

GRAND TRAVERSE COUNTY ROAD COMMISSION

GTCRC NO: 21E003

4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
4 MILE ROAD WATER & SANITARY SEWER EXTENSIONS
EAST BAY TOWNSHIP

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SCALE
FULL SIZE (22"x34") HALF SIZE (11"x17")
PLAN SHEET 1"=30 FT. PLAN SHEET 1"=60 FT.
PROFILE HOR. 1"=30 FT. PROFILE HOR. 1"=60 FT.
VER. 1"= 3 FT. VER. 1"= 6 FT.

GENERAL PROVISIONS

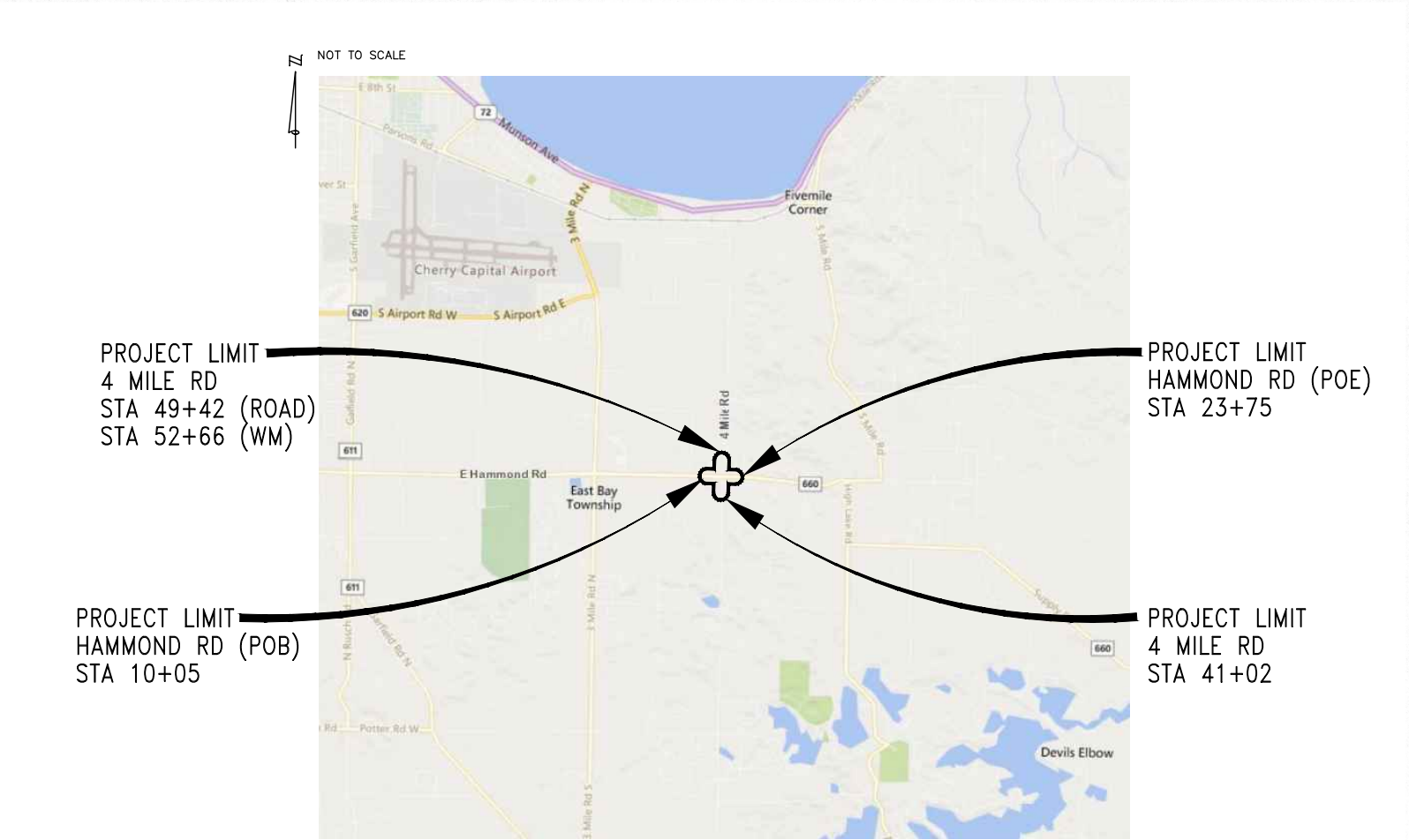
THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE PROPOSAL AND ACCOMPANYING SPECIFICATIONS FOR THIS PROJECT INCLUDING THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND A.A.S.H.T.O.; A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2011.

PAVEMENT MARKING AND PLACING OF TRAFFIC CONTROL SIGNS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2011 EDITION. THIS WORK WILL BE DONE PRIOR TO THE FINAL ACCEPTANCE OF THIS PROJECT.

THE LOCATION OF ALL PUBLIC UTILITIES SHOWN ON THESE PLANS IS TAKEN FROM THE BEST AVAILABLE DATA. THE BOARD OF ROAD COMMISSIONERS FOR GRAND TRAVERSE COUNTY WILL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATIONS FROM THE LOCATIONS SHOWN. PURSUANT TO ACT 53 OF THE PA OF 1974 AS A CONDITION OF THIS CONTRACT, A MINIMUM 3 DAYS NOTICE, SHALL BE GIVEN TO MISS DIG PRIOR TO UNDERGROUND WORK TO BE PERFORMED IN ACCORDANCE WITH THIS CONTRACT. PHONE (800)-482-7171 OR (800)-482-7161 OR 811.

THE GRAND TRAVERSE COUNTY ROAD COMMISSION, AS AN AUTHORIZED PUBLIC AGENCY UNDER THE EROSION AND SEDIMENTATION CONTROL PROGRAM-PUBLIC ACT 347, HAS PROVIDED FOR EROSION AND SEDIMENTATION CONTROL BY MEANS OF SODDING, SEEDING AND OTHER METHODS. THE ROAD COMMISSION WILL MAINTAIN THESE FACILITIES UPON COMPLETION OF THE CONTRACT.

THE DATUMS FOR PLANS ARE BASED ON - HORIZONTAL: LOCAL
- VERTICAL: NAVD88



GRAND TRAVERSE COUNTY ROAD COMMISSION

PROJECT NO. 21E003 CITY/TWP EAST BAY TOWNSHIP
LOCATION 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
CONTRACT FOR RECONSTRUCTION OF 0.42 MILES OF ROADWAY INCLUDING ASPHALT PAVEMENT, CURB & GUTTER, SHOULDERS, STORM SEWER, SANITARY SEWER, WATER MAIN, PAVEMENT MARKINGS, SIGNING AND ROUNDABOUT CONSTRUCTION AT THE INTERSECTION OF 4 MILE ROAD AND HAMMOND ROAD.

TRAFFIC DATA

| | TOTAL A.D.T. | | % COMMERCIAL | DESIGN SPEED | POSTED SPEED |
|--------------|--------------|--------|--------------|--------------|--------------|
| | 2020 | 2040 | | | |
| 4 MILE ROAD | 6,150 | 7,055 | 5.9% | 25 MPH | UNPOSTED |
| HAMMOND ROAD | 13,600 | 15,600 | 3.2% | 25 MPH | UNPOSTED |

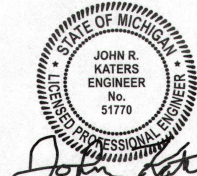
BOARD OF COUNTY ROAD COMMISSIONERS

WILLIAM D. MOUSER – CHAIRMAN
JASON GILLMAN – VICE CHAIRMAN
CARL J. BROWN – COMMISSIONER
ALAN LEMAN – COMMISSIONER
JOE UNDERWOOD – COMMISSIONER

BRAD KLUCZYNSKI – MANAGING DIRECTOR

ROAD PREPARED UNDER THE SUPERVISION OF:

GTCRC APPROVAL:



JOHN R. KATERS, PE
ORCHARD, HILTZ, AND MCCLIMENT, INC.



Wayne Schoonover
Mar 23 2021 5:09 PM

WAYNE A. SCHOONOVER, PE
GRAND TRAVERSE COUNTY
ROAD COMMISSION

REVISIONS

DESCRIPTION

RECOMMENDED FOR APPROVAL

BY DATE

APPROVED

BY DATE

EAST BAY TWP WATER MAIN AND SANITARY SEWER
UTILITY PLANS PREPARED UNDER THE SUPERVISION OF:



BRIAN C. SOUSA, PE
WADE TRIM ASSOCIATES, INC.

3-24-21
DATE

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Misc4 Mile Hammond\20010LEG.dwg Mar 30, 2021 - 10:25pm

WATER & SEWER UTILITY SYMBOLS

| EXISTING | |
|----------|-------------------------|
| | STORM MANHOLE |
| | SQUARE CATCH BASIN |
| | ROUND CATCH BASIN |
| | CULVERT |
| | CULVERT W/O END SECTION |
| | CULVERT W/END SECTION |
| | SANITARY MANHOLE |
| | CLEAN OUT |
| | GATE VALVE & WELL |
| | GATE VALVE & BOX |
| | WATER STOP BOX |
| | FIRE HYDRANT |
| | METER PIT |
| | WATER METER |
| | SPRINKLER HEAD |
| | IRRIGATION VALVE |

PROPOSED

| | |
|--|-----------------------------|
| | STORM MANHOLE |
| | INLET/CATCH BASIN |
| | CULVERT END SECTION |
| | SANITARY MANHOLE |
| | GATE VALVE & WELL |
| | GATE VALVE & BOX |
| | TAPPING SLEEVE VALVE & WELL |
| | TAPPING SLEEVE VALVE & BOX |
| | FIRE HYDRANT |

REAL ESTATE SYMBOLS

| | |
|--|----------------------------|
| | CONTIGUOUS PROPERTY SYMBOL |
| | PARCEL NUMBER BOX |
| | NO ROW IMPACTS |

MISCELLANEOUS UTILITY SYMBOLS

| EXISTING | |
|----------|---------------------------|
| | GUY WIRE |
| | GUY POLE |
| | UTILITY POLE |
| | UTILITY POLE W/LIGHT |
| | LIGHT/DECOR LAMP POLE |
| | FLOOD LIGHT |
| | GAS VALVE |
| | GAS VENT |
| | GAS METER |
| | GAS RISER |
| | TRAFFIC SIGNAL |
| | PEDESTRIAN RISER |
| | TRANSFORMER PAD |
| | PRIVATE UTILITY MANHOLE |
| | RAILROAD CROSSING |
| | ELECTRIC METER |
| | PHONE BOOTH |
| | TRAFFIC SIGNAL CONTROLLER |
| | HAND HOLE |
| | SIGNAL PUCK |
| | ELECTRIC RISER |
| | TELEPHONE RISER |
| | CABLE TV RISER |
| | MONITORING WELL |
| | UNDERGROUND MARKER |

PROPOSED

| | |
|--|---------------------------|
| | ROADWAY LIGHT POLES |
| | PEDESTRIAN LIGHT POLES |
| | HAWK SIGNAL POLES W/LIGHT |

MISCELLANEOUS SYMBOLS

| EXISTING | |
|----------|--------------------|
| | RIPRAP |
| | SIGN |
| | FLOW DIRECTION |
| | STUMP |
| | WETLAND |
| | CONIFEROUS TREE |
| | DECIDUOUS TREE |
| | CONIFEROUS SHRUB |
| | DECIDUOUS SHRUB |
| | SOIL BORING |
| | SECTION CORNER |
| | MONUMENT |
| | IRON ROD/PIPE |
| | PK NAIL |
| | BENCHMARK |
| | TRAVERSE POINT |
| | MAIL/NEWSPAPER BOX |
| | FLAG POLE |
| | POST |

HAZARDOUS OR
FLAMMABLE MATERIAL

USED WITH UNDERGROUND GAS &
ELECTRICAL LINES

CAUTION - CRITICAL
UNDERGROUND UTILITY

USED WITH TELEPHONE &
FIBER OPTIC LINES

PROPOSED

| | |
|--|----------------------------|
| | RIPRAP |
| | SIGN |
| | FLOW DIRECTION |
| | STRUCTURE NUMBER |
| | WM |
| | SAN |
| | STM |
| | DETECTABLE WARNING SURFACE |
| | SOIL EROSION CONTROL ITEM |

UTILITY PATTERN

| EXISTING | |
|----------|-------------------|
| | ELECTRICAL * |
| | GAS\OIL |
| | CABLE/TELEPHONE * |
| | FIBER OPTIC * |
| | WATER |
| | SANITARY |
| | STORM |
| PROPOSED | |
| | STORM |
| | SANITARY |
| | WATER |
| | CONDUIT |

*OH = OVERHEAD , UC = UNDERGROUND

ROW PATTERN

| | |
|--|--------------------|
| | ROW |
| | PROPERTY/PARCEL |
| | HIGHWAY EASEMENT |
| | TEMPORARY EASEMENT |

TOPO PATTERN

| EXISTING | |
|----------|--------------------------------|
| | HEDGE/TREE |
| | FENCE |
| | GUARDRAIL |
| | CENTERLINE OF DITCH |
| | RAILROAD |
| | WETLAND/EDGE OF WATER |
| PROPOSED | |
| | GRADING LIMIT (SLOPE STAKE) |
| | CENTERLINE OF DITCH |
| | FENCE |
| | EDGE OF GRAVEL |

REMOVAL LEGEND

| | |
|--|------------------------------------|
| | SIDEWALK, REM |
| | HMA SURFACE, REM |
| | PAVT, REM |
| | CURB AND GUTTER, REM FENCE, REM |
| | TREE, REM |
| | SALVAGE |
| | BULKHEAD |
| | ABANDON |
| | REMOVE |
| | REMOVE, PAID AS CLEARING |
| | ADJUST |
| | RELOCATE |
| | RECONSTRUCT |
| | REMOVE BY OTHERS |
| | ADJUST BY OTHERS |
| | RELOCATE BY OTHERS |

IF NECESSARY FOR CLARITY

| | |
|--|--------------------|
| | SALVAGE |
| | BULKHEAD |
| | ABANDON |
| | CLEARING |
| | REMOVE |
| | RELOCATE |
| | RECONSTRUCT |
| | RELOCATE BY OTHERS |
| | ADJUST BY OTHERS |



ARCHITECTS ENGINEERS PLANNERS

300 East Mitchell St., Suite 2
Potoskey, MI 49770
P (231) 344-1150

OHM-ADVISORS.COM

REVISIONS:

DATE

VERT DATUM

LOCAL

SCALE

V: 1"=4'

H: 1"=40'

CITY/TOWNSHIP

EAST BAY TOWNSHIP

COUNTY

GRAND TRAVERSE

CADD

PROJ MGR

BA

ENG

DATE

3/30/2021

737120010

PROJ NUMBER

4 MILE HAMMOND ROAD ROUNDABOUT

LEGEND

2

OF 84

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GENERAL PROVISIONS

THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION EXCEPT AS NOTED HEREIN AND IN THE PROPOSAL BOOK.

LIMITATIONS ON PRIVATE WORK: DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT. WORK MAY BE ALLOWED WHEN REQUESTED BY LOCAL MUNICIPALITIES, BUT ONLY WITH THE WRITTEN CONSENT OF THE ENGINEER.

THE CONTRACTOR SHALL CONDUCT HIS/HER OPERATIONS IN SUCH A MANNER TO COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES FOR NOISE LEVELS, VIBRATIONS, OR ANY OTHER RESTRICTIONS WHILE REMOVING PAVEMENT OR FOR ANY OTHER CONSTRUCTION OPERATIONS WITHIN THIS CONTRACT TO BE INCLUDED IN THE RESPECTIVE ITEM OF WORK.

THE CONTRACTOR SHALL NOT ENTER UPON PRIVATE PROPERTY FOR ANY PURPOSE WITHOUT OBTAINING WRITTEN PERMISSION, AND HE/SHE SHALL BE RESPONSIBLE FOR PRESERVATION OF ALL PUBLIC PROPERTY, TREES, MONUMENTS, ETC. ALONG AND ADJACENT TO THE STREET AND/OR RIGHT OF WAY, AND SHALL USE EVERY PRECAUTION NECESSARY TO PREVENT DAMAGE OR INJURY THERETO. HE/SHE SHALL USE SUITABLE PRECAUTIONS TO PREVENT DAMAGE TO PIPES, CONDUITS, AND OTHER UNDERGROUND STRUCTURES AND SHALL PROTECT CAREFULLY FROM DISTURBANCE OR DAMAGE ALL MONUMENTS AND PROPERTY MARKERS UNTIL THE ENGINEER OR AUTHORIZED AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION AND SHALL NOT REMOVE THEM UNTIL DIRECTED.

THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE LOCAL FIRE AND POLICE DEPARTMENTS 24 HOURS IN ADVANCE OF PROPOSED ROAD CLOSURES.

THE CONTRACTOR AND/OR HIS/HER SUBCONTRACTOR SHALL NOTIFY "MISS DIG", LOCAL SEWER, FIRE AND POLICE DEPARTMENTS 72 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.

UTILITIES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 1-800-482-7171 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 THIS 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 FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE PROJECT LIMITS:

| UTILITY | OWNER | CONTACT |
|-----------------------------|--|---|
| Gas | DTE | Larry Bourke 231-592-3244(O) 231-349-2364(M) lawrence.bourke@dteenergy.com |
| Electric | Consumers Energy – Electric 821 Hastings Street Traverse City, MI | Doug DeYoung 231-929-6234(O) 231-649-4096(M) Douglas.Deyoung@cmsenergy.com |
| Electric | Cherryland Electric Cooperative 5930 US 31, P.O. Box 298 Grawn, MI 49637 | Frank Slepker 231-486-9220(O) 231-649-4492(M) FSlepker@cherrylandelectric.coop |
| Electric | Traverse City Light and Power 1131 Hastings St Traverse City, MI 49686 | Tony Chartrand 231-932-4562 tchartrand@tcip.org |
| Telecom | AT&T 205 E Harris St Cadillac, MI 49601 | Jeff Shuster 231-779-8451(O) 231-510-1381(M) Js9865@att.com |
| Telecom | Grand Traverse Band Fiber | Steve Marth 231-534-7179(O) Steve.Marth@GTBIndians.com |
| Telecom | Charter Communications | James Lucas 231-463-5984 James.lucas@charter.com |
| Road and Storm Sewers | Grand Traverse County Road Commission 1881 LaFranier Road Traverse City, MI 49696 | Wayne Schoonover, PE 231-922-4848 x216 wschoonover@gtrc.org |
| Water Main & Sanitary Sewer | Wade Trim (Engineer for East Bay Township) 10850 East Traverse Highway, Suite 2260 Traverse City, MI 49684 | Brian Sousa, PE 231-947-7400(O) 231-878-0144(M) BSOUSA@WadeTrim.com |
| Traffic Signals | Consumers Energy 821 Hastings St Traverse City, MI 49686 | Kimberly Ullom 231-932-6335(O) Kimberly.Ullom@cmsenergy.com |

THE UTILITY LOCATIONS AS HEREON SHOWN ARE BASED ON FIELD OBSERVATIONS AND A CAREFUL REVIEW OF MUNICIPAL AND UTILITY RECORDS. HOWEVER, IT IS NOT POSSIBLE TO DETERMINE THE PRECISE SIZE, LOCATION, DEPTH, PRESSURE, OR ANY OTHER CHARACTERISTICS OF UNDERGROUND UTILITIES, TANKS OR SEPTIC FIELDS WITHOUT EXCAVATION. THEREFORE, WE CANNOT GUARANTEE THE ACCURACY OF COMPLETENESS OF THE BURIED UTILITY INFORMATION HEREON SHOWN. THE CONTRACTOR SHALL CALL MISS DIG (1-800-482-7171) A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THESE UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND MAKE EVERY EFFORT TO PROTECT AND/OR RELOCATE THEM AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/SURVEYOR AS SOON AS POSSIBLE IN THE EVENT A DISCREPANCY IS FOUND.

THE UTILITIES AND THEIR LOCATIONS ARE SHOWN ON THE PLANS ARE DEEMED ACCURATE BUT NOT GUARANTEED. THE CONTRACTOR SHALL CALL MISS DIG 3 WORKING DAYS BEFORE BEGINNING WORK.

GAS FACILITIES SHALL BE PROTECTED AND SUPPORTED PER THE FACILITIES OWNER STANDARDS.

THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.

THE CONTRACTOR SHALL BE AWARE OF AND USE CAUTION WHEN WORKING NEAR UNDERGROUND OR OVERHEAD LINES OF ALL UTILITIES WITHIN THE PROJECT AREA.

MAINTAINING TRAFFIC/TRAFFIC CONTROL

THE CONSTRUCTION INFLUENCE AREA (CIA) SHALL CONSIST OF THE WIDTH OF THE PROPOSED RIGHT-OF-WAY FROM THE PROJECT POINT OF BEGINNING TO THE POINT OF ENDING AND A SUFFICIENT DISTANCE BEFORE AND AFTER THE PROJECT TO WARN MOTORISTS OF THE CONSTRUCTION AHEAD.

THROUGH TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE SPECIAL PROVISION FOR "MAINTAINING TRAFFIC" IN THE PROPOSAL.

THE CONTRACTOR SHALL CONDUCT HIS/HER OPERATIONS IN SUCH A MANNER THAT LOCAL TRAFFIC AND EMERGENCY VEHICLES SHALL HAVE ACCESS WITHIN THE PROJECT AT ALL TIMES IN A MANNER APPROVED BY THE ENGINEER. THIS SHALL BE INCLUDED IN THE COST OF THE PROJECT.

AS DIRECTED BY THE ENGINEER, AGGREGATE TO MAINTAIN TRAFFIC ALONG THE PROJECT, DRIVEWAYS, AND STREET APPROACHES WILL BE PAID FOR AS Maintenance Gravel.

SOIL BORINGS AND/OR PAVEMENT CORES

THE SOIL BORING LOGS AND/OR PAVEMENT CORES REPRESENT POINT INFORMATION. NO INFERENCE SHOULD BE MADE THAT SUBSURFACE OR PAVEMENT CONDITIONS ARE THE SAME AT OTHER LOCATIONS.

PAVEMENT REMOVAL QUANTITIES

PAVEMENT REMOVAL AS SHOWN ON THE PLANS WILL BE AT THE DISCRETION OF THE ENGINEER. IF IN HIS/HER JUDGEMENT, AREAS OF PAVEMENT MAY BE LEFT IN PLACE, OR ADDITIONAL AREAS ADDED TO PROVIDE THE PROPER CROSS-SECTION AND BASE, CHANGES WILL BE MADE TO THE QUANTITIES.

SOIL EROSION 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 THE ENGINEER. PERMIT MUST BE ACQUIRED BY THE CONTRACTOR THROUGH THE COUNTY.

ALL SOIL EROSION AND SEDIMENTATION MUST BE CONTROLLED AND CONTAINED ON SITE.

SOIL EROSION AND SEDIMENTATION CONTROL: IN ADDITION TO THE GENERAL SOIL EROSION AND SEDIMENTATION CONTROL REQUIREMENTS IN THE PROPOSAL, THE FOLLOWING MEASURES SHALL BE INCORPORATED INTO THIS PROJECT:

- THE CONTRACTOR SHALL CONDUCT HIS/HER OPERATIONS IN SUCH A MANNER AS TO MINIMIZE THE AREAS LEFT BARREN DURING CONSTRUCTION AND TO DISTURB ONLY THOSE AREAS ABSOLUTELY REQUIRED FOR THE CONSTRUCTION OF THE PROJECT.
- EROSION CONTROL ITEMS SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE MDOT STANDARD PLANS AND SHALL BE REMOVED WHEN THEY ARE NO LONGER EFFECTIVE AS DETERMINED BY THE ENGINEER. NO SEPARATE PAYMENT SHALL BE ALLOWED FOR EITHER MAINTENANCE OR REMOVAL OF THE EROSION CONTROL ITEMS.
- THE CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED IN STORM SEWERS AND DRAINAGE STRUCTURES CONSTRUCTED WITH THE PROJECT WHEN SUCH SEDIMENT EXCEEDS 1/2 OF THE SUMP DEPTH. THE ENGINEER WILL INSPECT SUMPS AFTER STORMS AND DIRECT THE CONTRACTOR TO CLEAN OUT TO PROVIDE FOR SEDIMENT COLLECTIONS. CLEANING SUMPS FOR SEDIMENTATION CONTROL SHALL NOT BE PAID FOR SEPARATELY.
- THE CITY SHALL FOLLOW ALL ENTITIES HAVING JURISDICTION FOR SOIL EROSION AND SEDIMENTATION CONTROL FOR ALL MATERIALS DISPOSED OF OFF THE PROPERTY.

ALL AREAS DISTURBED BY THE CONTRACTOR AND/OR HIS/HER SUBCONTRACTOR BEYOND THE GRADING LIMITS OF THIS PROJECT SHALL BE RESTORED WITH THE USE OF SOD OR HYDROSEED AS DIRECTED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS ACTIVITY.

IRRIGATION SYSTEMS/SPRINKLERS

SPRINKLER SYSTEMS WITHIN THE PROJECT LIMITS, OR IMPACTED BY THE WORK OF THIS CONTRACT, SHALL BE REPAIRED WITH AT LEAST EQUAL QUALITY MATERIALS AND WORKMANSHIP, TO A FUNCTIONING CONDITION AT LEAST AS GOOD AS EXISTED PRIOR TO THE BEGINNING OF THE PROJECT.

FOR THE CONTRACTOR TO BE REIMBURSED FOR IRRIGATION/SPRINKLER SYSTEM REPAIRS, BEFORE ANY CONTRACT WORK BEGINS, CONTRACTOR SHALL ARRANGE A WALK-THROUGH WITH THE PROPERTY OWNER OR DESIGNATED REPRESENTATIVE, ACCOMPANIED BY THE PROJECT ENGINEER OR INSPECTOR, FOR EACH ADJACENT PROPERTY, FOR THE PURPOSE OF DETERMINING AND EVALUATING THE EXISTING SPRINKLER SYSTEM DESIGN (LOCATION AND TYPES OF LINES, HEADS, VALVES, CONTROLLERS) AND ITS FUNCTIONALITY AND INTEGRITY.

IRRIGATION/SPRINKLER SYSTEM DESIGN INFORMATION SHALL BE DOCUMENTED BY THE CONTRACTOR WITH SKETCHES, DRAWINGS AND NARRATIVE, AND SHALL BE SUBMITTED TO AND USED BY THE PROJECT ENGINEER TO VERIFY NEED AND APPROVE ANY REPAIRS TO THE SYSTEM AND SUBSEQUENT PAYMENT.

NO PAYMENT SHALL BE MADE FOR REPAIRS NOT DEEMED NECESSARY AND APPROVED BY THE PROJECT ENGINEER AS A RESULT OF THIS WALK-THROUGH AND EVALUATION PROCESS. FAILURE OF THE CONTRACTOR TO FULFILL THESE REQUIREMENTS WILL CAUSE THE PROJECT ENGINEER TO MAKE THE REPAIRS AND CHARGE THE FULL COST TO THE CONTRACTOR AS A CONTRACT ADJUSTMENT.

SPRINKLER HEADS SHALL NOT BE COVERED WHEN PLACING TOPSOIL AND SOD.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY THE CONTRACTOR OR CONTRACTOR OPERATIONS TO SPRINKLER SYSTEMS OUTSIDE THE PROJECT LIMITS OR SLOPE STAKE LINE.

ILLICIT CONNECTIONS TO STORM WATER SYSTEM

CONNECTIONS TO EXISTING STORM CONVEYANCE SYSTEMS NOT SHOWN ON THE PLANS MUST BE RECONNECTED WITH MINIMAL INTERRUPTION IN SERVICE. SIZE, TYPE AND LOCATION BY STATION AND OFFSET AND ANY SUSPECT ILLICIT DISCHARGE OBSERVED SHALL BE REPORTED TO THE ENGINEER PRIOR TO RECONNECTING. CONTRACTOR SHALL PROCEED AS DIRECTED BY THE ENGINEER.

PAVING

CONSTRUCTION JOINTS AT EXISTING SURFACES SHALL BE BUTT JOINTS. FEATHERED JOINTS WILL NOT BE ALLOWED. COST FOR PERFORMING THIS WORK IS INCLUDED IN HMA, 4E3 AND HMA, 5E3.

ALL HMA QUANTITIES INCLUDE INTERSECTION WORK, PAYMENT FOR INTERSECTION APPROACH WORK WILL NOT BE PAID FOR SEPARATELY.

MISCELLANEOUS

RUBBISH COLLECTION SHALL NOT BE INTERFERED WITH BY CONTRACTOR'S OPERATIONS. IF ACCESS TO CERTAIN AREAS IS BLOCKED BY CONTRACTOR OPERATIONS, HE/SHE SHALL TRANSPORT THE RUBBISH THEMSELVES TO A LOCATION ACCESSIBLE TO COLLECTION CREWS.

REPLACING AND 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. WORK FOR ADJUSTING, REPLACING AND/OR PLACING NEW MONUMENTS SHALL BE COMPLETED IN ACCORDANCE WITH MDOT STANDARDS AND WILL BE PAID FOR BY THE ASSOCIATED CONTRACT ITEM.

SIGN REMOVAL

SIGNS TO BE REMOVED ARE SHOWN ON THE REMOVAL SHEETS, AND ARE PAID FOR BY THE STANDARD ITEM Sign, Type ____, Rem

PROPOSED SIGN LOCATIONS

PROPOSED SIGN LOCATIONS ARE SHOWN ON THE PLANS AS APPROXIMATE LOCATIONS ONLY. ACTUAL SIGN LOCATIONS WILL BE DETERMINED AND STAKED BY THE ENGINEER PRIOR TO PLACEMENT. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO SIGN INSTALLATION OPERATIONS TO ASSURE PROPOSED LOCATIONS HAVE BEEN STAKED.

SAWCUTTING

PAYMENT FOR SAWCUTTING REQUIRED THROUGHOUT THIS PROJECT SHALL BE INCLUDED IN REMOVAL ITEMS AND WILL NOT BE PAID FOR SEPARATELY.

SUBGRADE UNDERCUTTING

AREAS AS DETERMINED BY THE ENGINEER TO BE UNDERCUT SHALL BE BACKFILLED WITH MATERIAL AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH MDOT'S 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE SPECIAL PROVISIONS FOR Subgrade Undercutting, Type II, Modified. GROUND STABILIZING MATS MAY BE USED AS DIRECTED BY THE ENGINEER TO FURTHER STABILIZE UNDERCUTTING AREAS IN ACCORDANCE WITH THE SPECIAL PROVISION FOR Biaxial Geogrid.

SIGNAL EQUIPMENT DISPOSAL

- DISPOSAL OF ALL TRAFFIC SIGNAL EQUIPMENT IS INCLUDED IN THE REMOVAL PAY ITEMS AND SHALL ALSO INCLUDE THE FOLLOWING:
- NOTIFICATION TO GTCRC THAT TRAFFIC SIGNAL EQUIPMENT IS BEING REMOVED.
 - A WRITTEN AND PICTORIAL INVENTORY OF ALL SIGNAL EQUIPMENT PRIOR TO REMOVAL
 - REMOVAL OF THE FOLLOWING ELECTRONICS PRIOR TO CABINET REMOVAL
 - UPS UNIT AND BATTERIES
 - CONTROLLER
 - CONFLICT MONITOR
 - SPARE/LOOSE EQUIPMENT ON SHELVES
 - TEMPORARY STORAGE OF ALL SIGNAL EQUIPMENT (INCLUDING AERIAL FIELD EQUIPMENT, POLES, SIGNAL HEADS, CABINET AND EQUIPMENT IN CABINET) IN A DUMPSTER ON SITE (OR AS DIRECTED BY THE ENGINEER) ALLOWING GTCRC 48 HOURS TO SALVAGE ANY EQUIPMENT.
 - PROPER DISPOSAL OF ALL REMAINING EQUIPMENT.

MISCELLANEOUS PAY ITEMS

THE FOLLOWING ITEMS OF WORK WILL NOT BE PAID FOR SEPARATELY AND ARE INCLUDED IN OTHER ITEMS OF WORK AND SHALL BE DONE AS REQUIRED BY THE ENGINEER.

INCLUDED IN EXCAVATION, EARTH:

- REMOVING TREES LESS THAN 3 INCH DIAMETER
- REMOVING SHRUBS AND BUSHES
- REMOVING WOOD BOLLARDS
- REMOVING HMA CURBS
- REMOVING EDGEDRAIN, UNDERDRAIN, FRENCH DRAINS, OR DRAINAGE TILE
- REMOVING, RESETTING, OR DISPOSING OF CONCRETE BUMPER BLOCKS OR WOODEN/CONCRETE RAILROAD TIES
- RELOCATING ORNAMENTAL ROCKS AND BOULDERS TO THE RIGHT-OF-WAY LINE
- REMOVING ABANDONED UTILITY CONDUIT AND INTERNAL COMPONENTS
- REMOVING GEOTEXTILE FABRIC
- REMOVING GEOGRID
- EXCAVATION, ROCK
- PROJECT CLEANUP

INCLUDED IN HMA PAY ITEMS:

- HMA BOND COAT

INCLUDED IN PAVEMENT OR CURB REMOVAL ITEMS:

- SAWING, FOR PAVEMENT AND CURB REMOVAL

INCLUDED IN CONCRETE ITEMS:

- CONCRETE ADMIXTURES

PROFILE NOTES

EDGE OF PAVEMENT (E/P) GRADES ARE GIVEN FOR CURB AND GUTTER SECTIONS AND PAVED SHOULDER SECTIONS. FOR CURB AND GUTTER SECTIONS (E/P) IS THE SAME AS THE EDGE OF METAL (E/M). CURB AND GUTTER ENDINGS TOO WILL RECEIVE CURB DROPS AS DETAILED IN THE PLANS.

WHEN END SECTIONS ARE SHOWN ON CULVERTS AND SEWER STUBS; STATION, OUT, AND INVERTS ARE GIVEN AT END SECTION UP. THE CALL OUT FOR PIPE LENGTH AND PIPE GRADE ON PLAN OR PROFILE INCLUDES THE LENGTH OF THE END SECTION PER MDOT STANDARD PLANS. HOWEVER, ACTUAL PIPE PAY LENGTH SHALL DEDUCT THE "L" LENGTH OF THE END SECTION IN ACCORDANCE WITH MDOT STANDARD PLANS R-88 SERIES FOR STEEL END SECTION OR THE "L" LENGTH OF END SECTION IN ACCORDANCE WITH MDOT STANDARD PLAN R-86 SERIES FOR PRECAST CONCRETE END SECTION FOR PIPE CULVERT.


STATION AND OFFSET OF ALL DRAINAGE STURCTURES ARE CALLED OUT AT CENTER OF COVER PER MDOT STANDARD PLAN OF COVER. ADJUST LOCATION OF BASE OF 48 INCH AND LARGER DIAMETER STRUCTURES TO HAVE CENTER OF TOP OF ECCENTRIC CONE AT PROPER LOCATION TO RECEIVE COVER AT STATION AND OUT SHOWN ON PLANS.

PROPOSED COVER ELEVATION ON EXISTING OR PROPOSED B AND G TYPE COVERS AS SHOWN OR DIRECTED BY THE ENGINEER TO MATCH ADJACENT PAVEMENT OR GROUND.

DRAINAGE STRUCTURES

STATION, OFFSETS, AND ELEVATIONS LISTED ON THE PLANS DEPICT THE LOWEST POINT OF THE STRUCTURE COVER. THE FOLLOWING OFFSET AND ELEVATION ADJUSTMENT FROM E/P TO THE LOW POINT HAVE ALREADY BEEN DETERMINED AND REFLECTED ON THE PLANS:

| COVER TYPE | Δ ELEVATION (FEET) | Δ OFFSET (FEET) |
|--|--------------------|-----------------|
| TYPE J | -0.13 | 1.29 |
| NOTE: ROUND STRUCTURE COVERS (I.E. TYPE B, G AND E) DO NOT HAVE ANY OFFSET ADJUSTMENT AND THE ELEVATIONS ARE TO THE RIM. | | |



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DATE

3/30/2021

PROJ. NUMBER

7371-2-20010

ENG

BA

PROJ. INVR

JK

CADD

JM

COUNTY

GRAND TRAVERSE

CITY/VILLAGE/TOWNSHIP

EAST BAY TOWNSHIP

HORIZ. DATUM

NA1088

LOCAL

SCALE

H: 1"=400'
V: 1"=4'

VERT. DATUM

NA1088

GRAND TRAVERSE COUNTY ROAD COMMISSION

4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

GENERAL NOTES

SHEET

3

OF 84

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| M.D.O.T. STANDARD PLANS AND SPECIAL DETAILS | |
|--|-------------|
| TITLE | PLAN NO. |
| ROAD | |
| DRAINAGE STRUCTURES | R-1-G |
| COVER B | R-7-F |
| COVER E | R-10-D |
| MONUMENT BOXES | R-11-E |
| COVER J | R-14-D |
| CURB RAMP AND DETECTABLE WARNING DETAILS | R-28-J* |
| DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS | R-29-I |
| CONCRETE CURB AND CONCRETE CURB & GUTTER | R-30-G |
| TRANSVERSE PAVEMENT JOINTS (PLAIN CONCRETE PAVEMENT) | R-39-K |
| LOAD TRANSFER ASSEMBLIES FOR TRANSVERSE JOINTS | R-40-H |
| LONGITUDINAL PAVEMENT JOINTS | R-41-H |
| TYPICAL JOINT LAYOUTS FOR CONCRETE PAVEMENT | R-42-F |
| LOCATION OF TRANSVERSE JOINTS IN PLAIN CONCRETE PAVEMENT | R-43-I |
| BEDDING AND FILLING AROUND PIPE CULVERTS | R-82-D |
| UTILITY TRENCHES | R-83-C |
| PRECAST CONCRETE END SECTION FOR PIPE CULVERT | R-86-F |
| STEEL END SECTION | R-88-D |
| SOIL EROSION & SEDIMENTATION CONTROL MEASURES | R-96-E |
| SEEDING AND TREE PLANTING | R-100-H |
| GRADING CROSS-SECTIONS | R-105-D |
| PAVEMENT MARKINGS | |
| PAVEMENT ARROW AND MESSAGE DETAILS | PAVE-900-F |
| LONGITUDINAL LINE TYPES AND PLACEMENT | PAVE-905-D |
| PAVEMENT MARKINGS FOR INTERSECTIONS | PAVE-930-C |
| LEFT TURN LANE MARKINGS | PAVE-935-D |
| RIGHT TURN LANE AND ISLAND PAVEMENT MARKINGS | PAVE-940-C |
| INTERSECTION, STOP BAR AND CROSSWALK MARKINGS | PAVE-945-C |
| ROUNDABOUT MARKINGS | PAVE-951-B |
| SIGNAGE | |
| STANDARD SIGN INSTALLATIONS | SIGN-100-G |
| ROADSIDE SIGN LOCATIONS & SUPPORT SPACING | SIGN-120-E |
| SIGN SUPPORT SELECTION CHARTS | SIGN-150-D |
| STEEL POSTS | SIGN-200-E* |

AN ASTERISK (*) INDICATES A SPECIAL DETAIL

THE FOLLOWING ITEMS OF WORK SHALL BE DONE AS THEY APPLY THROUGHOUT THE PROJECT OR AS DIRECTED BY THE ENGINEER. THESE ITEMS ARE NOT DETAILED OR INCLUDED ELSEWHERE ON THE PLANS.

MISCELLANEOUS PROJECT QUANTITIES

GTCRC QUANTITIES THIS SHEET

| TOTAL | UNIT | DESCRIPTION |
|-------|------|--|
| 0.75 | LSUM | Mobilization, Max |
| 500 | Cyd | Subgrade Undercutting, Type II, Modified |
| 500 | Syd | Biaxial Geogrid |
| 1 | LSUM | Pavt, Cleaning |
| 50 | Ton | Hand Patching |
| 600 | Fl | Sprinkler Line |
| 4 | Ea | Irrigation Control Box, Relocate |
| 4 | Ea | Irrigation Control Box, Replace |
| 20 | Ea | Sprinkler Head, Relocate |
| 20 | Ea | Sprinkler Head, Replace |

EAST BAY TWP QUANTITIES THIS SHEET

| TOTAL | UNIT | DESCRIPTION |
|-------|------|-------------------|
| 0.25 | LSUM | Mobilization, Max |



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| | |
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| | 1 1 1 1 1 1 1 |

DATE
3/30/2021

PROJ NUMBER
7317-000010

ENG
BA

PROJ MGR
JK

CADD
JN

COUNTY
GRAND TRAVERSE

CITY/VILLAGE/TOWNSHIP
EAST BAY TOWNSHIP

SCALE
H: 1"=40'
V: 1"=4'

HORIZ DATUM
LOCAL

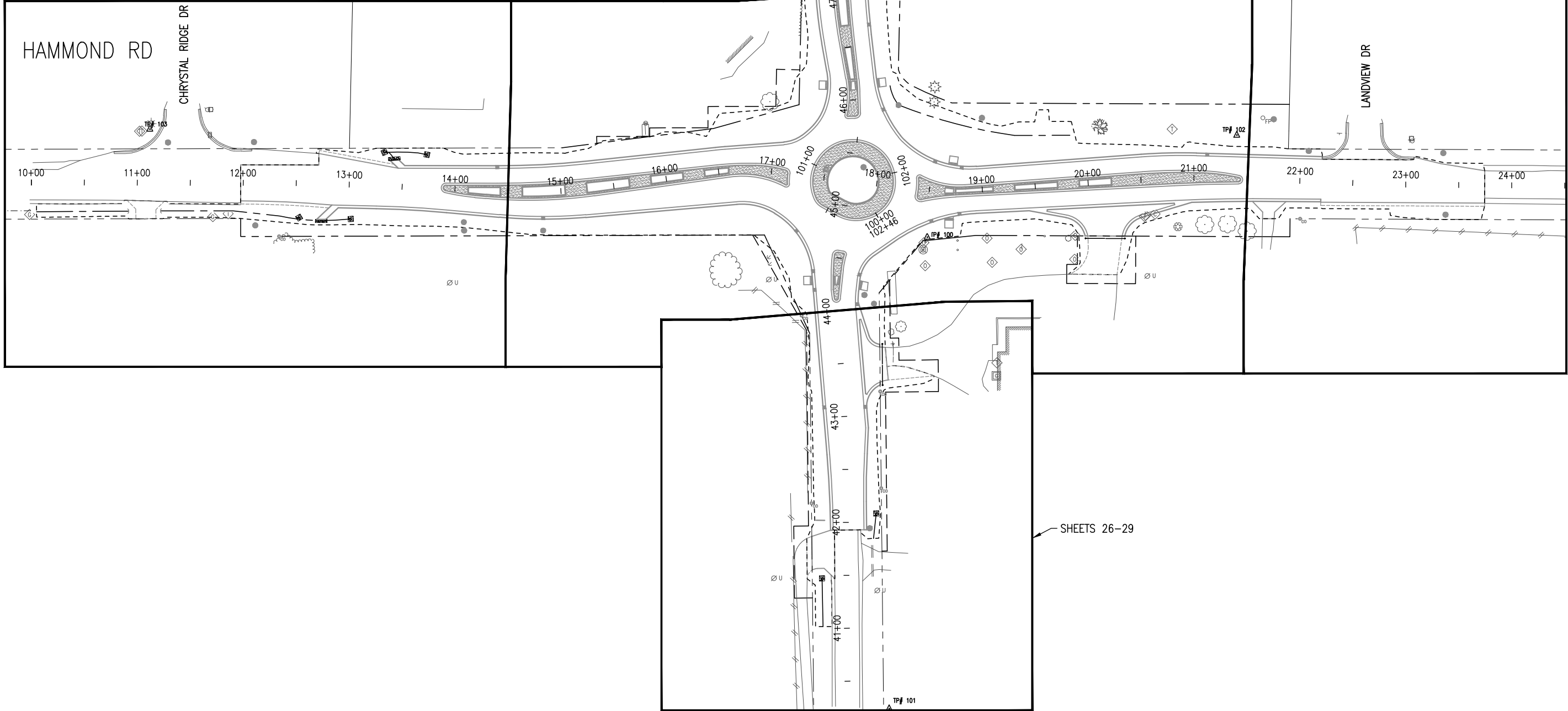
VERT DATUM
NAVD83

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

GENERAL NOTES

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| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | JK | CADD | AM | COUNTY | GRAND TRAVERSE | CITY/VILLAGE/TOWNSHIP | EAST BAY TOWNSHIP | SCALE | H | 1"=30' | V | HORIZ DATUM | VERT DATUM | REVISIONS |
|-----------|-------------|-----|----|----------|----|------|----|--------|----------------|-----------------------|-------------------|-------|---|--------|---|-------------|------------|-----------|
| 3/30/2021 | 737-242470 | | | | | | | | | | | | | | | | NAV088 | |

GRAND TRAVERSE COUNTY ROAD COMMISSION

4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

SHEET INDEX

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APPLIES:
HAMMOND - SURVEY C
• STA 104+38 TO STA 107+71
• STA 114+29 TO STA 114+56

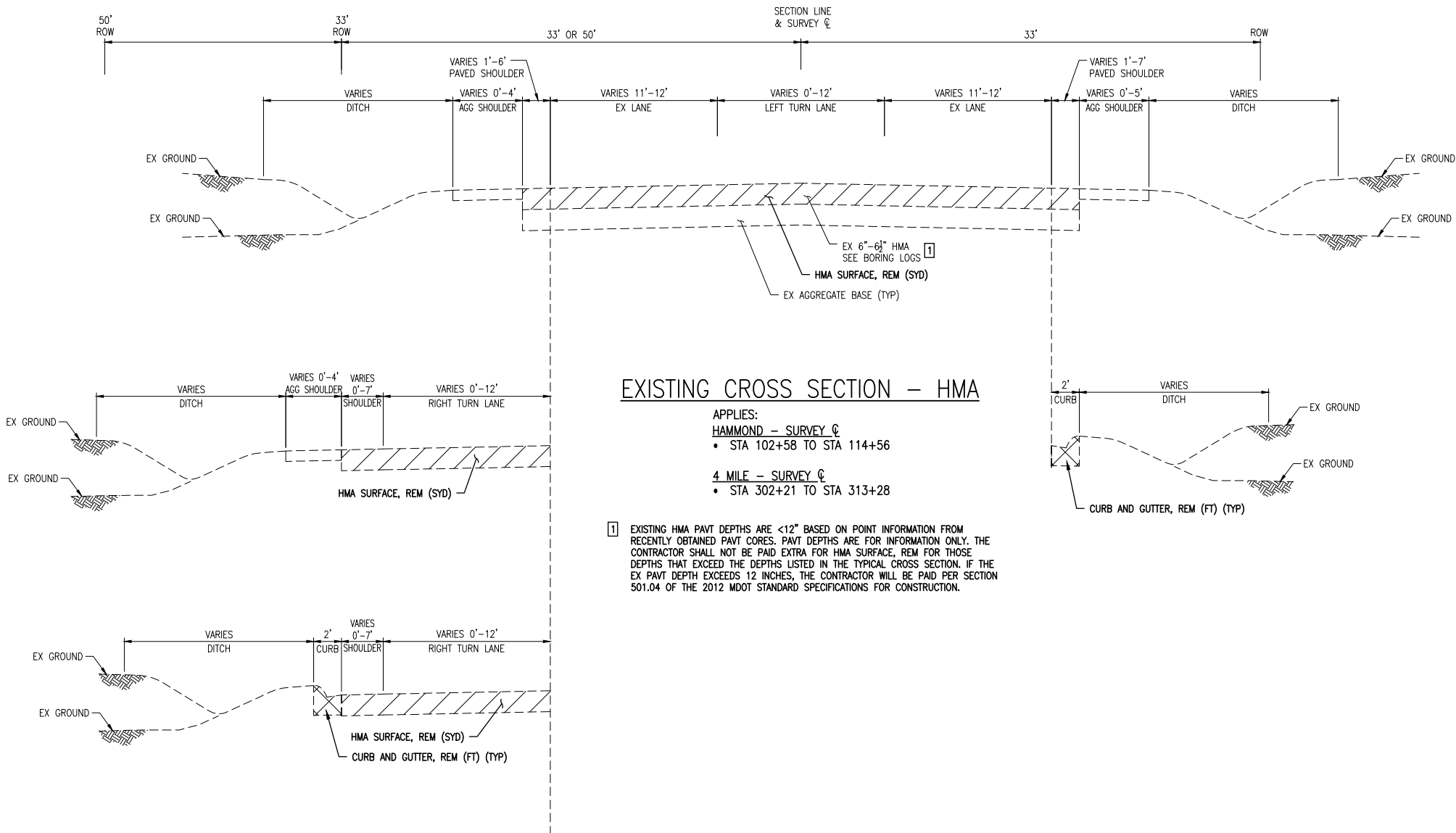
4 MILE - SURVEY C
• STA 302+21 TO STA 304+66
• STA 310+03 TO STA 313+28

APPLIES:
HAMMOND - SURVEY C
• STA 102+92 TO STA 104+38
• STA 109+37 TO STA 114+29

4 MILE - SURVEY C
• STA 309+72 TO STA 310+03

APPLIES:
HAMMOND - SURVEY C
• STA 102+58 TO STA 102+92
• STA 107+71 TO STA 109+37

4 MILE - SURVEY C
• STA 304+66 TO STA 309+72



EXISTING CROSS SECTION - HMA

APPLIES:
HAMMOND - SURVEY C
• STA 102+58 TO STA 114+56

4 MILE - SURVEY C
• STA 302+21 TO STA 313+28

[1] EXISTING HMA PAVT DEPTHS ARE <12" BASED ON POINT INFORMATION FROM RECENTLY OBTAINED PAVT CORES. PAVT DEPTHS ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL NOT BE PAID EXTRA FOR HMA SURFACE, REM FOR THOSE DEPTHS THAT EXCEED THE DEPTHS LISTED IN THE TYPICAL CROSS SECTION. IF THE EX PAVT DEPTH EXCEEDS 12 INCHES, THE CONTRACTOR WILL BE PAID PER SECTION 501.04 OF THE 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

NOTE: ALL STATION RANGES FOR EXISTING TYPICALS ON THIS SHEET ARE REFERENCED OFF SURVEY C

APPLIES:
HAMMOND - SURVEY C
• STA 102+58 TO STA 107+71
• STA 109+38 TO STA 114+56

4 MILE - SURVEY C
• STA 302+21 TO STA 304+66
• STA 306+45 TO STA 313+28

APPLIES:
HAMMOND - SURVEY C
• STA 107+71 TO STA 109+38

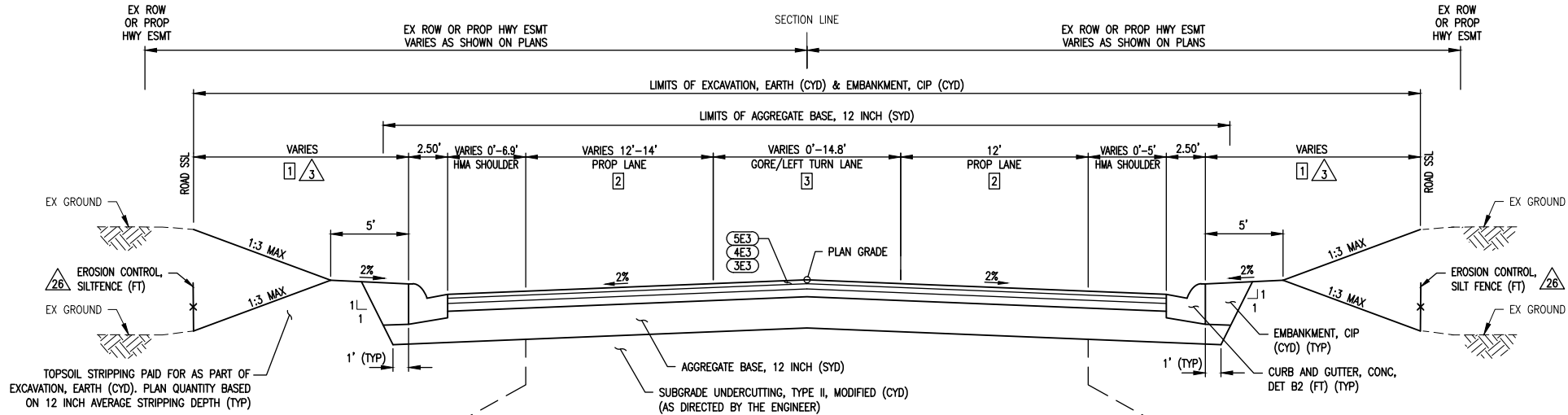
4 MILE - SURVEY C
• STA 304+66 TO STA 306+45



Know what's below.
Call before you dig.

DRAWING PATH: P:\7301_7400\73120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Typical\PR.dwg Mar 30, 2021 - 10:29pm

APPLIES: STA 13+46 TO STA 13+87
STA 21+46 TO STA 22+20
STA 41+93 TO STA 44+08
STA 48+18 TO STA 48+59



APPLIES: STA 13+04 TO STA 13+87
STA 21+46 TO STA 22+20
STA 41+93 TO STA 44+08
STA 48+18 TO STA 48+59

PROPOSED HMA SECTION PAGE 1 OF 2

APPLIES:
HAMMOND CONST C
• STA 11+98 TO STA 13+87
• STA 21+46 TO STA 23+75

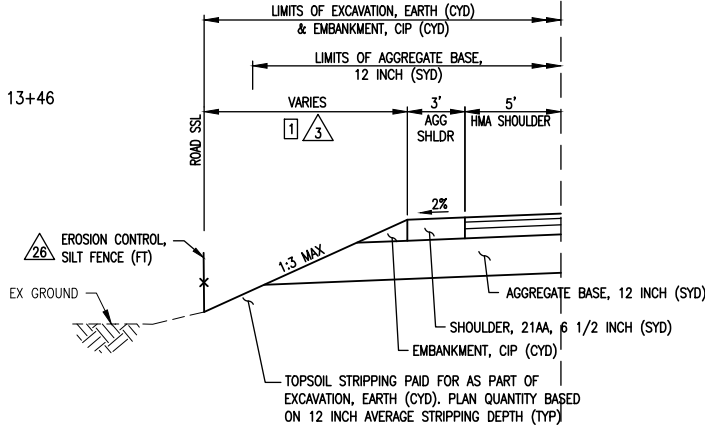
4 MILE CONST C
• STA 41+93 TO STA 44+08
• STA 48+18 TO STA 48+59

- NOTES:
- 1 WORK FOR TURF ESTABLISHMENT SHALL BE DONE PER THE SPECIAL PROVISION FOR "TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC". SEE SESC SHEETS FOR LOCATIONS.
 - 2 SEE CONSTRUCTION SHEETS FOR LANE WIDTH INFORMATION
 - 3 GORE WIDTH VARIES:
• 0' @ STA 12+27 TO 10.8' @ STA 13+87 • 0' @ STA 42+04 TO 10' @ STA 44+08
• 10' @ STA 21+46 TO 0' @ STA 23+18 • 9' @ STA 48+18 TO 7' @ STA 48+59
SEE PERMANENT PAVEMENT MARKING AND SIGNING PLAN FOR GORE LOCATIONS
 - 6 SEE CONSTRUCTION PLANS, PROFILES, AND MISCELLANEOUS DETAILS FOR INFORMATION TO CONSTRUCT SWALES.

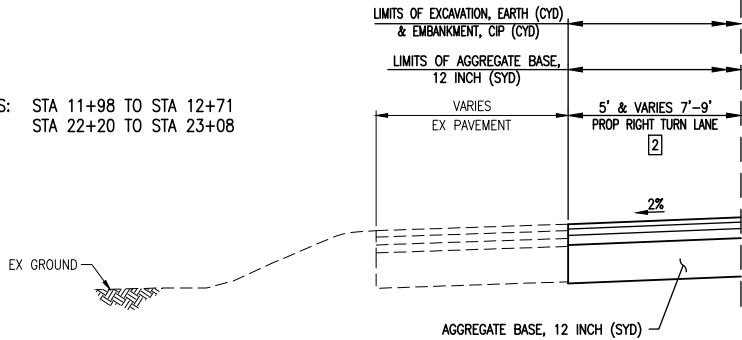
- LEGEND
- 3 - TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC (SYD)
 - 26 - EROSION CONTROL, SILT FENCE (FT)

| PERMANENT HMA APPLICATION CHART | | | | | |
|---------------------------------|---------------------------|---------------------|------------|-------------------------|---|
| SYMBOL | PAY ITEM | RATE (LB/SYD) | DEPTH (IN) | PERFORMANCE GRADE | REMARKS |
| 5E3 | HMA, 5E3 | 165 LB | 1.5 | 64-28 | TOP COURSE, AWI = 260 MINIMUM |
| 4E3 | HMA, 4E3 | 220 LB | 2.0 | 64-28 | LEVELING COURSE |
| 3E3 | HMA, 3E3 | 330 LB | 3.0 | 58-28 | BASE COURSE |
| HAC | HMA APPROACH, COMMERCIAL | 715 LB | 6.5 | 64-28 64-28 58-28 | 1.5" HMA, 5E3 2" HMA, 4E3 3" HMA, 3E3 |
| HAR | HMA APPROACH, RESIDENTIAL | 385 LB | 3.5 | 64-28 64-28 | 1.5" HMA, 5E3 2" HMA, 4E3 |
| HP | HAND PATCHING | VARIES | VARIES | 64-28 | HMA, 5E3 - MAX 2" PER LIFT |
| - | - | 0.05 - 0.15 GAL/SYD | - | TYPE SS-1h | BOND COAT - TO BE APPLIED BETWEEN EACH LIFT OF NEW PERMANENT HMA & EACH LIFT OF NEW TEMPORARY HMA (TYP) |

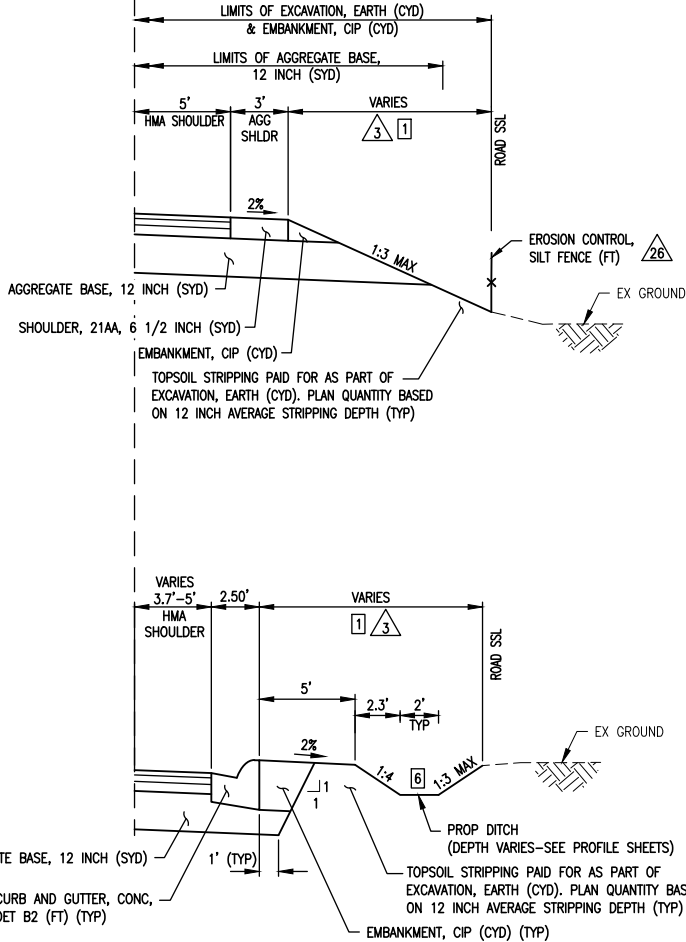
APPLIES: STA 12+71 TO STA 13+46



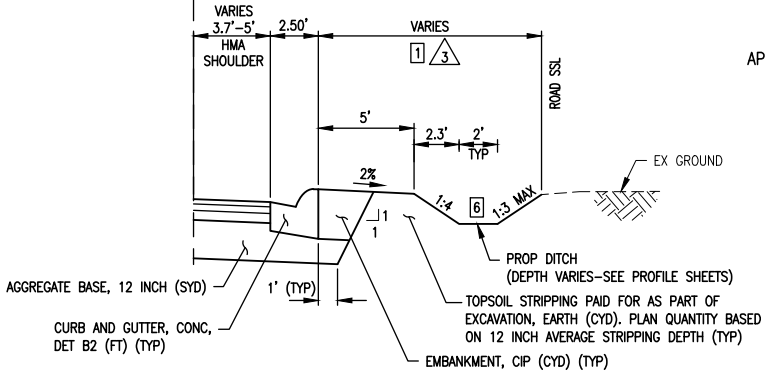
APPLIES: STA 11+98 TO STA 12+71
STA 22+20 TO STA 23+08

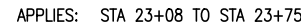


APPLIES: STA 22+20 TO STA 23+75



APPLIES: STA 12+84 TO STA 13+04
STA 41+93 TO STA 42+10





APPLIES: STA 11+98 TO STA 12+84

PAGE 2 OF 2

- STA 11+98 TO STA 13+87
- STA 21+46 TO STA 23+75
- STA 41+93 TO STA 44+08
- STA 48+18 TO STA 48+59



- STA 41+85 TO STA 41+93
- STA 48+59 TO STA 49+42



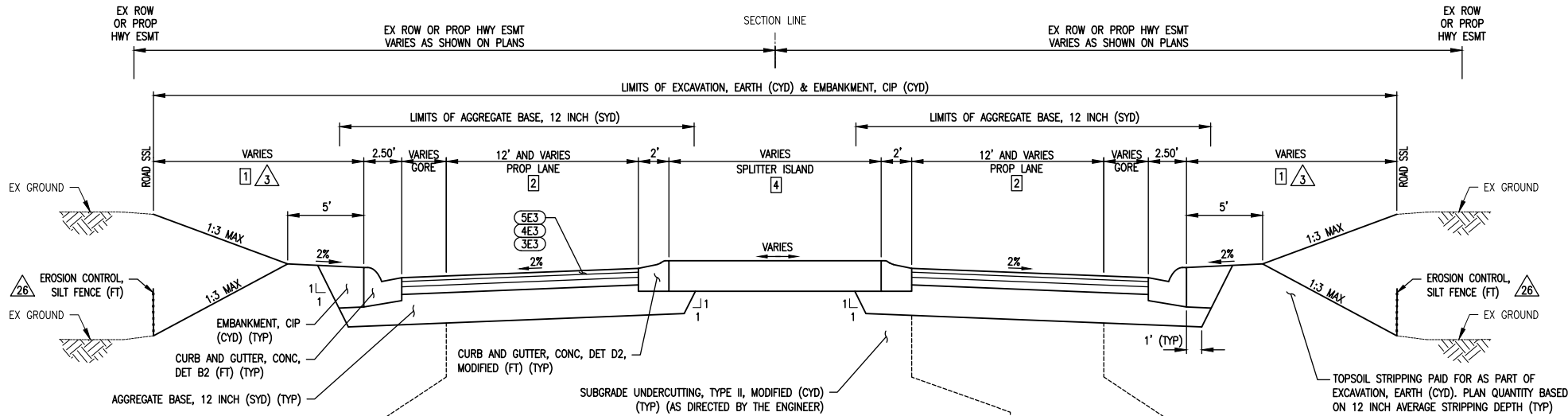
- STA 41+02 TO STA 41+93

- 1 WORK FOR TURF ESTABLISHMENT SHALL BE DONE PER THE SPECIAL PROVISION FOR "TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC". SEE SESC SHEETS FOR LOCATIONS.
- 2 SEE CONSTRUCTION SHEETS FOR LANE WIDTH INFORMATION
- 3 GORE WIDTH VARIES:
 - 0' @ STA 12+01 TO 11.3' @ STA 13+87
 - 0' @ STA 42+03 TO 9.7' @ STA 44+08
 - 10.3' @ STA 21+46 TO 0' @ STA 23+74
 - 9.3' @ STA 48+18 TO 0' @ STA 49+84
- SEE PERMANENT PAVEMENT MARKING AND SIGNING PLAN FOR GORE LOCATIONS
- 6 SEE CONSTRUCTION PLANS, PROFILES, AND MISCELLANEOUS DETAILS FOR INFORMATION TO CONSTRUCT SWALES.

| | |
|----|---|
| 3 | - TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC (SYD) |
| 26 | - EROSION CONTROL, SILT FENCE (FT) |

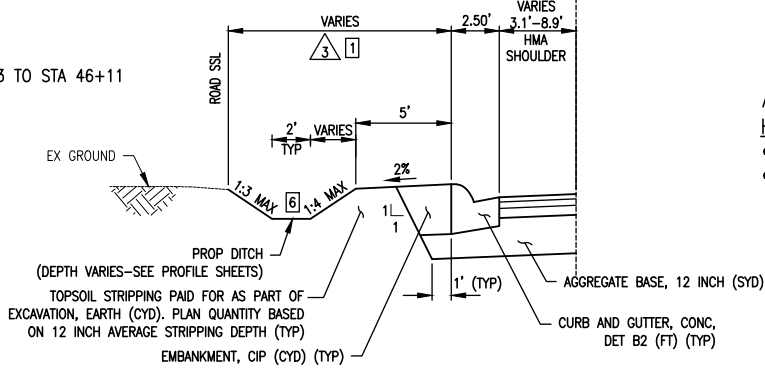
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APPLIES: STA 13+87 TO STA 17+18
STA 18+37 TO STA 21+46
STA 44+08 TO STA 44+57
STA 46+11 TO STA 48+18



APPLIES: STA 19+86 TO STA 21+46
STA 44+08 TO STA 44+57
STA 45+83 TO STA 48+18

APPLIES: STA 45+83 TO STA 46+11



PROPOSED ROUNDABOUT SPLITTER SECTION

- APPLIES:
- HAMMOND CONST C**
- STA 13+87 TO STA 17+18
 - STA 18+37 TO STA 21+46
- 4 MILE CONST C**
- STA 44+08 TO STA 44+57
 - STA 45+83 TO STA 48+18

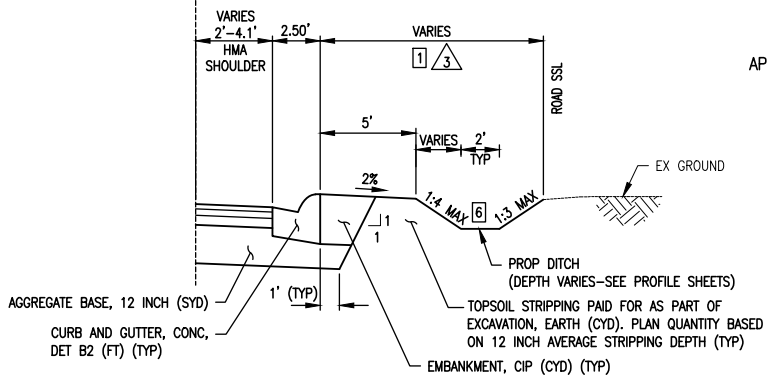
NOTES:

- [1] WORK FOR TURF ESTABLISHMENT SHALL BE DONE PER THE SPECIAL PROVISION FOR "TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC". SEE SESC SHEETS FOR LOCATIONS.
- [2] SEE CONSTRUCTION SHEETS FOR LANE WIDTH INFORMATION
- [4] SEE LANDSCAPING PLANS AND MISCELLANEOUS DETAILS FOR PROPOSED SPLITTER ISLAND TREATMENT.
- [6] SEE CONSTRUCTION PLANS, PROFILES, AND MISCELLANEOUS DETAILS FOR INFORMATION TO CONSTRUCT SWALES.

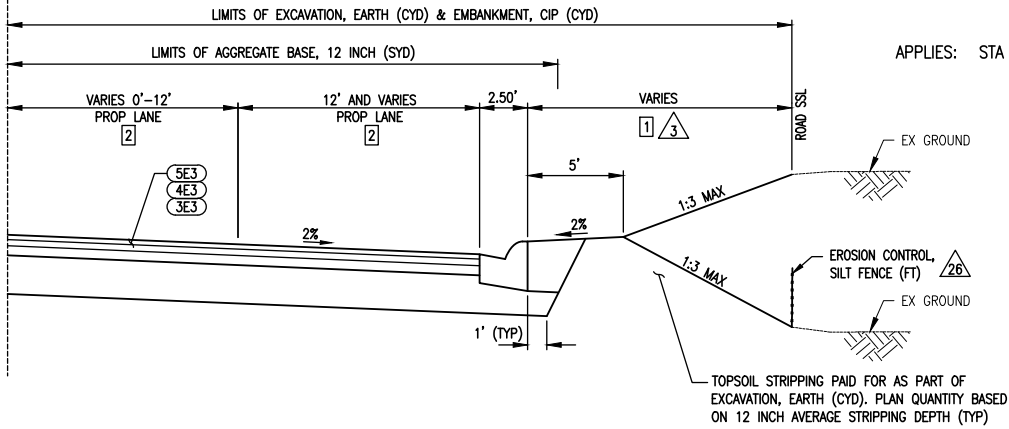
LEGEND

- [3] - TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC (SYD)
- [26] - EROSION CONTROL, SILT FENCE (FT)

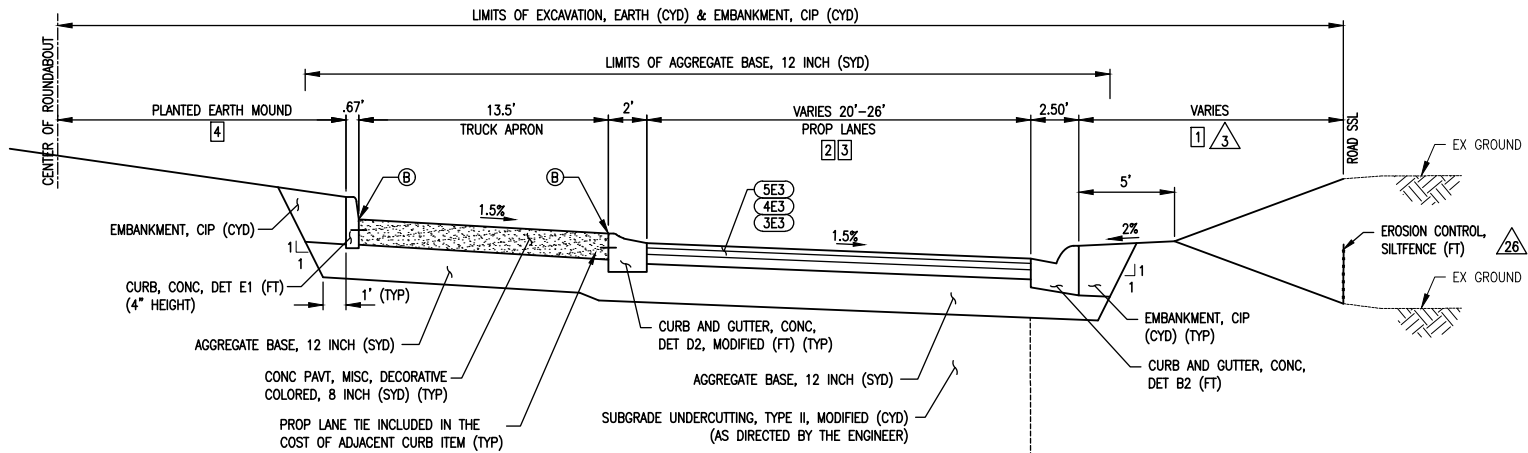
APPLIES: STA 18+37 TO STA 19+86



APPLIES: STA 13+87 TO STA 17+18



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R-1 PROPOSED ROUNDABOUT SECTION

APPLIES:
HAMMOND ROAD CONST C
• STA 17+18 TO STA 18+37
4 MILE CONST C
• STA 44+57 TO STA 45+83

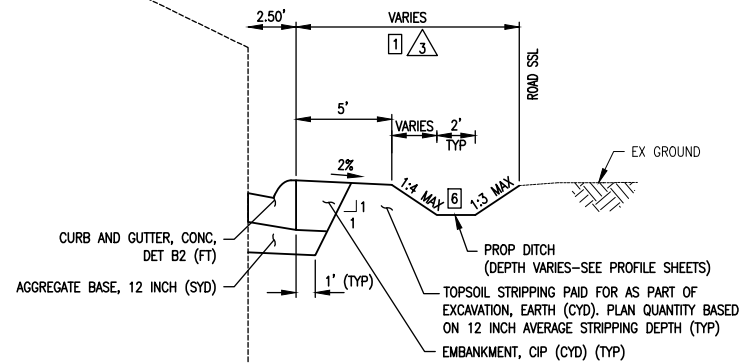
NOTES:

- 1 WORK FOR TURF ESTABLISHMENT SHALL BE DONE PER THE SPECIAL PROVISION FOR "TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC". SEE SESC SHEETS FOR LOCATIONS.
- 2 SEE CONSTRUCTION SHEETS FOR LANE WIDTH INFORMATION
- 3 SEE PERMANENT PAVEMENT MARKING AND SIGNING PLAN FOR GORE LOCATIONS
- 4 SEE LANDSCAPING PLANS AND MISCELLANEOUS DETAILS FOR PROPOSED SPLITTER ISLAND TREATMENT.
- 6 SEE CONSTRUCTION PLANS, PROFILES, AND MISCELLANEOUS DETAILS FOR INFORMATION TO CONSTRUCT SWALES.

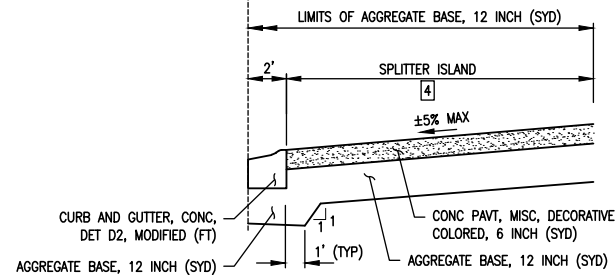
LEGEND

- 3 - TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC (SYD)
- 26 - EROSION CONTROL, SILT FENCE (FT)

LONGITUDINAL JOINTS ARE INCLUDED IN CONC PAVT PAY ITEM
B - LONGITUDINAL BULKHEAD CONSTRUCTION JOINT, ACCORDING TO STANDARD PLAN R - 41 SERIES.



APPLIES:
HAMMOND ROAD CONST C
• STA 18+03 TO STA 18+37
4 MILE CONST C
• STA 45+53 TO STA 45+83



APPLIES TO
ADJACENT TO SPLITTER ISLAND



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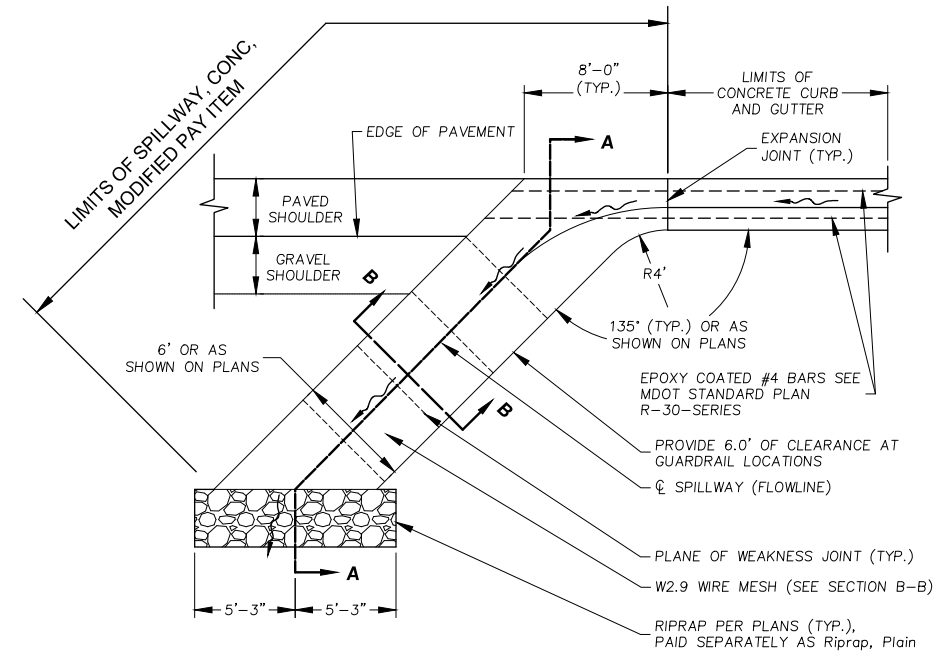
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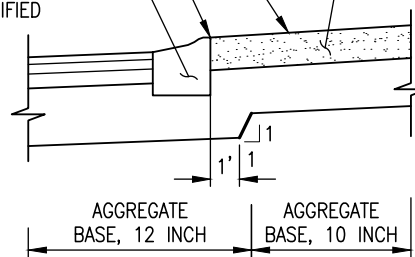
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
TYPICAL CROSS SECTIONS



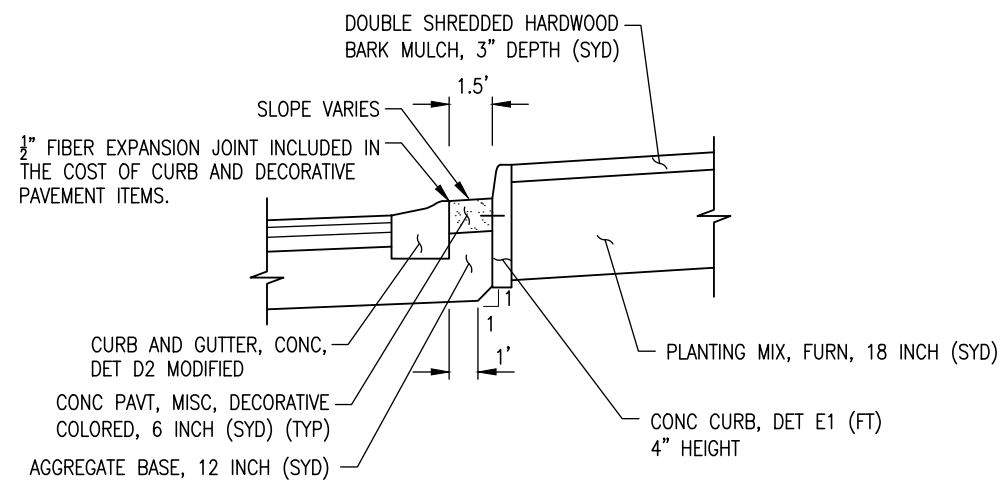
CURB AND GUTTER, CONC
DET D2, MODIFIED



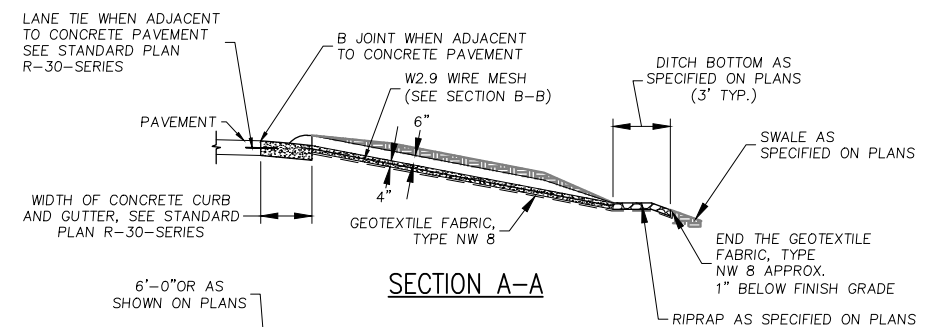
CONCRETE SPILLWAY
PLAN VIEW



SECTION A-A



SECTION B-B



SECTION A-A

SECTION B-B

SPILLWAY, CONC, MODIFIED
DETAIL

NOTES:

A GRADUAL UNIFORM TRANSITION SHALL BE MADE FROM THE STANDARD CONCRETE CURB AND GUTTER TO THE CONCRETE SPILLWAY.

PLANE OF WEAKNESS JOINT SPACING SHALL BE AT UNIFORM
INTERVALS OF APPROXIMATELY 4'-0".

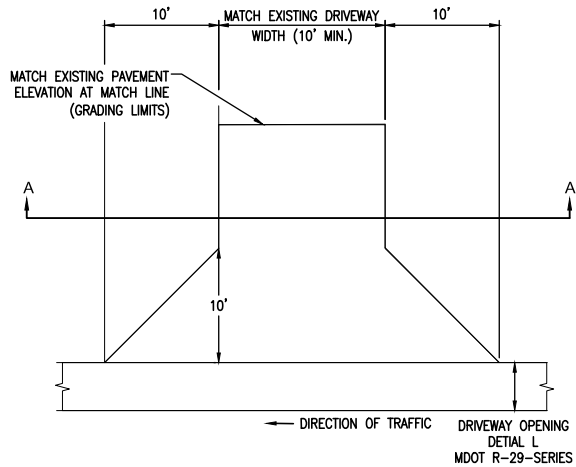
THE SPILLWAY SHOULDERS AND FORESLOPES WILL BE UNDERLAID WITH GEOTEXTILE FABRIC, NW 8 FROM THE BACK SIDE OF CURB TO THE FAR END OF THE SPILLWAY INCLUDING THE ENTIRE FOOTPRINT OF THE SPILLWAY.

WHEN USING SPILLWAYS IN OTHER AREAS, SUCH AS BACKSLOPES, THE GEOTEXTILE FABRIC, NW 8 SHALL UNDERLAY THE FULL LENGTH OF THE SPILLWAY AND THE ENTIRE FOOTPRINT OF THE SPILLWAY. THE GEOTEXTILE FABRIC, NW 8 SHALL HAVE A MINIMUM WIDTH EQUAL TO THE WIDTH OF THE SPILLWAY.

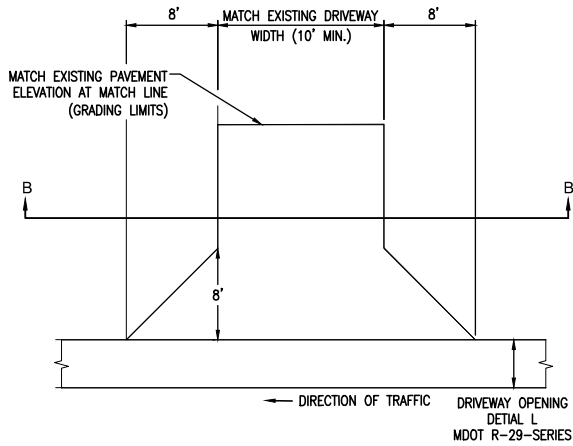
THE SPILLWAY SHALL BE GIVEN A TRANSVERSE COARSE BROOM FINISH.

WHILE CONCRETE SPILLWAY IS SHOWN ON THE FORESLOPE, IT MAY BE USED ON THE BACKSLOPE, AS SPECIFIED ON THE PLANS.

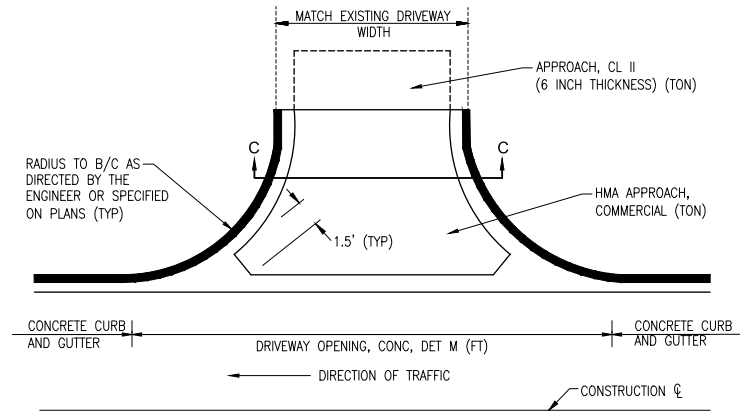
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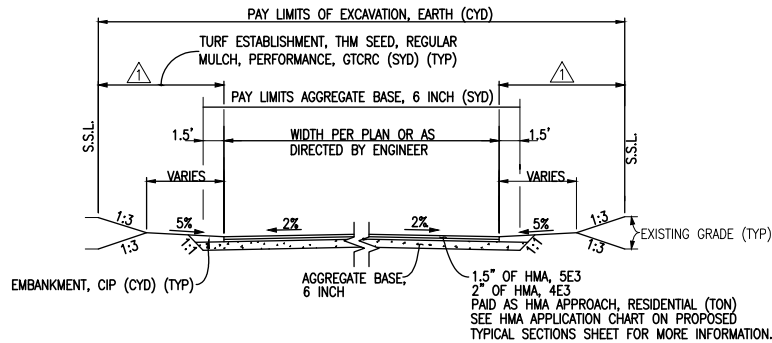
RESIDENTIAL HMA DRIVE



RESIDENTIAL AGGREGATE DRIVE

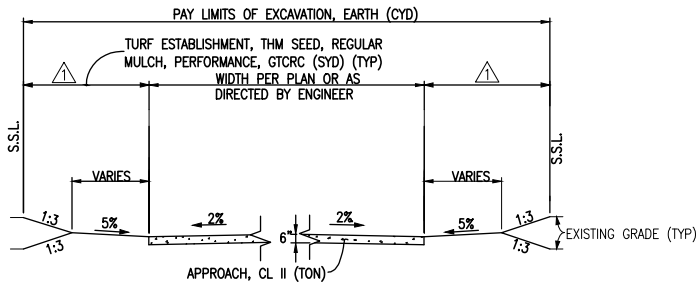


TYPICAL COMMERCIAL HMA DRIVE



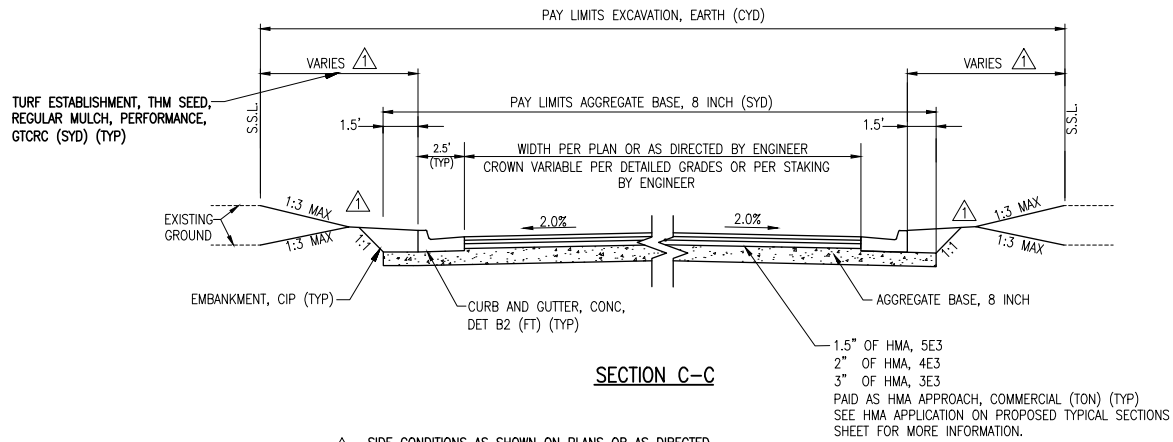
SECTION A-A (HMA)

⚠ SIDE CONDITIONS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER




SECTION B-B (AGGREGATE)

⚠ SIDE CONDITIONS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER



SECTION C-C

⚠ SIDE CONDITIONS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER



ARCHITECTS ENGINEERS PLANNERS

300 East Mitchell St., Suite 2
Potoskey, MI 49770
P (231) 344-1150

OHM-ADVISORS.COM

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| REVISIONS: | | | | | |
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| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | HORIZ DATUM | VERT DATUM |
| 3/30/2021 | 737-24-0010 | BA | JLK | JN | GRAND TRAVERSE | EAST BAY TWP. | LOCAL | NAVD88 |
| | | | | | | | SCALE | V: |
| | | | | | | | H: | 1"=5' |

GRAND TRAVERSE COUNTY ROAD COMMISSION

4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

MISCELLANEOUS DETAILS

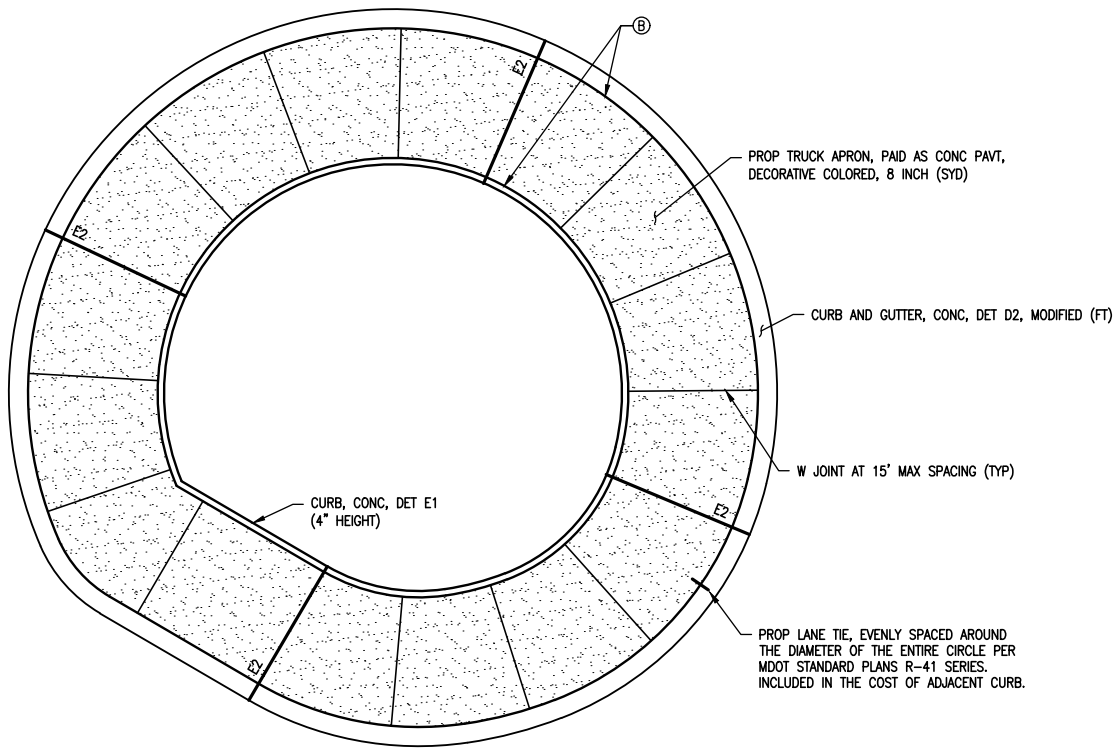
SHEET

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OF 84

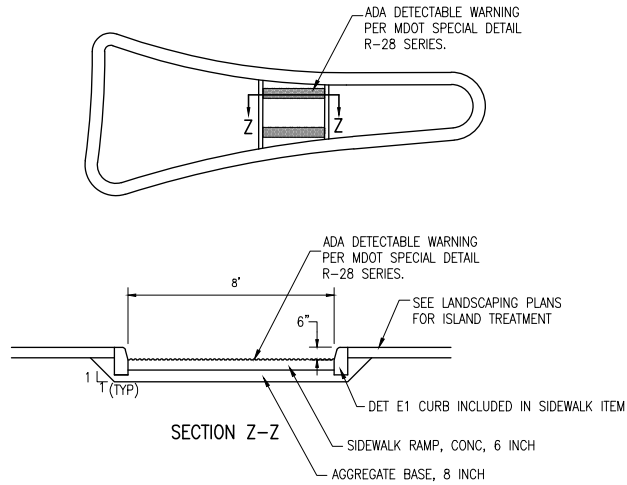
COPYRIGHT 2016 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM

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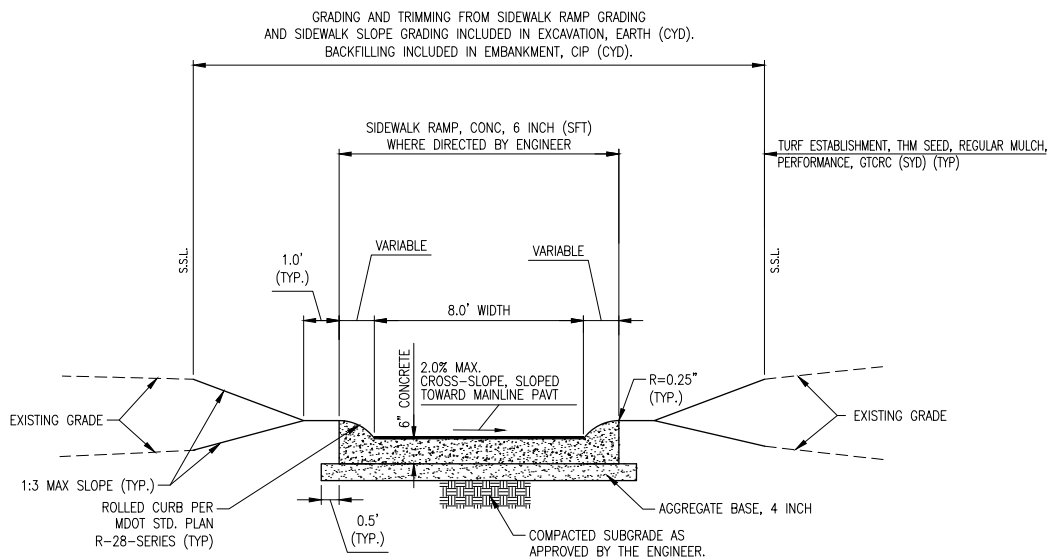


TRUCK APRON AT
ROUNDAABOUT CENTRAL ISLAND

LONGITUDINAL JOINTS ARE INCLUDED IN CONC PAVT PAY ITEM
Ⓑ - LONGITUDINAL BULKHEAD CONSTRUCTION JOINT,
ACCORDING TO STANDARD PLAN R - 41 SERIES.



SIDEWALK RAMP DETAIL @
SPLITTER ISLAND



SIDEWALK RAMP DETAIL

REVISIONS:

1 1 1 1 1 1 1 1 1 1

DATE PROJECT NUMBER ENG BA 3/30/2021 731-24-010 PROJ MGR JK CADD JN COUNTY GRAND TRAVERSE CITY/VILLAGE/TOWNSHIP EAST BAY TWP. SCALE H: 1"=5' V: SCALE HORIZONTAL DATUM LOCAL VERT DATUM NAVD88

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDAABOUT

MISCELLANEOUS DETAILS

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

HAMMOND RD

09 03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

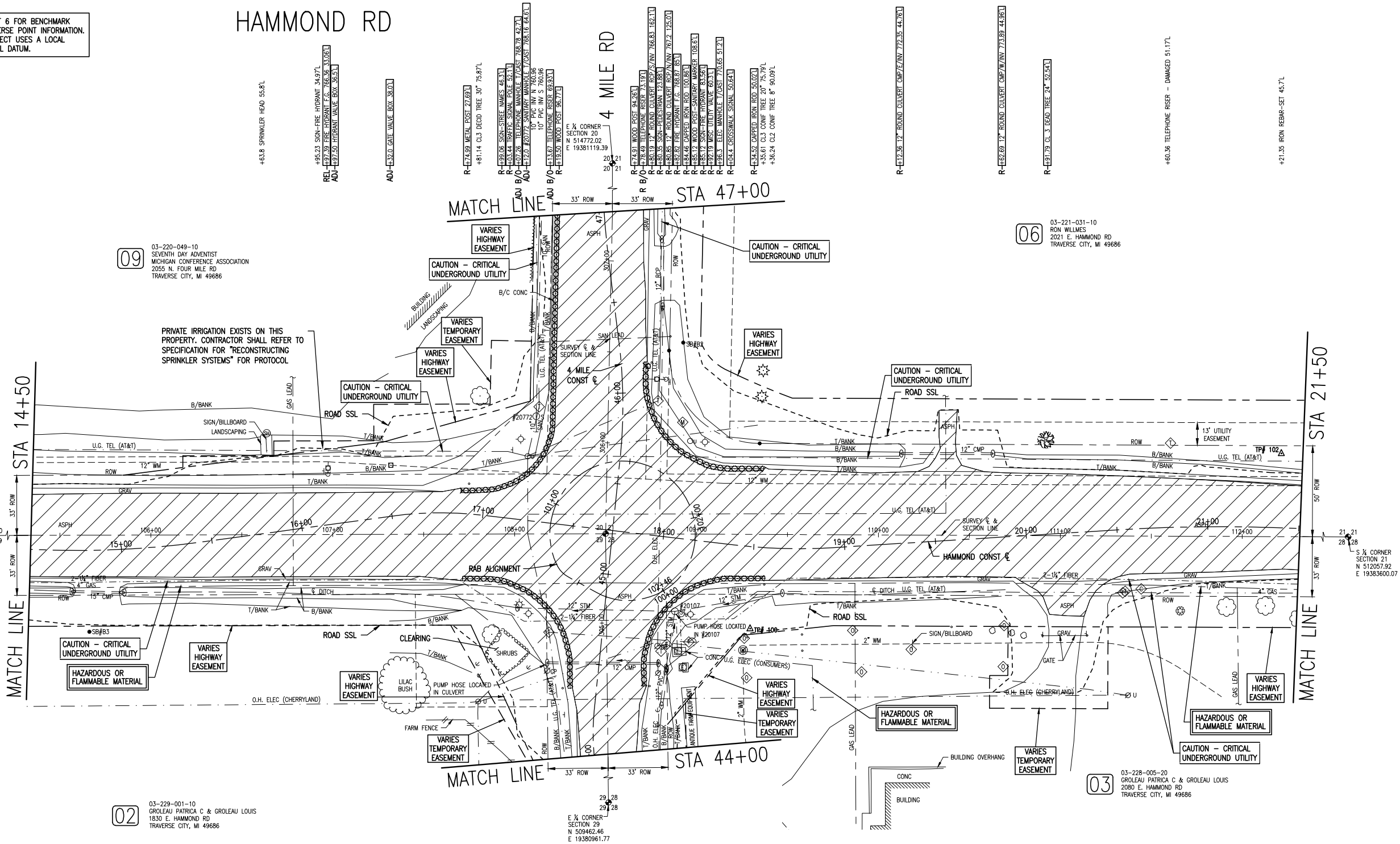
PRIVATE IRRIGATION EXISTS ON THIS
PROPERTY. CONTRACTOR SHALL REFER TO
SPECIFICATION FOR "RECONSTRUCTING
SPRINKLER SYSTEMS" FOR PROTOCOL

02 03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

06 03-221-031-10
RON WILLMES
2021 E. HAMMOND RD
TRAVERSE CITY, MI 49686

03 03-228-005-20
GROLEAU PATRICA C & GROLEAU LOUIS
2080 E. HAMMOND RD
TRAVERSE CITY, MI 49686

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
REMOVAL PLAN



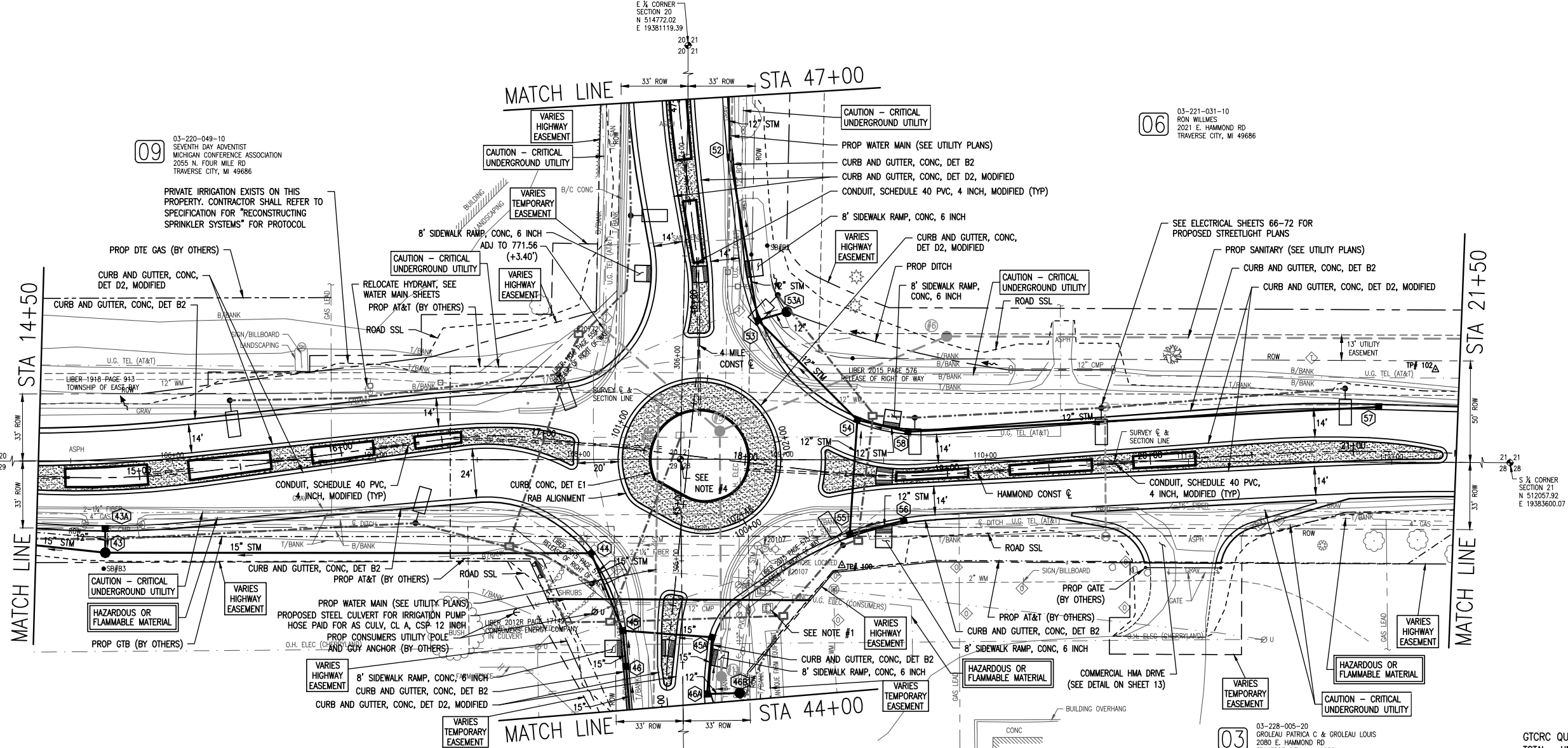
| GTCRC QUANTITIES THIS SHEET | | |
|-----------------------------|------|-------------------------------|
| TOTAL | UNIT | DESCRIPTION |
| 0.09 | Acre | Clearing |
| 2 | Ea | Tree, Rem, 19 inch to 36 inch |
| 4 | Ea | Culv, Rem, Less than 24 inch |
| 1 | Ea | Dr Structure, Rem |
| 179 | Ft | Sewer, Rem, Less than 24 inch |
| 499 | Ft | Curb and Gutter, Rem |
| 2 | Ea | Gate, Rem |
| 2023 | Cyd | Excavation, Earth |
| 5524 | Syd | HMA Surface, Rem |
| 6 | Ea | Sign, Type III, Rem |

- NOTES:
- SEE WATER MAIN SHEETS 77-84 FOR LIMITS OF WATER MAIN REMOVAL AND ABANDONMENT.
 - EXISTING SIGNAL INFRASTRUCTURE REMOVALS ARE DETAILED ON THE SIGNAL PLAN BEGINNING ON SHEET 74.
 - CONTRACTOR TO RELOCATE ROCKS/BOULDERS THAT ARE WITHIN THE GRADING LIMITS TO THE PROPERTY LINE OR TEMPORARY/HIGHWAY EASEMENT LINE, WHICHEVER IF FURTHER. THIS WORK IS INCLUDED IN THE COST OF EXCAVATION, EARTH (CYD).
 - UTILITY EXPLORATION / LOCATION IS INCLUDED IN THE COST OF THE APPLICABLE UNDERGROUND ITEM (WATER MAIN, SANITARY SEWER, STORM SEWER, STREETLIGHT, IRRIGATION, ELECTRICAL, OR EARTHWORK)
 - PRIVATE UTILITY LOCATIONS ARE APPROXIMATE. LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND THE UTILITY COMPANY.

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

HAMMOND RD

4 MILE RD



| GTORC QUANTITIES THIS SHEET | | |
|-----------------------------|------|---|
| TOTAL | UNIT | DESCRIPTION |
| 1559 | Cyd | Embankment, CIP |
| 244 | Syd | Aggregate Base, 8 inch |
| 263 | Syd | Aggregate Base, 10 inch |
| 5198 | Syd | Aggregate Base, 12 inch |
| 45 | Ton | Approach, CI II |
| 130 | Ft | Culv, CI A, CSP, 12 inch |
| 3 | Ft | Public Utility Structure, Adj, Add Depth |
| 1 | Ea | Public Utility Structure Cover, Adj, Case 2 |
| 621 | Ton | HMA, 3E3 |
| 414 | Ton | HMA, 4E3 |
| 311 | Ton | HMA, 5E3 |
| 69 | Ton | HMA Approach, Commercial |
| 65 | Ft | Joint, Expansion, E2 |
| 162 | Ft | Joint, Plane-of-Weakness, W |
| 543 | Syd | Conc Pavt, Misc, Decorative Colored, 6 inch |
| 288 | Syd | Conc Pavt, Misc, Decorative Colored, 8 inch |
| 149 | Ft | Curb, Conc, Det E1 |
| 1581 | Ft | Curb and Gutter, Conc, Det B2 |
| 161 | Ft | Driveway Opening, Conc, Det M |
| 1744 | Ft | Curb and Gutter, Conc, Det D2, Modified |
| 96 | Ft | Detectable Warning Surface |
| 121 | Ft | Curb Ramp Opening, Conc |
| 586 | Sft | Sidewalk Ramp, Conc, 6 inch |
| 1 | Ea | Monument Box |
| 1 | Ea | Monument Preservation |

| EAST BAY TWP QUANTITIES THIS SHEET | | |
|------------------------------------|------|--|
| TOTAL | UNIT | DESCRIPTION |
| 54 | Syd | Aggregate Base, 4 inch |
| 53 | Syd | Aggregate Base, 8 inch |
| 731 | Ft | Curb, Conc, Det E1 |
| 427 | Ft | Conduit, Schedule 40 PVC, 4 inch, Modified |

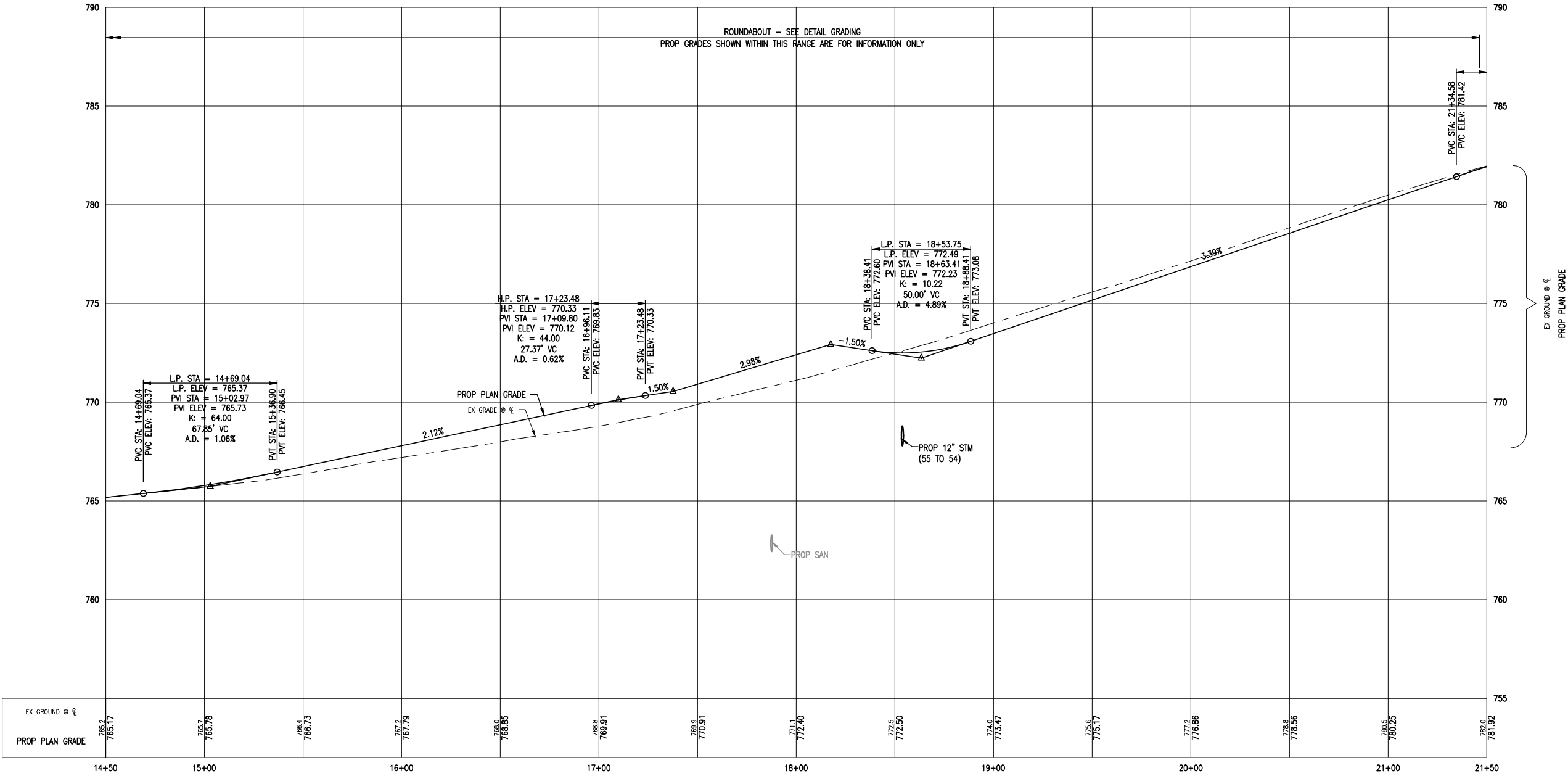
| GTORC DRAINAGE QUANTITIES THIS SHEET | | | | | | | | | | | | | |
|--------------------------------------|----------|----------|-------------------------|----|----|----------------------------|----|----|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------|
| STRUCT NO | STATION | OFFSET | Dr Structure, ____ inch | | | Dr Structure Cover, Type _ | | | Sewer, CI A, 12 inch, Tr Det B | Sewer, CI A, 15 inch, Tr Det B | Sewer, CI E, 12 inch, Tr Det B | Sewer, CI E, 15 inch, Tr Det B | TO STRUCT NO |
| | | | 24 | 48 | 60 | B | E | J | | | | | |
| | | | Ft | Ea | Ea | Ea | Ea | Ea | Ea | Ft | Ft | Ft | |
| 46 | 44+18.77 | 20.14 LT | | 1 | | | | 1 | | | | 18 | 45 |
| 46B | 44+04.64 | 35.90 RT | 1 | | | | 1 | | 17 | | | | 46A |
| 46A | 44+05.21 | 19.85 RT | | 1 | | | | 1 | | | | 29 | 45A |
| 45A | 44+36.41 | 20.72 RT | | 1 | | | | 1 | | | | 44 | 45 |
| 45 | 44+35.19 | 23.25 LT | | 1 | | | | 1 | | | | 42 | 44 |
| 44 | 17+30.07 | 53.27 RT | | 1 | | | | 1 | | 240 | | | 43 |
| 43A | 14+82.78 | 24.99 RT | 1 | | | | | 1 | 12 | | | | 43 |
| 43 | 14+82.61 | 36.85 RT | | 1 | | 1 | | | 76 | | | | 42 |
| 57 | 21+12.41 | 21.85 LT | | 1 | | | | 1 | | | 232 | | 58 |
| 56 | 18+78.20 | 21.99 RT | 1 | | | | | 1 | | | 28 | | 55 |
| 55 | 18+53.90 | 29.51 RT | | 1 | | | | 1 | | | 57 | | 54 |
| 58 | 18+80.98 | 21.66 LT | | 1 | | | | 1 | | | 26 | | 54 |
| 54 | 18+53.68 | 26.86 LT | | 1 | | | | 1 | | | 70 | | 53 |
| 53A | 18+11.70 | 75.90 LT | 1 | | | | | 1 | | | 15 | | 53 |
| 53 | 17+98.08 | 70.16 LT | | | 1 | | | 1 | | | 82 | | 52 |
| 52 | 46+68.84 | 22.42 RT | | 1 | | | | 1 | | | 120 | | 51 |
| TOTALS (CAT 001) | | | 4 | 11 | 1 | 1 | 2 | 13 | 29 | 316 | 630 | 133 | — |

- NOTES
- A CONTRACTOR HIRED BY THE GROLEAU FAMILY WILL REMOVE/RELOCATE THE ELECTRICAL IRRIGATION BOX/CABINET AND HOSES/PUMPS TO OUTSIDE THE HIGHWAY EASEMENT/TEMPORARY EASEMENT LIMITS PRIOR TO THE START OF CONSTRUCTION. GROLEAU'S CONTRACTOR WILL THEN REPLACE/REINSTALL THE IRRIGATION BOX/CABINET AND HOSES/PUMPS AFTER THE ROAD CONTRACTOR INSTALLS THE NEW STEEL CONDUIT UNDER 4 MILE ROAD, WHICH WILL OCCUR IN STAGE 1A/1B.
 - THE CONTRACTOR SHALL HAND DIG WITH A REPRESENTATIVE FROM THE RESPECTIVE UTILITY COMPANY PRESENT.
 - UTILITY EXPLORATION / LOCATION IS INCLUDED IN THE COST OF THE APPLICABLE UNDERGROUND ITEM (WATER MAIN, SANITARY SEWER, STORM SEWER, STREETLIGHT, IRRIGATION, ELECTRICAL, OR EARTHWORK).
 - THE PROPOSED GRADE AT THE MONUMENT BOX IS ± 2" HIGHER THAN EXISTING GRADE.
 - PRIVATE UTILITY LOCATIONS ARE APPROXIMATE. LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND THE UTILITY COMPANY.

DRAWING PATH: P:\7301_7400\737120010_GTCRC E-W_Corridor_Roundabouts\Drawings\Civil\Profiles\4 Mile Hammond\20010PRE.dwg Mar 30, 2021 • 10:31 pm

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

HAMMOND RD



REVISIONS:

DATE

VERT DATUM

SCALE

H

V

LOCAL

NAV08

CITY/TOWNSHIP

EAST BAY TOWNSHIP

GRAND TRAVERSE

MI

PROJ MGR

BA

ENG

PROJ NUMBER

737-242470

DATE

3/30/2021

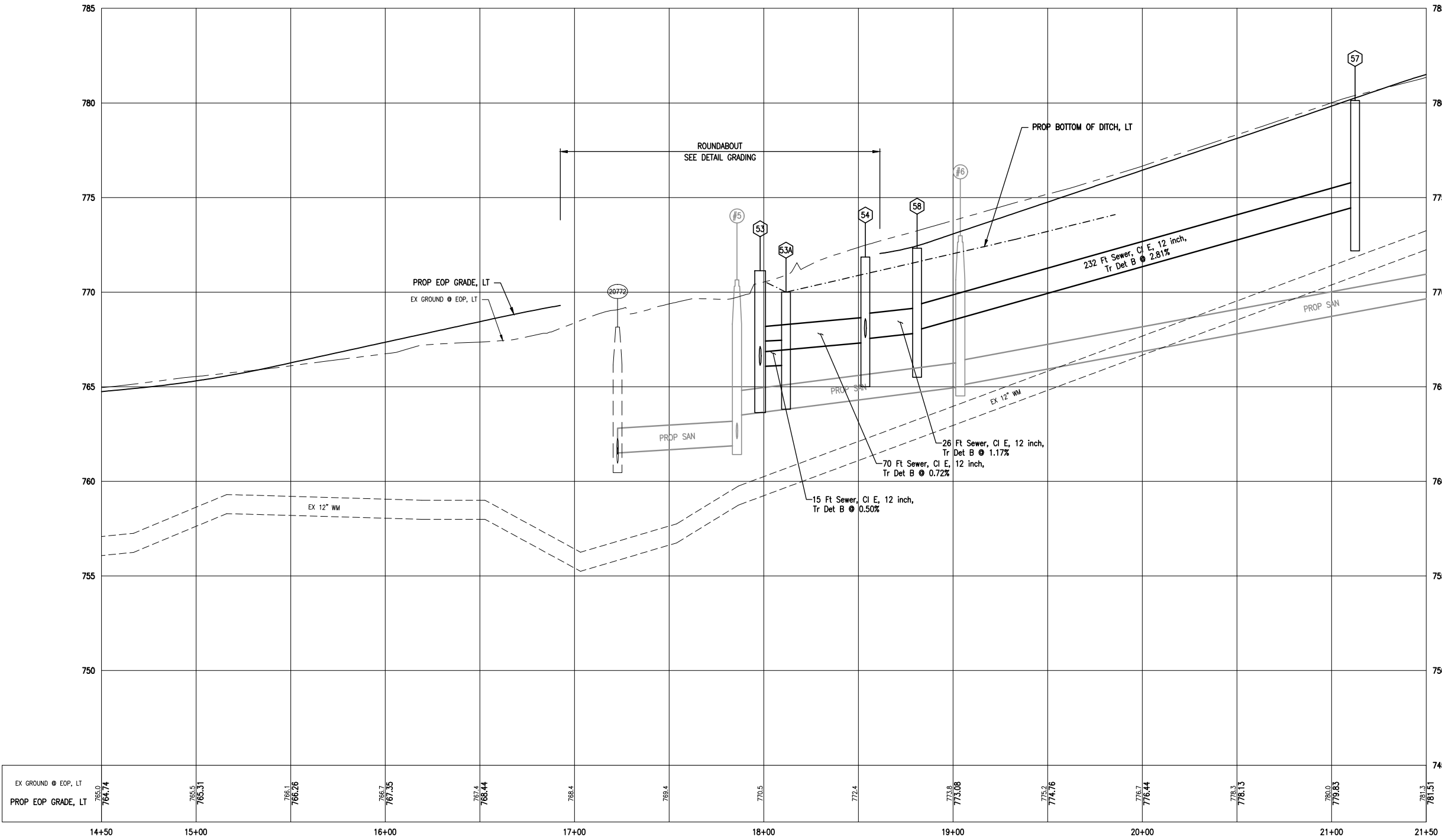
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

PROFILE - CENTER (HAMMOND RD)

DRAWING PATH: P:\7301_7400\737120010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Profiles4 Mile Hammond\20010PRE.dwg Mar 30, 2021 - 10:23 pm

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

HAMMOND RD



- (20772) STA 45+85.82, 47.6' L
EX SANITARY MANHOLE
T/CAST 768.16
10" INV N 761.43
10" INV S 760.96
- #5 STA 17+85.83, 13.8' L
PROP SANITARY MANHOLE
T/CAST 770.65
(SEE UTILITY PLANS FOR
ALL OTHER INFO)
- #53 STA 17+98.08, 70.2' L
60" DIA CATCH BASIN, COVER J
T/CAST 771.13
12" INV E 766.23
12" INV SE 767.00
12" INV N 766.13
- #54 STA 18+53.68, 26.9' L
48" DIA CATCH BASIN, COVER E
12" INV W 766.31
- #58 STA 18+80.98, 21.7' L
48" DIA CATCH BASIN, COVER J
T/CAST 772.32
12" INV E 768.15
12" INV W 768.00
- #6 STA 19+03.81, 67.5' L
PROP SANITARY MANHOLE
T/CAST 772.98
(SEE UTILITY PLANS FOR
ALL OTHER INFO)
- #57 STA 21+12.41, 21.8' L
48" DIA CATCH BASIN, COVER J
T/CAST 780.13
12" INV W 774.68

REVISIONS:

VERT DATUM
NAV08

SCALE
H: 1"=30'

CITY/TOWNSHIP
EAST BAY TOWNSHIP

COUNTY
GRAND TRAVERSE

CADD
JM

PROJ/MGR
JK

ENG
BA

DATE
3/30/2021

SHEET
18

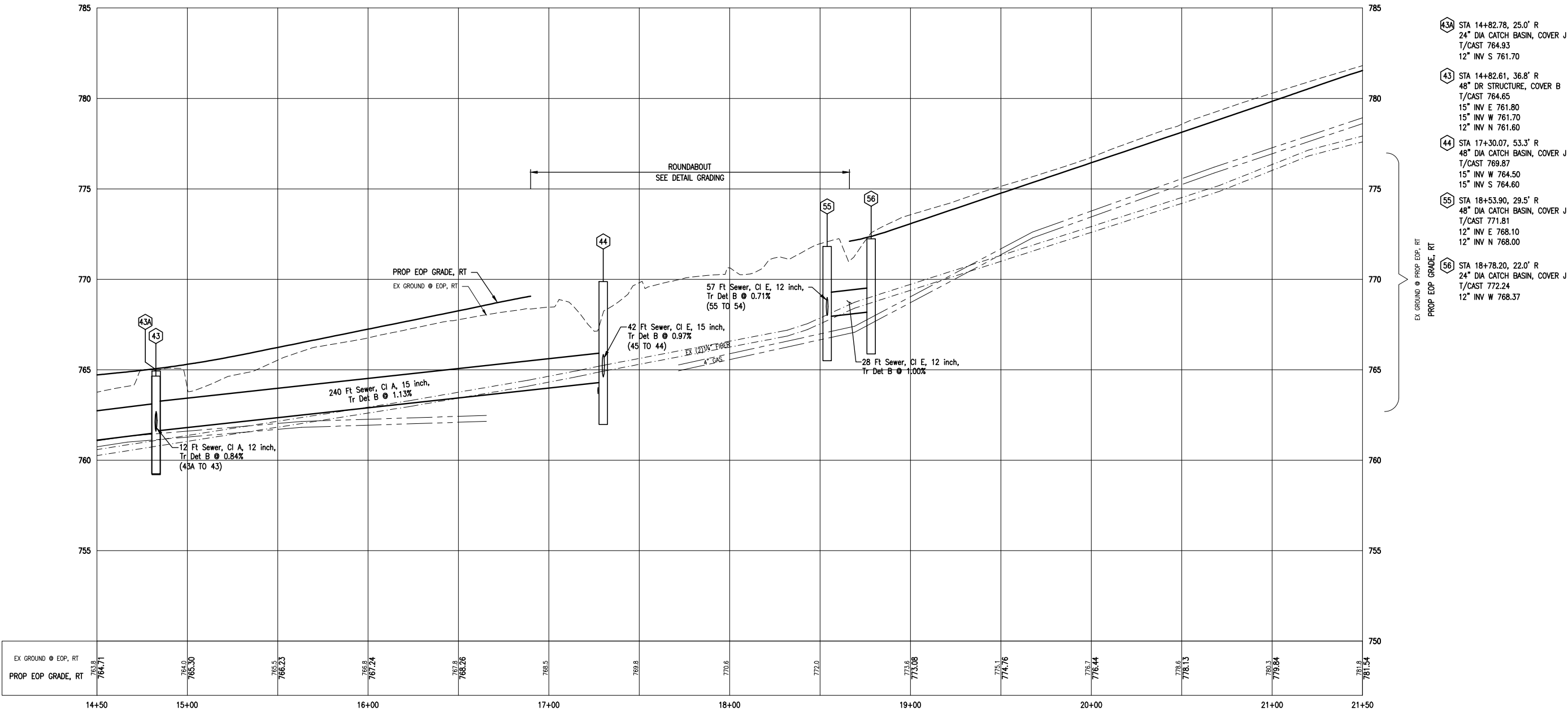
OF 84

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PROFILE - LEFT (HAMMOND RD)

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Profiles\4 Mile Hammond\200010PRE.dwg Mar 30, 2021 10:33 pm

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

HAMMOND RD



- 43A STA 14+82.78, 25.0' R
24" DIA CATCH BASIN, COVER J
T/CAST 764.93
12" INV S 761.70
- 43 STA 14+82.61, 36.8' R
48" DR STRUCTURE, COVER B
T/CAST 764.65
15" INV E 761.80
15" INV W 761.70
12" INV N 761.60
- 44 STA 17+30.07, 53.3' R
48" DIA CATCH BASIN, COVER J
T/CAST 769.87
15" INV W 764.50
15" INV S 764.60
- 55 STA 18+53.90, 29.5' R
48" DIA CATCH BASIN, COVER J
T/CAST 771.81
12" INV E 768.10
12" INV N 768.00
- 56 STA 18+78.20, 22.0' R
24" DIA CATCH BASIN, COVER J
T/CAST 772.24
12" INV W 768.37



ARCHITECTS ENGINEERS PLANNERS

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Potoskey, MI 49770
P (231) 344-1150

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REVISIONS:

| | | | | | | | | | | | | | | | | | | | |
|------|-------------|-----|----|----------|----|------|----|--------|----------------|------------------------|-------------------|-------|---|--------|---|------------|-------|-------------|-------|
| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | JK | CADD | JM | COUNTY | GRAND TRAVERSE | CITY/VIL/LAGE/TOWNSHIP | EAST BAY TOWNSHIP | SCALE | H | 1"=30' | V | VERT DATUM | LOCAL | HORIZ DATUM | NAV08 |
|------|-------------|-----|----|----------|----|------|----|--------|----------------|------------------------|-------------------|-------|---|--------|---|------------|-------|-------------|-------|

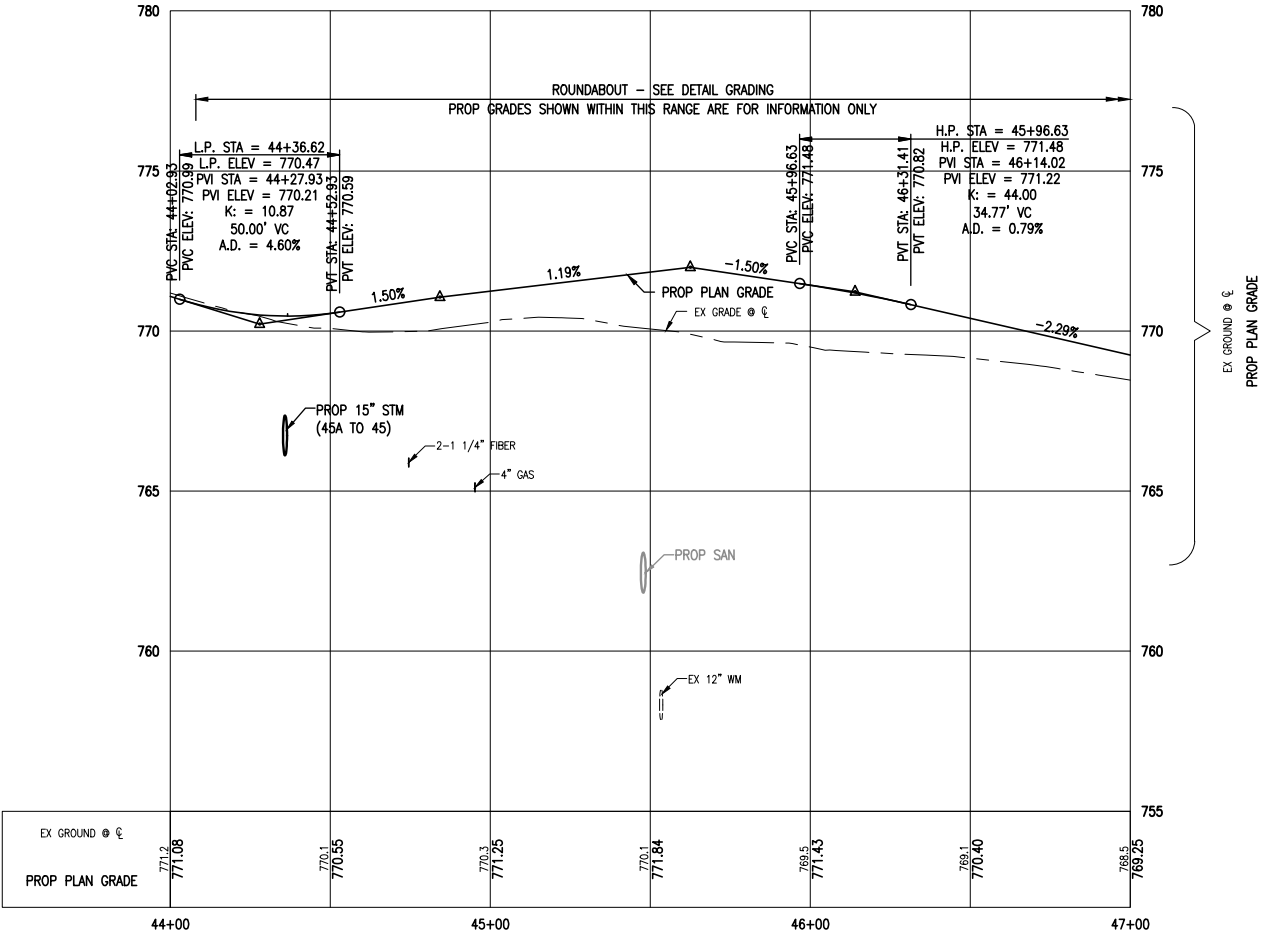
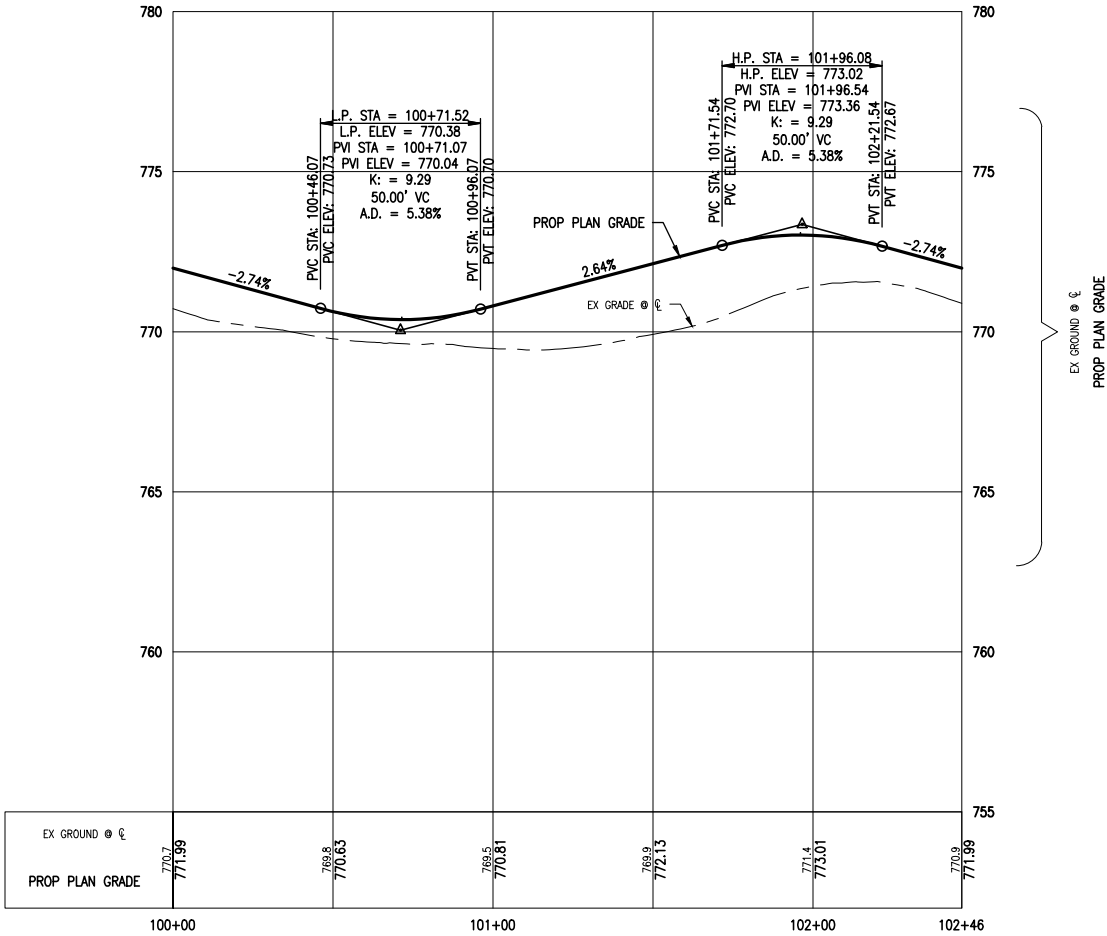
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PROFILE - RIGHT (HAMMOND RD)

DRAWING PATH: P:\7301_7400\737120010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Profiles\4 Mile Hammond\20010PRE.dwg Mar 30, 2021 • 10:33 pm

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

RAB

4 MILE RD





ARCHITECTS ENGINEERS PLANNERS

300 East Mitchell St., Suite 2
Potoskey, MI 49770
P (231) 344-1150

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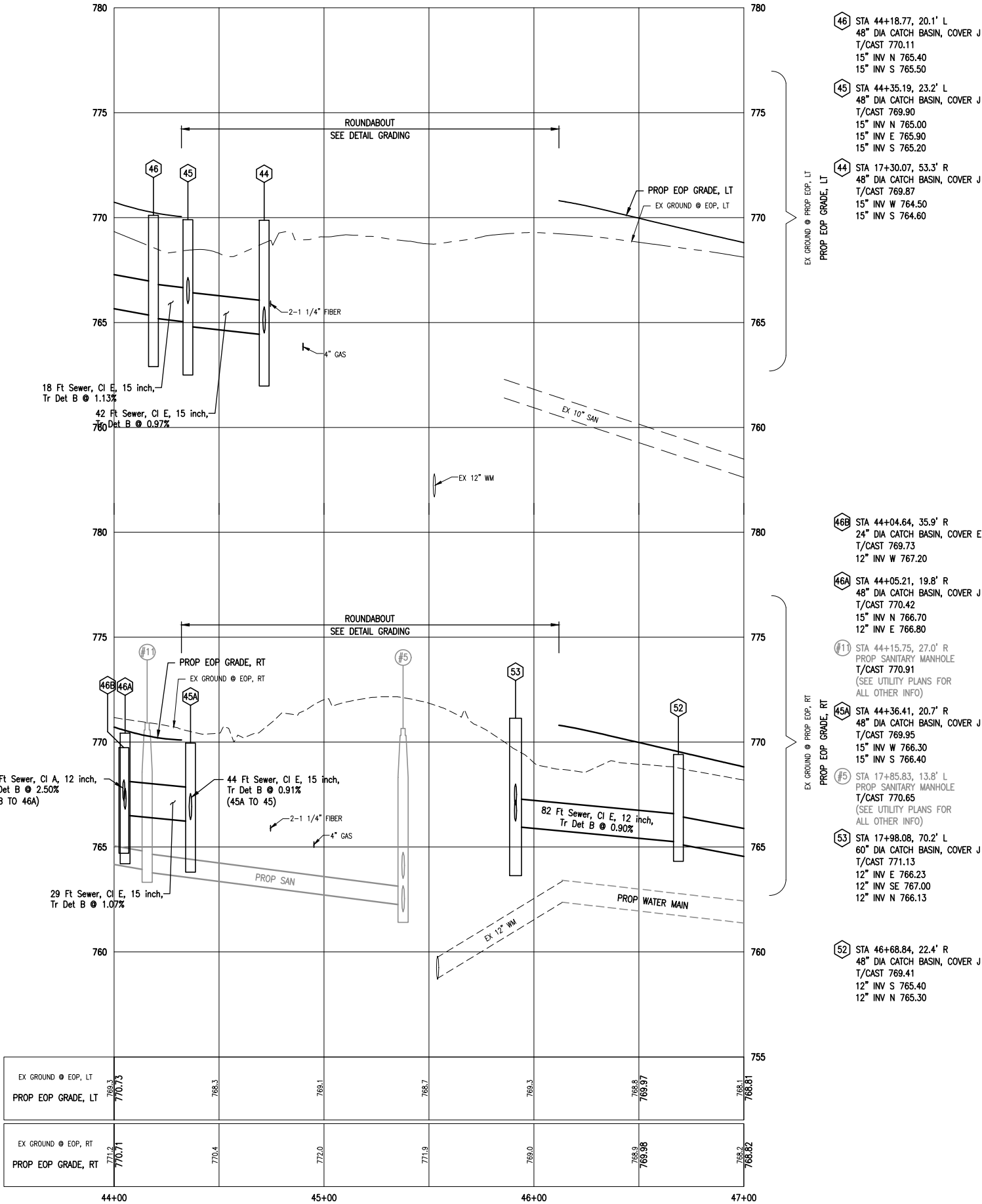
| REVISIONS: | |
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|--|-------------|-----|----|----------|----|------|----|--------|----------------|---------------|-------------------|-------------|-------|-------|---|--------|---|------------|--------|
| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | JK | CADD | AM | COUNTY | GRAND TRAVERSE | CITY/TOWNSHIP | EAST BAY TOWNSHIP | HORIZ DATUM | LOCAL | SCALE | H | 1"=30' | V | VERT DATUM | NAVD83 |
| GRAND TRAVERSE COUNTY ROAD COMMISSION 4 MILE ROAD/HAMMOND ROAD ROUNDABOUT PROFILE - CENTER (4 MILE RD & RAB) | | | | | | | | | | | | | | | | | | | |

DRAWING PATH: P:\7301_7400\737120010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Profiles\4 Mile Hammond\20010PRE.dwg Mar 30, 2021 • 10:33 pm

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

4 MILE RD



DRAWING PATH: P:\7301_7400\737120010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Removal\4 Mile Hammond\20010REM.dwg Mar 30, 2021 - 10:31pm

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

WEST LEG

HAMMOND RD

EAST LEG

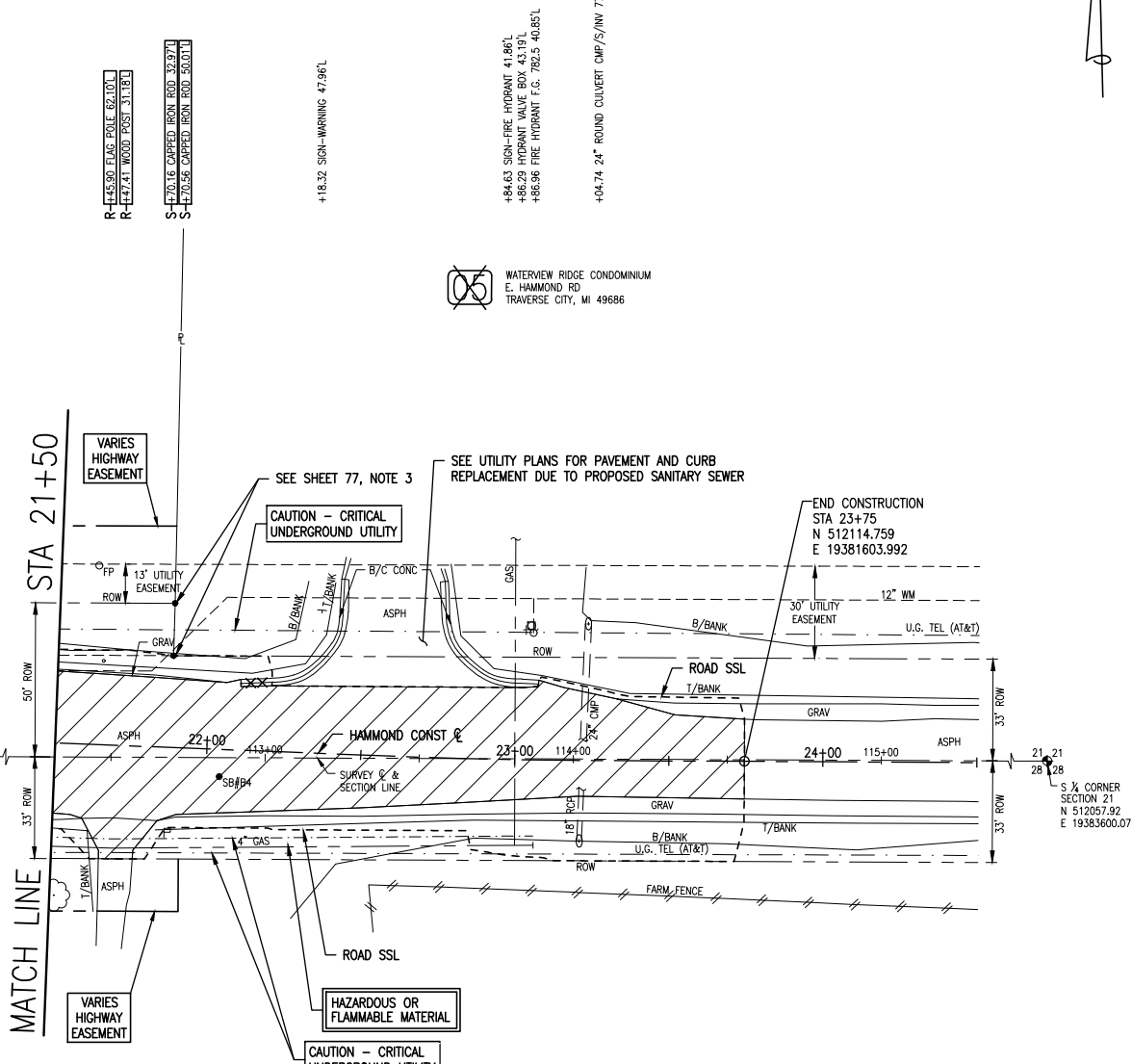
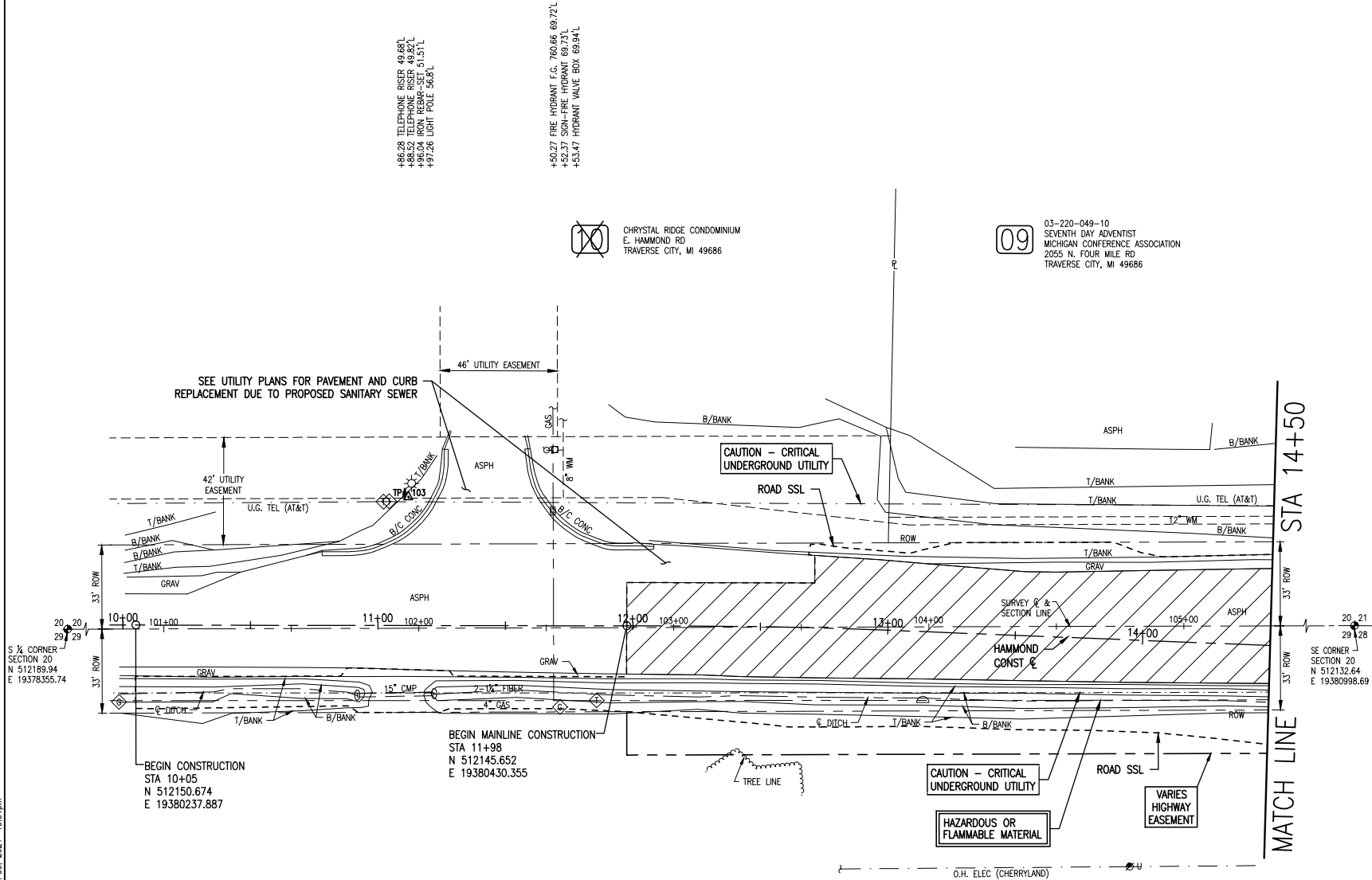




ARCHITECTS ENGINEERS PLANNERS

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P (231) 344-1150

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02 03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

03 03-228-005-20
GROLEAU PATRICA C & GROLEAU LOUIS
2080 E. HAMMOND RD
TRAVERSE CITY, MI 49686

| GTCRC QUANTITIES THIS SHEET | | |
|-----------------------------|------|-----------------------------------|
| TOTAL | UNIT | DESCRIPTION |
| 1 | Ea | Culv, Rem, Less than 24 inch |
| 1 | Ea | Culv, End, Rem, Less than 24 inch |
| 11 | Ft | Curb and Gutter, Rem |
| 1037 | Cyd | Excavation, Earth |
| 2161 | Syd | HMA Surface, Rem |

- NOTES:
- SEE WATER MAIN SHEETS 77-84 FOR LIMITS OF WATER MAIN REMOVAL AND ABANDONMENT.
 - EXISTING SIGNAL INFRASTRUCTURE REMOVALS ARE DETAILED ON THE SIGNAL PLAN BEGINNING ON SHEET 74.
 - CONTRACTOR TO RELOCATE ROCKS/BOULDERS THAT ARE WITHIN THE GRADING LIMITS TO THE PROPERTY LINE OR TEMPORARY/HIGHWAY EASEMENT LINE, WHICHEVER IF FURTHER. THIS WORK IS INCLUDED IN THE COST OF EXCAVATION, EARTH (CYD).
 - UTILITY EXPLORATION / LOCATION IS INCLUDED IN THE COST OF THE APPLICABLE UNDERGROUND ITEM (WATER MAIN, SANITARY SEWER, STORM SEWER, STREETLIGHT, IRRIGATION, ELECTRICAL, OR EARTHWORK).
 - PRIVATE UTILITY LOCATIONS ARE APPROXIMATE. LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND THE UTILITY COMPANY.

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
REMOVAL PLAN

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

HAMMOND RD

WEST LEG

EAST LEG

OHM

ARCHITECTS ENGINEERS PLANNERS

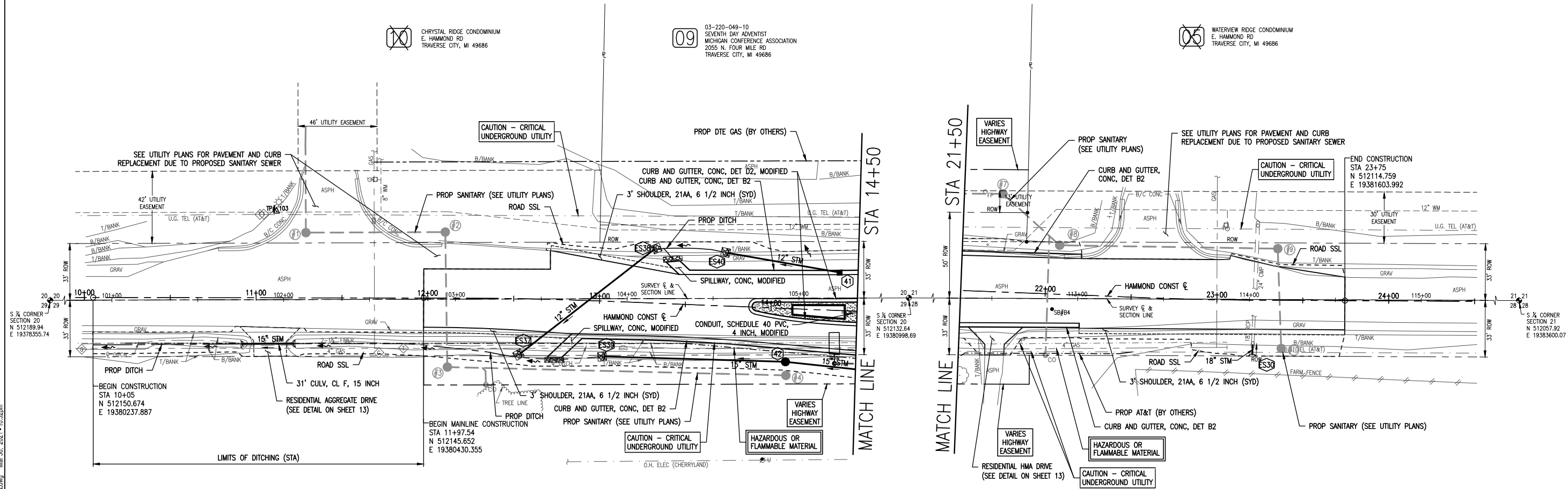
300 East Mitchell St., Suite 2
Potoskey, MI 49770
P (231) 344-1150

OHM-ADVISORS.COM

03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686



03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

| GTCRC DRAINAGE QUANTITIES THIS SHEET | | | | | | | | | | | | | |
|--------------------------------------|----------|----------|------------------------|----|----------------------------|----|--------------------------------|--------------------------------|---------------------|--------------|------------------------|------------------------|------------------------|
| STRUCT NO | STATION | OFFSET | Dr Structure, ___ inch | | Dr Structure Cover, Type _ | | Sewer, CI A, 12 inch, Tr Det B | Sewer, CI A, 15 inch, Tr Det B | Culv, CI E, 12 inch | TO STRUCT NO | Culv End Sect, 12 inch | Culv End Sect, 15 inch | Culv End Sect, Footing |
| | | | 24 | 48 | B | J | | | | | | | |
| | | | Ft | Ea | Ea | Ea | | | | | Ea | Ft | Ft |
| 41 | 14+38.98 | 22.18 LT | 1 | Ea | Ea | 1 | 66 | Ft | Ft | ES40 | Ea | Ea | Ea |
| ES40 | 13+73.71 | 30.97 LT | | | | | | | | | 1 | | 1 |
| 42 | 14+09.51 | 31.10 RT | | 1 | 1 | | | 106 | | ES39 | | | |
| ES39 | 13+04.27 | 32.22 RT | | | | | | | | | | 1 | 1 |
| ES38 | 13+30.56 | 31.31 LT | | | | | | | 99 | ES37 | 1 | | 1 |
| ES37 | 12+54.58 | 31.76 RT | | | | | | | | | 1 | | 1 |
| TOTALS (CAT 001) | | | 1 | 1 | 1 | 1 | 66 | 106 | 99 | - | 3 | 1 | 4 |

- NOTES
- UTILITY EXPLORATION / LOCATION IS INCLUDED IN THE COST OF THE APPLICABLE UNDERGROUND ITEM (WATER MAIN, SANITARY SEWER, STORM SEWER, STREETLIGHT, IRRIGATION, ELECTRICAL, OR EARTHWORK).
 - PRIVATE UTILITY LOCATIONS ARE APPROXIMATE. LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND THE UTILITY COMPANY.

| GTCRC QUANTITIES THIS SHEET | | |
|-----------------------------|------|---|
| TOTAL | UNIT | DESCRIPTION |
| 433 | Cyd | Embankment, CIP |
| 2 | Sta | Ditching |
| 39 | Syd | Aggregate Base, 6 inch |
| 14 | Syd | Aggregate Base, 10 inch |
| 2281 | Syd | Aggregate Base, 12 inch |
| 15 | Ton | Approach, CI II |
| 108 | Syd | Shoulder, 21AA, 6 1/2 inch |
| 2 | Ea | Culv End Sect, 15 inch |
| 1 | Ea | Culv End Sect, 18 inch |
| 6 | Ft | Culv, CI A, 18 inch |
| 31 | Ft | Culv, CI F, 15 inch |
| 1 | Ea | Sewer Tap, 18 inch |
| 341 | Ton | HMA, 3E3 |
| 228 | Ton | HMA, 4E3 |
| 171 | Ton | HMA, 5E3 |
| 7 | Ton | HMA Approach, Residential |
| 38 | Syd | Conc Pavt, Misc, Decorative Colored, 6 inch |
| 398 | Ft | Curb and Gutter, Conc, Det B2 |
| 132 | Ft | Curb and Gutter, Conc, Det D2, Modified |
| 23 | Ft | Spillway, Conc, Modified |

| EAST BAY TWP QUANTITIES THIS SHEET | | |
|------------------------------------|------|--|
| TOTAL | UNIT | DESCRIPTION |
| 77 | Ft | Curb, Conc, Det E1 |
| 9 | Ft | Conduit, Schedule 40 PVC, 4 inch, Modified |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
CONSTRUCTION PLAN

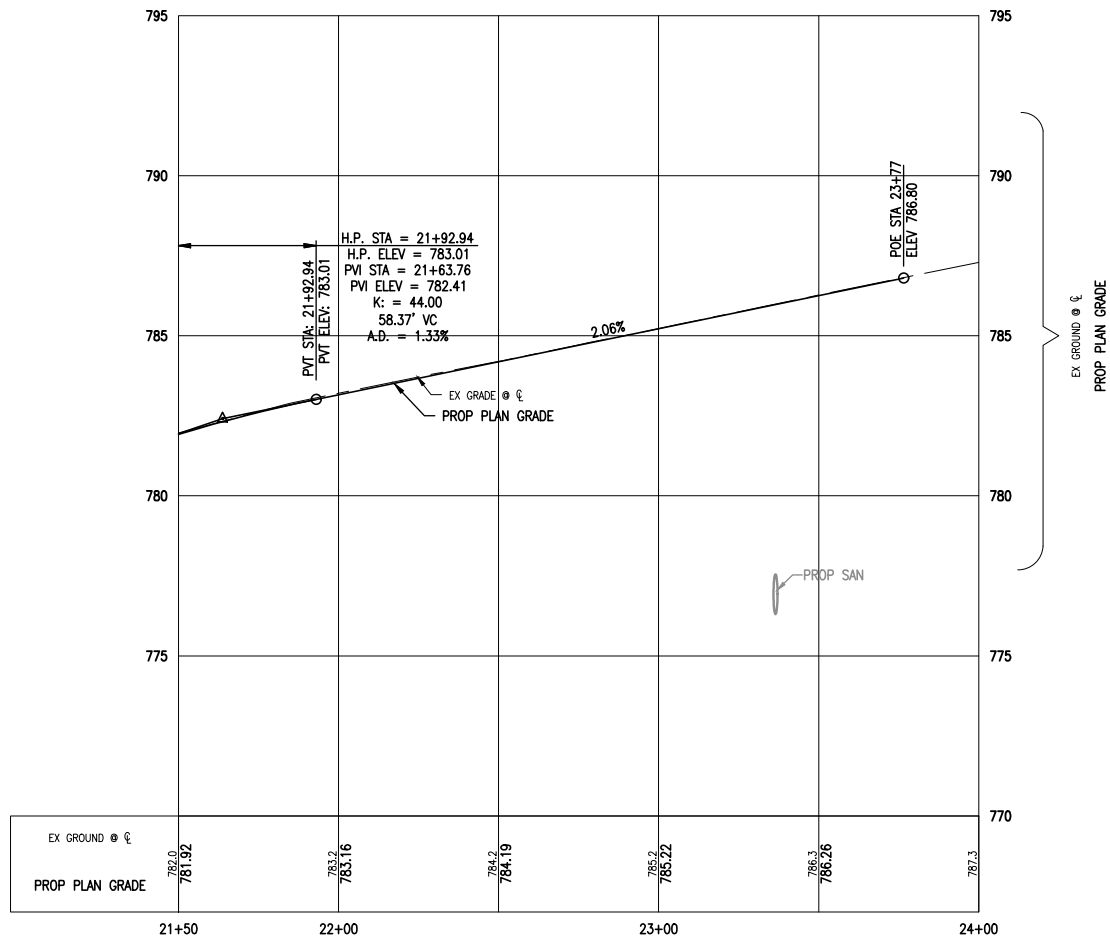
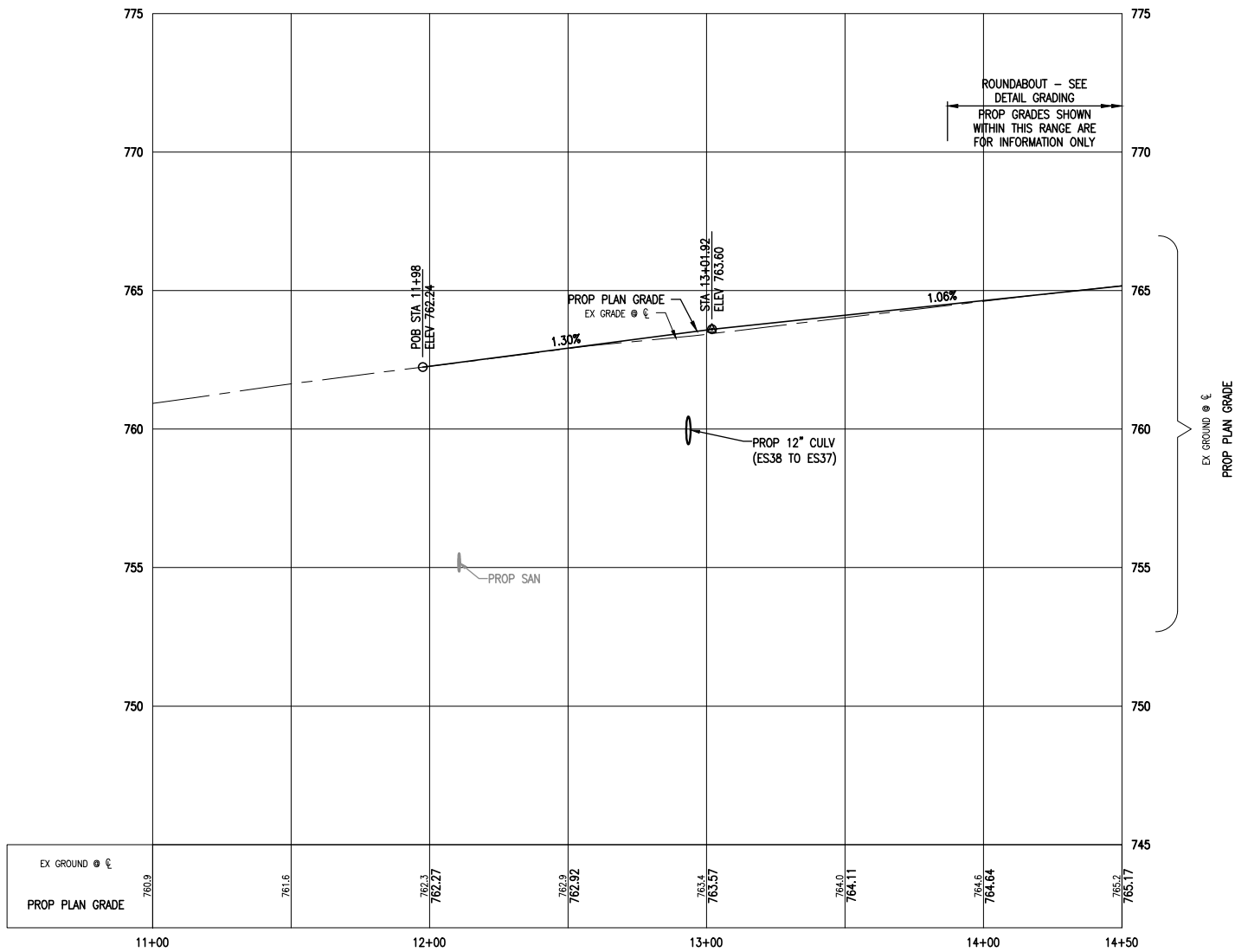
DRAWING PATH: P:\7301_7400\73720010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Profiles\4 Mile Hammond\20010PRE.dwg Mar 30, 2021 • 10:32pm

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

WEST LEG

HAMMOND RD

EAST LEG





ARCHITECTS ENGINEERS PLANNERS

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Potoskey, MI 49770
P (231) 344-1150

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REVISIONS:

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| 1 | | |
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| 9 | | |
| 10 | | |

| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----------|------|----------------|-------------------|------------------------|-------------|------------|
| 3/30/2021 | 737-024070 | BA | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' V: 1"=30' | LOCAL | NAVD88 |

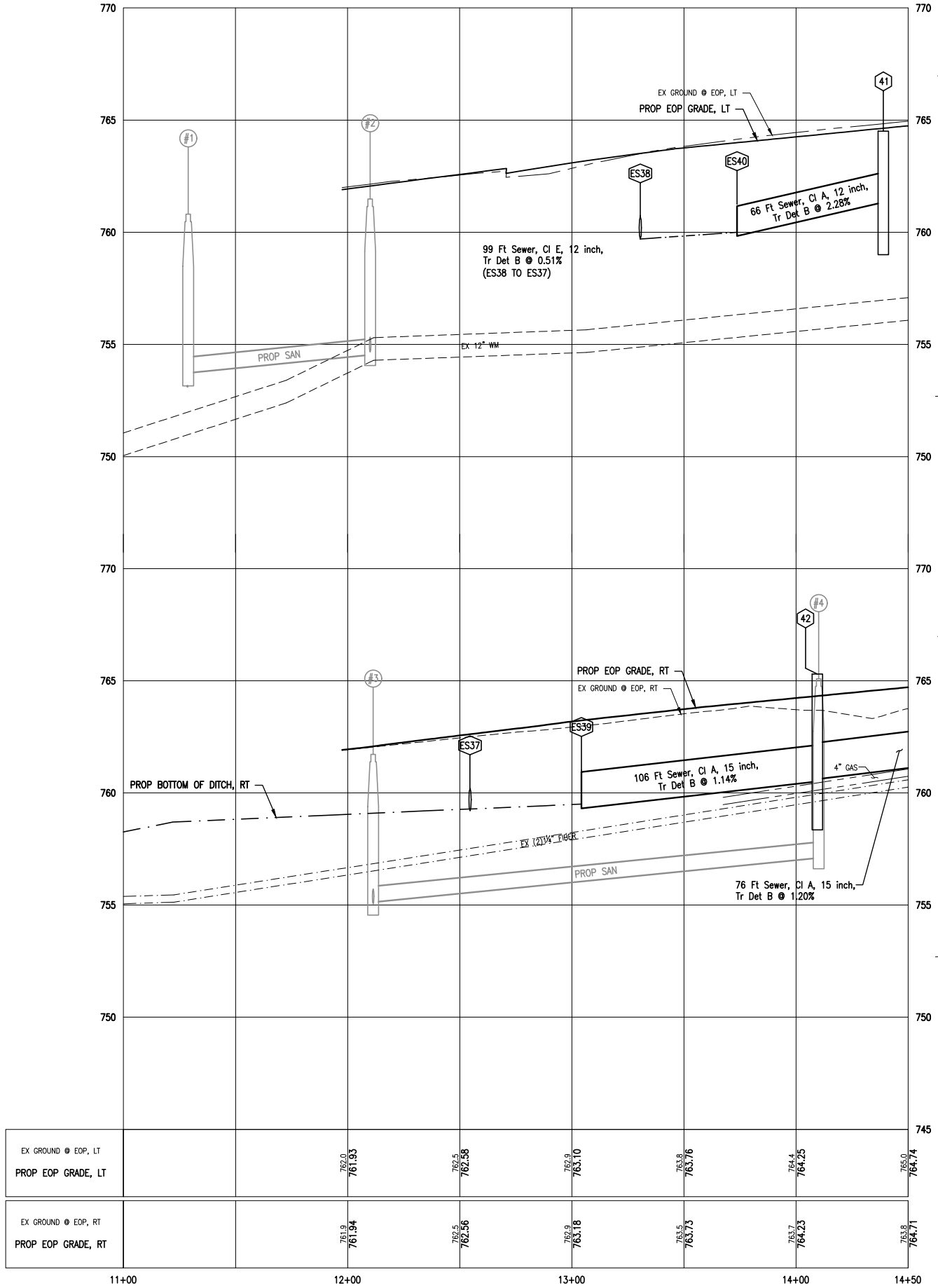
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PROFILE - CENTER (HAMMOND RD)

DRAWING PATH: P:\7301_7400\737120010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Profiles\4 Mile Hammond\20010PRF.dwg Mar 30, 2021 10:32pm

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

HAMMOND RD

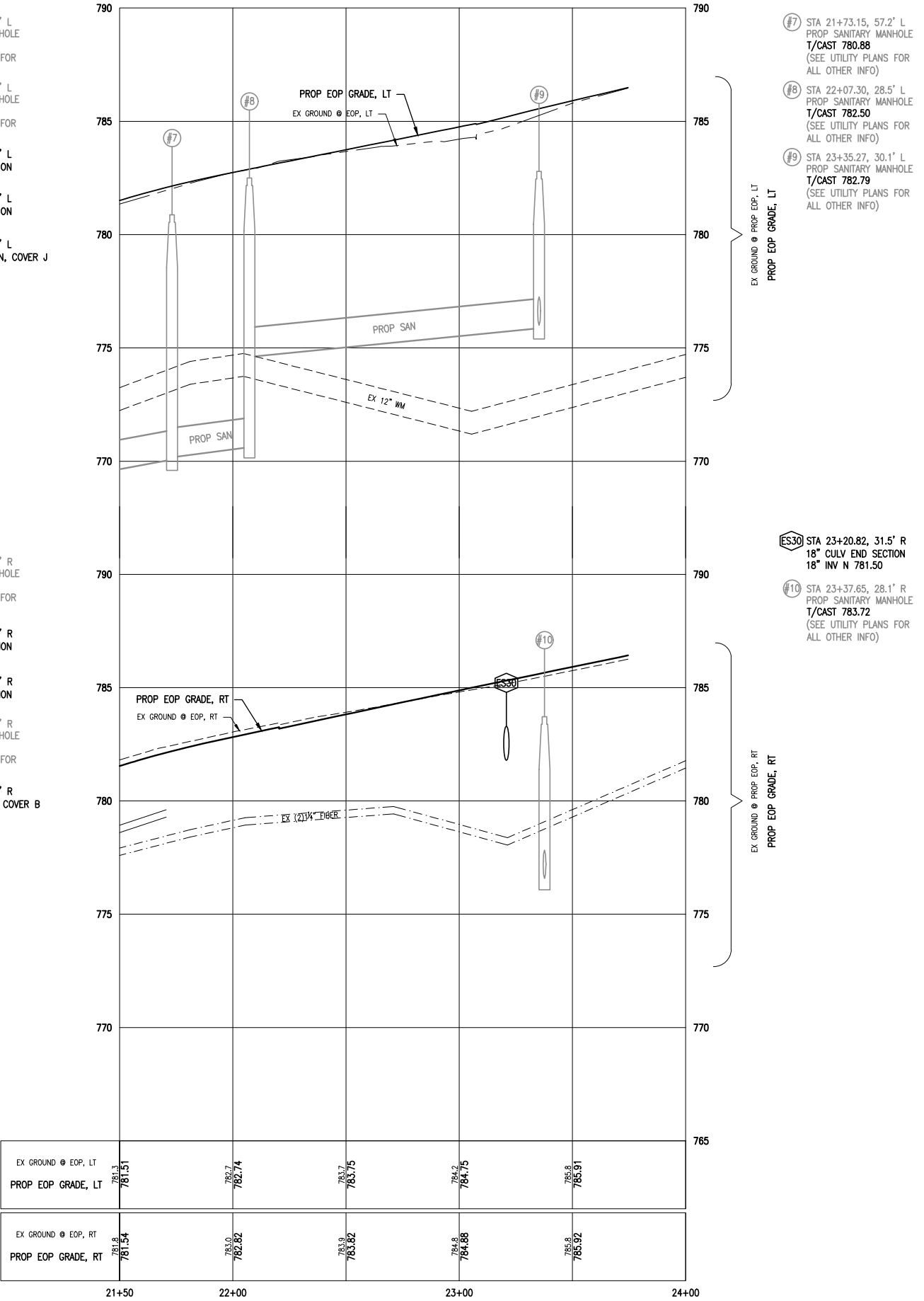
WEST LEG



- #1 STA 11+28.90, 38.0' L
PROP SANITARY MANHOLE
T/CAST 760.81
(SEE UTILITY PLANS FOR ALL OTHER INFO)
- #2 STA 12+10.02, 38.5' L
PROP SANITARY MANHOLE
T/CAST 761.48
(SEE UTILITY PLANS FOR ALL OTHER INFO)
- ES38 STA 13+30.56, 31.3' L
12" CULV END SECTION
12" INV SW 759.70
- ES40 STA 13+73.71, 31.0' L
12" CULV END SECTION
12" INV E 760.00
- 41 STA 14+38.98, 22.2' L
24" DIA CATCH BASIN, COVER J
T/CAST 764.51
12" INV W 761.50

- #3 STA 12+11.38, 40.2' R
PROP SANITARY MANHOLE
T/CAST 761.72
(SEE UTILITY PLANS FOR ALL OTHER INFO)
- ES37 STA 12+54.58, 31.8' R
12" CULV END SECTION
12" INV NE 759.20
- ES39 STA 13+04.27, 32.2' R
15" CULV END SECTION
15" INV E 759.50
- #4 STA 14+10.10, 39.0' R
PROP SANITARY MANHOLE
T/CAST 765.08
(SEE UTILITY PLANS FOR ALL OTHER INFO)
- 42 STA 14+09.51, 31.1' R
48" DR STRUCTURE, COVER B
T/CAST 765.30
15" INV W 760.70
15" INV E 760.80

EAST LEG



- #7 STA 21+73.15, 57.2' L
PROP SANITARY MANHOLE
T/CAST 780.88
(SEE UTILITY PLANS FOR ALL OTHER INFO)
- #8 STA 22+07.30, 28.5' L
PROP SANITARY MANHOLE
T/CAST 782.50
(SEE UTILITY PLANS FOR ALL OTHER INFO)
- #9 STA 23+35.27, 30.1' L
PROP SANITARY MANHOLE
T/CAST 782.79
(SEE UTILITY PLANS FOR ALL OTHER INFO)

- ES30 STA 23+20.82, 31.5' R
18" CULV END SECTION
18" INV N 781.50
- #10 STA 23+37.65, 28.1' R
PROP SANITARY MANHOLE
T/CAST 783.72
(SEE UTILITY PLANS FOR ALL OTHER INFO)

ARCHITECTS ENGINEERS PLANNERS

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P (231) 344-1150

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REVISIONS:

| NO. | DATE | DESCRIPTION |
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| 1 | | |
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| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | JK | CADD | AM | COUNTY | CITY/VILAGE/TOWNSHIP | SCALE | H | V | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----|----------|----|------|----|----------------|----------------------|--------|---|---|-------------|------------|
| 3/30/2021 | 737-24-010 | | | | | | | GRAND TRAVERSE | EAST BAY TOWNSHIP | 1"=30' | | | LOCAL | NAVD83 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PROFILE - LEFT & RIGHT (HAMMOND RD)

25

OF 84

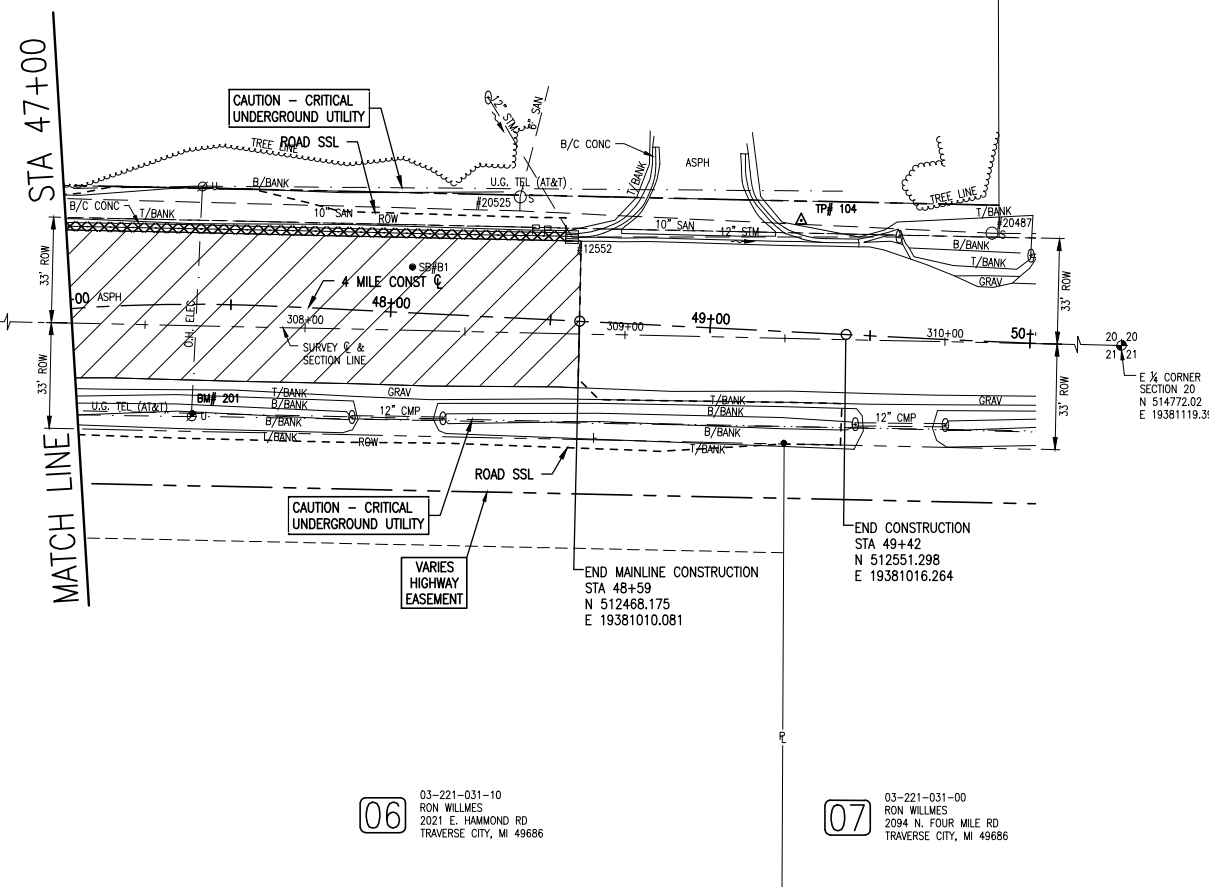
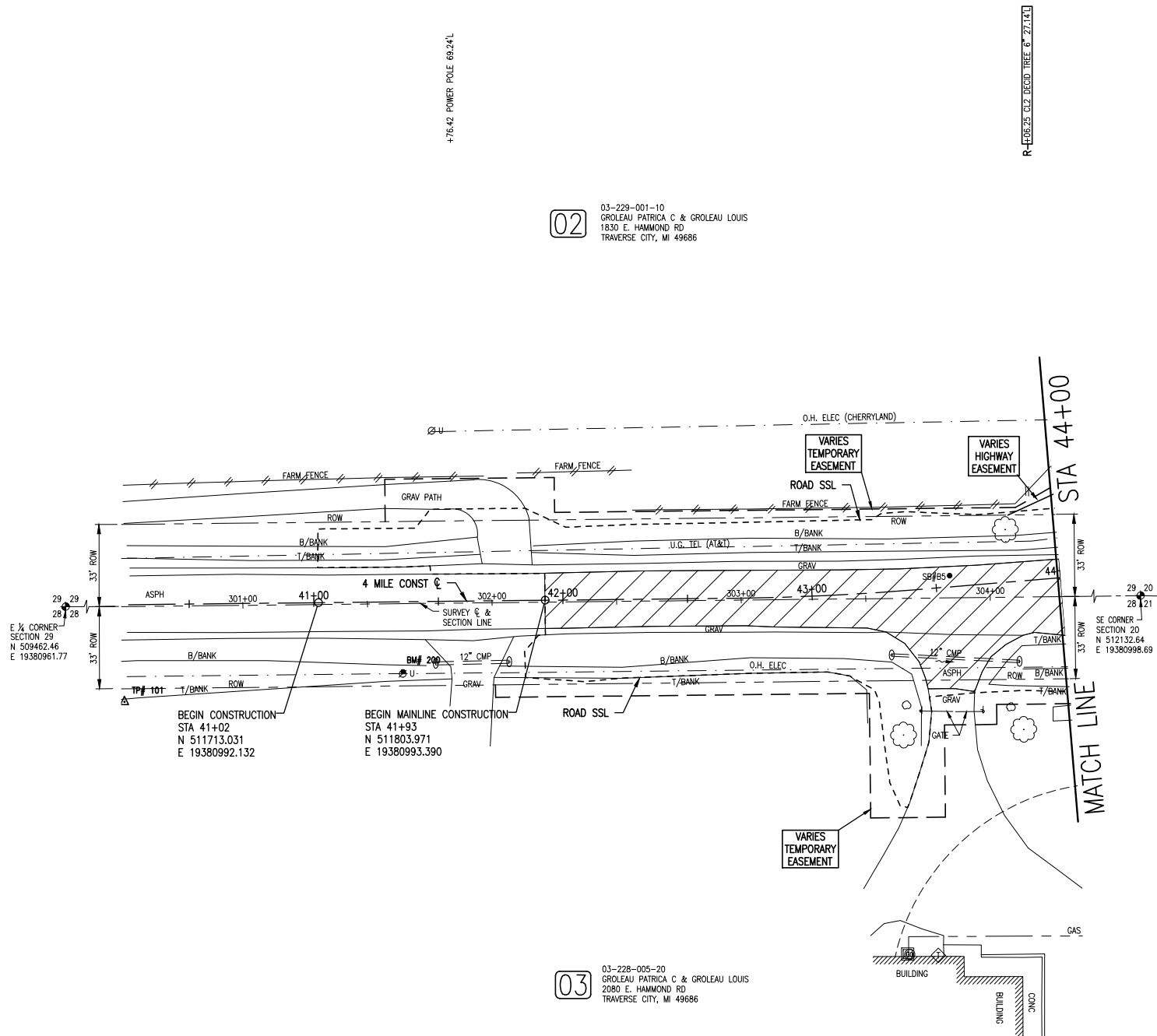
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SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

SOUTH LEG

4 MILE RD

NORTH LEG



+52.06 IRON REBAR-SET 38.25'R

+63.83 POWER POLE 28.15'R

+77.15 12" ROUND CULVERT CMP/N/NW 778.56 24.08'R

+06.63 12" ROUND CULVERT CMP/S/NW 778.65 23.81'R

R-460.18 12" ROUND CULVERT CMP/N/NW 770.20 22.89'R
REL -464.6 C/L DECD TREE 5'-54.88'N
REL -465.89 BOLLARD 47.73'N
REL -466.15 CLEAN CUT 14.30'N
REL -467.10 SIGN-NO THRU TRAFFIC 44.97'N
REL -467.63 TELEPHONE RISER 143.43'R

R-466.87 GATE 45.71'N
S-466.82 SIGN-NO THRU TRAFFIC 46.01'N
REL -467.83 BOULDER 44.09'R
REL -471.41 12" ROUND CULVERT CMP/N/NW 769.17 25.81'N
REL -472.62 C/L DECD TREE 10' 53.12'R

REL B/O -465.14 POWER POLE 28.31'N

R-4715.21 12" ROUND CULVERT CMP/N/NW 764.74 27.49'N

R-4743.63 12" ROUND CULVERT CMP/S/NW 764.35 27.43'N

S-4760.83 SIGN-GUIDE 32.43'N

+50.33 IRON ROD-FD 32.77'R

+72.52 12" ROUND CULVERT CMP/N/NW 761.77 26.41'R

+00.64 12" ROUND CULVERT CMP/S/NW 761.00 26.06'R

| GTCRC QUANTITIES THIS SHEET | | |
|-----------------------------|------|-------------------------------|
| TOTAL | UNIT | DESCRIPTION |
| 1 | Ea | Tree, Rem, 19 inch to 36 inch |
| 1 | Ea | Tree, Rem, 6 inch to 18 inch |
| 2 | Ea | Culv, Rem, Less than 24 inch |
| 162 | Ft | Curb and Gutter, Rem |
| 2 | Ea | Gate, Rem |
| 852 | Cyd | Excavation, Earth |
| 1453 | Syd | HMA Surface, Rem |
| 1 | Ea | Sign, Type III, Rem |

- NOTES:
- SEE WATER MAIN SHEETS 77-84 FOR LIMITS OF WATER MAIN REMOVAL AND ABANDONMENT.
 - EXISTING SIGNAL INFRASTRUCTURE REMOVALS ARE DETAILED ON THE SIGNAL PLAN BEGINNING ON SHEET 74.
 - CONTRACTOR TO RELOCATE ROCKS/BOULDERS THAT ARE WITHIN THE GRADING LIMITS TO THE PROPERTY LINE OR TEMPORARY/HIGHWAY EASEMENT LINE, WHICHEVER IF FURTHER. THIS WORK IS INCLUDED IN THE COST OF EXCAVATION, EARTH (CYD).
 - UTILITY EXPLORATION / LOCATION IS INCLUDED IN THE COST OF THE APPLICABLE UNDERGROUND ITEM (WATER MAIN, SANITARY SEWER, STORM SEWER, STREETLIGHT, IRRIGATION, ELECTRICAL, OR EARTHWORK)
 - PRIVATE UTILITY LOCATIONS ARE APPROXIMATE. LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND THE UTILITY COMPANY.

| DATE | PROJECT NUMBER | ENGINEER | BA | PROJ. INCH | COUNTY | CITY/TOWNSHIP | SCALE | H | V | LOCAL | NAVIGATOR |
|-----------|----------------|----------|----|------------|----------------|-------------------|-------|----|----|-------|-----------|
| 3/30/2021 | 737-24070 | BA | JK | 1" | GRAND TRAVERSE | EAST BAY TOWNSHIP | 1" | 1" | 1" | 1" | NAVIGATOR |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
REMOVAL PLAN

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

4 MILE RD

SOUTH LEG

NORTH LEG



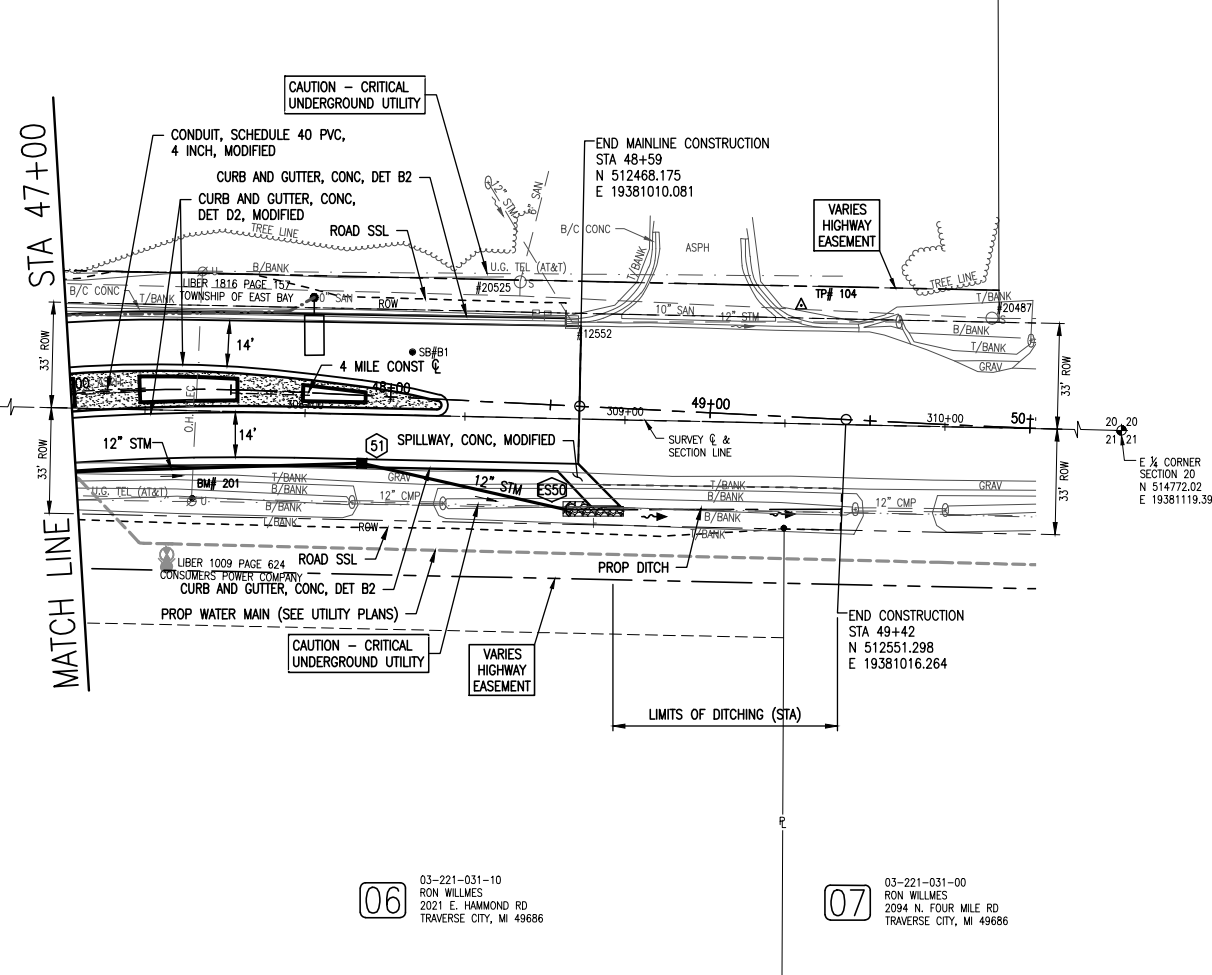
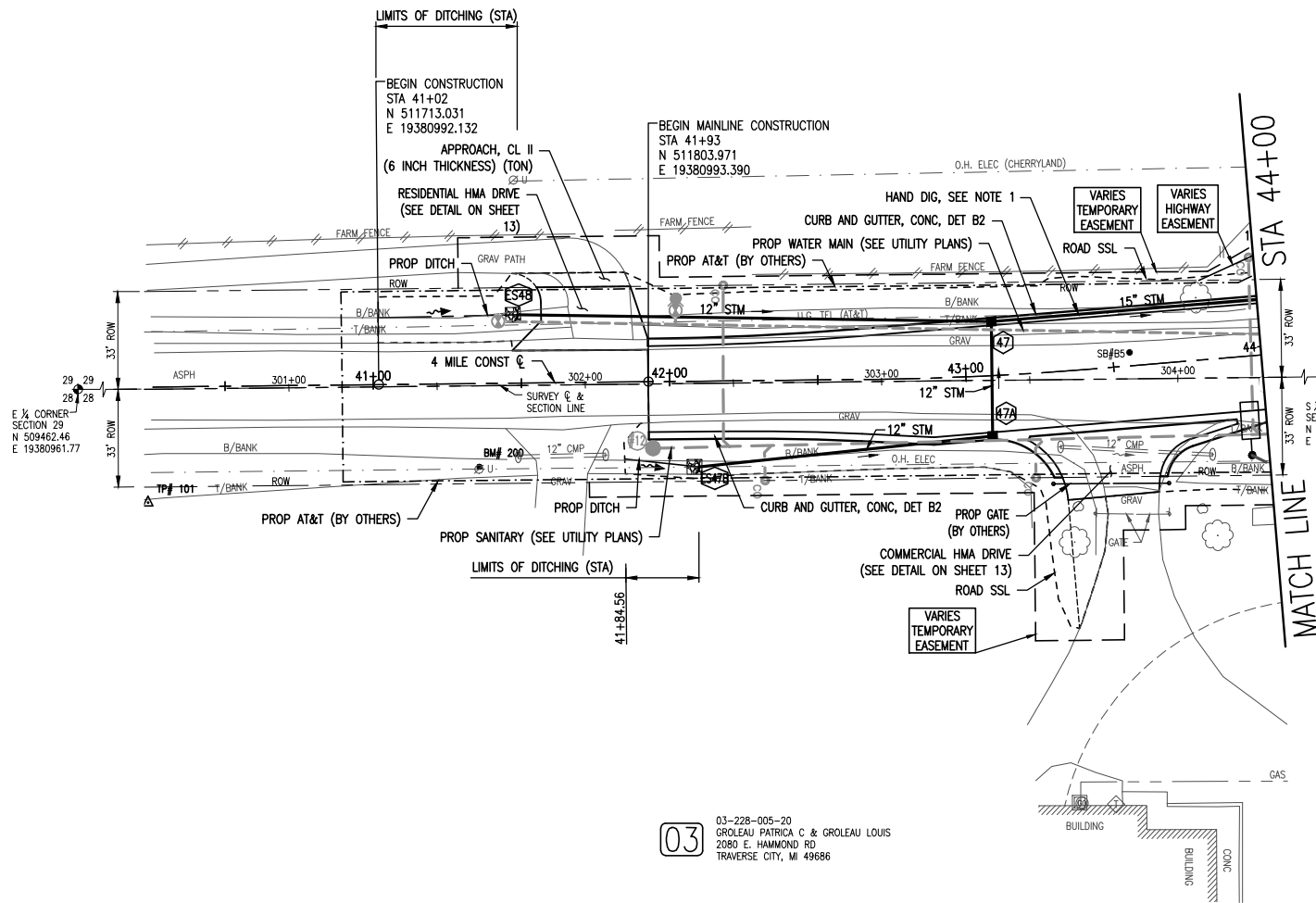
ARCHITECTS ENGINEERS PLANNERS

300 East Mitchell St., Suite 2
Potoskey, MI 49770
P (231) 344-1150

OHM-ADVISORS.COM

03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686



03-228-005-20
GROLEAU PATRICA C & GROLEAU LOUIS
2080 E. HAMMOND RD
TRAVERSE CITY, MI 49686

03-221-031-10
RON WILLMES
2021 E. HAMMOND RD
TRAVERSE CITY, MI 49686

03-221-031-00
RON WILLMES
2084 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

- NOTES
- THE CONTRACTOR SHALL HAND DIG WITH A REPRESENTATIVE FROM THE RESPECTIVE UTILITY COMPANY PRESENT.
 - UTILITY EXPLORATION / LOCATION IS INCLUDED IN THE COST OF THE APPLICABLE UNDERGROUND ITEM (WATER MAIN, SANITARY SEWER, STORM SEWER, STREETLIGHT, IRRIGATION, ELECTRICAL, OR EARTHWORK).
 - PRIVATE UTILITY LOCATIONS ARE APPROXIMATE. LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND THE UTILITY COMPANY.

| GTCRC DRAINAGE QUANTITIES THIS SHEET | | | | | | | | | |
|--------------------------------------|----------|--------|------------------------|--------------------------|--------------------------------|--------------------------------|--------------|------------------------|------------------------|
| STRUCT NO | STATION | OFFSET | Dr Structure, inch dia | Dr Structure Cover, Type | Sewer, CI E, 12 inch, Tr Det B | Sewer, CI E, 15 inch, Tr Det B | TO STRUCT NO | Culv End Sect, 12 inch | Culv End Sect, Footing |
| | | | 48 | J | | | | | |
| | | | Ft | Ea | Ft | Ft | | Ea | Ea |
| ES48 | 41+48.89 | 23.04 | LT | | 160 | | 47 | 1 | 1 |
| ES47B | 42+09.58 | 28.91 | RT | | 100 | | 47A | 1 | 1 |
| 47A | 43+08.05 | 20.35 | RT | 1 | 39 | | 47 | | |
| 47 | 43+09.51 | 18.30 | LT | 1 | | 112 | 46 | | |
| 51 | 47+92.02 | 21.17 | RT | 1 | 66 | | ESS0 | | |
| ESS0 | 48+56.52 | 32.50 | RT | | | | | 1 | 1 |
| TOTALS (CAT 001) | | | | 3 | 365 | 112 | - | 3 | 3 |

| GTCRC QUANTITIES THIS SHEET | | |
|-----------------------------|------|---|
| TOTAL | UNIT | DESCRIPTION |
| 466 | Cyd | Embankment, CIP |
| 1 | Sta | Ditching |
| 137 | Syd | Aggregate Base, 8 inch |
| 32 | Syd | Aggregate Base, 10 inch |
| 1773 | Syd | Aggregate Base, 12 inch |
| 20 | Ton | Approach, CI II |
| 245 | Ton | HMA, 3E3 |
| 163 | Ton | HMA, 4E3 |
| 123 | Ton | HMA, 5E3 |
| 72 | Ton | HMA Approach, Commercial |
| 77 | Syd | Conc Pavt, Misc, Decorative Colored, 6 inch |
| 679 | Ft | Curb and Gutter, Conc, Det B2 |
| 94 | Ft | Driveway Opening, Conc, Det M |
| 240 | Ft | Curb and Gutter, Conc, Det D2, Modified |
| 14 | Ft | Spillway, Conc, Modified |
| 2 | Ea | Post, Mailbox |

| EAST BAY TWP QUANTITIES THIS SHEET | | |
|------------------------------------|------|--|
| TOTAL | UNIT | DESCRIPTION |
| 139 | Ft | Curb, Conc, Det E1 |
| 50 | Ft | Conduit, Schedule 40 PVC, 4 inch, Modified |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
CONSTRUCTION PLAN

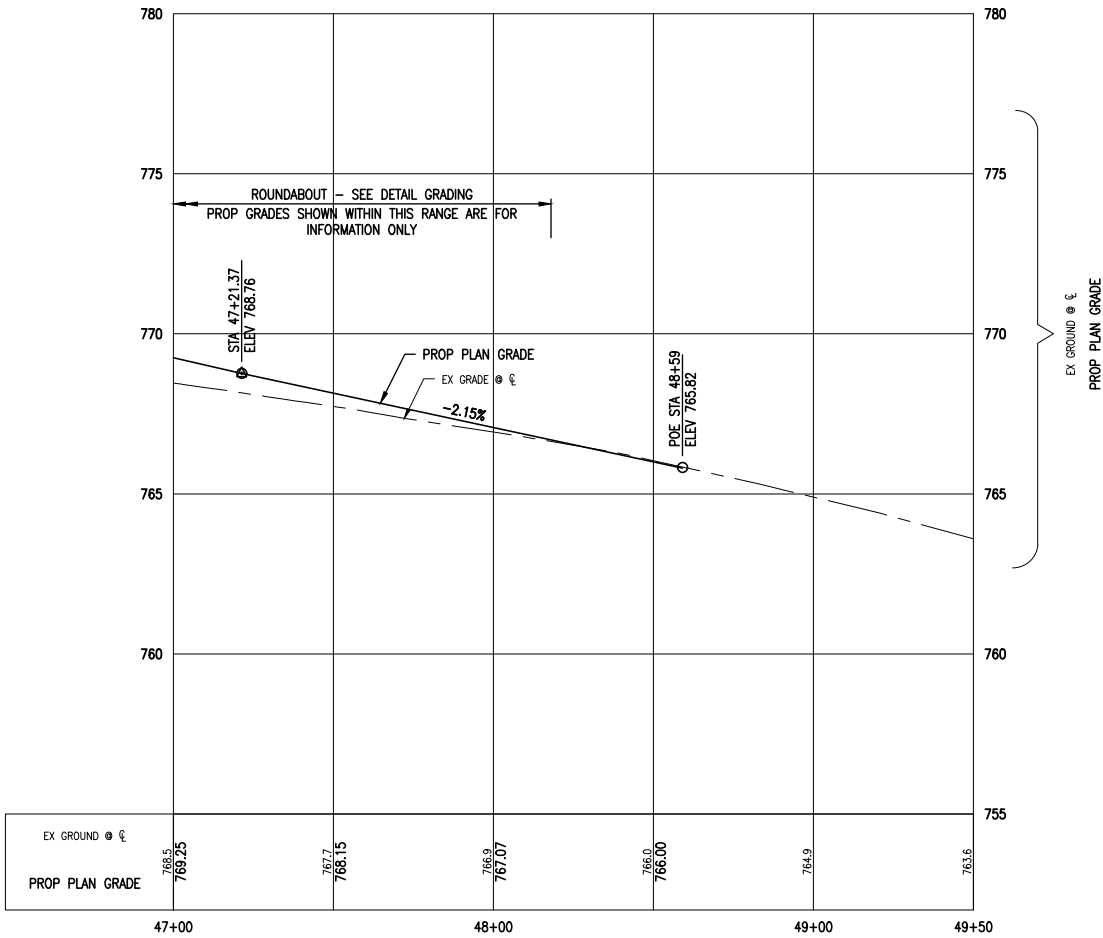
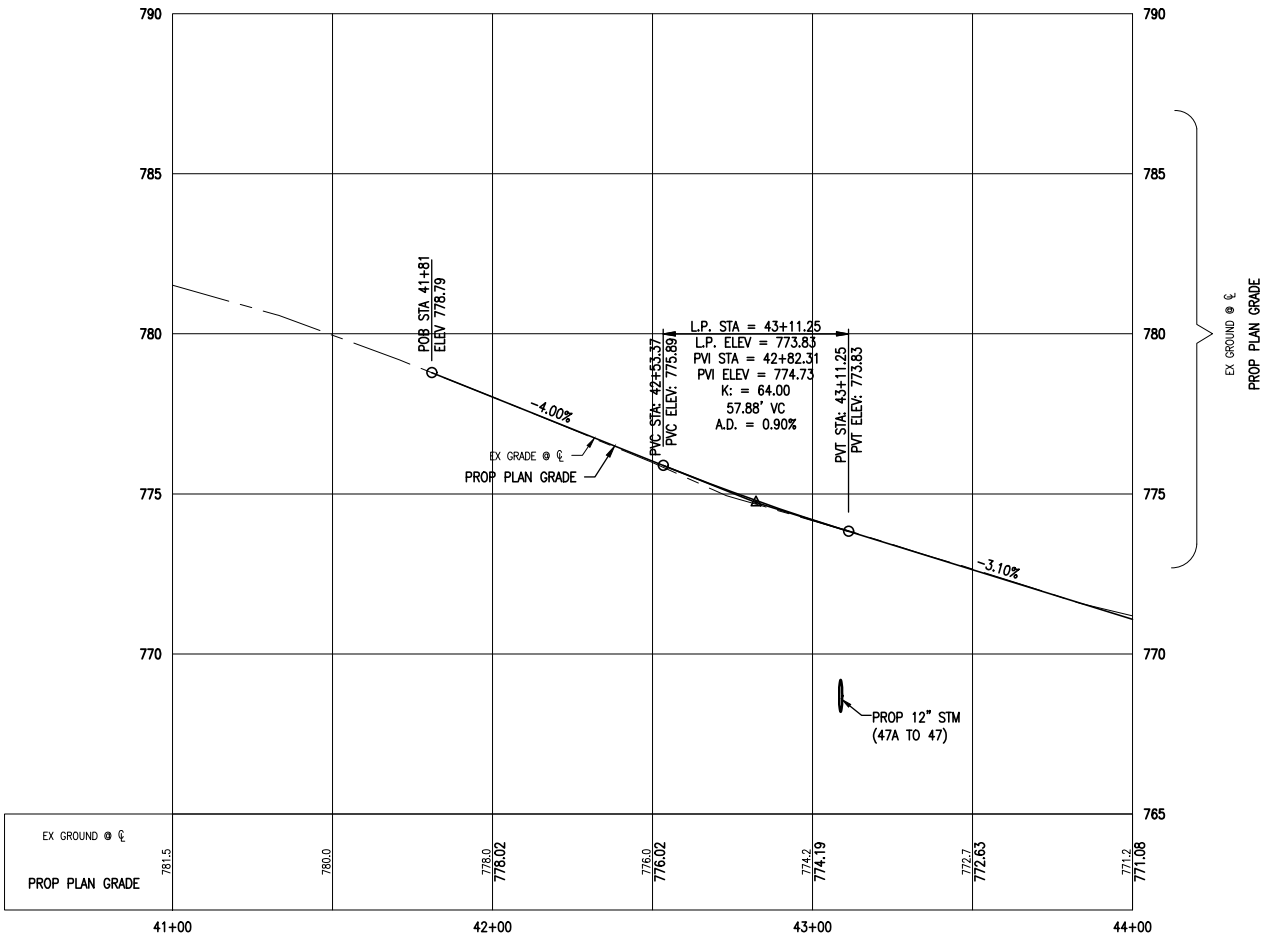
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SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

SOUTH LEG

4 MILE RD

NORTH LEG



| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----------|------|----------------|-------------------|--------------|-------------|------------|
| 3/30/2021 | 737-24-070 | BA | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' V: | LOCAL | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PROFILE - CENTER (4 MILE RD)

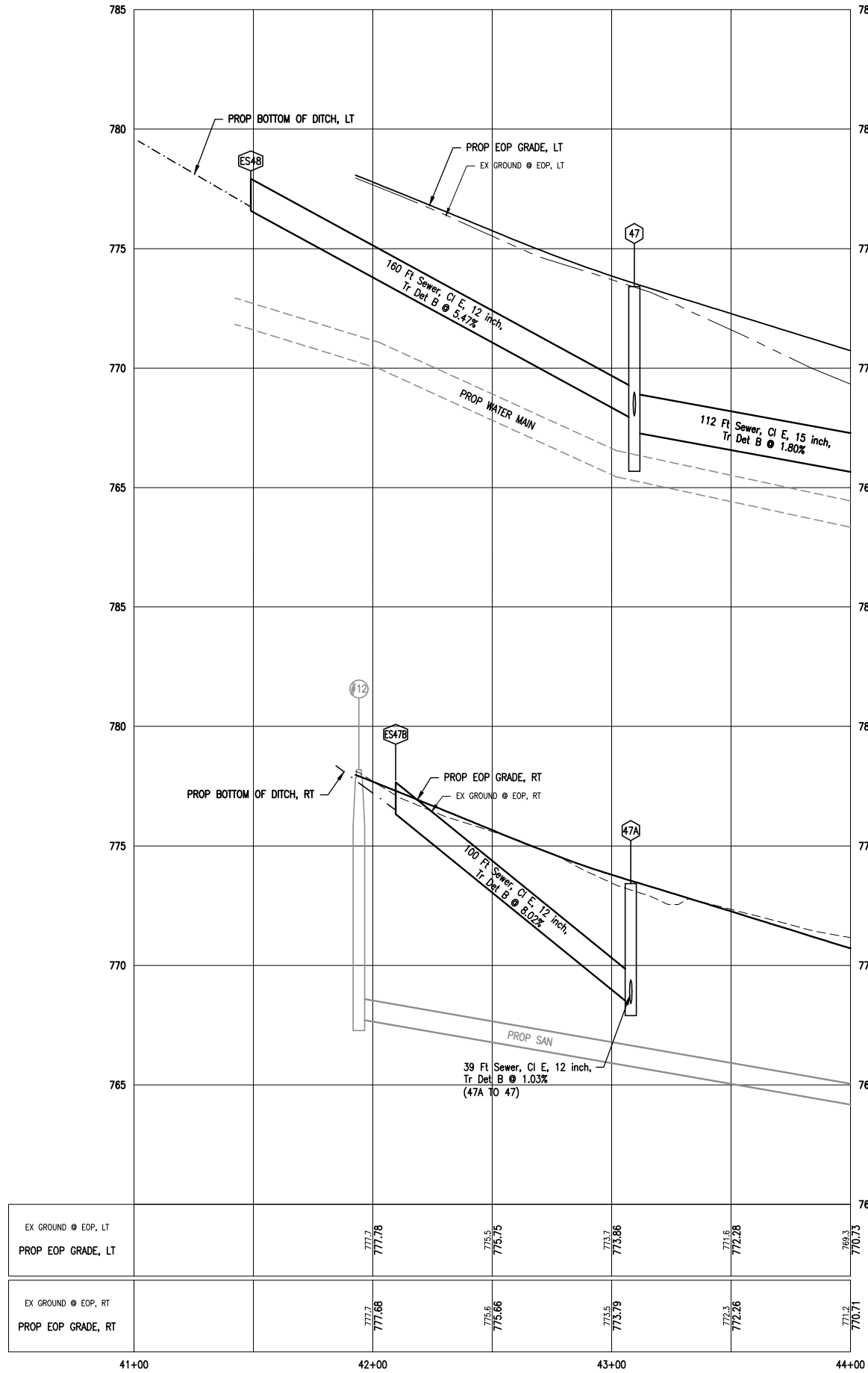
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SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

SOUTH LEG

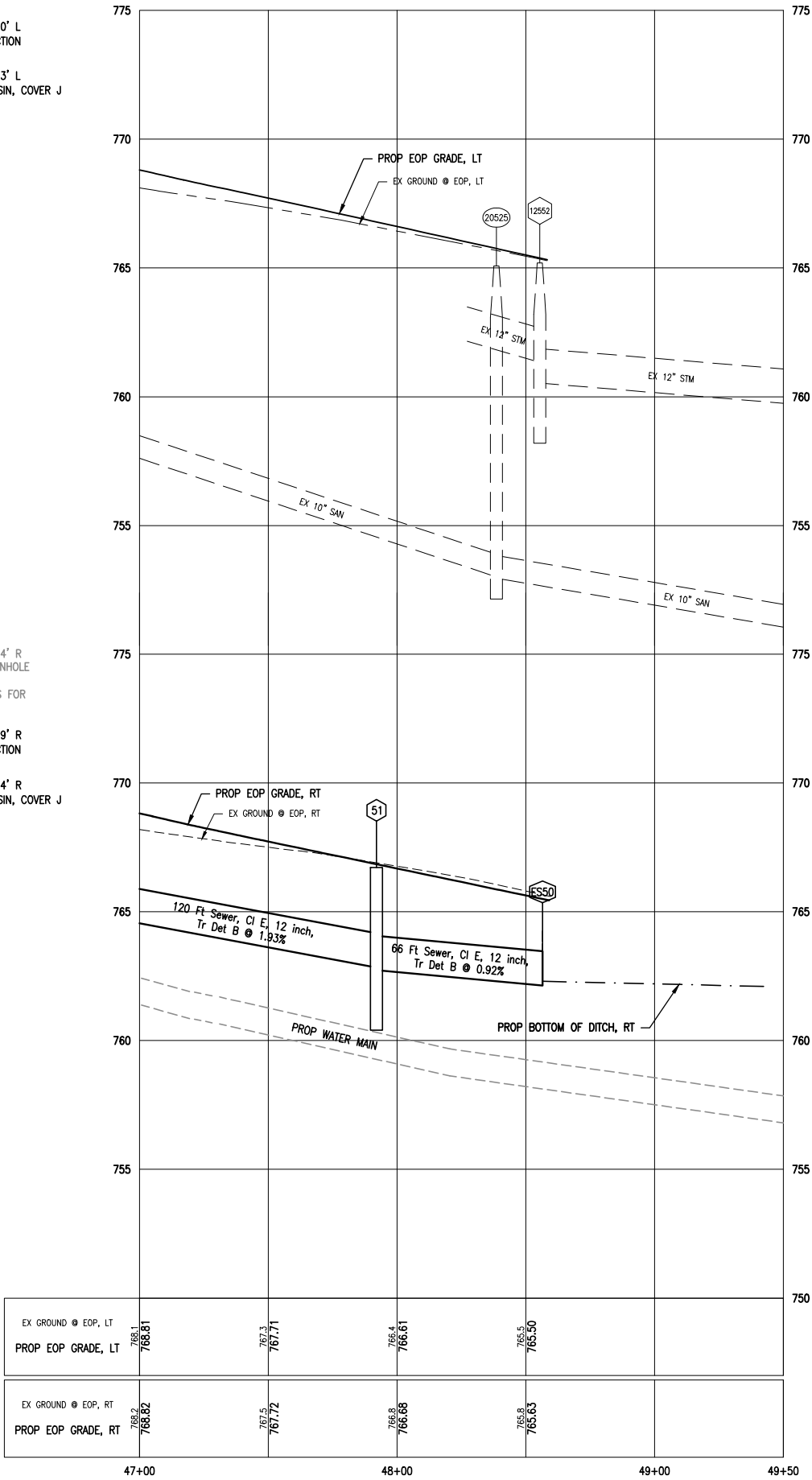
4 MILE RD

NORTH LEG



- ES48 STA 41+48.89, 23.0' L
12" CULV END SECTION
12" INV N 776.75
- 47 STA 43+09.51, 18.3' L
48" DIA CATCH BASIN, COVER J
T/CAST 773.41
12" INV E 768.00
15" INV N 767.50
12" INV S 768.00

- #12 STA 41+94.15, 22.4' R
PROP SANITARY MANHOLE
T/CAST 778.19
(SEE UTILITY PLANS FOR
ALL OTHER INFO)
- ES47B STA 42+09.58, 28.9' R
12" CULV END SECTION
12" INV N 776.50
- 47A STA 43+08.05, 20.4' R
48" DIA CATCH BASIN, COVER J
T/CAST 773.42
12" INV S 768.50
12" INV W 768.40



- 20525 STA 48+38.58, 37.8' L
EX SANITARY MANHOLE
T/CAST 765.08
10" INV S 753.03
10" INV N 752.98

- 12553 STA 48+55.44, 26.2' L
EX CATCH BASIN
T/CAST 765.20
12" INV SW 761.50
12" INV N 760.70

- 51 STA 47+92.02, 21.2' R
48" DIA CATCH BASIN, COVER J
T/CAST 766.72
12" INV S 763.00
12" INV N 762.90
- ES50 STA 48+56.52, 32.5' R
12" CULV END SECTION
12" INV S 762.30

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Grading\4 Mile Hammond\20010GCRD.dwg Mar 30, 2021 10:33pm

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
THIS PROJECT USES A LOCAL
HORIZONTAL DATUM.

HAMMOND RD

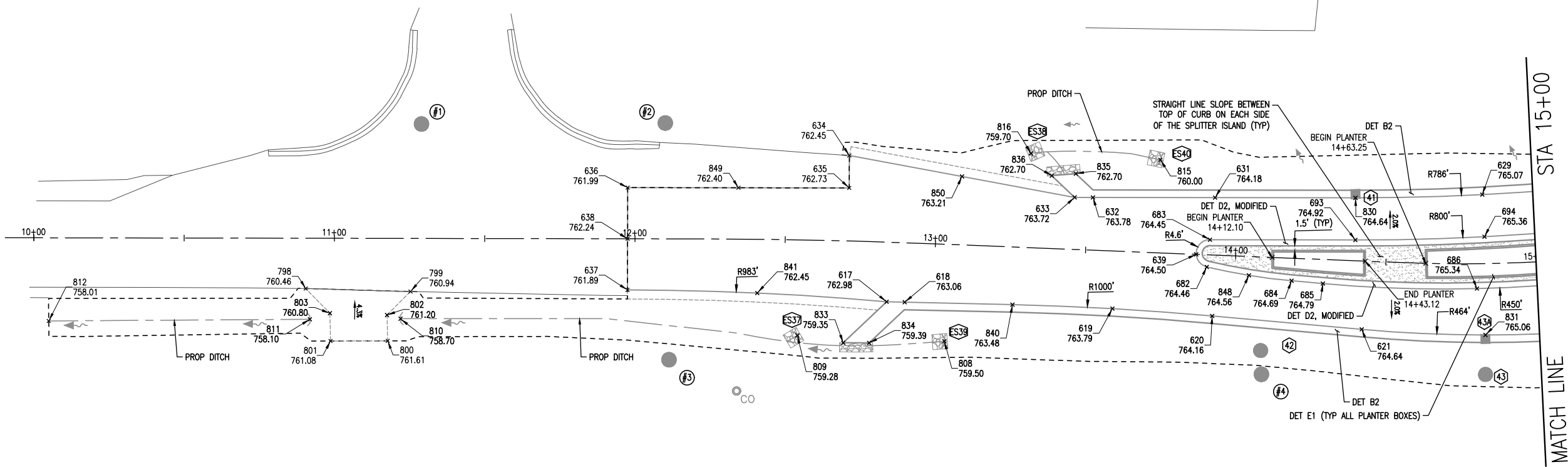




ARCHITECTS ENGINEERS PLANNERS

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P (231) 344-1150

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| POINT TABLE | | | |
|-------------|-----------|-----------|-------------|
| Point # | Elevation | Northing | Easting |
| 617 | 762.98 | 512122.62 | 19380516.02 |
| 618 | 763.06 | 512122.33 | 19380522.02 |
| 619 | 763.79 | 512118.51 | 19380591.06 |
| 620 | 764.16 | 512115.27 | 19380624.19 |
| 621 | 764.64 | 512109.60 | 19380673.80 |
| 629 | 765.07 | 512153.36 | 19380715.00 |
| 631 | 764.18 | 512154.55 | 19380626.11 |
| 632 | 763.78 | 512155.61 | 19380585.49 |
| 633 | 763.72 | 512155.77 | 19380579.41 |
| 634 | 762.45 | 512171.50 | 19380504.80 |
| 635 | 762.73 | 512160.72 | 19380504.52 |
| 636 | 761.99 | 512162.65 | 19380430.80 |
| 637 | 761.89 | 512128.66 | 19380429.91 |
| 638 | 762.24 | 512145.65 | 19380430.35 |
| 639 | 764.50 | 512135.86 | 19380619.36 |
| 682 | 764.46 | 512131.59 | 19380622.77 |
| 683 | 764.45 | 512140.60 | 19380624.05 |
| 684 | 764.69 | 512126.31 | 19380650.89 |
| 685 | 764.79 | 512125.12 | 19380661.28 |
| 686 | 765.34 | 512122.20 | 19380712.48 |

| POINT TABLE | | | |
|-------------|-----------|-----------|-------------|
| Point # | Elevation | Northing | Easting |
| 693 | 764.92 | 512139.34 | 19380672.44 |
| 694 | 765.36 | 512139.37 | 19380715.38 |
| 798 | 760.46 | 512131.72 | 19380322.90 |
| 799 | 760.94 | 512129.89 | 19380357.72 |
| 800 | 761.61 | 512113.71 | 19380349.73 |
| 801 | 761.08 | 512114.12 | 19380330.74 |
| 802 | 761.20 | 512122.28 | 19380349.73 |
| 803 | 760.80 | 512123.36 | 19380330.74 |
| 808 | 759.50 | 512109.03 | 19380534.90 |
| 809 | 759.28 | 512112.18 | 19380486.04 |
| 810 | 758.70 | 512120.95 | 19380354.18 |
| 811 | 758.10 | 512121.49 | 19380324.04 |
| 812 | 758.01 | 512123.07 | 19380237.17 |
| 815 | 760.00 | 512167.54 | 19380608.22 |
| 816 | 759.70 | 512170.73 | 19380565.24 |
| 830 | 764.64 | 512153.33 | 19380672.80 |
| 831 | 765.06 | 512106.73 | 19380714.94 |
| 833 | 759.35 | 512109.36 | 19380501.23 |
| 834 | 759.39 | 512109.12 | 19380509.85 |
| 835 | 762.70 | 512163.64 | 19380580.00 |

| POINT TABLE | | | |
|-------------|-----------|-----------|-------------|
| Point # | Elevation | Northing | Easting |
| 836 | 762.70 | 512163.17 | 19380571.97 |
| 840 | 763.48 | 512120.64 | 19380557.85 |
| 841 | 762.45 | 512126.58 | 19380473.03 |
| 848 | 764.56 | 512128.45 | 19380636.74 |
| 849 | 762.40 | 512161.68 | 19380467.66 |
| 850 | 763.21 | 512163.63 | 19380542.11 |

| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | V. | H. | VERT DATUM | HORIZ DATUM | LOCAL |
|-----------|-------------|-----|----------|------|----------------|-----------------------|--------|----|----|------------|-------------|-------|
| 3/30/2021 | 737120010 | BA | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | 1"=20' | | | NAVD83 | | |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

DETAIL GRADING

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| POINT TABLE | | | |
|-------------|-----------|-----------|-------------|
| Point # | Elevation | Northing | Easting |
| 827 | 772.41 | 512115.24 | 19381094.43 |
| 828 | 770.44 | 512036.07 | 19380985.09 |
| 829 | 770.44 | 512034.83 | 19380995.02 |
| 839 | 772.37 | 512101.04 | 19381107.68 |
| 846 | 770.84 | 512019.10 | 19380989.09 |
| 851 | 770.00 | 512203.80 | 19381052.78 |
| 852 | 770.50 | 512222.19 | 19381045.20 |
| 854 | 771.40 | 512185.00 | 19381106.14 |

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Grading\4 Mile Hammond\20010GCRD.dwg Mar 30, 2021 10:33pm

SEE SHEET 6 FOR BENCHMARK
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HAMMOND RD

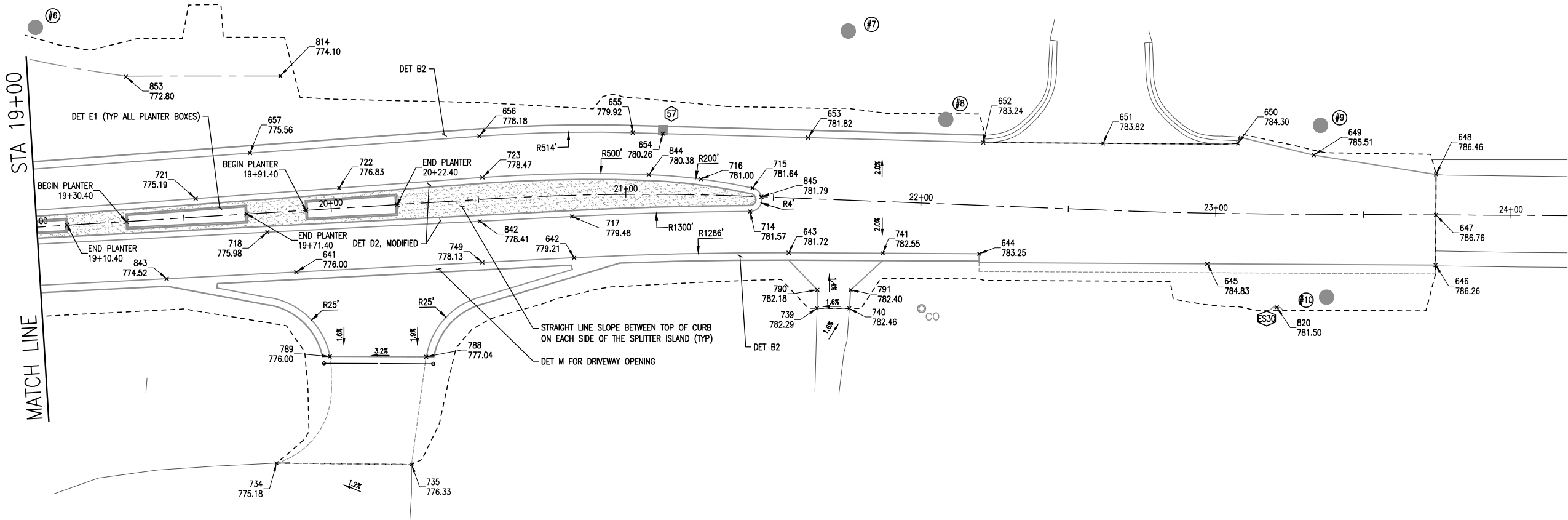




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| POINT TABLE | | | |
|-------------|-----------|-----------|-------------|
| Point # | Elevation | Northing | Easting |
| 641 | 776.00 | 512104.84 | 19381217.54 |
| 642 | 779.21 | 512107.40 | 19381311.75 |
| 643 | 781.72 | 512107.31 | 19381384.45 |
| 644 | 783.25 | 512105.38 | 19381448.98 |
| 645 | 784.83 | 512100.08 | 19381526.19 |
| 646 | 786.26 | 512097.77 | 19381603.48 |
| 647 | 786.76 | 512114.76 | 19381603.99 |
| 648 | 786.46 | 512128.44 | 19381604.40 |
| 649 | 785.51 | 512136.04 | 19381563.12 |
| 650 | 784.30 | 512140.61 | 19381537.56 |
| 651 | 783.82 | 512141.73 | 19381491.86 |
| 652 | 783.24 | 512143.00 | 19381451.31 |
| 653 | 781.82 | 512146.11 | 19381391.99 |
| 654 | 780.26 | 512148.68 | 19381342.82 |
| 655 | 779.92 | 512149.22 | 19381332.67 |
| 656 | 778.18 | 512149.31 | 19381280.68 |
| 657 | 775.56 | 512145.50 | 19381202.81 |
| 714 | 781.57 | 512121.63 | 19381371.72 |
| 715 | 781.64 | 512129.51 | 19381372.75 |
| 716 | 781.00 | 512132.98 | 19381355.37 |

| POINT TABLE | | | |
|-------------|-----------|-----------|-------------|
| Point # | Elevation | Northing | Easting |
| 717 | 779.48 | 512121.39 | 19381311.37 |
| 718 | 775.98 | 512118.59 | 19381208.08 |
| 721 | 775.19 | 512130.57 | 19381184.06 |
| 722 | 776.83 | 512132.95 | 19381232.71 |
| 723 | 778.47 | 512135.32 | 19381281.36 |
| 734 | 775.18 | 512040.34 | 19381209.28 |
| 735 | 776.33 | 512038.78 | 19381255.00 |
| 739 | 782.29 | 512088.29 | 19381393.58 |
| 740 | 782.46 | 512087.97 | 19381404.56 |
| 741 | 782.55 | 512106.36 | 19381416.32 |
| 749 | 778.13 | 512106.55 | 19381280.63 |
| 788 | 777.04 | 512075.09 | 19381260.81 |
| 789 | 776.00 | 512076.03 | 19381228.22 |
| 790 | 782.18 | 512094.53 | 19381393.87 |
| 791 | 782.40 | 512094.19 | 19381405.15 |
| 814 | 774.10 | 512171.36 | 19381213.77 |
| 820 | 781.50 | 512084.84 | 19381549.33 |
| 842 | 778.41 | 512120.54 | 19381280.10 |
| 843 | 774.52 | 512103.65 | 19381173.56 |
| 844 | 780.38 | 512134.90 | 19381337.76 |

| POINT TABLE | | | |
|-------------|-----------|-----------|-------------|
| Point # | Elevation | Northing | Easting |
| 845 | 781.79 | 512126.49 | 19381375.70 |
| 853 | 772.80 | 512172.36 | 19381161.36 |

| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | | HORIZ DATUM | | VERT DATUM | |
|-----------|-------------|-----|----------|------|----------------|-----------------------|--------|---|-------------|---|------------|--------|
| | | | | | | | H | V | H | V | LOCAL | NAVD88 |
| 3/30/2021 | 737-24-070 | BA | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | 1"=20' | | | | | |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

DETAIL GRADING

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Grading\4 Mile Hammond\20010GCRD.dwg Mar 30, 2021 - 10:33pm

SEE SHEET 6 FOR BENCHMARK
AND TRAVERSE POINT INFORMATION.
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HORIZONTAL DATUM.

4 MILE RD

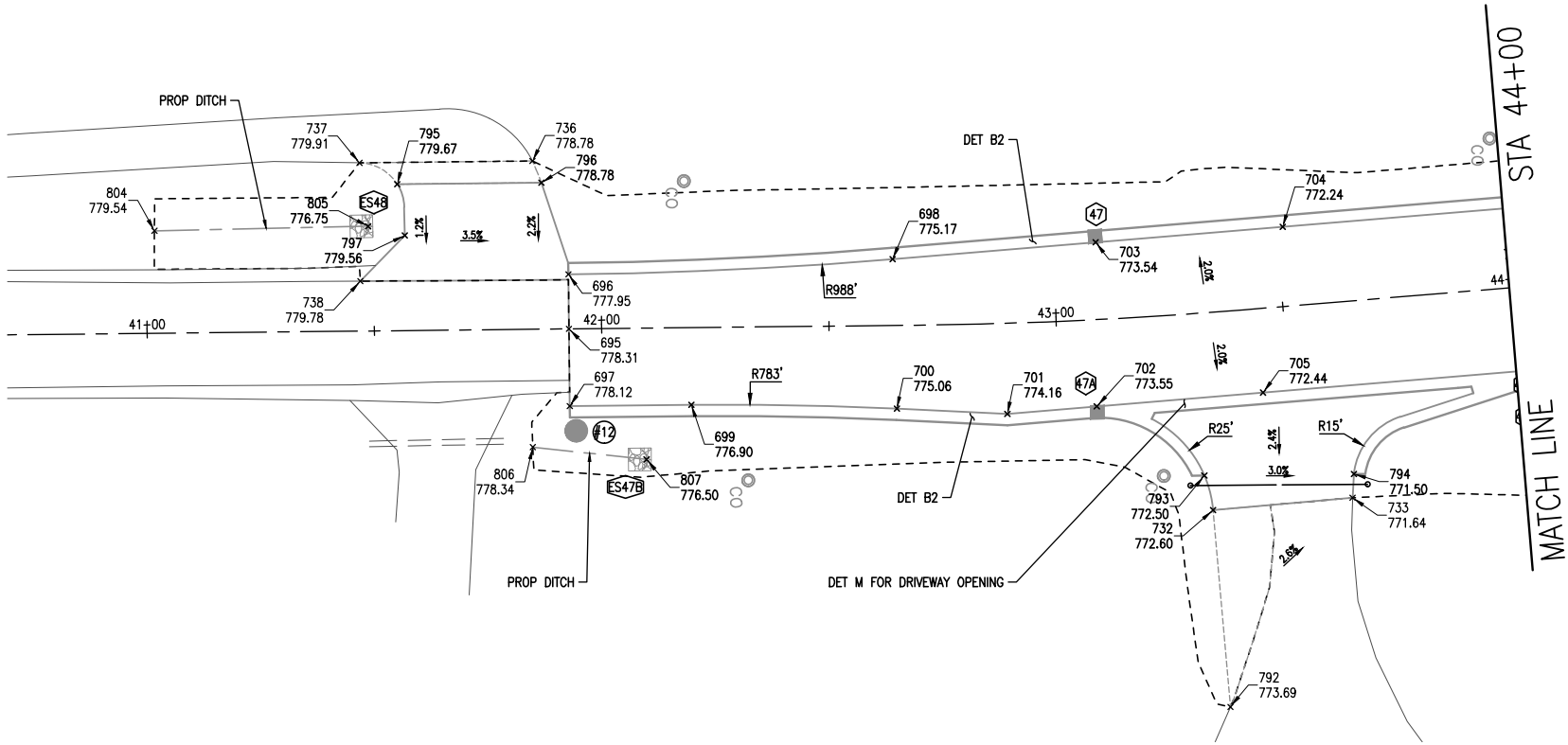




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| POINT TABLE | | | |
|-------------|-----------|-----------|-------------|
| Point # | Elevation | Northing | Easting |
| 695 | 778.31 | 511803.97 | 19380993.39 |
| 696 | 777.95 | 511804.14 | 19380981.39 |
| 697 | 778.12 | 511803.74 | 19381010.39 |
| 698 | 775.17 | 511875.52 | 19380979.80 |
| 699 | 776.90 | 511830.49 | 19381010.76 |
| 700 | 775.06 | 511875.68 | 19381012.69 |
| 701 | 774.16 | 511899.94 | 19381014.43 |
| 702 | 773.55 | 511919.64 | 19381013.28 |
| 703 | 773.54 | 511920.25 | 19380977.18 |
| 704 | 772.24 | 511961.50 | 19380974.77 |
| 705 | 772.44 | 511956.27 | 19381011.13 |
| 732 | 772.60 | 511944.63 | 19381036.72 |
| 733 | 771.64 | 511975.39 | 19381034.75 |
| 736 | 778.78 | 511796.84 | 19380956.26 |
| 737 | 779.91 | 511758.79 | 19380955.74 |
| 738 | 779.78 | 511758.36 | 19380981.75 |
| 792 | 773.69 | 511947.41 | 19381080.10 |
| 793 | 772.50 | 511942.91 | 19381029.07 |
| 794 | 771.50 | 511975.81 | 19381029.52 |
| 795 | 779.67 | 511766.99 | 19380960.64 |

| POINT TABLE | | | |
|-------------|-----------|-----------|-------------|
| Point # | Elevation | Northing | Easting |
| 796 | 778.78 | 511798.68 | 19380961.08 |
| 797 | 779.56 | 511768.37 | 19380971.96 |
| 804 | 779.54 | 511713.33 | 19380969.58 |
| 805 | 776.75 | 511760.38 | 19380969.75 |
| 806 | 778.34 | 511795.38 | 19381019.20 |
| 807 | 776.50 | 511820.34 | 19381022.52 |

| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----------|------|----------------|-----------------------|---------------------|-------------|------------|
| 3/30/2021 | 737-242470 | BA | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=20' V: 1"=20' | LOCAL | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
DETAIL GRADING

SHEET

33
OF 84

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SEE SHEET 6 FOR BENCHMARK
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4 MILE RD

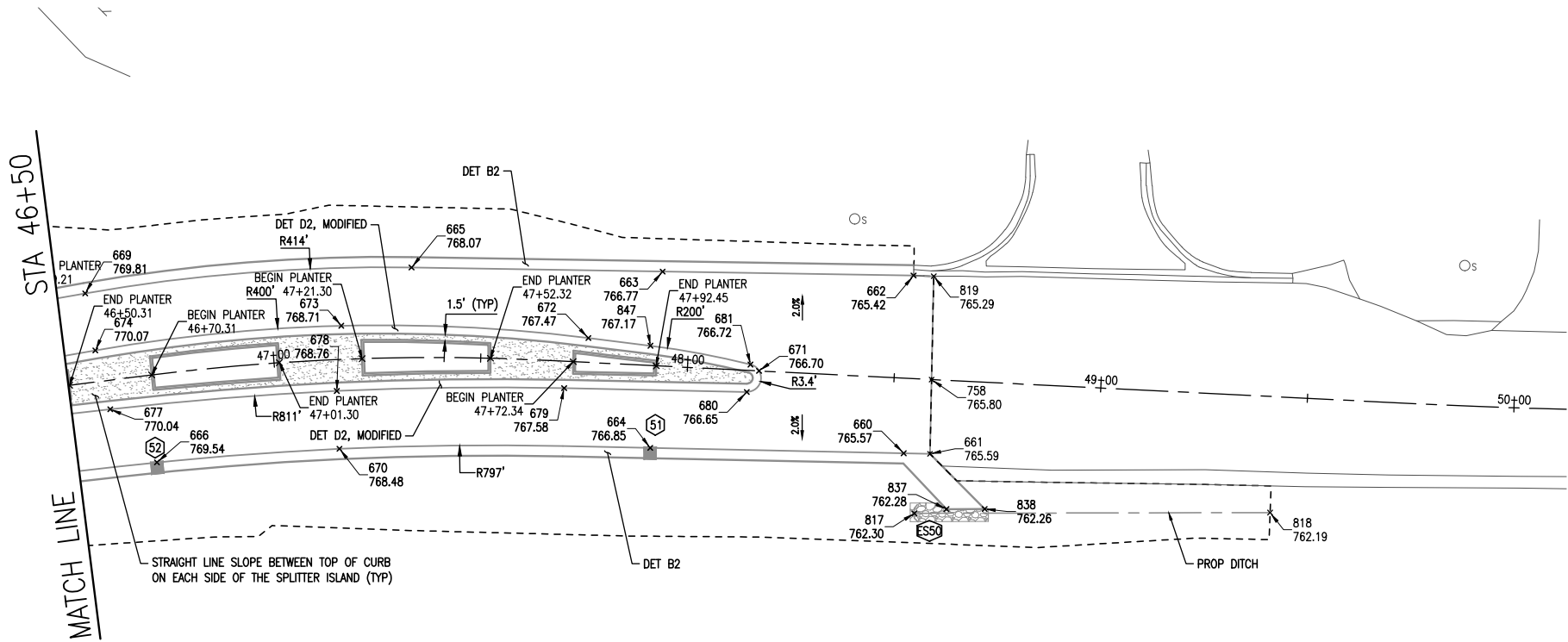




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



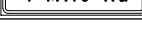


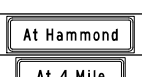




| POINT TABLE | | | |
|-------------|-----------|-----------|-------------|
| Point # | Elevation | Northing | Easting |
| 660 | 765.57 | 512460.99 | 19381027.72 |
| 661 | 765.59 | 512467.35 | 19381028.01 |
| 662 | 765.42 | 512464.42 | 19380984.85 |
| 663 | 766.77 | 512403.83 | 19380982.40 |
| 664 | 766.85 | 512399.80 | 19381024.93 |
| 665 | 768.07 | 512343.19 | 19380979.94 |
| 666 | 769.54 | 512280.52 | 19381025.53 |
| 669 | 769.81 | 512264.21 | 19380984.27 |
| 670 | 768.48 | 512324.73 | 19381023.32 |
| 671 | 766.70 | 512426.55 | 19381006.98 |
| 672 | 767.47 | 512385.50 | 19380998.01 |
| 673 | 768.71 | 512325.90 | 19380993.59 |
| 674 | 770.07 | 512266.31 | 19380998.11 |
| 677 | 770.04 | 512269.57 | 19381012.40 |
| 678 | 768.76 | 512324.42 | 19381009.33 |
| 679 | 767.58 | 512379.35 | 19381009.98 |
| 680 | 766.65 | 512423.46 | 19381011.99 |
| 681 | 766.72 | 512424.51 | 19381005.39 |
| 758 | 765.80 | 512468.17 | 19381010.08 |
| 817 | 762.30 | 512463.22 | 19381042.30 |

| POINT TABLE | | | |
|-------------|-----------|-----------|-------------|
| Point # | Elevation | Northing | Easting |
| 818 | 762.19 | 512549.17 | 19381044.23 |
| 819 | 765.29 | 512469.32 | 19380985.12 |
| 837 | 762.28 | 512471.00 | 19381041.48 |
| 838 | 762.26 | 512480.23 | 19381041.68 |
| 847 | 767.17 | 512400.45 | 19381000.25 |

| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM | REVISIONS |
|-----------|-------------|-----|----------|------|----------------|-----------------------|--------|-------------|------------|-----------|
| | | | | | | | | | | |
| 3/30/2021 | 737-242470 | BA | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | 1"=20' | LOCAL | NAVD88 | |

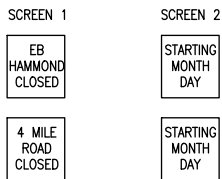
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
DETAIL GRADING

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| SIGN LEGEND (THIS SHEET ONLY) | | |
|---|---------------|---------|
| SIGN | SIGN CODE | SIZE |
|  | M4-8a | 24"x18" |
|  | M4-9L | 30"x24" |
|  | M4-9LA (MOD) | 30"x30" |
|  | M4-9R | 30"x24" |
|  | M4-9R (MOD) | 30"x30" |
|  | M4-9S | 30"x30" |
|  | R11-4 | 60"x30" |
|  | SS-A | 36"x12" |
|  | SS-B | 24"x12" |
|  | SS-C | 24"x12" |
|  | SS-D | 24"x12" |
|  | SS-E | 48"x15" |
|  | SS-F | 48"x15" |
|  | SS-G | 84"x36" |
|  | SS-H | 72"x36" |
|  | SS-I | 42"x12" |
|  | SS-J | 36"x12" |
|  | W20-2 | 48"x48" |
|  | W20-3 (AHEAD) | 48"x48" |

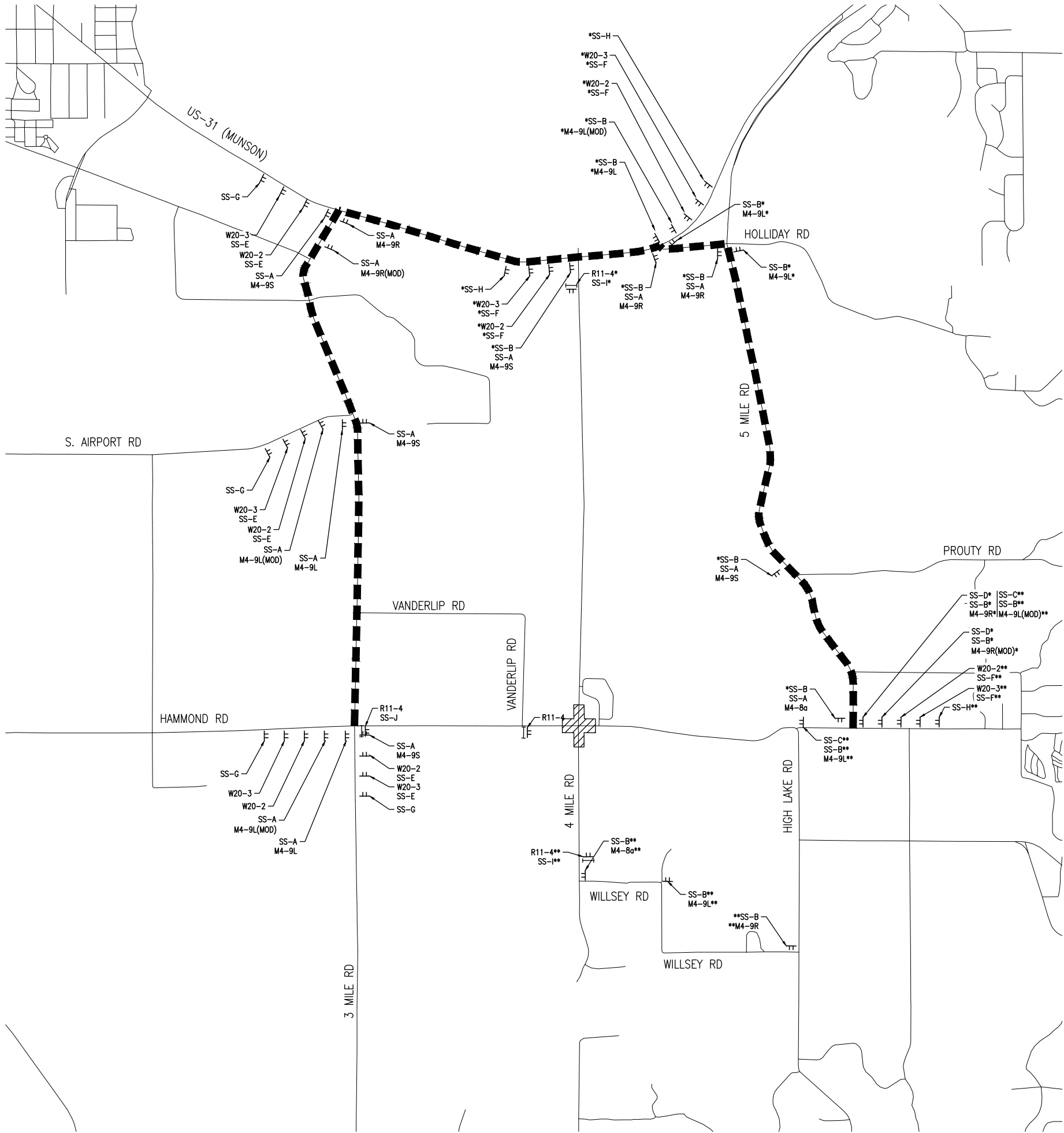
NOTE:
SIGNS WITH * SHALL BE REMOVED OR COVERED AT THE END OF STAGE
1B WHEN THE NORTH LEG OF 4 MILE IS OPEN TO TRAFFIC.
SIGNS WITH ** SHALL BE REMOVE OR COVERED AT THE END OF STAGE
2A WHEN THE SOUTH LEG OF 4 MILE IS OPEN TO TRAFFIC.

SUGGESTED PCMS MESSAGES:

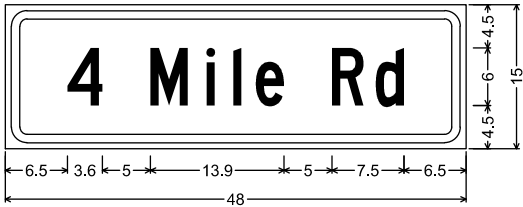


| GTCCR MAINTAINING TRAFFIC QTY'S | | |
|---------------------------------|------|--|
| TOTAL | UNIT | DESCRIPTION |
| 123 | Ton | Maintenance Gravel |
| 140 | Sft | Renn Spec Mrkg |
| 30 | Ea | Barricade, Type III, High Intensity, Double Sided, Lighted, Furn |
| 30 | Ea | Barricade, Type III, High Intensity, Double Sided, Lighted, Oper |
| 0.75 | LSUM | Minor Traf Devices |
| 2650 | Ft | Pavt Mrkg, Longit, 6 inch or Less Width, Rem |
| 2800 | Ft | Pavt Mrkg, Wet Reflective, Type NR, Paint, 4 inch, Yellow, Temp |
| 3250 | Ft | Pavt Mrkg, Wet Reflective, Type NR, Paint, 4 inch, White, Temp |
| 1500 | Ft | Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp |
| 70 | Ea | Plastic Drum, Fluorescent, Furn |
| 70 | Ea | Plastic Drum, Fluorescent, Oper |
| 60 | Ft | Pavt Mrkg, Wet Reflective, Type R, Tape, 24 inch, Stop Bar |
| 5 | Ea | Sign Cover |
| 3 | Ea | Sign, Portable, Changeable Message, NTCIP-Compliant, Furn |
| 3 | Ea | Sign, Portable, Changeable Message, NTCIP-Compliant, Oper |
| 188 | Sft | Sign, Type A, Temp, Prismatic, Furn |
| 188 | Sft | Sign, Type A, Temp, Prismatic, Oper |
| 1035 | Sft | Sign, Type B, Temp, Prismatic, Furn |
| 1035 | Sft | Sign, Type B, Temp, Prismatic, Oper |
| 368 | Sft | Sign, Type B, Temp, Prismatic, Spec, Furn |
| 353 | Sft | Sign, Type B, Temp, Prismatic, Spec, Oper |
| 0.75 | LSUM | Traf Regulator Control |

| EAST BAY TWP | MAINTAINING TRAFFIC | QTY |
|--------------|---------------------|------------------------|
| TOTAL | UNIT | DESCRIPTION |
| 0.25 | LSUM | Minor Traf Devices |
| 0.25 | LSUM | Traf Regulator Control |

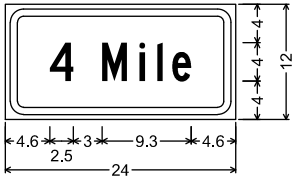


DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile-Hammond\20010\01R.dwg Mar 30, 2021 - 10:34pm



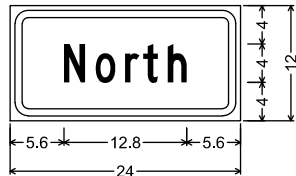
Identifier : SS-FI
2.3" Radius, 0.9" Border, 0.6" Indent, Black on Orange;
[4 Mile] C; [Rd] C;
Table of letter and object lefts.

| | | | | |
|-----|------|------|------|------|
| 4 | M | i | R | d |
| 6.5 | 15.1 | 21.0 | 23.7 | 34.0 |



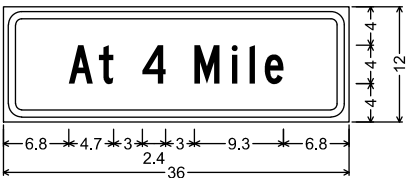
Identifier : SS-BI
1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
[4 Mile] C;
Table of letter and object lefts.

| | | | |
|-----|------|------|------|
| 4 | M | i | e |
| 4.6 | 10.1 | 14.0 | 15.8 |



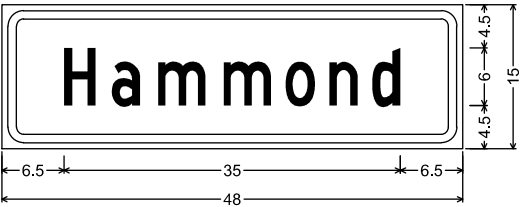
Identifier : SS-DI
1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
[North] C;
Table of letter and object lefts.

| | | | | |
|-----|-----|------|------|------|
| N | o | r | t | h |
| 5.6 | 8.9 | 12.0 | 13.9 | 16.4 |



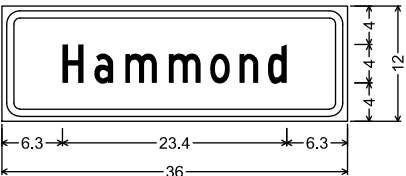
Identifier : SS-J;
1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
[At 4 Mile] C;
Table of letter and object lefts.

| | | | | | |
|-----|-----|------|------|------|------|
| A | t | 4 | M | i | e |
| 6.8 | 9.9 | 14.5 | 19.9 | 23.8 | 27.2 |



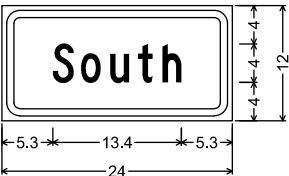
Identifier : SS-EI
2.3" Radius, 0.9" Border, 0.6" Indent, Black on Orange;
[Hammond] C;
Table of letter and object lefts.

| | | | | | | |
|-----|------|------|------|------|------|------|
| H | a | m | m | o | n | d |
| 6.5 | 11.5 | 16.3 | 23.1 | 29.6 | 34.1 | 38.6 |



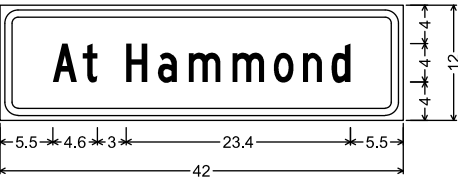
Identifier : SS-AI
1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
[Hammond] C;
Table of letter and object lefts.

| | | | | | | |
|-----|-----|------|------|------|------|------|
| H | a | m | m | o | n | d |
| 6.3 | 9.6 | 12.9 | 17.4 | 21.7 | 24.8 | 27.7 |



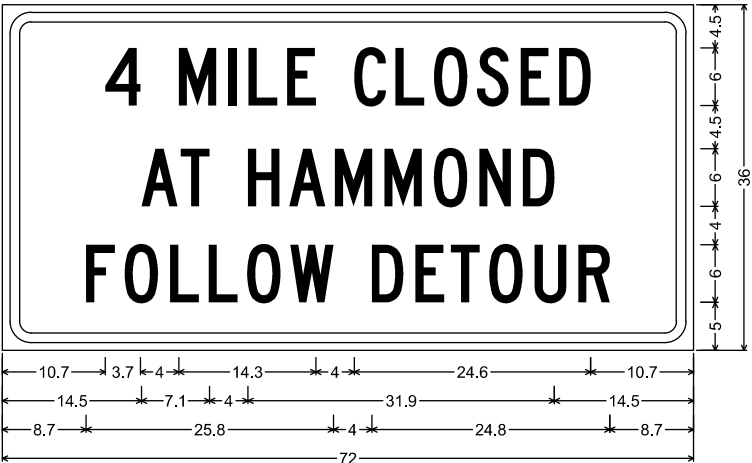
Identifier : SS-CI
1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
[South] C;
Table of letter and object lefts.

| | | | | |
|-----|-----|------|------|------|
| S | o | u | t | h |
| 5.3 | 8.3 | 11.3 | 14.2 | 16.7 |



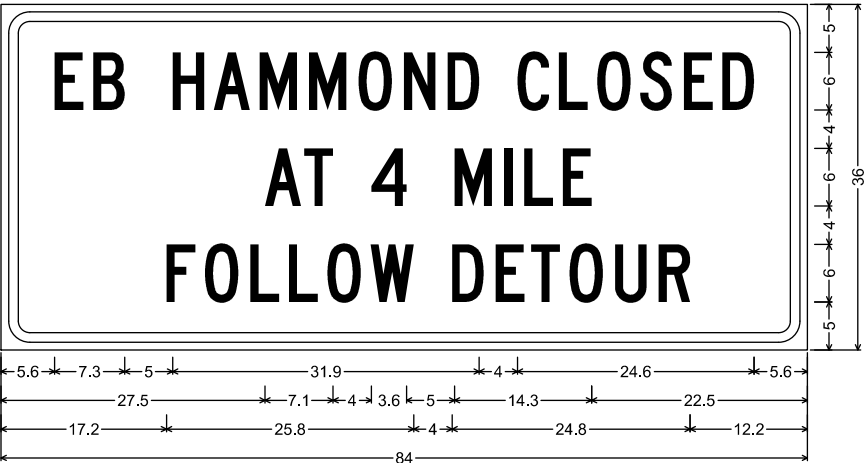
Identifier : SS-I;
1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;
[At Hammond] C;
Table of letter and object lefts.

| | | | | | | | | |
|-----|-----|------|------|------|------|------|------|------|
| A | t | H | a | m | m | o | n | d |
| 5.5 | 8.6 | 13.1 | 16.5 | 19.7 | 24.2 | 28.5 | 31.6 | 34.5 |




Identifier : SS-FI
3.0" Radius, 1.0" Border, 0.8" Indent, Black on Orange;
[4 MILE CLOSED] C; [AT HAMMOND] C; [FOLLOW DETOUR] C;
Table of letter and object lefts.

| | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 4 | M | I | L | E | C | L | O | S | E | D | |
| 10.7 | 18.4 | 23.5 | 25.6 | 29.7 | 36.7 | 40.9 | 45.0 | 49.4 | 54.0 | 58.0 | |
| A | T | H | A | M | M | O | N | D | | | |
| 14.5 | 18.6 | 25.6 | 29.9 | 34.6 | 39.8 | 44.9 | 49.7 | 54.2 | | | |
| F | O | L | L | O | W | D | E | T | O | U | R |
| 8.7 | 12.7 | 17.5 | 21.5 | 25.5 | 30.0 | 38.5 | 43.0 | 46.7 | 50.7 | 55.4 | 60.0 |



Identifier : SS-EI
3.0" Radius, 1.0" Border, 0.8" Indent, Black on Orange;
[EB HAMMOND CLOSED] C; [AT 4 MILE] C; [FOLLOW DETOUR] C;
Table of letter and object lefts.

| | | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| E | B | H | A | M | M | O | N | D | C | L | O | S | E | D |
| 5.6 | 9.6 | 17.9 | 22.2 | 26.9 | 32.1 | 37.2 | 42.0 | 46.5 | 53.8 | 58.1 | 62.1 | 66.6 | 71.1 | 75.1 |
| A | T | 4 | M | I | L | E | | | | | | | | |
| 27.5 | 31.6 | 38.6 | 47.2 | 52.4 | 54.5 | 58.5 | | | | | | | | |
| F | O | L | L | O | W | D | E | T | O | U | R | | | |
| 17.2 | 21.2 | 26.0 | 30.0 | 34.0 | 38.5 | 47.0 | 51.5 | 55.2 | 59.2 | 63.9 | 68.5 | | | |



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| | | | | | | | | | |
|-----------|-------------|-----|----------|------|----------------|----------------------|--------|-------------|------------|
| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
| 3/30/2021 | 737-242470 | BA | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | 1"=40' | LOCAL | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC SIGN DETAILS

SHEET

36
OF 84

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DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile Hammond\2001010STG4.dwg Mar 30, 2021 - 10:34pm

HAMMOND RD

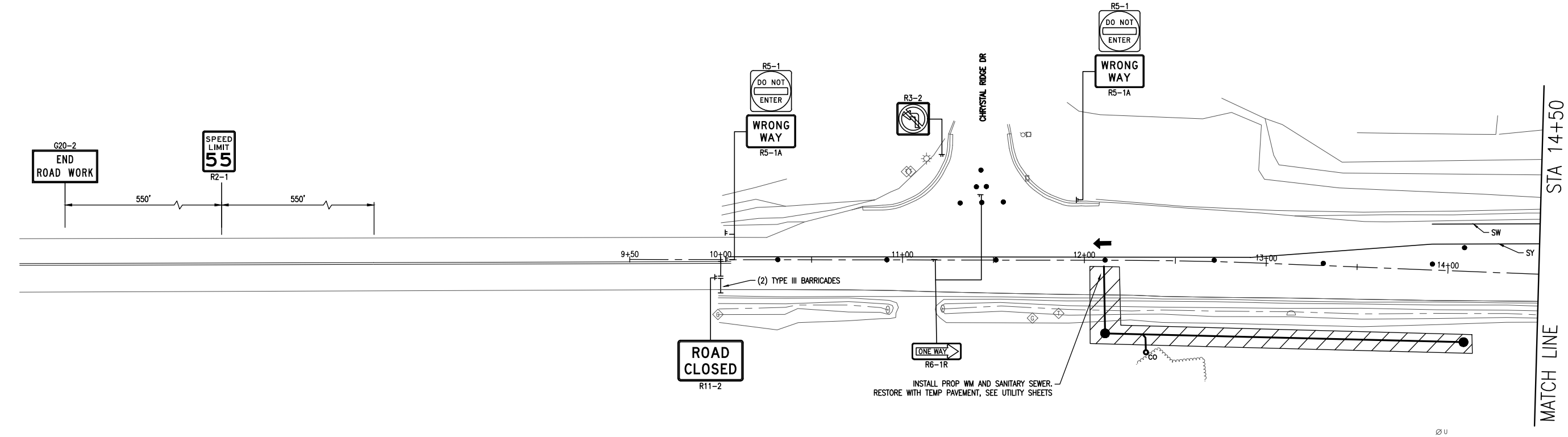






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



- LEGEND
- 


EXISTING ROADWAY
- 

WORK DONE THIS STAGE
- 

TEMPORARY PAVEMENT
- 

PLASTIC DRUM, HIGH INTENSITY
- 

TEMPORARY SIGN
- 

BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
- 

LIGHTED ARROW, TYPE C

THE FOLLOWING STRIPING ITEMS TO BE PAID FOR AS
TEMPORARY WET REFLECTIVE PAVEMENT MARKING, TYPE NR:

- *SW

SOLID WHITE, 6 INCH
- *SY

SOLID YELLOW, 6 INCH
- *SB

STOP BAR, 18 INCH
- *DSY

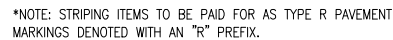
DOUBLE SOLID YELLOW, 4 INCH
(DOUBLE SOLID LINES, 1' CENTER TO CENTER)

*NOTE: STRIPING ITEMS TO BE PAID FOR AS TYPE R PAVEMENT
MARKINGS DENOTED WITH AN "R" PREFIX.

| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | JK | CADD | JM | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----|----------|----|------|----|----------------|-----------------------|-----------|-------------|------------|
| 3/30/2021 | 737120010 | | | | | | | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' | LOCAL | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 1A

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GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 1A

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile Hammond\2001010STG4.dwg Mar 30, 2021 - 10:34pm

HAMMOND RD

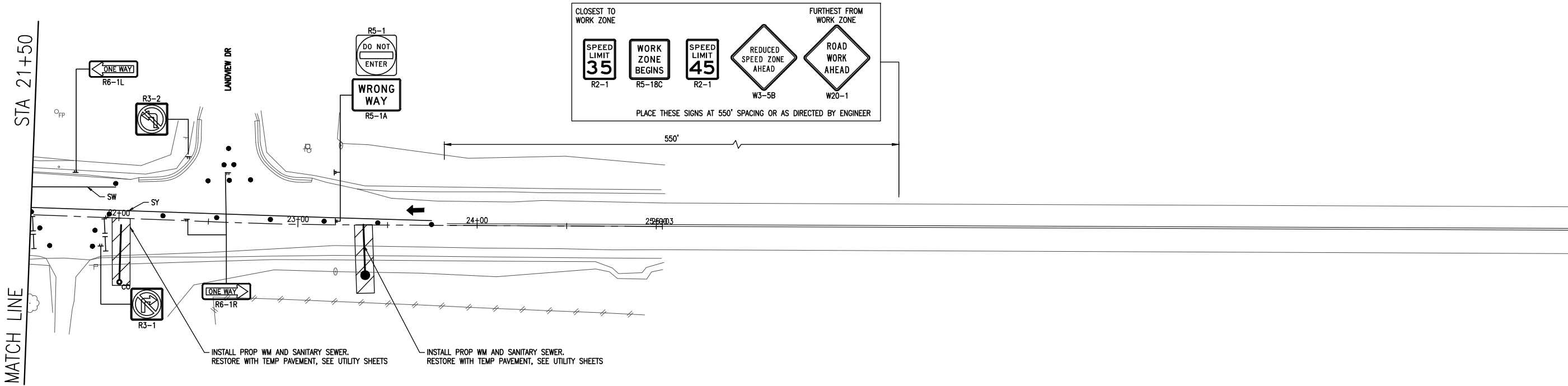




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LEGEND

- EXISTING ROADWAY
- WORK DONE THIS STAGE
- TEMPORARY PAVEMENT
- PLASTIC DRUM, HIGH INTENSITY
- TEMPORARY SIGN
- BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
- LIGHTED ARROW, TYPE C

THE FOLLOWING STRIPING ITEMS TO BE PAID FOR AS
TEMPORARY WET REFLECTIVE PAVEMENT MARKING, TYPE NR:

- *SW SOLID WHITE, 6 INCH
- *SY SOLID YELLOW, 6 INCH
- *SB STOP BAR, 18 INCH
- *DSY DOUBLE SOLID YELLOW, 4 INCH
(DOUBLE SOLID LINES, 1' CENTER TO CENTER)

*NOTE: STRIPING ITEMS TO BE PAID FOR AS TYPE R PAVEMENT
MARKINGS DENOTED WITH AN "R" PREFIX.

| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----|----------|------|----------------|-----------------------|-----------------|-------------|------------|
| 3/30/2021 | 737-204-070 | | | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' V: | LOCAL | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 1A

DRAWING PATH: P:\7301_7400\737\20010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile Hammond\20010\STG-A.dwg Mar 30, 2021 - 10:34pm

4 MILE RD








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
OHM-ADVISORS.COM


- LEGEND
- 


EXISTING ROADWAY
- 

WORK DONE THIS STAGE
- 

TEMPORARY PAVEMENT
- 

PLASTIC DRUM, HIGH INTENSITY
- 

TEMPORARY SIGN
- 

BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
- 

LIGHTED ARROW, TYPE C

THE FOLLOWING STRIPING ITEMS TO BE PAID FOR AS
TEMPORARY WET REFLECTIVE PAVEMENT MARKING, TYPE NR:

- *SW

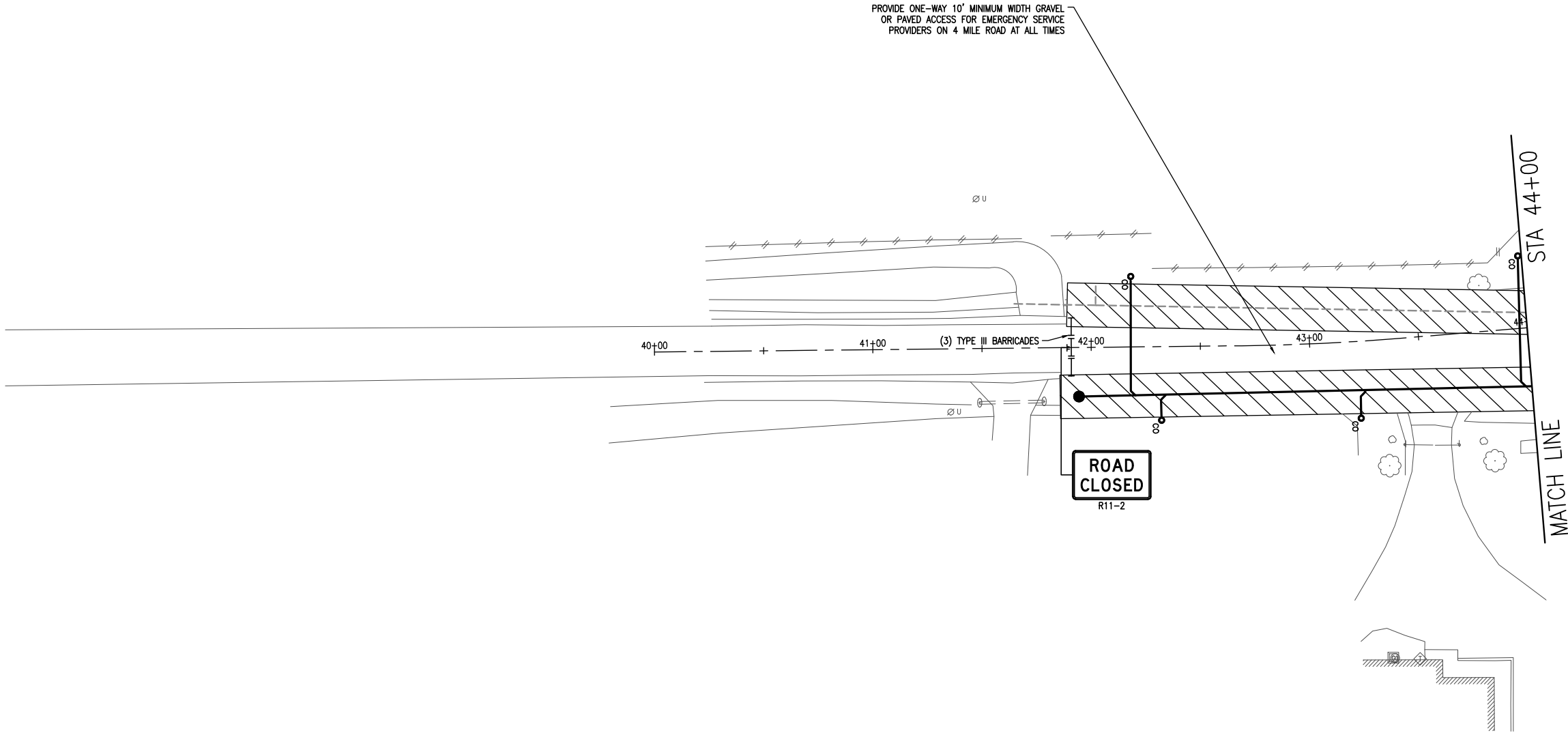
SOLID WHITE, 6 INCH
- *SY

SOLID YELLOW, 6 INCH
- *SB

STOP BAR, 18 INCH
- *DSY

DOUBLE SOLID YELLOW, 4 INCH
(DOUBLE SOLID LINES, 1' CENTER TO CENTER)

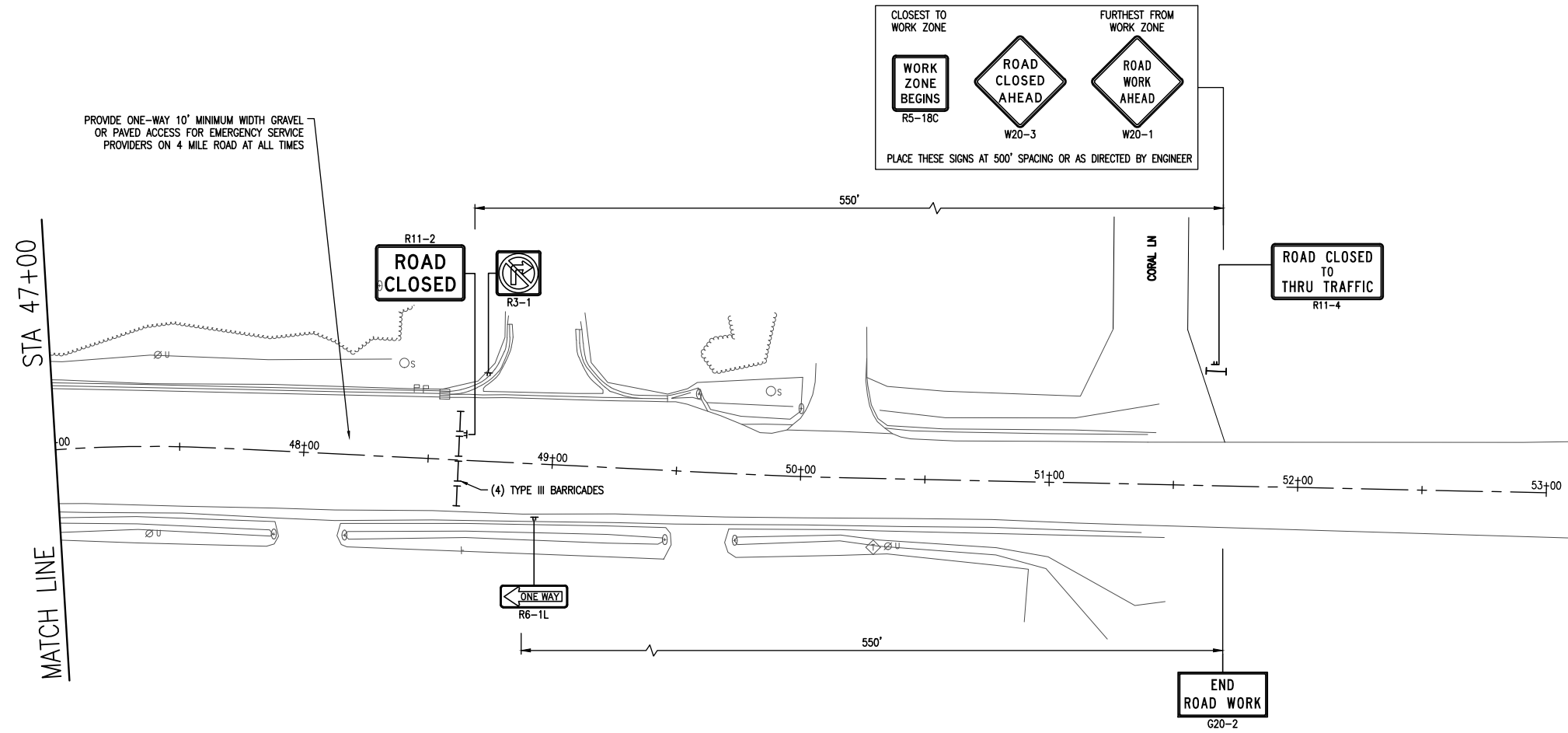
*NOTE: STRIPING ITEMS TO BE PAID FOR AS TYPE R PAVEMENT
MARKINGS DENOTED WITH AN "R" PREFIX.










| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | CADD | COUNTY | CITY/VIL/LAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----|----------|------|----------------|------------------------|-----------------|-------------|------------|
| 3/30/2021 | 737-024-070 | | | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' V: | LOCAL | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 1A

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LEGEND

- | | |
|---|--|
|  | EXISTING ROADWAY |
|  | WORK DONE THIS STAGE |
|  | TEMPORARY PAVEMENT |
|  | PLASTIC DRUM, HIGH INTENSITY |
|  | TEMPORARY SIGN |
|  | BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED |
|  | LIGHTED ARROW, TYPE C |

THE FOLLOWING STRIPING ITEMS TO BE PAID FOR AS
TEMPORARY WET REFLECTIVE PAVEMENT MARKING, TYPE NR:

- *SW SOLID WHITE, 6 INCH
*SY SOLID YELLOW, 6 INCH
*SB STOP BAR, 18 INCH
*DSY DOUBLE SOLID YELLOW, 4 INCH
(DOUBLE SOLID LINES, 1' CENTER TO CENTER)

*NOTE: STRIPING ITEMS TO BE PAID FOR AS TYPE R PAVEMENT MARKINGS DENOTED WITH AN "R" PREFIX.

| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
|-----------|--------------|-----|----------|------|----------------|-----------------------|-----------------|-------------|------------|
| 3/30/2021 | 7371-20-0010 | BA | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' V: | LOCAL | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 1A

DRAWING PATH: P:\7301_7400\737120010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Stage4 Mile Hammond\20010STG1B.dwg Mar 30, 2021 - 10:34pm

HAMMOND RD

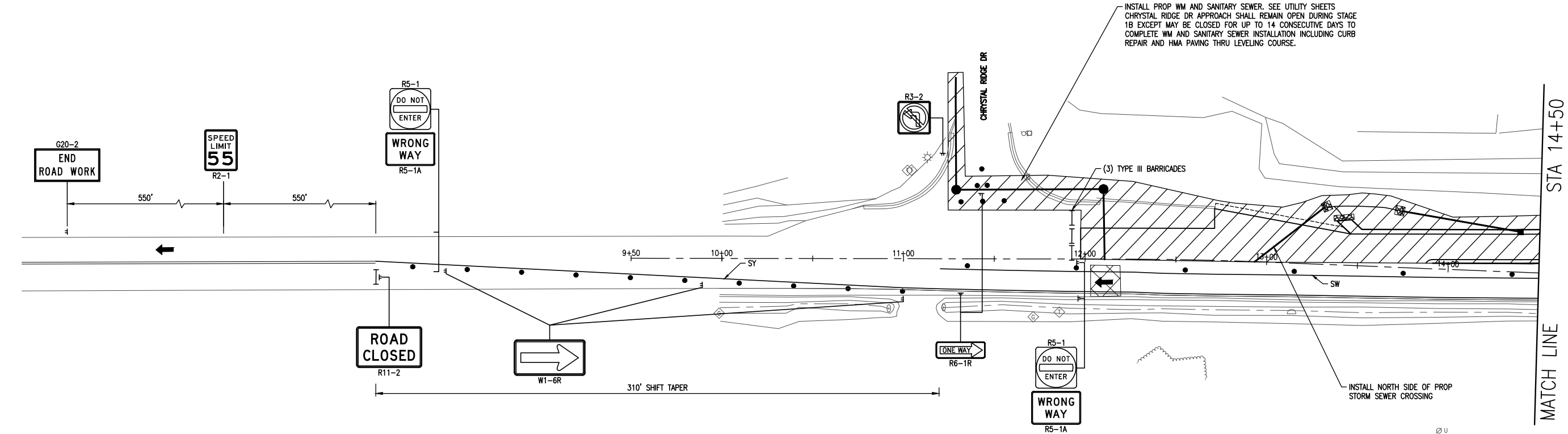


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LEGEND

EXISTING ROADWAY

WORK DONE THIS STAGE

TEMPORARY PAVEMENT

PLASTIC DRUM, HIGH INTENSITY

TEMPORARY SIGN

BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED

LIGHTED ARROW, TYPE C

THE FOLLOWING STRIPING ITEMS TO BE PAID FOR AS
TEMPORARY WET REFLECTIVE PAVEMENT MARKING, TYPE NR:

- *SW SOLID WHITE, 6 INCH
- *SY SOLID YELLOW, 6 INCH
- *SB STOP BAR, 18 INCH
- *DSY DOUBLE SOLID YELLOW, 4 INCH
(DOUBLE SOLID LINES, 1' CENTER TO CENTER)

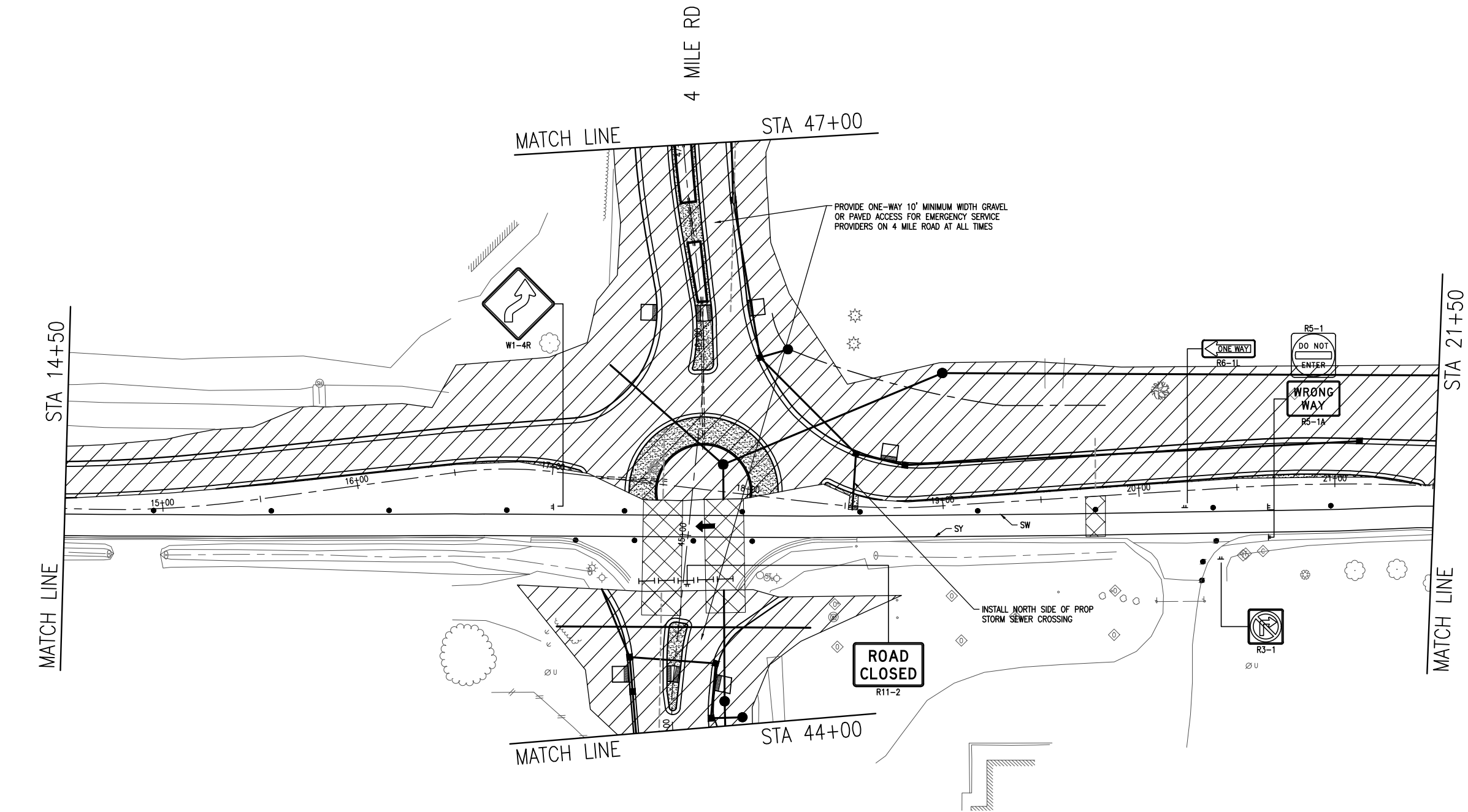
*NOTE: STRIPING ITEMS TO BE PAID FOR AS TYPE R PAVEMENT
MARKINGS DENOTED WITH AN "R" PREFIX.

| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | CADD | COUNTY | CITY/VIL/LAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----|----------|------|----------------|------------------------|-----------------|-------------|------------|
| 3/30/2021 | 737-024-070 | | | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' V: | LOCAL | NAVD83 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 1B

DRAWING PATH: P:\7301_7400\737\20010_GTCRC E-W_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile Hammond\20010\STG1B.dwg Mar 30, 2021 - 10:35pm

HAMMOND RD



LEGEND

- EXISTING ROADWAY
- WORK DONE THIS STAGE
- TEMPORARY PAVEMENT
- PLASTIC DRUM, HIGH INTENSITY
- TEMPORARY SIGN
- BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
- LIGHTED ARROW, TYPE C

THE FOLLOWING STRIPING ITEMS TO BE PAID FOR AS
TEMPORARY WET REFLECTIVE PAVEMENT MARKING, TYPE NR:

- *SW SOLID WHITE, 6 INCH
- *SY SOLID YELLOW, 6 INCH
- *SB STOP BAR, 18 INCH
- *DSY DOUBLE SOLID YELLOW, 4 INCH
(DOUBLE SOLID LINES, 1' CENTER TO CENTER)

*NOTE: STRIPING ITEMS TO BE PAID FOR AS TYPE R PAVEMENT
MARKINGS DENOTED WITH AN "R" PREFIX.



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REVISIONS:

HORIZ DATUM
VERT DATUM
LOCAL
NAVD83

SCALE
H: 1"=30'
V:

CITY/VIL/LAGE/TOWNSHIP
EAST BAY TOWNSHIP

COUNTY
GRAND TRAVERSE

PROJ NUMBER
737-024/010

DATE
3/30/2021

SHEET

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 1B

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile Hammond\20010\STG1B.dwg Mar 30, 2021 - 10:35pm

HAMMOND RD

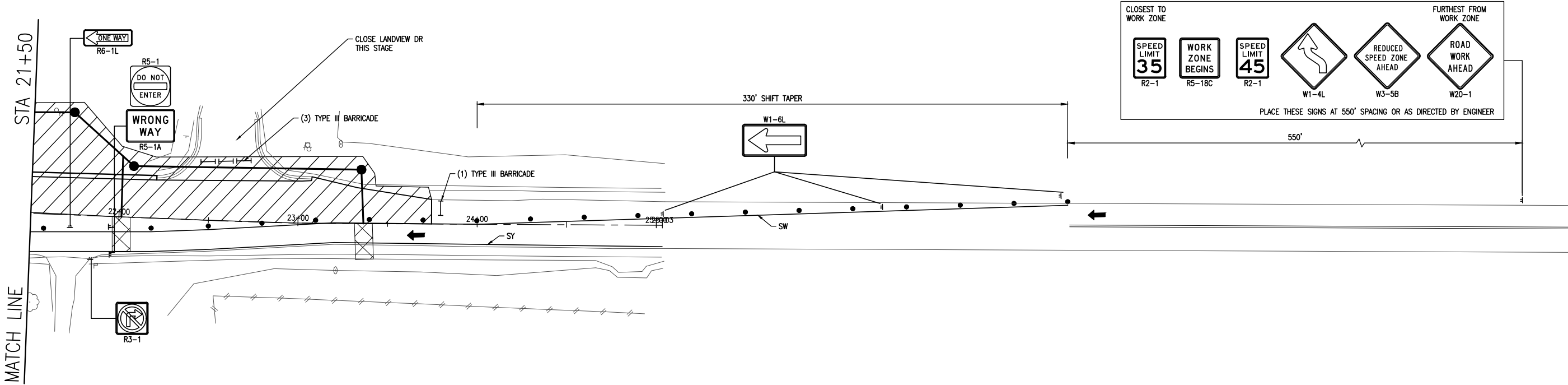




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LEGEND

- EXISTING ROADWAY
- WORK DONE THIS STAGE
- TEMPORARY PAVEMENT
- PLASTIC DRUM, HIGH INTENSITY
- TEMPORARY SIGN
- BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
- LIGHTED ARROW, TYPE C

THE FOLLOWING STRIPING ITEMS TO BE PAID FOR AS
TEMPORARY WET REFLECTIVE PAVEMENT MARKING, TYPE NR:

- *SW SOLID WHITE, 6 INCH
- *SY SOLID YELLOW, 6 INCH
- *SB STOP BAR, 18 INCH
- *DSY DOUBLE SOLID YELLOW, 4 INCH
(DOUBLE SOLID LINES, 1' CENTER TO CENTER)

*NOTE: STRIPING ITEMS TO BE PAID FOR AS TYPE R PAVEMENT
MARKINGS DENOTED WITH AN "R" PREFIX.

REVISIONS:

| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----|----------|------|----------------|-----------------------|-----------------|-------------|------------|
| 3/30/2021 | 737120010 | | | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' V: | LOCAL | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 1B

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4 MILE RD








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
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
- LEGEND
- 


EXISTING ROADWAY
- 

WORK DONE THIS STAGE
- 

TEMPORARY PAVEMENT
- 

PLASTIC DRUM, HIGH INTENSITY
- 

TEMPORARY SIGN
- 

BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
- 

LIGHTED ARROW, TYPE C

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TEMPORARY WET REFLECTIVE PAVEMENT MARKING, TYPE NR:

- *SW

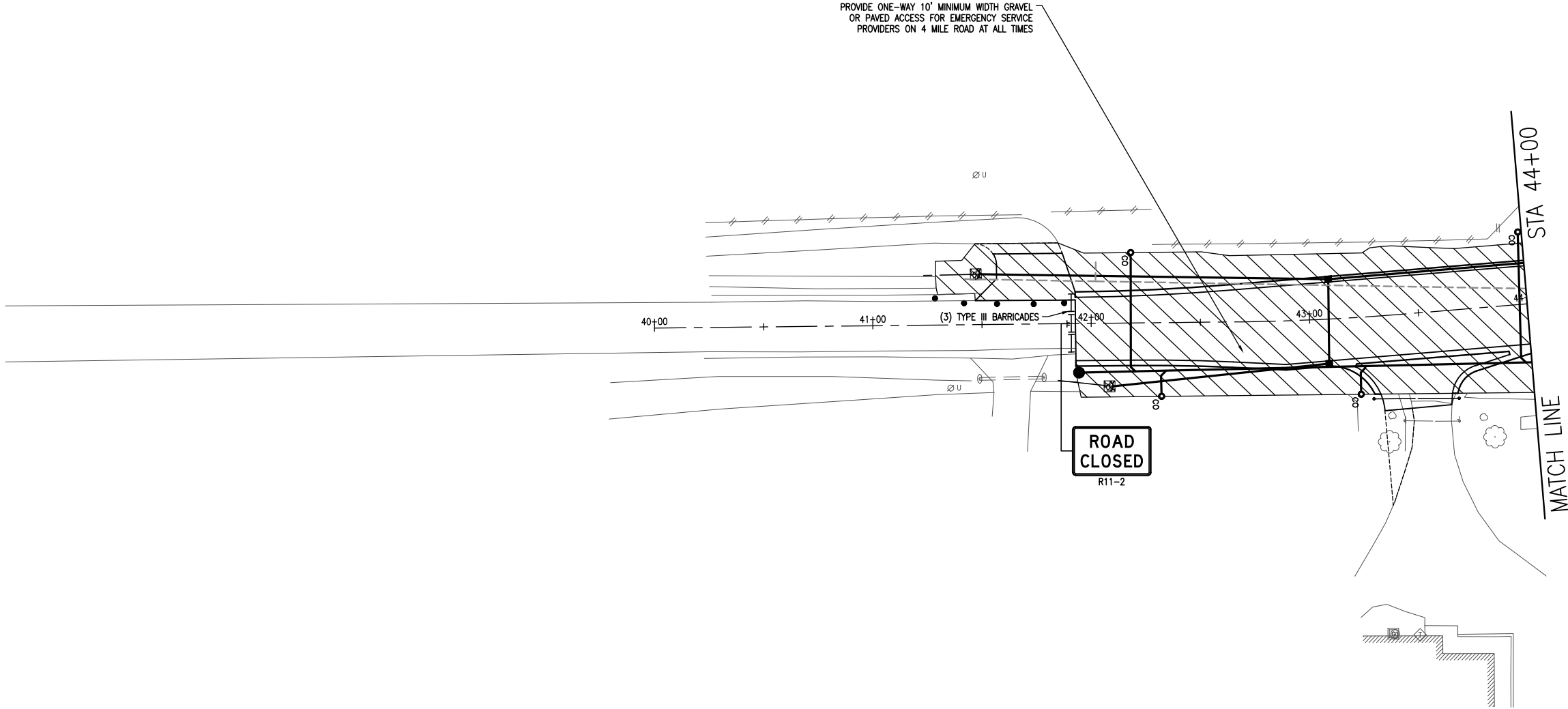
SOLID WHITE, 6 INCH
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| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | CADD | COUNTY | CITY/VIL/LAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
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| 3/30/2021 | 737-024-070 | | | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' V: 1"=30' | LOCAL | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 1B

SHEET

45

OF 84

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4 MILE RD

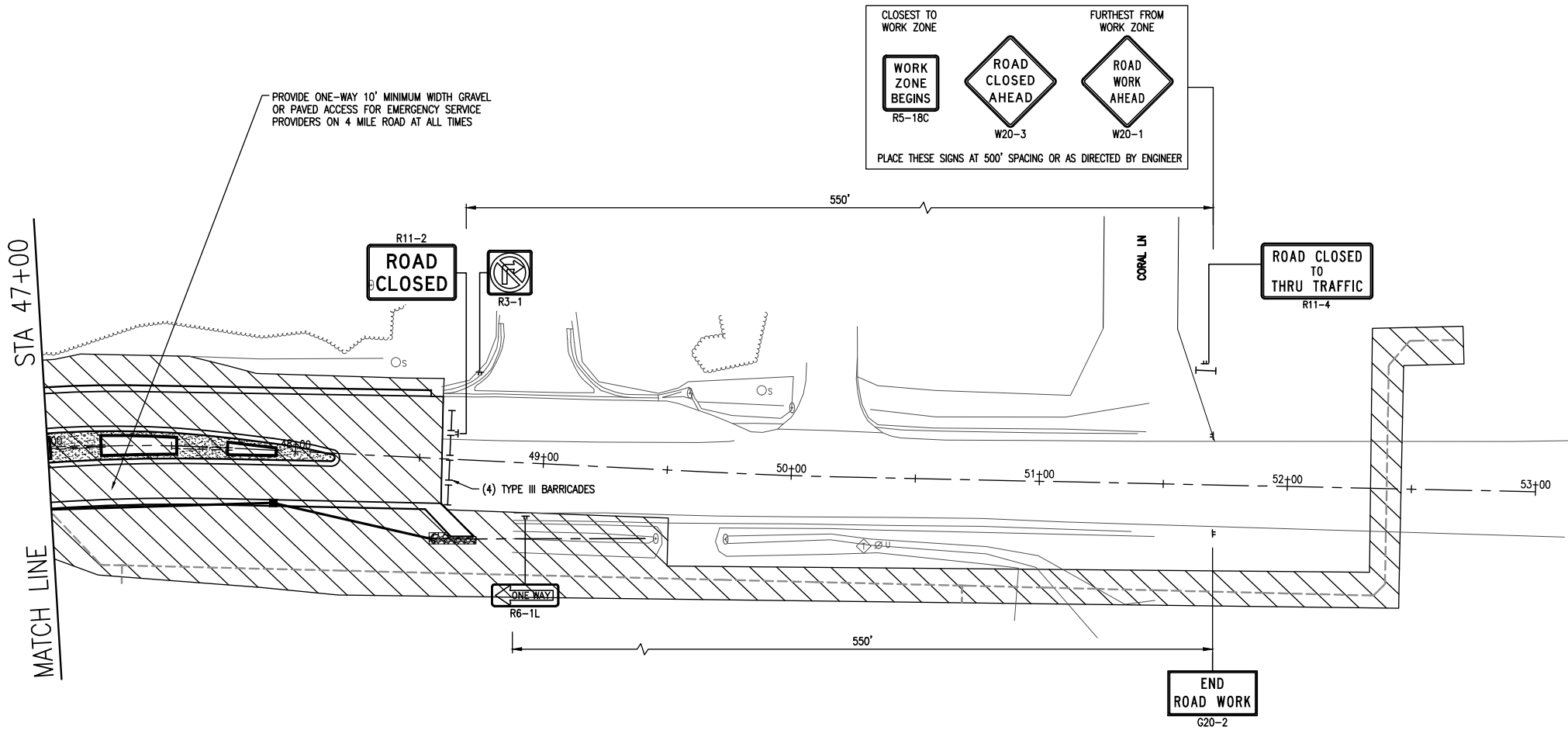




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LEGEND

- EXISTING ROADWAY
- WORK DONE THIS STAGE
- TEMPORARY PAVEMENT
- PLASTIC DRUM, HIGH INTENSITY
- TEMPORARY SIGN
- BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
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REVISIONS:

DATE

VERT DATUM

SCALE

CITY/VILLAGE/TOWNSHIP

COUNTY

CADD

PROJ/MGR

ENG

PROJ NUMBER

DATE

DATE

DATE

DATE

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 1B

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile Hammond\2001010STG2A.dwg Mar 30, 2021 - 10:35pm

HAMMOND RD

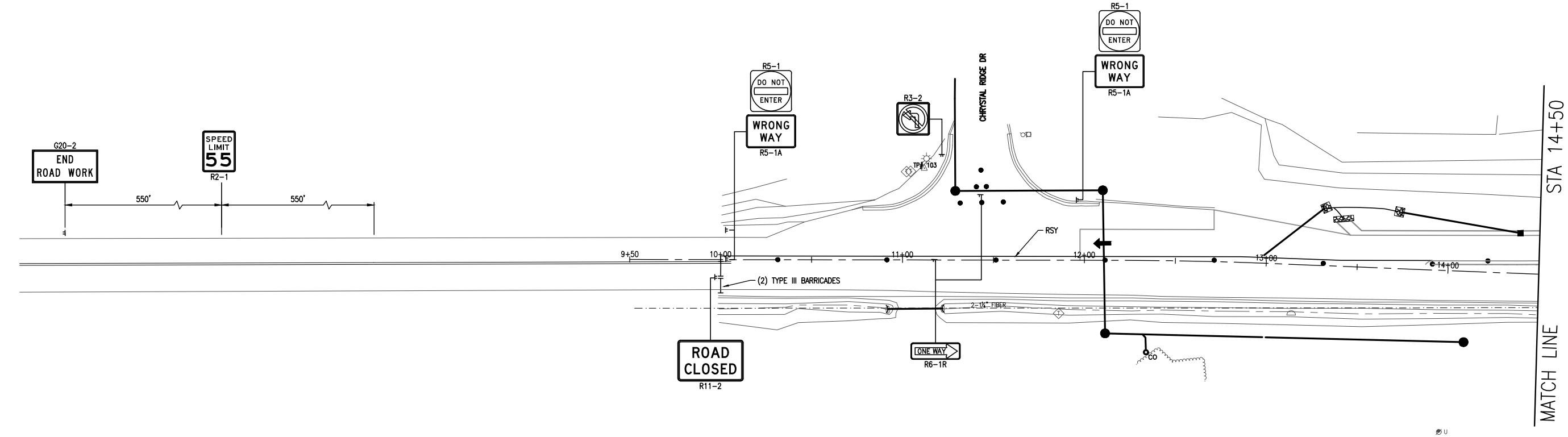




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LEGEND

- EXISTING ROADWAY
- WORK DONE THIS STAGE
- TEMPORARY PAVEMENT
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- TEMPORARY SIGN
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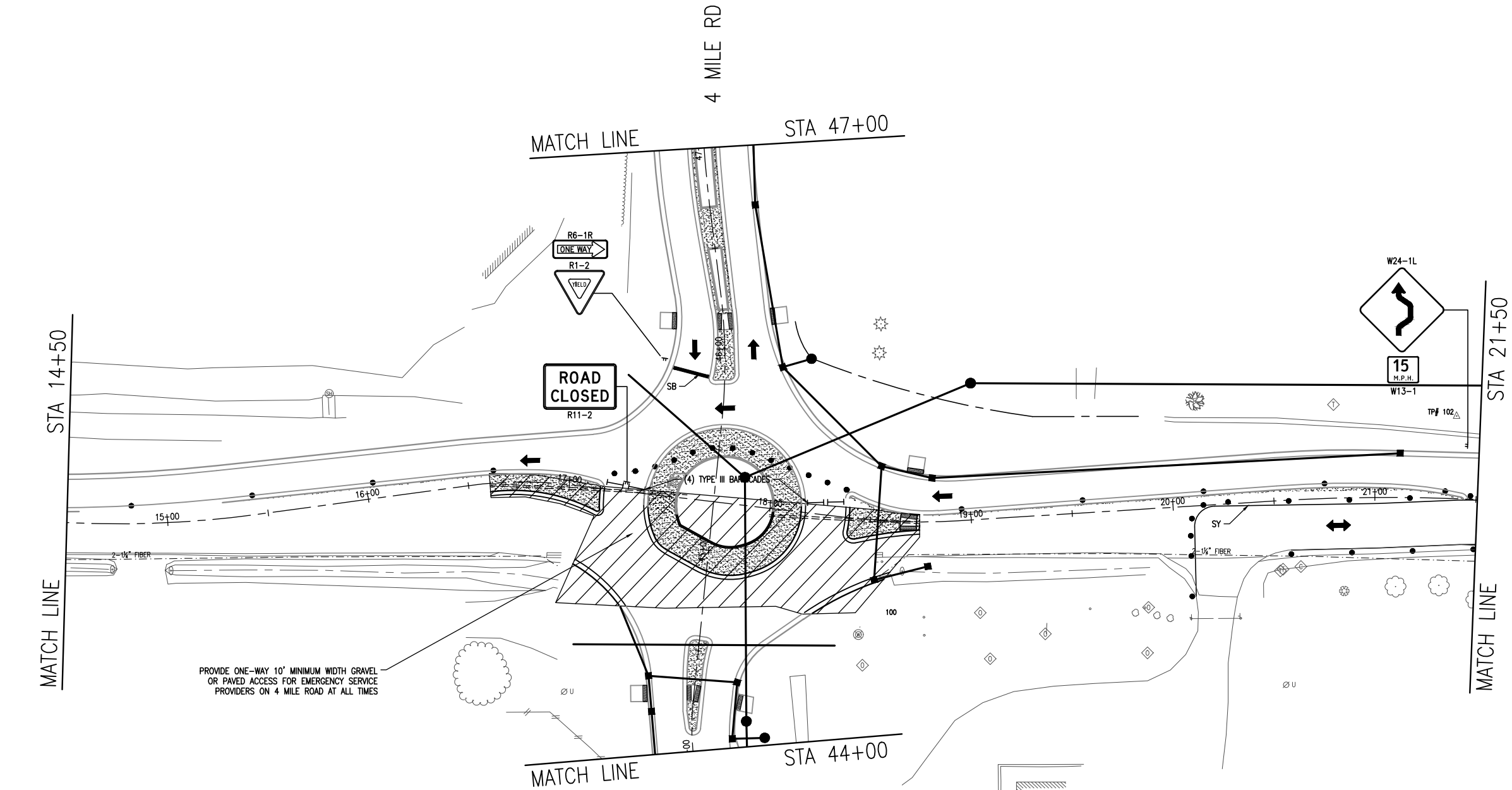
| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | CADD | COUNTY | CITY/VIL/LAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
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GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 2A

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HAMMOND RD



LEGEND

- EXISTING ROADWAY
- WORK DONE THIS STAGE
- TEMPORARY PAVEMENT
- PLASTIC DRUM, HIGH INTENSITY
- TEMPORARY SIGN
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GRAND TRAVERSE COUNTY ROAD COMMISSION
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MAINTAINING TRAFFIC PLAN STAGE 2A

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile-Hammond\2001010STG2A.dwg Mar 30, 2021 - 10:35pm

HAMMOND RD

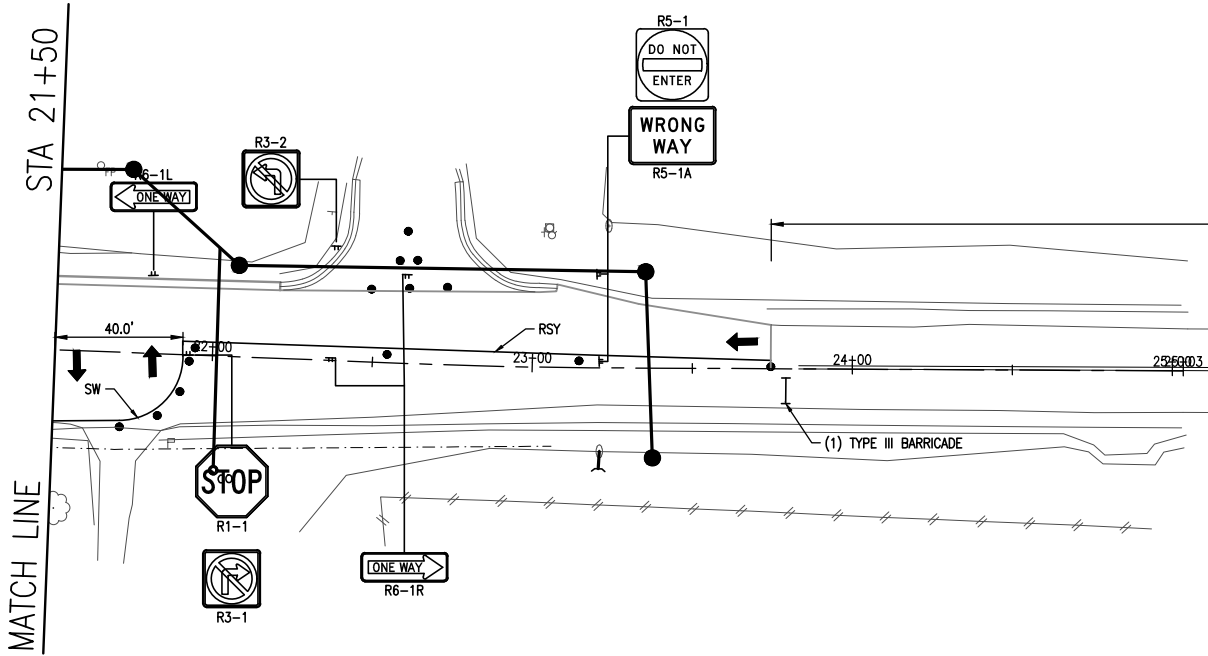




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CLOSEST TO WORK ZONE

SPEED LIMIT

35

R2-1

WORK ZONE BEGINS

R5-18C

SPEED LIMIT

45

R2-1

REDUCED SPEED ZONE AHEAD

W3-5B


ROAD WORK AHEAD

W20-1


FURTHEST FROM WORK ZONE

PLACE THESE SIGNS AT 550' SPACING OR AS DIRECTED BY ENGINEER


LEGEND




EXISTING ROADWAY




WORK DONE THIS STAGE




TEMPORARY PAVEMENT




PLASTIC DRUM, HIGH INTENSITY



TEMPORARY SIGN



BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED



LIGHTED ARROW, TYPE C

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CADD

PROJ/MGR

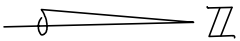
ENG

PROJ NUMBER

SHEET

DRAWING PATH: P:\7301_7400\737\20010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile Hammond\20010101STG2A.dwg Mar 30, 2021 - 10:35pm

4 MILE RD

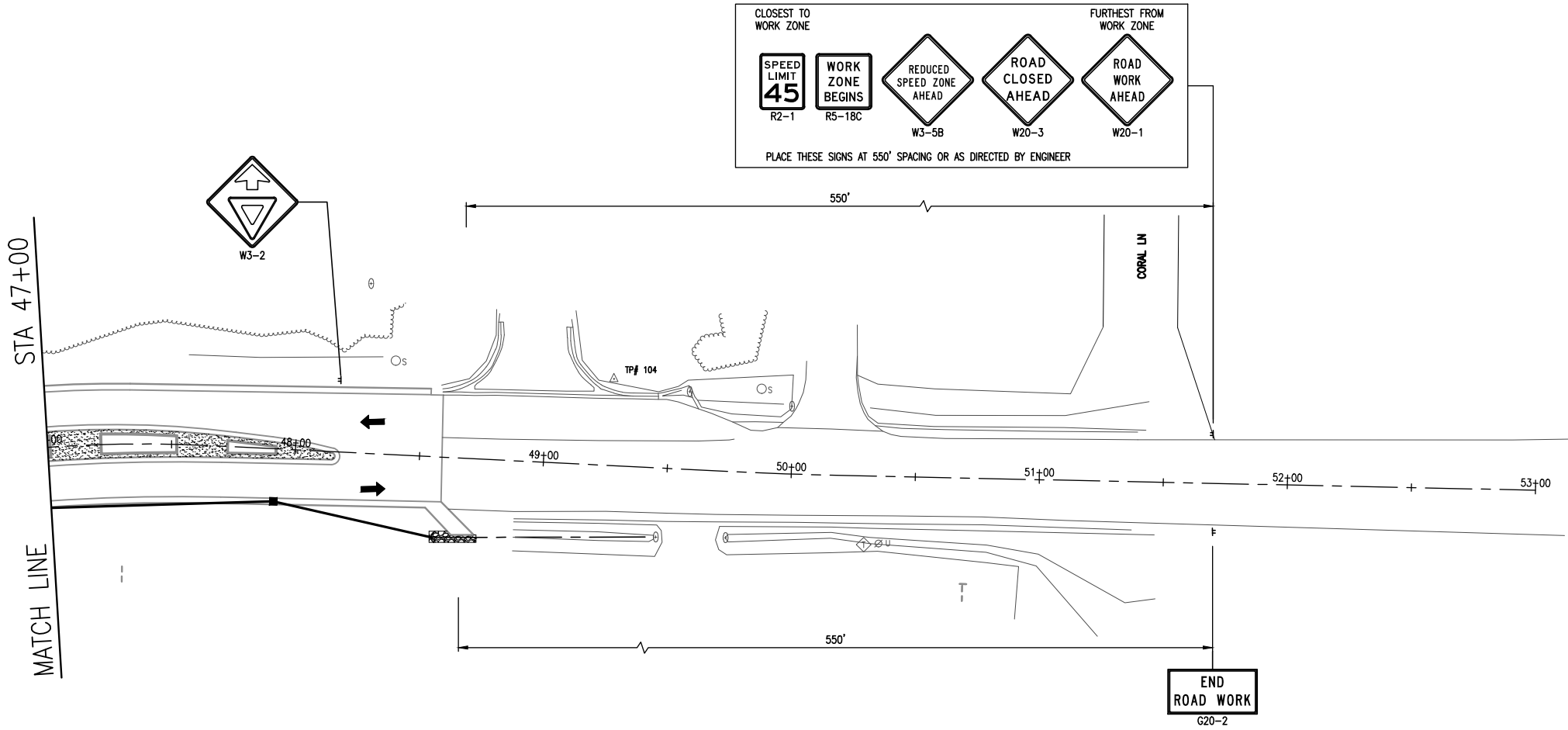











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LEGEND

-  EXISTING ROADWAY
-  WORK DONE THIS STAGE
-  TEMPORARY PAVEMENT
-  PLASTIC DRUM, HIGH INTENSITY
-  TEMPORARY SIGN
-  BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
-  LIGHTED ARROW, TYPE C

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| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
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| 3/30/2021 | 737-204-070 | BA | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' V: | LOCAL | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 2A

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile Hammond\2001010STG2B.dwg Mar 30, 2021 - 10:36pm

HAMMOND RD

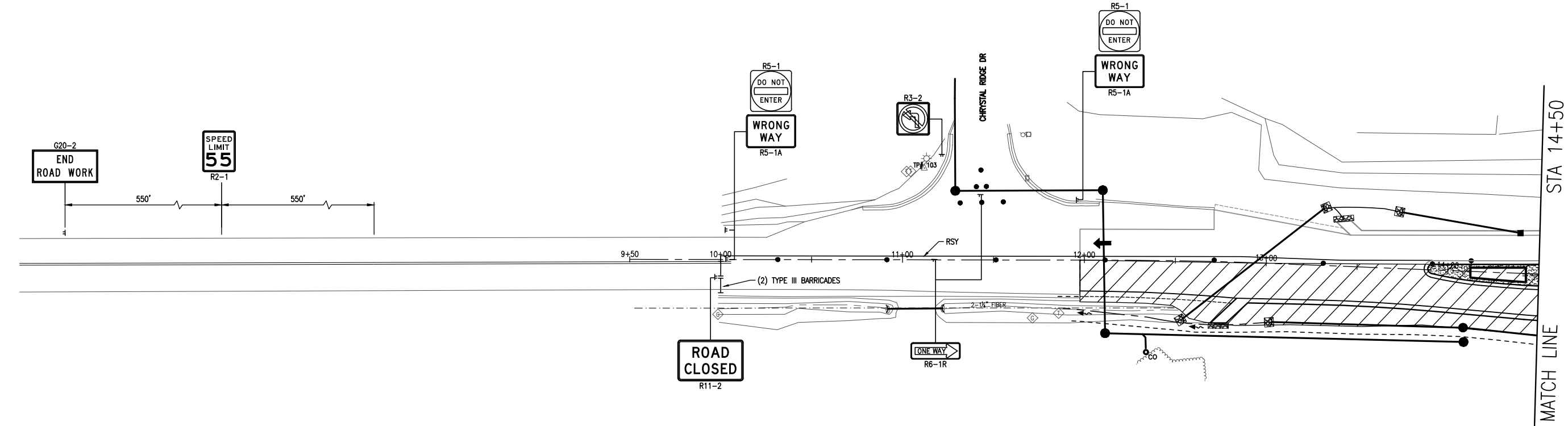






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



- LEGEND
- 


EXISTING ROADWAY
- 

WORK DONE THIS STAGE
- 

TEMPORARY PAVEMENT
- 

PLASTIC DRUM, HIGH INTENSITY
- 

TEMPORARY SIGN
- 

BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
- 

LIGHTED ARROW, TYPE C

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SOLID WHITE, 6 INCH
- *SY

SOLID YELLOW, 6 INCH
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STOP BAR, 18 INCH
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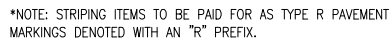
DOUBLE SOLID YELLOW, 4 INCH
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GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 2B

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HAMMOND RD

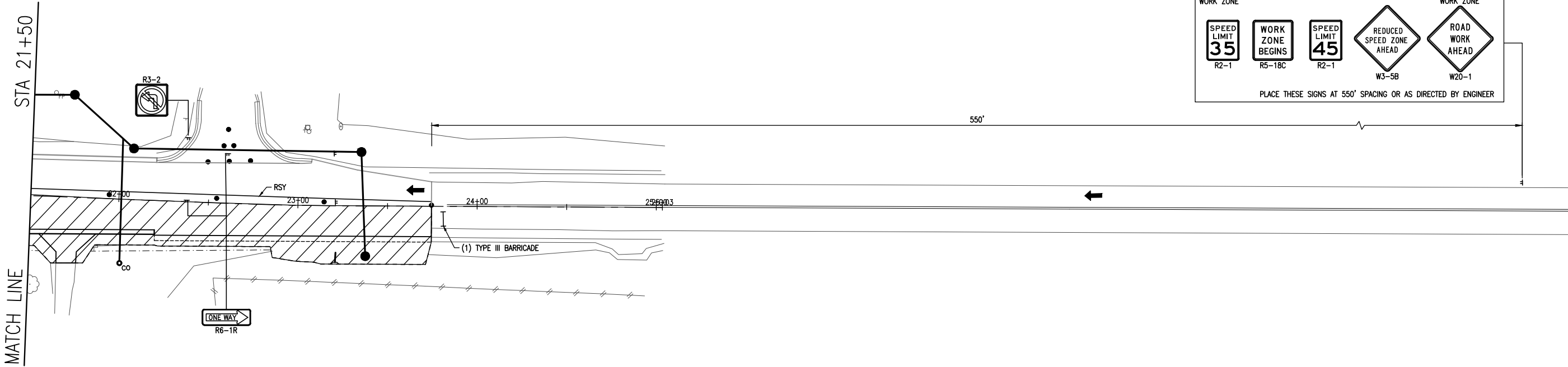






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



- LEGEND
- 


EXISTING ROADWAY
- 

WORK DONE THIS STAGE
- 

TEMPORARY PAVEMENT
- 

PLASTIC DRUM, HIGH INTENSITY
- 

TEMPORARY SIGN
- 

BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
- 

LIGHTED ARROW, TYPE C

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SOLID YELLOW, 6 INCH
- *SB

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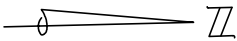
- PRIOR TO FULLY OPENING THE ROUNDABOUT THE FOLLOWING ITEMS MUST BE COMPLETED
USING THE STAGE 2B MAINTENANCE OF TRAFFIC PLAN AND FLAG CONTROL AS DIRECTED BY
THE ENGINEER:
- PLACE HMA WEARING COURSE
 - PLACE PERMANENT PAVEMENT MARKINGS AND SIGNS
 - STREET LIGHT INSTALLATION

| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
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GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
MAINTAINING TRAFFIC PLAN STAGE 2B

DRAWING PATH: P:\7301_7400\737\20010_GTCRC E-W_Corridor_Roundabouts\Drawings\Civil\Stage4 Mile Hammond\20010USTG2B.dwg Mar 30, 2021 - 10:36pm

4 MILE RD

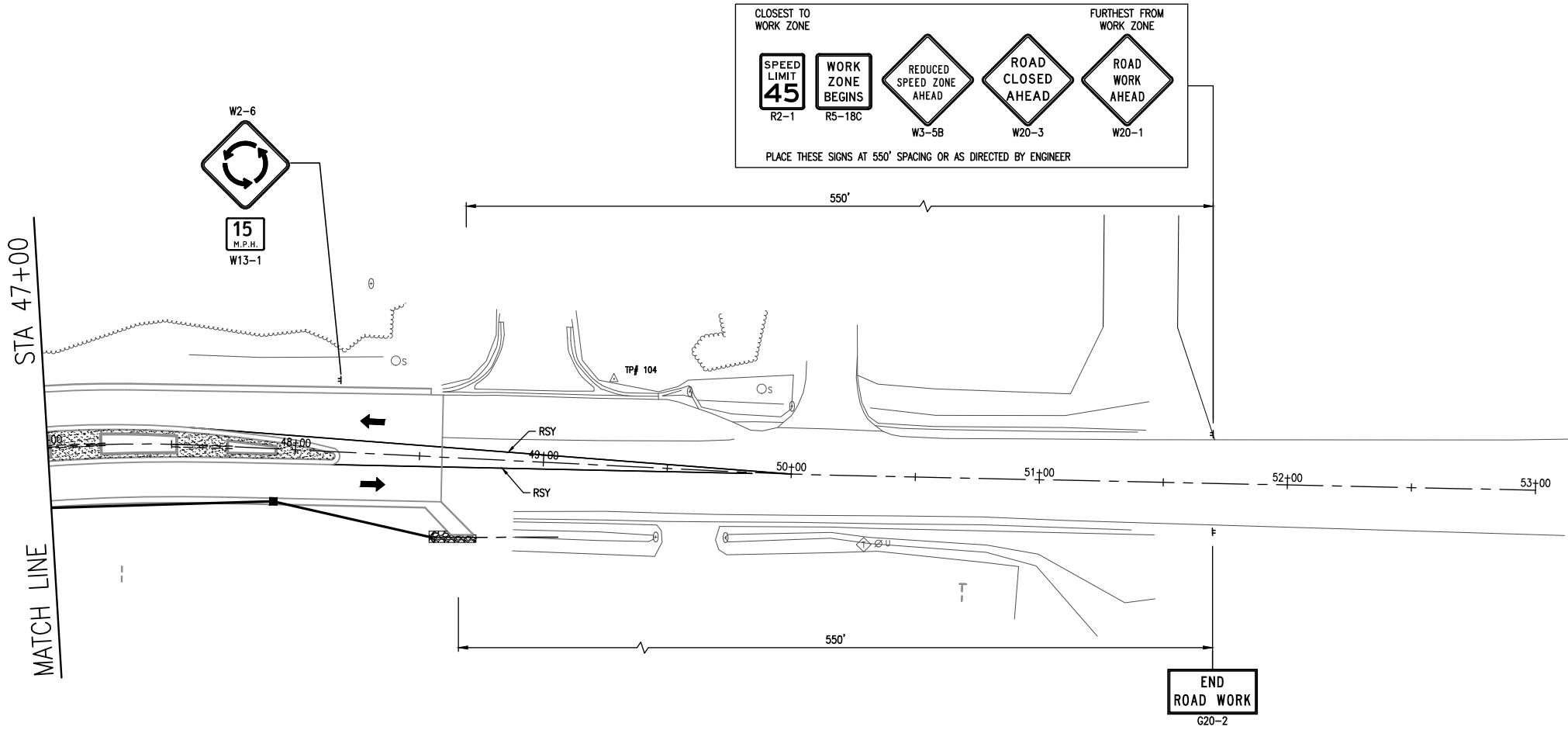





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
LEGEND


- 


EXISTING ROADWAY
- 

WORK DONE THIS STAGE
- 

TEMPORARY PAVEMENT
- 

PLASTIC DRUM, HIGH INTENSITY
- 

TEMPORARY SIGN
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BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED
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LIGHTED ARROW, TYPE C

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STAGE 2C (NOT SHOWN)

PRIOR TO FULLY OPENING TO TRAFFIC THE CONTRACTOR SHALL COMPLETE ALL REMAINING WORK ITEMS INCLUDING
(BUT NOT LIMITED TO):
PAVE THE HMA WEARING COURSE AT ALL LOCATIONS, PLACE PERMANENT SIGNING AND PAVEMENT MARKINGS,
INSTALL STREETLIGHTS, INSTALL IRRIGATION, INSTALL PLANTING AND COMPLETE ALL RESTORATION.

THE CONTRACTOR SHALL USE THE SAME TRAFFIC CONTROL PLAN AS STAGE 2B. USE FLAG CONTROL AS A
SUPPLEMENT TO THE TRAFFIC CONTROL FOR STAGE 2B, AS NECESSARY AND AS DIRECTED BY THE ENGINEER.

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GRAND TRAVERSE COUNTY ROAD COMMISSION
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MAINTAINING TRAFFIC PLAN STAGE 2B

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GENERAL NOTES

1.

ALL SOIL EROSION AND SEDIMENTATION CONTROL (SESC) ITEMS SHALL BE IN ACCORDANCE WITH MDOT 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE MDOT SOIL EROSION AND SEDIMENTATION CONTROL MANUAL. IN ADDITION, THE CONTRACTOR SHALL FOLLOW ANY LOCAL SESC RULES AND REGULATIONS, ALONG WITH RCOC'S NOTICE TO BIDDERS, CONTRACTOR MATERIAL DISPOSAL NOTICE AND FORM FOR ALL MATERIALS THAT ARE DISPOSED OF OFF THE PROJECT SITE.
2.

SEDIMENTATION FROM EROSIONS OF THE WORK SITE SHALL BE CONTAINED ON SITE AND NOT ALLOWED TO COLLECT IN ANY ADJACENT AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS AND WETLANDS. THE CONTRACTOR SHALL CONDUCT WORK IN A MANNER SUCH THAT ALL SOIL, FUELS, OILS, BITUMINOUS MATERIALS, CHEMICALS, SANITARY SEWAGE, AND OTHER HARMFUL MATERIALS, RESULTING FROM THE CONSTRUCTION OF THE PROJECT, ARE CONFINED WITHIN PROJECT LIMITS AND PREVENTED FROM ENTERING WATERCOURSES, RIVERS, LAKES, RESERVOIRS, OR GROUND WATER.
3.

STAGE THE WORK AS SHOWN IN PLANS OR DIRECTED BY THE ENGINEER TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED EARTH. THE CONTRACTOR SHALL PRESERVE NATURAL VEGETATION AS MUCH AS POSSIBLE AND CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO MINIMIZE THE AREAS LEFT BARREN DURING CONSTRUCTION. THE CONTRACTOR WILL ONLY BE ALLOWED TO DISTURB ONLY THOSE AREAS ABSOLUTELY REQUIRED FOR THE CONSTRUCTION OF THE PROJECT THAT ARE WITHIN THE GRADING LIMITS. AREAS OUT SIDE THE GRADING LIMITS MUST BE RESTORED AND WILL NOT BE PAID FOR SEPARATELY.
4.

THE CONTRACTOR SHALL INSPECT SESC MEASURES DAILY TO ENSURE THEIR EFFECTIVENESS AND WHEN NECESSARY, IMMEDIATELY REPAIR OR INSTALL ADDITIONAL CONTROLS. THE CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED IN CULVERTS AND SUMPS OF ALL DRAINAGE STRUCTURES CONSTRUCTED WITH THE PROJECT WHEN SUCH SEDIMENT EXCEEDS HALF OF THE SUMP DEPTH OR CULVERT DIAMETER. THE ENGINEER WILL INSPECT CULVERTS, SUMPS, AND ALL SESC ITEMS AFTER STORMS AND DIRECT THE CONTRACTOR TO CLEANOUT CULVERTS, SUMPS, AND ALL SESC ITEMS. CLEARING CULVERTS AND SUMPS FOR SEDIMENTATION CONTROL IS CONSIDERED MAINTENANCE AND WILL NOT BE PAID FOR SEPARATELY.
5.

ALL TEMPORARY SESC DEVICES SHALL BE PERIODICALLY MAINTAINED AND CLEANED OF ALL ACCUMULATED SEDIMENT TO ENSURE THEY REMAIN OPERATIONAL UNTIL ALL DISRUPTED AREAS ARE PERMANENTLY STABILIZED, AT WHICH TIME, THEY SHALL BE REMOVED.
6.

PERMANENT SESC MEASURES FOR ANY DISTURBED AREA SHALL BE COMPLETED WITHIN FIVE DAYS AFTER FINAL GRADING OF THE SECTION OR ANY PORTION THEREOF. THE CONTRACTOR WILL MAINTAIN AND REPAIR PERMANENT RESTORATION ITEMS UNTIL FINAL ROAD ACCEPTANCE.
7.

ALL AREAS TEMPORARILY STABILIZED DURING THE NON-GROWING SEASON SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING THE COMMENCEMENT OF THE NEXT PLANTING SEASON. ALL STRAW OR HAY MULCH SHALL BE REMOVED OR DEEPLY INCORPORATED INTO THE SOIL BEFORE PROVIDING PERMANENT STABILIZATION. DORMANT SEEDING IS ALSO RECOMMENDED FOR EARLY SPRING GROWTH.
8.

IN ADDITION TO SESC MEASURES, CONSTRUCT BARRIERS TO PROTECT CRITICAL EROSION AREAS AND TO PREVENT UNWANTED ACCESS BY VEHICLES, EQUIPMENT, AND PEDESTRIANS. POTENTIAL AREAS THAT MAY NEED BARRIERS ARE HIGHLY ERODIBLE AREAS SUCH AS, TREE CANOPIES, SEDIMENT AND RETENTION PONDS, COFFERDAMS, BARREN LAND, AND SLOPES GRATER THAN 1:3.
9.

IF RUNOFF OCCURS FROM SOIL STOCKPILES, SEDIMENT CONTROL FENCING WILL BE PLACED AT THE BASE OF THE STOCKPILE TO RETAIN SOIL, OR AS DIRECTED BY THE ENGINEER.
10.

MINIMIZE DUST AND THE TRACKING OF LOOSE MATERIALS FROM THE CONSTRUCTION WORK SITE ONTO PUBLIC ROADWAYS AND INTO THE WATERS OF THE STATE. ANY MATERIALS TRACKED ONTO PUBLIC ROADWAYS SHALL BE REMOVED AS SOON AS POSSIBLE AS FOLLOWED AND PAID FOR IN THE PAVEMENT CLEANING SPECIAL PROVISION.
11.

CONSTRUCT CHECK DAMS IN DITCHES IMMEDIATELY AFTER DITCHING, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL MAINTAIN THE CHECK DAMS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING THE TOTAL REMOVAL AND DISPOSAL OF COLLECTED SEDIMENT UPON COMPLETION OF THE PROJECT. REMOVE CHECK DAM AFTER PERMANENT VEGETATION IS ESTABLISHED.
12.

FOR FINAL PROJECT ACCEPTANCE AND SECS PERMIT CLOSING, THE REMOVAL OF TEMPORARY SESC MEASURES, CONSTRUCTION OF PERMANENT SESC MEASURES, AND 90 PERCENT VEGETATIVE GROWTH ON DISTURBED AREAS ARE REQUIRED. IN ADDITION, PAVEMENT, DITCHES, GUTTERS, CATCH BASINS, AND STORM SEWERS MUST BE FREE OF ACCUMULATED SEDIMENT.
13.

TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC IS THE RESPONSIBILITY OF THE CONTRACTOR AS SPECIFIED IN THE SPECIAL PROVISION. ALL AREAS DISTURBED BY THE CONTRACTOR AND SUBCONTRACTORS BEYOND THE SLOPE STAKE LINE (SSL) SHALL BE RESTORED. NO ADDITIONAL PAYMENT OR COMPENSATION WILL BE MADE FOR THIS ACTIVITY.
14.

MEASUREMENT AND PAYMENT:

A. PAYMENT FOR THE SESC ITEMS WILL INCLUDE FURNISHING, PLACING, MAINTAINING AND REMOVING THESE ITEMS AS REQUIRED, IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS OR AS SPECIFIED. MAINTENANCE OR REMOVAL OF THE TEMPORARY SESC ITEMS WILL NOT BE PAID FOR SEPARATELY.

B. REMOVAL AND DISPOSAL OF ACCUMULATED SEDIMENT OR DEBRIS WILL NOT BE PAID FOR SEPARATELY.

STANDARDS:

1.

SOIL EROSION CONTROL MEASURES WILL BE ESTABLISHED IN EARLY STAGE OF CONSTRUCTION BY THE CONTRACTOR. SEDIMENT CONTROL PRACTICES WILL BE APPLIED TO PREVENT ANY TRANSPORTING OF SOIL OFF THE SITE.
2.

EROSION AND ANY SEDIMENTATION FROM WORK ON THIS PROJECT SHALL BE CONTAINED AND SHALL NOT BE ALLOWED TO COLLECT IN ANY ADJACENT AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS AND WETLANDS.
3.

STAGING THE WORK WILL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLANS, AND AS REQUIRED TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED EARTH.
4.

DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES, AND WHEN NECESSARY, REPAIRS SHALL BE PERFORMED AND/OR ADDITIONAL MEASURES SHALL BE TAKEN WITHOUT DELAYS.
5.

ALL TEMPORARY EROSION CONTROL DEVICES (PER DETAIL) SHALL BE PERIODICALLY MAINTAINED AND CLEANED OF ALL ACCUMULATED SEDIMENT TO ENSURE THEY REMAIN OPERATIONAL UNTIL ALL CONTRIBUTING DISRUPTED AREAS ARE PERMANENTLY STABILIZED, AT WHICH TIME, THEY SHALL BE REMOVED.
6.

PERMANENT SOIL EROSION CONTROL MEASURES FOR ANY DISTURBED AREA SHALL BE COMPLETED WITHIN 5 CALENDAR DAYS AFTER FINAL GRADING OF THE SECTION OR ANY PORTION THEREOF. TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED WITHIN 3 DAYS FOLLOWING COMPLETION OF GRADING, DITCHING OR INSTALLATION OF DRAINAGE STRUCTURES OR LEACHING BASINS. ALL TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
7.

ALL AREAS TEMPORARILY STABILIZED DURING THE NON-GROWING SEASON SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING THE COMMENCEMENT OF THE NEXT PLANTING SEASON. ALL STRAW OR HAY MULCH SHALL BE REMOVED OR DEEPLY INCORPORATED INTO THE SOIL BEFORE PROVIDING PERMANENT STABILIZATION. DORMANT SEEDING IS ALSO RECOMMENDED FOR EARLY SPRING GROWTH.
8.

THE CONTRACTOR SHALL PRESERVE NATURAL VEGETATION AS MUCH AS POSSIBLE.
9.

CONSTRUCTION BARRIERS WILL BE USED TO PROTECT CRITICAL EROSION AREAS AND TO PREVENT UNWANTED ACCESS BY VEHICLES, EQUIPMENT AND PEOPLE. AREAS THAT MAY NEED BARRIERS ARE HIGHLY ERODIBLE AREAS; TREES, SEDIMENT AND RETENTION PONDS, AND COFFERDAMS.
10.

IF RUNOFF CAN OCCUR FROM SOIL STOCK PILES, SEDIMENT CONTROL FENCING WILL BE PLACED AT THE BASE OF THE STOCK PILE TO RETAIN SOIL.
11.

THE CONTRACTOR SHALL CONDUCT WORK IN A MANNER SUCH THAT ALL SOIL, FUELS, OILS, BITUMINOUS MATERIALS, CHEMICALS, SANITARY SEWAGE, AND OTHER HARMFUL MATERIALS, RESULTING FROM THE CONSTRUCTION OF THE PROJECT, ARE CONFINED WITHIN PROJECT LIMITS AND PREVENTED FROM ENTERING WATERCOURSES, RIVERS, LAKES, RESERVOIRS, OR GROUND WATER.
12.

PAYMENT FOR THE SOIL EROSION AND SEDIMENTATION CONTROL ITEMS WILL INCLUDE, FURNISHING, PLACING, MAINTAINING AND REMOVING THESE ITEMS AS REQUIRED, IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS OR AS SPECIFIED.

TURF ESTABLISHMENT:

1.

TOPSOIL SHALL BE FROM OFFSITE TOPSOIL SCREENING PLANT AND BE LOOSE AND BLACK IN COLOR. THE MATERIAL SHALL BE FREE FROM SOD STONES OR ROCKS GREATER THAN 0.25 INCHES, ROOTS, PLANTS, CLAY LUMPS, WEED STALKS, CLODS, DEBRIS, OR OTHER CONTAMINANTS AS DETERMINED BY THE ENGINEER. SEE TURF ESTABLISHMENT, PERFORMANCE, GTCRC SPECIAL PROVISION FOR ADDITIONAL REQUIREMENTS.
2.

PROVIDE AND APPLY WATER TO TURF ESTABLISHMENT AREAS AT THE REQUIRED RATES AS SPECIFIED IN SECTION 816.03.1 OF THE 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION. WATER REQUIRED FOR ESTABLISHING TURF SHALL BE INCLUDED IN THE COST OF TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC (SYD). WATER REQUIRED FOR COMPACTION SHALL BE INCLUDED IN THE COST OF EARTHWORK PAY ITEMS.
3.

TURF ESTABLISHMENT ITEMS SHALL BE PLACED ADJACENT TO SHOULDERS AT A DEPTH BELOW THE EDGE OF PAVEMENT TO ALLOW ROADWAY SURFACE WATER TO UNIFORMLY SHEET FLOW TO DITCHES.
4.

ALL AREAS DISTURBED BY THE CONTRACTOR AND SUBCONTRACTORS BEYOND THE SLOPE STAKE LINE (SSL) (I.E. THE GRADING LIMIT LINE) SHALL BE SODDED OR SEEDDED AS SPECIFIED OR DIRECTED BY THE ENGINEER. NO ADDITIONAL PAYMENT OR COMPENSATION WILL BE MADE FOR THIS ACTIVITY.

SEQUENCE OF CONSTRUCTION FOR SOIL EROSION AND SEDIMENTATION CONTROL:

1.

REMOVE TREES AND CLEAR PRIOR TO INSTALLING SOIL EROSION AND SEDIMENTATION CONTROL (SESC) ITEMS.
2.

INSTALL TEMPORARY SESC ITEMS.
3.

PRIOR TO GRUBBING, STRIPING TOP SURFACE, OR EARTH EXCAVATION, ALL SOIL EROSION AND SEDIMENT CONTROL ITEMS MUST BE IN PLACES AS SHOWN ON THE PLANS. ACTUAL CONSTRUCTION MAY VARY TO REFLECT MATERIALS USED AND TO CONTROL SITE PROBLEMS, SUBJECT TO THE APPROVAL OF THE ENGINEER.
4.

EXCAVATE OR GRADE SITE WHILE MAINTAINING SOIL EROSION AND SEDIMENT CONTROL ITEMS. COLLECTED SILT AND SEDIMENT SHALL BE REMOVED PERIODICALLY, AND WITHIN 24 HOURS AFTER RAIN EVENTS, TO MAINTAIN THE EFFECTIVENESS OF THE CONTROL MEASURES.
5.

INSTALL STORM SEWER AND ASSOCIATED TEMPORARY AND PERMANENT SESC ITEMS.
6.

CONSTRUCT PAVEMENT.
7.

CLEAR ALL ACCUMULATED SEDIMENT FROM SEWERS, CATCH BASINS AND PAVEMENT AREAS WITH FREQUENCY. INCLUDED IN EROSION CONTROL PAY ITEMS, AS DIRECTED BY ENGINEER.
8.

RESTORE ALL DISTURBED AREAS MAXIMUM 5 DAYS AFTER FINAL GRADING WITH MULCH BLANKET. 3" TOPSOIL AND CLASS A SOD OR CLASS A SEEDING AS CALLED FOR IN THE PLANS.
9.

REMOVE TEMPORARY SOIL EROSION AND SEDIMENT CONTROL ITEMS AFTER PERMANENT VEGETATION IS ESTABLISHED.
10.

CONTINUE TO MAINTAIN AND REPAIR PERMANENT RESTORATION ITEMS AS NECESSARY OR DIRECTED BY THE ENGINEER. UNTIL FULLY ESTABLISHED. INCLUDED IN PERMANENT RESTORATION PAY ITEMS.
11.

VACUUM, SWEEPING AND PROJECT CLEAN UP AS DIRECTED BY THE ENGINEER, INCLUDED IN OTHER ITEMS OF WORK AS PER RCOC SPECIAL PROVISIONS IN THE PROPOSAL.

| GTCRC QUANTITIES THIS SHEET | | |
|-----------------------------|------|---|
| TOTAL | UNIT | DESCRIPTION |
| 17 | Ea | Erosion Control, Inlet Protection, Fabric Drop |
| 2 | Ea | Erosion Control, Inlet Protection, Geotextile and Stone |
| 1287 | Ft | Erosion Control, Silt Fence |
| 32 | Syd | Riprap, Plain |
| 5661 | Syd | Turf Establishment, THM Seed, Regular Mulch, Performance, GTCRC |

LEGEND

- 3

- TURF ESTABLISHMENT, THM SEED, REGULAR MULCH, PERFORMANCE, GTCRC
- 7

- RIPRAP, PLAIN
- 26

- EROSION CONTROL, SILT FENCE
- 29

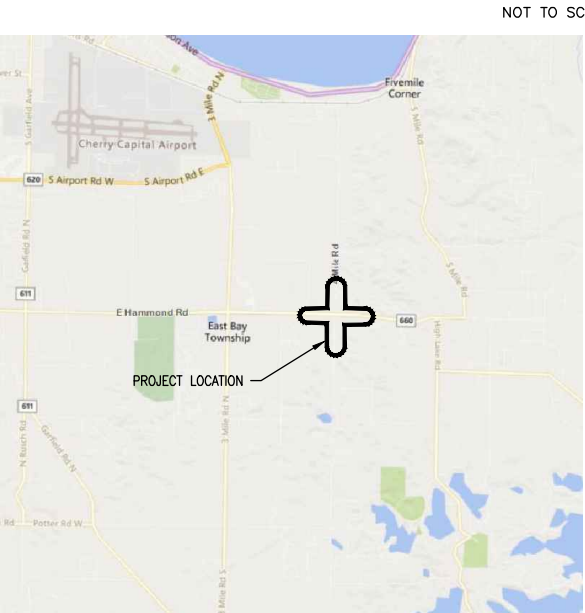
- EROSION CONTROL, INLET PROTECTION, FABRIC DROP
- 30

- EROSION CONTROL, INLET PROTECTION, GEOTEXTILE AND STONE
- L.P.

- LOW POINT IN ROAD PROFILE
- H.P.

- HIGH POINT IN ROAD PROFILE
- #

- PROPOSED DRAINAGE STRUCTURE #



NOT TO SCALE



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| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
| 3/30/2021 | 737-204-010 | BA | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' | LOCAL | NAVD83 |

GRAND TRAVERSE COUNTY ROAD COMMISSION

4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

SOIL EROSION & SEDIMENT CONTROL

SHEET

57

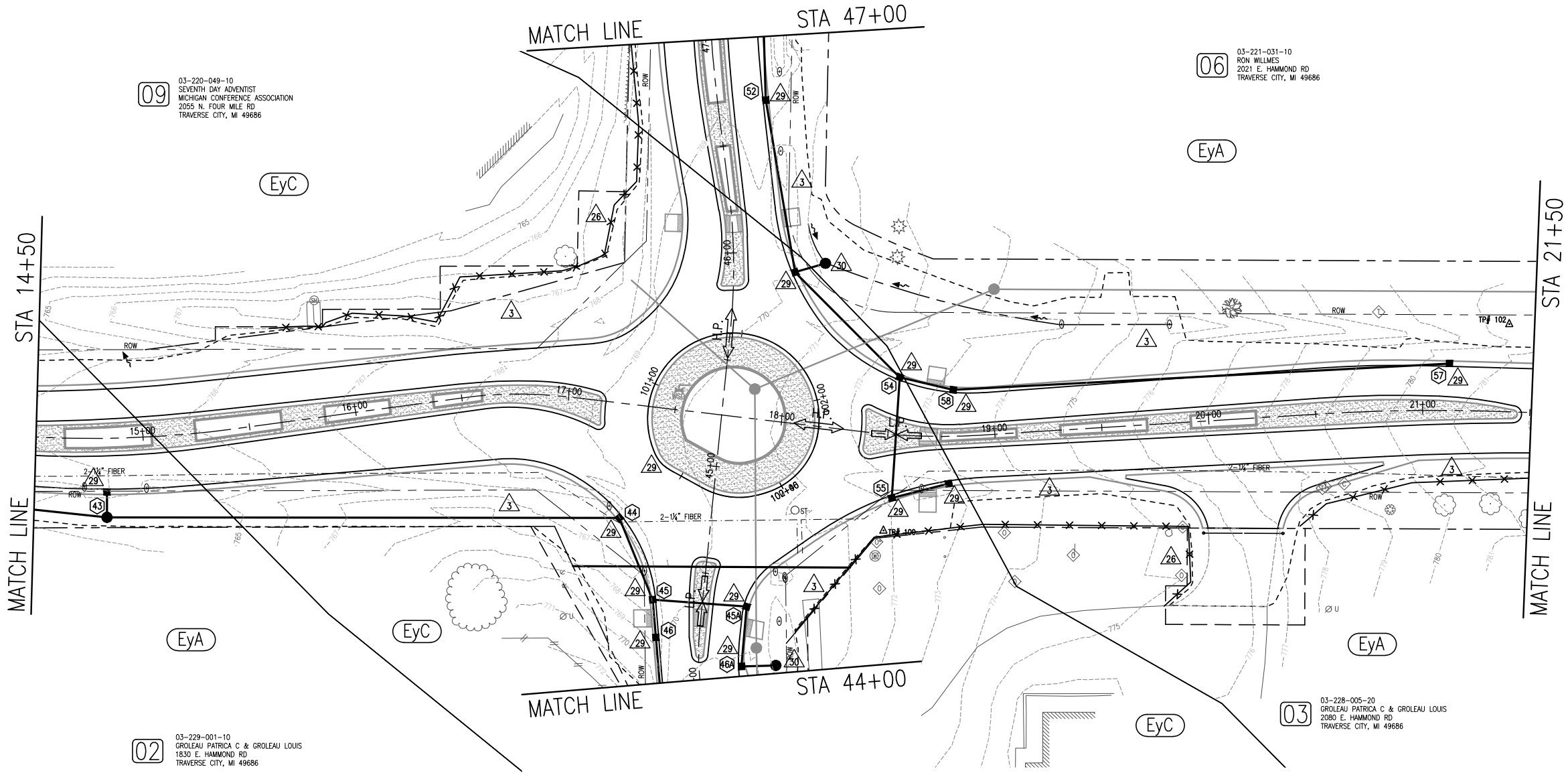
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HAMMOND RD

4 MILE RD



09 03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

06 03-221-031-10
RON WILLMES
2021 E. HAMMOND RD
TRAVERSE CITY, MI 49686

02 03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

03 03-228-005-20
GROLEAU PATRICA C & GROLEAU LOUIS
2080 E. HAMMOND RD
TRAVERSE CITY, MI 49686

LEGEND
SOIL SURVEY - PER GIS MAPS

- EyA EMMET SANDY LOAM, 0 TO 2 PERCENT SLOPES
EyC EMMET SANDY LOAM, 6 TO 12 PERCENT SLOPES



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HORIZ DATUM

SCALE

CITY/TOWNSHIP

COUNTY

CADD

PROJ/MGR

ENG

DATE

PROJ NUMBER

DATE

DATE

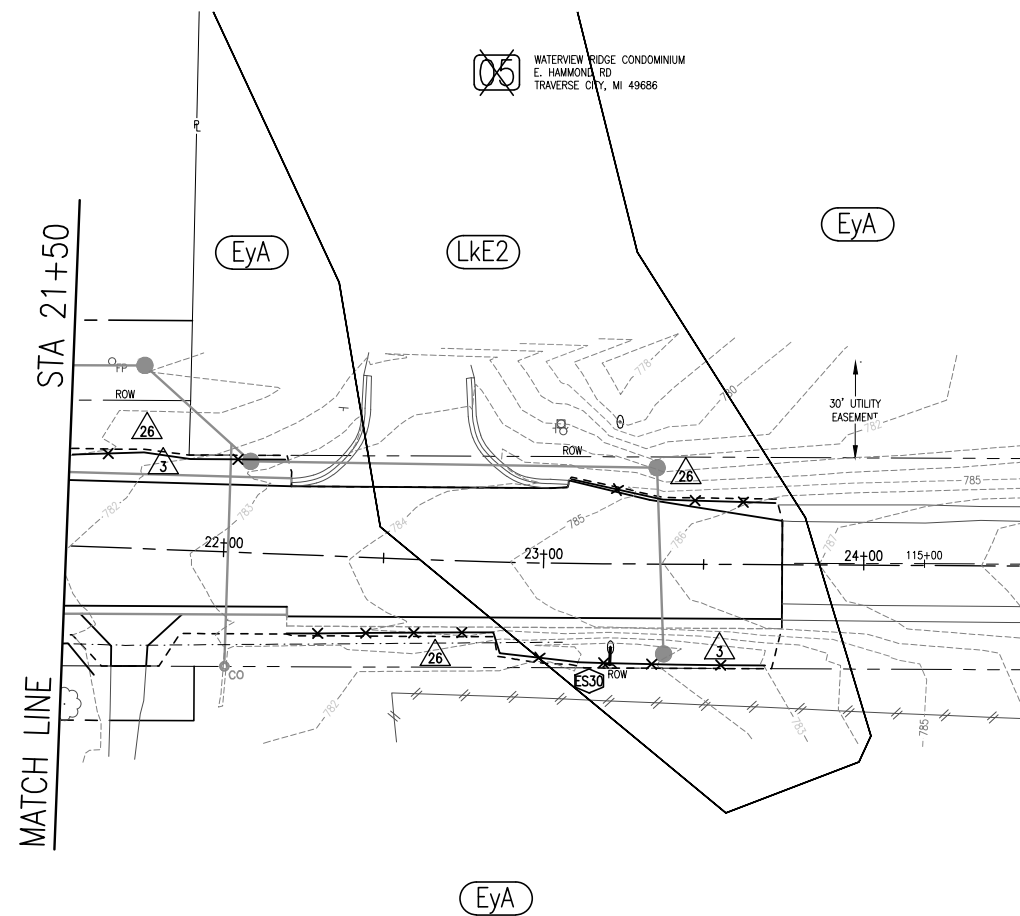
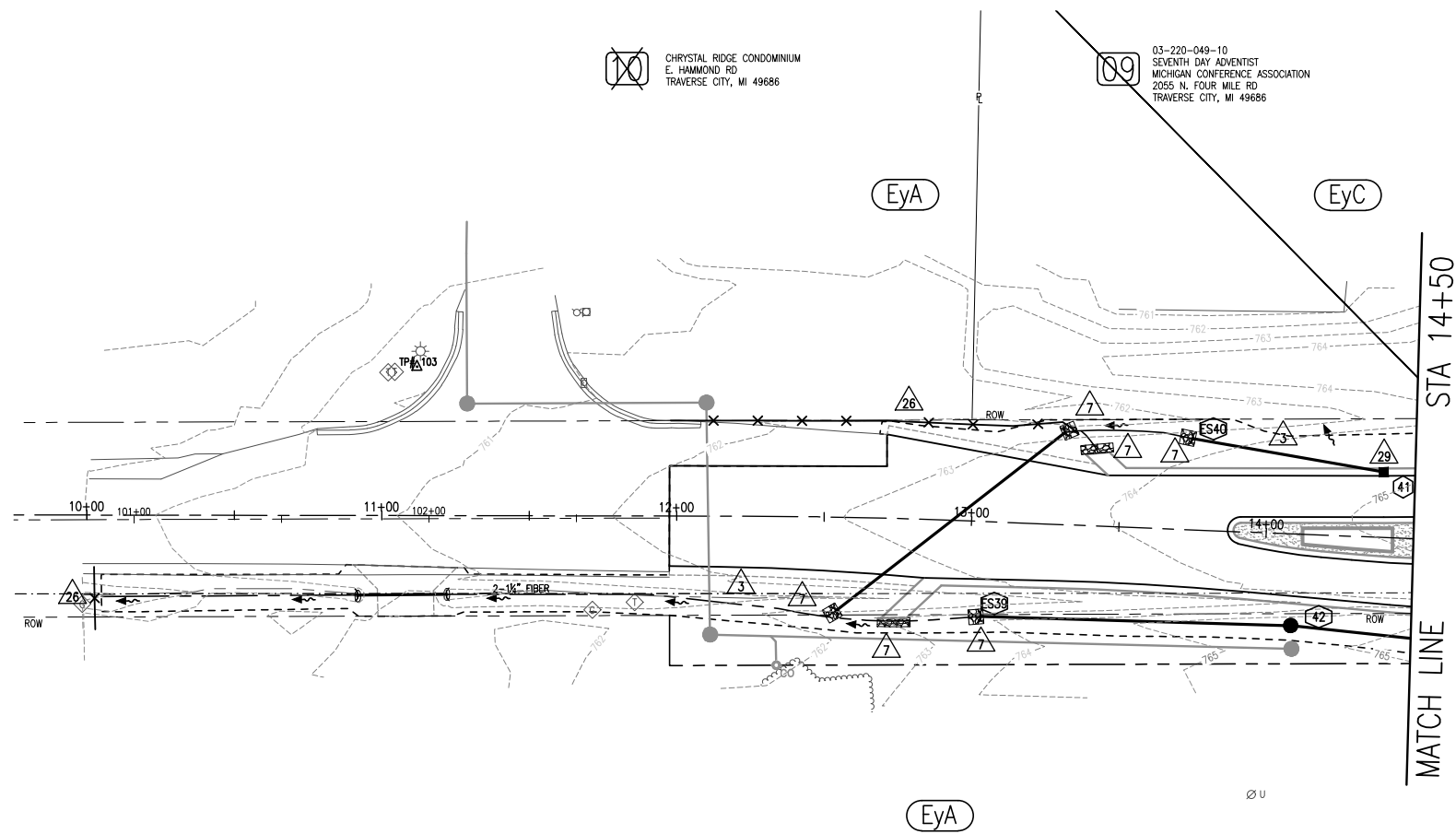
DATE

DATE

DATE

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
SOIL EROSION & SEDIMENT CONTROL

HAMMOND RD



LEGEND

SOIL SURVEY – PER GIS MAPS

- | | |
|--------|--|
| (EyA) | EMMET SANDY LOAM, 0 TO 2 PERCENT SLOPES |
| (EyC) | EMMET SANDY LOAM, 6 TO 12 PERCENT SLOPES |
| (LkE2) | LEELANAU-KALKASKA LOAMY SANDS, 18 TO 25 PERCENT SLOPES, MODERATELY ERODED |

DRAWING PATH: P:\7301_7400\73720010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Misc4 Mile Hammond\20010SESC.dwg Mar 30, 2021 10:37pm

4 MILE RD

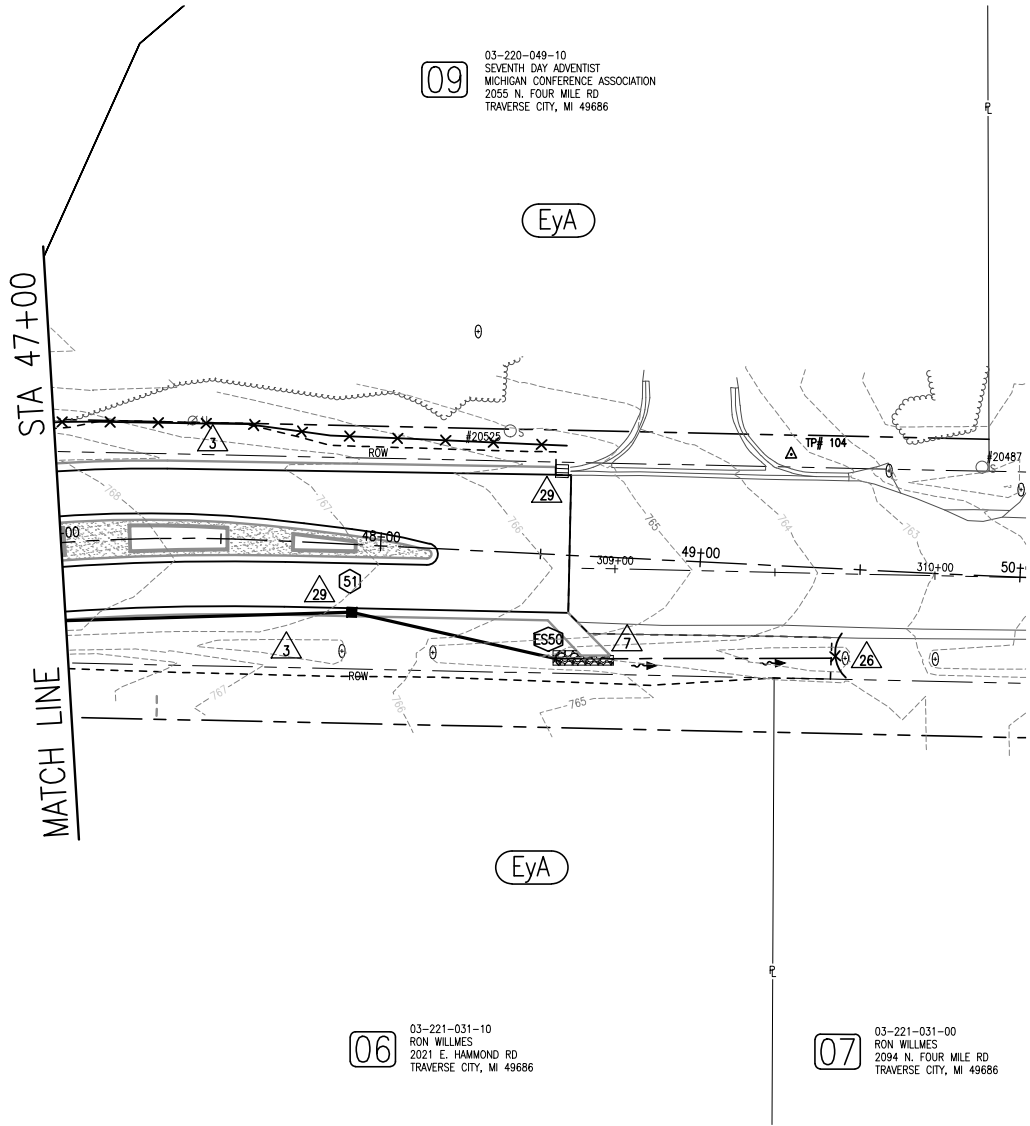
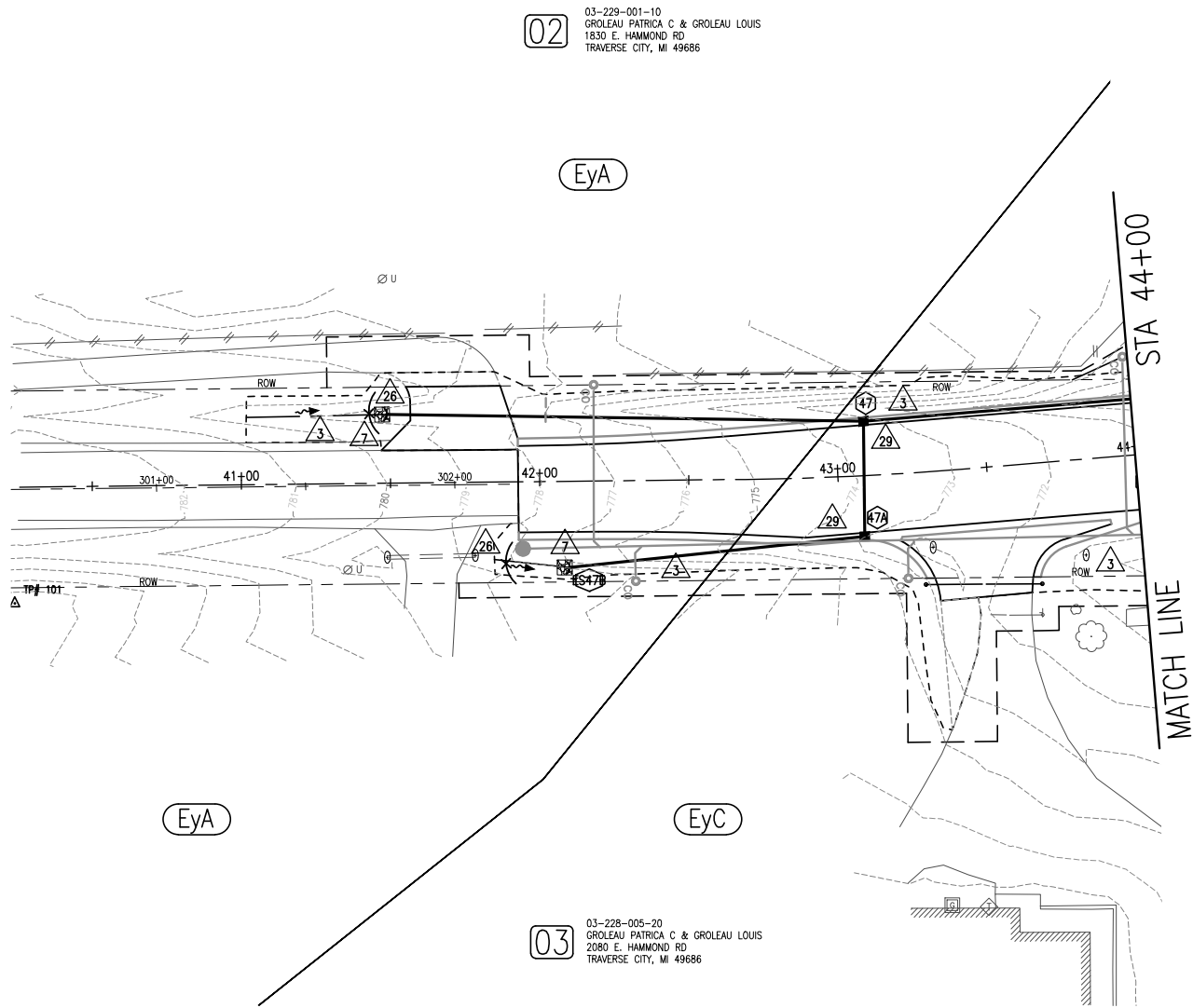




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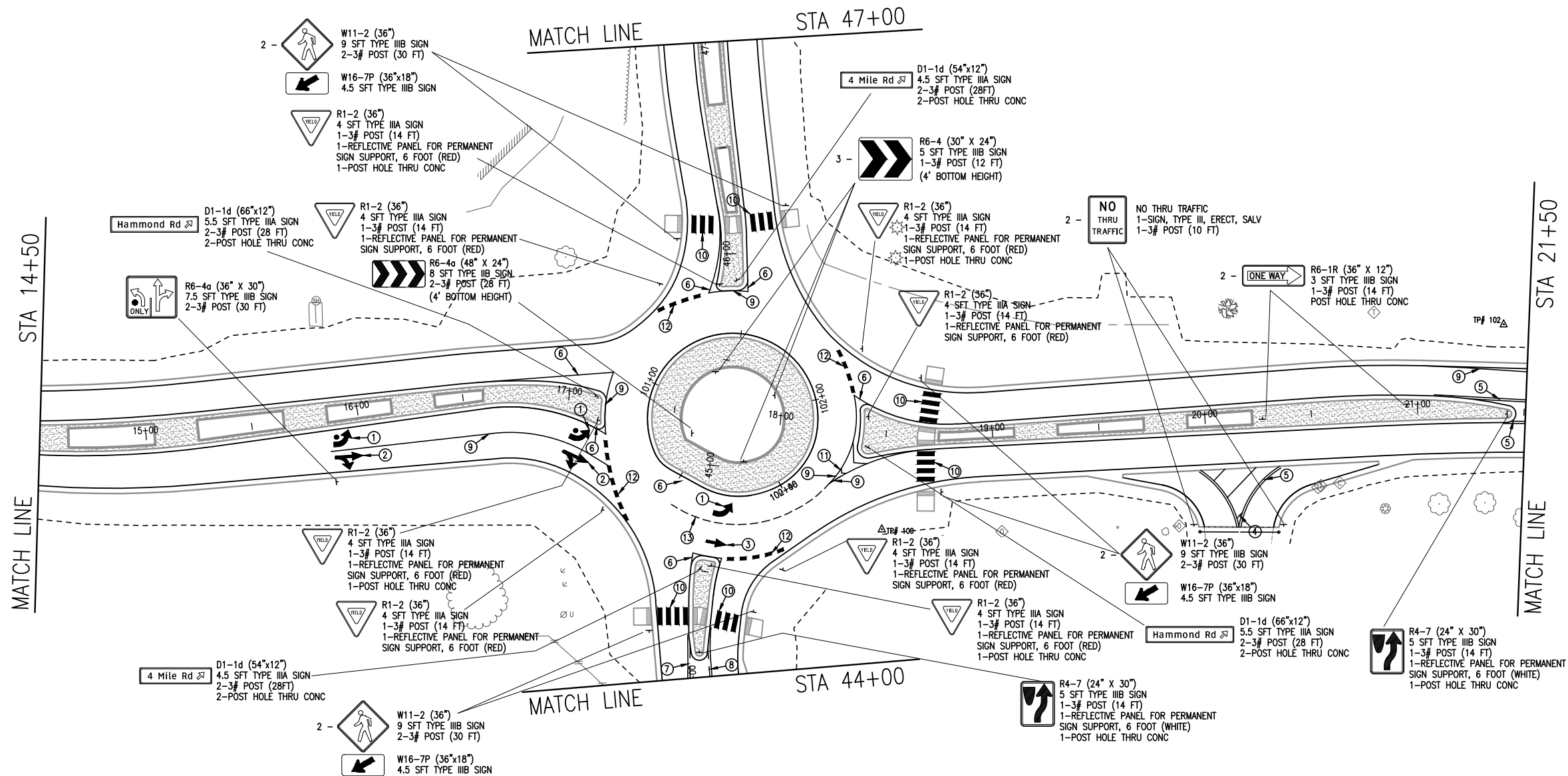
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- LEGEND
- SOIL SURVEY - PER GIS MAPS
- EyA EMMET SANDY LOAM, 0 TO 2 PERCENT SLOPES
 - EyC EMMET SANDY LOAM, 6 TO 12 PERCENT SLOPES

| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----------|------|----------------|-----------------------|-----------------|-------------|------------|
| 3/30/2021 | 737-204070 | BA | JK | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' V: 1" | LOCAL | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
SOIL EROSION & SEDIMENT CONTROL



- ① PAWT MARKS, COLD PLASTIC, LEFT-TURN ARROW SYMBOL
(RECESS PAVEMENT MARKING)
- ② PAWT MARKS, COLD PLASTIC, THRU-RIGHT ARROW SYMBOL
(RECESS PAVEMENT MARKING)
- ③ PAWT MARKS, COLD PLASTIC, THRU ARROW SYMBOL
(RECESS PAVEMENT MARKING)
- ④ PAWT MARKS, COLD PLASTIC, 12 INCH, CROSS HATCHING, YELLOW
HATCHING TO BE SPACED AT 10"
- ⑤ PAWT MARKS, SPRAYABLE THERMOPLASTIC, 4 INCH, YELLOW
DOUBLE SOLID LINES, 1" CENTER TO CENTER
- ⑥ PAWT MARKS, SPRAYABLE THERMOPLASTIC, 6 INCH, YELLOW
- ⑦ PAWT MARKS, SPRAYABLE THERMOPLASTIC, 4 INCH, YELLOW
SOLID LINE WITH DASHED LINE ON RIGHT SIDE, 1" CENTER TO CENTER
DASHES TO BE 12.5" LONG WITH 37.5" GAP
- ⑧ PAWT MARKS, SPRAYABLE THERMOPLASTIC, 4 INCH, YELLOW
SOLID LINE WITH DASHED LINE ON LEFT SIDE, 1" CENTER TO CENTER
DASHES TO BE 12.5" LONG WITH 37.5" GAP
- ⑨ PAWT MARKS, SPRAYABLE THERMOPLASTIC, 8 INCH, WHITE
(RECESS PAVEMENT MARKING, 18" ROUNDABOUT AND LEAD-IN)
- ⑩ PAWT MARKS, COLD PLASTIC, 12 INCH, CROSSHATCH LINE
- ⑪ PAWT MARKS, COLD PLASTIC, 12 INCH, CROSS HATCHING, WHITE
HATCHING TO BE SPACED AT 10"
- ⑫ PAWT MARKS, COLD PLASTIC, 24 INCH, STOP BAR
DASHED, DASHES TO BE 12" LONG WITH 3" GAP
(RECESS PAVEMENT MARKING)
- ⑬ PAWT MARKS, SPRAYABLE THERMOPLASTIC, 4 INCH, WHITE
DASHED, DASHES TO BE 12" LONG WITH 6" GAP
(RECESS PAVEMENT MARKING)

| PERMANENT SIGNING AND MARKING QTY'S | | |
|-------------------------------------|------|---|
| TOTAL | UNIT | DESCRIPTION |
| 17 | Ea | Post Hole Through Conc for Steel Post |
| 608 | Ft | Post, Steel, 3 lb |
| 6 | Ea | Sign, Type III, Erect, Salv |
| 5 | Ea | Sign, Type III, Rem |
| 52 | Sft | Sign, Type IIIA |
| 196 | Sft | Sign, Type IIIB |
| 12 | Ea | Reflective Panel for Permanent Sign Support, 6 foot |
| 6 | Ea | Post, Flexible, Delineator, GTCRC |
| 26 | Ft | Pavt Mrkg, Only Cold Plastic, 12 inch, Cross Hatching, White |
| 162 | Ft | Pavt Mrkg, Only Cold Plastic, 12 inch, Cross Hatching, Yellow |
| 168 | Ft | Pavt Mrkg, Only Cold Plastic, 12 inch, Crosswalk |
| 60 | Ft | Pavt Mrkg, Only Cold Plastic, 24 inch, Stop Bar |
| 3 | Ea | Pavt Mrkg, Only Cold Plastic, Lt Turn Arrow Sym |
| 2 | Ea | Pavt Mrkg, Only Cold Plastic, Thru and Rt Turn Arrow Sym |
| 1 | Ea | Pavt Mrkg, Only Cold Plastic, Thru Arrow Sym |
| 55 | Ft | Pavt Mrkg, Sprayable Thermopl, 4 inch, White |
| 3285 | Ft | Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow |
| 1760 | Ft | Pavt Mrkg, Sprayable Thermopl, 6 inch, White |
| 401 | Ft | Pavt Mrkg, Sprayable Thermopl, 6 inch, Yellow |
| 373 | Ft | Recessing Pavt Mrkg, Longit |
| 277 | Sft | Recessing Pavt Mrkg, Transv |

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HAMMOND RD

WEST LEG

EAST LEG



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CITY/VILLAGE/TOWNSHIP

EAST BAY TOWNSHIP

SCALE

H: 1"=30'

V:

VERT DATUM

NAVOD8

HORIZ DATUM

LOCAL

62

OF 84

GRAND TRAVERSE COUNTY ROAD COMMISSION

4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

PERMANENT MARKING AND SIGNING PLAN

LEGEND

1

PAVT MRKG, COLD PLASTIC, LEFT-TURN ARROW SYMBOL
(NECESS PAVEMENT MARKING)

2

PAVT MRKG, COLD PLASTIC, THRU-RIGHT ARROW SYMBOL
(NECESS PAVEMENT MARKING)

3

PAVT MRKG, COLD PLASTIC, THRU ARROW SYMBOL
(NECESS PAVEMENT MARKING)

4

PAVT MRKG, COLD PLASTIC, 12 INCH, CROSS HATCHING, YELLOW
HATCHING TO BE SPACED AT 20'

5

PAVT MRKG, SPRAYABLE THERMOPL, 4 INCH, YELLOW
DOUBLE SOLID LINES, 1' CENTER TO CENTER

6

PAVT MRKG, SPRAYABLE THERMOPL, 6 INCH, YELLOW
SOLID LINE WITH DASHED LINE ON RIGHT SIDE, 1' CENTER TO CENTER
DASHES TO BE 12.5' LONG WITH 37.5' GAP

7

PAVT MRKG, SPRAYABLE THERMOPL, 4 INCH, YELLOW
SOLID LINE WITH DASHED LINE ON LEFT SIDE, 1' CENTER TO CENTER
DASHES TO BE 12.5' LONG WITH 37.5' GAP

8

PAVT MRKG, SPRAYABLE THERMOPL, 6 INCH, WHITE
(NECESS PAVEMENT MARKING IN ROUNDABOUT AND LEAD-IN)

9

PAVT MRKG, COLD PLASTIC, 12 INCH, CROSSWALK LINE

10

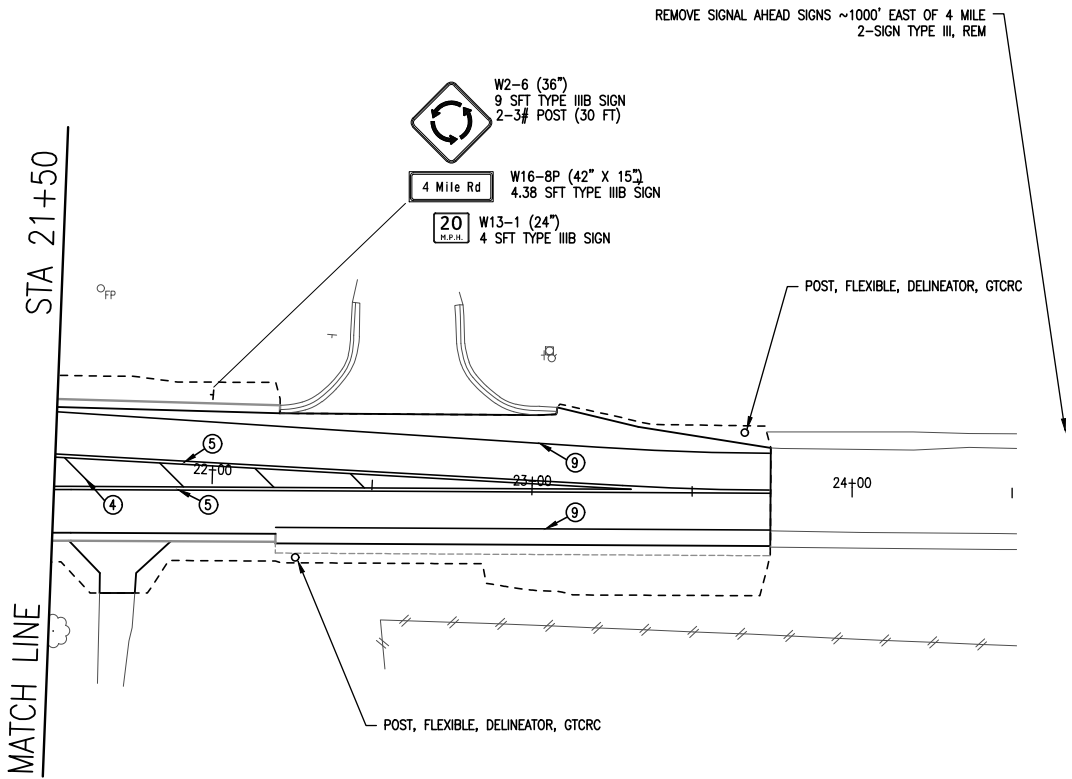
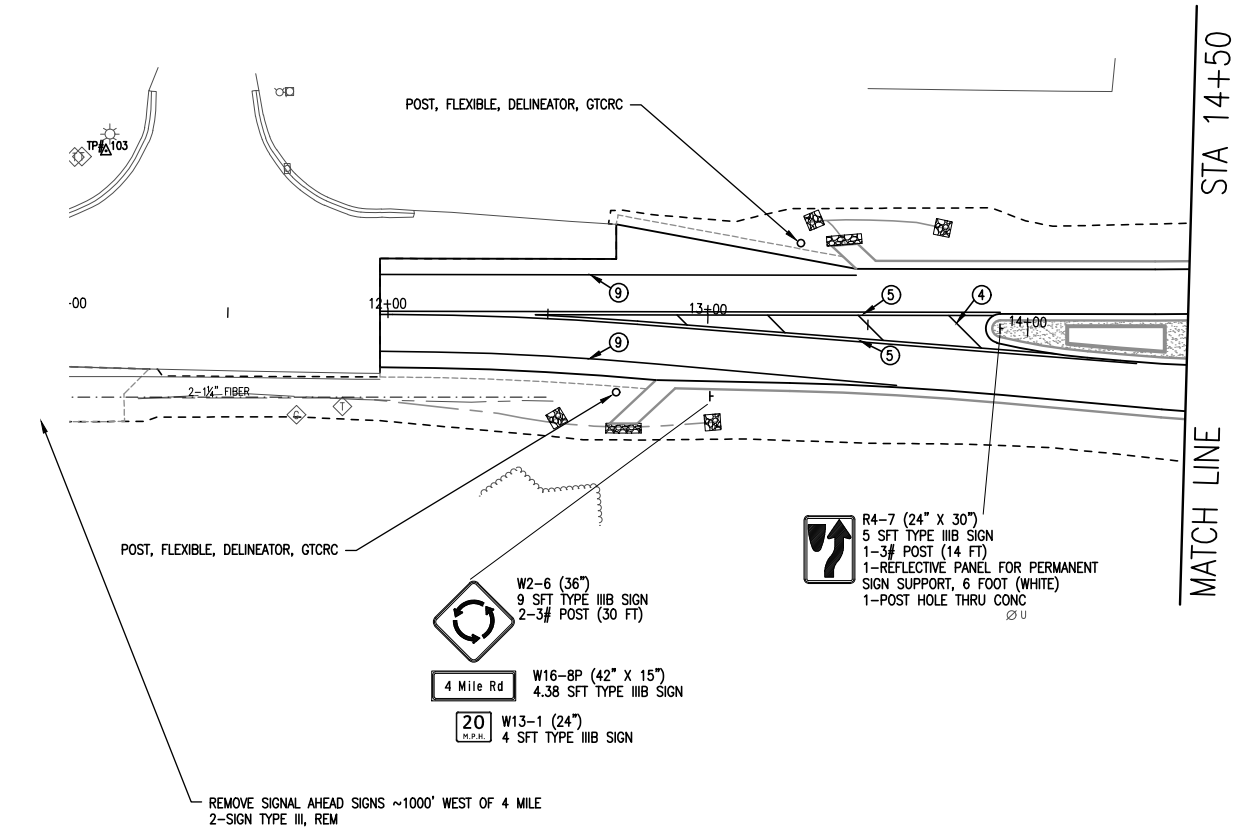
PAVT MRKG, COLD PLASTIC, 12 INCH, CROSS HATCHING, WHITE
HATCHING TO BE SPACED AT 10'

11

PAVT MRKG, COLD PLASTIC, 24 INCH, STOP BAR
DASHED, DASHES TO BE 3' LONG WITH 3' GAP
(NECESS PAVEMENT MARKING)

12

PAVT MRKG, SPRAYABLE THERMOPLASTIC, 4 INCH, WHITE
DASHED, DASHES TO BE 12' LONG WITH 6' GAP
(NECESS PAVEMENT MARKING)



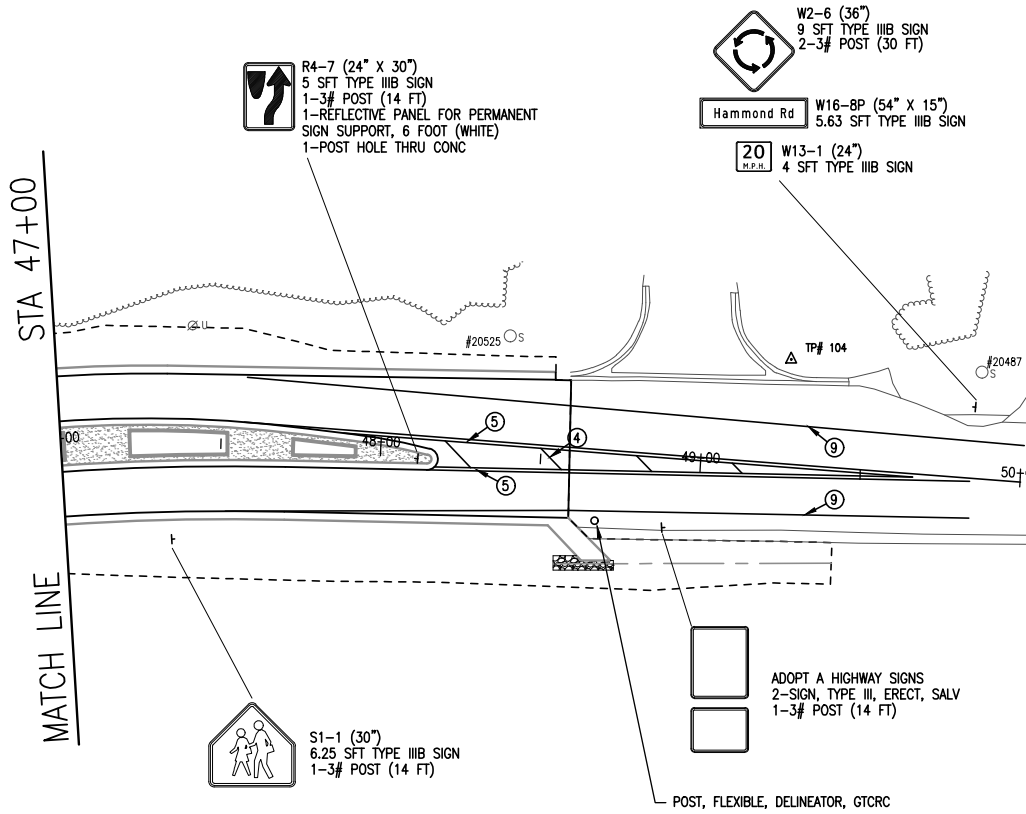
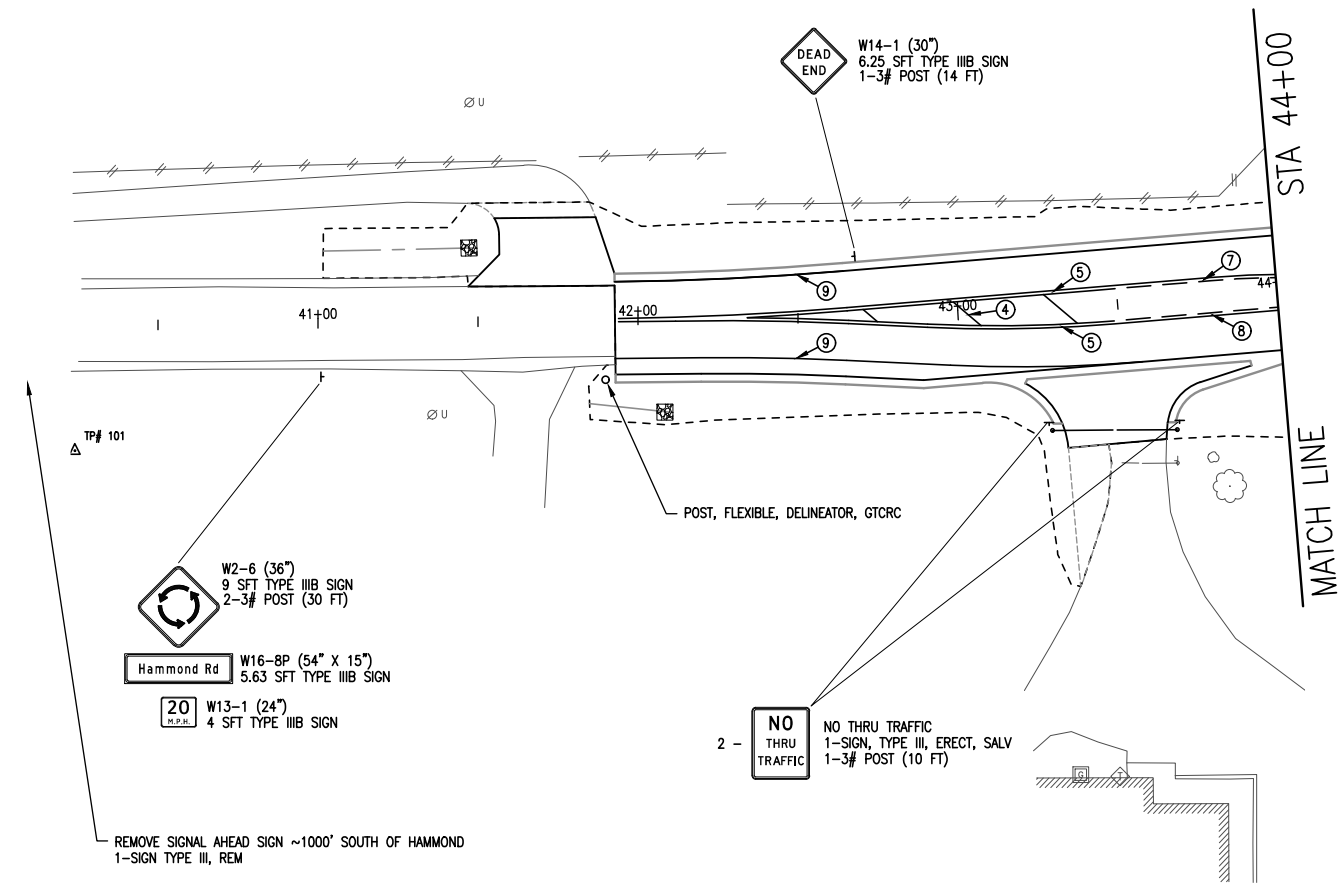
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4 MILE RD

SOUTH LEG

NORTH LEG

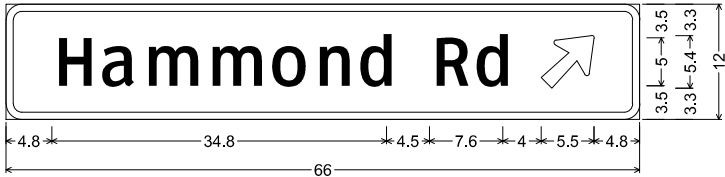


- LEGEND
- 1 PAINT MARK, COLD PLASTIC, LEFT-TURN ARROW SYMBOL (NECESS PAVEMENT MARKING)
 - 2 PAINT MARK, COLD PLASTIC, THRU-RIGHT ARROW SYMBOL (NECESS PAVEMENT MARKING)
 - 3 PAINT MARK, COLD PLASTIC, THRU ARROW SYMBOL (NECESS PAVEMENT MARKING)
 - 4 PAINT MARK, COLD PLASTIC, 12 INCH, CROSS HATCHING, YELLOW HATCHING TO BE SPACED AT 20'
 - 5 PAINT MARK, SPRAYABLE THERMOPL, 4 INCH, YELLOW DOUBLE SOLID LINES, 1' CENTER TO CENTER
 - 6 PAINT MARK, SPRAYABLE THERMOPL, 6 INCH, YELLOW
 - 7 PAINT MARK, SPRAYABLE THERMOPL, 4 INCH, YELLOW SOLID LINE WITH DASHED LINE ON RIGHT SIDE, 1' CENTER TO CENTER DASHES TO BE 12.5' LONG WITH 37.5' GAP
 - 8 PAINT MARK, SPRAYABLE THERMOPL, 4 INCH, YELLOW SOLID LINE WITH DASHED LINE ON LEFT SIDE, 1' CENTER TO CENTER DASHES TO BE 12.5' LONG WITH 37.5' GAP
 - 9 PAINT MARK, SPRAYABLE THERMOPL, 6 INCH, WHITE (NECESS PAVEMENT MARKING IN ROUNDABOUT AND LEAD-IN)
 - 10 PAINT MARK, COLD PLASTIC, 12 INCH, CROSSWALK LINE
 - 11 PAINT MARK, COLD PLASTIC, 12 INCH, CROSS HATCHING, WHITE HATCHING TO BE SPACED AT 10'
 - 12 PAINT MARK, COLD PLASTIC, 24 INCH, STOP BAR (DASHED, DASHES TO BE 3' LONG WITH 3' GAP) (NECESS PAVEMENT MARKING)
 - 13 PAINT MARK, SPRAYABLE THERMOPLASTIC, 4 INCH, WHITE DASHED, DASHES TO BE 12' LONG WITH 6' GAP (NECESS PAVEMENT MARKING)

| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | JLK | CADD | JM | COUNTY | GRAND TRAVERSE | CITY/VIL/LAKE/TOWNSHIP | EAST BAY TOWNSHIP | SCALE | H | V | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----|----------|-----|------|----|--------|----------------|------------------------|-------------------|--------|---|---|-------------|------------|
| 3/30/2021 | 737120010 | | | | | | | | | | | 1"=30' | | | NAVD83 | NAVD83 |

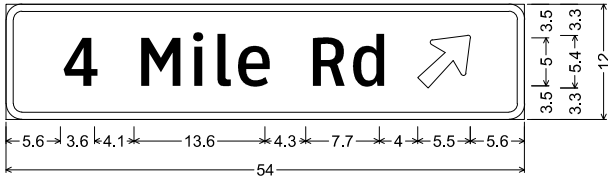
GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PERMANENT MARKING AND SIGNING PLAN

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\PMIS4_Mile_Hammond\20010PMIS1.dwg Mar 30, 2021 • 10:37pm



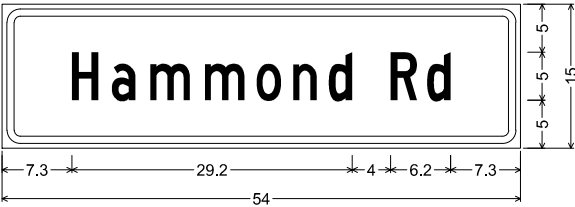
Identifier : D1-1d (Hammond);
1.6" Radius, 0.8" Border, White on Green;
[Hammond Rd] ClearviewHwy-3-W; Arrow A-5 - 6.9" 45°;
Table of letter and object lefts.

| | | | | | | | | | |
|-----|-----|------|------|------|------|------|------|------|------|
| H | a | m | m | o | n | d | R | d | ↗ |
| 4.8 | 9.5 | 14.1 | 20.8 | 27.2 | 31.9 | 36.3 | 44.1 | 48.5 | 55.7 |



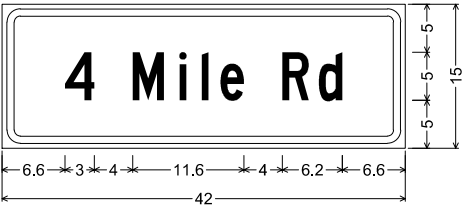
Identifier : D1-1d (Hammond);
1.6" Radius, 0.8" Border, White on Green;
[4 Mile Rd] ClearviewHwy-3-W; Arrow A-5 - 6.9" 45°;
Table of letter and object lefts.

| | | | | | | | |
|-----|------|------|------|------|------|------|------|
| 4 | M | i | l | e | R | d | ↗ |
| 5.6 | 13.3 | 18.8 | 21.3 | 23.6 | 31.2 | 35.6 | 42.9 |




Identifier : W16-8P(Hammond);
1.9" Radius, 0.8" Border, 0.5" Indent, Black on Yellow;
[Hammond Rd] C;
Table of letter and object lefts.

| | | | | | | | | |
|-----|------|------|------|------|------|------|------|------|
| H | a | m | m | o | n | d | R | d |
| 7.3 | 11.4 | 15.4 | 21.1 | 26.5 | 30.3 | 34.0 | 40.5 | 44.3 |



Identifier : W16-8P (4 Mile);
1.9" Radius, 0.8" Border, 0.5" Indent, Black on Yellow;
[4 Mile Rd] C;
Table of letter and object lefts.

| | | | | | | |
|-----|------|------|------|------|------|------|
| 4 | M | i | l | e | R | d |
| 6.6 | 13.6 | 18.5 | 20.8 | 22.7 | 29.2 | 33.0 |



ARCHITECTS ENGINEERS PLANNERS

300 East Mitchell St., Suite 2
Potoskey, MI 49770
P (231) 344-1150

OHM-ADVISORS.COM

REVISIONS:

DATE
3/30/2021

PROJ NUMBER
737-024070

ENG
BA

PROJ MGR
JK

CADD
JM

COUNTY
GRAND TRAVERSE

CITY/VILLAGE/TOWNSHIP
EAST BAY TOWNSHIP

SCALE
H: 1"=30'

V:

HORIZ DATUM
LOCAL

VERT DATUM
NAVD88

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
PERMANENT SIGN DETAILS

SHEET
64
OF 84

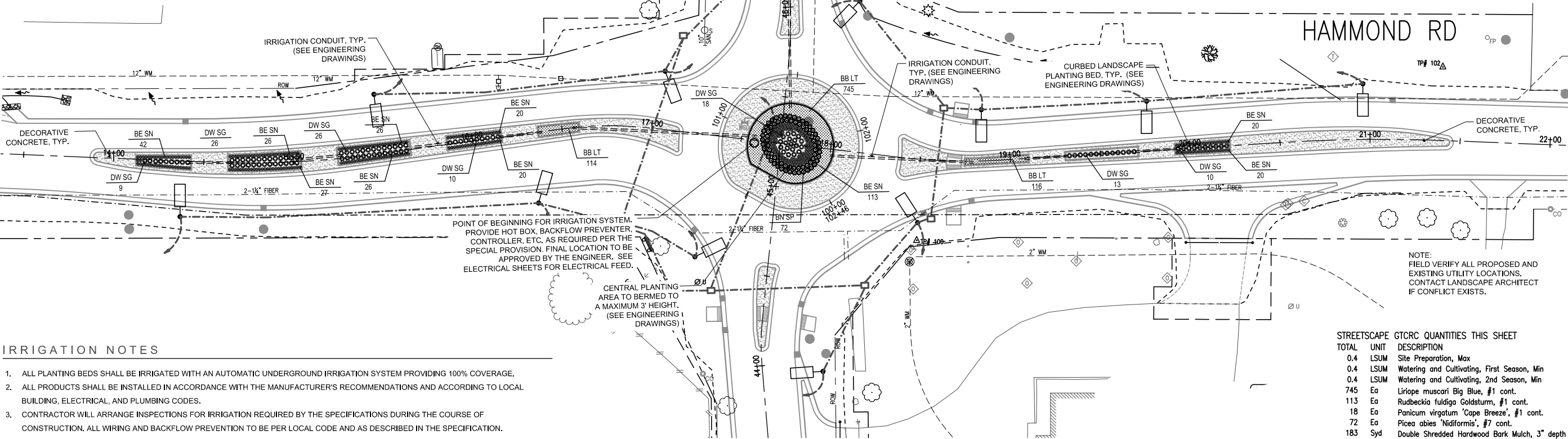
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GENERAL NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR BEING FAMILIAR WITH ALL DOCUMENTED UNDERGROUND UTILITIES, PIPES AND STRUCTURES. LOCATE AND PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION UNLESS OTHERWISE NOTED. CONTACT MISS DIG (811 OR 800-482-7171) A MINIMUM OF 3 DAYS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
- REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- ALL DIMENSIONS ON THIS DRAWING ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
- DO NOT SCALE DRAWINGS. UTILIZE DIMENSIONS INDICATED ON THE PLANS. THE CONTRACTOR SHALL COORDINATE ALL WORK AND BE RESPONSIBLE FOR ALL METHODS, MEANS, SEQUENCE, AND PROCEDURES OF THE WORK.
- THE CONTRACTOR SHALL KEEP ALL DRAINAGE FACILITIES (CATCH BASINS, YARD DRAINS, ETC.) AFFECTED BY HIS CONSTRUCTION OPERATIONS CLEAN AND FULLY OPERATIONAL AT ALL TIMES.
- CONTRACTOR SHALL REPAIR AT HIS OWN EXPENSE, ANY DAMAGE, WHETHER INSIDE OR OUTSIDE OF THE PROJECT LIMITS, TO UTILITY SYSTEMS, SURFACE PAVEMENTS, FIXTURES, STRUCTURES, AND/OR EXISTING TREES OR LANDSCAPING THAT ARE NOT SPECIFICALLY INDICATED TO BE REMOVED OR RELOCATED AS PART OF THE PROJECT CONSTRUCTION. IN THE EVENT THAT ANY EXISTING DRAINAGE STRUCTURES OR UTILITIES ARE DAMAGED AND THE SERVICES DISRUPTED, THE LINES SHALL BE IMMEDIATELY REPAIRED AND THE SERVICES RESTORED AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- IN THE EVENT THAT DISCREPANCIES ARISE BETWEEN WHAT IS SHOWN ON THE DRAWINGS AND ACTUAL FIELD CONDITIONS THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY FOR RESOLUTION.

LAYOUT NOTES

- ALL DIMENSIONS SHOWN ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
- DO NOT SCALE DRAWINGS. UTILIZE DIMENSIONS INDICATED ON THE PLANS.
- ALL DIMENSIONS ARE TO THE EDGE OF PAVEMENT, FACE OF WALL, OR FACE OF CURB UNLESS OTHERWISE NOTED.
- WALKWAYS AND HARDSCAPE ELEMENTS INDICATED AS CURVILINEAR SHALL HAVE SMOOTH CONTINUOUS CURVES.
- UNLESS INDICATED OTHERWISE, ALL WALKWAYS ABUT AT 90 DEGREE ANGLES.
- LAYOUT ALL CONSTRUCTION LINES AND VERIFY LAYOUT WITH THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING ANY CONSTRUCTION WORK.
- DIMENSIONS FOR PLANT BEDS ARE APPROXIMATE. STAKE PLANT BEDS ON-SITE FOR FINAL APPROVAL BY LANDSCAPE ARCHITECT.
- REFER TO GENERAL NOTES FOR ADDITIONAL INSTRUCTIONS.
- FIELD VERIFY ALL PROPOSED AND EXISTING UTILITY LOCATIONS.



IRRIGATION NOTES

- ALL PLANTING BEDS SHALL BE IRRIGATED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM PROVIDING 100% COVERAGE.
- ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.
- CONTRACTOR WILL ARRANGE INSPECTIONS FOR IRRIGATION REQUIRED BY THE SPECIFICATIONS DURING THE COURSE OF CONSTRUCTION. ALL WIRING AND BACKFLOW PREVENTION TO BE PER LOCAL CODE AND AS DESCRIBED IN THE SPECIFICATION.
- INSTALL IRRIGATION MAINS WITH A MINIMUM 18" OF COVER BASED ON FINISH GRADES. INSTALL IRRIGATION LATERALS WITH MINIMUM 12" OF COVER BASED ON FINISH GRADES.
- ALL WIRE SPLICES OR CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTIONS AND BE IN A VALVE OR SPLICE BOX.
- ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 14 AWG, UL APPROVED DIRECT BURY.
- SEE IRRIGATION SPECIFICATION FOR ADDITIONAL INFORMATION
- SHOP DRAWINGS SHALL BE REQUIRED FOR IRRIGATION PLANS AS DESCRIBED IN THE SPECIFICATION.

PLANTING NOTES

- THE CONTRACTOR SHALL VERIFY UTILITY CLEARANCES THROUGH MISS DIG PRIOR TO DETERMINING FINAL LOCATIONS FOR ALL STREETSCAPE FEATURES, INCLUDING ALL PLANTINGS. ANY FIELD ADJUSTMENTS TO FINAL PLANTING LOCATIONS SHALL BE AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- STAKE ALL BED LINES FOR THE LANDSCAPE ARCHITECT'S REVIEW PRIOR TO INSTALLATION. ALL PLANTING PROCEDURES ARE SUBJECT TO THE REVIEW OF THE LANDSCAPE ARCHITECT AND THE CONTRACTOR SHALL CORRECT ANY DEFICIENCIES FOUND AT NO ADDITIONAL COST TO THE OWNER.
- SECURE PLANT MATERIAL AS SPECIFIED ON PLANS. IN THE EVENT THAT PLANT MATERIALS SPECIFIED ARE NOT AVAILABLE, CONTACT LANDSCAPE ARCHITECT FOR APPROVED SUBSTITUTIONS. NO SUBSTITUTIONS FOR PLANT MATERIALS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT.
- VERIFY THAT ALL PLANTING PRODUCTS, PLANT MATERIAL, AND PLANT QUANTITIES DELIVERED TO THE SITE MATCH WHAT IS INDICATED ON THE PLANS AND SPECIFICATIONS.
- PROTECT ALL PLANT MATERIAL DURING DELIVERY TO PREVENT DAMAGE TO ROOT BALLS, TRUNKS, STEMS, BRANCHES AND THE DESICCATION OF LEAVES. PROTECT ALL PLANT MATERIAL DURING SHIPPING WITH SHADE CLOTH OR SHIP WITH ENCLOSED TRANSPORT. MAINTAIN PROTECTIONS AND HEALTH OF PLANT MATERIAL STORED ON SITE. REMOVE UNACCEPTABLE PLANT MATERIAL IMMEDIATELY FROM THE SITE.
- ALL PLANT MATERIAL SHALL BE NURSERY GROWN, WELL FORMED, TRUE TO SPECIES, HARDENED OFF WITH VIGOROUS ROOT SYSTEMS, FULL CROWN AND CANOPIES, AND FREE FROM DISEASE, PESTS AND INSECTS, AND DEFECTS SUCH AS WINDBURN, LEAF DISCOLORATION, IRREGULAR BRANCHING OR INJURIES.
- ALL PLANT MATERIAL DELIVERED TO THE SITE IS SUBJECT TO THE REVIEW OF THE LANDSCAPE ARCHITECT BEFORE, DURING AND AFTER INSTALLATION.
- PROVIDE PLANT PHOTOGRAPHS OF EACH PLANT SPECIFIED TO THE LANDSCAPE ARCHITECT FOR COMPLIANCE REVIEW PRIOR TO SHIPPING.
- TEST FILL ALL PLANTING PITS WITH WATER, PRIOR TO PLANTING, TO ASSURE PROPER SOIL PERCOLATION. PITS WHICH DO NOT ADEQUATELY DRAIN SHALL BE FURTHER EXCAVATED TO A DEPTH SUFFICIENT FOR DRAINAGE TO OCCUR AND/OR BACKFILLED WITH SUITABLE DRAINAGE GRAVEL. NO ALLOWANCES SHALL BE MADE FOR PLANT MATERIAL LOSS DUE TO IMPROPER DRAINAGE. CONTRACTOR SHALL REPLACE LOST PLANT MATERIAL WITH SAME SIZE AND SPECIES AT NO ADDITIONAL COST TO OWNER.
- ALL PLANT MATERIALS, INCLUDING RELOCATED PLANT MATERIAL, SHALL BE PLANTED IN A PROFESSIONAL MANNER TYPICAL TO THE INDUSTRY STANDARDS TO ASSURE COMPLETE SURVIVABILITY OF ALL INSTALLED PLANT MATERIALS AS WELL AS TO PROVIDE AN AESTHETICALLY APPROVED PROJECT. CONTRACTOR SHALL REFER TO THE PLANTING DETAILS FOR MINIMUM SIZE AND WIDTH OF PLANTING PITS AND BEDS, MULCHING, AND OTHER PLANTING REQUIREMENTS.
- LAWN AREAS TO PROVIDE A SMOOTH AND CONTINUAL GRADE.
- ALL PLANTING BEDS SHALL HAVE A MINIMUM PLANTING MIX TO A MINIMUM DEPTH OF 18" AND BE DRESSED WITH A MINIMUM OF 3" MULCH DEPTH.
- ALL PLANTING AREAS SHALL BE WEED FREE PRIOR TO PLANTING INSTALLATION.
- REMOVE ALL PLANTING AND LANDSCAPE DEBRIS FROM THE PROJECT SITE AND SWEEP AND WASH CLEAN ALL PAVED AND FINISHED SURFACES AFFECTED BY THE LANDSCAPE INSTALLATION.
- REFER TO GENERAL NOTES FOR ADDITIONAL INSTRUCTIONS.
- REFER TO MDOT STANDARD PLAN R-100-H PLANTING DETAILS

| PLANT LIST | | | | | |
|------------|-------------------------------|---------------------------------------|--------------|-----------|----------|
| CODE | COMMON NAME | LATIN NAME | INSTALL SIZE | CONDITION | SPACING |
| BN SP | BIRD'S NEST SPRUCE | <i>Picea abies 'Nidiformis'</i> | #7 | CONTAINER | 30" O.C. |
| DW SG | CAPE BREEZE DWARF SWITCHGRASS | <i>Panicum virgatum 'Cape Breeze'</i> | #1 | CONTAINER | 36" O.C. |
| BE SN | BLACK EYED SUSAN | <i>Rudbeckia fulgida goldsturm</i> | #1 | CONTAINER | 18" O.C. |
| BB LT | BIG BLUE LILYTURF | <i>Liriope muscari 'Big Blue'</i> | #1 | CONTAINER | 12" O.C. |

| STREETSCAPE GTCRC QUANTITIES THIS SHEET | | |
|---|------|---|
| TOTAL | UNIT | DESCRIPTION |
| 0.4 | LSUM | Site Preparation, Max |
| 0.4 | LSUM | Watering and Cultivating, First Season, Min |
| 0.4 | LSUM | Watering and Cultivating, 2nd Season, Min |
| 745 | Ea | Liriope muscari Big Blue, #1 cont. |
| 113 | Ea | Rudbeckia fulgida Goldsturm, #1 cont. |
| 18 | Ea | Panicum virgatum 'Cape Breeze', #1 cont. |
| 72 | Ea | Picea abies 'Nidiformis', #7 cont. |
| 183 | Syd | Double Shredded Hardwood Bark Mulch, 3" depth |
| 183 | Syd | Planting Mix, Furn, 18 inch |

| STREETSCAPE EAST BAY TWP QUANTITIES THIS SHEET | | |
|--|------|---|
| TOTAL | UNIT | DESCRIPTION |
| 0.6 | LSUM | Site Preparation, Max |
| 0.6 | LSUM | Watering and Cultivating, First Season, Min |
| 0.6 | LSUM | Watering and Cultivating, 2nd Season, Min |
| 385 | Ea | Liriope muscari Big Blue, #1 cont. |
| 338 | Ea | Rudbeckia fulgida Goldsturm, #1 cont. |
| 115 | Ea | Panicum virgatum 'Cape Breeze', #1 cont. |
| 1 | LSUM | Underground Automatic Irrigation System |
| 262 | Syd | Double Shredded Hardwood Bark Mulch, 3" depth |
| 262 | Syd | Planting Mix, Furn, 18 inch |

OHM

ARCHITECTS ENGINEERS PLANNERS

300 East Mitchell St., Suite 2
Potoskey, MI 49770
P (231) 344-1150

OHM-ADVISORS.COM

REVISIONS:

DATE

3/30/2021

PROJ NUMBER

737-042470

ENG

BA

PROJ LEADER

JK

CADD

JM

COUNTY

GRAND TRAVERSE

QTY/VOLUME/TOWNSHIP

EAST BAY TOWNSHIP

SCALE

H: 1"=30'

V:

HORIZ DATUM

LOCAL

VERT DATUM

NAVD83

GRAND TRAVERSE COUNTY ROAD COMMISSION

4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

LANDSCAPE PLAN

SHEET

65

OF 84

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ELEC. ABBREVIATIONS

| SPECIAL | PHASE |
|---------|--|
| A | |
| AFF | AMPERE |
| ATS | ABOVE FINISHED FLOOR AUTOMATIC TRANSFER SWITCH |
| C | |
| C | CONDUIT |
| CAT | CATALOGUE |
| CB | CIRCUIT BREAKER |
| CMU | CONCRETE MASONRY UNIT |
| CO. | COMPANY |
| CUH | CABIN UNIT HEATER |
| E | |
| EC | ELECTRICAL CONTRACTOR |
| EF | EXHAUST FAN |
| EWC | ELECTRIC WATER COOLER |
| F | |
| FA | FIRE ALARM |
| G | |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| GND | EQUIPMENT GROUND |
| H | |
| HID | HIGH INTENSITY DISCHARGE |
| HOA | HAND OFF AUTO |
| HPS | HIGH PRESSURE SODIUM |
| HVAC | HEATING VENTILATION & AIR CONDITIONING |
| K | |
| K | KEY OPERATED DEVICE |
| KVA | KILOVOLT-AMPERES |
| KW | KILO-WATTS |
| L | |
| LED | LIGHT EMITTING DIODE |
| M | |
| MCB | MAIN CIRCUIT BREAKER |
| MDP | MAIN DISTRIBUTION PANEL |
| MH | METAL HALIDE |
| MISC | MISCELLANEOUS |
| MLO | MAIN LUG ONLY |
| MTD | MOUNTED |
| N | |
| NEU | NEUTRAL |
| NO | NUMBER |
| P | |
| PL | PILOT |
| R | |
| RECP | RECEPTACLE |
| T | |
| TEL | TELEPHONE |
| TRANS | TRANSFORMER |
| TV | TELEVISION |
| TYP | TYPICAL |
| U | |
| UGE | UNDERGROUND ELECTRIC |
| UH | UNIT HEATER |
| UNO | UNLESS NOTED OTHERWISE |
| V | |
| V | VOLT |
| VA | VOLT-AMPERES |
| W | |
| W | WIRE |
| WNC | WIRELESS NETWORK CONTROLLER |
| WP | WEATHERPROOF |

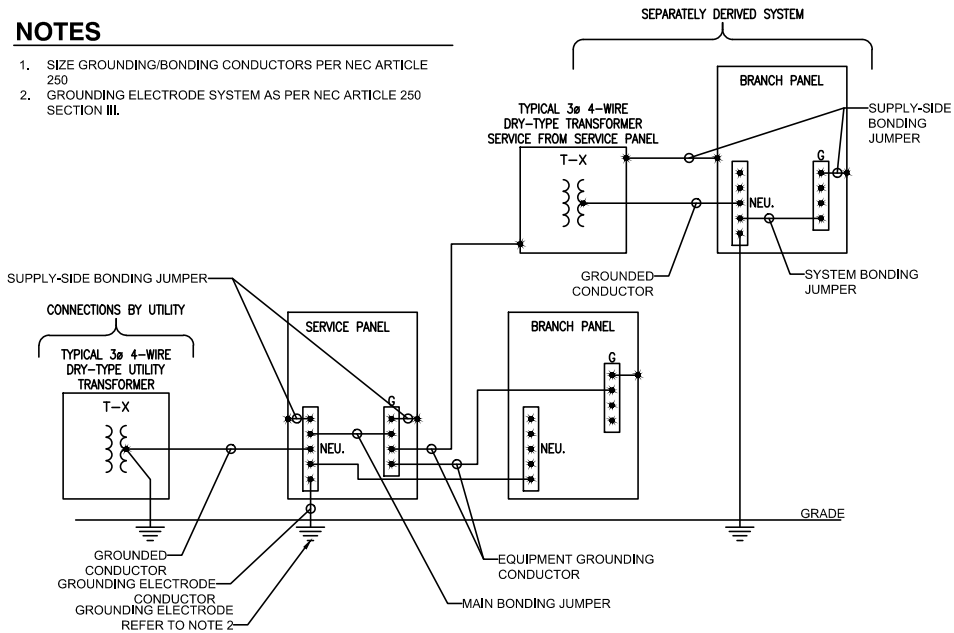
1. ALL ELECTRICAL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE AND ANY STATE/LOCAL AMENDMENTS.
2. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF AN ELECTRICAL PERMIT AND SCHEDULING OF THE NECESSARY INSPECTIONS. UPON COMPLETION OF THE WORK THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER EVIDENCE OF INSPECTION APPROVAL.
3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION REQUIRED WITH THE ELECTRIC UTILITY SERVING THE FACILITY. UTILITY COSTS SHALL BE PAID UNDER LUMP SUM PAY ITEM POWER CO. (EST COST TO CONTRACTOR).

ELECTRICAL LEGEND

| |
|---|
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|---|

NOTES

1. SIZE GROUNDING/BONDING CONDUCTORS PER NEC ARTICLE 250
2. GROUNDING ELECTRODE SYSTEM AS PER NEC ARTICLE 250 SECTION III.



GROUNDING BONDING DIAGRAM

NO SCALE

DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Plans_Cons\4 Mile Hammond_20010CON.dwg Mar 30, 2021 1:10:41pm

HAMMOND RD

ELECTRICAL SERVICE PROVIDER INFORMATION

PROVIDER: CHERRYLAND ELECTRIC
CONTACT: CHRIS HOLMES (cholmes@cherrylandelectric.coop)
CELL #: 231-649-2172
BUSINESS #: 231-486-9269
SERVICE ORDER #: 329327

GENERAL NOTES:

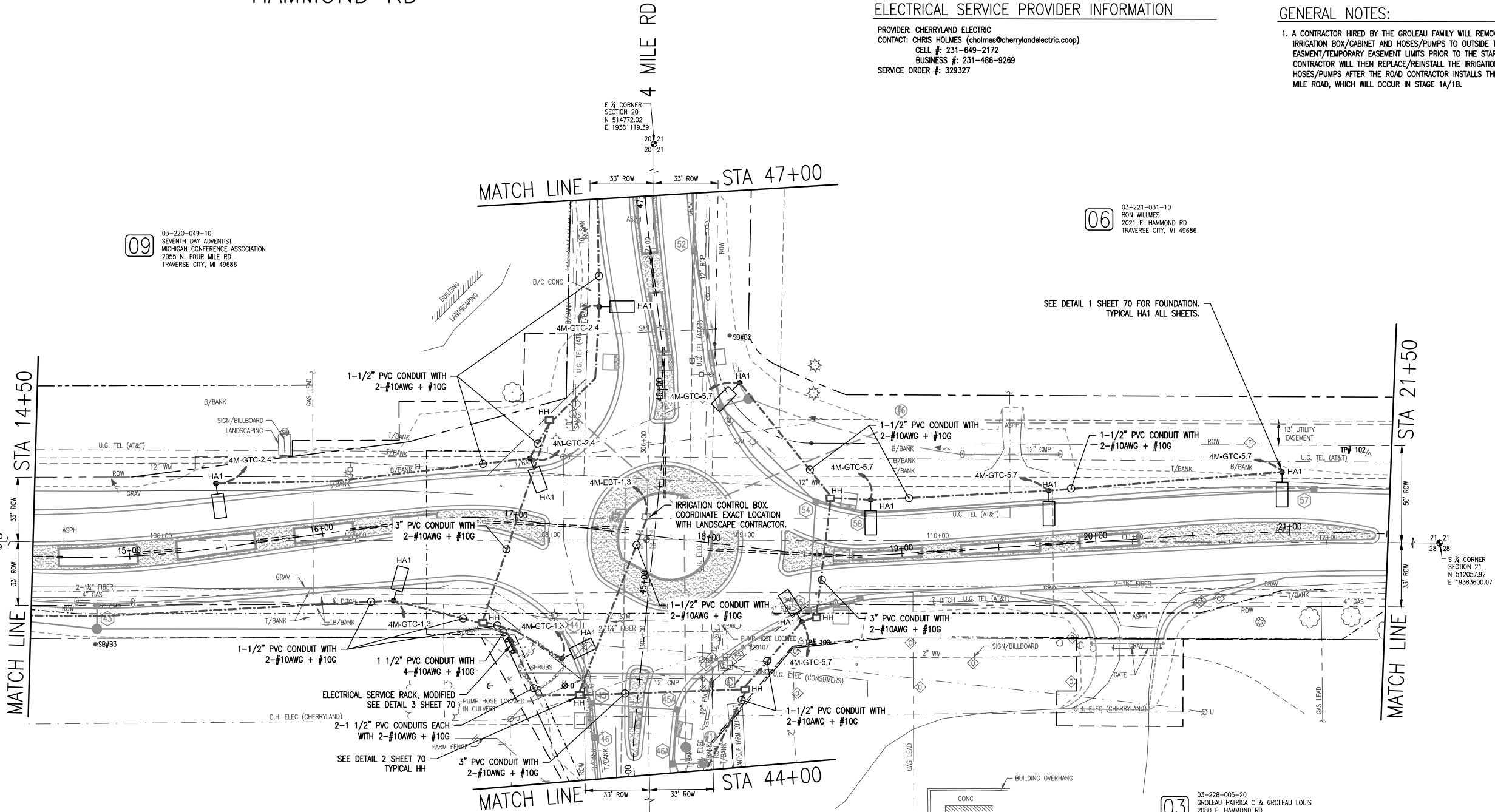
1. A CONTRACTOR HIRED BY THE GROLEAU FAMILY WILL REMOVE/RELOCATE THE ELECTRICAL IRRIGATION BOX/CABINET AND HOSES/PUMPS TO OUTSIDE THE HIGHWAY EASEMENT/TEMPORARY EASEMENT LIMITS PRIOR TO THE START OF CONSTRUCTION. GROLEAU'S CONTRACTOR WILL THEN REPLACE/REINSTALL THE IRRIGATION BOX /CABINET AND HOSES/PUMPS AFTER THE ROAD CONTRACTOR INSTALLS THE NEW STEEL CONDUIT UNDER 4 MILE ROAD, WHICH WILL OCCUR IN STAGE 1A/1B.

OHM

ARCHITECTS ENGINEERS PLANNERS

300 East Mitchell St., Suite 2
Potoskey, MI 49770
P (231) 344-1150

OHM-ADVISORS.COM



| QUANTITIES THIS SHEET | | |
|-----------------------|------|---|
| TOTAL | UNIT | DESCRIPTION |
| 1124 | Ft | Conduit, Schedule 40, 1 1/2 inch |
| 265 | Ft | Conduit, Schedule 40, 3 inch |
| 2680 | Ft | DB Cable, in Conduit, 600V, 1/C#10 |
| 1390 | Ft | Cable, Equipment Grounding Wire, 1/C#10 |
| 6 | Ea | Hh, Square |
| 7 | Ea | Light Std Arm, 8 foot |
| 7 | Ea | Light Std Fdn |
| 1 | Ea | Electrical Service Rack |
| 7 | Ea | Luminaire, LED Decorative Downlight |
| 3000 | Dir | Power Co. (Est. Cost to Contractor) |

| EAST BAY TWP QUANTITIES THIS SHEET | | |
|------------------------------------|------|-------------------------------------|
| TOTAL | UNIT | DESCRIPTION |
| 3 | Ea | Light Std Arm, 8 foot |
| 3 | Ea | Light Std Fdn |
| 3 | Ea | Luminaire, LED Decorative Downlight |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
ELECTRICAL PLAN

DRAWING PATH: P:\7301_7400\737120010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Plans_Cons\4 Mile Hammond_Electrical Plans_4 Mile Hammond_20010CON.dwg Mar 30, 2021 1:10:41pm

HAMMOND RD

WEST LEG

EAST LEG

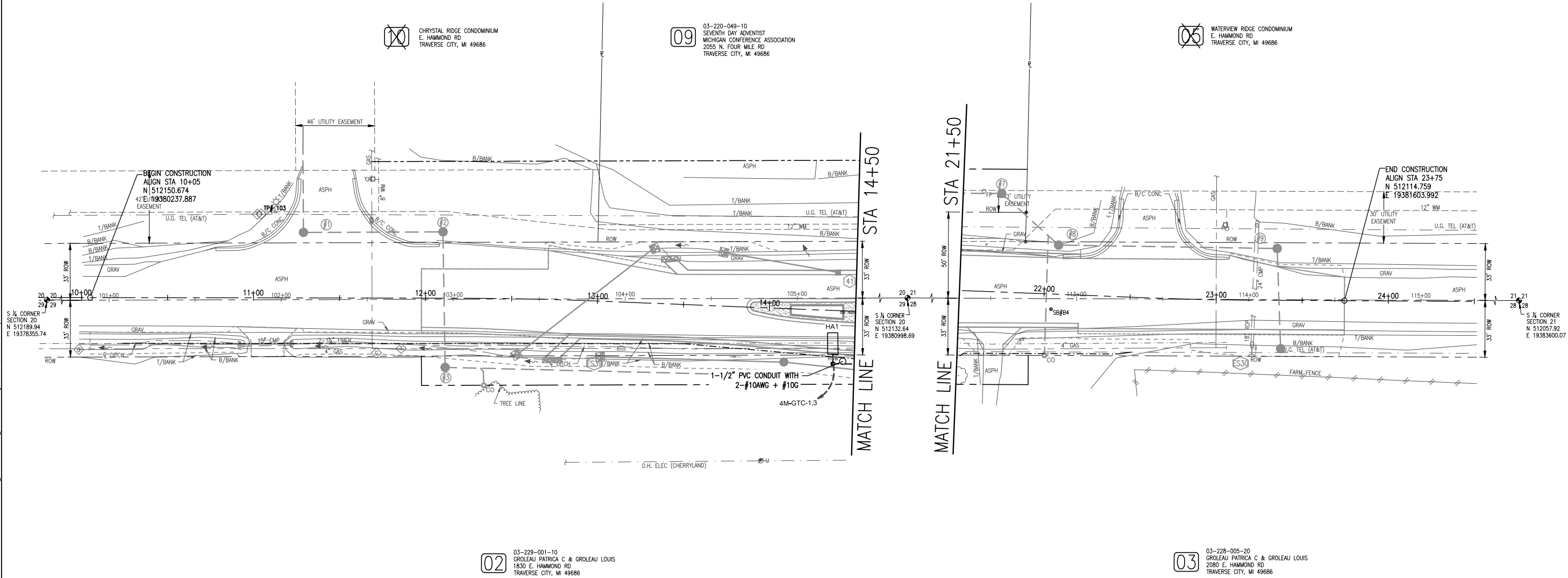


OHM

ARCHITECTS ENGINEERS PLANNERS

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Potoskey, MI 49770
P (231) 344-1150

OHM-ADVISORS.COM



| QUANTITIES THIS SHEET | | |
|-----------------------|------|---|
| TOTAL | UNIT | DESCRIPTION |
| 15 | Ft | Conduit, Schedule 40, 1 1/2 inch |
| 30 | Ft | DB Cable, in Conduit, 600V, 1/C#10 |
| 15 | Ft | Cable, Equipment Grounding Wire, 1/C#10 |
| 1 | Ea | Light Std Arm, 8 foot |
| 1 | Ea | Light Std Fdn |
| 1 | Ea | Luminaire, LED Decorative Downlight |

| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM | LOCAL | NAV/88 |
|-----------|-------------|-----|----------|------|----------------|-------------------|-----------|-------------|------------|-------|--------|
| 3/30/2021 | 737-242470 | BA | | JM | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' | V: | | | |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
ELECTRICAL PLAN

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DRAWING PATH: P:\7301_7400\73720010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Plans_Cons\4 Mile Hammond\Electrical\Plans_4 Mile Hammond_20010CON.dwg Mar 30, 2021 - 1:04:1pm

4 MILE RD

SOUTH LEG

NORTH LEG





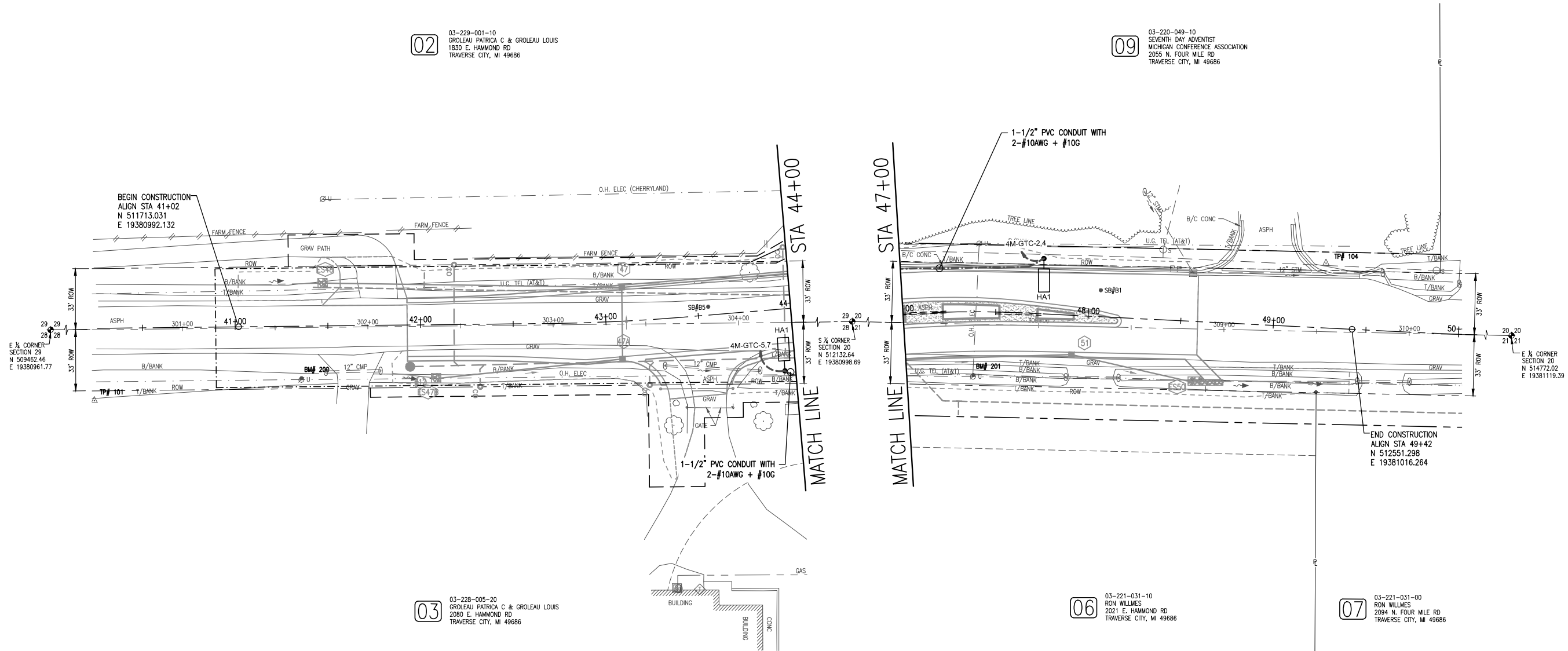
ARCHITECTS ENGINEERS PLANNERS

300 East Mitchell St., Suite 2
Potoskey, MI 49770
P (231) 344-1150

OHM-ADVISORS.COM

02 03-229-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

09 03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686



| QUANTITIES THIS SHEET | | |
|-----------------------|------|---|
| TOTAL | UNIT | DESCRIPTION |
| 90 | Ft | Conduit, Schedule 40, 1 1/2 inch |
| 180 | Ft | DB Cable, in Conduit, 600V, 1/C#10 |
| 90 | Ft | Cable, Equipment Grounding Wire, 1/C#10 |
| 2 | Ea | Light Std Arm, 8 foot |
| 2 | Ea | Light Std Fdn |
| 2 | Ea | Luminaire, LED Decorative Downlight |

| DATE | PROJ NUMBER | ENG | PROJ MGR | CADD | COUNTY | CITY/VILLAGE/TOWNSHIP | SCALE | HORIZ DATUM | VERT DATUM |
|-----------|-------------|-----|----------|------|----------------|-----------------------|-----------|-------------|------------|
| 3/30/2021 | 737-20010 | BA | JM | | GRAND TRAVERSE | EAST BAY TOWNSHIP | H: 1"=30' | LOCAL | NAD83 |

GRAND TRAVERSE COUNTY ROAD COMMISSION
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT
ELECTRICAL PLAN

DRAWING PATH: P:\7301_7400\737120010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Plans_Cons\4 Mile Hammond\Electrical Details_Schedules_General\Info.dwg Mar 30, 2021 • 10:42pm



REVISIONS:

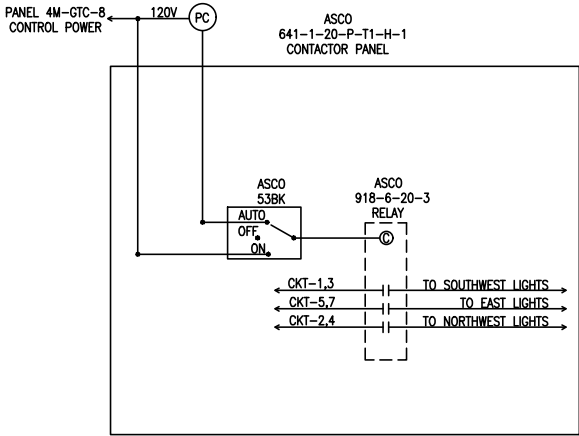
| DATE | PROJ NUMBER | ENG | BA | PROJ MGR | JK | CADD | AM | COUNTY | QTY/CIVIL/AGT/TOWNSHIP | SCALE | H | V | LOCAL | VERT DATUM |
|-----------|-------------|-----|----|----------|----|------|----|----------------|------------------------|--------|---|---|-------|------------|
| 3/30/2021 | 737120010 | | | | | | | GRAND TRAVERSE | EAST BAY TOWNSHIP | 1"=30' | | | | NAVD88 |

GRAND TRAVERSE COUNTY ROAD COMMISSION

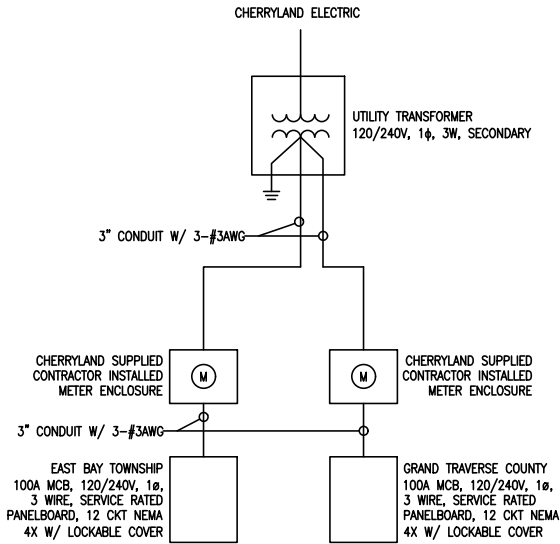
4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

ELECTRICAL DETAILS

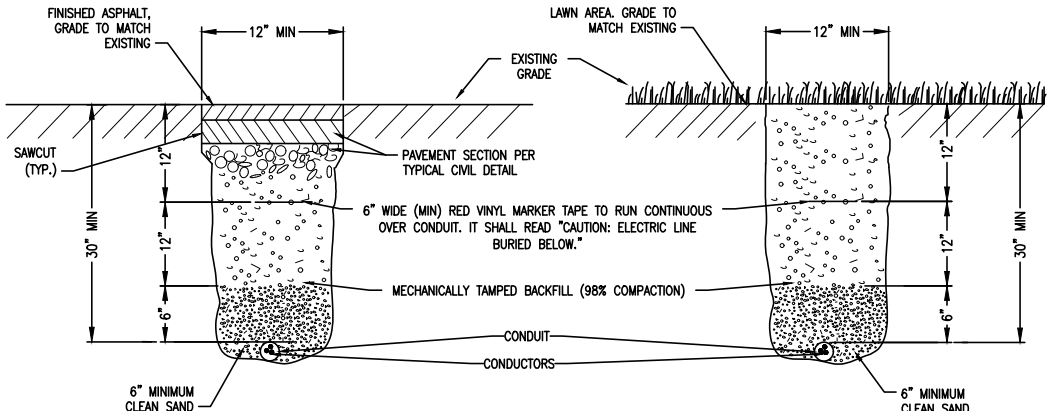
COPYRIGHT 2017 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM



6 LP1 DETAIL
NO SCALE



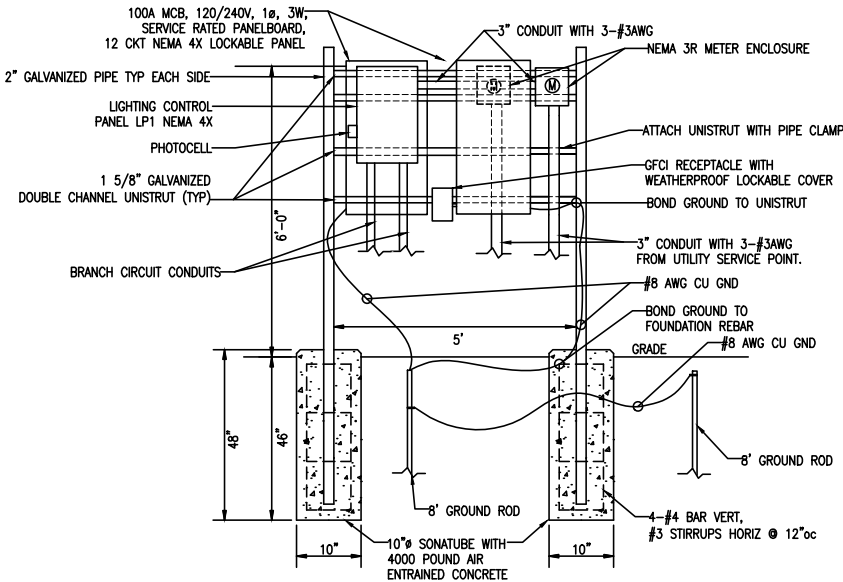
5 ELECTRICAL ONE-LINE DIAGRAM
NO SCALE



4 TRENCH DETAIL
NO SCALE

NOTES:

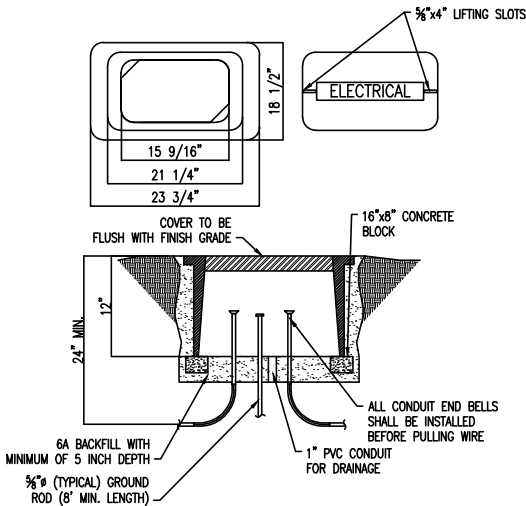
- ALL CONDUIT ABOVE GRADE ATTACHED TO RACK, SHALL BE GALVANIZED RIGID STEEL.
- BOND RACK STEEL AND REINFORCEMENT STEEL TO SYSTEM GROUND.



3 ELECTRICAL RACK DETAIL
NO SCALE

NOTES:

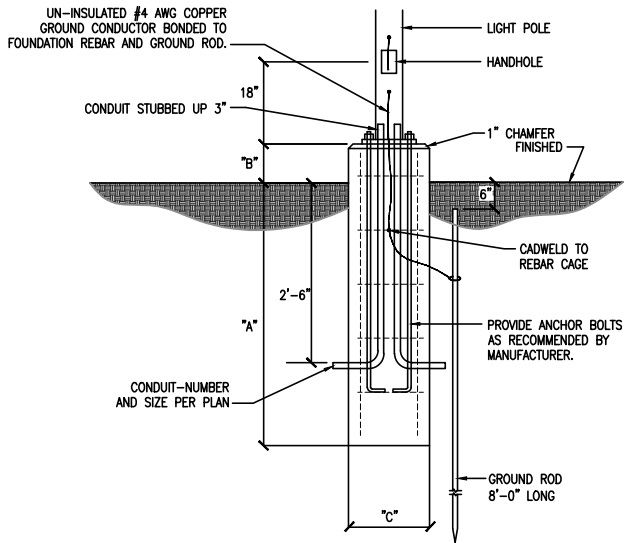
- BOX AND COVER SHALL BE CONCRETE OR COMPOSITE. METAL COVER IS ACCEPTABLE.
- COVERS SHALL BE SECURED WITH 3/8" BOLTS, NUTS, AND WASHERS. WHICH SHALL BE BRASS, STAINLESS STEEL OR OTHER CORROSION RESISTANT MATERIAL. STAINLESS STEEL SHALL HAVE A CHROMIUM CONTENT OF NOT LESS THAN 18% AND A NICKEL CONTENT OF NOT LESS THAN 8%. NUTS SHALL BE RECESSED BELOW TOP SURFACE OF COVER.
- COVER LETTERING SHALL BE 1/2" MINIMUM LETTERS CAST IN STANDARD MARKINGS: (ELECTRICAL).
- CONDUIT ENTERING THE BOX SHALL HAVE 90° LONG RADIUS BEND (INSIDE THE BOX). THE CONDUITS OPENING, INSIDE THE BOX, SHALL BE AT LEAST 4" BELOW THE LID, OPENING SHALL HAVE SMOOTH EDGE. IF THE CONDUIT IS P.V.C. A SLIP COUPLING MUST BE USED. IF THE CONDUIT IS RIGID PIPE, A PROTECTIVE BUSHING SHALL BE USED.
- CONDUCTORS SHALL HAVE A MINIMUM OF 24" SLACK FROM CONDUIT BELL END.
- BACKFILL WITH EXCAVATED MATERIAL AND THOROUGHLY COMPACT.
- WHERE PULLBOXES ARE INSTALLED IN CONCRETE AREAS, 1/2" PREMOLDED EXPANSION JOINT SHALL BE INSTALLED AROUND THE BOX.
- BOXES IN NON-VEHICLE TRAFFIC AREAS TO BE TIER 8 AND IN VEHICLE TRAFFIC AREAS TO BE TIER 22 UNLESS OTHERWISE NOTED.



2 HAND HOLE DETAIL
NO SCALE

POLE SCHEDULE

| POLE PART: SEE LIGHT FIXTURE SCHEDULE | | | |
|---------------------------------------|-------|-------|--|
| POLE HEIGHT | "A" | "B" | "C" |
| 25' HIGH | 7'-0" | 0'-4" | 24" DIA. CONCRETE BASE. (6) #8 BARS VERTICAL, #3 TIES @ 12" OC |



1 LIGHT POLE BASE DETAIL
NO SCALE

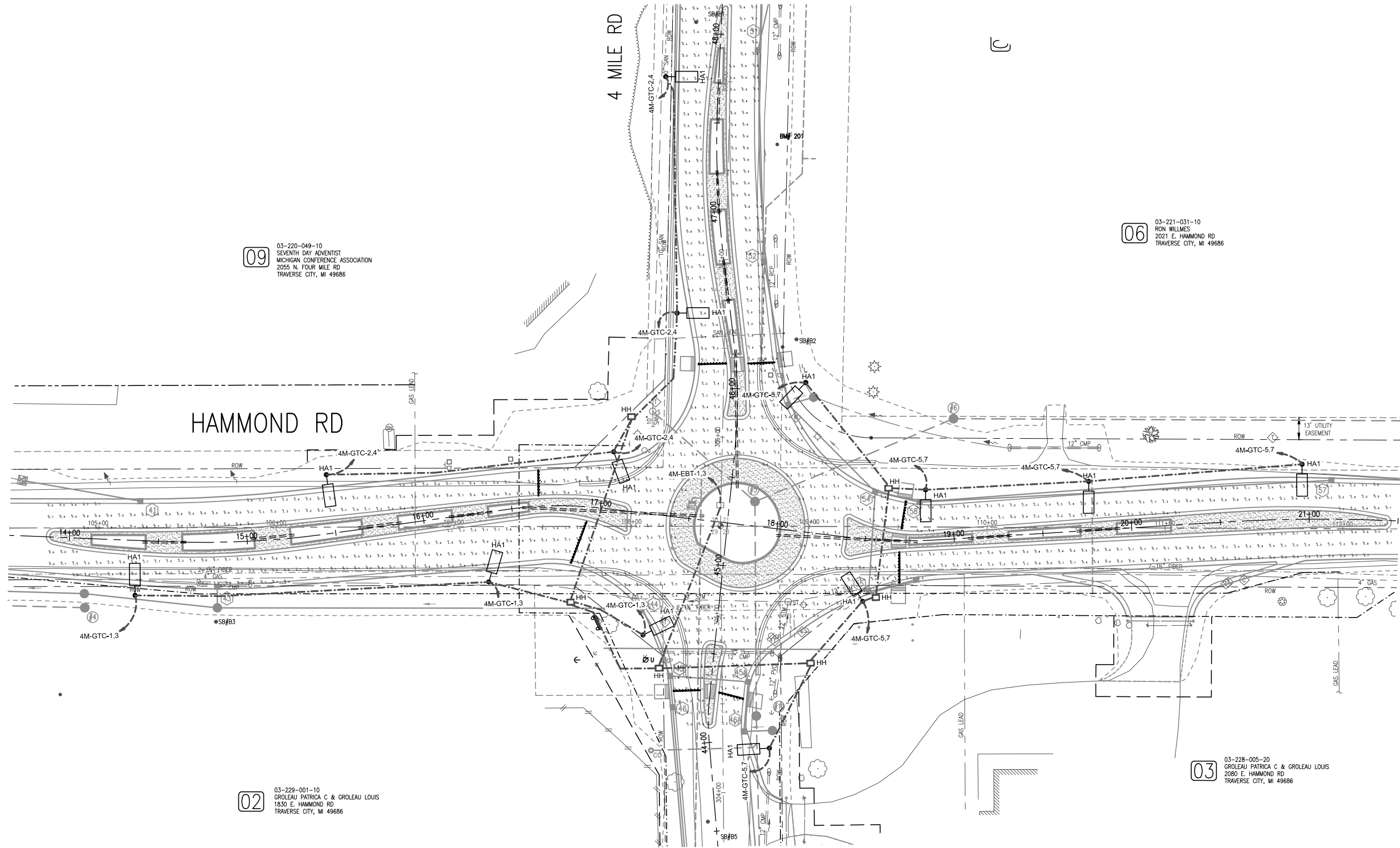
| LIGHT FIXTURE SCHEDULE | | | | | |
|------------------------|---|--------------|--|--------------------|---|
| TYPE | DESCRIPTION | MANUFACTURER | | LAMPS | REMARKS |
| HA1 | LUMINAIRE, LED DECORATIVE DOWNLIGHT | STERNBURG | 1A-1531LED-R-24L40T3-MDL018-FG -HSHN-CBA8-BKT | 117.4 WATT, LED | PURCHASE WITH STERNBURG POLE PART NO. 22-25-A-RT-5-RC-BKT MUST MEET MDOT BREAKAWAY SPECIFICATIONS |
| | | - | - | | |
| | | - | - | | |

CONTRACTOR MUST PROVIDE CUT SHEET FOR ALL STREET LIGHTING ITEMS FOR ENGINEER'S REVIEW AND APPROVAL PRIOR TO ORDERING MATERIALS. SEE SPECIFICATIONS FOR SHOP DRAWING APPROVAL PROCESS.

[illegible]

| PANEL 4M GTC | | | | DESCRIPTION: PANEL SURFACE MOUNT, 240/120V, 1φ, 3W, 100A, MCB, 12 CIRCUIT, 22kA SSCR | | | | | | | | | | | | |
|-------------------------|--|----------|------|--|------|-----|---------|--|---------|-----|------|------|------------------|----------|------|--------------------------|
| | | KVA LOAD | | | | | CIRCUIT | | CIRCUIT | | | | | KVA LOAD | | |
| | | A | B | | | | | | | | | | | B | A | |
| IDENTIFICATION | | A | B | WIRE | POLE | AMP | | | | AMP | POLE | WIRE | | B | A | IDENTIFICATION |
| SOUTHWEST STREET LIGHTS | | 0.18 | | #10 | 2 | 20 | 1 | | 2 | 20 | 2 | #10 | | 0.18 | | NORTH WEST STREET LIGHTS |
| | | | 0.18 | | | | | | | | 0.18 | | | | | |
| EAST STREET LIGHTS | | 0.35 | | #10 | 2 | 20 | 5 | | 6 | 20 | 1 | #12 | | 0.18 | | RACK RECEPTACLE |
| | | | 0.35 | | | | | | | | 0.10 | | LIGHTING CONTROL | | | |
| | | - | | | | | 9 | | 10 | | | | | - | | |
| | | | - | | | | 11 | | 12 | | | | | - | | |
| CONNECTED LOAD | | 0.53 | 0.53 | | | | | | | | | | | 0.28 | 0.36 | CONNECTED LOAD |

DRAWING PATH: P:\7301_7400\737120010_GTCRC E-W Corridor_Roundabouts\Drawings\Civil\Plans_Cons\4 Mile Hammond\Electrical\Plans 4 Mile Hammond_20010CON.dwg Mar 30, 2021 10:43pm



09 03-220-049-10
SEVENTH DAY ADVENTIST
MICHIGAN CONFERENCE ASSOCIATION
2055 N. FOUR MILE RD
TRAVERSE CITY, MI 49686

06 03-221-031-10
RON WILLIAMS
2021 E. HAMMOND RD
TRAVERSE CITY, MI 49686

02 03-228-001-10
GROLEAU PATRICA C & GROLEAU LOUIS
1830 E. HAMMOND RD
TRAVERSE CITY, MI 49686

03 03-228-005-20
GROLEAU PATRICA C & GROLEAU LOUIS
2080 E. HAMMOND RD
TRAVERSE CITY, MI 49686

LIGHT DISTRIBUTION CALCULATION SUMMARY

| AREA | AVERAGE (Fc) | MAXIMUM (Fc) | MINIMUM (Fc) | AVERAGE/MINIMUM RATIO (Fc) |
|----------------------------|--------------|--------------|--------------|----------------------------|
| 4 MILE NE CROSSWALK AT 5' | 2.86 | 2.9 | 2.8 | 1.02 |
| 4 MILE NW CROSSWALK AT 5' | 2.46 | 2.9 | 2.1 | 1.17 |
| 4 MILE SE CROSSWALK AT 5' | 3.26 | 3.3 | 3.1 | 1.05 |
| 4 MILE SW CROSSWALK AT 5' | 1.52 | 1.9 | 1.0 | 1.52 |
| HAMMOND NE CROSSWALK AT 5' | 2.86 | 3.1 | 2.2 | 1.30 |
| HAMMOND NW CROSSWALK AT 5' | 1.26 | 1.4 | 1.1 | 1.15 |
| HAMMOND SE CROSSWALK AT 5' | 2.59 | 2.9 | 1.9 | 1.36 |
| HAMMOND SW CROSSWALK AT 5' | 2.39 | 2.7 | 1.8 | 1.33 |
| ROADWAY PLANAR | 1.36 | 3.5 | 0.5 | 2.72 |

REVISIONS:

DATE

VERT. DATUM

LOCAL

SCALE

H. 1"=30'

V.

CITY/TOWNSHIP

EAST BAY TOWNSHIP

COUNTY

GRAND TRAVERSE

DATE

3/30/2021

PROJ. NUMBER

737-024-010

ENG

BA

PROJ. MGR

JK

DATE

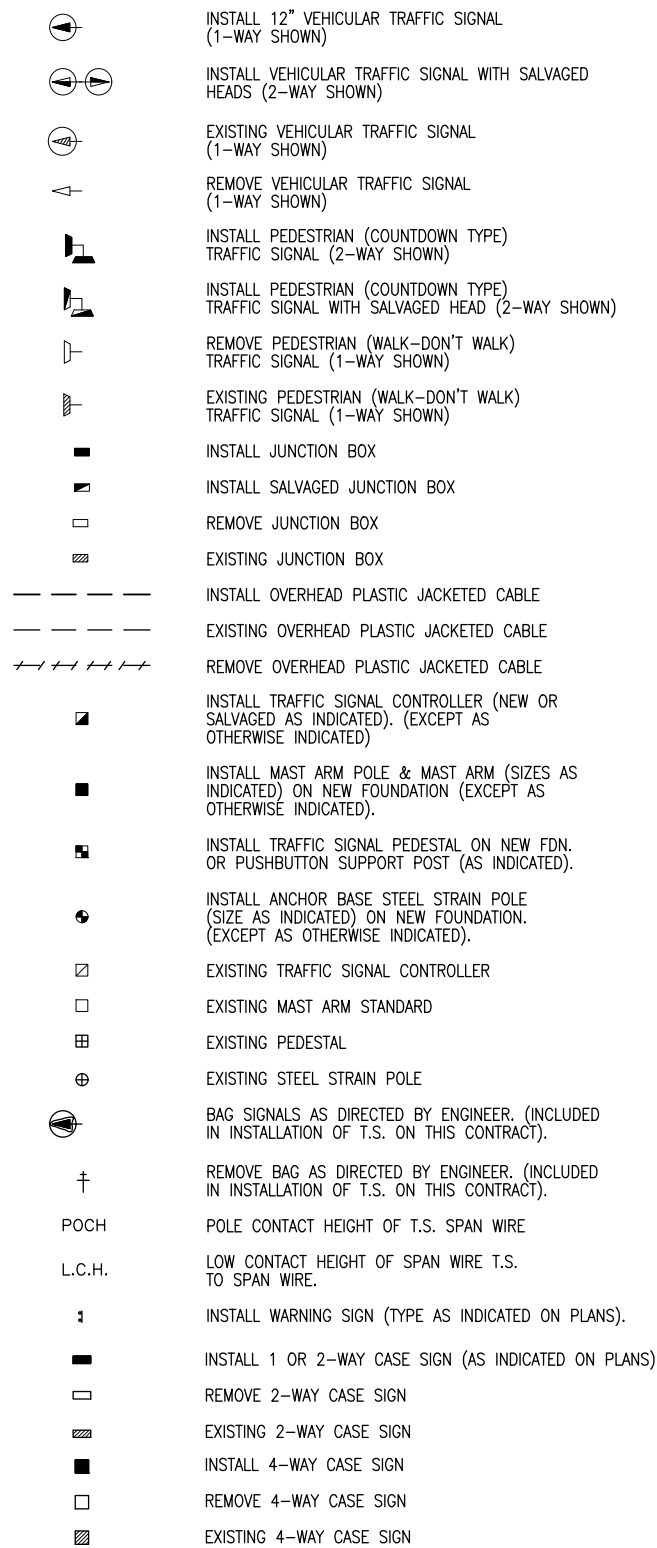
3/30/2021

SHEET

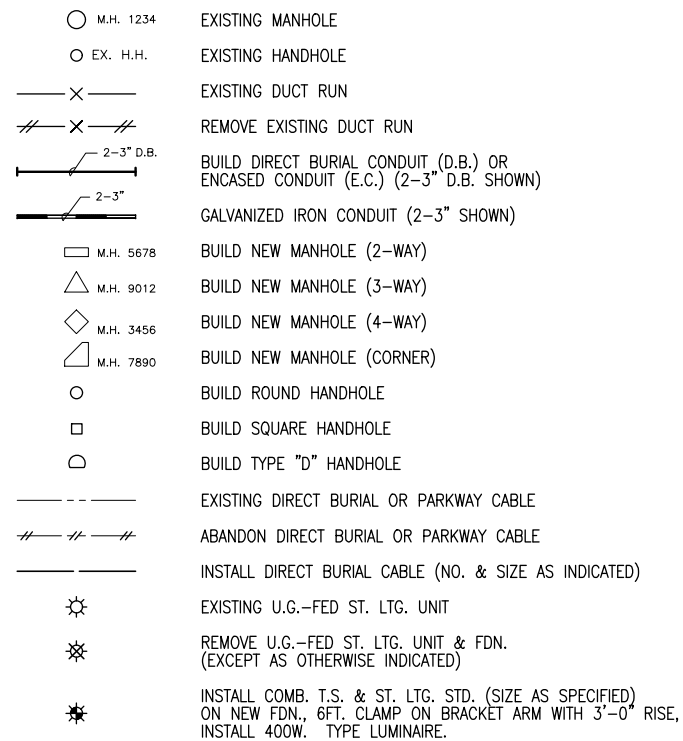
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LEGEND SHEET

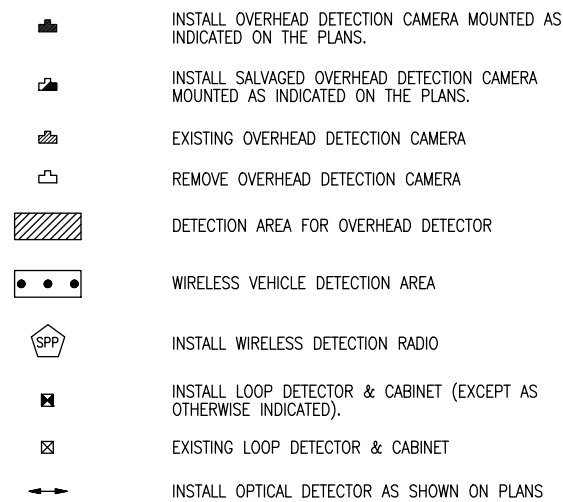
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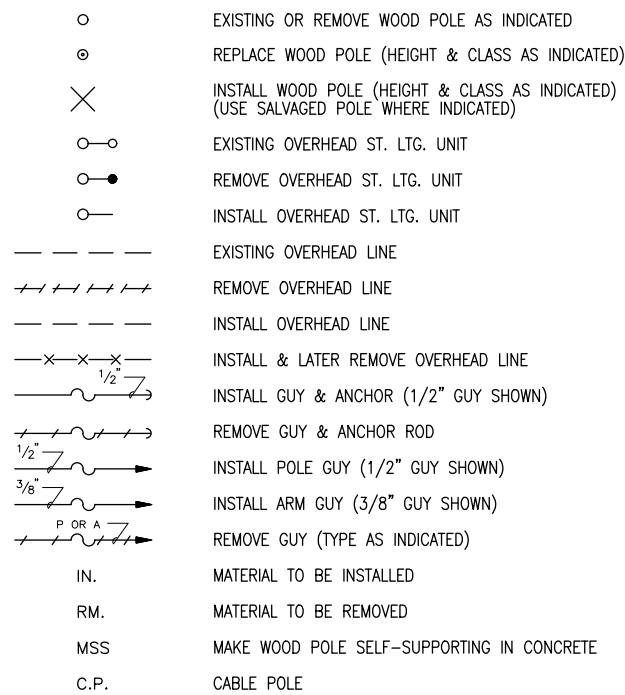
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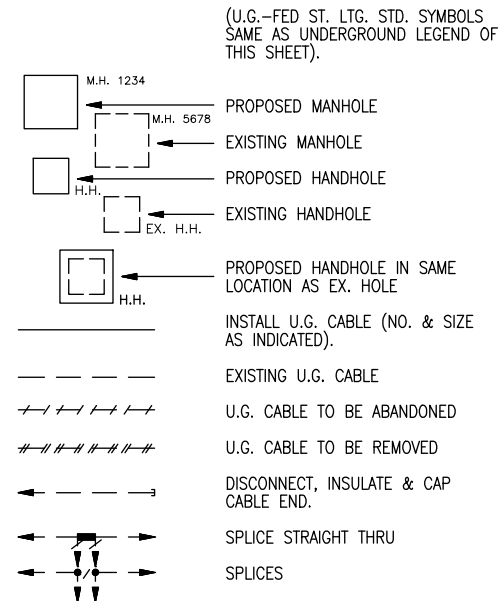
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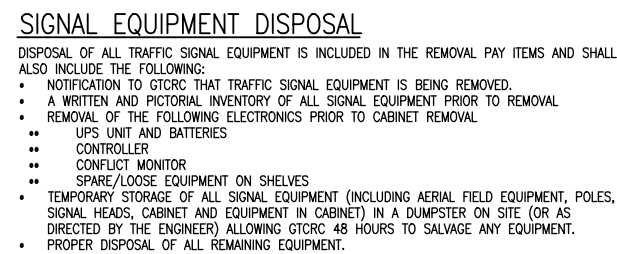


OVERHEAD



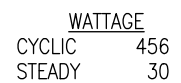
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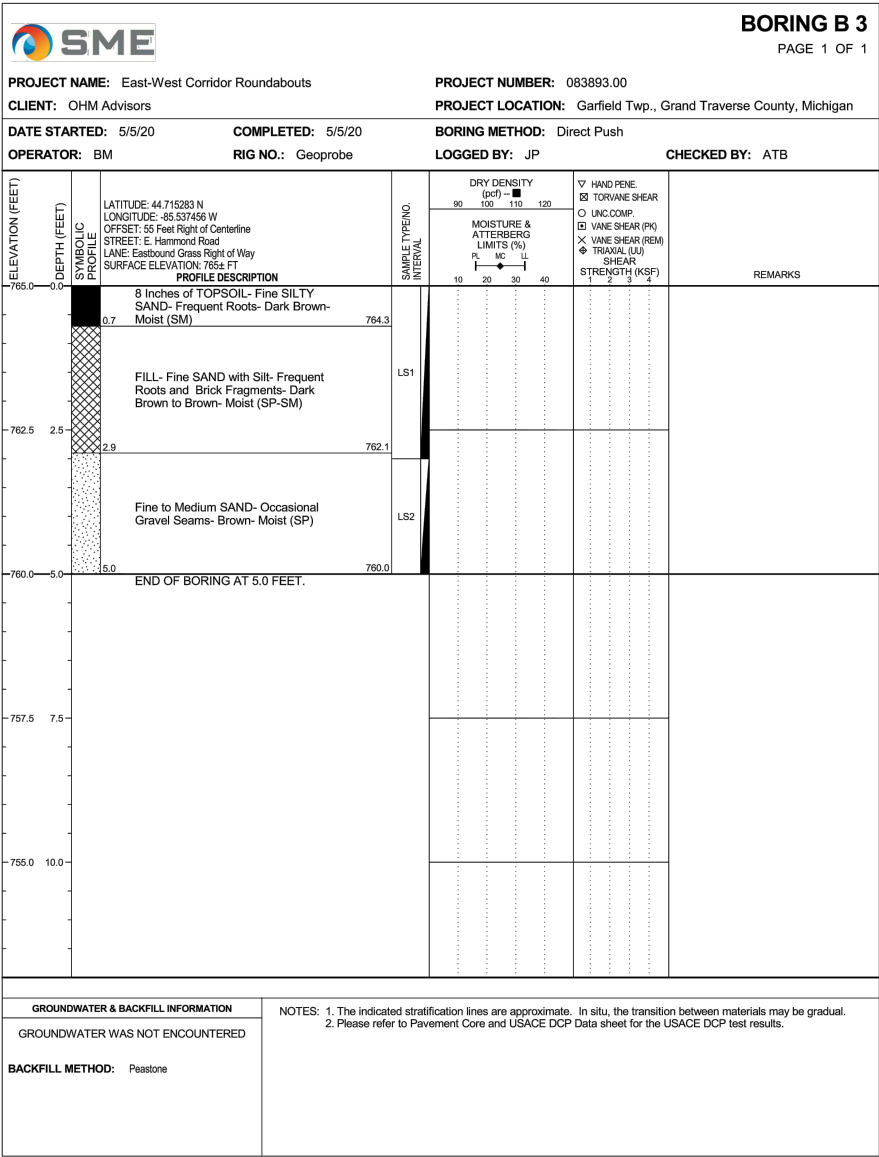
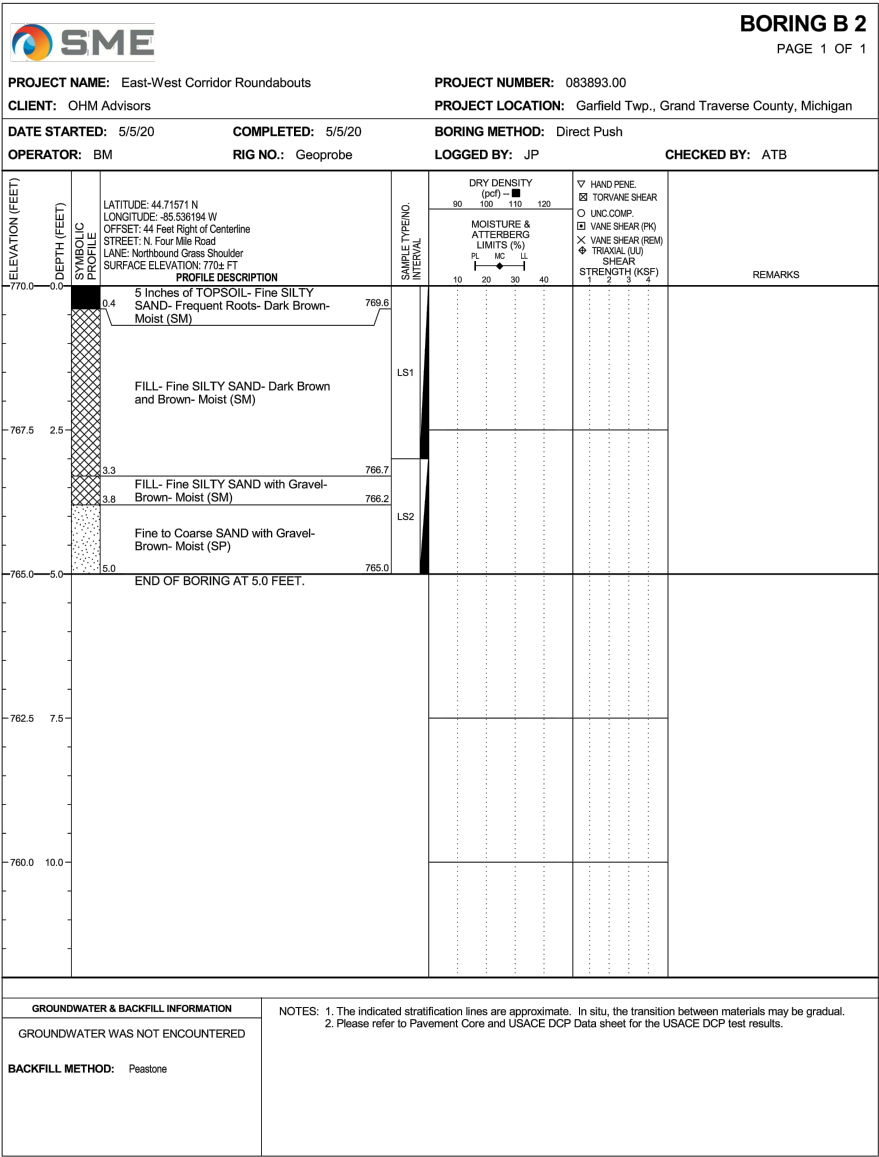
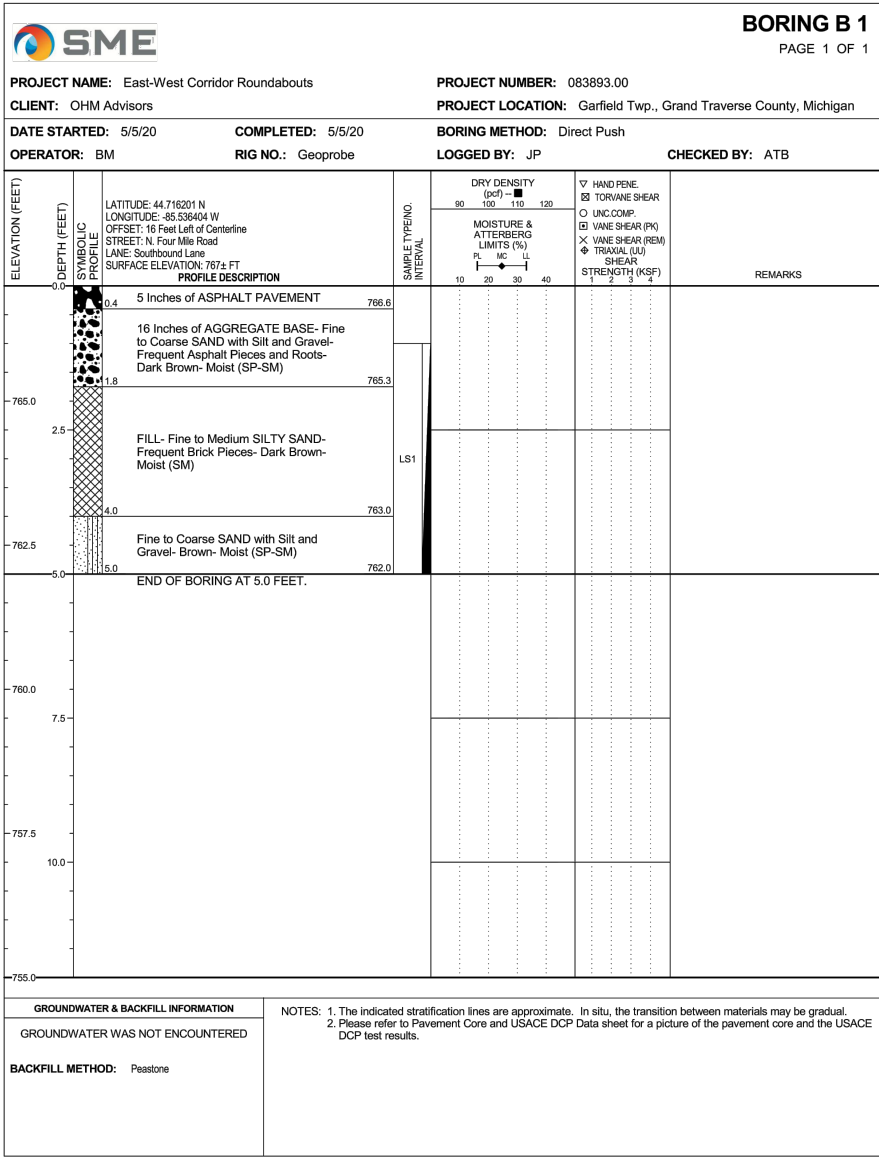


NOTIF #1053125367

| QUANTITIES THIS SHEET | | |
|-----------------------|--------------------------------------|------|
| 1 | Cable Pole, Sec, Disman | 1 Ea |
| 2 | Hh, Rem | 7 Ea |
| 3 | Case Sign, Rem | 2 Ea |
| 4 | Controller and Cabinet, Rem | 1 Ea |
| 5 | Controller Fdn, Rem | 1 Ea |
| 6 | Fdn, Rem | 2 Ea |
| 7 | Pedestal Fdn, Rem | 2 Ea |
| 8 | Pedestal, Rem | 2 Ea |
| 9 | Pushbutton, Rem | 4 Ea |
| 10 | Serv Disconnect, Rem | 1 Ea |
| 11 | Span Wire, Rem | 1 Ea |
| 12 | Steel Pole, Rem | 2 Ea |
| 13 | TS, Pedestrian, Bracket Arm Mtd, Rem | 2 Ea |
| 14 | TS, Pedestrian, Pedestal Mtd, Rem | 2 Ea |
| 15 | TS, Span Wire Mtd, Rem | 2 Ea |



DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W_Corridor_Roundabouts\Drawings\Civil\Misc4 Mile Hammond\20010LOG.dwg Mar 30, 2021 - 10:45pm



ARCHITECTS ENGINEERS PLANNERS

300 East Mitchell St., Suite 2
Petoskey, MI 49770
P (231) 344-1150

OHM-ADVISORS.COM

REVISIONS:

DATE

3/30/2021

PROJ NUMBER

737-024070

ENG

BA

PROJ MGR

JK

CADD

JM

COUNTY

GRAND TRAVERSE

CITY/VILLAGE/TOWNSHIP

EAST BAY TOWNSHIP

HORIZ DATUM

LOCAL

VERT DATUM

NAVD83

SCALE

H: 1"=40'

V: 1"=4'

GRAND TRAVERSE COUNTY ROAD COMMISSION

4 MILE ROAD/HAMMOND ROAD ROUNDABOUT

SOIL BORING LOG

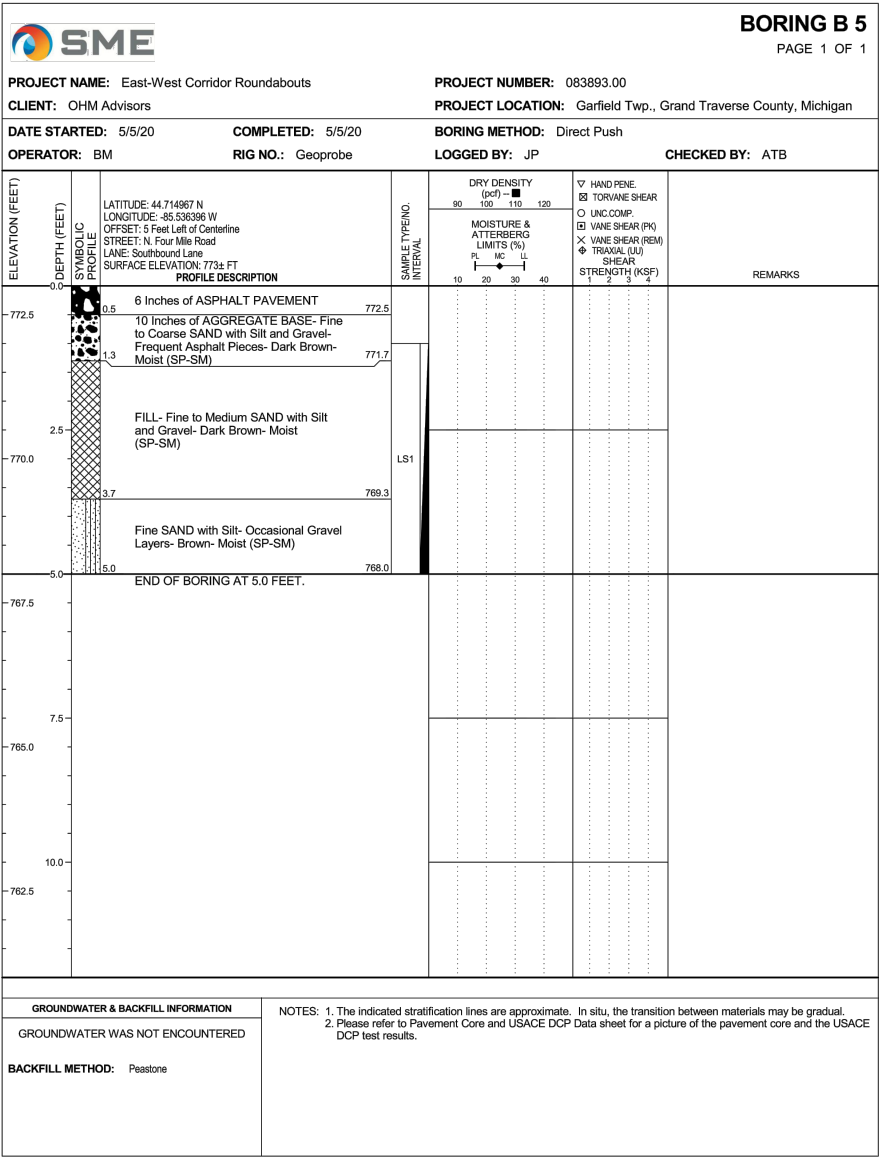
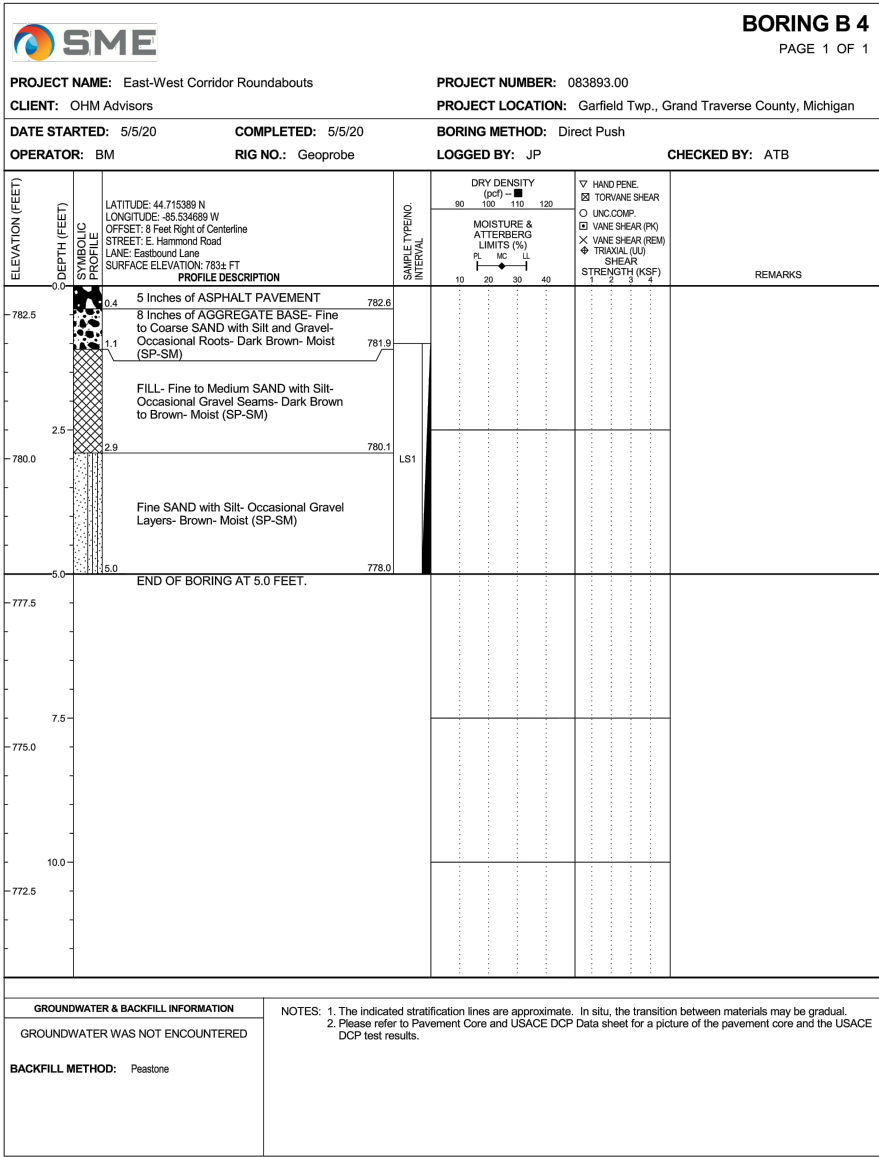
SHEET

75

OF 84

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DRAWING PATH: P:\7301_7400\737120010_GTCRC_E-W Corridor_Roundabouts\Drawings\Civil\Misc4 Mile Hammond\20010LOG.dwg Mar 30, 2021 - 10:45pm



PROJECT MANAGER: BRIAN C. SOUSA
C:\PW\WORK\GBOCART\01079663\DOT-PLTS-LEGEND\NOTES.DWG - C1.0 - PLOTTED 3/23/2021 9:36 AM BY: BOGART, GARTH

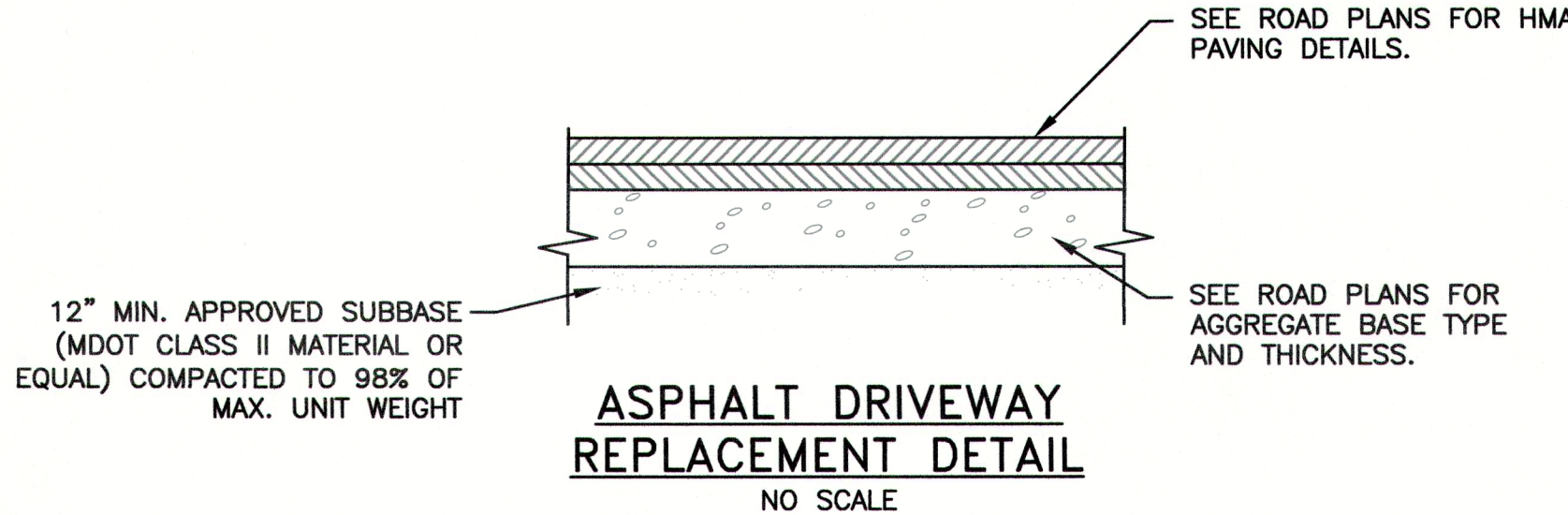
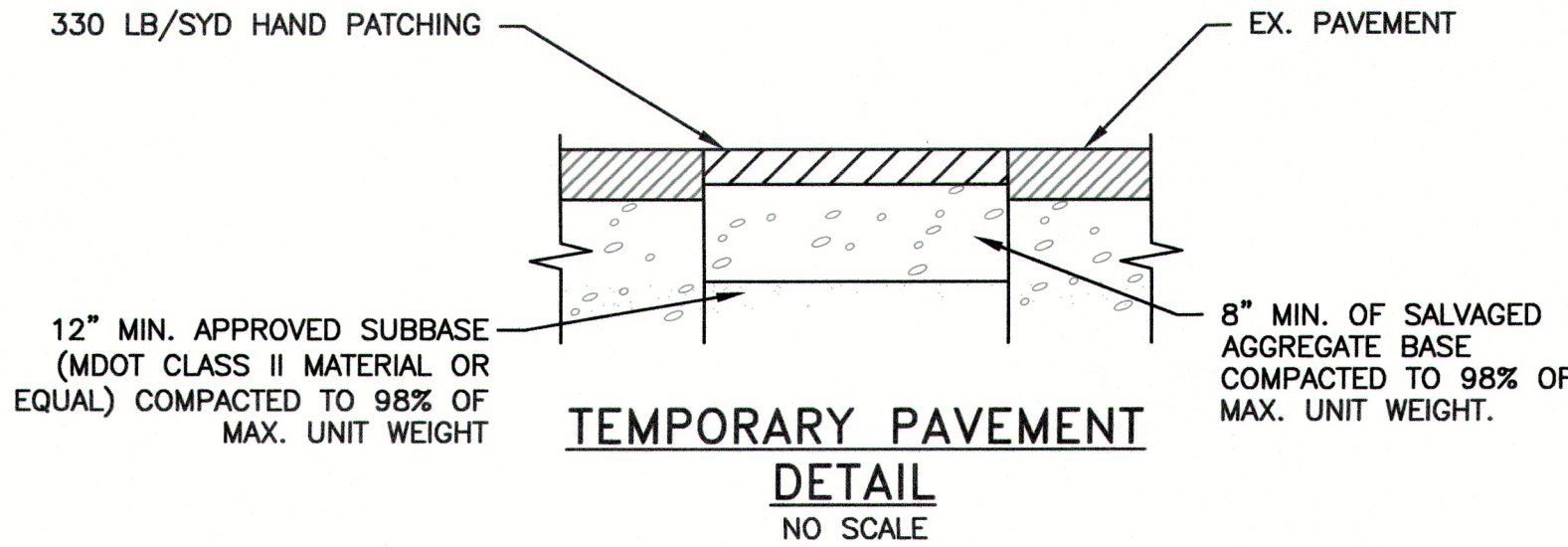
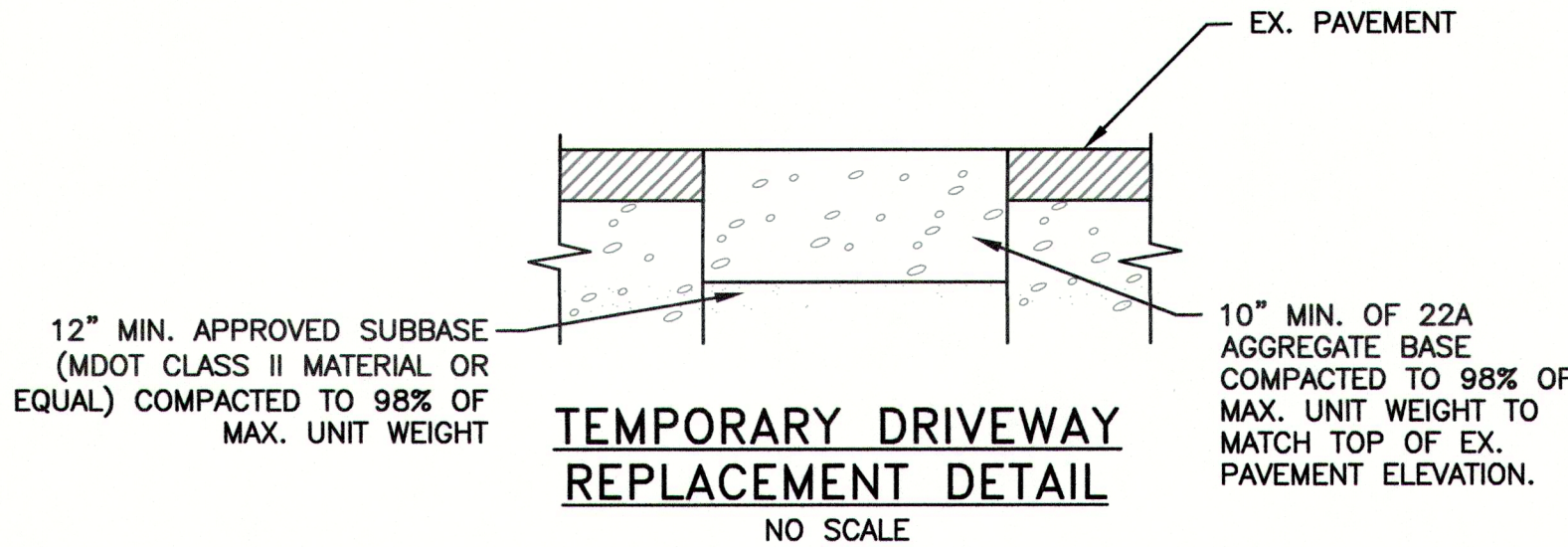
THESE PLAN SHEETS REPRESENT ONLY WATER AND SANITARY SEWER IMPROVEMENTS. THESE ARE PART OF A LARGER PROJECT PLAN SET OUTLINING A NEW ROUNDABOUT. BOTH PLAN SETS (UTILITIES & ROUNDABOUT) WORK IN CONJUNCTION.

SPECIAL PROVISIONS & GENERAL PLAN NOTES

- THE FOLLOWING SPECIAL PROVISIONS ARE TO BE USED DURING THE CONSTRUCTION OF THIS PROJECT. WHERE THESE SPECIAL PROVISIONS ARE AT A VARIANCE WITH THE SPECIFICATIONS IN THE CONTRACT DOCUMENTS, THESE SPECIAL PROVISIONS SHALL PREVAIL.
- THE EXISTING UTILITIES SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED FROM SURVEYS AND FROM THE CORRESPONDING UTILITY COMPANIES. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO SATISFY HIMSELF AS TO THE ACCURACY OR OF HIS RESPONSIBILITY IN CASE UTILITIES HAVE BEEN CONSTRUCTED OR REMOVED SINCE THIS INFORMATION WAS OBTAINED. THREE WORKING DAYS BEFORE YOU DIG, EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS, CALL MISS DIG AT 1-800-482-7171.
- IT IS THE INTENT THAT ALL GOVERNMENT CORNERS ON THIS PROJECT BE PRESERVED. ALL MONUMENT BOXES, PROPERTY CORNERS, ETC. SHALL BE REPLACED OR ADJUSTED IF DISTURBED (WHETHER SHOWN ON THE PLANS OR NOT).
- EXISTING HOUSE LEADS, SEPTIC TANK OVERFLOWS, STORM DRAIN TILES, AND IRRIGATION SYSTEMS DESTROYED OR DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR RECONNECTED TO THEIR OUTLET. ALL COSTS SHALL BE CONSIDERED INCLUDED IN OTHER ITEMS.
- ALL EXISTING GAS MAINS, WATER MAINS, STORM SEWERS, TELEPHONE DUCTS AND OTHER UTILITIES WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE SUPPORTED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNERS OF THE UTILITIES.
- COSTS FOR ANY WORK FOR WHICH THERE IS NO SPECIFIC PAY ITEM IN THE PROPOSAL SHALL BE INCLUDED IN OTHER PROPOSED ITEMS OF WORK AND CONSIDERED INCIDENTAL TO THE COST OF THE PROJECT.
- CONTRACTOR SHALL PROVIDE PROPER SIGNING AND BARRICADES TO CLOSE ROADS, SHIFT TRAFFIC AND PROVIDE FOR LOCAL ACCESS, IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS.
- IN ROADWAYS, STREETS, DRIVES AND PARKING AREAS, THE AGGREGATE BASE COURSE SHALL BE REPLACED IMMEDIATELY AFTER BACKFILLING UTILITY TRENCHES AND BACK GRADING. AGGREGATE WEDGES MAY BE NEEDED FOR TRANSITION.
- CURB RECONSTRUCTION, OF CURB NOT SCHEDULED TO BE REMOVED, IF REQUIRED DUE TO DAMAGE DURING THE CONSTRUCTION PROCESS, SHALL MATCH THE EXISTING CURB AND WILL BE CONSIDERED INCIDENTAL TO THE PROJECT, UNLESS SPECIFICALLY COVERED IN ANOTHER PAY ITEM.
- LAWN AREAS AND IRRIGATION SYSTEMS DISTURBED BY CONSTRUCTION SHALL BE RESTORED IN ACCORDANCE WITH ROAD PLANS. RESTORATION OF ALL DISTURBED AREAS AND IRRIGATION SYSTEMS IS INCLUDED IN THE TURF ESTABLISHMENT, THM SEED, SPECIAL MULCH LUMP SUM PAY ITEM.
- DEWATERING, WHEREVER REQUIRED, SHALL BE CONSIDERED INCLUDED IN OTHER ITEMS.
- IF THERE IS AN EXISTING STORM SEWER SYSTEM, IT SHALL BE PROTECTED AND MAINTAINED DURING CONSTRUCTION. INLETS SHALL BE PROTECTED AGAINST SILTATION WITH INLET FILTERS AND ALL STRUCTURES AND PIPES SHALL BE CLEANED AT THE END OF THE PROJECT.
- EXISTING STORM SEWERS, CULVERTS, DRAINAGE DITCHES, WATER MAINS, AND SANITARY SEWERS MUST REMAIN IN SERVICE DURING THE ENTIRE CONSTRUCTION PERIOD.
- ALL ELEVATIONS SHOWN ARE IN FEET.
- RESIDENTS AND BUSINESSES SHALL HAVE ACCESS TO THEIR RESIDENCE AT ALL TIMES, AND ALL TRENCHES MUST BE BACKFILLED AND COMPACTED TO DRIVABLE CONDITIONS AT THE END OF EACH DAY.
- ALL CONCRETE SHALL BE MDOT GRADE S-2 WITH 6AA CRUSHED LIME STONE AGGREGATE.
- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE TOWNSHIP'S CURRENT STANDARDS, SPECIFICATIONS, AND DETAILS AS IF FULLY REWRITTEN HEREIN.
- ALL WATER MAIN IS TO BE INSTALLED A MINIMUM OF 10 FEET, HORIZONTAL DISTANCE MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE, FROM ANY SANITARY OR STORM SEWER. SIMILARLY, ALL WATER AND SEWER SERVICE LEADS SHALL BE ISOLATED FROM EACH OTHER AS REQUIRED BY LOCAL ORDINANCES AND PLUMBING CODES AND ANY OTHER APPLICABLE STANDARDS.
- CONTRACTOR IS RESPONSIBLE FOR SALVAGING AND REPLACING ALL SIGNS AND MAIL BOXES AFFECTED BY HIS OPERATIONS. COSTS SHALL BE INCLUDED IN OTHER PAY ITEMS. ALL SIGNS AND MAILBOXES ARE TO BE REPLACED IN THE SAME LOCATION AND ELEVATION AS PRE-CONSTRUCTION CONDITION AND SHALL MEET THE REQUIREMENTS OF THE GOVERNING BODY. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS FOR MAIL DELIVERY BY EITHER TEMPORARILY RELOCATING THE MAILBOXES TO THE OUTSKIRTS OF THE PROJECT AREA OR BY MAINTAINING ACCESS TO THE EXISTING MAILBOXES BY THE POSTAL CARRIER.
- AT ALL LOCATIONS WHERE CONCRETE OR BITUMINOUS SURFACES ARE TO BE REMOVED AND REPLACED, A SAW CUT IS REQUIRED TO PROVIDE A NEAT JOINT. SAW-CUTTING IS CONSIDERED INCIDENTAL TO THE COST OF THE PROJECT.
- CONTRACTOR IS TO KEEP, AT A MINIMUM, AN 18-INCH VERTICAL DISTANCE BETWEEN THE PROPOSED WATER MAIN AND ANY SANITARY SEWER OR STORM SEWER CROSSINGS. AN 18-INCH HORIZONTAL DISTANCE MUST ALSO BE KEPT BETWEEN ANY STRUCTURES AND THE PIPE.
- CORPORATIONS, CURB STOPS, AND OTHER WATER FITTINGS MUST CONFORM TO THE "REDUCTION OF LEAD IN DRINKING WATER ACT" EFFECTIVE JANUARY 4, 2014.
- ALL PRE-CONSTRUCTION DRAINAGE PATTERNS MUST BE MAINTAINED, INCLUDING REBUILDING SPILLWAYS, RIP-RAP, AND CULVERTS.
- ALL ELEVATIONS ARE BASED ON NAVD88 DATUM.
- THE HORIZONTAL DATUM IS NAD 1983 MICHIGAN STATE PLANE ZONE 2112.
- BASE SURVEY AND ROUNDABOUT LAYOUT PROVIDED BY OHM ADVISORS.
- EXISTING POTABLE WELL LOCATIONS BASED ON LATITUDE AND LONGITUDE RECORDED ON MCGI.STATE.MI.US/WATERWELLVIEWER/
- ROUNDABOUT IMPROVEMENTS BY OTHERS.
- REMOVAL AND RECONSTRUCTION QUANTITIES WITHIN THE ROUNDABOUT CONSTRUCTION LIMITS ARE INCLUDED IN THE ROAD PLAN SHEETS.
- 200 CUBIC YARDS OF UNDERCUT AND BACKFILL IS TO BE INCLUDED WITHIN THE CONTRACTOR'S BID FOR THE INSTALLATION OF THE PROPOSED DOMESTIC WATER AND SANITARY SEWER UTILITIES. ALL UNDERCUT & BACKFILL ACTIVITIES MUST BE PRE-APPROVED BY THE ENGINEER OR PAYMENT WILL NOT BE MADE.
- A ROUTE FOR EMERGENCY SERVICE VEHICLES IS TO REMAIN OPEN WITHIN THE CONSTRUCTION LIMITS AT ALL TIMES.

CONSTRUCTION NOTES

- ALL CONSTRUCTION ACTIVITY MUST REMAIN IN THE R.O.W., EASEMENTS, TOWNSHIP-OWNED PROPERTY, OR DESIGNATED STAGING AREAS. ANY AREAS OUTSIDE OF THOSE NOTED, THAT ARE AFFECTED BY CONSTRUCTION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- TREES WITHIN THE LIMITS OF THE TRENCH MAY BE REMOVED IF NEEDED. ALL OTHER TREES MUST BE SAVED UNLESS OTHERWISE NOTED. CONTRACTOR IS RESPONSIBLE FOR TREE REMOVAL, IF REQUIRED. PAYMENT IS INCLUDED IN OTHER ITEMS. TREES ON PRIVATE PROPERTY, THAT ARE TO BE REMOVED, MUST BE APPROVED BY THE PROPERTY OWNER PRIOR TO REMOVAL.
- ANY UTILITY RELOCATIONS OR POLES THAT NEED TO BE HELD, ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE INCLUDED IN OTHER ITEMS.
- EXISTING MONUMENT BOXES, WATER VALVES, SANITARY AND STORM MANHOLE COVERS, CATCH BASIN COVERS, ETC. SHALL BE ADJUSTED TO FIT THE FINAL GRADE AND SHALL BE INCLUDED IN OTHER ITEMS. PAYMENT FOR ADJUSTMENTS TO ALL STRUCTURES SHALL BE INCLUDED IN OTHER ITEMS, REGARDLESS OF THE AMOUNT OF ADJUSTMENT REQUIRED AND REGARDLESS OF WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
- CONTRACTOR SHALL SUBMIT AN ITEMIZED CONSTRUCTION SCHEDULE PRIOR TO THE START OF CONSTRUCTION, FOR REVIEW AND APPROVAL BY THE OWNER AND THE ENGINEER.
- ALL GRAVEL SHOULDERS SHALL BE REPLACED WITH 8" OF MDOT 23A GRAVEL COMPACTED TO 98% MAX. UNIT WEIGHT, TO THE PRE-CONSTRUCTION WIDTH. COST/PAYMENT SHALL BE INCLUDED IN OTHER PAY ITEMS.
- EXISTING CULVERTS THAT ARE TO BE REMOVED, OR REMOVED AND REPLACED WITH NEW, MUST BE DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.
- WATER MAIN LENGTHS ARE LABELED BETWEEN HYDRANTS, TEES, CROSSES, CHANGES IN PIPE MATERIAL, AND MATCH LINES. VALVES AND BENDS ARE NOT CONSIDERED IN THE PIPE LENGTHS.
- SANITARY SEWER MAIN LENGTHS ARE LABELED BETWEEN MANHOLES AND MATCH LINES.
- ALL MANHOLE, WATER VALVE AND RIM ELEVATIONS MUST BE CONFIRMED BY CONTRACTOR WITH THE PROPOSED ROAD PLANS PRIOR TO SETTING.
- ADJUSTMENT OF VALVE BOXES AND MANHOLES TO MEET FINAL ROUNDABOUT GRADES.
- ALL FINISH GRADES ARE SUBJECT TO THE FINAL ROUNDABOUT CONSTRUCTION. FINISH GRADES SHOWN ON THESE PLANS ARE APPROXIMATE. CONTRACTOR TO CONSULT ROUNDABOUT ROAD PLANS FOR FINISH GRADES.



| SANITARY SEWER LEAD SCHEDULE | | | | |
|------------------------------|----------------------------------|--|-------------------|-----------|
| SEWER LEAD NUMBER | DISTANCE FROM DOWNSTREAM MANHOLE | DISTANCE FROM SANITARY SEWER MAIN TO END OF LEAD | DEPTH BELOW GRADE | SHEET NO. |
| 1 | 20' FROM MH #3 | 10' | | C3.0 |
| 2 | 36' FROM MH #7 | 69' | | C4.0 |
| 3 | 15' FROM MH #11 | 60' | | C5.0 |
| 4 | 89' FROM MH #11 | 12' | | C5.0 |
| 5 | 180' FROM MH #11 | 11' | | C5.0 |
| 6 | 194' FROM MH #11 | 5' | | C5.0 |

| WATER SERVICE LEAD SCHEDULE | | | | |
|-----------------------------|--|---|-------------------|-----------|
| WATER SERVICE LEAD NO. | DISTANCE FROM GATE VALVE OR HYDRANT. INCLUDE VALVE OR HYDRANT NUMBER | DISTANCE FROM WATER MAIN TO CURB STOP VALVE | DEPTH BELOW GRADE | SHEET NO. |
| 1 | 14' | 5' | | C5.0 |

LEGEND

| EXISTING | PROPOSED |
|----------------------------|----------|
| BENCH MARK | |
| CIRCUIT BREAKER POLE | |
| CATCH BASIN | |
| CATCH BASIN | |
| ELECTRIC HAND HOLE | |
| GATE VALVE | |
| GUY ANCHOR | |
| GAS VALVE | |
| FIRE HYDRANT | |
| IRON | |
| LAMP POLE | |
| MAILBOX | |
| POST | |
| POWER POLE | |
| SIGN | |
| SANITARY MANHOLE | |
| SANITARY CLEANOUT | |
| STUMP | |
| TELEPHONE PEDESTAL | |
| UNDERGROUND UTILITY MARKER | |
| WATER METER PIT | |
| WATER SHUT OFF | |
| CABLE TV PEDESTAL | |
| GUY POLE | |
| MONUMENT (SURVEY) | |
| TELEPHONE POLE | |
| BUILDING LINE | |
| OVERHEAD POWER LINE | |
| EDGE OF GRAVEL | |
| WATER MAIN | |
| SANITARY SEWER | |
| GAS MAIN | |
| UNDERGROUND TELEPHONE | |
| ASPHALT | |
| CONCRETE | |
| AGGREGATE | |
| TOP OF BERM | |
| BOTTOM OF BERM | |
| GUARDRAIL | |
| VALVE & NUMBER | |
| HYDRANT & NUMBER | |
| REM & REP EX. CURB | |
| REM & REP EX. ASPH. | |
| TEMPORARY PAVEMENT | |

| SHEET INDEX | |
|--|-----------|
| GENERAL SHEETS | SHEET NO. |
| NOTES, LEGEND, AND ROAD DETAILS | C1.0 |
| SHEET INDEX | C2.0 |
| E. HAMMOND ROAD - STA 100+84 TO 107+35 | C3.0 |
| E. HAMMOND ROAD - STA 107+50 TO 115+65 | C4.0 |
| 4-MILE ROAD - STA 300+55 TO 306+21 | C5.0 |
| 4-MILE ROAD - STA 306+25 TO 313+50 | C6.0 |
| WATER MAIN DETAILS | C7.0 |
| SANITARY SEWER DETAILS | C8.0 |

STATE OF MICHIGAN
BRIAN C. SOUSA
ENGINEER
NO. 54095
EXPIRES 12/31/2024
3-22-21
FOR WADE TRIM SHEET
C1.0 - C8.0



Know what's below.
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10850 East Traverse Highway, Suite 2260
Traverse City, MI 49684
www.wadetrim.com

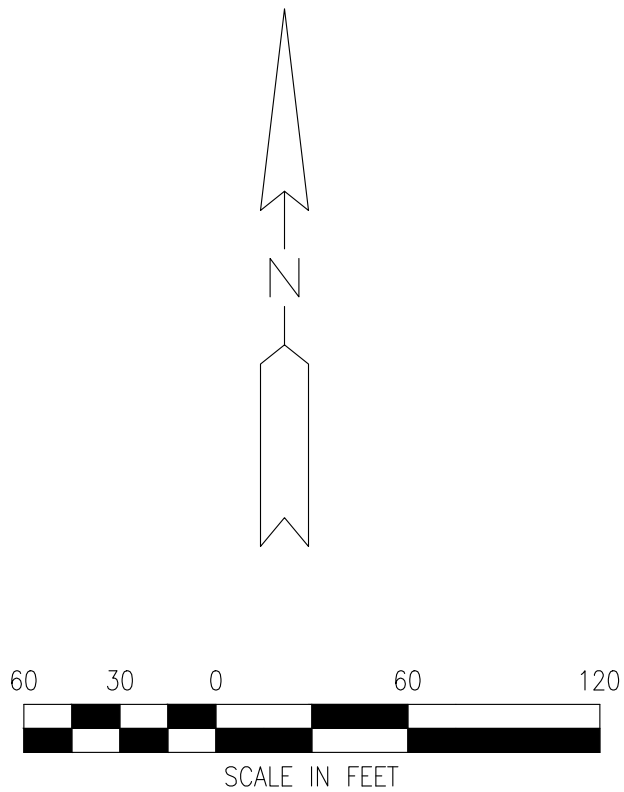
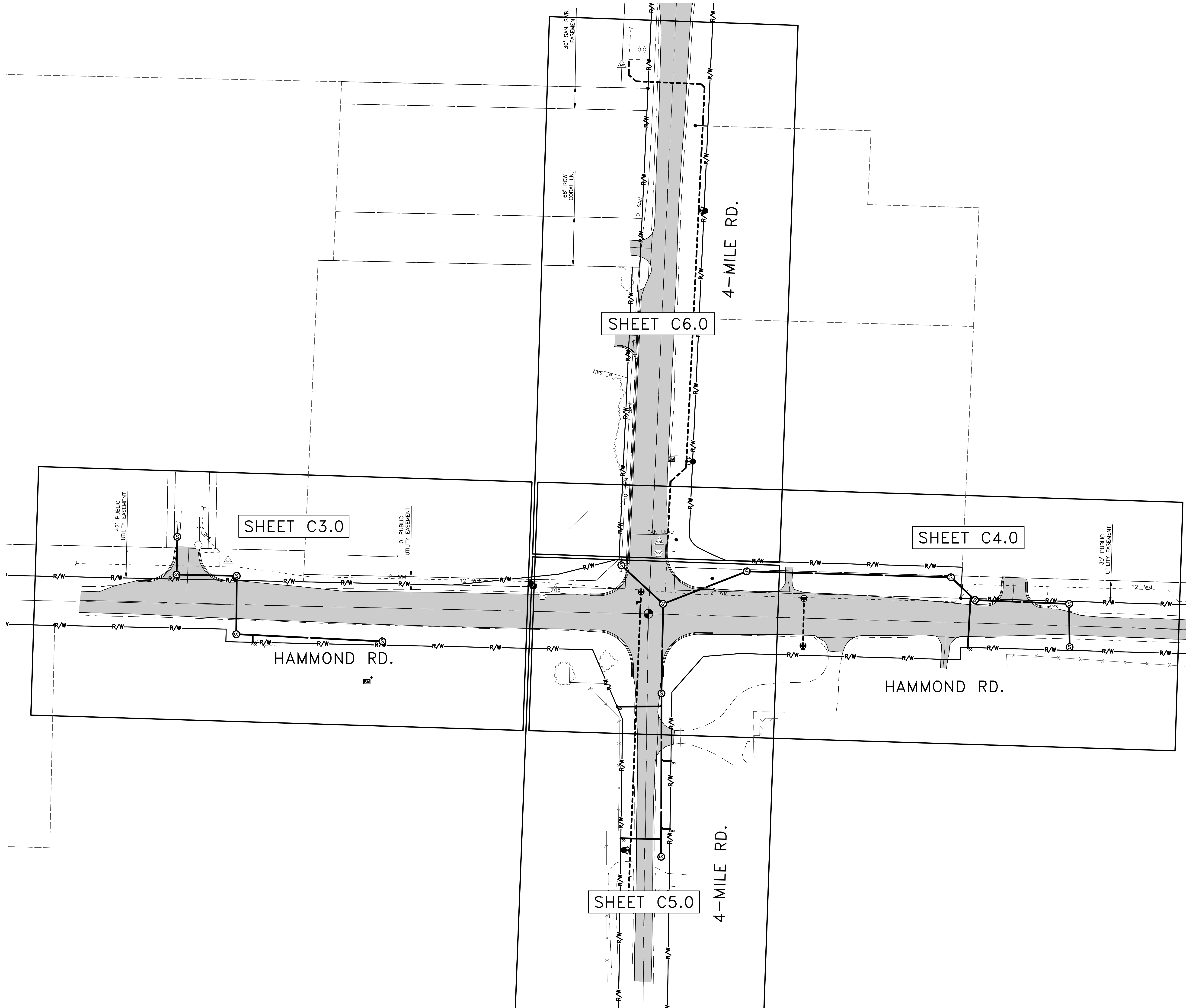
WADE TRIM

EAST BAY CHARTER TOWNSHIP
1965 N. THREE MILE ROAD
TRAVERSE CITY, MI 49696
HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS
NOTES, LEGEND, AND ROAD DETAILS
HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS

ISSUED FOR: DATE: BY:
OF SUBMITTAL 9/25/20 BCS
EGLE PERMITS 12/7/20 BCS
BID 3/22/21 BCS

JOB NO.
EBT3431-01C

SHEET
C1.0



ISSUED FOR: DATE: BY:
GI SUBMITTAL 9/25/20 BCS
EGLE PERMITS 12/17/20 DCC
BID 3/22/21 BCS

JOB NO.
EBT3431-01C

SHEET
C2.0

EAST BAY CHARTER TOWNSHIP
1965 N. THREE MILE ROAD
TRAVERSE CITY, MI 49696
HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS

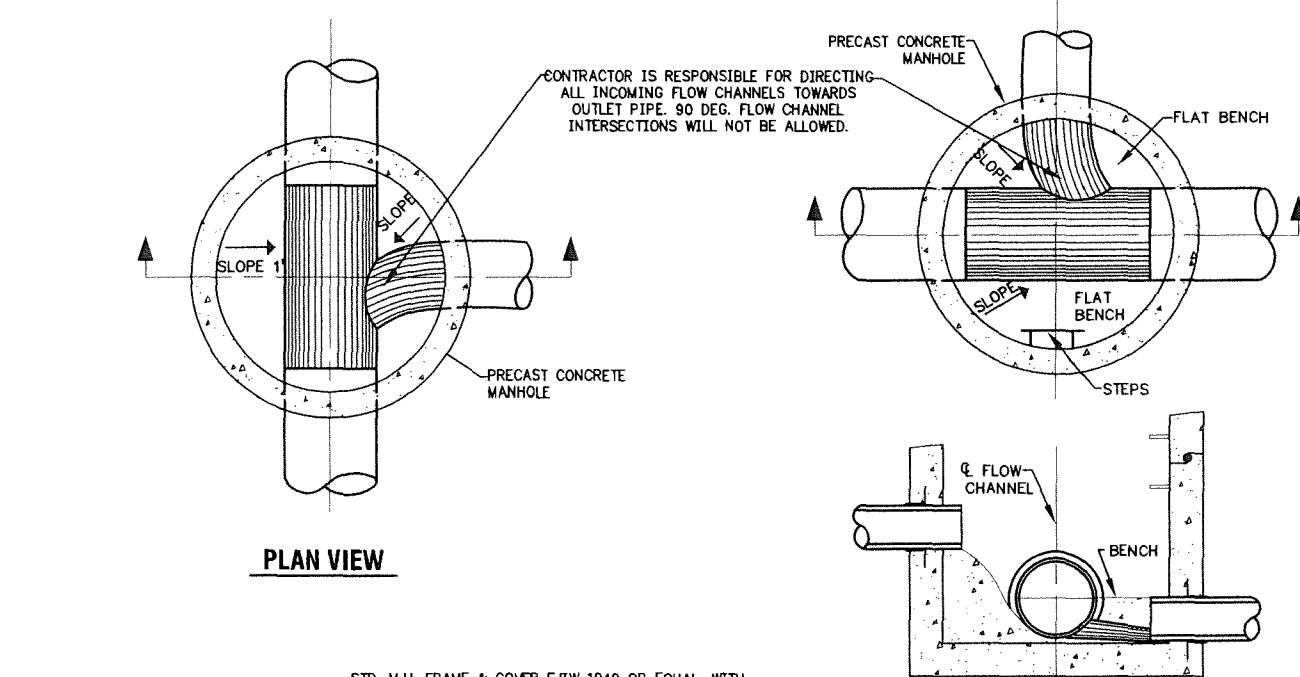
SHEET INDEX

HAMMOND & 4-MILE ROAD WATER & SANITARY SEWER EXTENSIONS

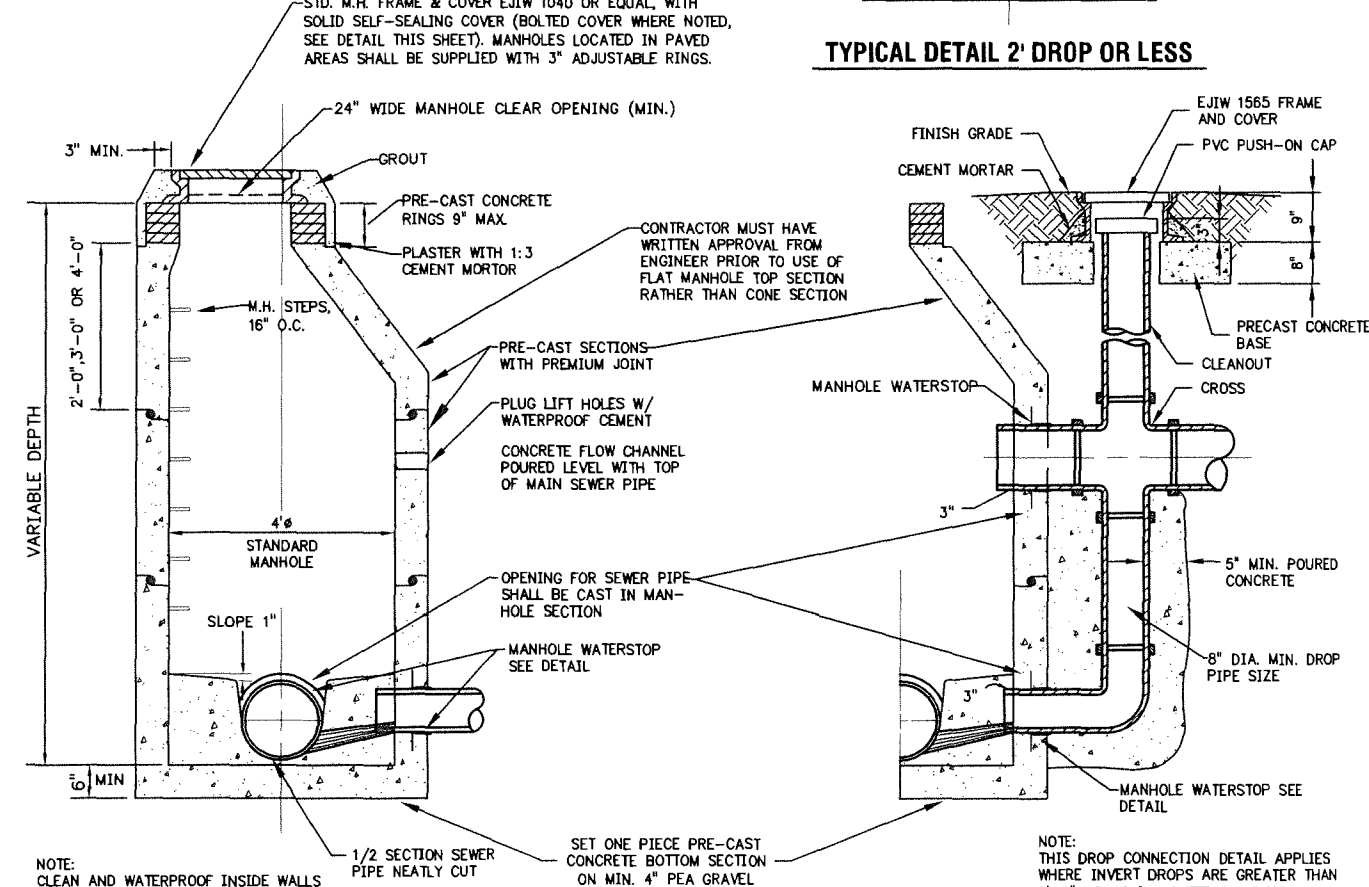
10859 East Traverse Highway, Suite 200
Traverse City, MI 49684
231.847.7400
www.wadetrim.com



| REV# | DATE | DESCRIPTION | BY |
|------|------|-------------|----|
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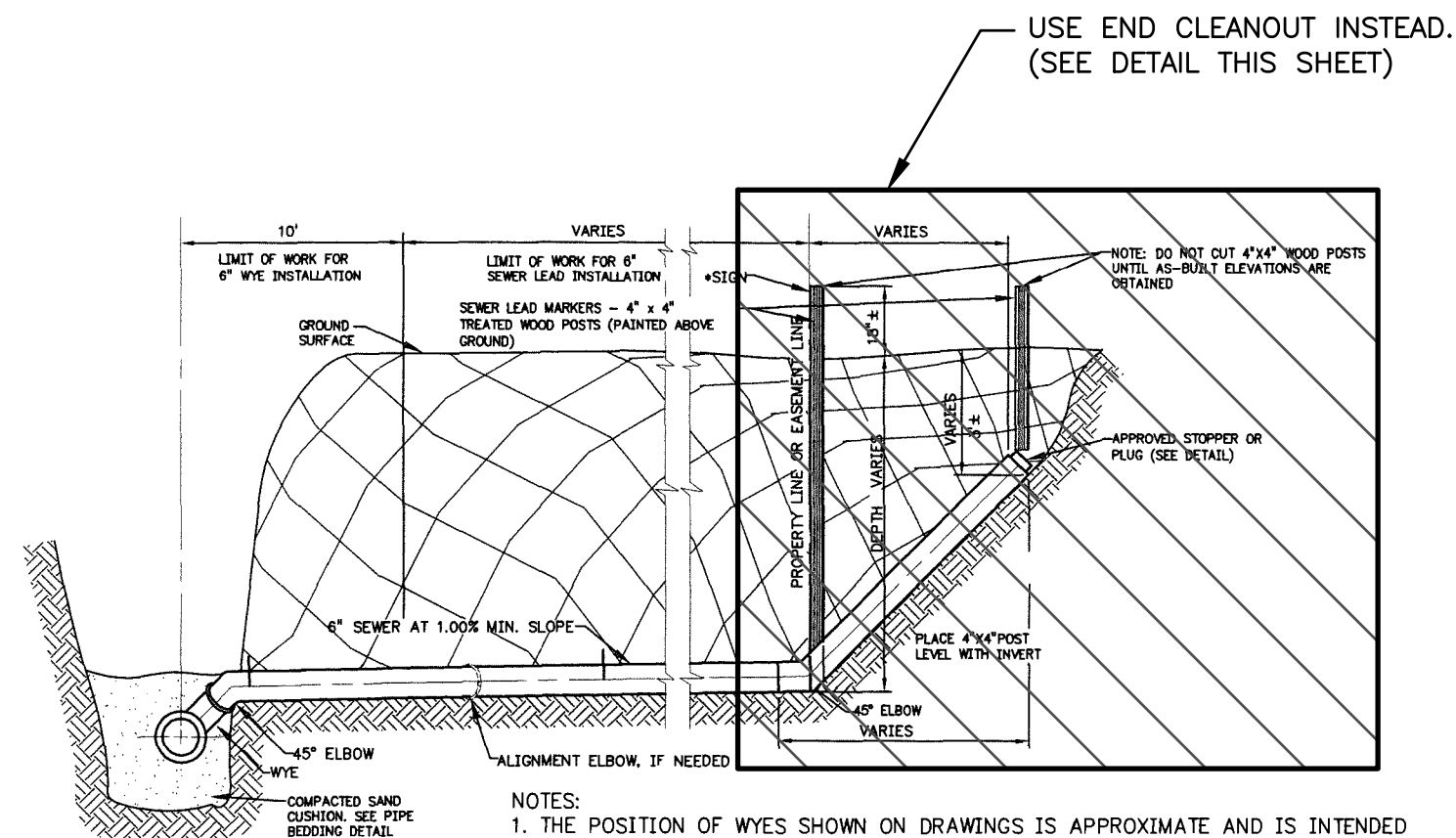


TYPICAL DETAIL 2" DROP OR LESS



DETAIL - STANDARD MANHOLE

NO SCALE



WYE AND SEWER LEAD INSTALLATION DETAIL

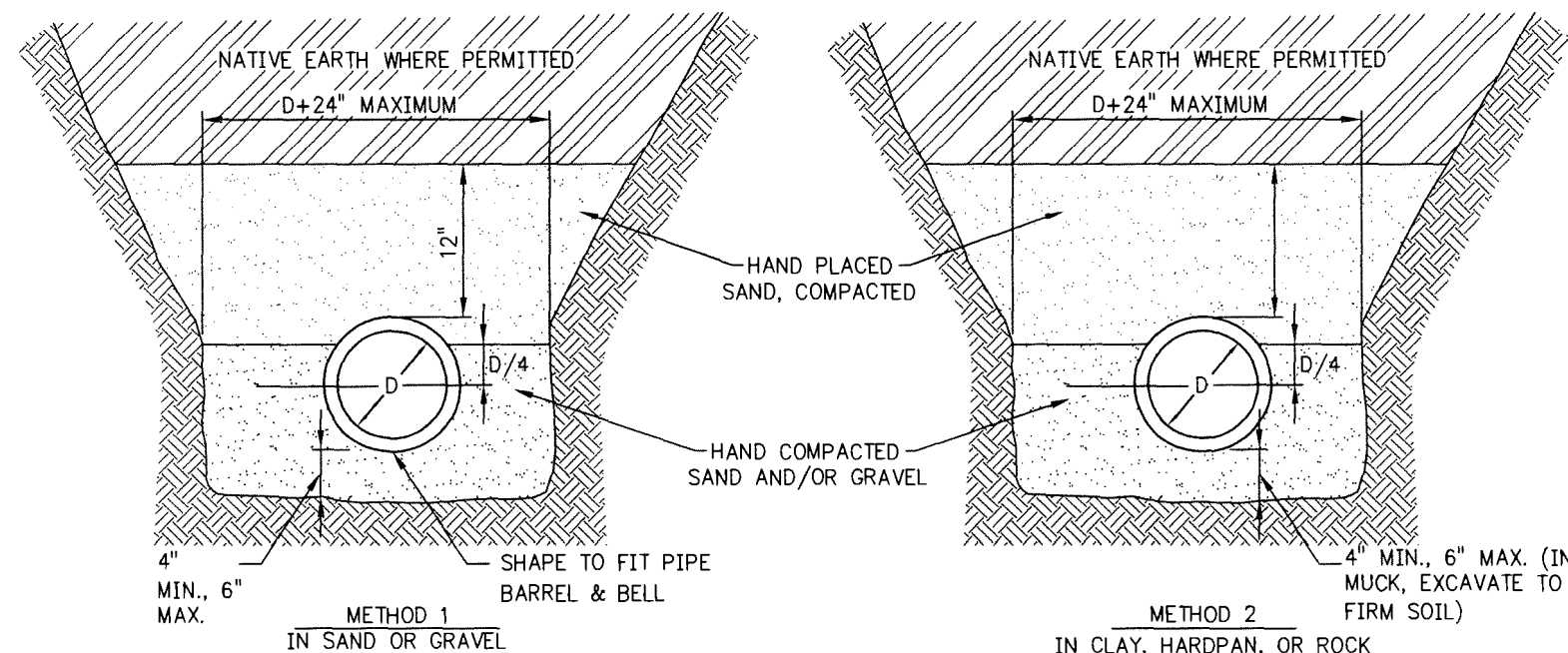
NO SCALE

NOTE:

ALL BACKFILL MATERIAL SHALL CONFORM TO ASTM D2321 STANDARDS

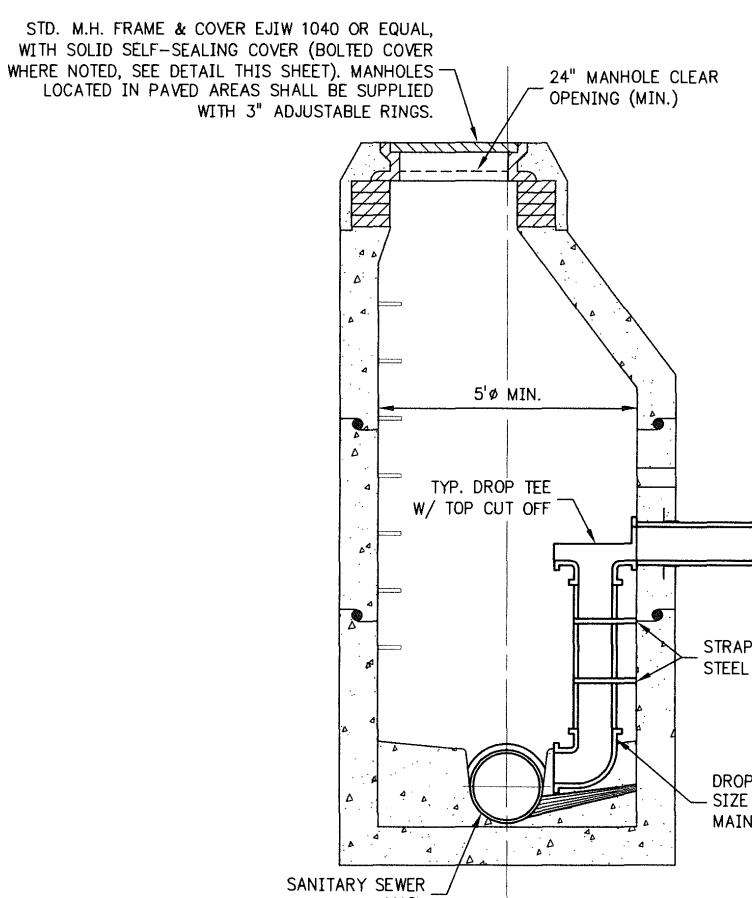
NOTE:

SANITARY SEWER TRENCHES NEED TO PROVIDE A MINIMUM WIDTH OF PIPE DIAMETER PLUS 16 INCHES FOR 8 INCH TO 18 INCH DIAMETER PLASTIC/FLEXIBLE PIPE MATERIALS. FOR 18 INCH AND LARGER PIPE DIAMETERS, THE MINIMUM TRENCH WIDTH IS 1.25 TIMES THE PIPE DIAMETER PLUS 12 INCHES FOR PLASTIC/FLEXIBLE PIPE MATERIALS.



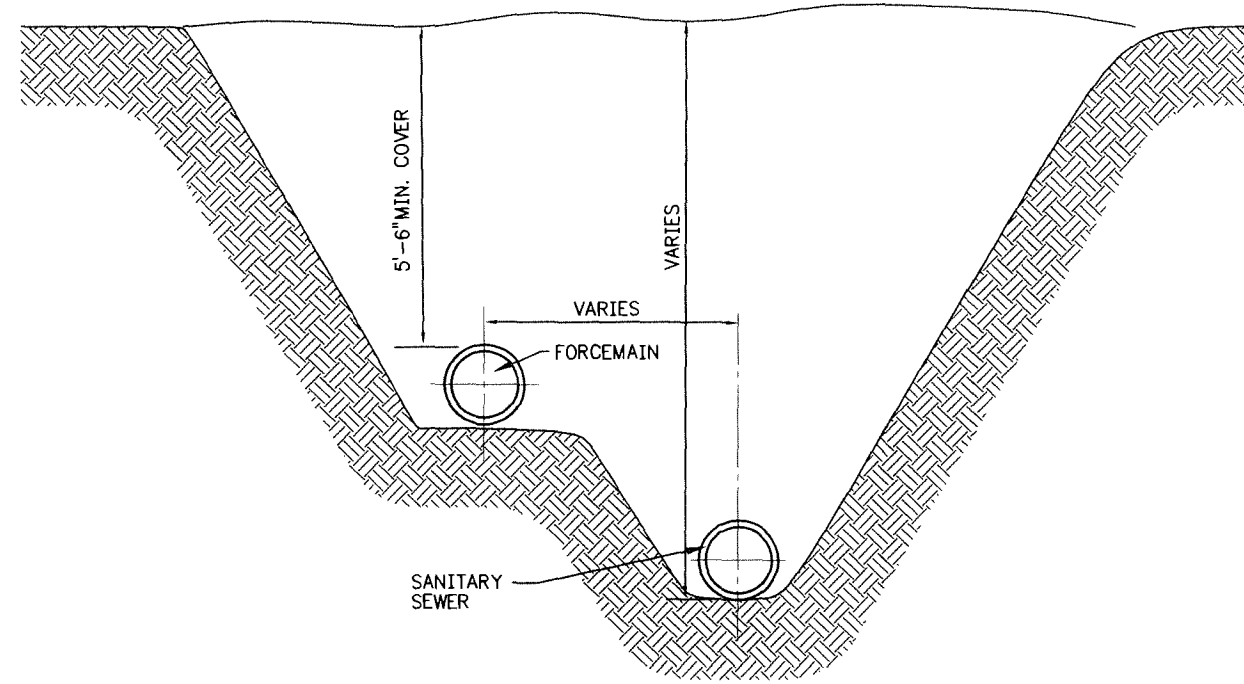
PIPE BEDDING DETAIL

(CLASS A) NO SCALE



INTERNAL DROP MANHOLE DETAIL

NO SCALE



2 PIPE TRENCH DETAIL

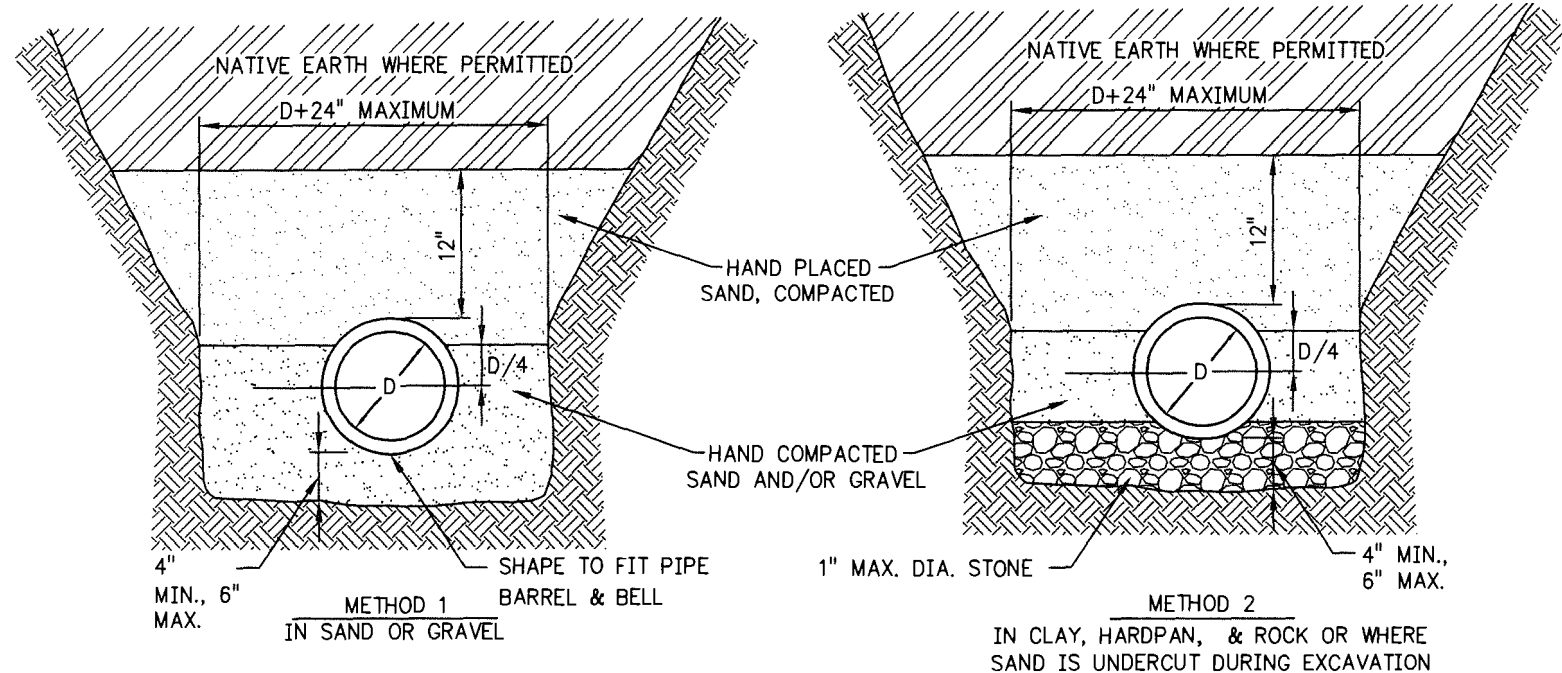
NO SCALE

NOTE:

ALL BACKFILL MATERIAL SHALL CONFORM TO ASTM D2321 STANDARDS

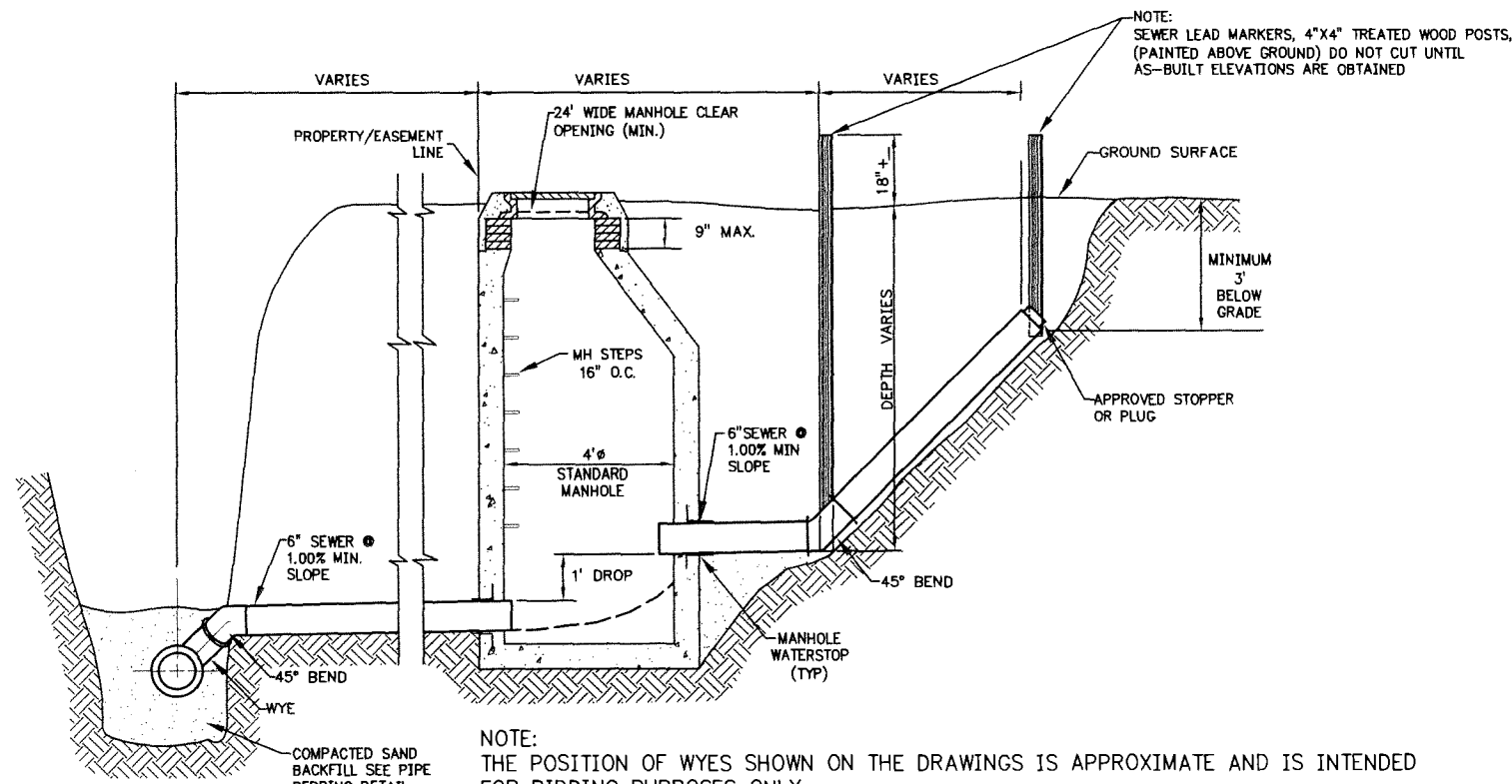
NOTE:

SANITARY SEWER TRENCHES NEED TO PROVIDE A MINIMUM WIDTH OF PIPE DIAMETER PLUS 16 INCHES FOR 8 INCH TO 18 INCH DIAMETER PLASTIC/FLEXIBLE PIPE MATERIALS. FOR 18 INCH AND LARGER PIPE DIAMETERS, THE MINIMUM TRENCH WIDTH IS 1.25 TIMES THE PIPE DIAMETER PLUS 12 INCHES FOR PLASTIC/FLEXIBLE PIPE MATERIALS.



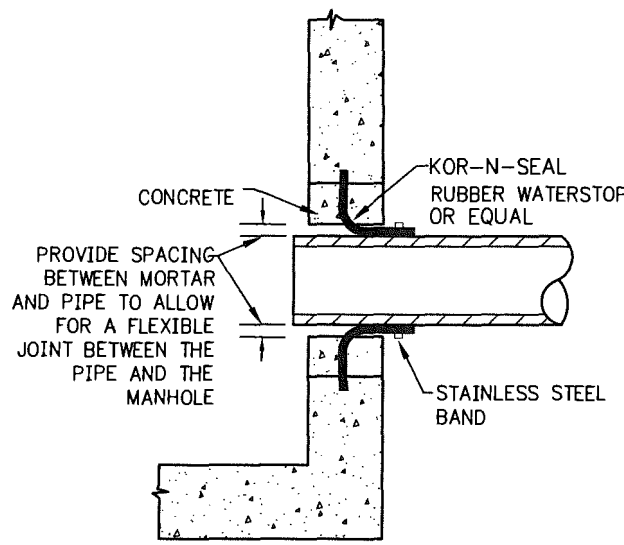
PIPE BEDDING DETAIL

(CLASS B) NO SCALE



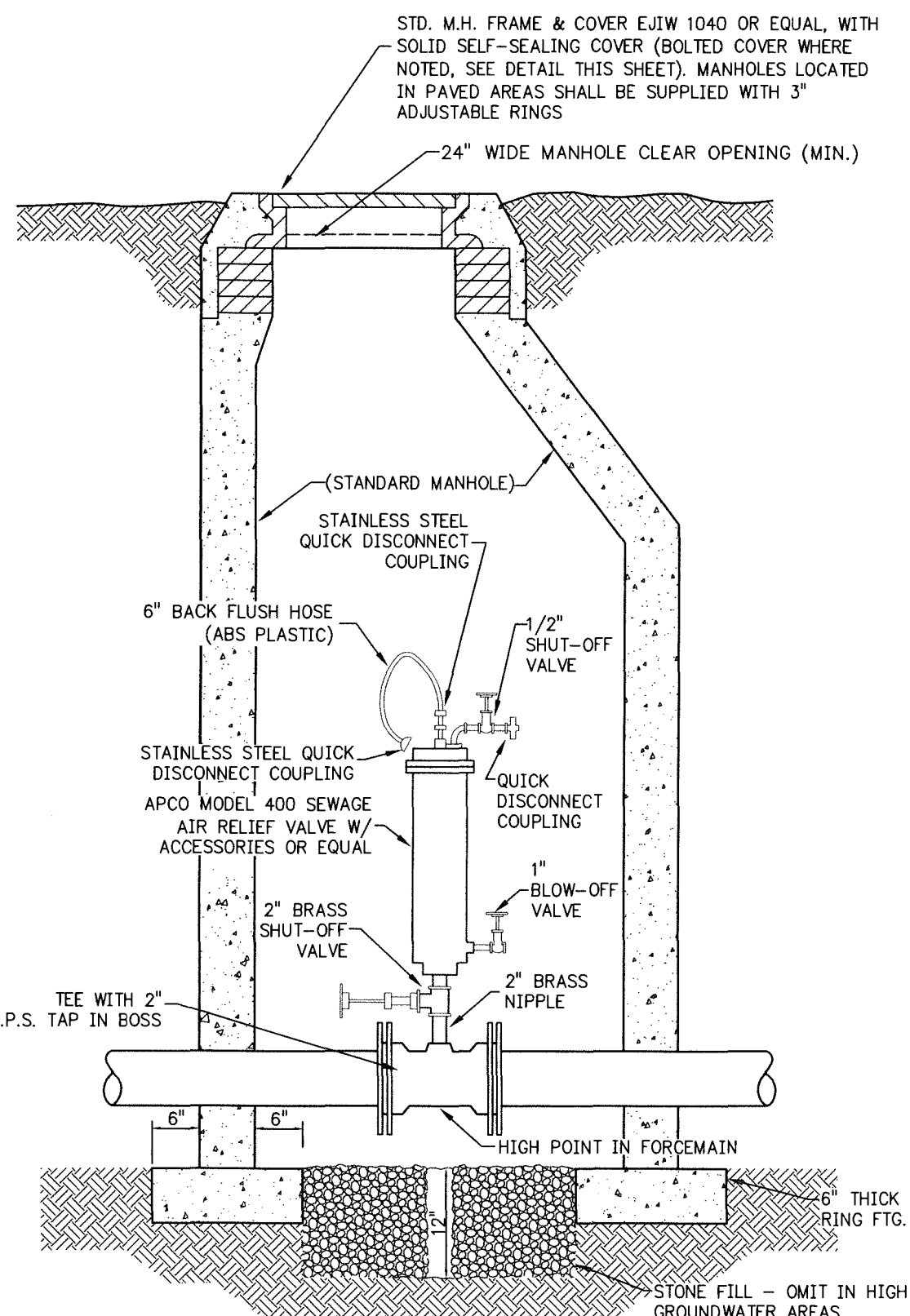
INDUSTRIAL/COMMERCIAL IPP SURVEILLANCE MANHOLE DETAIL

NO SCALE



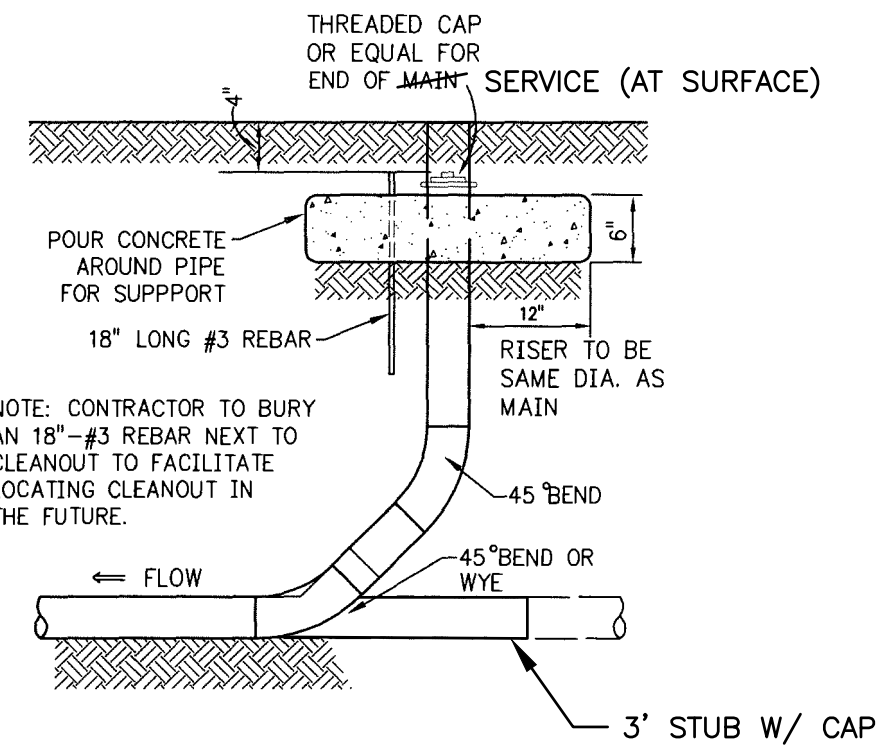
MANHOLE/WETWELL WATERSTOP DETAIL

NO SCALE



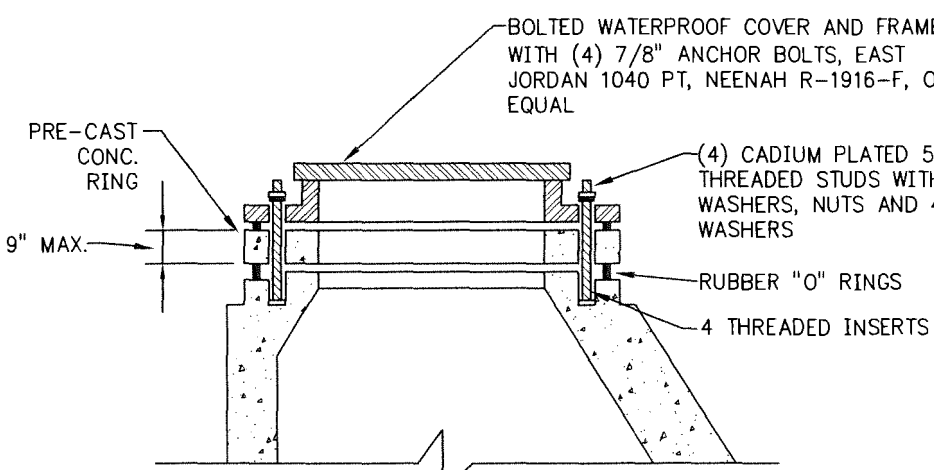
FORCEMAIN AIRVALVE DETAIL

NO SCALE



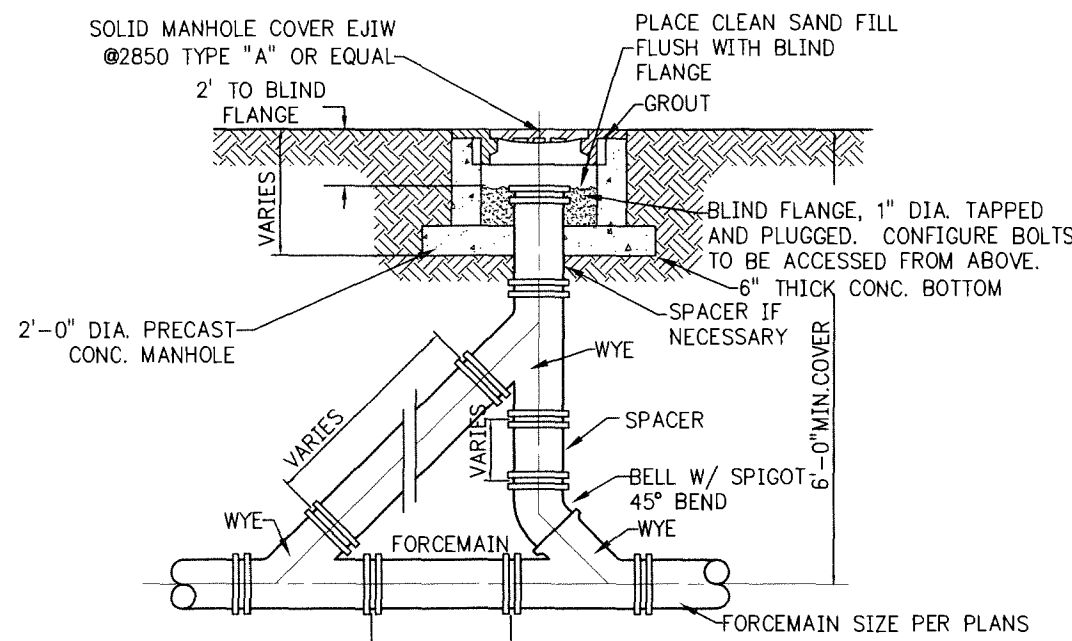
END CLEANOUT DETAIL

NO SCALE



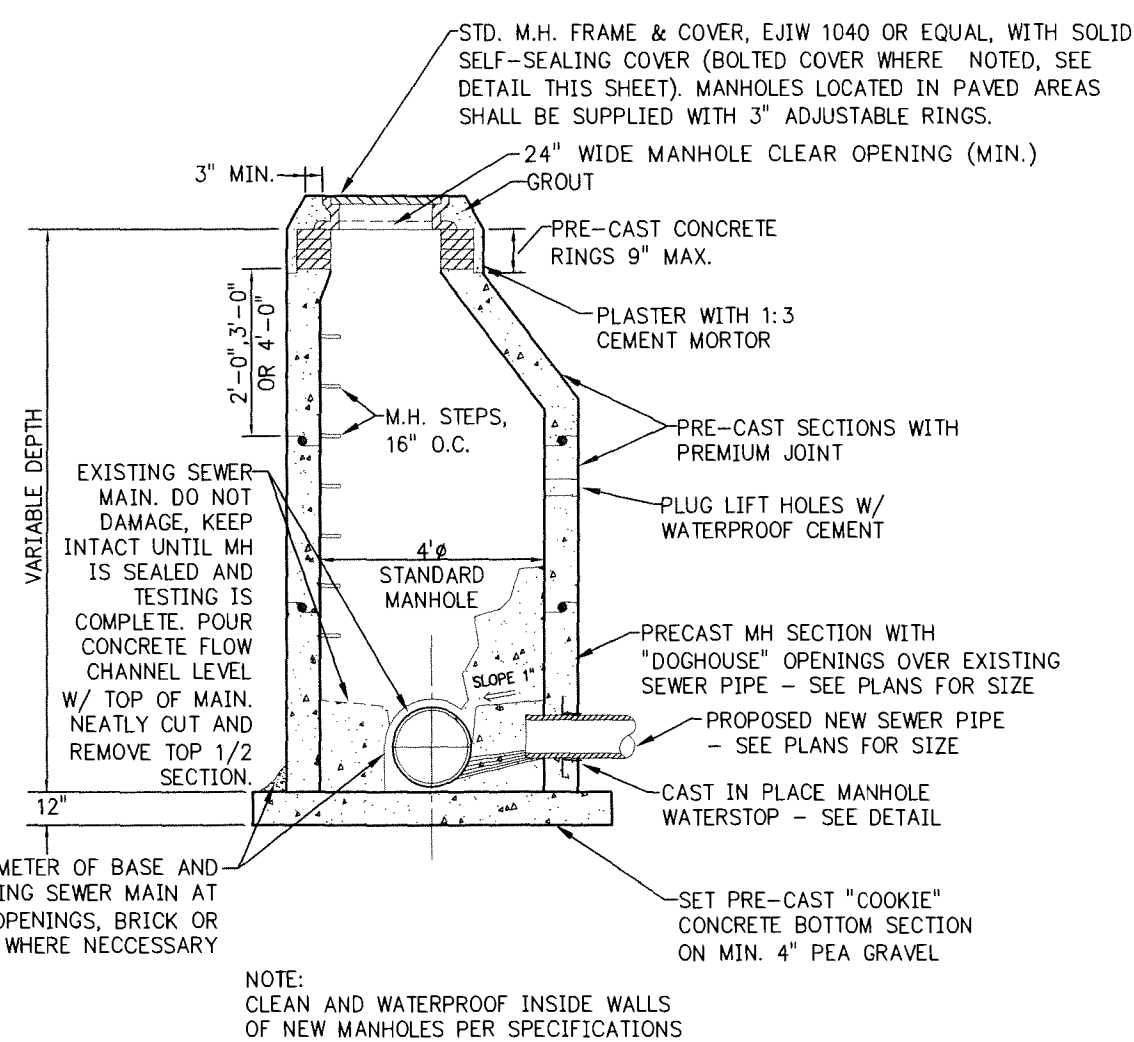
BOLTED MANHOLE COVER DETAIL

NO SCALE



TWO WAY FORCEMAIN CLEANOUT DETAIL

NO SCALE



MANHOLE OVER EXISTING SEWER DETAIL

NO SCALE

| REV# | DATE | DESCRIPTION |
|------|------|-------------|
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| | | |
| | | |

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GI SUBMITTAL 9/25/20 BCS
EGL PERMITS 12/7/20 DCC
BID 3/22/21 BCS

JOB NO.
EBT3431-01C

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