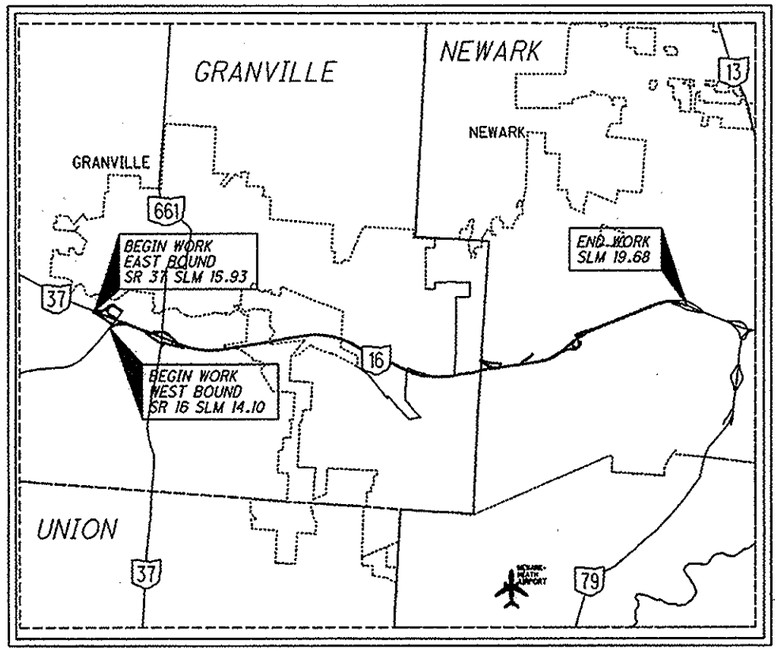

LOCATION MAP

LON/LAT: 82° 28' 41" / 40° 03' 16"

PORTION TO BE IMPROVED

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LIC-16-14.10
LIC-37-15.93

CITY OF NEWARK
VILLAGE OF GRANVILLE

GRANVILLE AND NEWARK TOWNSHIPS

LICKING COUNTY

PROJECT DESCRIPTION:

4 LANE DIVIDED ASPHALT CONCRETE RESURFACING AND RELATED WORK ON.

Project Earth Disturbed Area =
N/A (Maintenance Project)
Estimated Contractor Earth Disturbed Area =
N/A (Maintenance Project)
Notice of Intent Earth Disturbed Area =
N/A (Maintenance Project)

LOCATION	COUNTY	ROUTE	BEGIN SLM	END SLM	LENGTH MILES	VILLAGE/CITY
1	LIC	S.R. 16	14.10	19.68	5.58	GRANVILLE/NEWARK
2	LIC	S.R. 37	15.93	16.21	0.28	

DESIGN DESIGNATION	LOCATION 1 LIC-16	LOCATION 2 LIC-37
Functional Classification	EXPRESSWAY	EXPRESSWAY
Opening Year ADT (2012)	36000	36000
Design Year ADT (2024)	43900	43900
Design Hourly Volume (2024)	3950	3950
Directional Distribution	55%	55%
Trucks (24 Hour B&C)	5%	5%
Design Speed	55mph	55mph
Legal Speed	55mph	55mph

INDEX OF SHEETS:

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2010 SPECIFICATIONS

THE STANDARD 2010 SPECIFICATIONS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND THE PROPOSAL SHALL GOVERN THESE IMPROVEMENTS.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THESE IMPROVEMENTS WILL NOT REQUIRE THE CLOSING OF THE HIGHWAY AND PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS INDICATED IN THE PROPOSAL.

DESIGN EXCEPTIONS: NONE

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 5 PLANNING AND ENGINEERING

ENGINEERS SEAL:
STATE OF OHIO
DOUGLAS N. MORGAN
E-63839
REGISTERED
PROFESSIONAL ENGINEER
SIGNED: Douglas N. Morgan
DATE: 3-6-2012

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	
BP-2.5	7-18-08	TC-65.10	4-20-12	800	10-19-12
BP-3.1	4-20-12	TC-65.11	4-20-12	817	4-20-12
BP-9.1	4-15-05	TC-71.10	1-21-11	821	4-20-12
		TC-72.20	7-20-12	823	7-15-11
MT-95.30	7-20-12	TC-73.10	4-20-12	832	5-5-09
MT-98.10	7-20-12				
MT-98.11	7-20-12				
MT-98.20	7-20-12				
MT-98.22	7-20-12				
MT-98.28	7-20-12			SPECIAL PROVISIONS	
MT-99.20	7-20-12				
MT-101.90	10-21-11				
MT-105.10	7-20-12				

APPROVED
DATE 3/7/12 DISTRICT DEPUTY DIRECTOR

APPROVED
DATE 9-18-12 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E050(501)
PID NO. 25161
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
LIC-16-14.10
LIC-37-15.93
1/23

LIC - SR-16-14.10; LIC-37-15.93
120679 PID - 25161
Dist 5 12/13/2012
Contract Proposal Available @www.comtracts.dot.state.oh.us / home
L016_MTS_001.dgn 8-28-2012

UTILITIES

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

NOTIFICATION OF ROAD CLOSURE OR RESTRICTION

IN ORDER FOR ODOT TO PROPERLY PERMIT OVERSIZE LOADS, PREPARE PROPER SIGNING WHEN REQUIRED AND FURTHER TO NOTIFY THE GENERAL MOTORING PUBLIC, THE CONTRACTOR SHALL NOTIFY (IN WRITING THE DISTRICT 5 DISTRICT CONSTRUCTION ENGINEER WITH COPIES FOR THE DISTRICT 5 ROADWAY SERVICES MANAGER AND PROJECT ENGINEER NOT LESS THAN 21 DAYS BEFORE SUCH CLOSURE OR LANE RESTRICTIONS.

SEND NOTIFICATION TO:
DISTRICT 5 DISTRICT CONSTRUCTION ENGINEER
P.O. BOX 306
JACKSONSTOWN, OH 43030
PHONE: (740) 323-5241

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT, SHALL EXCEED A HEIGHT OF 44FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. A COPY OF THE SUBMISSION AND TWO COPIES OF FORM 7460-1 SHALL BE FORWARDED TO THE ODOT OFFICE OF AVIATION.

NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

EXPRESS PROCESSING CENTER
THE FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGIONAL OFFICE
AIR TRAFFIC AIRSPACE BRANCH ASW-520
2601 MEACHAN BLVD.
FORT WORTH, TX 76137-4298

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
614-387-2346

DROPOFFS IN WORK ZONES

DROPOFFS THAT DEVELOP DURING CONSTRUCTION OPERATIONS AND THAT ARE NOT OTHERWISE PROVIDED FOR IN THE PLANS SHALL BE TREATED AS SHOWN ON STANDARD DRAWING MT-101.90. WHERE THE PLANS DO NOT PROVIDE SPECIFIC ITEMS FOR LABOR, EQUIPMENT, OR MATERIALS TO IMPLEMENT THE DROP-OFF TREATMENTS SPECIFIED, THEY SHALL BE INCLUDED FOR PAYMENT IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

PAVEMENT MARKING

STOP LINES, CROSSWALK LINES, CHANNELIZING LINES, ETC., SHOWN IN THE PLANS ARE TAKEN FROM EXISTING MARKINGS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DOCUMENT EXISTING MARKING LOCATIONS (i.e. BY USE OF VIDEO, PICTURES) AND PLACE NEW PAVEMENT MARKINGS AS NEAR AS POSSIBLE TO THE EXISTING LOCATIONS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. DOCUMENTATION OF PAVEMENT MARKING SHALL BE SUPPLIED TO THE ENGINEER BEFORE COMMENCEMENT OF ANY OPERATION WHICH WILL REMOVE/OBLITERATE MARKINGS.

ITEM 209 LINEAR GRADING

IN ORDER TO PROVIDE POSITIVE DRAINAGE FROM THE ROADWAY SURFACE TO THE SHOULDER BREAK, THE EXISTING ROADWAY SHOULDERS SHALL BE GRADED AND SHAPED USING A GRADER OF ADEQUATE SIZE TO PERFORM THE WORK TO THE SATISFACTION OF THE ENGINEER.

ALL EXCESS MATERIAL REMAINING AROUND GUARDRAIL AND OTHER AREAS AFTER THE GRADER WORK IS COMPLETED AND NOT DISPOSED OF ON THE SITE, SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. ALL EQUIPMENT, LABOR, OR INCIDENTALS REQUIRED TO COMPLETE THIS ITEM SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR ITEM 209 LINEAR GRADING.

THIS WORK MAY BE INTERMITTENT AND SPREAD THROUGHOUT THE PROJECT LIMITS, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR WILL ONLY BE PAID FOR INTERSECTIONS AND GAPS IF THEY ARE WITHIN THE LIMITS OF A SECTION MARKED BY THE ENGINEER FOR GRADING.

AREAS WITH GUADRAIL SHALL NOT BE EXCLUDED FROM LINEAR GRADING.

ALL LINEAR GRADING WORK SHALL BE DONE BEFORE PLACING THE ASPHALT SURFACE COURSE

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THE ABOVE PURPOSES AND TO REPAIR EXISTING AGGREGATE SHOULDERS AS DIRECTED BY THE ENGINEER.

ITEM 209 LINEAR GRADING – LOC. 1 - 18 MILE LOC. 2 – 0.5 MILE

ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE

DEPTH OF PLANING SHALL BE 1.75" FULL WIDTH OF PAVEMENT FOR MAINLINE AND 1.75" FULL WIDTH FOR RAMPS, INCLUDING PAVED SHOULDERS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER

THE ROADWAY SHALL BE PLANED SUCH THAT POSITIVE DRAINAGE IS CREATED FROM THE LANE LINE TO THE EDGE OF PAVEMENT IN TANGENT SECTIONS AND SHALL FOLLOW EXISTING SUPERELEVATIONS WHERE APPLICABLE. ALL REQUIREMENTS OF ITEM 254 SHALL APPLY.

ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS

THIS ITEM SHALL BE USED TO REMOVE AND REPLACE THE DETERIORATED 15" PLAIN CONCRETE PAVEMENT BETWEEN SLM 16.64 AND SLM 16.94 (CHERRY VALLEY ROAD INTERSECTION). ALL WORK SHALL BE COMPLETED AS PER THE CURRENT CMS MANUAL AND STANDARD CONSTRUCTION DRAWING BP-2,5. THE FOLLOWING QUANTITIES SHALL BE USED AS DIRECTED BY THE ENGINEER TO COMPLETE THE WORK DESCRIBED.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, TRAFFIC CONTROL AND INCIDENTALS NEEDED TO COMPLETE THE WORK DESCRIBED ABOVE SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID.

EAST BOUND: 5 @ 6' X 6' = 20 SQ.YD.
WEST BOUND 6 @ 15' X 12' = 120 SQ.YD.

LOCATION 1 :

ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS – 140 SQ.YD.

ITEM 255 FULL DEPTH PAVEMENT SAWING – 444 FEET

ITEM 407 TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD FOR ESTIMATING PURPOSES ONLY.

ITEM 407 TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT FOR INTERMEDIATE COURSE SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.05 GALLONS PER SQUARE YARD FOR ESTIMATING PURPOSES ONLY.

ITEM 516 2" DEEP JOINT SEALER, AS PER PLAN

THE CONTRACTOR SHALL PLACE A 1" X 2.0" DEEP BEAD OF JOINT SEALER (AS PER 705.04) AT THE LOCATIONS SHOWN IN PLANS. THE CONTRACTOR SHALL SAW CUT A CHANNEL FOR THE JOINT SEALER. THE COST FOR SAW CUTTING THE CHANNEL FOR THE JOINT SEALER SHALL BE INCLUDED FOR PAYMENT WITH ITEM 516, 2" DEEP JOINT SEALER, AS PER PLAN.

ITEM 617 COMPACTED AGGREGATE, AS PER PLAN

ALL AGGREGATE SHALL BE 100% CRUSHED LIMESTONE. ALL QUALITY REQUIREMENTS EXCEPT SHALE SHALL BE WAIVED. OTHER GRADATION REQUIREMENTS SHALL BE AS SPECIFIED EXCEPT THE INDEX SHALL BE WAIVED. IF SO PERMITTED, THE CONTRACTOR MAY USE ASPHALT CONCRETE PAVEMENT (RACP MEETING REQUIREMENTS OF 617.02) IN LIEU OF CRUSHED LIMESTONE.

ITEM 621 RAISED PAVEMENT MARKER REMOVED

RPM REMOVAL SHALL NOT OCCUR SOONER THAN 10 DAYS PRIOR TO RESURFACING OF THE ROADWAY. ALL RPM'S REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

ITEM 632 DETECTOR LOOP, AS PER PLAN

ALL STOP LINE INDUCTANCE DETECTOR LOOPS SHALL BE THE POWER HEAD CONFIGURATION SHOWN ON TC-82.10. THE WIDTH SHALL BE AS SPECIFIED ON TC-82.10 AND THE LENGTH SHALL BE AS CURRENTLY CALLED FOR IN THE PLANS. THE STOP LINE DETECTOR LOOPS SHALL NOT BE WIRED TO ANY OTHER LOOPS AND SHALL HAVE ITS OWN DETECTOR CHANNEL.

ALL DILEMMA ZONE INDUCTANCE DETECTOR LOOPS CALLED FOR IN THE PLANS SHALL BE THE ANGULAR DESIGN DETECTION (ADD) LOOP AS SHOWN ON TC-82.10. DIMENSIONS SHALL BE AS SPECIFIED ON TC-82.10.

SYSTEM LOOPS SHALL BE AS DEPICTED IN THE PLANS.

ALL STOP LINE DETECTION SHALL BE TESTED FOR A BICYCLE TARGET AND ALL DILEMMA DETECTION ZONES SHALL BE TESTED FOR A MOTORCYCLE TARGET.

ALL DETECTOR LOOPS SHALL BE CUT INTO THE PLANED SURFACE OR THE PROPOSED INTERMEDIATE COURSE AT A DEPTH OF 4" FROM THE PROPOSED SURFACE ELEVATION. IF THE CONTRACTOR SO CHOOSES, THEY MAY CUT THE DETECTOR LOOPS INTO THE EXISTING ASPHALT BEFORE PLANING BUT SHALL MAKE SURE THE MATERIAL USED TO FILL THE SAW CUT IS LEFT FAR ENOUGH BELOW THE SURFACE COURSE THAT IT WILL NOT BE DISTURBED DURING THE PLANING OPERATION. THE CONTRACTOR SHALL TEST ALL LEAD-IN CABLES PRIOR TO MAKING THE FINAL SPLICE. PLACEMENT SHALL BE AS PER SPECIFICATION 632.10. FINAL LOCATIONS, SIZE AND ORIENTATION SHALL BE PROVIDED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING. ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, TRAFFIC CONTROL AND INCIDENTALS NECESSARY TO PERFORM THE WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 632, DETECTOR LOOP, AS PER PLAN.

LOCATION 1 – 11 EACH

RAMP "G" @ S.R. 37 – 1 DELIMNA ZONE, 1(8'X20') SYSTEM, 2 POWERHEAD
RAMP "F" @ S.R. 661 – 1 DELIMNA ZONE, 1 (8'X20') SYSTEM, 2 POWERHEAD
RAMP "B" AND COUNTRY CLUB DR. – 2 POWERHEAD, 1 DELIMNA ZONE

ITEM SPECIAL – REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS

THIS ITEM SHALL BE USED TO REINFORCE TRANSVERSE JOINT CRACKS. PLACE REINFORCING MESH ON PLANED SURFACE, 5.0' WIDE FROM EDGE LINE TO EDGE LINE (24' LENGTH) CENTERED OVER TRANSVERSE JOINT CRACK. THE ENTIRE ROADWAY SHALL BE OVERLAYED WITH 3.25" ASPHALT CONCRETE AFTER PLACING OF THE REINFORCING MESH. THIS WORK SHALL BE PERFORMED ON APPROXIMATELY 75% OF JOINTS THROUGHOUT THE PROJECT LIMITS AS DIRECTED BY THE PROJECT ENGINEER. THE PROJECT ENGINEER SHALL SELECT TRANSVERSE JOINT CRACKS UNTIL ALL OF THE MATERIAL SHOWN BELOW HAS BEEN UTILIZED. REINFORCING MATERIAL SHALL BE GLASGRID CG100 OR EQUIVALENT AND SHALL BE PLACED ACCORDING TO MANUFACTURER'S SPECIFICAT-IONS AND THIS NOTE.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, TRAFFIC CONTROL AND INCIDENTALS NEEDED TO COMPLETE THE WORK DESCRIBED ABOVE SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR ITEM SPECIAL – REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS.

S.R. 37 E.B. - SLM 15.93 TO SLM 16.21 = 1,479' / 60' SPACING = 25 JOINTS
25 JOINTS X 24' X 5' WIDE = 334 SQ.YD.

S.R. 16 - SLM 14.24 TO SLM 17.76 = 18,586' / 60' SPACING = 310 JOINTS
310 JOINTS X 48' X 5' WIDE = 8,267 SQ.YD.

RAMPS AT S.R. 16 AND S.R. 37/661 – 80 JOINTS X 16' X 5' WIDE = 711 SQ.YD.

ITEM 690 SPECIAL – REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS

LOCATION 1 – 8,267 SQ.YD. + 711 SQ.YD. = 8,978 SQ.YD.
LOCATION 2 – 334 SQ.YD.

ITEM SPECIAL PATCHING CONCRETE BRIDGE DECKS, TYPE B

*THIS ITEM SHALL BE AS PER PROPOSAL NOTE 512 WITH THE EXCEPTION THAT COARSE AGGREGATE **WILL BE** ADDED IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS WHEN THE DEPTH OF THE PATCH EXCEEDS 1 INCH. ALL COST ASSOCIATED WITH ADDING THE COARSE AGGREGATE TO THE MIX WILL BE INCLUDED FOR PAYMENT WITH ITEM SPECIAL, PATCHING CONCRETE BRIDGE DECKS, TYPE B.*

CALCULATED LME
CHECKED DNM

GENERAL NOTES

LIC-16-14.10
LIC-37-15.93

L016_MGN_002.dgn DATED 8/28/2012

ITEM 614 MAINTAINING TRAFFIC

TO MINIMIZE THE IMPACTS TO THE TRAVELING PUBLIC, ALL OF THE PROPOSED WORK FOR THIS PROJECT SHALL BE COMPLETED DURING NIGHT TIME HOURS BEGINNING AT 7:00 P.M. AND ENDING AT 7:00 A.M..

NO WORK WITHIN ACTIVE TRAVEL LANES OR WHICH WILL SLOW TRAFFIC IS PERMITTED AT ANY OTHER TIMES.

THE WORK ZONE CLOSURES SHALL BE NO LONGER THAN 2 MILES OR AS DIRECTED BY THE ENGINEER IN CONSIDERATION OF THE TRAFFIC FLOW.

WHEN NECESSARY, LANE CLOSURES WILL BE ACCOMPLISHED IN ACCORDANCE WITH THE STANDARD DRAWINGS.

IT IS THE INTENT TO RESTRICT LANE CLOSURES TO THE MINIMUM AMOUNT OF TIME NECESSARY TO PERFORM THE WORK AS DESCRIBED IN THE PLANS. THE CONTRACTOR WILL NOT COMMENCE ANY LANE CLOSURE BEFORE THE HOURS AS SPECIFIED OR COMMENCE ANY CLOSURE AT A TIME WHICH WILL NOT ALLOW COMPLETION OF THE WORK PRIOR TO THE HOURS SPECIFIED. SHOULD THE CONTRACTOR CLOSE THE LANES BEFORE THE ALLOWABLE TIME AND/OR FAIL TO RE-OPEN ALL LANES TO TRAFFIC BY THE ALLOWABLE TIME A DISINCENTIVE OF $50 PER MINUTE SHALL BE ASSESSED FOR EACH MINUTE OUTSIDE THE PERMITTED LANE CLOSURE.

THE CONTRACTOR WILL HAVE ON SITE AND IN WORKING AND OR SUITABLE CONDITION; ALL EQUIPMENT, TOOLS, LABORERS, LEO'S, TRAFFIC CONTROL DEVICES AND INCIDENTALS NECESSARY TO EFFICIENTLY PERFORM THE CLOSURE BEFORE INITIALIZING THE LANE CLOSURE.

THERE SHALL BE NO LANE CLOSURES ON HOLIDAYS OR HOLIDAY WEEKENDS. THE FOLLOWING ARE CONSIDERED HOLIDAYS:

MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING, CHRISTMAS , NEW YEARS, EASTER.

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIMES ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 12:00N TUESDAY
MONDAY	12:00N FRIDAY THROUGH 12:00N TUESDAY
TUESDAY	12:00N MONDAY THROUGH 12:00N WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 12:00N THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 12:00N FRIDAY
FRIDAY	12:00N THURSDAY THROUGH 12:00N MONDAY
SATURDAY	12:00N FRIDAY THROUGH 12:00N MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $50 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

AREAS THAT ARE PLANED SHALL NOT BE OPENED TO TRAFFIC. ALL PLANED AREAS MUST BE INLAID WITH A PROPOSED COURSE OF ITEM 442 ASPHALT CONCRETE PRIOR TO BEING OPENED TO TRAFFIC.

ITEM 614 MAINTAINING TRAFFIC (cont'd)

OVERNIGHT CLOSURES MUST MEET SPECIFICATIONS AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE OPERATIONS SECTION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. ROADWAY SHALL NOT BE OPENED TO TRAFFIC WITHOUT EITHER THE PERMANENT OR WORK ZONE MARKINGS IN PLACE.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

BUTT JOINT

A BUTT JOINT WILL BE REQUIRED AT LOCATIONS SPECIFIED BELOW AND AT THE EXTRA AREAS WITH WEARING COURSE REMOVED.

BUTT JOINTS SHALL BE AS PER STANDARD CONSTRUCTION DRAWING BP-3.1 UNLESS OTHERWISE SHOWN IN THE PLANS.

MINIMUM 10' WEDGE LENGTH FOR ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC AT ALL BUTT JOINTS.

LOCATION	ROUTE	DESCRIPTION	S.L.M.	ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC CU. YD.
2	S.R. 37	BEGIN WORK E.B.	15.93	1.0
1	S.R. 16	BEGIN WORK W.B.	14.26	1.0
		LIC-16-1559 RT	15.59	1.0
		LIC-16-1559 LT	15.59	1.0
		LIC-16-1593 RT	15.93	1.0
		LIC-16-1593 LT	15.93	1.0
		CHERRY VALLEY	16.64	1.0
		CHERRY VALLEY	16.94	1.0
		LIC-16-1773 LT	17.73	1.0
		LIC-16-1859	18.59	1.0
		END WORK	19.68	1.0
1	**S.R. 16**	**TOTAL**		**10.0**

ITEM 614 WORK ZONE PAVEMENT MARKINGS

THE CONTRACTOR SHALL PLACE ALL WORK ZONE PAVEMENT MARKINGS IN ACCORDANCE WITH THE CURRENT CMS MANUAL AND STANDARD CONSTRUCTION DRAWINGS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

WORK ZONE PAVEMENT MARKINGS HAVE NOT BEEN ITEMIZED IN THE PLAN AND SHALL BE INCLUDED FOR PAYMENT WITH THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM 614 REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 40 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614 WORK ZONE MARKING SIGNS

IN ACCORDANCE WITH CMS SECTION 614.04, A QUANTITY OF WORK ZONE MARKING SIGNS HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

W8-H12a (NO EDGE LINES) – LOC. 1 - 10 EACH, LOC. 2 – 1 EACH

ITEM 614 WORK ZONE MARKING SIGN –
LOCATION 1 - 10 EACH LOCATION 2 – 1 EACH

IN ADDITION, THE CONTRACTOR SHALL ERECT A "GROOVED PAVEMENT" SIGN 250 FEET (75M) IN ADVANCE OF ANY SECTION OF ROADWAY WHERE TRAFFIC MUST TRAVEL ON A PLANED SURFACE. ENSURE THESE SIGNS ARE IN PLACE BEFORE OPENING THE ROADWAY TO TRAFFIC. ERECT THESE SIGNS ON EACH ENTRANCE RAMP AND AT INTERSECTIONS OF THROUGH ROUTES TO WARN TRAFFIC OF THIS SURFACE CONDITION. "GROOVED PAVEMENT" SIGNS SHALL BE INCLUDED FOR PAYMENT WITH THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AS PER CMS SECTION 614.055.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, FOUR CHANGEABLE MESSAGE SIGNS, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGNS SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THE APPROVED LIST OF PORTABLE CHANGEABLE MESSAGE SIGNS CAN BE FOUND ON THE ODOT WEBSITE BY CLICKING ON THE SERVICES MENU, THEN LICKING ON MATERIALS MANAGEMENT. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FT. AND 475 FT., RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETROREFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET(S) OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE TYPE G YELLOW RETROREFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 2 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC.

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (cont'd)

THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

A TOTAL OF 4 PCMS SHALL BE REQUIRED FOR THIS PROJECT.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO GENERAL SUMMARY:

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 240 DAY

ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS WILL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED IN THIS NOTE WILL NOT GENERALLY BE PERMITTED AT PROJECT COST UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE ENGINEER. LEOS SHOULD NOT BE USED WHERE THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED. IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

- WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A LIST OF THE APPROPRIATE LAW ENFORCEMENT AGENCY(S), INCLUDING ADDRESS AND TELEPHONE NUMBER.

ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE (CONT'D)

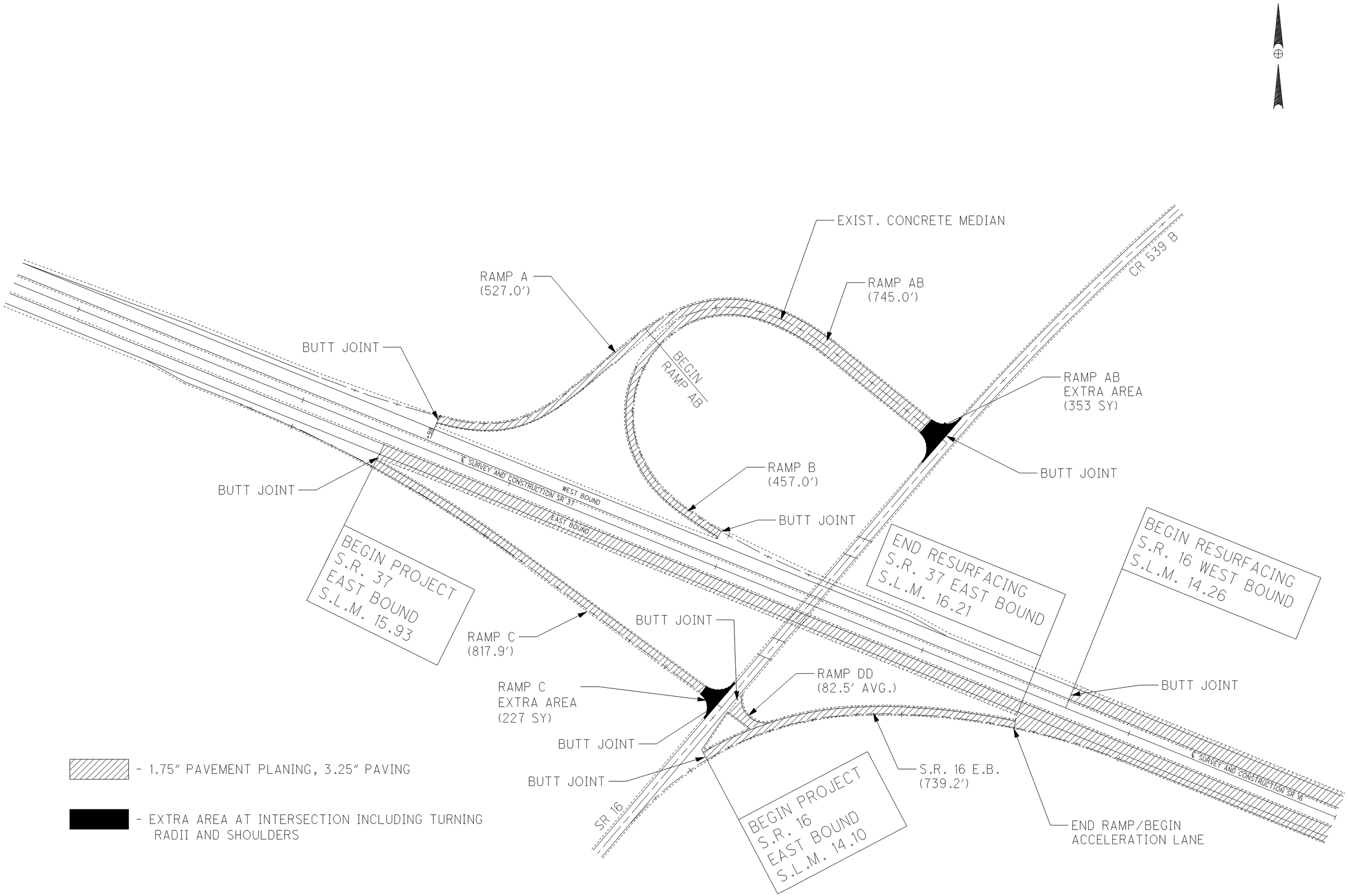
THE LEO SHOULD REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING THE SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF THE SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHOULD NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF THE SHIFT.

LAW ENFORCEMENT OFFICERS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR). **THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:**

ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE - 500 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR.



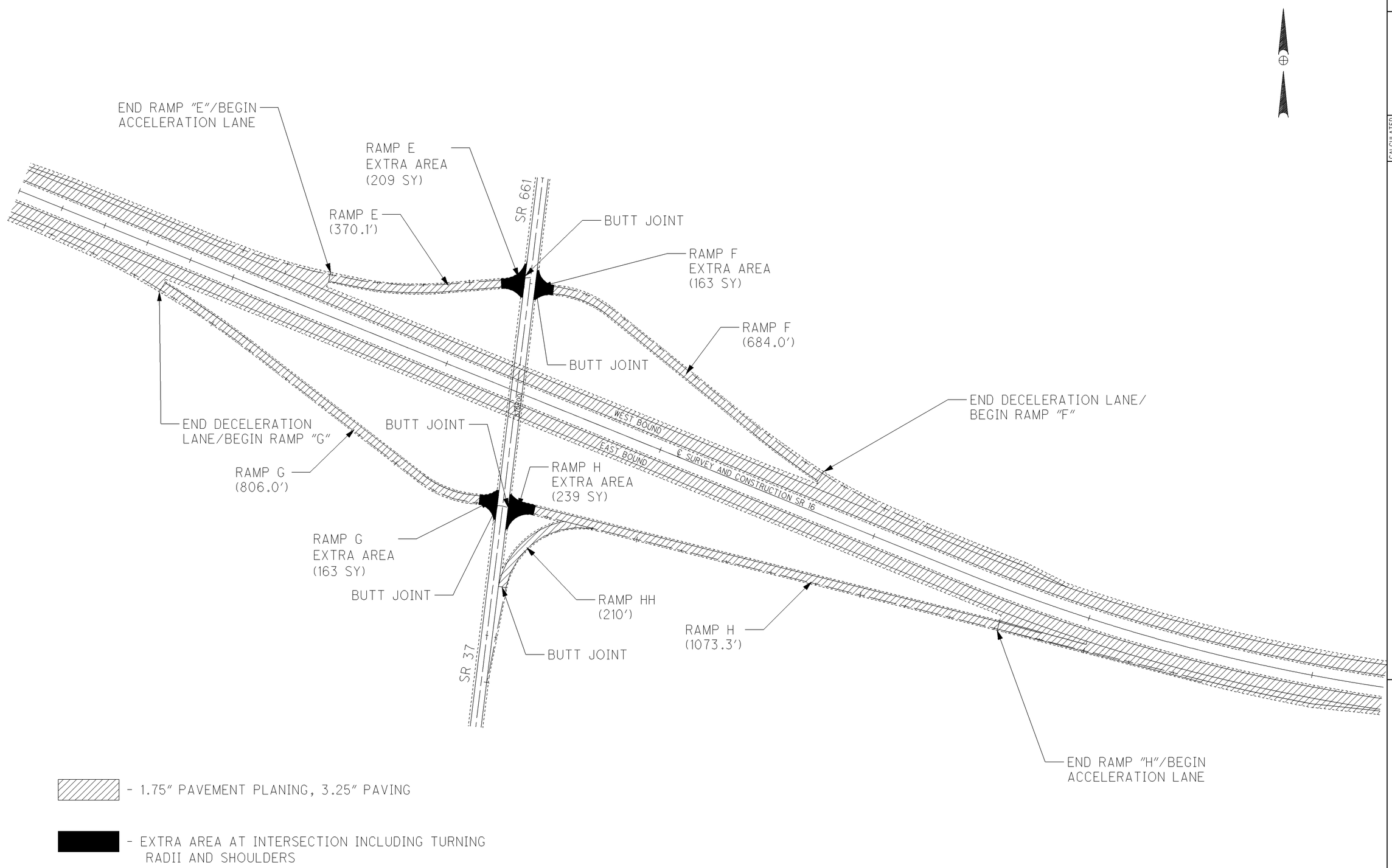
DRAWING
NOT TO SCALE

CALCULATED LME
CHECKED DNM

INTERCHNAGE DETAIL - SR 37/16

LIC-16-14.10
LIC-37-15.93

L016_GID_001.DGN DATED 3/6/2012



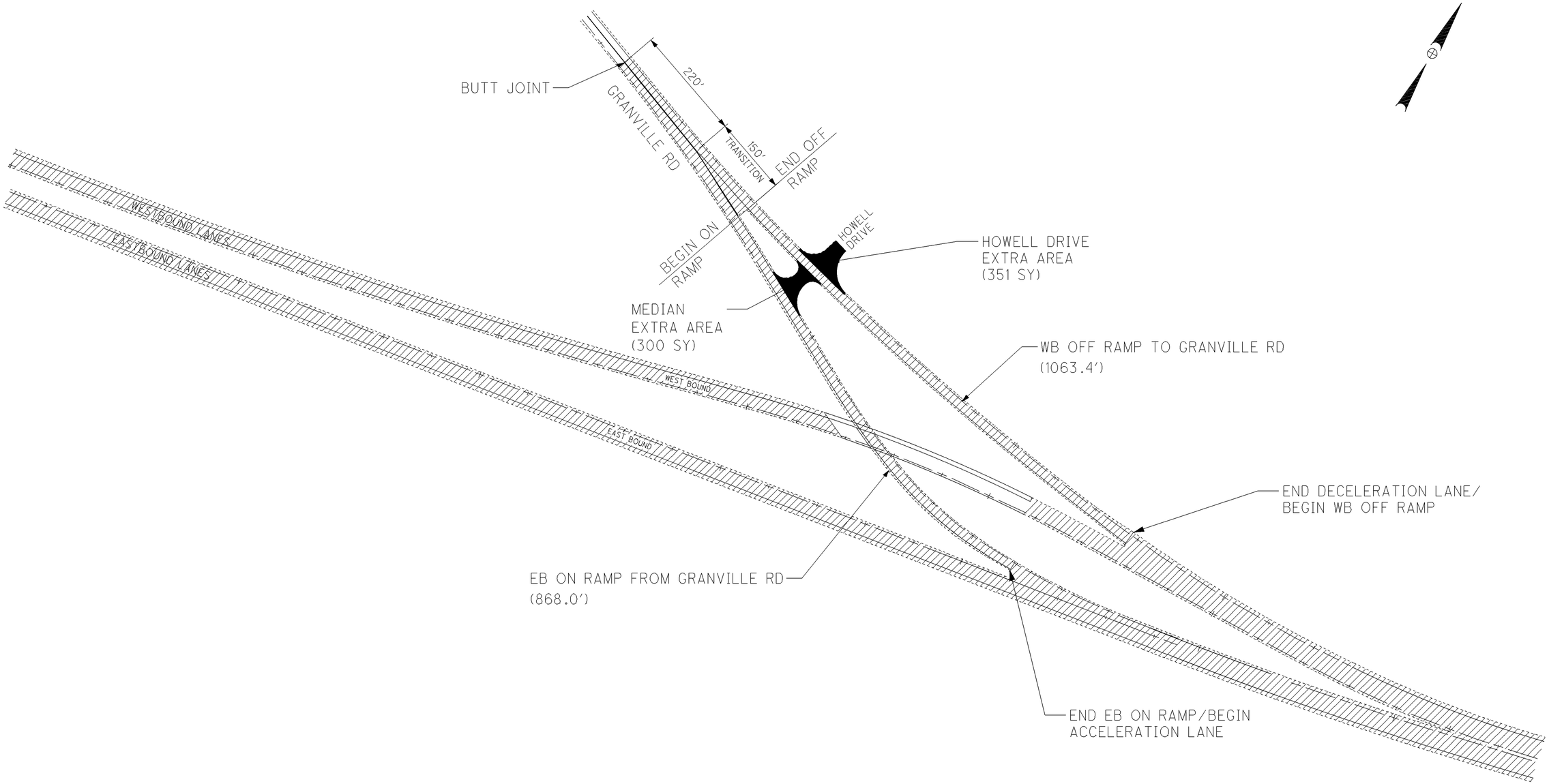
DRAWING NOT TO SCALE

CALCULATED LME CHECKED DNM

INTERCHANGE DETAIL - SR 16 & SR 37/661

LIC-16-14.10
LIC-37-15.93

L016_GID_001.DGN DATED 3/6/2012



- 1.75" PAVEMENT PLANING, 3.25" PAVING

- EXTRA AREA AT INTERSECTION INCLUDING TURNING RADII AND SHOULDERS

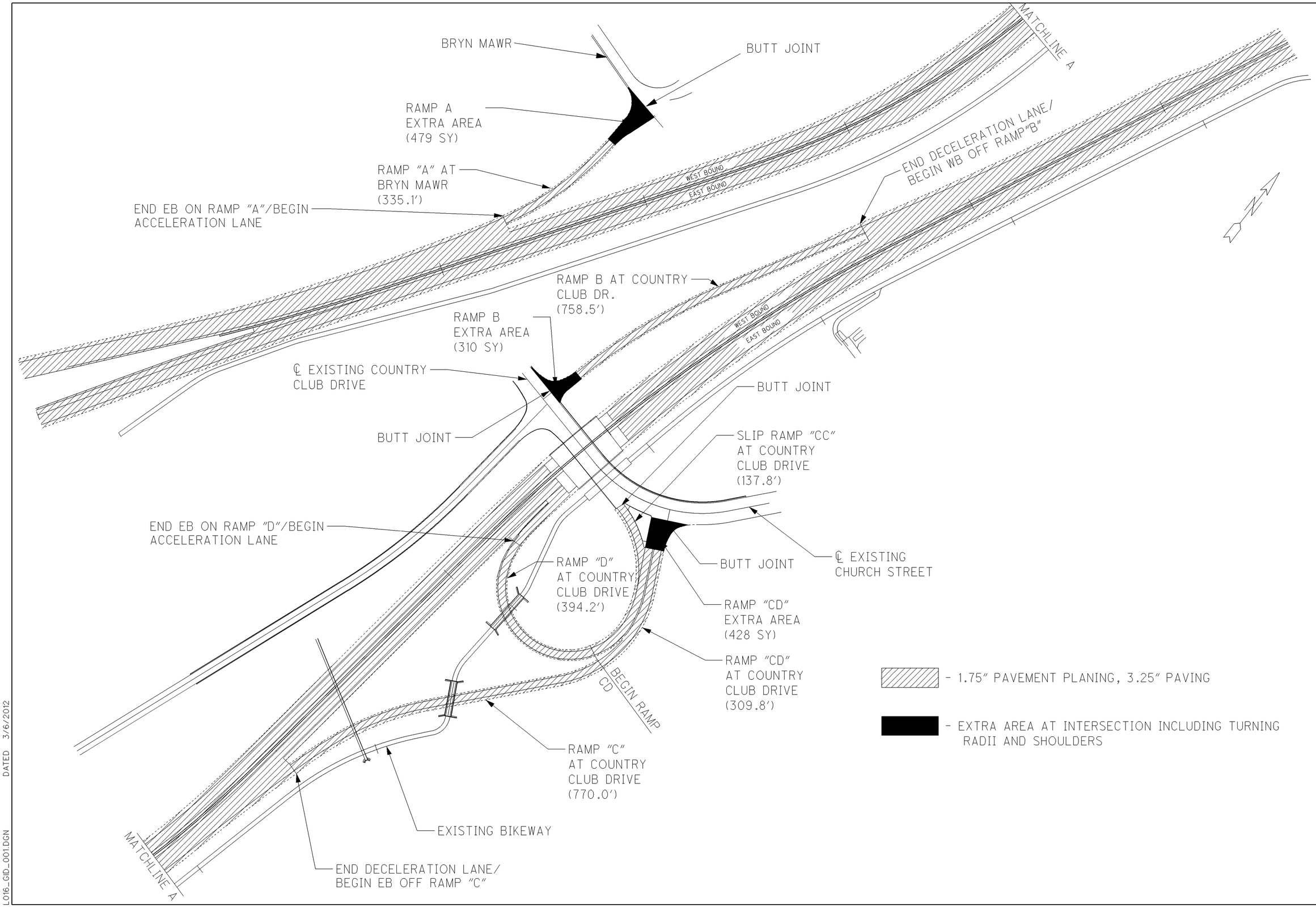
DRAWING NOT TO SCALE

CALCULATED LME CHECKED DNM

INTERCHANGE DETAIL - SR 16 & GRANVILLE RD.

LIC-16-14.10
LIC-37-15.93

L016_GID_001.DGN DATED 3/6/2012



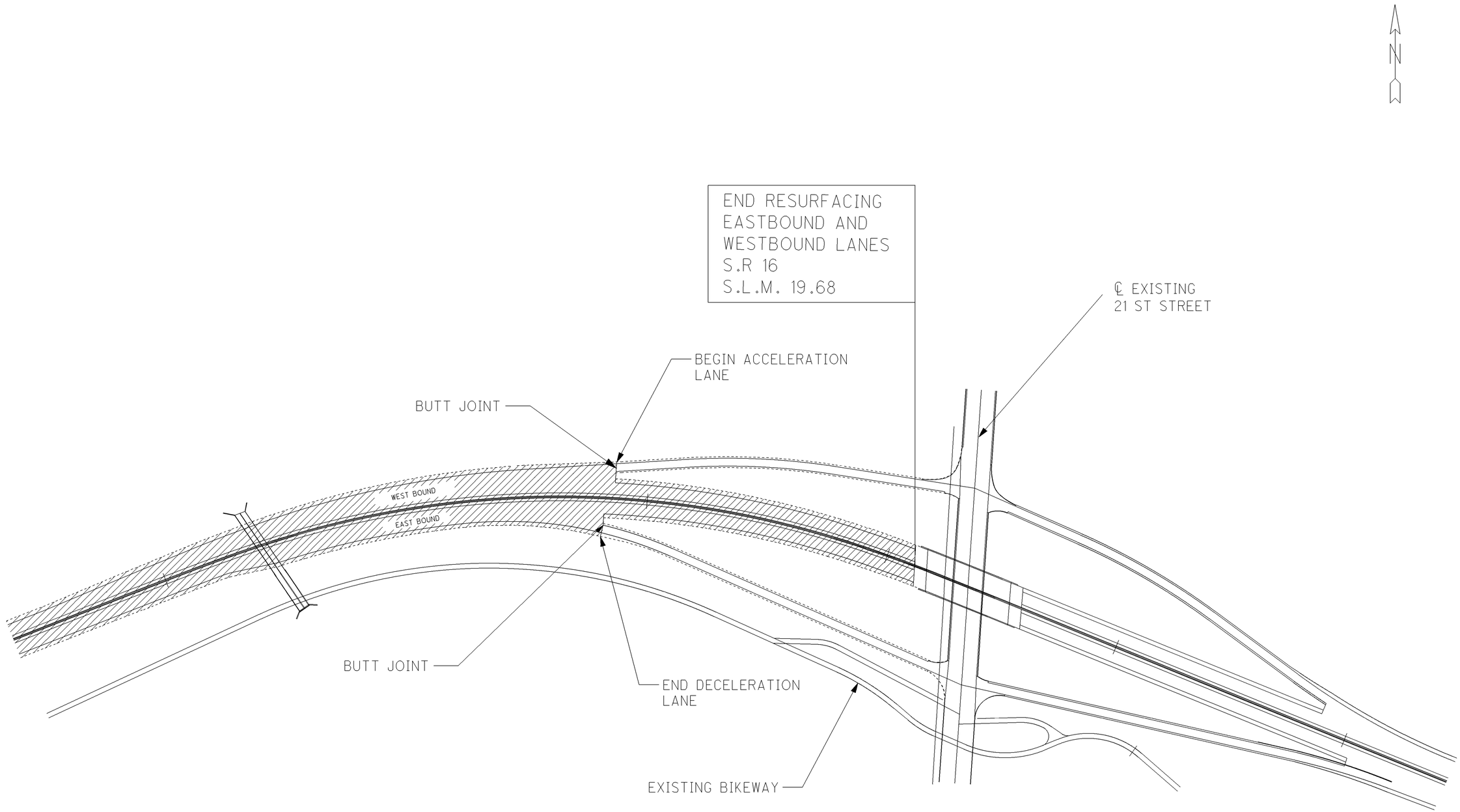
DRAWING
NOT TO SCALE

CALCULATED LME
CHECKED DNM

INTERCHANGE DETAIL - SR 16 & CHURCH ST.

LIC-16-14.10
LIC-37-15.93

L016_GID_001.DGN DATED 3/6/2012



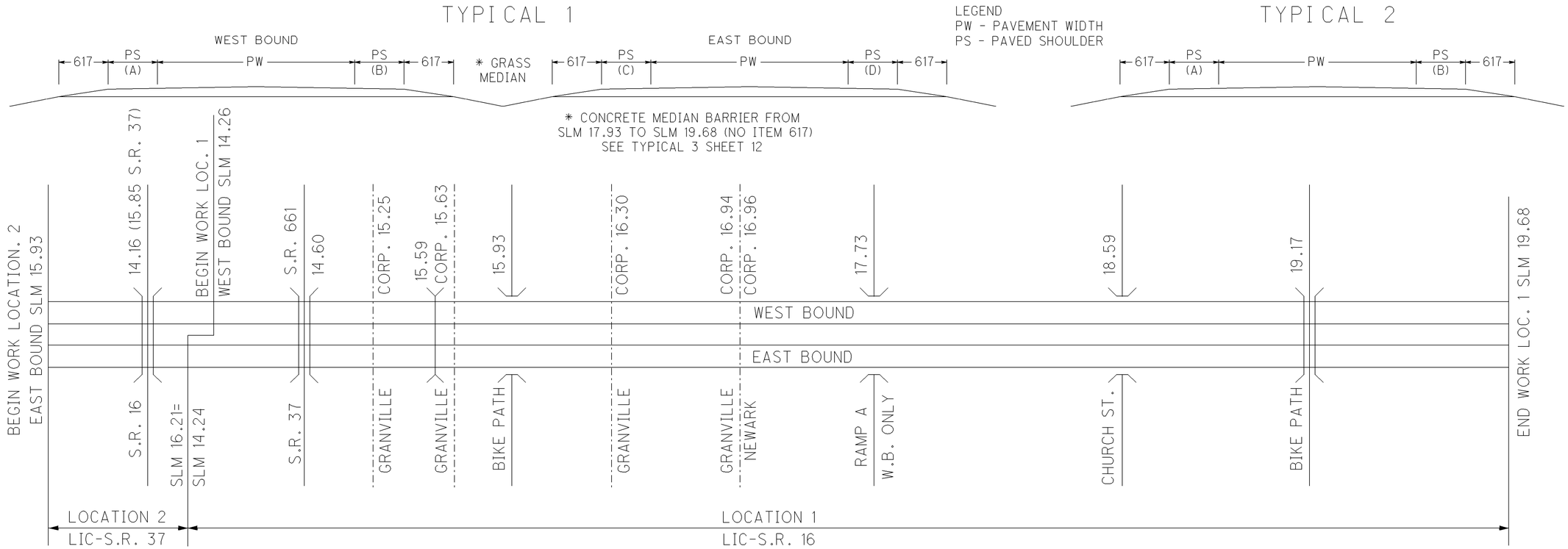
- 1.75" PAVEMENT PLANING, 3.25" PAVING

DRAWING
NOT TO SCALE

CALCULATED LME
CHECKED DNM

INTERCHANGE DETAIL - SR 16 & 21st ST.

LIC-16-14.10
LIC-37-15.93



PAVEMENT DATA

LOCATION	COUNTY	ROUTE	BEGIN LOG POINT SLM	END LOG POINT SLM	LENGTH MILES	LENGTH LIN. FT.	PAVEMENT WIDTH (FEET)	TYPICAL	EXISTING PAVEMENT TYPE	PAVEMENT AREA SQ. YD.	254 PAVEMENT PLANING, ASPHALT CONCRETE SQ. YD.	257 DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT SQ. YD.	407 TACK COAT @ 0.075 GAL./S.Y. GAL.	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.05 GAL./S.Y. GAL.	442 ASPHALT CONCRETE THICKNESS INCHES	442 INTERMEDIATE COURSE, 19 MM, TYPE A (446) CU. YD.	442 THICKNESS INCHES	442 SURFACE COURSE, 12.5 MM, TYPE A (446) CU. YD.
1	LIC	S.R. 16 E.B.	14.10	14.24	0.14	739.2	16.0	2	446	1,314.1	1,314.1		98.6	65.8	1.75	63.9	1.50	54.8
1	LIC	S.R. 16 E.B.	14.24	16.64	2.40	12672.0	24.0	1	446	33,792.0	33,792.0		2,534.4	1,689.6	1.75	1,642.7	1.50	1,408.0
1	LIC	S.R. 16 E.B.	16.94	17.93	0.99	5227.2	24.0	1	446	13,939.2	13,939.2		1,045.5	697.0	1.75	677.6	1.50	580.8
1	LIC	S.R. 16 E.B.	17.93	19.68	1.75	9240.0	24.0	3	446	24,640.0	24,640.0		1,848.0	1,232.0	1.75	1,197.8	1.50	1,026.7
CHERRY VALLEY INTERSECTION			16.64	16.94			VARIES	1	451	16,821.0		16,821.0						
GRANVILLE RD - SEE DETAIL SHEET 8						220.0	23.0 (AVG.)	2		562.2	562.2		42.2	28.2	1.75	27.4	1.50	23.5
GRANVILLE RD - TRANSITION TO RAMPS						150.0	34.0 (AVG.)	2		566.7	566.7		42.6	28.4	1.75	27.6	1.50	23.7
1	LIC	S.R. 16 W.B.	14.26	16.64	2.38	12566.4	24.0	1	446	33,510.4	33,510.4		2,513.3	1,675.6	1.75	1,629.0	1.50	1,396.3
1	LIC	S.R. 16 W.B.	16.94	17.93	0.99	5227.2	24.0	1	446	13,939.2	13,939.2		1,045.5	697.0	1.75	677.6	1.50	580.8
1	LIC	S.R. 16 W.B.	17.93	19.68	1.75	9240.0	24.0	3	446	24,640.0	24,640.0		1,848.0	1,232.0	1.75	1,197.8	1.50	1,026.7
BRIDGE DEDUCTIONS (FROM SHEET 15)										(3,524.4)	(3,524.4)		(264.3)	(176.2)	1.75	(171.3)	1.50	(146.8)
LOCATION 1 (TOTALS CARRIED TO SHEET 23)											**143,379.4**	**16,821.0**	**10,753.8**	**7,169.4**		**6,970.1**		**5,974.5**
2	LIC	S.R. 37 E.B.	15.93	16.21	0.28	1478.4	24.0	1	446	3,942.4	**3,942.4**		**295.7**	**197.2**	**1.75**	**191.7**	**1.50**	**164.3**

CALCULATED LME
CHECKED DNM

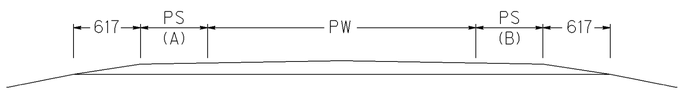
ASPHALT CONCRETE DATA

LIC-16-14.10
LIC-37-15.93

DATED 3/8/2012

L016_MAC_001.DGN

TYPICAL 2



NOTE: FOR TYPICAL 1 SEE SHEET 11

LEGEND
PW - PAVEMENT WIDTH
PS - PAVED SHOULDER

TYPICAL 3

SHOULDER DATA

LOCATION	COUNTY	ROUTE	BEGIN LOG POINT SLM	END LOG POINT SLM	LENGTH MILES	LENGTH LIN. FT.	TYPICAL	PROPOSED WIDTH (FT.) A	B	C	D	SHOULDER AREA SQ. YD.	254 PAVEMENT PLANING, ASPHALT CONCRETE SQ. YD.	407 TACK COAT @ 0.075 GAL./S.Y. GAL.	TACK COAT FOR INTERMEDIATE COURSE @ 0.05 GAL./S.Y. GAL.	442 ASPHALT CONCRETE THICKNESS INCHES	INTERMEDIATE COURSE, 19 MM, TYPE A (446) CU. YD.	THICKNESS INCHES	SURFACE COURSE, 12.5 MM, TYPE A (446) CU. YD.	617 THICKNESS INCHES	COMPACTED AGGREGATE, AS PER PLAN (2' AVG. WIDTH) CU. YD.	SHOULDER PREPARATION (2' AVG. WIDTH) SQ. YD.	618 RUMBLE STRIPS (ASPHALT CONCRETE) MILE
1	LIC	S.R. 16 E.B.	14.10	14.24	0.14	739.2	2	3	3			492.8	492.8	37.0	24.7	1.75	24.0	1.50	20.6	1.50	13.7	328.6	
	LIC	S.R. 16 E.B.	14.24	17.93	3.69	19483.2	1			4	8	25,977.6	25,977.6	1,948.4	1,298.9	1.75	1,262.8	1.50	1,082.4	1.50	360.8	8,659.2	7.38
	LIC	S.R. 16 E.B.	17.93	19.68	1.75	9240.0	3			4	8	12,320.0	12,320.0	924.0	616.0	1.75	598.9	1.50	513.4	1.50	85.6	2,053.4	3.50
OFF RAMP TO S.R. 16 W.B. - RAMP "C"						817.9	2	3	3			545.3	545.3	40.9	27.3	1.75	26.6	1.50	22.8	1.50	15.2	363.6	
RAMP "DD"						82.5 (AVG.)	2	6	6			110.0	110.0	8.3	5.5	1.75	5.4	1.50	4.6	1.50	1.6	36.7	
OFF RAMP TO S.R. 37 - RAMP "G"						806.0	2	3	3			537.3	537.3	40.3	26.9	1.75	26.2	1.50	22.4	1.50	15.0	358.3	
SLIP RAMP "HH"						210.0	2	3	3			140.0	140.0	10.5	7.0	1.75	6.9	1.50	5.9	1.50	3.9	93.4	
ON RAMP FROM S.R. 37 - RAMP "H"						1073.3	2	3	3			715.5	715.5	53.7	35.8	1.75	34.8	1.50	29.9	1.50	19.9	477.1	
ON RAMP FROM GRANVILLE RD						868.0	2	3	4			675.1	675.1	50.7	33.8	1.75	32.9	1.50	28.2	1.50	16.1	385.8	
OFF RAMP TO COUNTRY CLUB DR - RAMP "C"						770.0	2	3	6			770.0	770.0	57.8	38.5	1.75	37.5	1.50	32.1	1.50	14.3	342.3	
COMBINED OFF/ON RAMP AT COUNTRY CLUB DR.						203.0	3	6			6	270.7	270.7	20.4	13.6	1.75	13.2	1.50	11.3	1.50	3.8	90.3	
COMBINED OFF/ON RAMP AT COUNTRY CLUB DR.						106.8	3				6	71.2	71.2	5.4	3.6	1.75	3.5	1.50	3.0	1.50	1.0	23.8	
SLIP RAMP "CC"						137.8 (AVG.)	2	6				91.9	91.9	6.9	4.6	1.75	4.5	1.50	3.9	1.50	1.3	30.7	
ON RAMP TO S.R. 16 E.B. - RAMP "D"						394.2	2	3	6			394.2	394.2	29.6	19.8	1.75	19.2	1.50	16.5	1.50	7.3	87.6	
1	LIC	S.R. 16 W.B.	14.26	17.93	3.67	19377.6	1	8	4			25,836.8	25,836.8	1,937.8	1,291.9	1.75	1,256.0	1.50	1,076.6	1.50	358.9	8,612.3	7.34
	LIC	S.R. 16 W.B.	17.93	19.68	1.75	9240.0	3	8	4			12,320.0	12,320.0	924.0	616.0	1.75	598.9	1.50	513.4	1.50	85.6	2,053.4	3.50
OFF RAMP TO COUNTRY CLUB DR - RAMP "B"						758.5	2	3	6			758.5	758.5	56.9	38.0	1.75	36.9	1.50	31.7	1.50	14.1	337.2	
ON RAMP FROM BRYN MAWR - RAMP "A"						335.1	2	3	6			335.1	335.1	25.2	16.8	1.75	16.3	1.50	14.0	1.50	6.3	149.0	
OFF RAMP TO GRANVILLE RD						1063.4	2	3	4			827.1	827.1	62.1	41.4	1.75	40.3	1.50	34.5	1.50	19.7	472.7	
GRANVILLE RD (INCLUDING TRANSITION)						370.0	2	4	4			328.9	328.9	24.7	16.5	1.75	16.0	1.50	13.8	1.50	6.9	164.5	
OFF RAMP TO S.R. 37 - RAMP "F"						684.0	2	3	3			456.0	456.0	34.2	22.8	1.75	22.2	1.50	19.0	1.50	12.7	304.0	
ON RAMP FROM S.R. 37 - RAMP "E"						370.1	2	3	3			246.7	246.7	18.6	12.4	1.75	12.0	1.50	10.3	1.50	6.9	164.5	
OFF RAMP TO S.R. 16 W.B. - RAMP "B"						457.0	2	3	3			304.7	304.7	22.9	15.3	1.75	14.9	1.50	12.7	1.50	8.5	203.2	
COMBINED OFF/ON AT S.R. 16 - RAMP "AB"						745.0	3	3	3	3	3	993.3	993.3	74.5	49.7	1.75	48.3	1.50	41.4	1.50	13.8	331.2	
ON RAMP FROM S.R. 16 - RAMP "A"						527.0	2	3	3			351.3	351.3	26.4	17.6	1.75	17.1	1.50	14.7	1.50	9.8	234.3	
	DEDUCT FOR BRIDGES (FROM SHEET 15)											(1,362.2)	(1362.2)	(102.1)	(68.1)	1.75	(66.2)	1.50	(56.7)	1.50	(24.5)	(587.4)	(0.50)
LOCATION 1 (TOTALS CARRIED TO SHEET 23)													**84,507.8**	**6,339.1**	**4,226.3**		**4,109.1**		**3,522.4**		**1,078.2**	**25,769.7**	**21.22**
2	LIC	S.R. 37 E.B.	15.93	16.21	0.28	1478.4	1			4	8	1,971.2	1,971.2	147.9	98.6	1.75	95.9	1.50	82.2	1.50	27.4	657.1	0.56
LOCATION 2 (TOTALS CARRIED TO SHEET 23)													**1,971.2**	**147.9**	**98.6**		**95.9**		**82.2**		**27.4**	**657.1**	**0.56**

CALCULATED LME
CHECKED DNM

PAVED SHOULDER DATA

LIC-16-14.10
LIC-37-15.93

L016_MPS_001.DGN DATED 3/9/2012

RAMP DATA

LOCATION	COUNTY	ROUTE	DESCRIPTION	LENGTH	WIDTH	AREA	254 PAVEMENT PLANING, ASPHALT CONCRETE	407 TACK COAT @ 0.075 GAL./SQ. YD.	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.05 GAL./SQ. YD.	442 ASPHALT CONCRETE THICKNESS	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	442 ASPHALT CONCRETE THICKNESS	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
				FEET	FEET	SQ. YD.	SQ. YD.	GAL.	GAL.	INCH	CU. YD.	INCH	CU. YD.
			EAST BOUND										
1	LIC	S.R. 16 E.B.	OFF RAMP TO S.R. 16 W.B. - RAMP "C"	817.9	16.0 (AVG.)	1,455	1,455	110	73	1.75	70.8	1.50	60.7
1	LIC	S.R. 16 E.B.	RAMP "C" EXTRA AREA	BY COMPUTER		227	227	18	12	1.75	11.1	1.50	9.5
1	LIC	S.R. 16 E.B.	SLIP RAMP "DD"	82.50 (AVG.)	16.0 (AVG.)	147	147	12	8	1.75	7.2	1.50	6.2
1	LIC	S.R. 16 E.B.	ACCELERATION LANE FROM S.R. 16 E.B. TO S.R. 16/S.R. 37	FROM EXISTING PLAN		1,107	1,107	84	56	1.75	53.9	1.50	46.2
1	LIC	S.R. 16 E.B.	DECELERATION LANE TO RAMP "G" FROM S.R. 16 E.B.	FROM EXISTING PLAN		1,311	1,311	99	66	1.75	63.8	1.50	54.7
1	LIC	S.R. 16 E.B.	OFF RAMP TO S.R. 37 - RAMP "G"	806.0	16.0 (AVG.)	1,433	1,433	108	72	1.75	69.7	1.50	59.8
1	LIC	S.R. 16 E.B.	RAMP "G" EXTRA AREA	BY COMPUTER		163	163	13	9	1.75	8.0	1.50	6.8
1	LIC	S.R. 16 E.B.	RAMP "H" EXTRA AREA	BY COMPUTER		239	239	18	12	1.75	11.7	1.50	10.0
1	LIC	S.R. 16 E.B.	SLIP RAMP "HH"	210.0	16.0 (AVG.)	374	374	29	19	1.75	18.2	1.50	15.6
1	LIC	S.R. 16 E.B.	ON RAMP FROM S.R. 37 - RAMP "H"	1073.3	16.0 (AVG.)	1,909	1,909	144	96	1.75	92.8	1.50	79.6
1	LIC	S.R. 16 E.B.	ACCELERATION LANE FROM RAMP "H" TO S.R. 16 E.B.	FROM EXISTING PLAN		1,297	1,297	98	65	1.75	63.1	1.50	54.1
1	LIC	S.R. 16 E.B.	RIGHT TURN LANE - RIVER RD	FROM EXISTING PLAN		389	389	30	20	1.75	19.0	1.50	16.3
1	LIC	S.R. 16 E.B.	RIVER RD. EXTRA AREA	FROM EXISTING PLAN		313	313	24	16	1.75	15.3	1.50	13.1
1	LIC	S.R. 16 E.B.	MEDIAN EXTRA AREA (SEE SHEET 8)	BY COMPUTER		300	300	23	15	1.75	14.6	1.50	12.5
1	LIC	S.R. 16 E.B.	ON RAMP FROM GRANVILLE RD	868.0	16.0 (AVG.)	1,544	1,544	116	78	1.75	75.1	1.50	64.4
1	LIC	S.R. 16 E.B.	ACCELERATION LANE FROM GRANVILLE RD TO S.R. 16 E.B.	FROM EXISTING PLAN		1,052	1,052	79	53	1.75	51.2	1.50	43.9
1	LIC	S.R. 16 E.B.	DECELERATION LANE TO RAMP "C" FROM S.R. 16 E.B.	FROM EXISTING PLAN		1,441	1,441	109	73	1.75	70.1	1.50	60.1
1	LIC	S.R. 16 E.B.	OFF RAMP TO COUNTRY CLUB DR - RAMP "C"	770.0	16.0 (AVG.)	1,369	1,369	103	69	1.75	66.6	1.50	57.1
1	LIC	S.R. 16 E.B.	COMBINED ON/OFF RAMP "CD" AT COUNTRY CLUB DR.	309.8	32.0 (AVG.)	1,102	1,102	83	56	1.75	53.6	1.50	46.0
1	LIC	S.R. 16 E.B.	RAMP "CD" EXTRA AREA	BY COMPUTER		428	428	33	22	1.75	20.9	1.50	17.9
1	LIC	S.R. 16 E.B.	SLIP RAMP "CC"	137.8	32.0 (AVG.)	490	490	37	25	1.75	23.9	1.50	20.5
1	LIC	S.R. 16 E.B.	ON RAMP FROM COUNTRY CLUB DR - RAMP "D"	394.2	16.0 (AVG.)	701	701	53	36	1.75	34.1	1.50	29.3
1	LIC	S.R. 16 E.B.	ACCELERATION LANE FROM RAMP "D" TO S.R. 16 E.B.	FROM EXISTING PLAN		1,633	1,633	123	82	1.75	79.4	1.50	68.1
1	LIC	S.R. 16 E.B.	DECELERATION LANE TO 21ST ST FROM S.R. 16 E.B.	FROM EXISTING PLAN		1,211	1,211	91	61	1.75	58.9	1.50	50.5
1			**EAST BOUND TOTALS (CARRIED TO SHEET 14)**				**21,635**	**1,637**	**1,094**		**1053.0**		**902.9**

CALCULATED LME
CHECKED DNM

GORE AND RAMP DATA

LIC-16-14.10
LIC-37-15.93

DATED 3/8/2012

L016_MEA_001.DGN

RAMP DATA

LOCATION	COUNTY	ROUTE	DESCRIPTION	LENGTH	WIDTH	AREA	254 PAVEMENT PLANING, ASPHALT CONCRETE	407 TACK COAT @ 0.075 GAL./SQ. YD.	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.05 GAL./SQ. YD.	442 ASPHALT CONCRETE THICKNESS	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	442 ASPHALT CONCRETE THICKNESS	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
				FEET	FEET	SQ. YD.	SQ. YD.	GAL.	GAL.	INCH	CU. YD.	INCH	CU. YD.
			EAST BOUND TOTALS (CARRIED FROM SHEET 13)				**21,635**	**1,637**	**1,094**		**1053.0**		**902.9**
			WEST BOUND										
1	LIC	S.R. 16 W.B.	ACCELERATION LANE FROM 21ST ST TO S.R. 16 W.B.	FROM EXISTING PLAN		1,788	1,788	135	90	1.75	87.0	1.50	74.5
1	LIC	S.R. 16 W.B.	DECELERATION LANE TO RAMP "B" FROM S.R. 16 W.B.	FROM EXISTING PLAN		1,703	1,703	128	86	1.75	82.8	1.50	71.0
1	LIC	S.R. 16 W.B.	OFF RAMP TO COUNTRY CLUB DR - RAMP "B"	758.5	16.0 (AVG.)	1,349	1,349	102	68	1.75	65.6	1.50	56.3
1	LIC	S.R. 16 W.B.	RAMP "B" EXTRA AREA	BY COMPUTER		310	310	24	16	1.75	15.1	1.50	13.0
1	LIC	S.R. 16 W.B.	RAMP "A" EXTRA AREA	BY COMPUTER		479	479	36	24	1.75	23.3	1.50	20.0
1	LIC	S.R. 16 W.B.	ON RAMP FROM BRYN MAWR - RAMP "A"	335.1	16.0 (AVG.)	596	596	45	30	1.75	29.0	1.50	24.9
1	LIC	S.R. 16 W.B.	ACCELERATION LANE FROM RAMP "A" THROUGH DECELERATION LANE TO GRANVILLE RD	FROM EXISTING PLAN		2,323	2,323	175	117	1.75	113.0	1.50	96.8
1	LIC	S.R. 16 W.B.	OFF RAMP TO GRANVILLE RD	1063.4	16.0 (AVG.)	1,891	1,891	142	95	1.75	92.0	1.50	78.8
1	LIC	S.R. 16 W.B.	HOWELL DRIVE EXTRA AREA	BY COMPUTER		351	351	27	18	1.75	17.1	1.50	14.7
1	LIC	S.R. 16 W.B.	RIVER RD. EXTRA AREA	FROM EXISTING PLAN		218	218	17	11	1.75	10.6	1.50	9.1
1	LIC	S.R. 16 W.B.	DECELERATION LANE TO RAMP "F" FROM S.R. 16 W.B.	FROM EXISTING PLAN		932	932	70	47	1.75	45.4	1.50	38.9
1	LIC	S.R. 16 W.B.	OFF RAMP TO S.R. 37 - RAMP "F"	684.0	16.0 (AVG.)	1,216	1,216	92	61	1.75	59.2	1.50	50.7
1	LIC	S.R. 16 W.B.	RAMP "F" EXTRA AREA	BY COMPUTER		163	163	13	9	1.75	8.0	1.50	6.8
1	LIC	S.R. 16 W.B.	RAMP "E" EXTRA AREA	BY COMPUTER		209	209	16	11	1.75	10.2	1.50	8.8
1	LIC	S.R. 16 W.B.	ON RAMP FROM S.R. 37 - RAMP "E"	370.1	16.0 (AVG.)	658	658	50	33	1.75	32.0	1.50	27.5
1	LIC	S.R. 16 W.B.	ACCELERATION LANE FROM RAMP "E" TO S.R. 16 W.B.	FROM EXISTING PLAN		1,353	1,353	102	68	1.75	65.8	1.50	56.4
1	LIC	S.R. 16 W.B.	OFF RAMP TO S.R. 16 W.B. - RAMP "B"	457.0	16.0 (AVG.)	813	813	61	41	1.75	39.6	1.50	33.9
1	LIC	S.R. 16 W.B.	COMBINED ON/OFF RAMP AT S.R. 16 - RAMP "AB"	745.0	32.0 (AVG.)	2,649	2,649	199	133	1.75	128.8	1.50	110.4
1	LIC	S.R. 16 W.B.	RAMP "AB" EXTRA AREA	BY COMPUTER		353	353	27	18	1.75	17.2	1.50	14.8
1	LIC	S.R. 16 W.B.	ON RAMP FROM S.R. 16 W.B. - RAMP "A"	527.0	16.0 (AVG.)	937	937	71	47	1.75	45.6	1.50	39.1
1			**TOTALS (CARRIED TO SHEET 23)**				**41,926**	**3,169**	**2,117**		**2040.3**		**1749.3**

CALCULATED LME
CHECKED DNM

GORE AND RAMP DATA

LIC-16-14.10
LIC-37-15.93

L016_MEA_002.DGN DATED 3/8/2012

BRIDGE DECK TREATMENT

LOCATION 1:

LIC-16-1416L: OVERHEAD (MILL & FILL MAINLINE)
LIC-16-1460: OVERHEAD (MILL & FILL MAINLINE)
LIC-16-1559R: BUTT JOINT @ BRIDGE DECK
LIC-16-1559L: BUTT JOINT @ BRIDGE DECK
LIC-16-1593R: BUTT JOINT @ BRIDGE DECK
LIC-16-1593L: BUTT JOINT @ BRIDGE DECK
LIC-16-1773L: BUTT JOINT @ BRIDGE DECK
LIC-16-1859: BUTT JOINT @ APPROACH SLABS
LIC-16-1859C: SAME AS ROADWAY
LIC-16-1859D: SAME AS ROADWAY
LIC-16-1917: OVERHEAD (MILL & FILL MAINLINE)
LIC-16-1941: SAME AS ROADWAY
LIC-16-1968: BUTT JOINT @ REAR APPROACH SLABS

BRIDGE DATA																				
											202	407		442 ASPHALT CONCRETE				516	519
LOCATION	COUNTY, ROUTE, BRIDGE NO.	LENGTH (BRIDGE LIMITS)	WIDTH	AREA	APPROACH SLAB LENGTH	APPROACH SLAB WIDTH	APPROACH SLAB AREA (INCLUDES BOTH APPROACH SLABS)	DETAIL (SEE SHEET 16)	MAINLINE DEDUCTIONS (CARRIED TO SHEET 11)	SHOULDER DEDUCTIONS (CARRIED TO SHEET 12)	WEARING COURSE REMOVED	TACK COAT @ 0.075 GAL./S.Y.	TACK COAT FOR INTERMEDIATE COURSE @ 0.05 GAL./S.Y.	THICKNESS	INTERMEDIATE COURSE, 19 MM, TYPE A (446)	THICKNESS	SURFACE COURSE, 12.5 MM, TYPE A (446)	2" DEEP JOINT SEALER, AS PER PLAN	SPECIAL - PATCHING CONCRETE BRIDGE DECK - TYPE B
		LIN. FT.	LIN. FT.	SQ. YD.	LIN. FT.	LIN. FT.	SQ. YD.		SQ. YD.	SQ. YD.	SQ. YD.	GAL.	GAL.	INCHES	CU. YD.	INCHES	CU. YD.	FEET	SQ. YD.
1	LIC-16-1416L	OVERHEAD						3											
1	LIC-16-1460	OVERHEAD						3											
1	LIC-16-1559R	173.6	39.7	765.8	25	24.0	133.4	2	596.3	231.5	133.4	10.0				1.50	5.6	48.0	
1	LIC-16-1559L	173.6	39	752.3	25	24.0	133.4	2	596.3	231.5	133.4	10.0				1.50	5.6	48.0	5.0
1	LIC-16-1593R	177.4	39	768.8	25	24.0	133.4	2	606.4	236.5	133.4	10.0				1.50	5.6	48.0	
1	LIC-16-1593L	177.4	39.7	782.6	25	24.0	133.4	2	606.4	236.5	133.4	10.0				1.50	5.6	48.0	
1	LIC-16-1773L	181.4	39	786.1	25	24.0	133.4	2	617.1	241.9	133.4	10.0				1.50	5.6	48.0	
1	LIC-16-1859	138.2	48.3	741.7	25	48.3	268.4	1	501.9	184.3								96.0	
1	LIC-16-1859C	BIKE PATH - BOX CULVERT																	
1	LIC-16-1859D	BIKE PATH - BOX CULVERT																	
1	LIC-16-1917	OVERHEAD						3											
1	LIC-16-1941	BOX CULVERT																	
1	LIC-16-1968	END PROJECT AT REAR APPROACH						1										83.0	
	TOTALS	1021.6			150				**3,524.4**	**1,362.2**									
	LOCATION 1 (TOTALS CARRIED TO SHEET 23)										**667.0**	**50.0**					**28.0**	**419.0**	**5.0**

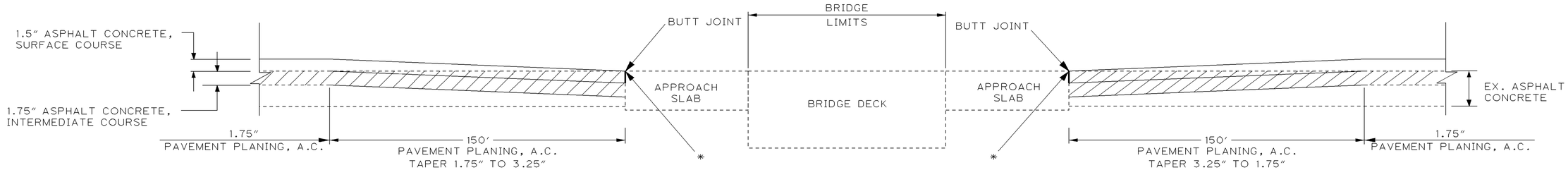
CALCULATED LME
CHECKED DNM

BRIDGE TREATMENT DATA

LIC-16-14.10
LIC-37-15.93

L016_MBT_001.DGN DATED 3/8/2012

DETAIL 1



STRUCTURE NUMBERS

LIC-16-1859
LIC-16-1968 (REAR APPROACH, END PROJECT)

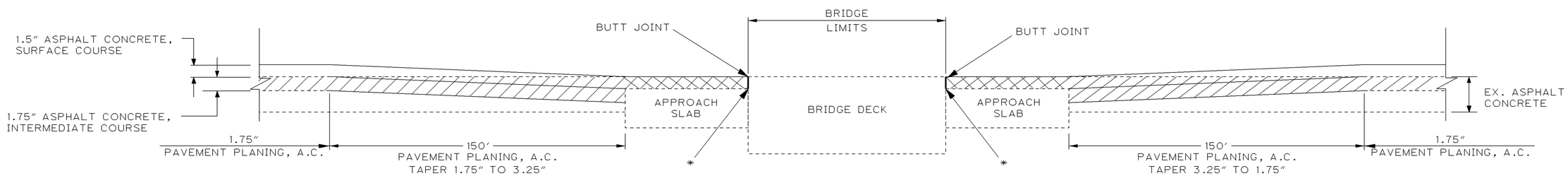
* 2″ DEEP JOINT SEALER, AS PER PLAN (SEE NOTE ON SHEET 2)

BUTT JOINT TAPERS INCLUDED WITH 254 PAVEMENT PLANING, ASPHALT CONCRETE

254 PAVEMENT PLANING, ASPHALT CONCRETE

BUTT JOINT @ APPROACH SLABS

DETAIL 2



STRUCTURE NUMBERS

LIC-16-1559RT, LIC-16-1559LT
LIC-16-1593RT, LIC-16-1593LT
LIC-16-1773 LT

* 2″ DEEP JOINT SEALER, AS PER PLAN (SEE NOTE ON SHEET 2)

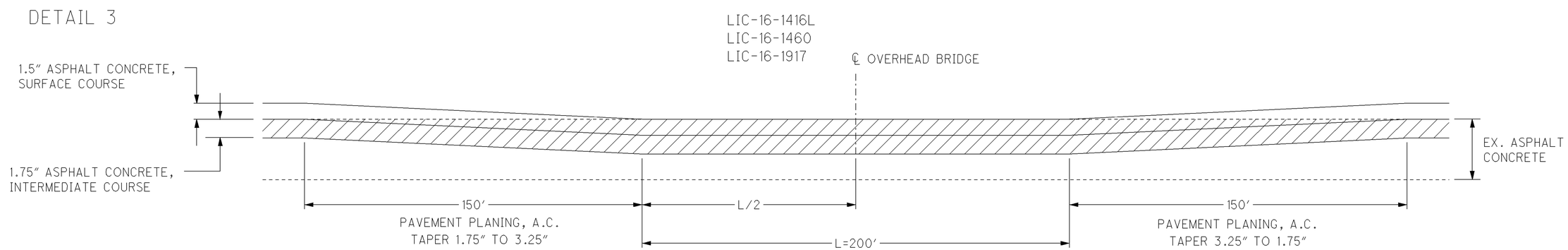
BUTT JOINT TAPERS INCLUDED WITH 254 PAVEMENT PLANING, ASPHALT CONCRETE

254 PAVEMENT PLANING, ASPHALT CONCRETE

202 WEARING COURSE REMOVED

BUTT JOINT SURFACE COURSE @ BRIDGE DECK

DETAIL 3



254 PAVEMENT PLANING, ASPHALT CONCRETE

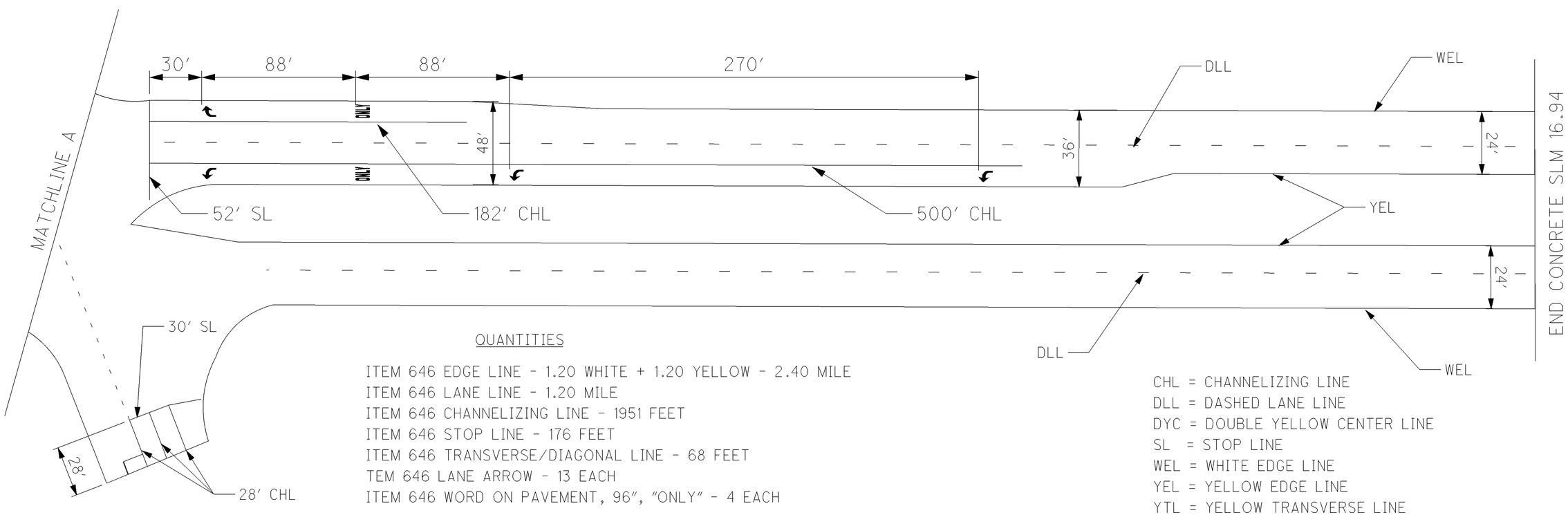
MILL AND FILL MAINLINE 3.25″

CALCULATED LME
CHECKED DNM

BRIDGE TREATMENT DATA

LIC-16-14.10
LIC-37-15.93

L016_MBT_002.DGN DATED 3/8/2012



QUANTITIES

ITEM 646 EDGE LINE - 1.20 WHITE + 1.20 YELLOW - 2.40 MILE
ITEM 646 LANE LINE - 1.20 MILE
ITEM 646 CHANNELIZING LINE - 1951 FEET
ITEM 646 STOP LINE - 176 FEET
ITEM 646 TRANSVERSE/DIAGONAL LINE - 68 FEET
TEM 646 LANE ARROW - 13 EACH
ITEM 646 WORD ON PAVEMENT, 96", "ONLY" - 4 EACH

CHL = CHANNELIZING LINE
DLL = DASHED LANE LINE
DYC = DOUBLE YELLOW CENTER LINE
SL = STOP LINE
WEL = WHITE EDGE LINE
YEL = YELLOW EDGE LINE
YTL = YELLOW TRANSVERSE LINE

DRAWING NOT TO SCALE

CALCULATED LME
CHECKED DNM

PAVEMENT MARKING DETAIL
INTERSECTION S.R. 16 & CHERRY VALLY RD.

LIC-16-14.10
LIC-37-15.93

L016_GID_001.DGN DATED 3/6/2012

ITEM 817 EDGE LINE DATA

LOCATION	COUNTY	ROUTE	S.L.M. FROM	S.L.M. TO	TOTAL LENGTH (MILES)	INFORMATION ONLY: WHITE EDGE LINE QUANTITIES TOTAL MILES	WHITE EDGE LINE QUANTITIES HIGHWAY MILES	WHITE EDGE LINE QUANTITIES RAMP MILES	YELLOW EDGE LINE QUANTITIES TOTAL MILES	YELLOW EDGE LINE QUANTITIES HIGHWAY MILES	YELLOW EDGE LINE QUANTITIES RAMP MILES	TOTAL EDGE LINE MILES	REMARKS
1	LIC	S.R. 16 E.B.	14.10	14.24	0.14	0.14	0.14		0.14	0.14		0.28	S.R. 16 EAST BOUND RAMP
1	LIC	S.R. 16 E.B.	14.24	19.68	5.44	5.44	5.44		5.44	5.44		10.88	4-LANE DIVIDED
	RAMP C				0.16	0.16		0.16	0.16		0.16	0.32	
	RAMP DD				0.02	0.02		0.02	0.02		0.02	0.04	
	RAMP G				0.17	0.17		0.17	0.17		0.17	0.34	
	RAMP H				0.22	0.22		0.22	0.22		0.22	0.44	
	RAMP HH				0.04	0.04		0.04	0.04		0.04	0.08	
	ON RAMP FROM GRANVILLE RD				0.20	0.20		0.20	0.20		0.20	0.40	INCLUDES 150 FT TRANSITION
	GRANVILLE RD (2 LANE)				0.04	0.04		0.04	0.04		0.04	0.08	
	RAMP C (COUNTRY CLUB DR)				0.22	0.22		0.22	0.22		0.22	0.44	INCLUDES LENGTH THROUGH RAMP CD
	RAMP CC (COUNTRY CLUB DR)				0.03	0.03		0.03	0.03		0.03	0.06	
	RAMP D (COUNTRY CLUB DR)				0.15	0.15		0.15	0.15		0.15	0.30	INCLUDES LENGTH THROUGH RAMP CD
1	LIC	S.R. 16 W.B.	14.26	19.68	5.42	5.42	5.42		5.42	5.42		10.84	4-LANE DIVIDED
	RAMP B (COUNTRY CLUB DR)				0.16	0.16		0.16	0.16		0.16	0.32	
	RAMP A (BRYN MAWR)				0.08	0.08		0.08	0.08		0.08	0.16	
	OFF RAMP TO GRANVILLE RD				0.23	0.23		0.23	0.23		0.23	0.46	INCLUDES 150 FT TRANSITION
	RAMP F				0.14	0.14		0.14	0.14		0.14	0.28	
	RAMP E				0.08	0.08		0.08	0.08		0.08	0.16	
	RAMP B				0.23	0.23		0.23	0.23		0.23	0.46	INCLUDES LENGTH THROUGH RAMP AB
	RAMP A				0.24	0.24		0.24	0.24		0.24	0.48	INCLUDES LENGTH THROUGH RAMP AB
LOCATION 1 (TOTAL CARRIED TO SHEET 23)						**13.27**			**13.27**			**26.82**	
2	LIC	S.R. 37 E.B.	15.93	16.21	0.28	0.28	0.28		0.28	0.28		0.56	4-LANE DIVIDED
LOCATION 2 (TOTAL CARRIED TO SHEET 23)												**0.56**	

CALCULATED LME
CHECKED DNM

EDGE LINE DATA

LIC-16-14.10
LIC-37-15.93

ITEM 817 LANE LINE , ITEM 817 CENTER LINE AND ITEM 644 AUXILARY DATA

LOCATION	COUNTY	ROUTE	S.L.M. FROM	S.L.M. TO	817 LANE LINE QUANTITIES TOTAL LANE LINE	817 LANE LINE QUANTITIES DASHED	817 CENTER LINE QUANTITIES TOTAL CENTER LINE	817 CENTER LINE QUANTITIES DOUBLE SOLID	644 AUXILARY MARKING QUANTITIES CHANNELIZING LINE	STOP LINE	WORD ON PAVEMENT, 96" "ONLY"	LANE ARROW RIGHT	LANE ARROW LEFT	LANE ARROW THRU / RIGHT	LANE ARROW THRU	REMARKS
					MILE	MILE	MILE	MILE	FEET	FEET	EACH	EACH	EACH	EACH	EACH	
1	LIC	S.R. 16 E.B.	14.10	14.24					564							S.R. 16 EAST BOUND RAMP
1	LIC	S.R. 16 E.B.	14.24	19.68	5.44	5.44										4-LANE DIVIDED
		RAMP C								36					1	
		S.R. 16 E.B. RAMP TO RAMP G			0.14	0.14										ACCELERATION LANE TO DECELERATION LANE
		RAMP G							356	25					1	
		RAMP H			0.05	0.05			191							INCLUDING ACCELERATION LANE
		RIGHT TURN LANE - RIVER RD					0.01	0.01	120	20	1	1				STOP LINE ON RIVER RD.
		GRANVILLE RD					0.10	0.10								INCLUDING 150 FT TRANSITION
		MEDIAN BETWEEN GRANVILLE RD RAMPS					0.01	0.01		24						
		ON RAMP FROM GRANVILLE RD			0.03	0.03			115							INCLUDING ACCELERATION LANE
		RAMP C TO COUNTRY CLUB DR			0.06	0.06			410	24					1	INCLUDING DECELERATION LANE, 60' CHANNELIZING ON RA
		RAMP D FROM COUNTRY CLUB DR			0.04	0.04			271							INCLUDING ACCELERATION LANE
		OFF RAMP TO 21st ST			0.05	0.05			382							INCLUDING DECELERATION LANE
1	LIC	S.R. 16 W.B.	14.26	19.68	5.42	5.42										4-LANE DIVIDED
		ON RAMP FROM 21st ST			0.03	0.03			404							INCLUDING ACCELERATION LANE
		RAMP B TO COUNTRY CLUB DR			0.03	0.03			918	40	1		1	1	1	INCLUDING DECELERATION LANE, 60' CHANNELIZING ON RA
		RAMP A FROM BRYN MAWR							550							
		RAMP A TO OFF RAMP TO GRANVILLE RD			0.15	0.15										ACCELERATION LANE TO DECELERATION LANE
		OFF RAMP TO GRANVILLE RD							358							
		HOWELL DRIVE					0.01	0.01		16						
		RIVER RD					0.01	0.01		27						
		RAMP F			0.03	0.03			438	28					1	INCLUDING DECELERATION LANE
		RAMP E			0.04	0.04			285							INCLUDING ACCELERATION LANE
		RAMP B								52					1	
		RAMP A														
												1	1	1	6	
LOCATION 1 (TOTAL CARRIED TO SHEET 23)					**11.51**		**0.14**		**5,362**	**292**	**2**	**9**				
2	LIC	S.R. 37 E.B.	15.93	16.21	0.28	0.28										4-LANE DIVIDED
LOCATION 2 (TOTAL CARRIED TO SHEET 23)					**0.28**											

CALCULATED LME
CHECKED DNM

LANE LINE / AUXILARY MARKING DATA

LIC-16-14.10
LIC-37-15.93

DATED 3/9/2012
L016_TLL_001.DGN

DETAIL	SEE STD. DWG. TC-65.11
1	TAPERED ACCELERATION LANE
2	DECELERATION LANE
3	MULTILANE DIVIDED/ CONTROLLED ACCESS

DETAIL	SEE STD. DWG. TC-65.11
4	4 LANE DIVIDED TO 2 LANE TRANSITION
5	4 LANE UNDIVIDED TO 2 LANE TRANSITION
6	ONE LANE BRIDGE
7	STOP APPROACH
8	THRU APPROACH
9	TWO WAY LEFT TURN LANE

DETAIL	SEE STD. DWG. TC-65.11
10	APPROACH W/LT. TURN LANE
11	HORIZONTAL CURVE 40'
12	HORIZONTAL CURVE ALT.
GAP	CENTERLINE AT 80' TYP.

ITEM 621 RPM SUB-SUMMARY

LOCATION	COUNTY	ROUTE	BEGIN LOG POINT SLM	END LOG POINT SLM	LENGTH		DETAIL	621 RAISED PAVEMENT MARKER REMOVED	621 RPM	PRISMATIC RETRO-REFLECTOR COLORS INFORMATION ONLY					REMARKS
										ONE-WAY		TWO-WAY			
					MILES	LIN.FT.		EACH	EACH	WHITE	YELLOW	YELLOW / YELLOW	WHITE/RED	YELLOW/RED	
1	LIC	S.R 16 E.B.	16.24	19.68	3.44	18,163	3	228	228				228		80' SPACING ON LANE LINE
	RAMP C				0.15	792		10	26	16				10	RAMP ONLY, 80' SPACING ON YELLOW EDGE
	RAMP D				0.13	686	1	24	24				15	9	GORE AREA AND RAMP
	RAMP DD				0.02	106		2	2					2	RAMP
	RAMP G				0.17	898	2	21	37	16			9	12	GORE AREA AND RAMP
	RAMP H				0.21	1,109	1	19	19				5	14	GORE AREA AND RAMP
	RAMP HH				0.05	264		4	4					4	RAMP
	RIGHT TURN LANE - RIVER RD												3		CHANNELIZING LINE
	ON RAMP FROM GRANVILLE RD				0.20	1,056	1	17	17				3	14	GORE AREA AND RAMP
	OFF RAMP TO COUNTRY CLUB DR				0.22	1,162	2	26	42	16			11	15	GORE AREA AND RAMP
	ON RAMP FROM COUNTRY CLUB DR				0.15	792	1	17	17				7	10	GORE AREA AND RAMP
	OFF RAMP TO 21st ST						2	10	10				10		GORE AREA
1	LIC	S.R 16 W.B.	16.26	19.68	3.42	18,058	3	452	452				226	226	80' SPACING ON LANE LINE
	ON RAMP FROM 21st ST						1	11	11				11		GORE AREA
	OFF RAMP TO COUNTRY CLUB DR				0.16	845	2	32	48	16			21	11	GORE AREA AND RAMP
	ON RAMP FROM COUNTRY CLUB DR				0.16	845	1	25	25				14	11	GORE AREA AND RAMP
	OFF RAMP TO GRANVILLE RD				0.18	950	2	21	21				9	12	GORE AREA AND RAMP
	RAMP F				0.14	739	2	21	37	16			11	10	GORE AREA AND RAMP
	RAMP E				0.08	422	1	14	14				8	6	GORE AREA AND RAMP
	RAMP B				0.24	1,256		16	16					16	RAMP ONLY, 80' SPACING ON YELLOW EDGE
	RAMP A				0.23	1,206		16	16					16	RAMP ONLY, 80' SPACING ON YELLOW EDGE
	SUB-TOTALS (INFORMATION ONLY)									**80**			**591**	**398**	
	LOCATION 1 (TOTAL CARRIED TO SHEET 23)							**986**	**1,066**						
2	LIC	S.R 37 E.B.	15.93	16.21	0.28	1,478	3	19	19				19		80' SPACING ON LANE LINE
	LOCATION 2 (TOTAL CARRIED TO SHEET 23)							**19**	**19**						

CALCULATED LME
CHECKED DNM

RAISED PAVEMENT MARKER DATA

LIC-16-14.10
LIC-37-15.93

L016_TLL_001.DGN DATED 3/9/2012

LOCATION 1 (SHEET TOTALS)												ITEM	ITEM EXT.	GRAND TOTAL 01/NHS/PV/	UNIT	DESCRIPTION
2	3	4	5	11	12	14	15	17	18	19	20					
							667					202	23500	667	SQ YD	WEARING COURSE REMOVED
18												209	60500	18	MILE	LINEAR GRADING
				143,380	84,508	41,926						254	01000	269,814	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE
140												255	10150	140	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS
444												255	20000	444	FT	FULL DEPTH PAVEMENT SAWING
				16,821								257	10000	16,821	SQ YD	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT
				10,754	6,340	3,169	50					407	10000	20,313	GALLON	TACK COAT
				7,170	4,227	2,117						407	14000	13,514	GALLON	TACK COAT FOR INTERMEDIATE COURSE
				5,975	3,523	1,750	28					442	10000	11,276	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)
				6,971	4,110	2,041						442	10100	13,122	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)
							419					516	31011	419	FT	2" DEEP JOINT SEALER, AS PER PLAN
							5					519	12300	5	SQ YD	SPECIAL - PATCHING CONCRETE BRIDGE DECK - TYPE B
			500									614	11110	500	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE
		10										614	12460	10	EACH	WORK ZONE MARKING SIGN
		40										614	12600	40	EACH	REPLACEMENT DRUM
		10										614	13000	10	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
			240									614	18601	240	SIGN MNTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN
					1,079							617	10101	1,079	CU YD	COMPACTED AGGREGATE, AS PER PLAN
					25,770							617	20000	25,770	SQ YD	SHOULDER PREPARATION
					21.22							618	40600	21.22	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)
											1,066	621	00100	1,066	EACH	RPM
											986	621	54000	986	EACH	RAISED PAVEMENT MARKER REMOVED
	11											632	26501	11	EACH	DETECTOR LOOP, AS PER PLAN
										5,362		644	00404	5,362	FT	CHANNELIZING LINE, 12"
										292		644	00500	292	FT	STOP LINE
										9		644	01300	9	EACH	LANE ARROW
										2		644	01410	2	EACH	WORD ON PAVEMENT, 96"
								2.40				646	10010	2.40	MILE	EDGE LINE, 6"
								1.20				646	10110	1.20	MILE	LANE LINE, 6"
								1,951				646	10310	1,951	FT	CHANNELIZING LINE, 12"
								176				646	10400	176	FT	STOP LINE
								68				646	10600	68	FT	TRANSVERSE/DIAGONAL LINE
								13				646	20300	13	EACH	LANE ARROW
								4				646	20410	4	EACH	WORD ON PAVEMENT, 96"
	8,978											690	12050	8,978	SQ YD	SPECIAL - REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS
									26.82			817	00104	26.82	MILE	EDGE LINE, 6"
										11.51		817	00204	11.51	MILE	LANE LINE, 6"
										0.14		817	00300	0.14	MILE	CENTER LINE

CALCULATED LME
CHECKED DNM

LOCATION 1 SUB-SUMMARY

LIC-16-14.10
LIC-37-15.93

LOCATION 2 (SHEET TOTALS)								ITEM	ITEM EXT.	GRAND TOTAL 01/NHS/PV/	UNIT	DESCRIPTION
2	3	4	11	12	18	19	20					
0.5								209	60500	0.5	MILE	LINEAR GRADING
			3,943	1,972				254	01000	5,915	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE
			296	148				407	10000	444	GALLON	TACK COAT
			198	99				407	14000	297	GALLON	TACK COAT FOR INTERMEDIATE COURSE
			165	83				442	10000	248	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)
			192	96				442	10100	288	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)
		1						614	12460	1	EACH	WORK ZONE MARKING SIGN
		1						614	13000	1	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
				28				617	10101	28	CU YD	COMPACTED AGGREGATE, AS PER PLAN
				658				617	20000	658	SQ YD	SHOULDER PREPARATION
				0.56				618	40600	0.56	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)
							19	621	00100	19	EACH	RPM
							19	621	54000	19	EACH	RAISED PAVEMENT MARKER REMOVED
	334							690	12050	334	SQ YD	SPECIAL - REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS
					0.56			817	00104	0.56	MILE	EDGE LINE, 6"
						0.28		817	00204	0.28	MILE	LANE LINE, 6"

CALCULATED LME
CHECKED DNM

LOCATION 2 SUB-SUMMARY

LIC-16-14.10
LIC-37-15.93

LOCATION 1 TOTALS	LOCATION 2 TOTALS						ITEM	ITEM EXT.	GRAND TOTAL 01/NHS/PV/	UNIT	DESCRIPTION	SEE SHEET
667							202	23500	667	SQ YD	WEARING COURSE REMOVED	
18	0.5						209	60500	18.5	MILE	LINEAR GRADING	
269,814	5,915						254	01000	275,729	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
140							255	10150	140	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS	
444							255	20000	444	FT	FULL DEPTH PAVEMENT SAWING	
16,821							257	10000	16,821	SQ YD	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT	
20,313	444						407	10000	20,757	GALLON	TACK COAT	
13,514	297						407	14000	13,811	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
11,276	248						442	10000	11,524	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)	
13,122	288						442	10100	13,410	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)	
419							516	31011	419	FT	2" DEEP JOINT SEALER, AS PER PLAN	2
5							519	12300	5	SQ YD	SPECIAL - PATCHING CONCRETE BRIDGE DECK - TYPE B	
500							614	11110	500	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
10	1						614	12460	11	EACH	WORK ZONE MARKING SIGN	
40							614	12600	40	EACH	REPLACEMENT DRUM	
10	1						614	13000	11	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
240							614	18401	240	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	5
1,079	28						617	10101	1,107	CU YD	COMPACTED AGGREGATE, AS PER PLAN	2
25,770	658						617	20000	26,428	SQ YD	SHOULDER PREPARATION	
21.22	0.56						618	40600	21.78	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	
1,066	19						621	00100	1,085	EACH	RPM	
986	19						621	54000	1,005	EACH	RAISED PAVEMENT MARKER REMOVED	
11							632	26501	11	EACH	DETECTOR LOOP, AS PER PLAN	3
5,362							644	00404	5,362	FT	CHANNELIZING LINE, 12"	
292							644	00500	292	FT	STOP LINE	
9							644	01300	9	EACH	LANE ARROW	
2							644	01410	2	EACH	WORD ON PAVEMENT, 96"	
2.40							646	10010	2.40	MILE	EDGE LINE, 6"	
1.20							646	10110	1.20	MILE	LANE LINE, 6"	
1,951							646	10310	1,951	FT	CHANNELIZING LINE, 12"	
176							646	10400	176	FT	STOP LINE	
68							646	10600	68	FT	TRANSVERSE/DIAGONAL LINE	
13							646	20300	13	EACH	LANE ARROW	
4							646	20410	4	EACH	WORD ON PAVEMENT, 96"	
8,978	334						690	12050	9,312	SQ YD	SPECIAL - REINFORCED MESH FOR TRANSVERSE AND/OR LONGITUDINAL JOINTS AND CRACKS	3
26.82	0.56						817	00104	27.38	MILE	EDGE LINE, 6"	
11.51	0.28						817	00204	11.79	MILE	LANE LINE, 6"	
0.14							817	00300	0.14	MILE	CENTER LINE	
							103	05000	LUMP		PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYMENT BOND	
							614	11000	LUMP		MAINTAINING TRAFFIC	
							619	16000	2	MONTH	FIELD OFFICE, TYPE A	
							624	10000	LUMP		MOBILIZATION	
							823	10000	LUMP		CONSTRUCTION LAYOUT STAKES	

CALCULATED LME
CHECKED DNM

GENERAL SUMMARY

LIC-16-14.10
LIC-37-15.93

L016_MGS_001.DGN DATED 3/12/2012