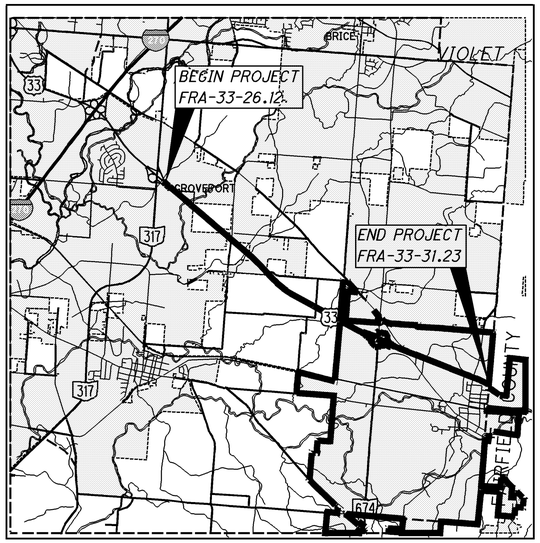
STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

FRA-33-26.12

CITY OF GROVEPORT
CITY OF CANAL WINCHESTER
MADISON TOWNSHIP
FRANKLIN COUNTY



LOCATION MAP

LATITUDE: 39° 51′ 52″ LONGITUDE: 82° 50′ 39″

SCALE IN MILES

0 1 2

N

PORTION TO BE IMPROVED
INTERSTATE & DIVIDED HIGHWAYS
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

DESIGN DESIGNATION

	US-33		TR229	
	NORTH LEG	SOUTH LEG	EAST LEG	WEST LEG
CURRENT ADT (2016)	59,780	56,880	3,930	1,570
DESIGN YEAR ADT (2036)	82,390	70,040	13,480	2,010
DESIGN HOURLY VOLUME (2036)	9,040	7,330	1,740	200
DIRECTIONAL DISTRUBUTION	0.72	0.68	0.86	0.70
TRUCKS (24 HOUR B&C)	0.08	0.08	0.02	0.03
DESIGN SPEED	65	65	40	40
LEGAL SPEED	60	60	35	35

DESIGN FUNCTIONAL CLASSIFICATION:
N.H.S. OTHER FREEWAY OR EXPRESSWAY - URBAN (US 33)
MUNICIPAL STREET, TOWNSHIP ROAD (BIXBY RD. TR 229)

NHS PROJECT
DESIGN EXCEPTIONS..... NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS
BEFORE YOU DIG.

OHIO Utilities Protection SERVICE
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:

Ohio Department of Transportation
cdot district 6

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ENGINEERS SEAL:

STATE OF OHIO
KEVIN R. FIANT
E-64877
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: _____

DATE: _____

STANDARD CONSTRUCTION DRAWINGS

								SUPPLEMENTAL SPECIFICATIONS	
CB-3.3	01/18/13	BP-3.1	07/18/14	TC-65.11	07/18/14	MT-101.70	01/17/14	800	07/17/15
MH-1.2	01/18/13	BP-9.1	07/19/13	TC-71.10	01/17/14	MT-101.90	07/17/15	821	04/20/12
DM-1.1	01/18/13					MT-102.10	07/18/14	921	04/20/12
DM-1.2	01/18/13	RM-4.2	06/04/14	MT-95.30	07/18/14	MT-105.10	07/19/13	832	01/17/14
				MT-95.40	07/18/14			878	10/18/2013
DM-4.4	07/20/12	TC-41.20	10/18/13	MT-95.50	07/19/13			848	4/1/2014
		TC-41.30	10/18/13	MT-98.10	07/18/14			902	12/31/2012
		TC-41.50	10/18/13	MT-98.11	07/18/14				
		TC-42.20	10/18/13	MT-98.20	07/18/14				
		TC-52.10	10/18/13	MT-98.22	07/18/14				
		TC-52.20	07/18/14	MT-99.20	07/19/13				
		TC-65.10	01/17/14	MT-99.30	01/16/15				

PROJECT DESCRIPTION

MILL AND FILL US 33 FROM 0.17 MILES EAST OF SR 317, TO FAIRFIELD COUNTY LINE. UPGRADE TURN LANES ON US 33 AND PROHIBIT THROUGH MOVEMENT ON TR 229 (BIXBY ROAD), DECK OVERLAY ON STRUCTURES OVER BLACKLICK CREEK AND MILL AND FILL ON THE RAMPS ON SR 674/GENDER ROAD. TOTAL LENGTH IS 5.11 MILES.

EARTH DISTURBED AREA:

PROJECT EARTH DISTURBED AREA	0.76 AC.
EST. CONTRACTOR EARTH DISTURBED AREA	0.48 AC.
NOTICE OF INTENT EARTH DISTURBED AREA	4.90 AC.

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2013 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT FOR THE SIDE ROADS AS DESCRIBED ON SHEET 14 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

PLANS CERTIFIED BY:

NAME: _____ DATE: _____

DISTRICT 6
OHIO DEPT. OF TRANSPORTATION

APPROVED _____
DISTRICT DEPUTY DIRECTOR

DATE _____

APPROVED _____
DIRECTOR, DEPARTMENT OF TRANSPORTATION

DATE _____

FEDERAL PROJECT NO. E130 (480)

PID NO. 79662

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

FRA-33-26.12

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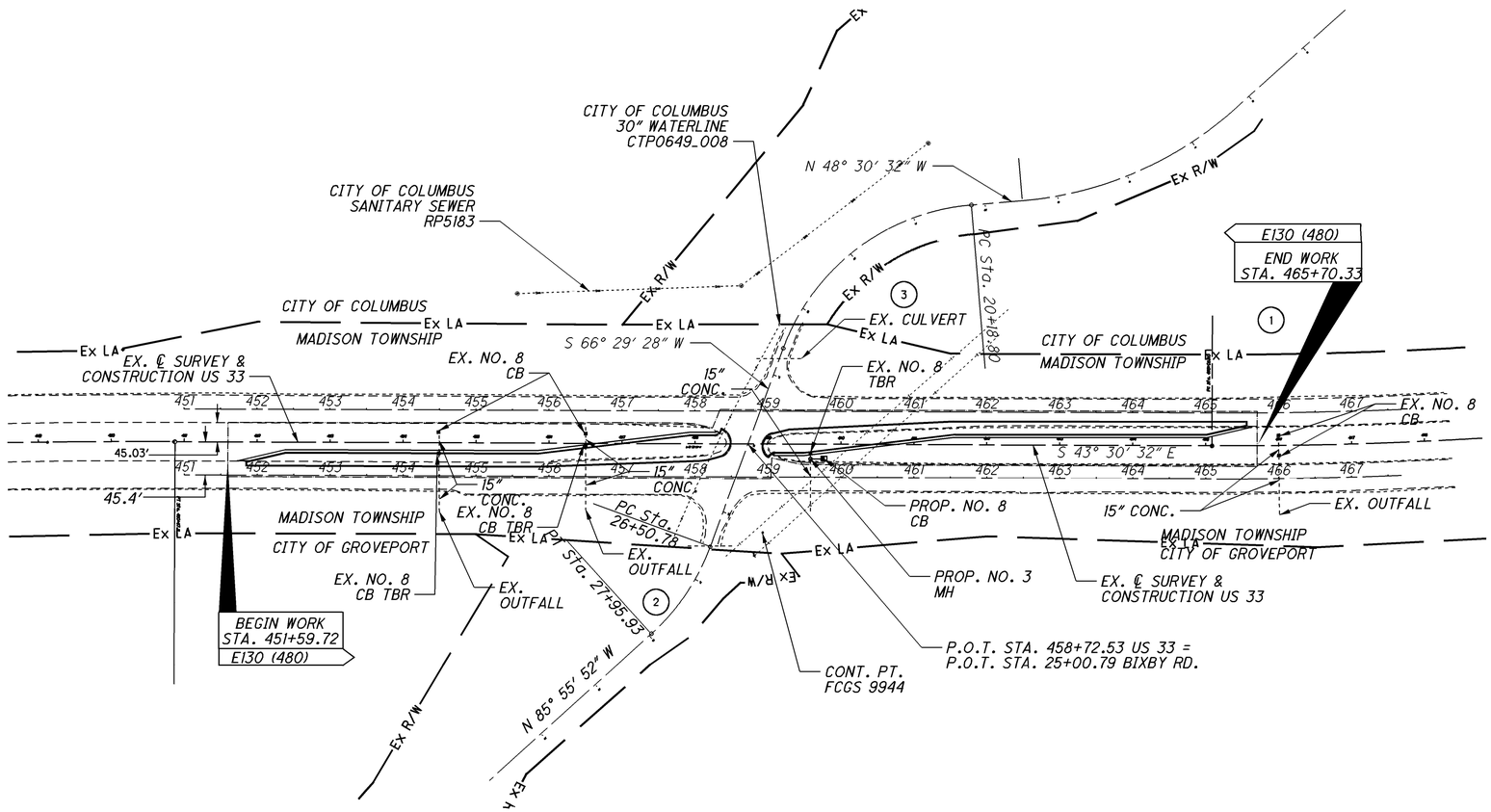

PLAN SPLIT FOR THIS SECTION:
03 - SAFETY FUNDING

NOTE:
ALL OFFSETS IN THIS PLAN ARE FROM THE PROJECT ℄, NOT THE PAVEMENT ℄.

FOR REFERENCE POINTS, SEE SHEET 4
THERE ARE NO LANDSCAPED AREAS
WITHIN THE WORK LIMITS.

(1)

CURVE DATA

P.I. STA. 474+03.20
Δ = 17° 44' 55" LT.
Dc = 1° 00' 00"
R = 5,729.61'
T = 894.60'
L = 1,774.87'
E = 69.42'
emax = 0.00
C = 1,767.78'
C.B. = S 52° 23' 00" E

(3)

CURVE DATA

P.I. STA. = 27+24.79
Δ = 27° 34' 40" RT
Dc = 18° 59' 58"
R = 301.57'
T = 74.01'
L = 145.15'
E = 8.95'
emax = 0.00
C = 143.75'
C.B. = S 80° 16' 48" W

(2)

CURVE DATA

P.I. STA. 22+10.91
Δ = 65° 00' 00" LT
Dc = 19° 00' 01"
R = 301.55'
T = 192.11'
L = 342.10'
E = 55.99'
emax = 0.00
C = 324.05'
C.B. = N 81° 00' 32" W

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED MK
CHECKED KF

SCHEMATIC PLAN
BIXBY ROAD INTERSECTION

FRA-33-26.12

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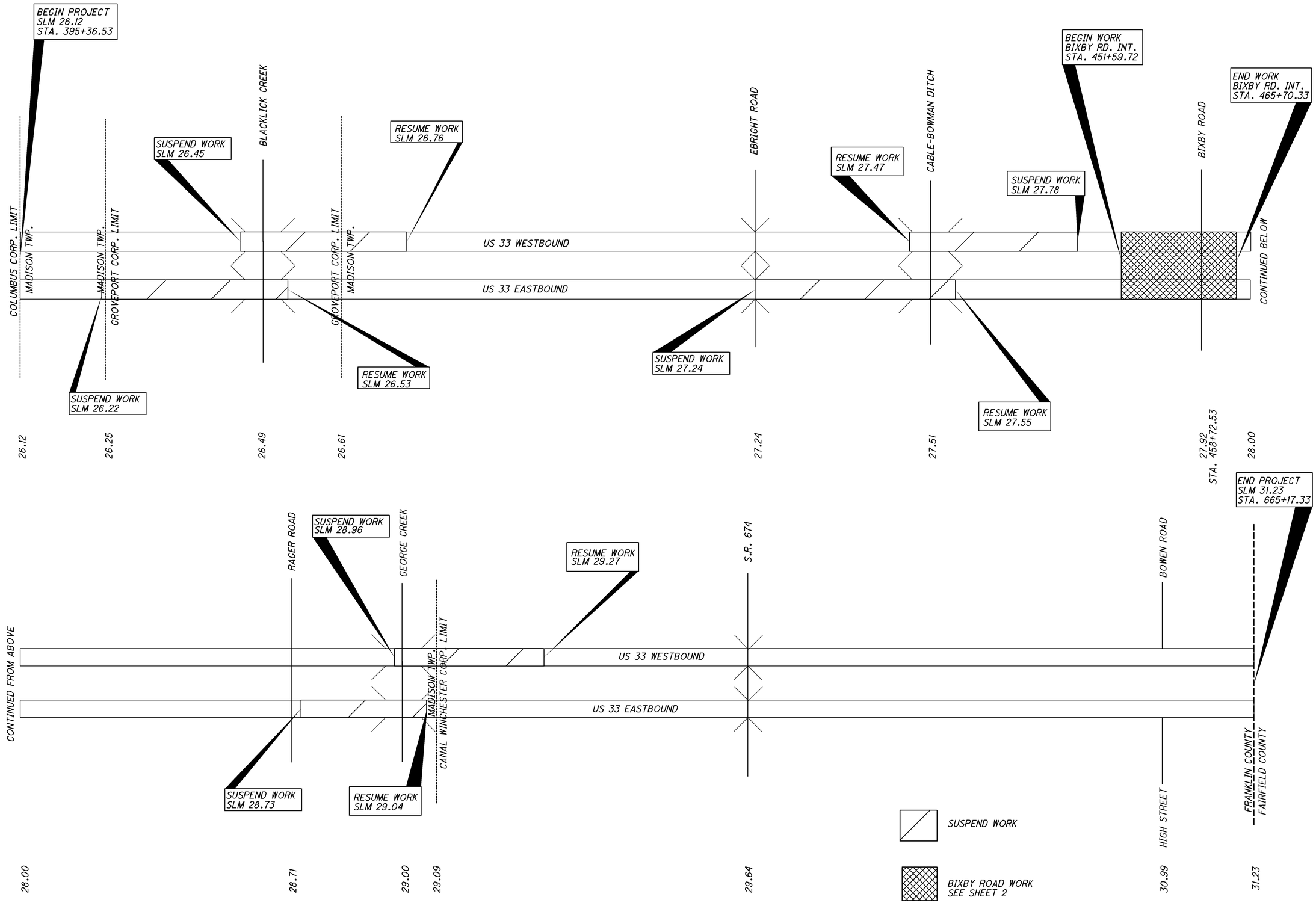

CALCULATED MK
CHECKED KF

SCHEMATIC PLAN
GENERAL PAVING

FRA-33-26.12

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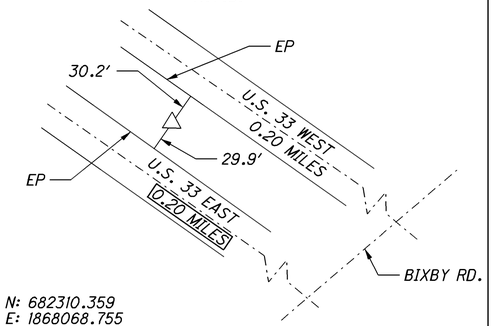
CONTROL POINTS

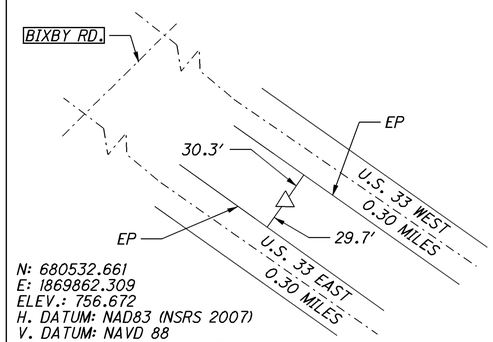
FRANKLIN COUNTY SURVEY CONTROL
7-693
N.T.S.



N: 682310.359
E: 1868068.755
ELEV. : 753.676
H. DATUM: NAD83 (NSRS 2007)
V. DATUM: NAVD 88
STA. 449+12.29, 0.17′ RT.

BRASS PLUG IN CONCRETE MONUMENT IN THE CENTER MEDIAN OF U.S. 33 AT STATION 449 + 12.3, 0.20 MILES NORTHWEST OF BIXBY ROAD, 30.2 FEET SOUTHWEST FROM THE NORTH SIDE OF THE MEDIAN, 29.9 FEET NORTHEAST OF THE SOUTH SIDE OF MEDIAN, 3 INCHES BELOW SURFACE, STAMPED "7".

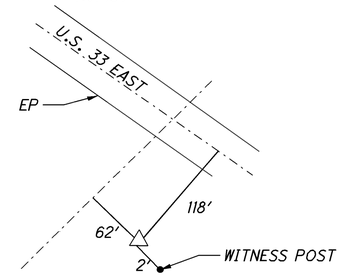
FRANKLIN COUNTY SURVEY CONTROL
8-693
N.T.S.



N: 680532.661
E: 1869862.309
ELEV.: 756.672
H. DATUM: NAD83 (NSRS 2007)
V. DATUM: NAVD 88
STA. 474+40.53, 0.15′ RT.

BRASS PLUG IN CONCRETE MONUMENT IN THE CENTER MEDIAN OF U.S. 33 AT STATION 474+ 40.4, 0.30 MILES SOUTHEAST OF BIXBY ROAD, 30.3 FEET SOUTHWEST OF THE NORTH SIDE OF THE MEDIAN, 29.7 FEET NORTHEAST OF THE SOUTH SIDE OF THE MEDIAN, 3 INCHES BELOW SURFACE, STAMPED "8".

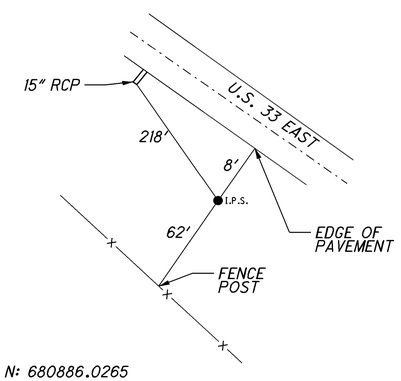
FRANKLIN COUNTY SURVEY CONTROL
FCGS 9944
N.T.S.



N: 681516.840
E: 1868657.154
H. DATUM: NAD83 (NSRS 2007)
STA. 458+93.10, 121.17′ RT.

BRASS DISK IN CONCRETE MONUMENT IN THE CENTERLINE OF OLD BIXBY ROAD, 118 FEET SOUTH OF THE CENTERLINE OF U.S. 33, 62 FEET EAST OF THE CENTERLINE OF RELOCATED BIXBY ROAD TO THE WEST, ON A P/L SOUTH, 2 FEET NORTH OF A WITNESS POST, 2 INCHES BELOW GROUND.
MONUMENT IS THE SOUTHWEST CORNER SECTION 14, SOUTHEAST CORNER SECTION 15, NORTHEAST CORNER SECTION 22, AND NORTHWEST CORNER SECTION 23 T1IN R21W CONGRESS LANDS EAST OF THE SCIOTO. DISK IS STAMPED AS PER BLM MANUAL.

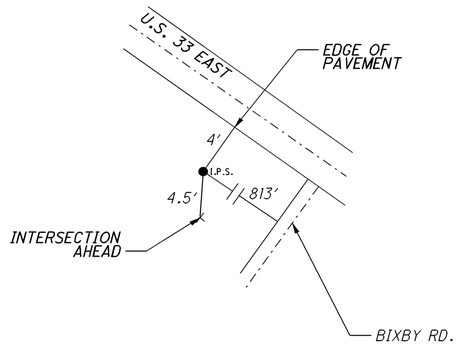
ODOT CONTROL POINT
SV100



N: 680886.0265
E: 1869335.2863
ELEV.: 753.3328
H. DATUM: NAD83 (2011)
V. DATUM: NAVD 88 (GEOID 2012A)
STA. 468+13.64, 71.67′ RT.

N.T.S.

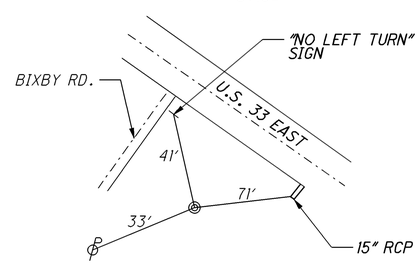
ODOT CONTROL POINT
SV101



N: 682159.7372
E: 1868119.5169
ELEV.: 751.3297
H. DATUM: NAD83 (2011)
V. DATUM: NAVD 88 (GEOID 2012A)
STA. 450+56.32, 68.26′ RT.

N.T.S.

ODOT CONTROL POINT
SV102



N: 681516.5721
E: 1868657.1478
ELEV.: 747.1989
H. DATUM: NAD83 (2011)
V. DATUM: NAVD 88 (GEOID 2012A)
STA. 458+93.10, 121.17′ RT.

N.T.S.

FOR SCHEMATIC PLAN, SEE SHEET 2

CALCULATED MK
CHECKED KF

REFERENCE POINTS
BIXBY ROAD

FRA-33-26.12

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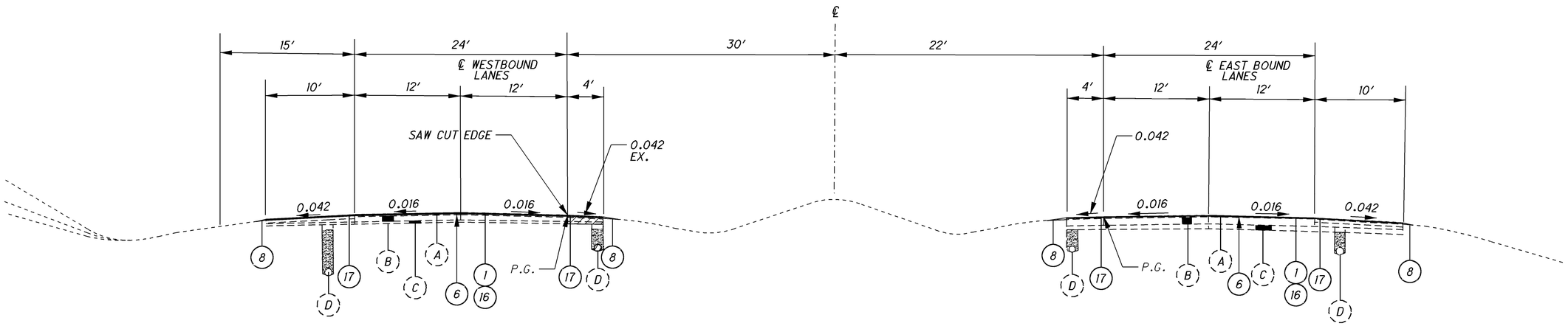
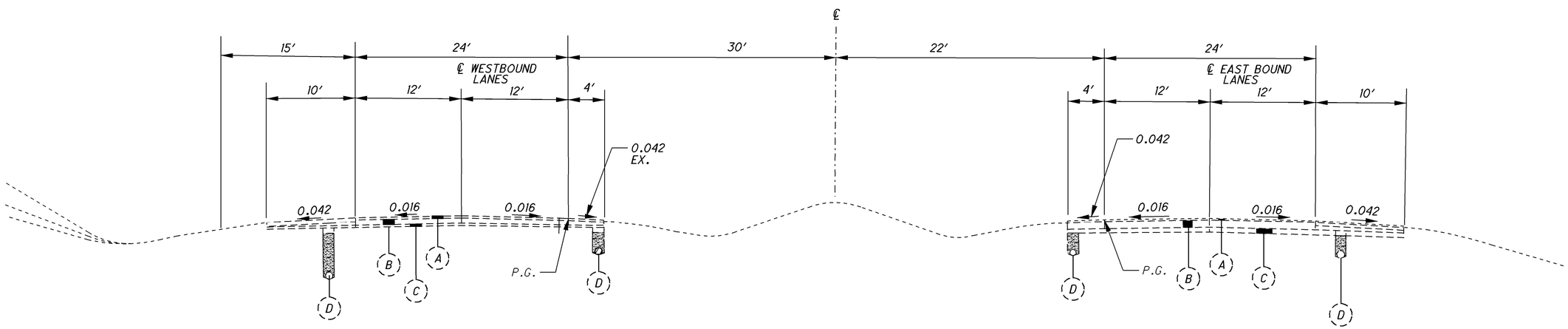
TYPICAL SECTIONS



TYPICAL SECTION #1
U.S. 33
S.L.M. 26.12 TO S.L.M. 27.19

NOT TO SCALE



ADJACENT
EXISTING SECTION

LEGEND

1. 1 1/2″ ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG64-22
2. 1 3/4″ ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446)
3. 10 1/2″ ITEM 301 ASPHALT CONCRETE BASE, PG64-22
4. 6″ ITEM 304 AGGREGATE BASE
5. ITEM 605 - 6″ UNCLASSIFIED PIPE UNDERDRAIN
6. ITEM 407 - TRACKLESS TACK COAT @ 0.075 GAL. / SY
7. ITEM 407 - TRACKLESS TACK COAT FOR INTERMEDIATE @ 0.05 GAL / SY
8. ITEM 617 - (1 1/2″ AVG.) COMPACTED AGGREGATE
9. ITEM 202 - PAVEMENT REMOVED, ASPHALT (8 1/2″)
10. ITEM 202 - BASE REMOVED (15″)
11. ITEM 204 - SUBGRADE COMPACTION
12. ITEM 653 - TOPSOIL FURNISHED AND PLACED
13. ITEM 659 - SEEDING AND MULCHING
14. ITEM 254 - (MINIMUM 1 1/2″) PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN
15. ITEM 441 - 1 1/2″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG64-22
16. ITEM 254 - 1 1/2″ PAVEMENT PLANING, ASPHALT CONCRETE
17. ITEM 618 - RUMBLE STRIPS, (ASPHALT CONCRETE)
18. ITEM 252 - FULL DEPTH PAVEMENT SAWING (18″)

- (A) 8 1/2″ ASPHALT CONCRETE SURFACE COURSE
- (B) 9″ REINFORCED CONCRETE PAVEMENT
- (C) 6 ″ SUBBASE
- (D) 6″ UNDERDRAIN

CALCULATED MK
CHECKED KF

TYPICAL SECTIONS

FRA-33-26.12

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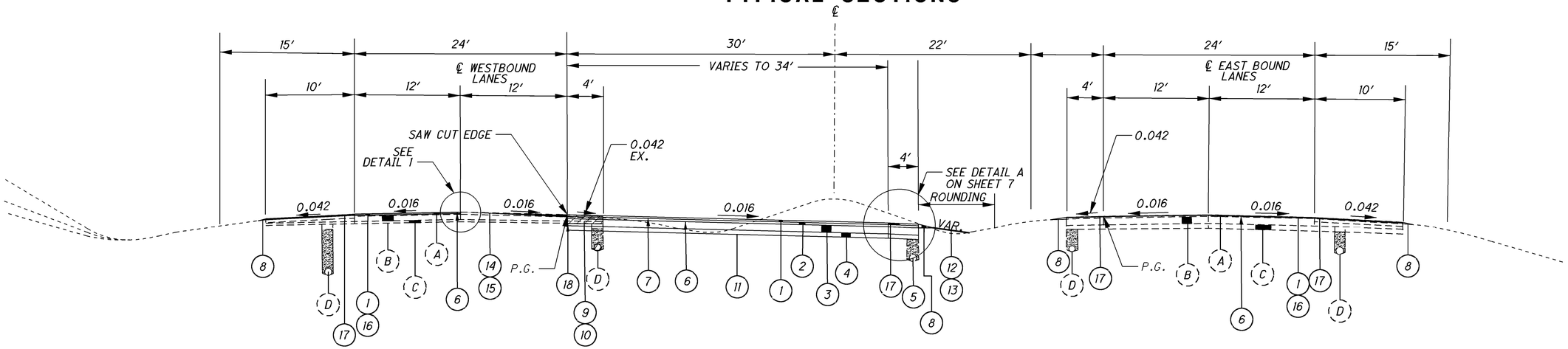
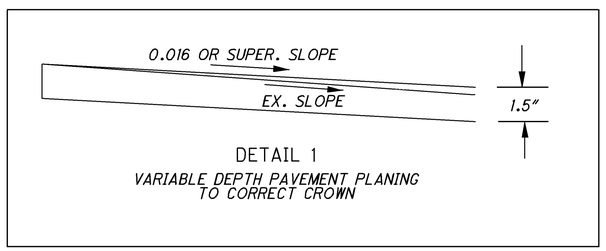
TYPICAL SECTIONS

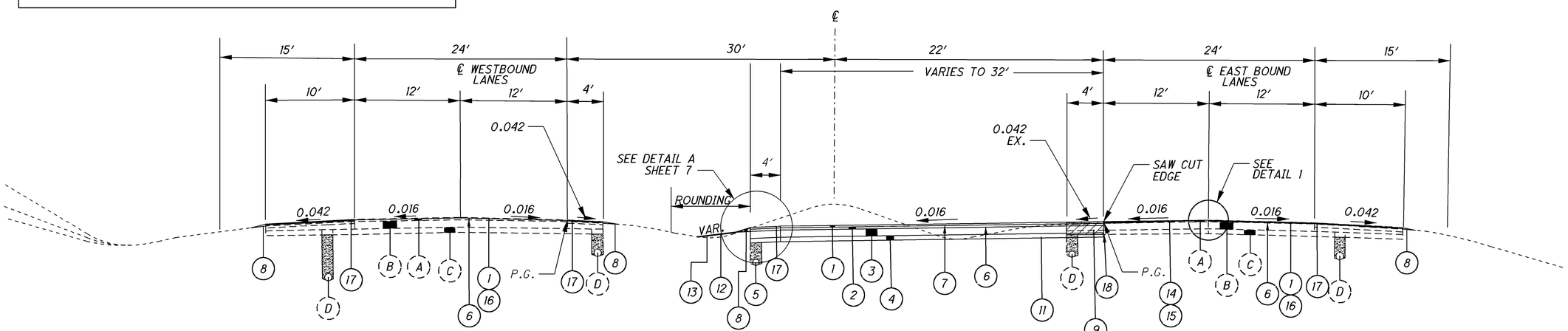


TYPICAL SECTION #2
U.S. 33

STA. 458+72.53 TO STA. 463+18
NOT TO SCALE



DETAIL 1
VARIABLE DEPTH PAVEMENT PLANING TO CORRECT CROWN



TYPICAL SECTION #3
U.S. 33
STA. 451+73.17 TO STA. 458+72.53
NOT TO SCALE

P.G. PROFILE GRADE

LEGEND

1. 1 1/2″ ITEM 441 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM TYPE A (446)
2. 1 3/4″ ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)
3. 10 1/2″ ITEM 301 ASPHALT CONCRETE BASE, PG64-22
4. 6″ ITEM 304 AGGREGATE BASE
5. ITEM 605 - 6″ UNCLASSIFIED PIPE UNDERDRAIN
6. ITEM 407 - TRACKLESS TACK COAT @ 0.075 GAL. / SY
7. ITEM 407 - TRACKLESS TACK COAT FOR INTERMEDIATE @ 0.05 GAL / SY
8. ITEM 617 - (1 1/2″ AVG.) COMPACTED AGGREGATE
9. ITEM 202 - PAVEMENT REMOVED, ASPHALT (8 1/2″)
10. ITEM 202 - BASE REMOVED (15″)
11. ITEM 204 - SUBGRADE COMPACTION
12. ITEM 653 - TOPSOIL FURNISHED AND PLACED
13. ITEM 659 - SEEDING AND MULCHING
14. ITEM 254 - (MINIMUM 1 1/2″) PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN
15. ITEM 441 - (1 1/2″) ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A, (446)
16. ITEM 254 - 1 1/2″ PAVEMENT PLANING, ASPHALT CONCRETE
17. ITEM 618 - RUMBLE STRIPS, (ASPHALT CONCRETE)
18. ITEM 252 - FULL DEPTH PAVEMENT SAWING (18″)

- (A) 8 1/2″ ASPHALT CONCRETE SURFACE COURSE
- (B) 9″ REINFORCED CONCRETE PAVEMENT
- (C) 6 ″ SUBBASE
- (D) 6″ UNDERDRAIN

CALCULATED MK
CHECKED KF

TYPICAL SECTIONS

FRA-33-26.12

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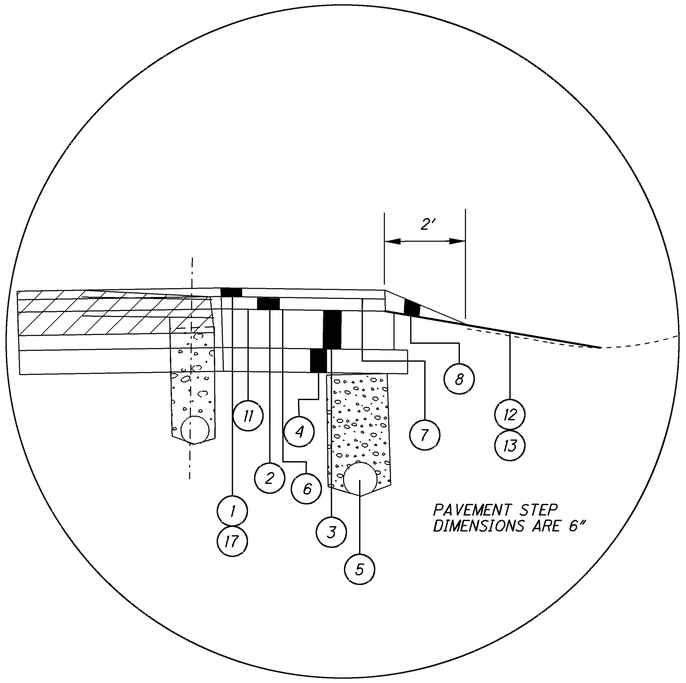
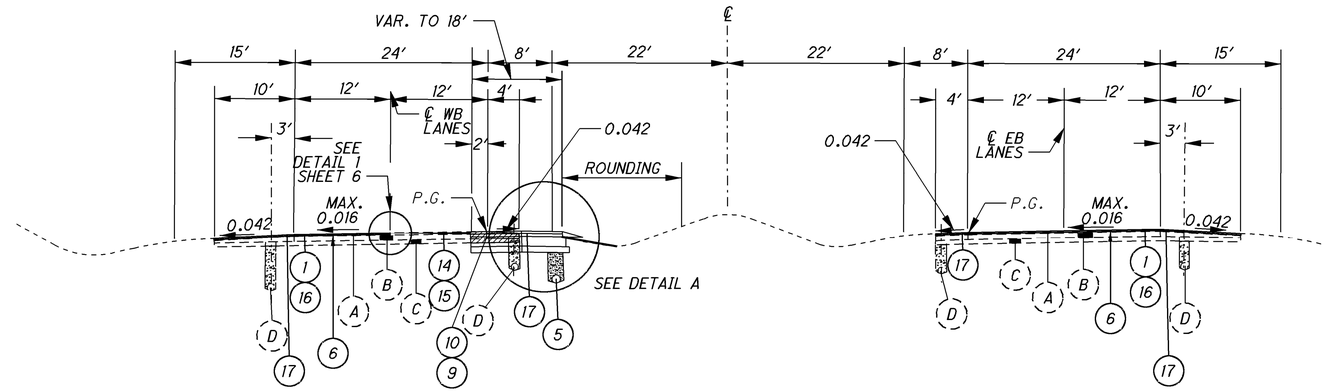
TYPICAL SECTIONS



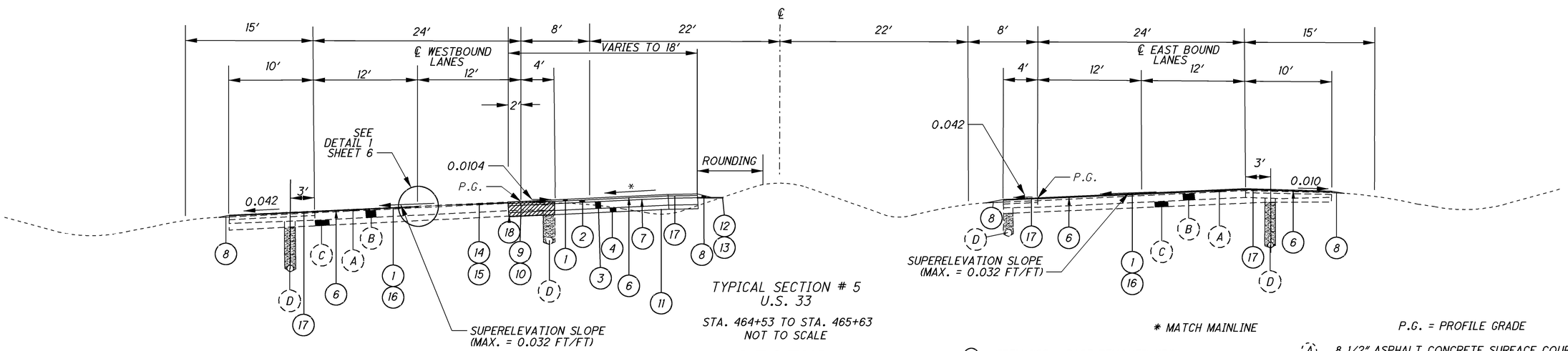
DETAIL "A"
NOT TO SCALE



TYPICAL SECTION #4
U.S. 33

STA. 463+18 TO STA. 464+53

NOT TO SCALE



TYPICAL SECTION # 5
U.S. 33

STA. 464+53 TO STA. 465+63

NOT TO SCALE

LEGEND

* MATCH MAINLINE

P.G. = PROFILE GRADE

(A) 8 1/2" ASPHALT CONCRETE SURFACE COURSE
(B) 9" REINFORCED CONCRETE PAVEMENT
(C) 6 " SUBBASE
(D) 6" UNDERDRAIN

(1) 1 1/2" ITEM 441 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM TYPE A (446)
(2) 1 3/4" ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)
(3) 10 1/2" ITEM 301 ASPHALT CONCRETE BASE, PG64-22
(4) 6" ITEM 304 AGGREGATE BASE
(5) ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAIN
(6) ITEM 407 - TRACKLESS TACK COAT @ 0.075 GAL. / SY
(7) ITEM 407 - TRACKLESS TACK COAT FOR INTERMEDIATE @ 0.05 GAL / SY
(8) ITEM 617 - (1 1/2" AVG.) COMPACTED AGGREGATE
(9) ITEM 202 - PAVEMENT REMOVED, ASPHALT (8 1/2")
(10) ITEM 202 - BASE REMOVED (15")
(11) ITEM 204 - SUBGRADE COMPACTION
(12) ITEM 653 - TOPSOIL FURNISHED AND PLACED
(13) ITEM 659 - SEEDING AND MULCHING
(14) ITEM 254 - (MINIMUM 1 1/2") PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN
(15) ITEM 441 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A, (446)
(16) ITEM 254 - 1 1/2" PAVEMENT PLANING, ASPHALT CONCRETE
(17) ITEM 618 - RUMBLE STRIPS, (ASPHALT CONCRETE
(18) ITEM 252 - FULL DEPTH PAVEMENT SAWING (18")

CALCULATED MK
CHECKED KF

TYPICAL SECTIONS

FRA-33-26.12

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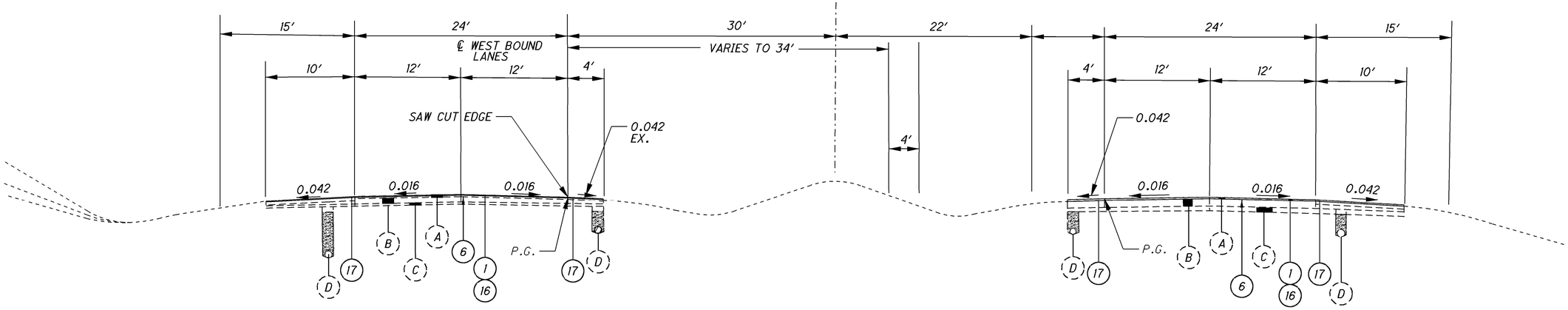
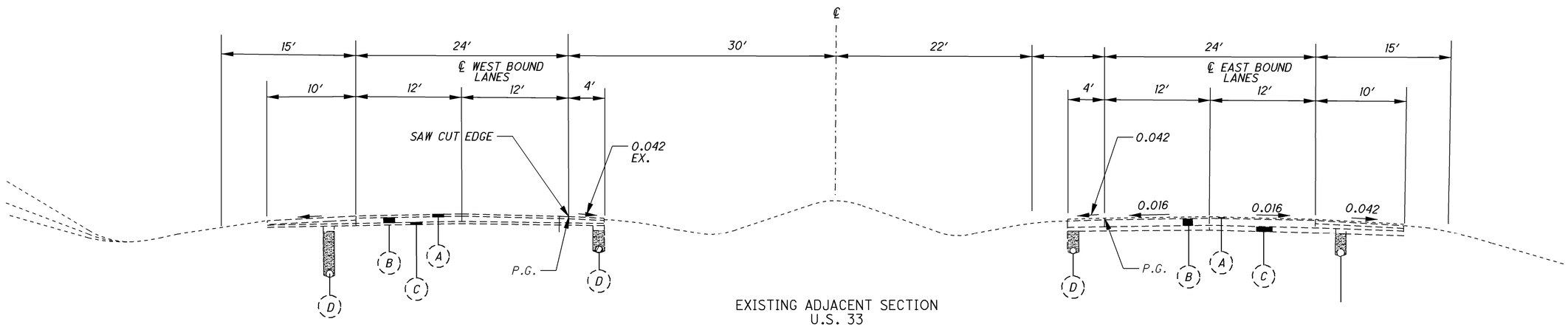
TYPICAL SECTIONS



TYPICAL SECTION #6
U.S. 33

S.L.M. 28.18 TO S.L.M. 31.23
NOT TO SCALE



EXISTING ADJACENT SECTION
U.S. 33

LEGEND

1. 1 1/2" ITEM 442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM TYPE A (446)
2. 1 3/4" ITEM 442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)
3. 10 1/2" ITEM 301 ASPHALT CONCRETE BASE, PG64-22
4. 6" ITEM 304 AGGREGATE BASE
5. ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAIN
6. ITEM 407 - TACK COAT @ 0.075 GAL. / SY
7. ITEM 407 - TACK COAT FOR INTERMEDIATE @ 0.05 GAL / SY
8. ITEM 617 - (1 1/2" AVG.) COMPACTED AGGREGATE
9. ITEM 202 - PAVEMENT REMOVED, ASPHALT
10. ITEM 202 - BASE REMOVED
11. ITEM 204 - SUBGRADE COMPACTION
12. ITEM 653 - TOPSOIL FURNISHED AND PLACED
13. ITEM 659 - SEEDING AND MULCHING
14. ITEM 254 - (MINIMUM 1 1/2") PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN
15. ITEM 441 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A, (446)
16. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE
17. ITEM 618 - RUMBLE STRIPS, (ASPHALT CONCRETE)

- (A) 8 1/2" ASPHALT CONCRETE SURFACE COURSE
- (B) 9" REINFORCED CONCRETE PAVEMENT
- (C) 6 " SUBBASE
- (D) 6" UNDERDRAIN

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TYPICAL SECTIONS

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GENERAL:
THE CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL IN WRITING BEFORE WORK IS STARTED ON THIS PROJECT. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

WORK LIMITS:
THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ALIGNMENT AND PROFILE:
THE WORK PROPOSED BY THIS PROJECT IS FOR THE ADDITION OF LEFT TURN LANES IN THE MEDIAN EXISTING FOUR LANE PAVEMENT. THE ALIGNMENT OF THE EXISTING PAVEMENT WILL NOT BE CHANGED, AND THE PROFILE OF THE PROPOSED SURFACE WILL BE SIMILAR TO THAT OF THE EXISTING PAVEMENT.

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.

CONTRACTORS EQUIPMENT - OPERATION AND STORAGE:
THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC WHERE PRACTICAL. EQUIPMENT SHALL HAVE AT LEAST ONE AMBER FLASHING LIGHT. WHEN PARKED ALONG THE HIGHWAY, THE EQUIPMENT SHALL BE LOCATED EITHER A MINIMUM OF THIRTY FEET FROM THE EDGE OF PAVEMENT OR SIX FEET BEHIND GUARDRAIL WITH A MINIMUM OF 125 FEET OF GUARDRAIL PRECEDING THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT AN APPROVED CONTRACTOR'S STORAGE AREA.

WORK LIMITS:
THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

REMOVAL ITEMS:
ASPHALT AND MISCELLANEOUS HARDWARE DESIGNATED FOR REMOVAL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE PRICE BID FOR THE REMOVED ITEM.

SURVEYING PARAMETERS:
USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD 1988
GEOID: GEOID 12A
HORIZONTAL POSITIONING
REFERENCE FRAME: NAD 83 (CORS 96)
ELLIPSOID: WGS84
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLAN (SOUTH)
COMBINED SCALE FACTOR: 1.000057560

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN:
THIS ITEM SHALL CONSIST OF STATIONING USING 3 FT LATH STAKES OR PAINT MARKINGS. THE STAKES OR PAINT MARKINGS SHALL BE SPACED AT 200 FT (50FT AT BIXBY ROAD WORK AREA) INTERVALS AND EXTEND THROUGHOUT THE LENGTH OF THE PROJECT. PLACEMENT OF THE

ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN (CONT.):
STAKES OR PAINT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE

FOR REPLACING ANY DAMAGED, MISSING STAKES, OR PAINT MARKINGS. PAINT MARKINGS SHALL BE PLACED ON CURBS AND USED IN AREAS WHERE THE PLACEMENT OF STAKES IS NOT POSSIBLE AND APPROVED BY THE PROJECT ENGINEER.

CONSTRUCTION LAYOUT STAKES WILL BE PAID FOR AT THE CONTRACT LUMP SUM BID, WHICH PRICE SHALL BE FULL COMPENSATION FOR ALL SERVICES, MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS, INCLUDING THE REMOVAL, NECESSARY TO COMPLETE THIS ITEM.

UTILITIES:
THE IDENTITY AND THE LOCATION OF SOME OF THE EXISTING UNDERGROUND FACILITIES KNOWN TO BE LOCATED IN THE CONSTRUCTION AREA HAVE BEEN IDENTIFIED. THE CONTRACTOR SHALL GIVE NOTICE OF INTENT TO CONSTRUCT TO THE OHIO UTILITIES PROTECTION SERVICE, PRODUCERS UNDERGROUND PROTECTION SERVICE, AND OWNERS OF UNDERGROUND FACILITIES THAT ARE NOT MEMBERS OF A REGISTERED PROTECTION SERVICE IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE. THE ABOVE, MENTIONED NOTICE SHALL BE GIVEN AT LEAST TWO WORKING DAYS PRIOR TO THE START OF CONSTRUCTION THE FOLLOWING UTILITIES ARE LOCATED WITHIN THE WORK LIMITS OF THE PROJECT AND THE OWNERS SUBSCRIBE TO REGISTERED UNDERGROUND PROTECTION SERVICE.

OHIO UTILITY PROTECTION SERVICE 1-800-362-2764
PRODUCERS UNDERGROUND PROTECTION SERVICE 1-614-587-0486
NON-MEMBERS MUST BE CALLED DIRECTLY.

UTILITIES OWNERSHIP:
LISTED ON SHEET 11 ARE THE KNOWN UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

ITEM 644 - THERMOPLASTIC PAVEMENT MARKING:
THE LOCATIONS, SIZES AND SHAPES OF PROPOSED PAVEMENT MARKINGS WILL BE AS SHOWN ON SHEETS 51 TO 54. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE AND SHAPE OF THESE EXISTING PAVEMENT MARKINGS BEFORE THE PAVEMENT PLANING AND RESURFACING OBLITERATES THEM. ANY PAVEMENT MARKING WHICH IS PLACED AT THE WRONG LOCATION SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

REVIEW OF DRAINAGE FACILITIES:
BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE OF THE PROJECT BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, SHALL INSPECT ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER SHALL CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS.

ROUNDING:
THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

CLEARING AND GRUBBING:
ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ITEM 204 - GRANULAR EMBANKMENT:
THE GRANULAR EMBANKMENT SHALL BE, 703.16, TYPE B:
THIS ITEM IS A CONTINGENCY ITEM TO BE USED FOR BACKFILL IN UNDERCUT LOCATIONS AS DIRECTED BY THE ENGINEER.

ITEM 204 - GRANULAR MATERIAL, 716.03, TYPE B 500 CU YD

ITEM 204 - GEOTEXTILE FABRIC:
THE GEOTEXTILE FABRIC SHALL BE 712.09, TYPE D. THE GEOTEXTILE FABRIC SHALL IS A CONTINGENCY ITEM TO BE USED AS DIRECTED BY THE ENGINEER IN UNDERCUT LOCATIONS.

ITEM 204 - GEOTEXTILE FABRIC 1,500 SQ YD

ITEM 204 - EXCAVATION OF SUBGRADE:
THIS ITEM SHALL BE USED AT THE DIRECTION OF THE ENGINEER. IT IS A CONTINGENCY ITEM TO BE USED FOR THE REMOVAL OF UNSUITABLE SOILS AS DETAILED IN THE ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING: NOTE.

ITEM 204 - EXCAVATION OF SUBGRADE - 500 CU YD

ITEM 204 - PROOF ROLLING:
THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING. SEE ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING, ABOVE FOR FURTHER INFORMATION.
ITEM 204 - PROOF ROLLING 1 HOUR.

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED:
ALL CASTINGS SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT OF WAY FOR SALVAGE BY STATE FORCES.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

EXISTING UNDERDRAINS:
PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDER-DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

611 _6" CONDUIT, TYPE F 100 FT.
611, PRECAST REINFORCED CONCRETE OUTLET 3 EACH
605 _6" UNCLASSIFIED PIPE UNDERDRAINS 100 FT.

CALCULATED MK
CHECKED KF

GENERAL NOTES

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ITEM SPECIAL - TACK COAT, TRACKLESS TACK:
ITEM SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE

DESCRIPTION:
THIS WORK CONSISTS OF PREPARING AND TREATING A PAVED SURFACE WITH A TRACKLESS TACK ASPHALT EMULSION.

FURNISH MATERIALS ACCORDING TO THE DEPARTMENT'S APPROVED LIST.

MEET ALL REQUIREMENTS OF ITEM 407 TACK COAT IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRED BY THE CONTRACT, EXCEPT AS NOTED BELOW.

MATERIAL:
MEET ALL PROPERTIES OF THE APPROVED MANUFACTURER'S TRACKLESS TACK SPECIFICATION REQUIREMENTS ON FILE WITH THE LABORATORY AT TIME OF PLACEMENT.

ACCEPTANCE AND SAMPLING OF MATERIALS:
SUPPLY CERTIFIED TEST DATA TO THE ENGINEER AND TO THE DISTRICT LABORATORY DEMONSTRATING THE TRACKLESS TACK SUPPLIED WAS TESTED FOR AND MEETS ALL MATERIAL PROPERTIES SHOWN ON THE DEPARTMENT'S APPROVED LIST.

DURING CONSTRUCTION, ODOT PERSONNEL WILL SAMPLE FROM THE DISTRIBUTOR AND SUPPLY TO THE DISTRICT TEST LAB A MINIMUM OF ONE QUART OF TRACKLESS TACK FOR EVERY 25,000 GALLONS USED ON THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE PROPER PLASTIC QUART SAMPLING CONTAINER. CLEARLY MARK ON THE SAMPLE WITH THE MANUFACTURER'S NAME, PROJECT NUMBER, AND THE WORDS "TRACKLESS TACK".

EQUIPMENT:
FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR CORRECT DISTRIBUTOR SETTINGS. THOROUGHLY CLEAN ALL EQUIPMENT IF PREVIOUSLY USED

MATERIAL CHARGE IS DIFFERENT THAN THE PROPOSED MATERIAL.

APPLICATION OF ASPHALT MATERIAL:
UNIFORMLY APPLY THE TRACKLESS TACK WITH A DISTRIBUTOR ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. IF TRACKLESS TACK IS STORED FOR AN EXTENDED PERIOD OF TIME, PRIOR TO APPLICATION, AGITATE OR GENTLY CIRCULATE THE MATERIAL.

ENSURE ALL NOZZLES AND SPRAY PATTERNS ARE IDENTICAL TO ONE ANOTHER ALONG THE DISTRIBUTOR SPRAY BAR. PLACE THE ANGLE OF THE NOZZLE AT A 15 TO 30 DEGREE ANGLE TO THE SPRAY BAR AXIS TO MAXIMIZE OVERLAP OR AS RECOMMENDED BY THE NOZZLE MANUFACTURER. CONTACT THE MANUFACTURER'S REPRESENTATIVE FOR REQUIRED SPRAY NOZZLE SIZE AND DISTRIBUTOR AND NOZZLE SETTINGS.

APPLY AT A RATE OF 0.04 TO 0.1 GALLONS PER SQUARE YARD. DO NOT DILUTE TRACKLESS TACK. RECOMMENDED APPLICATION TEMPERATURE IS 160°F TO 180 °F. DO NOT EXCEED 180 °F. THE ENGINEER WILL APPROVE THE QUANTITY, RATE OF APPLICATION, TEMPERATURE, DISTRIBUTOR SETTINGS, AND AREAS TO BE TREATED BEFORE APPLICATION OF THE TRACKLESS TACK COAT. THE ENGINEER WILL DETERMINE THE ACTUAL APPLICATION IN GALLONS PER SQUARE YARD BY A CHECK ON THE PROJECT.

PERFORMANCE OF TRACKLESS TACK:
DETERMINE THE TIME TO SET FOR THE MATERIAL TO BECOME TRACKLESS. THE ENGINEER WILL REPORT ANY ISSUES WITH EXCESSIVE TIME TO SET, OR AFTER SET ISSUES WITH STICKINESS, OR PICKUP OF THE TACK TO THE DISTRICT TESTING ENGINEER AND NEW PRODUCT ENGINEER, BRAD YOUNG 614-351-2882.

IF THE CERTIFIED TEST DATA FAILS TO MEET THE LAB TESTING CRITERIA, OR FIELD SAMPLES FAIL TO MEET THE LAB TEST CRITERIA, OR THE TRACKLESS TACK FAILS TO PERFORM SATISFACTORILY IN THE FIELD, AS NOTED ABOVE, THE CONTRACTOR WILL BE REQUIRED TO

ITEM SPECIAL - TACK COAT, TRACKLESS TACK (CONT.):
ITEM SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE (CONT.):
REPLACE AND SUPPLY ANOTHER APPROVED TRACKLESS TACK PRODUCT FOR THE REMAINDER OF THE PROJECT AT NO ADDITIONAL COST TO THE DEPARTMENT.

ANY FAILING TRACKLESS TACK PRODUCT WILL BE REMOVED FROM THE DEPARTMENT'S APPROVED LIST.

WATER QUALITY PROTECTION:
NO TOXIC OR HAZARDOUS MATERIALS SUCH AS SEALANTS, PAINT, SOLVENTS, CLEANING AGENTS, EARTHEN MATERIALS, WASTE-WATER, FUELS OR DEBRIS OF ANY KIND SHALL BE DISCHARGED TO ANY STREAMS, DRAINAGE COURSES OR BODIES OF WATER. ALL ASPHALT OR CONCRETE GRINDINGS, EXCESS ASPHALT OR CONCRETE MATERIALS OR ANY OTHER DEBRIS GENERATED DURING RESURFACING OR OTHER SIMILAR ACTIVITIES SHALL NOT BE DISPOSED OF WITHIN A FLOODPLAIN BELOW THE 100-YEAR FLOOD ELEVATION. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT LIQUIDS USED TO REPAIR, CLEAN, SEAL, OR TREAT ANY BRIDGE STRUCTURE (E.G. PAINT, SEALER, SOLVENT) FROM ENTERING STREAMS, WETLANDS OR OTHER "WATERS OF THE UNITED STATES" AND TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE.

ITEM 617 - WATER:
THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 617 - WATER = 1 MGAL

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.

ITEM 252 - FULL DEPTH PAVEMENT SAWING:
THIS ITEM OF WORK SHALL CONSIST OF SAWING THE EXISTING ASPHALT PAVEMENT TO AN AVERAGE DEPTH OF 18 INCHES IN THE LOCATIONS SHOWN IN THE PLANS.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN:
THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE CONTRACTORS EQUIPMENT THAT MAY RESULT FROM THE PLANING OPERATION, INCLUDING DAMAGE CAUSED BY CASTINGS AND LOOP DETECTORS. THE DEPTH OF PLANING CLOSE TO THE CASTINGS SHALL BE AS DIRECTED; TO ACHIEVE A SMOOTH RIDING FINISHED PAVEMENT. GREAT CARE SHALL BE TAKEN TO PREVENT THE REMOVAL OF THE EXISTING PAVEMENT CROSS-SLOPE (CROWN) DURING THE PLANING OPERATIONS.

THE PAVEMENT BETWEEN THE LANE LINE AND THE NEW PAVEMENT SHALL BE PLANED TO A MINIMUM OF 1.5" TO RESTORE THE 0.16 PAVEMENT SLOPE AND MAKE THE NEW AND EXISTING PAVEMENT THE SAME SLOPE.

ALL PLANED PAVEMENT SHALL BE PLANED TO A MINIMUM DEPTH OF 1.5 INCHES AND RESURFACED WITH 1.5 INCHES OF THE ASPHALT CONCRETE SURFACE COURSE WITHIN THE SAME WORK PERIOD.

PART-WIDTH CONSTRUCTION:
BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LONGITUDINAL JOINTS SHALL BE LAPPED AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

TOPSOIL:
TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE EXCAVATED OR FILLED. ADDITIONAL SUITABLE MATERIAL REQUIRED TO FILL THE TOPSOIL STRIP AREA IN EMBANKMENT AREAS, TOPSOIL SRIPPING AND ANY STOCKPILING INCLUDING ALL LABOR, EQUIPMENT, AND MATERIAL SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT BID ITEM 203 - EXCAVATION OR ITEM 203 - EMBANKMENT. NO ADDITIONAL COMPENSATION WILL BE PROVIDED.

ITEM 659, SEEDING AND MULCHING:
THE FOLLOWING QUANTITIES ARE TO BE USED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES AND WITHIN THE CONSTRUCTION LIMITS. QUANTITY CALCULATIONS FOR ITEM 659 - SEEDING AND MULCHING ARE BASED ON THESE LIMITS AND QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY. FOR QUANTITIES SEE SHEET 27.

FARM DRAINS:
ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE CONSTRUCTION LIMITS BY ITEM 611 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 611 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 611, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 611 - 6" CONDUIT, TYPE B 100 FT
ITEM 611 - 6" CONDUIT, TYPE F 100 FT

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A, AS PER PLAN (1.5"):
THIS ITEM SHALL BE USED ON THE AREA WHERE THE MINIMUM 1.5" PAVEMENT PLANING IS USED. THIS IS TO ENSURE THAT THE INSIDE LANE OF THE ROADWAY IS AT THE SAME SLOPE AS THE NEW PAVEMENT AT THE LEFT TURN LANES AT BIXBY ROAD.

COOPERATION BETWEEN CONTRACTORS:
THE STATE OF OHIO IS DEVELOPING A PROJECT TO CONSTRUCT THE BRIDGES ALONG THIS ROUTE FRA-33-26.49 PID 100763, WHICH MAY BE CONSTRUCTED CONCURRENTLY WITH THIS PROJECT. IT IS IMPERATIVE THAT THE CONTRACTORS COOPERATE FULLY WITH EACH OTHER AS OUTLINED IN SECTION 105.08 OF THE CMS MANUAL. ALL MAINTENANCE OF TRAFFIC SHALL BE COORDINATED BETWEEN PROJECTS AND NOT CONFLICT WITH ONE ANOTHER.

BEST MANAGEMENT PRACTICES:
BEST MANAGEMENT PRACTICES (BMPs) SHALL BE USED TO MINIMIZE SEDIMENTATION AND EROSION. RIPARIAN ZONE HABITAT SHOULD BE PRESERVED WHERE POSSIBLE. RIAPRIAN AREAS SHOULD NOT BE MOWED.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

COLUMBIA GAS OF OHIO
1600 DUBLIN ROAD - EW2
COLUMBUS, OH 43215
614.481.1057
nloden@nisource.com

AEP - COLUMBUS SOUTHERN POWER
850 TECH CENTER DR
GAHANNA, OH 43230-6605
614.883.6831
ptpaxton@aep.com

AT&T - OHIO
111 NORTH 4TH STREET
ROOM 802
COLUMBUS, OH 43215
614.223.7162
gv2758@att.com

COLUMBIA GAS TRANSMISSION CORP.
1440 MCNAUGHTON ROAD
COLUMBUS, OH 43232
ATTN: CHRIS PERRY
614.863.4658

FRANKLIN COUNTY ENGINEER
970 DUBLIN ROAD
COLUMBUS, OH 43215
614.525.3030

CITY OF GROVEPORT
655 BLACKLICK ST
GROVEPORT, OH 43125
614.836.5301

COLUMBUS - CITY OF
DIVISION OF POWER
3500 INDIANOLA AVENUE
COLUMBUS, OHIO 43214
MR. ROBERT SCHNEIDER
614.645.7534
rschneider@columbus.gov

COLUMBUS - CITY OF
DIVISION OF WATER
910 DUBLIN ROAD
COLUMBUS, OHIO 43215
614.645.7788

COLUMBUS - CITY OF
DIVISION OF SEWERAGE & DRAINAGE
1250 FAIRWOOD AVENUE
COLUMBUS, OHIO 43206-3372
614.645.6795
MR. JEREMY K. CAWLEY, P.E.
jkcawley@columbus.gov

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GENERAL NOTES

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GENERAL:
ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), CURRENT EDITION. COPIES ARE AVAILABLE FROM:

THE OHIO DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC
1980 WEST BROAD STREET
COLUMBUS, OHIO 43223.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH SECTION 614 AND OTHER APPLICABLE PORTIONS OF THE ODOT MANUAL OF CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), AS WELL AS THE OMUTCD, CURRENT EDITION. 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.

USE OF STANDARD DRAWINGS:
"MOVING OPERATION" SHALL BE LIMITED TO LONG LINE PAVEMENT MARKING STRIPING AS SHOWN IN SCD MT-99.20.

IT MAY BE NECESSARY TO EXTEND THE ADVANCE WARNING AND BUFFER ZONES BEYOND THE MINIMUM DISTANCES SHOWN ON THE STANDARD DRAWINGS. THIS MAY BE DUE TO HORIZONTAL ALIGNMENT, VERTICAL ALIGNMENT, RAMP LOCATIONS, OR OTHER SIGHT OBSTRUCTIONS. LOCATIONS OF THE TAPER ZONES MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER. TAPERS SHOULD BE PLACED IN TANGENT SECTIONS WHERE EVER POSSIBLE.

GENERAL:
THE CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL IN WRITING BEFORE WORK IS STARTED ON THIS PROJECT. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

NOTIFICATION OF CONSTRUCTION INITIATION:
AT LEAST FOURTEEN DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS VIA EMAIL AT d06.pio@dot.state.oh.us AND THE DISTRICT WORK ZONE TRAFFIC MANAGER VIA EMAIL AT d06.mot@dot.state.oh.us OF THE ANTICIPATED START DATE OF ANY CONSTRUCTION ACTIVITIES, INCLUDING BUT NOT LIMITED TO THE PLACING OF WORK ZONE SIGNS. THE NOTIFICATION SHALL ALSO INCLUDE THE PROJECT NUMBER, PID, NAME AND PHONE NUMBER OF THE CONTRACTOR, A POINT OF CONTACT AND THE ANTICIPATED IMPACT ON TRAFFIC. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT WORK ZONE TRAFFIC MANAGER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION INITIATION DATE.

NOTIFICATION OF TRAFFIC RESTRICTIONS:
THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW. THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE BUT IS NOT LIMITED TO ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHOULD LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, DETOUR ROUTES IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION OF TRAFFIC RESTRICTIONS (CONT.):

NOTIFICATION TIME FRAME TABLE

ITEM	*DURATION OF CLOSURE*	*NOTIFICATION DUE TO DISTRICT 6 COMMUNICATIONS OFFICE*
RAMP AND ROAD CLOSURES	>= 2 weeks	14 business days prior to closure
	> 12 hours and < 2 weeks	7 business days prior to closure
	< 12 hours	2 business days prior to closure
LANE CLOSURES/RESTRICTIONS	>= 2 weeks	7 business days prior to closure
	< 2 weeks	2 business days prior to closure

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME FRAME TABLE.

WORK LIMITS:
THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

LANES OPEN DURING HOLIDAYS AND SPECIAL EVENTS:
NO WORK SHALL BE PERFORMED AND THE SAME NUMBER OF LANES AS WERE AVAILABLE AT THE START OF THE PROJECT SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

HOLIDAYS
CHRISTMAS FOURTH OF JULY
NEW YEAR'S EVE LABOR DAY
MEMORIAL DAY THANKSGIVING

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 HOLIDAY	***TIME ALL LANES MUST BE OPEN TO TRAFFIC***
SUNDAY	*12:00 NOON FRIDAY THROUGH 6:00 AM MONDAY*
MONDAY	*12:00 NOON FRIDAY THROUGH 6:00 AM TUESDAY*
TUESDAY	*12:00 NOON MONDAY THROUGH 6:00 AM WEDNESDAY*
WEDNESDAY	*12:00 NOON TUESDAY THROUGH 6:00 AM THURSDAY*
THURSDAY	*12:00 NOON WEDNESDAY THROUGH 6:00 AM FRIDAY*
THANKSGIVING	*5:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY*
FRIDAY	*12:00 NOON THURSDAY THROUGH 6:00 AM MONDAY*
SATURDAY	*12:00 NOON FRIDAY THROUGH 6:00 AM MONDAY*

SPECIAL EVENTS

NONE
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 ACCORDANCE WITH THE UNAUTHORIZED LANE USE TABLE.

UNAUTHORIZED LANE USE CHART

Section (SLM)	Existing Number of Lanes per Direction	Lane closures are **NOT** permitted:				Disincentive Amounts per minute per lane
		Lane Reduction	Mon to Fri	Sat	Sun	
FRA-33						
I-270 (24.75) to Fairfield County Line (31.23)	2	2 to 1	5AM-7PM	6AM-9AM & 2PM-6PM	6AM-9AM & 2PM-6PM	$75
Short term shoulder closures are NOT permitted 5AM-9AM and 3PM-6PM Monday-Friday.						

USE OF WEIGHTED CHANNELIZERS:
THE WEIGHTED CHANNELIZER MAY BE USED IN ACCORDANCE WITH THIS SECTION. THE WEIGHTED CHANNELIZER SHALL BE PREDOMINANTLY ORANGE IN COLOR AND SHALL BE MADE OF LIGHTWEIGHT, FLEXIBLE, AND DEFORMBABLE MATERIAL. THEY SHALL BE AT LEAST 42 INCHES IN HEIGHT WITH A WEIGHTED BASE. THEY MAY HAVE A HANDLE OR LIFTING DEVICE WHICH EXTENDS ABOVE THE 42 INCHES MINIMUM HEIGHT.

THE MARKINGS ON THE WEIGHTED CHANNELIZER SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES 6 INCHES WIDE. EACH WEIGHTED CHANNELIZER SHALL HAVE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES. ANY NON-RETROREFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 2 INCHES WIDE. THE WEIGHTED CHANNELIZER SHALL HAVE A 4-INCH MINIMUM WIDTH, REGARDLESS OF ORIENTATION.

USE OF WEIGHTED CHANNELIZERS ON FREEWAYS AND MULTILANE HIGHWAYS SHALL BE LIMITED TO SHORT-TERM OPERATIONS FOR EITHER DAY OR NIGHT. UPON COMPLETION OF WORK, THE WEIGHTED CHANNELIZERS SHALL BE REMOVED. THE WEIGHTED CHANNELIZERS MAY AGAIN BE PLACED ON THE HIGHWAY WHEN THE WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT. ANY LANE CLOSURE USING CHANNELIZATION DEVICES, EXPECTED TO REMAIN FOR MORE THAN TWELVE HOURS, SHALL REQUIRE THE USE OF DRUMS OR BARRICADES. WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE TANGENT AREA AND AT A MAXIMUM SPACING OF 40 FEET. THE TANGENT AREA IS DEFINED AS THE AREA AFTER THE TRANSITION TAPER WHERE THE WORK TAKES PLACE. DRUMS SHALL BE USED IN THE TRANSITION TAPERS FOR NIGHT OPERATIONS.

STEPS SHOULD BE TAKEN TO ENSURE THAT THE WEIGHTED CHANNLEIZERS WILL NOT BE BLOWN OVER OR DISPLACED BY WIND OR MOVING TRAFFIC. BALLASTS SHOULD NOT PRESENT A HAZARD IF THE WEIGHTED CHANNELIZERS ARE IN ADVERTENTLY STRUCK, NOR SHOULD THEY AFFECT THE VISIBILITY OF THE WEIGHTED CHANNELIZERS. ALL BALLASTS USED SHOULD BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

PAYMENT SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM 622 - PORTABLE BARRIER, 32":
THIS ITEM SHALL CONSIST OF FURNISHING, INSTALLING, MAINTAINING, AND SUBSEQUENTLY REMOVING A 32 INCH PORTABLE

BARRIER AT THE LOCATIONS SHOWN ON SHEET 14-16. FOR PORTABLE BARRIER DETAILS, SEE SCD RM-4.2.

ITEM 614 - BARRIER REFLECTORS/OBJECT MARKERS:
BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER WITHIN THE RIGHT-OF-WAY IN ACCORDANCE WITH THE ALTERNATE DELINEATION METHOD (TRIPLE STACKED) SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.70. BARRIER REFLECTOR AND OBJECT MARKER MATERIAL AND INSTALLATION SHALL CONFORM TO CMS 626.02 AND 626.04.

ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL):
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

CALCULATED MK
CHECKED KF

MAINTENANCE OF TRAFFIC NOTES

FRA-33-26.12

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ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)(CONT.):
WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

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 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS:
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 REQUIREMENT 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 THE FOLLOWING TRAFFIC CONTROL 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 MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

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 IS 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.

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

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONT.):
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 = 80 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 AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR.

TRENCH FOR WIDENING:
TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

DRUM REQUIREMENTS:
IN ADDITION TO THE REQUIREMENTS OF THE PLANS, SPECIFICATION AND PROPOSAL, DRUMS FURNISHED BY THE CONTRACTOR SHALL BE NEW AND UNUSED AT THE TIME OF ARRIVAL ON THE PROJECT. ANY DRUMS BROUGHT ON THE PROJECT, WHICH HAVE PREVIOUSLY BEEN USED ELSEWHERE, WILL NOT BE ACCEPTED.

PAYMENT FOR DRUMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

DUST CONTROL:
THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 11 M. GAL

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN:
THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN 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 CLICKING 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

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONT.):
BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHALL BE DELINEATED ON A PERMANENT BASIS BY AFFIXING CONSPICUITY TAPE CONFORMING TO CMS 614.03, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

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 8 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. 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. THE CONTRACTOR SHALL ONLY BE PAID FOR PCMS UNITS WHEN THEY ARE IN OPERATION ON THE PROJECT AS SPECIFIED IN THE PLANS OR BY THE

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ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONT.):
ENGINEER. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN = 12 SIGN MONTH

ITEM 614 - WORK ZONE LANE LINE, CLASS III, 642 PAINT:
WORK ZONE LANE LINE SHALL BE PLACED TO REFLECT THE PROPOSED LANE LINE AS DETERMINED FROM THE PROPOSED MARKINGS WITHIN THE PROJECT LIMITS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE AND TYPE OF WORK ZONE MARKINGS NEEDED MEETING THE REQUIREMENTS OF ITEM 614 BEFORE THE REMOVAL OBLITERATES THE EXISTING.

ITEM 614- WORK ZONE LANE LINE, CLASS III, 642 PAINT = 11.16 MILE

ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT:
WORK ZONE CHANNELIZING LINE SHALL BE PLACED TO REFLECT THE PROPOSED CHANNELIZING LINE AS DETERMINED FROM THE PROPOSED MARKINGS WITHIN THE PROJECT LIMITS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE AND TYPE OF WORK ZONE MARKINGS NEEDED MEETING THE REQUIREMENTS OF ITEM 614 BEFORE THE REMOVAL OBLITERATES THE EXISTING.

ITEM 614- WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT = 14,937 FT

ITEM 614 - WORK ZONE MARKING SIGN:
THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE MARKING SIGNS PER THE REQUIREMENTS OF MT-101.90, 614.04 AND 614.11.

LOC	BEGIN SLM	END SLM	SIDE	W8-H12a NO EDGE LINES
				EACH
FRA-33	26.12	31.23	RT	6
FRA-33	31.23	26.12	RT	6
			TOTAL	12

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 614 - WORK ZONE MARKING SIGN = 12 EACH

ITEM 614 - DETOUR SIGNING:
SIZE AND PLACEMENT OF DETOUR SIGNS (M4-9) SHOULD FOLLOW THE REQUIREMENTS OF THE OMUTCD SECTION 6F.03, SECTION 2A.11 AND TABLE 6F.01.

DETOUR SIGNING SHALL PROVIDE DRIVERS ADEQUATE TIME TO CLEARLY READ THE SIGNS AND MAKE THE PROPER DECISIONS AT EACH REQUIRED TURNING MOVEMENT. THE DESIGNATED DETOUR ROUTE SHALL BE SIGNED IN ACCORDANCE WITH THE REQUIREMENTS BELOW:

- APPROXIMATELY 1500 FEET PRIOR TO TIP OF THE PAINTED GORE AT AN INTERCHANGE WHEN EXITING A HIGH SPEED (45 MPH OR HIGHER) FACILITY.
- AT OR NEAR THE EXISTING SIGN IN THE GORE OF AN INTERCHANGE RAMP.

ITEM 614 - DETOUR SIGNING (CONT.):

- AT OR NEAR THE FIRST EXISTING LANE ASSIGNMENT SIGN ON AN INTERCHANGE EXIT RAMP.
- AT OR NEAR THE EXISTING LANE ASSIGNMENT SIGN OR EXISTING ROUTE MARKER AT THE END OF AN EXIT RAMP.
- APPROXIMATELY 500 FEET PRIOR TO A REQUIRED TURN AT AN INTERSECTION NOT CONTROLLED BY A STOP SIGN (FOR 45 MPH OR HIGHER ONLY).
- AT OR NEAR THE EXISTING LANE ASSIGNMENT SIGN OR EXISTING ROUTE MARKER AT AN INTERSECTION.
- EVERY TWO MILES ALONG A TANGENT SECTION BETWEEN TURNING MOVEMENTS OUTSIDE A CITY.
- EVERY TWO BLOCKS ALONG A TANGENT SECTION BETWEEN TURNING MOVEMENTS WITHIN A CITY.
- AT ANY OTHER INTERSECTION OR DECISION POINT WHERE THE DETOUR ROUTE IS CONTRARY TO THE NORMAL, EXPECTED TURNING MANEUVER OR OTHERWISE UNCLEAR.

DETOUR SIGNS SHALL BE PLACED, WHEN POSSIBLE, NEXT TO BUT NOT BLOCKING EXISTING ROUTE MARKERS OR LANE ASSIGNMENT SIGNS. DETOUR SIGNS SHALL NOT OBSCURE OR BE OBSCURED BY OTHER EXISTING OR TEMPORARY SIGNS.

DETOUR SIGNS SHALL BE ERECTED AND/OR UNCOVERED PRIOR TO THE ROAD OR RAMP BEING CLOSED TO TRAFFIC BUT NO EARLIER THAN FOUR HOURS PRIOR TO THE CLOSURE. DETOUR SIGNS SHALL BE COVERED AND/OR REMOVED NO LATER THAN FOUR HOURS FOLLOWING THE ROAD OR RAMP RE-OPENING TO TRAFFIC.

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, PROPER SIGN PLACEMENT AND SIZING, TIMELY ERECTING AND/OR UNCOVERING OF SIGNS, MAINTAINING SIGNS, AND TIMELY COVERING AND/OR REMOVING SIGNS AND SUPPORTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.
ITEM 614 - DETOUR SIGNING = LUMP SUM

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) (BIXBY ROAD):
A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 60 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 15 FOR BIXBY ROAD. DURING THE CLOSURE OF BIXBY ROAD, TWO (2) LANES IN EACH DIRECTION ON US-33 SHALL BE MAINTAINED PER SHEETS 17-20. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $ 23,000 PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

RAMP PAVING ON SR 674 RAMPS:
THE PAVING OF THE RAMPS FOR SR 674 SHALL BE DURING THE HOURS OF 7PM TO 5AM MONDAY THROUGH SUNDAY.

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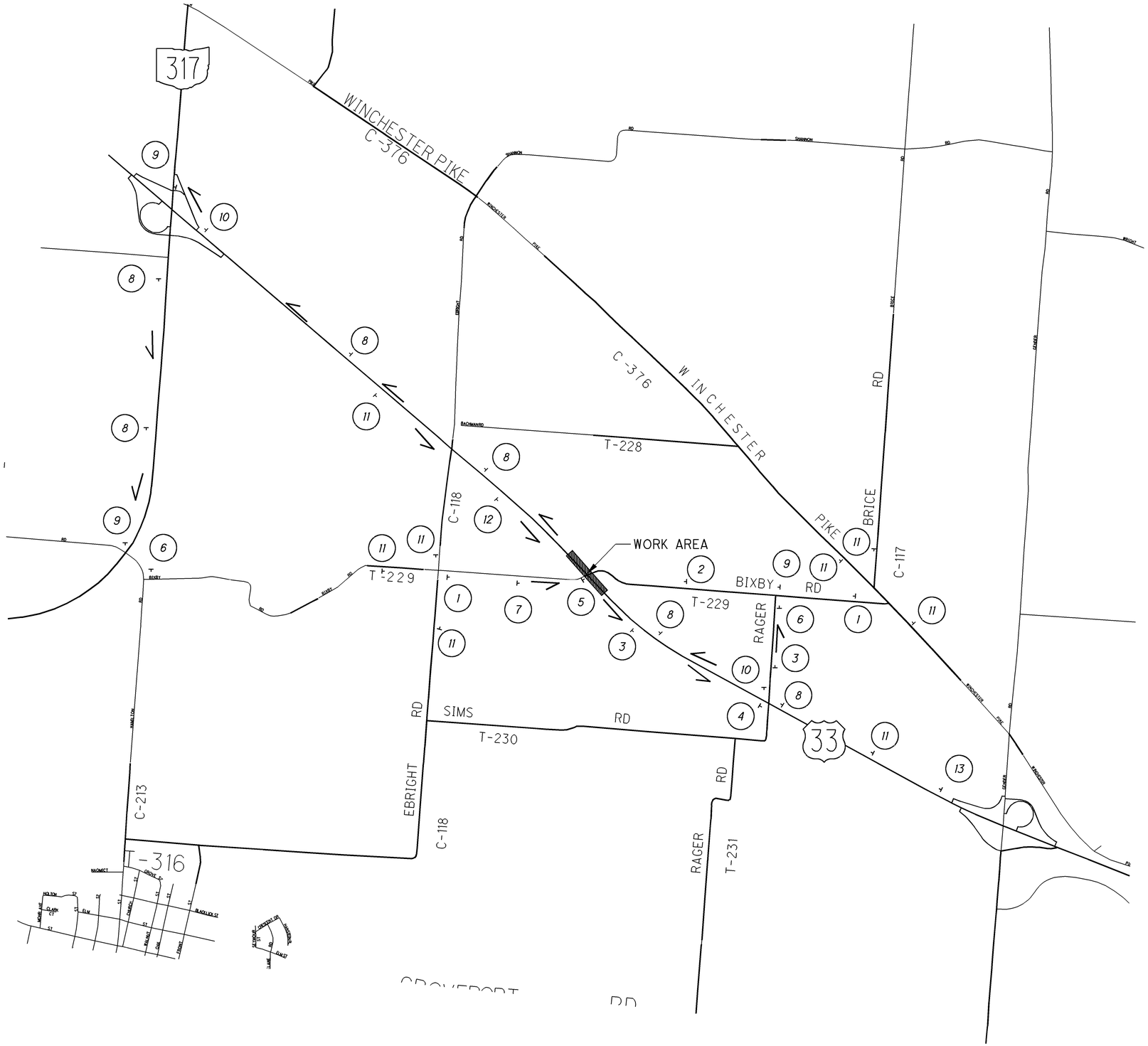
LEGEND

WORK AREA

DETOUR DIRECTIONS

FOR SIGN LEGEND, SEE SHEET NO. 63



HORIZONTAL SCALE IN FEET
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CALCULATED MK
CHECKED KF

DETOUR
BIXBY ROAD INTERSECTION

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STARTING ##/##/##
BIXBY RD ACROSS US-33
PERMANENTLY PROHIBITED

1

BIXBY ROAD
D1-IC-30
R3-27-36
EAST
M3-2-30

2

BIXBY ROAD
D1-IC-30
DETOUR
M4-9C-30
EAST
M3-2-30

3

BIXBY ROAD
D1-IC-30
DETOUR
M4-9L-30
EAST
M3-2-30

4

BIXBY ROAD
D1-IC-30
DETOUR
M4-9R-30
EAST
M3-2-30

5

BIXBY ROAD
D1-IC-30
END DETOUR
M4-8A-24

6

BIXBY ROAD
D1-IC-30
R3-27-36
WEST
M3-4-30

7

BIXBY ROAD
D1-IC-30
DETOUR
M4-9C-30
WEST
M3-4-30

8

BIXBY ROAD
D1-IC-30
DETOUR
M4-9L-30
WEST
M3-4-30

9

BIXBY ROAD
D1-IC-30
DETOUR
M4-9R-30
WEST
M3-4-30

10

BIXBY ROAD
D1-IC-30
ROAD WORK AHEAD
W20-1-36

11

##/##/##
TO
##/##/##

NO LEFT TURN USE RAGER RD

PCMS ON 33 EASTBOUND
(SOUTH) IN MEDIAN

12

##/##/##
TO
##/##/##

NO LEFT TURN USE SR-317

PCMS ON 33 WESTBOUND
(NORTH) IN MEDIAN

13

DETOUR DIRECTIONS

NOTE:
ALL SIGNS AND BARRICADES PAID
UNDER ITEM 614 - DETOUR SIGNING.

CALCULATED MK
CHECKED KF

BIXBY ROAD INTERSECTION
DETOUR

FRA-33-26.12

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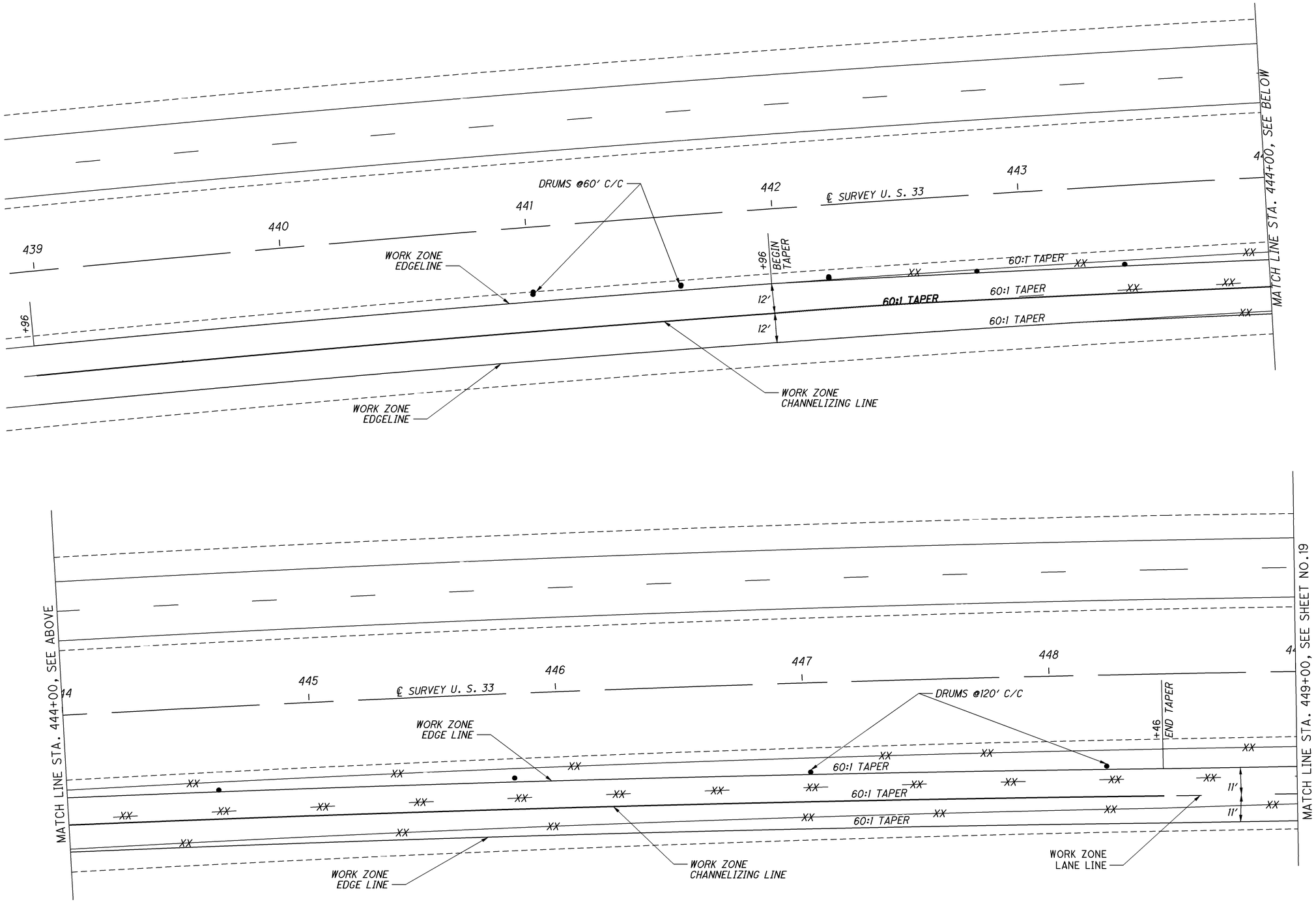

LEGEND

~~XX~~ EX. LINE TO BE REMOVED	DRUMS
32" PORTABLE BARRIER	ATTENUATOR
DIRECTION OF TRAVEL	WORK ZONE

FOR MOT ITEM QUANTITIES, SEE SHEET .
FOR LANE SHIFT, SEE SCD MT-102.10

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MK
CHECKED KF

MAINTENANCE OF TRAFFIC
BIXBY ROAD INTERSECTION

FRA-33-26.12

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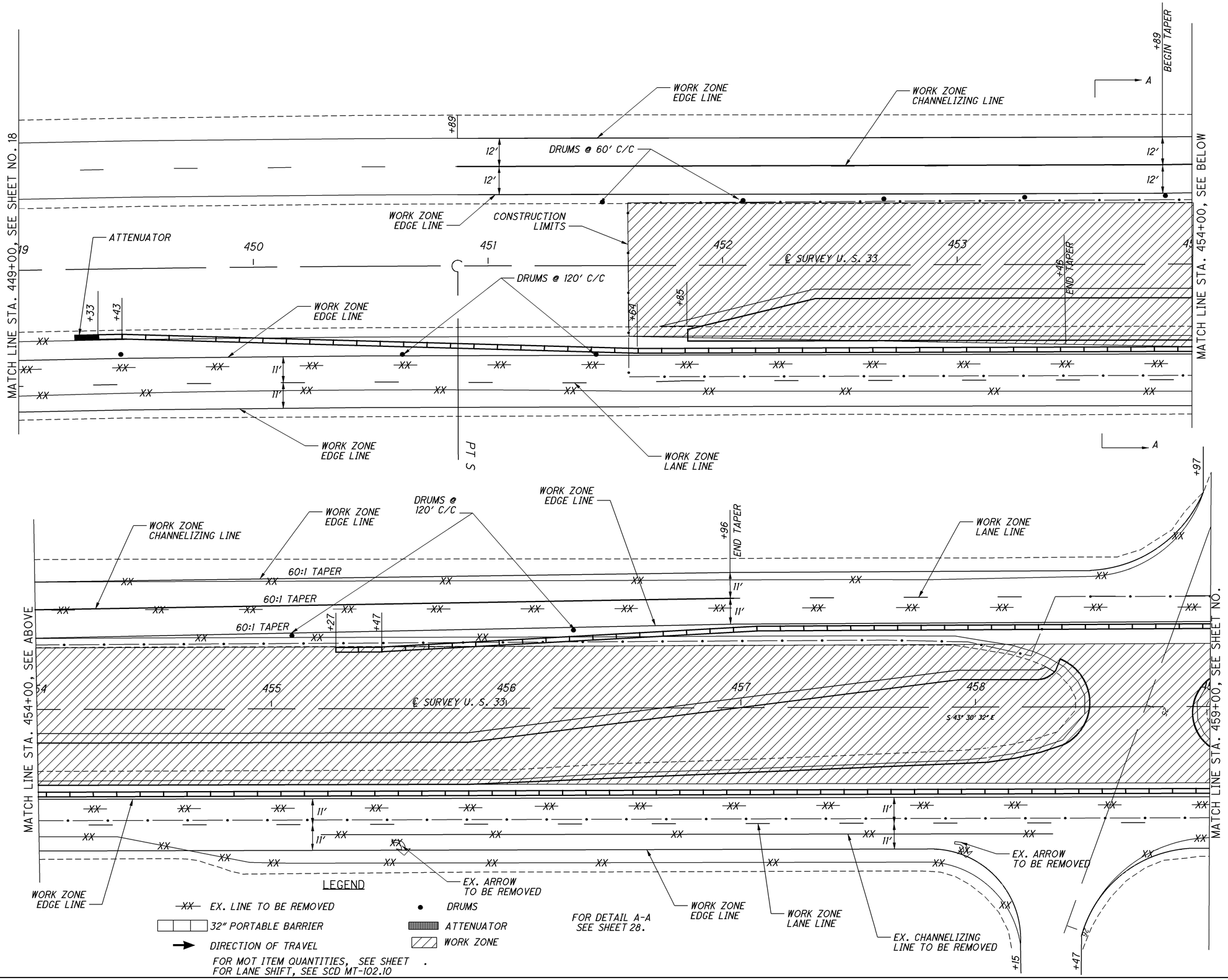

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MK
CHECKED KF

MAINTENANCE OF TRAFFIC BIXBY ROAD INTERSECTION

FRA-33-26.12

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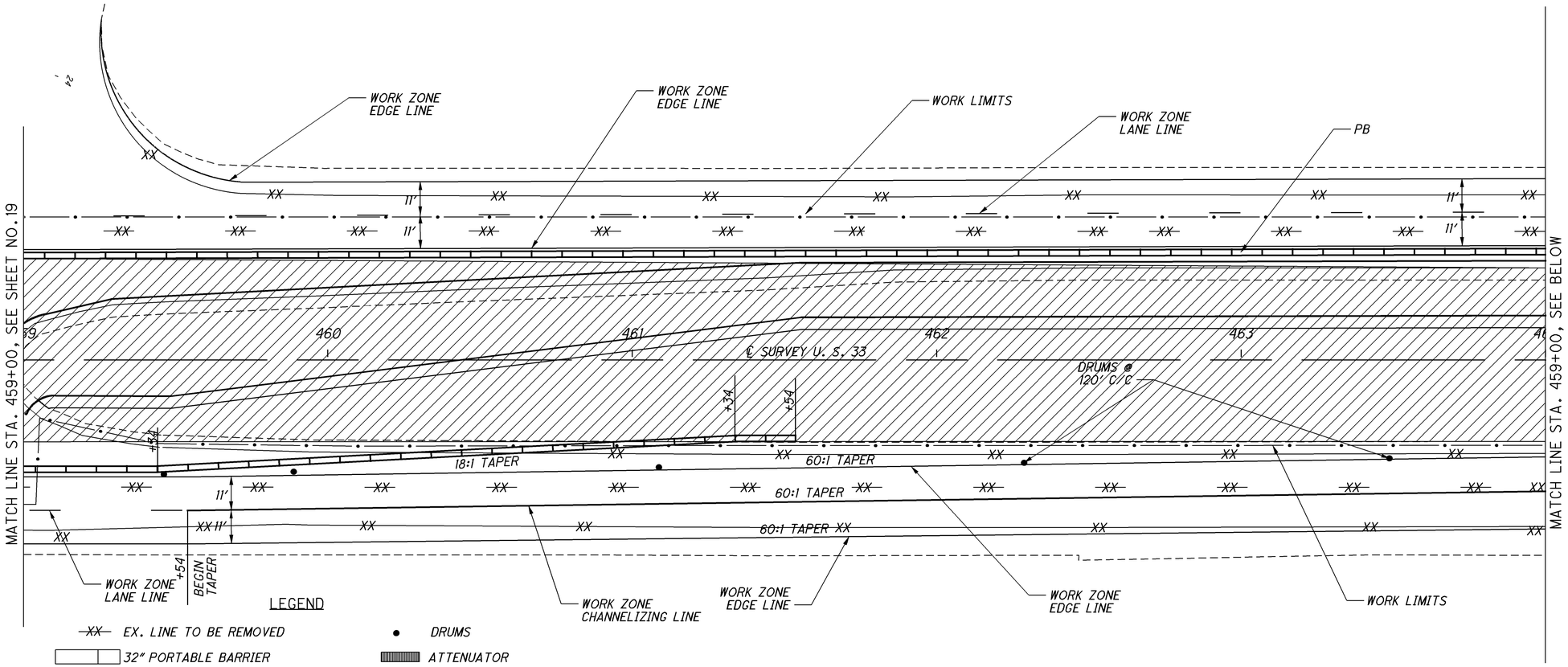
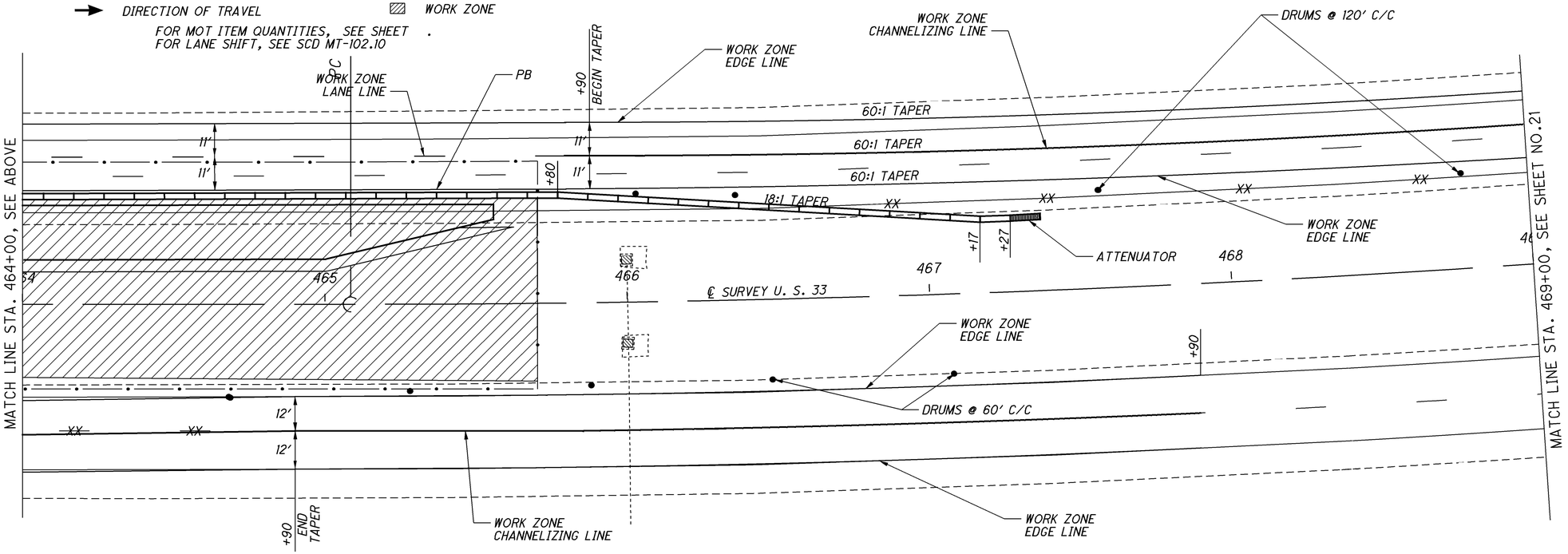


LEGEND

- EX. LINE TO BE REMOVED
- 32" PORTABLE BARRIER
- DIRECTION OF TRAVEL
- DRUMS
- ATTENUATOR
- WORK ZONE

FOR MOT ITEM QUANTITIES, SEE SHEET .
FOR LANE SHIFT, SEE SCD MT-102.10



HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MK
CHECKED KF

MAINTENANCE OF TRAFFIC
BIXBY ROAD INTERSECTION

FRA-33-26.12

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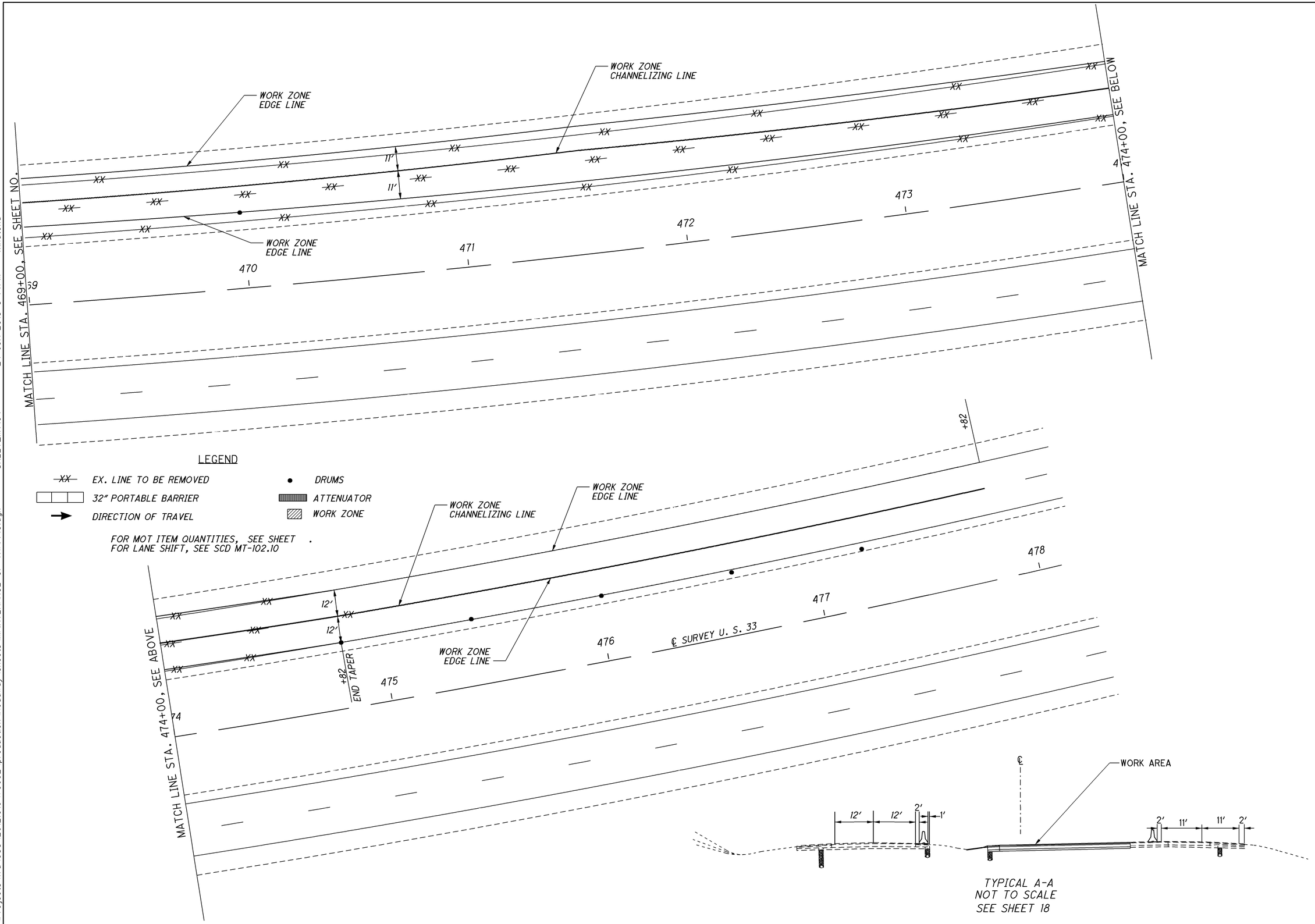
SHEET_MT103 24-JUN-2015 3:44PM mkatona


WORK ZONE EDGE LINE
WORK ZONE CHANNELIZING LINE
11'
11'
WORK ZONE EDGE LINE
MATCH LINE STA. 469+00, SEE SHEET NO.
470
471
472
473
MATCH LINE STA. 474+00, SEE BELOW
+82
LEGEND
EX. LINE TO BE REMOVED
32" PORTABLE BARRIER
DIRECTION OF TRAVEL
DRUMS
ATTENUATOR
WORK ZONE
FOR MOT ITEM QUANTITIES, SEE SHEET
FOR LANE SHIFT, SEE SCD MT-102.10
WORK ZONE CHANNELIZING LINE
WORK ZONE EDGE LINE
12'
12'
+82
END TAPER
WORK ZONE EDGE LINE
475
476
℄ SURVEY U. S. 33
477
478
MATCH LINE STA. 474+00, SEE ABOVE
℄
WORK AREA
12'
12'
2'
1'
2'
11'
11'
2'
TYPICAL A-A
NOT TO SCALE
SEE SHEET 18
HORIZONTAL SCALE IN FEET
0
10
20
40
CALCULATED MK
CHECKED KF
MAINTENANCE OF TRAFFIC
BIXBY ROAD INTERSECTION
FRA-33-26.12
20
65
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SHEET_MT104
24-JUN-2015 3:44PM
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SHEET	SIDE	BEGIN STA	END STA	LENGTH FT	LENGTH MILE	DESCRIPTION	614 WORK ZONE LANE LINE CLASS III 642 PAINT MILE		614 WORK ZONE CHANNELIZING CLASS III 642 PAINT FEET	614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, 1-WAY EACH		622 PORTABLE BARRIER, 32" FT	606 WORK ZONE IMPACT ATTENUATOR, UNIDIRECTIONAL EACH	
14	RT	438+96	448+46	950					950						
14	RT	438+96	449+00	1004	0.19										
14	RT	448+46	449+00	54	0.01		0.01								
15	LT	450+89	459+00	811	0.15										
15	LT	450+89	459+00	811					811						
15	LT	456+96	459+00	204	0.04		0.04								
15	LT	455+27	459+00	380						9	9		380		
15	RT	449+00	459+00	1000	0.19										
15	RT	449+00	459+00	1000	0.19		0.19								
15	RT	449+33	459+00	970						20	20		970	1	
16	LT	459+00	465+90	690	0.13		0.13								
16	LT	459+00	469+00	1000	0.19										
16	LT	465+90	469+00	310					310						
16	LT	459+00	467+27	830						18	18		830		
16	RT	459+00	459+54	54	0.01		0.01								
16	RT	459+00	467+90	890	0.17										
16	RT	459+54	467+90	836					836						
16	RT	459+00	461+34	240						6	6		240	1	
17	LT	469+00	477+82	882	0.17		0.17								
17	LT	469+00	477+82	882					882						
						TOTALS CARRIED TO GENERAL SUMMARY	0.55		3,789	53	53		2,420	2	

CALCULATED MK
CHECKED KF

MAINTENANCE OF TRAFFIC
BIXBY ROAD INTERSECTION QUANTITIES

FRA-33-26.12

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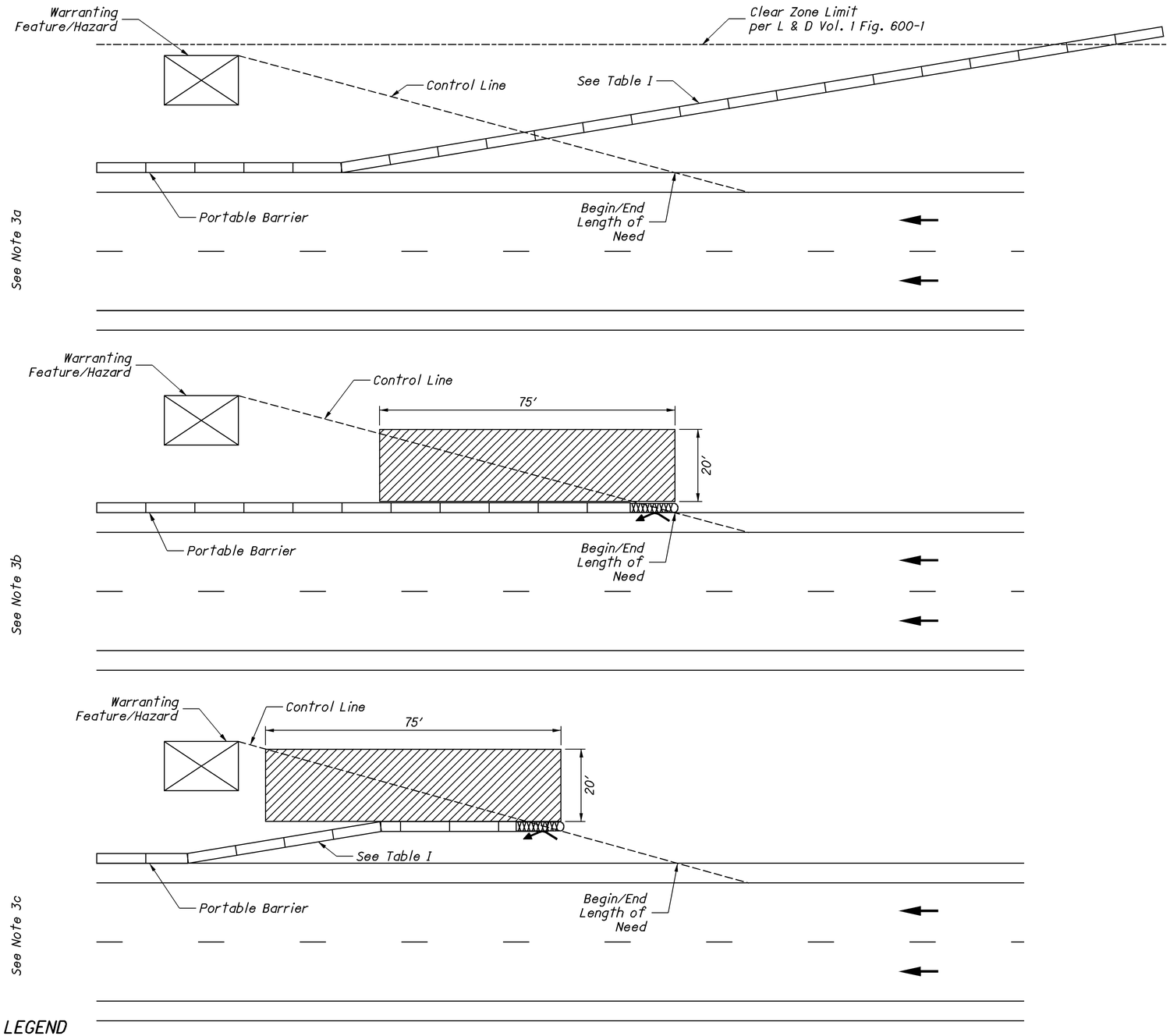

LEGEND

- RECOVERY AREA
- PORTABLE BARRIER
- NON-GATING IMPACT ATTENUATOR
- DIRECTION OF TRAVEL

NOTES:

1. Attenuators shall be installed per the manufacturer's specifications.

2. Recovery area shall have slopes 3:1 or flatter and be free of workers, hazards, equipment, drop-offs, and material storage.

3. The Contractor shall select one of the three acceptable options for terminating portable barrier:

   a) Terminate flared section of portable barrier outside clear zone with tapered end only where cross slopes are 10:1 or flatter.
   b) Terminate portable barrier with an impact attenuator. A non-gating attenuator may be included in the length of need measurement.
   c) Flare a section of portable barrier to the length of need control line and terminate with an impact attenuator. A non-gating impact attenuator may be included in the flared section of portable barrier.

4. The Contractor shall submit documentation to the Engineer, 2 weeks prior to implementation, for acceptance when:

   a) Deviating from the three acceptable options for terminating portable barrier.

      Documentation shall explain any deviations and verify that the recovery area fulfills the manufacturer's specifications and Note 2.

   b) Using a gating impact attenuator in lieu of a non-gating impact attenuator.

      The gating impact attenuator length shall not be included as part of the length of need or recovery area requirements. Additional portable barrier will need to be added. The additional cost for the additional barrier required for a gating impact attenuator shall be included in the cost of the gating impact attenuator.

      Documentation shall verify that the extended recovery area fulfills the manufacturer's specifications and and Note 2.

5. Gating impact attenuators shall not be used in gore locations or within the clear zone between bi-directional traffic.

TABLE I

SPEED LIMIT (MPH)	PB FLARE RATE MINIMUM
25	8:1
30	8:1
35	9:1
40	10:1
45	12:1
50	14:1
55	16:1
60	18:1
65	19:1
70	20:1

THIS DRAWING REPLACES PIS 2010175 DATED 7-20-2012.

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MAINTENANCE OF TRAFFIC IMPACT ATTENUATOR PLACEMENT

FRA-33-26.12

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SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
9-10	13-14	21	25-26	27	53-55	65					01/NHS/PV	02/SAF/PV							
																		ROADWAY	
											LS	LS		201	11000	LS		CLEARING AND GRUBBING	
			958									958		202	23010	958	SY	PAVEMENT REMOVED, ASPHALT	
			958									958		202	23800	958	SY	BASE REMOVED	
			12									12		202	35100	12	FT	PIPE REMOVED, 24" AND UNDER	
			3									3		202	58100	3	EACH	CATCH BASIN REMOVED	
			2858									2858		203	10000	2858	CY	EXCAVATION	
			25									25		203	20000	25	CY	EMBANKMENT	
			3455									3455		204	10000	3455	SY	SUBGRADE COMPACTION	
500												500		204	13000	500	CY	EXCAVATION OF SUBGRADE	
500												500		204	21000	500	CY	GRANULAR EMBANKMENT	
1												1		204	45000	1	HOUR	PROOF ROLLING	
1500												1500		204	50000	1500	SY	GEOTEXTILE FABRIC	
												LS		878	25000	LS		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	
																		EROSION CONTROL	
				447								447		659	00300	447	CY	TOPSOIL	
				4280								4280		659	00510	4280	SY	SEEDING AND MULCHING, CLASS 2	
				214								214		659	14000	214	SY	REPAIR SEEDING AND MULCHING	
				214								214		659	15000	214	SY	INTER-SEEDING	
				0.58								0.58		659	20000	0.58	TON	COMMERCIAL FERTILIZER	
				0.88								0.88		659	31000	0.88	ACRE	LIME	
				23								23		659	35000	23	MGAL	WATER	
											LS	LS		832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
											300	9700		832	30000	10000	EACH	EROSION CONTROL	
																		DRAINAGE	
100			1307									1407		605	13300	1407	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
200			50									250		611	00510	250	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
100												100		611	00900	100	FT	6" CONDUIT, TYPE B	
			22									22		611	05900	22	FT	15" CONDUIT, TYPE B	
			1									1		611	98410	1	EACH	CATCH BASIN, NO. 8	
			1									1		611	99574	1	EACH	MANHOLE, NO. 3	
3												3		611	99710	3	EACH	PRECAST REINFORCED CONCRETE OUTLET	
																		PAVEMENT	
			1359									1359		252	01500	1359	FT	FULL DEPTH PAVEMENT SAWING	
			188015								188015			254	01000	188015	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
			3267									3267		254	01001	3267	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	10
			1009									1009		301	46000	1009	CY	ASPHALT CONCRETE BASE, PG64-22	
			576									576		304	20000	576	CY	AGGREGATE BASE	
			173									173		SPECIAL	40720000	173	GAL	TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE	9
			14606								14101	505		SPECIAL	40720100	14606	GAL	TACK COAT, TRACKLESS TACK, SURFACE COURSE	9
			7981								7835	146		442	10000	7981	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)	
			108									108		442	10001	108	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN	10
			170									170		442	10100	170	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)	
			987								979	8		617	10100	987	CY	COMPACTED AGGREGATE	
1												1		617	25000	1	MGAL	WATER	
			23								23			618	40600	23	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)	
																		TRAFFIC CONTROL	
					160							160		620	70010	160	FT	DELINEATOR, MISC.:TRAFFIC SEPARATOR	52
					858						95	763		621	00100	858	EACH	RPM	
					809						46	763		621	54000	809	EACH	RAISED PAVEMENT MARKER REMOVED	
					238							238		630	02100	238	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
					340							340		630	03100	340	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	

CALCULATED MK
CHECKED KF

GENERAL SUMMARY

FRA-33-26.12

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SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
9-10	13-14	21	25-26	27	53-56	65					01/NHS/PV	02/SAF/PV							
																		TRAFFIC CONTROL CONT.	
					52							52		630	04100	52	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	52
					15							15		630	08600	15	EACH	SIGN POST REFLECTOR, RED	
					292.9							292.9		630	80100	292.9	SF	SIGN, FLAT SHEET	
					25							25		630	84900	25	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
					4							4		630	85100	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
					25							25		630	86002	25	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT	
																		AND DISPOSAL	
					32.29						31.28	1.01		644	00104	32.29	MILE	EDGE LINE, 6"	
					16.17						15.64	0.53		644	00204	16.17	MILE	LANE LINE, 6"	
					0.06						0.01	0.05		644	00300	0.06	MILE	CENTER LINE	
					14937						13085	1852		644	00404	14937	FT	CHANNELIZING LINE, 12"	
					41							41		644	00500	41	FT	STOP LINE	
					720						410	310		644	00700	720	FT	TRANSVERSE/DIAGONAL LINE	
					222							222		644	00720	222	FT	CHEVRON MARKING	
					14						6	8		644	01300	14	EACH	LANE ARROW	
					751						550	201		644	01510	751	FT	DOTTED LINE, 6"	
					0.18						0.18			646	10010	0.18	MILE	EDGE LINE, 6" (ALTERNATE 1)	
					0.2						0.2			646	10110	0.2	MILE	LANE LINE, 6" (ALTERNATE 1)	
					0.18						0.18			646	10010	0.18	MILE	EDGE LINE, 6" ,POLYCARB MARK 55.4 (ALTERNATE 2)	
					0.2						0.2			646	10110	0.2	MILE	LANE LINE, 6" ,POLYCARB MARK 55.4 (ALTERNATE 2)	
																		STRUCTURE REPAIR (FRA-33-3030 L)	
						154					154			SPECIAL	51631200	154	FT	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS	63
																		MAINTENANCE OF TRAFFIC	
	80										5	75		614	11110	80	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		2										2		614	12336	2	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
											LS	LS		614	12420	LS		DETOUR SIGNING	
	12										12			614	12460	12	EACH	WORK ZONE MARKING SIGN	
		53										53		614	13300	53	EACH	BARRIER REFLECTOR, TYPE B	
		53										53		614	13350	53	EACH	OBJECT MARKER, ONE WAY	
	12										8	4		614	18600	12	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN	
	11.16	0.55									11.16	0.55		614	20550	11.71	MILE	WORK ZONE LANE LINE, CLASS III, 642 PAINT	
	14937	3789									14937	3789		614	23680	18726	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	
	11										5	6		616	10000	11	MGAL	WATER	
		2420										2420		622	41000	2420	FT	PORTABLE BARRIER, 32"	
																		INCIDENTALS	
											LS	LS		614	11000	LS		MAINTAINING TRAFFIC	
											2	4		619	16010	6	MNTH	FIELD OFFICE, TYPE B	
											LS	LS		623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
											LS	LS		624	10000	LS		MOBILIZATION	

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GENERAL SUMMARY

FRA-33-26.12

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SHEET NUMBER	202 PAVEMENT REMOVED, ASPHALT	202 BASE REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 CATCH BASIN REMOVED	204 SUBGRADE COMPACTION	252 FULL DEPTH PAVEMENT SAWING	254 (MINIMUM 1 1/2") PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	301 ASPHALT CONCRETE BASE, PG64-22	304 6" AGGREGATE BASE	407 SPECIAL - TACK COAT, TRACKLESS TACK	407 SPECIAL - TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A, (446)	442 (1 1/2") ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A (446), AS PER PLAN	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A, (446)	605 6" UNCLASSIFIED PIPE UNDERDRAIN	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	611 CATCH BASIN NO. 8	611 15" CONDUIT, TYPE B	611 MANHOLE, TYPE 3	617 COMPACTED AGGREGATE
	SQ YD	SQ YD	LF	EACH	SQ YD	FT	SQ YD	CU YD	CU YD	GALLON	GALLON	CU YD	CU YD	CU YD	FT	FT	EACH	FT	EACH	CU YD
29	209	209		1	513	315	520	150	86	77	26	22	22	25	338	10		6		2
30	267	267		1	1,140	386	1,276	333	190	182	57	48	54	56	333	20		6		2
31	303	303	12	1	1,214	402	877	354	202	157	61	51	19	60	383	20	1	10	1	2
32	179	179			588	256	594	172	98	89	29	25	13	29	253					2
TOTAL	958	958	12	3	3,455	1,359	3,267	1,009	576	505	173	146	108	170	1,307	50	1	22	1	8

TOTALS CARRIED TO GENERAL SUMMARY

CALCULATED MK
CHECKED KF

BIXBY ROAD INTERSECTION QUANTITIES SUBSUMMARY

FRA-33-26.12

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LOCATION							PAVEMENT																		REMARKS
												254				407				442			618	617	
PART	COUNTY	ROUTE	START LOG POINT	END LOG POINT	LENGTH	TYPICAL	PAVEMENT WIDTH A	PAVEMENT WIDTH B	PAVEMENT WIDTH C	PAVEMENT AREA		PAVEMENT PLANING, ASPHALT CONCRETE 1.50 AVG. DEPTH				TACK COAT (TRACKLESS) 0.075 GAL PER SY				ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE A (446)			RUMBLE STRIPS, (ASPHALT CONCRETE)	COMPACTED AGGREGATE AVG DEPTH 2"	
			SLM	SLM	LF		FT	FT	FT	SY		IN	SY			GAL				IN	CY		MILE		CY	
1	FRA	33	26.12	26.22	528.00	1	4.0	24.0	10.0	2,229		1.50	2,229			167				1.50	93		1	2.00	13	MAINLINE PAVEMENT EAST BOUND
1	FRA	33	26.53	27.24	3748.80	1	4.0	24.0	10.0	15,828		1.50	15,828			1,187				1.50	660		2	2.00	93	MAINLINE PAVEMENT EAST BOUND
1	FRA	33	27.55	27.74	1003.20	2	4.0	24.0	10.0	4,236		1.50	4,236			318				1.50	176		1	2.00	25	MAINLINE PAVEMENT EAST BOUND
1	FRA	33	27.74	28.18	2323.20	3	4.0	24.0	10.0	9,809		1.50	9,809			736				1.50	409		1	2.00	29	MAINLINE PAVEMENT EAST BOUND
1	FRA	33	28.18	28.73	2904.00	3	4.0	24.0	10.0	12,261		1.50	12,261			920				1.50	511		2	2.00	36	MAINLINE PAVEMENT EAST BOUND
1	FRA	33	29.04	30.83	9451.20	5	4.0	24.0	8.0	37,805		1.50	37,805			2,835				1.50	1,575		4	2.00	233	MAINLINE PAVEMENT EAST BOUND
1	FRA	33	30.83	31.23	2112.00	5	4.0	24.0	8.0	8,448		1.50	8,448			634				1.50	352		1	2.00	52	MAINLINE PAVEMENT EAST BOUND
1	FRA	33	31.23	30.83	2112.00	5	4.0	24.0	8.0	8,448		1.50	8,448			634				1.50	352		1	2.00	52	MAINLINE PAVEMENT WEST BOUND
1	FRA	33	30.83	29.27	8236.80	5	4.0	24.0	8.0	32,947		1.50	32,947			2,471				1.50	1,373		4	2.00	203	MAINLINE PAVEMENT WEST BOUND
1	FRA	33	28.96	27.78	6230.40	3,4	4.0	24.0	10.0	26,306		1.50	26,306			1,973				1.50	1,096		3	2.00	154	MAINLINE PAVEMENT WEST BOUND
1	FRA	33	27.47	26.76	3748.80	3	4.0	24.0	10.0	15,828		1.50	15,828			1,187				1.50	660		2	2.00	46	MAINLINE PAVEMENT WEST BOUND
1	FRA	33	26.45	26.12	1742.40	2	4.0	24.0	10.0	7,357		1.50	7,357			552				1.50	307		1	2.00	43	MAINLINE PAVEMENT WEST BOUND
1	FRA	33	26.12	29.09						3,000			3,000			225				1.50	125					CROSSOVERS
1	FRA	33	29.09	31.32						813			813			61				1.50	34					INTERSECTIONS AND INTERSECTING ROADS
1	FRA	33	29.09	31.32						2,000			2,000			150				1.50	83					CROSSOVERS
1	FRA	33	30.43							350			350			26				1.50	15					U-TURN CROSSOVERS
1	FRA	33	26.37							350			350			26				1.50	15					U-TURN CROSSOVERS
																										FOR BIXBY ROAD PAVEMENT QUANTITIES, SEE SHEET 25
TOTAL CARRIED TO GENERAL SUMMARY													188,015			14,101					7,835		23		979	

CALCULATED MK
CHECKED KF

GENERAL OVERLAY SUBSUMMARY

FRA-33-26.12

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CROSS SECTION SHEET NUMBER	ROUTE	STATIONS	203 EXCAVATION	203 EMBANKMENT		659 SEEDING AND MULCHING
			CU YD	CU YD		SQ YD
33	US-33	STA. 452+00 TO STA. 452+50	108	12		222
34	US-33	STA. 452+75 TO STA. 453+25	189	0		270
35	US-33	STA. 453+50 TO STA. 454+00	188	0		297
36	US-33	STA. 454+25 TO STA. 454+75	188	0		294
37	US-33	STA. 454+50 TO STA. 455+50	193	0		293
38	US-33	STA. 455+75 TO STA. 456+25	160	3		312
39	US-33	STA. 456+50 TO STA. 457+00	141	1		196
40	US-33	STA. 457+25 TO STA. 457+75	175	0		121
41	US-33	STA. 458+00 TO STA. 458+50	135	0		41
42	US-33	STA. 458+75 TO STA. 459+25	36	0		7
43	US-33	STA. 459+50 TO STA. 460+00	128	3		64
44	US-33	STA. 460+25 TO STA. 460+75	125	1		168
45	US-33	STA. 461+00 TO STA. 461+50	140	0		253
46	US-33	STA. 461+75 TO STA. 462+25	194	0		299
47	US-33	STA. 462+50 TO STA. 463+00	187	0		299
48	US-33	STA. 463+25 TO STA. 463+75	181	0		303
49	US-33	STA. 464+00 TO STA. 464+50	171	0		304
50	US-33	STA. 464+75 TO STA. 465+25	161	2		314
51	US-33	STA. 465+50 TO STA. 466+00	58	3		223
TOTALS CARRIED TO GENERAL SUMMARY			2,858	25		4,280

ITEM 659 - TOPSOIL:
THE APPLICATION RATE FOR THIS ITEM IS
111 CU YDS PER 1000 SQ YDS OF SEEDING

4280 SQ YD / 1000 = 4.3

4.3 X 111 CU YDS = 477 CU YDS

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - TOPSOIL = 477 CU YD

ITEM 659 - COMMERCIAL FERTILIZER:
THE APPLICATION RATE FOR THIS ITEM IS
30 POUNDS PER 1000 SQ FT OF SEEDING.

4,280 SQ YD OF SEEDING AND MULCHING (FROM TABLE)
4280 X 9 SQ FT / SQ YD = 38,520 SQ FT

38520 / 1,000 = 38.5

38.5 X 30 POUNDS = 1,155 POUNDS = 0.58 TONS

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - COMMERCIAL FERTILIZER = 0.58 TON

ITEM 659 - LIME:
THE APPLICATION RATE FOR THIS ITEM IS
BASED ON THE AREA OF SEEDING.

4,280 SQ YD OF SEEDING AND MULCHING (FROM TABLE)
4280 X 9 SQ FT / SQ YD = 38,520 SQ FT

38520 / 43,560 SQ FT / ACRE = 0.88 ACRE

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - LIME = 0.88 ACRE

ITEM 659 - REPAIR SEEDING AND MULCHING:
THE APPLICATION RATE FOR THIS ITEM IS
5% OF THE SEEDING AREA.

4,280 SQ YD OF SEEDING AND MULCHING (FROM TABLE)
4280 SQ YD X 0.05 = 214 SQ YDS

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - REPAIR SEEDING AND MULCHING = 214 SQ YD

ITEM 659 - INTER-SEEDING:
THE APPLICATION RATE FOR THIS ITEM IS
5% OF THE SEEDING AREA.

4,280 SQ YD OF SEEDING AND MULCHING (FROM TABLE)
4280 SQ YD X 0.05 = 214 SQ YDS

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - INTER-SEEDING = 214 SQ YD

ITEM 659 - WATER:
THE APPLICATION RATE FOR THIS ITEM IS
2 APPLICATIONS OF 300 GALLONS PER 1000
SQ FT OF SEEDING

4,280 SQ YD OF SEEDING AND MULCHING (FROM TABLE)
4280 X 9 SQ FT / SQ YD = 38,520 SQ FT

38520 / 1,000 = 38.5

38.5 X 300 GAL. X 2 = 23,100 GALLONS = 23 M GAL

TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 659 - WATER = 23 M GAL

CALCULATED MK
CHECKED KF

SEEDING AND EARTHWORK QUANTITIES SUBSUMMARY

FRA-33-26.12

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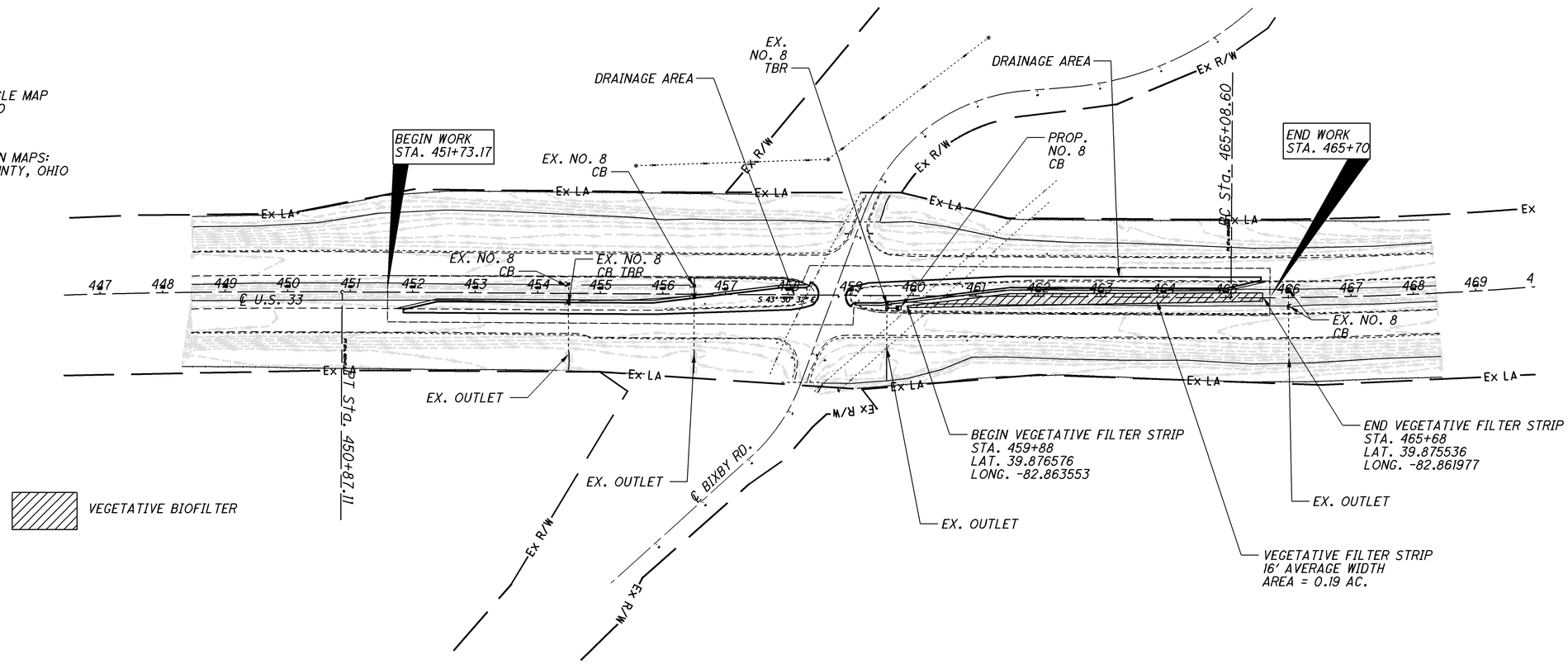
PROJECT DESCRIPTION

MILL AND FILL US 33 FROM 0.17 MILES EAST OF SR 317, TO FAIRFIELD COUNTY LINE. UPGRADE TURN LANES ON US 33 AND PROHIBIT THROUGH AND LEFT TURN MOVEMENTS ON TR 229 (BIXBY ROAD). DECK OVERLAY ON STRUCTURES OVER BLACKLICK CREEK. TOTAL LENGTH IS 5.11 MILES.

LATTITUDE: 39° 51′ 52″
LONGITUDE: 82° 50″ 39″

U.S.G.S. 7.5 MINUTE QUADRANGLE MAP
NAME: CANAL WINCHESTER, OHIO

SOIL AND WATER CONSERVATION MAPS:
SOIL SURVEY OF FRANKLIN COUNTY, OHIO
USDA
UT
CeB
CrA



BMP DATA	
TYPE OF BMP	VEGETATIVE BIOFILTER
BEGIN STATION LAT/LONG	STA. 459+88 LAT. 39.876576 LONG. -82.863553
END STATION LAT/LONG	STA. 465+68 LAT. 39.875536 LONG. -82.861977
RECEIVING WATER	BLACKLICK CREEK

PROJECT DATA	
TOTAL AREA (RIGHT OF WAY) - - - - - 9.74 AC.	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE - - - - - 0.9
PROJECT EARTH DISTURBED AREA - - - - - 0.76 AC.	RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE - - - - - 0.9
ESTIMATED CONTRACTOR EARTH DISTURBED AREA - - - - - 0.48 AC.	POST CONSTRUCTION BMP: VEGETATIVE FILTER STRIPS WERE PROVIDED TO MEET NPDES POST-CONSTRUCTION REQUIREMENTS.
NOTICE OF INTENT EARTH DISTURBED AREA - - - - - 4.90 AC.	
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE - - - - - 1.54 AC.	IMMEDIATE RECEIVING WATERS - - - - - BLACKLICK GREEK
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE - - - - - 1.54 AC.	SUBSEQUENT RECEIVING WATER - - - - - BIG WALNUT CREEK

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED MK
CHECKED KF

PROJECT SITE PLAN
STA. 451+00 TO 466+00

FRA-33-26.12

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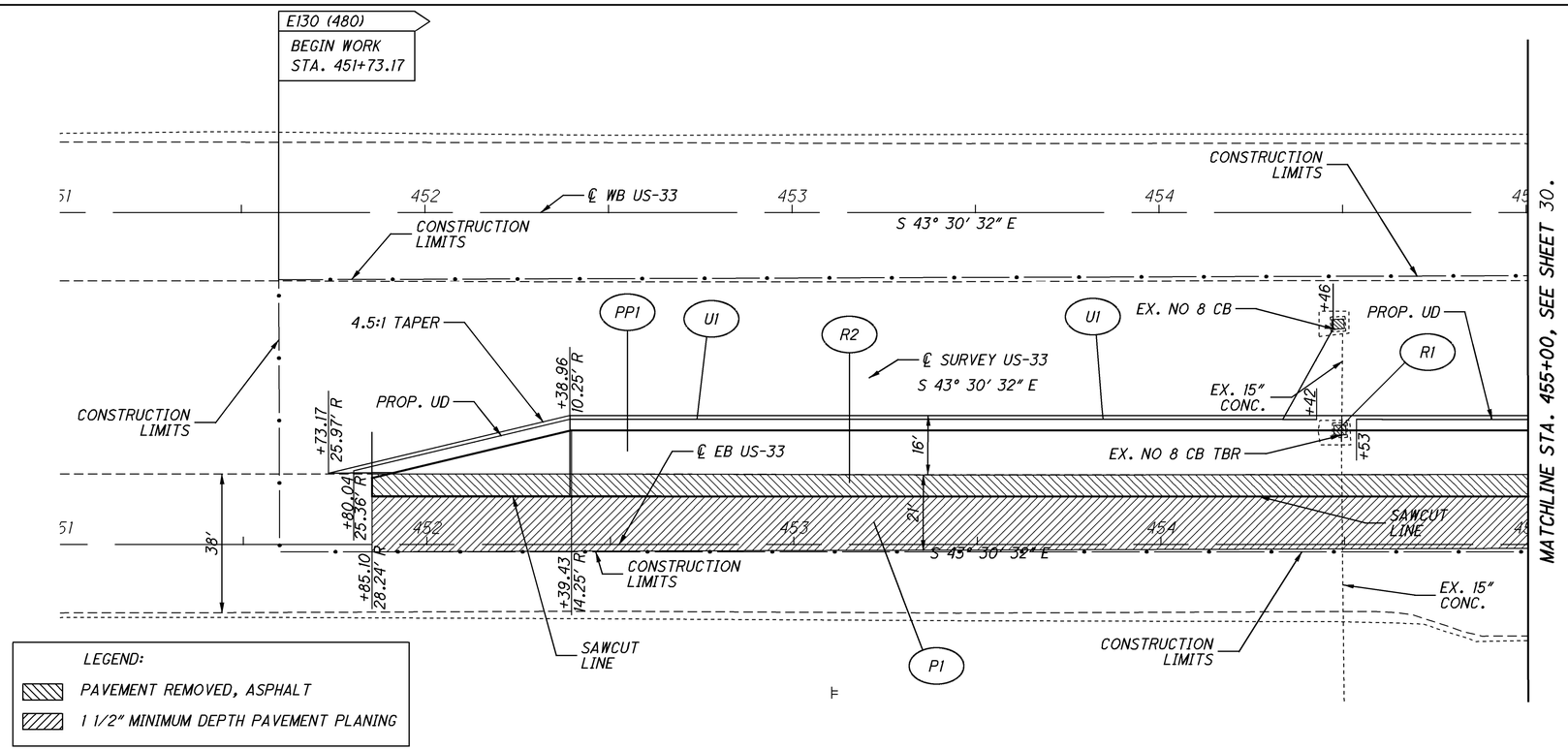

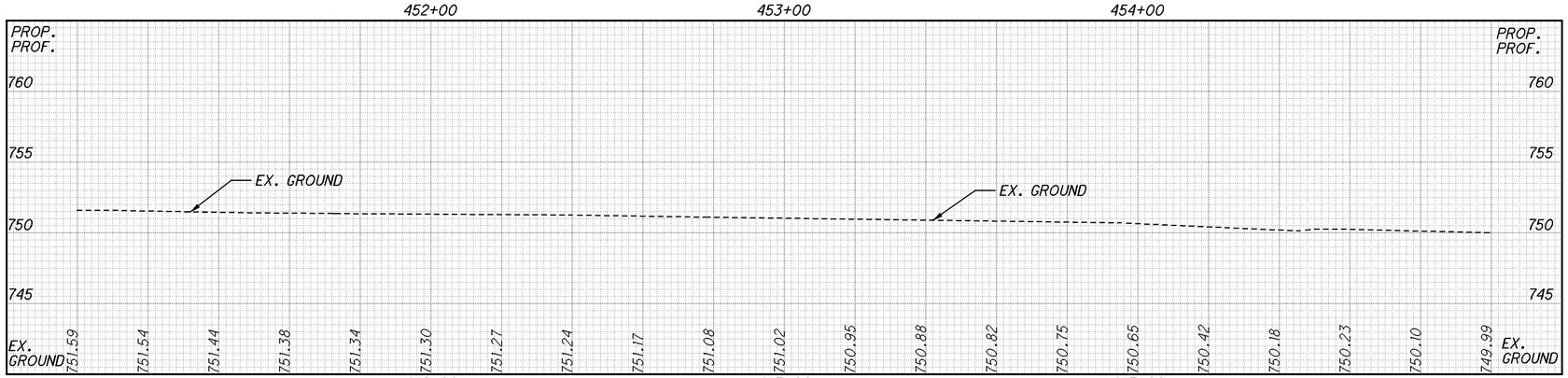

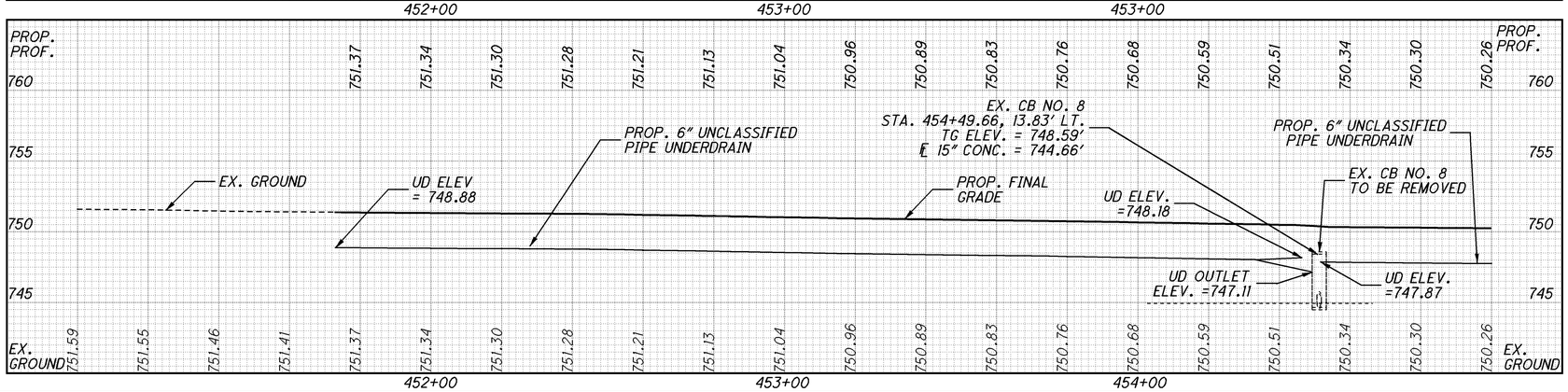

617	COMPACTED AGGREGATE	CU YD					2										2
611	15″ CONDUIT, TYPE B	FT	6														6
	6″ CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	CU YD		10													10
605	6″ UNCLASSIFIED PIPE UNDERDRAINS	FT		338													338
442	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A, (446)	CU YD					25										25
	(1 1/2″) ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A (446), AS PER PLAN	CU YD			22												22
	ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A, (446)	CU YD					22										22
407	TRACKLESS TACK COAT FOR INTERMEDIATE COURSE	GALLON					26										26
	TACK COAT, TRACKLESS TACK	GALLON			39		38										77
304	6″ AGGREGATE BASE	CU YD					86										86
301	ASPHALT CONCRETE BASE, PG64-22	CU YD					150										150
254	(MINIMUM 1 1/2″) PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	SQ YD			520												520
252	FULL DEPTH PAVEMENT SAWING	FT				315											315
204	SUBGRADE COMPACTION	SQ YD					513										513
202	CATCH BASIN REMOVED	EACH	1														1
	BASE REMOVED	SQ YD				209											209
	PAVEMENT REMOVED, ASPHALT	SQ YD				209											209
AREA		SQ YD			520	209	513										CARRIED TO SUB SUMMARY SHEET 25
AVG. PAVEMENT AND SHOULDER WIDTH		FT			16	6	21										
LENGTH				338	315	315	327										
TYPICAL			2	2	2	2	2										
END STATION				455+00	455+00	455+00	455+00										
BEGIN STATION			454+50	451+80	451+85	451+85	451+73										
REF. NO.			R-1	U-1	PP-4	R-2	P-1										

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MK
CHECKED KF

FRA-33 BIXBY PLAN AND PROFILES
STA. 451+00 TO STA. 455+00

FRA-33-26.12

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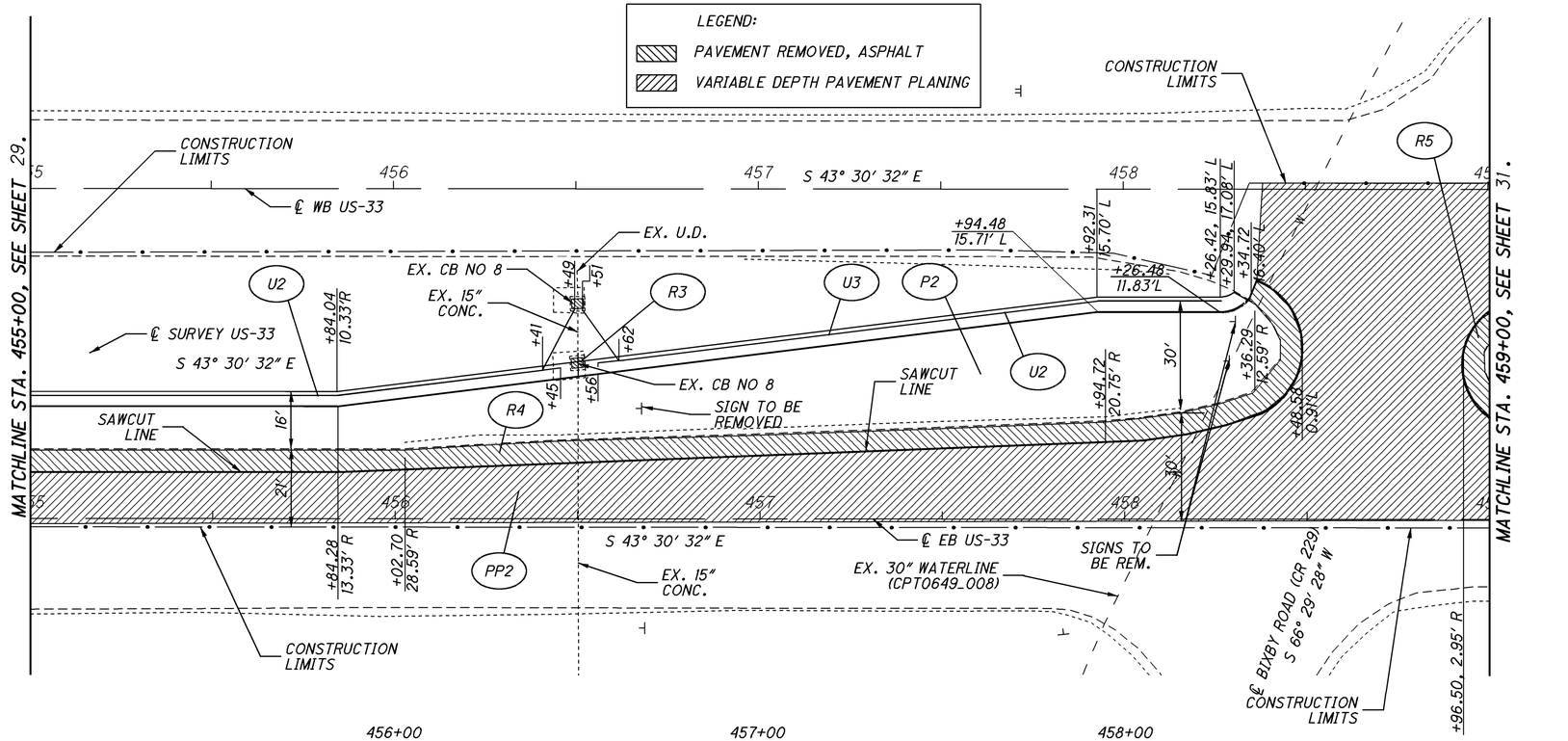

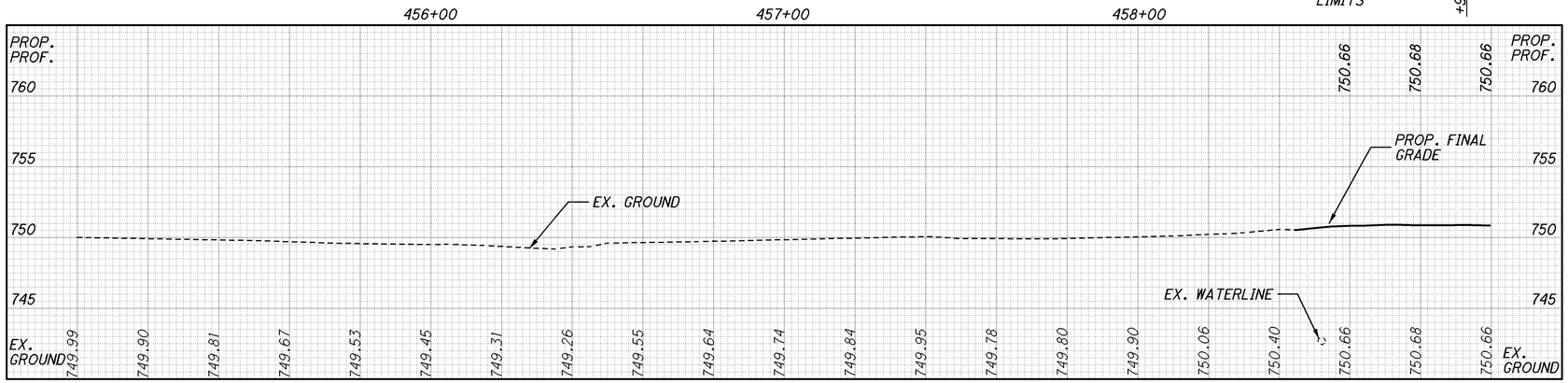

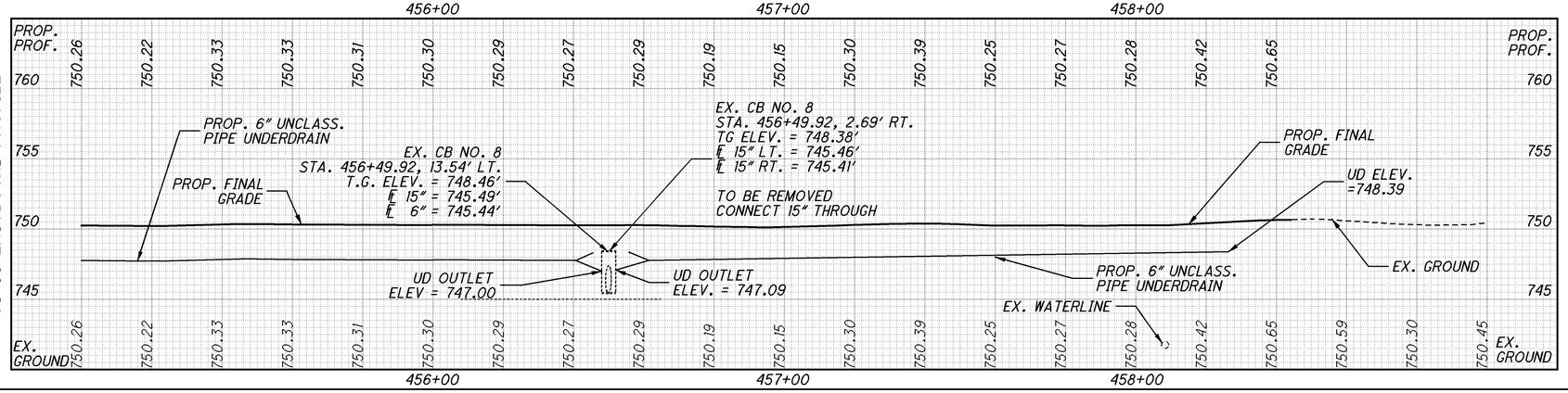

617	COMPACTED AGGREGATE	CU YD								2							2
611	15″ CONDUIT, TYPE B	LF			6												6
	6″ CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	CU YD	10	10													20
605	6″ UNCLASSIFIED PIPE UNDERDRAINS	FT	154	179													333
442	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A, (446)	CU YD								56							56
	(1 1/2") ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A (446), AS PER PLAN	CU YD							54								54
	ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A, (446)	CU YD								48							48
407	TRACKLESS TACK COAT FOR INTERMEDIATE COURSE	GALLON								57							57
	TACK COAT, TRACKLESS TACK	GALLON							96	86							182
304	6″ AGGREGATE BASE	CU YD								190							190
301	ASPHALT CONCRETE BASE, PG64-22	CU YD								333							333
254	(MINIMUM 1 1/2") PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	SQ YD							1,276								1,276
252	FULL DEPTH PAVEMENT SAWING	FT				386											386
204	SUBGRADE COMPACTION	SQ YD								1,140							1,140
202	CATCH BASIN REMOVED	EACH			1												1
	BASE REMOVED	SQ YD				252		15									267
	PAVEMENT REMOVED, ASPHALT	SQ YD				252		15									267
	AREA	SQ YD				252		15	1,276	1,140							CARRIED TO SUB SUMMARY SHEET 25
	AVG. PAVEMENT AND SHOULDER WIDTH	FT															
	LENGTH			171						349							
	TYPICAL																
	END STATION		456+45	458+27		458+49		459+00		459+00							
	BEGIN STATION		455+00	456+56	456+60	455+00	458+97	455+00		455+00							
	REF. NO.		U2	U3	R3	R4	R5	PP2		P2							

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MK

CHECKED KF

FRA-33 BIXBY PLAN AND PROFILES
STA. 455+00 TO STA. 459+00

FRA-33-26.12

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65

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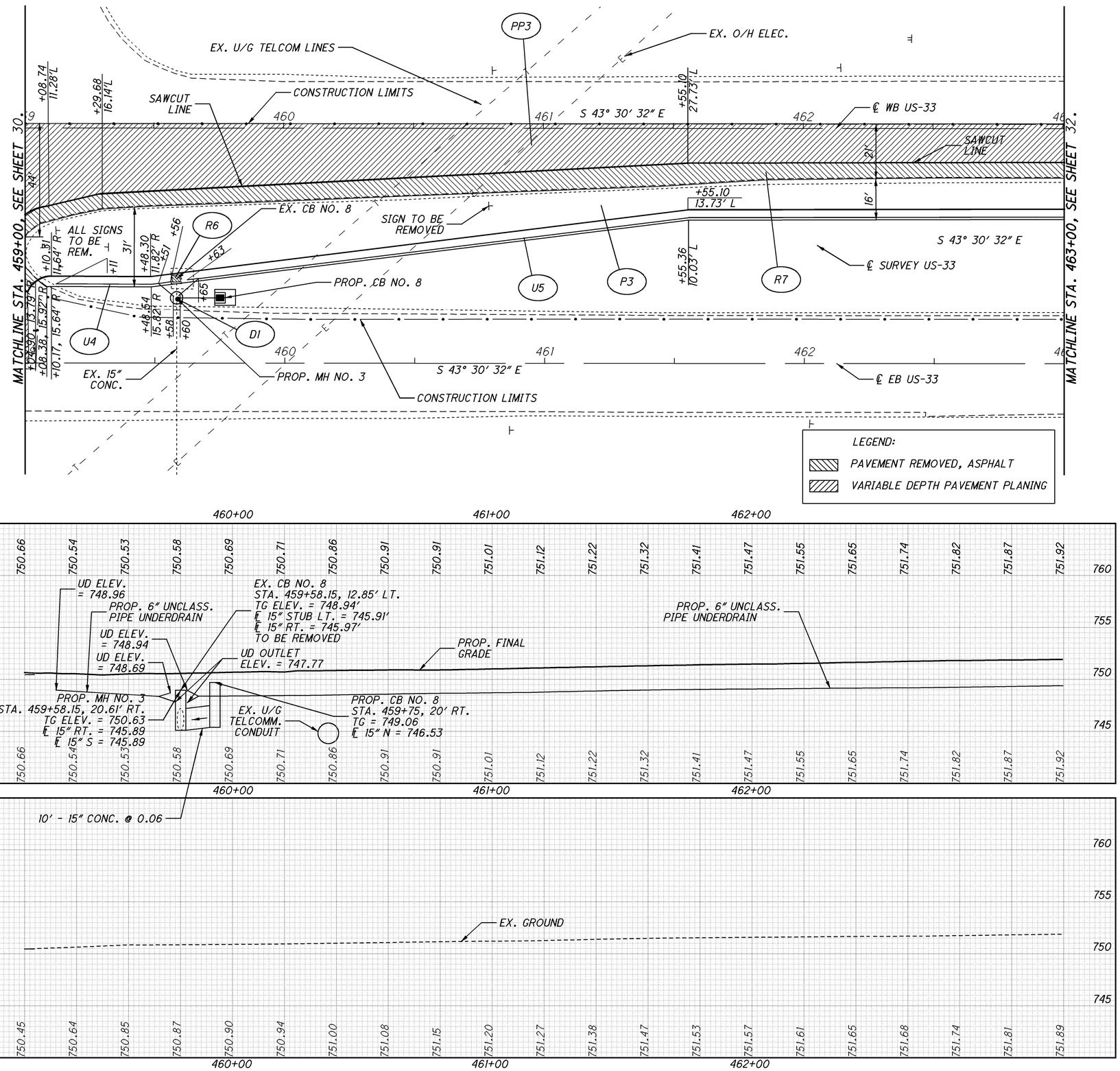

REF. NO.	BEGIN STATION	END STATION	TYPICAL	LENGTH	AVG. PAVEMENT AND SHOULDER WIDTH (FT)	AREA (SQ YD)	REMOVED, ASPHALT (SQ YD)	REMOVED BASE (SQ YD)	REMOVED CATCH BASIN (EACH)	REMOVED PIPE 24″ AND UNDER (LF)	FULL DEPTH PAVEMENT SAWING (FT)	(MINIMUM 1 1/2″) PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (SQ YD)	6″ AGGREGATE BASE (CU YD)	TACK COAT, TRACKLESS TACK (GALLON)	TRACKLESS TACK COAT FOR INTERMEDIATE COURSE (GALLON)	ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A, (446) (CU YD)	(1 1/2″) ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A (446), AS PER PLAN (CU YD)	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A, (446) (CU YD)	6″ UNCLASSIFIED PIPE UNDERDRAINS (FT)	6″ CONDUIT, TYPE F FOR UNDERDRAIN OUTLET (CU YD)	15′ CONDUIT, TYPE B (FT)	MANHOLE, NO. 3 (EACH)	CATCH BASIN, NO. 8 (EACH)	COMPACTED AGGREGATE (CU YD)	ASPHALT CONCRETE BASE, PG64-22 (CU YD)
PP3	459+00	463+00				877											19								
R6	459+60									12				66											
R7	459+00	463+00				303		303	1		402														
U4	459+10	459+60					303												10	10					
U5	459+63	463+00																44							
P3	459+00	463+00		392		1,214						354	202	91	61	51	60		339	10	10	1	1	2	
D1	459+00																								
CARRIED TO SUB SUMMARY SHEET 25							303	303	1	12	402	877	354	157	61	51	19	60	383	20	10	1	1	2	354

NO.	DESCRIPTION	UNIT
617	COMPACTED AGGREGATE	CU YD
611	CATCH BASIN, NO. 8	EACH
	MANHOLE, NO. 3	EACH
	15′ CONDUIT, TYPE B	FT
	6″ CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	CU YD
605	6″ UNCLASSIFIED PIPE UNDERDRAINS	FT
442	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A, (446)	CU YD
	(1 1/2″) ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A (446), AS PER PLAN	CU YD
	ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A, (446)	CU YD
407	TRACKLESS TACK COAT FOR INTERMEDIATE COURSE	GALLON
	TACK COAT, TRACKLESS TACK	GALLON
304	6″ AGGREGATE BASE	CU YD
301	ASPHALT CONCRETE BASE, PG64-22	CU YD
254	(MINIMUM 1 1/2″) PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	SQ YD
252	FULL DEPTH PAVEMENT SAWING	FT
204	SUBGRADE COMPACTION	SQ YD
202	PIPE REMOVED 24″ AND UNDER	LF
	CATCH BASIN REMOVED	EACH
	BASE REMOVED	SQ YD
	PAVEMENT REMOVED, ASPHALT	SQ YD

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MK

CHECKED KF

FRA-33 BIXBY PLAN AND PROFILES
STA. 459+00 TO STA. 463+00

FRA-33-26.12

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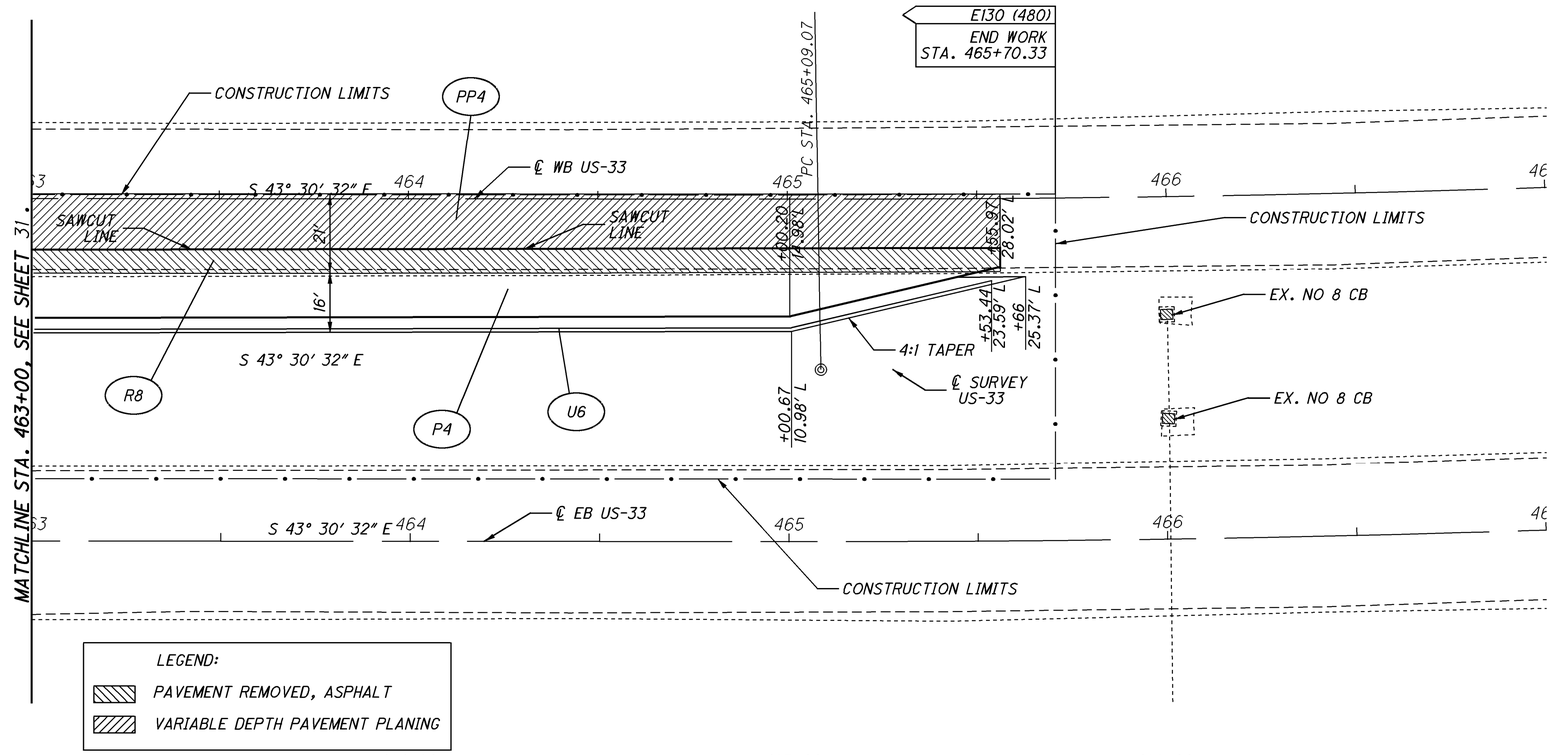

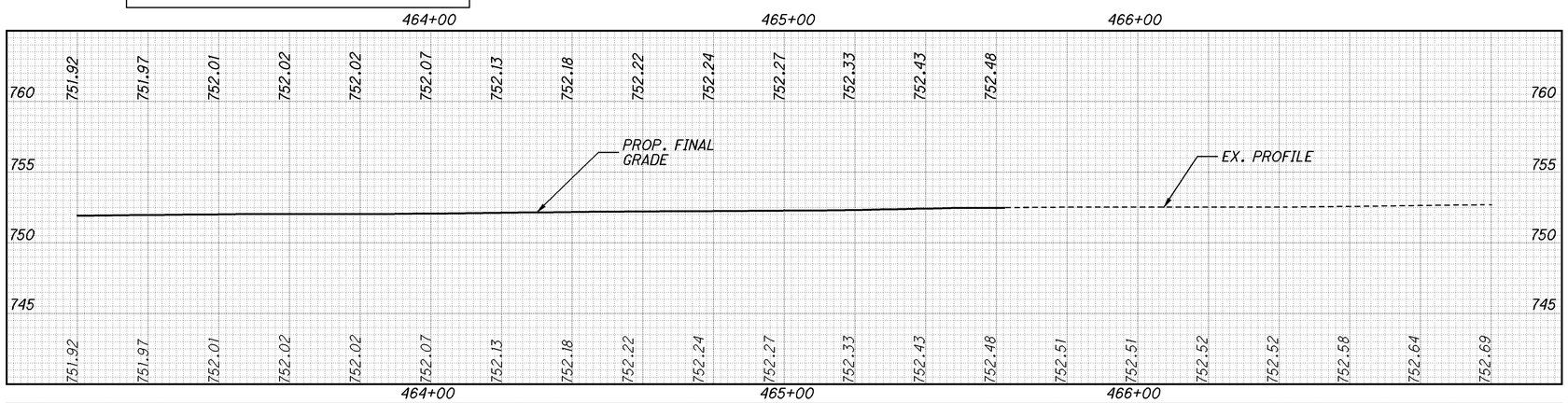

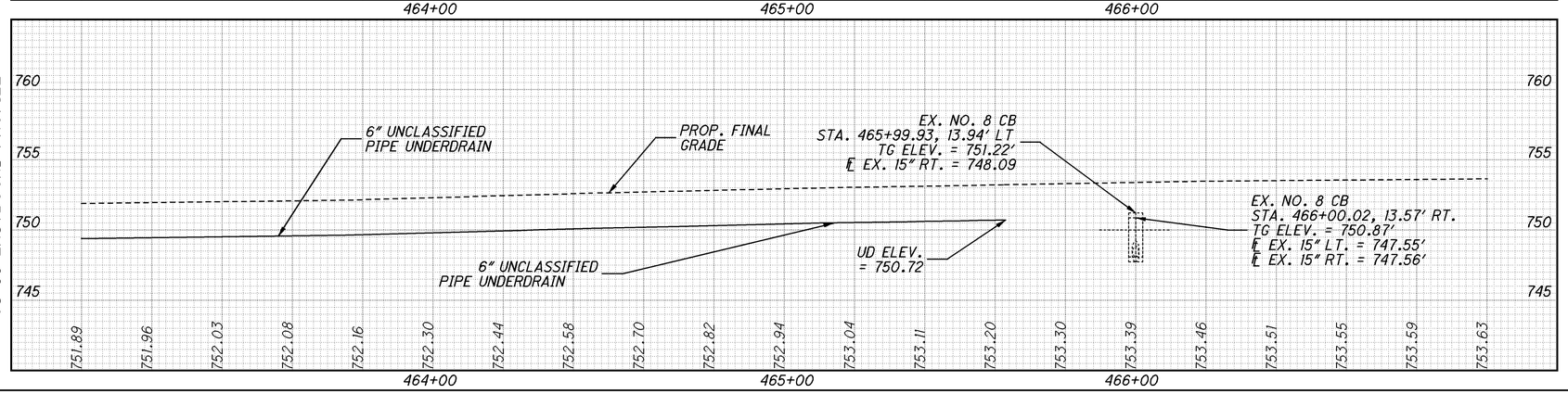

REF. NO.			R8	U6	PP4	P4															CARRIED TO SUB SUMMARY SHEET 25	
	BEGIN STATION		463+00	463+00	463+00	463+00																
	END STATION		465+56	465+53	465+56	465+56																
	TYPICAL																					
	LENGTH			253		256																
	AVG. PAVEMENT AND SHOULDER WIDTH	FT																				
	AREA	SQ YD	179		594	588																
202	PAVEMENT REMOVED, ASPHALT	SQ YD	179																		179	179
202	BASE REMOVED	SQ YD	179																		179	179
202	CATCH BASIN REMOVED	EACH																				
204	SUBGRADE COMPACTION	SQ YD				588															588	588
252	FULL DEPTH PAVEMENT SAWING	FT	256																		256	256
254	(MINIMUM 1 1/2") PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	SQ YD			594																594	594
301	ASPHALT CONCRETE BASE, PG64-22	CU YD				172															172	172
304	6" AGGREGATE BASE	CU YD				98															98	98
407	TACK COAT, TRACKLESS TACK	GALLON			45	44															89	89
407	TRACKLESS TACK COAT FOR INTERMEDIATE COURSE	GALLON				29															29	29
442	ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A, (446)	CU YD				25															25	25
442	(1 1/2") ASPHALT CONCRETE SURFACE COURSE, 12.5 mm, TYPE A (446), AS PER PLAN	CU YD			13																13	13
442	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 mm, TYPE A, (446)	CU YD				29															29	29
605	6" UNCLASSIFIED PIPE UNDERDRAINS	FT		253																	253	253
611	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	CU YD																				
617	COMPACTED AGGREGATE	CU YD				2															2	2

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MK
CHECKED KF

FRA-33 BIXBY PLAN AND PROFILES
STA. 463+00 TO STA. 467+00

FRA-33-26.12

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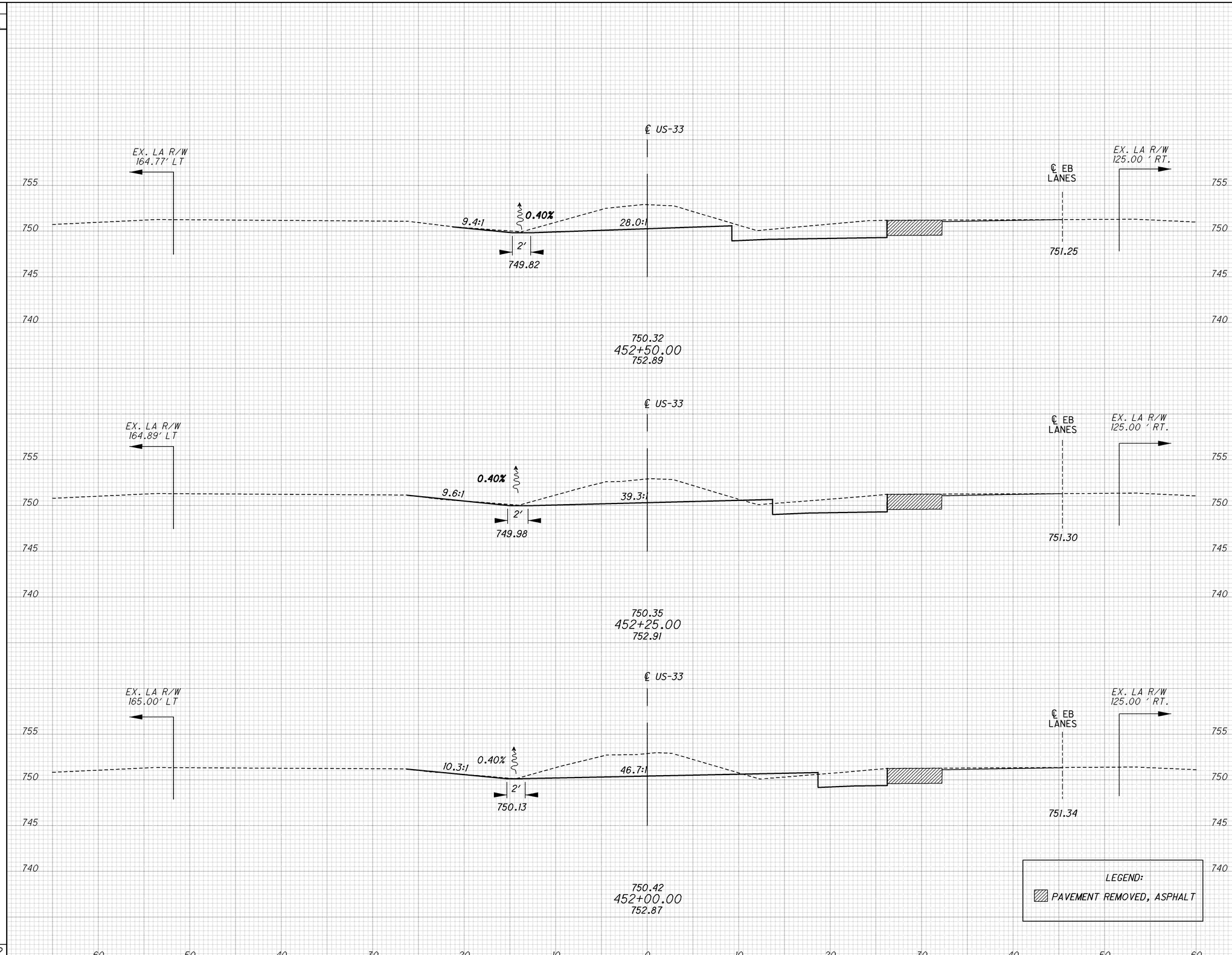
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32	101	65	0	57	
41	121	59	11	51	7
46	222	51	4	108	12



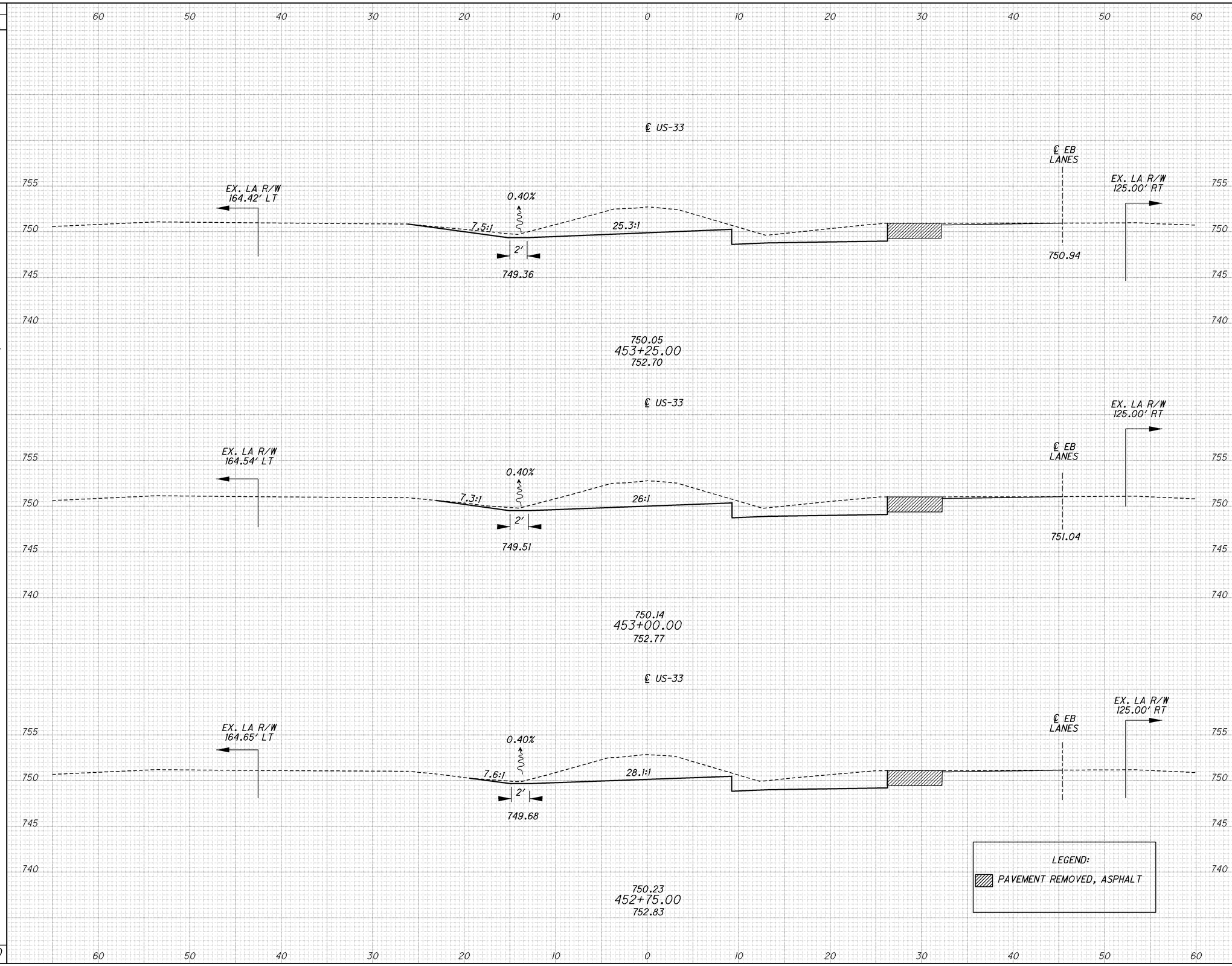
CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS
FROM STA. 452+00 TO STA. 452+50

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS102 24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
37		71	0		
	97			65	
33		69	0		
	88			63	
30		66	0		
	85			61	
	270			189	



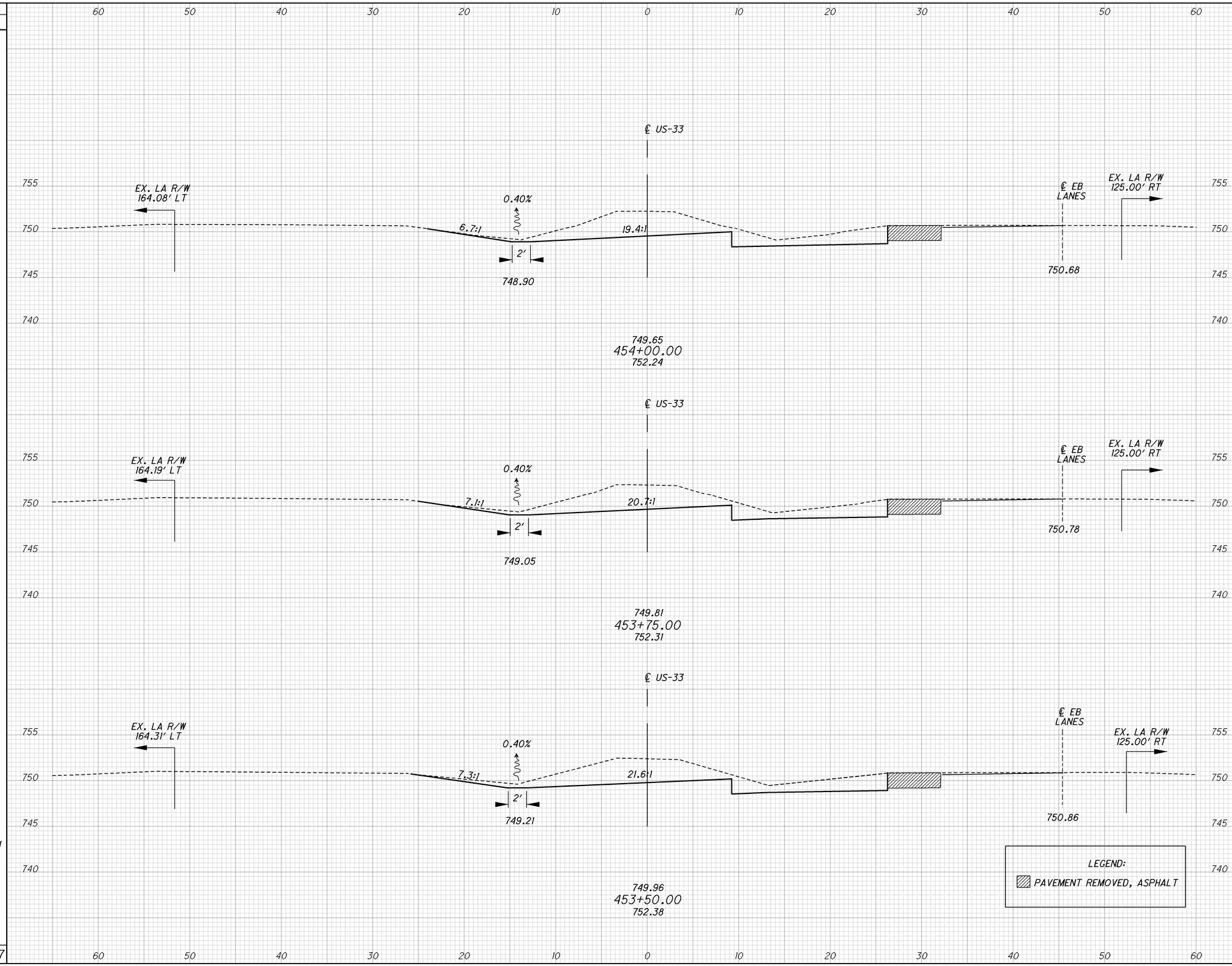
CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS FROM STA. 452+75 TO STA. 453+25

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS103 24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
34		64	0		
	97			60	0
35		66	0		
	99			63	0
36		70	0		
	101			65	
	297			188	0



CALCULATED MK
CHECKED KF

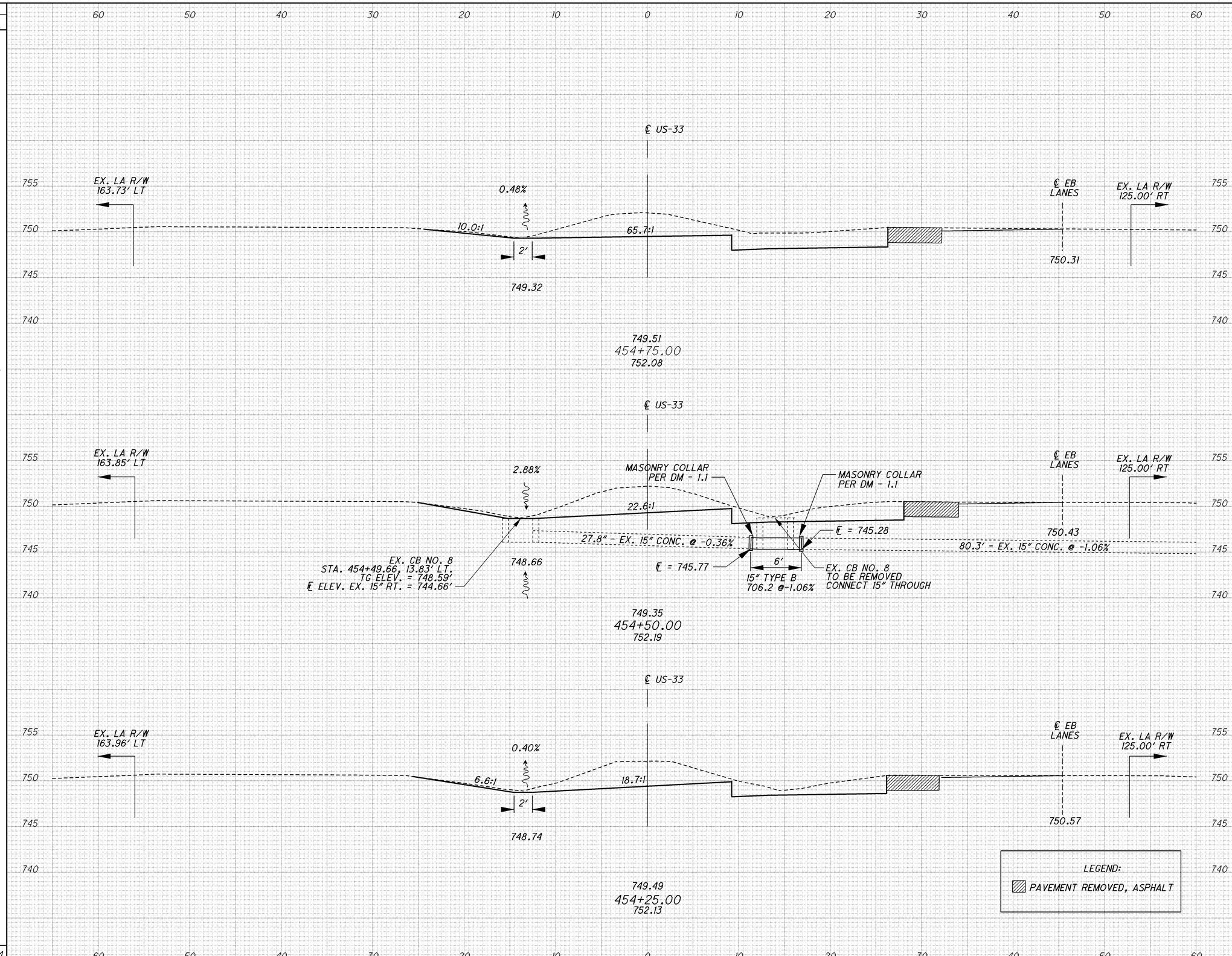
BIXBY INTERSECTION CROSS SECTIONS FROM STA. 453+50 TO STA. 454+00

FRA-33-26.12

35
65

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS104 24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
35		71	0		
	97			67	0
36		73	0		
	99			63	0
36		62	0		
	98			58	0
	294			188	0



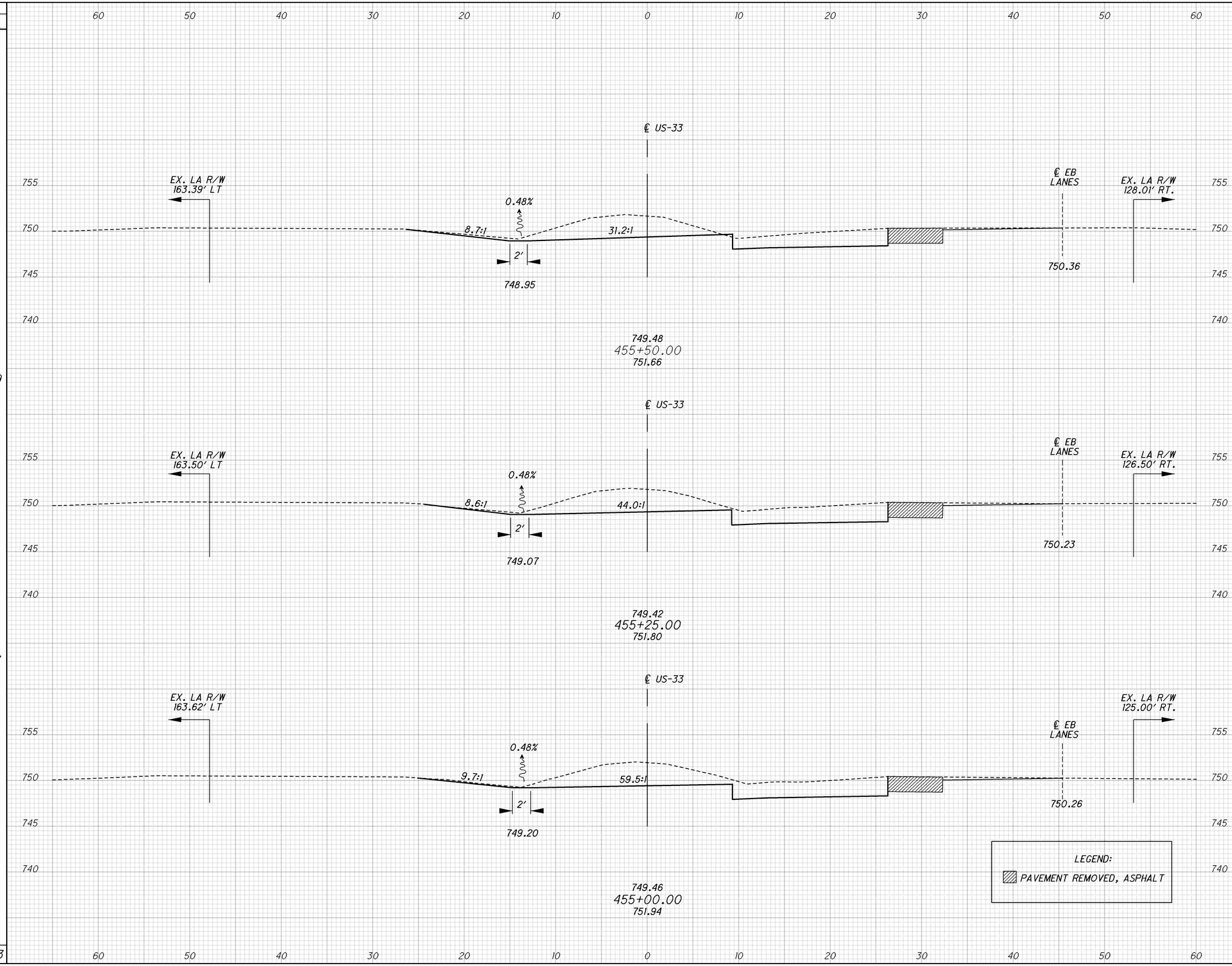
CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS FROM STA. 454+25 TO STA. 454+75

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS105
24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
37		63	0.2		
	99			62	0
35		70	0		
	97			65	0
35		71	0		
	97			66	0
	293			193	0



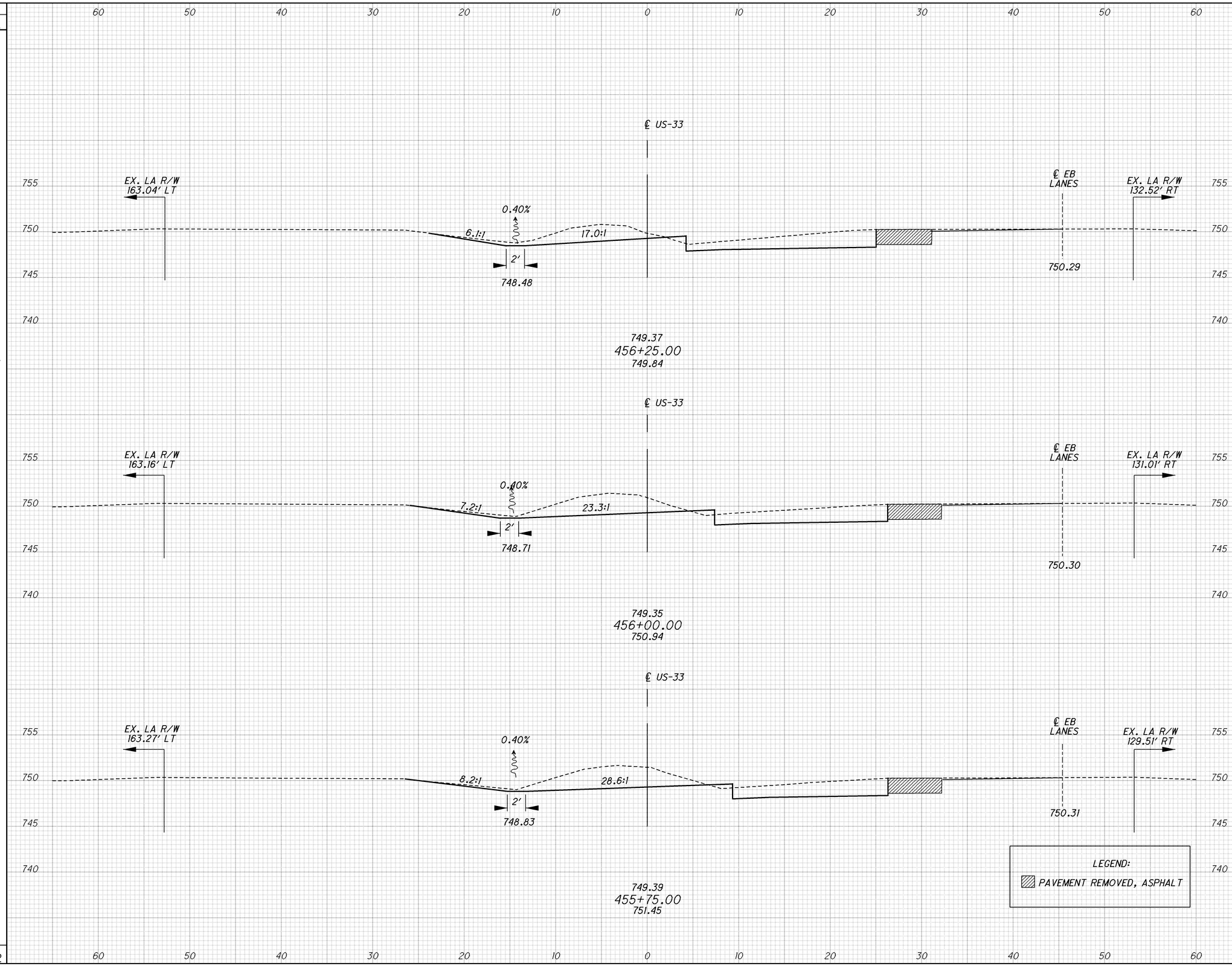
CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS FROM STA. 455+00 TO STA. 455+50

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS106 24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
29	84	48	1	49	
31	110	57	1	54	1
48	118	60	1	57	1
	312			160	3



CALCULATED MK
CHECKED KF

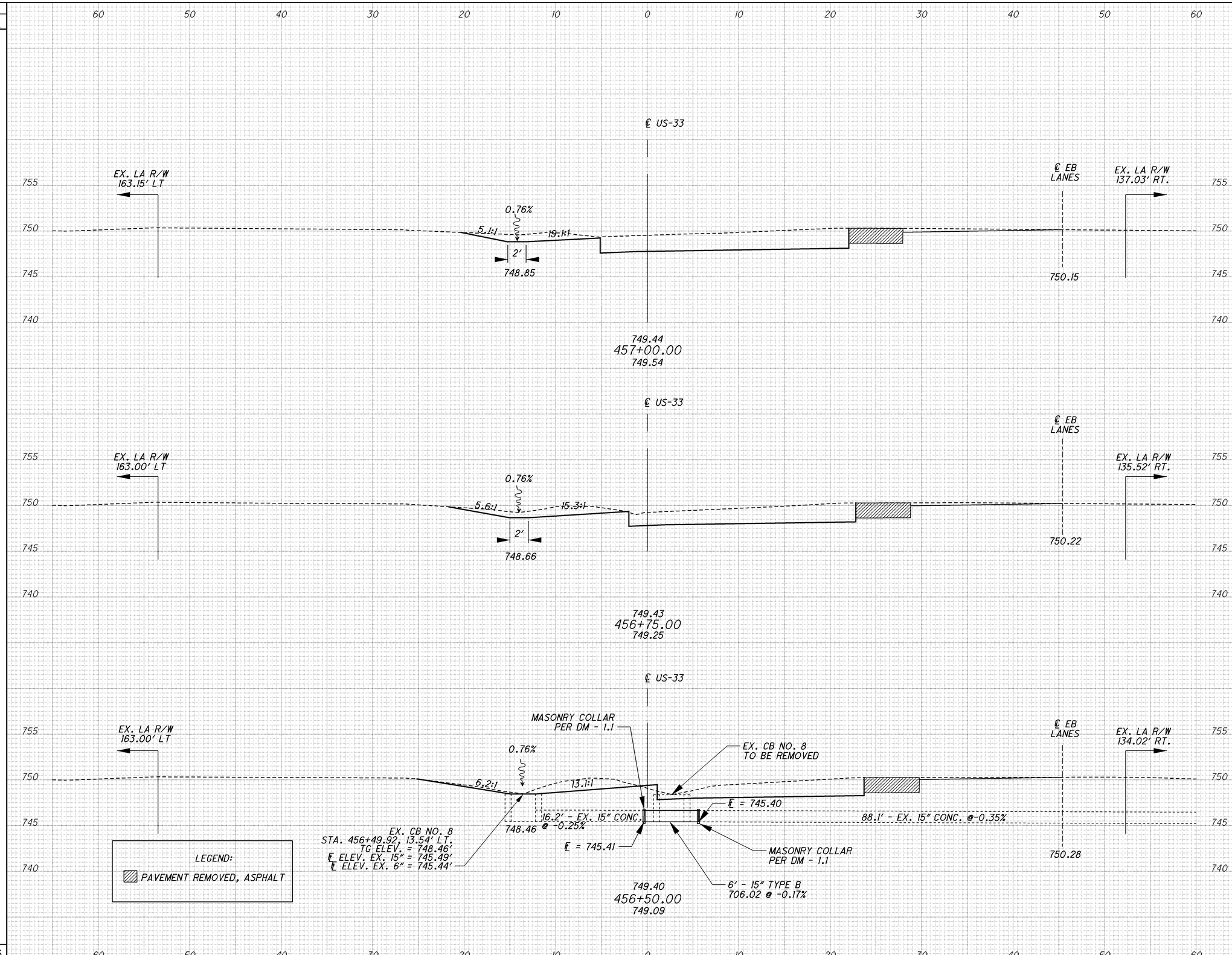
BIXBY INTERSECTION CROSS SECTIONS FROM STA. 455+75 TO STA. 456+25

FRA-33-26.12

38
65

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS107 24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16	52	61	0	53	0
21	66	54	0	45	0
27	78	44	1	43	1
	196			141	1



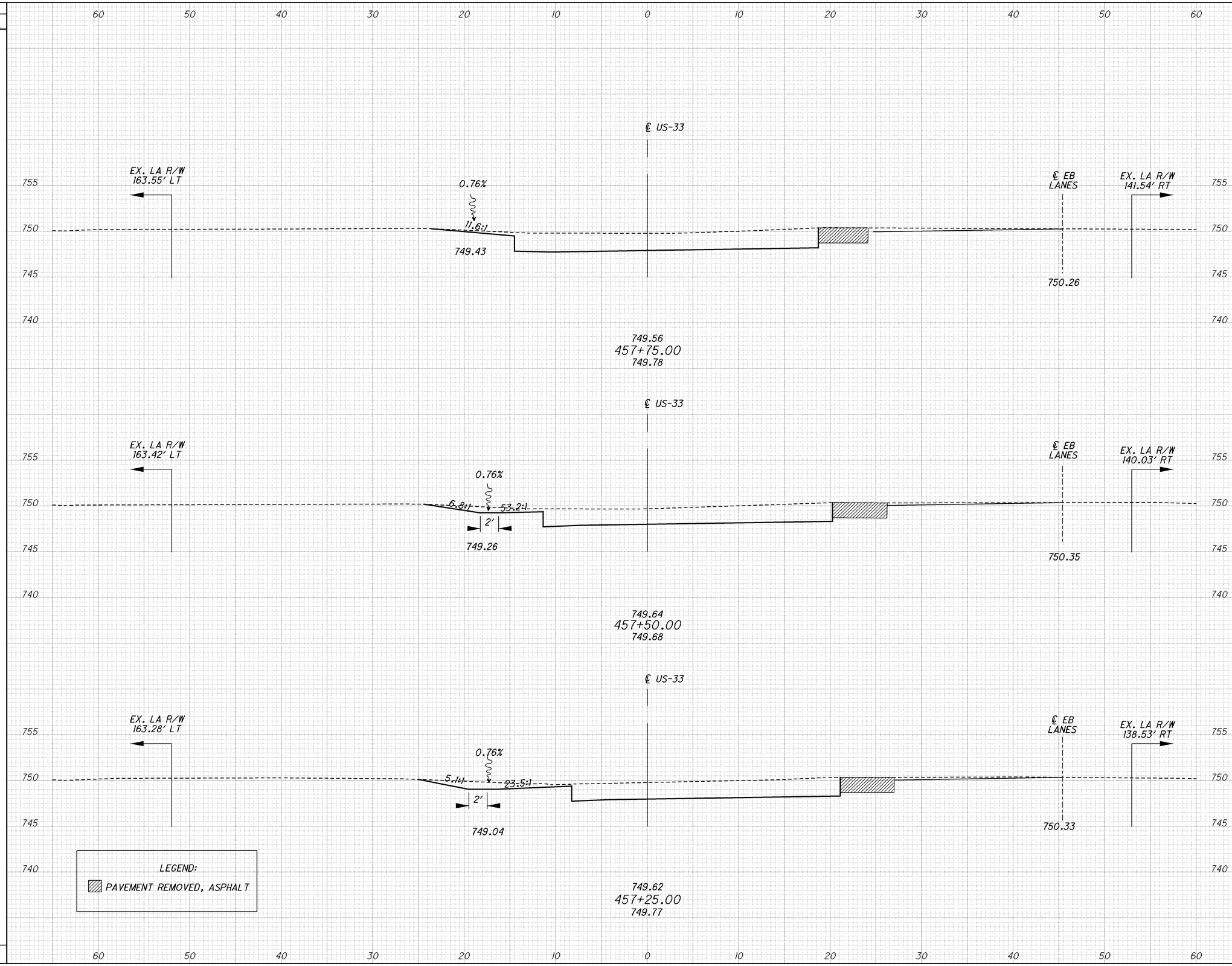
CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS
FROM STA. 456+50 TO STA. 457+00

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS108 24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9		67	0		
	32			60	0
14		63	0		
	43			58	0
17		62	0		
	46			57	0
	121			175	0



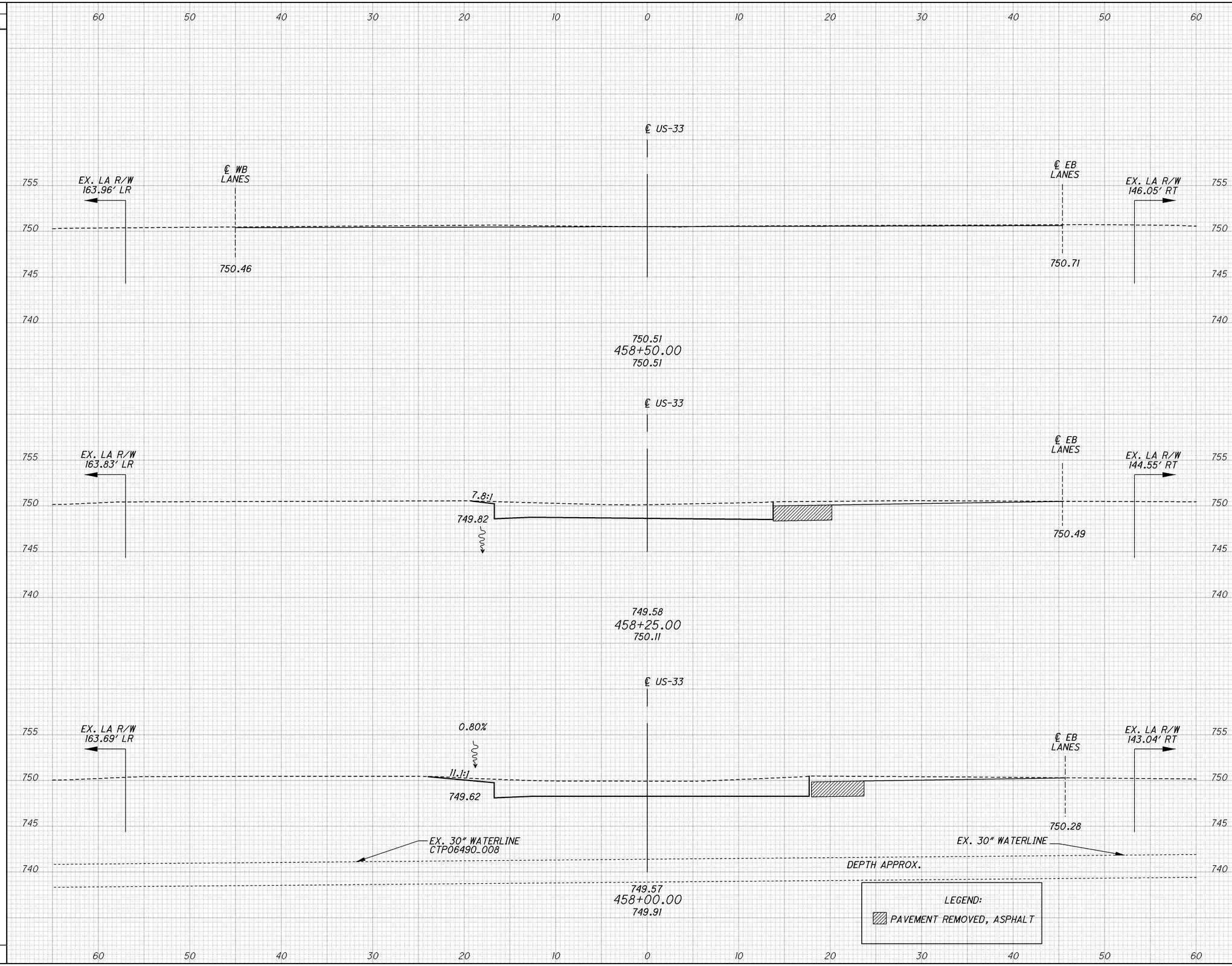
CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS FROM STA. 457+25 TO STA. 457+75

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS109 24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0		0	0		
	4			23	0
3		50	0		
	14			52	0
7		62	0		
	23			60	0
	41			135	0

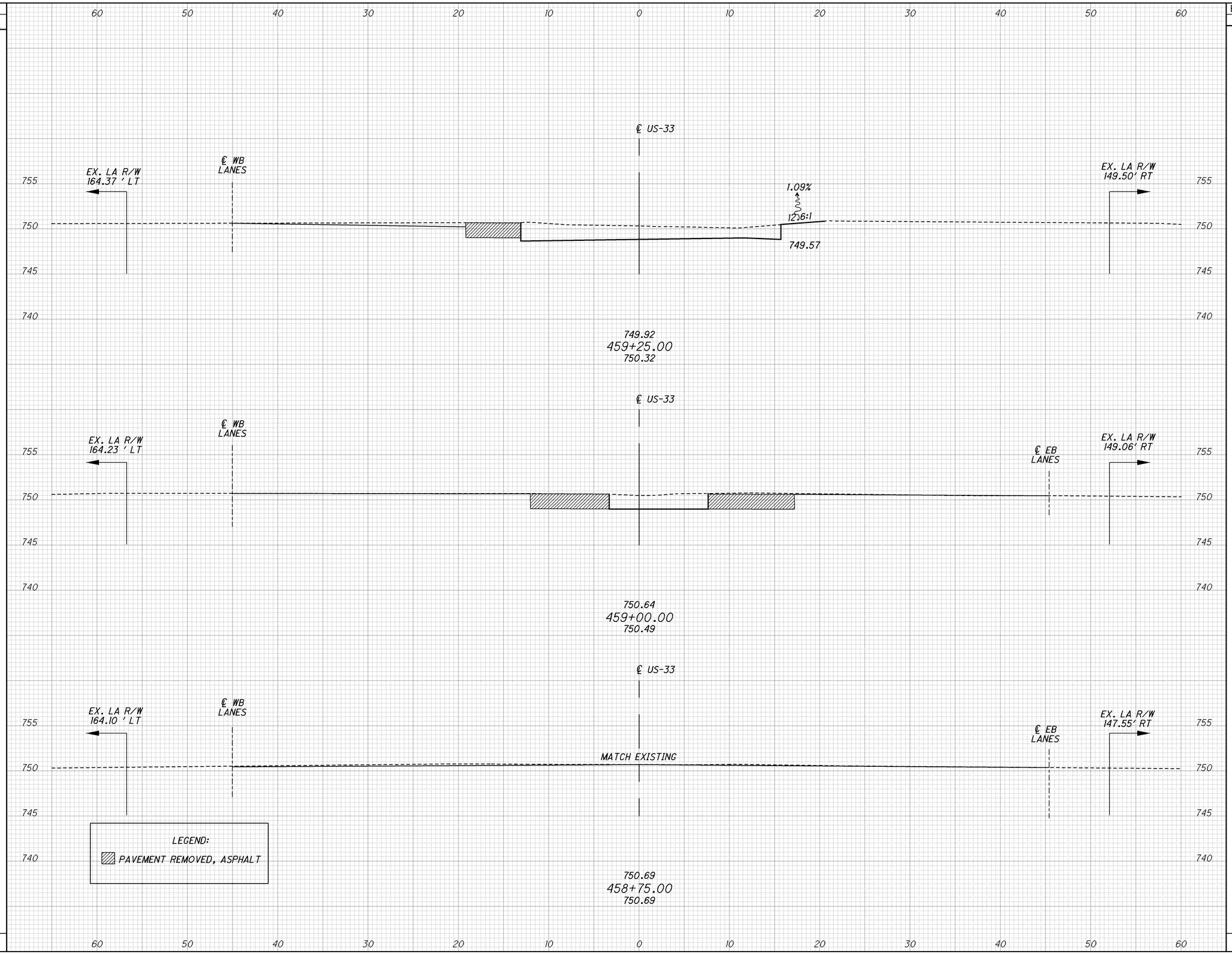


CALCULATED MK
CHECKED KF

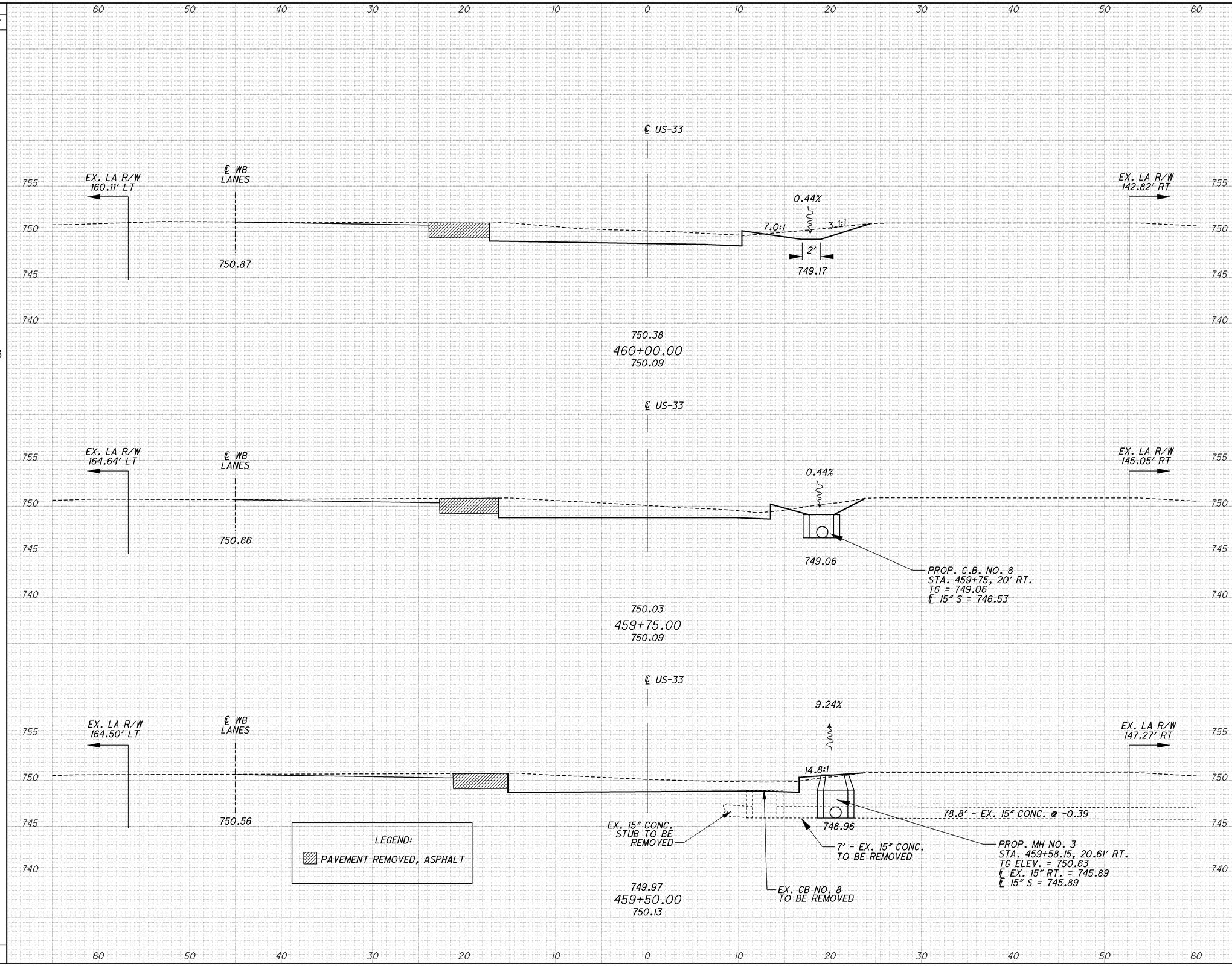
BIXBY INTERSECTION CROSS SECTIONS FROM STA. 458+00 TO STA. 458+50

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS110 24-JUN-2015 3:44PM mkatona


SEEDING
END WIDTH
SQ. YDS.
5
7
0
0
0
0
7
℄ US-33
℄ WB LANES
EX. LA R/W 164.37 ' LT
EX. LA R/W 149.50' RT
1.09%
12.6:1
749.57
749.92
459+25.00
750.32
℄ US-33
℄ WB LANES
EX. LA R/W 164.23 ' LT
EX. LA R/W 149.06' RT
℄ EB LANES
750.64
459+00.00
750.49
℄ US-33
℄ WB LANES
EX. LA R/W 164.10 ' LT
EX. LA R/W 147.55' RT
℄ EB LANES
MATCH EXISTING
750.69
458+75.00
750.69
LEGEND:
PAVEMENT REMOVED, ASPHALT
END AREA
CUT
FILL
43
0
18
0
0
0
VOLUME
CUT
FILL
28
0
8
0
0
0
36
0
CALCULATED MK
CHECKED KF
BIXBY INTERSECTION CROSS SECTIONS
FROM STA. 458+75 TO STA. 459+25
FRA-33-26.12
42
65
I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn
SHEET_XS111
24-JUN-2015 3:44PM
mkatona

SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
15	33	48	1	44	1
8	18	48	1	43	1
5	13	45	2	41	1
	64			128	3

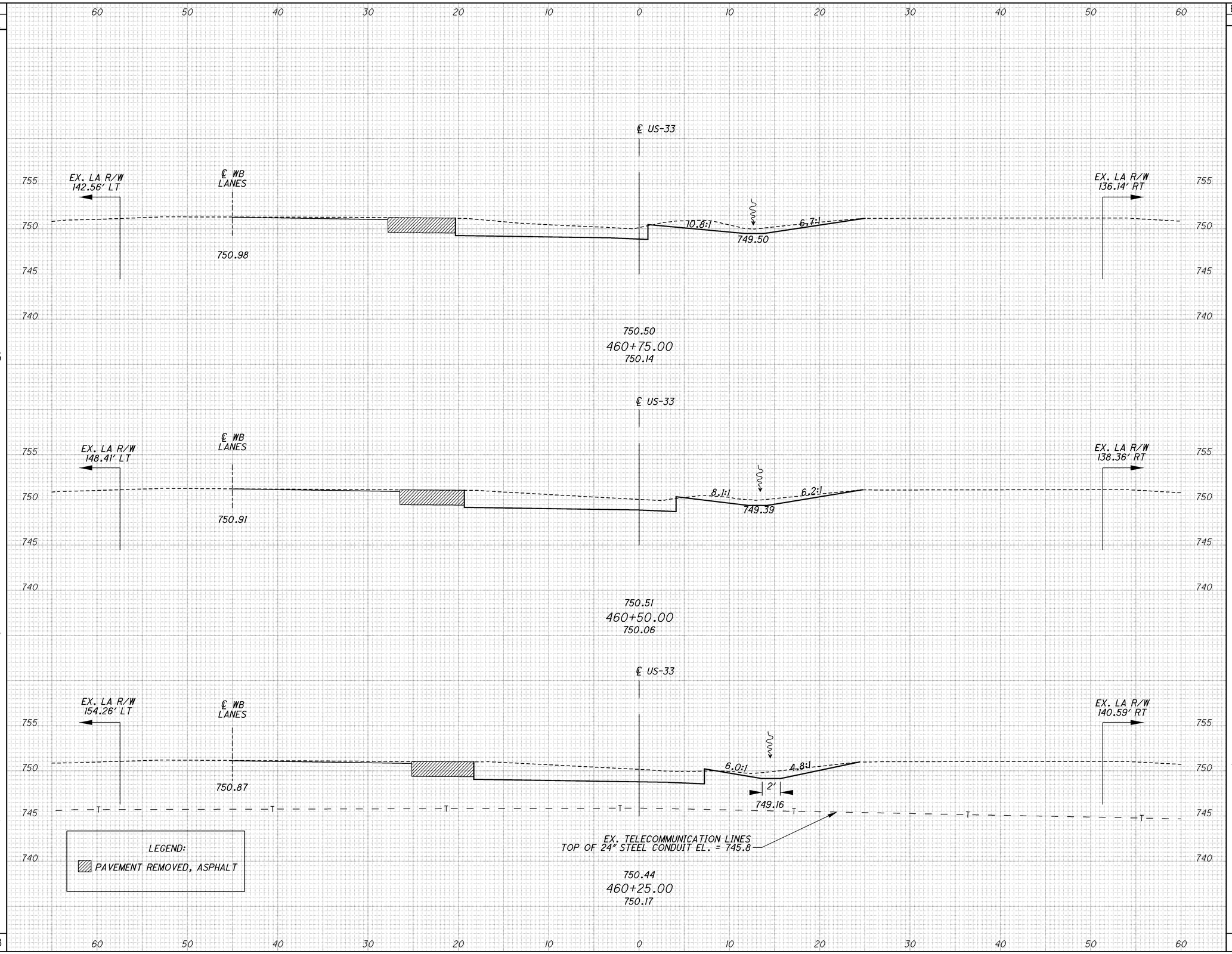


CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS
FROM STA. 459+50 TO STA. 460+00

FRA-33-26.12

I:\Projects\fra\033\2612.016\796622\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS112 24-JUN-2015 3:44PM mkatona



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
25		42	0		
	65			39	0
22		43	0		
	56			42	0
19		47	1		
	47			44	1
	168			125	1

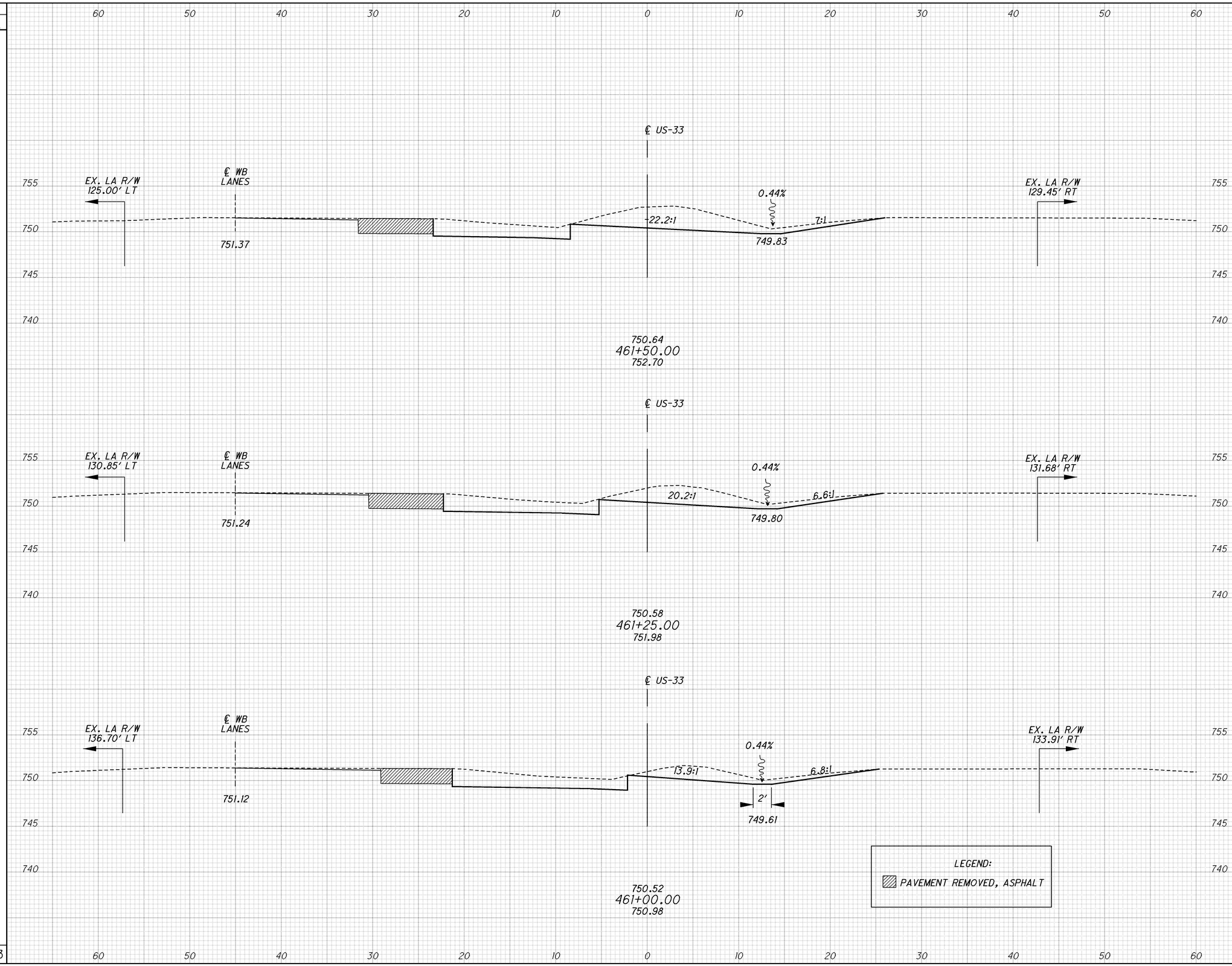
CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS FROM STA. 460+25 TO STA. 460+75

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS113 24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
36		63	0		
	94			54	0
32		54	0		
	84			46	0
29		45	0		
	75			40	0
	253			140	0



CALCULATED MK
CHECKED KF

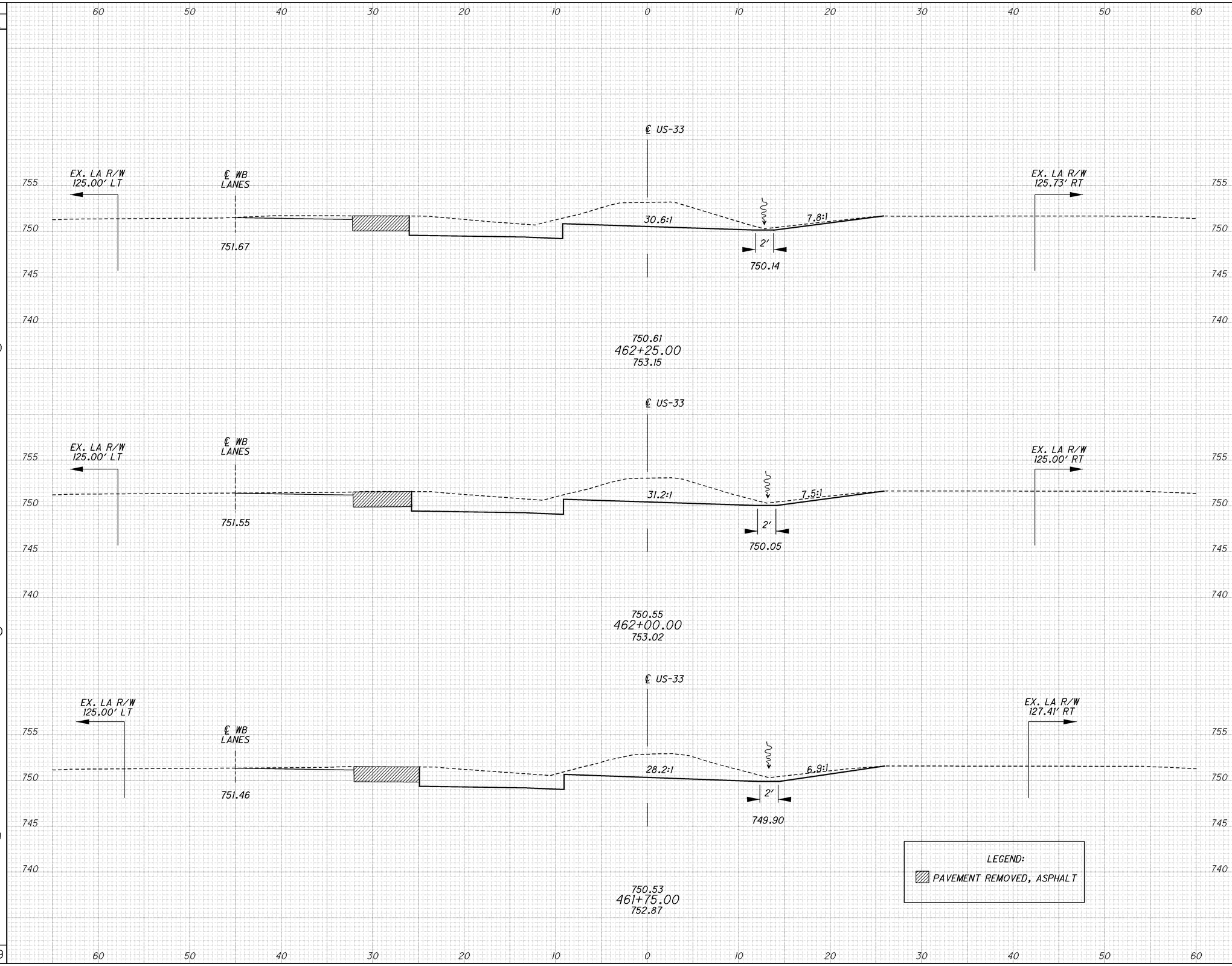
BIXBY INTERSECTION CROSS SECTIONS FROM STA. 461+00 TO STA. 461+50

FRA-33-26.12

45
65

24-JUN-2015 3:44PM mkatona
SHEET_XS114
I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
36		71	0		
	100			66	0
36		72	0		
	100			66	0
36		71	0		
	99			62	0
	299			194	0



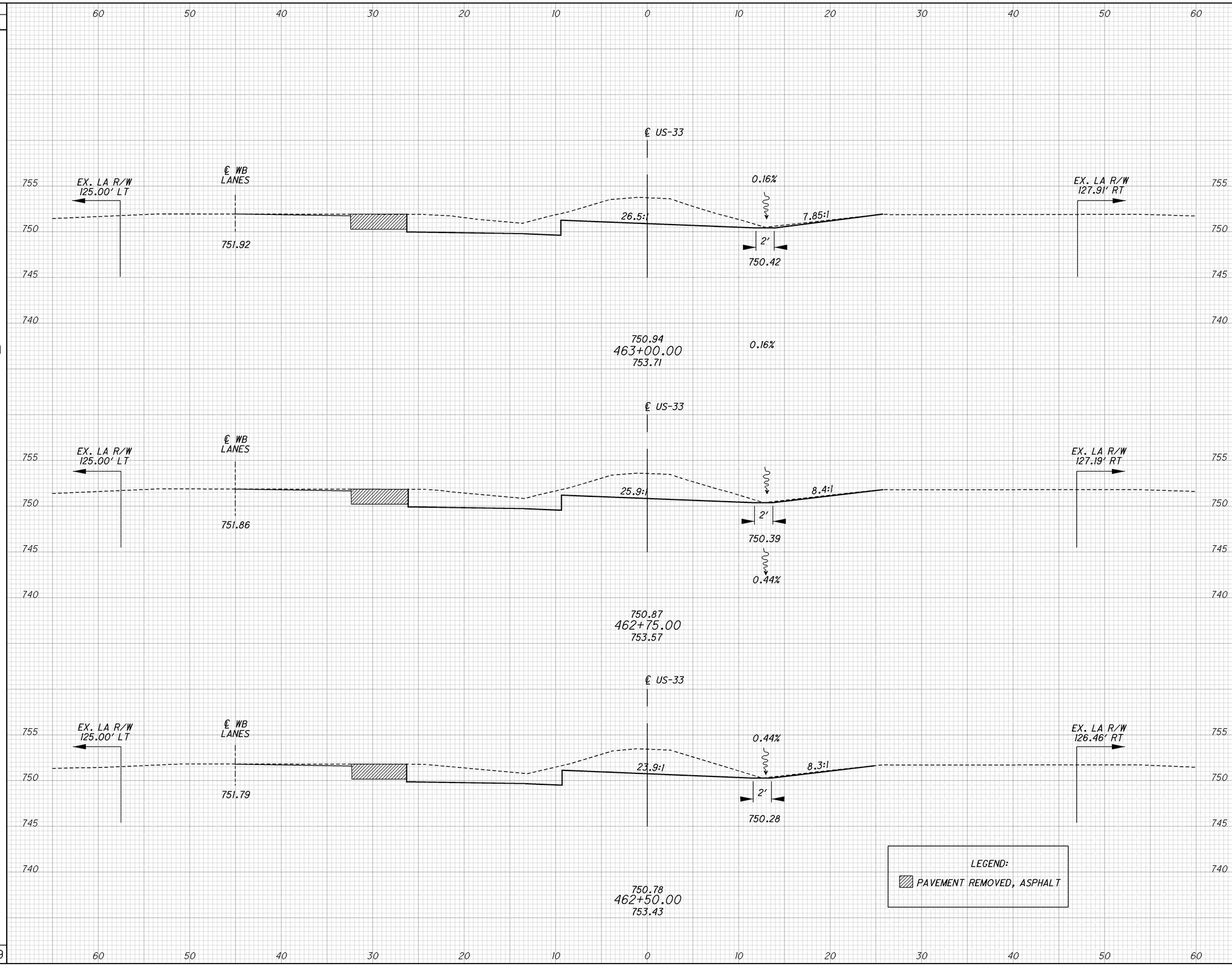
CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS FROM STA. 461+75 TO STA. 462+25

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS115 24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
36		70	0		
	101			63	0
36		66	0		
	99			61	0
35		65	0		
	99			63	0
	299			187	0

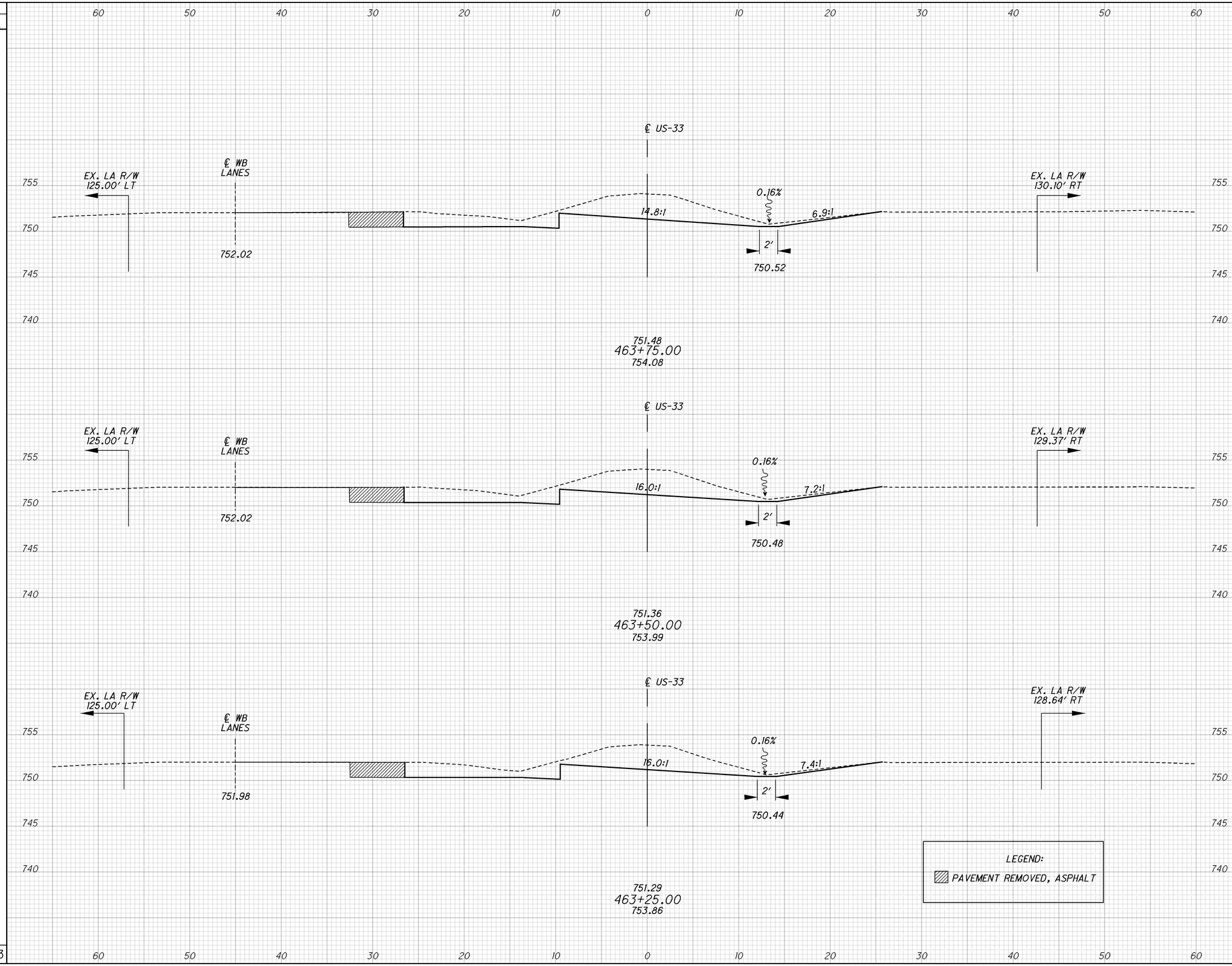


CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS FROM STA. 462+50 TO STA. 463+00

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS116 24-JUN-2015 3:44PM mkatona



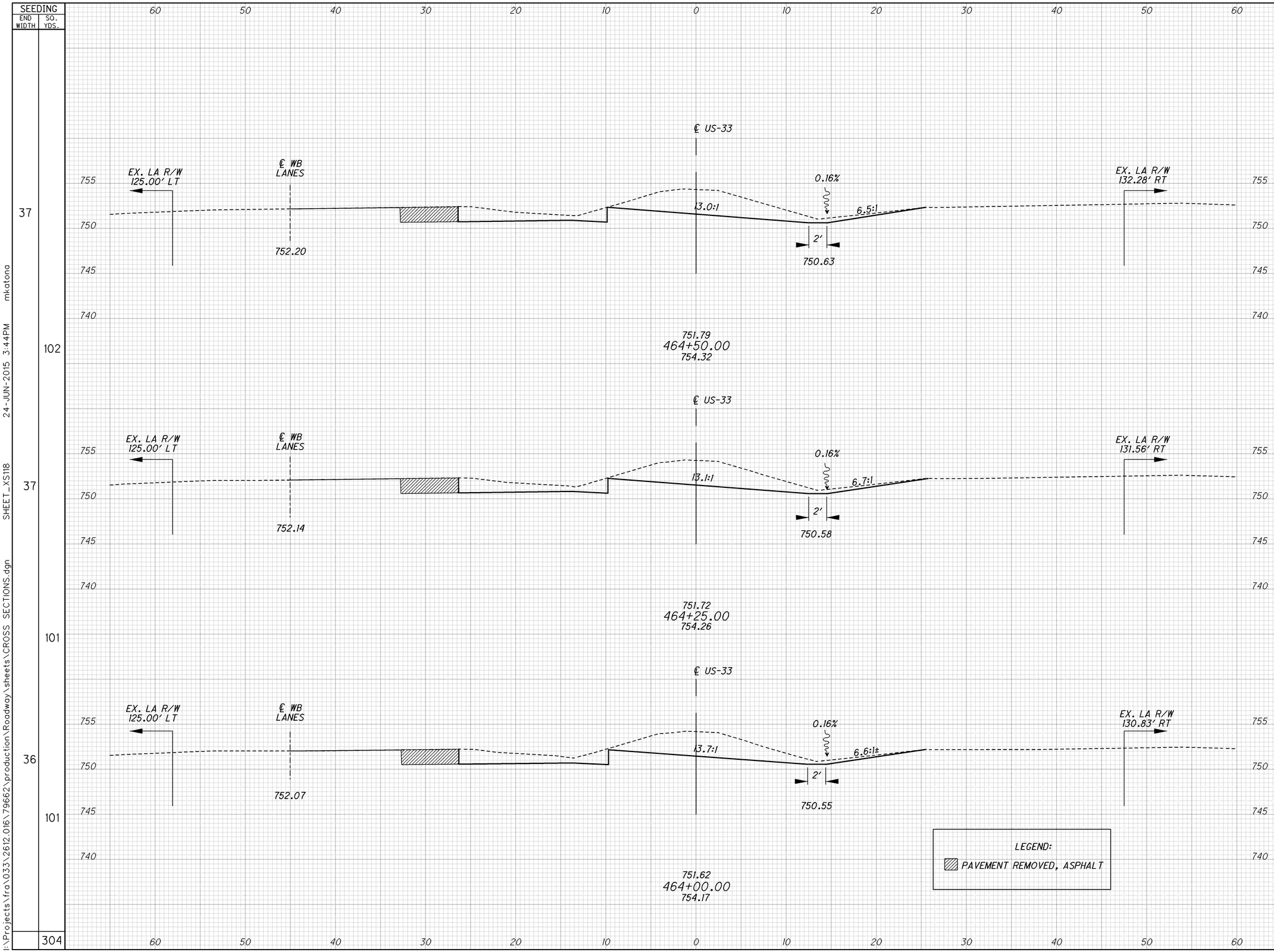
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
36		64	0		
	101			60	0
36		65	0		
	101			59	0
36		63	0		
	101			62	0
	303			181	0

CALCULATED MK
CHECKED KF

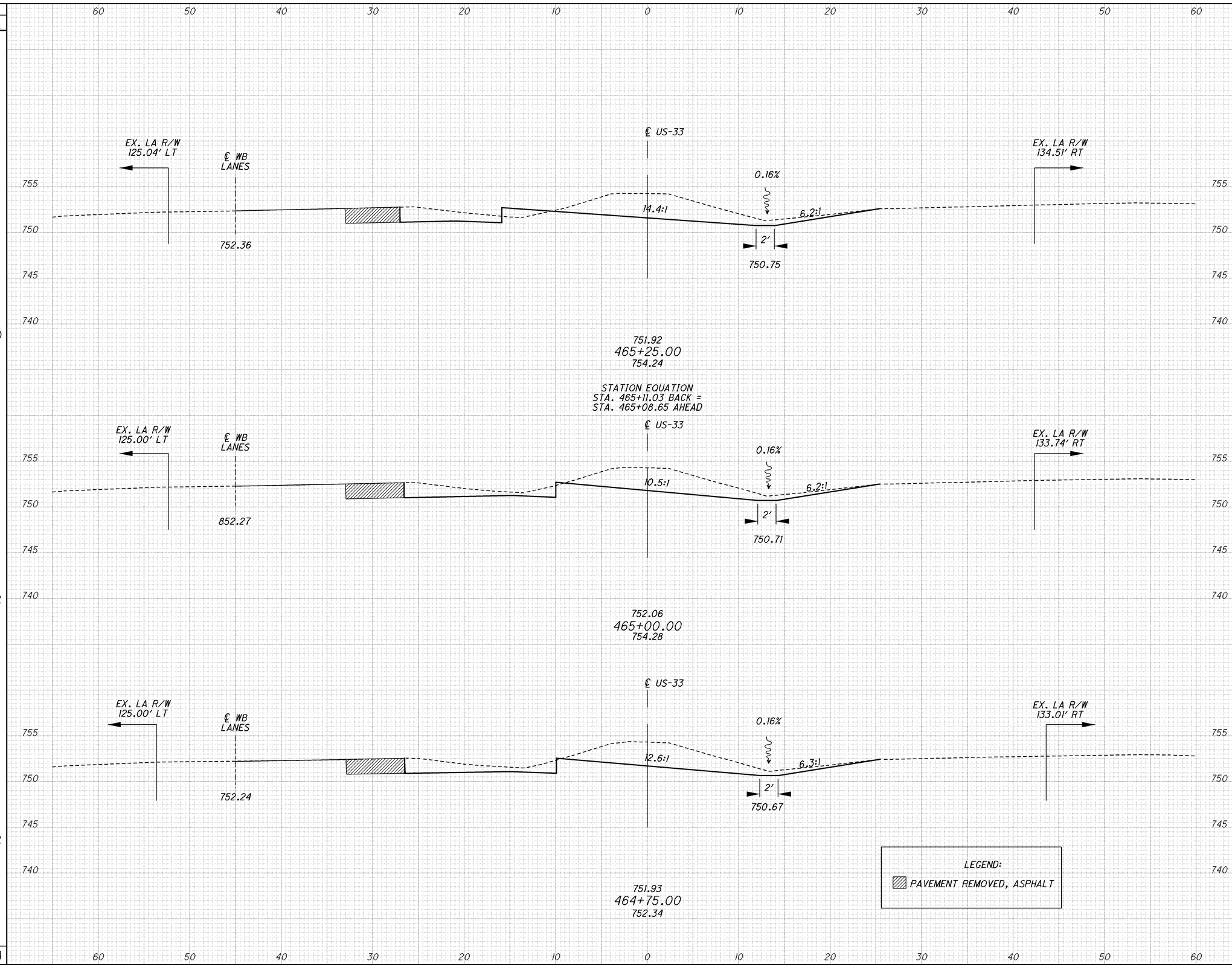
BIXBY INTERSECTION CROSS SECTIONS FROM STA. 463+25 TO STA. 463+75

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS117 24-JUN-2015 3:44PM mkatona


SEEDING
END WIDTH
SQ. YDS.
37
102
37
101
36
101
304
℄ US-33
EX. LA R/W 125.00' LT
℄ WB LANES
752.20
0.16%
13.0:1
6.5:1
2'
750.63
EX. LA R/W 132.28' RT
751.79
464+50.00
754.32
752.14
13.1:1
6.7:1
750.58
EX. LA R/W 131.56' RT
751.72
464+25.00
754.26
752.07
13.7:1
6.6:1±
750.55
EX. LA R/W 130.83' RT
751.62
464+00.00
754.17
LEGEND:
PAVEMENT REMOVED, ASPHALT
END AREA
CUT
FILL
VOLUME
CUT
FILL
61 0 56 0
61 0 57 0
62 0 58 0
171 0
CALCULATED MK
CHECKED KF
BIXBY INTERSECTION CROSS SECTIONS
FROM STA. 464+00 TO STA. 464+50
FRA-33-26.12
49
65
I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS118 24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
42		58	4		
	110			53	2
37		56	0		
	102			53	0
37		58	0		
	102			55	0
	314			161	2



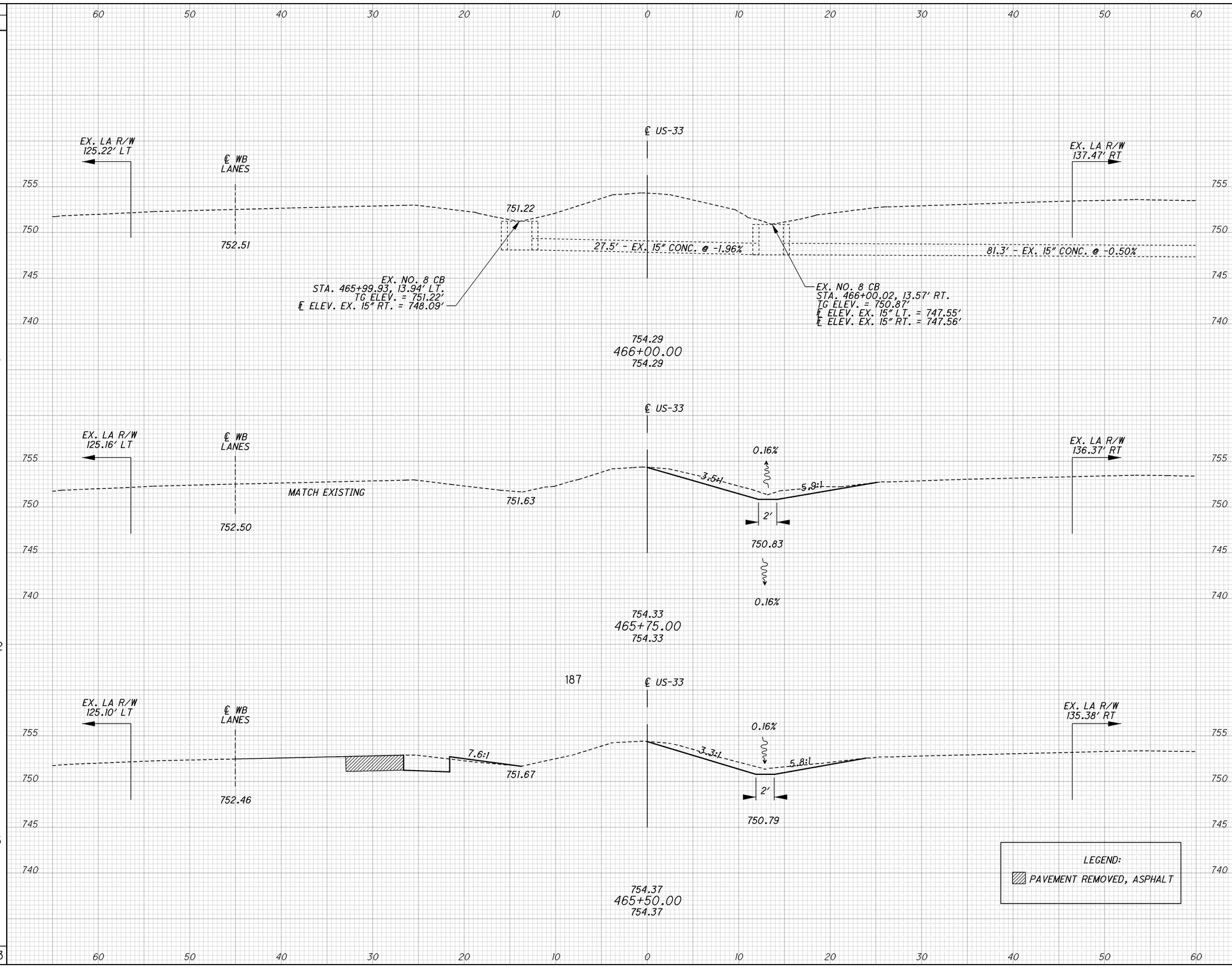
CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS
FROM STA. 464+75 TO STA. 465+25

FRA-33-26.12

I:\Projects\fra\033\2612.016\79662\production\Roadway\sheets\CROSS SECTIONS.dgn SHEET_XS119 24-JUN-2015 3:44PM mkatona

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0		0	0		
	36			6	0
26		14	0		
	82			16	0
34		20	1		
	105			36	2
	223			58	



CALCULATED MK
CHECKED KF

BIXBY INTERSECTION CROSS SECTIONS FROM STA. 465+50 TO STA. 466+00

FRA-33-26.12

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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.

UTILITY NOTIFICATION:
AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVIOLVE UTILITIES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), DISTRICT SIX ROADWAY SERVICES DEPARTMENT, AND THE OWNERS OF EACH UTILITY AFFECTED. A LIST OF UTILITIES AND OWNERS IS ON SHEET 11. THIS IS NOT TO BE CONSTRUED AS A COMPLETE LIST AND DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO CONTACT OUPS AND THE INDIVIDUAL UTILITY COMPANIES.

ITEM 630 - REMOVAL AND DISPOSAL OF GROUND MOUNTED SIGNS AND POST SUPPORTS:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL EXISTING GROUND MOUNTED SIGNS AND POST SUPPORTS INDICATED IN THE PLANS AS PER 630.12 AND 630.14. THE APPROXIMATE LOCATIONS OF THE ITEMS ARE TO BE REMOVED ARE SHOWN ON THE SIGNING AND MARKING PLAN SHEETS 57 - 61.

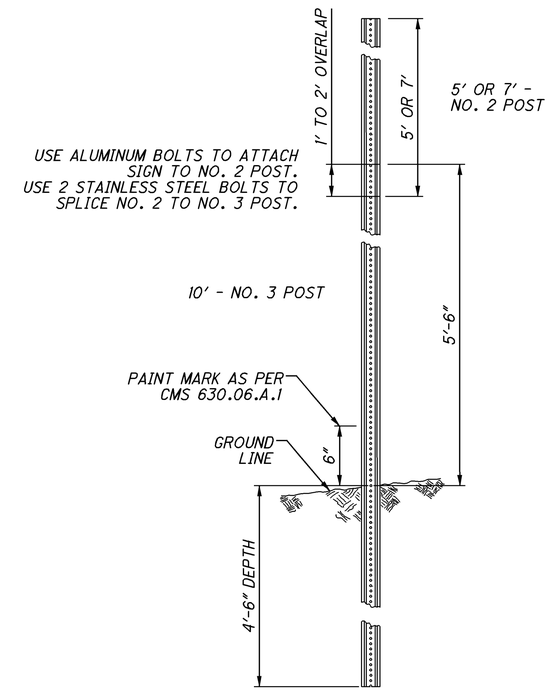
PAYMENT FOR ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL AND ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH SIGN AND SUPPORT REMOVED AND DISPOSED OF, INCLUDING MATERIALS, EQUIPMENT, LABOR AND INCIDENTALS.

PERMANENT SIGNS AND PAVEMENT MARKINGS:
ALL NECESSARY PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE IN PLACE BEFORE THE PROJECT SHALL BE OPENED TO TRAFFIC.

ITEM 620 - DELINEATOR MISC.: TRAFFIC SEPARATOR:
TRAFFIC SEPARATOR SHALL BE MANUFACTURED BY QWICK KURB, PEXCO FG300, OR APPROVED EQUAL.

PAYMENT FOR ITEM 620 - DELINEATOR MISC.: TRAFFIC SEPARATOR SHALL BE MEASURED PER LINEAR FOOT AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT, LABOR AND INCIDENTALS.

ITEM 630 - GROUND MOUNTED SUPPORT, NO. 4 POST:
THE NUMBER 4 GROUND MOUNTED POST SHALL BE SQUARE.



TYPICAL NO.2 & NO. 3 U CHANNELSPLICE WITH 10' DRIVEN SECTION INSTALLATION

CALCULATED MK
CHECKED KF

TRAFFIC CONTROL GENERAL NOTES

FRA-33-26.12

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SHEET NO.	REFERENCE NO.	ROUTE	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	SIGN, FLAT SHEET	SIGN POST REFLECTOR (RED)	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
							FT	FT	FT	SQ FT	EACH	EACH	EACH	EACH
59	S1	33EB	453+05									1	2	
59	S2	33EB	456+67	R&L	R5-1a-36	36X24	10	7		6	1	2	2	
59	S3	33WB	456+67	L	R5-1a-36	36X24	10	7		6	1			
60	S4	33WB	457+74	R	M1-4-36-2	36X36	10	7		9		1	1	
60	S5	33WB	458+30	L	R4-7b-36	36X48	10	7						
60	S6	33EB	458+28	L	R5-1-36	36X36	10	7						
60	S7	33WB	459+11	L	R5-1-36	36X36	10	7						
60	S8	33WB	459+08	L	R3-2-36	36X36	10	7						
60	S9	33EB	459+12	R	R4-7b-36	36X48	10	7		12		1	1	
60	S10	33EB	457+81	R	R5-1-36	36X36	10	7		9	1	1	1	
60	S11	T229EB	26+17	L	R5-2-36	36X36			20	9	2	2	1	
60				L	R3-2-36	36X36				9				
60	S12	T229EB	26+17	L	R1-1-48	48X48	10	7		16	1	1	1	
60					R3-5R-36	36X42				10.5				
60	S13	T229EB	26+07	R	R1-1-48	48X48			15	16	2	1	1	
60					R5-2-36	36X36				9		1		
60	S14	T229EB	26+07	R	R3-2-36	36X36	10	7		9	1	2	1	
60					R3-5R-36	36X42				10.5				
60	S15	33WB	458+13	L	R6-1R-54	54X18	20	14		6.8				
60	S16	33EB	459+35	L	R6-1R-54	54X18	20	14		6.8		2		
60	S17	33EB	459+82	C	D10-5-18	18X60			17	7.5			1	
60					D10-5-18	18X60				7.5		1		
60	S18	33EB	460+79	L	R5-1a-36	36X24	10	7		6	1		1	
60	S19	33WB	460+79	R	R5-1a-36	36X24	10	7		6	1		1	
60	S20	33WB	460+79	L								2	1	
60	S21	33EB	460+88	R	M1-4-36-2	36X36	10	7		9			1	
60	S22	T229WB	24+00	R	R3-2-36	36X36	10	7		9	1	1	1	
60	S23	T229WB	24+00	R	R1-1-48	48X48	10	7		16	1	1	1	
					R3-5R-36	36X42				10.5				
60	S24	T229WB	23+93	L	R1-1-48	48X48	10	7		16	1	1	1	
					R3-5R-36	36X42				10.5				
60	S25	T229WB	23+93	L	R3-2-36	36X36	10	7		9	1	1	1	
61	S26	33WB	462+14	R	D10-H8-12	12X12	10	7		1		1	1	
61	S27	33EB	462+02	R	D10-H8-12	12X12	10	7		1		1	1	
61	S28	33WB	462+43	R	I-H2d-48	48X24	20	14		8		1	1	
59	S29	33WB	425+39	R	R3-H8cg	48X30	20	14		10				
59	S30	33WB	455+14	R	R3-H8da	54X30	20	14		11.3				
61	S31	33WB	465+00	L	R3-H8cg	48X30				10				
61	S32	33WB	467+00	L	W16-H8P		20	14						2
					W2-1									
61	S33	33WB	467+00	R	W16-H8P		20	14					2	2
					W2-1									
TOTALS CARRIED TO GENERAL SUMMARY							340	238	52	292.9	15	25	25	4

CALCULATED MK
CHECKED KF

TRAFFIC CONTROL

BIXBY ROAD SIGNING SUBSUMMARY

FRA-33-26.12

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DETAIL	STANDARD DRAWING TC-65.10
1	EDGE LINE
2	CHANNELIZING LINE
3	LANE LINE
4	CENTER LINE

DETAIL	STANDARD DRAWING TC-65.11
5	ENTRANCE RAMP
6	EXIT RAMP
7	4 LANE DIVIDED TO 2 LANE TRANSITION
8	4 LANE UNDIVIDED TO 2 LANE TRANSITION
9	MULTILANE DIVIDED HIGHWAY

DETAIL	STANDARD DRAWING TC-65.11
10	APPROACH W/ LEFT TURN LANE
11	STOP APPROACH
12	TWO WAY LEFT TURN LANE
13	ONE LANE BRIDGE
14	HORIZONTAL CURVE

CALCULATED MK
CHECKED KF

LOCATION							REFLECTOR TYPE													621		REMARKS
							ONE WAY				TWO WAY											
							WHITE			YELLOW	WHITE RED					YELLOW RED	YELLOW YELLOW			RAISED PAVEMENT MARKER REMOVED	RPM	
							RIGHT EDGE LINE		LANE LINE	LEFT EDGE LINE	RIGHT EDGE LINE		CHANNELIZING LINE		LANE LINE	LEFT EDGE LINE	CENTER LINE					
LOCATION	COUNTY	ROUTE	BEG SLM	END SLM	LENGTH	DETAIL	40'	80'	120'	80'	40'	80'	40'	80'	120'	80'	20'	40'	80'	EACH	EACH	
																						FOR RPMS AT BIXBY ROAD, SEE SHEET NO. 55
1	FRA	33	26.12	27.80	1.68	3			150											150	150	
1	FRA	33	28.00	31.23	3.23	3			286											286	286	
1	FRA	33	26.12	27.80	1.68	2							232							232	232	
1	FRA	33	28.00	31.23	3.23	2							95							95	95	
																	TOTALS CARRIED TO TRAFFIC CONTROL SUBSUMMARY			763	763	

TRAFFIC CONTROL
RAISED PAVEMENT MARKER SUBSUMMARY

FRA-33-26.12

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DETAIL	STANDARD DRAWING TC-65.10	DETAIL	STANDARD DRAWING TC-65.11	DETAIL	STANDARD DRAWING TC-65.11
1	EDGE LINE	5	ENTRANCE RAMP	10	APPROACH W/ LEFT TURN LANE
2	CHANNELIZING LINE	6	EXIT RAMP	11	STOP APPROACH
3	LANE LINE	7	4 LANE DIVIDED TO 2 LANE TRANSITION	12	TWO WAY LEFT TURN LANE
4	CENTER LINE	8	4 LANE UNDIVIDED TO 2 LANE TRANSITION	13	ONE LANE BRIDGE
		9	MULTILANE DIVIDED HIGHWAY	14	HORIZONTAL CURVE

LOCATION							644														646		620	REFLECTOR TYPE										621	621
																			LANE ARROW ARROW					TWO WAY											
																								WHITE		WHITE RED		YELLOW RED		YELLOW YELLOW					
																								RIGHT EDGE LINE		CHANNELIZING LINE		LANE LINE	LEFT EDGE LINE		CENTER LINE				
SHEET NUMBER	REFERENCE NUMBER	BEGIN STA	END STA	SIDE	LENGTH		EDGE LINE, 6"		LANE LINE, 6"	CENTERLINE	CHANNELIZING LINE 12"	STOP LINE	CHEVRON MARKING	DOTTED LINE 6" YELLOW	TRANSVERSE/ DIAGONAL LINE		ISLAND MARKING	CROSSWALK LINE	ITEM SPECIAL - AIR SPEED ZONE MARKING	LT	RT	EDGE LINE, 6"		DELINEATOR MISC.: TRAFFIC SEPARATOR											RAISED PAVEMENT MARKER REMOVED	RPM
							W	Y							W	Y						W	Y													
					FT	MI	MILE	MILE	MILE	MILE	FT	FT	FT	FT	FT	FT	SQ FT	FT	SQ FT	EACH	EACH			FT	40'	80'	40'	80'	80'	40'	80'	20'	40'	80'	EACH	EACH
																																			46	
57	WEL1	451+60	23+68	L	787	0.15	0.15																													
57	LL1	451+60	462+00	L	1,040	0.20			0.20																			13								13
57	YEL1	451+60	458+32	L	672	0.13		0.13																												
57	YEL2	451+90	458+32	L	645	0.12		0.12																												
57	WEL2	23+68	462+00	L	324	0.06	0.06																													
57	CHL1	452+39	458+17	R	549						549															15										15
57	CHL2	455+84	458+16	R	232						232															6										6
57	CHV1	455+84	458+17	R	100								100																							
57	A1	452+80		R																1																
57	A2	454+69		R																1																
57	A3	455+38		R																	1															
57	DL1	458+32	458+84	L	60									103																						
57	DYCL1	458+16	459+12	L	105	0.02				0.02																							4			4
57	DYCL2	458+17	459+12	R	107	0.02				0.02																							5			5
57	RTP1	457+90	459+50	R	160																		160													
57	CL1	23+68	24+19	R	51	0.01				0.01																										
57	SB1	24+19		L	19							19																								
57	CHL3	455+14	458+15	R	301						301															8										8
57	YTL1	457+93	459+47	R&L	310											310																				
57	CHV2	459+12	461+54	R	122								122																							
57	A4	458+16		R																1																
57	A5	457+77		R																	1															
57	A6	459+16		R																1																
57	DL2	458+66	459+08	R	52	0.01								98																						
57	CL2	25+83	26+36	R	53					0.01																										
57	SB2	25+83		R	22							22																								
57	WEL3	451+60	26+36	R	696	0.13	0.13																													
57	WEL4	26+36	462+00	R	408	0.08	0.08																													
57	LL2	451+60	462+00	R	1,040	0.20			0.20																			13								13
57	CL3	457+93	458+21	L	28	0.01																														
57	CL4	457+93	458+21	R	28	0.01																														
57	CL5	459+12	459+47	L	35	0.01																														
57	CL6	459+12	459+47	L	35	0.01																														
57	CHL4	459+12	462+00	L	288						288															8										8
57	CHL5	458+21	459+12	L	91						91															6										6
57	CHL6	458+21	459+12	L	91						91															7										7
57	WEL4	459+04	462+00	R	300	0.06	0.06																													
57	WEL5	462+00	465+71	L	371	0.07	0.07																													
57	LL3	462+00	465+71	L	371	0.07			0.07																			5								5
58	A7	462+01		L																1																
58	A8	464+72		L																1																
58	CHL7	462+00	465+00	L	300						300																									
58	YEL5	462+00	465+00	L	352	0.07		0.07																												
58	YEL6	462+00	465+71	R	371	0.07		0.07																												
58	LL4	462+00	465+71	R	371	0.07			0.07																			5								5
58	WEL6	462+00	465+71	R	371	0.07	0.07																													
							0.62	0.39								310				6	2															
TOTALS CARRIED TO GENERAL SUMMARY							1.01		0.53	0.06	1,852	41	222	201	310					8			160	TOTALS CARRIED TO GENERAL SUMMARY										46	95

CALCULATED MK
CHECKED KF

TRAFFIC CONTROL
BIXBY ROAD PAVEMENT MARKING

FRA-33-26.12

55
65

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PART	COUNTY	ROUTE	LOG BEG SLM	LOG END SLM	LENGTH MI	LENGTH FT	SIDE	DESCRIPTION	LONG LINE MARKINGS 644 CENTER LINE EQUIV SOLID LINE MILE	644 EDGE LINE WHITE MILE	644 EDGE LINE YELLOW MILE	644 LANE LINE MILE	646 EDGE LINE WHITE MILE	646 EDGE LINE YELLOW MILE	646 LANE LINE MILE	AUXILIARY MARKINGS 644	TRANSVERSE LINE WHITE FEET	TRANSVERSE LINE YELLOW FEET	ISLAND SQ FT	CHANNELIZING LINE (WHITE) FEET	DOTTED LINE FEET	CROSS-WALK FEET	LANE ARROWS LT EACH	LANE ARROWS RT EACH
1	FRA	33	26.12	31.23	5.11	26981	LT/RT	EASTBOUND			7.82	7.82	7.82	0.06	0.06	0.13				9292			1	2
1	FRA	33	31.23	26.12	5.11	26981	LT/RT	WESTBOUND			7.82	7.82	7.82	0.03	0.03	0.07			410	3793	550		1	2
								NOTE: FOR BIXBY ROAD INTERSECTION QUANTITIES, SEE SHEET NO. 55																
											15.64	15.64		0.09	0.09				410				2	4
TOTALS CARRIED TO GENERAL SUMMARY											31.28		15.64	0.18		0.20	410			13085	550		6	

CALCULATED MK
CHECKED KF

TRAFFIC CONTROL
GENERAL PAVEMENT MARKING

FRA-33-26.12

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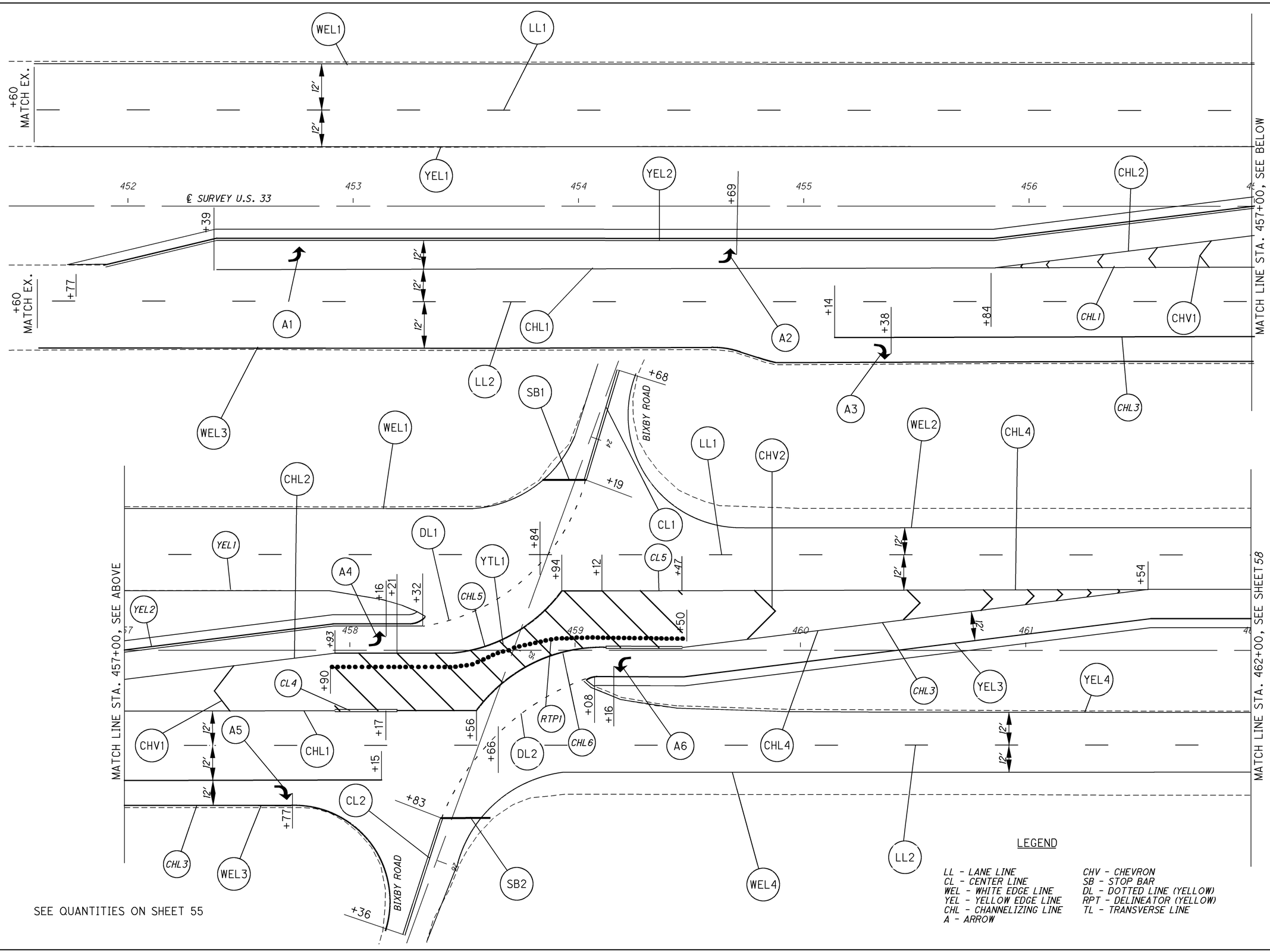

TRAFFIC CONTROL
BIXBY ROAD PAVEMENT MARKING

FRA-33-26.12

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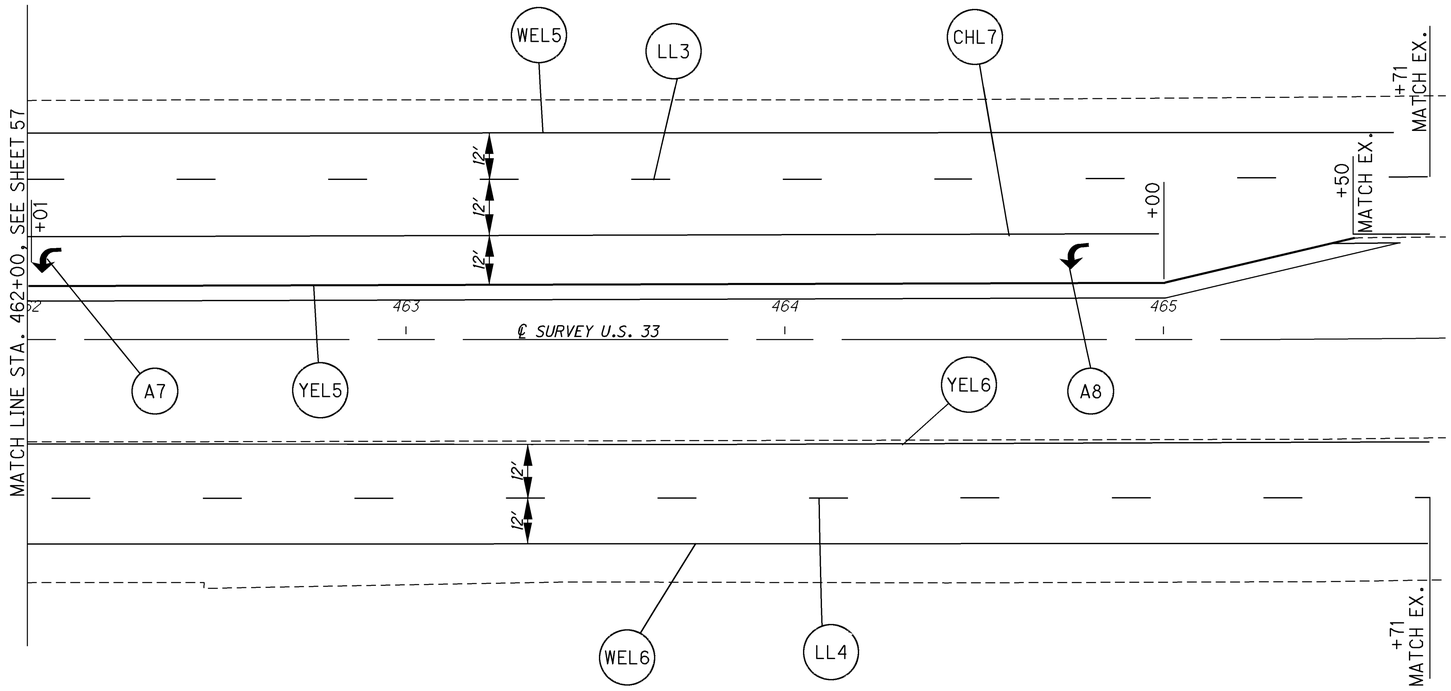

LEGEND

LL - LANE LINE	CHV - CHEVRON
CL - CENTER LINE	SB - STOP BAR
WEL - WHITE EDGE LINE	DL - DOTTED LINE (YELLOW)
YEL - YELLOW EDGE LINE	RPT - DELINEATOR (YELLOW)
CHL - CHANNELIZING LINE	TL - TRANSVERSE LINE
A - ARROW	

SEE QUANTITIES ON SHEET 55

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MK
CHECKED KF

TRAFFIC CONTROL
BIXBY ROAD PAVEMENT MARKING

FRA-33-26.12

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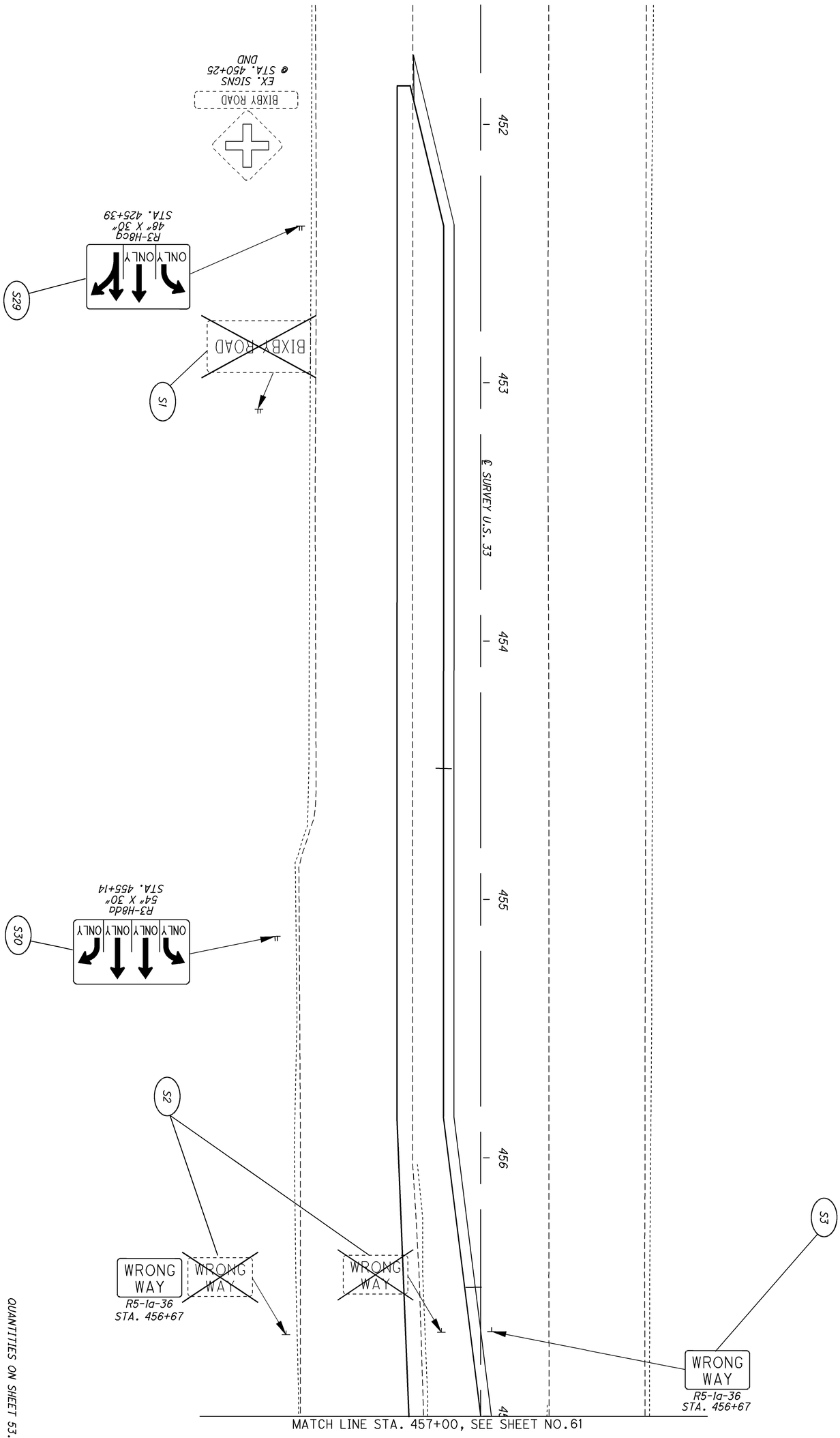
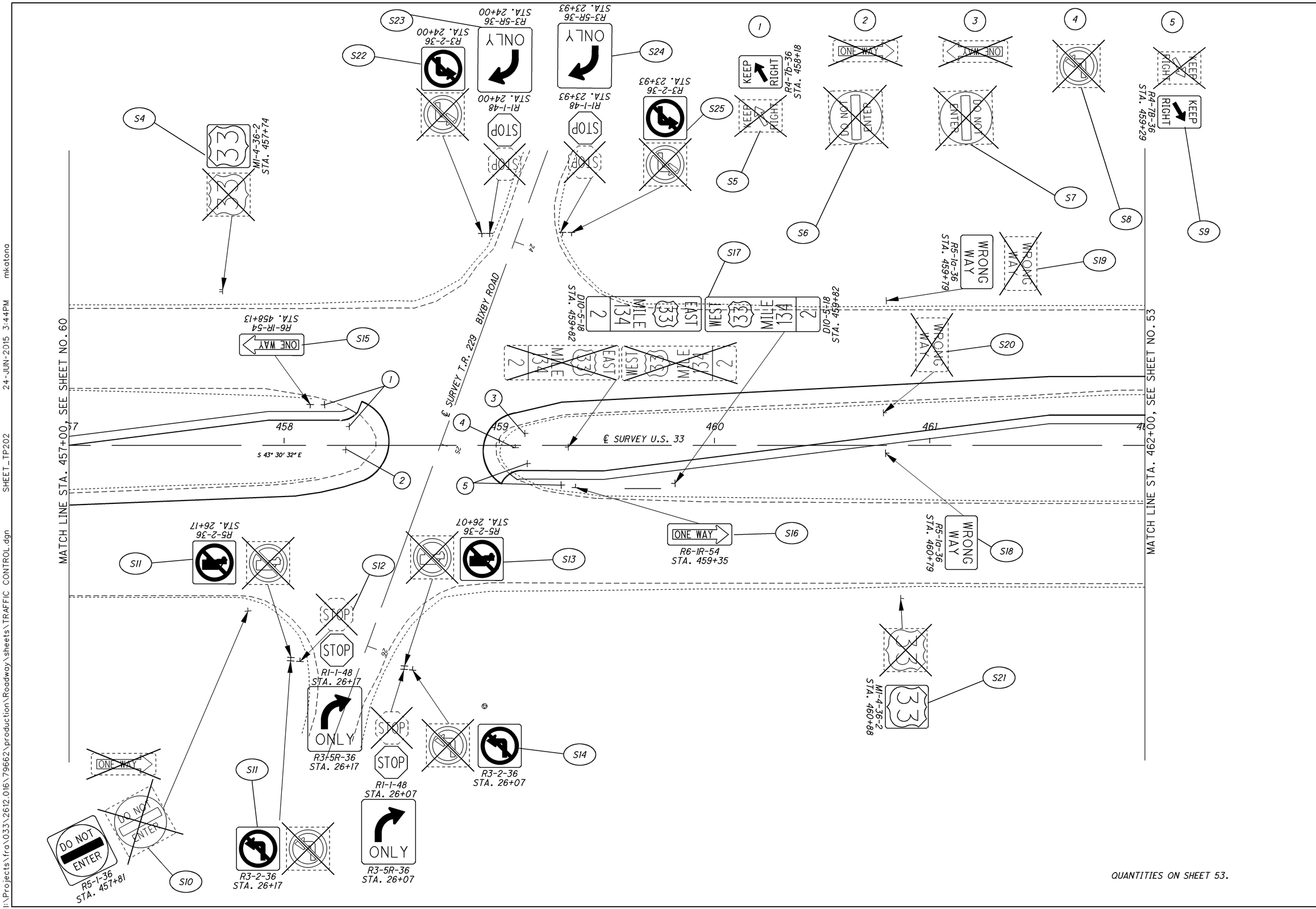


QUANTITIES ON SHEET 53.

59 / 65	FRA-33-26.12	TRAFFIC CONTROL BIXBY ROAD SIGNING PLAN	CALCULATED MK CHECKED KF	0 10 20 40 HORIZONTAL SCALE IN FEET



QUANTITIES ON SHEET 53.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MK
CHECKED KF

TRAFFIC CONTROL
BIXBY ROAD SIGNING PLAN

FRA-33-26.12

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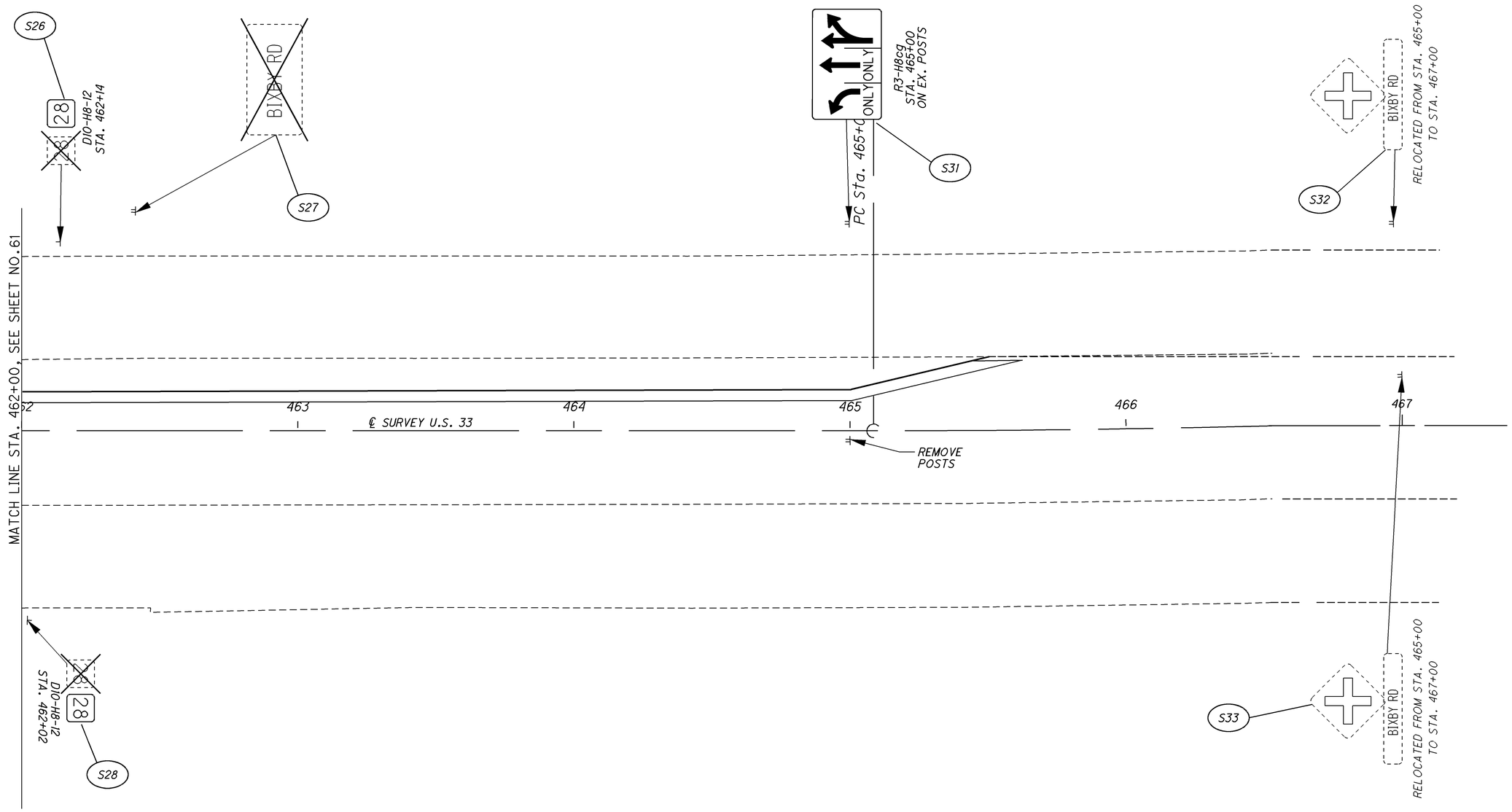

QUANTITIES ON SHEET 53.

0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED MK
CHECKED KF

TRAFFIC CONTROL
BIXBY ROAD SIGNING PLAN

FRA-33-26.12

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

SUPPLEMENTAL SPEC: 848 DATED: 4/18/2014

DESIGN SPECIFICATIONS:
DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

EXISTING STRUCTURE VERIFICATION:
EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ALIGNMENT AND PROFILE:
THE ALIGNMENT OF THE EXISTING OVERLAY WILL NOT BE CHANGED. THE PROPOSED PROFILE GRADE ELEVATIONS ARE TO BE THE SAME AS THE EXISTING.

CONTINGENT 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 THE COMPLETION OF THE PROJECT.

FRA-33-2964 (2517361) UNDER GENDER ROAD
BELOW IS A SUMMARY OF THE STRUCTURE WORK REQUIRED ON THIS PROJECT. NOTE, THIS IS NOT INTENDED TO SERVE AS AN ALL-INCLUSIVE LIST OF WORK BUT RATHER A GENERAL GUIDELINE OF PRIMARY WORK ITEMS.

- *MAINTAIN EXISTING VERTICAL CLEARANCE UNDER BRIDGE*

FRA-33-3030 (2502267)
BELOW IS A SUMMARY OF THE STRUCTURE WORK REQUIRED ON THIS PROJECT. NOTE, THIS IS NOT INTENDED TO SERVE AS AN ALL-INCLUSIVE LIST OF WORK, BUT RATHER A GENERAL GUIDELINE OF PRIMARY WORK ITEMS.

- MILL ASPHALT WEARING SURFACE, 1.50" AND REPLACE WITH 1.50" ASPHALT CONCRETE.
- SAW AND SEAL JOINTS OVER ENDS OF THE BRIDGE.

ITEM SPECIAL-SAWING AND SEALING BITUMINOUS CONCRETE JOINTS

1) DESCRIPTION:

THIS WORK SHALL CONSIST OF CUTTING AND SEALING TRANSVERSE JOINTS IN THE NEW BITUMINOUS CONCRETE OVERLAY OF BRIDGES. BITUMINOUS CONCRETE JOINTS SHALL BE CONSTRUCTED DIRECTLY OVER, AND IN LINE WITH, THE EXISTING UNDERLYING TRANSVERSE ABUTMENT AND APPROACH SLAB JOINTS.

2) MATERIALS:

THE JOINT SEALANT SHALL MEET THE REQUIREMENTS OF ITEM 705.04, JOINT SEALANTS, HOT-POURED, FOR CONCRETE AND ASPHALT PAVEMENTS. ACCEPTABLE ALTERNATE MATERIALS ARE:

A SILICONE SEALANT MEETING FEDERAL SPECIFICATIONS TT-S-001543A CLASS A (ONE-PART SILICONE SEALANTS) AND TT-S-00230C CLASS A (ONE-COMPONENT SEALANTS), SUCH AS THOSE MANUFACTURED BY GENERAL ELECTRIC, SILICONE PRODUCTS DIVISION, 4015 EXECUTIVE PARK DRIVE, CINCINNATI, OHIO 45242 (513-243-1953)OR DOW CORNING, 400 TECHNE CENTER, SUITE 103, MILFORD, OHIO 45150 (513-831-3586); OR SOF-SEAL, A COLD-APPLIED, LOW-MODULUS, TWO-COMPONENT POLY-MERIC COMPOUND HORIZONTAL SEALANT AS MANUFACTURED BY W.R.MEADOWS, INC., P.O. BOX 543,ELGIN,ILLINOIS 60121 (800-342-5976).

3) CONSTRUCTION DETAILS:

A) GENERAL: THE CONTRACTOR SHALL CONDUCT HIS OPERATION SO THAT THE CUTTING, CLEANING AND SEALING OF TRANSVERSE JOINTS IS A CONTINUOUS OPERATION THAT WILL BE PERFORMED AS SOON AS PRACTICAL AFTER THE PAVING, BUT NO LATER THAN FOUR (4) DAYS AFTER PLACEMENT OF THE ASPHALT CONCRETE SURFACE COURSE. TRAFFIC SHALL NOT BE ALLOWED TO KNEAD TOGETHER OR DAMAGE JOINT CUT PRIOR TO SEALING.

B) CUTTING OF TRANSVERSE JOINTS: THE CONTRACTOR SHALL SAW OR ROUT TRANSVERSE JOINTS TO THE DIMENSIONS SHOWN IN THE DETAILS ON THIS SHEET. THE CUT JOINTS SHALL LIE DIRECTLY ABOVE EACH TRANSVERSE JOINT.

THE BLADE OR BLADES SHALL BE OF SUCH SIZE THAT THE FULL WIDTH AND DEPTH OF THE CUT CAN BE MADE WITH ONE PASS. DRY OR WET CUTTING WILL BE ALLOWED. JOINTS SHALL EXTEND THE FULL WIDTH OF THE BRIDGE.

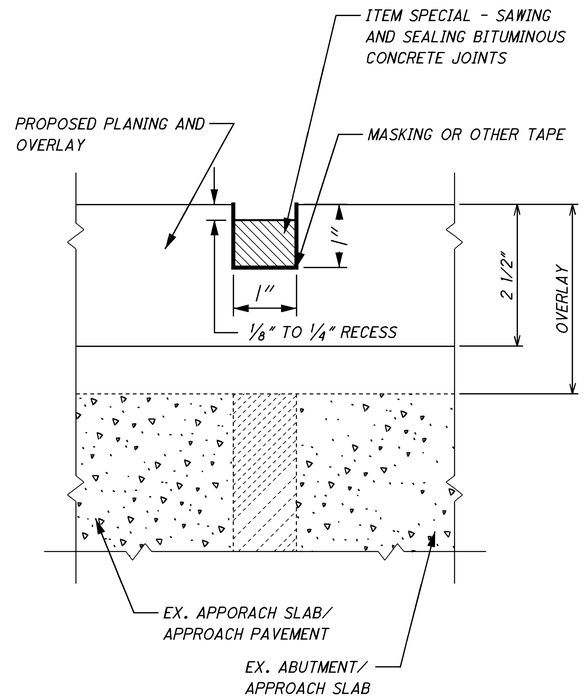
C) CLEANING JOINTS: DRY SAWED JOINTS SHALL BE THOROUGHLY CLEANED WITH A SUFFICIENT AMOUNT OF COMPRESSED AIR TO REMOVE ANY DIRT, DUST, OR DELETERIOUS MATTER. WET SAWED JOINTS SHALL BE WASHED CLEAN OF ALL CUTTINGS BY FLUSHING WITH A JET OF WATER AND WITH OTHER TOOLS AS NECESSARY. AFTER FLUSHING, THE JOINT SHALL BE BLOWN OUT WITH COMPRESSED AIR. WHEN THE SURFACES ARE THOROUGHLY CLEAN AND DRY, AND JUST PRIOR TO PLACING THE JOINT SEALER, COMPRESSED AIR HAVING A PRESSURE OF AT LEAST 90 PSI SHALL BE USED TO BLOW OUT THE JOINT AND REMOVE ALL TRACES OF DUST.

IN THE EVENT FRESHLY CUT JOINTS BECOME CONTAMINATED BEFORE THEY ARE SEALED, THEY SHALL BE RE-CLEANED OF ALL FOREIGN MATERIAL BY HIGH PRESSURE WATER JET.

D) SEALING JOINTS: THE JOINT SHALL BE THOROUGHLY DRY WHEN THE SEALANT IS PLACED. AFTER CLEANING AND DRYING, A BOND-BREAKER MATERIAL SHALL BE APPLIED TO THE BOTTOM OF THE GROOVE.

HOT-POURED JOINT SEALANT MATERIAL SHALL BE HEATED IN A KETTLE OR MELTER CONSTRUCTED AS A DOUBLE BOILER, WITH THE SPACE BETWEEN THE INNER AND OUTER SHELLS FILLED WITH OIL OR OTHER HEAT TRANSFER MEDIUM. POSITIVE TEMPERATURE CONTROL AND MECHANICAL AGITATION SHALL BE PROVIDED. HEATING MUST BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. JOINT SEALER MATERIAL SHALL NEVER BE KEPT HEATED AT THE POURING TEMPERATURE FOR MORE THAN FOUR (4) HOURS AND SHALL NEVER BE REHEATED. SEALER LEFT IN THE APPLICATOR AT THE END OF A DAY'S WORK SHALL NOT BE USED.

HOT-POURED SEALANT SHALL BE APPLIED IMMEDIATELY THROUGH A NOZZLE, WHICH MUST PROJECT INTO THE SAWED JOINT, FILLING FROM THE BOTTOM UP. THE SEALANT SHALL COMPLETELY FILL THE JOINT IN SUCH A MANNER THAT, AFTER COOLING, THE LEVEL OF THE SEALANT WILL NOT BE HIGHER THAN 1/8" BELOW THE PAVEMENT SURFACE. ANY DEPRESSION IN THE COOLED SEAL GREATER THAN 1/4" SHALL BE BROUGHT UP TO THE SPECIFIED LIMIT BY FURTHER ADDITION OF HOT-POURED SEALANT. CARE SHALL BE TAKEN IN THE SEALING OF THE JOINTS SO THAT THE FINAL APPEARANCE WILL PRESENT A NEAT FINE LINE.



THE COLD APPLIED SEALANT MATERIALS (POLYURETHANE, SILICONE, AND POLYMERIC COMPOUNDS) SHALL BE INSTALLED AS PER MANUFACTURERS' RECOMMENDATIONS, EXCEPT AS MODIFIED BY THIS DRAWING. THE SEALANT SHALL BE INSTALLED WHEN THE AMBIENT TEMPERATURE IS 40 DEGREES F OR HIGHER. TRAFFIC SHALL NOT BE ALLOWED ON THE JOINT FOR ONE HOUR AFTER APPLICATION OF THE SEALANT.

4) METHOD OF MEASUREMENT:

THE QUANTITY TO BE PAID FOR UNDER THIS ITEM WILL BE THE NUMBER OF LINEAR FEET OF JOINTS SAWED AND SEALED AS PER THE ABOVE REQUIREMENTS.

5) BASIS OF PAYMENT:

THE UNIT PRICE PER LINEAR FOOT FOR ITEM SPECIAL - "SAWING AND SEALING BITUMINOUS CONCRETE JOINTS" SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK, INCLUDING THE FURNISHING AND PLACING OF THE JOINT SEALER MATERIAL.

CALCULATED MK
CHECKED KF

STRUCTURE NOTES
SAWING AND SEALING BITUMINOUS CONCRETE JOINTS

FRA-33-26.12
PID#79662

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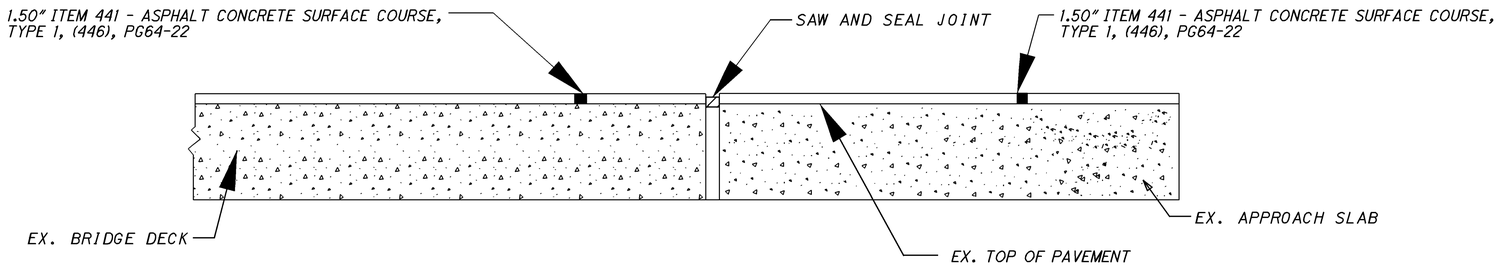
EXPANSION JOINT DETAIL

(FRA - 33 - 30.30)



CALCULATED	CHECKED
MK	KF

DESIGN AGENCY
DIST.#6
IN-HOUSE DESIGN

REVIEWED DATE

STRUCTURE FILE NUMBER

STRUCTURE PLAN DETAILS

FRA-33-26.12
PID#79662

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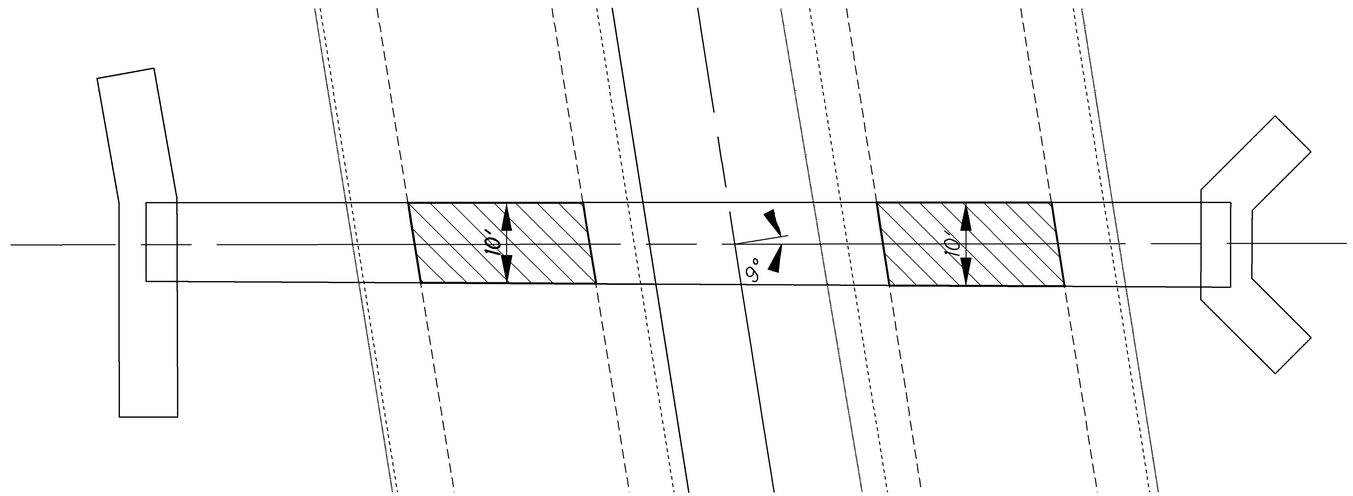
GENERAL PLAN VIEW - FRA-33-3030



NOTE 1:
MILL 1 1/2" & PAVE OVER BRIDGE WITH 1½" ITEM 441 - ASPHALT CONCRETE SURFACE COURSE (446), PG64-22.

NOTE 2:
SAW AND SEAL OVER EXISTING JOINTS WITH ITEM SPECIAL - SAWING AND SEALING BITUMINOUS CONCRETE JOINTS.

BRIDGE PLAN

FRA-33-3030 (2502267)
10' X 8' RISE PRECAST REINFORCED CONCRETE BOX
OVER TUSSING - BACHMAN DITCH

BRIDGE TREATMENT

QUANTITIES									REMARKS	STRUCTURE NOTES
516										
SPECIAL - SAWING AND SEALING BITUMINOUS CONCRETE JOINTS									FRA-33-3030 SFN: 2502267 STRUCTURE SKEW: 9° LEFT FORWARD	SINGLE SPAN 10' X 8' RISE PRECAST REINFORCED CONCRETE BOX CULVERT
FT										
154										3030L DECK AREA - 1,755 SF
									NOTE: ASPHALT OVERLAY QUANTITIES ARE INCLUDED IN THE GENERAL QUANTITY ON SHEET	
154									TOTALS CARRIED TO GENERAL SUMMARY	

CALCULATED MK
CHECKED KF
DESIGN AGENCY DIST. #6 IN-HOUSE DESIGN
REVIEWED DATE
STRUCTURE FILE NUMBER

STRUCTURE PLAN
DETAILS STRUCTURE FRA-33-3030

FRA-33-26.12

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