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE PLANS.

THE HORIZONTAL ALIGNMENT SHOWN ON THE DRAWINGS FOR DRAINAGE STRUCTURES LOCATED IN THE CURB LINE IS TO THE CENTER OF THE CASTING.

THE HORIZONTAL ALIGNMENT SHOWN ON THE DRAWINGS FOR DRAINAGE STRUCTURES WHICH ARE NOT IN THE CURB LINE AND FOR MANHOLES IS TO THE CENTER OF THE STRUCTURE.

WHERE RIM ELEVATIONS ARE PROVIDED ON THE PLANS FOR MANHOLE CASTINGS, THE ELEVATION PROVIDED IS FOR THE TOP OF THE CASTING.

WHERE RIM ELEVATIONS ARE PROVIDED FOR INLET TYPE CASTINGS, THE ELEVATIONS ARE PROVIDED AS FOLLOWS:
- CURB INLETS - THE ELEVATION OF THE TOP OF CURB
- ALL OTHER INLETS - THE ELEVATION OF THE FLOW LINE

WHERE RIM ELEVATIONS ARE PROVIDED ON THE PLANS FOR INLETS OR MANHOLE CASTINGS, THE ELEVATIONS PROVIDED ARE CONSIDERED PRELIMINARY. THE CONTRACTOR SHALL MAKE THE FINAL ADJUSTMENT FOLLOWING THE ESTABLISHMENT OF ACTUAL GRADING AND PAVEMENT ELEVATIONS.

CONSTRUCTION STAKING
WHEN CONSTRUCTION STAKING IS TO BE PROVIDED BY THE OWNER, THE CONTRACTOR SHALL REQUEST STAKING AT LEAST THREE WORKING DAYS IN ADVANCE.

WHEN CONSTRUCTION STAKING IS TO BE PROVIDED BY THE OWNER, STAKING WILL BE PROVIDED ONE TIME. THE CONTRACTOR SHALL PROTECT AND PRESERVE SURVEY CONTROL AND STAKING. RE-STAKING WILL BE AT THE CONTRACTOR'S EXPENSE.

SURVEY CORNERS, BENCHMARKS, AND CONTROL POINTS
THE CONTRACTOR SHALL PRESERVE ALL GOVERNMENT CORNERS, PROPERTY CORNERS, BENCHMARKS, SURVEY CONTROL POINTS AND OTHER SURVEY POINTS WITHIN THE PROJECT AREA. WHERE CORNERS, BENCHMARKS, OR SURVEY POINTS ARE ENCOUNTERED WHICH WILL BE DISTURBED BY THE CONTRACTOR'S ACTIVITIES; A LICENSED SURVEYOR SHALL WITNESS THE POINT BEFORE DISTURBANCE AND SHALL RE-SET THE POINT FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL PAY THE SURVEYOR TO WITNESS AND TO RE-SET THE POINTS.

PROTECTION OF TREES, SHRUBS, AND LANDSCAPING
ALL TREES, SHRUBS, AND LANDSCAPING WITHIN THE CONSTRUCTION AREA WHICH ARE NOT SPECIFICALLY DESIGNATED FOR REMOVAL SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. DAMAGED TREES, SHRUBS, AND LANDSCAPING SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

CONSTRUCTION SIGNING AND BARRICADING
THE CONTRACTOR SHALL PROTECT HAZARDOUS AREAS WITH BARRICADES. BARRICADES LEFT IN PLACE AFTER SUNSET SHALL BE LIGHTED.

THE CONTRACTOR SHALL PROVIDE SUITABLE SANDBAGS OR OTHER SUITABLE MEASURES FOR ANCHORING OF TEMPORARY SIGNS AND BARRICADES, TO PREVENT THEIR TIPPING OR DISPLACEMENT BY WIND OR AIR FLOW FROM VEHICLES.

THE CONTRACTOR SHALL PROVIDE SIGNING, BARRICADES, TRAFFIC REGULATORS, CONES, AND OTHER TRAFFIC CONTROL DEVICES IN ACCORDANCY WITH THE REQUIREMENTS OF THE AGENCY HAVING JURISDICTION OVER STREETS OR ROADS IN THE PROJECT AREA, THE CURRENT MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL COVER OR REMOVE TEMPORARY SIGNS DURING PERIODS WHEN THEY ARE NOT APPROPRIATE.

TURF ESTABLISHMENT
ALL DISTURBED AREAS WHICH ARE NOT TO BE SURFACED WITH PAVEMENT, AGGREGATE OR OTHER APPROVED SURFACES SHALL BE ESTABLISHED WITH TURF.

TURF AREAS SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE.

DISTURBED AREAS SHALL BE SURFACED WITH THREE INCHES OF SCREENED TOPSOIL.

THE CONTRACTOR IS RESPONSIBLE TO ESTABLISH TURF WHICH IS SUBSTANTIALLY FREE OF BARE SPOTS AND FREE OF WEEDS. THE GROUND SURFACE IN TURF AREAS SHALL BE SMOOTH AND PROVIDE A NATURAL TRANSITION TO ADJACENT, UNDISTURBED AREAS.

THE CONTRACTOR IS RESPONSIBLE TO PROVIDE WATERING, WEEDING, RESEEDING, AND REWORKING AS NECESSARY TO ESTABLISH TURF AREAS TO THE REQUIRED STANDARD.

ADA COMPLIANCE
ALL PROPOSED CONSTRUCTION SHALL COMPLY WITH THE PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA), AND APPLICABLE GUIDELINES OR STANDARDS. WHERE EXISTING CONDITIONS AND/OR THE REQUIREMENTS OF THE PLANS WILL RESULT IN FINISHED CONDITIONS THAT DO NOT MEET THE ADA REQUIREMENTS, GUIDELINES, OR STANDARDS; THE CONTRACTOR SHALL NOTIFY THE OWNER BEFORE PROCEEDING WITH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO REMOVE AND REPLACE WORK DETERMINED TO BE NOT IN ACCORDANCE WITH APPLICABLE REQUIREMENTS, GUIDELINES, OR STANDARDS.

EARTHWORK
THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF THE EARTHWORK QUANTITIES, AND BASE THEIR BID ON THEIR DETERMINATION OF THE QUANTITIES OF WORK REQUIRED.

IF ADDITIONAL FILL MATERIAL MUST BE PROVIDED TO ATTAIN THE FINISH GRADES SHOWN ON THE PLANS, THE CONTRACTOR SHALL PROVIDE THE REQUIRED FILL MATERIAL, UNLESS A SPECIFIC BORROW AREA IS IDENTIFIED ON THE PLANS.

EXCESS SOILS RESULTING FROM EXCAVATION AND EARTHWORK SHALL BECOME THE CONTRACTOR'S PROPERTY AND DISPOSED OF PROPERLY, UNLESS AN AREA(S) HAS BEEN DESIGNATED FOR STOCKPILING OR "BLENDING IN" THE EXCESS MATERIAL WITHIN THE PROJECT LIMITS.

DRIVEWAY CONSTRUCTION
DRIVEWAY SLOPES SHALL NOT EXCEED 10%, EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE ON THE PLANS OR DIRECTED BY THE OWNER.

THE CONTRACTOR SHALL PROVIDE PROPERTY OWNERS WITH SUITABLE NOTICE BEFORE REMOVING AND REPLACING AN EXISTING DRIVEWAY.

BACKFILL AND EMBANKMENT
BACKFILL OF AN EXCAVATION UNDER OR WITHIN THE ONE ON ONE INFLUENCE OF AN EXISTING OR PROPOSED ROAD, SIDEWALK, DRIVEWAY, PAVEMENT, OR AGGREGATE SURFACE, SHALL BE SAND, MEETING THE REQUIREMENTS OF GRANULAR MATERIAL CLASS II AS DESCRIBED IN THE CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION. THE SAND BACKFILL SHALL BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM UNIT WEIGHT.

BACKFILL OF AN EXCAVATION WHICH IS NOT UNDER OR WITHIN THE ONE ON ONE INFLUENCE OF AN EXISTING OR PROPOSED ROAD, SIDEWALK, DRIVEWAY, PAVEMENT, OR AGGREGATE SURFACE MAY BE SUITABLE EXCAVATED MATERIAL OR OTHER SOIL, WHICH IS FREE OF ORGANIC MATTER, STONES AND ROCKS, ROOTS, BROKEN CONCRETE, FROZEN MATERIAL, OR DEBRIS. THE BACKFILL SHALL BE COMPACTED TO AT LEAST 90% OF ITS MAXIMUM UNIT WEIGHT.

THE CONTRACTOR SHALL INDICATE THE SOURCE OF SAND USED FOR BACKFILL TO THE OWNER, AND PROVIDE THE OWNER WITH THE RESULTS OF A GRADATION TEST PERFORMED ON A SAMPLE OF THE SAND. THE CONTRACTOR SHALL NOTIFY THE OWNER IN ADVANCE OF USING SAND FROM OTHER SOURCES.

EMBANKMENT USED TO BUILD THE SUBGRADE TO REQUIRED ELEVATION SHALL BE SUITABLE SOIL EXCAVATED FROM THE PROJECT SITE, OR FURNISHED BY THE CONTRACTOR FROM OTHER SOURCES. SUITABLE SOIL IS FREE FROM ORGANIC MATTER, ROCKS AND STONES, FROZEN MATERIAL, BROKEN CONCRETE, AND DEBRIS.

EMBANKMENT CONSTRUCTED OF GRANULAR SOILS SHALL BE COMPACTED IN LIFTS NOT EXCEEDING 10 INCHES TO AT LEAST 95% OF ITS MAXIMUM UNIT WEIGHT.

EMBANKMENT CONSTRUCTED OF COHESIVE SOILS SHALL BE COMPACTED IN LIFTS NOT EXCEEDING 10 INCHES TO AT LEAST 95% OF ITS MAXIMUM UNIT WEIGHT.

DENSITY TESTING
THE MAXIMUM UNIT WEIGHT OF SAND AND OTHER GRANULAR SOILS WILL BE DETERMINED BY THE ONE POINT CONE TEST, AS DESCRIBED IN THE MICHIGAN DEPARTMENT OF TRANSPORTATION'S DENSITY TESTING AND INSPECTION MANUAL, EXCEPT WHEN ANOTHER TEST METHOD IS SPECIFIED.

THE MAXIMUM UNIT WEIGHT OF COHESIVE SOILS WILL BE DETERMINED BY THE ONE POINT PROCTOR TEST, AS DESCRIBED IN THE MICHIGAN DEPARTMENT OF TRANSPORTATION'S DENSITY TESTING AND INSPECTION MANUAL, EXCEPT WHEN ANOTHER TEST METHOD IS SPECIFIED.

WORK HOURS
UNLESS PROVIDED OTHERWISE IN THE CONTRACT DOCUMENTS OR LIMITED BY LOCAL ORDINANCE, THE CONTRACTOR SHALL WORK WITHIN OF THE FOLLOWING TIMES, UNLESS OTHERWISE APPROVED BY THE OWNER:
MONDAY THROUGH FRIDAY 7 A.M. TO 8 P.M.
SATURDAY 8 A.M. TO 6 P.M.

THE CONTRACTOR SHALL NOT WORK ON SUNDAYS OR HOLIDAYS, UNLESS OTHERWISE APPROVED BY THE OWNER.

DRAINAGE
THE CONTRACTOR SHALL MAINTAIN DRAINAGE OF THE PROJECT AREA AND ADJACENT AREAS. WHERE EXISTING DRAINAGE FACILITIES ARE DISTURBED OR BLOCKED BY CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY PROVISIONS FOR DRAINAGE.

WHERE CONSTRUCTION HAS DISTURBED EXISTING DITCHES, SWALES, OR OTHER DRAINAGE FACILITIES; THE CONTRACTOR SHALL RESTORE THEM TO THEIR GRADES AND DIMENSIONS WHICH EXISTED PRIOR TO THE BEGINNING OF CONSTRUCTION, UNLESS DIRECTED OTHERWISE.

DRAINAGE SHALL NOT BE REROUTED ONTO ADJACENT PROPERTIES NOR ALLOWED TO DRAIN ONTO ADJACENT PROPERTIES AT AN INCREASED RATE, AS A RESULT OF THE CONTRACTOR'S WORK.

SITE PROJECTS
ADJUSTING STRUCTURES
WHERE CASTINGS FOR MANHOLES, CATCH BASINS, INLETS, VALVE BOXES, AND MONUMENT BOXES ARE TO BE ADJUSTED TO MEET A NEW PAVEMENT SURFACE ELEVATION, THE FINAL ADJUSTMENT SHALL NOT BE COMPLETED UNTIL ALL PAVEMENT COURSES HAVE BEEN PLACED EXCEPT THE FINAL COURSE. THE FINAL ADJUSTMENT SHALL BE COMPLETED JUST PRIOR TO PLACEMENT OF THE FINAL COURSE OF PAVEMENT.

THE MATERIALS AND PROCEDURES FOR ADJUSTING STRUCTURES SHALL MEET THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION OVER THE ROAD AND UTILITIES.

SUBGRADE PREPARATION
TOPSOIL, PEAT, AND ORGANIC MATERIAL SHALL BE EXCAVATED AND REMOVED.

SOFT AND YIELDING SOILS SHALL BE REMOVED OR DRIED IF THE RESULT OF EXCESSIVE MOISTURE CONTENT.

PRIOR TO CONSTRUCTING FILLS, SUBBASE, OR PAVEMENT ON A SUBGRADE; THE SUBGRADE SHALL BE PROOF-ROLLED TO DETERMINE THE SUITABILITY OF THE SUBGRADE. THE CONTRACTOR SHALL DRIVE A HEAVY PIECE OF WHEELED CONSTRUCTION EQUIPMENT OVER THE SUBGRADE WHILE THE OWNER IS OBSERVING. THE CONSTRUCTION OF FILLS, SUBBASE, OR PAVEMENTS SHALL NOT PROCEED UNTIL THE SUBGRADE HAS BEEN DEMONSTRATED TO BE FREE OF SOFT AREAS.

THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE MOISTURE CONTENT OF SUBGRADE SOILS WITHIN A SUITABLE RANGE TO ALLOW FOR COMPACTION TO THE REQUIRED DENSITY. WHEN THE SOIL IS TOO DRY, THE CONTRACTOR SHALL ADD WATER. WHEN THE SOIL IS TOO WET, THE CONTRACTOR SHALL PROVIDE DRAINAGE OR AERATE THE SOIL.

THE SURFACE OF THE SUBGRADE SHALL BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM UNIT WEIGHT, PRIOR TO CONSTRUCTING FILLS, SUBBASE, OR PAVEMENTS.

CURB AND GUTTERS
THE CONTRACTOR SHALL DETERMINE THE LOCATION AND DIMENSIONS OF CURB OPENINGS FOR DRIVEWAYS, RAMPS, AND DRAINAGE STRUCTURES.

HOT MIX ASPHALT (HMA) PAVING
PAVEMENTS WHICH ARE TO BE OVERLAID WITH A NEW PAVEMENT COURSE SHALL BE SWEPT TO REMOVE ALL DIRT AND DEBRIS.

A BITUMINOUS BOND COAT SHALL BE APPLIED TO PAVEMENTS WHICH ARE TO BE OVERLAID WITH A NEW PAVEMENT COURSE AND ALLOWED TO CURE PRIOR TO CONSTRUCTING THE NEW PAVEMENT COURSE.

HMA PAVEMENT SHALL NOT BE PLACED WHEN THE SURFACE BEING OVERLAID IS WET, OR WHEN RAIN IS FORECAST OR THREATENING.

SIDEWALK CONSTRUCTION
SIDEWALKS SHALL BE CONSTRUCTED TO PROVIDE POSITIVE DRAINAGE OF THE SIDEWALK AND ADJACENT SURFACES.

EXCEPT WHERE NECESSARY TO PROVIDE POSITIVE DRAINAGE OR MEET EXISTING SURFACES, SIDEWALK SHALL BE CONSTRUCTED WITH A CROSS SLOPE SLOPED TOWARD THE STREET.

SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2%.

IN TURF AREAS, THE SURFACE OF THE SIDEWALK SHALL BE ABOUT 1/4 INCH HIGHER THAN THE ADJACENT GROUND SURFACES, EXCEPT WHERE NECESSARY TO PROVIDE POSITIVE DRAINAGE OR MEET EXISTING SIDEWALKS, CURBS, OR PAVEMENTS.

SIDEWALK SHALL BE CONSTRUCTED ON A SAND BASE, COMPACTED TO AT LEAST 95% OF ITS MAXIMUM UNIT WEIGHT.

THE CONTRACTOR SHALL NOTIFY THE OWNER WHEN SIDEWALK FORMS HAVE BEEN SET AND THE SAND BASE PREPARED. CONCRETE SHALL NOT BE PLACED UNTIL THE OWNER HAS OBSERVED THE FORMS. CONCRETE DELIVERY SHALL BE SCHEDULED TO ALLOW SUFFICIENT TIME FOR ADJUSTMENT OF THE FORMS, IN THE EVENT THAT ADJUSTMENT IS NECESSARY.

THE CONTRACTOR SHALL PROTECT FRESH CONCRETE FROM DAMAGE BY THE WEATHER, TRAFFIC, OR VANDALISM. DAMAGED CONCRETE SHALL BE REPLACED BY THE CONTRACTOR'S EXPENSE.

SANITARY SEWER CONSTRUCTION NOTES
THE NEW SANITARY SEWER SHALL NOT BE CONNECTED TO THE EXISTING SEWER UNTIL APPROVED BY THE OWNER.

AT LEAST TEN FEET OF HORIZONTAL AND EIGHTEEN INCHES OF VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN THE SEWER AND EXISTING WATER MAINS.

MANHOLES SHALL BE CONSTRUCTED FROM PRECAST CONCRETE MANHOLE SECTIONS, MEETING ASTM C443. MANHOLE JOINTS SHALL BE MADE WITH RUBBER O-RING GASKETS. THE SECTION BETWEEN THE TOP OF THE PRECAST CONE AND THE BOTTOM OF THE CASTING SHALL BE CONSTRUCTED OF PRECAST GRADE RINGS, OF TOTAL THICKNESS SO THAT THE MANHOLE CASTING IS PLACED AT THE PROPER FINAL ELEVATION, EXCEPT THAT THE TOTAL THICKNESS SHALL NOT EXCEED TEN INCHES.

MANHOLE STEPS SHALL BE EQUALLY SPACED AT 15 INCHES. THE DISTANCE FROM THE TOP STEP TO THE TOP OF THE MANHOLE CASTING SHALL NOT EXCEED 16 INCHES.

THE CONTRACTOR SHALL CONDUCT A LOW PRESSURE AIR TEST ON ALL SANITARY SEWERS LESS THAN 24 INCHES IN DIAMETER. THE AIR TEST SHALL MEET THE REQUIREMENTS OF ASTM C 924 FOR CONCRETE PIPE AND ASTM F1471 FOR PLASTIC PIPE. IN AREAS WHERE GROUNDWATER IS OVER THE PIPE, THE TEST PRESSURE SHALL BE INCREASED EQUAL TO THE HYDRAULIC PRESSURE EXERTED BY THE WATER OVER THE PIPE, AS DETERMINED BY THE OWNER.

STORM SEWER CONSTRUCTION NOTES
DRAINAGE STRUCTURES SHALL BE CONSTRUCTED FROM PRECAST CONCRETE MANHOLE SECTIONS, MEETING ASTM C478.

SUMPS IN DRAINAGE STRUCTURES AND PIPELINES SHALL BE FREE OF SEDIMENT AND DEBRIS AT THE TIME OF ACCEPTANCE BY THE OWNER.

WATER MAIN CONSTRUCTION NOTES
HYDRANTS, VALVES, AND OTHER MATERIALS SHALL MEET THE OWNER'S STANDARDS, WITH REGARD TO MANUFACTURER AND MODEL, AND DETAILS SUCH AS OPENING DIRECTION, HYDRANT COLOR, HYDRANT CONFIGURATION, AND HYDRANT THREAD PATTERN.

NEW WATER MAIN SHALL NOT BE CONNECTED TO THE EXISTING WATER MAIN WITHOUT THE APPROVAL OF THE OWNER.

AT LEAST TEN FEET OF HORIZONTAL AND EIGHTEEN INCHES OF VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND SEWERS (STORM OR SANITARY).

THE DEPTH OF BURY SHOWN ON THE PLANS SHALL BE PROVIDED, AS A MINIMUM, OVER THE TOP OF THE WATER MAIN PIPE TO THE FINISHED GROUND OR PAVEMENT SURFACE. UNLESS SPECIFICALLY DIRECTED OTHERWISE ON THE DRAWINGS, THE DEPTH OF BURY SHOWN ON THE PLANS SHALL BE MAINTAINED BETWEEN THE BOTTOM OF DITCHES AND THE TOP OF THE PIPE.

ALL BENDS, TEES, PLUGS, HYDRANTS, VALVES, AND OTHER FITTINGS WHERE THRUST MAY OCCUR SHALL BE RESTRAINED APPROPRIATELY BY THRUST BLOCKS OR JOINT RESTRAINT.

EXISTING WATER VALVES SHALL BE OPERATED ONLY BY THE WATER DEPARTMENT'S PERSONNEL.

THE SHUTTING DOWN OF EXISTING WATER MAINS TO ALLOW FOR COMPLETING THE CONTRACTOR'S WORK SHALL BE SCHEDULED IN ADVANCE BY THE CONTRACTOR WITH THE OWNER. THE CONTRACTOR SHALL PROVIDE NOTIFICATION TO AFFECTED WATER CUSTOMERS IN AT LEAST A DAY IN ADVANCE OF ANY SCHEDULED SERVICE DISRUPTIONS.

THE CONTRACTOR SHALL EXPOSE EXISTING MAINS TO VERIFY THE SIZE, MATERIALS, AND ANY FITTINGS NECESSARY BEFORE SHUTTING DOWN EXISTING WATER MAINS FOR NEW CONNECTIONS. ALL FITTINGS, PARTS, AND EQUIPMENT NECESSARY TO COMPLETE THE PROPOSED CONNECTIONS TO THE EXISTING MAIN SHALL BE AVAILABLE AT THE SITE BEFORE THE EXISTING MAIN IS SHUT DOWN.

THE COMPLETED WATER MAIN SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE. THE TEST PRESSURE SHALL BE 150 PSI. THE TEST DURATION SHALL BE 2 HOURS. THE CONTRACTOR SHALL CONDUCT SUCH PRELIMINARY TESTING TO EXPEL AIR AND VERIFY THAT THERE ARE NO LEAKS IN THE PIPELINE. THE TEST SHALL BE WITNESSED BY THE OWNER. THE CONTRACTOR SHALL NOTIFY THE OWNER AT LEAST 24 HOURS IN ADVANCE OF THE TIME FOR TESTING.

IF THE CONTRACTOR ELECTS TO PRESSURE TEST AGAINST AN EXISTING VALVE, THE OWNER DOES NOT GUARANTEE THAT EXISTING VALVES CAN RESIST THE TEST PRESSURE. IF THE CONTRACTOR BELIEVES THAT AN EXISTING VALVE IS THE CAUSE OF A FAILED PRESSURE TEST, THE CONTRACTOR SHALL EITHER REPAIR THE VALVE AND RETEST OR TEST AGAINST A PLUG, AT THEIR EXPENSE.

UNLESS SPECIFICALLY PROVIDED OTHERWISE, THE CONTRACTOR IS RESPONSIBLE TO FURNISH WATER FOR TESTING AND DISINFECTION.

WATER FROM THE CONTRACTOR'S FLUSHING AND DISINFECTION ACTIVITIES SHALL BE DISPOSED OF TO PREVENT EROSION OR FLOODING.

THE CONTRACTOR SHALL FURNISH AND INSTALL CORPORATIONS, TAPS, PIPING, AND FITTINGS AS NECESSARY TO COMPLETE THE REQUIRED FLUSHING AND TESTING FOR ACCEPTANCE. AFTER ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL CORPORATIONS, TAPS, PIPING, AND FITTINGS USED FOR FLUSHING AND TESTING. TAPS TO THE WATER MAIN SHALL BE PLUGGED WITH BRASS PLUGS.

TAPS FOR SERVICE CONNECTIONS SHALL BE COMPLETED UNDER PRESSURE. THE CORPORATION AND SERVICE LEAD SHALL BE VISUALLY CHECKED FOR LEAKAGE WHILE UNDER PRESSURE. ALL JOINTS SHALL REMAIN EXPOSED UNTIL THE OWNER HAS OBSERVED THEM.

CORPORATIONS SHALL BE LEFT IN THE "OPEN" POSITION. CURB STOPS FOR FUTURE CONNECTIONS SHALL BE LEFT "CLOSED"; CURB STOPS FOR CURRENT WATER CUSTOMERS SHALL BE LEFT "OPEN" ONCE CONNECTED.

CAUTION SYMBOLS
- ••CAUTION•• HAZARDOUS FLAMMABLE MATERIAL UNDERGROUND — USED WITH UNDERGROUND GAS & ELECTRICAL LINES
- ••CAUTION•• CRITICAL UNDERGROUND UTILITY — USED WITH CRITICAL UNDERGROUND LINES
- ••CAUTION•• FIBER OPTIC — USED WITH FIBER OPTIC LINES

STRUCTURE SYMBOLS
- EXISTING CATCH BASIN IN CURB LINE
- PROPOSED CATCH BASIN IN CURB LINE
- EXISTING CATCH BASIN IN GREEN SPACE
- PROPOSED CATCH BASIN IN GREEN SPACE
- EXISTING STORM MANHOLE
- PROPOSED STORM MANHOLE
- PROPOSED CULVERT END SECTION
- EXISTING HEADWALL
- PROPOSED HEADWALL
- EXISTING GATE VALVE AND BOX
- EXISTING WATER SHUT OFF (CURB BOX)
- PROPOSED GATE VALVE AND BOX
- EXISTING GATE VALVE AND WELL
- PROPOSED GATE VALVE AND WELL
- EXISTING SPRINKLER HEAD
- EXISTING WATER WELL
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER MAIN FITTINGS
- EXISTING CLEAN OUT
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE
- EXISTING MONITORING WELL

SURVEY SYMBOLS
- MONUMENT
- SECTION CORNER
- BENCHMARK
- FOUND SURVEY MONUMENTATION
- TRAVERSE POINT

EXISTING TOPOGRAPHICAL SYMBOLS
- SIGN
- STREET SIGN
- END OF PIPE
- SWAMP OR WETLAND
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE STUMP
- MAIL BOX
- SOIL BORING
- ROCK
- METAL POST
- BUMPER BLOCK

UTILITY SYMBOLS
- UTILITY POLE
- GUY ANCHOR CABLE
- LIGHT POLE / ORNAMENTAL LIGHT
- POWER LIGHT POLE
- TELEPHONE MANHOLE
- UNDERGROUND GAS LINE MARKER
- GAS RISER
- GAS VENT
- GAS VALVE
- RAILROAD SIGNAL
- METAL LIGHT POLE
- OUTLET
- CIRCUIT BREAKER PANEL
- ELECTRICAL TRANSFORMER PAD
- ELECTRICAL TRANSFORMER RISER
- ELECTRIC METER
- TELEPHONE PEDESTAL / RISER
- TRAFFIC SIGNAL ON POLE
- PHONE BOOTH / PAY PHONE

MISCELLANEOUS SYMBOLS
- EX 1812 — EXISTING STORM SEWER STRUCTURE NUMBER
- EX 5236 — EXISTING SANITARY SEWER STRUCTURE NUMBER
- 1 — PROPOSED STORM SEWER STRUCTURE NUMBER
- A — PROPOSED SANITARY SEWER STRUCTURE NUMBER
- FLOW DIRECTION
- EXISTING RIP-RAP
- PROPOSED RIP-RAP

PROPOSED CALLOUTS
PLAN VIEW
- ADJ — ADJUST STRUCTURE
- ADJ-X — ADJUST STRUCTURE W/ NEW COVER
- ADJ-B/O — ADJUST STRUCTURE BY OTHERS
- REC — RECONSTRUCT STRUCTURE
- REL — RELOCATE
- REL-B/O — RELOCATE BY OTHERS
- R — REMOVE
- R&R — REMOVE AND REPLACE
- SALV — SALVAGE
- S — SAVE
- A — ABANDON
- C — CLEARING
- B — BULKHEAD
- 6 — SOIL EROSION CONTROL MEASURE

PLAN VIEW LINE TYPES
- 12" STM — EXISTING STORM SEWER
- 12" CONC — EXISTING CULVERT
- PROPOSED STORM SEWER LESS THAN 24"
- PROPOSED STORM SEWER 24" AND GREATER
- 12" SAN — EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- 12" WM — EXISTING WATER MAIN
- PROPOSED WATER MAIN
- SECTION LINE
- 60' ROW — EXISTING RIGHT OF WAY
- 60' ROW — PROPOSED RIGHT OF WAY
- PROPOSED EASEMENT
- EXISTING CENTER LINE DITCH
- PROPOSED DITCH CENTERLINE
- EXISTING CENTER LINE ROADWAY
- PARCEL LINE / LOT LINE
- O/H — EXISTING OVERHEAD UTILITIES
- U/G ELEC — UNDERGROUND ELECTRICAL LINE
- 6" S-MP GAS — GAS LINE OR PETROLEUM PIPELINE
- U/G TEL — UNDERGROUND TELEPHONE LINE
- U/G CATV — UNDERGROUND CABLE TV LINE
- U/G FIBER OPTIC — UNDERGROUND FIBER OPTIC
- 11+00 — PROJECT CONTROL LINE
- TREE LINE
- BRUSH LINE
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING GUARD RAIL
- PROPOSED SLOPE STAKE LINE
- PROPOSED SILT FENCE

TOPOGRAPHY
- 960 — EXISTING CONTOURS MAJOR
- 958 — EXISTING CONTOURS MINOR
- 960 — PROPOSED CONTOURS MAJOR
- 958 — PROPOSED CONTOURS MINOR

PARCEL INFORMATION
- 401-059 — PARCEL/TAX IDENTIFICATION NUMBER
- #5324 — ADDRESS/BUSINESS NAME

Know what's **below.** **Call** before you dig.

PLAN SUBMITTALS AND CHANGES	
BIDDING DOCUMENTS	
DATE	DESCRIPTION
4/8/26	ISSUED FOR BIDS

ROWE PROFESSIONAL SERVICES COMPANY
2242 Industrial Street, Suite A
Gaylord, MI 49735-1987
O: (989) 348-6036
F: (989) 348-6037
www.rowepsc.com

ANTHONY P. ESSON
ARCHITECT
PO BOX 479
GAYLORD, MICHIGAN
TELEPHONE: (989) 732-0585

DRAWING TITLE: CIVIL LEGEND AND NOTES

PROJECT TITLE: OGEMAW HEIGHTS HIGH SCHOOL - SITE DRAINAGE AND MISCELLANEOUS IMPROVEMENTS
WEST BRANCH - ROSE CITY AREA SCHOOLS
WEST BRANCH, MICHIGAN

PROJECT NO. 294-22

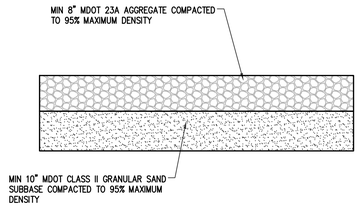
DATE NOV. 30, 2023

SHEET C100

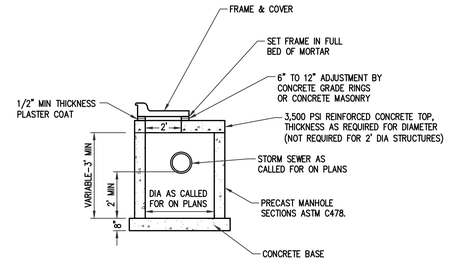
UTILITY CONTACT LIST

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED FROM THEIR OWNERS. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES.

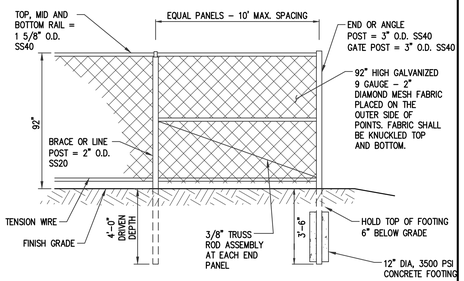
AGENCY	UTILITY
AT&T 309 S. WASHINGTON AVE SAGINAW, MI 48607 CONTACT: MICHAEL SZYMKOWIAK TELEPHONE: (989) 392-6076 E-MAIL: MS5837@ATT.COM	TELEPHONE
CONSUMERS ENERGY CONTACT: CALEB LANGLEY E-MAIL: CALEB.LANGLEY@CMSENERGY.COM	ELECTRIC
DTE ONE ENERGY PLAZA DETROIT, MI 48226 CONTACT: MATTHEW LOGAN TELEPHONE: (231) 258-3785 E-MAIL: MATTHEW.LOGAN@DTEENERGY	GAS
MERIT NETWORK 4273 58TH STREET P.O. BOX 1317 HOLLAND, MI 49422 TELEPHONE: (616) 393-0138 EXT. 119	FIBER OPTICS
TWD COMMUNICATIONS TELEPHONE: (989) 305-0124	FIBER OPTICS
WEST BRANCH CITY TELEPHONE: (989) 965-4982	POTABLE WATER



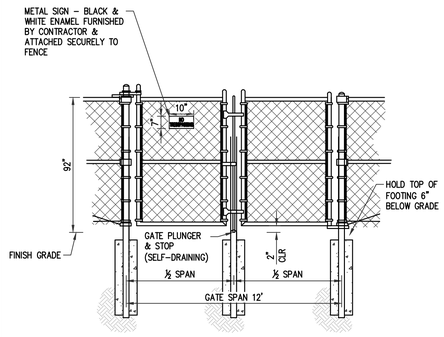
AGGREGATE SURFACE DETAIL
NOT TO SCALE



LOW COVERAGE (FLAT TOP) STRUCTURE DETAIL
NOT TO SCALE



CHAIN LINK FENCE DETAIL
NOT TO SCALE



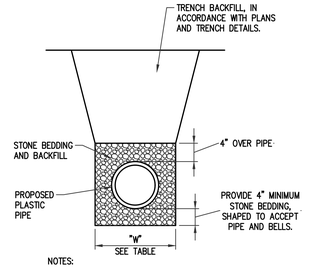
SWING GATE DETAIL
NOT TO SCALE

NOTES:

1. SUFFICIENT TRENCH WIDTH SHALL BE PROVIDED TO ALLOW FREE WORKING SPACE AND TO PERMIT COMPACTING THE BACKFILL AROUND THE PIPE.
2. THE FOLLOWING ARE MINIMUM TRENCH WIDTHS:

I.D. PIPE SIZE (INCHES)	18 OR SMALLER	21	24	30	36	42	48	54
"W" TRENCH WIDTH (FEET)	3.0	3.5	4.0	5.0	6.0	7.0	8.0	9.5

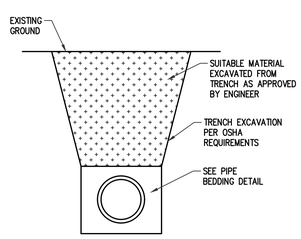
I.D. PIPE SIZE (INCHES)	60	66	72	78	84	90	96	102	108
"W" TRENCH WIDTH (FEET)	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0



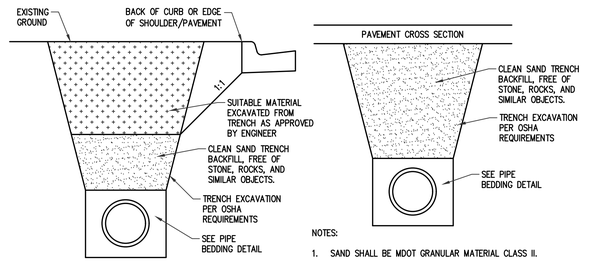
NOTES:

1. STONE SHALL BE MDOT, SERIES 6AA.

FLEXIBLE GRAVITY PIPE AGGREGATE BEDDING DETAIL
NOT TO SCALE



TRENCH DETAIL A BACKFILL DETAIL
NOT TO SCALE



NOTES:

1. SAND SHALL BE MDOT GRANULAR MATERIAL CLASS II.
2. SAND SHALL BE COMPACTED TO 95% OF ITS MAXIMUM UNIT WEIGHT.

TRENCH DETAIL B BACKFILL DETAIL
NOT TO SCALE

ROWE PROFESSIONAL SERVICES COMPANY
2342 Industrial Street, Suite A
Gaylord, MI 49735-1987
O: (989) 348-6036
F: (989) 348-1405
www.rowepsc.com

ANTHONY P. ESSON
ARCHITECT
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TELEPHONE:
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PLAN SUBMITTALS AND CHANGES

BIDDING DOCUMENTS

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OGEMAW HEIGHTS HIGH SCHOOL - SITE DRAINAGE AND MISCELLANEOUS IMPROVEMENTS
WEST BRANCH, MICHIGAN

PROJECT NO.: 294-22

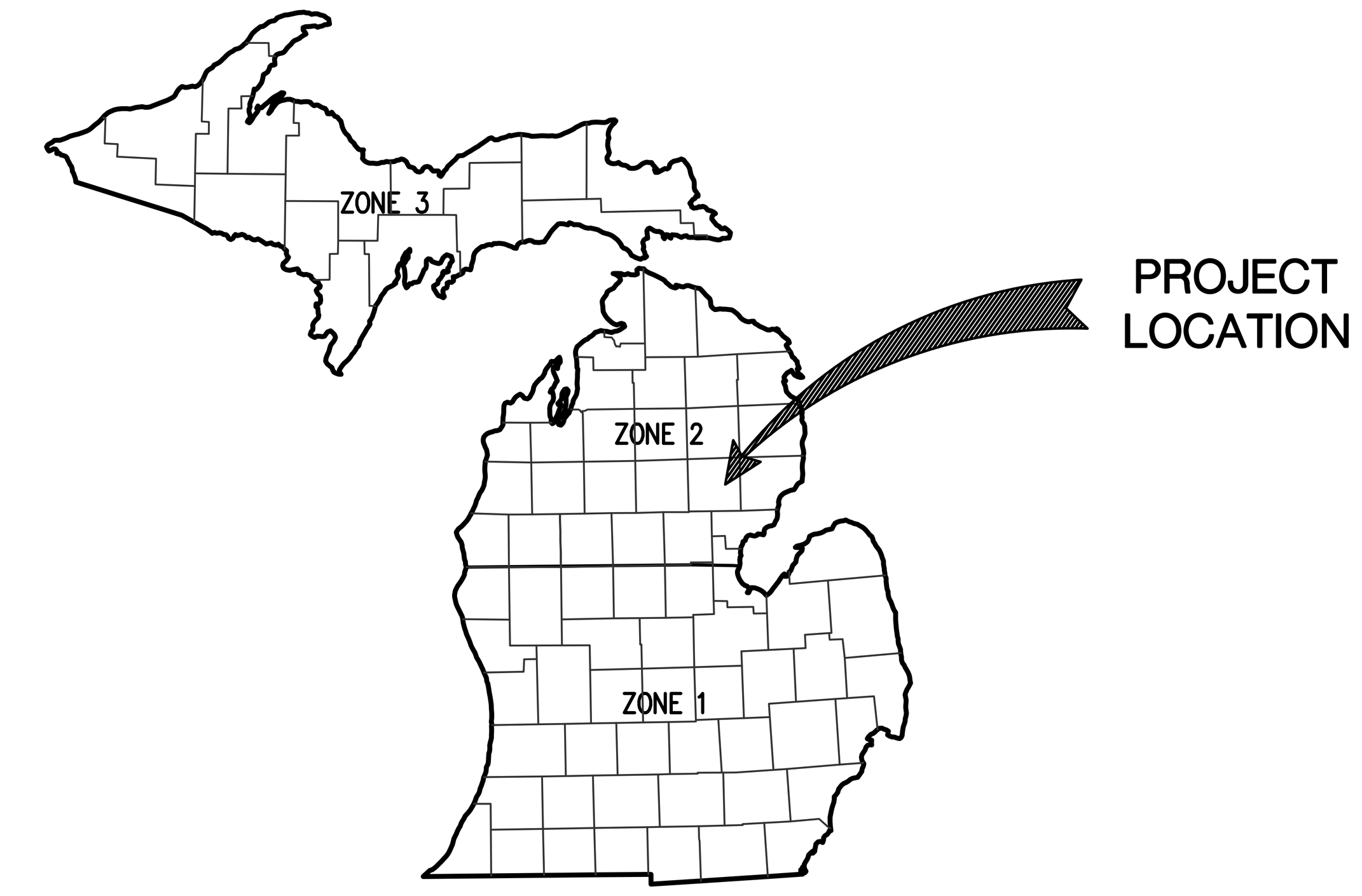
DATE: NOV. 30, 2023

SHEET: C101

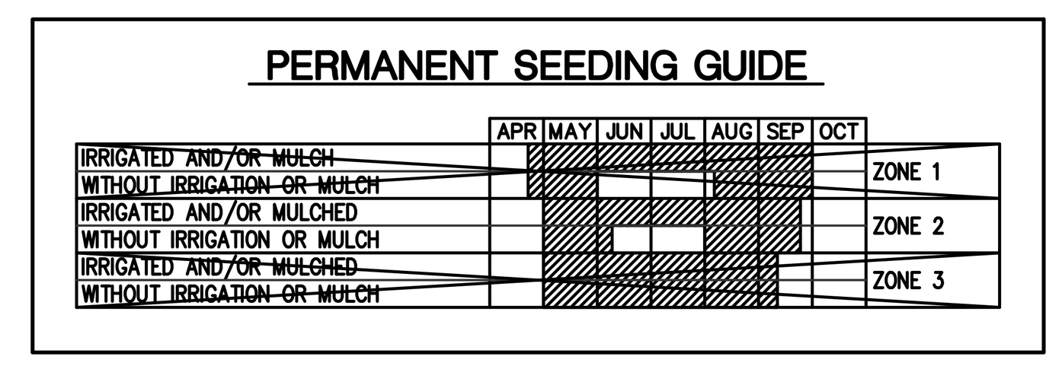
MICHIGAN UNIFIED KEYING SYSTEM
SOIL EROSION SEDIMENTATION CONTROL MEASURES

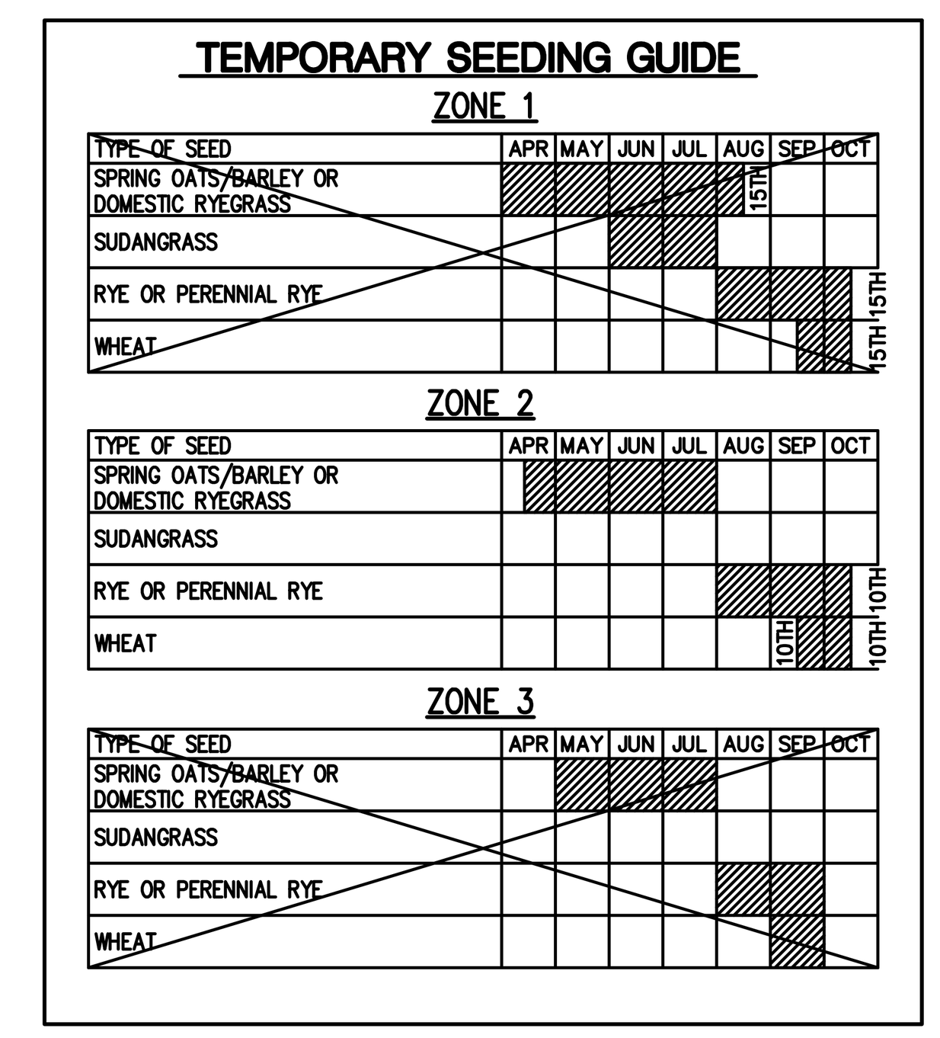
* INDICATES APPLICABILITY OF A SPECIFIC CONTROL MEASURE TO ONE OR MORE OF THE SEVEN PROBLEM AREAS

KEY	DETAIL	CHARACTERISTICS	A (SLOPES)	B (STREAMS AND WATERWAYS)	C (SURFACE DRAINAGEWAYS)	D (ENCLOSED DRAINAGE (Inlet & Outfall Control))	E (LARGE FLAT SURFACE AREAS)	F (BORROW AND STOCKPILE AREAS)	G (ADJACENT PROPERTIES)
1	STRIPPING & STOCKPILING TOPSOIL	TOPSOIL MAY BE STOCKPILED ABOVE BORROW AREAS TO ACT AS A DIVERSION. STOCKPILE SHOULD BE TEMPORARILY SEEDED.	*				*	*	
2	SELECTIVE GRADING & SHAPING	WATER CAN BE DIVERTED TO MINIMIZE EROSION. FLATTER SLOPES EASE EROSION PROBLEMS.	*				*	*	*
3	GRUBBING OMITTED	SAVES COST OF GRUBBING, PROVIDES NEW SPROUTS, RETAINS EXISTING ROOT MAT SYSTEM, REDUCES WIND FALL AT NEW FOREST EDGE DISCOURAGES EQUIPMENT ENTRANCE	*				*		*
4	VEGETATIVE STABILIZATION	MAY UTILIZE A VARIETY OF PLANT MATERIAL STABILIZES SOIL SLOWS RUNOFF VELOCITY FILTERS SEDIMENT FROM RUNOFF	*	*	*		*	*	*
5	SEEDING	INEXPENSIVE AND VERY EFFECTIVE STABILIZES SOIL, THUS MINIMIZING EROSION PERMITS RUNOFF TO INFILTRATE SOIL, REDUCING RUNOFF VOLUME SHOULD INCLUDE PREPARED TOPSOIL BED	*		*		*	*	*
6	SEEDING WITH MULCH AND/OR MATTING	FACILITATES ESTABLISHMENT OF VEGETATIVE COVER EFFECTIVE FOR DRAINAGEWAYS WITH LOW VELOCITY EASILY PLACED IN SMALL QUANTITIES BY INEXPERIENCED PERSONNEL SHOULD INCLUDE PREPARED TOPSOIL BED	*		*			*	*
7	HYDRO-SEEDING	EFFECTIVE ON LARGE AREAS MULCH TACKING AGENT USED TO PROVIDE IMMEDIATE PROTECTION UNTIL GRASS IS ROOTED SHOULD INCLUDE PREPARED TOPSOIL BED	*				*	*	*
8	SODDING	PROVIDES IMMEDIATE PROTECTION CAN BE USED ON STEEP SLOPES WHERE SEED MAY BE DIFFICULT TO ESTABLISH EASY TO PLACE; MAY BE REPAIRED IF DAMAGED SHOULD INCLUDE PREPARED TOPSOIL BED	*		*		*	*	*
9	VEGETATIVE BUFFER STRIP	SLOWS RUNOFF VELOCITY FILTERS SEDIMENT FROM RUNOFF REDUCES VOLUME OF RUNOFF ON SLOPES	*	*					*
10	MULCHING	USED ALONE TO PROTECT EXPOSED AREAS FOR SHORT PERIODS PROTECTS SOIL FROM IMPACT OF FALLING RAIN PRESERVES SOIL MOISTURE AND PROTECTS GERMINATING SEED FROM TEMPERATURE EXTREMES	*				*	*	
11	ROUGHENED SURFACE	REDUCES VELOCITY AND INCREASES INFILTRATION RATES COLLECTS SEDIMENT HOLDS WATER, SEED, AND MULCH BETTER THAN SMOOTH SURFACES	*				*		
12	COMPACTION	HELPS HOLD SOIL IN PLACE, MAKING EXPOSED AREAS LESS VULNERABLE TO EROSION	*				*		
13	RIPRAP, RUBBLE, GABIONS	USED WHERE VEGETATION IS NOT EASILY ESTABLISHED EFFECTIVE FOR HIGH VELOCITIES OR HIGH CONCENTRATIONS PERMITS RUNOFF TO INFILTRATE SOIL DISSIPATES ENERGY FLOW AT SYSTEM OUTLETS	*	*	*				
14	AGGREGATE COVER	STABILIZES SOIL SURFACE, THUS MINIMIZING EROSION PERMITS CONSTRUCTION TRAFFIC IN ADVERSE WEATHER MAY BE USED AS PART OF PERMANENT BASE CONSTRUCTION OF PAVED AREAS					*		
15	PAVING	PROTECTS AREAS WHICH CANNOT OTHERWISE BE PROTECTED, BUT INCREASES RUNOFF VOLUME AND VELOCITY IRREGULAR SURFACE WILL HELP SLOW VELOCITY	*				*		
16	CURB & GUTTER	KEEPS HIGH VELOCITY RUNOFF ON PAVED AREAS FROM LEAVING PAVED SURFACE COLLECTS AND CONDUCTS RUNOFF TO ENCLOSED DRAINAGE SYSTEM OR PREPARED DRAINAGEWAY					*		*
17	BENCHES	REDUCES RUNOFF VELOCITY BY REDUCING EFFECTIVE SLOPE LENGTH COLLECTS SEDIMENT PROVIDES ACCESS TO SLOPES FOR SEEDING, MULCHING AND MAINTENANCE	*					*	
18	DIVERSION BERM	DIVERTS WATER FROM VULNERABLE AREAS COLLECTS AND DIRECTS WATER TO PREPARED DRAINAGEWAYS MAY BE PLACED AS PART OF NORMAL CONSTRUCTION OPERATION	*					*	*
19	DIVERSION DITCH	COLLECTS AND DIVERTS WATER TO REDUCE EROSION POTENTIAL MAY BE INCORPORATED IN PERMANENT PROJECT DRAINAGE SYSTEMS	*					*	*
20	BERM & DITCH	DIVERTS WATER TO A PREPARED DRAINAGEWAY MAY BE USED AT INTERVALS ACROSS SLOPE FACE TO REDUCE EFFECTIVE SLOPE LENGTH	*					*	*
21	FILTER BERM	CONSTRUCTED OF GRAVEL OR STONE INTERCEPTS AND DIVERTS RUNOFF TO STABILIZED AREAS OR PREPARED DRAINAGE SYSTEMS SLOWS RUNOFF AND COLLECTS SEDIMENT	*	*					*
22	BRUSH FILTER	USES SLASH AND LOGS FROM CLEARING OPERATIONS CAN BE COVERED AND SEEDED RATHER THAN REMOVED ELIMINATES NEED FOR BURNING OR REMOVAL OF MATERIAL FROM SITE							*
23	BARE CHANNEL	LEAST EXPENSIVE FORM OF DRAINAGEWAY MAY BE USED ONLY WHERE GRADIENT IS VERY LOW AND WITH SOILS OF MINIMUM EROSION POTENTIAL			*				
24	GRASSED WATERWAY	MUCH MORE STABLE FORM OF DRAINAGEWAY THAN BARE CHANNEL GRASS TENDS TO SLOW RUNOFF AND FILTER OUT SEDIMENT USED WHERE BARE CHANNEL WOULD BE ERODED			*				
25	SLOPE DRAIN (SURFACE PIPE)	PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA USUALLY PERMANENT CAN BE CONSTRUCTED OR EXTENDED AS GRADING PROGRESSES	*						
26	SLOPE DRAIN (PIPE CHUTE)	PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA USUALLY PERMANENT CAN BE CONSTRUCTED OR EXTENDED AS GRADING PROGRESSES	*						
27	SLOPE DRAIN (SUBSURFACE PIPE)	PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA USUALLY PERMANENT CAN BE CONSTRUCTED AS GRADING PROGRESSES	*						
28	DROP SPILLWAY	SLOWS VELOCITY OF FLOW, REDUCING EROSIVE CAPACITY		*	*				
29	PIPE DROP	REDUCES RUNOFF VELOCITY REMOVES SEDIMENT AND TURBIDITY CAN BE DESIGNED TO HANDLE LARGE VOLUMES OF FLOW			*				
30	PIPE SPILLWAY	REMOVES SEDIMENT AND TURBIDITY FROM RUNOFF MAY BE PART OF PERMANENT EROSION CONTROL PLAN			*				
31	ENERGY DISSIPATER	SLOWS RUNOFF VELOCITY TO NON-EROSIVE LEVEL PERMITS SEDIMENT COLLECTION FROM RUNOFF	*		*	*			
32	LEVEL SPREADER	CONVERTS COLLECTED CHANNEL OR PIPE FLOW BACK TO SHEET FLOW AVOIDS CHANNEL EASEMENTS AND CONSTRUCTION OFF PROJECT SITE SIMPLE TO CONSTRUCT			*				
33	SEDIMENTATION TRAP	MAY BE CONSTRUCTED OF A VARIETY OF MATERIALS TRAPS SEDIMENT AND REDUCES VELOCITY OF FLOW CAN BE CLEANED AND EXPANDED AS NEEDED		*	*				
34	SEDIMENT BASIN	TRAPS SEDIMENT RELEASES RUNOFF AT NON-EROSIVE RATES CONTROLS RUNOFF AT SYSTEM OUTLETS CAN BE VISUAL AMENITIES		*	*	*			
35	STORM SEWER	SYSTEM REMOVES COLLECTED RUNOFF FROM SITE, PARTICULARLY FROM PAVED AREAS CAN ACCEPT LARGE CONCENTRATIONS OF RUNOFF CONDUCTS RUNOFF TO MUNICIPAL SEWER SYSTEM OR STABILIZED OUTFALL LOCATION USE CATCH BASINS TO COLLECT SEDIMENT					*		*
36	CATCH BASIN, DRAIN INLET	COLLECTS HIGH VELOCITY CONCENTRATED RUNOFF MAY USE FILTER CLOTH OVER INLET					*		*
37	SOD FILTER	INEXPENSIVE AND EASY TO CONSTRUCT PROVIDES IMMEDIATE PROTECTION PROTECTS AREAS AROUND INLETS FROM EROSION				*			
38	STRAW BALE FILTER	INEXPENSIVE AND EASY TO CONSTRUCT CAN BE LOCATED AS NECESSARY TO COLLECT SEDIMENT MAY BE USED IN CONJUNCTION WITH SNOW FENCE FOR ADDED STABILITY				*			*
39	ROCK FILTER	CAN UTILIZE MATERIAL FOUND ON SITE EASY TO CONSTRUCT FILTERS SEDIMENT FROM RUNOFF				*			*
40	INLET SEDIMENT TRAP	EASY TO SHAPE COLLECTS SEDIMENT MAY BE CLEANED AND EXPANDED AS NEEDED				*			
41	STONE AND ROCK CROSSING	MAY BE ROCK OR CLEAN RUBBLE MINIMIZES STREAM TURBIDITY INEXPENSIVE MAY ALSO SERVE AS DITCH CHECK OR SEDIMENT TRAP		*					
42	TEMPORARY CULVERT	ELIMINATES STREAM TURBULENCE AND TURBIDITY PROVIDES UNOBSTRUCTED PASSAGE FOR FISH AND OTHER WATER LIFE CAPACITY FOR NORMAL FLOW CAN BE PROVIDED WITH STORM WATER FLOWING OVER ROADWAY		*					
43	CULVERT SEDIMENT TRAP	EASY TO INSTALL AT INLET KEEPS CULVERT CLEAN AND FREE FLOWING MAY BE CONSTRUCTED OF LUMBER OR LOGS		*					*
44	CULVERT SEDIMENT TRAP	DEFLECTS CURRENTS AWAY FROM STREAMBANK AREAS		*					
45	TEMP. STREAM CHANNEL CHANGE	NEW CHANNEL KEEPS NORMAL FLOWS AWAY FROM CONSTRUCTION REQUIRES STATE PERMIT		*					
46	SHEET PILINGS	PROTECTS ERODIBLE BANK AREAS FROM STREAM CURRENTS DURING CONSTRUCTION MINIMAL DISRUPTION WHEN REMOVED		*					
47	COFFERDAM	WORK CAN BE CONTINUED DURING MOST ANTICIPATED STREAM CONDITIONS CLEAR WATER CAN BE PUMPED DIRECTLY BACK INTO STREAM		*					
48	CONSTRUCTION DAM	PERMITS WORK TO CONTINUE DURING NORMAL STREAM STAGES CONTROLLED FLOODING CAN BE ACCOMPLISHED DURING PERIODS OF INACTIVITY		*					
49	CHECK DAMS	REDUCES FLOW VELOCITY CATCHES SEDIMENT CAN BE CONSTRUCTED OF LOGS, STRAW, HAY ROCK, LUMBER, MASONRY, OR SAND BAGS		*	*				
50	WEIR	CONTROLS SEDIMENTATION IN LARGE STREAMS CAUSES MINIMAL TURBIDITY		*	*				
51	RETAINING WALL	REDUCES GRADIENT WHERE SLOPES ARE EXTREMELY STEEP PERMITS RETENTION OF EXISTING VEGETATION, KEEPING SOIL STABLE IN CRITICAL AREAS MINIMIZES MAINTENANCE	*						*
52	SEEPAGE CONTROL	PREVENTS PIPING AND SOIL SLIPPAGE ON CUT SLOPES	*						*
53	WINDBREAK	MINIMIZES WIND EROSION MAY BE SNOW FENCE					*		
54	SILT FENCE	USES GEOTEXTILE FABRIC AND POSTS OR POLES. EASY TO CONSTRUCT AND LOCATE AS NECESSARY.			*				*



SEEDING ZONES





SOIL EROSION & SEDIMENTATION CONTROL

1. CONTRACTOR SHALL SUBMIT A DETAILED EROSION CONTROL PLAN AND OBTAIN A SOIL EROSION & SEDIMENTATION CONTROL PERMIT PRIOR TO ANY EARTH CHANGES.
2. CONSTRUCTION OPERATION SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING AND/OR GRADING OPERATIONS.
3. BORROW AND FILL DISPOSAL AREAS WILL BE SELECTED AND APPROVED AT TIME OF PLAN REVIEW.
4. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
5. CLEANUP WILL BE DONE IN A MANNER TO ENSURE THAT EROSION CONTROL MEASURES ARE NOT DISTURBED.
6. THE PROJECT WILL CONTINUALLY BE INSPECTED FOR SOIL EROSION AND SEDIMENTATION CONTROL COMPLIANCE. DEFICIENCIES WILL BE CORRECTED BY THE DEVELOPER WITHIN 24 HOURS.
7. TEMPORARY EROSION CONTROL MEASURES SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR UPON ESTABLISHMENT OF PERMANENT CONTROL MEASURES.
8. ALL TEMPORARY SOIL EROSION CONTROL MEASURES MUST BE REMOVED FROM THE PROJECT PRIOR TO RELEASE OF FINAL RETAINAGE.
9. VEGETATION MUST BE ACCEPTABLY ESTABLISHED PRIOR TO FINAL RELEASE OF FINAL RETAINAGE

SOIL EROSION/SEDIMENTATION CONTROL
OPERATION TIME SCHEDULE

CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TEMP. CONTROL MEASURES												
STRIP & STOCKPILE TOPSOIL												
ROUGH GRADE SEDIMENT CONTROL												
STORM FACILITIES												
SITE CONSTRUCTION												
PERM. CONTROL MEASURES												
FINISH GRADING												

TO BE FILLED OUT BY CONTRACTOR

CONSTRUCTION SEQUENCE

1. IMPLEMENTATION OF TEMPORARY EROSION CONTROL MEASURES; SELECTIVE GRADING, DIVERSIONS AS REQUIRED IN FIELD, PROTECTION OF STORM SEWER FACILITIES.
2. EXCAVATION AND STOCKPILING OF SOIL.
3. PERIODIC MAINTENANCE OF AFFECTED EROSION CONTROL MEASURES.
4. PERMANENT MEASURES; FINAL GRADING, SEEDING AND MULCHING.

Know what's **below.**
Call before you dig.

PLAN SUBMITTALS AND CHANGES

BIDDING DOCUMENTS

DATE	DESCRIPTION
4/8/26	ISSUED FOR BIDS

ROWE PROFESSIONAL SERVICES COMPANY
2342 Industrial Street, Suite A
Grayling, MI 49738-1987
O: (989) 348-4036
F: (989) 348-5416
www.rowepsc.com

ANTHONY P. ESSON
ARCHITECT
PO BOX 479 GAYLORD, MICHIGAN
TELEPHONE: (989) 732-0585

DRAWING TITLE: SESC KEY

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WEST BRANCH, MICHIGAN

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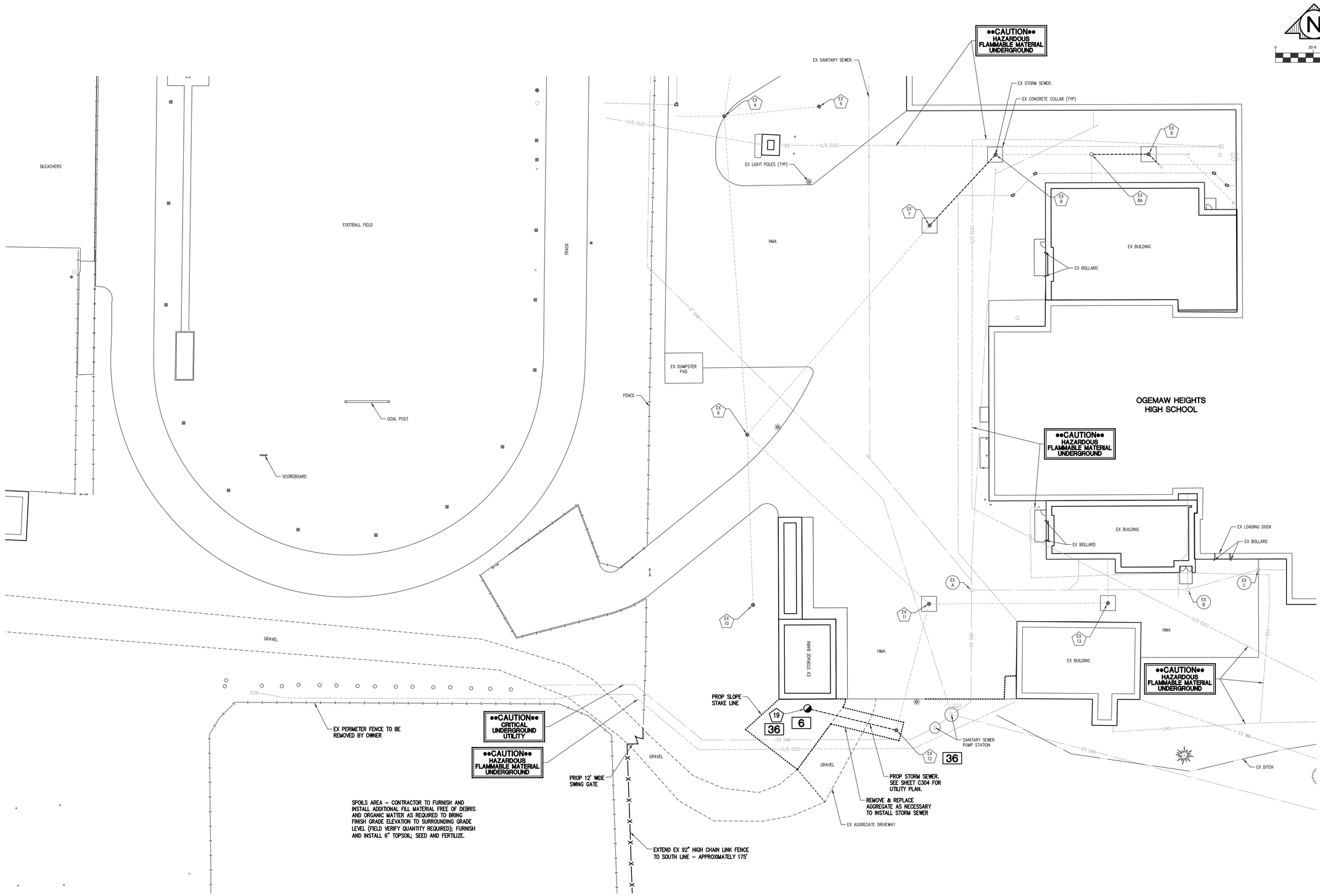

PERMIT NOTES

1. PRIOR TO BEGINNING ANY OF THIS WORK, THE CONTRACTOR SHALL FILL OUT, PAY FOR, AND OBTAIN ALL NECESSARY FORMS OR PERMITS REQUIRED BY FEDERAL, STATE, LOCAL, OR PRIVATE AGENCIES AND PAY ALL CHARGES FOR INSPECTION AND TESTING.

EX UTILITY NOTE:

EXISTING UTILITIES HAVE NOT BEEN EXPOSED FOR VERIFICATION OF LOCATION AND ELEVATION. THE TOPOGRAPHICAL SURVEY LOCATED ALL VISIBLE SITE UTILITIES. AVAILABLE EXISTING RECORDS WERE ALSO USED. THERE ARE EXISTING PRIVATE UTILITIES ONSITE THAT WERE NOT VISIBLE. THE CONTRACTOR SHALL EXCAVATE, LOCATE, AND VERIFY DEPTH OF ANY EXISTING UTILITIES PRIOR TO CONSTRUCTION TO LOCATE UTILITIES PRIOR TO COMMENCING WORK ONSITE. IF CONFLICTS WITH PROPOSED CONSTRUCTION ITEMS ARE IDENTIFIED, THE CONTRACTOR SHALL RELOCATE THE UTILITY TO FACILITATE CONSTRUCTION.

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F: (989) 344-4545
www.rowepsc.com

ANTHONY P. ESSON
ARCHITECT
PO BOX 479
TELEPHONE:
GAYLORD, MICHIGAN
(989) 732-0585

DRAWING TITLE: SITE PLAN - SOUTHWEST

PROJECT TITLE: WEST BRANCH - ROSE CITY AREA SCHOOLS
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WEST BRANCH, MICHIGAN

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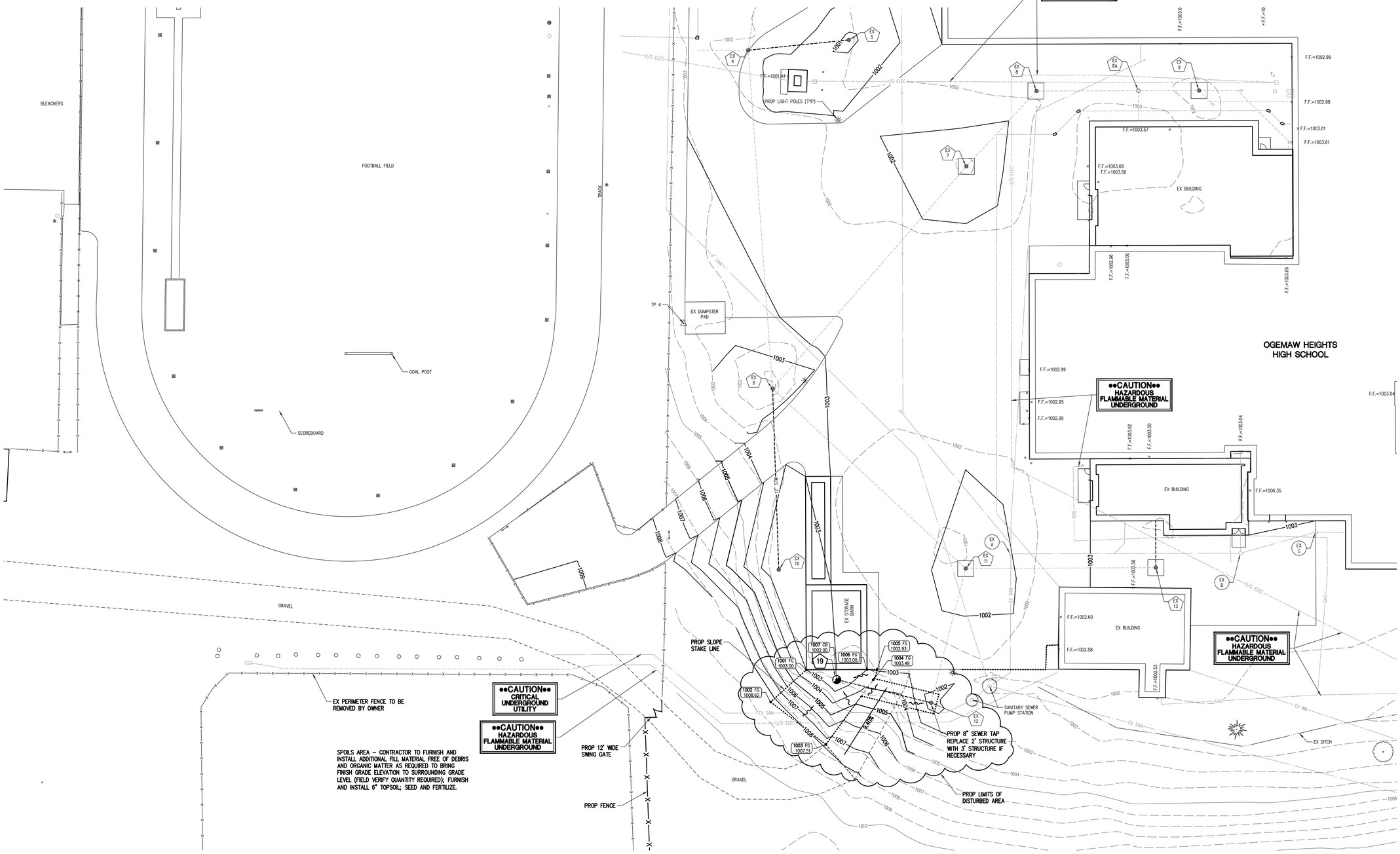

LEGEND

CB – CATCH BASIN
ME – MATCH EXISTING
FG – FINISH GRADE
– FLOW DIRECTION

BENCHMARK DATA TABLE

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM 11	361304	19747936	1000.91	TOP E. SIDE OF CONCRETE LIGHT POLE BASE, MIDDLE LIGHT POLE ON E. SIDE OF ENTRANCE TO HIGH SCHOOL
BM 12	360698	19747945	1007.72	NW FLANGE ON LG TRANSFORMER BASE, 75'± N. OF CHURCH
BM 15	361425	19747434	1002.28	TOP S. SIDE OF CONCRETE LIGHT POLE BASE, NW CORNER OF PARKING LOT ON N. SIDE OF HIGH SCHOOL

TRAVERSE POINT DATA TABLE

NUMBER	NORTHING	EASTING	DESCRIPTION
TP 1	361243.9260	19748028.0200	SET IRON W/ "ROWE TRAV" CAP 60'± N. OF CENTERLINE OF DRIVE TO HIGH SCHOOL, 100'± S. OF HIGH SCHOOL SIGN, 45'± E. OF E. EDGE OF PARKING LOT
TP 2	360765.1540	19748026.0850	SET IRON W/ "ROWE TRAV" CAP 2'± N. OF NE CORNER OF PARKING LOT TO "NEW BEGINNINGS CHURCH", 24'± NW'LY OF SIGN FOR CHURCH
TP 3	360570.7260	19747625.0120	SET IRON W/ "ROWE TRAV" CAP 250'± S. OF S. SIDE OF HIGH SCHOOL BUILDING, 200'± W. OF SW CORNER OF CHURCH BUILDING, 40'± N. OF E–W FENCE
TP 4	360911.1820	19747289.2220	SET IRON W/ "ROWE TRAV" CAP 3'± S. OF SW CORNER OF SW PARKING LOT NEAR FOOTBALL FIELD, 8'± E. OF FENCE FOR FOOTBALL FIELD, 175'± W. OF DOOR #26
TP 5	361426.1270	19747418.5870	SET IRON W/ "ROWE TRAV" CAP 4'± N. OF N. EDGE OF BIT OF PARKING LOT, 100'± E'LY OF N'LY TICKET BOOTH, 15' W. OF NW LIGHT POLE

SECTION CORNER DATA TABLE

NUMBER	NORTHING	EASTING	DESCRIPTION
QCOR M4 401	363332.4470	19748100.2390	EAST 1/4 CORNER, SECTION 12, T22N–R2E, WEST BRANCH TOWNSHIP, OGEMAW COUNTY, MICHIGAN, FOUND REMON. MON. IN MON. BOX
SCOR M5 402	360694.5610	19748104.3580	SOUTHEAST CORNER, SECTION 12, T22N–R2E, WEST BRANCH TOWNSHIP, OGEMAW COUNTY, MICHIGAN, FOUND REMON. MON. IN MON. BOX

NOTES:

VERTICAL DATUM IS NAVD88.

HORIZONTAL DATUM IS MICHIGAN STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE NAD83 (2011)

UNITS ARE INTERNATIONAL FEET.

LEGEND

△ BENCHMARK △ TRAVERSE POINT

GRADING TABLE

POINT	ELEVATION	DESCRIPTION	NORTHING	EASTING
1001	FG=1003.00	ME	360738.74	19747350.27
1002	FG=1008.62	ME	360722.71	19747332.54
1003	FG=1007.51	ME	360701.52	19747360.01
1004	FG=1003.49	ME	360733.70	19747383.58
1005	FG=1002.93	ME	360738.89	19747385.49
1006	FG=1003.00	ME	360738.86	19747380.52
1007	CB=1002.00		360733.80	19747365.42

PROPOSED STORM SEWER STRUCTURE TABLE

STRUCT NO.	DIA.	COVER TYPE	RIM ELEVATION	INVERT	NORTHING	EASTING
19	24"	EJ 1040 N	RIM=1002.01	8" 998.59 E (PR)	360733.80	19747365.42
EX 12	24"	N/A	RIM=1001.57	12" 998.15 N (EX) 8" 998.25 W (PR)	360722.30	19747412.38

NOTE: CONTRACTOR TO VERIFY ALL EXISTING PIPE INVERTS AND SIZES BEFORE ORDERING MANHOLES

PROPOSED STORM SEWER PIPE TABLE

PIPE NUMBER	DIAMETER	MATERIAL	TOTAL LENGTH	SLOPE
STM 19–12	8"	PVC	48'	0.70%

MISCELLANEOUS NOTES

1. SEE SHEET C101 FOR DETAILS OF PROPOSED WORK.

EX UTILITY NOTE:

EXISTING UTILITIES HAVE NOT BEEN EXPOSED FOR VERIFICATION OF LOCATION AND ELEVATION. THE TOPOGRAPHICAL SURVEY LOCATED ALL VISIBLE SITE UTILITIES. AVAILABLE EXISTING RECORDS WERE ALSO USED. THERE ARE EXISTING PRIVATE UTILITIES ONSITE THAT WERE NOT VISIBLE. THE CONTRACTOR SHALL EXCAVATE, LOCATE, AND VERIFY DEPTH OF ANY EXISTING UTILITIES PRIOR TO CONSTRUCTION TO LOCATE UTILITIES PRIOR TO COMMENCING WORK ONSITE. IF CONFLICTS WITH PROPOSED CONSTRUCTION ITEMS ARE IDENTIFIED, THE CONTRACTOR SHALL RELOCATE THE UTILITY TO FACILITATE CONSTRUCTION.

Know what's **below.**
Call before you dig.

PLAN SUBMITTALS AND CHANGES

BIDDING DOCUMENTS

DATE	DESCRIPTION
4/8/26	ISSUED FOR BIDS

ROWE PROFESSIONAL SERVICES COMPANY
O: (989) 348-6036
F: (989) 344-1466
www.rowepsc.com
2342 Industrial Street, Suite A
Grayling, MI 49738-1987

ANTHONY P. ESSON
ARCHITECT
GAYLORD, MICHIGAN
PO BOX 479
TELEPHONE: (989) 732-0585

DRAWING TITLE: GRADING PLAN - SOUTHWEST

PROJECT TITLE: OGEMAW HEIGHTS HIGH SCHOOL - SITE DRAINAGE AND MISCELLANEOUS IMPROVEMENTS
WEST BRANCH - ROSE CITY AREA SCHOOLS
WEST BRANCH, MICHIGAN

PROJECT NO.: 294-22

DATE: NOV. 30, 2023

SHEET: C304