ORONOKO TOWNSHIP SNOW ROAD RECREATION FACILITY

NOTES

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE PLACING OF PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SHALL BE DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL

IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, ALL CONTRACTORS SHALL CALL MISS DIG @ 811 OR 800-482-7171 FOR PROTECTION OF UNDERGROUND UTILITIES A MINIMUM OF THREE FULL WORKING DAYS (EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS) PRIOR TO BEGINNING EACH EXCAVATION IN ANY AREA. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE

LEGEND EXISTING ELECTRIC LINE OHE OHE ELECTRIC LINE (OVERHEAD) FIBER OPTIC LINE TELEPHONE LINE ---- SANITARY SEWER STORM SEWER WATER MAIN CENTER LINE EXISTING TREE LINE ———— EXISTING DITCH LINE ——— — EASEMENT LINE/GRADING PERMIT ---- GRADING LIMITS/LIMITS OF DISTURBANCE ——— — — PROPERTY LINE — — SECTION LINE • = PAVEMENT/SOIL BORING □ = CATCH BASIN Ω = PROPOSED HYDRANT = PROPOSED GATE VALVE & BOX = CABLE RISER BOX ●^{CO} = CLEAN OUT = PROPOSED GATE VALVE & VAULT = CURB INLET = PROPOSED REDUCER T = FIRE HYDRANT = PROPOSED STORM MANHOLE

STORM MANHOLE

■ = WATER ELEVATION

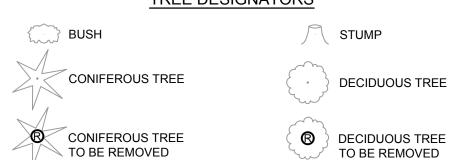
Ø = UTILITY POLE

⇒ = WATER SPIGOT

= TELEPHONE MANHOLE

□ = TELEPHONE RISER BOX = TURNING POINT/TRAVERSE

TREE DESIGNATORS



= FOUND IRON PIPE

● MONITORING WELL VLT = VAULT

(S) = SANITARY MANHOLE (WM) = WATER METER

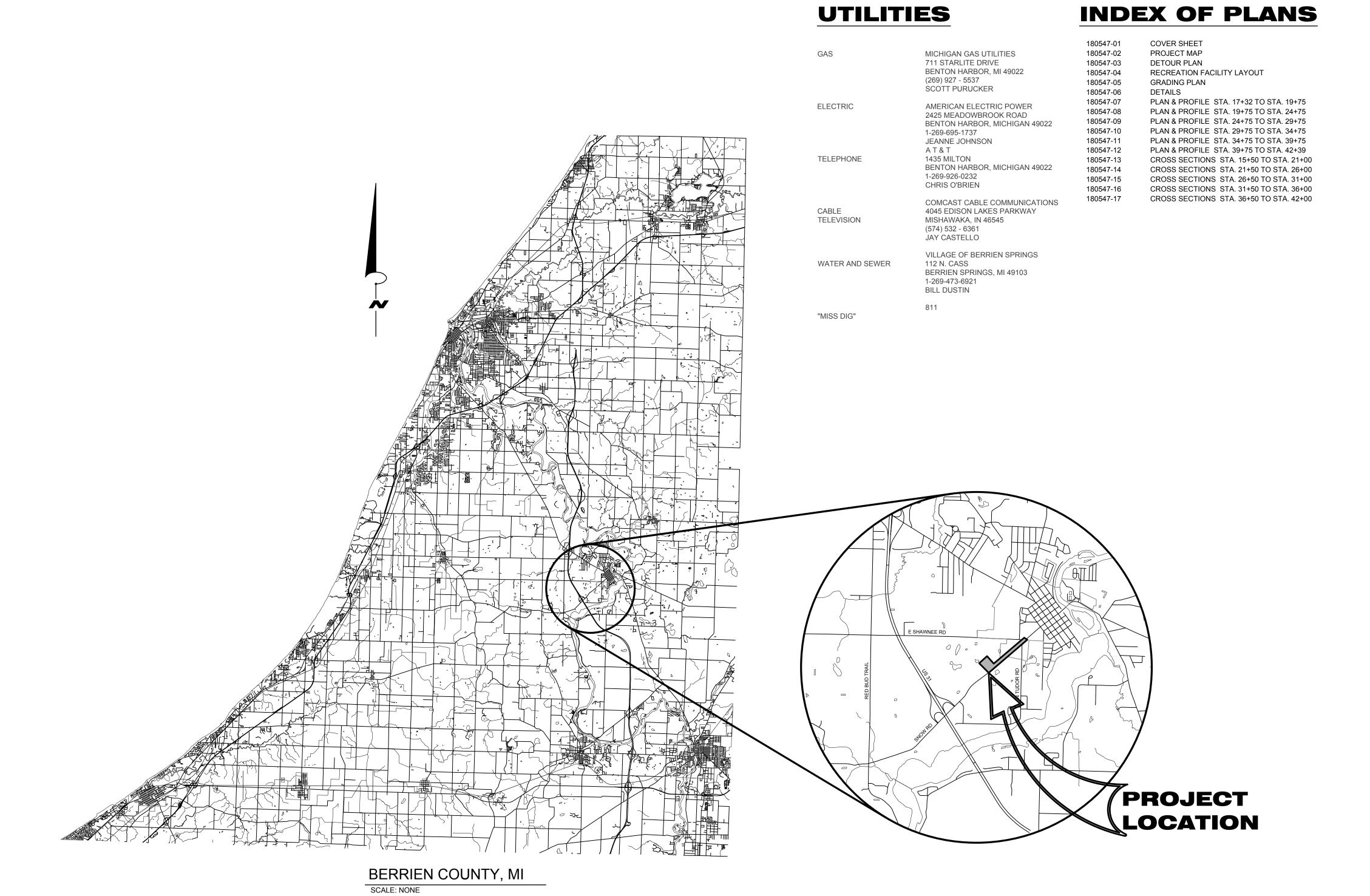
⋈ = GAS VALVE

·) = GUY ANCHOR

■ = MAILBOX

ก = SATELLITE DISH

= POST



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PROJECT NAME:

SNOW ROAD RECREATION **FACILITY**

ORONOKO TOWNSHIP

4583 E. SNOW ROAD P.O. BOX BERRIEN SPRINGS, MI 49103

03 02/13/2020 DNR COMMENTS

02 08/15/2019 TRAIL UPDATES

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COVER SHEET

PROJECT NOTES

- 1. THE "2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND "STANDARD PLANS" BY THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) ARE HEREBY INCORPORATED INTO THESE CONTRACT DOCUMENTS. COPIES OF THESE STANDARDS ARE AVAILABLE FOR INSPECTION AT THE OFFICE OF THE FNGINFFR.
- 2. THE PLACING OF TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS SHALL BE DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD), AS AMENDED.
- 3. ALL WORK SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL LAWS, RULES AND REGULATIONS IN FORCE AT THE TIME OF CONSTRUCTION.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION WITH OTHER CONTRACTORS INVOLVED WITH CONSTRUCTION OF THE PROPOSED DEVELOPMENT AND FOR REPORTING ANY ERRORS OR DISCREPANCIES BETWEEN THESE PLANS AND/OR PLANS PREPARED BY OTHERS. IF ANY ERRORS, DISCREPANCIES. OR OMISSIONS BECOME APPARENT. THESE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION OF ANYTHING AFFECTED SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POSTING ALL BONDS AND INSURANCE CERTIFICATES AND SUBMITTING TRAFFIC CONTROL PLANS FOR REVIEW AND APPROVAL WHICH MAY BE REQUIRED BY THE ORONOKO TOWNSHIP AND MDOT FOR THE CONSTRUCTION OF THIS PROJECT WITHIN THE RESPECTIVE ROAD RIGHT-OF-WAY. THE CONTRACTOR SHALL APPLY FOR THESE PERMITS UNLESS OTHERWISE NOTED. NO WORK MAY BE DONE IN THE BERRIEN COUNTY RIGHT-OF-WAY BETWEEN DECEMBER 1 AND APRIL 1.
- 6. IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, ALL CONTRACTORS SHALL CALL MISS DIG @ 811 OR 800-482-7171 FOR PROTECTION OF UNDERGROUND UTILITIES A MINIMUM OF THREE FULL WORKING DAYS (EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS) PRIOR TO BEGINNING EACH EXCAVATION IN ANY AREA. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT
- 7. THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT HIS OPERATIONS IN A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE ORONOKO TOWNSHIP TO NOTIFY THEM THAT WORK IS COMMENCING.
- 9. THE CONTRACTOR SHALL NOTE THAT MACHINE GRADING, MODIFIED INCLUDES THE REMOVAL OF ALL BRUSH, GUARDRAIL, CONCRETE PAD. SPILLWAY AND ALL OTHER MISCELLANEOUS REMOVAL ITEMS AS REQUIRED, THE REMOVAL OF ALL EMBANKMENT, AND ALL OTHER OPERATIONS NECESSARY TO DEVELOP THE DESIRED CROSS SECTION. ALL TOPSOIL AND UNSUITABLE MATERIAL LOCATED BENEATH THE PROPOSED PAVEMENT SHALL BE REMOVED AS A PART OF MACHINE GRADING, MODIFIED. ALL TOPSOIL REMOVED MAY BE STOCKPILED AND REUSED AS MISC. RESTORATION. SEE SPECIAL PROVISIONS FOR MACHINE GRADING, MODIFIED.
- 10. FILL SHALL BE PLACED AND ADEQUATELY KEYED INTO STRIPPED AND SCARIFIED SOILS PER THE MDOT 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION. ALL FILL MATERIAL SHOULD BE AT APPROXIMATELY THE OPTIMUM MOISTURE CONTENT DURING COMPACTION. FURTHERMORE, FILL MATERIAL SHOULD NOT BE FROZEN NOR BE PLACED ON A FROZEN BASE. IT IS RECOMMENDED THAT ALL EARTHWORK AND SITE PREPARATION ACTIVITIES BE CONDUCTED UNDER ADEQUATE SUPERVISION AND PROPERLY CONTROLLED IN THE FIELD BY A GEOTECHNICAL ENGINEERING TESTING FIRM.
- 11. COMPACTION OF ANY FILL BY FLOODING IS NOT ACCEPTABLE. THIS METHOD WILL GENERALLY NOT ACHIEVE THE DESIRED COMPACTION, AND THE LARGE QUANTITIES OF WATER WILL TEND TO SOFTEN THE FOUNDATION SOILS.
- 12. ALL FILL FOR THIS PROJECT MUST BE OBTAINED AND FURNISHED BY THE CONTRACTOR, ALL REQUIRED FILL SHALL BE SELECTED EXCAVATED MATERIAL FROM THE SITE APPROVED BY THE ENGINEER, OR MDOT CLASS II GRANULAR MATERIAL FROM BORROW. EXCESS FILL SHALL BE REMOVED FROM SITE BY THE CONTRACTOR. NOTE: NO BORROW OR SOIL REMOVAL ARRANGEMENTS HAVE BEEN PREARRANGED FOR THIS PROJECT, AND SHALL BE THE TOTAL RESPONSIBILITY OF THE CONTRACTOR.
- 13. SLOPE ALL BANKS AND GRADE UNIFORMLY FROM BACK OF CURB AT STREET TO BACK OF CURB AT PARKING LOT: FROM BACK OF CURB TO EXISTING OR PROPOSED GRADES: OR FROM BACK OF CURB TO PROPOSED/EXISTING SIDEWALKS. IN AREAS WHERE NO CURBING IS PROPOSED, UNIFORMLY SLOPE

- GRADE FROM TOP OF PAVEMENT TO EXISTING GRADE AT A MAXIMUM SLOPE OF 1 ON 6, UNLESS OTHERWISE NOTED.
- 14. THE CONTRACTOR SHALL INSTALL A PEDESTRIAN FENCE AROUND ALL EXCAVATIONS TO BE LEFT OPEN OVERNIGHT, AS REQUIRED.
- 15. DRIVE REPLACEMENT SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER IN THE
- 16. THE ITEM OF SUBBASE, CIP WILL BE PAID FOR AT PLAN QUANTITY EXCEPT IN THE CASE OF A DESIGN CHANGE OR DEMONSTRATED ERROR.
- 17. CONTRACTOR SHALL RELOCATE ALL MAILBOXES TO A TEMPORARY CENTRAL LOCATION APPROVED BY THE POSTAL SERVICE PRIOR TO CONSTRUCTION. CONTRACTOR SHALL INSTALL A 1" x 3" STAKE WITH THE RESPECTIVE PROPERTY ADDRESS WRITTEN ON IT IN THE FRONT YARD OF EACH RESIDENCE TO ASSIST WITH IDENTIFICATION FOR EMERGENCY VEHICLES. PAYMENT FOR RELOCATION SHALL BE INCLUDED IN THE ITEM OF PROJECT CLEANUP. AT THE COMPLETION OF THE PROJECT SAID MAILBOXES SHALL BE RESET AT THEIR APPROPRIATE LOCATIONS.
- 18. ALL DISTURBED LAWN AREAS SHALL BE RESTORED WITH TOPSOIL SURFACE, FURN, 4", MDOT SEED MIXTURE TUF (220#/ACRE); FERTILIZER, CHEMICAL NUTRIENT, CL A (176#/ACRE); AND HYDRO MULCH (2 TON/ACRE)(3 TON/ACRE FOR DORMANT SEEDING)
- 19. REQUIRED RESTORATION FOR CURB AND GUTTER ITEMS AND SIDEWALK ITEMS SHALL BE PAID FOR AS TOPSOIL SURFACE, SALV, 3 INCH; SEEDING, MIXTURE TUF (176#/ACRE); FERTILIZER, CHEMICAL NUTRIENT, CL A (228#/ACRE); AND MULCH (2 TON/ACRE), AND SHALL ONLY BE CONSIDERED FOR PAYMENT WITHIN 2 FEET OF REQUIRED CONCRETE WORK.
- 20. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EXISTING DRAINAGE PATTERNS, AND SHALL RESOLVE ANY DRAINAGE PROBLEMS ON ADJACENT PROPERTIES WHICH MAY RESULT FROM THE CONTRACTOR'S ACTIVITIES.
- 21. ADEQUATE DUST CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD, TO BE INCLUDED IN THE VARIOUS ITEMS OF WORK.
- 22. MULCH BLANKET HIGH VELOCITY SHALL BE PLACED ON THE BOTTOM OF ALL DITCHES WHEN THE LONGITUDINAL GRADE IS GREATER THAN OR EQUAL TO 2.00% UNLESS OTHERWISE NOTED, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
- 23. WHEN FIELD DRAIN TILES ARE ENCOUNTERED IN THE EXISTING DITCHES, THE CONTRACTOR SHALL EXTEND THEM AS REQUIRED WITH UNDERDRAIN. SUBGRADE 4" OR 6" AND ADJUST THE DITCH GRADES AS NECESSARY TO PROVIDE POSITIVE DRAINAGE AS DIRECTED BY THE ENGINEER IN THE FIELD. THE COST OF THE CONNECTION SHALL BE INCLUDED IN THE NEW PIPE ITEM. IF THE ENGINEER DETERMINES THAT AN EXISTING TILE IS TOO LONG THE CONTRACTOR SHALL REMOVE THE TILE AS NECESSARY, TO BE BE INCLUDED IN THE ITEM OF STATION GRADING.
- 24. MATERIAL FOR AGGREGATE BASE SHALL BE MDOT 22A GRAVEL, 22A SLAG, 22A LIMESTONE, 22A RECYCLED CONCRETE, OR COLD MILLED, HMA MATERIAL WHICH APPROXIMATES THE GRADATION OF 22A MATERIAL. IF MILLED HMA MATERIAL IS USED, IT MAY BE USED FULL DEPTH OR ON TOP OF 22A AGGREGATE TO OBTAIN THE REQUIRED THICKNESS. 22A GRAVEL SHALL NOT BE PLACED ON TOP OF MILLED HMA MATERIAL. A MIX GREATER THAN 50% MILLED HMA MATERIAL SHALL NOT BE USED AS AN AGGREGATE FROM SEPTEMBER 15 TO MAY 1 WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
- 25. DATUM REFERS TO NAVD 88 DATUM.
- 26. SPOT ELEVATIONS WITHIN VICINITY OF PROPOSED CONCRETE CURB AND GUTTER REFER TO EDGE OF METAL ELEVATIONS. "TIP-OUT GUTTER" REFERS TO "REVERSE PAVEMENT SLOPE" WITHIN PROPOSED CONCRETE GUTTER. PITCH PAVEMENT/CONCRETE GUTTERS UNIFORMLY BETWEEN PROPOSED SPOT ELEVATIONS.

- 27. ALL SCALES FOR DRAWINGS AND DETAILS ARE BASED ON 24"x36" PRINTED PLANS. DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.
- 28. PAVT, REM, MODIFIED SHALL INCLUDE REMOVING THE FULL DEPTH OF CONCRETE PAVEMENT INCLUDING HMA OVERLAYS, REGARDLESS OF THICKNESS, HMA SURFACE, REM, MODIFIED SHALL INCLUDE REMOVING THE FULL DEPTH OF HMA PAVEMENT REGARDLESS OF THICKNESS. ALL CURB AND GUTTER REMOVAL SHALL BE MEASURED AS CURB AND GUTTER, REM PER FT. ALL REQUIRED SAW CUTTING SHALL BE INCLUDED IN THE RESPECTIVE REMOVAL ITEMS.
- 29. HMA MATERIALS FOR THIS PROJECT SHALL BE PERFORMANCE GRADE 58-28.
- 30. ALL STRUCTURES REQUIRING ADJUSTMENT TO MEET FINAL GRADE SHALL BE BACK FILLED WITH CONCRETE TO APPROXIMATELY 1 1/2" BELOW FINAL GRADE PRIOR TO THE PLACEMENT OF THE HMA TOP COURSE. AN SQUARE AREA, 4' BY 4', SHALL BE SAWCUT AND REMOVED AROUND DRAINAGE STRUCTURE COVERS, (2' BY 2' AROUND WATER VALVE BOXES). CONCRETE SHALL BE PLACED TO A DEPTH OF 8 INCHES, MINIMIIM
- 31. CONNECTING NEW PIPE TO EXISTING PIPE OR STRUCTURES AND CONNECTING EXISTING PIPE TO NEW STRUCTURES IS INCLUDED IN THE ITEM FOR THE RESPECTIVE NEW PIPE OR DRAINAGE STRUCTURE.
- 32. EXISTING DRAINAGE STRUCTURE COVERS FOR STORM MANHOLES THAT ARE TO REMAIN SHALL BE REPLACED WITH COVER B PRIOR TO FINAL ADJUSTMENT. EXISTING DRAINAGE STRUCTURE COVERS FOR SANITARY MANHOLES SHALL BE REPLACED WITH COVER Q PRIOR TO FINAL ADJUSTMENT. EXISTING CATCH BASIN COVERS THAT ARE TO REMAIN SHALL BE REPLACED WITH COVER K PRIOR TO FINAL ADJUSTMENT. INCLUDED IN THE NEW CASTING ITEMS SHALL BE TEMPORARY PLATING OF THE EXISTING STRUCTURE THROUGH THE LEVELING COURSE. FINAL ADJUSTMENT SHALL BE PAID FOR AS DR STRUCTURE COVER,
- 33. ALL PROPOSED 2' DIA. AND 4' DIA. DRAINAGE STRUCTURES WILL BE INLETS OR MANHOLES (NO SUMP). BOTTOM DETAIL SHALL BE PER SECTION A-A, TYPICAL MANHOLE AS SHOWN ON MDOT STANDARD PLAN R-1 SERIES, AND SHALL BE INCLUDED IN THE RESPECTIVE DRAINAGE STRUCTURE ITEMS. ALL DRAINAGE STRUCTURE OPENINGS FOR STORM SEWER SHALL HAVE BOOTS INCLUDED WITH THE RESPECTIVE ITEM
- 34. PROJECT SANITARY SEWER SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST REVISION OF ASTM SPECIFICATION D3034 "TYPE PSM POLY (VINYL CHLORIDE) (PVC) SEWER PIPE AND FITTINGS AND HAVE A MINIMUM WALL THICKNESS OF SDR 35.
- 35. WATER MAIN SHALL BE TESTED AT 150 PSI FOR TWO HOURS BY CONTRACTOR. LOSS SHALL NOT EXCEED 11.65 GPD/INCH DIA./MILE OF PIPE. CONTRACTOR SHALL DISINFECT WATER MAIN PER THE REQUIREMENTS OF THE MDEQ. THE ENGINEER AND <u>ORONOKO TOWNSHIP</u> SHALL BE NOTIFIED 48 HOURS PRIOR TO PRESSURE TESTING AND DISINFECTION OF THE WATER MAIN. THE ENGINEER SHALL WITNESS THE PRESSURE TESTS. BACTERIOLOGICAL TESTING OF THE WATER MAIN SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY AND THE LOCAL WATER DEPARTMENT REQUIREMENTS.
- 36. MAINTAIN 10 FOOT MINIMUM HORIZONTAL SEPARATION BETWEEN THE SANITARY OR STORM SEWER AND WATER MAIN UTILITIES. PROVIDE 18" MINIMUM VERTICAL SEPARATION WHERE THE WATER MAIN CROSSES A SANITARY OR STORM SEWER.
- 37. ANY SANITARY SEWER, SANITARY SEWER SERVICE LEADS, WATER MAIN, WATER SERVICES, OR STORM SEWER THAT IS DAMAGED BY THE CONTRACTOR DURING THEIR OPERATIONS SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AND AT THE CONTRACTOR'S EXPENSE

RATE OF 176 LB/ACRE, FERTILIZER, CHEMICAL NUTRIENT, CL A APPLIED AT A RATE OF 228 LB/ACRE;

CROSSINGS, ADJACENT TO ALL WETLANDS AND SURFACE WATERS, AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. EACH SILT FENCE SHALL BE INSTALLED GENERALLY ALONG THE

DENOTES INLET PROTECTION SEDIMENT TRAP. INLET SEDIMENT TRAP SHALL BE INSTALLED AROUND ALL STORM INLETS TO TRAP SMALL QUANTITIES OF SEDIMENT AT LOCATION OF INLET

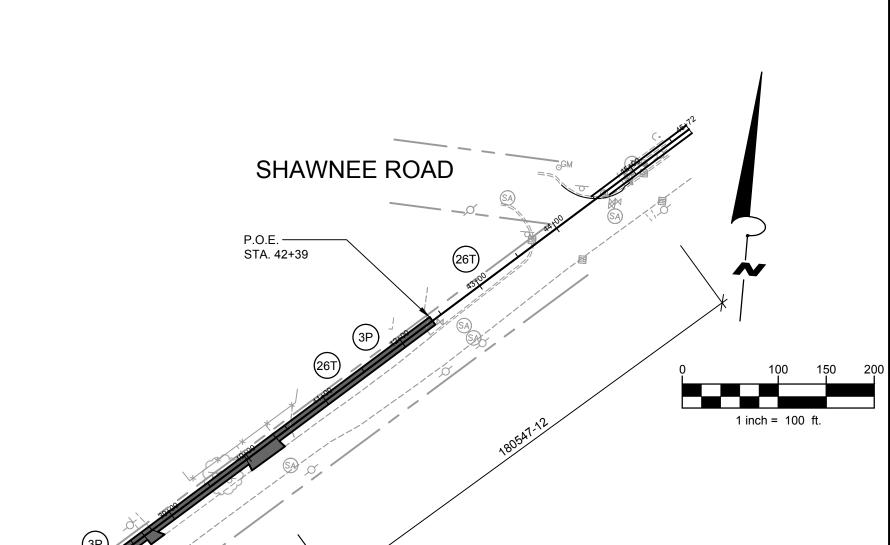
DENOTES AGGREGATE COVER/PERMANENT PAVEMENT RESTORATION

DENOTES TEMPORARY SILT FENCE. SILT FENCE SHALL BE INSTALLED AT CREEK

(15) DENOTES SLOPE DRAIN SURFACE

SAME CONTOUR ELEVATION.

38. STATE OR FEDERAL FUNDS ARE BEING USED TO ASSIST IN CONSTRUCTION AND RELEVANT STATE OR FEDERAL REQUIREMENTS WILL APPLY. THE CONTRACTOR AND ANY SUBCONTRACTORS SHALL NOT DISCRIMINATE AGAINST AN EMPLOYEE OR APPLICANT FOR EMPLOYMENT WITH RESPECT TO HIRE, TENURE, TERMS, CONDITIONS, OR PRIVILEGES OF EMPLOYMENT, OR A MATTER DIRECTLY OR INDIRECTLY RELATED TO EMPLOYMENT BECAUSE OF RACE, COLOR, RELIGION, NATIONAL ORIGIN, AGE, SEX, HEIGHT, WEIGHT, MARITAL STATUS, OR A DISABILITY THAT IS UNRELATED TO THE INDIVIDUAL'S ABILITY TO PERFORM THE DUTIES OF A PARTICULAR JOB OR POSITION.



43. THE TELEPHONE, GAS, AND CABLE COMPANIES SHALL PROVIDE UNDERGROUND SERVICES TO THE MAIN BUILDING AT THE OWNER'S EXPENSE. THE ELECTRIC UTILITY COMPANY SHALL PROVIDE SERVICE TO THE RIGHT-OF-WAY LINE. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THESE UTILITIES WITH

44. ALL PERMANENT SIGNAGE SHALL COMPLY WITH THE MICHIGAN'S BARRIER FREE DESIGN REQUIREMENTS AND THE AMERICANS WITH DISABILITIES ACT.

- 45. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS INCLUDING PERMIT COSTS, TAP FEES, METER DEPOSITS, BONDS, INSPECTIONS AND ALL FEES REQUIRED FOR PROPOSED WORK TO OBTAIN OCCUPANCY. THE CONTRACTOR SHALL MAKE ALL PERMANENT UTILITY APPLICATIONS AND SHALL BE RESPONSIBLE FOR ALL APPLICABLE FEES AND UTILITY SERVICE INSTALLATION FEES. THIS INCLUDES BUT IS NOT LIMITED TO PRIMARY AND SECONDARY ELECTRICAL SERVICES, PERTAINING TO SUCH, ON
- 46. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL PRE-EXISTING ON-SITE IMPROVEMENTS WITHIN LIMITS OF CONSTRUCTION UNLESS OTHERWISE NOTED. THIS INCLUDES BUT IS NOT LIMITED TO BUILDINGS, FOUNDATIONS, FOOTINGS, CURBS, ASPHALT, TREES, SHRUBS, EXISTING UTILITY LINES, DEBRIS AND ALL OTHER ITEMS AND UTILITIES TO BE ABANDONED.
- 47. TESTING REQUIREMENTS (ALL CONTRACTORS) SOIL AND AGGREGATE DENSITY TESTING CONTRACTOR SHALL EMPLOY AN INDEPENDENT TESTING CONSULTANT TO VERIFY THE DENSITY OF ALL FILL EXCAVATION AS SPECIFIED AND ALL SLAB, FOUNDATIONS, AND FOOTING SURFACES AS RECOMMENDED BY ENGINEER. TESTING SHALL TAKE PLACE PRIOR TO INSTALLATION OF THE AGGREGATE BASE AND PRIOR TO THE INSTALLATION OF THE HMA PAVEMENT. COPIES OF ALL COMPACTION TEST RESULTS SHALL BE FORWARDED TO THE ENGINEER.
- 48. THE TACTILE PLATES FOR THE ADA RAMPS WILL BE COLONIAL RED IN COLOR TO MATCH EXISTING DETECTABLE WARNING PLATES THROUGHOUT THE CITY. TRUNCATED DOMES SHALL BE TAMPED INTO WET CONCRETE IN ACCORDANCE WITH MDOT AND ADA ACCESSIBILITY GUIDELINES FOR DETECTABLE WARNINGS AND THE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.
- 49. PROPERTY OWNER'S NAMES, WHERE SHOWN, ARE FOR INFORMATION ONLY, AND THEIR ACCURACY IS NOT
- 50. EACH WATER VALVE BOX OR CASTING SHOULD BE FLUSH WITH, OR SLIGHTLY BELOW, THE LEVEL OF THE FINISHED COURSE OF PAVEMENT. IN-LID ADJUSTING RINGS WILL NOT BE ALLOWED FOR WATER VALVE BOXES OR DRAINAGE STRUCTURE COVERS. THE ENGINEER WILL MEASURE ANY VALVE BOX OR CASTING THAT APPEARS TO BE OUT OF THE ACCEPTED TOLERANCE. DETERMINATION OF WHETHER A VALVE BOX OR CASTING MUST BE ADJUSTED WILL BE BASED UPON THE FOLLOWING:
- 51. VALVE BOXES AND CASTINGS BELOW PAVEMENT SURFACE A TEN-FOOT (10') STRAIGHT EDGE (PROVIDED BY THE CONTRACTOR) WILL BE PLACED OVER THE VALVE BOX OR CASTING, PARALLEL TO THE ROAD CENTERLINE. MEASUREMENT WILL BE MADE FROM THE BOTTOM OF THE STRAIGHT EDGE TO THE RAISED PORTIONS ON THE COVER OF THE VALVE BOX OR CASTING. FOR WATER VALVE BOXES, THIS DISTANCE SHALL BE NO GREATER THAN ONE-HALF INCH (1/2"). FOR CASTINGS, THIS DISTANCE SHALL BE NO GREATER THAN ONE-QUARTER INCH (1/4"). ANY MEASUREMENT FOUND OVER ONE-HALF INCH (1/2") FOR VALVE BOXES OR ONE-QUARTER INCH (1/4") FOR CASTINGS WILL RATE THE VALVE BOX OR CASTING OUT OF TOLERANCE. THE ENGINEER SHALL INSTRUCT THE CONTRACTOR TO ADJUST SUCH A VALVE BOX OR CASTING. THE CITY WILL NOT PAY FOR THE ORIGINAL ADJUSTMENT/RECONSTRUCTION OF THIS VALVE BOX OR CASTING. PAYMENT WILL BE MADE ONE TIME ONLY, AFTER THE VALVE BOX OR CASTING HAS BEEN RESET PROPERLY.
- 52. VALVE BOXES OR CASTINGS ABOVE PAVEMENT SURFACE BECAUSE OF POTENTIAL DAMAGE TO AND FROM SNOWPLOW BLADES, VALVE BOXES OR CASTINGS PROTRUDING ANY DISTANCE ABOVE THE LEVEL OF FINISHED PAVEMENT WILL BE CONSIDERED OUT OF TOLERANCE. THE ENGINEER SHALL INSTRUCT THE CONTRACTOR TO ADJUST SUCH A VALVE BOX OR CASTING. THE CITY WILL NOT PAY FOR THE ORIGINAL ADJUSTMENT/ RECONSTRUCTION OF THIS VALVE BOX OR CASTING. PAYMENT WILL BE MADE ONE TIME ONLY, AFTER THE VALVE BOX OR CASTING HAS BEEN RESET PROPERLY.
- 53. IF A VALVE BOX OR CASTING IS RATED AS OUT OF TOLERANCE, THE CONTRACTOR SHALL RE-ADJUST THE VALVE BOX OR CASTING AS INSTRUCTED BY THE ENGINEER. SAWCUTTING NEWLY PLACED PAVEMENT WILL NOT BE ALLOWED. TO MAKE THE RE-ADJUSTMENTS, THE CONTRACTOR SHALL UTILIZE AN INFRARED RESTORATION PROCESS TO ASSURE THAT THERE WILL BE A SEAMLESS REPAIR. ADDITIONALLY, EXTENSIONS OF TIME FOR RE-ADJUSTMENTS WILL NOT BE CONSIDERED.

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4583 E. SNOW ROAD P.O. BOX

BERRIEN SPRINGS, MI 49103

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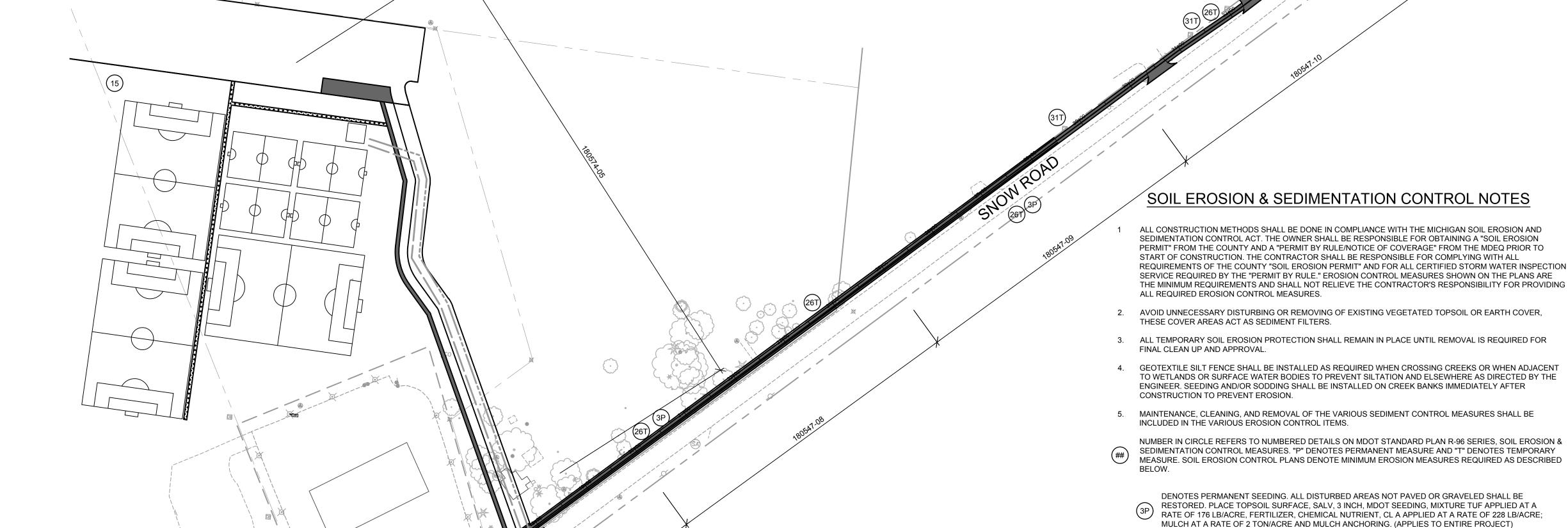
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PROJECT MAP

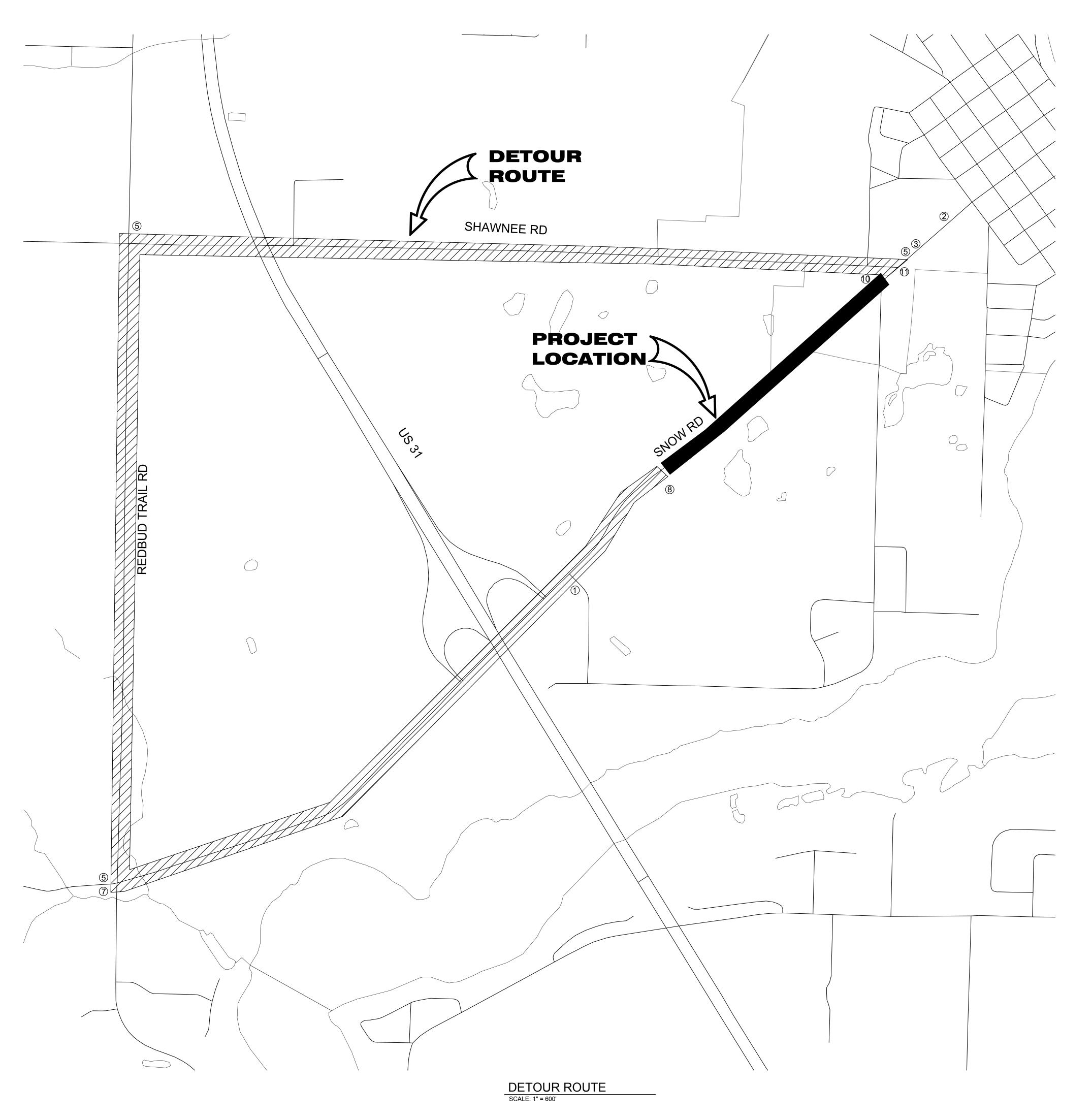
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STA. 17+32

			LEGEND		
SIGN NO.	QTY.	SIGN DESIGNATION	DESCRIPTION	SIZE	AREA
1	9 EA	W20-1	ROAD WORK AHEAD	48 INCH x 48 INCH	156 SFT
2	4 EA	W20-3	ROAD CLOSED AHEAD	48 INCH x 48 INCH	64 SFT
		D3-2a	Snow Rd	36 INCH x 12 INCH	12 SFT
3	4 EA	W20-2	DETOUR	48 INCH x 48 INCH	64 SFT
4		M4-9	DETOUR	30 INCH x 24 INCH	35 SFT
	7 EA	D3-2a	Snow Rd	36 INCH x 12 INCH	21 SFT
		M4-9	DETOUR	30 INCH x 24 INCH	10 SFT
5	2 EA	D3-2a	Snow Rd	36 INCH x 12 INCH	6 SFT
6	2 EA	M4-9	DETOUR	30 INCH x 24 INCH	10 SFT
		D3-2a	Snow Rd	36 INCH x 12 INCH	6 SFT
7	1 EA	D3-2a	Snow Rd	36 INCH x 12 INCH	3 SFT
		M4-8a	END DETOUR	24 INCH x 18 INCH	3 SFT
8	1 EA	R5-18c	WORK ZONE BEGINS	48 INCH x 48 INCH	16 SFT
9	1 EA	BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED, 1 REQUIRED EACH LOCATION		1 REQUIRED EACH LOCATION	1 EA
10	1 EA	BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED, 2 REQUIRED EACH LOCATION		2 REQUIRED EACH LOCATION	1 EA
		R11-4	ROAD CLOSED TO THRU TRAFFIC	60 INCH x 30 INCH	12.5 SFT
		M4-10(R)	DETOUR	48 INCH x 18 INCH	6 SFT
11	1 EA	G20-2	END ROAD WORK	48 INCH x 24 INCH	8 SFT

TOTAL AREA = 362 SFT





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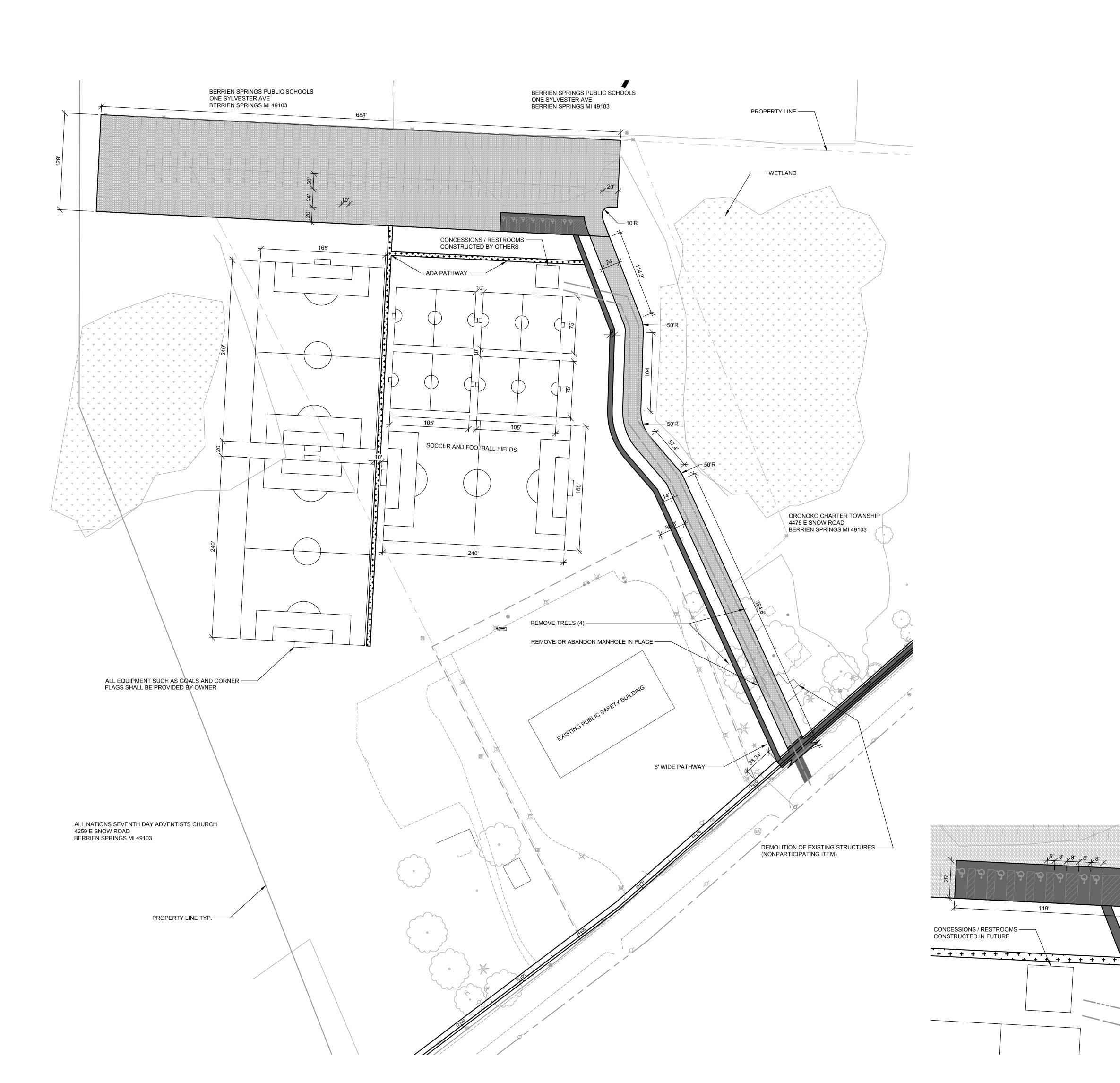
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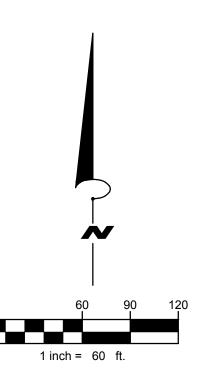
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DATE: 02/13/2020

SCALE: NTS

DETOUR PLAN











1 inch = 30 ft.

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433 East Ransom Street Kalamazoo, MI 49007 Phone: 269.327.3532

ALLEGAN 1670 Lincoln Road Allegan, MI 49010

Phone: 269.673.8465

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PROJECT NAME:

SNOW ROAD RECREATION FACILITY

ORONOKO TOWNSHIP 4583 E. SNOW ROAD P.O. BOX 214 BERRIEN SPRINGS, MI 49103

03 02/13/2020 DNR COMMENTS

02 08/15/2019 TRAIL UPDATES

01 7/23/2019 RAS ISSUED FOR DNR REVIEW

REVISIONS

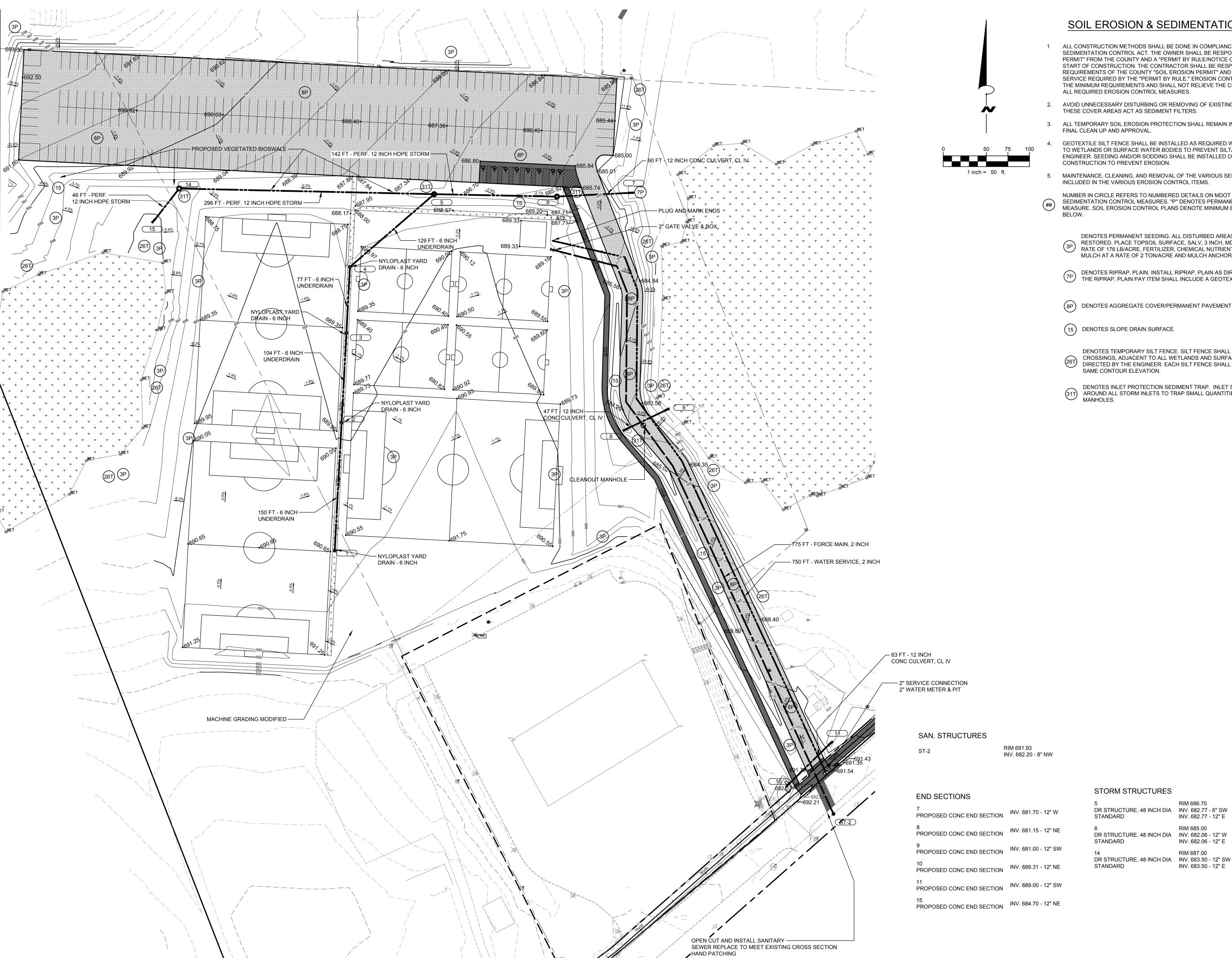
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DATE: 02/13/2020

DATE: 02/13/2020 SCALE: 1" = 60'

RECREATION FACILITY LAYOUT





ALL CONSTRUCTION METHODS SHALL BE DONE IN COMPLIANCE WITH THE MICHIGAN SOIL EROSION AND SEDIMENTATION CONTROL ACT. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING A "SOIL EROSION PERMIT" FROM THE COUNTY AND A "PERMIT BY RULE/NOTICE OF COVERAGE" FROM THE MDEQ PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS OF THE COUNTY "SOIL EROSION PERMIT" AND FOR ALL CERTIFIED STORM WATER INSPECTION SERVICE REQUIRED BY THE "PERMIT BY RULE." EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS AND SHALL NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR PROVIDING

AVOID UNNECESSARY DISTURBING OR REMOVING OF EXISTING VEGETATED TOPSOIL OR EARTH COVER,

ALL TEMPORARY SOIL EROSION PROTECTION SHALL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR

GEOTEXTILE SILT FENCE SHALL BE INSTALLED AS REQUIRED WHEN CROSSING CREEKS OR WHEN ADJACENT TO WETLANDS OR SURFACE WATER BODIES TO PREVENT SILTATION AND ELSEWHERE AS DIRECTED BY THE ENGINEER. SEEDING AND/OR SODDING SHALL BE INSTALLED ON CREEK BANKS IMMEDIATELY AFTER

MAINTENANCE, CLEANING, AND REMOVAL OF THE VARIOUS SEDIMENT CONTROL MEASURES SHALL BE

NUMBER IN CIRCLE REFERS TO NUMBERED DETAILS ON MDOT STANDARD PLAN R-96 SERIES, SOIL EROSION & SEDIMENTATION CONTROL MEASURES. "P" DENOTES PERMANENT MEASURE AND "T" DENOTES TEMPORARY MEASURE. SOIL EROSION CONTROL PLANS DENOTE MINIMUM EROSION MEASURES REQUIRED AS DESCRIBED

DENOTES PERMANENT SEEDING. ALL DISTURBED AREAS NOT PAVED OR GRAVELED SHALL BE RESTORED. PLACE TOPSOIL SURFACE, SALV, 3 INCH, MDOT SEEDING, MIXTURE TUF APPLIED AT A RATE OF 176 LB/ACRE, FERTILIZER, CHEMICAL NUTRIENT, CL A APPLIED AT A RATE OF 228 LB/ACRE; MULCH AT A RATE OF 2 TON/ACRE AND MULCH ANCHORING. (APPLIES TO ENTIRE PROJECT)

DENOTES RIPRAP, PLAIN. INSTALL RIPRAP, PLAIN AS DIRECTED BY THE ENGINEER IN THE FIELD. THE RIPRAP, PLAIN PAY ITEM SHALL INCLUDE A GEOTEXTILE UNDERLAYMENT.

(8P) DENOTES AGGREGATE COVER/PERMANENT PAVEMENT RESTORATION

DENOTES TEMPORARY SILT FENCE. SILT FENCE SHALL BE INSTALLED AT CREEK CROSSINGS, ADJACENT TO ALL WETLANDS AND SURFACE WATERS, AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. EACH SILT FENCE SHALL BE INSTALLED GENERALLY ALONG THE

DENOTES INLET PROTECTION SEDIMENT TRAP. INLET SEDIMENT TRAP SHALL BE INSTALLED (31T) AROUND ALL STORM INLETS TO TRAP SMALL QUANTITIES OF SEDIMENT AT LOCATION OF INLET

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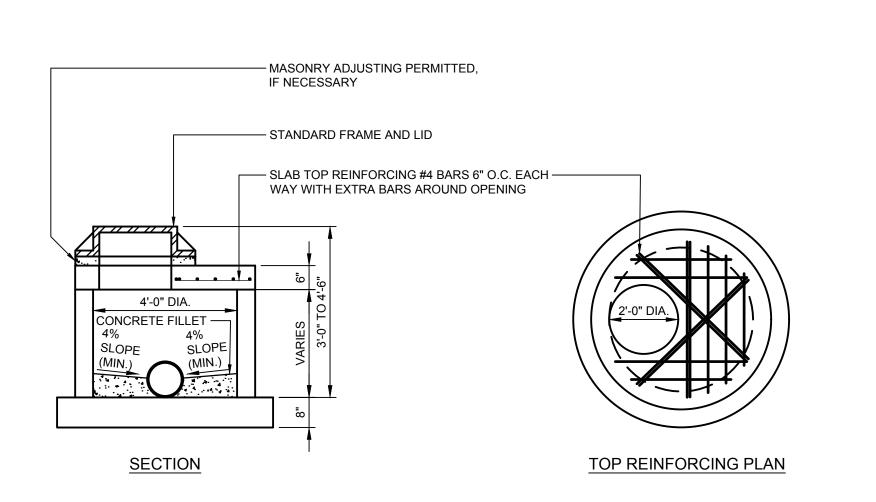
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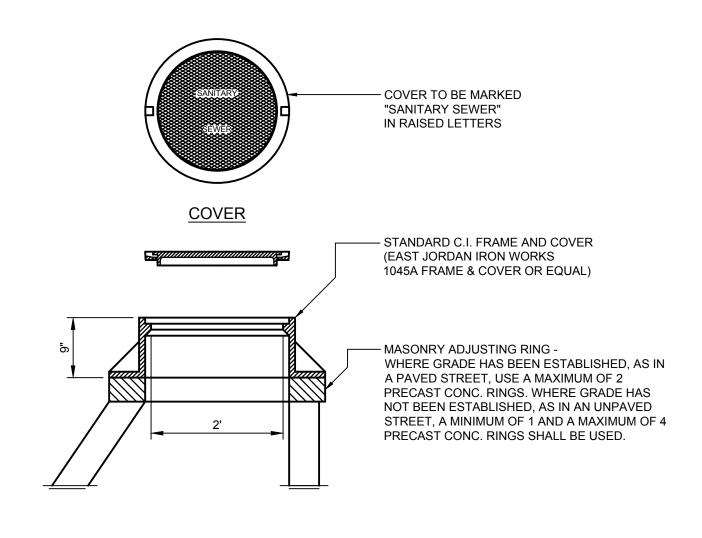
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GRADING PLAN



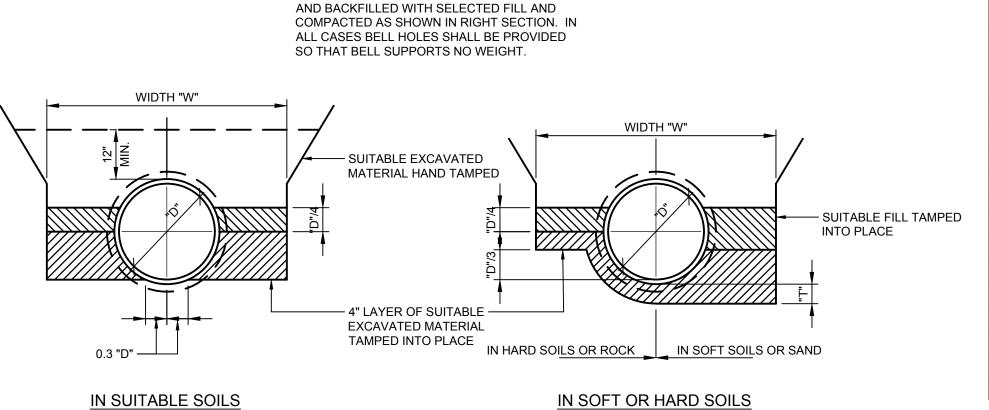


— EXISTING GRADE

2-6"-45° BENDS TO -

SOLID, WATER

TIGHT PLUG



NOTE: PIPE SHALL BE FIRMLY BEDDED ON UNDISTURBED SOIL AS SHOWN IN LEFT SECTION. IN THE EVENT THE SOIL CAN NOT BE SHAPED,

OR THE CONTRACTOR PREFERS, THE TRENCH

SHALL BE EXCAVATED TO A GREATER DEPTH

DIA "D"	MAX. WIDTH	MIN. THICKNESS "T"
6"	18"	6"
8"	24"	6"
10"	24"	6"
12"	30"	6"
15"	36"	6"
18"	39"	9"
21"	42"	9"
24"	45"	9"
27"	48"	9"
30"	53"	9"
36"	66"	9"
42"	75"	12"
48"	82"	12"

STANDARD MANHOLE 3'-0" TO 4'-6" DEPTH

TYPICAL DETAIL FOR MANHOLE TOP FINISHING

DEPTH AS REQUIRED TO SERVE —

BASEMENT, 15'-0" MAXIMUM,

SANITARY SEWER MAIN DEPTH

SET GRADE AS DETERMINED -

BY THE ENGINEER IN THE FIELD TO SERVICE

CONSTRUCT SLANT -

3:1 CUT/FILL MAX. -

AND 1 ON 1 SLOPES

INSTALL 10 OZ. NON-WOVEN GEOTEXTILE — EQUAL TO SKAPS GE-110 ON BOTTOM

ADA PATHWAY TYP.

STACK AS SHOWN

WHERE NEEDED

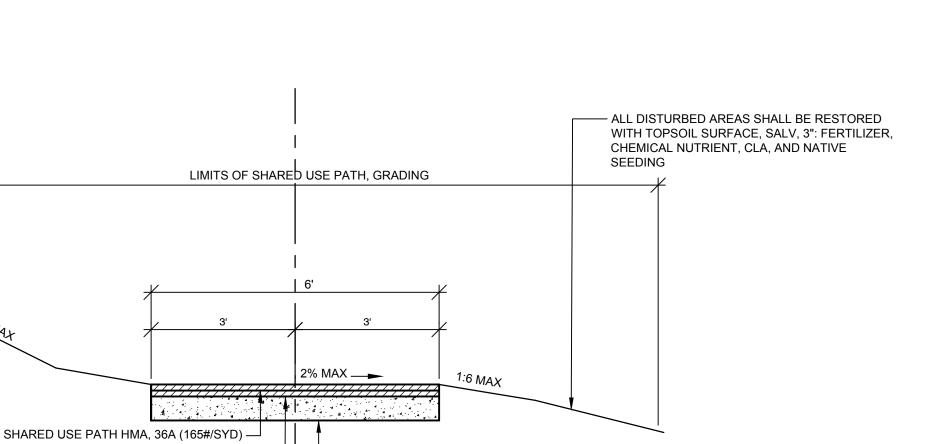
DUE TO DEPTH

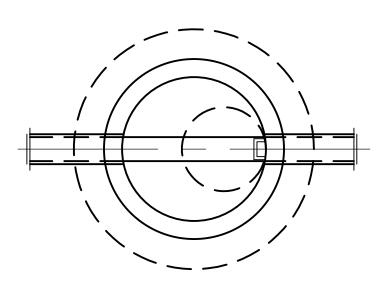
10'-0" MINIMUM UNLESS

REQUIRES LESS.

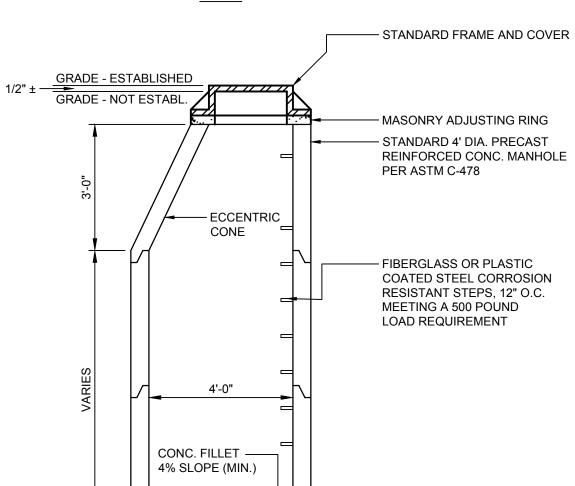
PROPERTY.

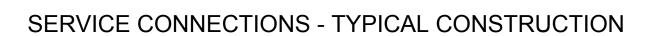
TYPICAL TRENCH, PIPE LAYING AND BEDDING DETAILS











- MIN. GRADE 0.60% FOR 6" BE USED IN ALL

AND 1.20% FOR 4" TYP. RISERS

PAYMENT LENGTH FOR 6" SERVICE LEAD

- SET GRADE AS DETERMINED

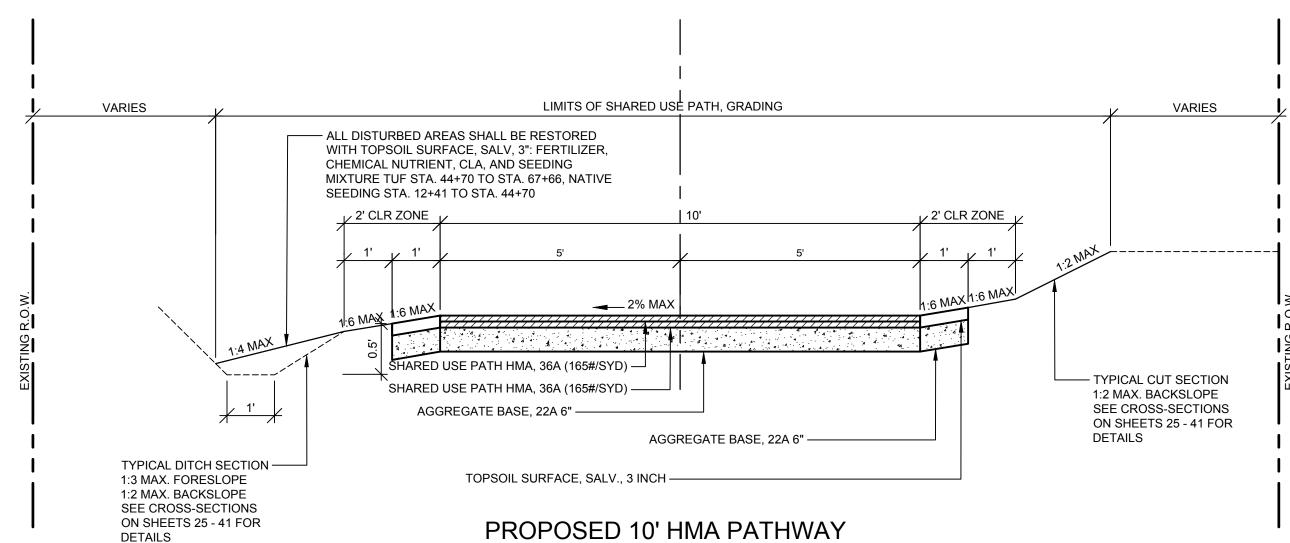
BY THE ENGINEER IN THE FIELD TO SERVICE PROPERTY.

SEE NOTE ABOVE.

PROPOSED 6' WIDE PATHWAY

SHARED USE PATH HMA, 36A (165#/SYD) ———

AGGREGATE BASE, 22A, 6" —



HAND PATCHING, 36A

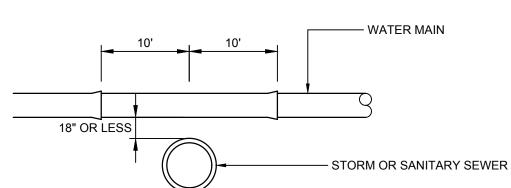
HMA BOND COAT (NOT A PAY ITEM)

TOPSOIL SURF	ACE, SALV., 3 INCH		1 		
SCALE: 1" =	OSED 10' HMA PATHWA` 2' 17+32 THRU 43+70	<u>Y</u>			
	ITEM	AWI	YIELD	PERFORMANCE GRADE	
	SHARED USE PATH HMA (TOP), 36A	220	165#/SYD	P.G. 58 - 28	
	SHARED USE PATH HMA (BASE), 36A		165#/SYD	P.G. 58 - 28	

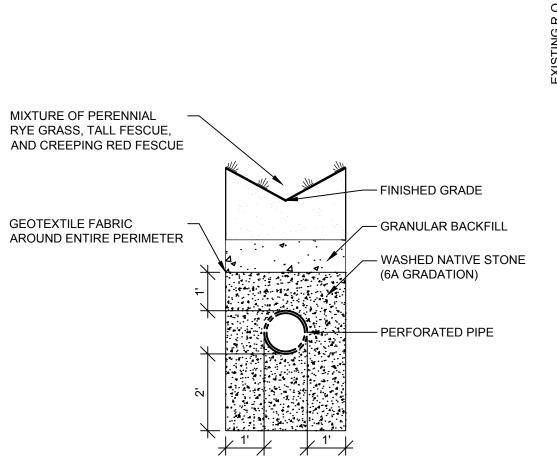
SECTION

STANDARD PRECAST MANHOLE

WHERE THE WATER MAIN CROSSES A SEWER LINE WITH LESS THAN 18" OF VERTICAL CLEARANCE, THE WATER MAIN SHALL BE INSTALLED SUCH THAT THE NEAREST WATER MAIN JOINT IS 10' ON EITHER SIDE OF THE SEWER CROSSING.



INSUFFICIENT CLEARANCE WATER MAIN CROSSING SEWER



- SET TRAIL ELEVATION 2" ABOVE

FILL END WITH NATURAL SOIL

ADJACENT GRADE, TYP.

- 1" CRUSHED LIMESTONE FINES (CIP) SEE SPECIFICATIONS FOR GRADATION

- 5" 21AA AGGREGATE, CIP

PROVIDE WOOD 2"x 2" & 1/2" REBAR TO MARK EACH LEAD AT PROPERTY LINE PER SPECIFICATIONS

- PAYMENT LENGTH FOR

6" SERVICE LEAD

PERFORATED STORM SEWER BIOSWALE DETAIL

SCALE: NONE

HMA APPLICATION TABLE

165#/SYD (LIFTS)

0.05 TO 0.15 GAL/SYD

P.G. 58 - 28

SS - 1h

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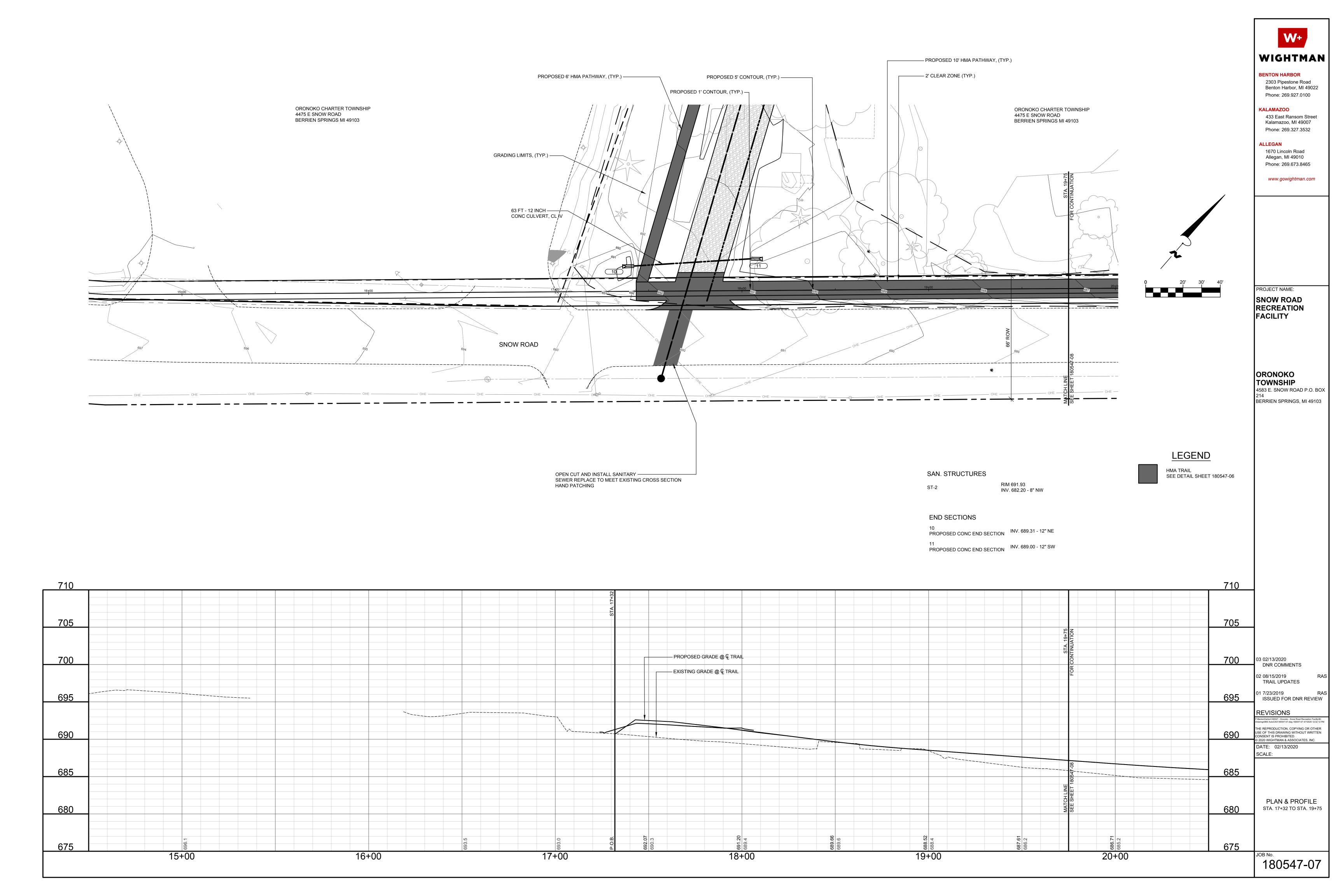
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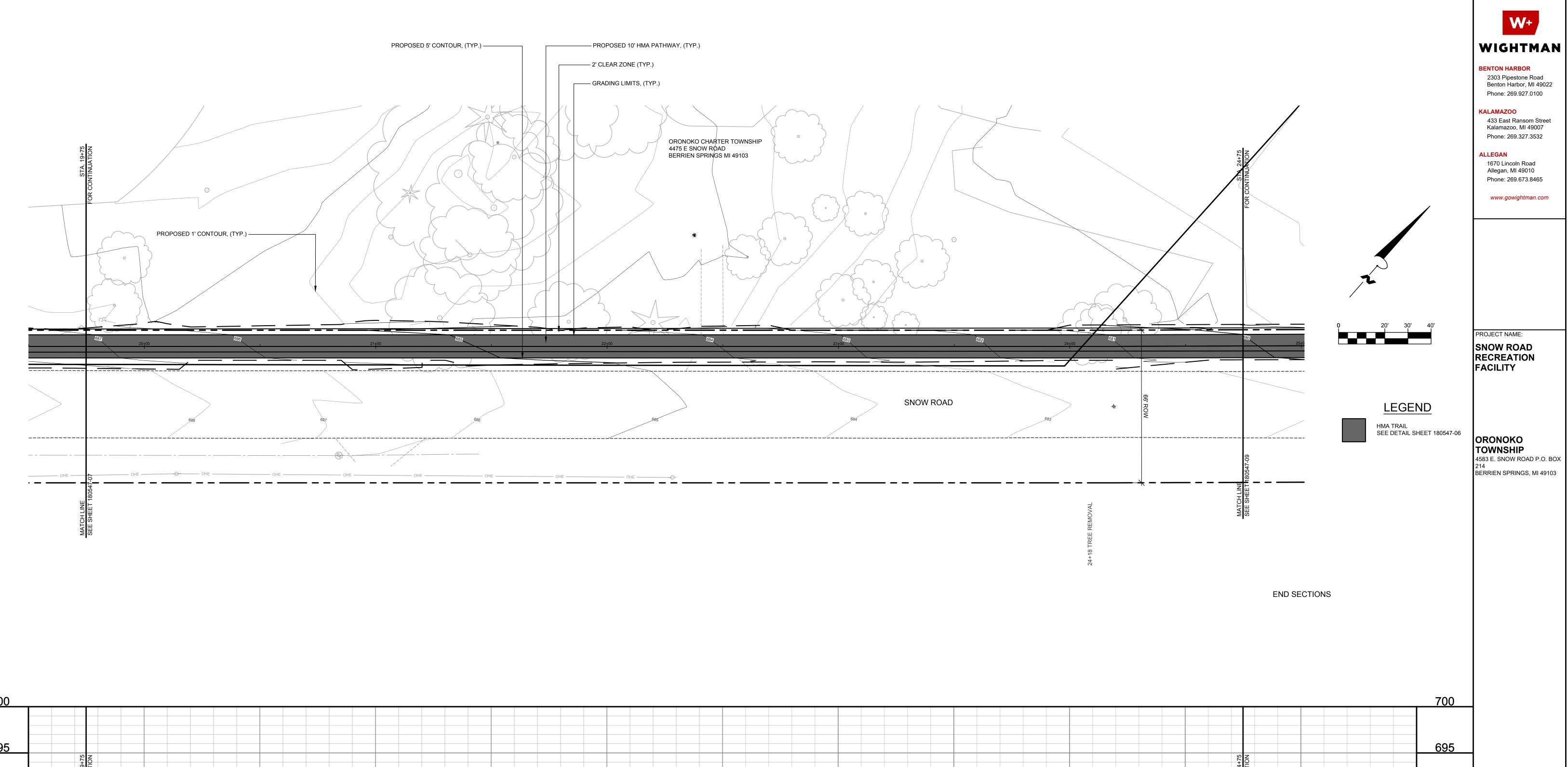
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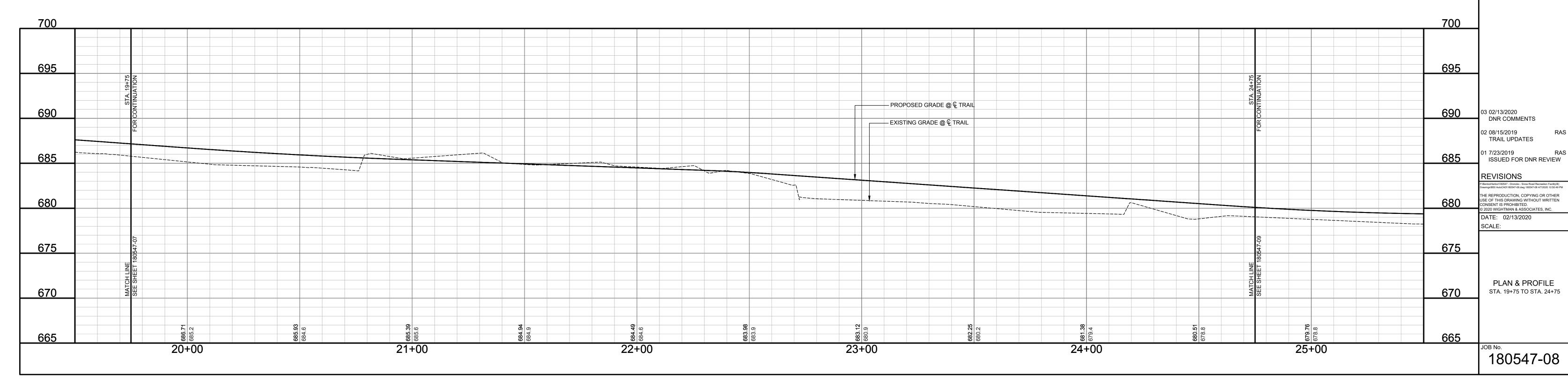
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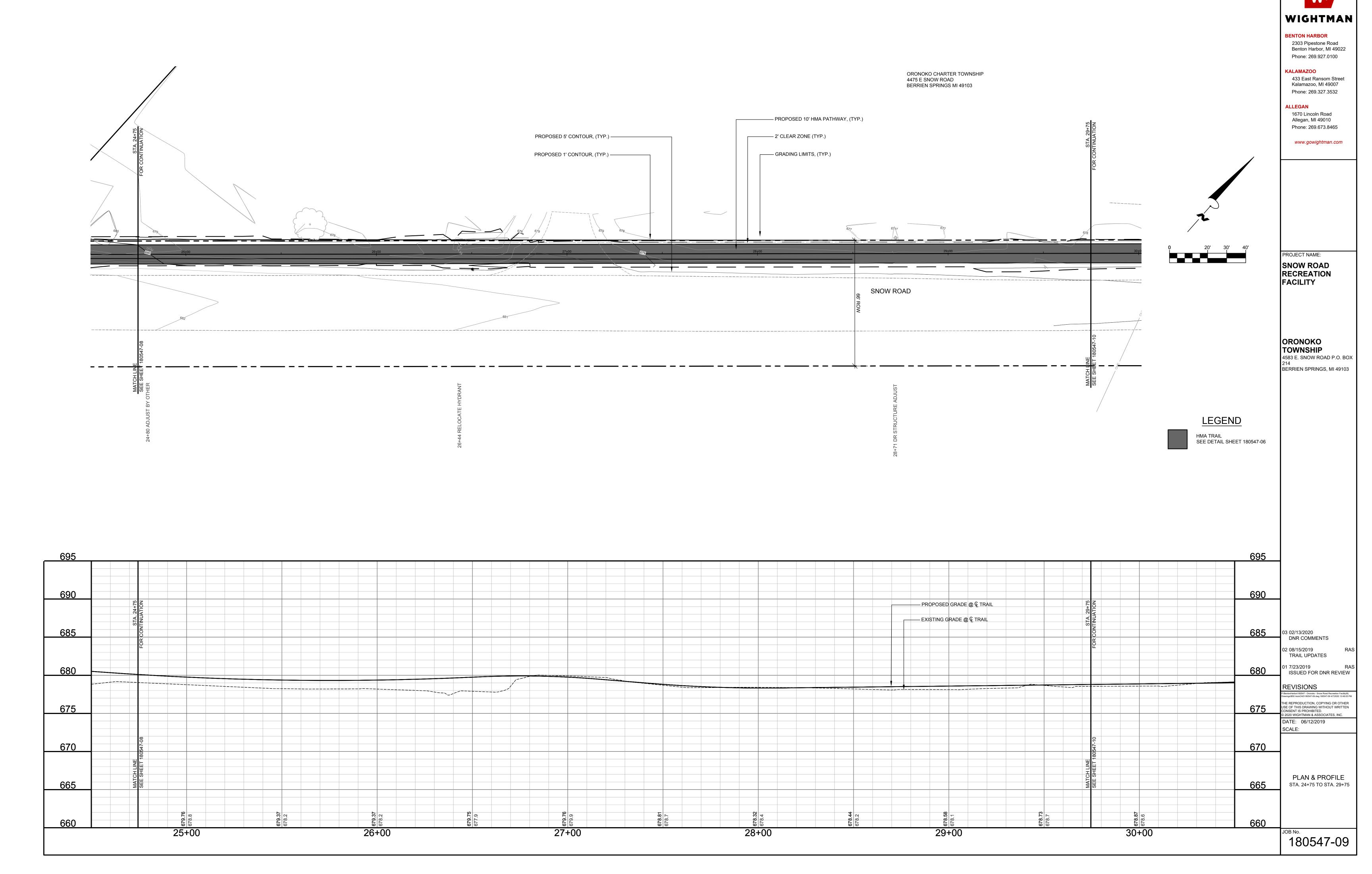
SCALE:

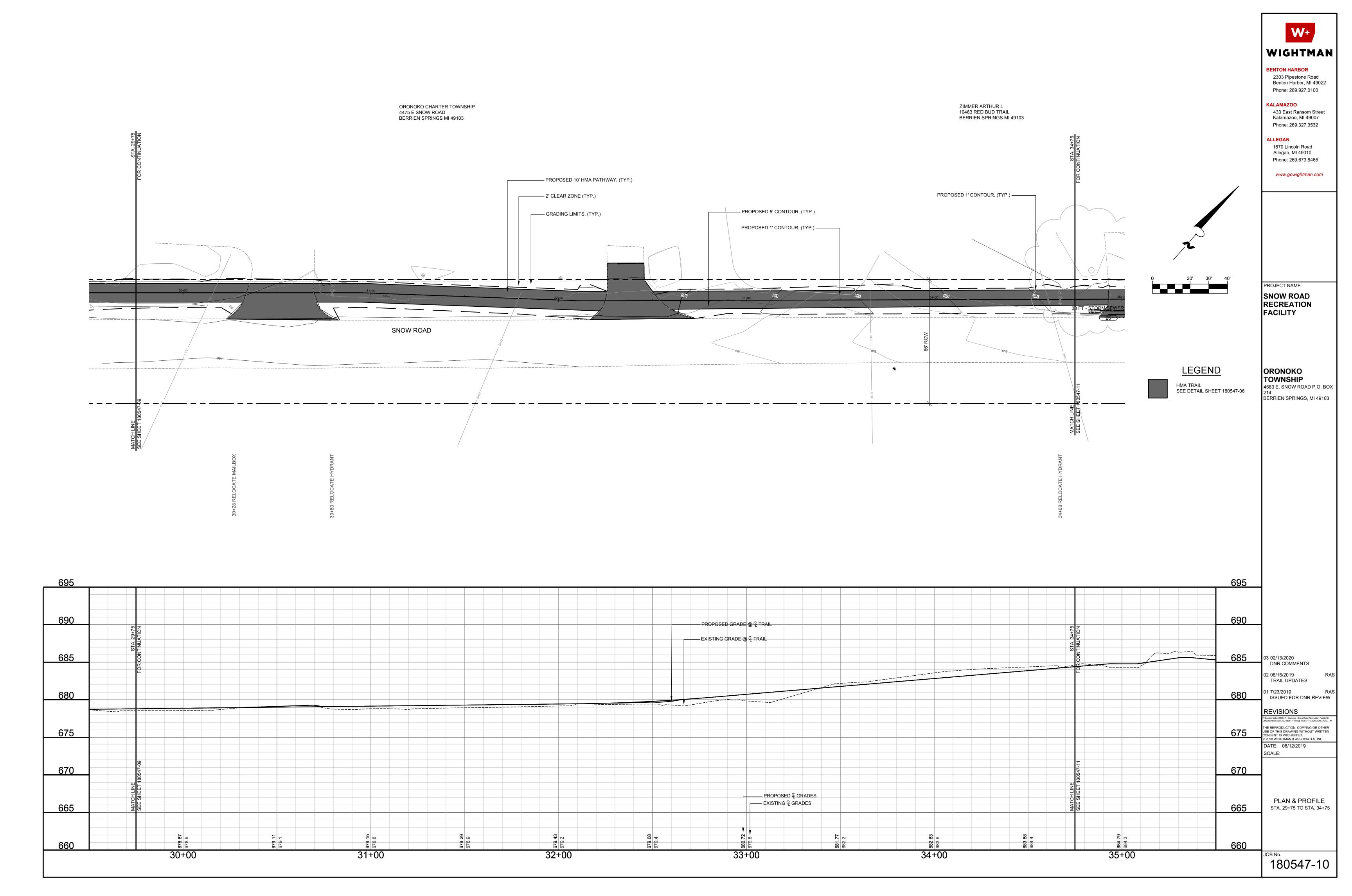
DETAILS

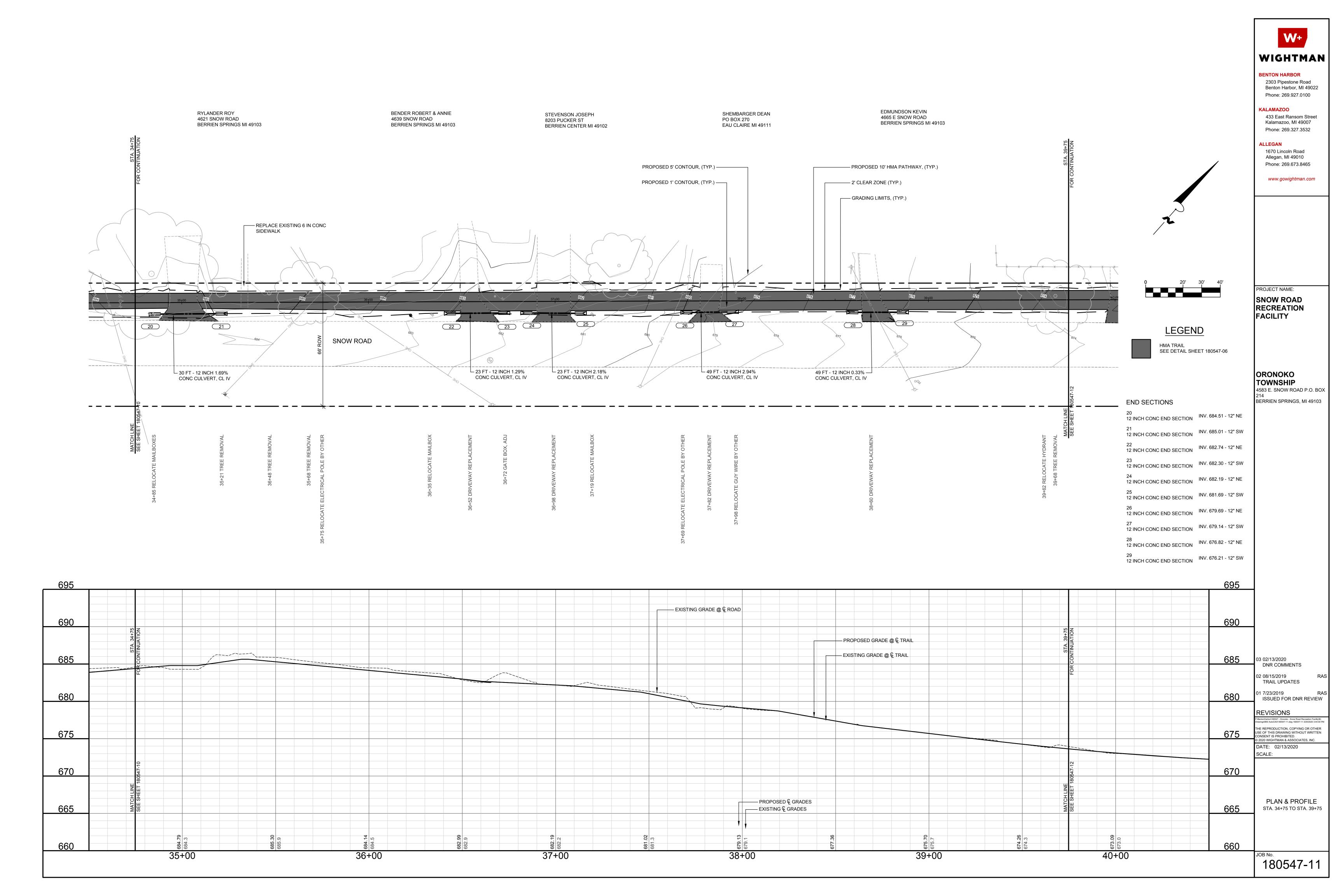


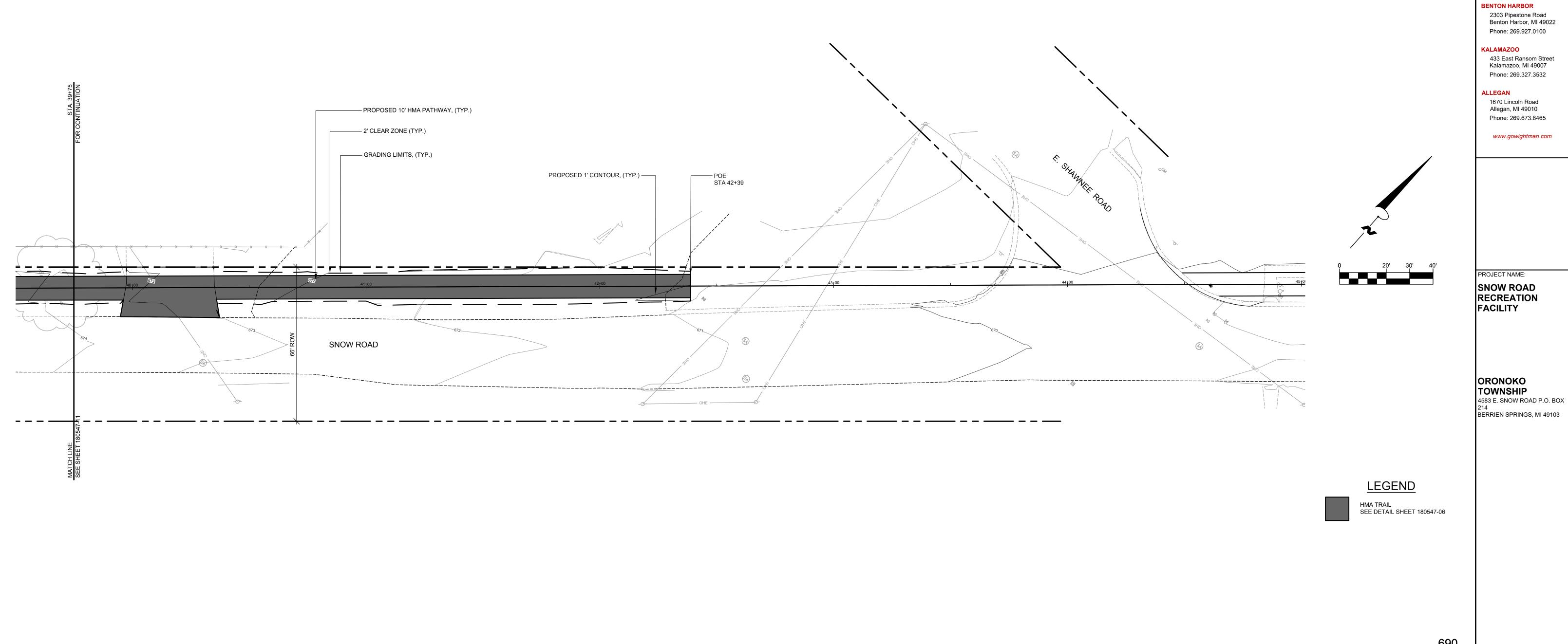












43+00

44+00

– PROPOSED GRADE @ € TRAIL

42+00

— EXISTING GRADE @ € TRAIL

671.75 672.3

41+00

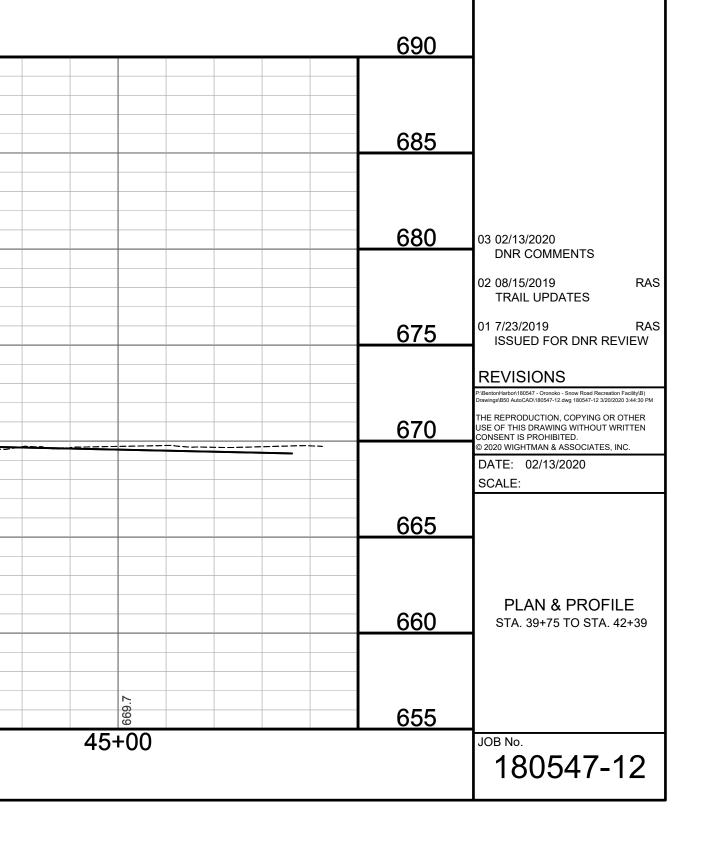
680

675

670

660

40+00



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