



*"Our mission is to upgrade and maintain
a safe and efficient road system"*

GRAND TRAVERSE COUNTY ROAD COMMISSION
2022 HMA PROGRAM
CONTRACT # 22E300

JULY 2022



"Our mission is to upgrade and maintain
a safe and efficient road system"

22E300 HMA PROGRAM - SCHEDULE OF ITEMS

PayItemCode	Description	Quantity	Units
1100001	Mobilization, Max 5% - 20E015	1.00	LSUM
1100001	Mobilization, Max 5% - 22E310	1.00	LSUM
1100001	Mobilization, Max 5% - 22E313	1.00	LSUM
1100001	Mobilization, Max 5% - 22E316	1.00	LSUM
1100001	Mobilization, Max 5% - 22E319	1.00	LSUM
2030001	Culv, Rem, Less than 24 inch	11.00	Ea
2040035	Guardrail, Rem	625.00	Ft
2040050	Pavt, Rem	246.00	Syd
2050006	Ditch Cleanout	7.81	Sta
2050016	Excavation, Earth	4,767.00	Cyd
3010002	Subbase, CIP	3,277.00	Cyd
3020001	Aggregate Base	17,878.00	Ton
3050002	HMA Base Crushing and Shaping	68,896.00	Syd
3057011	_ HMA Base Crushing and Shaping, Modified	3,715.00	Syd
3070021	Approach, Cl II	25.00	Ton
3070121	Shld, Cl II	2,891.00	Ton
3070200	Trenching	1,001.00	Sta
3082002	Road Grade Biaxial Geogrid	622.00	Syd
4010015	Culv End Sect, 15 inch	6.00	Ea
4010048	Culv End Sect, Conc, 15 inch	6.00	Ea
4010049	Culv End Sect, Conc, 18 inch	4.00	Ea
4010051	Culv End Sect, Conc, 24 inch	2.00	Ea
4010095	Culv End Sect, Metal, 15 inch	16.00	Ea
4010574	Culv, Cl E, Conc, 15 inch	123.00	Ft
4010575	Culv, Cl E, Conc, 18 inch	123.00	Ft
4010576	Culv, Cl E, Conc, 24 inch	49.20	Ft
4010608	Culv, Cl F, 15 inch	366.00	Ft
4040063	Underdrain, Subbase, 6 inch	2,016.00	Ft
4040093	Underdrain Outlet, 6 inch	244.00	Ft
4040113	Underdrain, Outlet Ending, 6 inch	11.00	Ea

PayItemCode	Description	Quantity	Units
5010005	HMA Surface, Rem	857.00	Syd
5010061	HMA Approach	227.00	Ton
5012025	HMA, 4EML	12,369.00	Ton
5012037	HMA, 5EML	6,311.00	Ton
8010005	Driveway, Nonreinf Conc, 6 inch	236.00	Syd
8020016	Curb and Gutter, Conc, Det B2	1,870.00	Ft
8020055	Shld Gutter, Conc, Det 1	2.00	Ea
8020056	Shld Gutter, Conc, Det 2	4.00	Ea
8020057	Shld Gutter, Conc, Det 3	1.00	Ea
8050010	Curb Slp, HMA	11,083.00	Ft
8070004	Guardrail, Type MGS-8	3,809.38	Ft
8070012	Guardrail, Curved, Type MGS-8	75.00	Ft
8070044	Guardrail Approach Terminal, Type 2M	15.00	Ea
8070050	Guardrail Departing Terminal, Type B	2.00	Ea
8070075	Guardrail, Salv	950.00	Ft
8070095	Post, Mailbox	68.00	Ea
8100371	Post, Steel, 3 pound	30.00	Ft
8100405	Sign, Type IIIB	26.00	Sft
8110231	Pavt Mrkg, Waterborne, 4 inch, White	98,026.00	Ft
8110232	Pavt Mrkg, Waterborne, 4 inch, Yellow	36,075.00	Ft
8127051	_ Temporary Traffic Control - 22E310	1.00	LSUM
8127051	_ Temporary Traffic Control - 22E313	1.00	LSUM
8127051	_ Temporary Traffic Control - 22E316	1.00	LSUM
8127051	_ Temporary Traffic Control - 22E319	1.00	LSUM
8130010	Riprap, Plain	217.00	Syd
8147011	_ HMA Spillway	285.00	Syd
8167011	_ Slope Restoration, Type C	25,615.00	Syd
8210005	Monument Box Adj	4.00	Ea
8210010	Monument Preservation	4.00	Ea

GRAND TRAVERSE COUNTY ROAD COMMISSION

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ADVERTISEMENT FOR BIDS
2022 HMA PROGRAM
GRAND TRAVERSE COUNTY ROAD COMMISSION

Sealed Proposals on forms prepared by the Engineer will be received by GRAND TRAVERSE COUNTY ROAD COMMISSION at 1881 LAFRANIER ROAD, TRAVERSE CITY, MI 49696-8911 until **9 a.m.** (local time) on **Monday, July 25th, 2022** for construction of the 2022 HMA Program in accordance with Plans, Specifications and other Contract Documents prepared by GRAND TRAVERSE COUNTY ROAD COMMISSION. Proposals will be publicly opened and read immediately after the time established above.

Roads included in Contract # 22E300 are as follows:

Project #	Road Name	Start	End	Length	Township
20E015	Timber Hill Dr (SAD)**	N. Arbutus Lake Rd	Timber Hill Dr	0.2	East Bay
22E310	Arbutus Hill Rd	Garfield Rd	Hobbs Hwy	0.9	East Bay/Paradise
22E313	Hilltop Rd	CR-633	M-37	2.0	Blair
22E316	Supply Rd	Williamsburg Rd	County line	5.5	Union/Whitewater
22E319	Wilson Rd	Davis Rd	Schell Rd	1.0	Grant

**Special Assessment District project. Construction is contingent upon Township and HOA approval of submitted bid pricing.

Principal items of work include but not limited to:

TRENCHING
AGGREGATE BASE
HMA CRUSHING AND SHAPING
HMA 4EML
HMA 5EML
GUARDRAIL
PAVEMENT MARKING, WATERBORNE

Plans, Specifications, and other Contract Documents may be examined at the following location.

- GRAND TRAVERSE COUNTY ROAD COMMISSION; Traverse City, Michigan

Plans, Specifications and other Contract Documents may be obtained upon application at the office of GRAND TRAVERSE COUNTY ROAD COMMISSION, upon the payment of \$60.00 per set plus \$10.00 per set if mailed. Plans and specifications will not be mailed until payment is received. The non-refundable fee shall be in check form and shall be drawn payable to GRAND TRAVERSE COUNTY ROAD COMMISSION. The OWNER's address is GRAND TRAVERSE COUNTY ROAD COMMISSION, 1881 LAFRANIER ROAD, TRAVERSE CITY, MI 49696-8911 and the telephone number is 231-922-4848.

Each proposal shall be accompanied by an acceptable form of Bid Bond in an amount equal to at least five percent (5%) of the amount of the Proposal payable to GRAND TRAVERSE COUNTY ROAD COMMISSION as a guaranty that if the Proposal is accepted, the Bidder will execute the Contract and file acceptable Performance, Labor and Material Payment and Maintenance and Guarantee Bonds within **10** days after, and as a condition precedent to the award of the Contract.

The GTCRC reserves the right to reject any, all, or portions of the Proposals received, or to negotiate separately with any source whatsoever in any manner necessary to serve the best interest of the GRAND TRAVERSE COUNTY ROAD COMMISSION, and to waive any formality or technicality in any Proposal in the intersect of the GTCRC

INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the Construction Contract and the General Specifications. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

Bidder — The individual or entity who submits a Bid directly to the Road Commission.

Drawings or Plans — The terms drawing or plans as used in these documents may mean project specific drawing sheets, log scoping documents, or any other document setting forth the scope of the Work under the Contract.

Issuing Office — The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

Successful Bidder — The Bidder submitting a responsive Bid to whom the Road Commission (on the basis of the Road Commission's evaluation as hereinafter provided) makes an award.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents in the number and for the fee, if any, stated in the Advertisement or Invitation to Bid shall be obtained from the Issuing Office. The fee is nonrefundable unless specifically stated otherwise in the proposal. Payment of the plan fee, and any applicable shipping charges must be received by the Issuing Office before copies of the Bidding Documents are issued. Before issuance of Bidding Documents, the name, address, email address, phone number and fax number of the person to whom the documents are issued shall be provided to the Issuing Office.

2.02 Complete sets of Bidding Documents obtained from the issuing office must be used in preparing Bids; the Road Commission does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 The Road Commission in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.

- A. List of related project experience complete with dollar value of contract, type of work, project owner and project owner's representative and phone number.
- B. Current work now under contract or anticipated during the life of the project. Include project name, type, dollar value, completion date and percentage presently complete.
- C. Equipment list. Provide list of construction equipment presently owned and/or leased along with the equipment intended to be used on the project.
- D. List of suppliers and subcontractors.
- E. Bid Bond.
- F. Bidder Qualification Statement with supporting data.
- G. Affidavit of Non-Collusion.

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

- 4.01 On request, the Road Commission will provide Bidder access to the Site to conduct examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. A Right of Way Permit may be required for work within the Right of Way as a condition to access. Any fees for the Right of Way Permit will be waived by the Road Commission.
- 4.02 It is the responsibility of each Bidder before submitting a Bid to:
 - A. examine and carefully study the Bidding Documents, including any Addenda and the other related data identified in the Bidding Documents;
 - B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
 - C. become familiar with and satisfy Bidder as to all federal, state, and local laws, rules, codes, and regulations that may affect cost, progress, or performance of the Work;
 - D. carefully study all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided by the Road Commission, if any, and carefully study all reports and drawings of a Hazardous Environmental Condition, if any, at the Site which have been identified in the Supplementary Conditions.
 - E. obtain and carefully study (or assume responsibility for doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data

concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the materials, means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including any specific materials, means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;

- F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;
- G. become aware of the general nature of the work to be performed by the Road Commission and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;
- I. promptly give the Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
- J. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.03 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific materials, means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PRE-BID CONFERENCE

A mandatory pre-bid conference **will not** be required on this Project.

5.01 A pre-bid conference will be held on _____ at the Grand Traverse County Road Commission. Representatives of the Road Commission will be present to discuss the Project. Bidders are required to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as

Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 6 - SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to the Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed, emailed, or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than 3 days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by the Road Commission or the Engineer.

ARTICLE 8 - BID SECURITY – A Bid security **will** be required for this Project.

8.01 A Bid must be accompanied by Bid security made payable to the Road Commission in an amount of 5% of Bidder's maximum Bid price and in the form of a certified or bank check, money order or a Bid Bond on an AIA form issued by a surety meeting the requirements of paragraph 6 of the General Specifications.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 10 days after the Notice of Award, the Road Commission may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom the Road Commission believes to have a reasonable chance of receiving the award may be retained by the Road Commission until the earlier of 7 days after the Effective Date of the Agreement or 30 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

8.03 Bid security of other Bidders whom the Road Commission believes do not have a reasonable chance of receiving the award will be returned within 15 days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The number of days within which, or the dates by which, the Work is to be (a) Substantially Completed and (b) also completed and ready for final payment are set forth in the Contract.

ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, are set forth in the Contract.

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to the Road Commission, application for such acceptance will not be considered by the Engineer until after the Effective Date of the Agreement. The procedure for submission of any such application by Contractor and consideration by Engineer is set forth in the General Specifications and may be supplemented in the General Requirements.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 A bid must be accompanied by a list of the subcontractors, suppliers, individuals, or entities proposed for the Work. Such list shall include the portion of the work the subcontractor will be performing and shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such subcontractor, supplier, individual, or entity. If the Road Commission, after due investigation, has reasonable objection to any proposed subcontractor, supplier, individual, or entity, the Road Commission may, before the Notice of Award is given, request the apparent Successful Bidder to submit a substitute, without an increase in the Bid.

12.02 If the apparent Successful Bidder declines to make any such substitution, the Road Commission may award the Contract to the next lowest Bidder that proposes to use acceptable subcontractors, suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any subcontractor, supplier, individual, or entity so listed and against which the Road Commission makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to the Road Commission subject to revocation of such acceptance after the Effective Date of the Agreement as provided in the General Specifications.

12.03 Contractor shall not be required to employ any subcontractor, supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 - PREPARATION OF BID

- 13.01 The Bid form is included with the Bidding Documents. Additional copies may be obtained from the issuing office.
- 13.02 All blanks on the Bid form shall be completed by printing in ink or by typewriter and the Bid signed. A Bid price shall be indicated for each [section, Bid item, alternative, adjustment unit price item, and unit price item] listed therein, or the words "No Bid," "No Change," or "Not Applicable" entered.
- 13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- 13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.
- 13.06 A Bid by an individual shall show the Bidder's name and official address.
- 13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid form. The official address of the joint venture must be shown below the signature.
- 13.08 All names shall be typed or printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid form.
- 13.10 The address, email, and telephone number for communications regarding the Bid shall be shown.

ARTICLE 14 - BASIS OF BID; EVALUATION OF BIDS

14.01 Unit Price

Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

The total of all Bid prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for the item. The final quantities and Contract Price will be determined as follows:

1. For all Unit Price Work, initially the Contract Price will be deemed to include an amount equal to the sum of the Unit Price for each separately identified item of Unit

Price Work times the estimated quantity of each item as indicated in Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by the Road Commission pursuant to the General Specifications.

2. Each Unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
3. Discrepancies between the multiplication of units of Work and Unit Prices will be resolved in favor of the Unit Prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

Bidders shall submit a Bid on a Unit Price basis for the base Bid and include a separate price for each alternate described in the Bidding Documents as provided in the Bid form, if any. The price for each alternate will be the amount added to or deleted from the base Bid if the Road Commission selects the alternate. In the evaluation of Bids, alternates will be applied in the same order as listed in the Bid form.

ARTICLE 15 - SUBMITTAL OF BID

- 15.01 Bids may be submitted by either completing the Bid forms in the bound documents provided or by completing copies made from the Bid forms in the documents provided. A Bid shall include the completed Bid form, Bid security and other material identified for inclusion with the Bid.
- 15.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to GRAND TRAVERSE COUNTY ROAD COMMISSION, 1881 LAFRANIER ROAD, TRAVERSE CITY, MI 49696-8911.
- 15.03 Bids submitted by facsimile, email, in any another electronic form will not be considered.

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

16.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with the Road Commission and promptly thereafter demonstrates to the reasonable satisfaction of the Road Commission that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the advertisement or invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid form, but the Road Commission may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 - AWARD OF CONTRACT

19.01 The Road Commission reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. The Road Commission further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. The Road Commission may also reject the Bid of any Bidder if the Road Commission believes that it would not be in the best interest of the Project to make an award to that Bidder. The Road Commission also reserves the right to waive any or all formalities or nonconformities, and to negotiate contract terms with the Successful Bidder. Any such waiver shall not affect the validity of the Contract or affect the right of the Road Commission to enforce any provision of the Contract.

By submitting this Bid, the Bidder waives any and all claims against the Road Commission related to the Road Commission's selection of the Successful Bidder.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, the Road Commission will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, the Road Commission will consider the qualifications of Bidders and may consider the qualifications and experience of subcontractors, suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of

subcontractors, suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

- 19.05 The Road Commission may conduct such investigations as the Road Commission deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed subcontractors, suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.
- 19.06 If the Contract is to be awarded, the Road Commission will award the Contract to the Bidder whose Bid is in the best interests of the Project and the Road Commission.

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE

- 20.01 Paragraphs 5 and 6 of the General Specifications, as may be modified by the Supplementary Conditions, set forth the Road Commission's requirements as to Bonds and Insurance. When the Successful Bidder delivers the executed Agreement to the Road Commission, it must be accompanied by such Bonds and Insurance.

ARTICLE 21 - SIGNING OF AGREEMENT

- 21.01 When the Road Commission gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 7 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to the Road Commission. The Road Commission shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

**GRAND TRAVERSE COUNTY ROAD COMMISSION
CONSTRUCTION CONTRACT**

PROJECT: 2022 HMA Program (GTCRC #22E300)

LOCATION: Varies, Grand Traverse County Michigan.

THIS CONTRACT is made this _____ day of _____, 2022, by and between GRAND TRAVERSE COUNTY ROAD COMMISSION, a quasi-municipal corporation and a duly organized County Road Commission in the State of Michigan, of 1881 LaFranier Road, Traverse Road Commission, Michigan 49696 (the “Road Commission”) and _____, a _____ corporation, whose address is _____, (the “Contractor”);

WHEREAS, the parties wish to accomplish improvements at the above location (the “Site”) and have solicited and submitted a bid for such improvements;

THEREFORE, the parties mutually agree as follows:

1. Contract Documents. The following designated documents shall be deemed to be a part of this Contract:

- Advertisement
- Information to Bidders
- Instructions to Bidders
- Affidavit of Non-Collusion
- Bid
- Legal Status of Bidder
- Performance Bond with maintenance and guarantee obligations
- Payment Bond
- Notice of Award
- Notice to Proceed
- Authorization of Change(s)
- Work Item Descriptions
- General Specifications
- Supplemental Specifications
- Special Provisions
- MDOT Frequently Used Special Provisions
- Plans and Details
- Progress Schedule
- Contractor Safety Plan
- Pre-Construction Meeting Minutes
- Reports

- Michigan Department of Transportation Standard Specifications for Construction, excluding any standard specifically executed in the Contract Documents and;

- Grand Traverse County Road Commission Standards and Specifications
- Addenda

2. Scope of the Work - Subject Matter. The Contractor, under penalty of bond, if applicable, attached, shall furnish all labor, materials, equipment and appliances suitable, capable, and necessary for the Work and do all the Work as set forth in the bid for the above project according to the specifications, plans, bids, bonds and other Contract documents which are or become a part of this Contract, in a manner, time and place as herein set forth.

It is the intent of the Contract to describe a functionally complete Project to be constructed in accordance with the Contract. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract or from prevailing custom or trade usage as being required to produce the intended result will be provided at no additional cost to the Road Commission. The Scope of Work is referred to herein as the "Work" or the "Scope of Work."

3. Contract Times. The services to be rendered under this Contract shall commence upon issuance of the Notice to Proceed. The Contract working time shall be August 8th 2022 with an intended substantial completion date of October 28th 2022 and a final completion date of November 11th, 2022. Except as otherwise provided, should the Contractor be obstructed or delayed in the prosecution or completion of the Work by any act, neglect, or default of the Road Commission, then the time herein fixed for completion of the Work shall be extended for a period equivalent to the time lost by reason of such delay for the causes herein mentioned. The duration of such extension shall be determined by the Road Commission Engineer.
4. Contract Price. The Road Commission agrees to pay the Contractor the Unit Prices provided in the attached bid(s), specifications and other Contract documents in the time and manner therein provided. The total estimated price for all Work described herein shall be _____, more or less, to be paid pursuant to the procedures established in the Contract documents.

5. **Non-Discrimination.** The parties agree not to 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, sexual orientation, gender identity, religion, national origin, age, sex, height, weight, family status, marital status, or physical or mental disability. Breach of this covenant may be regarded as a material breach of this Contract.
6. **Independent Contractor.** The relationship of the Contractor to the Road Commission is that of an independent contractor and in accordance therewith, the Contractor covenants and agrees to conduct itself consistent with such status and that neither it nor its employees, officers or agents will claim to be an officer, employee or agent of the Road Commission or make any claim, demand or application to or for any rights or privileges applicable to any officer or employee of same, including but not limited to worker's compensation coverage, unemployment insurance benefits, social security coverage, or retirement membership or credit. The parties do not intend the services provided by the Contractor to be a joint venture.
7. **Maintenance and Guarantee.** For one year after the date of final payment, the Contractor shall maintain and repair the Work. Any Work which is found to be defective shall promptly and without cost to the Road Commission and in accordance with the Road Commission's written instructions, be corrected or replaced with non-defective Work. If the Road Commission determines that Work must be replaced, the Contractor shall promptly replace the Work. If the Contractor believes that replacement of the Work was unreasonable and only repair of the Work should have been ordered by the Road Commission, the Contractor may file a claim against the Road Commission for the difference in cost, and, if the Road Commission disagrees with said claim, may pursue such claim in accordance with the dispute resolution procedure established in the Contract. If the Contractor does not promptly repair or replace the Work pursuant to the Road Commission's directions, the Road Commission may itself correct the defective Work or may have the defective Work corrected by another contractor. The Contractor shall pay all of the Road Commission's costs and expenses, including Road Commission overhead costs and attorney fees associated with the repair or replacement of the defective Work. Where defective Work has been corrected or removed and replaced under this paragraph, the correction period with respect to such Work will be extended for an additional term of one year after such correction or removal and replacement has been completed. These obligations are in addition to any other obligation provided by law or this Contract or warranty.
8. **Recovery of Money.** Whenever, under this Contract, any sum of money shall be recoverable from or payable by the Contractor to the Road Commission, the same amount may be deducted from any sum due to the Contractor under this Contract or under any other contract between the Contractor and the Road Commission. The rights of the Road Commission are in addition and without prejudice to any other right the Road Commission may have to claim the amount of any loss or damage suffered by the Road Commission on account of the acts or omissions of the Contractor.

9. Illegal Workers. The Contractor certifies that it does not and will not, during the performance of this Contract, employ illegal alien workers or otherwise violate the provisions of the federal Immigration Reform and Control Act of 1986, as amended.

10. Contractor Responsibility. The Contractor shall perform the Work in a good and workerlike manner and assumes the risk in performing under this Contract. Contractor shall be solely responsible and answerable in damages for all improper Work, accidents or injuries to person or property.

11. Indemnification. Contractor shall indemnify and hold harmless the Road Commission, its board members, officers, agents and employees from and against any and all claims, liabilities, losses, damages, or expenses (including costs of investigation and defense, actual attorney fees and expenses, and settlement expenses) arising from or related to any claim (whether or not a third-party claim) alleging (1) bodily injury or death of any persons and damage or loss of any property, (2) breach of any representation, warranty, or covenant by the Contractor, (3) a hazardous environmental condition resulting or arising out of or in connection with the performance of any Work relating to this Contract, and (4) any negligent (or more culpable) act or omission of the Contractor in connection with the performance of its obligations under this Contract based upon any act, omission, or negligence of Contractor or its employees, agents, servants, subcontractors, or any other person or persons, including but not limited to the Road Commission, its agents, officers, or employees. The obligations to indemnify, and hold harmless contained herein shall exclude only those matters in which the claim arises out of allegations of the sole negligence of the Road Commission, its officers, agents or employees. This indemnification provision shall not be limited by reason of insurance coverage of any type. This provision is not intended to waive the defense of governmental immunity that may be asserted by the Road Commission in an action against it nor is it the Road Commission's exclusive remedy under this Contract.

The Road Commission hereby reserves the right to select its own counsel in defense of any matter arising hereunder, and no payment, or acknowledgement of liability, loss, fine, penalty or charge shall be made against the Road Commission without its express written consent.

The Contractor expressly acknowledges and agrees that this indemnification provision is intended to be as broad and inclusive as is permitted by law and that if any portion thereof is held invalid, it is agreed that the balance shall, notwithstanding, continue in full legal force and effect.

This indemnity shall survive the expiration or termination of this Contract.

12. Compliance with Regulations. The Contractor shall keep itself fully informed of and shall at all times comply with all local, state and federal laws, rules and regulations applicable to this Contract and the Work to be done hereunder.

13. MISS DIG. The Contractor shall be responsible for contacting and coordinating with all affected utilities. The Contractor is responsible for complying with the MISS Dig Underground Facility Damage Prevention and Safety Act for all Work under this Contract.

14. Standard of Conduct. Unless a higher standard is contained in Contractor's bid, Contractor shall render all services under this Contract according to generally accepted industry practices for the intended use of the Work or project.

15. Third Party Participation. The Contractor agrees that despite any subcontract entered into by the Contractor for execution of activities or provision of services related to the completion of this project, the Contractor shall be solely responsible for carrying out the project pursuant to this Contract. The Contractor shall specify in any such subcontract that the subcontractor shall be bound by this Contract and any other requirements applicable to the Contractor in the conduct of the project unless the Road Commission and the Contractor agree to modification in a particular case.

16. Qualifications of the Contractor. The Contractor specifically represents and agrees that its officers, employees, agents and consultants have and shall possess the experience, knowledge, and competence necessary to qualify them individually for the particular duties they perform hereunder and to perform the Work.

- The Contractor does have to be pre-qualified by the Michigan Department of Transportation for the Work to be performed under this Contract.

17. Contractor's Representations. The Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions, including subsurface and soil conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all federal, state, and local laws, rules, and regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface and surface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the General Specifications and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which have been identified in the General Specifications as provided in the General Specifications.

E. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (including surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the material, means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including applying the specific material, means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract Documents to be employed by Contractor to perform the Work, and safety precautions and programs incident thereto.

F. Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the terms and conditions of the Contract Documents.

G. Contractor is aware of the general nature of Work to be performed by the Road Commission and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has correlated the information known to Contractor, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

I. Contractor has given the Road Commission Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

K. Contractor has reviewed, examined, and understands all standards referenced in the Contract.

L. Contractor understands that any quantity estimates are provided for reference only and the Contractor has verified final quantities. Contractor has provided written notice of any substantial discrepancies and the written resolution thereof by the Engineer is acceptable to Contractor.

18. Notice. Whenever it is provided in this Contract that a notice or other communication is to be given or directed to either party, the same shall be given or directed to the respective party at its address as specified in this Contract, or at such other address as either party may, from time to time, designate by written notice to the other.

19. Termination.

A. For Fault. If the Road Commission determines that the Contractor has failed to perform or will fail to perform all or any part of the services, obligations, or duties required by this Contract, the Engineer may terminate or suspend this Contract in whole or in part upon written notice to the Contractor specifying the portions of this Contract and in the case of suspension shall specify a reasonable period not more than 10 days from receipt of the notice, during which time the Contractor shall correct the violations referred to in the notice. If the Contractor does not correct the violations during the period provided for in the notice, this Contract shall be terminated upon expiration of such time. Upon termination, any payment due the Contractor at time of termination may be adjusted to cover any additional costs occasioned or to be occasioned by the Road Commission by reason of the termination and failure to perform, including attorney fees and overhead costs. This Section shall not limit or modify any other right of the Road Commission to proceed against the Contractor at law or equity or under the terms of this Contract.

For the avoidance of doubt, failure to perform under this Section includes, but is not limited to, the following:

1. Contractor fails to begin the Work within the time specified.
2. Contractor fails to prosecute the Work to assure completion within the number of days specified.
3. Contractor fails to perform in accordance with the Contract.
4. Contractor fail to perform in accordance with the Contract requirements and specifications.
5. Contractor neglects or refuses to remove and replace rejected materials or Work.
6. Contractor discontinues the Work without the Road Commission's approval.
7. Contractor fails to resume work that has been discontinued within a reasonable number of days after notice to do so.
8. Contractor is uncooperative, disruptive or threatening.
9. Contractor fails to conduct the Work in an acceptable manner.

B. Not for Fault. The performance of Work or any portion thereof under the Contract may be terminated by the Road Commission Manager in whole or in part whenever the Road Commission Manager determines that termination is in the Road Commission's best interest. Any such termination shall be effected by the delivery to the Contractor of a written notice of termination at least 5 days before the date of termination, specifying the extent to which performance of the Work under the Contract is terminated and the date upon which such termination becomes effective.

After receipt of a notice of termination, except as otherwise directed, the Contractor shall stop Work on the date of receipt of the notice of termination or other date specified in the notice; place no further orders or subcontracts for materials,

services or facilities except as necessary for completion of such portion of the Work not terminated; terminate all vendors and subcontracts, settle all outstanding liabilities and claims and secure the site as directed by the Road Commission in the notice of termination.

Upon termination, the Contractor shall be entitled to and the Road Commission shall pay the costs actually incurred in compliance with this Contract up to the date of termination. In no event shall the Contractor be entitled to recover costs not actually incurred or anticipated profits on Work not completed or dispensed with.

20. Failure to Enforce. Failure by the Road Commission at any time to enforce the provisions of the Contract shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the Contract or any part thereof, or the right of the Road Commission to enforce any provision at any time in accordance with its terms.

21. Freedom of Information Act. The Contractor acknowledges that the Road Commission may be required from time to time to release records in its possession by law. The Contractor hereby gives permission to the Road Commission to release any records or materials received by the Road Commission as it may be requested to do so as permitted by the Freedom of Information Act, MCL 15.231 *et seq.* Provided, however, that the Contractor shall not be held liable for any reuse of the documents prepared by the Contractor under this Contract for purposes other than anticipated herein.

22. Force Majeure. If because of Force Majeure either party is unable to carry out any of its obligations under this Contract (other than obligations of such party to pay or expend money for or in connection with the performance of this Contract), and if such party promptly gives to the other party concerned written notice of such force majeure, then the obligations of the party giving such notice will be suspended to the extent made necessary by such force majeure and during its continuance, provided the effect of such force majeure is eliminated insofar as possible with all reasonable dispatch. "Force Majeure" means unforeseeable events beyond a party's reasonable control and without such party's fault or negligence, including, but not limited to, acts of God, acts of public enemy, acts of the federal government, fire, flood, inclement weather, epidemic, quarantine restrictions, strikes and embargoes, labor disturbances, the unavailability of raw materials, legislation, orders or acts of civil or military authority, injunctions, or other causes of a similar nature which wholly or substantially prevent performance. If the suspension of Work lasts for more than thirty (30) days, the Road Commission may terminate this Contract pursuant to paragraph 17.B.

If the Contractor is delayed in the completion of Work due to Force Majeure, or otherwise, the time for completion may be extended for a period determined by the Road Commission to be equivalent to the time of such delay. However, the Contractor shall not be entitled to any increase in Contract Price as a result of the Force Majeure unless otherwise expressly agreed in writing by the Engineer.

23. Dispute Resolution. If any party has a dispute with another regarding the meaning, operation or enforcement of this Contract or any provision of this Contract, the disputing parties agree to meet and confer to negotiate a resolution of the dispute. They further agree as follows:

- A. Mediation. If they are unable to resolve the dispute themselves and before formally instituting any other dispute mechanism, they shall utilize the services of a mutually acceptable neutral mediator, who meets the qualifications of MCR 2.411, to bring them together in at least one mediation session.
- B. Arbitration. If they are unable to resolve the dispute through mediation, it shall be decided by final and binding arbitration according to the rules and procedures of an arbitration service as the parties may agree. Judgment upon the award rendered by the arbitrator may be entered in Circuit Court.
- C. Venue. All meetings, hearings and actions to resolve the dispute shall be in Grand Traverse County.
- D. Notice. Written notice of a dispute shall be given to the other party not later than 90 days after the occurrence giving rise to the dispute becomes known or should have become known. Negotiations and mediation shall occur within 60 days after such notice. Unless a longer time is agreed upon, arbitration must be demanded within 120 days after such notice and, if not, the claim is deemed waived. Arbitration must be demanded within this time limit even if negotiation or mediation has not occurred, but the arbitrator must direct the parties to mediation before issuing an award.
- E. Work Continuance and Payment. Unless otherwise agreed in writing, Contractor shall continue the Work and maintain the approved schedules during any dispute resolution proceedings. If Contractor continues to perform, the Road Commission shall continue to make payments in accordance with this Agreement.
- F. Emergency Injunctive Relief. Nothing in this Contract shall prohibit the Road Commission from seeking emergency injunctive relief, should the situation warrant it under MCR 3.310.
- G. Agent Dispute Resolution. Notwithstanding the above, at the option of the Road Commission, the Road Commission and the Contractor shall submit the following matters to a person with background, training, and experience in similar projects:

1. To determine whether there has been a delay for reasons that were within the control of the Contractor, and the period of time that delay has been caused, continued, or aggravated by actions of the Contractor.
2. To determine whether there has been an unacceptable delay by the contractor in the performance of the remaining Work under the contract any time after 94% of the Work is in place.

The agent selected shall be mutually agreeable to the Road Commission and the Contractor provided that the Road Commission and the Contractor can mutually agree within 10 days from the date of the dispute. In the event that the parties cannot agree, the agent shall be selected by the Road Commission. The agent shall not be an employee of either party. This process shall be governed by and subject to the provisions of MCL 125.1564(4) – (8).

24. Entire Contract. This Contract, together with all items incorporated herein by reference, constitutes the entire Contract of the parties and there are no valid promises, conditions or understandings which are not contained herein.

25. Amendments. This Contract may be modified from time to time, but such modifications shall be in writing and signed by both parties.

26. Interpretation. This Contract shall be governed by the laws of the State of Michigan, both as to interpretation and performance. This Contract was drafted at the joint direction of the parties. The pronouns and relative words used herein are written in the neuter and singular. However, if more than one person or entity joins in this Contract on behalf of Contractor, or if a person of masculine or feminine gender joins in this Contract on behalf of Contractor, such words shall be interpreted to be in the plural, masculine or feminine as the sense requires.

In the event that any term, clause or provision of this Contract conflicts with any term, clause, or provision contained in any attachments to this Contract, this Contract's terms shall prevail. In the event any term, clause or provision of a standard, specification, manual, or code published or prepared by any entity other than the Road Commission or its agents conflicts with any term, clause, provision or specification prepared by the Road Commission or its agents, the term, clause, provision or specification prepared by the Road Commission or its agents shall prevail except as otherwise required by law.0020

References to standards, specifications, manuals, or codes of any technical society organization, or association shall mean the standard, specification, manual, code, or law or regulation in effect at the time of opening the Bid or the date of this Agreement, whichever occurs first, except as otherwise stated or required by law or regulation. References to any law, rule, or regulation shall mean the law, rule, or regulation in effect at the time the Work or any portion thereof is performed by the Contractor.

27. Record Drawings. Record drawings are **not** required. Contractor shall create and submit 3 sets of record drawings of the finished Work to the Road Commission. Final Payment shall not be due until the drawings are reviewed and accepted by the Road Commission.

28. Authority to Execute. The parties agree that the signatories appearing below have the authority and are duly authorized to execute this Contract on behalf of the party to the Contract.

29. Third Party Beneficiaries. This Contract confers no rights or remedies on any third party, other than the parties to this Contract and their respective successors and permitted assigns.

30. Reuse of Documents. All documents and electronic files delivered to the Road Commission are instruments of service in respect of the project. Nevertheless, all documents and electronic files delivered to the Road Commission shall become property of the Road Commission upon completion of the Work and payment in full of all monies due the Contractor. Copies of the Road Commission-furnished data that may be relied upon by the Contractor are limited to the printed copies (also known as hard copies) that are delivered to the Contractor. Files on electronic media of text, data or graphics or of other types that are furnished by the Road Commission to the Contractor are only for convenience of the Contractor. Any conclusion of information obtained or derived from such electronic files will be at the user's sole risk. Economic benefit to the Road Commission for having these files is predicated on the files being in media form, software release number and hardware operating system number as utilized by the Contractor. Copies of documents that may be relied upon by the Road Commission are limited to the printed copies (also known as hard copies) that are signed or sealed by the Contractor. Files on electronic media of text, data or graphics or of other types that are furnished by the Contractor to the Road Commission shall be in a compatible software format for use by the Road Commission. Any conclusions or information obtained or derived from such electronic files will be at the user's sole risk. Electronic file copies of drawings will not contain the Contractor's seal or the identification of the Contractor in the title block.

31. Digital Signatures. The parties hereto acknowledge and agree under the Uniform Electronic Transactions Act, MCL 450.832, *et seq.* that this Contract may be executed with the electronic signature of any person authorized and required to sign on behalf of the parties hereto.

32. Execution in Counterparts. This Contract may be executed in counterparts, each of which shall be an original and all of which shall constitute the same instrument.

33. No Waiver. No waiver by any party of any default by another party in the performance of any portion of this Contract shall operate or be construed as a waiver of any future default, whether like or different in character.

34. Costs and Expenses. Contractor shall be responsible for reasonable attorney fees and costs incurred by the Road Commission in connection with recovery under the bonds furnished by Contractor or any of its subcontractors under this Contract as well as any reasonable attorney fees and costs incurred by the Road Commission in connection with the Contractor's performance or failure to perform under this Contract. Costs that may be charged to the Contractor include, but are not limited to, all costs and expenses incurred by the Road Commission in connection with performing any portion of the Work that the Contractor fails and refuses to perform following notice to the Contractor. In case of an emergency, where in the opinion of the Engineer, delay would cause serious loss or damage, or presents a safety hazard to the traveling public, corrective work may be undertaken without advance notice to Contractor, and Contractor shall be liable for all costs and expenses incurred. The remedies set forth in this paragraph are cumulative of any other remedies the Road Commission may have.

35. Extension of Contract. The contract may be extended for up to two additional years at current unit pricing if mutually agreed upon by both parties.

IN WITNESS WHEREOF, the parties hereto have executed this Contract on the date and year first above written.

CONTRACTOR

By _____

Its _____

GRAND TRAVERSE COUNTY ROAD COMMISSION

By _____
Jason Gillman, Chairperson

By: _____
Kylie Carpenter, Clerk

APPROVED AS TO SUBSTANCE:

Road Commission Manager

APPROVED AS TO FORM:

Karrie A. Zeits
Road Commission General Counsel

GENERAL SPECIFICATIONS

1. DEFINITIONS.

For the purpose of these specifications, the following terms are used herein and are respectively defined as follows:

- A. "Road Commission" shall mean the Grand Traverse County Road Commission represented by the County Highway Engineer.
- B. "Engineer" shall mean the County Highway Engineer of the Road Commission.
- C. "Board" shall mean the Board of Grand Traverse County Road Commissioners.
- D. "Contractor" shall mean the individual, partnership, corporation or a combination of any or all jointly, undertaking the execution of the Work under the terms of the Contract and acting directly or through agents or employees.

2. ENGINEER'S STATUS.

The Engineer will be the Road Commission's representative during construction of the Project. The Engineer has authority to stop the Work whenever such stoppage may be necessary to insure proper execution of the Contract. The Engineer shall also have authority to reject all Work and materials which do not conform to the Contract.

3. CONTRACT DOCUMENTS.

If the Contractor believes a conflict, error, ambiguity, or discrepancy exists within the Contract Documents or between the Contract Documents and any provisions of any law or regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any supplier, Contractor shall report it to the Engineer in writing at once and request an amendment or supplement to the Contract documents by the Engineer. In the event that the Contractor proceeds with the Work without an amendment or supplement issued by the Engineer, Contractor shall assume all risk in performing the Work without such amendment or supplement, which shall include but not be limited to the risk that the Work performed shall be required to be removed, replaced, or corrected by the Road Commission.

4. SUBSURFACE AND PHYSICAL CONDITIONS

A. Reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been provided to the Contractor are as follows:

B. Reports and drawings of a Hazardous Environmental Condition, if any, at the Site which have been provided to the Contractor are as follows:

5. INSURANCE.

The Contractor is required to provide the following insurance. If any part of the Contract is sublet, insurance shall be provided by the Contractor on behalf of subcontractors to cover their operations. The insurance shall be contracted with a company licensed to do business in the State of Michigan and shall be subject to the approval of the Road Commission. Certified copies in duplicate, setting forth the limits and coverage shall be furnished to the Road Commission before commencing with any Work and at the time of executing this Contract. The policy shall contain endorsements stating that a 10 day notice will be given to the Road Commission prior to termination or any change in the policy, shall provide an endorsement stating that the Road Commission, its board, officers, employees, and agents have been named as additional insureds onto such policy for all claims arising out of the Contractor's Work, and shall describe the construction project and provide coverage for the following terms:

A. Contractor's General Liability and Property Damage. The Contractor shall procure and shall maintain during the life of this Contract Contractor's General Liability Insurance in an amount not less than \$2,000,000 per occurrence for injuries, including accidental death, for each person; and subject to the same limit for each person, in an amount not less than \$2,000,000 per occurrence on account of each accident; and Contractor's Property Damage Insurance in an amount not less than \$1,000,000 each occurrence; and combined Single Limit for Bodily Injury and Property Damage Liability in an amount not less than \$2,000,000 for each occurrence, including property damage coverage for the following terms:

1. Underground Damage to facilities due to drilling and excavating with mechanical equipment in streets and highways, easements or public property.
2. Collapse or Structural Injury to structures due to blasting or explosion, excavation, tunneling, pile driving or cofferdam Work.

Coverage shall include language that states: It is understood and agreed that by naming the Road Commission, its board, officers, agents, and employees as additional insured, coverage afforded is considered to be primary and any other insurance that the Road Commission may have in effect shall be considered secondary or excess.

B. Automobile Insurance. The Contractor shall procure and maintain during the life of this Contract Owned, Contract Hired and Non-Ownership Motor Vehicle Bodily Injury Insurance (comprehensive form) in an amount not less than \$500,000 for injuries, including accidental death for each person; and in an amount not less than \$1,000,000 for each accident; and Property Damage Liability Insurance in an amount not less than \$1,000,000 for each accident; and combined single limit for Bodily Injury and Property Damage Liability Insurance in an amount not less than \$1,000,000 for each occurrence. These requirements may be met through an Umbrella Policy.

C. Worker's Compensation. The Contractor shall comply with the requirements of the Michigan Worker's Compensation Law and shall maintain such insurance as will protect him from claims under said law, and from any other claim for personal injury, including death, which may arise from operations by himself or by any other Contractor, or anyone directly or indirectly employed by either of them, and will give proof of such insurance to the Road Commission Engineer at the time of filing its bonds and Contract.

D. Owner's (Road Commission's) Protective Liability. The Contractor shall furnish to the Road Commission, in duplicate, an Owner's Protective Liability Policy insuring the Road Commission in an amount not less than \$1,000,000 with respect to any one person, and \$1,000,000 with respect to any occurrence in the case of bodily injury, and \$1,000,000 for each occurrence and a \$1,000,000 aggregate for property damage liability; and combined single limit for Bodily Injury and Property Damage in an amount not less than \$1,000,000 for each occurrence.

E. All Risk Builder's Insurance. The Contractor shall procure and maintain, in the name of the Road Commission and of the Contractor, as their respective interests may appear during the life of the Contract, All Risk Builder's Risk Insurance on a completed value basis in an amount not less than the Contract amount plus the value of all material furnished by the parties other than the Contractor for installation in the project to cover all project structures and materials, supplies, machinery, equipment and fixtures including the installation cost thereof which are owned by the insured or for which the insured is legally liable. This policy covers the property of the insured (a) while in transit at the risk of the insured; (b) while on the premises of construction or installation; and (c) during construction, installation or testing. This policy insures against all risk of direct physical loss or damage to the property insured hereunder and shall specifically cover loss due to fire, wind, flood and collapse, but may be subject to exclusion of losses from wear and tear, misappropriation of business, defective materials, collapse due to faulty Workmanship, nuclear or radiation war, insurrection, riot or civil disobedience.

✓ F. Railroad Protective Liability Insurance. If checked, Contractor shall procure and maintain, railroad protective liability insurance with limits of not less than \$2,000,000 combined single limit for bodily injury or property damage per occurrence and an aggregate annual limit of \$6,000,000.

G. Cancellation. If any of the insurance is canceled, the Contractor and all subcontractors shall cease operations, and shall not resume until new insurance is obtained.

6. BONDS.

The Contractor will be required to furnish surety bonds from a surety company with an A.M. Best rating of 'A' or better, U.S. Treasury Department listed and admitted to do business in the State of Michigan effective on the date the Notice to Proceed is issued.

The surety shall be acceptable to the Road Commission and shall be provided at the time this Contract is executed by the Contractor. Each bond shall be on the AIA Document A312 forms provided as follows:

A. Performance Bond. The Contractor, as Principal, shall furnish a surety bond in an amount at least equal to one-hundred (100%) percent of the Contract Price as security for faithful performance of this Contract. The Road Commission shall be Obligee under said bond. The bond shall guarantee the faithful performance and shall indemnify and save harmless the Road Commission from all costs and damages by reason of the Contractor's failure to perform in accordance with the Contract provisions. The Contract, by reference, shall be an integral part of the bond.

The above mentioned AIA Document A312 shall be modified to include the maintenance and guarantee obligations in the amount of not less than one hundred percent (100%) of the Contract Price in favor of the Road Commission to keep in good order and repair any defects in all of the Work extending for a period of one year from the date of payment of the final pay request or acceptance of construction pursuant to paragraph 7 of the Construction Contract.

B. Payment Bond. The Contractor, as Principal, shall furnish a surety bond in an amount equal to one-hundred (100%) percent of the Contract Price as security for the prompt payment to all subcontractors and persons supplying labor, equipment and material in the performance of all Work under said Contract, and any and all authorized modifications under this Contract. The Contract, by reference, shall be an integral part of the bond.

7. PERMITS.

The Contractor shall obtain all permits required for the Work by any federal, state, or local law, rule, code, or regulation. Contractor shall pay for same at Road Commission's own expense. Any inspection fees associated with such permits shall be paid for by the Contractor and Contractor shall conduct construction operations in accordance with provisions of such permits including tunneling of utilities where reburied. Contractor shall also furnish any required bonds and pay the cost of same.

8. PRE-CONSTRUCTION MEETING.

A pre-construction meeting **will not** be required. After the award of the Contract by the Road Commission, the Road Commission will organize and a principal member of the Contractor's organization and any other person or entities that the Road Commission requires shall attend a pre-construction meeting with all subcontractors to be held at a place and on a date mutually agreed upon. At this time, at a minimum, the requirements of the project, the Contractor's schedule of operations and construction methods, work zone traffic plan, and, if applicable, testing orders, job mix formula shall be provided. The Contract documents shall be delineated in order to obtain an understanding of the overall construction program by the Consultant and subcontractors.

9. CONSTRUCTION SCHEDULE AND SAFETY PLAN.

A. At the pre-construction meeting and prior to starting Work, the Contractor shall prepare and submit to the Engineer two copies of a construction progress schedule showing in a clear, graphical manner the proposed dates for the commencement, progress and completion of the Work. The progress schedule shall be predicated on the completion of the Work on or before the date of completion as stated in the Contract. Upon approval of the Progress Schedule by the Engineer in writing, it shall become a part of the Contract Documents. The Pre-

construction meeting minutes approved by the Road Commission shall become a part of the Contract Documents.

B. If, during the course of the Work, it becomes apparent that the Progress Schedule is unrealistic or will not be met, it shall be revised and resubmitted to the Engineer for approval. Upon approval of the revised Progress Schedule, it shall become a part of the Contract documents. Approval of the revised Progress Schedule is in the sole discretion of the Engineer.

C. No later than the pre-construction meeting and prior to starting Work, the Contractor shall prepare and submit to the Engineer two copies of a Safety Plan showing in a clear, graphical manner the Contractor's plan for taking all necessary precautions for the safety of and provision of necessary protection to prevent damage or injury to all persons on the project site or who may be affected by the Work, all the Work and materials and equipment to be used, and other property at the project site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction. Upon approval of the Safety Plan, it shall become a part of the Contract documents.

Contractor shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

10. CONTRACTOR'S SUPERVISION AND ORGANIZATION.

A. The Work under this Contract shall be under the direct charge and direction of the Contractor at all times. The Contractor shall give superintendence to the Work, using his or her best skill and attention. The Contractor shall at all times keep competent persons and any and all necessary supervisors and assistants on the site of the Work during its progress. The Contractor shall designate a Project Supervisor and a Safety Supervisor who shall have the authority and responsibilities as set forth in Section 104.07 of the MDOT Standard Specifications for Construction and such other positions as the Engineer may require.

B. The Contractor shall employ only competent, efficient workers and shall not use on the Work any unfit person or one not skilled in the Work assigned and Contractor shall at all times enforce strict discipline and good order among Contractor's employees.

C. The Road Commission may request replacement of the Project Supervisor in the event that the Project Supervisor fails to provide efficient and effective superintendence to the Work or cooperate with the Road Commission. In the event that the Road Commission requests replacement, the Contractor shall replace the Project Supervisor with a competent Project Supervisor unless the Contractor has a reasonable objection to replacement of the Project Supervisor and the Contractor provides sufficient assurance to the Road Commission that the Project Supervisor shall cooperate with the Road Commission and provide efficient and effective superintendence to the Work. Such assurance may be required by the Road Commission to be in writing and include detailed specifications to assure the Project Supervisor's performance.

D. Contractor shall be responsible for all costs incurred by the Road Commission, including attorney fees, in connection with Contractor's failure to properly provide superintendence of the Work or failure to be at the site of the Work on the dates or times indicated to the Road Commission without providing at least 12 hours' notice to the Road Commission.

11. SUBCONTRACTING.

A. Contractor shall not employ any subcontractor, supplier, or other individual or entity, whether initially or as a replacement, against whom the Road Commission may have reasonable objection. Contractor shall not be required to employ any subcontractor, supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. The Contractor shall give personal attention to the fulfillment of the Contract and shall keep the Work under its control.

C. No subcontractor will be recognized as such, and all persons engaged in the Work or construction will be considered as employees of the Contractor and the Contractor will be held responsible for their Work, which shall be subject to the provisions of this Contract. Contractor shall be fully responsible to the Road Commission for all acts and omissions of the subcontractors, suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for its own acts and omissions.

D. The Contractor shall perform with its own organization Contract Work amounting to not less than 40% percent of the original total Contract Price.

E. When a portion of the Work which has been subcontracted by the Contractor is not being executed in a manner satisfactory to the Road Commission, the subcontractor shall be removed immediately on the request of the Engineer and shall not again be employed on the Work.

F. The subcontractors do need to be pre-qualified by the Michigan Department of Transportation to perform the classification of Work proposed.

12. PROTECTION OF WORK AND PROPERTY.

A. The Contractor shall continuously maintain adequate protection of all Contractor's Work from damage and shall protect all public property and private abutting property from injury or loss arising in connection with damage, injury or loss, and shall indemnify, defend and hold harmless the Road Commission from all such damages or injuries occurring because of Contractor's Work. Contractor shall furnish and maintain all passageways, barricades, guard fences, lights and danger signals, provide watchmen and other facilities for protection required by public authority or local conditions, all at no additional cost to the Road Commission.

B. The Contractor shall assume full responsibility of loss or damage to the Work during the entire construction period resulting from conditions, and from all other causes whatsoever not directly due to the acts or neglect of the Road Commission, including fire, vandalism, flood, and malicious mischief, and shall turn the finished Work over to the Road Commission in good condition and repair at the time of the request for a certificate of Substantial Completion.

C. The Contractor shall not Work, store, or operate equipment outside designated Work areas as shown on plans without permission of the Road Commission Engineer. Permission shall not be granted unless the Contractor provides the Road Commission with documentation evidencing the consent of the person or entity having ownership or control of area.

D. Contractor shall provide the Road Commission with access to the site at all times during the project. No work performed by the Road Commission on the Project or at the Site shall be the basis for any claim of increased Contract Price or Contract Time under this Contract. Nor shall the Road Commission's performance of any of the Work under the Contract be the basis for a claim for damages or anticipated profits on the Work performed by the Road Commission. Further, the Contractor shall make available to the Road Commission any traffic control or other safety measures installed by the Contractor at the time the Road Commission performs any work at the site.

13. LIMITATIONS ON USE OF SITE OR OTHER AREAS.

A. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the construction Site and other areas permitted by laws and regulations, and shall not unreasonably encumber the construction Site and other areas with construction equipment or other materials or equipment.

B. Contractor shall keep the construction Site and other areas free from accumulations of waste, materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable laws and regulations.

C. Prior to substantial completion of the Work, Contractor shall clean the Site and make it ready for the Road Commission's use. At the completion of the Work, Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by this Contract.

14. CHANGES IN THE WORK.

A. The Engineer shall have the right to require changes in or additions to the Work required by the Contract documents. The Engineer shall have the right to make any deductions for the Work. Adjustments in the Contract Price, if any, because of any change, addition or deduction in the Work shall be determined as set forth in sections 109.03 and 109.05 of the MDOT Standard Specifications for Construction, and any claims for extension of time for completion shall be adjusted at the time of ordering the change, addition or deduction. No claim for change, addition, deduction, or adjustment of price, or extension of time for completion thereof, shall be made or allowed unless done pursuant to an order from the Engineer specifically authorizing such change, addition or deduction and, in the case of an addition of labor, materials, equipment and appliances, specifically setting forth the agreed upon price for the additional labor, materials, equipment and appliances Contractor shall be assumed to have agreed to the terms and conditions of any Change Order 14 days following issuance by the Road Commission notwithstanding Contractor's failure to sign the Change Order.

B. Where the order diminishes the quantity of Work to be done, this shall not constitute a basis for a claim for damages or anticipated profits on the Work that may be dispensed with.

C. It is understood and agreed that in case any change in, addition to, or deduction from the Work is required, said change shall in no way invalidate the Contract and shall not affect or discharge the bonds furnished by the Contractor. Further, no notice to the surety shall be required.

D. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided herein.

E. During the term of the Contract, the Road Commission may add locations to the Scope of the Work under this Contract by change order. Any additional locations added to the Scope of the Work and the plans and details and other specifications for the additional locations shall be deemed to be a part of this Contract and subject to the terms and conditions of this Contract and shall become a part of the Scope of the Work contemplated by this Contract following acceptance of the additional location(s) by the Contractor.

F. Any addition to the Work resulting in an increase in the Contract Price of more than 5% shall (1) be approved by the Board of County Road Commissioners for Grand Traverse County and (2) require the Contractor to obtain a rider to the Performance and Payment Bonds required under this Contract to increase the amount of the surety bonds unless this requirement is waived in writing by the Road Commission.

G. The Contractor may not make a claim for an adjustment under the Contract after 28 days following the issuance of the Certificate of Substantial Completion to the Contractor by the Road Commission.

15. DIFFERING SITE CONDITION.

Contractor has represented that it has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions, including subsurface conditions that may affect cost, progress, and performance of the Work. As such, Contractor assumes the risk in encountering differing site conditions and all costs associated therewith. In the event that the Contractor encounters a differing site condition that materially and substantially causes an increase in the cost or time required for the performance of the Work, Contractor may request an increase in Contract Time or Contract Price prior to performing the increased work. Engineer may consider such request, but shall not be obligated to grant the request. In no case shall the Contractor request any increase in Contract Time or Contract Price for work already performed nor may the Contractor stop or delay the Work because of the differing site condition. In the event that the Engineer denies the request, Contractor shall be obligated to perform the Work required under this Contract. This provision shall supersede and replace any differing site condition or similar provision contained in any incorporated standard or specification referenced in the Contract.

16. SUBSTITUTES.

Substitution may only be offered following the Notice of Award. Whenever an item of material or equipment is specified or described in the Contract documents by using the name of a proprietary item or the name of a particular supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification indicates that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other suppliers may be submitted to the Engineer for review. The Engineer in his or her sole discretion may allow the use of substitutes or "or-equal" material or equipment. The Engineer may require that the Contractor provide such assurances as the Engineer may determine are necessary to allow a proposed substitute or "or equal" item. The Contractor shall at its own expense provide all data in support of any proposed substitute or "or equal" material or equipment.

17. CONTRACTOR'S GENERAL WARRANTY AND GUARANTEE.

Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract or a waiver of Contractor's obligation to perform the Work in accordance with the Contract:

- A. observation or failure to observe by the Road Commission, its agents, or employees;
- B. payment by the Road Commission of any progress payment;
- C. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Road Commission;
- D. use or occupancy of the Work or any part by the Road Commission;
- E. any acceptance by the Road Commission, its agents, or employees or any failure to do so;
- F. any inspection or test by the Road Commission, its agents, or employees;
- G. approval by others; or
- H. any correction of defective Work by the Road Commission.

18. SHOP DRAWINGS AND SAMPLES.

A. Contractor shall submit shop drawings to the Road Commission Engineer for review and approval in accordance with the schedule of shop drawings acceptable to the Road Commission. All submittals will be identified as the Engineer may require and in the number of copies specified. The data shown on the shop drawings will be complete with respect to quantities, dimension, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information.

B. Contractor shall also submit samples to Engineer for review and approval in accordance with the acceptable schedule of shop drawings. Each sample will be identified clearly as to material, supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as Engineer may require to enable Engineer to review the submittal.

C. Before submitting each shop drawings or sample, Contractor shall have determined and verified all field measurements, quantities, dimension, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto; all materials with respect to intended use, fabrications, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; all information relative to means, methods, techniques, sequences, and procedures of contraction and safety precautions and programs incident thereto; and the Contractor shall also have reviewed and coordinated each shop drawings or sample with other shop drawings and samples and with the requirements of the Work and the Contract documents.

D. At the time of each submittal, Contractor shall give Engineer specific written notice of such variation, if any, that the shop drawings or sample submitted may have from the requirement of the Contract documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made in each shop drawing and sample submitted to Engineer for review and approval of each variation.

E. Engineer will timely review the shop drawings and samples to determine if the items covered by the submittals, will after installation or incorporation in the Work, conform to the information given in the Contract documents. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto. Engineer's review and approval of shop drawings or samples shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has in writing called Engineer's attention to the variance at the time of the submittal and the Engineer has approved the variance in writing.

INSPECTION OF CONSTRUCTION.

A. The Contractor shall maintain an inspection system and perform such inspections as will insure that the Work performed under the Contract conforms to Contract requirements. The Contractor shall maintain complete inspection records and make them available to the Road Commission.

B. The Road Commission Engineer may appoint resident project representatives who shall be under the direction of the Road Commission Engineer. The project representative will inform the Engineer as to the progress of the Work, the manner in which it is being done, and the quality of the materials being used. The representative may call to the attention of the Contractor any failure to follow the plans and specifications that he or she observes. The representative shall have the authority to reject materials or suspend the Work until any questions on the performance of the Work can be referred to and decided by the Engineer. The representative shall have no authority to supervise the Contractor's operations or to change the Contract or specifications. The Contractor shall not be a third party beneficiary of a Contract

between the Road Commission and its project representatives. Any project representative is for the sole benefit of the Road Commission and the Contractor may not rely on any actions or omissions of the project representative.

C. The Contractor shall promptly furnish, at no increase in Contract Price, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Road Commission. The Road Commission may charge to the Contractor any additional cost of inspection or test when Work is not ready at the time specified by the Contractor for inspection or test, or when prior rejections makes reinspection or retest necessary.

D. Road Commission inspections and tests are for the sole benefit of the Road Commission and in no instance shall any action or omission on the part of the project representatives or the Road Commission release the Contractor of the responsibility of completing the Work in accordance with the plans or specifications, constitute a waiver by the Road Commission of any standards or specifications required by the Contract, or act as a warranty as to the propriety of the Contractor's performance; nor shall an action or omission of the representative constitute acceptance by the Road Commission of Work and materials that do not conform to the Contract.

E. The Contractor shall, without charge, remove, replace or correct Work found by the Road Commission not to conform to Contract requirements and project specifications, unless in the public interest the Road Commission consents in writing to accept the Work with an appropriate adjustment in Contract Price. All corrective measures shall be as approved by the Engineer. The Contractor shall promptly segregate and remove rejected material from the premises. If the Contractor does not promptly remove, replace or correct rejected Work, the Road Commission may (1) remove, replace or correct the Work and charge the cost, including overhead cost and attorney fees, to the Contractor; or (2) terminate for default the Contractor's right to proceed.

F. If, before acceptance of the Work as set forth in subparagraph (G), the Road Commission decides to examine already completed Work by removing it or tearing it out, the Contractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the Work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the Work is found to meet Contract requirements, the Road Commission shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the Work was thereby delayed, an extension of time.

G. Work under the Contract shall be considered accepted only after the Contractor has notified the Road Commission in writing that the Work is complete and the Road Commission inspects the Work and notifies the Contractor in writing that the Work is completed. In no case shall portions of the Work be considered to be accepted prior to acceptance of the entire Work unless the Contractor requests and the Road Commission determines that portions of the Work be accepted separately in writing, the Contractor notifies the Road Commission that the portion

of the Work is complete, and the Road Commission accepts the portion of the Work in writing. The determination of whether portions of the Work may be separately accepted is within the sole discretion of the Engineer.

H. Inspection of the Work or a portion of the Work if applicable by the Road Commission shall be conducted as soon as practicable by the Road Commission following receipt of notification from the Contractor that the Work or portion of the Work is complete. In no case shall the Road Commission be responsible for any delay in the progress of the Work as a result of the Contractor's request to have a portion of the Work inspected and accepted. Further, in no case shall the Road Commission's delay in inspecting the Work or portion of the Work be deemed an acceptance of the Work. This provision shall supersede and replace any inspection timeline contained in any incorporated standard or specification referenced in the Contract.

I. The Road Commission shall accept non-defective Work as promptly as practicable after notification by the Contractor of completion and inspection of the Work, and for the entire Work, verification of punchlist items, completed project documentation, and materials testings. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the Road Commission's rights under any warranty or guarantee. This provision shall supersede and replace any acceptance timeline to the contrary contained in any incorporated standard or specification referenced in the Contract.

19. ESTIMATES AND PAYMENTS.

- A. The Road Commission shall pay and the Contractor shall receive the Unit Prices bid in the Bid form or agreed upon, less any deduction for any uncompleted portion based upon measurements made by the Engineer or as otherwise herein stipulated, and such measurements shall be final and conclusive.
- B. The Road Commission shall make progress payments on account of the Contract Price on the basis of a reconciliation of the Road Commission's Draft Pay Estimate and the Contractor's application for payment on bi-monthly intervals as provided herein.
- C. While the Work is being performed, the Contractor and the Road Commission or Road Commission's agent or representative shall confer daily on the quantity and amount of Work completed each day.
- D. Bi-Monthly, the Contractor shall notify the Road Commission of discrepancies within 7 days from receipt of the Road Commission's Draft Pay Estimate. In the event that the Contractor fails to notify the Road Commission with said discrepancies within 14 days following receipt of the Road Commission's Draft Pay Estimate, the Road Commission's Draft Pay Estimate shall be deemed approved by the Contractor and the quantities and payments set forth therein may not be altered unless such alteration would result in a reduction in the total payment applied for or as agreed by the Road Commission in writing. For purposes of this paragraph, receipt is defined as the business day following the day the Road

Commission's Draft Pay Estimate was emailed to the Contractor or, if mailed, the day the Road Commission's Draft Pay Estimate was post marked.

- E. In the event that the Contractor's application for payment is timely provided and different than the Road Commission's Draft Pay Estimate, the Road Commission and Contractor shall resolve the discrepancy within 14 days from the date that the Contractor's application for payment is received by the Road Commission otherwise the Road Commission's Draft Pay Estimate shall be deemed approved by the Contractor and the quantities and payments set forth therein may not be altered unless such alteration would result in a reduction in the total payment or as agreed by the Road Commission in writing. For purposes of this paragraph, receipt is defined as the business day following the day the Road Commission's Draft Pay Estimate was emailed to the Contractor or, if mailed, the day the Road Commission's Draft Pay Estimate is post marked.
- F. Prior to substantial completion, the Contractor shall submit to the Road Commission an application for each payment and shall submit a Contractor's Declaration stating that it has not performed any work, furnished any material, sustained any loss, damage or delay for any reason, including soil conditions encountered or created, or otherwise done anything for which the Contractor will ask, demand, sue for or claim compensation from the Road Commission other than as indicated on the Contractor's Declaration and shall submit receipts or other vouchers showing its payments for materials and labor, including payments to subcontractors. Proof of payment made to all subcontractors and suppliers for all prior applications in the form of a release executed by the subcontractor or supplier indicating that it has been paid for the Work performed.

- G. Contract Price \$30,000 or more or Contract Price to be paid in more than three (3) payments:

Payments, based on progress estimates, will be made within 30 days from approval for Ninety (90%) percent of the Work completed as set forth in the progress estimate, until the Work is Fifty (50%) in place. Thereafter, additional retainage shall not be withheld unless it is determined that the Contractor is not making satisfactory progress, or that there is other specific cause relating to the Contractor's performance under the Contract. If such a determination is made, not more than Ten (10%) percent of the dollar value of the work more than Fifty (50%) percent in place shall be retained as additional retainage. No payment estimate shall be paid until approved by the Engineer, and shall be less any deductions or reservations which may be made in accordance with the terms of the Contract. No allowance will be made for materials furnished, unless incorporated in the finished Work, unless otherwise stated.

OR

- Contract Price less than \$30,000 or Contract Price to be paid in three (3) or less payments.

Payments, based on progress estimates, will be made within 30 days from approval for 90% of the Work completed as set forth in the progress estimate and approved by the Engineer, less any deductions or reservations which may be made in accordance with the terms of the Contract. No allowance will be made for materials furnished, unless incorporated in the finished Work, unless otherwise stated.

- H. The Road Commission may withhold the payment of any estimate or portion of estimate until the Contractor shall have furnished satisfactory evidence that he has paid all claims of every nature.
- I. No payment shall be considered as acceptance of the Work or any portion thereof prior to the final acceptance of the Work, and the payment of the final estimate.
- J. The Contract will not be finalized until all submittals, guarantees, bonds, warranties, insurance, certifications, licenses and affidavits required for the Work as specified are satisfactorily filed with the Road Commission.

When required, the Contractor shall provide notarized copies of all valid licenses and certificates required for performance of the Work. The notarized copies shall be delivered to the Road Commission Engineer no later than ten (10) days after the Contractor received the Notice of Award from the Road Commission Engineer. Current notarized copies of licenses and certificates shall be provided to the Road Commission Engineer within twenty-four hours of demand at any time during the Contract term. Licenses and certificates required for this Contract include, by way of illustration and not limitation, the following:

None

- K. When Contractor considers the entire Work ready for its intended use, Contractor shall notify the Road Commission in writing that the entire Work is substantially complete and request that the Engineer issue a certificate of Substantial Completion. On a form provided in this contract document made part of.
- L. Within thirty (30) days after the issuance of the Certificate of Substantial Completion and the Contractor's completion of the Contract and in accordance with all and singular terms and stipulations herein contained, the Road Commission shall make payment from an invoice approved by the Engineer sufficient to achieve total payments to 100% of the Work completed less 150% of the value of the Work to be completed or corrected as identified in the certificate of Substantial Completion.

- M. Before final payment is made, the Contractor shall submit a Contractor's Affidavit stating that all claims of every nature have been paid or a release secured from the surety or sureties approving payment of the final estimate by the Road Commission.
- N. Upon final completion of the Work and any correction to the Work as set forth in the Certificate of Substantial Completion, the Road Commission shall pay the remaining Contract Price to the Contractor. The final payment, when made, shall be considered as final approval and acceptance of the completed Work subject to any guarantees or warranties provided herein. The acceptance by the Contractor of the final payment aforesaid shall operate as and shall be a release to the Road Commission and its agents from all claims and liability to the Contractor for anything done or furnished for relating to the Work or for any act of neglect of the Road Commission or of any person relating to or affecting the Work any reservation or protest notwithstanding.
- O. Only those items mentioned in the bid form are pay items. It is the Contractor's responsibility to complete those items and to furnish all other materials, workers, and machines to obtain a complete and satisfactory job. All other necessary items for a complete job shall be considered incidental and not pay items.

20. ESTIMATED QUANTITIES.

The quantities of the various classes of Work to be done and materials to be furnished under this Contract, which have been estimated as stated elsewhere herein, are approximate and only for the purpose of comparing, on a uniform basis, the bids offered for the Work under this Contract; and neither the Road Commission nor its agents is to be held responsible should any of the said estimated quantities be found incorrect during the construction of the Work; and the Contractor shall make no claim for anticipated profit nor for loss of profit, because of a difference between the quantities of the various classes of Work actually done or materials actually delivered, and the estimated quantities as herein stated.

21. PAYMENTS WITHHELD.

- A. The Road Commission may withhold or nullify the whole or a part of any certificate for progress payment to such extent as may be necessary to protect itself from loss on account of:
 1. Defective Work not remedied;
 2. Defective materials not replaced;
 3. Claims filed or reasonable evidence indicating probable filing of claims;
 4. Failure of the Contractor to make payments properly to subcontractors or for material or labor;
 5. A reasonable doubt that the Contract can be completed for the balance then unpaid;

6. Damage to another contractor; or
7. Liquidated Damages.

B. When the above grounds are removed, payment shall be made for amount withheld because of them.

22. TIME FOR COMPLETION; LIQUIDATED DAMAGES.

A. The Work which the Contractor is required to perform under this Contract shall be commenced and fully completed at the time stipulated by the Road Commission in a written "Notice to Proceed" to the Contractor.

B. This is to be a daytime operation (8:00 a.m. - 5:00 p.m.), Monday through Friday, unless otherwise approved by the Engineer.

C. Liquidated Damages for Road Commission Oversight Costs. The Contractor shall be responsible for liquidated damages in the amount set forth in the Schedule of Liquidated Damages for Oversight **in Table 108-1 of the Standard Specifications for Construction** per calendar day for each day after the substantial completion date the Work remains substantially incomplete until the Work is substantially complete unless approved by the Road Commission in writing. Additionally, the Contractor shall be responsible for liquidated damages in the amount of the greater of one-half (1/2) of the amount set forth in the Schedule of Liquidated Damages for Oversight in Table 108-1 of the Standards Specifications or the actual expenses incurred by the Road Commission each day after the Work is substantially complete but outstanding items (Punch List Items) remain incomplete unless the Punch List Items are completed within the deadline set forth by the Road Commission in writing.

Sums assessed as liquidated damages are not penalties, but fixed and agreed upon damages due to the Road Commission from the Contractor representing the Road Commission's added cost of engineering and supervision and other items causing the expenditure of public funds due to the Contractor's failure to substantially complete or complete the Work within the specified time period.

23. USE OF REFERENCES.

A. Work specified by reference to the published standard or specification of a government agency, technical association, trade association, professional society or institute, testing agency, or other organization shall conform to or surpass the minimum standards of quality for materials and Workmanship established by the designated standard or specification.

B. Where so specified, products or Workmanship shall also conform to the additional prescriptive or performance requirements included within the Contract Document to establish a higher or more stringent standard of quality than that required by the referenced standard.

- C. Where two or more standards are specified to establish quality, the product and Workmanship shall conform to or surpass the requirements of both.
- D. In case of conflict between referenced standards, the more stringent shall apply.
- E. Where both a standard and a brand name are specified for a product on the Contract Document, the proprietary product named shall conform to or surpass the requirements of the specified reference standard. The listing of a trade name in a Contract Document shall not be construed as warranting that such product conforms to the respective reference standard.
- F. Copies of applicable referenced standards have not been bound in this Contract Document. Where copies of standards are needed by the Contractor for superintendence and quality control of the Work, the Contractor shall obtain a copy or copies directly from the publication source and maintain it in an orderly manner at the jobsite where it is available to the Contractor's personnel, subcontractors, Road Commission personnel and the Engineer.

24. **CONTRACT SUBMITTALS.**

- A. **Record Drawings.** Will **not** be required. Unless otherwise directed by the Engineer, at the time of substantial completion, the Contractor shall submit to the Engineer a current listing and description of each change incorporated into the Work since the preceding submittal.
- B. **Warranties.** The Contractor shall furnish one copy of all manufacturers' warranties, if any, for products or systems installed in the Project.
- C. **Material Certifications.** The Contractor shall submit as requested by the Engineer, material tickets, site measurements, and material certifications.

GRAND TRAVERSE COUNTY ROAD COMMISSION
SPECIAL PROVISION
FOR
PROGRESS CLAUSE

GTCRC:RDR/CJE

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06-28-2022

Submit a complete, detailed and signed MDOT Form 1130, Progress Schedule, to the Engineer within seven (7) calendar day of confirmation of low bid by the department.

The progress schedule submittal must include, as a minimum, the controlling work items for the completion of the project and the planned dates (or work days for a work day project) that the work items will be the controlling operations. When specified in the proposal or contract documents the date the project is to be opened to traffic, the final project completion date, all interim completion dates, and any other controlling dates must be included in the project schedule.

After receiving Notice of Award, start work on the date agreed upon with the Engineer which date shall be no earlier than **August 8th 2022**. In no case, shall any work be commenced prior to receipt of formal notice of award by the department.

The project must be open to traffic with a minimum of HMA base and leveling courses completed on or before **October 28, 2022**.

The entire project must be completed on or before the final project completion date of **November 11, 2022**.

Failure by the Contractor to meet interim, final and/or any stage completion dates will result in the assessment of liquidated damages in accordance with subsection 108.10 of the Standard Specifications for Construction.

After award and prior to the start of work, the Contractor must attend a preconstruction meeting with the Engineer. The schedule for this meeting will be determined by the Engineer after submittal of form 1130. The Engineer will arrange the day, time and place for the preconstruction meeting. The meeting will be conducted after project award and may be rescheduled if there are delays in the award of the project.

The named subcontractor(s) for, Designated and/or Specialty items, as shown in the proposal, is recommended to be at the preconstruction meeting if such items materially affect the work schedule.

GRAND TRAVERSE COUNTY ROAD COMMISSION
SPECIAL PROVISION
FOR
TEMPORARY TRAFFIC CONTROL

GTCRC:CJE

1 of 2

05-25-22

a. Description. This work consists of protecting, regulating, warning, guiding, and maintaining traffic through and around the Construction Influence Area (CIA). This work also includes furnishing, placing, relocating, operating, maintaining, and removing traffic control devices. All work must be in accordance with section 812 of the Standard Specifications for Construction, unless modified by this special provision or otherwise directed by the Engineer.

b. Traffic Control Plan Submittal. The Contractor shall prepare and submit to the Engineer a project specific traffic control plan in accordance with the Michigan Manual of Uniform Traffic Control Devices and the MDOT Maintaining Traffic Typicals. Work shall NOT be performed on a project without an approved traffic control plan.

c. Construction Influence area (CIA). The CIA includes the right-of-way of the roadway(s) within the project limits, and in addition, the CIA includes the right-of-way of any intersecting roadways adjacent to the work zone as needed for advance signing of the work zone and the right-of-way of roadways along a designated (signed) detour route.

d. Notice of Traffic Control - The Contractor shall notify the department, Grand Traverse County Road Commission, a minimum of five business days prior to implementation of any detours, lane closures or major traffic shifts. The department will be responsible for notifying emergency services, transit agencies, law enforcement and schools prior to any lane closures, detours or major traffic shifts. In addition, the Contractor will be responsible for working with and complying with any coordination that is necessary with the Grand Traverse County Road Commission and emergency services, transit agencies, law enforcement and schools. All costs associated with these coordination efforts will be considered included in the pay item **Temporary Traffic Control**.

e. Project Specific

1. Arbutus Hill Rd (22E310). Arbutus Hill Rd may be closed to through traffic and detoured on Garfield Rd and Hobbs Hwy
2. Hilltop Rd (22E313). Hilltop Rd may be closed to through traffic and detoured on CR-633, Miller Rd, and M-37
3. Supply Rd (22E316). Maintain one lane-two way traffic during shoulder trenching and paving operations. Provide shoulder closures during non-working hours for guardrail and curb and gutter construction work areas

4. Wilson Rd (22E319). Wilson Rd may be closed to thru traffic and detoured on Schell Rd, CR-633, W. County Line Rd, Karlin Rd, and Davis Rd

f. **Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Temporary Traffic Control	LSUM

The department will partial payments for **Temporary Traffic Control** in accordance with the following table:

Partial Payment Schedule for Temporary Traffic Control Type _____	
Stage of Project	Total Percent of Unit Price Paid
First Use	50%
Completion	100%

GRAND TRAVERSE COUNTY
ROAD COMMISSION

SPECIAL PROVISION
FOR
HMA BASE CRUSHING AND SHAPING, MODIFIED

GTCRC:RDR/CJE

1 of 1

06-28-2022

a. Description. This work consists of constructing an aggregate base from the existing hot mix asphalt (HMA) pavement and base as shown on the plans or as directed by the Engineer. The work includes crushing and shaping the existing HMA pavement and base course, loading, hauling as necessary, and temporarily storing the crushed material; placing, compacting, and shaping the crushed material to the lines and grades as shown on the plans.

b. Materials. Provide materials in accordance with sections 305 of the Standard Specifications for Construction.

c. Construction. The work must be in accordance with section 305 of the Standard Specifications for Construction. Load, haul and temporarily stockpile the crushed material. Perform all excavation, grading and compacting necessary to achieve the plan bottom of aggregate base elevation. Place, shape and compact the stockpiled crushed material to plan, width, elevation, and 9 inch minimum thickness. Excess crushed material may be used for aggregate base material at other locations on the project as directed by the Engineer. Do not use any crushed material that has been contaminated with soil materials from the stockpile site.

The Grand Traverse County Road Commission shall be afforded first option to accept excess crushed material from this project. If the Grand Traverse County Road Commission declines, contractor shall dispose of any excess or unsuitable material in accordance with subsection 205.03.P of the Standard Specifications for Construction.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
HMA Base Crushing and Shaping, Modified	Square Yard

HMA Base Crushing and Shaping, Modified includes all labor, equipment and materials necessary to complete the work as described. Additional crushed material needed to achieve plan grade or the removal of excess or unsuitable material will not be paid for separately and is included herein.



*"Our mission is to upgrade and maintain
a safe and efficient road system"*

DESCRIPTION

This work shall be done in accordance with the requirements of Division 5 of the Michigan Department of Transportation Standard Specifications for Construction.

The use of recycled asphalt shingles is not allowed.

The Target Air Void percentage shall be 3.0% for all HMA

The use of Reclaimed Asphalt Pavement (RAP) shall be limited to Tier 1 (0% to 17% RAP binder by weight of the total binder in the mixture).

MATERIALS

The HMA, 4EML (Leveling) shall have a yield of 220 pounds per square yard. The Performance Grade asphalt binder range for the Mixture shall be PG 64-28.

The HMA, 5EML (Wearing Courses) shall have a yield of 165 pounds per square yard. The Performance Grade asphalt binder range for the Mixture shall be PG 64-28.

The HMA, 4EL (Approach) shall have a yield of 250 pounds per square yard. The Performance Grade asphalt binder range for the Mixture shall be PG 64-28.

The Bond Coat material shall be SS-1h applied at the rate as directed by the Engineer with a range of 0.05 to 0.15 gallons per square yard.

MEASUREMENT AND PAYMENT

Measurement and Payment for HMA pay items shall be at the contract unit price per ton. Payment for HMA Bond Coat SS-1h shall be considered to have been included in the contract unit prices of HMA pay items and will not be paid for separately.

Payment will be unit price per ton and will be tracked based on certified weigh slips meeting Michigan Department of Transportation requirements and or Grand Traverse County requirements, delivered on-site to the Engineer or their representative with each load.

GRAND TRAVERSE COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
HMA SPILLWAY

GTCRC:CJE

1 of 1

05/31/2022

a. Description. This work consists of preparing the grade on which to construct the hot mix asphalt (HMA) spillway; paving and compacting the spillway to the cross section shown on the plans, and completing finish grading necessary to meet existing ground behind the spillway. Removal and disposal of all excess or unsuitable material in accordance with the Standard Specifications for Construction is also included in this work. Complete this work according to section 814 of the *MDOT Standard Specifications for Construction* except as herein modified.

b. Materials. Use the same HMA mixture to construct the spillway as specified for leveling and top course on the project. Use leveling course mixture for the first stage of spillway construction and top course mixture for the second stage. Use sound earth as embankment material to meet existing ground behind the gutter.

c. Construction. Construct HMA spillway at locations shown on the plans and as directed by the Engineer, according to the details shown on the plans. Spillways are to be constructed during the leveling course. Place HMA mixture on the prepared base at the rate shown on the plans. Construct the spillway at the same time the adjacent shoulder is paved. Place and compact by mechanical or hand methods, as approved by the Engineer.

Unless otherwise approved by the Engineer, allow the HMA mixture to cure for approximately 24 hours before backfilling behind the spillway. Complete all grading work, including excavation and embankment, in accordance with section 205 of the standard specifications.

d. Measurement and Payment. The completed work, as described will be measured in place at the contract unit price using the following contract item (pay item).

Contract Item (Pay Item)	Pay Unit
HMA Spillway.....	Square Yard

HMA Spillway includes all labor and equipment necessary to prepare the grade, construct the spillway, and grade the area behind the spillway to meet existing ground. Sound earth for backfilling behind the spillway is included in the item HMA Spillway. HMA mixture quantities are included in the mainline surfacing quantities. Slope Restoration and Riprap will be paid for separately.

GRAND TRAVERSE COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
SLOPE RESTORATION

GTCRC:RDR/CJE

1 of 2

05-25-22

a. Description. This work consists of preparing all lawns and slopes designated for slope restoration on the plans or as directed by the Engineer and applying topsoil, fertilizer, seed, mulch with mulch anchor, mulch blanket and high velocity mulch blanket to those areas. Turf establishment must be in accordance with section 816 of the Standard Specifications for Construction and Standard Plan R-100 Series, except as modified herein or otherwise directed by the Engineer.

b. Materials. The materials and application rates specified in sections 816 and 917 of the Standard Specifications for Construction apply unless modified by this special provision or otherwise directed by the Engineer. The following materials must be used on this project:

1. Seeding mixture TDS
2. Fertilizer, Chemical Nutrient, Class A
3. Topsoil Surface, Furnished or salvaged, 3 inch.
4. Mulch and Mulch Anchoring, Mulch Blanket and High Velocity Mulch Blanket

c. Construction. Construction methods must be in accordance with subsection 816.03 of the Standard Specifications for Construction. Begin this work as soon as possible after final grading of the areas designated for slope restoration but no later than the maximum time frames stated in subsection 208.03 of the Standard Specifications for Construction. It may be necessary, as directed by the Engineer, to place materials by hand.

Shape, compact and assure all areas to be seeded are weed free prior to placing topsoil. Place topsoil to the minimum depth indicated above, to meet proposed finished grade. If the area being restored requires more than the minimum depth of topsoil to meet finished grade, this additional depth must be filled using topsoil or, at the Contractor's option, embankment. Furnishing and placing this additional material is included in this item of work.

Topsoil must be weed and weed seed free and friable prior to placing seed. Remove any stones greater than 1/2 inch in diameter or other debris. Apply seed mixture and fertilizer to prepared soil surface. Incorporate seed into top 1/2 inch of topsoil

Apply mulch at a rate of 2 tons per acre. Place Mulch Anchoring over the mulch at a rate specified in subsection 816.03.F of the Standard Specifications for Construction. Mulch Blanket and High Velocity Mulch Blanket must be placed in accordance with subsection 816.03.G of the Standard Specifications for Construction and as shown on Standard Plan R-100 Series.

If an area washes out after this work has been properly completed and restored and approved by the Engineer, make the required corrections to prevent future washouts and replace the topsoil, fertilizer, seed and mulch. This replacement will be paid for as additional work using the applicable contract items.

If an area washes out for reasons attributable to the Contractor's activity or failure to take proper precautions, replacement will be at the Contractor's expense.

The Engineer will inspect the seeded turf to ensure the end product is well established, in a vigorous growing condition, and contains the species called for in the seeding mixture.

If the seeded turf is not well established at the end of the first growing season, the Contractor is responsible to re-seed until the turf is well established and approved by the Engineer.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
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Slope Restoration, Type _____	Square Yard
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1. Place **Slope Restoration, Type A** in all areas not described in the other types of slope restoration and will be measured by area in square yards in place. **Slope Restoration, Type A** includes all labor, equipment and materials required to install Topsoil, Furnished or Salvaged; Fertilizer, Chemical Nutrient, Class A; Seeding Mixture TDS; and Mulch and Mulch Anchoring which will not be paid for separately but is included in the contract unit price for **Slope Restoration, Type A**

2. Place **Slope Restoration, Type B** parallel (6 feet minimum) to the edge of the roadway, in areas that have a 1 on 3 slope, in any ditch with a grade less than 1.5 percent, or as directed by the Engineer. **Slope Restoration, Type B** will be measured by area in square yards in place. **Slope Restoration, Type B** includes all labor, equipment and materials required to install Topsoil, Furnished or Salvaged; Fertilizer, Chemical Nutrient, Class A; Seeding Mixture TDS; and Mulch Blanket which will not be paid for separately but is included in the contract unit price for **Slope Restoration, Type B**.

3. Place **Slope Restoration, Type C** in areas that have 1 on 2 slope, any ditch with a grade greater than 1.5 percent or as directed by the Engineer. **Slope Restoration, Type C** will be measured by area in square yards in place. **Slope Restoration, Type C** includes all labor, equipment and materials required to install Topsoil, Furnished or Salvaged; Fertilizer, Chemical Nutrient, Class A; Seeding Mixture TDS; and High Velocity Mulch Blanket which will not be paid for separately but is included in the contract unit price for **Slope Restoration, Type C**.

Slope Restoration Pay Limits: The Engineer will only measure areas for payment that are inside of the Clearing/Grading limits as shown on the typical sections, (Where the plan slope intersects with existing ground) if the contractor disturbs areas outside of the pay limits the contractor shall restore those areas at the contractor's expense.

GRAND TRAVERSE COUNTY ROAD COMMISSION
SPECIAL PROVISION
FOR
MAINTAINING TRAFFIC (20E015)

GTCRC/JHS
JN: 20E015

1 of 1

03/24/2021

a. General

This Special Provision applies to project 20E015 - Timber Hills S.A.D. Traffic will be maintained in accordance with the Standard Specifications for Construction, including any supplemental specifications, and as herein specified. All traffic control devices and their usage shall comply with the 2011 edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD).

The Grand Traverse County Road Commission (GTCRC) may perform maintenance work within or adjacent to the Construction Influence Area (CIA). GTCRC will coordinate their operations to minimize the interference to the Contractor. No additional payment will be made to the Contractor for the joint use of the traffic control items.

The Contractor shall submit a written maintaining traffic plan prior to beginning work and subsequent updates of the plans to the Engineer for approval prior to putting changes into effect.

b. Construction Influence Area (CIA)

The CIA limits shall include the area within the right-of-way of Timber Hill Dr. within Timber Hills Subdivision in East Bay Township, Grand Traverse County, plus the distance in advance as required for the advanced construction signing and traffic control devices. The CIA shall also extend down all intersecting roadways a distance in advance as required for the advanced construction signing and traffic control devices.

c. Traffic Restrictions

No work shall be permitted on Sundays and Federal Holidays as defined in section 101.03 of the Standard Specifications for Construction.

Detour: Timber Hill Dr. will be closed to through traffic.

d. Traffic Control Devices

All warning signs shall be mounted at 5 ft minimum bottom height in uncurbed non-pedestrian areas and 7 ft minimum bottom height in curbed and pedestrian areas. All construction signs left in place for a duration exceeding 14 days will be on driven posts as per WZD-100_A. Temporary Traffic Control Devices shall conform to WZD-125-E.

Quantities for traffic control devices have been estimated based on the traffic control details included in the project plans.

e. Measurement and Payment

The completed work for Maintaining Traffic, including all labor, materials, and equipment as required, shall be included in other items of work.

GRAND TRAVERSE COUNTY ROAD COMMISSION
SPECIAL PROVISION
FOR
NOTICE TO BIDDERS UTILITY COORDINATION

GTCRC:RDR/CJE

1 of 1

03-20-2020

The contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Section 104.08 of the 2012 MDOT Standard Specifications for Construction. In addition, for the protection of underground utilities, the contractor shall follow the requirements in Section 107.12 of the 2012 MDOT Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon Section 108.09 and 109.05 of the 2012 MDOT Standard Specifications for Construction.

For the protection of underground utilities and in conformance with Public Act 174 of 2013, the contractor shall contact MISS DIG System, Inc. via web based locate requests-
<https://onecall.missdig811.org/ngen.web//Account/Login?returnUrl=%2Fngen.web%2F>, or by placing a toll free call to 811, or 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 thus be routinely notified. This does not relieve the contractor of the responsibility of notifying utility owners who may not be a part of the MISS DIG alert system.

The owners of existing service facilities that are within grading or structure limits and in conflict will move them to locations designated by the Engineer or will remove them entirely from the road Right-of-Way, when feasible. Owners of Public Utilities will not be required by the Grand Traverse County Road Commission to move additional poles or structures in order to facilitate the operation of construction equipment unless it is determined by the Engineer that such poles or structures constitute a hazard to the public or are dangerous to the Contractor's operations.

GRAND TRAVERSE ROAD COMMISSION

PLANS OF PROPOSED IMPROVEMENTS TO:

TIMBER HILLS S.A.D.:
JOB NO.: 20E015
ADT(2022): <200
% COMMERCIAL: <2
ADT(2032): <200
POSTED/DESIGN SPEED: 25 (PRIMA FACIA)

ARBUS HILL RD:
GARFIELD RD TO HOBBS HWY
JOB NO.: 22E310
ADT(2022): 1397
% COMMERCIAL: 1%
ADT(2032): 1702
POSTED/DESIGN SPEED: PRIMA FACIA

HILLTOP RD:
CR-633 TO M-37
JOB NO.: 22E313
ADT(2022): 189
% COMMERCIAL: 3%
ADT(2032): 199
POSTED/DESIGN SPEED: PRIMA FACIA

SUPPLY RD:
WILLIAMSBURG RD TO COUNTY LINE
JOB NO.: 22E316
ADT(2022): 5349
% COMMERCIAL: 3%
ADT(2032): 7188
POSTED/DESIGN SPEED: PRIMA FACIA

WILSON RD:
DAVIS RD TO SCHELL RD
JOB NO.: 22E319
ADT(2022): 340
% COMMERCIAL: 3%
ADT(2032): 357
POSTED/DESIGN SPEED: PRIMA FACIA

LOG INDEX:

- 1 COVER
- 2 - 7 PROJECT LOG
- 8 - 11 CROSS SECTIONS
- 12 - 16 TIMBER HILLS S.A.D. PLANS

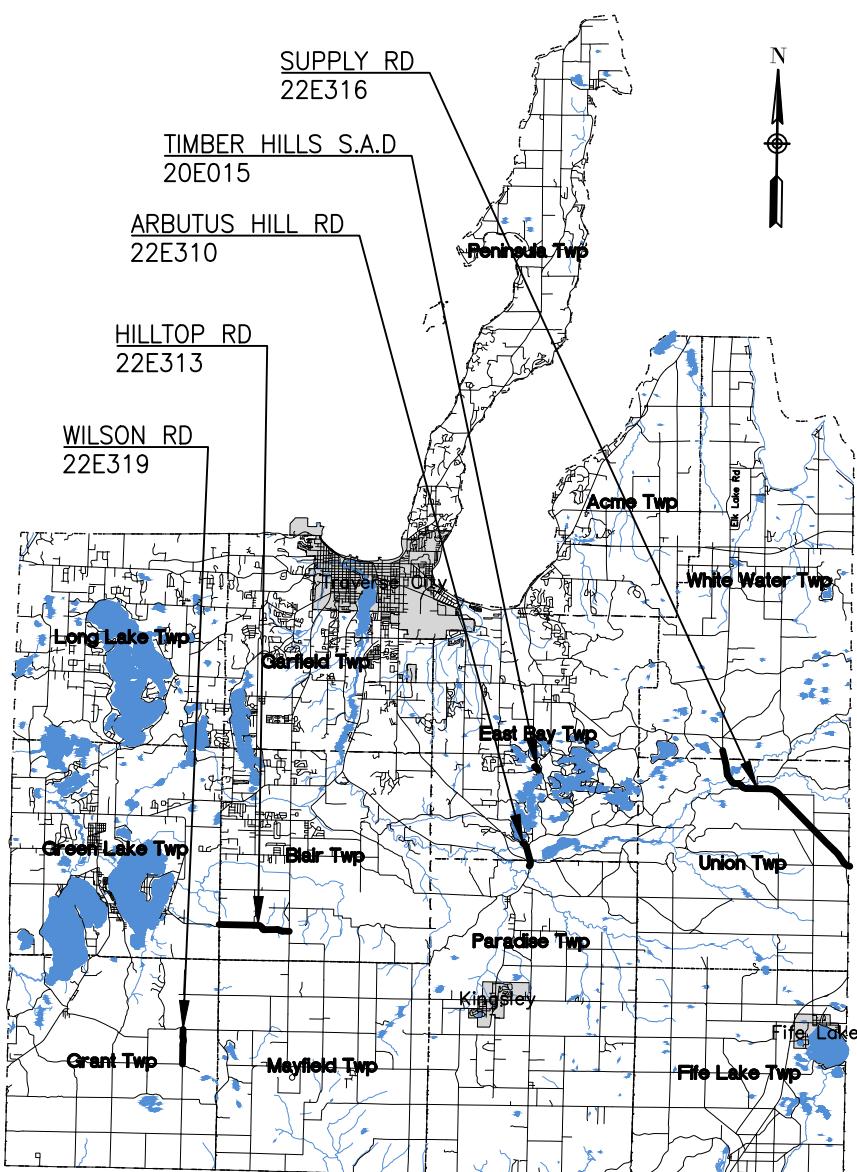
MDOT STANDARD PLANS NOT PRINTED:

- R-11-E Monument Boxes
- R-30-G Concrete Curb and Concrete Curb & Gutter
- R-35-E Concrete Shoulder Gutter and Spillway
- 101-GEN-SPACING-CHARTS
- 102-GEN-NOTES
- 103-GEN-SIGN
- 107-GEN-SPEED
- 110-TR-NFW-2L
- WZD-100-A
- WZD-125-E

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2017 EDITION OF LOCAL AGENCY PROGRAMS GUIDELINES FOR GEOMETRICS ON LOCAL AGENCY PROJECTS, PREVENTATIVE MAINTENANCE.

TOTAL PROJECT LENGTH: 9.28 MI.

CONTRACT FOR: GRAND TRAVERSE COUNTY ROAD COMMISSION 2022 HMA PROGRAM



PLANS PREPARED UNDER THE SUPERVISION OF



WAYNE A. SCHOONOVER, P.E.
GRAND TRAVERSE COUNTY ROAD
COMMISSION
1881 LAFRANIER RD
TRAVERSE CITY, MI 49686

APPROVED FOR BIDDING

W. A. Schoonover

July 7, 2022

WAYNE A. SCHOONOVER, P.E.
GRAND TRAVERSE COUNTY ROAD
COMMISSION
1881 LAFRANIER RD
TRAVERSE CITY, MI 49686

COVER SHEET

PROJECT LOG
VOICE RD

REVISIONS

DATE: 6/28/2022

GTCRC NO. 22E300

DRAWN CJE

CHECKED

SHEET 1 OF 16



**GRAND TRAVERSE
COUNTY
ROAD
COMMISSION**
1881 LAFRANIER ROAD
TRAVERSE CITY, MI 49686-8911

231.922.4848 PHONE
231.929.1836 FAX

PROJECT LOG
GRAND TRAVERSE COUNTY ROAD COMMISSION
2022 HMA PROGRAM
CONTRACT#: 22E300

Project Location:

County Wide, Grand Traverse County, MI

Description of Work:

22E300 – HMA Program

TRENCHING

AGGREGATE BASE

HMA CRUSHING AND SHAPING

HMA 4EML

HMA 5EML

GUARDRAIL

PAVEMENT MARKING, WATERBORNE

Locations of Work:

The following table is the intended locations of work:

Project #	Road Name	Start	End	Length	Township
20E015	Timber Hill Dr (SAD)**	N. Arbutus Lake Rd	Timber Hill Dr	0.2	East Bay
22E310	Arbutus Hill Rd	Garfield Rd	Hobbs Hwy	0.9	East Bay/Paradise
22E313	Hilltop Rd	CR-633	M-37	2.0	Blair
22E316	Supply Rd	Williamsburg Rd	County line	5.5	Union/Whitewater
22E319	Wilson Rd	Davis Rd	Schell Rd	1.0	Grant

**Special Assessment District project. Construction is contingent upon Township and HOA approval of submitted bid pricing.

RipRap. Add gravel shoulder. Miscellaneous mailbox, driveway approach and restoration quantities.

See attached **TIMBER HILL SUBDIVISION ROAD IMPROVEMENT** plans.

Note: pay items in TIMBER HILL SUBDIVISION plans set are 2012 Standard Specifications for Construction pay items and have been updated in this contract to reflect 2020 Standard Specifications for Construction items. Standards for construction and measurement and payment shall be in accordance with the 2020 Standard Specifications for Construction except as modified by the Special Provisions contained within this contract.

Pay Item	Description	Quantity	Unit
1100001	Mobilization, Max 5% - 20E015	1.00	LSUM
2030001	Culv, Rem, Less than 24 inch	1.00	Ea
2040050	Pavt, Rem	85.00	Syd
3020001	Aggregate Base	619.00	Ton
3050002	HMA Base Crushing and Shaping	3,812.00	Syd
3070021	Approach, Cl II	25.00	Ton
3070121	Shld, Cl II	53.00	Ton
3070200	Trenching	22.00	Sta
4010015	Culv End Sect, 15 inch	6.00	Ea
4010608	Culv, Cl F, 15 inch	96.00	Ft
5010061	HMA Approach	76.00	Ton
5012025	HMA, 4EML	400.00	Ton
5012037	HMA, 5EML	301.00	Ton
8010005	Driveway, Nonreinf Conc, 6 inch	85.00	Syd
8050010	Curb Slp, HMA	1,170.00	Ft
8070095	Post, Mailbox	15.00	Ea
8130010	Riprap, Plain	24.00	Syd
8147011	HMA Spillway	30.00	Syd
8167011	_Slope Restoration, Type C	2,000.00	Syd

22E310: Arbutus Hill Rd – Garfield Rd to Hobbs Hwy (Crush and Shape)

0.9 miles of: Trench existing shoulder, add aggregate base to existing HMA, crush and shape. Pave 2" leveling and 1.5" top course. Add HMA sloped curb, HMA spillways, and RipRap. Add guardrail along slope on west side of hill. Add gravel shoulder. Miscellaneous mailbox, driveway approach and restoration quantities.

*Note: included in this project is the segment of River Rd between Garfield Rd and Arbutus Hill Rd.

Pay Item	Description	Quantity	Unit
1100001	Mobilization, Max 5% - 22E310	1	LSUM
3020001	Aggregate Base	3,768	Ton
3050002	HMA Base Crushing and Shaping	17,333	Syd
3070121	Shld, Cl II	385	Ton
3070200	Trenching	82	Sta
5010005	HMA Surface, Rem	177	Syd
5010061	HMA Approach	27	Ton
5012025	HMA, 4EML	1,939	Ton
5012037	HMA, 5EML	1,436	Ton
8050010	Curb Slp, HMA	1,984	Ft
8070004	Guardrail, Type MGS-8	850	Ft
8070044	Guardrail Approach Terminal, Type 2M	2	Ea
8070095	Post, Mailbox	30	Ea
8110231	Pavt Mrkg, Waterborne, 4 inch, White	8,559	Ft
8110232	Pavt Mrkg, Waterborne, 4 inch, Yellow	6,346	Ft
8127051	_Temporary Traffic Control - 22E310	1	LSUM
8130010	Riprap, Plain	54	Syd
8147011	_HMA Spillway	71	Syd
8167011	_Slope Restoration, Type C	4,303	Syd

22E313: Hilltop Rd – CR-633 to M-37 (Crush and Shape)

2.0 miles of: Trench existing shoulder, add aggregate base to existing HMA, crush and shape. Undercut unsuitable underlying soils. Replace cross culverts. Preserve section corners. Add concrete curb and gutter at intersection with CR-633. Pave 2" leveling and 1.5" top course. Add HMA sloped curb, HMA spillways, and RipRap. Miscellaneous mailbox, ditch cleanout, driveway approach and restoration quantities.

Pay Item	Description	Quantity	Unit
1100001	Mobilization, Max 5% - 22E313	1	LSUM
2030001	Culv, Rem, Less than 24 inch	4	Ea
2040050	Pavt, Rem	65	Syd

2050006	Ditch Cleanout	1.41	Sta
2050016	Excavation, Earth	1698	Cyd
3010002	Subbase, CIP	1,241	Cyd
3020001	Aggregate Base	5,365	Ton
3050002	HMA Base Crushing and Shaping	28,564	Syd
3057011	_HMA Base Crushing and Shaping, Mod	1493	Syd
3070121	Shld, Cl II	1,348	Ton
3070200	Trenching	215	Sta
3082002	Road Grade Biaxial Geogrid	622	Syd
4010048	Culv End Sect, Conc, 15 inch	6	Ea
4010051	Culv End Sect, Conc, 24 inch	2	Ea
4010095	Culv End Sect, Metal, 15 inch	8	Ea
4010574	Culv, Cl E, Conc, 15 inch	123.0	Ft
4010576	Culv, Cl E, Conc, 24 inch	49.2	Ft
4010608	Culv, Cl F, 15 inch	110	Ft
4040063	Underdrain, Subbase, 6 inch	742	Ft
4040093	Underdrain Outlet, 6 inch	100	Ft
4040113	Underdrain, Outlet Ending, 6 inch	3	Ea
5010005	HMA Surface, Rem	585	Syd
5010061	HMA Approach	78	Ton
5012025	HMA, 4EML	3,970	Ton
5012037	HMA, 5EML	2,920	Ton
8010005	Driveway, Nonreinf Conc, 6 inch	65	Syd
8020016	Curb and Gutter, Conc, Det B2	327	Ft
8020056	Shld Gutter, Conc, Det 2	1	Ea
8050010	Curb Slp, HMA	1,252	Ft
8070095	Post, Mailbox	13	Ea
8110231	Pavt Mrkg, Waterborne, 4 inch, White	21,722	Ft
8110232	Pavt Mrkg, Waterborne, 4 inch, Yellow	21,775	Ft
8127051	_Temporary Traffic Control - 22E313	1	LSUM
8130010	Riprap, Plain	32	Syd
8147011	_HMA Spillway	41	Syd
8167011	_Slope Restoration, Type C	10,000	Syd
8210005	Monument Box Adj	2	Ea
8210010	Monument Preservation	2	Ea

22E316: Supply Rd – Williamsburg Rd to Kalkaska County line (Trench and add HMA shoulder)

5.5 miles of: Trench existing shoulder, place aggregate base, pave 2" HMA shoulder. Add HMA sloped curb, HMA spillways, and RipRap to mitigate stormwater erosion. Add concrete curb and gutter at Fife Lake Rd intersection. Remove and replace 7 runs of guardrail. Miscellaneous mailbox, ditch cleanout, driveway approach and restoration quantities.

Pay Item	Description	Quantity	Unit
1100001	Mobilization, Max 5% - 22E316	1	LSUM
2040035	Guardrail, Rem	625	Ft
2040050	Pavt, Rem	96	Syd
2050006	Ditch Cleanout	1.53	Sta
3020001	Aggregate Base	3,830	Ton
3070121	Shld, Cl II	700	Ton
3070200	Trenching	567	Sta
5010005	HMA Surface, Rem	95	Syd
5010061	HMA Approach	38	Ton
5012025	HMA, 4EML	3,812	Ton
8010005	Driveway, Nonreinf Conc, 6 inch	86	Syd
8020016	Curb and Gutter, Conc, Det B2	354	Ft
8020057	Shld Gutter, Conc, Det 3	1	Ea
8050010	Curb Slp, HMA	3,600	Ft
8070004	Guardrail, Type MGS-8	1,962.5	Ft
8070012	Guardrail, Curved, Type MGS-8	50	Ft
8070044	Guardrail Approach Terminal, Type 2M	12	Ea
8070050	Guardrail Departing Terminal, Type B	2	Ea
8070075	Guardrail, Salv	950	Ft
8070095	Post, Mailbox	6	Ea
8110231	Pavt Mrkg, Waterborne, 4 inch, White	56,119	Ft
8127051	_Temporary Traffic Control - 22E316	1	LSUM
8130010	Riprap, Plain	38	Syd
8147011	_HMA Spillway	51	Syd
8167011	_Slope Restoration, Type C	2,871	Syd

22E319: Wilson Rd – Davis Rd to Schell Rd (Crush and Shape)

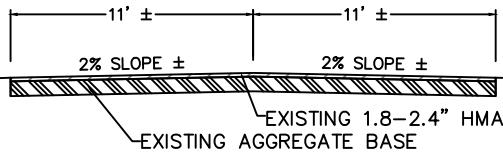
1.1 miles of: Trench existing shoulder, add aggregate base to existing HMA, crush and shape. Replace cross culverts. Undercut unsuitable underlying soils. Preserve section corners. Add concrete curb and gutter at intersection with Davis and Schell Roads. Pave 2" leveling and 1.5" top course. Add HMA sloped curb, HMA spillways, concrete shoulder gutter, and RipRap. Install guardrail along west side of reverse curves. Install 2 reverse curve signs with

precautionary speed plaques. Miscellaneous mailbox, ditch cleanout, driveway approach and restoration quantities.

Pay Item	Description	Quantity	Unit
1100001	Mobilization, Max 5% - 22E319	1	LSUM
2030001	Culv, Rem, Less than 24 inch	6	Ea
2050006	Ditch Cleanout	4.87	Sta
2050016	Excavation, Earth	3,069	Cyd
3010002	Subbase, CIP	2,036	Cyd
3020001	Aggregate Base	4,296	Ton
3050002	HMA Base Crushing and Shaping	19,187	Syd
3057011	_HMA Base Crushing and Shaping, Modified	2,222	Syd
3070121	Shld, Cl II	405	Ton
3070200	Trenching	115	Sta
4010049	Culv End Sect, Conc, 18 inch	4	Ea
4010095	Culv End Sect, Metal, 15 inch	8	Ea
4010575	Culv, Cl E, Conc, 18 inch	123	Ft
4010608	Culv, Cl F, 15 inch	160	Ft
4040063	Underdrain, Subbase, 6 inch	1,274	Ft
4040093	Underdrain Outlet, 6 inch	144	Ft
4040113	Underdrain, Outlet Ending, 6 inch	8	Ea
5010061	HMA Approach	8	Ton
5012025	HMA, 4EML	2,248	Ton
5012037	HMA, 5EML	1,654	Ton
8020016	Curb and Gutter, Conc, Det B2	1,189	Ft
8020055	Shld Gutter, Conc, Det 1	2	Ea
8020056	Shld Gutter, Conc, Det 2	3	Ea
8050010	Curb Slp, HMA	3,077	Ft
8070004	Guardrail, Type MGS-8	996.875	Ft
8070012	Guardrail, Curved, Type MGS-8	25	Ft
8070044	Guardrail Approach Terminal, Type 2M	1	Ea
8070095	Post, Mailbox	4	Ea
8100371	Post, Steel, 3 lb	30	Ft
8100405	Sign, Type IIIB	26	Sft
8110231	Pavt Mrkg, Waterborne, 4 inch, White	11,626	Ft
8110232	Pavt Mrkg, Waterborne, 4 inch, Yellow	7,954	Ft
8127051	_Temporary Traffic Control - 22E319	1	LSUM
8130010	Riprap, Plain	69	Syd
8147011	_HMA Spillway	92	Syd
8167011	_Slope Restoration, Type C	6,441	Syd
8210005	Monument Box Adj	2	Ea
8210010	Monument Preservation	2	Ea

66' R.O.W.

C

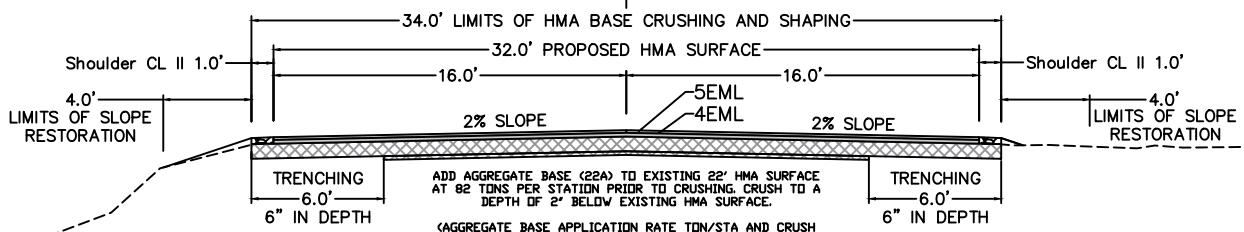


TYPICAL EXISTING SECTION

ARBUTUS HILL RD STA. 1+31 TO 39+45
E. RIVER RD STA. 325+89 TO 332+69

66' R.O.W.

C



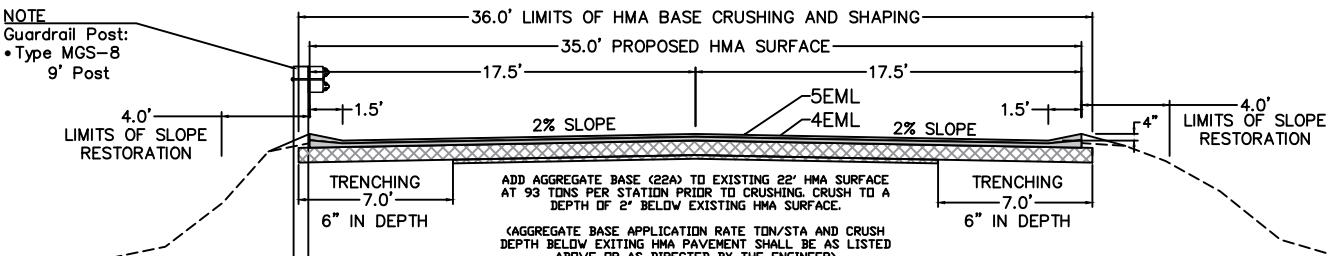
TYPICAL PROPOSED SECTION

E. RIVER RD P.O.B. 325+89 TO P.O.E. 332+69
ARBUTUS HILL RD
STA. 1+31 TO 29+00 LT. P.O.B. 1+00 TO 25+11 RT
STA. 31+97 TO 35+84 RT.

NOTE:
CHANGES IN PROPOSED HMA WIDTH SHALL BE AT A RATE OF 1:10 UNLESS OTHERWISE DIRECTED BY ENGINEER

66' R.O.W.

C

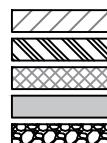


TYPICAL PROPOSED SECTION (HMA SLOPED CURB)

ARBUTUS HILL RD
STA. 29+00 TO P.O.E. 39+45 LT. STA. 25+27 TO 31+82 RT.
STA. 36+00 TO 39+10 RT.

HMA APPLICATION CHART					
CALL OUT NO.	PAY ITEM	THICKNESS	RATE OF APPLICATION	PERFORMANCE GRADE	REMARKS
5EML	HMA, 5EML	1.5"	165 LBS/SYD	64-28	AWI = 260
4EML	HMA, 4EML	2.0"	220 LBS/SYD	64-28	LEVELING
	HMA, APPROACH	2.25"	250 LBS/SYD		HMA 4E

INTERSECTION PAVING SHALL BE INCLUDED WITH THE ITEMS FOR MAINLINE PAVING. HMA APPROACH IS TO BE USED FOR PAVING HMA DRIVEWAYS ADJACENT TO THE PROJECT.



EXISTING HMA
EXISTING AGGREGATE BASE
PROPOSED AGGREGATE BASE
PROPOSED HMA
SHOULDER CL II



GRAND TRAVERSE COUNTY
ROAD COMMISSION
1881 LaFRANIER ROAD
TRAVERSE CITY, MI 49696-8911

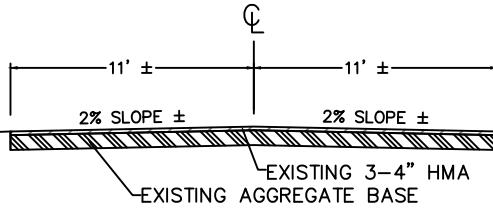
231.922.4848 PHONE
231.929.1836 FAX

STANDARD PLAN
ARBUTUS HILL RD
TYPICAL CROSS SECTION

REVISIONS

DATE: 05/2022
GTCRC NO. 22E310
DRAWN CJE
CHECKED
SHEET 8 OF 16

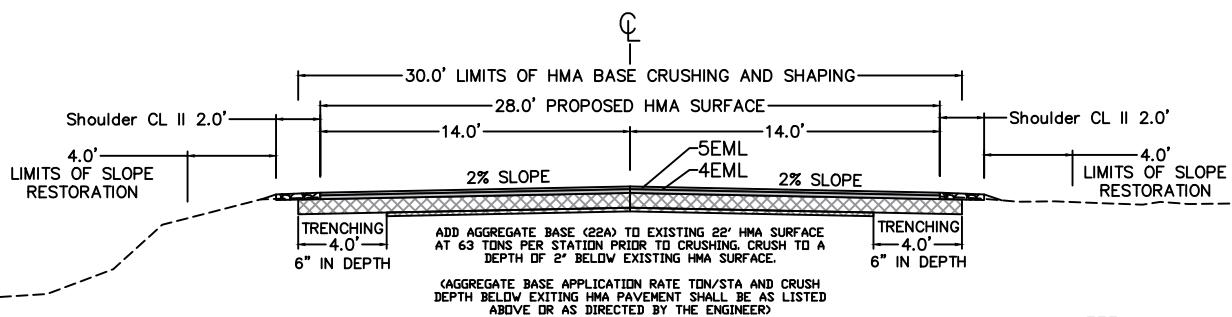
66' R.O.W.



TYPICAL EXISTING SECTION

HILLTOP RD STA. 5+13 TO 112+40

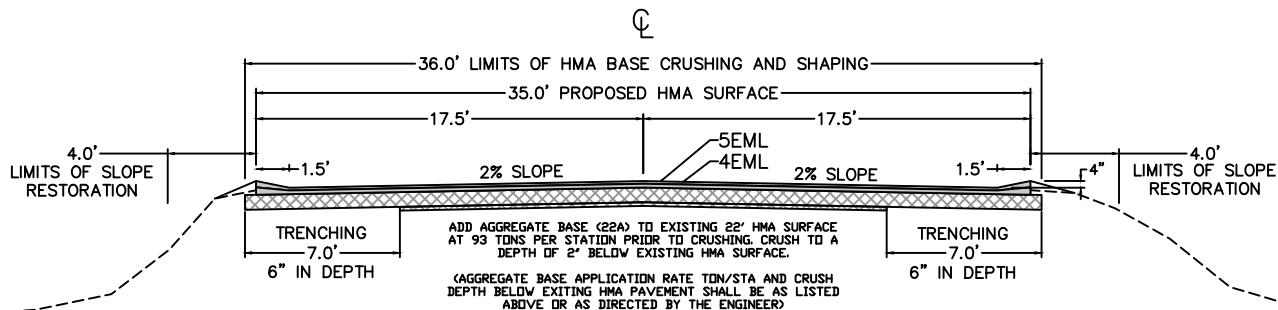
66' R.O.W.



TYPICAL PROPOSED SECTION

HILLTOP RD
P.O.B. 5+13 TO 98+90 LT. P.O.B. 5+13 TO 93+40 RT.
106+75 TO P.O.E. 112+40 LT. 99+35 TO P.O.E. 112+40 RT.

66' R.O.W.



TYPICAL PROPOSED SECTION (HMA SLOPED CURB)

HILLTOP RD
STA. 99+25 TO 106+40 LT. STA. 93+75 TO 99+00 RT.

HMA APPLICATION CHART				
CALL OUT NO.	PAY ITEM	THICKNESS	RATE OF APPLICATION	PERFORMANCE GRADE
5EML	HMA, 5EML	1.5"	165 LBS/SYD	64-28 AWI = 260
4EML	HMA, 4EML	2.0"	220 LBS/SYD	64-28 LEVELING
	HMA, APPROACH	2.25"	250 LBS/SYD	HMA 4EL

INTERSECTION PAVING SHALL BE INCLUDED WITH THE ITEMS FOR MAINLINE PAVING. HMA APPROACH IS TO BE USED FOR PAVING HMA DRIVEWAYS ADJACENT TO THE PROJECT.

	EXISTING HMA
	EXISTING AGGREGATE BASE
	PROPOSED AGGREGATE BASE 8" MINIMUM
	PROPOSED HMA
	SHOULDER CL II



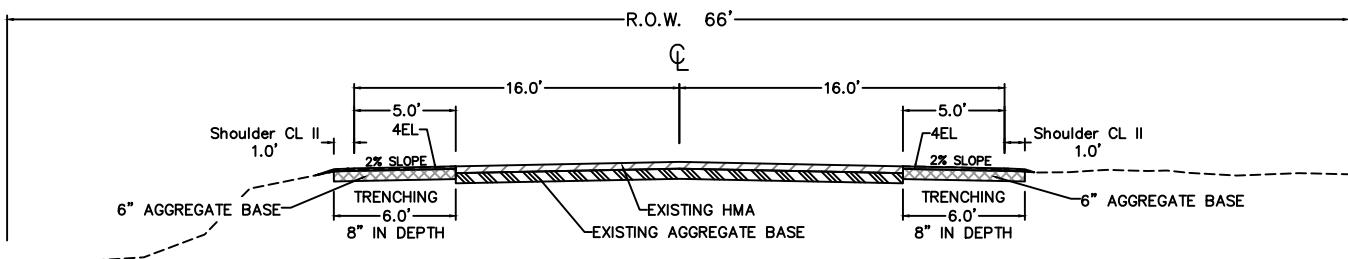
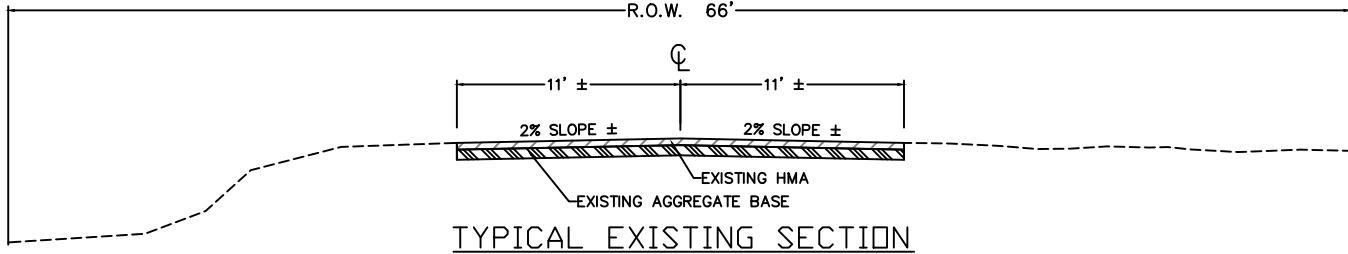
GRAND TRAVERSE COUNTY
ROAD COMMISSION
1881 LeFRANIER ROAD
TRAVERSE CITY, MI 49696-8911

231.922.4848 PHONE
231.929.1836 FAX

STANDARD PLAN
HILLTOP RD
TYPICAL CROSS SECTION

REVISIONS

DATE: 05/2022
GTCRC NO. 22E313
DRAWN CJE
CHECKED
SHEET 9 OF 16

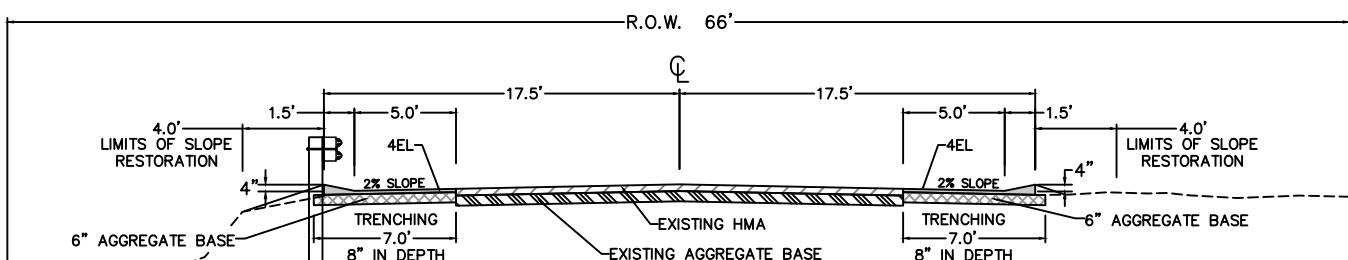


SUPPLY RD

P.O.B. STA. 324+00 TO 352+80 LT. STA. 326+54 TO 353+06 RT.
STA. 360+55 TO 363+85 LT. STA. 360+35 TO 363+84 RT.
STA. 379+34 TO 604+60 LT. STA. 370+14 TO 524+50 RT.
GAP FOR FIFE LAKE RD INT. STA. 527+78 TO P.O.E. 605+30 RT.

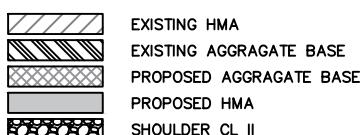
NOTES:

- CHANGES IN PROPOSED HMA WIDTH SHALL BE AT A RATE OF 1:10 UNLESS OTHERWISE DIRECTED BY ENGINEER
- CROSS SLOPE OF PROPOSED SHOULDER SHALL MATCH ADJACENT LANE THROUGH SUPERELEVATED CURVES UNLESS OTHERWISE DIRECTED BY ENGINEER.

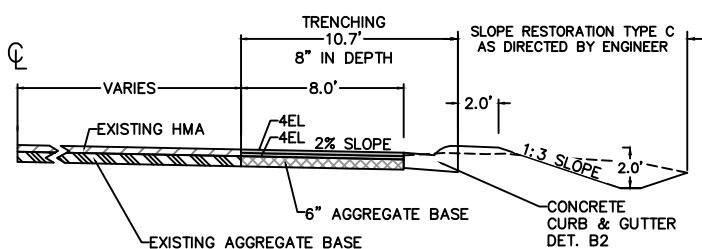


SUPPLY RD

STA. 352+95 TO 360+40 LT. STA. 353+21 TO 360+20 RT.
STA. 364+00 TO 379+19 LT. STA. 363+99 TO 369+99 RT.



HMA APPLICATION CHART					
CALL OUT NO.	PAY ITEM	THICKNESS	RATE OF APPLICATION	PERFORMANCE GRADE	REMARKS
4EL	HMA, 4EL	2.0"	220 LBS/SYD	64-28	LEVELING
4EL	HMA, 4EL	2.0"	220 LBS/SYD	64-28	BASE (FIFE LAKE RD INTERSECTION)
	HMA, APPROACH	2.0"	220 LBS/SYD		HMA 4EL



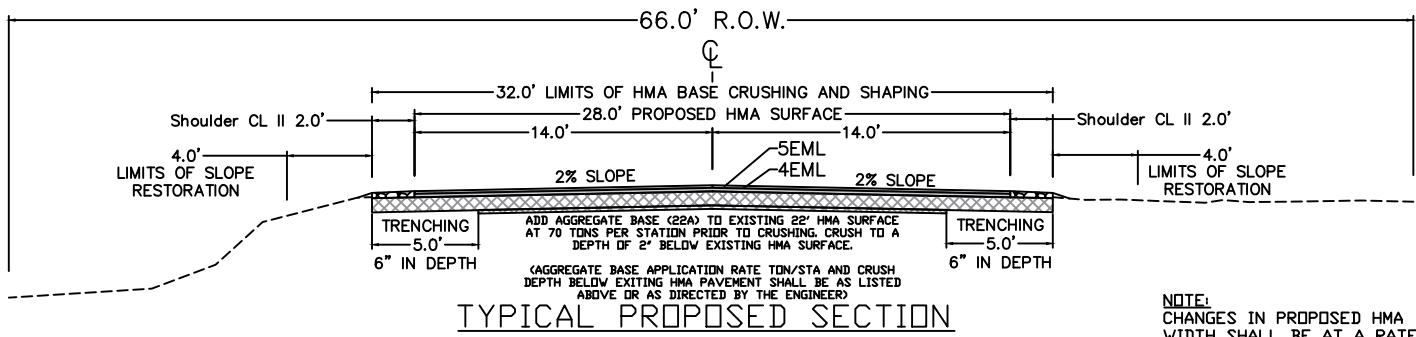
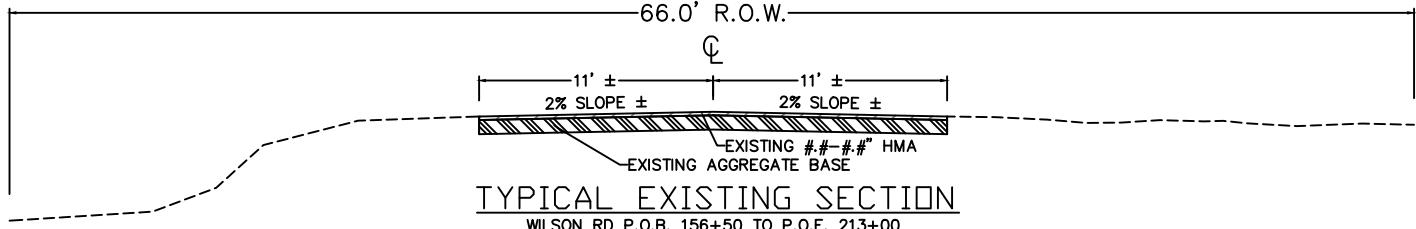
SUPPLY RD & FIFE LAKE RD INTERSECTION
SOUTHWEST CORNER
SUPPLY RD STA. 525+00 RT. TO FIFE LAKE RD STA. 299+91 LT.
SOUTHEAST CORNER
FIFE LAKE RD STA. 299+92 RT. TO SUPPLY RD STA. 528+15 RT.



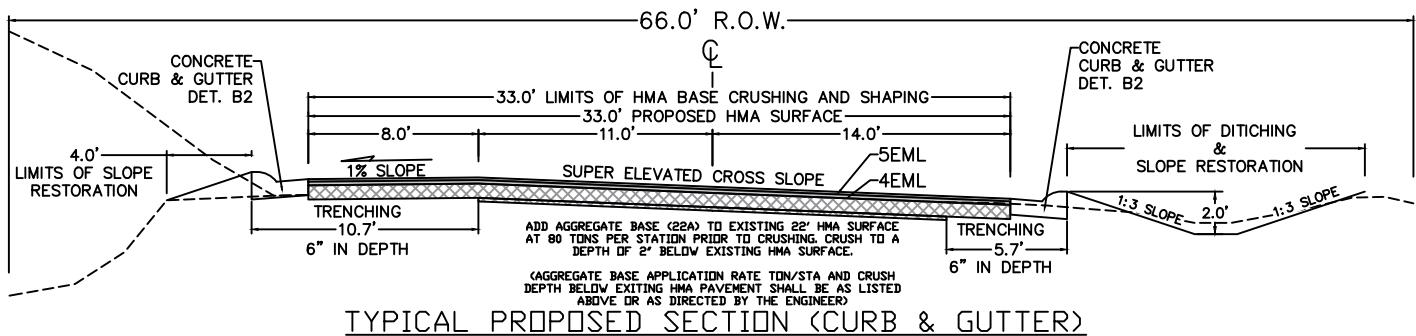
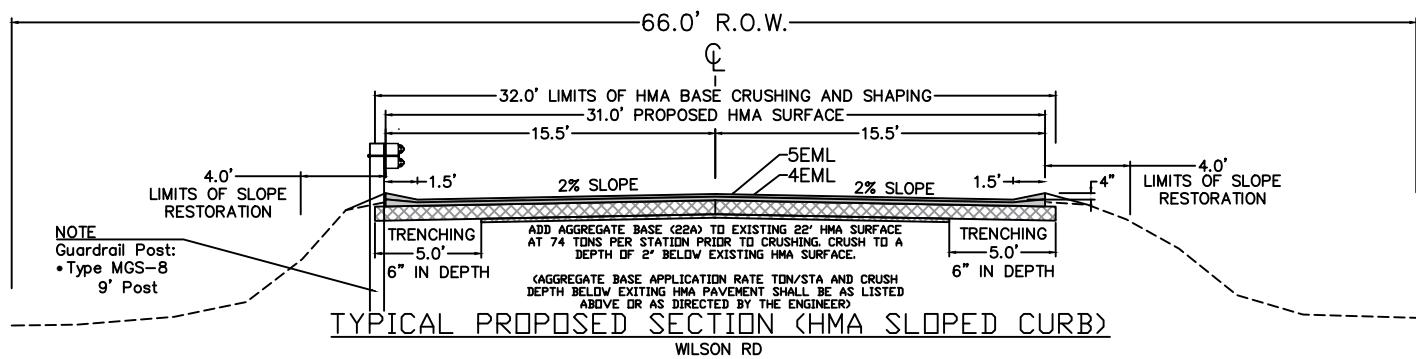
GRAND TRAVERSE COUNTY
ROAD COMMISSION
1881 LaFRANIER ROAD
TRAVERSE CITY, MI 49696-8911

231.922.4848 PHONE
231.929.1836 FAX

STANDARD PLAN	
SUPPLY RD	
TYPICAL CROSS SECTION	
REVISIONS	
DATE: 05/2022	GTCRC NO. 22E316
DRAWN CJE	CHECKED
SHEET 10 OF 16	



NOTE:
CHANGES IN PROPOSED HMA WIDTH SHALL BE AT A RATE OF 1:10 UNLESS OTHERWISE DIRECTED BY ENGINEER



HMA APPLICATION CHART					
CALL OUT NO.	PAY ITEM	THICKNESS	RATE OF APPLICATION	PERFORMANCE GRADE	REMARKS
5EML	HMA, 5EML	1.5"	165 LBS/SYD	64-28	AWI = 260
4EML	HMA, 4EML	2.0"	220 LBS/SYD	64-28	LEVELING
	HMA, APPROACH	2.25"	250 LBS/SYD		HMA 4EL

INTERSECTION PAVING SHALL BE INCLUDED WITH THE ITEMS FOR MAINLINE PAVING. HMA APPROACH IS TO BE USED FOR PAVING HMA DRIVEWAYS ADJACENT TO THE PROJECT.

EXISTING HMA
EXISTING AGGREGATE BASE
PROPOSED AGGREGATE BASE
PROPOSED HMA
SHOULDER CL II



GRAND TRAVERSE COUNTY
ROAD COMMISSION
1881 LeFRANIER ROAD
TRAVERSE CITY, MI 49696-8911

231.922.4848 PHONE
231.929.1836 FAX

STANDARD PLAN
WILSON RD
TYPICAL CROSS SECTION

REVISIONS

DATE: 05/2022
GTCRC NO. 22E319
DRAWN CJE
CHECKED
SHEET 11 OF 16

PAGE #	DESCRIPTION
1	COVER
2	NOTES
3	TYPICALS
4	TYPICAL CROSS SECTIONS
5	PLAN VIEW



GRAND TRAVERSE COUNTY ROAD COMMISSION

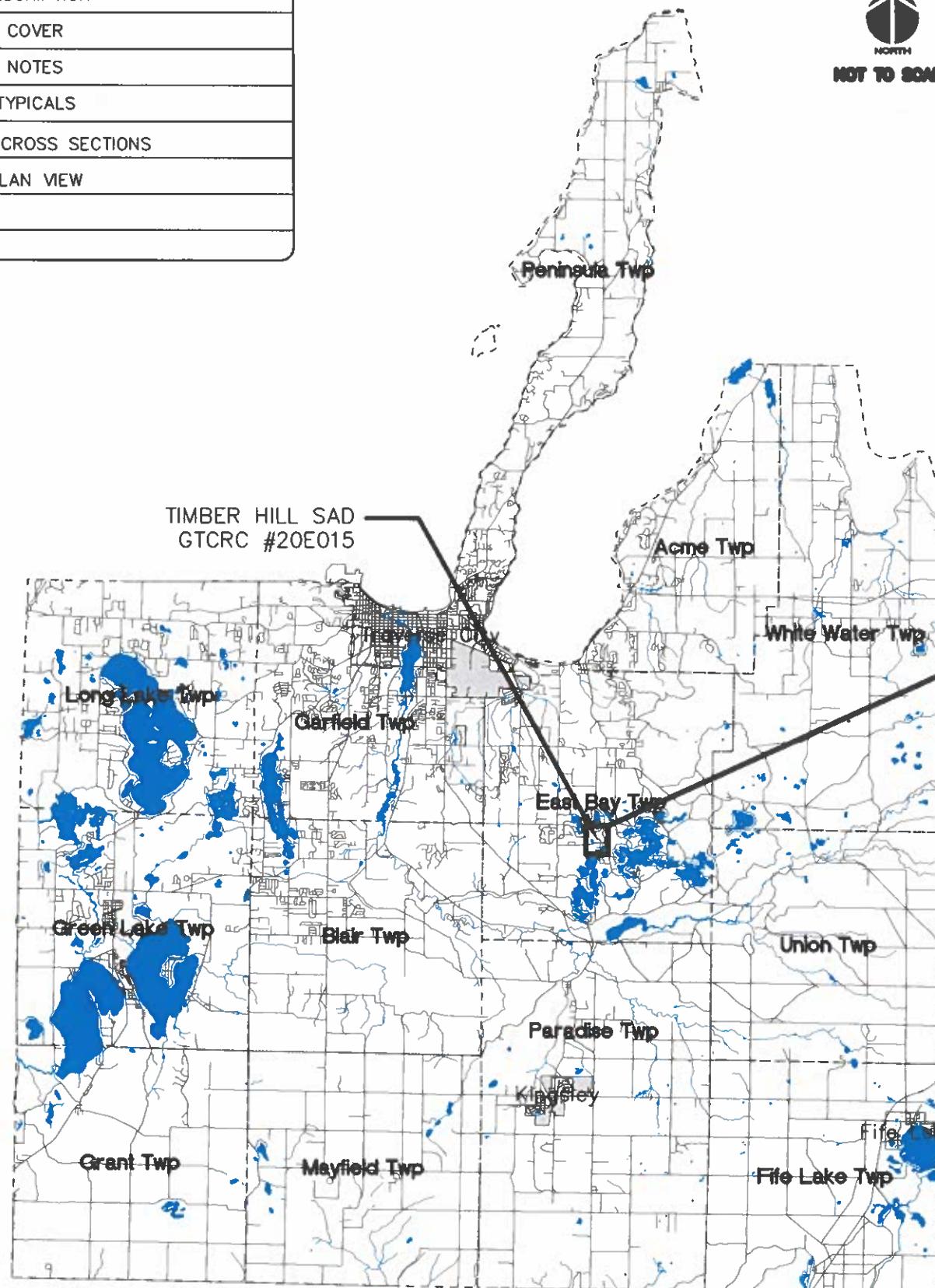
IN COOPERATION WITH

EAST BAY TOWNSHIP, GRAND TRAVERSE COUNTY

PLANS OF PROPOSED IMPROVEMENTS TO

TIMBER HILL SUBDIVISION: TIMBER HILL DRIVE

TIMBER HILL DR: N ARBUTUS LAKE RD TO END



TRAFFIC DATA
EST. ADT 2021: <200
EST. ADT 2041: <200
% COMMERCIAL: <2
PRIMA FACIE SPEED: 25 MPH
DESIGN SPEED: 25 MPH

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 2012, THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 2011, AND THE 2011 AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS

NOTE:
ALL UTILITIES SHOWN ARE LOCATIONS FROM FIELD DATA AND RECORD DRAWING INFORMATION. THEY SHOULD NOT BE INTERPRETED AS EXACT LOCATIONS NOR SHOULD THEY BE ASSUMED TO BE THE ONLY UTILITIES IN THE AREA.

MDOT STD PLANS NOT PRINTED

R-74-D MAILBOX, POST
R-96-E SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

MDOT TRAFFIC AND SAFETY STANDARD PLANS

WZD-100-A* GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS
WZD-125-E* TEMPORARY TRAFFIC CONTROL DEVICES

* SPECIAL DETAILS WILL BE INCLUDED IN THE PROPOSAL WHERE APPLICABLE

PLANS PREPARED UNDER THE SUPERVISION OF



Digitally signed
by Joseph H
Slonecki, P.E.
Date:
2021.07.13
16:43:14 -04'00'

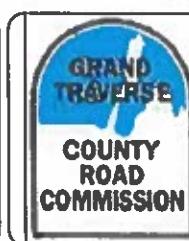
APPROVED FOR BIDDING

Digitally signed by Wayne A.
Schoonover, P.E.
Date: 2021.07.13 16:50:01 -04'00'

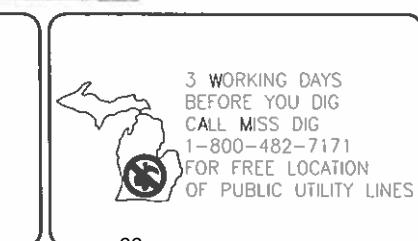
DATE

WAYNE A. SCHOONOVER, P.E.
GRAND TRAVERSE COUNTY
ROAD COMMISSION
1881 LAFRANIER RD
TRAVERSE CITY, MI 49686

DATE	REVISION	BY
4/23/21	REV3	RJS
4/21/21	REV2	RJS
4/19/21	REV1	RJS



GRAND TRAVERSE
COUNTY
ROAD COMMISSION
1881 LAFRANIER ROAD
TRAVERSE CITY, MI 49686-8911
231.922.4848 PHONE
231.929.1936 FAX



**TIMBER HILL SUBDIVISION
ROAD IMPROVEMENTS
FOR
GRAND TRAVERSE COUNTY**

GTCRC NO. 20E015
DRAWN RJS
CHECKED JHS
SHEET NO. 1 OF 5
FILE LOCATION C:\OneDrive\Grand Traverse County Road Commission\Engineering Projects - Documents\20E015_Timber Hill Dr\Design\CAD

GENERAL PLAN NOTES

DESIGN STANDARD

THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION LOCAL AGENCY 3R PROGRAM GUIDELINES FOR GEOMETRICS ON LOCAL AGENCY PROJECTS, 2017 EDITION.

SPECIFICATIONS

UNLESS OTHERWISE INDICATED, ALL MATERIALS AND WORKMANSHIP MUST MEET THE MINIMUM REQUIREMENTS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

MAINTAINING TRAFFIC

MAINTAIN TRAFFIC DURING CONSTRUCTION IN ACCORDANCE WITH PLANS, CONTRACT SPECIAL PROVISIONS, 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AS REVISED, AND AS DIRECTED BY THE ENGINEER.

MISS DIG – UNDERGROUND UTILITY NOTIFICATION

FOR THE PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CONTACT MISS DIG SYSTEM, INC. VIA WEB BASED LOCATE REQUESTS- ELOCATE.MISSDIG.ORG AND RTE.MISSDIG.ORG, OR BY PLACING A TOLL FREE CALL TO 811, 248-370-6400, OR 800-482-7171. A MINIMUM OF 3 BUSINESS DAYS, (EXCLUDING WEEKENDS AND HOLIDAYS) PRIOR TO EXCAVATING.

RIGHT-OF-WAY AND SURVEY CORNERS

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

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF AND THE PRESERVATION OF ALL SURVEY CORNERS IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL NOT ATTEMPT TO WITNESS, READJUST OR RESET ANY SURVEY MARKERS UNLESS THE WORK IS PERFORMED BY A LICENSED LAND SURVEYOR, AS REQUIRED BY ACT 26 OF THE MICHIGAN PUBLIC ACTS OF 1988. ANY SURVEY POINT REPORTED TO THE OWNER AS BEING DESTROYED IN THE PROJECT AREA, WHETHER MARKED OR NOT, SHALL BE REPLACED BY THE CONTRACTOR AT THEIR EXPENSE.

SURVEY

TOPOGRAPHIC SURVEY PERFORMED BY GRAND TRAVERSE COUNTY ROAD COMMISSION.

HORIZONTAL CONTROL IS BASED ON MICHIGAN STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, GEOID 12B. ELEVATIONS ARE NAVD88.

SOIL EROSION

CONTRACTOR SHALL COMPLY ALL SOIL EROSION REQUIREMENTS OF THE PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND ACT 451 PART 91, AS AMENDED.

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 ERODIBLE SLOPES AS DIRECTED BY THE ENGINEER.

GENERAL PLAN NOTES (CONTINUED)

DUST CONTROL

THE CONTRACTOR IS RESPONSIBLE TO PROVIDE AND MAINTAIN DUST CONTROL FOR THE PROJECT. THE COST FOR THIS WORK IS INCLUDED IN OTHER WORK ITEMS.

PRESERVATION OF EXISTING SIGNS

ANY PERMANENT SIGNS THAT ARE IN CONFLICT WITH CONTRACTOR OPERATIONS SHALL BE REMOVED AND STOCKPILED IN A SECURE LOCATION FOR REINSTALLATION BY THE GRAND TRAVERSE COUNTY ROAD COMMISSION. PRIOR TO REMOVAL, THE CONTRACTOR SHALL REPORT SIGN QUANTITY AND CONDITION(S) TO THE GRAND TRAVERSE COUNTY ROAD COMMISSION.

THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE OR LOSS.

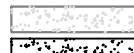
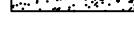
LAWN IRRIGATION SYSTEMS

IF THE CONTRACTOR ENCOUNTERS AND CUTS AN IRRIGATION SYSTEM LINE DURING CONSTRUCTION, THE CONTRACTOR SHALL CAP THE SYSTEM PIPE AND WITNESS THE LOCATION OF THE CAP WITH A WOODEN STAKE FOR THE PROPERTY OWNER'S USE. THE CONTRACTOR SHALL PLACE SALVAGED SPRINKLER HEADS OR PIPING (IF ANY) ON THE PROPERTY OWNER'S PROPERTY. ANY OTHER MODIFICATION OR REPAIR TO THE LAWN SPRINKLER SYSTEM IS THE RESPONSIBILITY OF PROPERTY OWNER AND IS NOT PART OF THIS CONTRACT. THE COST FOR THIS WORK IS INCLUDED IN OTHER WORK ITEMS.

AGGREGATE DRIVES

PAVE-BACK AGGREGATE DRIVES TO A MINIMUM OF 5' BEYOND THE PROPOSED EDGE OF THE CORRIDOR, TO THE LIMITS OF CULVERT EXCAVATION, OR AS DIRECTED BY THE ENGINEER.

REMOVALS AND PROPOSED

- *—*— CURB REMOVE AND REPLACE
- — — HMA CURB
- — — AGG. SHOULDER
- — — DITCHING
- — — BERM GRADING
-  SIDEWALK REMOVE AND REPLACE
-  DRIVEWAY REMOVE AND REPLACE
-  COLD MILLING HMA SURFACE
-  FULL DEPTH / CRUSH AND SHAPE
-  COLD MILLING HMA SURFACE
-  ADJUST DRAINAGE STRUCTURE
-  ADJUST DRAINAGE STRUCTURE & PLACE NEW COVER
-  PROTECT MONUMENT BOX AND PLACE NEW BOX AS DIRECTED

TOPOGRAPHIC FEATURES

- R/W — RIGHT OF WAY
- — — CENTER LINE
- — — EDGE OF HMA
- — — EDGE OF SHOULDER

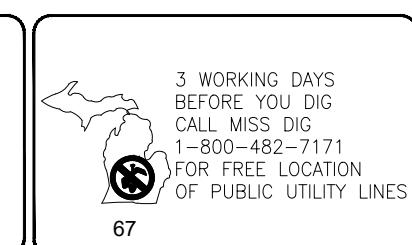
QUANTITIES

ITEM	DESCRIPTION	QTY	UNIT
1500001	Mobilization, Max	1	LSUM
2030001	Culv, Rem, Less than 24 inch	1	Ea
2040050	Pavt, Rem	90	Syd
3020001	Aggregate Base	619	Ton
3050002	HMA Base Crushing and Shaping	3812	Syd
3070021	Approach, Cl II	25	Ton
3070121	Shoulder, Cl II	53	Ton
3070200	Trenching	22	Sta
4010015	Culv End Sect, 15 inch	6	Ea
4010608	Culv, Cl F, 15 inch	96	Ft
5010005	HMA Surface, Rem	325	Syd
5010050	HMA, 4E1	400	Ton
5010056	HMA, 5E1	301	Ton
5010061	HMA Approach	76	Ton
6020100	Driveway, Nonreinf, 6 inch	90	Syd
8057001	HMA Curb, Modified	1170	Ft
8070095	Post, Mailbox	15	Ea
8130010	Riprap, Plain	24	Syd
8147011	HMA Spillway	30	Syd
8160102	Slope Restoration, Type C	2000	Syd

DATE	REVISION	BY
4/23/21	REV3	RJS
4/21/21	REV2	RJS
4/19/21	REV1	RJS

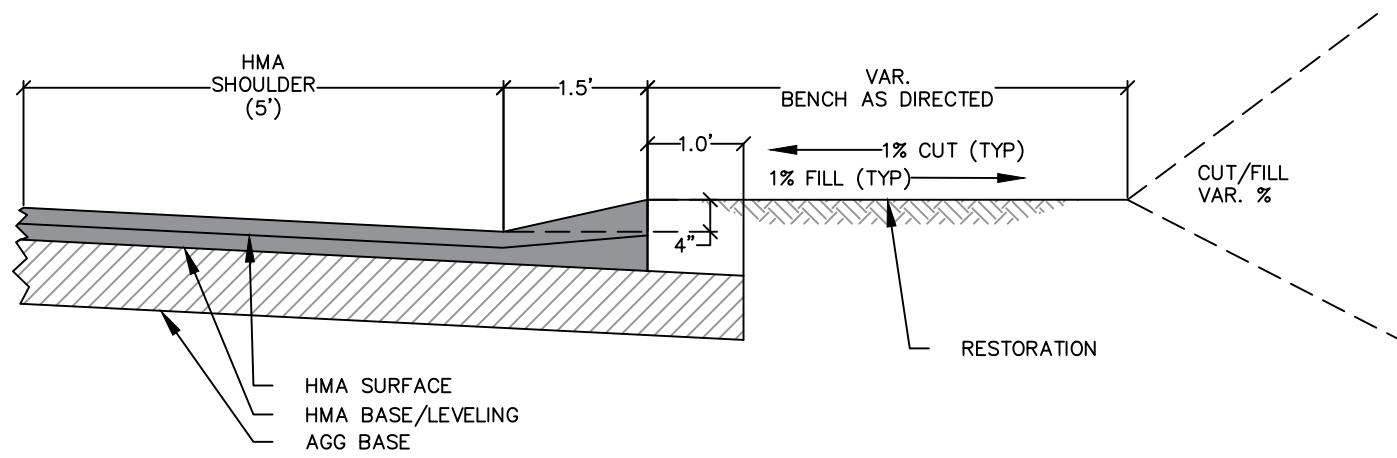


**GRAND TRAVERSE COUNTY
ROAD COMMISSION**
1881 LeFRANIER ROAD
TRAVERSE CITY, MI 49686-8911
231.922.4848 PHONE
231.929.1836 FAX

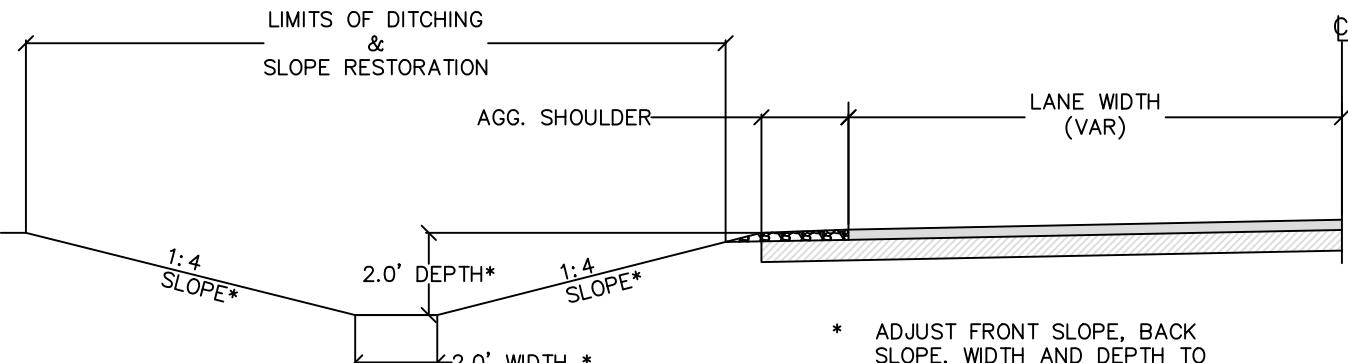


**TIMBER HILL SAD
NOTES
FOR
GRAND TRAVERSE COUNTY**

GTCRC NO.	20E015
DRAWN	RJS
CHECKED	JHS
SHEET NO	2 OF 5
FILE LOCATION	C:\OneDrive\Grand Traverse County Road Commission\Engineering Projects - Documents\20E015_Timber Hill Dr\Design\CAD

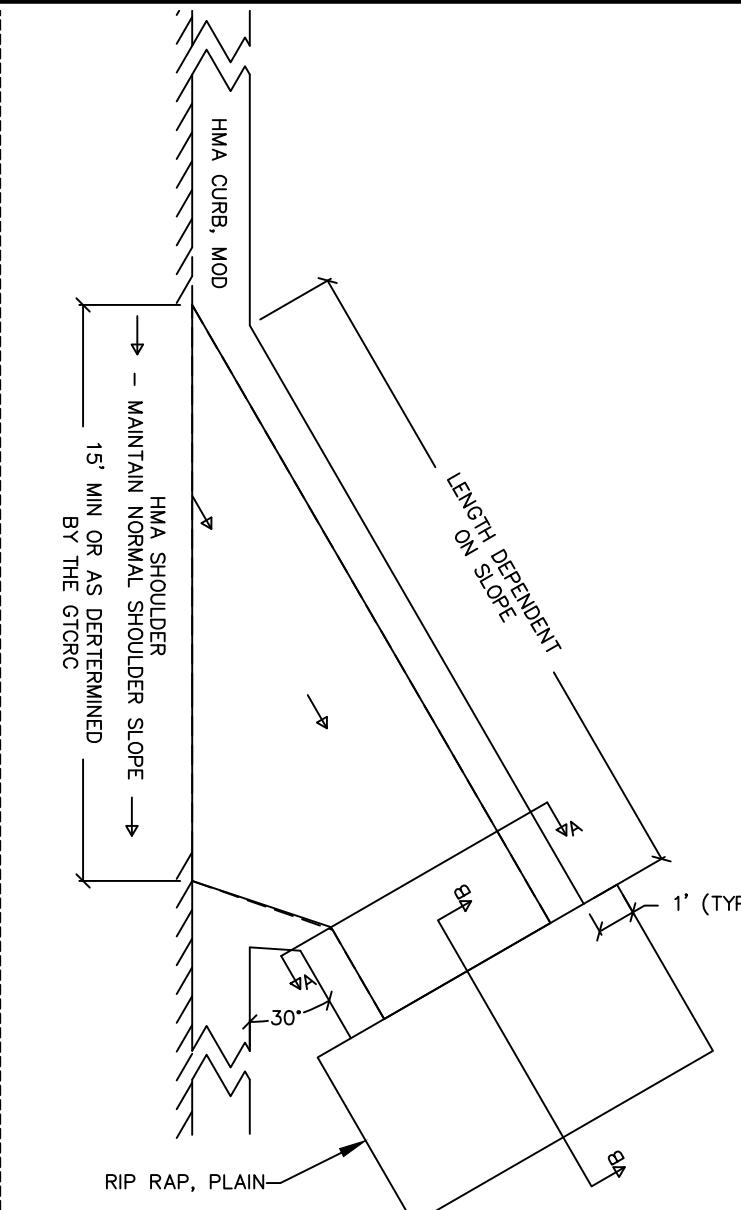


HMA CURB, MOD
NOT TO SCALE

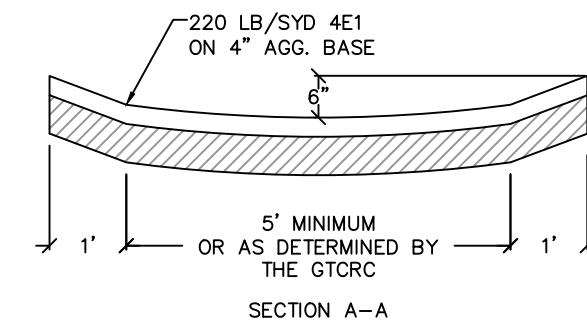


DITCHING
NOT TO SCALE

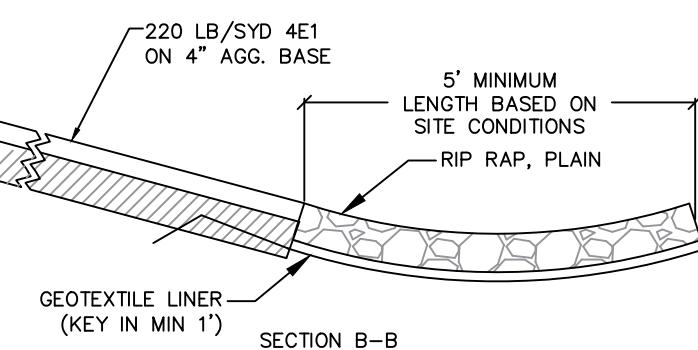
* ADJUST FRONT SLOPE, BACK SLOPE, WIDTH AND DEPTH TO MEET SITE CONDITIONS AS DIRECTED



HMA SPILLWAY ON GRADE
NOT TO SCALE



HMA SPILLWAY IN SAG
NOT TO SCALE



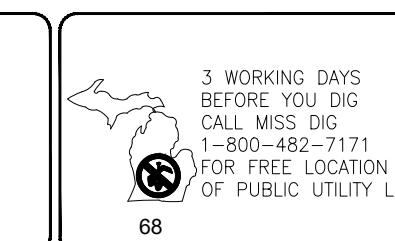
**TIMBER HILL SAD
TYPICAL DETAILS
FOR
GRAND TRAVERSE COUNTY**

DATE	REVISION	BY
4/23/21	REV3	RJS
4/21/21	REV2	RJS
4/19/21	REV1	RJS

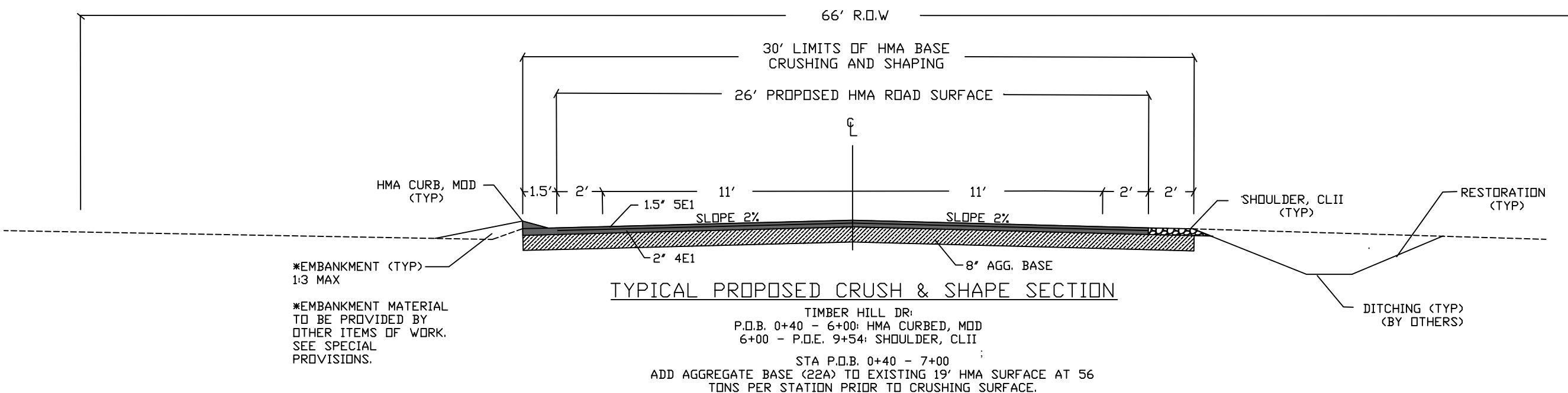
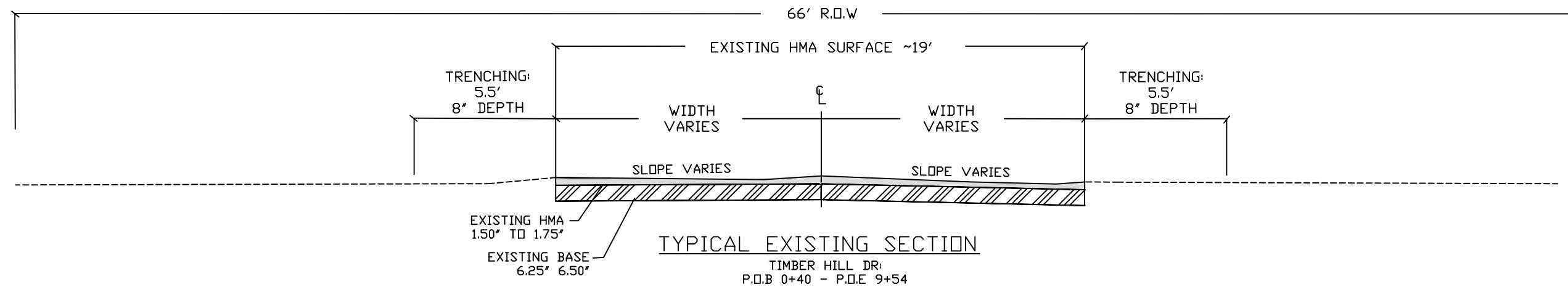


**GRAND TRAVERSE
ROAD COMMISSION**
1881 LeFRANIER ROAD
TRAVERSE CITY, MI 49686-8911

231.922.4848 PHONE
231.929.1836 FAX

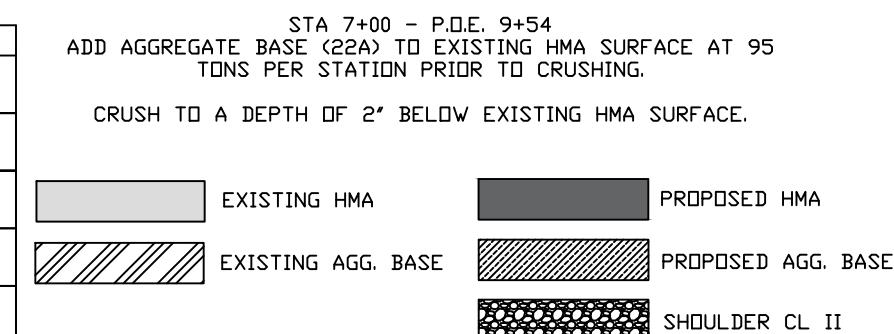


GTCRC NO.	20E015
DRAWN	RJS
CHECKED	JHS
SHEET NO	3 OF 5
FILE LOCATION	C:\OneDrive\Grand Traverse County Road Commission\Engineering Projects - Documents\20E015_Timber Hill Dr\Design\CAD

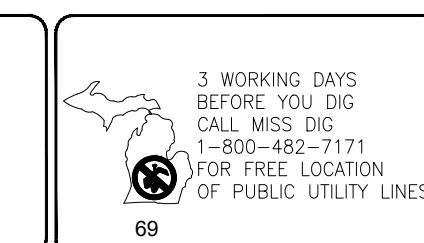
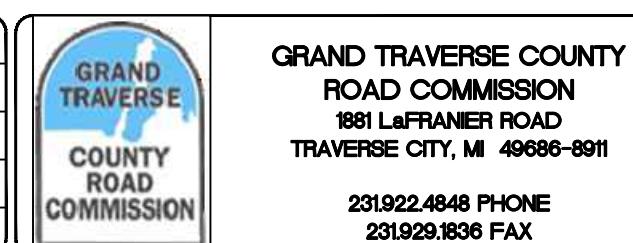


HMA APPLICATION CHART					
CALL OUT NO.	PAY ITEM	THICKNESS	RATE OF APPLICATION	PERFORMANCE GRADE	REMARKS
5E1	HMA, 5E1	1.5"	165 LB/SYD	58-28	TOP AWI = 220
4E1	HMA, 4E1	2"	220 LB/SYD	58-28	BASE/LEVELING
	HMA, APPROACH	2.25"	250 LB/SYD	58-28	HMA LVSP

INTERSECTION PAVING SHALL BE INCLUDED WITH THE PAY ITEMS FOR MAINLINE PAVING. HMA, APPROACH IS TO BE USED FOR PAVING HMA DRIVEWAYS ADJACENT TO THE PROJECT.



DATE	REVISION	BY
4/23/21	REV3	RJS
4/21/21	REV2	RJS
4/19/21	REV1	RJS



TIMBER HILL SAD
TYPICAL CROSS SECTION
FOR
GRAND TRAVERSE COUNTY

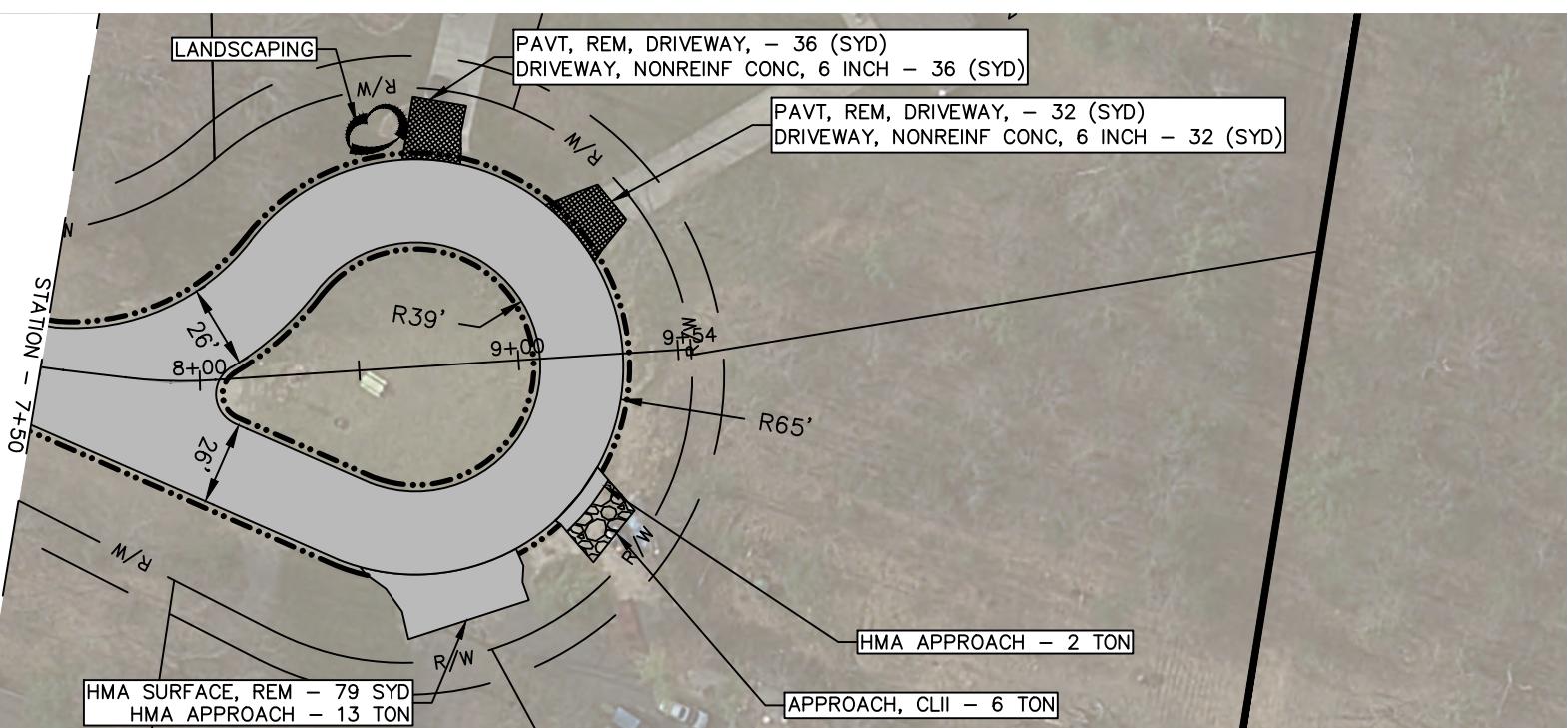
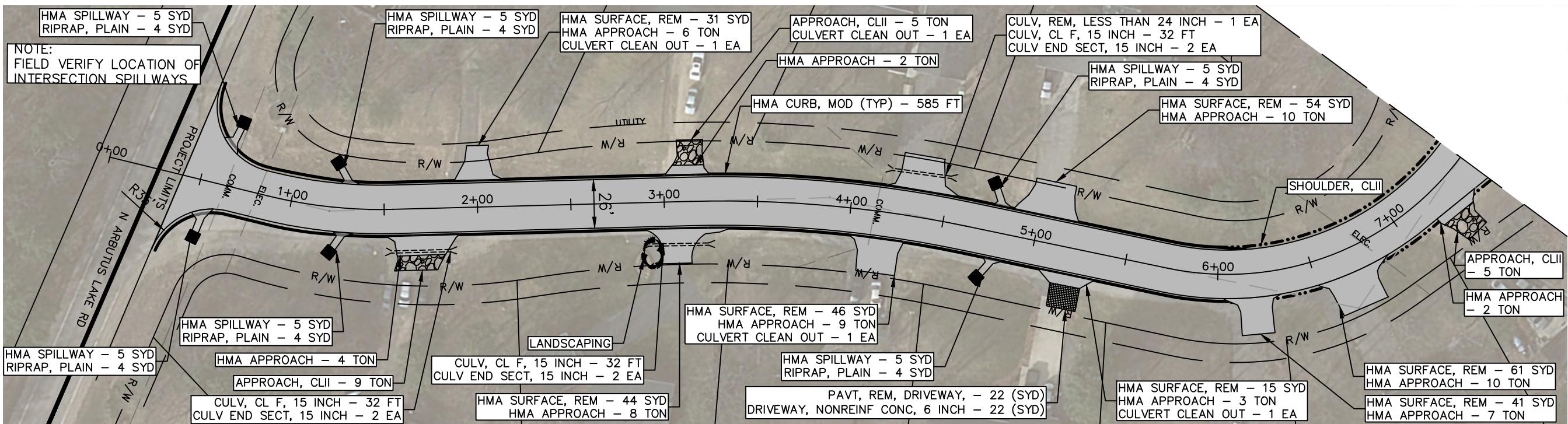
GTCRC NO.	20E015
DRAWN	RJS
CHECKED	JHS
SHEET NO	4 OF 5
FILE LOCATION	C:\OneDrive\Grand Traverse County Road Commission\Engineering Projects - Documents\20E015_Timber Hill Dr\Design\CAD

TIMBER HILL DR

(66' R.O.W.)

20E015

Scale: 1"=60'

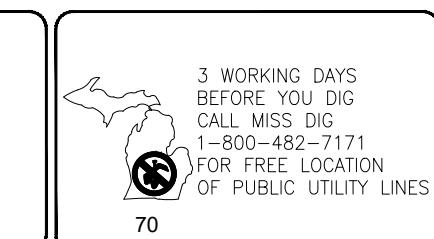


DATE	REVISION	BY
4/23/21	REV3	RJS
4/21/21	REV2	RJS
4/19/21	REV1	RJS



GRAND TRAVERSE COUNTY
ROAD COMMISSION
1881 LaFRANIER ROAD
TRAVERSE CITY, MI 49686-8911

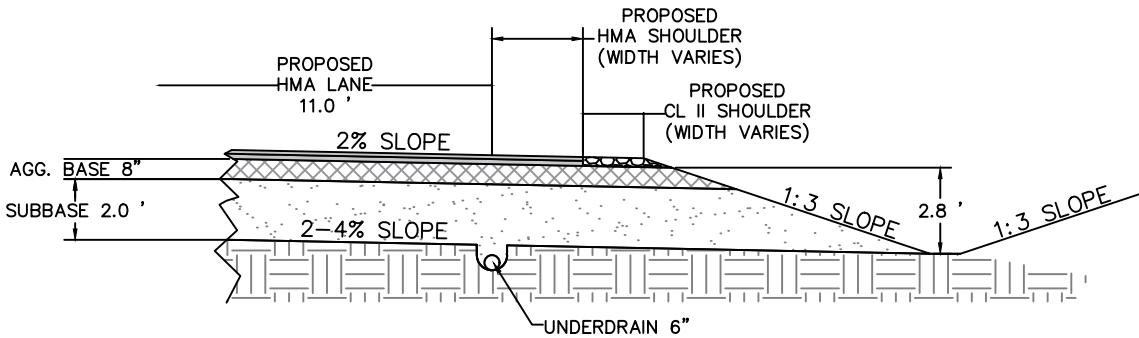
**231.922.4848 PHON
231.929.1836 FAX**



**TIMBER HILL SAD
ROAD PLANS
FOR
GRAND TRAVERSE COUNTY**

GTCRC NO.	20E015
DRAWN	RJS
CHECKED	JHS
SHEET NO	5 OF 5
FILE LOCATION	C:\OneDrive\Grand Traverse County Road Commission\Engineering Projects - Documents\20E015_Timber Hill Dr\Design\CAD

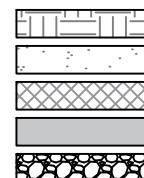
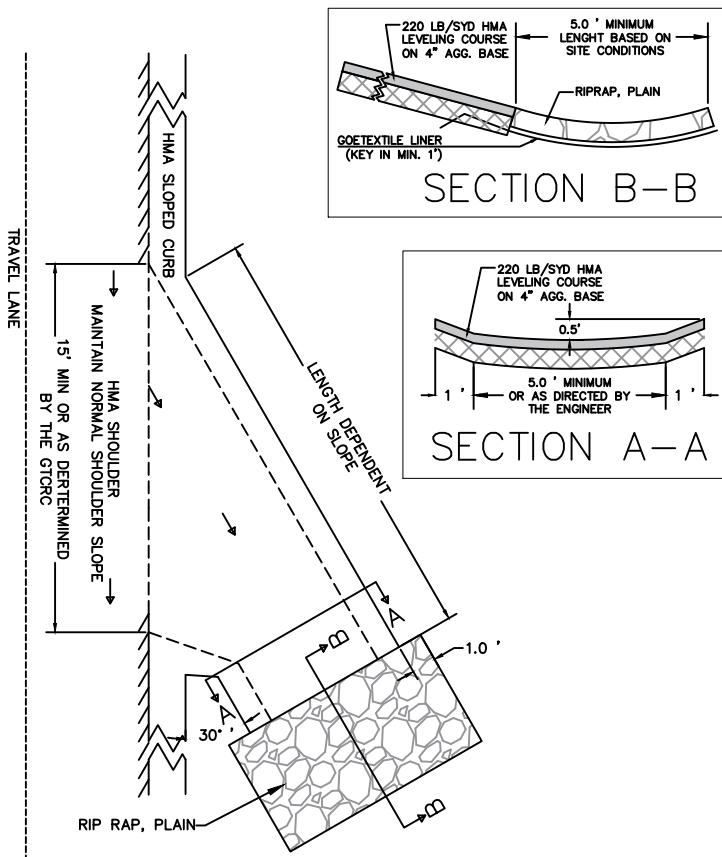
UNDERCUT WITH UNDERDRAIN TYPICAL



NOTE:

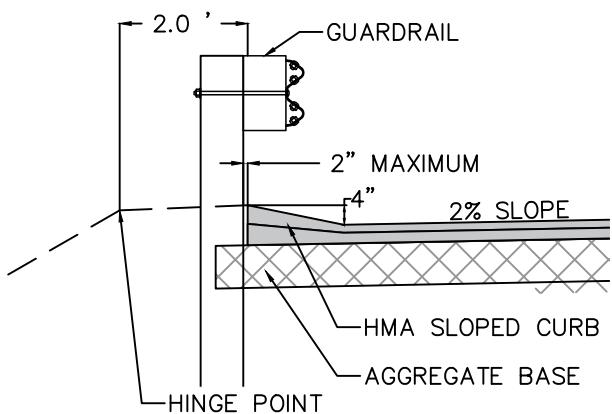
- DITCH BOTTOM SHALL BE AT GRADE NO HIGHER THAN BOTTOM OF SUBBASE.
- REMOVAL OF UNSUITABLE MATERIAL AND ESTABLISHMENT OF DITCH WILL BE PAID FOR AS EXCAVATION, EARTH.
- 8" MINIMUM OF AGGREGATE BASE SHALL CONFORM TO SPECIAL PROVISION FOR HMA BASE CRUSHING AND SHAPING MODIFIED.
- SUBBASE AND UNDERDRAIN WILL BE PAID FOR USING CORRESPONDING ITEMS.

HMA SPILLWAY TYPICAL



- UNSUITABLE UNDERLYING SOILS
- PROPOSED SUBBASE
- PROPOSED AGGREGATE BASE
- PROPOSED HMA
- SHOULDER CL II

GUARDRAIL WITH HMA SLOPED CURB



GRAND TRAVERSE COUNTY
ROAD COMMISSION
1881 LaFRANIER ROAD
TRVERSE CITY, MI 49686-8911

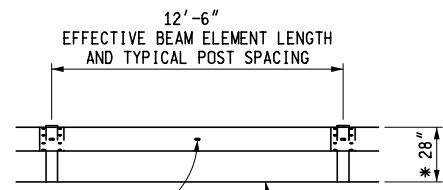
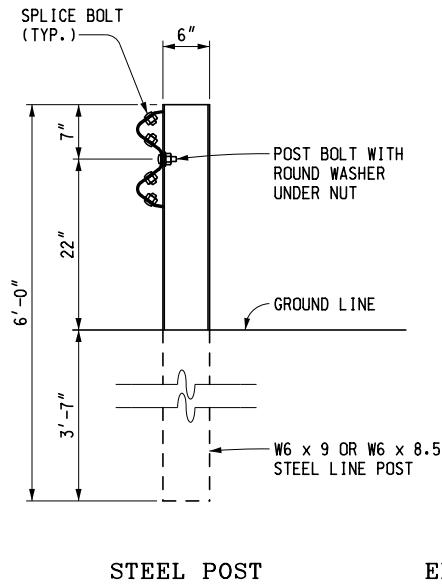
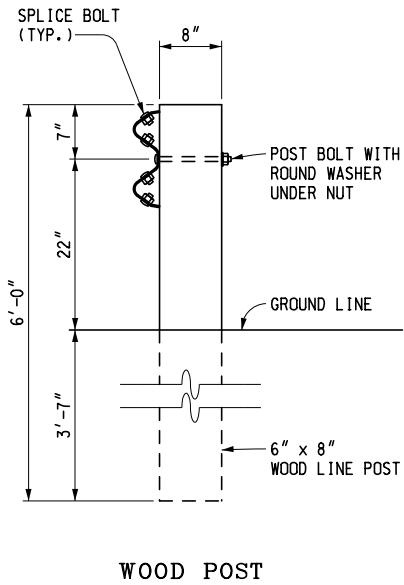
231.922.4848 PHONE
231.929.1836 FAX

STANDARD PLAN

22E300 HMA PROGRAM
TYPICALS

REVISIONS

DATE: 06-27-2022
GTCRC NO. 22E300
DRAWN CJE
CHECKED
SHEET 1 OF 1



GUARDRAIL, TYPE A

MDOT Michigan Department of Transportation
PREPARED BY DESIGN DIVISION
DRAWN BY: <u>B.L.T.</u>
CHECKED BY: <u>W.K.P.</u>

DEPARTMENT DIRECTOR
Paul C. Ajegba

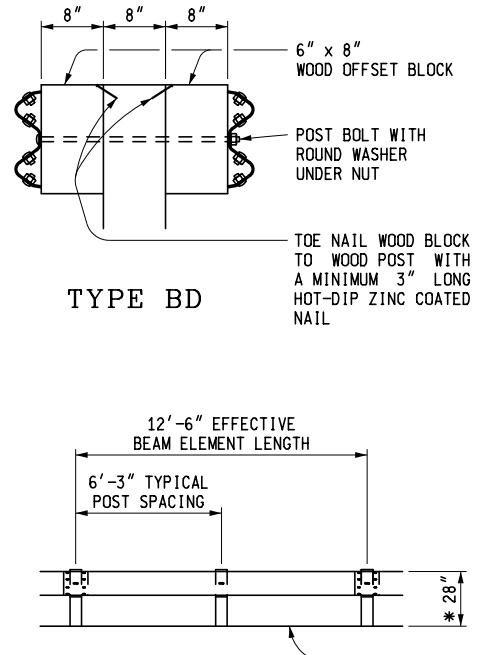
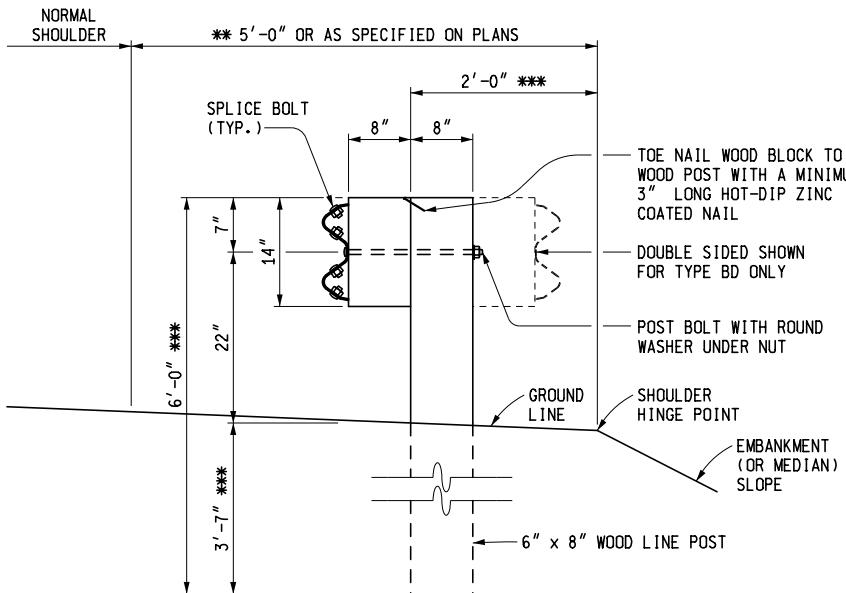
APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

F.H.W.A. APPROVAL	12-3-2021 PLAN DATE	R-60-J	SHEET 1 OF 16
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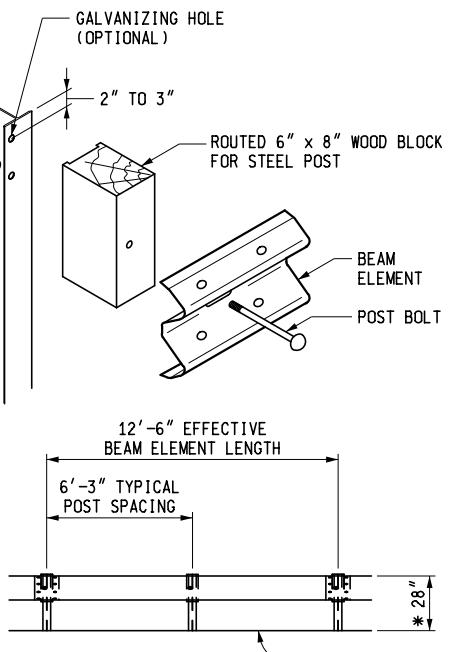
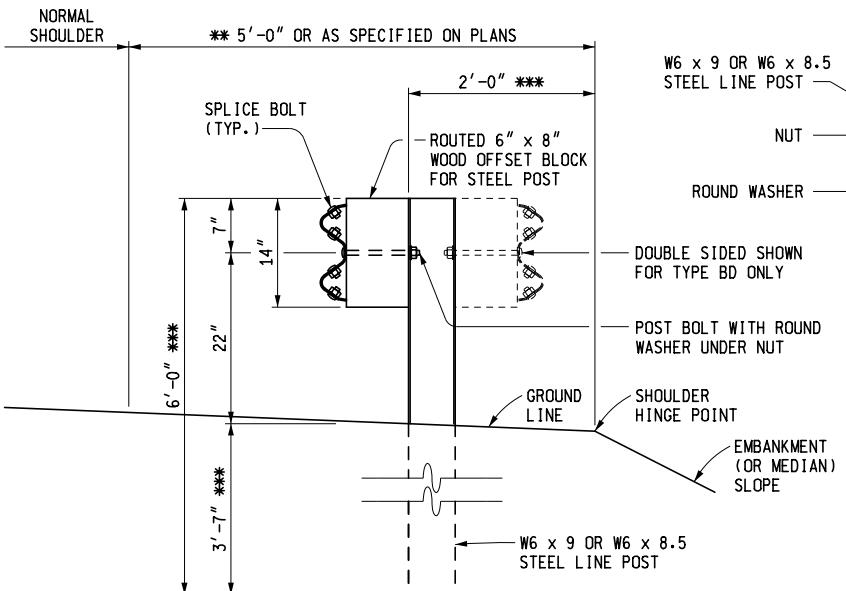


** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-0".

*** IF THE OFFSET FROM THE FACE OF POST TO THE SHOULDER HINGE POINT IS LESS THAN 2'-0" AND THE EMBANKMENT (OR MEDIAN) SLOPE IS STEEPER THAN 1:10, USE 8'-0" POST WITH THE ADDITIONAL LENGTH EMBEDDED.

LEVEL ELEVATION SHOWING POST SPACING
* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB

GUARDRAIL, TYPE B (OR BD)
(WOOD POST)



** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-0".

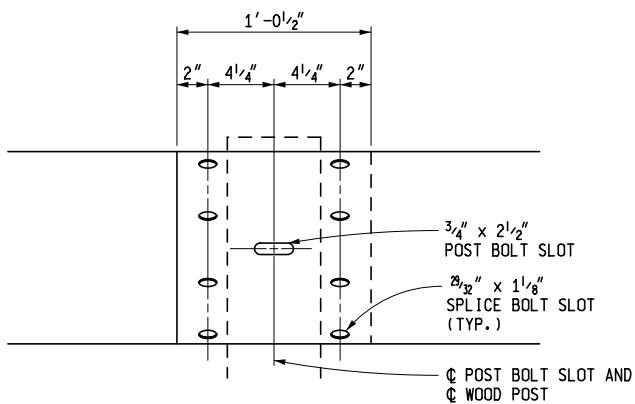
*** IF THE OFFSET FROM THE FACE OF POST TO THE SHOULDER HINGE POINT IS LESS THAN 2'-0" AND THE EMBANKMENT (OR MEDIAN) SLOPE IS STEEPER THAN 1:10, USE 8'-0" POST WITH THE ADDITIONAL LENGTH EMBEDDED.

ELEVATION SHOWING POST SPACING
*** SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB**

GUARDRAIL, TYPE B (OR BD)
(STEEL POST)

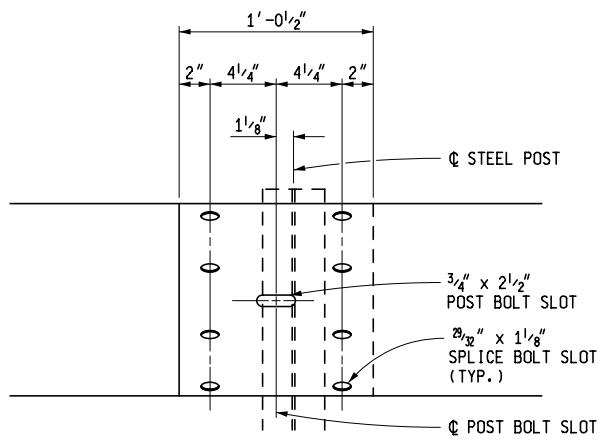
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

GUARDRAIL, TYPES A, B, BD, T, TD, MGS-8. & MGS-8D

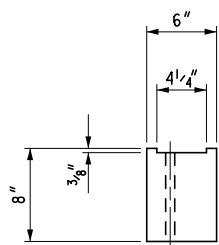


WOOD POST

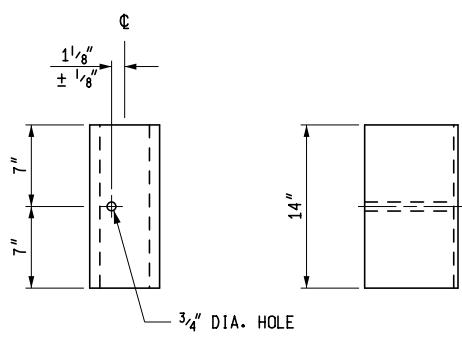
BEAM ELEMENT SPLICE DETAILS



STEEL POST

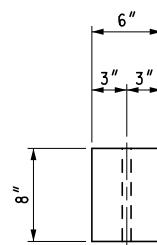


TOP

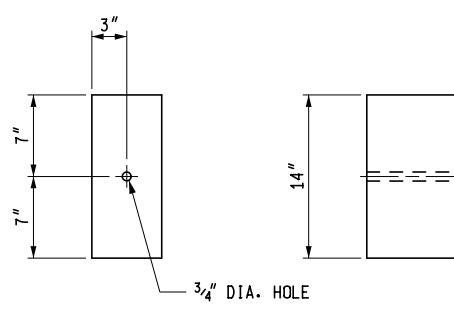


FRONT

FOR USE ON STEEL POSTS



TOP



FRONT

FOR USE ON WOOD POSTS
(SEE NOTES ON SHEET 16 OF 16)

WOOD OFFSET BLOCKS FOR GUARDRAIL, TYPE B AND TYPE BD

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

NORMAL
SHOULDER

** 5'-0" OR AS SPECIFIED ON PLANS

SPLICE BOLT
(TYP.)

2'-0" ***

8"

8"

7 $\frac{3}{16}$ "

22"

7 $\frac{5}{8}$ "

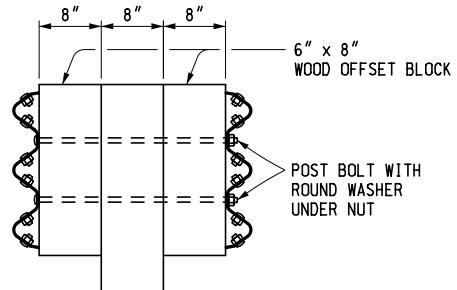
DOUBLE SIDED SHOWN
FOR TYPE TD ONLY

POST BOLT WITH
ROUND WASHER
UNDER NUT

SHOULDER
HINGE POINT

EMBANKMENT
(OR MEDIAN)
SLOPE

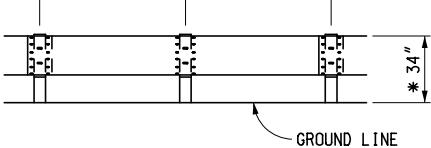
6" x 8" WOOD LINE POST



TYPE TD

12'-6" EFFECTIVE
BEAM ELEMENT LENGTH

6'-3" TYPICAL
POST SPACING



GROUND LINE

ELEVATION SHOWING POST SPACING

* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB

GUARDRAIL, TYPE T (OR TD) (WOOD POST)

NORMAL
SHOULDER

** 5'-0" OR AS SPECIFIED ON PLANS

SPLICE BOLT
(TYP.)

2'-0" ***

ROUTED 6" x 8" WOOD OFFSET BLOCK
FOR STEEL POST

W6 x 9 OR W6 x 8.5
STEEL LINE POST

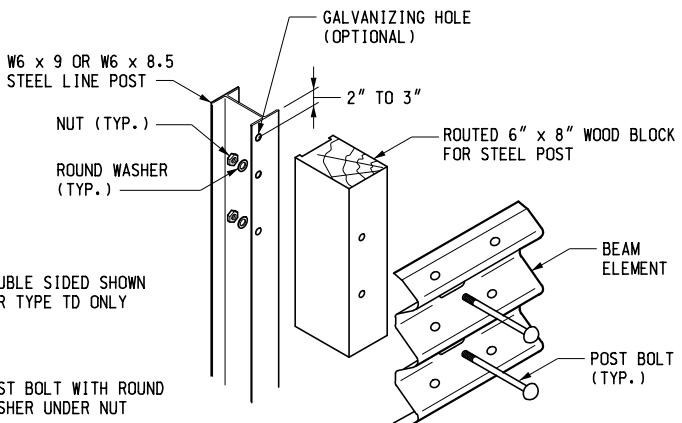
DOUBLE SIDED SHOWN
FOR TYPE TD ONLY

POST BOLT WITH ROUND
WASHER UNDER NUT

SHOULDER
HINGE POINT

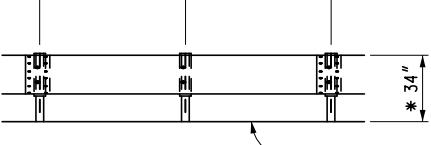
EMBANKMENT
(OR MEDIAN)
SLOPE

W6 x 9 OR W6 x 8.5
STEEL LINE POST



12'-6" EFFECTIVE
BEAM ELEMENT LENGTH

6'-3" TYPICAL
POST SPACING



GROUND LINE

ELEVATION SHOWING POST SPACING

* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB

GUARDRAIL, TYPE T OR TD (STEEL POST)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

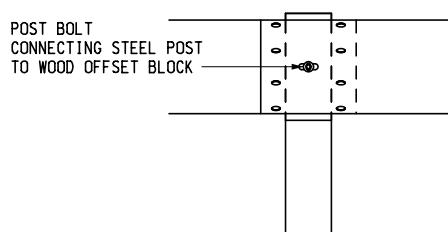
GUARDRAIL, TYPES A, B, BD, T, TD, MGS-8, & MGS-8D

F.H.W.A. APPROVAL

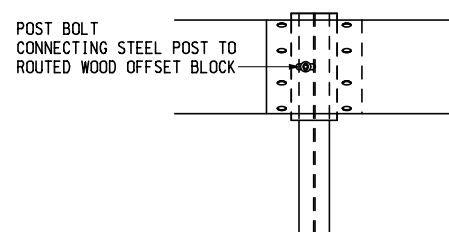
12-3-2021
PLAN DATE

R-60-J

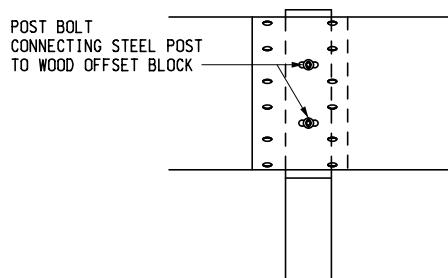
SHEET
4 OF 16



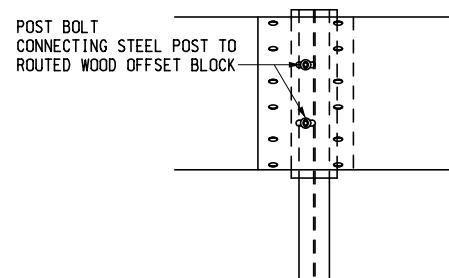
GUARDRAIL, TYPE B
WOOD POST



GUARDRAIL, TYPE B
STEEL POST



GUARDRAIL, TYPE T
WOOD POST



GUARDRAIL, TYPE T
STEEL POST

BLOCK AND POST CONNECTION DETAILS

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

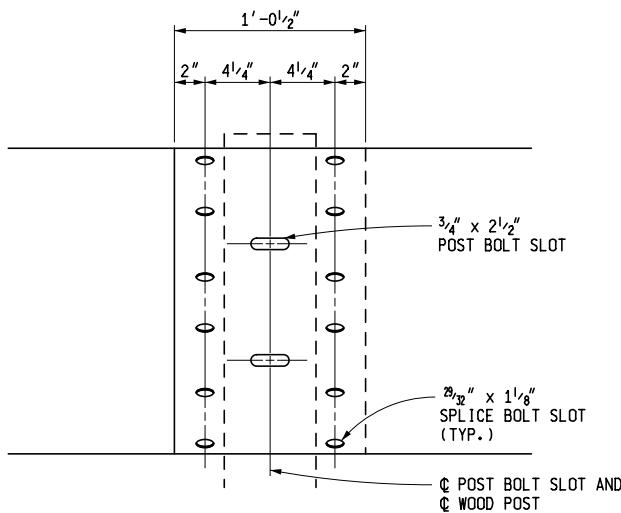
**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

F.H.W.A. APPROVAL

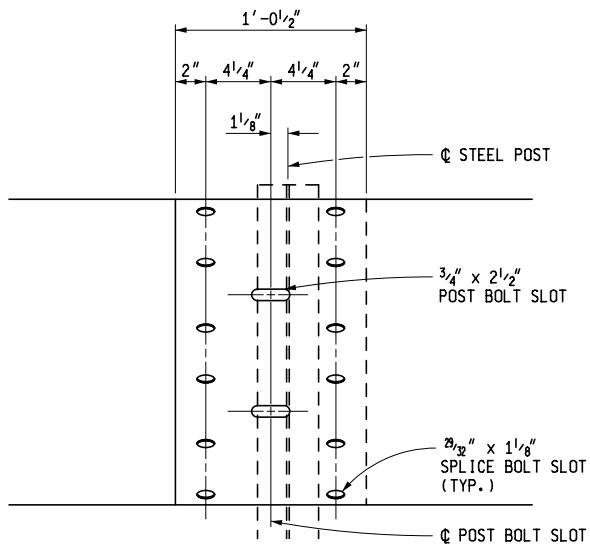
12-3-2021
PLAN DATE

R-60-J

SHEET
5 OF 16

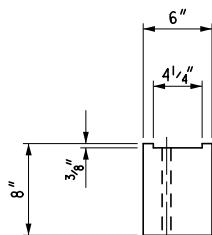


WOOD POST

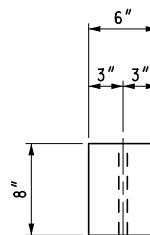


STEEL POST

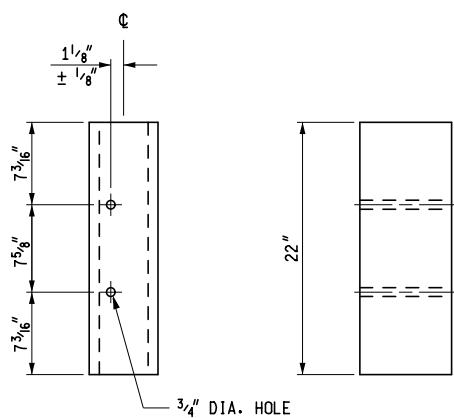
THRIE BEAM ELEMENT SPLICE DETAILS



TOP



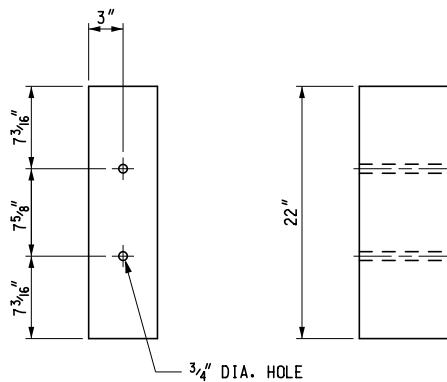
TOP



FRONT

SIDE

FOR USE ON STEEL POSTS



FRONT

SIDE

FOR USE ON WOOD POSTS
(SEE NOTES ON SHEET 16 OF 16)

WOOD OFFSET BLOCKS FOR GUARDRAIL, TYPE T AND TYPE TD

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

F.H.W.A. APPROVAL

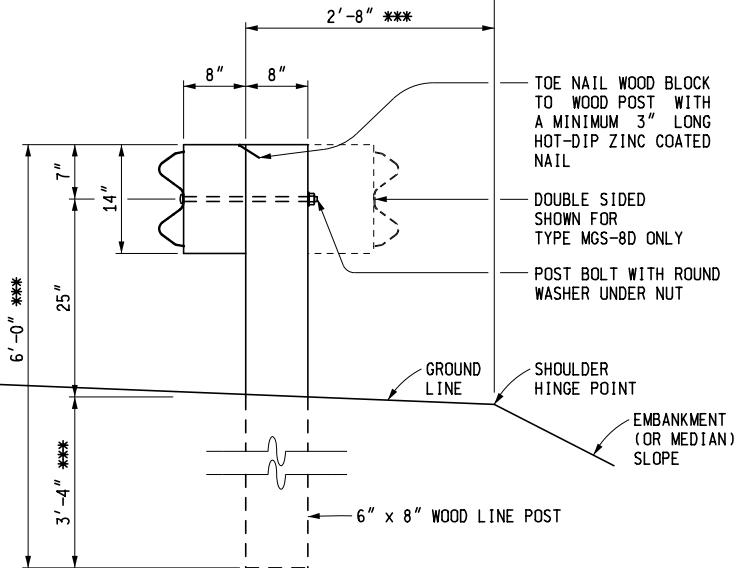
12-3-2021
PLAN DATE

R-60-J

SHEET
6 OF 16

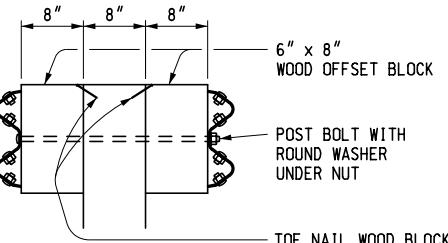
NORMAL
SHOULDER

** 5'-8" OR AS SPECIFIED ON PLANS



** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-8".

*** IF THE OFFSET FROM THE FACE OF POST TO THE SHOULDER HINGE POINT IS LESS THAN 2'-8" AND THE EMBANKMENT (OR MEDIAN) SLOPE IS STEEPER THAN 1:10, USE 9'-0" POST WITH THE ADDITIONAL LENGTH EMBEDDED.



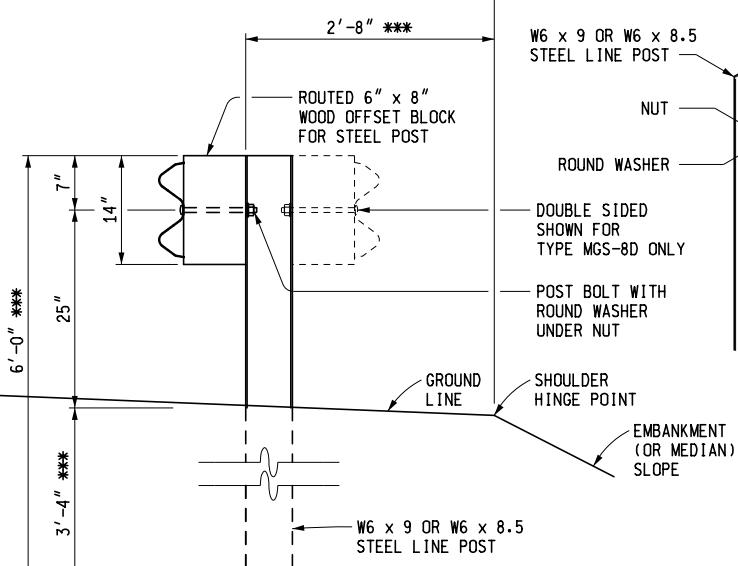
TYPE MGS-8D

TOE NAIL WOOD BLOCK
TO WOOD POST WITH
A MINIMUM 3" LONG
HOT-DIP ZINC COATED
NAIL

**GUARDRAIL, TYPE MGS-8 (OR MGS-8D)
(WOOD POST)**

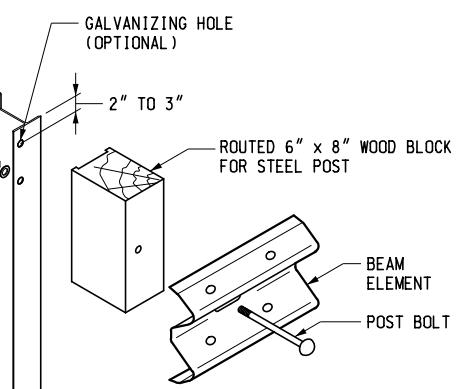
NORMAL
SHOULDER

** 5'-8" OR AS SPECIFIED ON PLANS



** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-8".

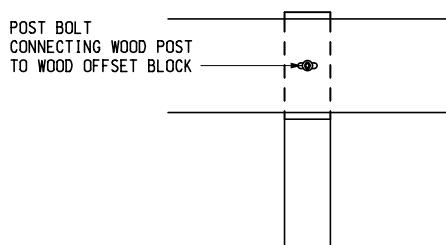
*** IF THE OFFSET FROM THE FACE OF POST TO THE SHOULDER HINGE POINT IS LESS THAN 2'-8" AND THE EMBANKMENT (OR MEDIAN) SLOPE IS STEEPER THAN 1:10, USE 9'-0" POST WITH THE ADDITIONAL LENGTH EMBEDDED.



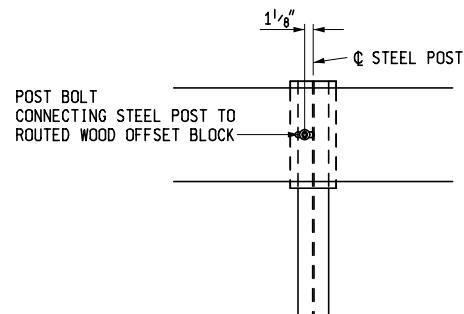
**GUARDRAIL, TYPE MGS-8 (OR MGS-8D)
(STEEL POST)**

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

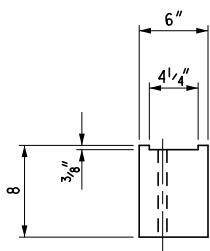


WOOD POST

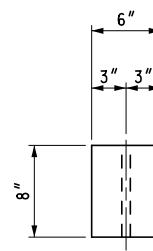


STEEL POST

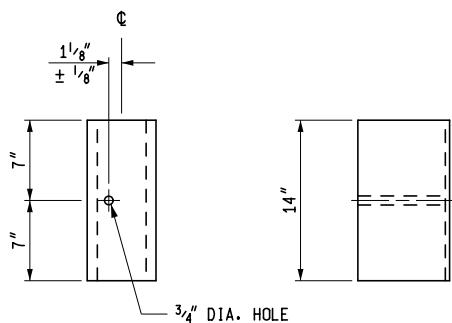
BLOCK AND POST CONNECTION DETAILS



TOP

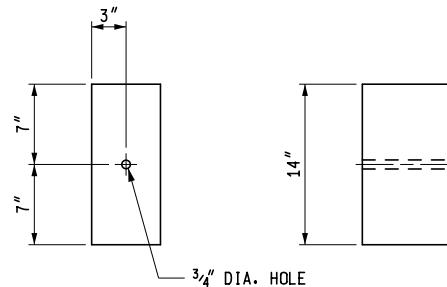


TOP



FRONT

FOR USE ON STEEL POSTS



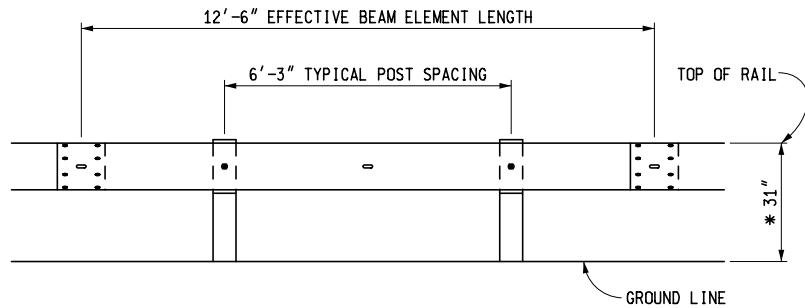
FRONT

FOR USE ON WOOD POSTS
(SEE NOTES ON SHEET 16 OF 16)

WOOD OFFSET BLOCKS FOR GUARDRAIL, TYPE MGS-8 AND TYPE MGS-8D

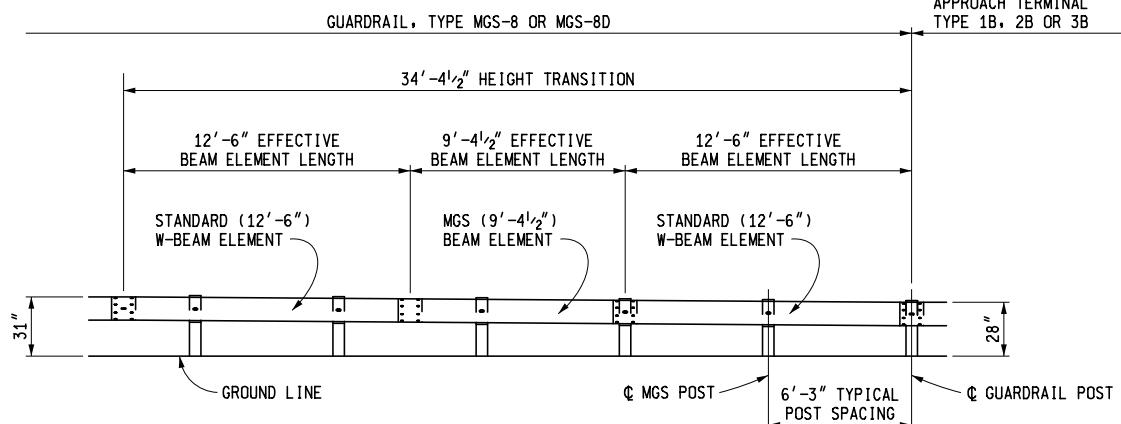
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**



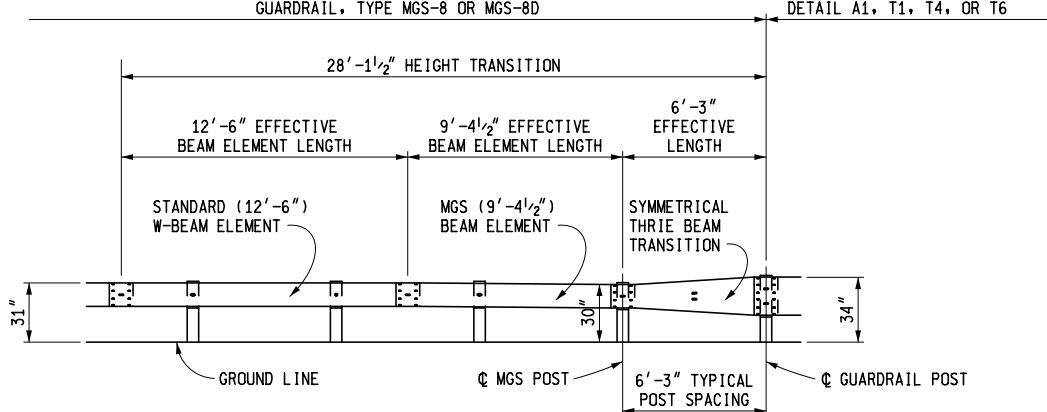
ELEVATION SHOWING POST SPACING FOR
GUARDRAIL, TYPE MGS-8 OR MGS-8D
* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB

GUARDRAIL, TYPE B
GUARDRAIL, TYPE BD
OR GUARDRAIL
APPROACH TERMINAL
TYPE 1B, 2B OR 3B



ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING
GUARDRAIL, TYPE MGS-8 OR MGS-8D TO
GUARDRAIL, TYPE B, GUARDRAIL, TYPE BD, OR
GUARDRAIL APPROACH TERMINAL TYPE 1B, 2B, OR 3B

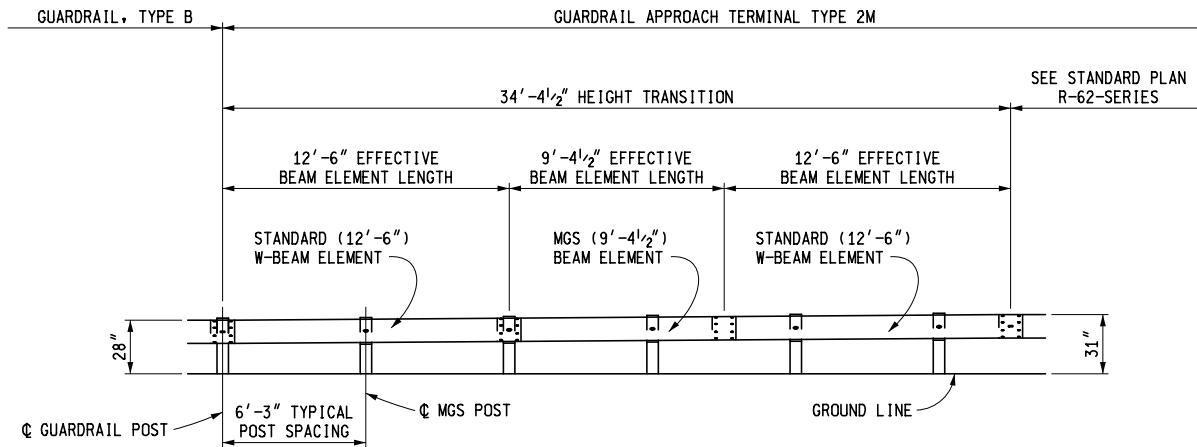
GUARDRAIL, TYPE T
GUARDRAIL, TYPE TD
GUARDRAIL ANCHORAGE, MEDIAN
GUARDRAIL ANCHORAGE, BRIDGE
DETAIL A1, T1, T4, OR T6



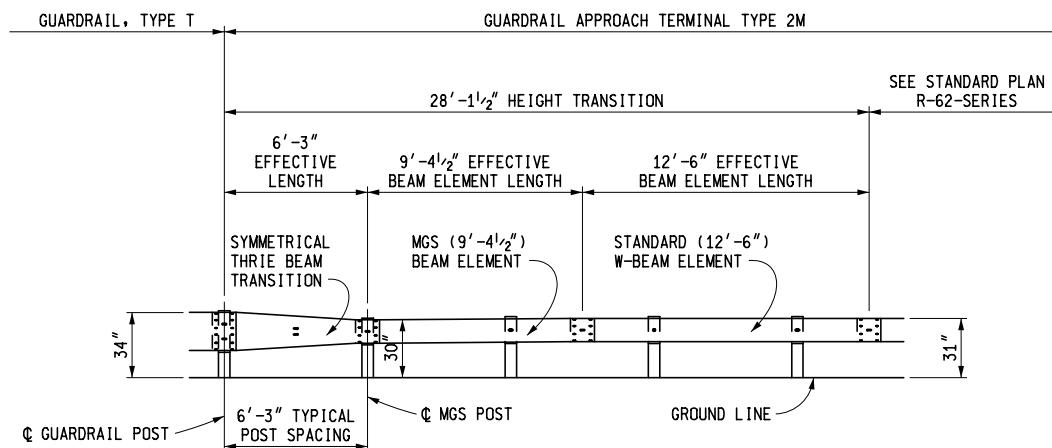
ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING
GUARDRAIL, TYPE MGS-8 OR MGS-8D TO
GUARDRAIL, TYPE T, GUARDRAIL, TYPE TD,
GUARDRAIL ANCHORAGE, MEDIAN,
GUARDRAIL ANCHORAGE, BRIDGE DETAIL A1, T1, T4 OR T6

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**



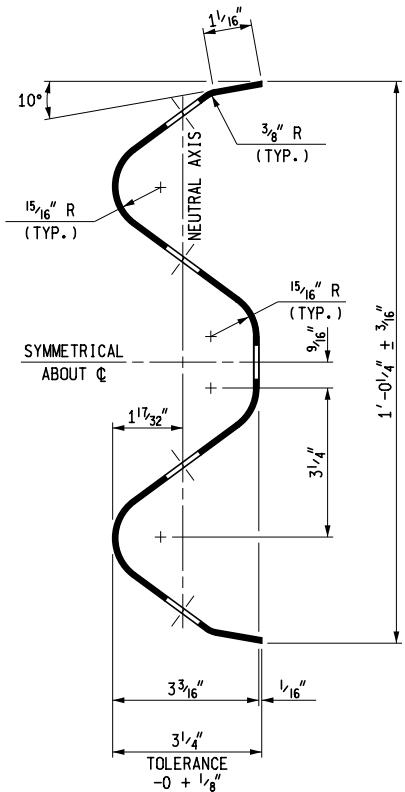
ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING
GUARDRAIL, TYPE B TO
GUARDRAIL APPROACH TERMINAL TYPE 2M



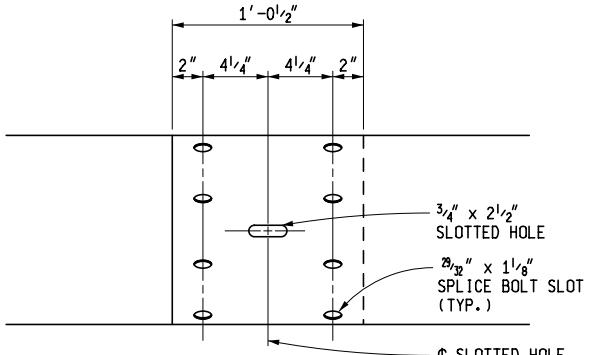
ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING
GUARDRAIL, TYPE T TO
GUARDRAIL APPROACH TERMINAL TYPE 2M

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

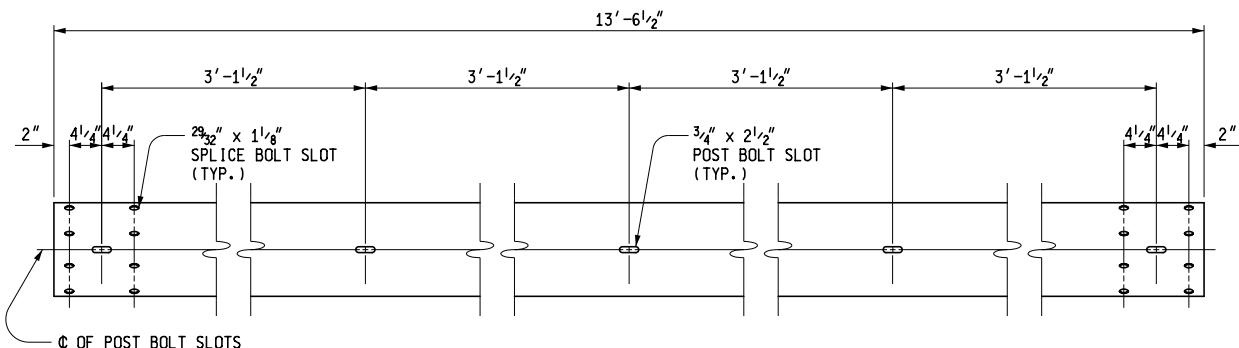
**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**



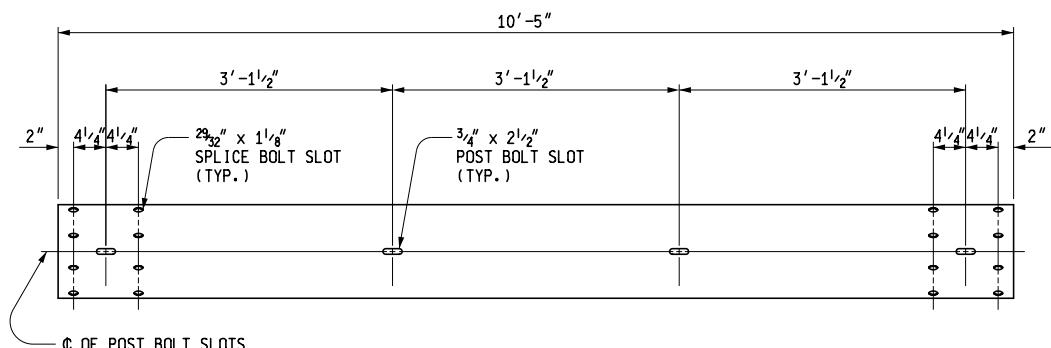
SECTION THROUGH BEAM ELEMENT



BEAM ELEMENT SPLICE DETAILS



FRONT ELEVATION OF BEAM ELEMENT

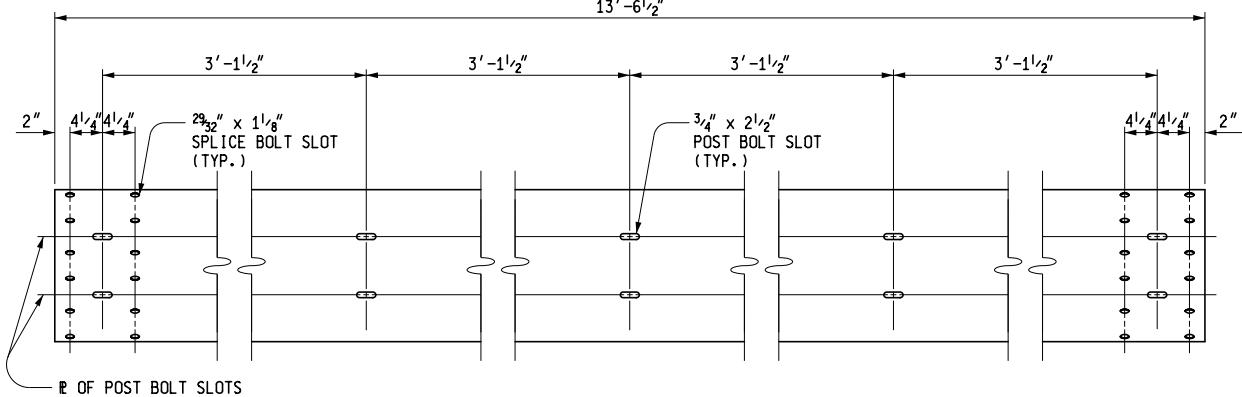


FRONT ELEVATION OF MGS (9'-4 1/2") BEAM ELEMENT

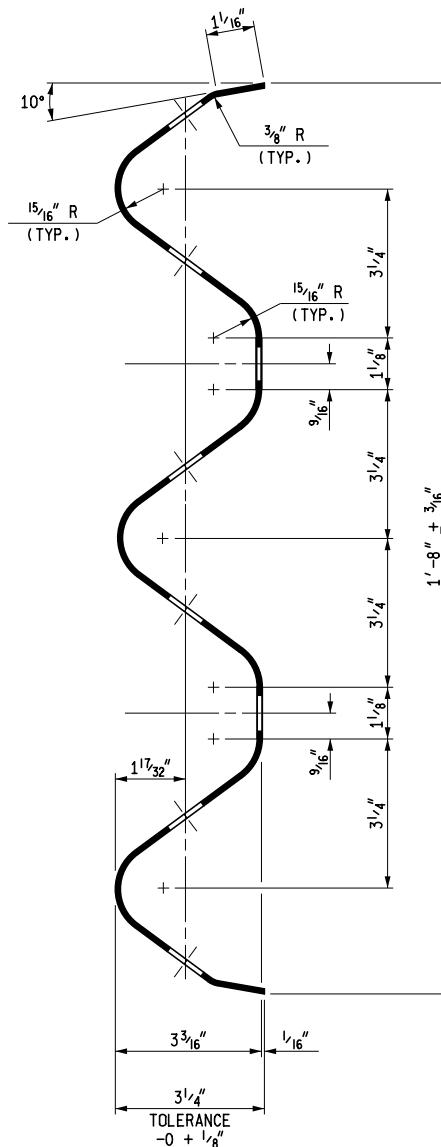
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

<u>F.H.W.A. APPROVAL</u>	<u>12-3-2021</u> <u>PLAN DATE</u>	R-60-J	SHEET 11 OF 16
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FRONT ELEVATION OF THRIE BEAM ELEMENT



SECTION THROUGH THRIE BEAM ELEMENT
(FOR GUARDRAIL, TYPE T AND TD)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

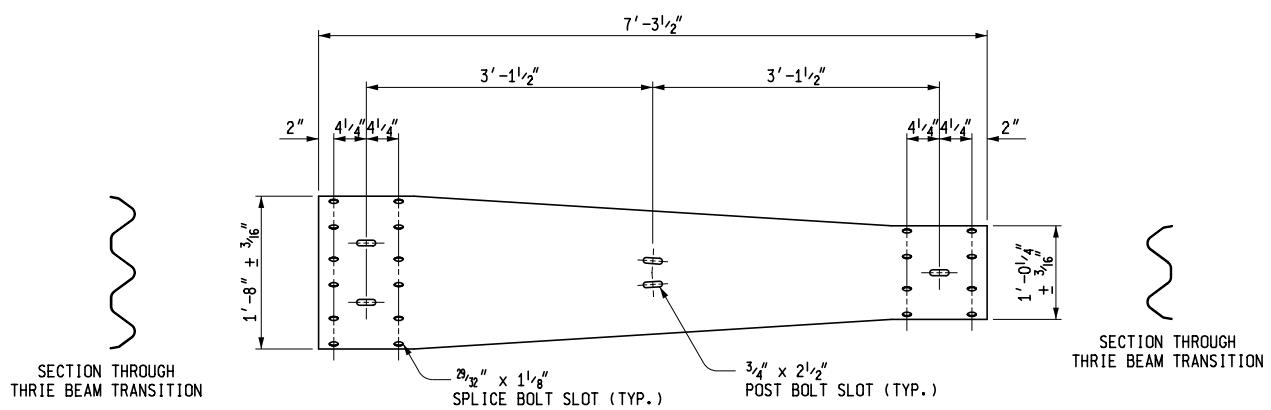
**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

F.H.W.A. APPROVAL

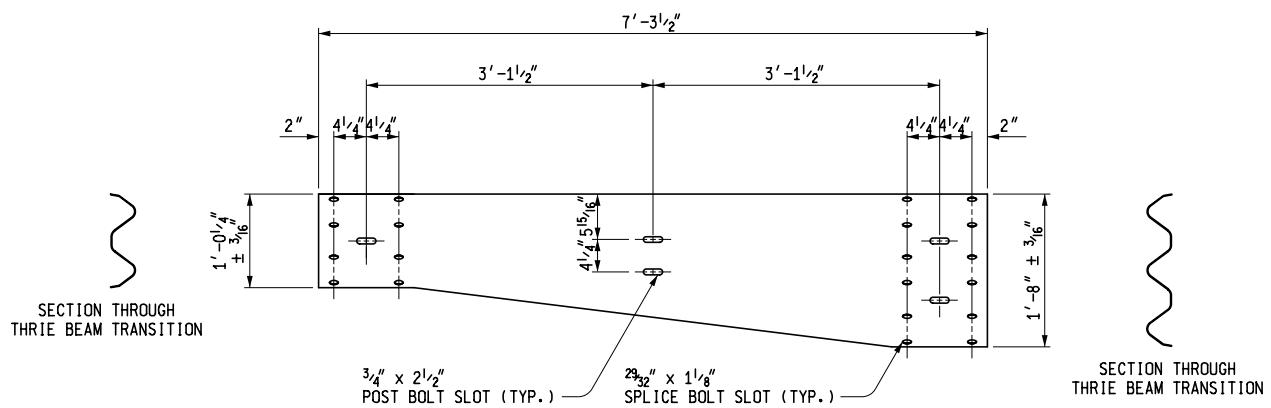
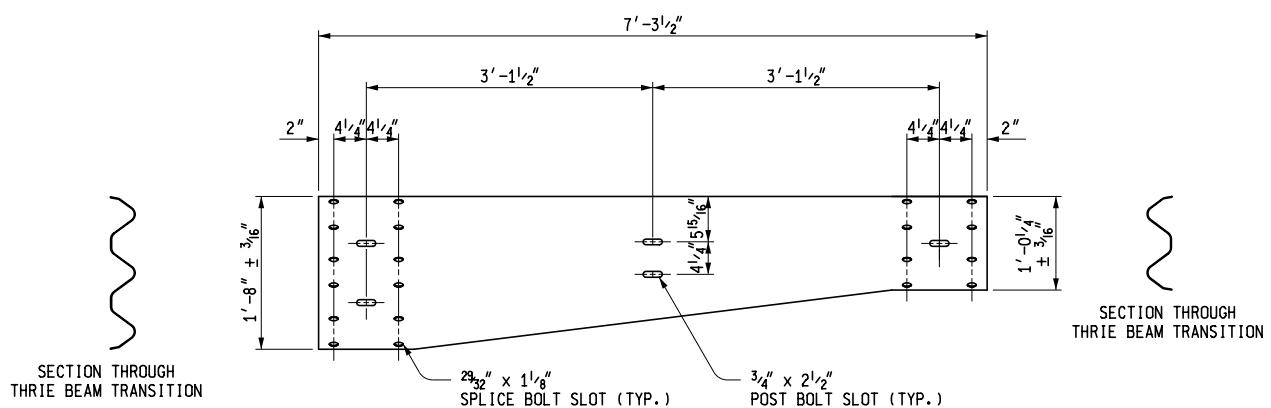
12-3-2021
PLAN DATE

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SYMMETRICAL THREE BEAM TRANSITIONS



ASYMMETRICAL THREE BEAM TRANSITIONS

NOTE: ASYMMETRICAL TRANSITION TYPE WILL VARY BY LOCATION DEPENDING ON GUARDRAIL LAYOUT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

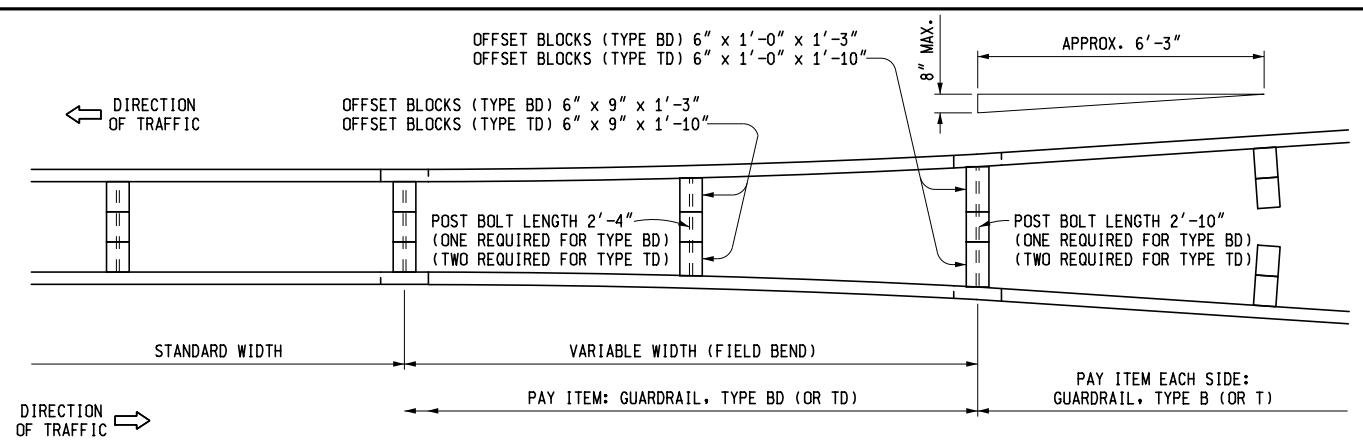
**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

F.H.W.A. APPROVAL

12-3-2021
PLAN DATE

R-60-J

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DETAIL SHOWING TRANSITION FROM GUARDRAIL, TYPE B (OR TYPE T)
TO GUARDRAIL, TYPE BD (OR TYPE TD)

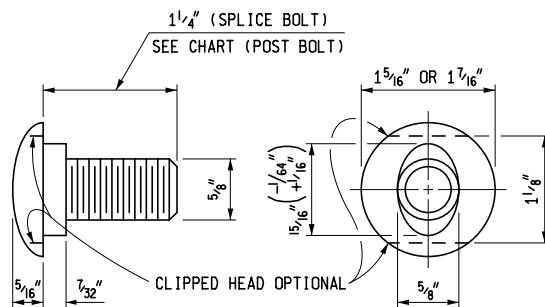
POST BOLTS, SPLICE BOLTS AND WASHERS AT BEAM ELEMENT SPLICE POSTS AND AT INTERMEDIATE POSTS						
GUARDRAIL TYPE	POST	OFFSET BLOCK	POST BOLTS		SPLICE BOLTS (1 1/4" LONG) (NO. REQ'D)	WASHERS (ROUND) (NO. REQ'D)
			NO. REQ'D	LENGTH		
A	WOOD	N/A	1	9 1/2"	8	1
	STEEL	N/A	1	2"		
B	WOOD	WOOD	1	18"	8	1
	STEEL	WOOD	1	9 1/2"		
BD	WOOD	WOOD	1	*26 1/2"	16	1
	STEEL	WOOD	2	9 1/2"		
T	WOOD	WOOD	2	18"	12	2
	STEEL	WOOD	2	9 1/2"		
TD	WOOD	WOOD	2	*26 1/2"	24	2
	STEEL	WOOD	4	9 1/2"		

THREE BEAM TRANSITIONS REQUIRE 20 SPLICE BOLTS EACH (12 ON TYPE T END AND 8 ON TYPE B END).

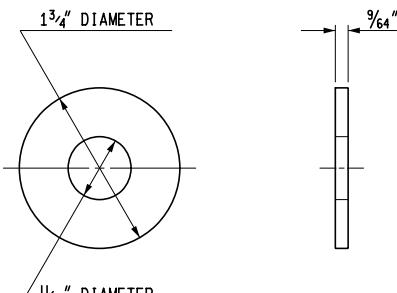
* EXCEPT AS SPECIFIED ON DETAIL SHOWING TRANSITION FROM GUARDRAIL, TYPE B (OR TYPE T) TO GUARDRAIL, TYPE BD (OR TYPE TD). POST BOLTS SHALL NOT EXTEND MORE THAN 1/2" BEYOND NUT.

MINIMUM POST BOLT THREAD LENGTH

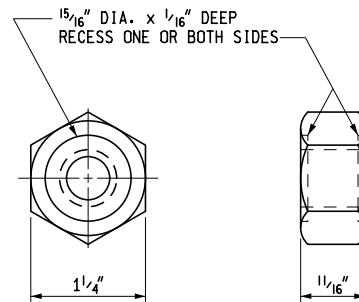
BOLT LENGTH	MINIMUM THREAD LENGTH
9 1/2"	1 3/4"
18"	2 1/2"
26 1/2"	3"



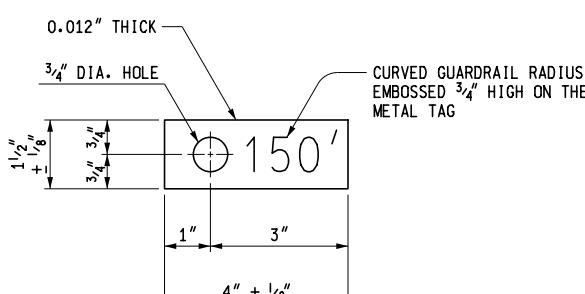
SPLICE BOLT AND POST BOLT



ROUND WASHER



NUT



METAL TAG
FOR CURVED GUARDRAIL WITH RADIUS OF 150' OR LESS

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

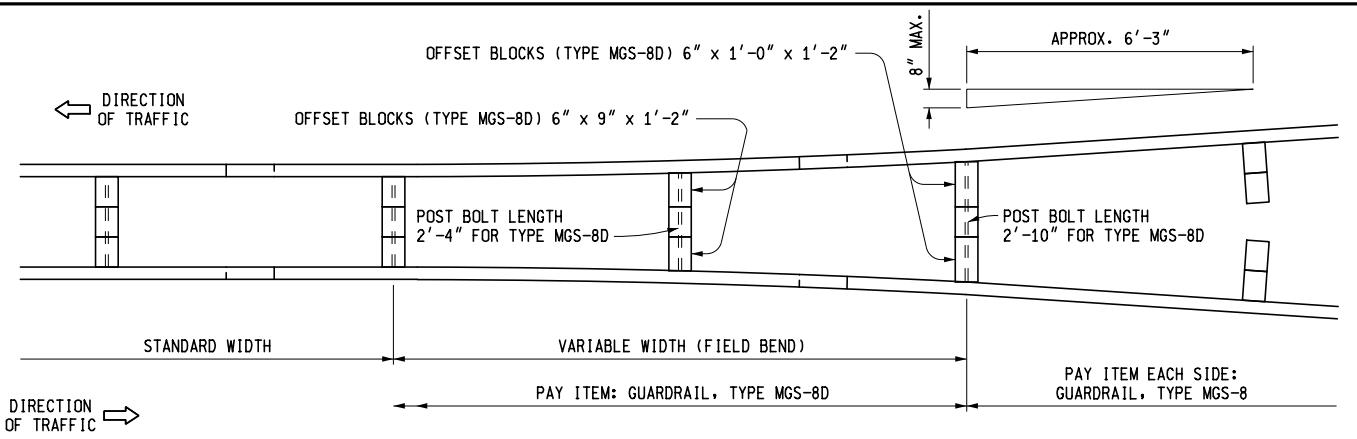
GUARDRAIL, TYPES A, B, BD, T, TD, MGS-8, & MGS-8D

F.H.W.A. APPROVAL

12-3-2021
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DETAIL SHOWING TRANSITION FROM
GUARDRAIL, TYPE MGS-8 TO GUARDRAIL, TYPE MGS-8D

POST BOLTS, SPLICE BOLTS AND WASHERS AT BEAM ELEMENT SPLICE POSTS AND AT INTERMEDIATE POSTS						
GUARDRAIL TYPE	POST	OFFSET BLOCK	POST BOLTS		SPLICE BOLTS (1 $\frac{1}{4}$ " LONG) (NO. REQ'D)	WASHERS (ROUND) (NO. REQ'D)
			NO. REQ'D	LENGTH		
MGS-8	WOOD	WOOD	1	18"	8	1
	STEEL	WOOD	1	9 $\frac{1}{2}$ "		1
MGS-8D	WOOD	WOOD	1	*26 $\frac{1}{2}$ "	16	—
	STEEL	WOOD	2	9 $\frac{1}{2}$ "		2

THRIE BEAM TRANSITIONS REQUIRE 20 SPLICE BOLTS EACH (12 ON TYPE T END AND 8 ON TYPE MGS END).

* EXCEPT AS SPECIFIED ON DETAIL SHOWING TRANSITION FROM GUARDRAIL, TYPE MGS-8 TO GUARDRAIL, TYPE MGS-8D POST BOLTS SHALL NOT EXTEND MORE THAN $\frac{1}{2}$ " BEYOND NUT.

MINIMUM POST BOLT THREAD LENGTH	
BOLT LENGTH	MINIMUM THREAD LENGTH
9 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "
18"	2 $\frac{1}{2}$ "
26 $\frac{1}{2}$ "	3"

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

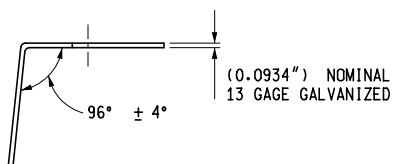
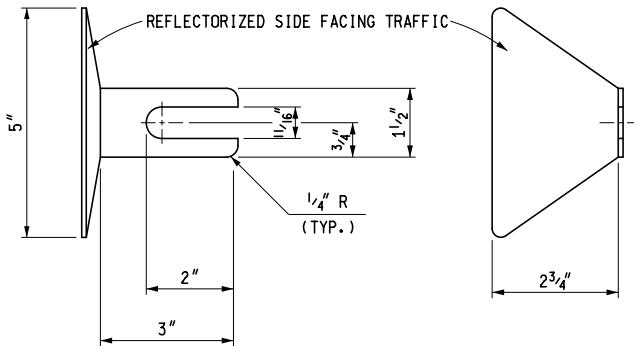
**GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D**

F.H.W.A. APPROVAL

12-3-2021
PLAN DATE

R-60-J

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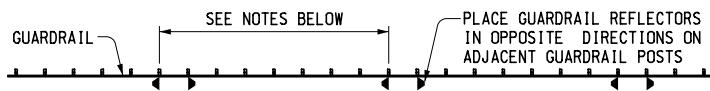
GUARDRAIL REFLECTOR



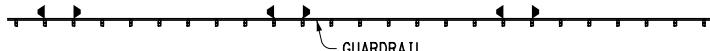
← DIRECTION OF TRAFFIC
← DIRECTION OF TRAFFIC



ONE-WAY TRAFFIC



← DIRECTION OF TRAFFIC
DIRECTION OF TRAFFIC →

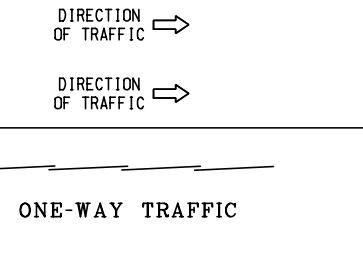


TWO-WAY TRAFFIC

PLACEMENT OF GUARDRAIL REFLECTORS

NOTES GOVERNING THE USE OF GUARDRAIL REFLECTORS

1. GUARDRAIL REFLECTORS SHALL BE USED ON ALL STANDARD GUARDRAIL RUNS, REGARDLESS OF ROADWAY LIGHTING.
2. GUARDRAIL REFLECTORS ARE TO BE SPACED AT THE FOLLOWING INTERVALS:
 - a) 50'-0" ON TANGENT SECTIONS AND CURVES WITH A RADIUS OF 1150' OR MORE.
 - b) 25'-0" ON CURVES WITH A RADIUS LESS THAN 1150'.
3. FOR GUARDRAIL REFLECTOR PLACEMENT ON APPROACH TERMINALS, SEE THE APPROPRIATE GUARDRAIL APPROACH TERMINAL STANDARD PLAN.
4. A GUARDRAIL REFLECTOR IS TO BE PLACED ON THE SECOND POST FROM THE GUARDRAIL DEPARTING TERMINAL.
5. ON GUARDRAIL, TYPE T AND TYPE TD GUARDRAIL REFLECTORS ARE TO BE PLACED ON THE UPPER POST BOLT.
6. GUARDRAIL REFLECTORS SHALL MATCH COLOR OF EDGE LINE.



← DIRECTION OF TRAFFIC
DIRECTION OF TRAFFIC →

TWO-WAY TRAFFIC
DIRECTION OF RAIL LAP

NOTES:

DETAILS SPECIFIED ON THIS STANDARD ARE ACCORDING TO THE AASHTO-AGC-ARTBA JOINT COMMITTEE, TASK FORCE 13 PUBLICATION TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE."

BEAM ELEMENTS SHALL BE SHOP BENT TO PLAN RADIUS FOR CURVE RADII 150' OR LESS. A TAG IDENTIFYING THE CURVATURE OF THE SHOP BENT SECTION WILL BE REQUIRED FOR EACH CURVED ELEMENT.

SEE STANDARD PLAN R-62-SERIES OR R-63-SERIES FOR GUARDRAIL APPROACH TERMINALS, STANDARD PLAN R-66-SERIES FOR GUARDRAIL DEPARTING TERMINALS AND STANDARD PLAN R-67-SERIES FOR GUARDRAIL ANCHORAGE, BRIDGE.

WOOD POSTS WITH $\frac{1}{2}$ " BEVELS AT THE TOP MAY BE USED IN LIEU OF WOOD POSTS WITHOUT BEVELS SPECIFIED. THE LENGTH, WIDTH AND DEPTH OF THE POST SHALL BE AS SPECIFIED ON THIS STANDARD AND THE POST BOLT HOLES SHALL BE LOCATED TO ENSURE PROPER RAIL HEIGHT.

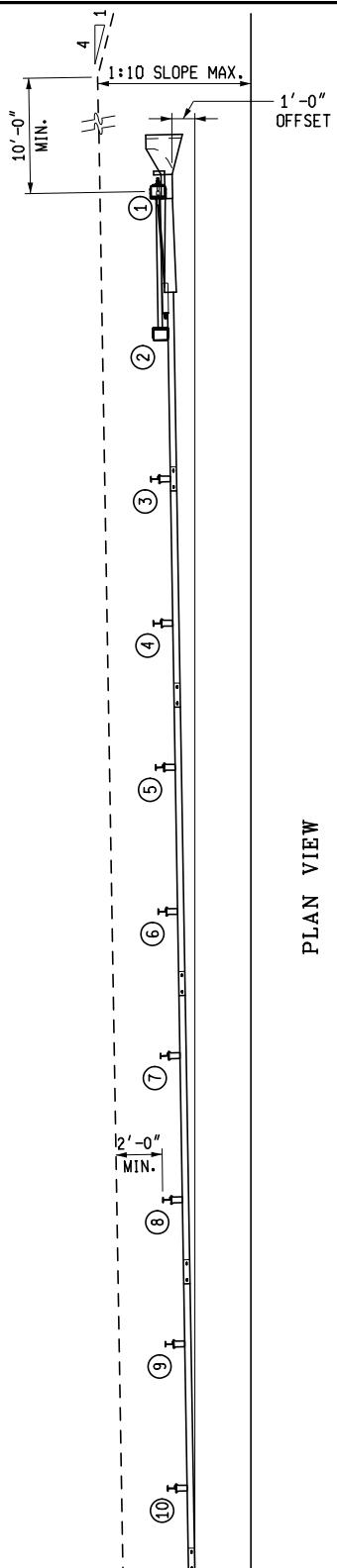
WOOD OFFSET BLOCKS WITH $\frac{1}{2}$ " BEVELS AT THE TOP AND BOTTOM OR A 1" BEVELED TOP MAY BE USED IN LIEU OF WOOD BLOCKS WITHOUT BEVELS SPECIFIED. THE LENGTH (FRONT AND BACK FACE), WIDTH AND DEPTH OF THE BLOCK SHALL BE AS SPECIFIED ON THIS STANDARD AND THE POST BOLT HOLES SHALL BE LOCATED TO ENSURE PROPER RAIL HEIGHT AND COMPATIBILITY WITH POST HOLES.

WHEN THE FACE OF GUARDRAIL IS PLACED FLUSH WITH FACE OF CURB, THE RAIL HEIGHT SHOULD BE MEASURED FROM THE FRONT EDGE OF THE GUTTER PAN, WHICH IS THE POINT ON THE GUTTER PAN THAT IS CLOSEST TO THE EDGE OF THE TRAVELED LANE. WHEN THE FACE OF THE GUARDRAIL PANEL IS LOCATED BEHIND THE CURB THE RAIL HEIGHT SHOULD BE MEASURED FROM THE GROUND JUST IN FRONT OF THE GUARDRAIL.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

GUARDRAIL, TYPES A, B, BD, T, TD, MGS-8, & MGS-8D

F.H.W.A. APPROVAL	12-3-2021 PLAN DATE	R-60-J	SHEET 16 OF 16
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OPTION 1



PREPARED
BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

APPROVED BY: _____

APPROVED BY: _____ DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

GUARDRAIL APPROACH TERMINAL TYPE 2M

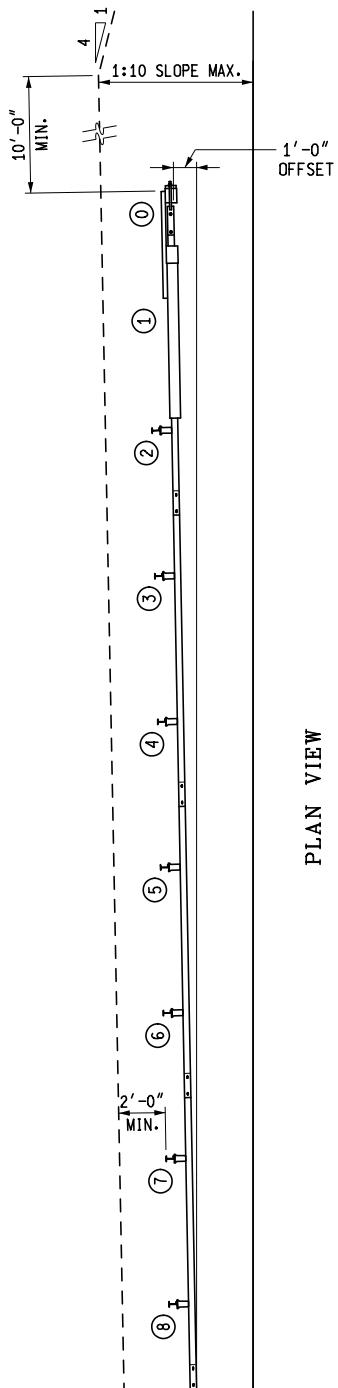
E.H.W.A. APPROVAL

9-9-2021

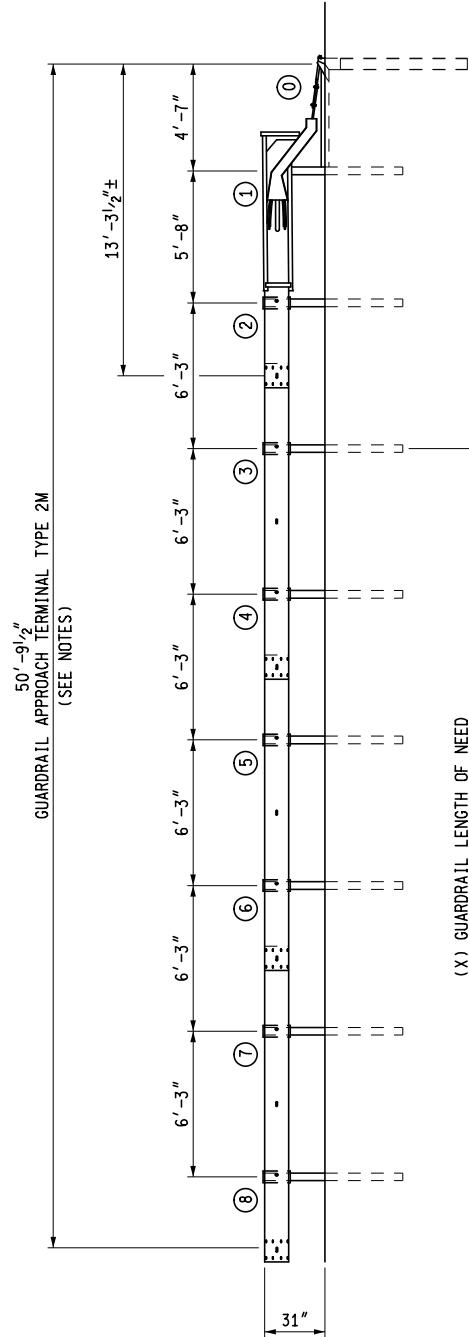
PLAN DATE

R-62-H

SHEET
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PLAN VIEW

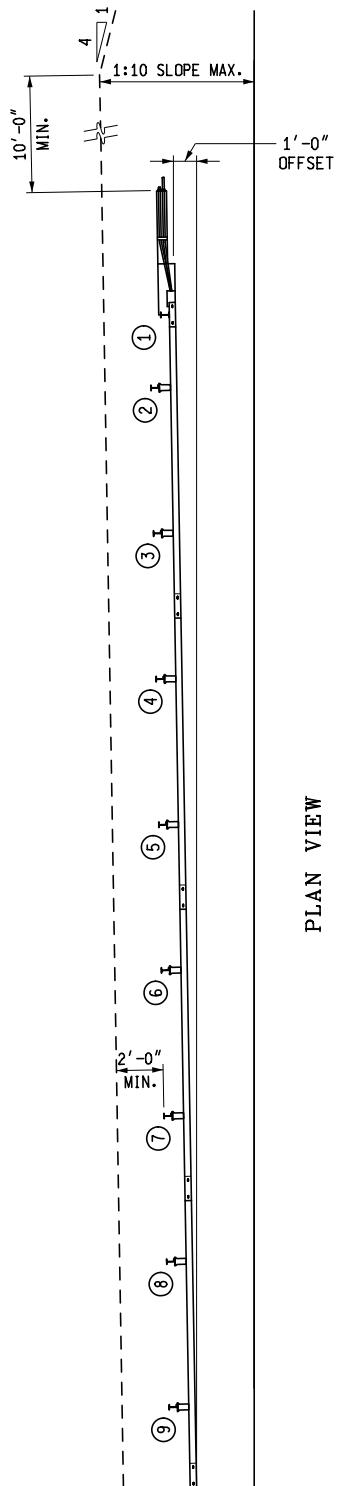


ELEVATION
GUARDRAIL APPROACH TERMINAL TYPE 2M
"SOFT-STOP"

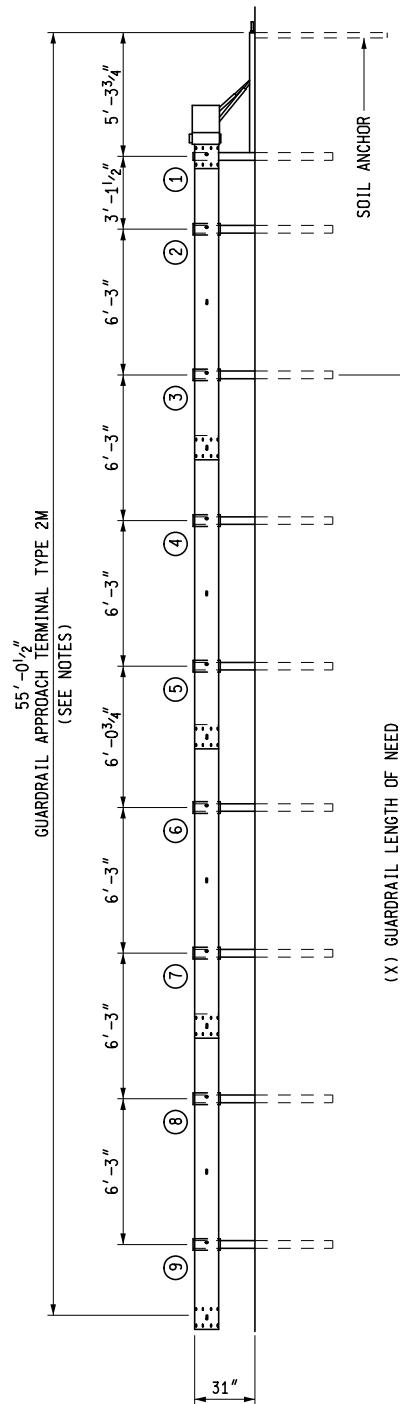
OPTION 2

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

GUARDRAIL APPROACH
TERMINAL TYPE 2M



OPTION 3



ELEVATION
GUARDRAIL APPROACH TERMINAL TYPE 2M
"MAX-TENSION"

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL APPROACH
TERMINAL TYPE 2M**

NOTES:

SEE STANDARD PLAN R-60-SERIES FOR ADDITIONAL TRANSITION LENGTHS WHEN ATTACHING TERMINALS TO OTHER THAN TYPE MCS-8 GUARDRAIL.

ALL POSTS, OFFSET BLOCKS, BEAM ELEMENTS, AND HARDWARE (INCLUDING BOLTS, NUTS, AND WASHERS) SHALL CONFORM TO THE MANUFACTURER'S DETAILS AND SPECIFICATIONS.

ALL 1:10 SLOPES SHALL BE GRADED TO CLASS A SLOPE TOLERANCES.

WHEN SITE CONDITIONS WARRANT AND WITH THE APPROVAL OF THE ENGINEER, GUARDRAIL APPROACH TERMINAL TYPE 2M CAN BE INSTALLED STRAIGHT (WITHOUT THE 1'-0" OFFSET FROM THE TANGENT LINE TO THE TRAFFIC FACE OF POST 1).

GUARDRAIL REFLECTORS AND OTHER ATTACHMENTS ARE NOT TO BE USED ON THE GUARDRAIL APPROACH TERMINAL. PLACE REFLECTORS BEGINNING ON STANDARD RUN OF GUARDRAIL.

USE REFLECTIVE SHEETING ACCORDING TO THE FOLLOWING TRAFFIC CONDITIONS:
(NOTE: ALTERNATE 3" BLACK AND 3" YELLOW STRIPES ON A 45° ANGLE)



TRAFFIC PASSING ON
THE LEFT SIDE



TRAFFIC PASSING ON
BOTH SIDES

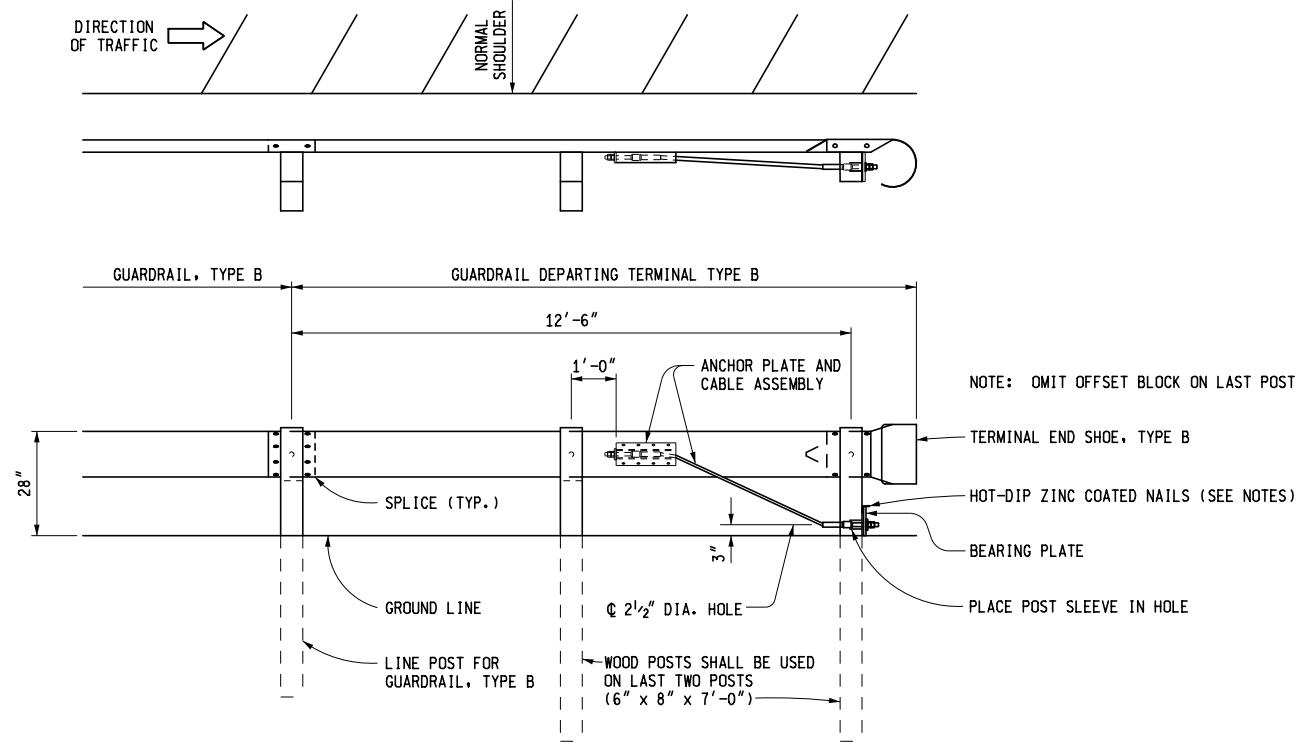


TRAFFIC PASSING ON
THE RIGHT SIDE

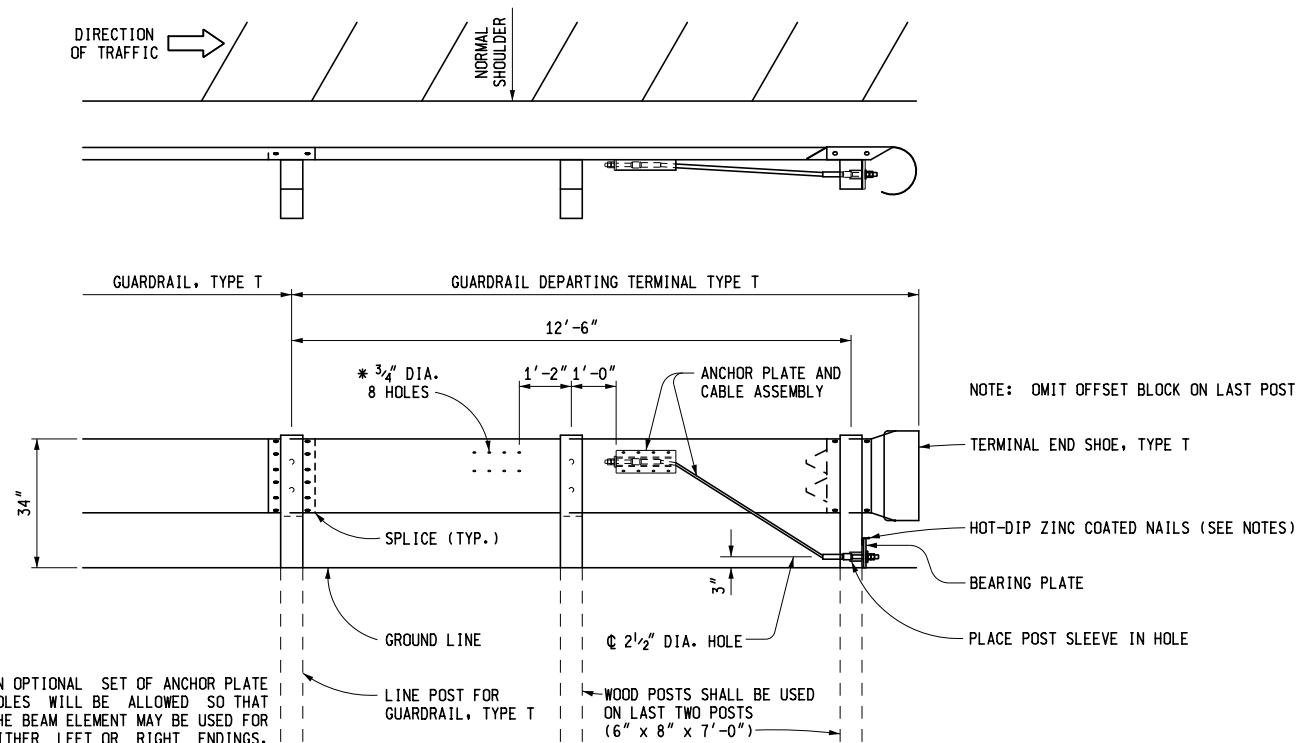
THE PORTION OF THE IMPACT HEAD ASSEMBLY FACING TRAFFIC SHALL BE COMPLETELY COVERED WITH HIGH INTENSITY ADHESIVE REFLECTIVE SHEETING.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL APPROACH
TERMINAL TYPE 2M**



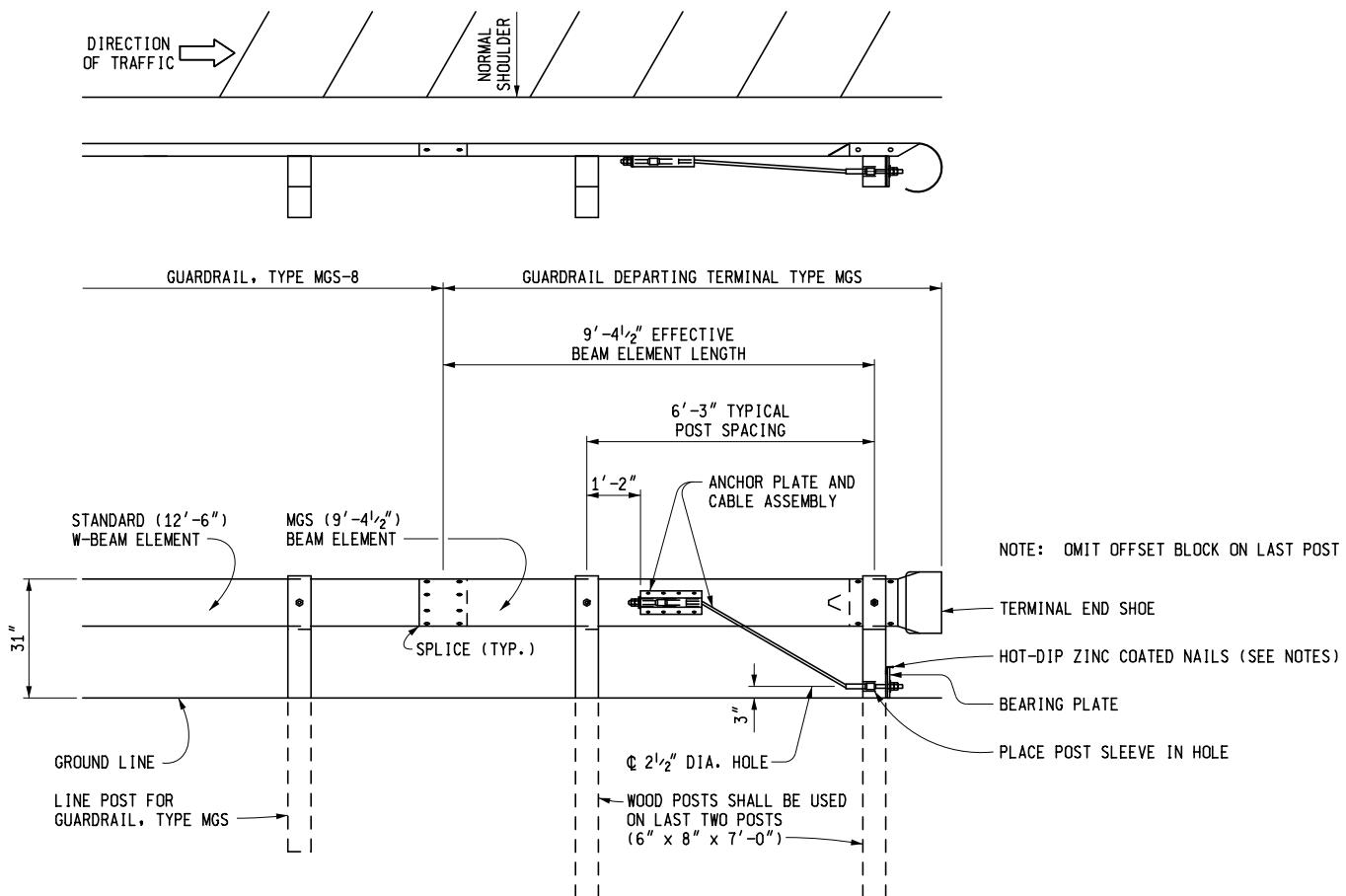
GUARDRAIL DEPARTING TERMINAL TYPE B



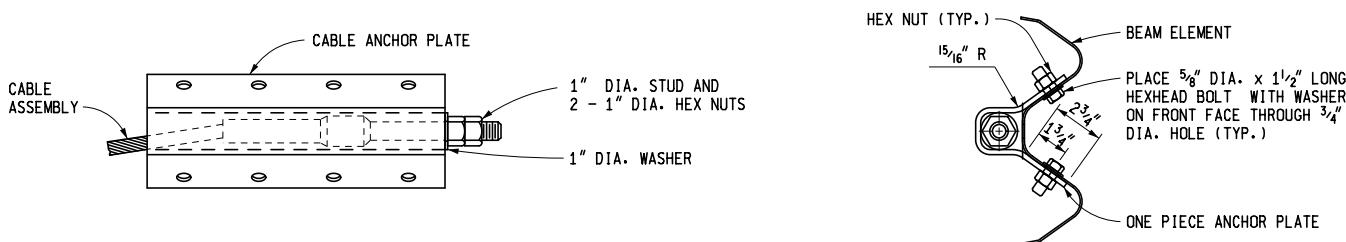
* AN OPTIONAL SET OF ANCHOR PLATE HOLES WILL BE ALLOWED SO THAT THE BEAM ELEMENT MAY BE USED FOR EITHER LEFT OR RIGHT ENDINGS. ANCHOR PLATE SHALL BE PLACED ON UPPER CORRUGATION ONLY.

GUARDRAIL DEPARTING TERMINAL TYPE T

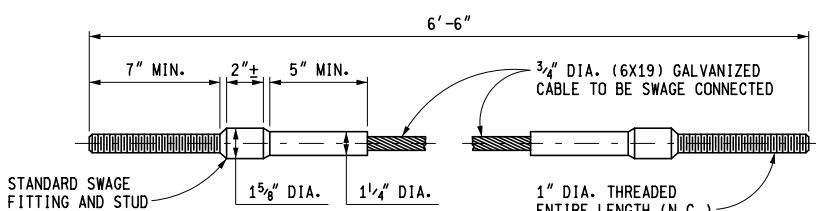
MDOT <small>Michigan Department of Transportation</small>	DEPARTMENT DIRECTOR Kirk T. Steudle	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR		
	APPROVED BY: _____	GUARDRAIL DEPARTING TERMINAL TYPES B, T, & MGS		
	DIRECTOR, BUREAU OF FIELD SERVICES			
	PREPARED BY DESIGN DIVISION	APPROVED BY: _____	9-28-2018	R-66-E
DRAWN BY: <u>B.L.T.</u>	DIRECTOR, BUREAU OF DEVELOPMENT	F.H.W.A. APPROVAL	PLAN DATE	SHEET 1 OF 4
CHECKED BY: <u>W.K.P.</u>	92			



GUARDRAIL DEPARTING TERMINAL TYPE MGS



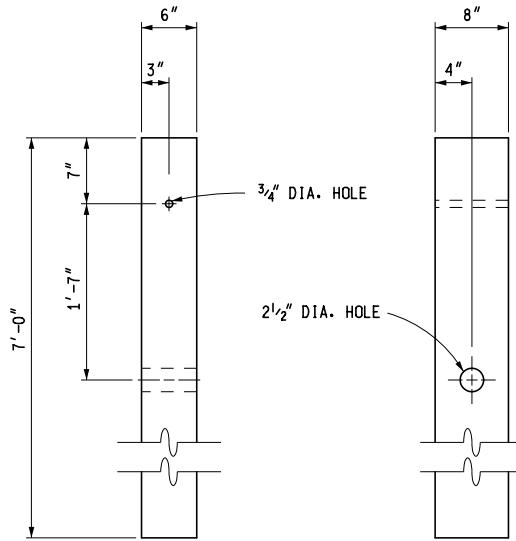
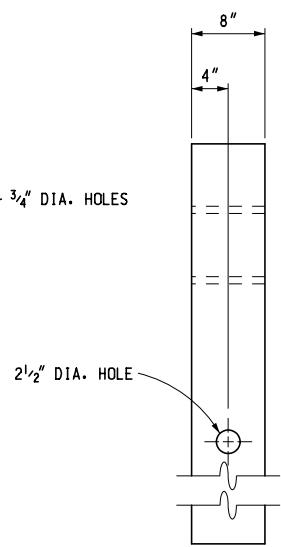
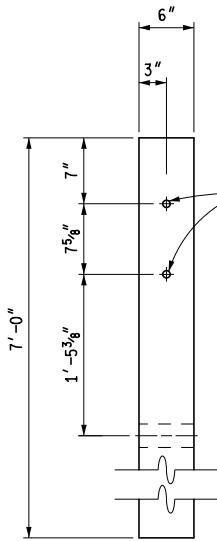
CABLE ANCHOR PLATE DETAILS



CABLE ASSEMBLY

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

GUARDRAIL DEPARTING TERMINAL TYPES B, T, & MGS

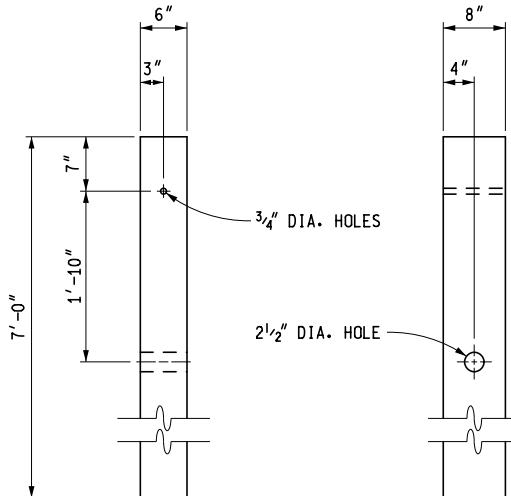


WOOD POST DETAIL

(FOR LAST POST, GUARDRAIL DEPARTING TERMINAL TYPE T)

WOOD POST DETAIL

(FOR LAST POST, GUARDRAIL DEPARTING TERMINAL TYPE B)

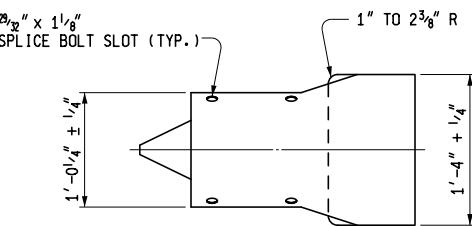
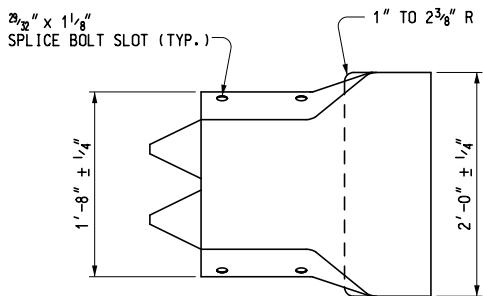
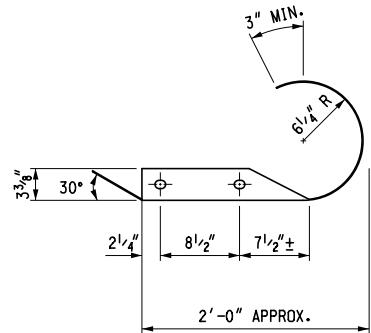
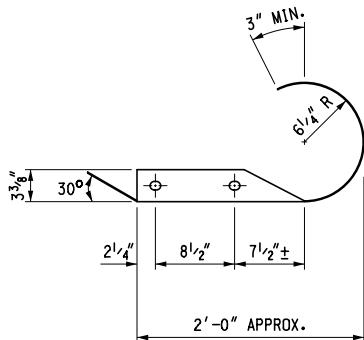


WOOD POST DETAIL

(FOR LAST POST, GUARDRAIL DEPARTING TERMINAL TYPE MGS)

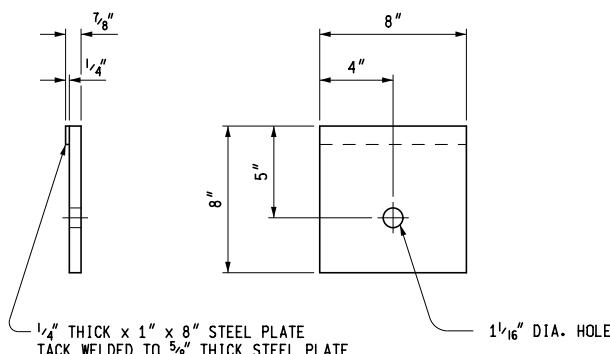
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

GUARDRAIL DEPARTING TERMINAL TYPES B, T, & MGS



TERMINAL END SHOE,
TYPE B OR TYPE MGS

TERMINAL END SHOE, TYPE T



BEARING PLATE

NOTES:

ALL POSTS, OFFSET BLOCKS, BEAM ELEMENTS, AND HARDWARE (INCLUDING BOLTS, NUTS, AND WASHERS) SHALL CONFORM TO THE CURRENT STANDARD SPECIFICATIONS AND TO THE CURRENT STANDARD PLAN R-60-SERIES, WHERE APPLICABLE, EXCEPT AS SPECIFIED ON THIS STANDARD.

ALL 1:10 SLOPES SHALL BE GRADED TO CLASS A SLOPE TOLERANCES.

FOR DETAILS OF GUARDRAIL PLACEMENT, SEE STANDARD PLAN R-59-SERIES.

AFTER THE CABLE ASSEMBLY HAS BEEN TIGHTENED, A SECOND NUT SHALL BE INSTALLED ON EACH END OF THE CABLE SO THAT THE CABLE WILL NOT LOOSEN.

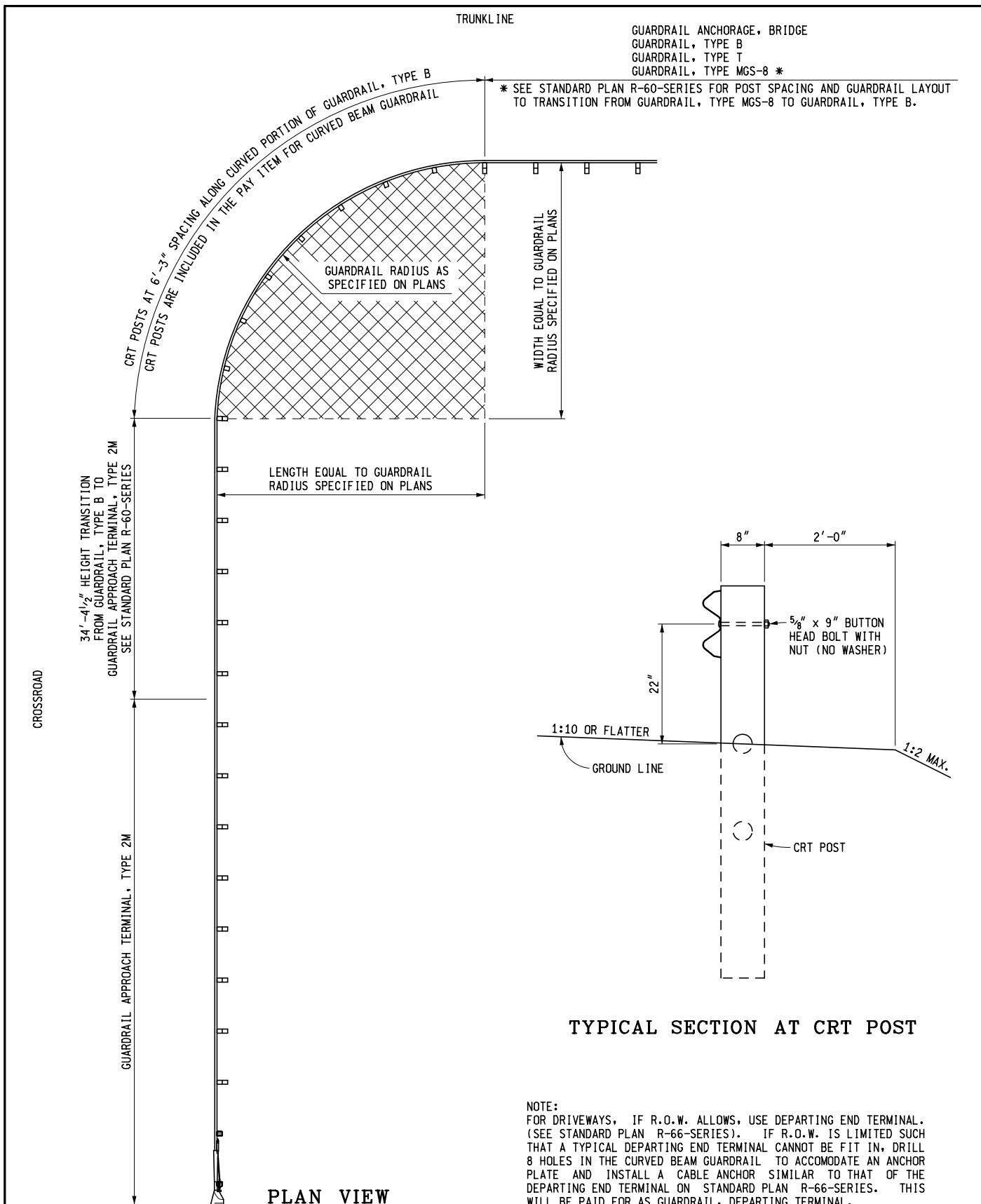
TWO HOT-DIP ZINC COATED NAILS SHALL BE DRIVEN INTO THE WOOD POST AT THE TOP OF THE BEARING PLATE TO KEEP THE BEARING PLATE FROM ROTATING.



POST SLEEVE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**GUARDRAIL DEPARTING
TERMINAL TYPES B, T, & MGS**



NOTE:
FOR DRIVEWAYS, IF R.O.W. ALLOWS, USE DEPARTING END TERMINAL.
(SEE STANDARD PLAN R-66-SERIES). IF R.O.W. IS LIMITED SUCH
THAT A TYPICAL DEPARTING END TERMINAL CANNOT BE FIT IN, DRILL
8 HOLES IN THE CURVED BEAM GUARDRAIL TO ACCOMMODATE AN ANCHOR
PLATE AND INSTALL A CABLE ANCHOR SIMILAR TO THAT OF THE
DEPARTING END TERMINAL ON STANDARD PLAN R-66-SERIES. THIS
WILL BE PAID FOR AS GUARDRAIL, DEPARTING TERMINAL.



PREPARED
BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Steudle

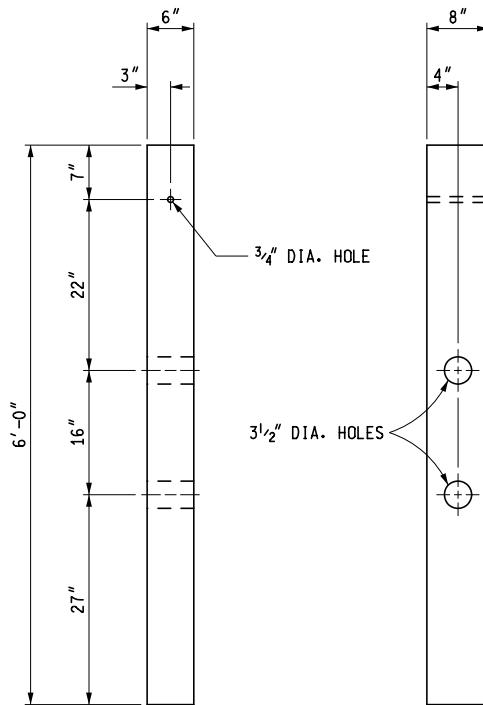
APPROVED BY: DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: DIRECTOR, BUREAU OF DEVELOPMENT 96

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT SPECIAL DETAIL

GUARDRAIL AT INTERSECTIONS

F.H.W.A. APPROVAL	4-9-2018	SPECIAL DETAIL 21	SHEET 1 OF 2
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CONTROLLED RELEASING TERMINAL POST
(CRT)

NOTES:

THE SLOPE IN FRONT OF THE INSTALLATION SHOULD NOT EXCEED 1:10 AND EXTEND TO 2'-0" BEYOND THE GUARDRAIL POST. THE SLOPE BEYOND THIS HINGE LINE SHALL BE 1:2 OR FLATTER.

THE CROSS HATCHED AREA BEHIND THE CURVED GUARDRAIL SHOULD BE KEPT FREE OF FIXED OBJECTS.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT SPECIAL DETAIL

GUARDRAIL AT INTERSECTIONS

BID FORM

PROJECT IDENTIFICATION:

GRAND TRAVERSE COUNTY ROAD COMMISSION
2022 HMA PROGRAM
CONTRACT #: 22E300

OWNER PROJECT NUMBER:

Project #	Road Name
20E015	Timber Hill Dr (SAD)**
22E310	Arbutus Hill Rd
22E313	Hilltop Rd
22E316	Supply Rd
22E319	Wilson Rd

**Special Assessment District project. Construction is contingent upon Township and HOA approval of submitted bid pricing.

THIS BID IS SUBMITTED TO:

GRAND TRAVERSE COUNTY ROAD
COMMISSION
1881 LAFRANIER ROAD
TRAVERSE CITY, MI 49696-8911

- 1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the Road Commission in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
- 2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance and the prices guaranteed for 45 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of the Road Commission.
- 3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:
 - A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged.

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions, including subsurface conditions, that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all federal, state and local laws, rules, and regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site which may have been provided, if any, and (2) reports and drawings of a Hazardous Environmental Condition, if any, which may have been provided.
- E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the materials, means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific materials, means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by the Road Commission and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.
- I. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- K. The Bidder understands that if it is the Successful Bidder, it is being selected by the Road commission to perform the Work because of Bidder's skill and expertise to perform the Work and Bidder specifically represents and agrees that it has the experience, knowledge, and competency necessary to perform the Work or oversee the performance of the Work and assumes the responsibility for the performance of the Work pursuant to the Contract documents and assumes the risk in performing the Work.

4.01 Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over the Road Commission.

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

UNIT PRICE BID:

See included bid blank:

Unit Prices have been computed in accordance with the Instructions to Bidders.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents.

6.01 Bidder agrees that the Work will be substantially completed and completed and ready for final payment in accordance with the General Specifications on or before the dates or within the number of calendar days indicated in the Contract Documents.

7.01 Bidder accepts the provisions of the Contract as to liquidated damages in the event of failure to complete the Work within the times specified above, which shall be stated in the Contract.

8.01 The required Bid security is attached to and made a condition of this Bid.

9.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Bidding Documents.

SUBMITTED on _____, 20____

Note to Bidders - Complete only one of the following three sections as appropriate for your business status: individual, partnership or corporation.

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

Business Address: _____

Phone: _____ Fax No.: _____

Email: _____

A Partnership

Name (typed or printed): _____

By: _____
(Authorized Individual's signature)

Doing business as: _____

Business Address: _____

Phone: _____ Fax No.: _____

Email: _____

A Corporation/Limited Liability Company/Professional Liability Company

Name (typed or printed): _____

State of Formation _____

Type: _____

By _____
(signature)

Name: _____
(type or printed)

Title _____

Business Address: _____

Phone: _____ Fax No.: _____

Email: _____



"Our mission is to upgrade and maintain
a safe and efficient road system"

BID BLANK

22E300 HMA Program

County Wide

Pay Item	Description	Quantity	Unit	Unit Price	Extended Price
1100001	Mobilization, Max 5% - 20E015	1.00	LSUM		\$ -
1100001	Mobilization, Max 5% - 22E310	1.00	LSUM		\$ -
1100001	Mobilization, Max 5% - 22E313	1.00	LSUM		\$ -
1100001	Mobilization, Max 5% - 22E316	1.00	LSUM		\$ -
1100001	Mobilization, Max 5% - 22E319	1.00	LSUM		\$ -
2030001	Culv, Rem, Less than 24 inch	11.00	Ea		\$ -
2040035	Guardrail, Rem	625.00	Ft		\$ -
2040050	Pavt, Rem	246.00	Syd		\$ -
2050006	Ditch Cleanout	7.81	Sta		\$ -
2050016	Excavation, Earth	4767.00	Cyd		\$ -
3010002	Subbase, CIP	3277.00	Cyd		\$ -
3020001	Aggregate Base	17878.00	Ton		\$ -
3050002	HMA Base Crushing and Shaping	68896.00	Syd		\$ -
3057011	_HMA Base Crushing and Shaping, Modified	3715.00	Syd		\$ -
3070021	Approach, CI II	25.00	Ton		\$ -
3070121	Shld, CI II	2891.00	Ton		\$ -
3070200	Trenching	1001.00	Sta		\$ -
3082002	Road Grade Biaxial Geogrid	622.00	Syd		\$ -
4010015	Culv End Sect, 15 inch	6.00	Ea		\$ -
4010048	Culv End Sect, Conc, 15 inch	6.00	Ea		\$ -
4010049	Culv End Sect, Conc, 18 inch	4.00	Ea		\$ -
4010051	Culv End Sect, Conc, 24 inch	2.00	Ea		\$ -
4010095	Culv End Sect, Metal, 15 inch	16.00	Ea		\$ -
4010574	Culv, CI E, Conc, 15 inch	123.00	Ft		\$ -
4010575	Culv, CI E, Conc, 18 inch	123.00	Ft		\$ -
4010576	Culv, CI E, Conc, 24 inch	49.20	Ft		\$ -
4010608	Culv, CI F, 15 inch	366.00	Ft		\$ -
4040063	Underdrain, Subbase, 6 inch	2016.00	Ft		\$ -
4040093	Underdrain Outlet, 6 inch	244.00	Ft		\$ -
4040113	Underdrain, Outlet Ending, 6 inch	11.00	Ea		\$ -
5010005	HMA Surface, Rem	857.00	Syd		\$ -
5010061	HMA Approach	227.00	Ton		\$ -
5012025	HMA, 4EML	12369.00	Ton		\$ -



"Our mission is to upgrade and maintain
a safe and efficient road system"

5012037	HMA, 5EML	6311.00	Ton	\$	-
8010005	Driveway, Nonreinf Conc, 6 inch	236.00	Syd	\$	-
8020016	Curb and Gutter, Conc, Det B2	1870.00	Ft	\$	-
8020055	Shld Gutter, Conc, Det 1	2.00	Ea	\$	-
8020056	Shld Gutter, Conc, Det 2	4.00	Ea	\$	-
8020057	Shld Gutter, Conc, Det 3	1.00	Ea	\$	-
8050010	Curb Slp, HMA	11083.00	Ft	\$	-
8070004	Guardrail, Type MGS-8	3809.375	Ft	\$	-
8070012	Guardrail, Curved, Type MGS-8	75.00	Ft	\$	-
8070044	Guardrail Approach Terminal, Type 2M	15.00	Ea	\$	-
8070050	Guardrail Departing Terminal, Type B	2.00	Ea	\$	-
8070075	Guardrail, Salv	950.00	Ft	\$	-
8070095	Post, Mailbox	68.00	Ea	\$	-
8100371	Post, Steel, 3 lb	30.00	Ft	\$	-
8100405	Sign, Type IIIB	26.00	Sft	\$	-
8110231	Pav Mrkg, Waterborne, 4 inch, White	98026.00	Ft	\$	-
8110232	Pav Mrkg, Waterborne, 4 inch, Yellow	36075.00	Ft	\$	-
8127051	_Temporary Traffic Control - 22E310	1.00	LSUM	\$	-
8127051	_Temporary Traffic Control - 22E313	1.00	LSUM	\$	-
8127051	_Temporary Traffic Control - 22E316	1.00	LSUM	\$	-
8127051	_Temporary Traffic Control - 22E319	1.00	LSUM	\$	-
8130010	Riprap, Plain	217.00	Syd	\$	-
8147011	_HMA Spillway	285.00	Syd	\$	-
8167011	_Slope Restoration, Type C	25615.00	Syd	\$	-
8210005	Monument Box Adj	4.00	Ea	\$	-
8210010	Monument Preservation	4.00	Ea	\$	-



"Our mission is to upgrade and maintain
a safe and efficient road system"

Contract Total Amount (Words):

Contract Total Amount (Number): \$ -

Contractor Name Date

AFFIDAVIT OF NON-COLLUSION BY CONTRACTOR

STATE OF MICHIGAN)
)
COUNTY OF _____)

I, _____, the _____ of _____, state:

1. That I have submitted a bid to the Grand Traverse County Road Commission.
2. That the bid was not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization, or corporation.
3. That the bid is genuine and not collusive or a sham.
4. That I have not directly or indirectly by agreement, communication, or conference with anyone, attempted to induce action prejudicial to the interest of the Grand Traverse County Road Commission or of any other bidder, or anyone else interested in the proposed contract.
5. That prior to the public opening and reading of the bids, I:
 - a. Did not directly or indirectly induce or solicit anyone else to submit a false or sham bid.
 - b. Did not directly or indirectly collude, conspire, connive, or agree with anyone else that I or anyone would submit a false or sham bid or that anyone should refrain from bidding or withdraw a bid.
 - c. Did not, in any manner, directly or indirectly, seek by agreement, communication, or conference with anyone to raise or fix the bid of said bidder or of anyone else or to raise or fix any overhead, profit, or cost element of a bid price of that of anyone else.
 - d. Did not, directly or indirectly, submit a bid price or any breakdown thereof, or the contents thereof, or divulge information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof or to any individual or group of individuals, except to any person or persons who have a partnership or other financial interest with me in my business.

Its:

Subscribed and sworn to before me this ____ day of _____, 20____.

Notary Public

Acting in _____ Co., MI
My Commission Expires: _____