

MDOT JOB NUMBER: 128988A
MDOT CONTROL SECTION: EDF 76566

CITY OF OWOSSO SHIAWASSEE COUNTY, MICHIGAN

GOULD STREET RESURFACING M-71 (CORUNNA AVE.) TO M-21 (MAIN ST.) NOVEMBER 2015

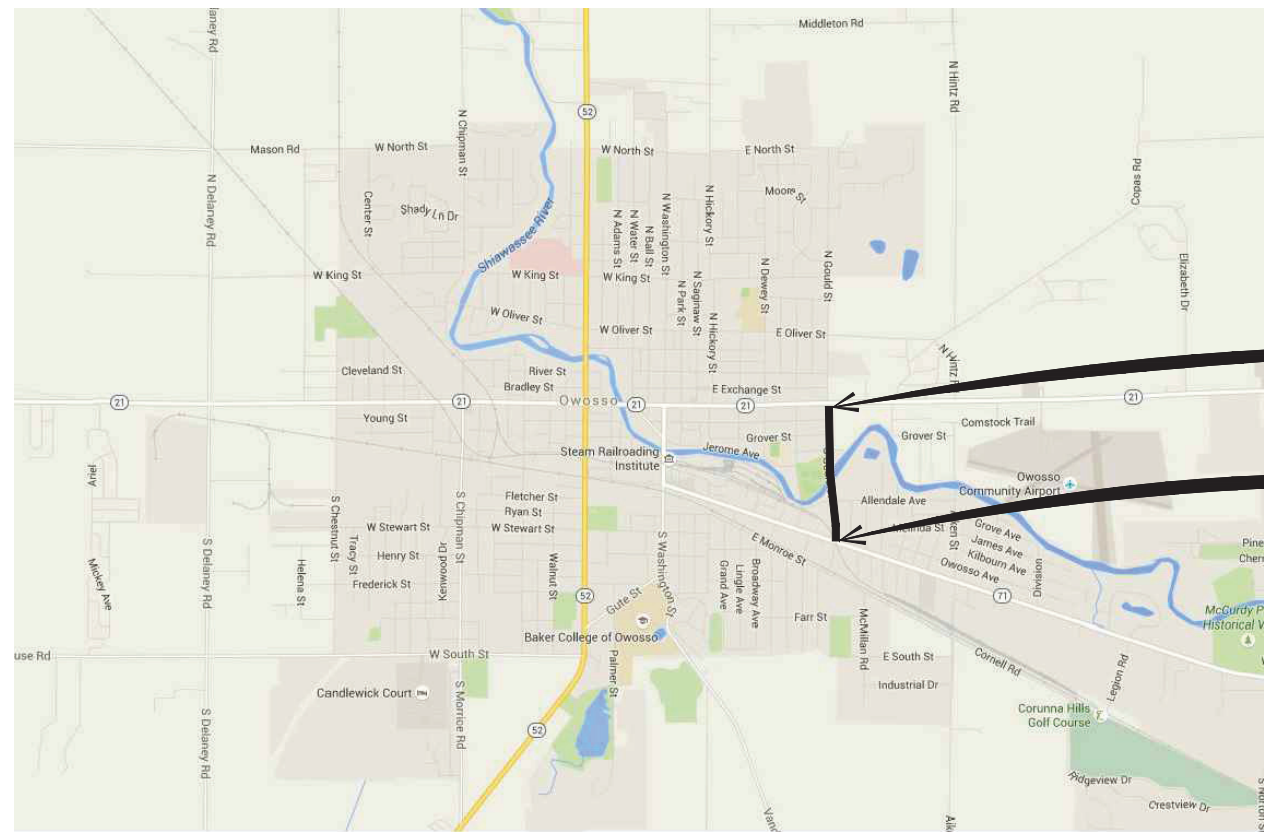


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CITY OF OWOSSO, SHIAWASSEE COUNTY
GOULD STREET RESURFACING

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P.O.E. STATION
49+13
PROJECT
LOCATION
P.O.B. STATION
21+34

LOCATION MAP

UTILITY CONTACTS

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OWOSSO, MI 48867
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WATER:
CITY OF OWOSSO WATER DEPT.
ATTN: GARY BURK
301 W. MAIN STREET
OWOSSO, MI 48867
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GAS:
CONSUMERS ENERGY
ATTN: DOUG FURMAN
530 WEST WILLOW STREET
LANSING, MI 48906
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SANITARY SEWER:
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301 W. MAIN STREET
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ELECTRIC:
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RAILROAD:
GREAT LAKES CENTRAL RAILROAD
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CATV:
CHARTER COMMUNICATIONS
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737 W. MAIN STREET
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CITY ENGINEER:
CITY OF OWOSSO
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301 W. MAIN STREET
OWOSSO, MI 48867
PHONE: (989) 725-0553

CITY OF OWOSSO APPROVAL:

Randy Chesney

12/08/2015

RANDY J. CHESNEY, P.E., CITY ENGINEER
CITY OF OWOSSO, MICHIGAN

DATE

PLANS PREPARED UNDER SUPERVISION OF:



Geric L. Rose,
P.E./P.S.

Digitally signed by Geric L. Rose, P.E./P.S.
DN: cn=Geric L. Rose, P.E./P.S., o=Fleis & VandenBrink Engineering, Inc., ou= email=grrose@fveng.com, c=US
Date: 2015.12.08 11:26:18 -05'00'

GERIC L. ROSE, P.E., P.S.
FLEIS & VANDENBRINK ENGINEERING, INC.
REGISTERED PROFESSIONAL ENGINEER No. 55609

DATE

GENERAL NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, AS AMENDED, THE CONTRACTOR SHALL DIAL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED.

THE PLACING OF PAVEMENT MARKING AND TRAFFIC CONTROL SIGNS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2011 EDITION, AS AMENDED.

THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH SECTION C (3R) OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION LOCAL AGENCY PROGRAMS GUIDELINES FOR GEOMETRICS, DATED AUGUST 28, 2008.

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AS AMENDED BY SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

NOVEMBER 2015

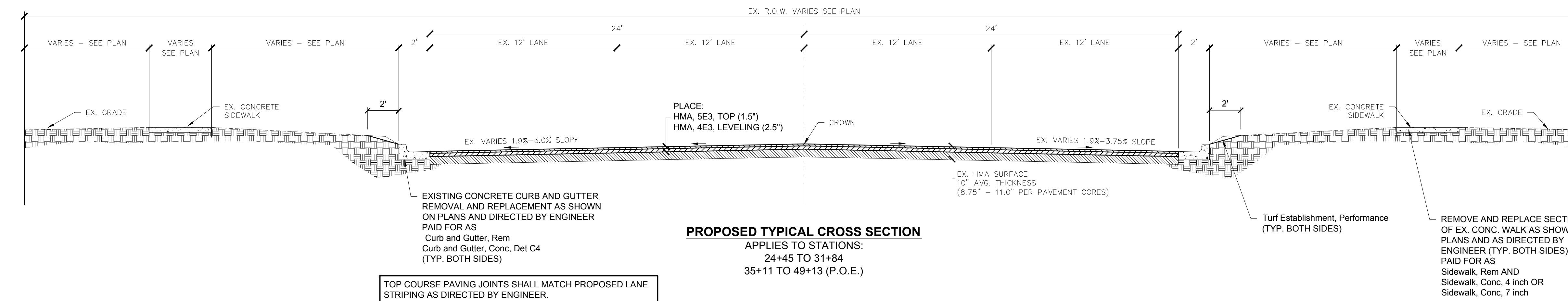
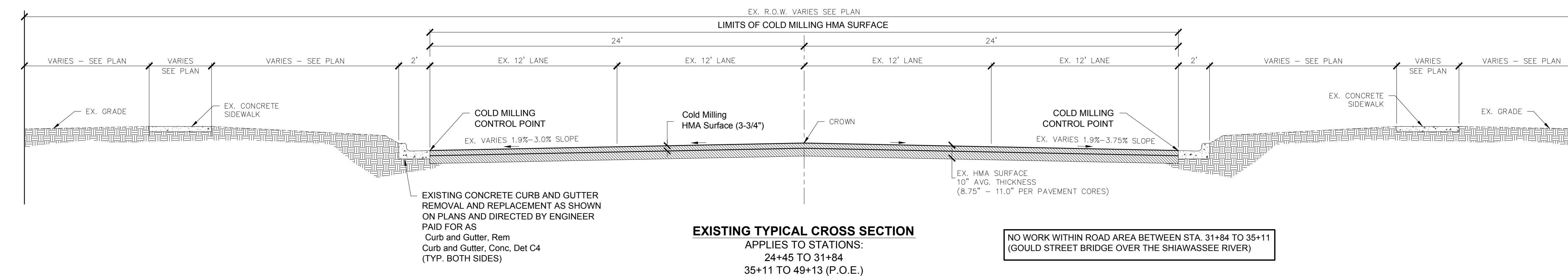
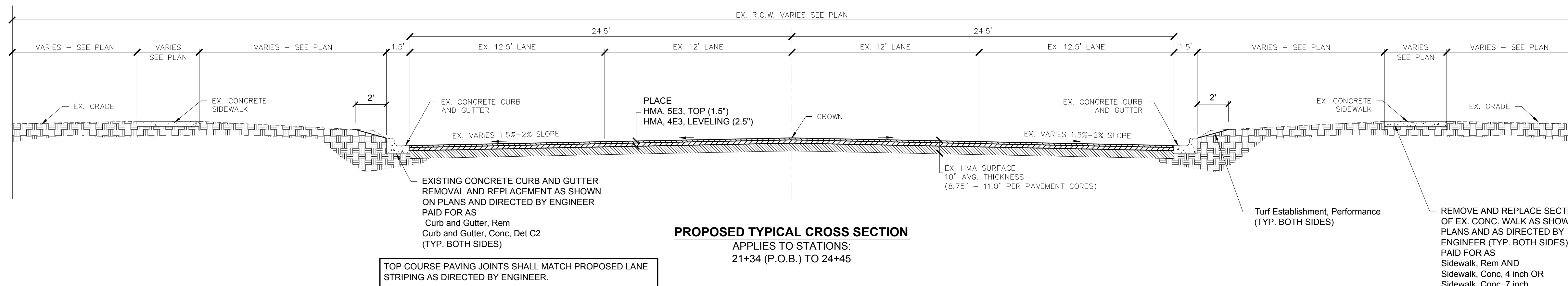
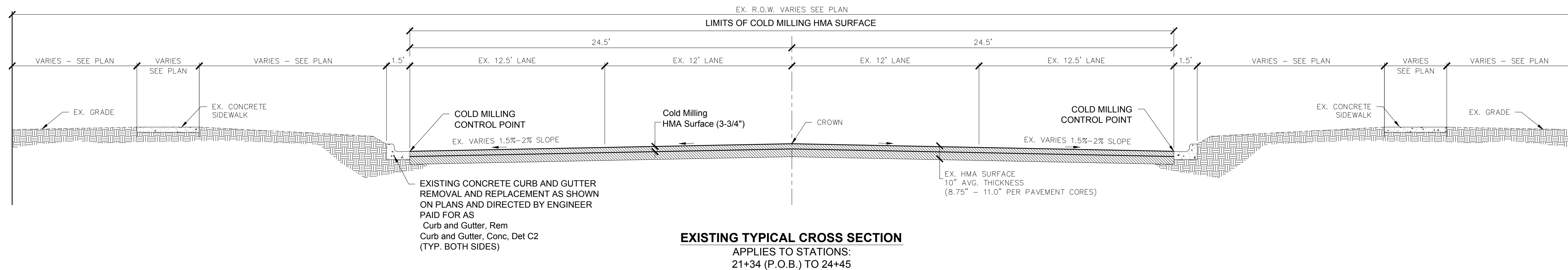
FAV PROJECT NO.
823450

REVISION:

CITY OF OWOSO
SHIAWASSEE COUNTY, MICHIGAN
GOULD STREET RESURFACING
TYPICAL CROSS SECTIONS

DESIGN TEAM:
GLR, DPH
CHECK BY:
S.J.N. NOV 2015
DRAWING INFORMATION:
823450_02
11/19/15 gml/cfr

NOVEMBER 2015
REV PROJECT NO.
823450



REVISION:

CITY OF OWOSSO
SHIAWASSEE COUNTY, MICHIGAN
GOULD STREET RESURFACING
DETAILS, NOTES AND LEGEND

DESIGN TEAM:
GLR, DPH
CHECK BY:
S.J.N. NOV 2015
DRAWING INFORMATION:
823450_03
112515 gnt/cr

NOVEMBER 2015
REV PROJECT NO.
823450

SIDEWALK AND SIDEWALK RAMP NOTE:

SIDEWALK RAMPS SHALL BE DONE IN ACCORDANCE WITH THE MDT 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MDT STANDARD PLAN R-28 SERIES, EXCEPT AS MODIFIED HEREIN. THE PORTION OF RAMP NEAREST THE CURB AND GUTTER SHALL BE 7-INCHES THICK AS IDENTIFIED ON THE SIDEWALK RAMP DETAILS. THE REMAINDER OF THE RAMP SHALL BE 4-INCHES THICK. THE PAY ITEMS FOR Sidewalk Ramp, Conc. 7 inch, SHALL INCLUDE ALL EXCAVATION AND EMBANKMENT NECESSARY TO CONSTRUCT EACH ITEM AND ALL WORK NECESSARY TO SAW AND TRIM EDGES OF EXISTING CONCRETE. EXCAVATION AND EMBANKMENT WILL NOT BE PAID FOR SEPARATELY AND SHALL INCLUDE REMOVAL OF ANY COMPACTED AGGREGATE MATERIAL USED FOR A TEMPORARY SURFACE.

DETECTABLE WARNING SURFACES SHALL BE RED IN COLOR, INSTALLED ONTO FRESH CONCRETE, AND IN ACCORDANCE WITH MDT STANDARD PLAN R-28 SERIES.

SIDEWALKS LOCATED WITHIN DRIVEWAYS SHALL BE 7-INCHES THICK AND WILL BE PAID FOR AS Sidewalk, Conc. 7 inch.

M.D.O.T. STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR IN THE PLANS, THEY ARE TO CONFORM TO THE CURRENT STANDARD PLAN SERIES GIVEN BELOW UNLESS OTHERWISE INDICATED.

PLAN SERIES	TITLE
*R-1-G	DRAINAGE STRUCTURES
R-7-F	COVER B
R-12-E	COVER G
R-15-F	COVER K
R-28-I	SIDEWALK RAMP AND DETECTABLE WARNING DETAILS
R-29-I	DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS
R-30-G	CONCRETE CURB AND CONCRETE CURB & GUTTER
R-60-I	GUARDRAIL, TYPES A, B, BD, T, & TD
*R-62-H	GUARDRAIL APPROACH TERMINAL TYPES 2B & 2T (SKT)
*R-83-C	UTILITY TRENCHES
R-96-E	SOIL EROSION & SEDIMENTATION CONTROL MEASURES

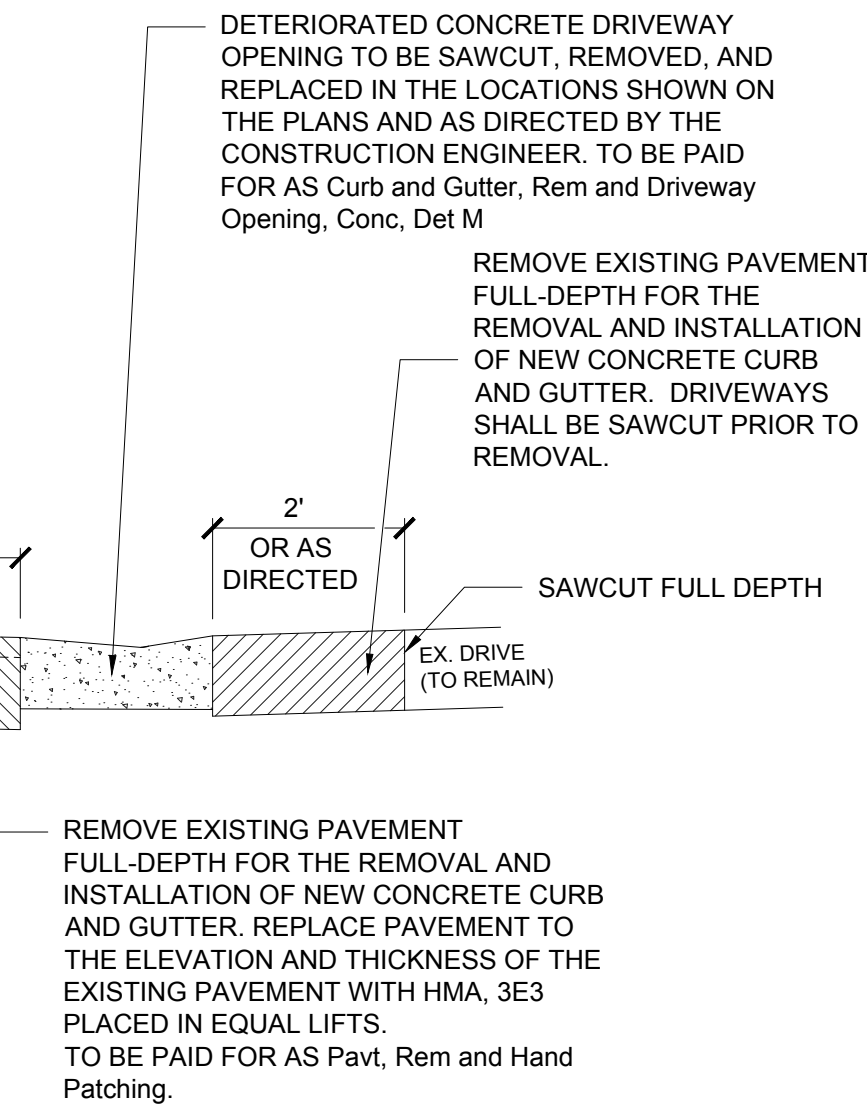
M.D.O.T. TRAFFIC AND SAFETY STANDARD PLANS

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

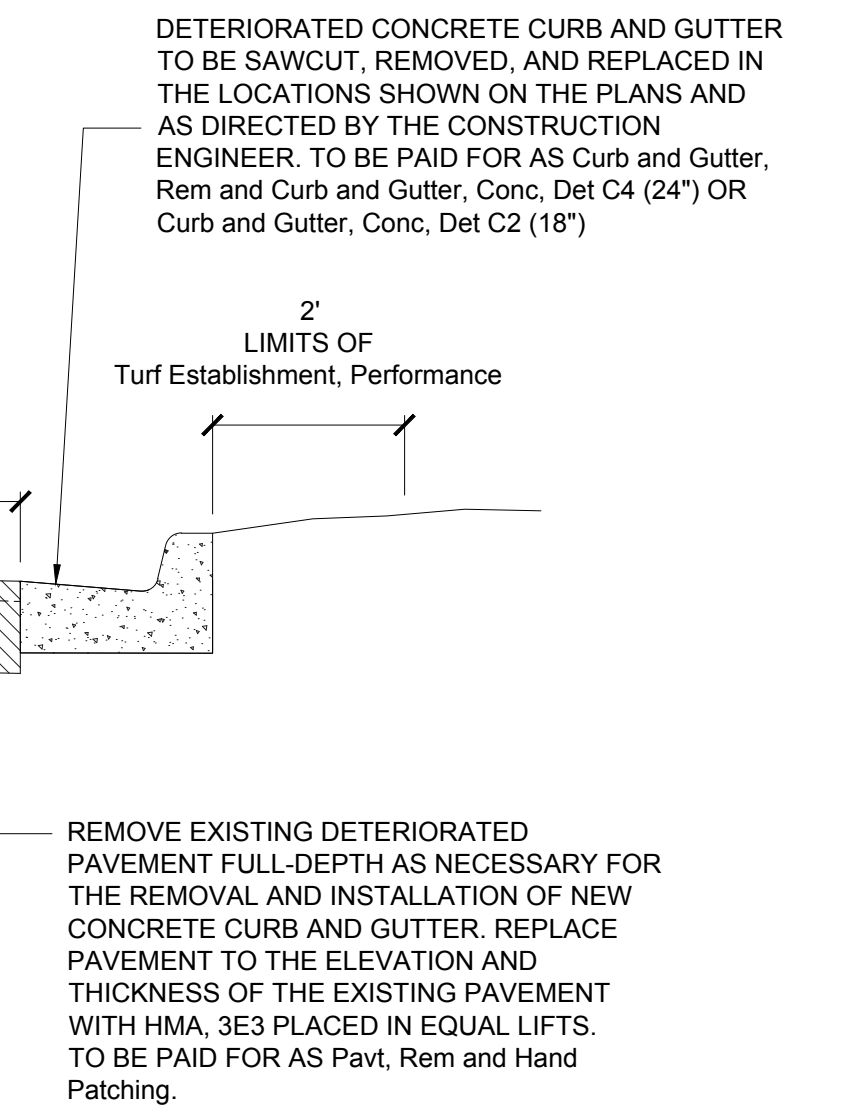
*SPECIAL DETAILS INCLUDED IN PROPOSAL

SUPPLEMENTAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN SITE INVESTIGATION OF LOCAL CONDITIONS BEFORE BIDDING AS SPECIFIED UNDER EXAMINATION OF PLANS, SPECIFICATIONS AND WORK SITE. SECTION 102.04 OF THE 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE TRAFFIC CONTROL PLAN SHEETS AND THE SPECIAL PROVISION FOR MAINTAINING TRAFFIC.
3. ALL OPEN EXCAVATIONS SHALL BE DELINEATED WITH PLASTIC DRUMS SPACED AT 35 FOOT MAXIMUM INTERVALS OR AS DIRECTED BY THE CONSTRUCTION ENGINEER.
4. PUBLIC UTILITY INFORMATION IS DELINEATED IN ACCORDANCE WITH LOCATIONS PROVIDED BY THE UTILITY OWNERS. NEITHER THE CITY OF OWOSSO NOR FLEISCHMANN AND VANDENBRINK ENGINEERING, INC. IS RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION OR THE LOCATION AT WHICH SERVICE IS SHOWN.
5. THE CONTRACTOR IS REFERRED TO THE *NOTICE TO BIDDERS - UTILITY COORDINATION* INCLUDED IN THE CONTRACT DOCUMENTS.
6. WHEREVER EXISTING PAVEMENT THAT IS TO BE REMOVED IS ADJACENT TO PAVEMENT THAT IS TO REMAIN, THE PAVEMENT SHALL BE SAWCUT FULL-DEPTH PRIOR TO REMOVAL. THIS SAWCUTTING SHALL BE INCLUDED IN THE PAY ITEM FOR PAV, REM.
7. ANY STRUCTURE ADJUSTMENTS WHICH ARE REQUIRED DUE TO THE CONTRACTOR TEMPORARILY LOWERING THE STRUCTURE TO FACILITATE HIS OPERATION WILL BE DONE AT THE CONTRACTOR'S EXPENSE. NO PAYMENT WILL BE MADE FOR THE TEMPORARY LOWERING OF DRAINAGE STRUCTURE COVERS.
8. ALL DRAINAGE STRUCTURE COVERS AND CASTINGS REPLACED AS DIRECTED BY THE CONSTRUCTION ENGINEER DURING CONSTRUCTION SHALL REMAIN THE PROPERTY OF THE CITY OF OWOSSO AND SHALL BE STOCKPILED WITHIN THE PROJECT LIMITS AS DIRECTED BY THE CONSTRUCTION ENGINEER, TO BE REMOVED FROM THE SITE BY THE CITY OF OWOSSO.
9. BEFORE PLACING ANY HMA MIXTURES, THE CONTRACTOR SHALL MAKE ALL THE NECESSARY PAVEMENT PREPARATIONS IN ACCORDANCE WITH SECTION 502.03.C OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION'S 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND AS DIRECTED BY THE CONSTRUCTION ENGINEER.
10. HMA LEVELING COURSE MUST BE PLACED ON ALL MILLED SURFACES WITHIN FIVE (5) CALENDAR DAYS OF COLD-MILLING OPERATION UNLESS OTHERWISE DIRECTED AND APPROVED BY THE CONSTRUCTION ENGINEER.
11. CONTRACTOR MUST CONTACT GREAT LAKES CENTRAL RAILROAD IN ACCORDANCE WITH THE *COORDINATION OF WORK NEAR RAILROAD CROSSINGS* SPECIAL PROVISION PRIOR TO STARTING WORK IN THE VICINITY OF THE TRACKS.



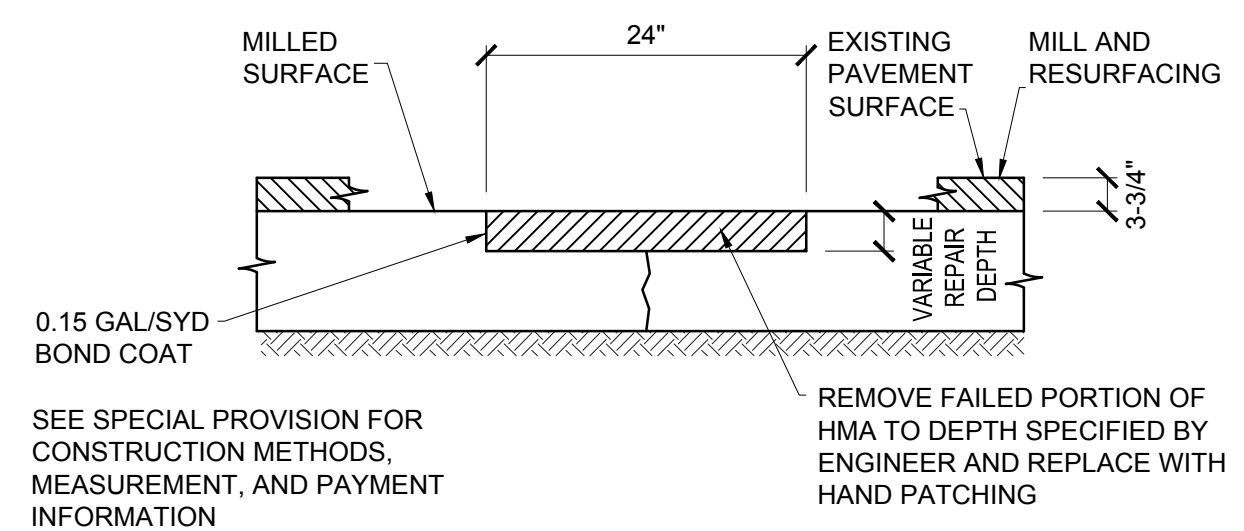
DRIVEWAY OPENING REMOVAL AND REPLACEMENT DETAIL



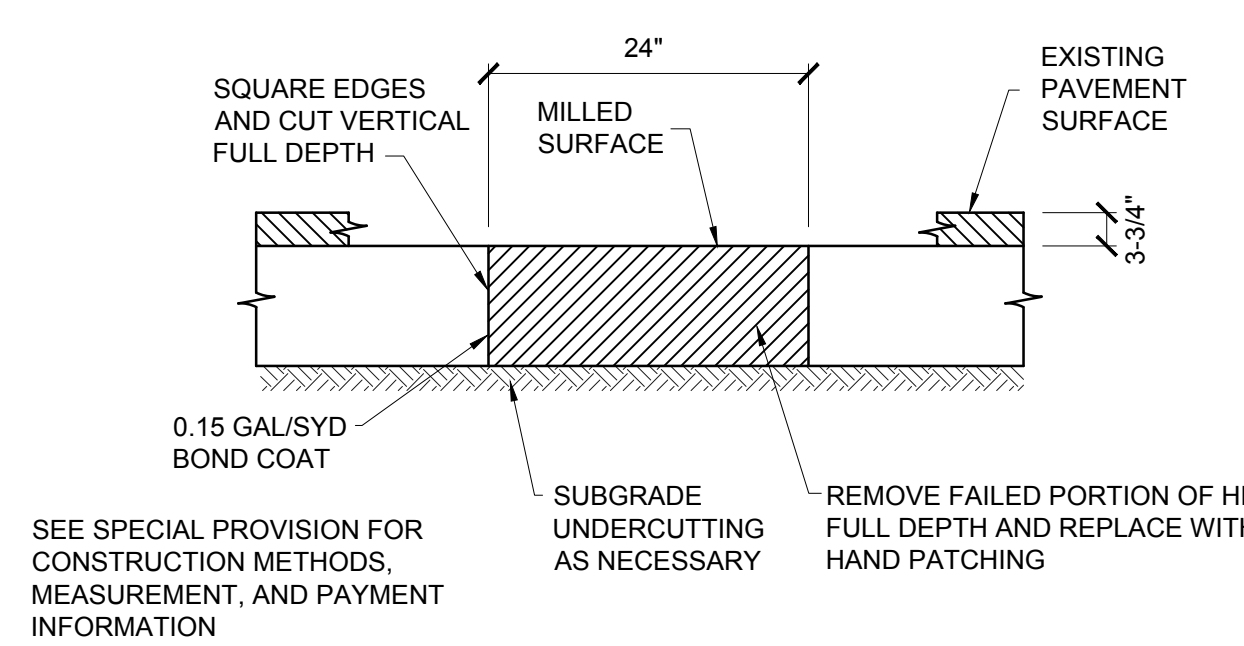
CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT DETAIL

- NOTES:**
1. PAVEMENT SHALL BE SAWCUT FULL-DEPTH A MINIMUM OF 24 INCHES IN UNIFORM WIDTH. GREATER WIDTH MAY BE REQUIRED AS FIELD CONDITIONS DEMAND. EDGE OF PAVEMENT SHALL BE LEFT VERTICAL AND CLEAN FOR PATCHING. SAWCUTTING OF EXISTING PAVEMENT WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE Pavt, Rem PAY ITEM.
 2. ASPHALT PATCHING SHALL MATCH EXISTING CUT. IN NO CASE SHALL PATCH SURFACE BE HIGHER THAN EXISTING ASPHALT. SURFACE CROSS SLOPE VARIES.
 3. BASE DISTURBED DURING REMOVAL OF ASPHALT OR CURB AND GUTTER SHALL BE RECOMPACTED. REPLACEMENT OF SUBGRADE MATERIAL OR EXCAVATION TO ACHIEVE PROPER GRADE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PAY ITEM Driveway Opening, Conc, Det M OR CONCRETE CURB AND GUTTER PAY ITEMS.
 4. ALL NEW SECTIONS OF CURB AND GUTTER MUST BE TIED TO THE EXISTING CURB AND GUTTER ON BOTH ENDS WITH EPOXY COATED #4 BARS. COST FOR THIS WORK, INCLUDING THE DRILLING AND EPOXY ANCHORING #4 BARS INTO THE EXISTING CURB, SHALL BE INCLUDED IN THE CONCRETE CURB AND GUTTER PAY ITEMS.
 5. SAWCUTTING OF EXISTING CURB AND GUTTER WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PAY ITEM Curb and Gutter, Rem.
 6. THE CONTRACTOR SHALL PROTECT PATCH AREAS FROM TRAFFIC.

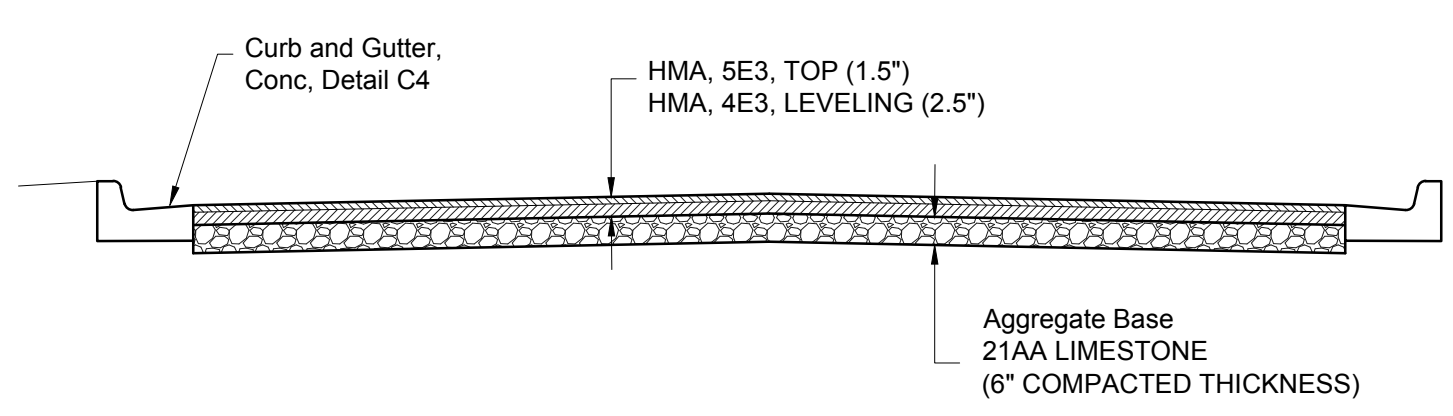
- NOTES:**
1. REMOVAL OF CURB AND GUTTER ADJACENT TO PAVEMENT IN GOOD CONDITION SHALL BE DONE IN A MANNER SO AS NOT TO DAMAGE THE EXISTING PAVEMENT WHEN POSSIBLE, UNLESS OTHERWISE DIRECTED BY THE CONSTRUCTION ENGINEER.
 2. DETERIORATED PAVEMENT THAT MUST BE REMOVED FOR PLACEMENT OF NEW CURB SHALL BE CUT FULL-DEPTH A MINIMUM OF 24 INCHES IN UNIFORM WIDTH. GREATER WIDTH MAY BE REQUIRED AS FIELD CONDITIONS DEMAND. EDGE OF PAVEMENT SHALL BE LEFT VERTICAL AND CLEAN FOR PATCHING. SAWCUTTING OF EXISTING PAVEMENT WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE Pavt, Rem PAY ITEM.
 3. ASPHALT PATCHING SHALL MATCH EXISTING CUT. IN NO CASE SHALL PATCH SURFACE BE HIGHER THAN EXISTING ASPHALT. SURFACE CROSS SLOPE VARIES.
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 6. SAWCUTTING OF EXISTING CURB AND GUTTER WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PAY ITEM Curb and Gutter, Rem.
 7. THE CONTRACTOR SHALL PROTECT PATCH AREAS FROM TRAFFIC.



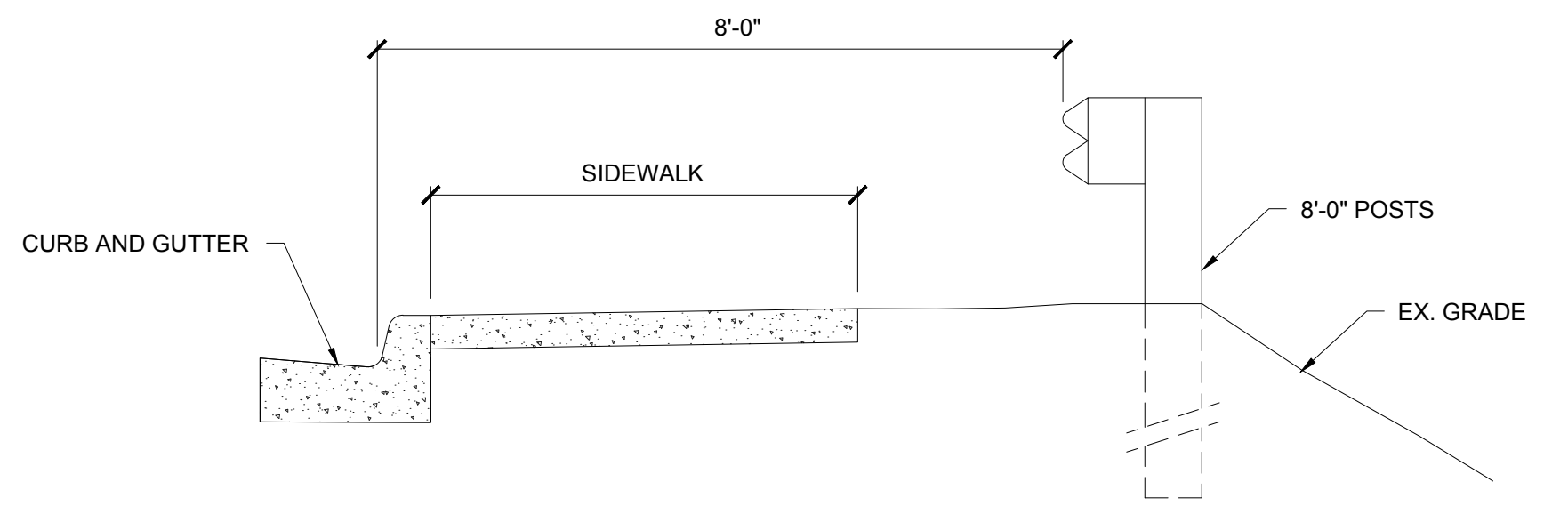
SURFACE REPAIR OF HMA PAVEMENT JOINT OR CRACK (TRANSVERSE OR LONGITUDINAL)
Pavt Joint and Crack Repr, Det 7, Modified AND Hand Patching



FULL DEPTH REPAIR OF HMA PAVEMENT JOINT OR CRACK (TRANSVERSE OR LONGITUDINAL)
Pavt Joint and Crack Repr, Det 8, Modified AND Hand Patching



ALLENDALE AVENUE CROSS SECTION
SCALE: 1" = 4"



GUARDRAIL PLACEMENT DETAIL

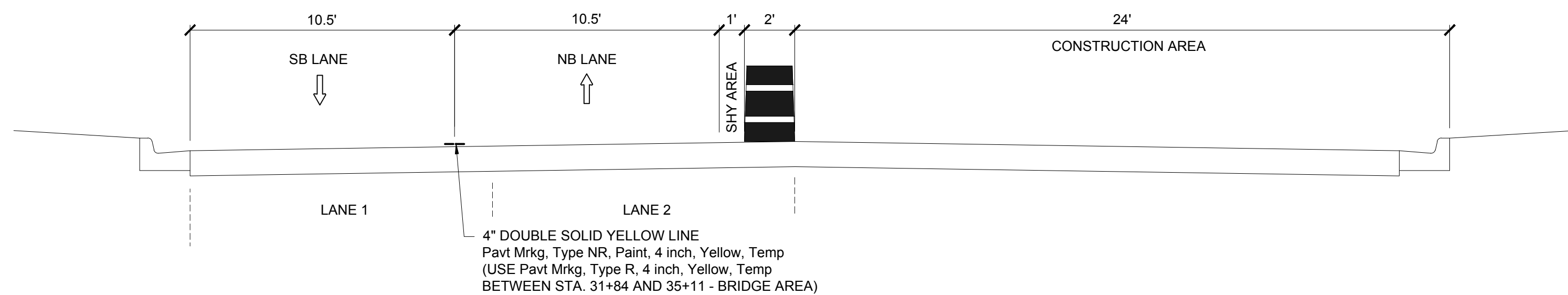
EXISTING FEATURES LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	TREE (DECIDUOUS)		CABLE BOX		SURVEY CONTROL POINT
	BUSH		TELEPHONE RISER		BENCHMARK
	TREE (CONIFEROUS)		TELEPHONE MANHOLE		SECTION CORNER
	DEAD TREE		ELECTRICAL RISER	RIGHT-OF-WAY LINE	
	STUMP		ELECTRICAL MANHOLE	---	PROPERTY LINE
	MANHOLE		POWER POLE	---	WATERMAIN
	SANITARY CLEANOUT		LIGHT POLE	---	SANITARY SEWER
	RD. CATCH BASIN		GUY POLE	---	STORM SEWER
	SQ. CATCH BASIN		GUY ANCHOR	---	CULVERT (UNDER 10')
	FIRE HYDRANT		RAILROAD	==	CULVERT (24" AND UP)
	WATER VALVE		CABLE T.V.	---	CABLE T.V.
	CURB STOP & BOX		TELEPHONE	---	TELEPHONE
	WELL		ELECTRIC	---	ELECTRIC
	WATER MANHOLE		GAS	---	GAS
	WATER METER		OVERHEAD LINES	---	OVERHEAD LINES
	SOIL BORING		FOUND CONC. MONUMENT	---	FENCE
	MONITORING WELL		FOUND IRON ROD	---	FENCE
			SET IRON ROD	---	WOODLINE

NOTE: ALL ITEMS LISTED ON THE LEGEND MAY NOT BE PRESENT ON DRAWING.

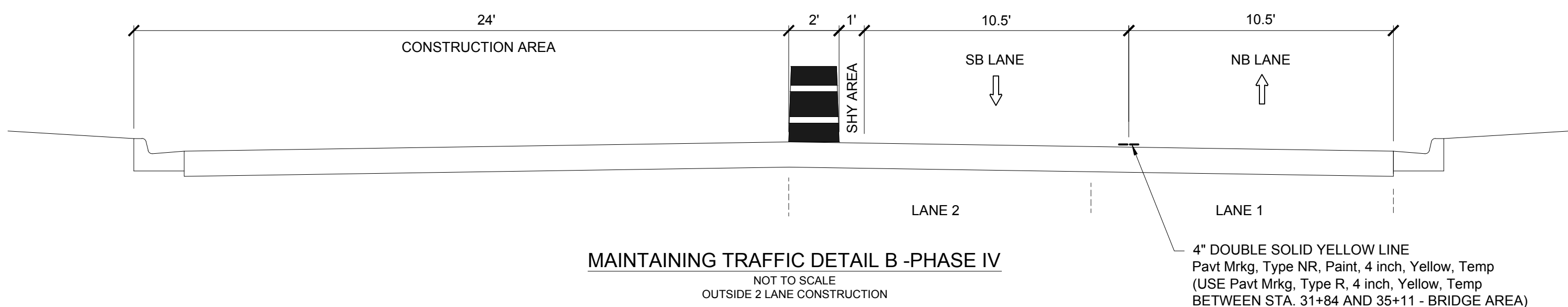
ITEM	PAY ITEM	RATE PER SYD	PERFORMANCE GRADE	EST. THICKNESS, INCH	REMARKS
HMA RESURFACING	HMA, 5E3	165 LBS.	64-28	1.5"	TOP COURSE - AWI = 260 (MIN.)
	HMA, 4E3	275 LBS.	64-28	2.5"	LEVELING COURSE
HAND PATCHING	Hand Patching	410 LBS/SYD/LIFT	64-28	VARIES	HMA 3E3 (PLACED IN EQUAL LIFTS) USE FOR PAVEMENT REPAIRS
HAND PATCHING	Hand Patching	MIN. 165 LBS MAX. 220 LBS	64-28	VARIES	HMA 5E3 (PLACED IN EQUAL LIFTS) USE FOR JOINT AND CRACK REPAIRS
COMMERCIAL DRIVE APPROACH	HMA Approach	165 LBS.	58-28	1.5"	TOP COURSE - AWI =220 (HMA, 13A)
	HMA Approach	935 LBS.	58-28	8.5"	BASE COURSE (HMA, 13A) (PLACED IN 3 EQUAL LIFTS)
HMA BOND COAT		0.10 GAL			SS-1H (FOR INFORMATION ONLY)
RESIDENTIAL DRIVE APPROACH	HMA Approach	220 LBS.	58-28	2"	TOP COURSE - AWI =220 (HMA, 13A)
	HMA Approach	330 LBS.	58-28	3"	BASE COURSE (HMA, 13A)

NOTE: STREET APPROACHES SHALL BE PAID FOR AS PART OF THE MAINLINE PAVING PAY ITEMS.



MAINTAINING TRAFFIC DETAIL - PHASE III

NOT TO SCALE
OUTSIDE 2 LANE CONSTRUCTION



MAINTAINING TRAFFIC DETAIL B - PHASE IV

NOT TO SCALE
OUTSIDE 2 LANE CONSTRUCTION

CONSTRUCTION STAGING SEQUENCE

THE FOLLOWING CONSTRUCTION STAGING SEQUENCE HAS BEEN DEVELOPED.

BEFORE BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL IMPLEMENT TEMPORARY EROSION CONTROL MEASURES AND TRAFFIC CONTROL. TEMPORARY EROSION CONTROL AND TRAFFIC CONTROL SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT.

PHASE I
CLOSE WESTERLY MOST LANE (OUTER SOUTH BOUND TRAFFIC) IN ACCORDANCE WITH MDOT MAINTAINING TRAFFIC TYPICAL M0250a. COMPLETE CURB AND GUTTER REPAIR, SIDEWALK REPAIR, DRIVEWAY REPLACEMENT, GUARDRAIL IMPROVEMENTS, BERM REMOVAL, AND TURF ESTABLISHMENT.

PHASE II
CLOSE EASTERLY MOST LANE (OUTER NORTH BOUND TRAFFIC) IN ACCORDANCE WITH MDOT MAINTAINING TRAFFIC TYPICAL M0250a. COMPLETE CURB AND GUTTER REPAIR, SIDEWALK REPAIR, DRIVEWAY REPLACEMENT, STORM SEWER INSTALLATION, GUARDRAIL IMPROVEMENTS, ALLENDALE AVENUE INTERSECTION IMPROVEMENTS, BERM REMOVAL, AND TURF ESTABLISHMENT.

PHASE III
SETUP DETOUR ROUTE FOR THROUGH TRAFFIC IN ACCORDANCE WITH DETOUR ROUTE PLAN. MAINTAIN LOCAL TRAFFIC BY SHIFTING ALL TRAFFIC TO WESTERLY SIDE OF ROAD (EXISTING SOUTH BOUND TRAFFIC) AND MAINTAINING ONE LANE OF TRAFFIC IN EACH DIRECTION IN ACCORDANCE WITH MDOT MAINTAINING TRAFFIC DETAIL M0310a. COMPLETE COLD MILLING, JOINT REPAIRS, STRUCTURE ADJUSTMENTS, AND HMA LEVELING COURSE ON EASTERLY ONE-HALF OF ROADWAY.

PHASE IV
MAINTAIN DETOUR ROUTE FOR THROUGH TRAFFIC IN ACCORDANCE WITH DETOUR ROUTE PLAN. MAINTAIN LOCAL TRAFFIC BY SHIFTING ALL TRAFFIC TO EASTERLY SIDE OF ROAD (EXISTING NORTH BOUND TRAFFIC) AND MAINTAINING ONE LANE OF TRAFFIC IN EACH DIRECTION IN ACCORDANCE WITH MDOT MAINTAINING TRAFFIC DETAIL M0310a. COMPLETE COLD MILLING, JOINT REPAIRS, STRUCTURE ADJUSTMENTS, AND HMA LEVELING COURSE ON WESTERLY ONE-HALF OF ROADWAY.

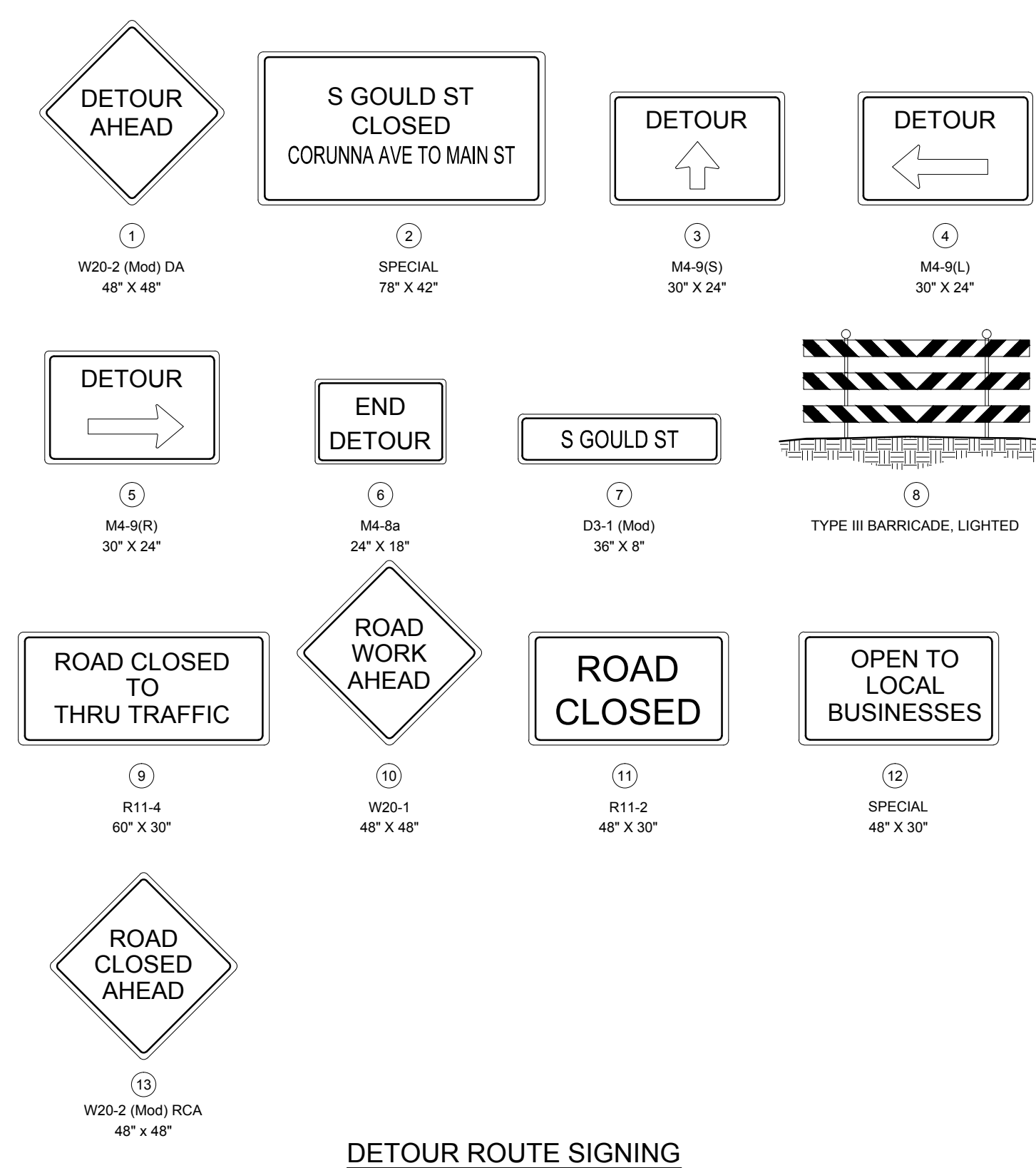
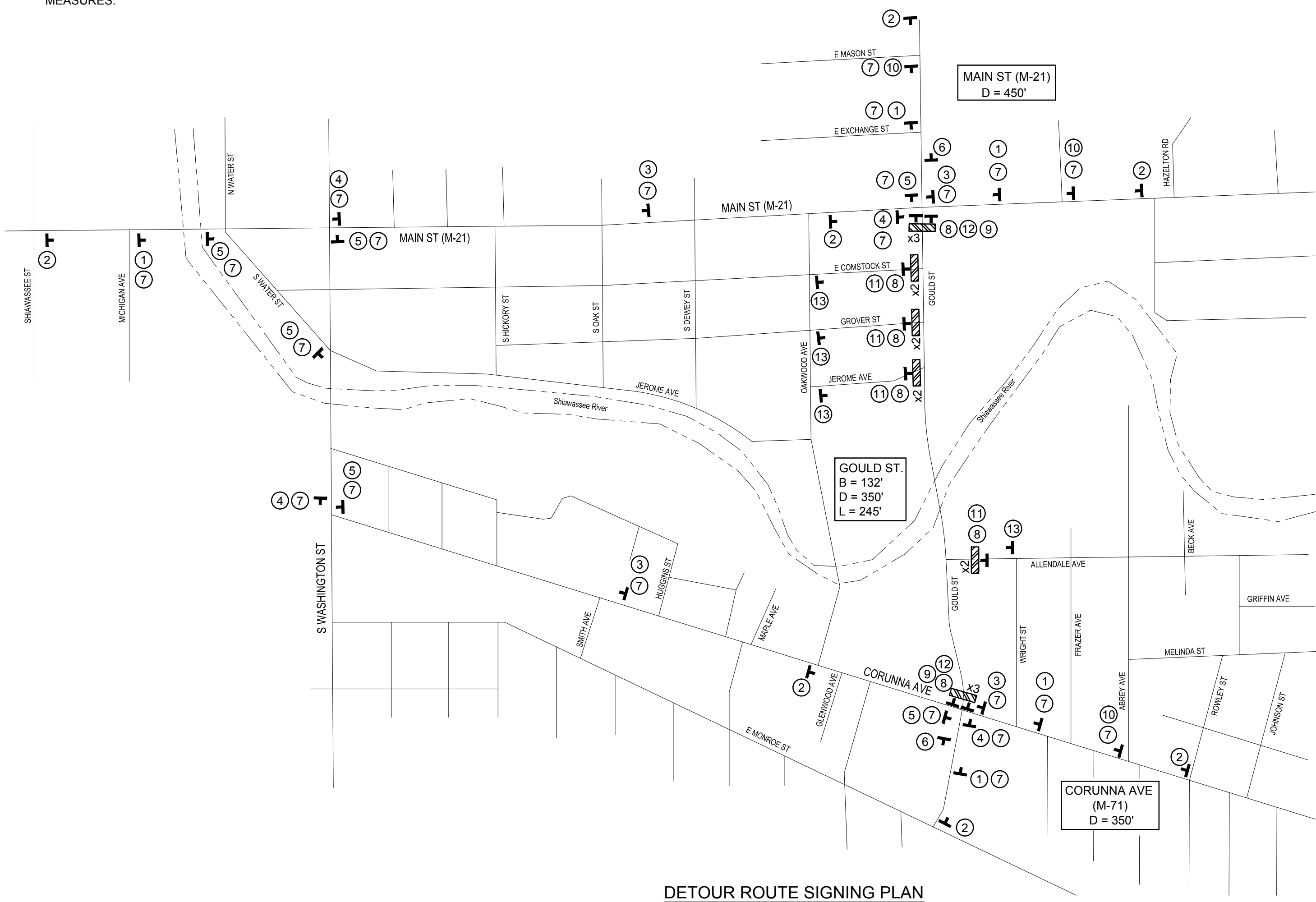
PHASE V
MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION AND COMPLETE HMA TOP COURSE THROUGH THE USE OF TRAFFIC REGULATOR CONTROL. COMPLETE PAVING OF ALL LANES ON ONE SIDE OF BRIDGE AND THEN THE OTHER. COMPLETE PAVEMENT MARKINGS, PERMANENT SIGNING, AND REMOVE TEMPORARY SOIL EROSION CONTROL MEASURES.

MAINTAINING TRAFFIC WORK ITEMS

Barricade, Type III, High Intensity, Lighted, Furn	14 Ea
Barricade, Type III, High Intensity, Lighted, Oper	14 Ea
Traf Regulator Control	1 LS
Lighted Arrow, Type C, Furn	2 Ea
Lighted Arrow, Type C, Oper	2 Ea
Minor Traf Devices	1 LS
Pavt Mrgk, Longit, 6 inch or Less Width, Rem	1200 Ft
Pavt Mrgk, Type NR, Paint, 4 inch, Yellow, Temp	10,250 Ft
Pavt Mrgk, Type R, 4 inch, Yellow, Temp	1350 Ft
Plastic Drum, High Intensity, Furn	170 Ea
Plastic Drum, High Intensity, Oper	170 Ea
Sign, Type B, Temp, Prismatic, Furn	1200 Sft
Sign, Type B, Temp, Prismatic, Oper	1200 Sft

TRAFFIC CONTROL NOTES

- ALL MEASURES REQUIRED FOR TRAFFIC CONTROL DURING CONSTRUCTION SHALL CONFORM WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (SECTION 812) UNLESS MODIFIED BY THIS PLAN OR DIRECTED OTHERWISE BY THE CONSTRUCTION ENGINEER.
- THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF ONE ACCESS LANE TO ALL COMMERCIAL DRIVEWAYS AT ALL TIMES. LOCAL TRAFFIC ACCESS TO ALL INTERSECTING STREETS SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL NOT BE PERMITTED TO HAVE FULL WIDTH ROAD CLOSURE AT ANY TIME. A MINIMUM OF ONE LANE SHALL BE OPEN TO TRAFFIC IN EACH DIRECTION DURING NON-WORKING HOURS. THE USE OF THE TRAFFIC CONTROL REGULATORS SHALL BE USED TO MAINTAIN TRAFFIC DURING WORKING HOURS.
- SIGNS SHALL BE TYPE B, TEMPORARY, PRISMATIC WITH A 7" BOTTOM HEIGHT UNLESS OTHERWISE DIRECTED BY THE CONSTRUCTION ENGINEER.
- SIGN POSTS SHALL BE 3 POUNDS PER FOOT. COST FOR SIGN POSTS SHALL BE INCLUDED IN THE SIGN ITEM.
- TEMPORARY PAVEMENT MARKINGS SHALL BE USED TO CONTROL TRAFFIC AS REQUIRED. NO SECTION OF NEWLY MILLED OR PAVED ROADWAY SHALL BE USED BY TRAFFIC UNTIL TEMPORARY PAVEMENT MARKINGS HAVE BEEN PROPERLY PLACED.
- REASONABLE ACCESS MUST BE MAINTAINED TO ALL STREETS AND DRIVEWAYS AT ALL TIMES, EXCEPT DURING CONCRETE CURE TIME. DURING CURE TIMES THE CONTRACTOR MAY CLOSE A RESIDENTIAL DRIVEWAY WITH A MINIMUM OF 48 HOURS WRITTEN NOTICE TO THE PROPERTY OWNER. CONTRACTOR SHALL PROVIDE THE DATE OF CLOSURE AND THE EXPECTED DURATION. A COPY OF THIS NOTICE SHALL BE PROVIDED TO THE CONSTRUCTION ENGINEER.
- PAYMENT FOR TEMPORARY SIGNS, LIGHTED ARROWS, PLASTIC DRUMS, AND BARRICADES WILL BE BASED ON THE MAXIMUM NUMBER OF UNITS REQUIRED BY THE CONSTRUCTION ENGINEER AT ANY ONE TIME FOR THE ENTIRE PROJECT.
- ALL PLASTIC DRUMS AND BARRICADES SHALL BE PROPERLY WEIGHTED, AND LIGHTS SHALL BE KEPT IN WORKING ORDER AT ALL TIMES. ANY PLASTIC DRUMS AND BARRICADES DAMAGED BY THE CONTRACTOR OR DUE TO IMPROPER USE SHALL BE REPLACED PROMPTLY AT THE CONTRACTOR'S EXPENSE.
- ALL NON-APPLICABLE WARNING SIGNS, REGULATORY SIGNS, AND CONSTRUCTION SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE CONSTRUCTION ENGINEER.
- TEMPORARY SIGN LOCATIONS SHALL BE STAKED BY THE CONTRACTOR.
- FOR OVERNIGHT CLOSURES, CHANNELIZING DEVICES SHALL BE PLASTIC DRUMS UNLESS DIRECTED BY CONSTRUCTION ENGINEER.
- PLASTIC DRUMS SHALL BE PLACED AT 25' INTERVALS ON TAPERS & 50' INTERVALS ON STRAIGHT-A-WAYS.
- DISTANCES BETWEEN SIGNS ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY CONSTRUCTION ENGINEER.
- WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
- WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, ADDITIONAL SPEED LIMIT SIGNS REFLECTING THE REDUCED SPEED SHALL BE PLACED AFTER EACH CROSS ROAD THAT INTERSECTS THE WORK AREA WHERE THE REDUCED SPEED IS IN EFFECT.
- WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, ADDITIONAL SPEED LIMIT SIGNS RETURNING TRAFFIC TO ITS NORMAL SPEED SHALL BE PLACED BEYOND THE LIMITS OF THE REDUCED SPEED AS INDICATED.
- ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
- THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE MERGING TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE MERGING TAPER AS POSSIBLE.
- HMA LEVELING COURSE MUST BE PLACED ON ALL MILLED SURFACES WITHIN FIVE (5) CALENDAR DAYS OF COLD-MILLING OPERATION UNLESS OTHERWISE DIRECTED AND APPROVED BY THE CONSTRUCTION ENGINEER. CONTRACTOR SHALL SCHEDULE COLD MILLING, HMA JOINT AND CRACK REPAIRS, AND HMA PAVING FOR PERIODS OF FORECASTED FAVORABLE WEATHER CONDITIONS TO MINIMIZE THE EXPOSE OF THE HMA BASE.
- RUBBISH COLLECTION IS DONE BY PRIVATE CONTRACTORS BETWEEN THE HOURS OF 7:00 A.M. AND 7:00 P.M. ACCORDING TO THE FOLLOWING SCHEDULE: ALL RESIDENTIAL CUSTOMERS NORTH OF MAIN STREET ARE SERVICED ON THURSDAYS. ALL RESIDENTIAL CUSTOMERS SOUTH OF MAIN STREET ARE SERVICED ON TUESDAYS. RUBBISH COLLECTED AT COMMERCIAL PROPERTIES IS COLLECTED ANY TIME/DATE. THE CONTRACTOR SHALL SCHEDULE WORK TO ALLOW AND PROVIDE ACCESS FOR REFUSE CONTRACTORS TO PROVIDE THEIR SERVICE TO THE RESIDENTIAL AND COMMERCIAL PROPERTIES. IF THE REFUSE CONTRACTORS ARE UNABLE TO COLLECT MATERIALS DUE TO CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL COORDINATE WITH THE REFUSE CONTRACTORS THE MOVING OF CONTAINERS TO A COLLECTION SITE AND RETURNING SAME CONTAINERS TO THE PROPERTY OWNER.
- AT A MINIMUM THE FOLLOWING MICHIGAN DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL DETAILS SHALL BE FOLLOWED FOR THIS PROJECT (OTHERS MAY BE NECESSARY AS DIRECTED BY THE CONSTRUCTION ENGINEER AT NO ADDITIONAL COST TO THE PROJECT): M0020a, M0040a, M0250a, and M0310a.



TEMPORARY SIGN QUANTITIES

ITEM	QUANTITY (EA)	SIZE	SIGN AREA (S.F.)	TOTAL AREA (S.F.)
R5-18c	2	48" x 48"	16	32
R5-18b	2	48" x 60"	20	40
R5-18a	2	96" x 60"	40	80
W20-1	3	48" x 48"	16	48
W20-2 (Mod) DA	5	48" x 48"	16	80
W20-2 (Mod) RCA	4	48" x 48"	16	64
R2-1	6	48" x 60"	20	120
R11-2	4	48" x 30"	10	40
R11-4	2	60" x 30"	12.5	25
G20-2	2	48" x 24"	8	16
D3-1 (Mod)	22	36" x 8"	2	44
W20-5L	1	48" x 48"	16	16
W20-5R	1	48" x 48"	16	16
W1-6	4	48" x 24"	16	64
W1-4L	1	48" x 48"	16	16
W1-4R	1	48" x 48"	16	16
W3-5b	2	48" x 48"	16	32
W4-2L	1	48" x 48"	16	16
W4-2R	1	48" x 48"	16	16
M4-8a	2	24" x 18"	3	6
M4-9S	4	30" x 24"	5	20
M4-9L	4	30" x 24"	5	20
M4-9R	6	30" x 24"	5	30
SPECIAL (S GOULD ST CLOSED)	7	78" x 42"	23	161
SPECIAL (OPEN TO LOCAL)	2	48" x 30"	23	46
SUBTOTAL				1064
MISC QUANTITY AS DIRECTED BY ENGINEER				136
TOTAL SIGN, TYPE B				1200

NOTE:
SIGN QUANTITIES LISTED ABOVE REFLECT THE MAXIMUM NUMBER OF UNITS ANTICIPATED TO BE NEEDED AT ANY ONE TIME FOR THE ENTIRE PROJECT. ALL SIGNS REQUIRED FOR THIS PROJECT PER THE MAINTAINING TRAFFIC TYPICALS ARE NOT LISTED IN THIS TABLE.

REVISION:

PAVEMENT JOINT AND CRACK REPAIR NOTES:
 THE QUANTITIES FOR Pavt Joint and Crack Repr, Det 7, Modified; Pavt Joint and Crack Repr, Det 8, Modified; and Hand Patching ARE ESTIMATED.

PRIOR TO COLD MILLING, THE CONSTRUCTION ENGINEER SHALL IDENTIFY AND RECORD THOSE AREAS WHERE PAVEMENT JOINT AND CRACK REPAIRS MAY BE NECESSARY.

FOLLOWING COLD MILLING, THE CONSTRUCTION ENGINEER SHALL REVIEW THE REMAINING JOINT OR CRACK IN THE HMA SURFACE AND RECOMMEND IF JOINT AND CRACK REPAIR IS REQUIRED.

TYPE OF PAVEMENT JOINT AND CRACK REPAIR DETAIL TO BE USED WILL BE DETERMINED BY THE CONSTRUCTION ENGINEER.

DRAINAGE STRUCTURE COVER NOTES:

Dr Structure Cover, Type B SHALL BE EJIW MODEL 1060 WITH TYPE B COVER FOR STORM MANHOLES, AND EJIW MODEL 1120 WITH SOLID GASKET SEAL LETTERED COVER FOR SANITARY SEWER MANHOLES, OR AN ENGINEER APPROVED EQUIVALENT.

Dr Structure Cover, Type G SHALL BE EJIW MODEL 1060 WITH TYPE N OVAL GRATE, OR AN ENGINEER APPROVED EQUIVALENT.

Dr Structure Cover, Type K SHALL BE EJIW MODEL 7000 WITH TYPE M2 GRATE, OR AN ENGINEER APPROVED EQUIVALENT.

STRUCTURE ADJUSTMENT NOTES:

ADJUSTMENTS TO DRAINAGE STRUCTURES LOCATED WITHIN PAVEMENT OR CURB AND GUTTER AREAS SHALL BE PAID FOR AS: Dr Structure Cover, Adj, Case 1, Modified.

STRUCTURE REHABILITATION AND RECONSTRUCTION NOTES:

DRAINAGE STRUCTURES LOCATED WITHIN CURB AND GUTTER SHALL RECEIVE ONE OR BOTH OF THE FOLLOWING TREATMENTS AS SHOWN ON THE PLANS AND/OR AS DIRECTED BY THE CONSTRUCTION ENGINEER: Dr Structure Cover, Adj, Case 1, Modified; Drainage Structure, Reconstruct, Add Depth, Special

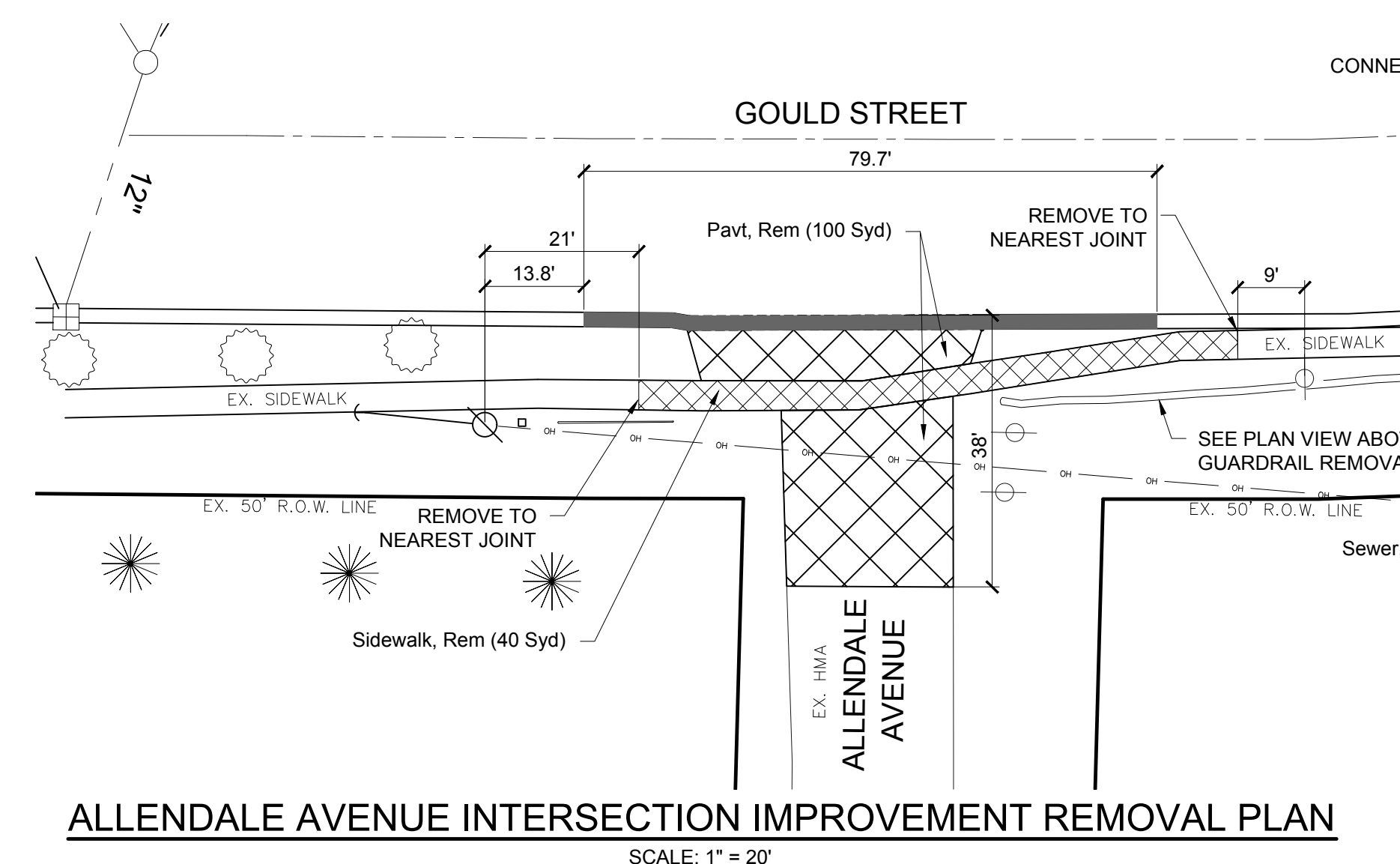
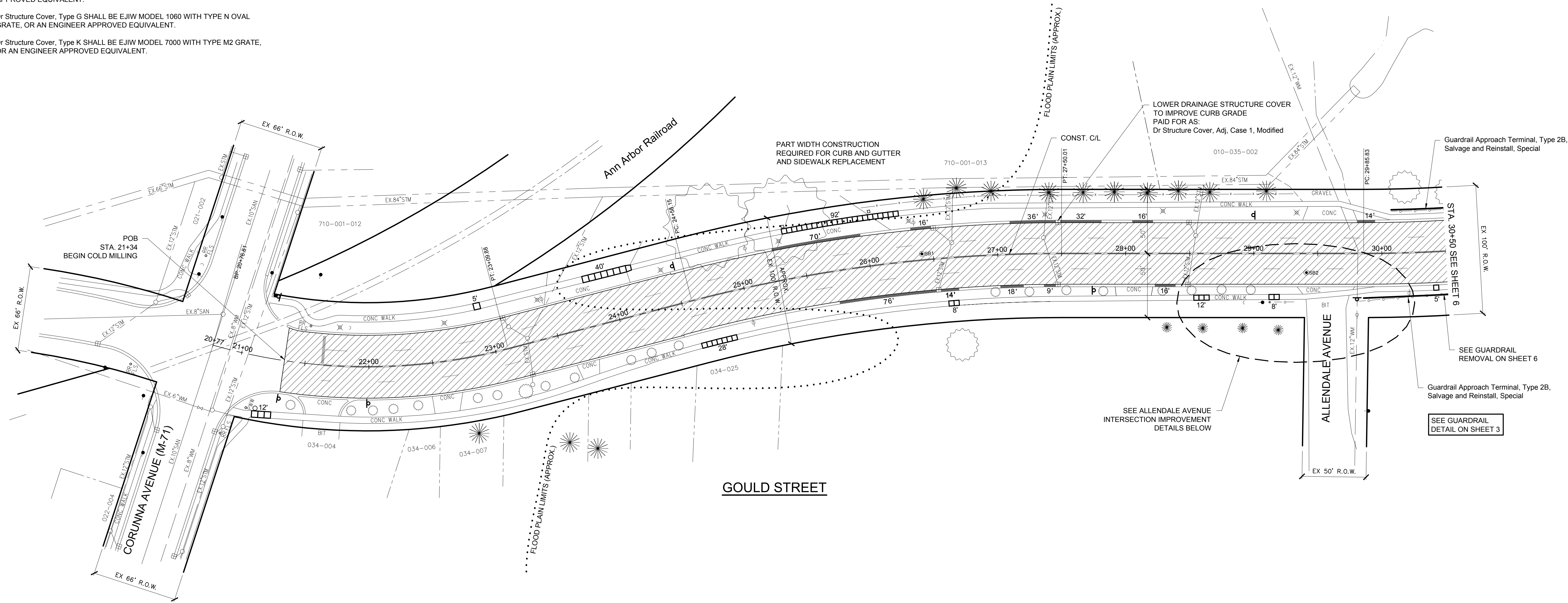
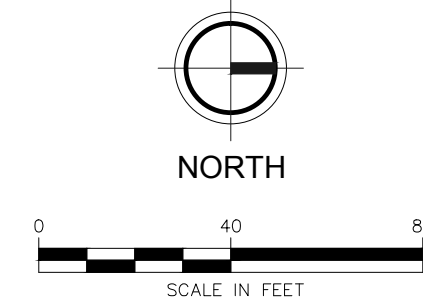
QUANTITIES GIVEN FOR TYPE OF TREATMENT ARE ESTIMATED.

Dr Structure, Cleaning SHALL BE COMPLETED AS DIRECTED BY CONSTRUCTION ENGINEER AS NEEDED.

LEGEND

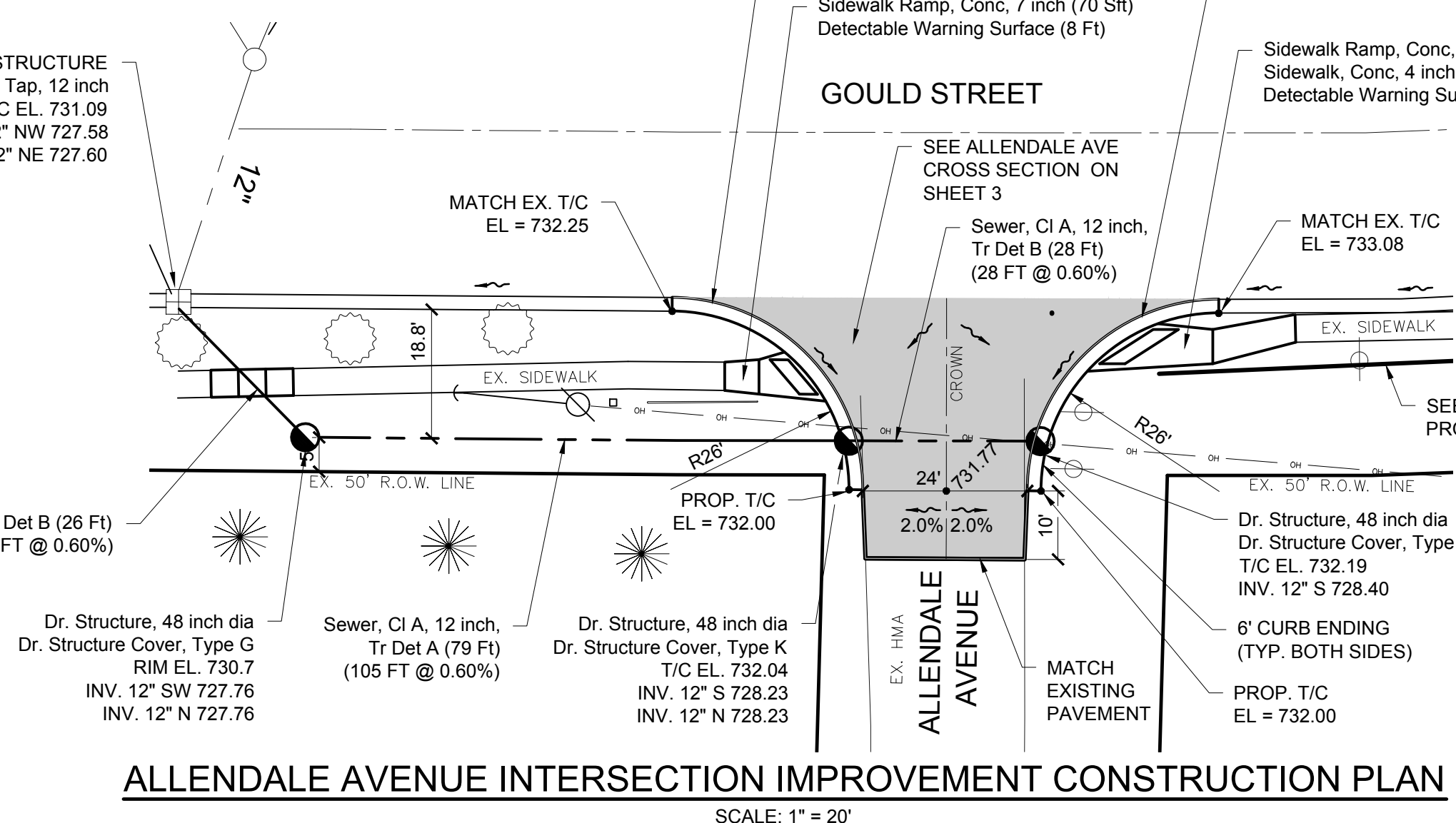
- REMOVE AND REPLACE CURB AND GUTTER
- COLD MILLING HMA SURFACE AND PAVING
- REMOVE AND REPLACE SIDEWALK

NOTE:
 ALL REMOVALS, HMA REPAIRS, CURB AND GUTTER REPLACEMENT AND OTHER MISCELLANEOUS ITEMS OF WORK SHALL BE DIRECTED BY THE CONSTRUCTION ENGINEER.



- REMOVAL LEGEND:**
- Curb and Gutter, Rem
 - Pavt, Rem
 - Sidewalk, Rem

ALLENDALE AVENUE INTERSECTION IMPROVEMENT REMOVAL PLAN
 SCALE: 1" = 20'



- PLAN LEGEND:**
- CURB AND GUTTER
 - HMA PAVEMENT
 - CONCRETE SIDEWALK

ALLENDALE AVENUE INTERSECTION IMPROVEMENT CONSTRUCTION PLAN
 SCALE: 1" = 20'



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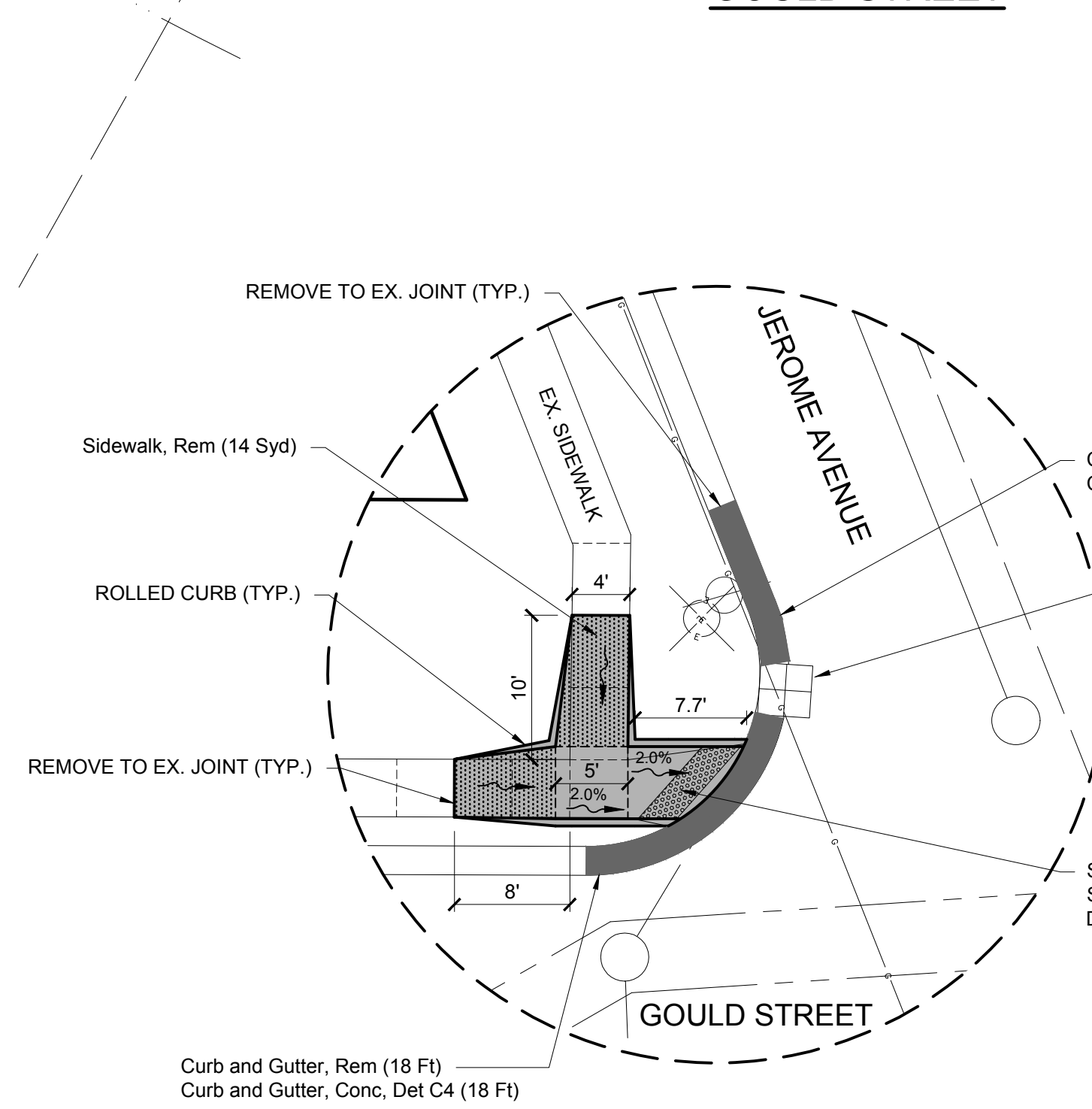
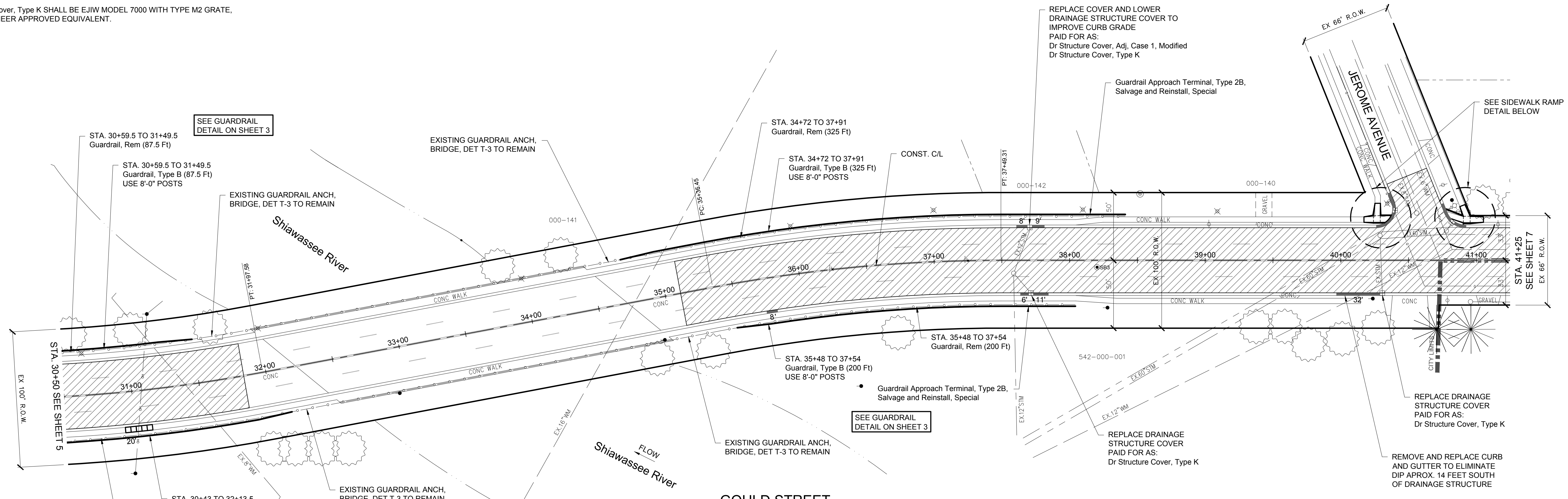
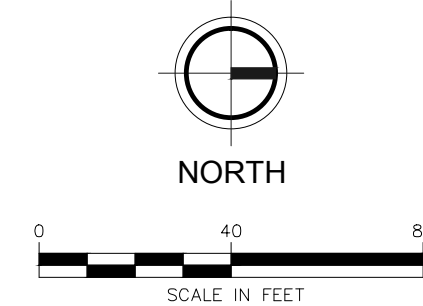
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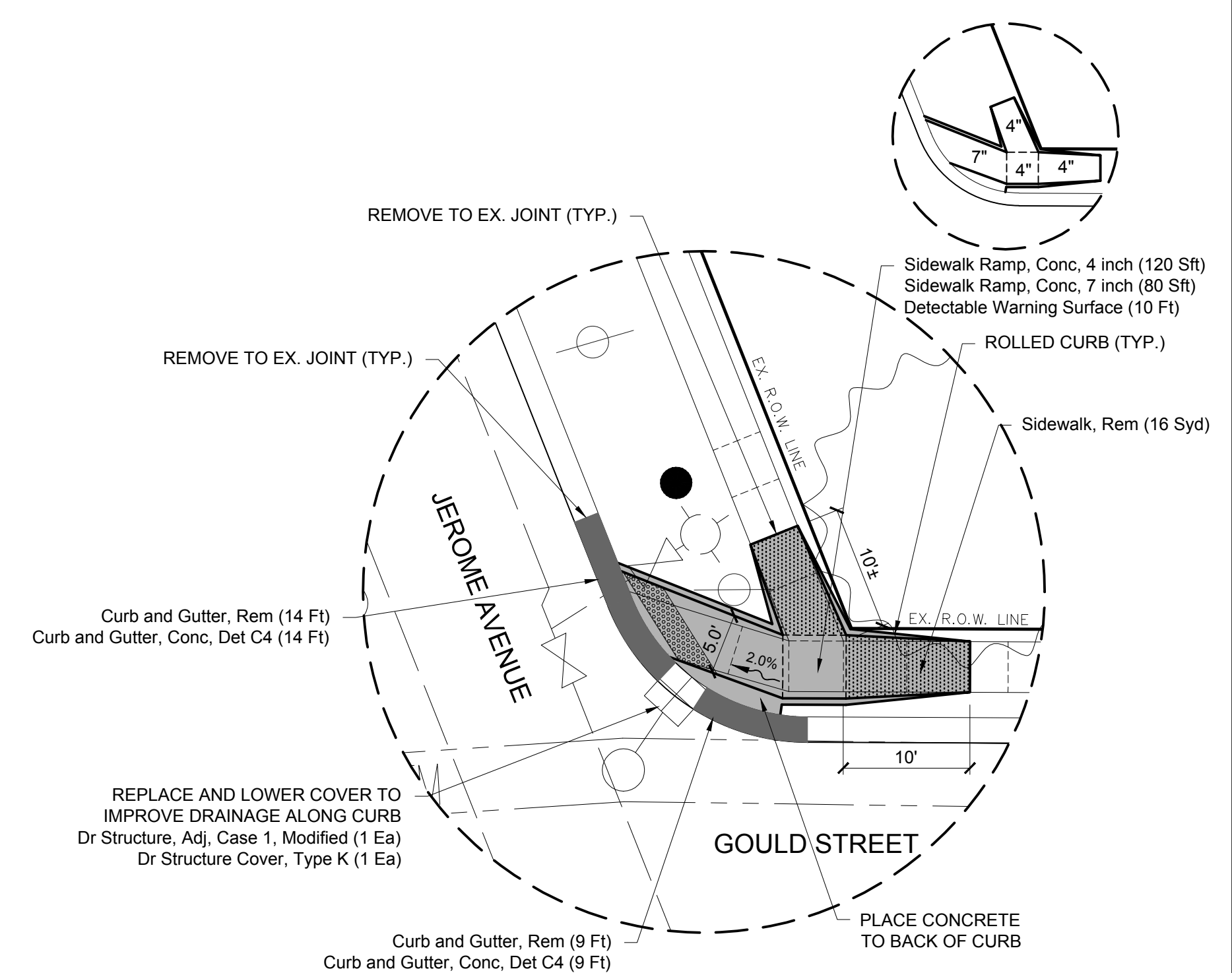
LEGEND

- REMOVE AND REPLACE CURB AND GUTTER
- COLD MILLING HMA SURFACE AND PAVING
- REMOVE AND REPLACE SIDEWALK

NOTE:
 ALL REMOVALS, HMA REPAIRS, CURB AND GUTTER REPLACEMENT AND OTHER MISCELLANEOUS ITEMS OF WORK SHALL BE DIRECTED BY THE CONSTRUCTION ENGINEER.



SIDEWALK RAMP DETAIL
 SCALE: 1" = 10'



SIDEWALK RAMP DETAIL
 SCALE: 1" = 10'

LEGEND

- SLOPED SURFACE (MAX 8%)
- Sidewalk Ramp, Conc, 4 inch PAY ITEM



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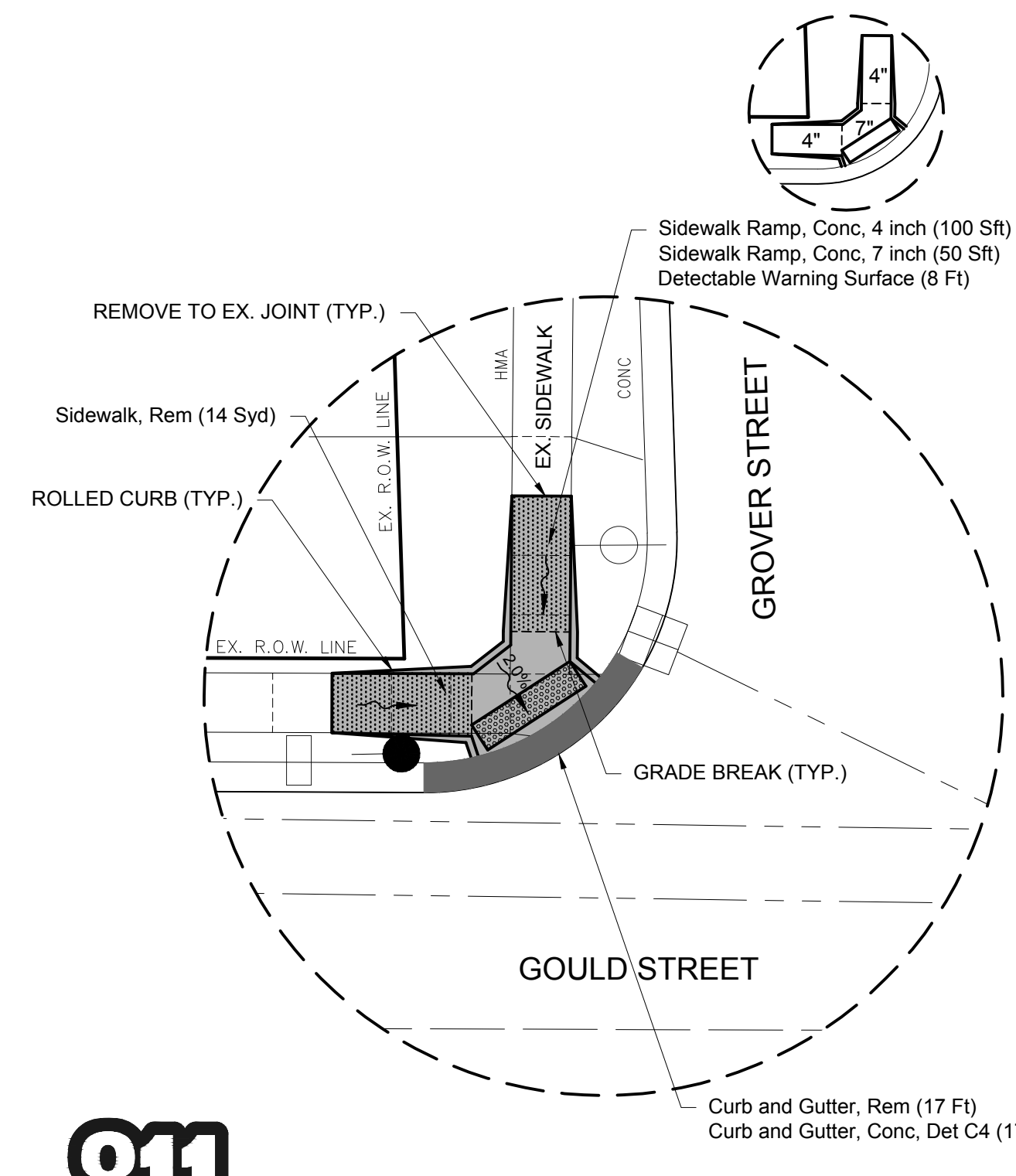
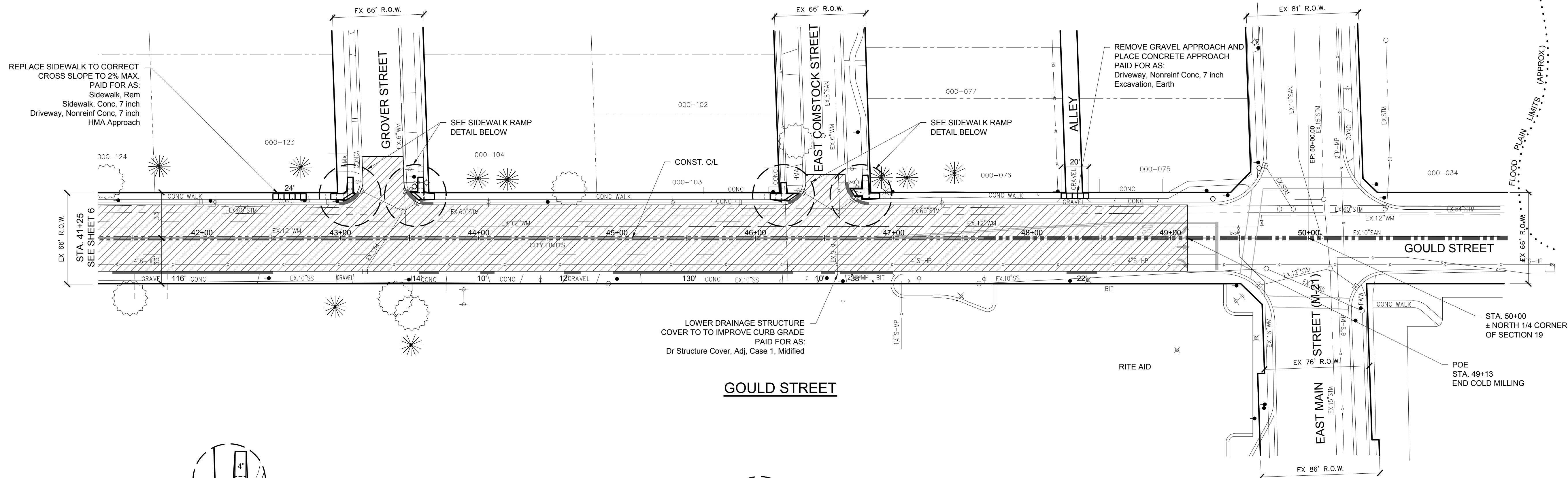
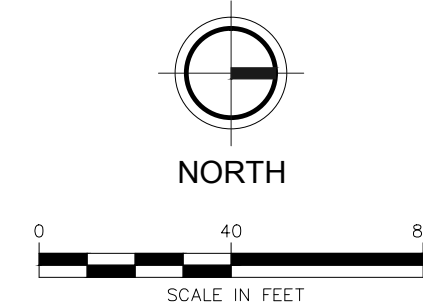
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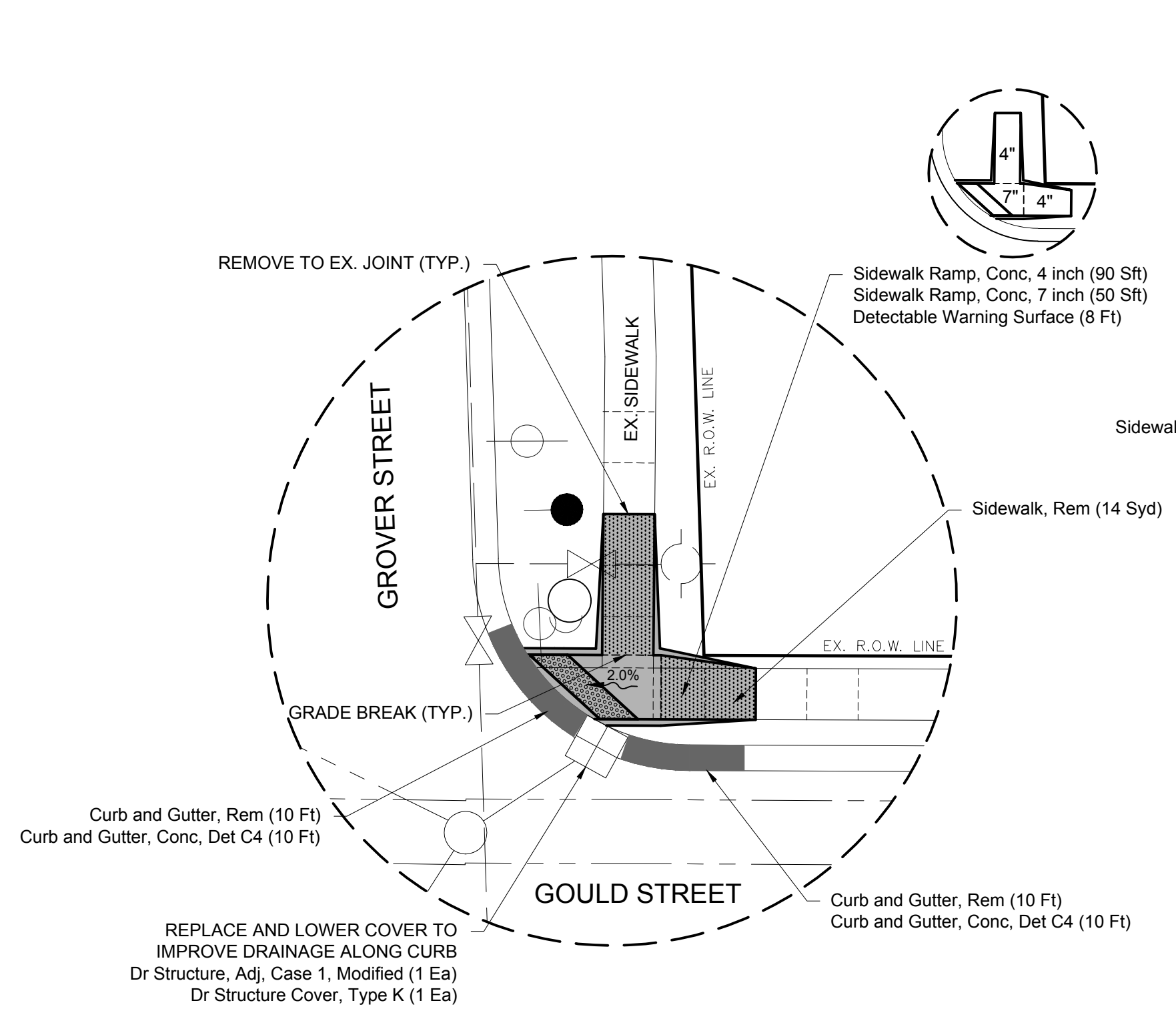
LEGEND

- REMOVE AND REPLACE CURB AND GUTTER
- COLD MILLING HMA SURFACE AND PAVING
- REMOVE AND REPLACE SIDEWALK

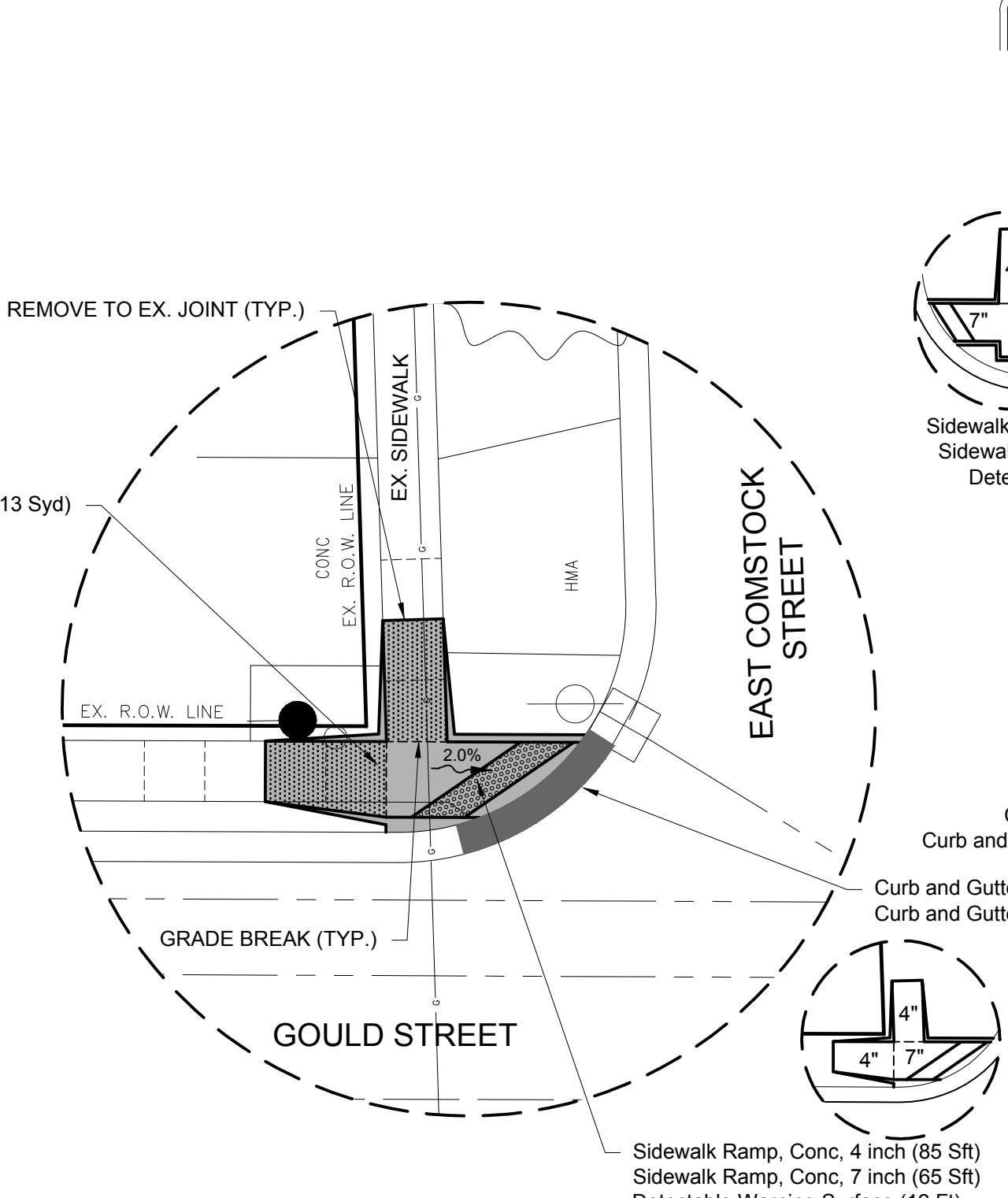
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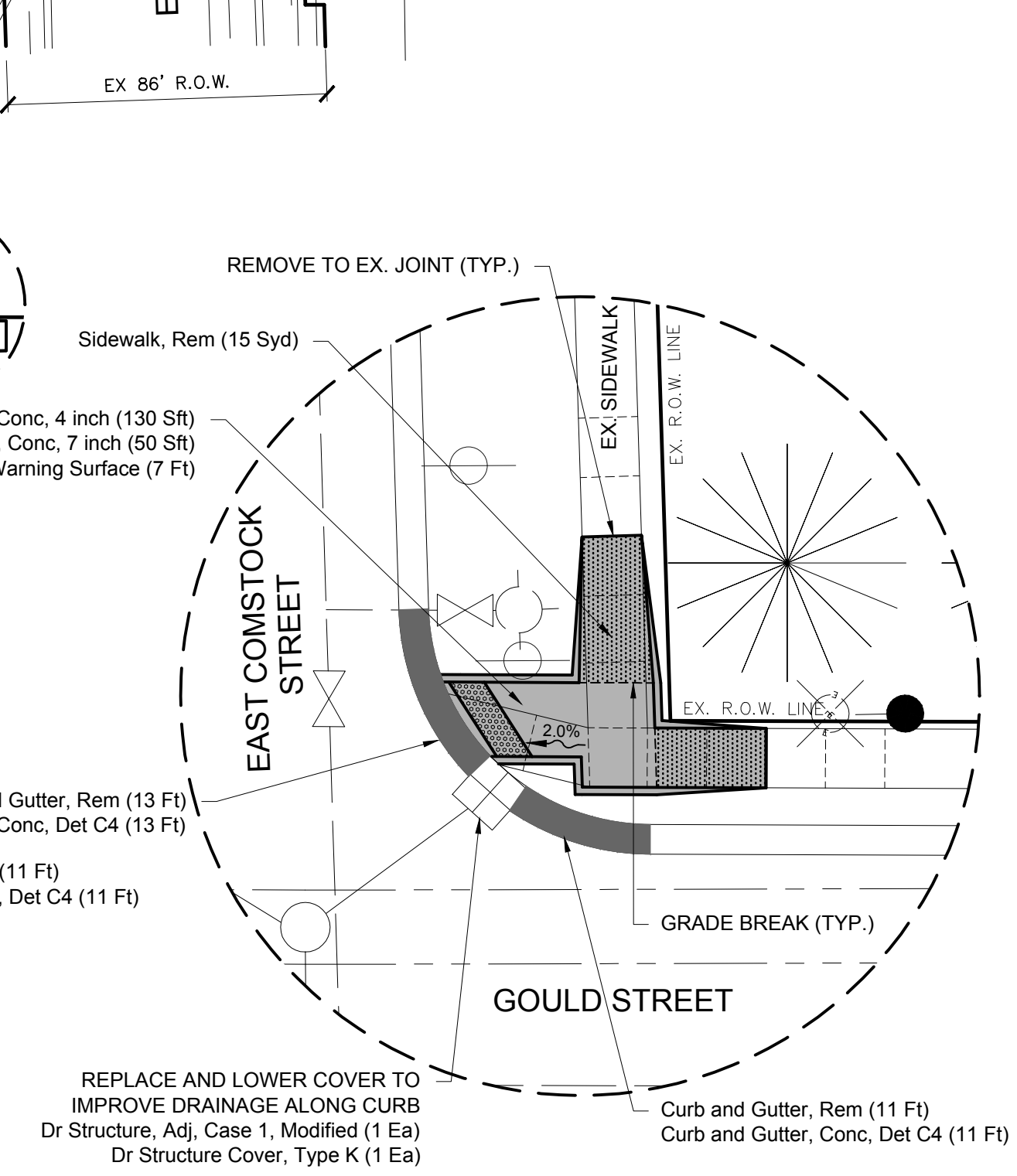
SIDEWALK RAMP DETAIL
 SCALE: 1" = 10'



SIDEWALK RAMP DETAIL
 SCALE: 1" = 10'



SIDEWALK RAMP DETAIL
 SCALE: 1" = 10'

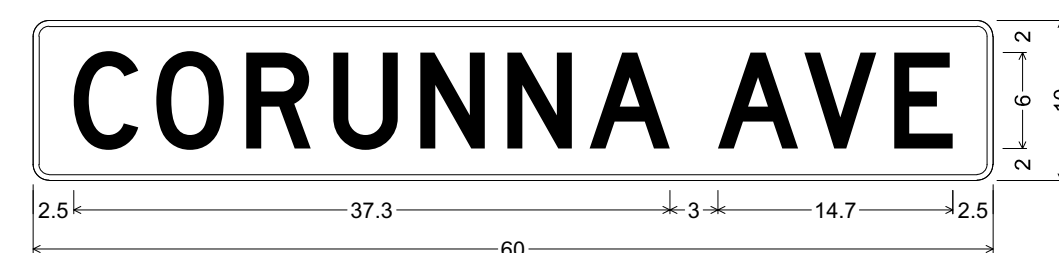
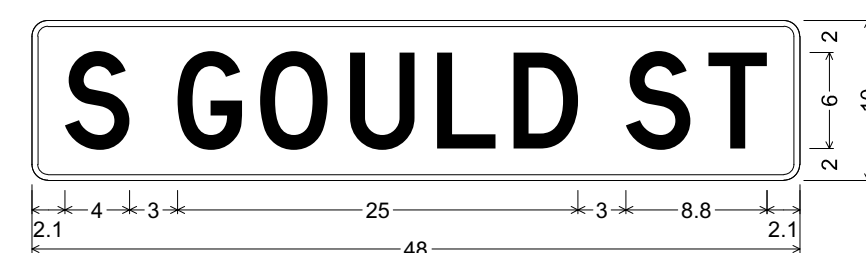
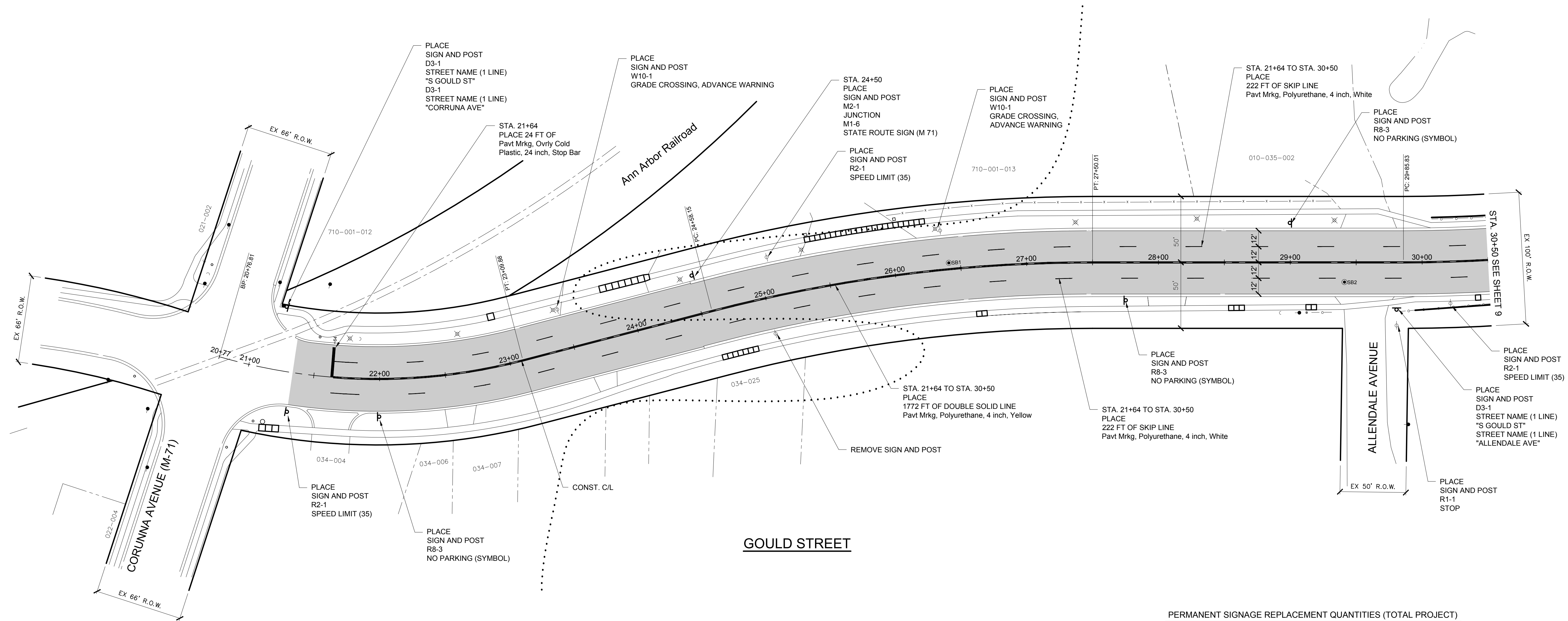
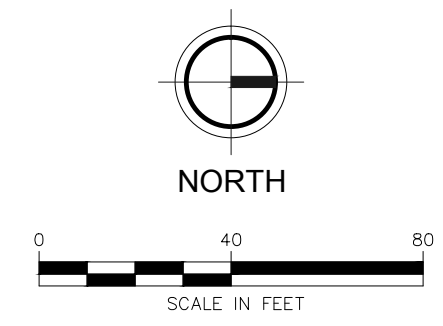


SIDEWALK RAMP DETAIL
 SCALE: 1" = 10'

- LEGEND**
- SLOPED SURFACE (MAX 8%)
 - Sidewalk Ramp, Conc. _ inch PAY ITEM

- LEGEND**
- SLOPED SURFACE (MAX 8%)
 - Sidewalk Ramp, Conc. _ inch PAY ITEM





D3-1 SIGN DETAILS

PERMANENT SIGNAGE REPLACEMENT QUANTITIES (TOTAL PROJECT)

SIGN DESIGNATION	SIGN TYPE	SIZE	SQUARE FEET	QUANTITY	TOTAL SQUARE FOOTAGE
R2-1	SPEED LIMIT (35 MPH)	30" x 36"	7.50	8	60.00
R1-1	STOP	30" x 30"	6.25	4	25.00
R8-3	NO PARKING (SYMBOL)	18" x 18"	2.25	7	15.75
D3-1	STREET SIGN (CORRUNA AVE)	60" x 10"	4.17	2	8.33
D3-1	STREET SIGN (S GOULD ST)	48" x 10"	3.33	10	33.30
D3-1	STREET SIGN (ALLENDALE AVE)	66" x 10"	4.58	2	9.17
D3-1	STREET SIGN (JEROME AVE)	54" x 10"	3.75	2	7.50
D3-1	STREET SIGN (GROVER ST)	48" x 10"	3.33	2	6.66
D3-1	STREET SIGN (E COMSTOCK ST)	66" x 10"	4.58	2	9.16
W8-13	BRIDGE ICES BEFORE ROAD	36" x 36"	9.00	2	18.00
W10-1	GRADE CROSSING ADVANCED WARNING	36" DIA.	7.00	2	14.00
W11-10a	TRUCK	36" x 36"	9.00	1	9.00
M2-1	JUNCTION	21" x 15"	2.19	1	2.19
M1-6	STATE ROUTE SIGN (M 71)	24" x 24"	4.00	1	4.00
	Sign, Type IVA			222.06	
	Post, Steel, 3 Lb			560	

NOTE
THE CONTRACTOR SHALL PROVIDE ALL NEW PERMANENT SIGNING AS DIRECTED BY THE CONSTRUCTION ENGINEER

REVISION:

CITY OF OWOSSO
SHIAWASSEE COUNTY, MICHIGAN
GOULD STREET RESURFACING
PAVEMENT MARKING AND SIGNAGE PLAN

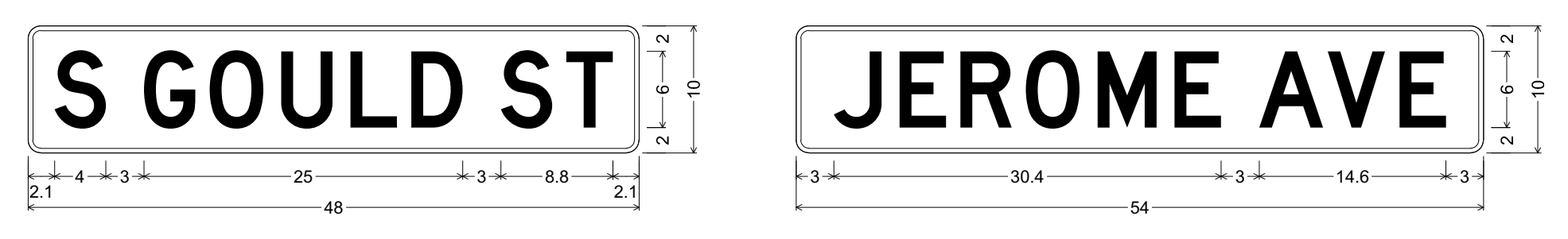
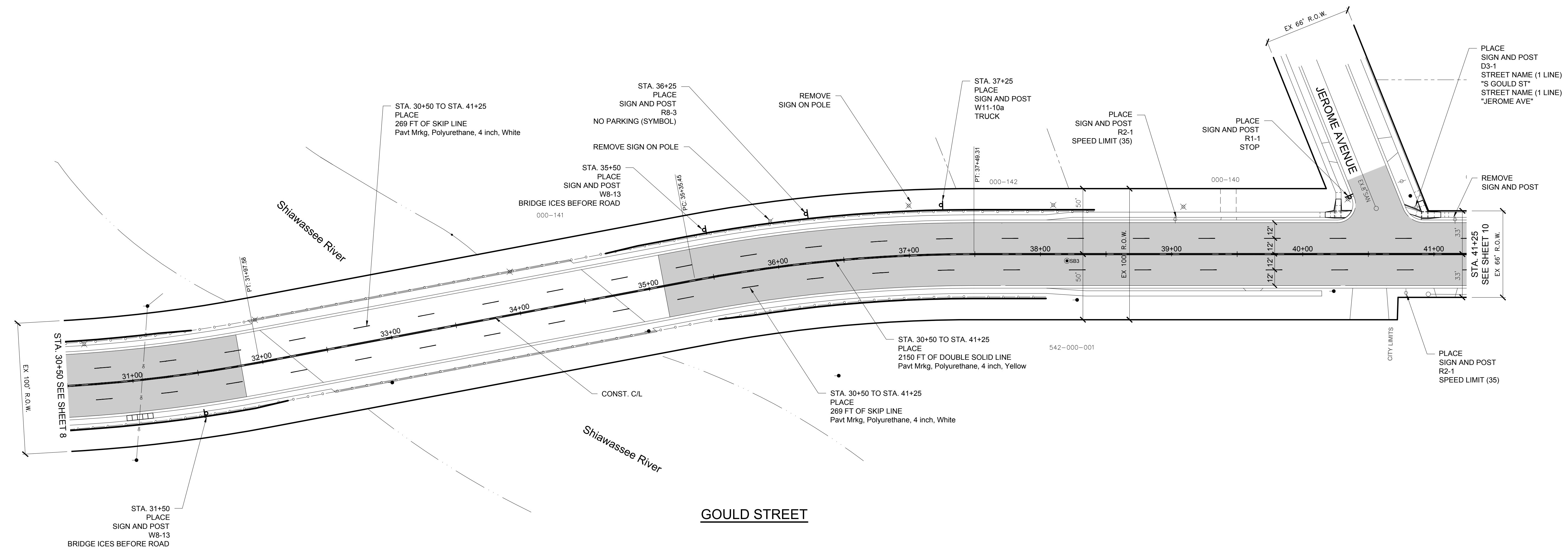
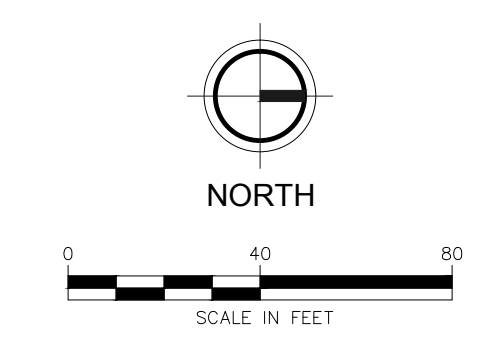
DESIGN TEAM:
CLR, DPH
CHECK BY:
S.J.N. NOV 2015
DRAWING INFORMATION:
823450_08
112515 gnt/cr

NOVEMBER 2015

REV PROJECT NO.
823450



Know what's below.
Call before you dig.

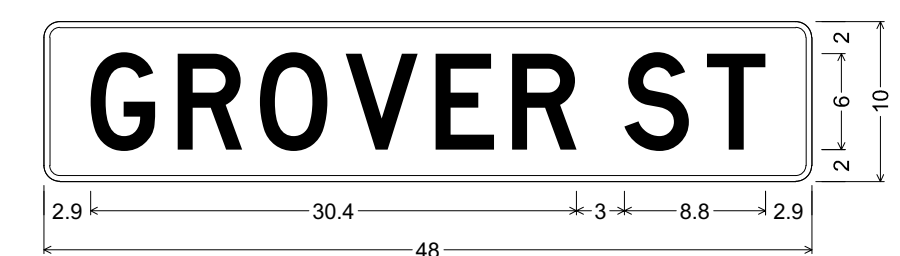
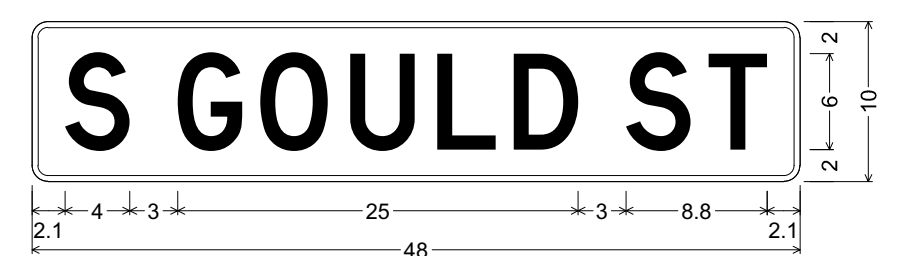
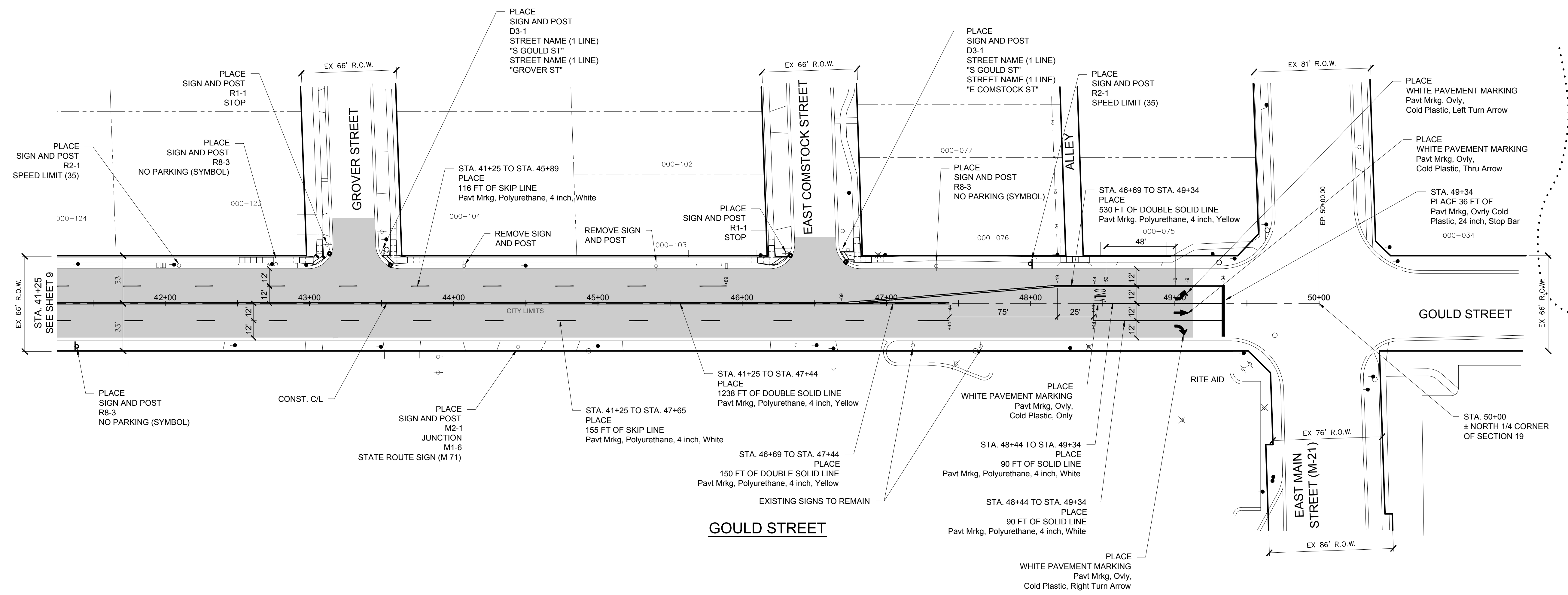
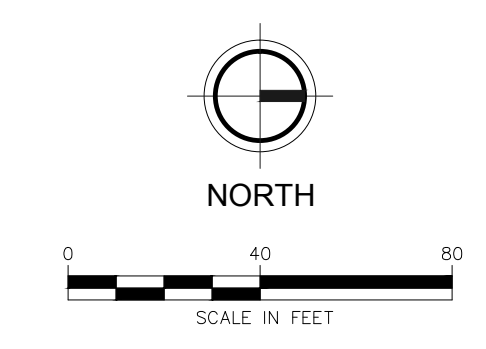


REVISION:
 CITY OF OWOSSO
 SHIawassee COUNTY, MICHIGAN
 GOULD STREET RESURFACING
 PAVEMENT MARKING AND SIGNAGE PLAN

DESIGN TEAM:
 CLR, DPH
 CHECK BY:
 SJJ NOV 2015
 DRAWING INFORMATION:
 823450_09
 112515 gmf/cr

NOVEMBER 2015
 REV PROJECT NO.
 823450





D3-1 SIGN DETAILS

REVISION:
CITY OF OWOSO
SHIAWASSEE COUNTY, MICHIGAN
GOULD STREET RESURFACING
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DESIGN TEAM:
CLR, DPH
CHECK BY:
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Know what's below.
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