SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING

- 1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
- 2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL. SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO SECTION 204.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS).
- IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.
- 3. COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.
- 4. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06

- 5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAYMENT, PAVED SHOULDERS, OR PAVED MEDIANS.
- 6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO C&MS 204.06 TO VERIFY STABILITY.
- 7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204, EXCAVATION OF SUBGRADE.

PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

ITEM 617 - COMPACTED AGGREGATE

COMPACTED AGGREGATE TO BE PLACED IN AREAS WITH DEFICIENT TREATED SHOULDER WIDTH, FOR SIMPLICITY, THE WIDTH OF THE COMPACTED AGGREGATE WAS CALCULATED AS AN AVERAGE 4' WIDTH FROM THE EDGE OF THE PAVED SHOULDER. THE COMPACTED AGGREGATE IS TO BE PLACED AT A 3" DEPTH OR AS SPECIFIED BY THE ENGINEER. ALL WORK SHALL BE IN ACCORDANCE WITH ITEM 617 OF THE ODOT C&MS.

ITEM 606 - IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL), AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING THE TYPE 2 IMPACT ATTENUATOR (QUADGUARD 11 - QG210024) AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS AS SPECIFIED. THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS THE FACE OF THE IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2 [(60 MPH), HAZARD WIDTH (24 INCHES), (BIDIRECTIONAL)], AS PER PLAN, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS. EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE AND GRADING NOT SEPERATELY SPECIFIED AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.

THE CONTRACTOR SHALL USE A NCHRP 350, TL-3 APPROVED SYSTEM FOR THE NHS AND ENSURE THAT THE LENGTH OF SELECTED UNIT SHALL FIT WITHIN THE FOOTPRINT OF LOCATIONS SHOWN IN THE PLAN. THIS ITEM 606 SHALL INCLUDE AGGREGATE BASE FOR THE PROPOSED IMPACT ATTENUATOR. AS DIRECTED BY THE ENGINEER.

PLAN NOTE DIGITAL DATA FOR MATERIAL TICKETING UTILIZING E-TICKETING PORTAL

DESCRIPTION.

THIS WORK CONSISTS OF PROVIDING DIGITAL DATA FOR PILOTING DIGITAL INFORMATION TRANSFER FOR MATERIAL WEIGHT TICKET INFORMATION FOR THE FOLLOWING:

AGGREGATE ASPHALT CONCRETE PORTLAND CONCRETE

PROVIDE MATERIAL TICKET INFORMATION IN A DIGITAL FORMAT DIRECTLY RECORDED FROM THE MATERIAL LOADING SOURCE.

THIS NOTE IN NO WAY SUPERSEDES ANY OTHER COMMERCIAL REGULATIONS OR ANY OTHER LEGAL REQUIREMENTS REGULATING THE TRANSPORTATION OF COMMERCIAL MATERIALS. THIS DOES NOT PRECLUDE OR DISMISS ANY REQUIREMENT FOR PAPER TICKETS. REQUIRED BY OTHER RULES AND REGULATIONS.

REQUIREMENTS:

SEND DIGITAL TICKET INFORMATION TO THE DEPARTMENT'S DIGITAL TICKETING PORTAL AS THE INDIVIDUAL MATERIAL LOADS ARE GENERATED AND SHIPPED TO THE PROJECT. THE DIGITAL MATERIAL TICKET SHALL CONTAIN INFORMATION AS REQUIRED PER THE APPLICABLE MATERIAL SPECIFICATION FOR WEIGHT MEASUREMENT AND OTHER MATERIAL CHARACTERISTICS

THE DEPARTMENT WILL REJECT ANY LOAD THAT DOES NOT HAVE A CORRESPONDING ETICKET UNLESS THE CAUSE IS BEYOND THE CONTRACTOR'S CONTROL. IN SUCH CIRCUMSTANCES, PAPER TICKETS MAY BE PERMITTED.

SETUP, CALIBRATION, AND DATA INTEGRATION:

SUPPLIERS SHALL COOPERATE WITH THE DEPARTMENT AND THE DEPARTMENT'S ETICKETING VENDOR TO ESTABLISH DIGITAL INFORMATION TRANSFER FROM THE SUPPLIERS TICKETING SYSTEM TO THE DEPARTMENT'S ETICKETING PORTAL. NO EARLIER THAN 14 DAYS AFTER PROJECT EXECUTION BUT NOT LATER THAN 30 DAYS PRIOR TO INITIATING WORK, IDENTIFY IN WRITING THE MATERIAL SOURCE LOAD READ-OUT WEIGHING SYSTEM THE SUPPLIER UTILIZES.

THE MATERIAL SUPPLIER SHALL COOPERATE WITH ODOT'S ETICKETING PORTAL VENDOR IN THE CREATION OF AN APPLICATION PROGRAMMING INTERFACE (API) TO INTEGRATE MATERIAL SOURCE LOAD READ-OUT DATA WITH THE DEPARTMENT'S ETICKETING PORTAL. THE DEPARTMENT'S ETICKETING PORTAL VENDOR SHALL BE RESPONSIBLE FOR LEADING THE API CREATION. UPON API CREATION, UTILIZE THE API TO PROVIDE DIGITAL MATERIAL SOURCE LOAD READ-OUT DATA FROM THE MATERIAL SOURCE LOAD READ-OUT WEIGHING SYSTEM TO THE DEPARTMENT'S ETICKETING

CONDUCT A TEST OF EACH SUPPLIER'S INTEGRATION WITH THE DEPARTMENT'S ETICKETING PORTAL PRIOR TO SHIPPING MATERIAL TO THE PROJECT. COMPLETE TEST AT LEAST 14 DAYS PRIOR TO SHIPPING MATERIAL UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE TEST MUST INVOLVE AT LEAST FOUR TEST ETICKETS FROM EACH SUPPLIER APPROVED FOR USED ON THE PROJECT FOR MATERIALS TO BE USED ON THE PROJECT. THE TEST ETICKETS MUST ACCURATELY REFLECT THE PROPER NOMENCLATURE AND ACCURACY DEFINED: ALL OTHER CATEGORIES SHALL BE MARKED "TEST". AFTER THE ENGINEER CONFIRMS THE TEST ETICKETS HAVE BEEN ENTERED INTO THE DEPARTMENT'S ETICKET PORTAL, VOID THE TEST ETICKETS WITH THE REASON "SETUP TESTING". IF ANY LOAD READ-OUT WEIGHING SYSTEM CHANGES ARE INTENDED BY THE SUPPLIER AFTER THE CREATION OF THE SUPPLIER SPECIFIC API, COORDINATE WITH THE ODOT TO ENSURE API COMPATIBILITY.

PLAN NOTE DIGITAL DATA FOR MATERIAL TICKETING UTILIZING E-TICKETING PORTAL (CONT)

ENSURE CONTINUED INTERNET CONNECTIVITY DURING THE API USAGE TO MAINTAIN CONNECTION THE DEPARTMENT'S ETICKETING PORTAL DURING MATERIAL PRODUCTION AND DELIVERY TO THE PROJECT. ENSURE DELIVERY OF ETICKET PRIOR TO THE MATERIAL ARRIVING ON THE PROJECT, BUT NOT PRIOR TO THE LOADING OF MATERIAL AT THE SOURCE.

UPON SUCCESSFUL TESTING OF THE DATA INTEGRATION, PHYSICAL MATERIAL TICKETS FOR THE DEPARTMENT WILL NOT BE REQUIRED.

FOR INITIAL SETUP OF THE API INTEGRATION, THE MATERIAL VENDORS SHALL ASSUME APPROXIMATELY 16 PERSON HOURS AND SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE MATERIAL. FOR EXTREME SITUATIONS INVOLVING EXCESSIVE ESTABLISHMENT OF THE API AND DIGITAL INFORMATION TRANSFER, NOTIFY THE ENGINEER PER CMS 104.02.

THE COST ASSOCIATED WITH CREATING AND MAINTAINING AN API AND PROVIDING DIGITAL TICKETING DATA IS INCIDENTAL TO THE COST OF THE ITEM UTILIZING THE MATERIAL BEING PLACED.



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PHASE 1--CONSTRUCT PROPOSED C.R. 20 MEDIAN PAVEMENT AT RAMP G AND PROPOSED COUNTY ROAD 20 DRIVE ACCESS MEDIAN CROSSOVER.

- 1. CLOSE LEFT LANE OF EASTBOUND AND WESTBOUND C.R. 20 (WEST STATE STREET) USING A DESIGN SPEED OF 45 MPH WESTBOUND AND 45 MPH EASTBOUND AND MT-95.30 (CLOSING RIGHT OR LEFT LANE OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS).
- 2. CONSTRUCT DRIVE CROSSOVER EAST OF THE U.S. 6 OVERPASS NEAR STA. 258+50. TO REMAIN CLOSED UNTIL NEW RAMP G IS COMPLETED. MAINTAIN ACCESS TO MADISON MOTORS AT ALL TIMES
- 3. CONSTRUCT CROSSOVER FOR PROPOSED RAMP G AND LEAVE CLOSED OFF USING MT-98.30 (INTERSECTION ENTRANCE RAMP AND TURN BAY CLOSURE).
- 4. DRUM OFF THE EXISTING T.R. 138 CROSSOVER ALONG SOUTH (LEFT-HAND) EDGE LINE OF WESTBOUND C.R. 20 (WEST STATE STREET).
- 5. DRUM OFF THE EXISTING T.R. 138 CROSSOVER ALONG NORTH (RIGHT-HAND) EDGE LINE OF WESTBOUND U.S. 20.
- 6. CLOSE THE LEFT-HAND LANE OF WESTBOUND U.S. 20 USING A DESIGN SPEED OF 60 MPH, MT-95.30 (CLOSING RIGHT OR LEFT LANE OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS).
- 7. CLOSE THE NORTH (LEFT-HAND) LANE OF EASTBOUND C.R. 20 (WEST STATE STREET) USING A DESIGN SPEED OF 60 MPH AND MT-95.30 (CLOSING RIGHT OR LEFT LANE OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS).

PHASE 2-CONSTRUCT PROPOSED RAMP G (C.R. 20 ((WEST STATE STREET TO WESTBOUND U.S. 6)) AND WIDENING OF U.S. 6 SOUTH OF C.R. 20 (PREVIOUSLY NOTED AS PHASE 3, THUS ELIMINATE PHASE 3 FROM THE PLANS AND RENUMBER YOUR REMAINING PHASES).

- 1. SWITCH EB W STATE STREET LEFT LANE CLOSURE (FROM PHASE 1) TO RIGHT LANE CLOSURE.
- 2. DETOUR RAMP G AS SHOWN IN THESE PLANS. CLOSURE TO BE LIMITED TO 70 CALENDAR DAYS.
- 3. CONSTRUCT PAVEMENT FOR MAINTAINING TRAFFIC ALONG EASTERN SHOULDER OF US 6 SOUTH OF C.R. 20
 - A. CLOSURE OF WB/SB U.S. 6 LIMITED TO 4 DAYS FOR INSTALLATION OF THE PAVEMENT FOR MAINTAINING TRAFFIC/CONCRETE BARRIER WALL AND REALIGNMENT OF TRAFFIC LANES ON US 6 SOUTH OF C.R. 20
 - I. CLOSE WB/SB US 6 AT RAMP TO WB 20 (STATION
 - DETOUR OF WB/SB US 6: WB 20 TO SB 590 TO US 6.
 - III. SHIFT EB/NB US 6 OVER TO WB/SB LANES OF US 6 BETWEEN STATIONS 500+75 AND 516+27
 - IV. INSTALL PAVEMENT FOR MAINTAINING TRAFFIC.
 - INSTALL TEMPORARY PAVEMENT MARKINGS
 - SHIFT EB/NB US 6 ONTO NEWLY INSTALLED PAVEMENT FOR MAINTAINING TRAFFIC.
 - VII. INSTALL CONCRETE BARRIER WALL ALONG WB/SB 115 6
 - VIII. REOPEN WB/SB US 6
- 4. CONSTRUCT WIDENING OF U. S. 6 AND RAMP G ALONG WEST SIDE OF THE ROADWAY
- 5. CLOSE WB/SB US 6 AT WB 20 (STATION 805+00+/-) FOR UP TO 4 DAYS FB/NB US 6 TO REMAIN OPEN
 - A. REMOVE CONCRETE BARRIER WALL.
 - COMPLETE MILL/FILL, PAVEMENT MARKINGS FROM SOUTH END OF PROJECT UP TO C.R. 20 BY SHIFTING THE EB/NB TRAFFIC TO THE WB/SB LANES WHEN NECESSARY.

PHASE 3A--REMOVE T.R. 138 CROSSOVER (NORTH)

1. REMOVE PAVEMENT BETWEEN WESTBOUND C.R. 20 (WEST STATE STREET) AND WESTBOUND U.S. 20.

PHASE 3B--REMOVE T.R. 138 CROSSOVER (SOUTH)

- 1. REMOVE THE EXISTING PAVEMENT.
- 2. RESURFACE T.R. 138, MODIFY SIGNING AND PAVEMENT MARKINGS TO RIGHT-IN/RIGHT-OUT.

PHASE 4--EASTBOUND C.R. 20 (WEST STATE STREET) FROM U.S. 20 EXIT GORE TO PROJECT END

- 1. INSTALL ADVANCE OVERHEAD SIGN SUPPORTS ON EASTBOUND U.S. 20 NORTHWEST OF GORE USING A DESIGN SPEED OF 65 MPH AND MT-95.45 (CLOSING SHOULDER OF A MULTI-LANE DIVIDED HIGHWAY). IF PROPOSED OVERHEAD SIGN SUPPORTS ARE NOT AVAILABLE, MODIFY THE EXISTING SIGNS WITH TEMPORARY OVERLAY.
- 2. INSTALL LANE DROP SIGNING AND MARKING ON THE SOUTH (RIGHT-HAND) LANE OF EASTBOUND U.S. 20 NORTHWEST OF GORE USING A DESIGN SPEED OF 65 MPH AND MT-99.20 (TRAFFIC CONTROL FOR LINE PAVEMENT MARKING OPERATIONS).
- 3. CLOSE THE RIGHT LANE OF EASTBOUND U.S. 20 AND CLOSE THE LEFT LANE OF EASTBOUND C.R. 20 (WEST STATE STREET) USING A MAINLINE DESIGN SPEED OF 65 MPH AND MT-98.20 (LANE CLOSURE AT EXIT RAMP USING DRUMS).
- 4. RESURFACE WESTBOUND C.R. 20.

PHASE 5A--RESURFACE EASTBOUND U.S. 20 (E.B. RAMPS B AND F) AND EASTBOUND U.S. 6.

- 1. RESURFACE EASTBOUND U.S. 20 AND EASTBOUND U.S. 6 USING A DESIGN SPEED OF 65 MPH AND MT-95.30 (CLOSING RIGHT OR LEFT LANE OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS).
- 2. STRIPE/SIGN COMPLETED PAVEMENT USING MT-99.20 (TRAFFIC CONTROL FOR LONG LINE PAVEMENT MARKING OPERATIONS).

PHASE 5B--RESURFACE RAMP H.

- 1. DETOUR TRAFFIC FROM RAMP H. CLOSURE TO BE LIMITED TO 4 CALENDAR DAYS
- 2. RESURFACE RAMP H USING A MAINLINE DESIGN SPEED OF 65 MPH AND MT-98.20 (LANE CLOSURE AT EXIT RAMP USING DRUMS).
- 3. STRIPE/SIGN COMPLETED PAVEMENT USING MT-99.20 (TRAFFIC CONTROL FOR LONG LINE PAVEMENT MARKING OPERATIONS).

PHASE 6--RESURFACE WESTBOUND U.S. 20 (W.B. RAMPS A AND E), WESTBOUND U.S. 6

- 1. INSTALL ADVANCE OVERHEAD SIGN SUPPORTS ON WESTBOUND U.S. 6/U.S. 20 EAST OF GORE USING A DESIGN SPEED OF 65 MPH AND MT-95.45 (CLOSING SHOULDER OF A MULTI-LANE DIVIDED HIGHWAY). IF PROPOSED OVERHEAD SIGN SUPPORTS ARE NOT AVAILABLE, MODIFY THE EXISTING SIGNS WITH TEMPORARY OVERLAY.
- 2. INSTALL LANE DROP SIGNING AND MARKING ON WESTBOUND U.S. 6/U.S. 20 EAST OF GORE USING MT-99.20 (TRAFFIC CONTROL FOR LONG LINE PAVEMENT MARKING OPERATIONS).
- 3. CLOSE THE SOUTH (LEFT-HAND) LANE OF WESTBOUND U.S. 20 USING A DESIGN SPEED OF 65 MPH, MT-95.30 (CLOSING RIGHT OR LEFT LANE OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS) AND MT-95.30 (SUPPLEMENTAL ADVANCED SIGNS USED WITH LANE CLOSURES FROM THE GORE TO JUST WEST OF THE INTERSECTION WITH T.R. 138.
- 4. RESURFACE THE SOUTH (LEFT-HAND) HALF OF THE PAVEMENT FROM THE GORE TO JUST WEST OF THE INTERSECTION WITH T.R. 138.
- 5. CLOSE THE NORTH (RIGHT-HAND) LANE OF WESTBOUND U.S. 20 USING A DESIGN SPEED OF 65 MPH, MT-95.30 (CLOSING RIGHT OR LEFT LANE OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS) AND MT-95.30 (SUPPLEMENTAL ADVANCED SIGNS USED WITH LANE CLOSURES) FROM THE GORE TO JUST WEST OF THE INTERSECTION WITH T.R. 138.

DESIGNATED LOCAL DETOUR ROUTE

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE." THIS ROUTE IS SHOWN ON SHEET NO. 21. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN. THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DETERMINED BY THE ENGINEER.

THE REPLACEMENT PAVEMENT FOR ITEM 253, PAVEMENT REPAIR SHALL CONSIST OF 1.25" ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, ITEM 407, TACK COAT PLACED ON 5" OF ITEM 301, ASPHALT CONCRETE BASE, PG64-22.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DETERMINED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE.

ITEM 253, PAVEMENT REPAIR 20 CU. YD. ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1. PG 64-22 20 CU. YD. ITEM 407, TACK COAT 20 GAL ITEM 617, COMPACTED AGGREGATE 50 CU. YD. ITEM 642, CENTER LINE 1.0 MILE

OVERHEAD SIGN WORK SCHEDULING

DEPENDING ON AVAILIBILTY/DELIVERY SCHEDULING OF THE OVERHEAD SIGN SUPPORTS IT MAY BE NECESSARY TO DELAY FINALIZING PHASES 5-7. THE CONTRACTOR SHALL NOT OPEN THE RECONFIGURED LANES UNTIL THE PROPOSED OVERHEAD SIGNING IS INSTALLED.



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