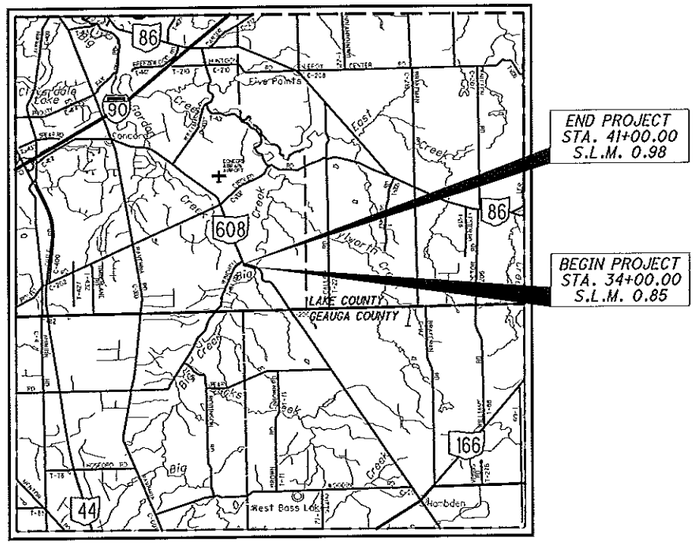

LOCATION MAP

LATITUDE: 41°39'00" N LONGITUDE: 81°11'15" W

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2017)	2,700
DESIGN YEAR ADT (2037)	2,900
DESIGN HOURLY VOLUME (2037)	260
DIRECTIONAL DISTRIBUTION	53%
TRUCKS (24 HOUR B&C)	6%
DESIGN SPEED	40 MPH
LEGAL SPEED	40 MPH
DESIGN FUNCTIONAL CLASSIFICATION: 05 MAJOR COLLECTOR (RURAL)	
NHS PROJECT	NO

DESIGN EXCEPTIONS

HORIZONTAL ALIGNMENT AND LANE WIDTH - APPROVED 5/23/16

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:

your trusted advisor consultants → engineers architects planners

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LAK-608-0.85

CONCORD TOWNSHIP
LAKE COUNTY

INDEX OF SHEETS:

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ENGINEERS SEAL:

STATE OF OHIO
DAVID J. ROTELLA
74837
REGISTERED PROFESSIONAL ENGINEER

SIGNED: David J. Rotella
DATE: 06/05/2017

STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-3.1	7/18/14	MGS-3.1	7/18/14	TC-41.20	10/18/13			800	10/20/17	
BP-4.1	7/19/13	MGS-4.3	1/18/13	TC-41.30	10/18/13			832	1/17/14	
BP-5.1	7/19/13	MGS-4.5	1/18/13	TC-42.20	10/18/13			836	1/18/13	
		MGS-5.3	7/15/16	TC-52.10	10/18/13					
CB-1.2	1/15/16			TC-52.20	7/15/16					
CB-2.2	1/15/16	MH-1.2	1/15/16	TC-61.30	1/20/17					
				TC-65.10	1/17/14					
DM-1.1	1/15/16	MT-101.60	1/20/17	TC-65.11	7/15/16					
DM-4.2	7/20/12	MT-101.70	1/17/14							
DM-4.3	1/15/16	MT-101.75	7/15/16							
DM-4.4	1/15/16	MT-101.90	7/17/15							
		MT-105.10	7/19/13							
HW-2.1	1/15/16									
		RM-4.2	4/18/14							
MGS-1.1	7/19/13	RM-4.5	7/18/14							
MGS-2.1	7/19/13	RM-4.6	7/19/13							

PROJECT DESCRIPTION

DRAINAGE AND SIDE SLOPE GRADING IMPROVEMENTS ALONG CONCORD-HAMBDEN ROAD (S.R. 608) FROM JUST NORTH OF BIG CREEK TO WINCHELL ROAD.

PROJECT EARTH DISTURBED AREA:	0.75 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.125 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A

2016 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY IN THE SOUTHBOUND DIRECTION AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 9/45.

APPROVED Myron S. [illegible]
DATE 10-03-17 DISTRICT DEPUTY DIRECTOR

APPROVED Jerry Jeraj [illegible]
DATE 11-1-17 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E130(590)

PID NO. 94539

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

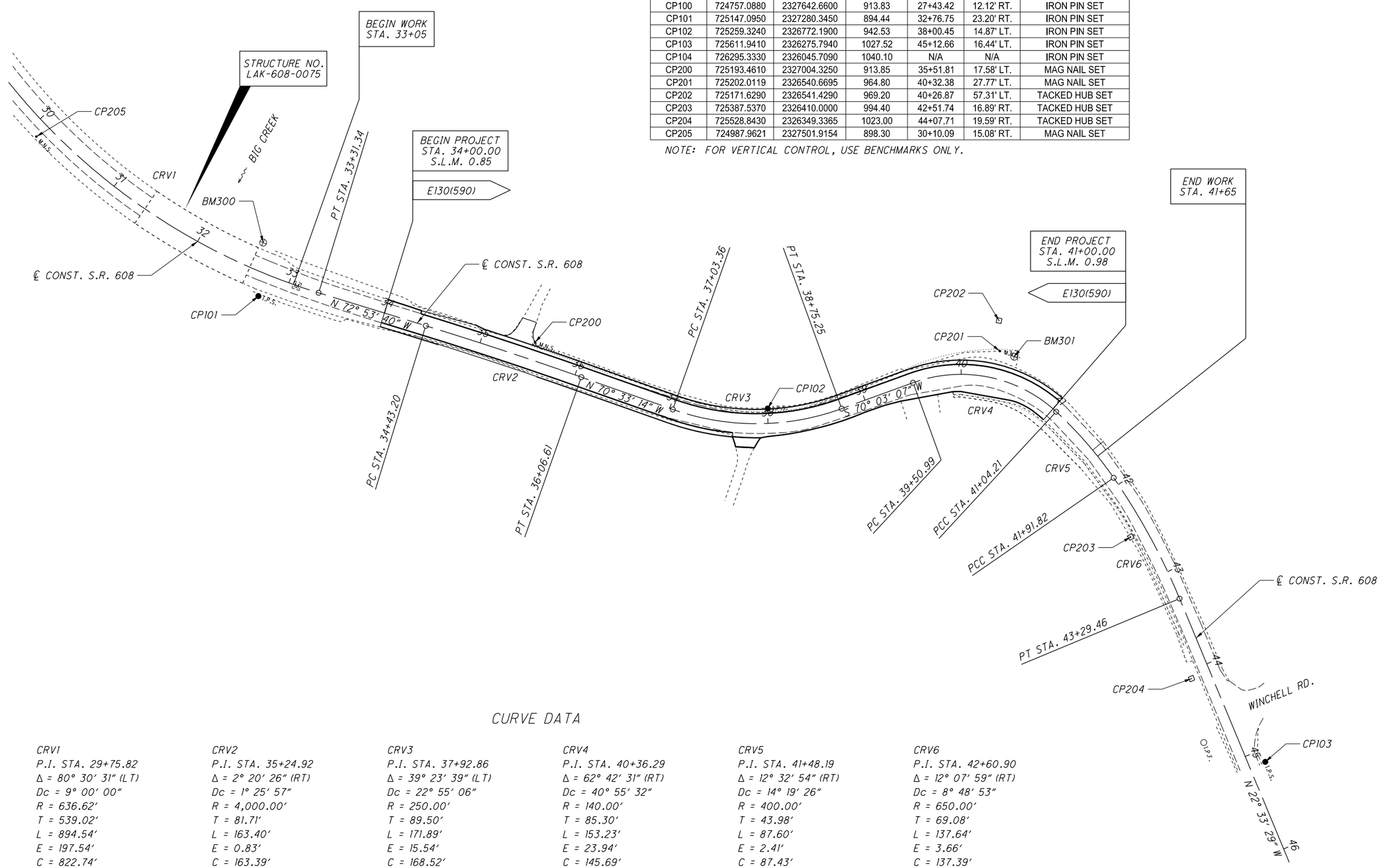
LAK-608-0.85

LAK - SR 608-00.85 Slope
180023 PID - 94539
Dist 12 1/11/2018
Contract Proposal Available @
www.contracts.dot.state.oh.us/home
Conformed Set
H:\PROJECTS\LAK\94539\admin\PlanPackage\Final Plans\94539GT001.dgn 04-OC

CONTROL POINTS

SURVEY POINT NO.	NORTHING	EASTING	ELEVATION	STATION	OFFSET	DESCRIPTION
BM300	725093.8000	2327275.6000	892.18	32+60.45	27.79' LT.	BENCH MARK FOUND
BM301	725207.6000	2326526.2000	965.97	40+45.33	26.39' LT.	BENCH MARK FOUND
CP100	724757.0880	2327642.6600	913.83	27+43.42	12.12' RT.	IRON PIN SET
CP101	725147.0950	2327280.3450	894.44	32+76.75	23.20' RT.	IRON PIN SET
CP102	725259.3240	2326772.1900	942.53	38+00.45	14.87' LT.	IRON PIN SET
CP103	725611.9410	2326275.7940	1027.52	45+12.66	16.44' LT.	IRON PIN SET
CP104	726295.3330	2326045.7090	1040.10	N/A	N/A	IRON PIN SET
CP200	725193.4610	2327004.3250	913.85	35+51.81	17.58' LT.	MAG NAIL SET
CP201	725202.0119	2326540.6695	964.80	40+32.38	27.77' LT.	MAG NAIL SET
CP202	725171.6290	2326541.4290	969.20	40+26.87	57.31' LT.	TACKED HUB SET
CP203	725387.5370	2326410.0000	994.40	42+51.74	16.89' RT.	TACKED HUB SET
CP204	725528.8430	2326349.3365	1023.00	44+07.71	19.59' RT.	TACKED HUB SET
CP205	724987.9621	2327501.9154	898.30	30+10.09	15.08' RT.	MAG NAIL SET

NOTE: FOR VERTICAL CONTROL, USE BENCHMARKS ONLY.



CURVE DATA

CRV1
P.I. STA. 29+75.82
Δ = 80° 30′ 31″ (LT)
Dc = 9° 00′ 00″
R = 636.62′
T = 539.02′
L = 894.54′
E = 197.54′
C = 822.74′
C.B. = N 32° 38′ 24″ W

CRV2
P.I. STA. 35+24.92
Δ = 2° 20′ 26″ (RT)
Dc = 1° 25′ 57″
R = 4,000.00′
T = 81.71′
L = 163.40′
E = 0.83′
C = 163.39′
C.B. = N 71° 43′ 27″ W

CRV3
P.I. STA. 37+92.86
Δ = 39° 23′ 39″ (LT)
Dc = 22° 55′ 06″
R = 250.00′
T = 89.50′
L = 171.89′
E = 15.54′
C = 168.52′
C.B. = S 89° 44′ 57″ W

CRV4
P.I. STA. 40+36.29
Δ = 62° 42′ 31″ (RT)
Dc = 40° 55′ 32″
R = 140.00′
T = 85.30′
L = 153.23′
E = 23.94′
C = 145.69′
C.B. = N 78° 35′ 37″ W

CRV5
P.I. STA. 41+48.19
Δ = 12° 32′ 54″ (RT)
Dc = 14° 19′ 26″
R = 400.00′
T = 43.98′
L = 87.60′
E = 2.41′
C = 87.43′
C.B. = N 40° 57′ 55″ W

CRV6
P.I. STA. 42+60.90
Δ = 12° 07′ 59″ (RT)
Dc = 8° 48′ 53″
R = 650.00′
T = 69.08′
L = 137.64′
E = 3.66′
C = 137.39′
C.B. = N 28° 37′ 28″ W

HORIZONTAL SCALE IN FEET
0 25 50 100

SCHEMATIC PLAN

LAK-608-0.85

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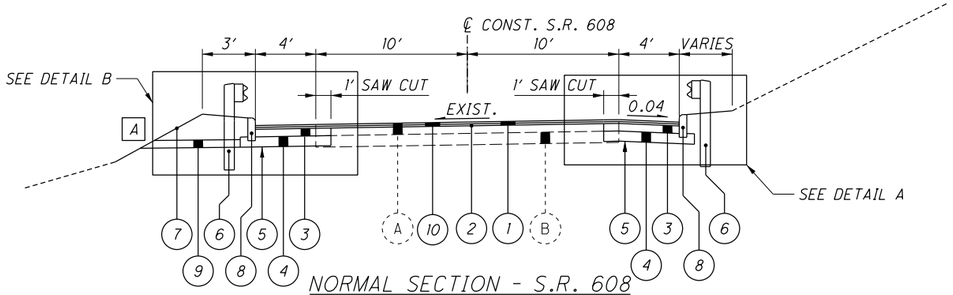
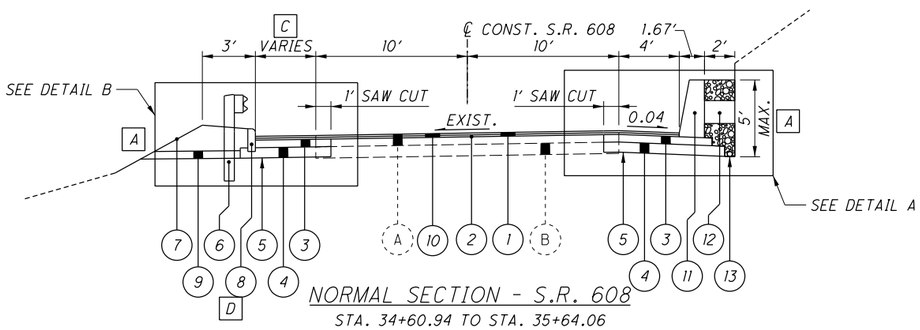


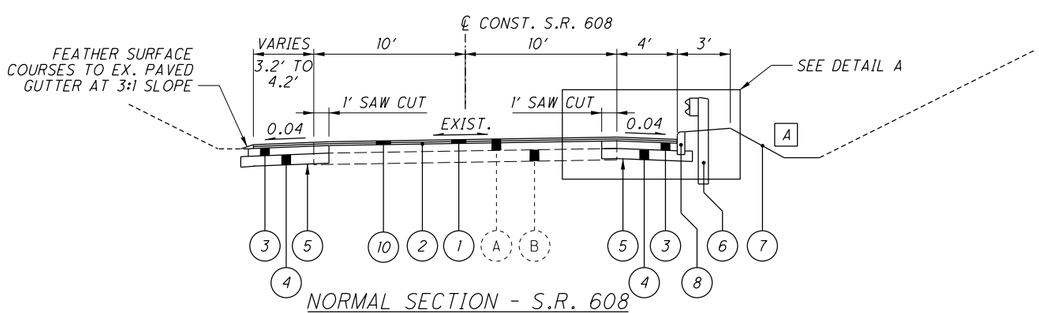
NORMAL SECTION - S.R. 608

STA. 35+64.06 TO STA. 37+65.75



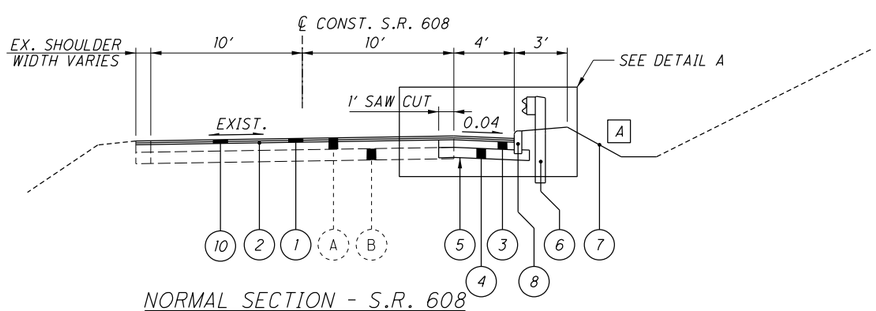
NORMAL SECTION - S.R. 608

STA. 34+60.94 TO STA. 35+64.06



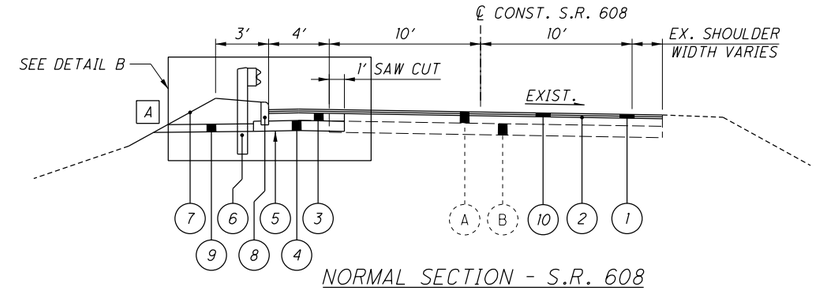
NORMAL SECTION - S.R. 608

STA. 34+35.00 TO STA. 34+60.94



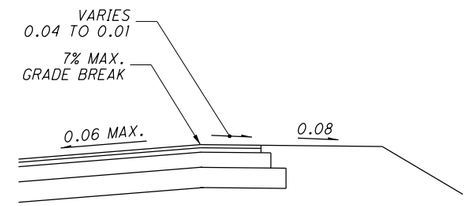
NORMAL SECTION - S.R. 608

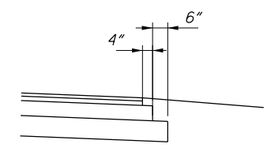
STA. 34+00.00 TO STA. 34+35.00



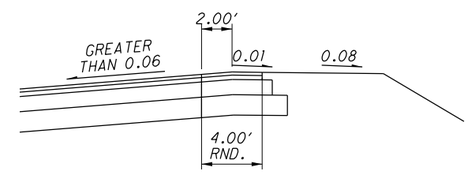
NORMAL SECTION - S.R. 608

STA. 37+65.75 TO STA. 41+00.00

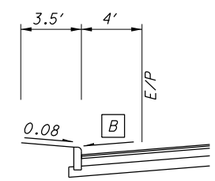




EDGE DETAIL



DETAIL A



DETAIL B

LEGEND

1. ITEM 441 - 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M (2 - 1½″ LIFTS)
2. ITEM 407 - TACK COAT (0.075 GAL./SQ. YD.)
3. ITEM 301 - 6″ ASPHALT CONCRETE BASE, PG64-22
4. ITEM 304 - 8″ AGGREGATE BASE
5. ITEM 204 - SUBGRADE COMPACTION
6. ITEM 606 - GUARDRAIL, TYPE MGS
7. ITEM 659 - SEEDING AND MULCHING
8. ITEM 609 - CURB, TYPE 6
9. ITEM 605 - AGGREGATE DRAINS
10. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (3″)
11. ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
12. ITEM 518 - POROUS BACKFILL
13. ITEM 518 - 4″ PERFORATED CORRUGATED PLASTIC PIPE

(A) 6″ TO 9″ ASPHALT CONCRETE

(B) 7″ TO 12″ AGGREGATE

NOTES

A AS SHOWN ON CROSS SECTIONS.

B 0.04 OR RATE OF EXISTING CROSS SLOPE, WHICH EVER IS GREATER.

C VARIES 4.2′ TO 5.5′ - STA. 34+60.94 TO STA. 34+90.00.
VARIES 5.5′ TO 4.0′ - STA. 34+90.00 TO STA. 35+00.00.
4.0′ - STA. 35+00.00 TO STA. 35+64.06.

D BEGIN CURB, STA. 34+90.00

TYPICAL SECTIONS

LAK-608-0.85

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UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

CEI FIRST ENERGY (Electric)
7755 Auburn Road
Painesville, OH 44077
Attn: Mr. Ralph Delligatti
(440) 358-4991

DOMINION EAST OHIO GAS COMPANY (Gas)
320 Springside Drive
Akron, OH 44333
Attn: Mr. Bryan Dayton
(330) 664-2488

AT&T (Telephone)
13630 Loraine Avenue
2nd Floor
Cleveland, OH 44111
Attn: Mr. James Janis
(216) 476-6142

TIME WARNER CABLE (Cable Television)
7820 Division Drive
Mentor, OH 44060
Attn: Mr. Charles Sullivan
(440) 974-3401 Ext. 125

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

SURVEYING PARAMETERS

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

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD_83(2011)(EPOCH:2010.0000)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: SPC 3401 OH N
COMBINED SCALE FACTOR: 0.99995101 (GROUND TO GRID)

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

ROUNDING

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

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	10	0	10
30"	1	0	1

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 4 HOUR.

PART-WIDTH CONSTRUCTION

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

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.

ITEM 301 ASPHALT CONCRETE BASE, PG64-22 25 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 6 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT PROJECTS MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM SPECIAL - MAILBOX REMOVED AND RESET

THIS WORK SHALL CONSIST OF REMOVAL AND DISPOSING OF EXISTING MAILBOX SUPPORTS, FURNISHING AND ERECTING NEW MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING A NEW OWNER-SUPPLIED MAILBOX OR THE EXISTING MAILBOX TO THE NEW SUPPORTS AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4 INCHES BY 4 INCHES SQUARE OR 4.5 INCHES DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 INCHES I.D., AND CONFORM TO AASHTO M 181.

ALL HARDWARE INCLUDING BUT NOT LIMITED TO PLATES, SCREWS, BOLTS, AND ETC. SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

RELOCATION OF MAILBOXES, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL, MAILBOX REMOVED AND RESET.

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CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF 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 APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED 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. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SEEDING AND MULCHING, CLASS 3B	1896 SQ. YD.
659, REPAIR SEEDING AND MULCHING	96 SQ. YD.
659, INTER-SEEDING	96 SQ. YD.
659, COMMERCIAL FERTILIZER	0.45 TON
659, LIME	0.40 ACRES
659, WATER	16 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 500 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING AN FAA FORM 7460-1.

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

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

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

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED,

DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

ITEM 202 - FENCE REMOVED, AS PER PLAN

CONTRACTOR SHALL REMOVE FOR SALVAGE, FENCING ALONG THE SKOK PROPERTY (STA. 34+35.00 TO STA. 35+26.00 LT.) AND PLACE OUTSIDE OF WORK LIMITS ON PROPERTY FOR THE OWNERS USE.

ITEM 203 - ROADWAY, MISC.: EXCAVATION OF ROCK

IN THE AREA BETWEEN STATIONS 34+75 AND 37+25, ROCK MAY BE ENCOUNTERED WITHIN THE EXCAVATION LIMITS AS SHOWN IN THE CROSS SECTIONS. REMOVAL OF ADDITIONAL ROCK SHALL BE PERFORMED AT THE DISCRETION OF THE ENGINEER. REMOVAL OF THE ROCK SHALL CONFORM TO ODOT C&MS SECTION 203.04.

PAYMENT FOR ROCK REMOVAL SHALL BE MADE AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR ITEM 203, ROADWAY, MISC.: EXCAVATION OF ROCK.

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M, AS PER PLAN

THE COARSE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO AIR COOLED BLAST FURNACE SLAG (ACBFS).

ITEM 832 - EROSION CONTROL

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR TEMPORARY SEDIMENT AND EROSION CONTROL IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF ODOT SUPPLEMENTAL SPECIFICATION 832.

ITEM 832 - EROSION CONTROL 4,000 EACH.

UNLESS OTHERWISE APPROVED BY THE ENGINEER, DAMAGED FILTER FENCE SHALL BE REPLACED IN LIEU OF ANY/ALL METHODS OF REPAIR.

ENDANGERED BAT HABITAT REMOVAL

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

ASPHALT CONCRETE SURFACE COURSE SEALING REQUIREMENTS

IN ADDITION TO THE GUTTER SEALING REQUIREMENTS SPECIFIED IN SCD BP-3.1 AND C&MS 401.15, THE CONTRACTOR SHALL SEAL THE FOLLOWING LOCATIONS:

- ALL CASTINGS INCLUDING BUT NOT LIMITED TO MONUMENTS, MANHOLES, WATER VALVES, CATCH BASINS, AND CURB INLETS.
- BUTT JOINTS AND FEATHER JOINTS INCLUDING BRIDGE APPROACHES.
- BUTT JOINT BETWEEN PAVED SHOULDER AND DRIVEWAY ASPHALT AND THE TAPERED EDGE WHEN FEATHERING TO AN EXISTING ASPHALT DRIVEWAY.
- PERIMETER OF ALL PAVEMENT REPAIRS OR OTHER ASPHALT INLAYS WHEN THE REPAIR/INLAY IS NOT OVERLAID WITH AN ASPHALT CONCRETE SURFACE COURSE.
- ALL COLD LONGITUDINAL JOINTS BETWEEN PAVED SHOULDERS AND GUARDRAIL ASPHALT.

THE MATERIAL USED SHALL BE BE A CERTIFIED 702.01 PG BINDER. THE WIDTH OF THE SEALER SHALL BE 2-3 INCHES.

ANY ADDITIONAL COSTS ASSOCIATED WITH THE WORK IDENTIFIED IN THIS NOTE SHALL BE INCLUDED IN THE APPROPRIATE ASPHALT CONCRETE SURFACE COURSE ITEM OF WORK.

ITEM 611 CATCH BASIN, NO. 2-3, AS PER PLAN

THIS PAY ITEM SHALL PROVIDE FOR THE MODIFICATION OF A STANDARD CATCH BASIN, NO. 2-3 BY INCREASING THE SIDE INLET OPENING FROM 6", AS SHOWN IN STANDARD DRAWING CB-1.2, TO 12". ALL OTHER DETAILS PERTAINING TO THE CATCH BASIN SHALL BE AS PER CB-1.2.

ITEM 625 - POWER SERVICE, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF RESIDENTIAL UNDERGROUND POWER SERVICE CONNECTION TO A NEW RELOCATED POWER POLE. THIS WORK SHALL BE COORDINATED WITH THE ILLUMINATING COMPANY TO HAVE THE WORK SCHEDULED AT THE SAME TIME TO ENSURE THE LEAST DISRUPTION IN SERVICE AS POSSIBLE.

THE EXISTING POWER POLE IS LOCATED AT STA. 35+90, 18 5/32 LT AND WILL BE RELOCATED TO STA. 35+90, 20 5/32 LT.

ALL COSTS ASSOCIATED WITH THIS ITEM INCLUDING MATERIAL, EQUIPMENT AND LABOR SHALL BE INCLUDED IN THE COST FOR ITEM 625, POWER SERVICE, AS PER PLAN, 1 EACH.

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ITEM 614, MAINTAINING TRAFFIC

ONE LANE OF TRAFFIC IN THE NORTHBOUND DIRECTION AND ACCESS TO ALL DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, AND TEMPORARY SURFACES USING ITEMS 410, AND 614.

THRU TRAFFIC IN THE SOUTHBOUND DIRECTION SHALL BE MAINTAINED WITH A DETOUR, AS SHOWN ON SHEET 9. THE DETOUR SHALL REMAIN IN EFFECT FOR A PERIOD NOT TO EXCEED 100 CONSECUTIVE CALENDAR DAYS. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2,000 FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NOTICE OF CLOSURE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. THE SIGNS SHOULD SHOULD BE ERECTED AT THE POINT OF CLOSURE.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE LOCATIONS SHOWN IN THE PLANS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410, TRAFFIC COMPACTED SURFACE,
TYPE A OR B 16 CU. YD.

ITEM 616, WATER 1 M. GAL.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES AT THE LOCATIONS NOTED IN THE PLANS.

BEFORE THE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAME(S) AND TELEPHONE NUMBER(S) OF A PERSON OR PERSONS WHO CAN BE CONTACTED TWENTY-FOUR (24) HOURS PER DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR PLACING OR REPLACING NECESSARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

THE CONTRACTOR WILL ADVISE THE DISTRICT PUBLIC INFORMATION OFFICER AT (216) 584-2005 FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE PROJECT ENGINEER WILL PROVIDE ASSISTANCE/CLARIFICATION FOR ANY QUESTIONS.

ITEM 614, MAINTAINING TRAFFIC (CONT.)

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

PLACEMENT OF ASPHALT CONCRETE

ONE-WAY TRAFFIC WILL BE PERMITTED FOR THE DURATION OF THE PROJECT SO THAT THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES CAN BE MET.

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 DRUMS OR 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.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 12 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

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 7 M. GAL.

WORK ZONE MARKINGS AND SIGNS

ESTIMATED QUANTITIES FOUND IN THE SUBSUMMARY HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF CMS 614.04 AND 614.11.

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 BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 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) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

IN ADDITION TO THE REQUIREMENT OF C&MS 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 AS APPROVED BY THE ENGINEER:

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 FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED 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 AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES 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 LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL 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 HIS/HER SHIFT.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONT.)

LEOS (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) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR
ASSISTANCE 50 HOURS

THE HOURS PAID SHALL INCLUDE ANY 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 FOR ASSISTANCE.

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'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS WEB PAGE FOR ROADWAY STANDARDS APPROVED PRODUCTS.

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.

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.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL AND ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 1 (BI-DIRECTIONAL)	21 EACH
ITEM 614, OBJECT MARKER, ONE WAY	20 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL TEMPORARY GUARDRAIL USED FOR TRAFFIC CONTROL AND ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626.

OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

THE FOLLOWING ESTIMATED QUANITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 3 (BI-DIRECTIONAL)	15 EACH
ITEM 614, OBJECT MARKER, ONE WAY	14 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEM(S).

ITEM SPECIAL - MAILBOX SUPPORT

THIS ITEM OF WORK SHALL CONSIST OF TEMPORARILY FURNISHING AND TEMPORARILY ERECTING MAILBOXES AND MAILBOX SUPPORTS FOR THE RESIDENTS AT 12527 AND 12550 CONCORD HAMBDEN RD THAT CAN BE EASILY MOVED FROM PHASE 1 TO PHASE 2 DURING THE ENTIRE TIME THE SECTION OF ROAD IS DETOURED FOR CONSTRUCTION.

THE LOCATION OF THE TEMPORARY MAILBOXES SHALL BE ESTABLISHED BY THE ENGINEER DURING EACH PHASE OF WORK. THE MAILBOX LOCATIONS SHALL BE EASILY ACCESIBLE FOR THE RESIDENTS AT EACH LOCATION.

FURNISHING, ERECTING, MOVING AND DISPOSAL OF THE TEMPORARY MAILBOX, AS DESCRIBED ABOVE, SHALL BE PAID FOR AT THE CONTRACT UNIT BID PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT.

ITEM SPECIAL - MAILBOX SUPPORT	2 EACH

SEQUENCE OF CONSTRUCTION

PHASE 1

SHUT DOWN THE SOUTHBOUND LANE OF S.R. 608 AND ROUTE SOUTHBOUND TRAFFIC AS PER THE DETOUR MAP. INSTALL THE TEMPORARY ANCHOR ASSEMBLY TO THE EXISTING GURADRAIL AT STA. 36+13. SHIFT NORTHBOUND TRAFFIC TO THE SOUTHBOUND S.R. 608 LANE AND PLACE PORTABLE BARRIER/DRUMS. WORK ALONG THE EXISTING NORTHBOUND S.R. 608 LANE SHALL INCLUDE CONSTRUCTION OF SHOULDER PAVEMENT, PLACEMENT OF PERMANENT CONCRETE BARRIER AND GUARDRAIL, EARTHWORK AND SLOPE GRADING, AND INSTALLATION OF THE STORM SEWER SYSTEM.

PHASE 2

RELOCATE PORTABLE BARRIER/DRUMS AND RUN NORTHBOUND TRAFFIC BACK TO THE EXISTING NORTHBOUND S.R. 608 LANE. WORK ALONG THE EXISTING SOUTHBOUND S.R. 608 LANE SHALL INCLUDE CONSTRUCTION OF SHOULDER PAVEMENT, PLACEMENT OF PERMANENT GUARDRAIL, EARTHWORK AND SLOPE GRADING, AND INSTALLATION OF THE STORM SEWER SYSTEM.

PHASE 3

REMOVE ALL PORTABLE BARRIER/DRUMS, CONSTRUCT PAVEMENT SURFACE COURSE LAYERS, AND PLACE FINAL PAVEMENT MARKINGS AND SIGNING. OPEN ALL LANES TO TRAFFIC.

SHEET NO.	PHASE	202 ANCHOR ASSEMBLY REMOVED, TYPE E	606 ANCHOR ASSEMBLY, MGS TYPE E	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT (YELLOW)	622 PORTABLE BARRIER, 32"
		EACH	EACH	EACH	MILE	MILE	FT
10	1	1		1	0.10	0.10	320
11	1		1		0.10	0.10	150
12	2			1	0.10	0.10	
13	2				0.10	0.10	500
SUBTOTAL					0.40	0.40	
TOTALS CARRIED TO GENERAL SUMMARY		1	1	2	0.80		970

CALCULATED DJR
CHECKED JRE

MAINTENANCE OF TRAFFIC SUBSUMMARY

LAK-608-0.85

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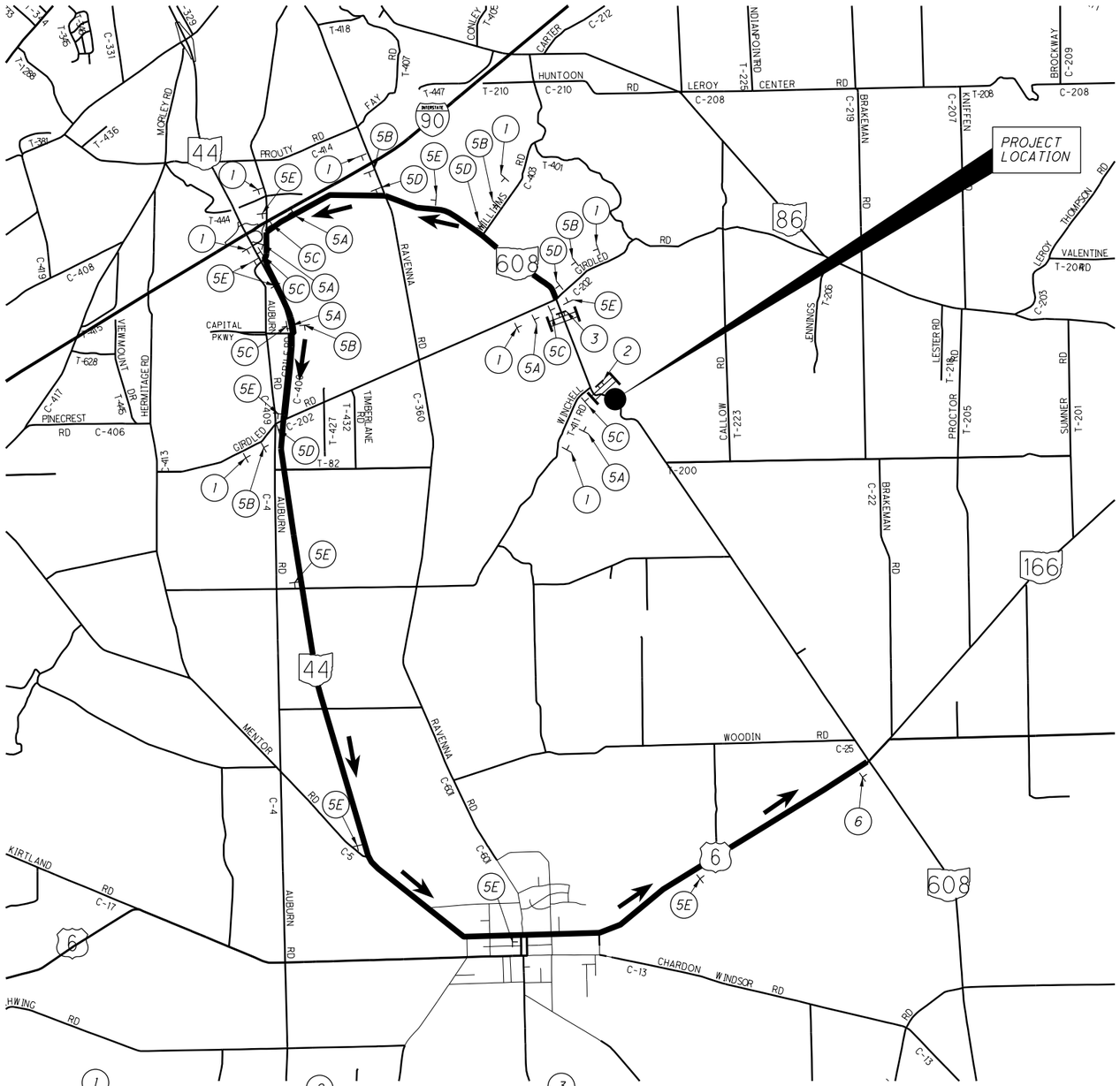

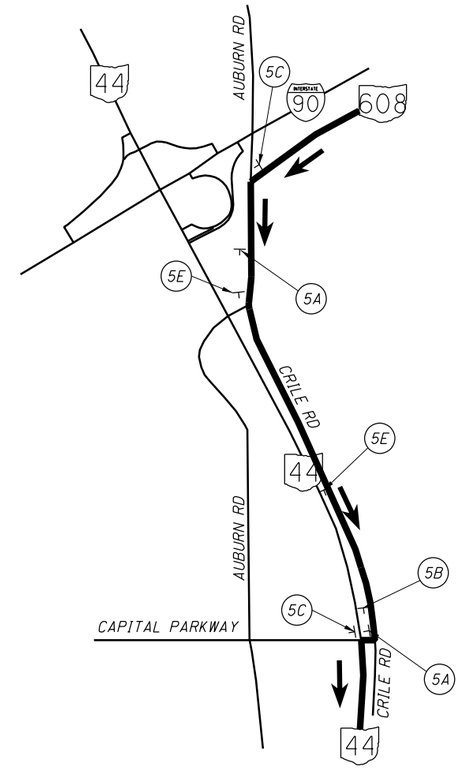

DETAIL OF INTERSECTION

5 DETOUR M4-8-24

TO M4-5-24

SOUTH M3-3-24

608 M1-5-30-3

6 END DETOUR M4-8A-24

A M5-1-21

B M5-1-21

C M6-1-21

D M6-1-21

E M6-3-21

CALCULATED JRE
CHECKED DJR

DETOUR MAP

LAK-608-0.85

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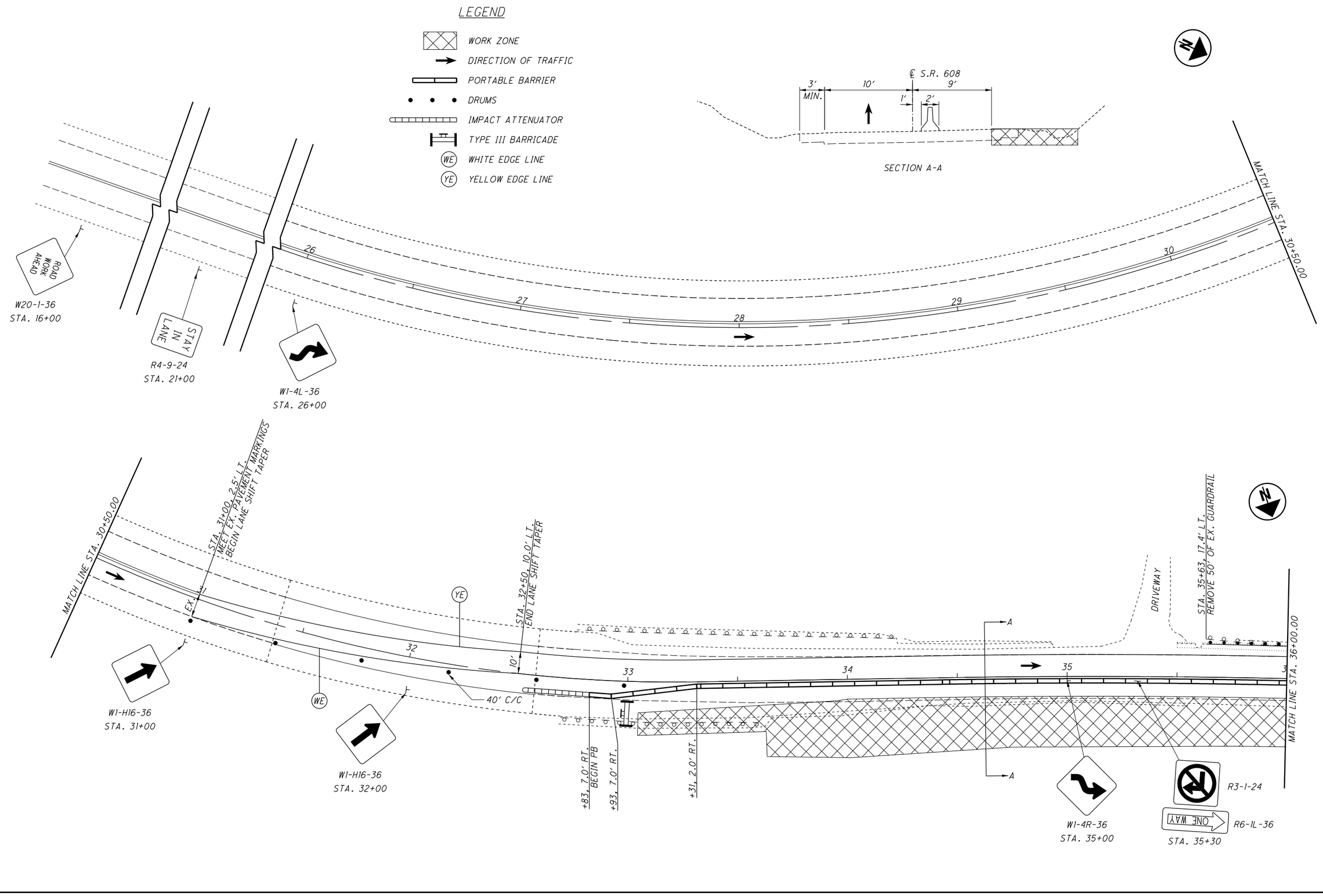

CALCULATED DJR
CHECKED JRE

MAINTENANCE OF TRAFFIC PHASE 1
S.R. 608 STA. 26+00.00 TO STA. 36+00.00

LAK-608-0.85

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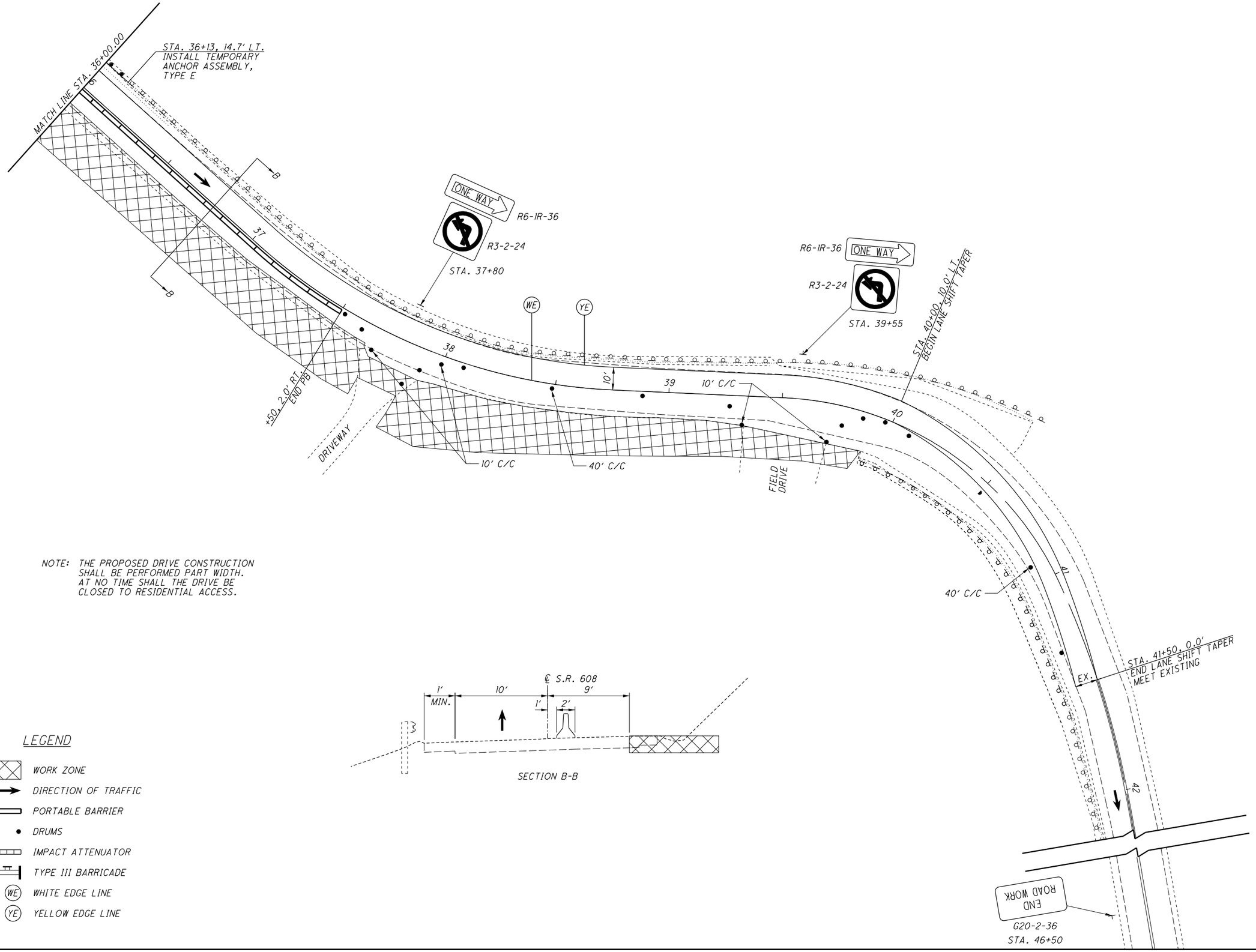

NOTE: THE PROPOSED DRIVE CONSTRUCTION SHALL BE PERFORMED PART WIDTH. AT NO TIME SHALL THE DRIVE BE CLOSED TO RESIDENTIAL ACCESS.

SECTION B-B

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC
- PORTABLE BARRIER
- DRUMS
- IMPACT ATTENUATOR
- TYPE III BARRICADE
- (WE) WHITE EDGE LINE
- (YE) YELLOW EDGE LINE

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DJR
CHECKED JRE

MAINTENANCE OF TRAFFIC PHASE 1
S.R. 608 STA. 36+00.00 TO STA. 42+00.00

LAK-608-0.85

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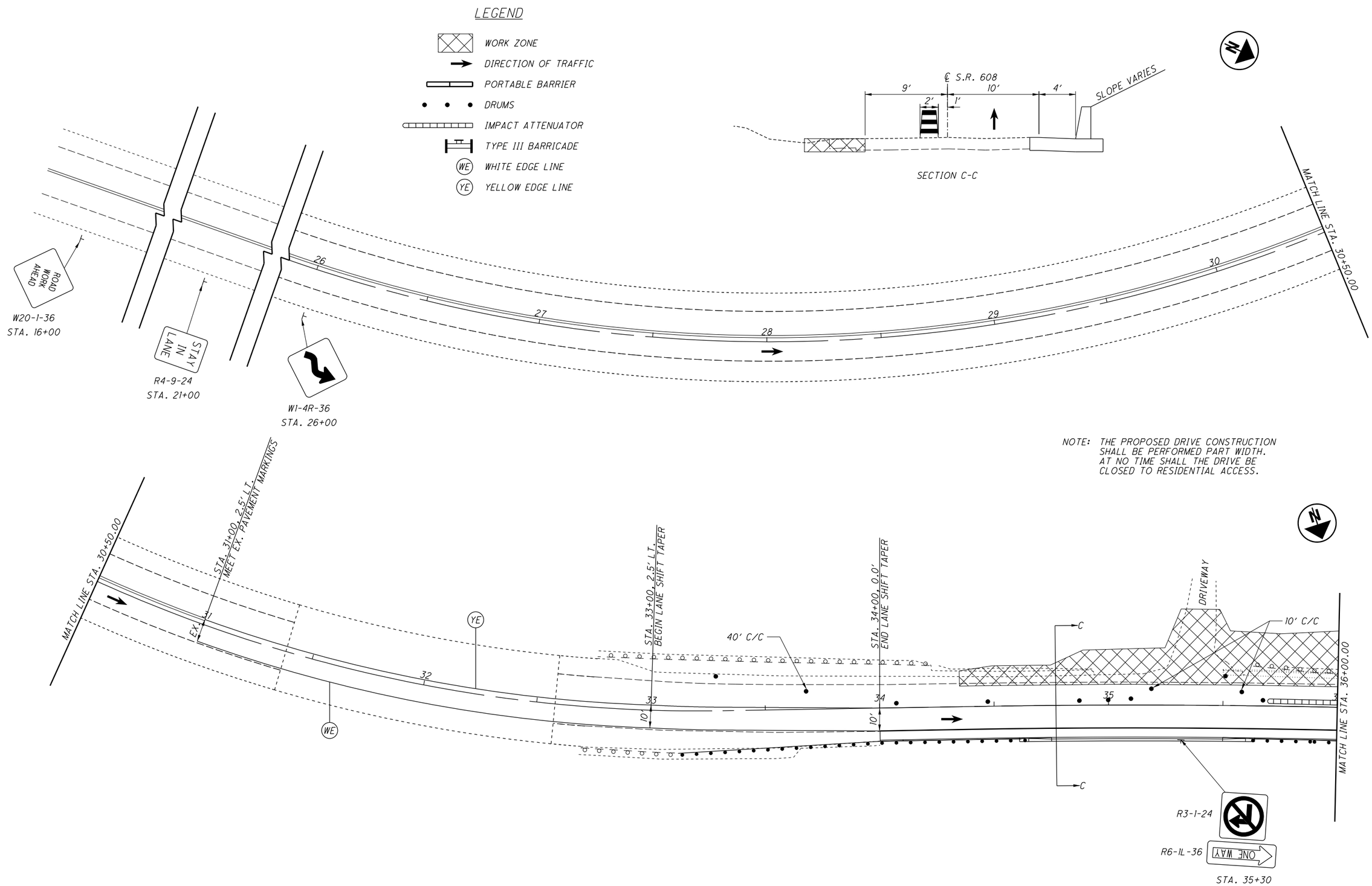

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED DJR
CHECKED JRE

MAINTENANCE OF TRAFFIC PHASE 2
S.R. 608 STA. 26+00.00 TO STA. 36+00.00

LAK-608-0.85

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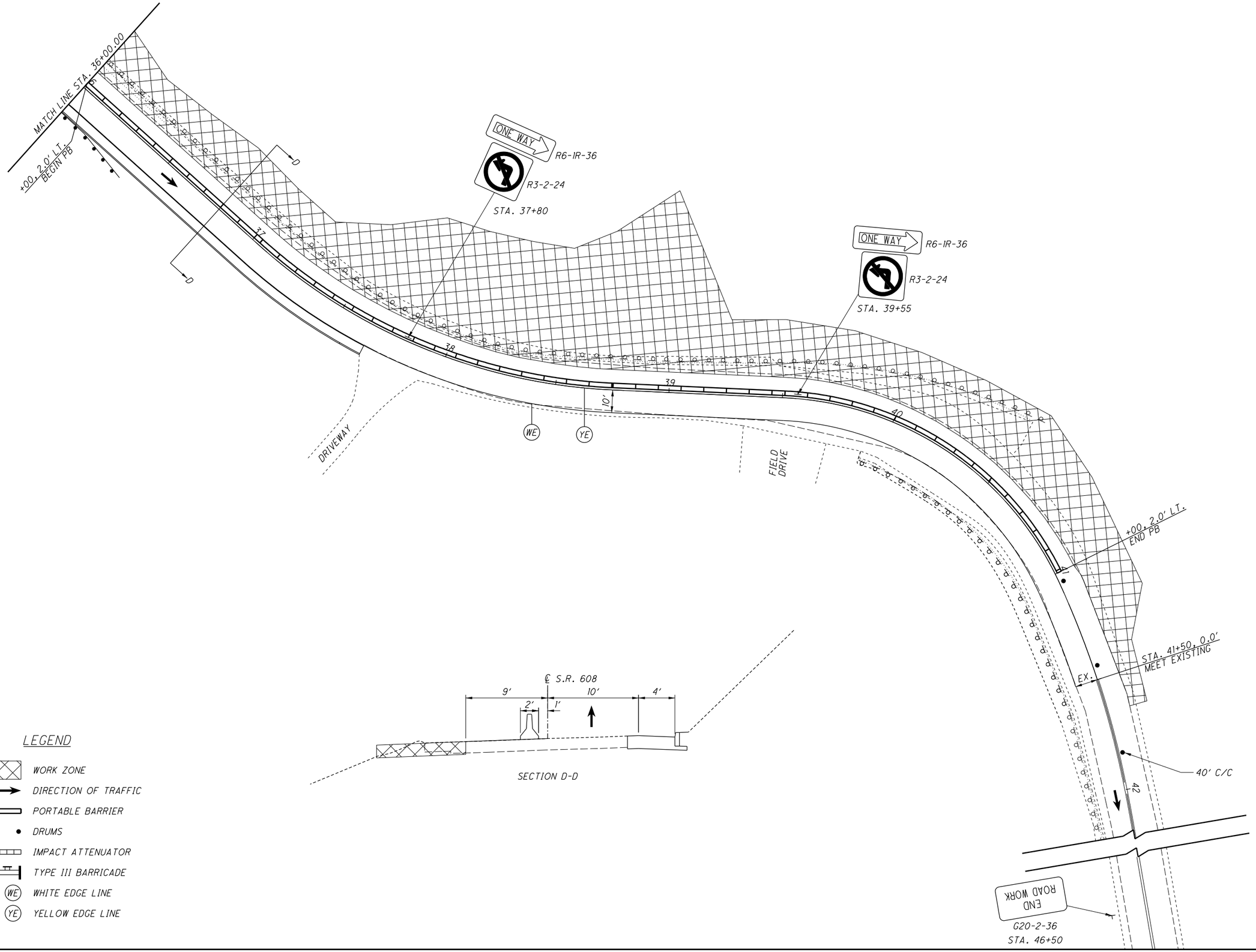

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC
- PORTABLE BARRIER
- DRUMS
- IMPACT ATTENUATOR
- TYPE III BARRICADE
- (WE) WHITE EDGE LINE
- (YE) YELLOW EDGE LINE

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DJR
CHECKED JRE

MAINTENANCE OF TRAFFIC PHASE 2
S.R. 608 STA. 36+00.00 TO STA. 42+00.00

LAK-608-0.85

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SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
					CALC	4	5	8	16	17	18	01/S>2/OT							
																		ROADWAY	
						LS						LS		201	11000	LS		CLEARING AND GRUBBING	
									416			416		202	32000	416	FT	CURB REMOVED	
									89			89		202	32500	89	FT	CURB AND GUTTER REMOVED	
									209			209		202	35100	209	FT	PIPE REMOVED, 24" AND UNDER	
									548			548		202	38000	548	FT	GUARDRAIL REMOVED	
								1				1		202	42010	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
									1			1		202	58100	1	EACH	CATCH BASIN REMOVED	
									113			113		202	75001	113	FT	FENCE REMOVED, AS PER PLAN	5
					1,408							1,408		203	10000	1,408	CY	EXCAVATION	
					1,706							1,706		203	20000	1,706	CY	EMBANKMENT	
					48							48		203	98000	48	CY	ROADWAY, MISC.: EXCAVATION OF ROCK	5
											941	941		204	10000	941	SY	SUBGRADE COMPACTION	
						4						4		204	45000	4	HOUR	PROOF ROLLING	
									35			35		518	21100	35	CY	POROUS BACKFILL	
									125			125		606	15050	125	FT	GUARDRAIL, TYPE MGS	
									525			525		606	15100	525	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
									100			100		606	15400	100	FT	MGS GUARDRAIL, TYPE 8	
									1			1		606	17500	1	EACH	POST END ANCHOR (OR CONCRETE BLOCK END ANCHOR)	
									1			1		606	26050	1	EACH	ANCHOR ASSEMBLY, MGS TYPE B	
								1	1			2		606	26150	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
									2			2		606	35002	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
									75			75		622	10160	75	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
									2			2		622	25000	2	EACH	CONCRETE BARRIER END SECTION, TYPE D	
									1			1		SPECIAL	69050350	1	EACH	MAILBOX REMOVED AND RESET	4
																		EROSION CONTROL	
										1		1		601	32200	1	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
										15		15		601	38000	15	FT	PAVED GUTTER, TYPE 1-4	
							1,896					1,896		659	00530	1,896	SY	SEEDING AND MULCHING, CLASS 3B	
							96					96		659	14000	96	SY	REPAIR SEEDING AND MULCHING	
							96					96		659	15000	96	SY	INTER-SEEDING	
							0.45					0.45		659	20000	0.45	TON	COMMERCIAL FERTILIZER	
							0.4					0.4		659	31000	0.4	ACRE	LIME	
							16					16		659	35000	16	MGAL	WATER	
							4,000					4,000		832	30000	4,000	EACH	EROSION CONTROL	
										127		127		836	10000	127	SY	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1	
																		DRAINAGE	
										103		103		518	39800	103	FT	4" PERFORATED CORRUGATED PLASTIC PIPE	
										34		34		518	39900	34	FT	4" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
										0.6		0.6		602	20000	0.6	CY	CONCRETE MASONRY	
										95		95		605	31100	95	FT	AGGREGATE DRAINS	
										18		18		611	01100	18	FT	6" CONDUIT, TYPE C, 707.42	
										527		527		611	05900	527	FT	15" CONDUIT, TYPE B, 707.42	
										180		180		611	06100	180	FT	15" CONDUIT, TYPE C, 707.42	
										5		5		611	98180	5	EACH	CATCH BASIN, NO. 3A	
										4		4		611	98510	4	EACH	CATCH BASIN, NO. 2-3	
										1		1		611	98511	1	EACH	CATCH BASIN, NO. 2-3, AS PER PLAN	5
										1		1		611	99574	1	EACH	MANHOLE, NO. 3	
																		PAVEMENT	
											1,617	1,617		254	01000	1,617	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3"	
						25					109	134		301	46000	134	CY	ASPHALT CONCRETE BASE, PG64-22	
											188	188		304	20000	188	CY	AGGREGATE BASE	
											167	167		407	10000	167	GAL	TACK COAT	
											186	186		441	50101	186	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M	5
											3	3		441	50400	3	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	
									876			876		609	26000	876	FT	CURB, TYPE 6	
																		ELECTRICAL	
							1					1		625	34001	1	EACH	POWER SERVICE, AS PER PLAN	5

CALCULATED DJR
CHECKED JRE

GENERAL SUMMARY

LAK-608-0.85

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SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
						CALC	6	7	8	37	38	01/S>2/OT							
																		TRAFFIC CONTROL	
						36						36		621	00100	36	EACH	RPM	
						40						40		621	54000	40	EACH	RAISED PAVEMENT MARKER REMOVED	
						13						13		626	00112	13	EACH	BARRIER REFLECTOR, TYPE 3 (BI-DIRECTIONAL)	
										101		101		630	03100	101	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
										10		10		630	08600	10	EACH	SIGN POST REFLECTOR	
										38.5		38.5		630	80100	38.5	SF	SIGN, FLAT SHEET	
										8		8		630	84900	8	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
										8		8		630	86002	8	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
											0.4	0.4		642	00090	0.4	MILE	EDGE LINE, 4"	
											0.2	0.2		642	00290	0.2	MILE	CENTER LINE	
						0.6						0.6		642	30030	0.6	MILE	REMOVAL OF PAVEMENT MARKING	
																		MAINTENANCE OF TRAFFIC	
							16					16		410	12000	16	CY	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
							50					50		614	11110	50	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	
								21				21		614	13310	21	EACH	BARRIER REFLECTOR, TYPE 1 (BI-DIRECTIONAL)	
								15				15		614	13314	15	EACH	BARRIER REFLECTOR, TYPE 3 (BI-DIRECTIONAL)	
								34				34		614	13350	34	EACH	OBJECT MARKER, ONE WAY	
									0.8			0.8		614	22100	0.8	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
							8					8		616	10000	8	MGAL	WATER	
									970			970		622	41000	970	FT	PORTABLE BARRIER, 32"	
								2				2		SPECIAL	69050000	2	EACH	MAILBOX SUPPORT	7
																		INCIDENTALS	
						LS						LS		614	11000	LS		MAINTAINING TRAFFIC	
						8						8		619	16000	8	MNTH	FIELD OFFICE, TYPE A	
						LS						LS		623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
						LS						LS		624	10000	LS		MOBILIZATION	

CALCULATED DJR
CHECKED JRE

GENERAL SUMMARY

LAK-608-0.85

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 CURB REMOVED	202 CURB AND GUTTER REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 GUARDRAIL REMOVED	202 CATCH BASIN REMOVED	202 FENCE REMOVED, AS PER PLAN	518 POROUS BACKFILL	606 GUARDRAIL, TYPE MGS	606 GUARDRAIL, TYPE MGS WITH LONG POSTS	606 MGS GUARDRAIL, TYPE 8	606 POST END ANCHOR (OR CONCRETE BLOCK END ANCHOR)	606 ANCHOR ASSEMBLY, MGS TYPE B	606 ANCHOR ASSEMBLY, MGS TYPE E	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	609 CURB, TYPE 6	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D	622 CONCRETE BARRIER END SECTION, TYPE D	690 SPECIAL - MAILBOX REMOVED AND RESET
					FT	FT	FT	FT	EACH	FT	CY	FT	EACH	FT	EACH	EACH	EACH	EACH	FT	FT	EACH	EACH
R1	19	33+12.12	33+59.30	RT				48														
R2	19-20	34+25.00	35+60.00	LT			134		1													
R3	19-20	34+35.00	35+26.00	LT						95												
R4	20	35+09.00	35+15.00	LT																		1
R5	20	35+50.00	36+39.00	LT		89																
R6	20	35+51.00	35+64.00	LT						18												
R7	20-21	35+63.00	40+52.00	LT				500														
R8	20-21	36+39.00	40+46.00	LT	416																	
R9	20	37+63.00	37+66.00	RT			5															
R10	20	37+64.00	37+92.00	RT			30															
R11	20	39+32.00	39+75.00	RT			40															
G1	19	33+12.12	34+63.45	RT								125						1				
G2	20	35+61.55	36+88.27	RT										100	1			1				
G3	20-21	35+62.04	41+49.88	LT									525			1	1					
C1	19	34+00.00	34+60.94	RT															61			
C2	19-21	34+90.00	41+00.00	LT															610			
C3	20	35+64.06	37+65.75	RT															205			
B1	19-20	34+60.94	35+64.06	RT							35									75	2	
TOTALS CARRIED TO GENERAL SUMMARY					416	89	209	548	1	113	35	125	525	100	1	1	1	2	876	75	2	1

CALCULATED DJR
CHECKED JRE

ROADWAY SUBSUMMARY

LAK-608-0.85

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REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	518 4" PERFORATED CORRUGATED PLASTIC PIPE FT	518 4" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS FT	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CY	601 PAVED GUTTER, TYPE 1-4 FT	602 CONCRETE MASONRY CY	605 AGGREGATE DRAINS FT	611 6" CONDUIT, TYPE C FT	611 15" CONDUIT, TYPE B FT	611 15" CONDUIT, TYPE C FT	611 CATCH BASIN, NO. 3A EACH	611 CATCH BASIN, NO. 2-3 EACH	611 CATCH BASIN, NO. 2-3, AS PER PLAN EACH	611 MANHOLE, NO. 3 EACH	836 SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 SY
DR1	19	33+81.95	34+25.00	RT			1		0.3				44		1			
DR2	19	34+25.00	34+25.00	RT									6	1				
DR3	19	34+25.00	35+00.00	RT								75					1	
DR4	20	35+00.00	35+75.00	RT								75		1				
DR5	20	35+75.00	35+75.00	LT & RT								26		1				
DR6	20	35+75.00	37+50.00	RT								177		1				
DR7	20	37+50.00	37+50.00	LT & RT								26		1				
DR8	20	37+50.00	37+66.11	RT							18							
DR9	20	38+00.00	37+99.95	RT								53			1			
DR10	20	37+99.95	38+60.00	RT									64		1			
DR11	20	38+60.00	39+25.00	RT									66		1			
DR12	20	39+25.00	39+74.91	RT					0.3			47						
DR13	20	39+25.00	39+50.00	LT & RT								48				1		
UD1	19-20	34+25.00	35+64.06	RT	103	34												
UD2		35+75.00	41+00.00	LT						95								
EC1	20	39+50.00	39+65.00	LT				15										
EC2	20-21	39+65.00	41+17.03	LT														127
TOTALS CARRIED TO GENERAL SUMMARY					103	34	1	15	0.6	95	18	527	180	5	4	1	1	127

CALCULATED DJR
CHECKED JRE

DRAINAGE SUBSUMMARY

LAK-608-0.85

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STATION TO STATION		SIDE	LENGTH L	AVERAGE WIDTH W	SURFACE AREA A A=LxW	PLANIMETERED AREAS	204 SUBGRADE COMPACTION (A/9)	254 PAVEMENT PLANING, ASPHALT CONCRETE (3") (A/9)	301 6" ASPHALT CONCRETE BASE, PG64-22 (0.5*A/27)	304 6" AGGREGATE BASE (0.5*A/27)	304 8" AGGREGATE BASE (0.67*A/27)	407 TACK COAT (0.075*A/9)	441 3" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M (0.25*A/27)	441 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS) (0.17*A/27)
							SY	SY	CY	CY	CY	GAL	CY	CY
34+00.00	37+65.75	RT	365.75	6.00	2194.50		339		43		70	18	20	
34+35.00	41+00.00	LT	665.00	5.00	3325.00		542		66		110	28	31	
34+00.00	41+00.00	LT & RT	700.00			14551.30		1617				121	135	
DRIVEWAY	35+38.50	LT	22.5			438.10	60			8				3
SUBTOTAL										8	180			
TOTALS CARRIED TO GENERAL SUMMARY							941	1617	109	188		167	186	3

CALCULATED DJR
CHECKED JRE

PAVEMENT CALCULATIONS

LAK-608-0.85

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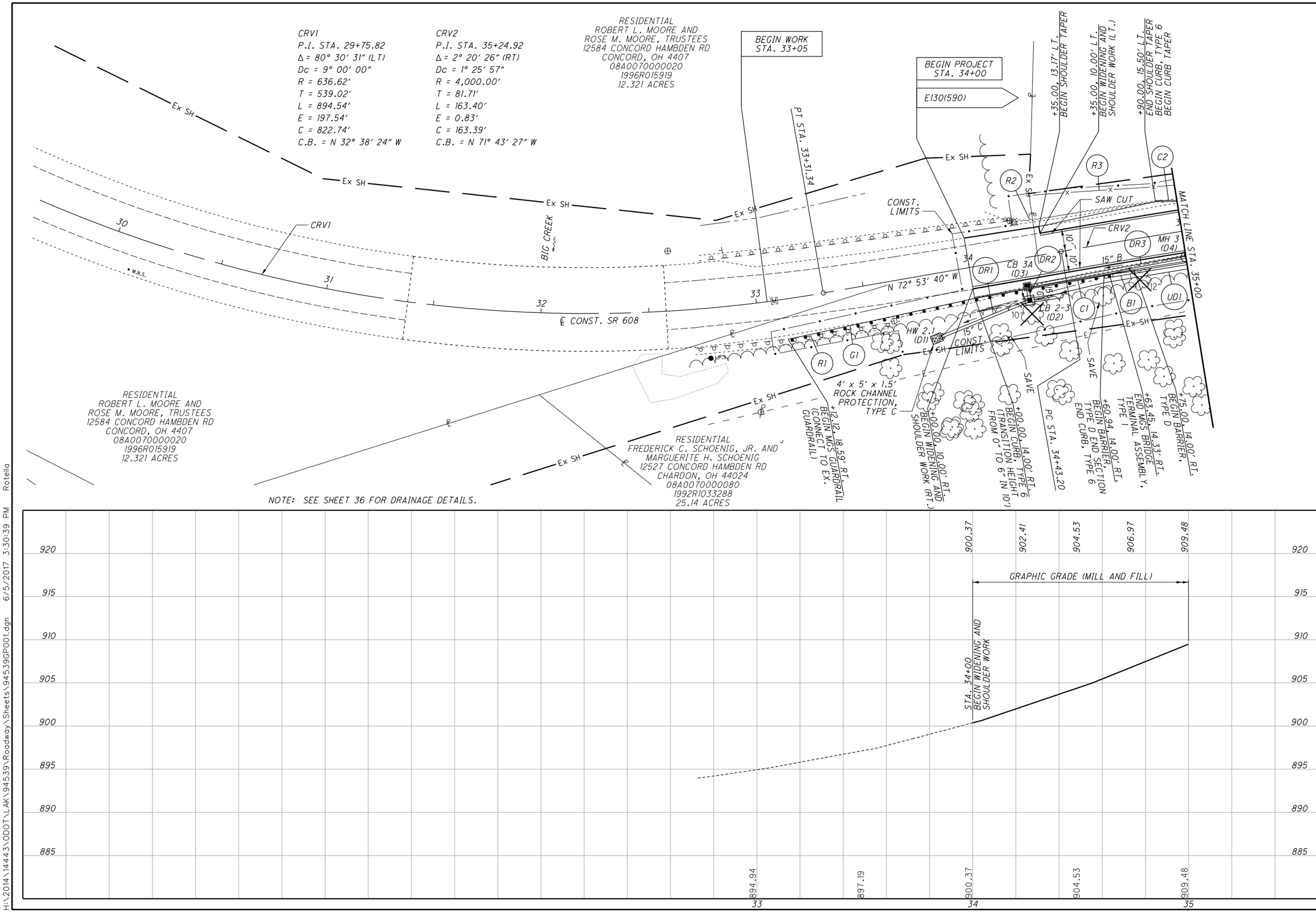

PLAN AND PROFILE
STA. 30+00 TO STA. 35+00

LAK-608-0.85

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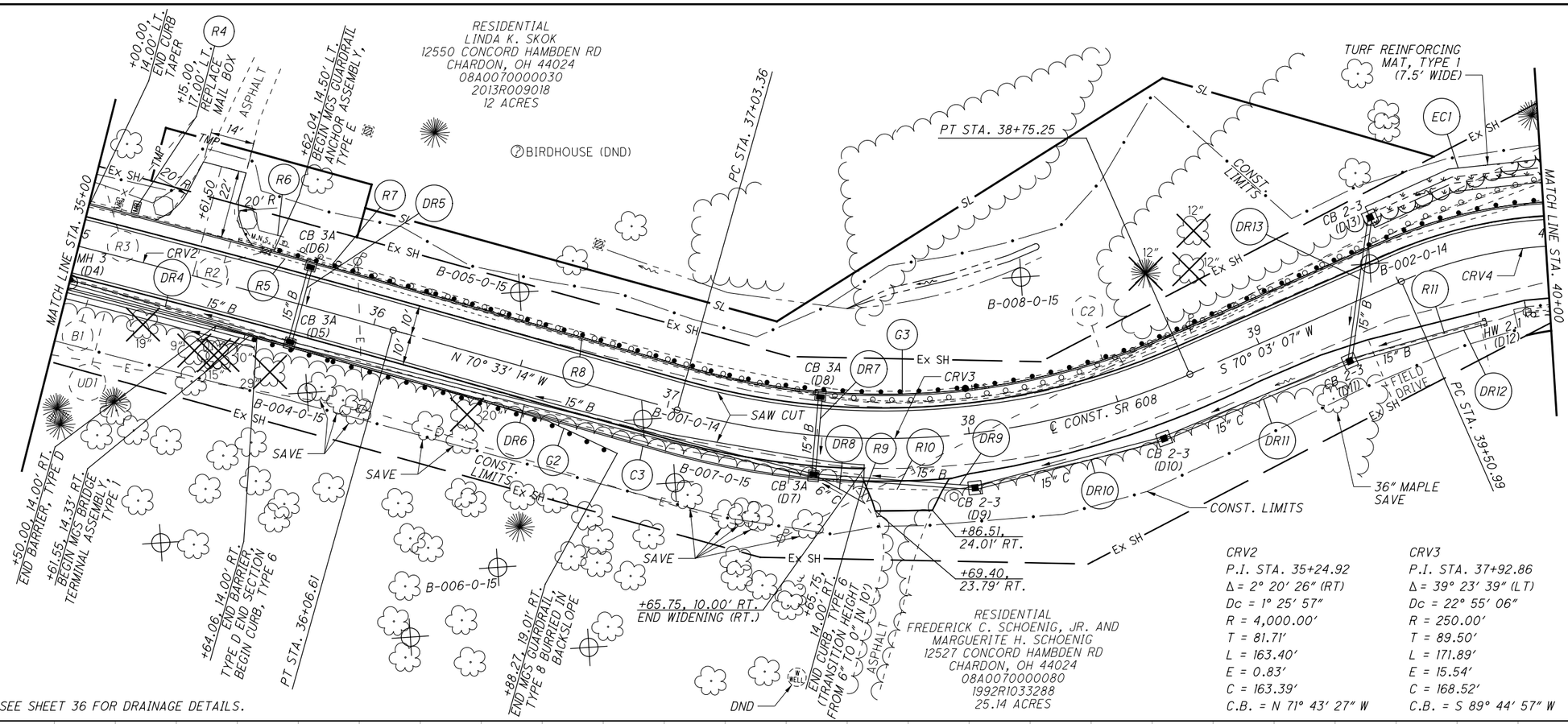
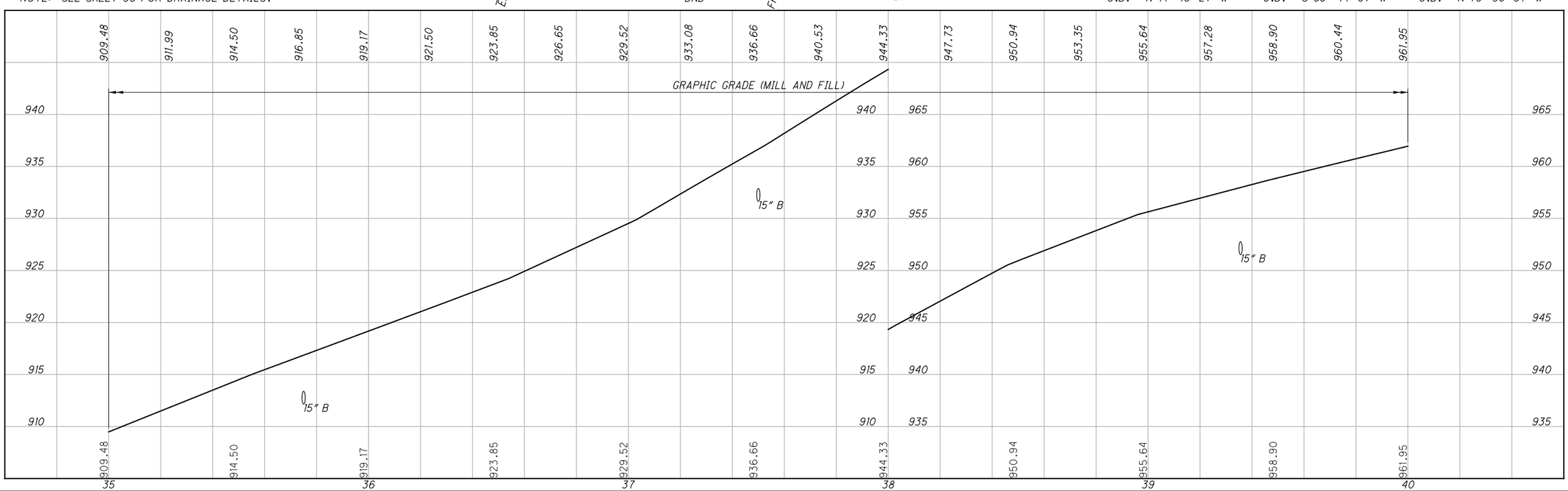


NOTE: SEE SHEET 36 FOR DRAINAGE DETAILS.

CRV2	CRV3	CRV4
P.I. STA. 35+24.92	P.I. STA. 37+92.86	P.I. STA. 40+36.29
Δ = 2° 20′ 26″ (RT)	Δ = 39° 23′ 39″ (LT)	Δ = 62° 42′ 31″ (RT)
Dc = 1° 25′ 57″	Dc = 22° 55′ 06″	Dc = 40° 55′ 32″
R = 4,000.00′	R = 250.00′	R = 140.00′
T = 81.71′	T = 89.50′	T = 85.30′
L = 163.40′	L = 171.89′	L = 153.23′
E = 0.83′	E = 15.54′	E = 23.94′
C = 163.39′	C = 168.52′	C = 145.69′
C.B. = N 71° 43′ 27″ W	C.B. = S 89° 44′ 57″ W	C.B. = N 78° 35′ 37″ W



HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED DJR
CHECKED JRE

PLAN AND PROFILE
STA. 35+00 TO STA. 40+00

LAK-608-0.85

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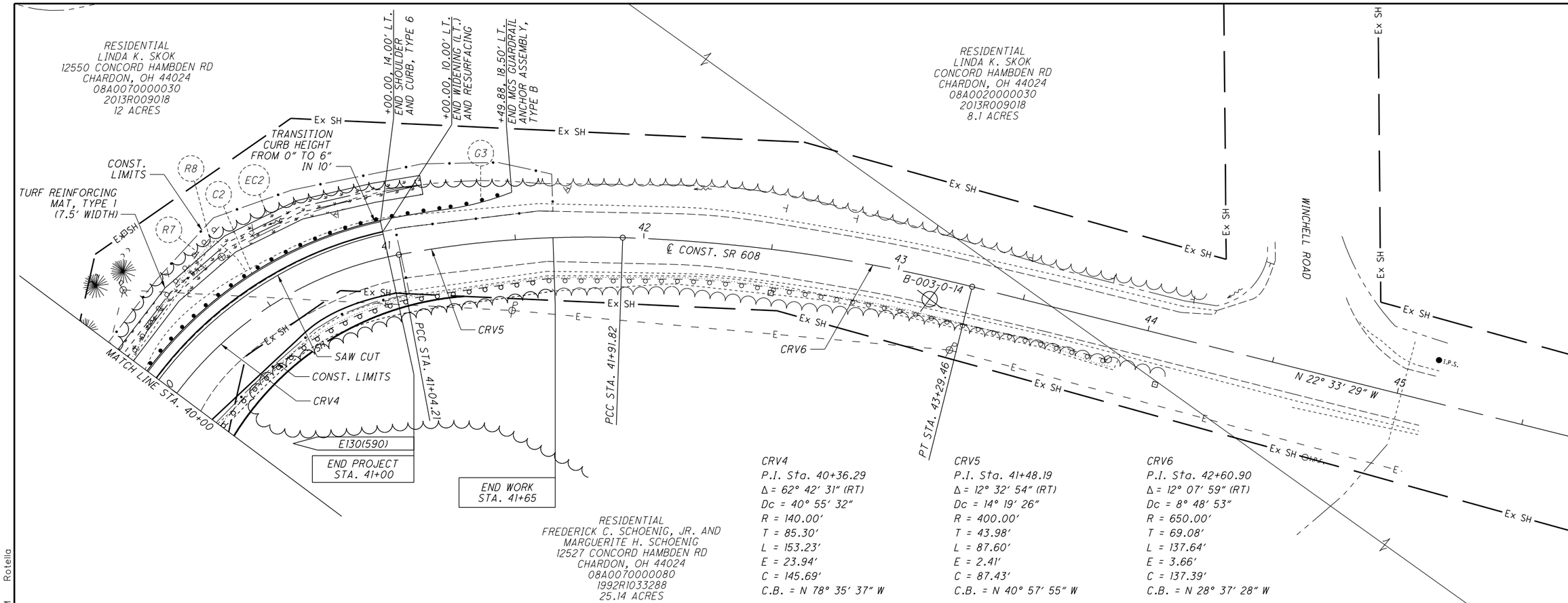

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DJR
CHECKED JRE

PLAN AND PROFILE
STA. 40+00 TO STA. 45+50

LAK-608-0.85

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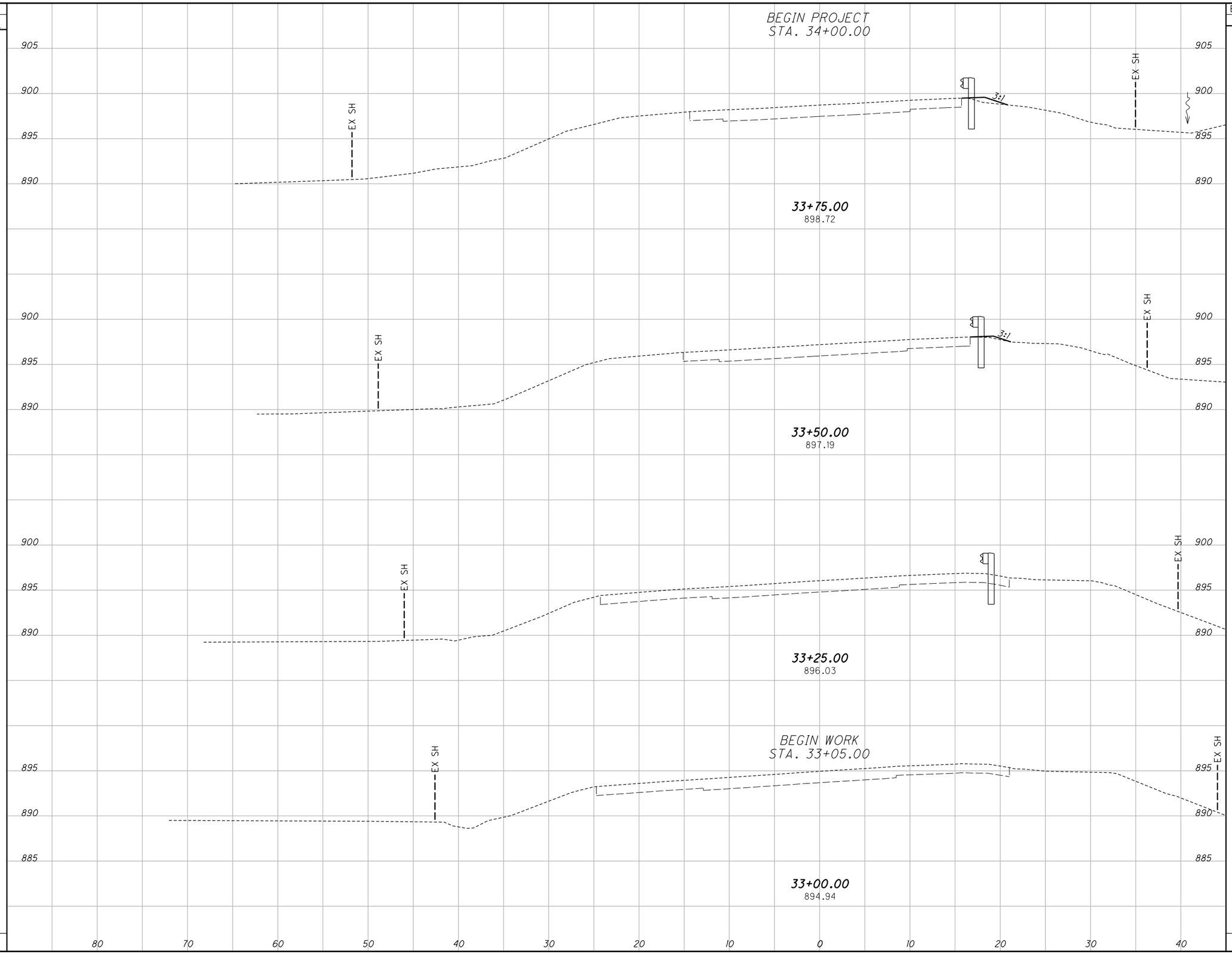

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
5	14	0	1	0	1
5	7	0	1	0	0
0	21	0	0	0	1

CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 33+00.00 TO STA. 33+75.00

LAK-608-0.85

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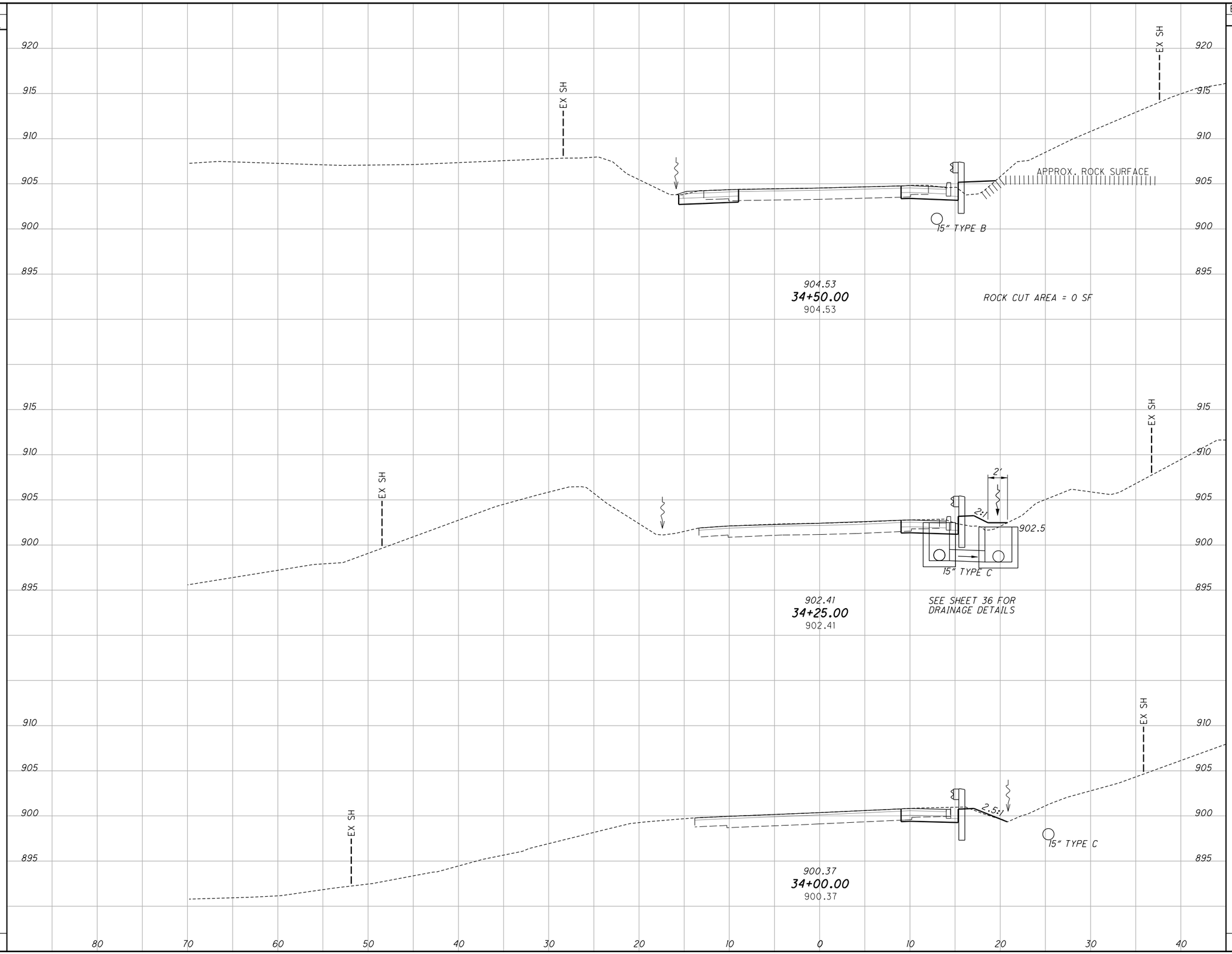
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
5	17	18	4	13	4
6	19	9	4	9	2
7	17	10	0	5	0
	53			27	6



CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 34+00.00 TO STA. 34+50.00

LAK-608-0.85

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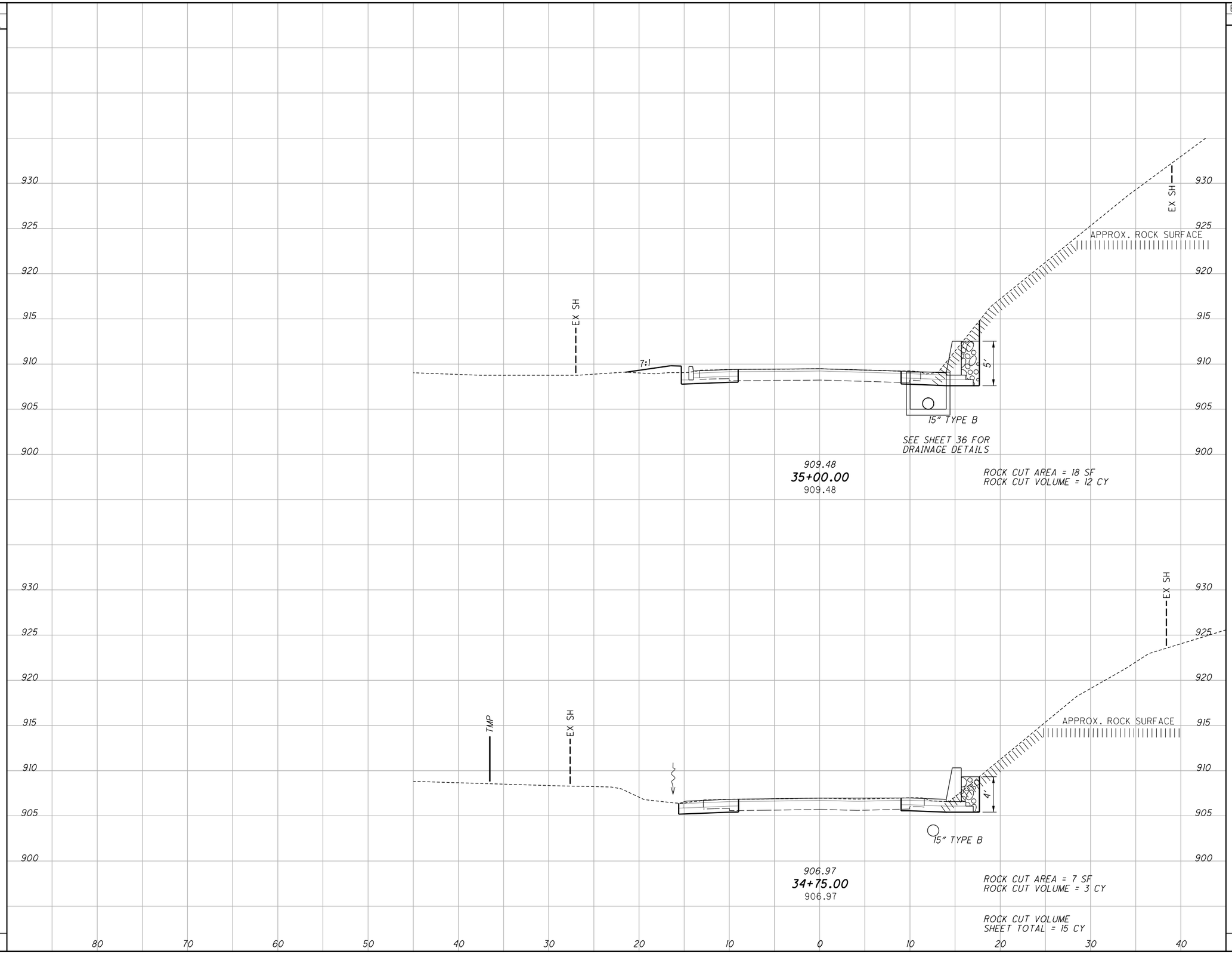
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
9	13	18	3	16	1
0	7	17	0	16	2
	20			32	3



CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 34+75.00 TO STA. 35+00.00

LAK-608-0.85

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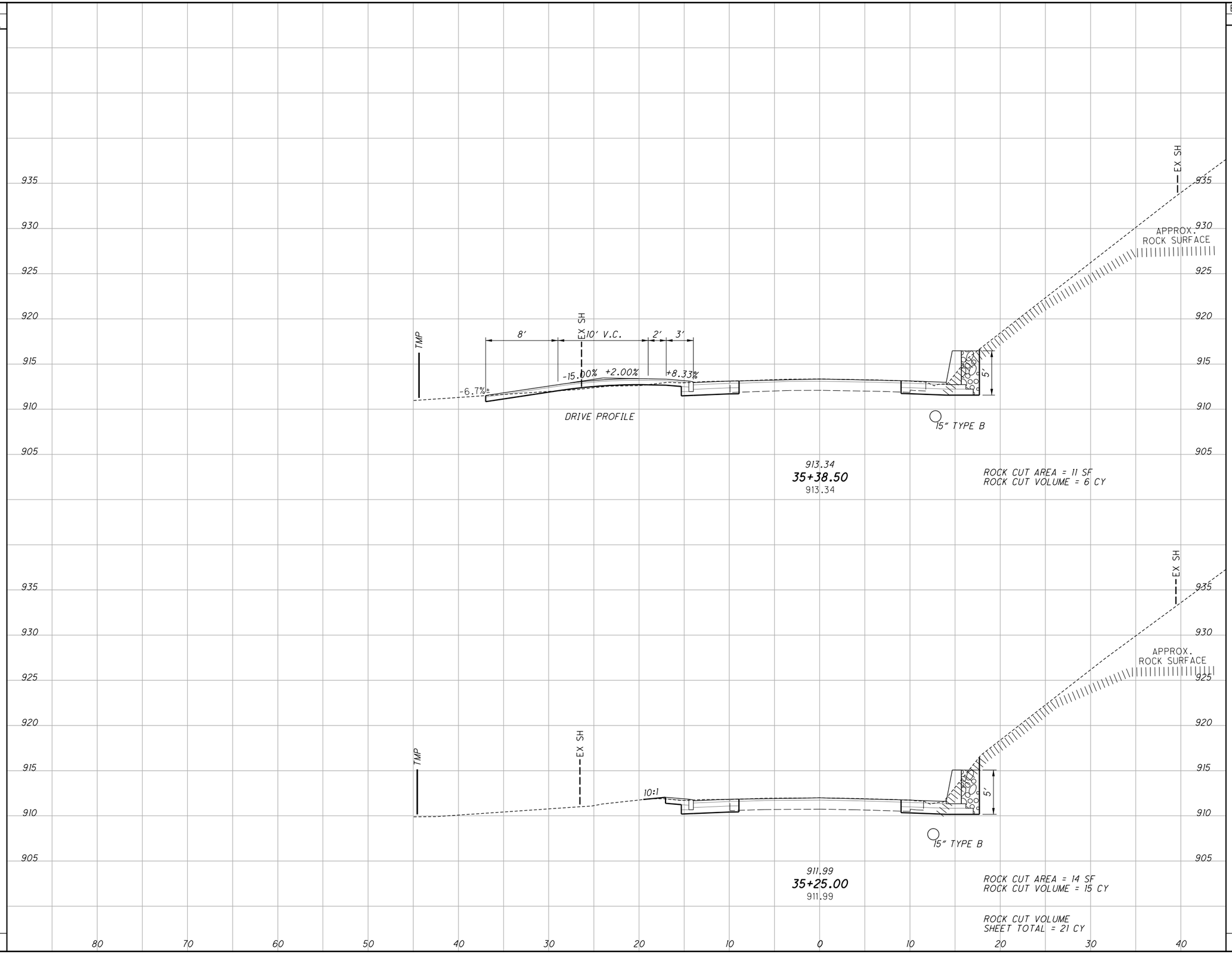
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	2	23	0	11	0
3	19	19	0	17	1
	21			28	1



CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 35+25.00 TO STA. 35+38.50

LAK-608-0.85

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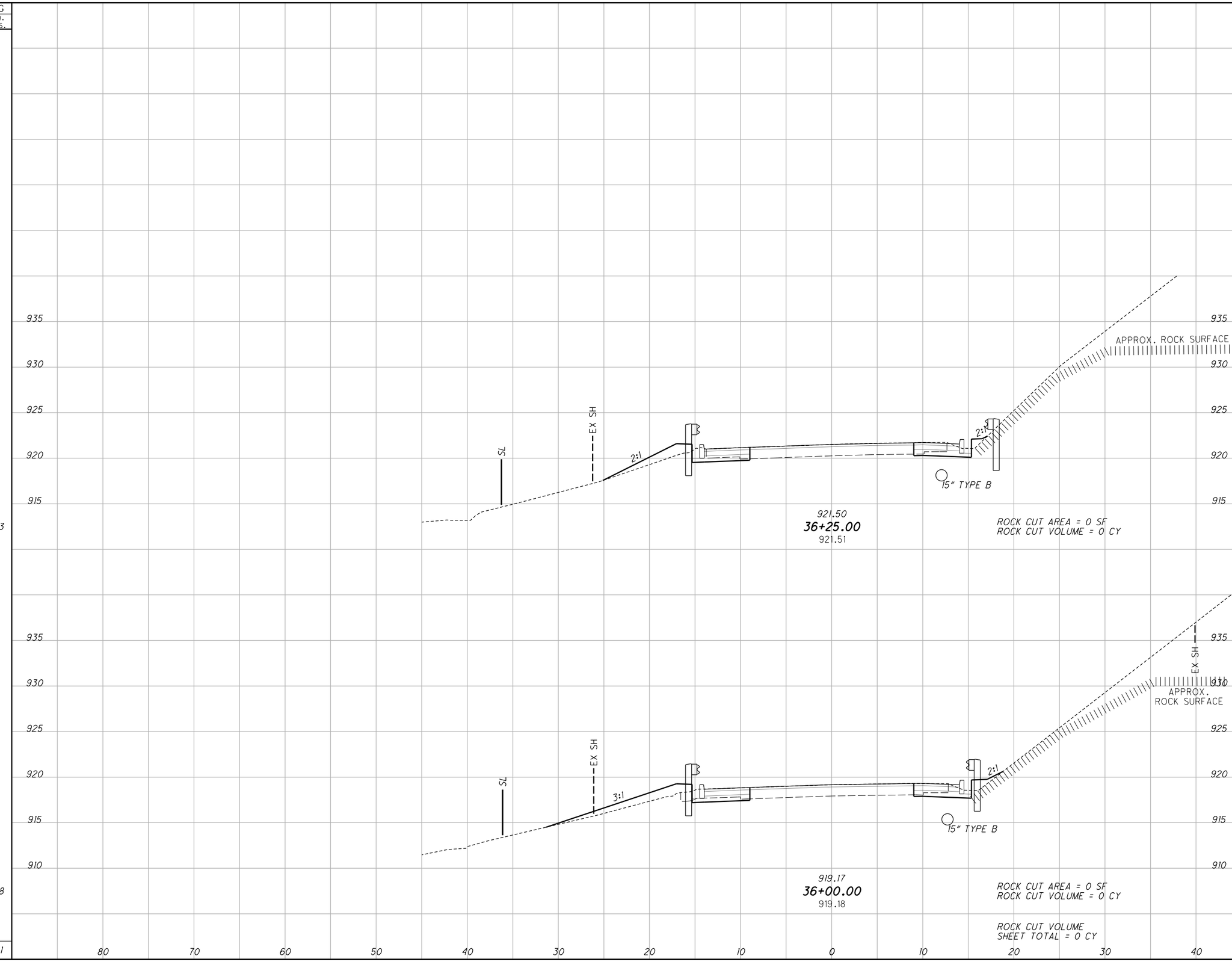
| SEEDING | | |

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
15	53	17	8	16	10
23	58	17	13	16	10
	111			32	20



CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 36+00.00 TO STA. 36+25.00

LAK-608-0.85

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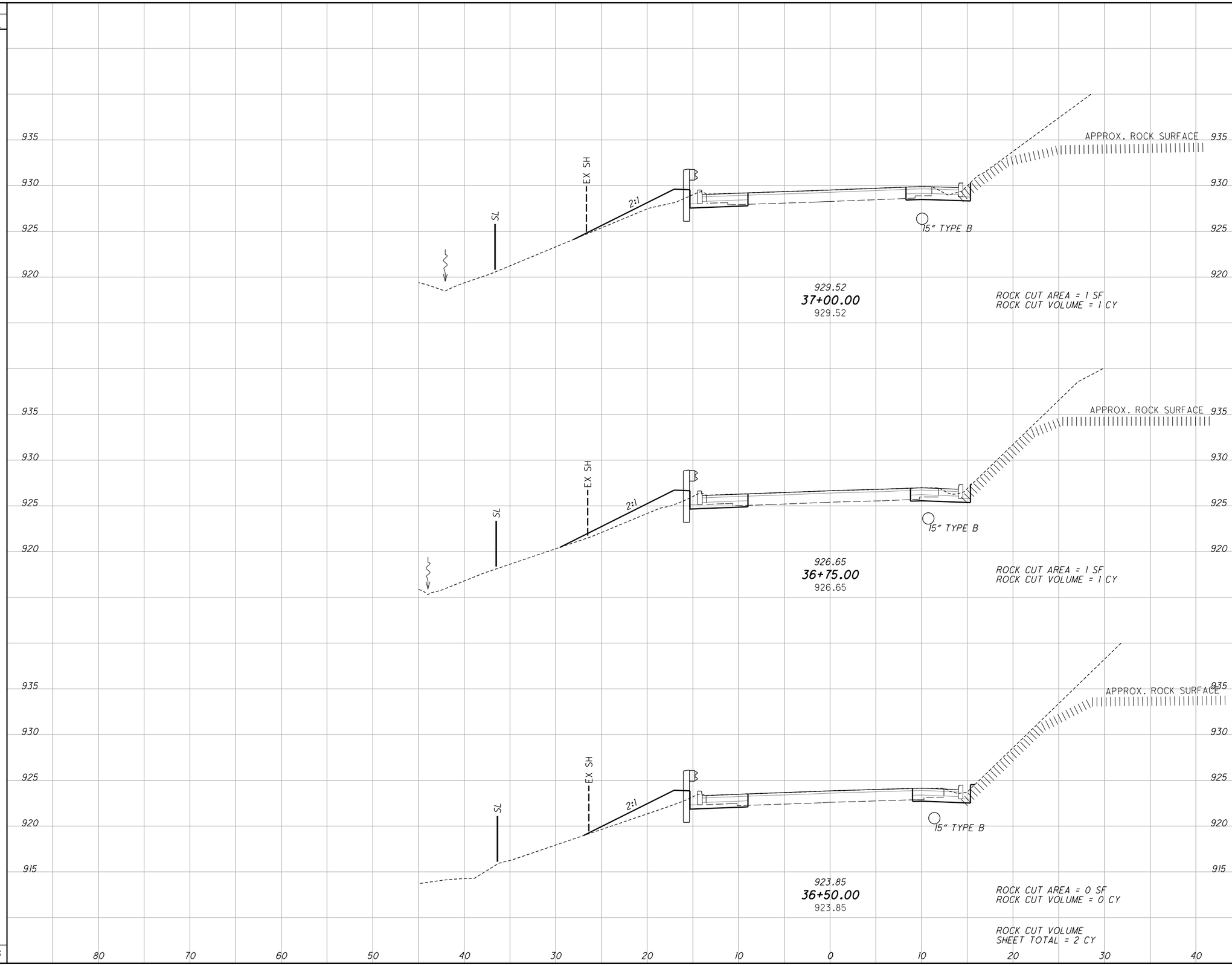
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
16	47	17	8	16	9
18	47	17	12	16	10
15	42	17	10	16	8
	136			48	27



CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 36+50.00 TO STA. 37+00.00

LAK-608-0.85

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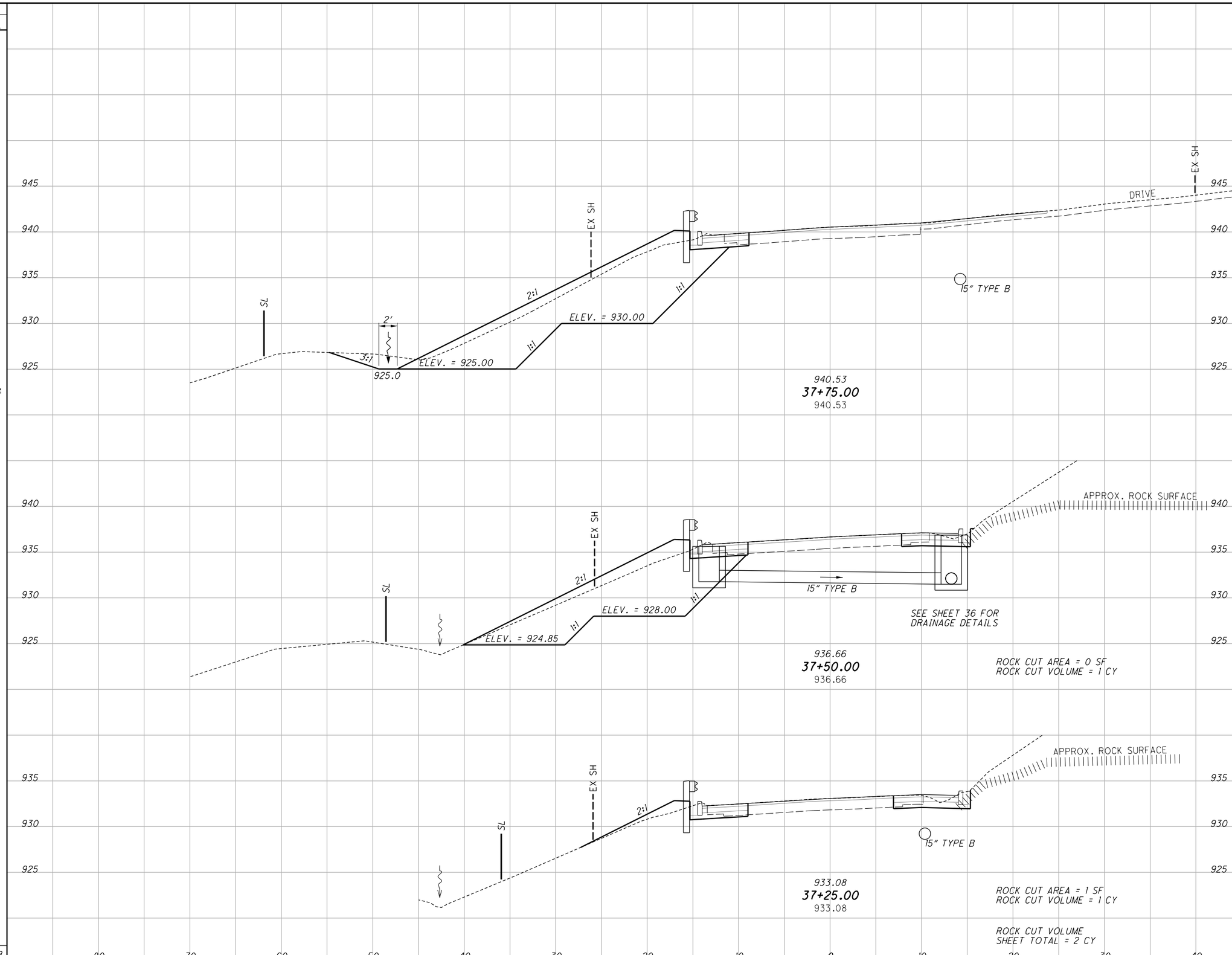
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
44	103	165	173	136	142
29	61	129	133	69	64
15	44	19	6	17	6
	208			222	212



CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 37+25.00 TO STA. 37+75.00

LAK-608-0.85

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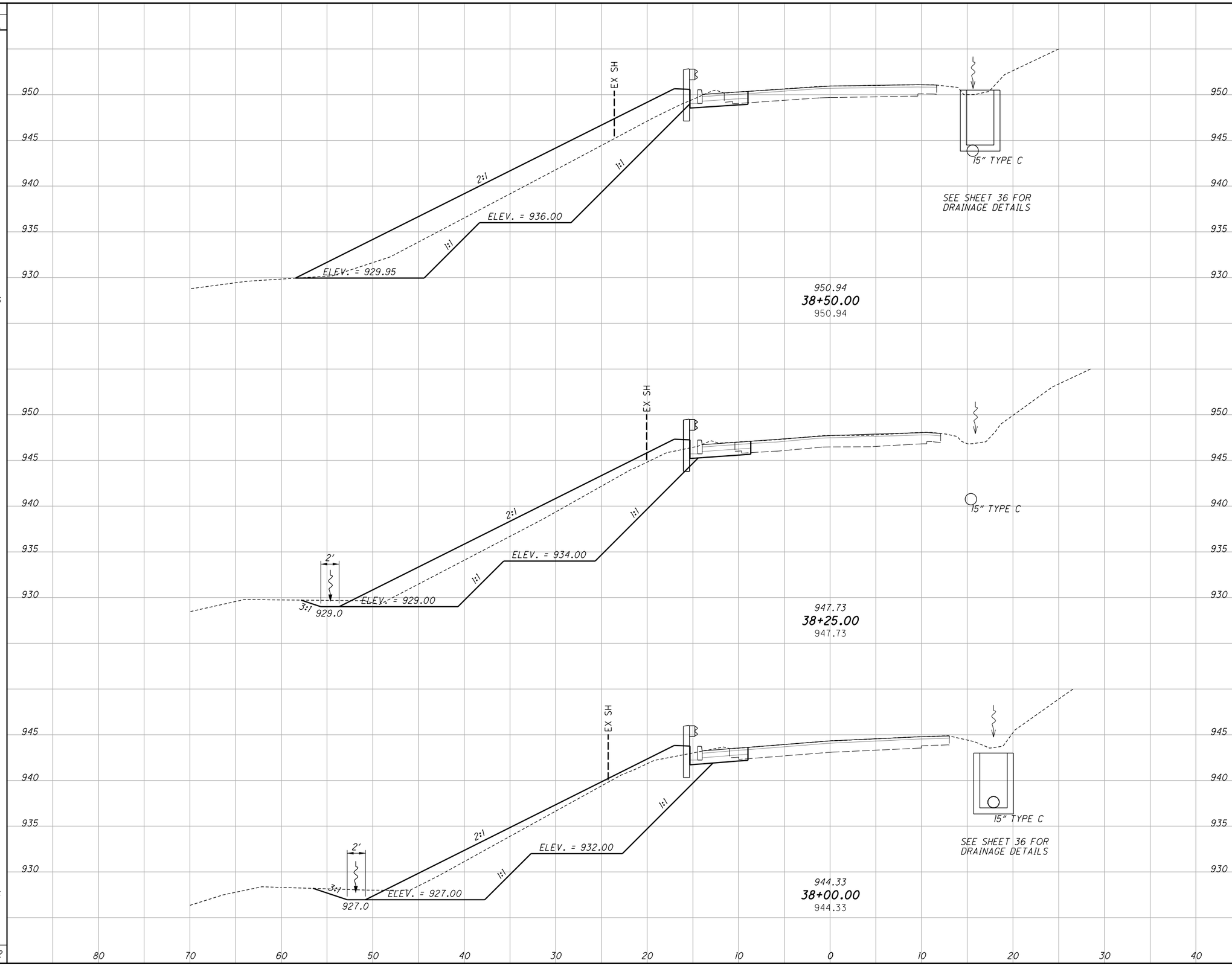
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
49	136	134	222	135	195
48	131	158	200	154	180
46	125	175	189	157	168
	392			446	543



CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 38+00.00 TO STA. 38+50.00

LAK-608-0.85

30
45

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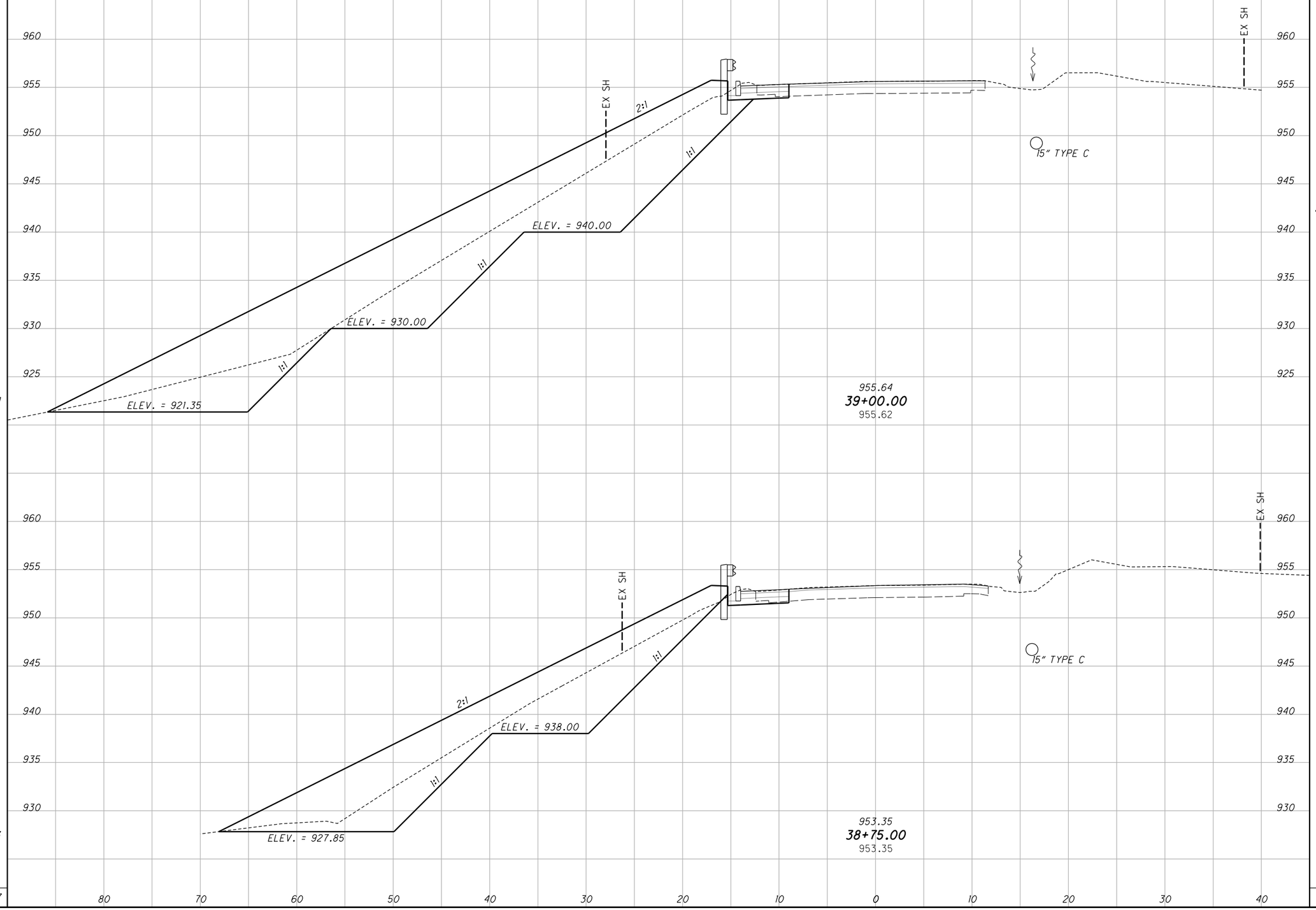
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
79	194	270	530	191	380
60	153	143	291	128	238
	347			319	618



CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 38+75.00 TO STA. 39+00.00

LAK-608-0.85

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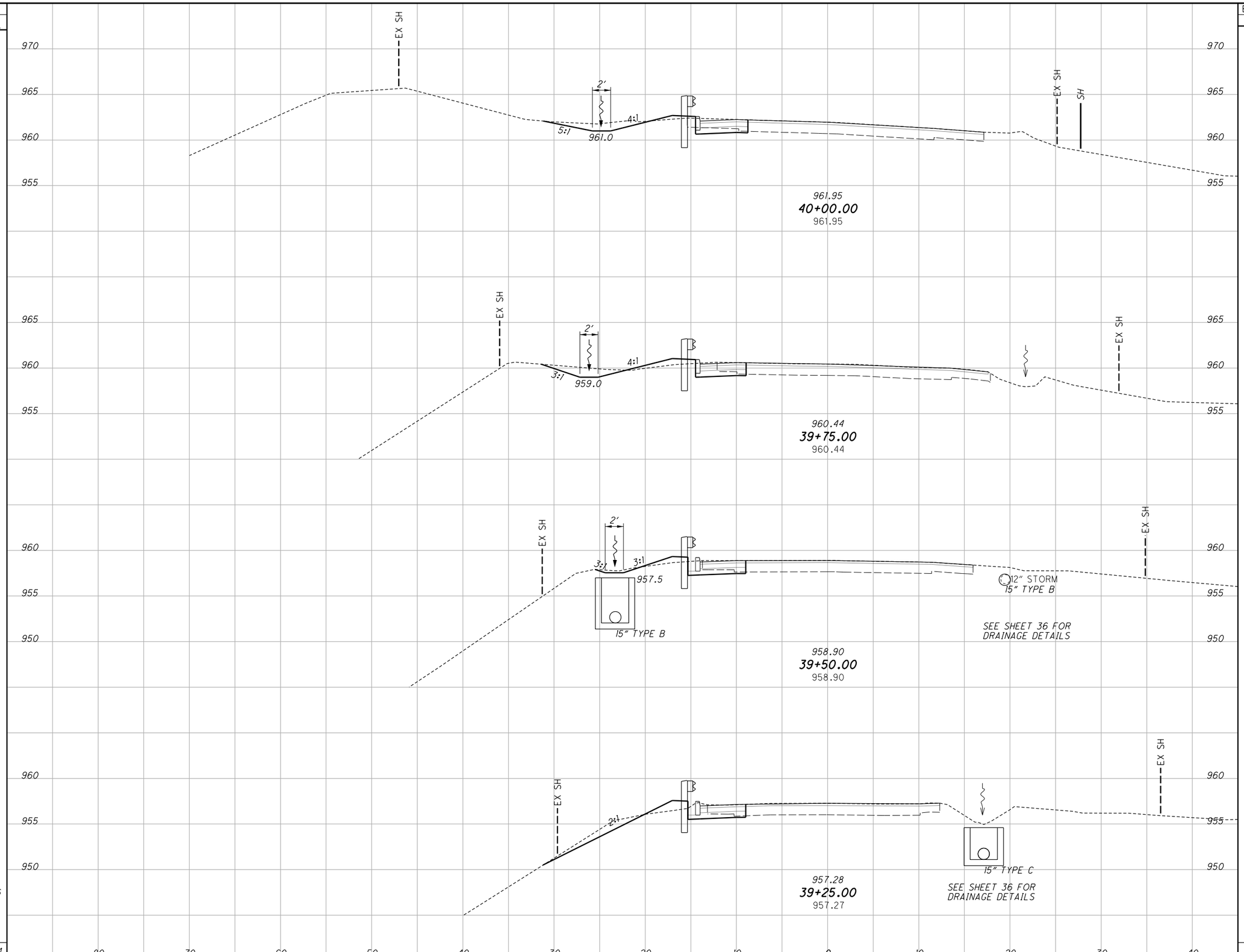
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
17	47	15	1	13	2
17	39	14	3	11	2
11	42	10	2	12	2
18	136	15	3	132	247
	264			168	253



CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 39+25.00 TO STA. 40+00.00

LAK-608-0.85

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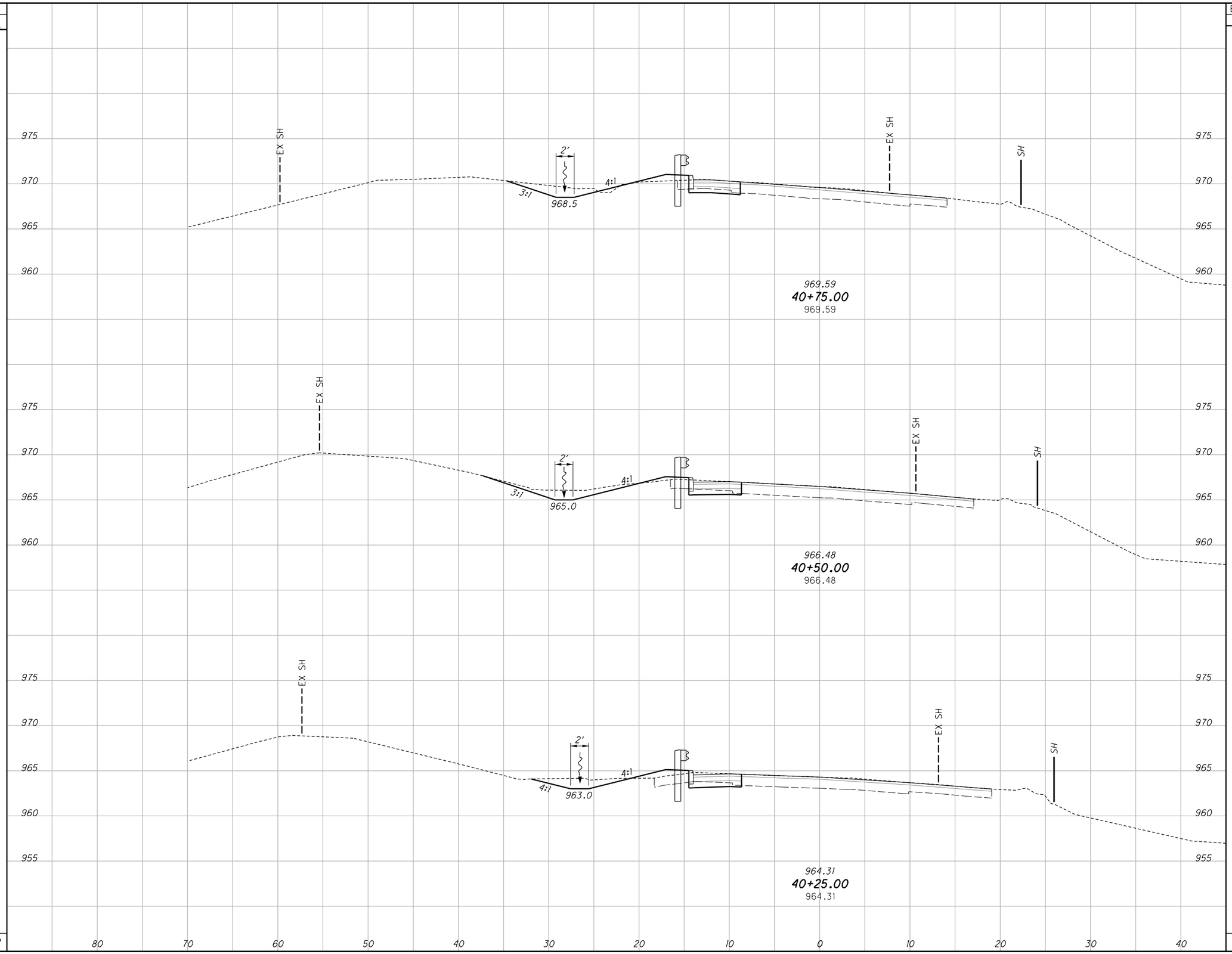
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
21	64	15	4	15	2
24	58	17	1	15	2
18	50	16	3	14	2
	172			44	6



CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 40+25.00 TO STA. 40+75.00

LAK-608-0.85

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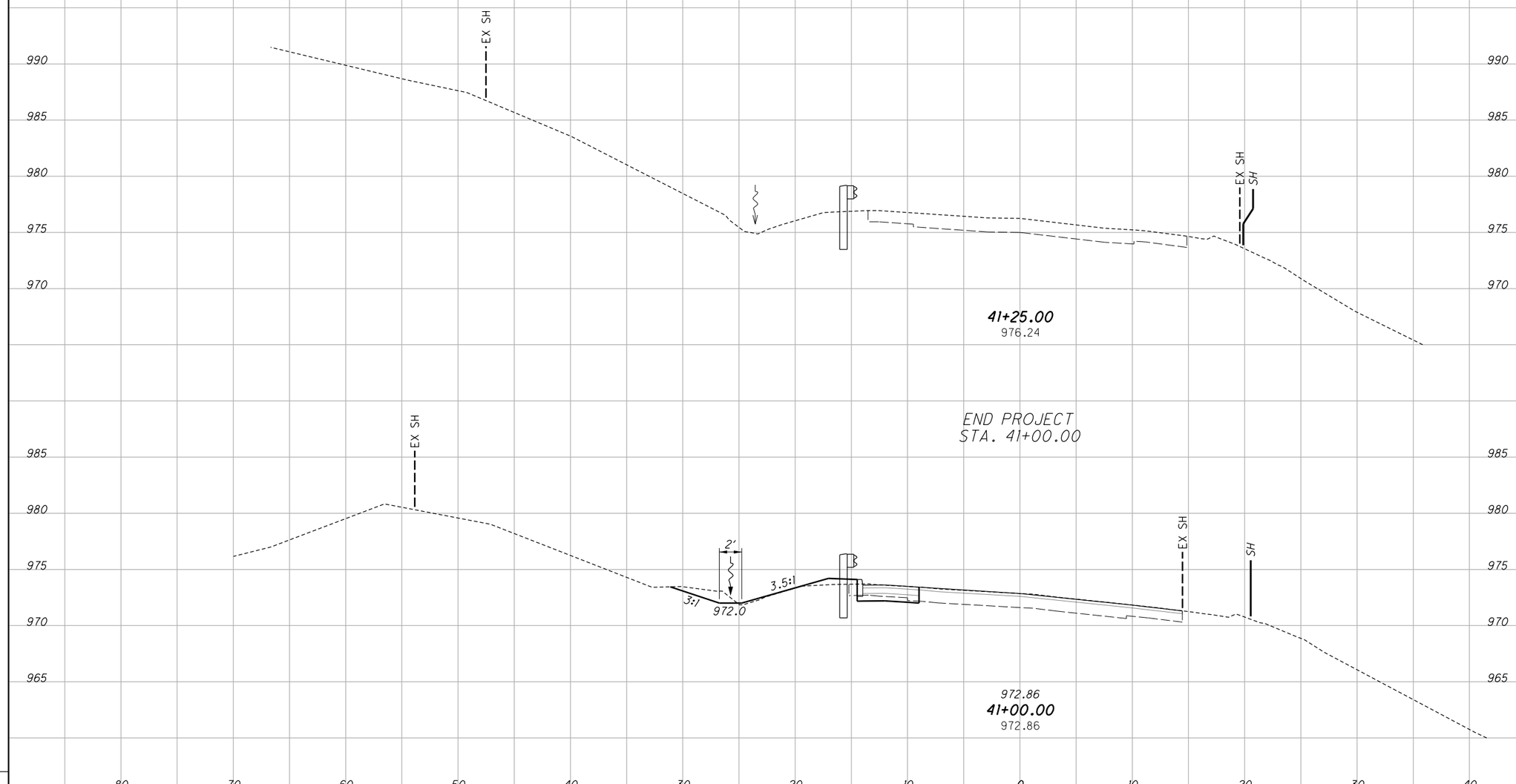
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
0		0	0		
	24			5	1
17		11	2		
	53			12	3
	77			17	4



CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 41+00.00 TO STA. 41+25.00

LAK-608-0.85

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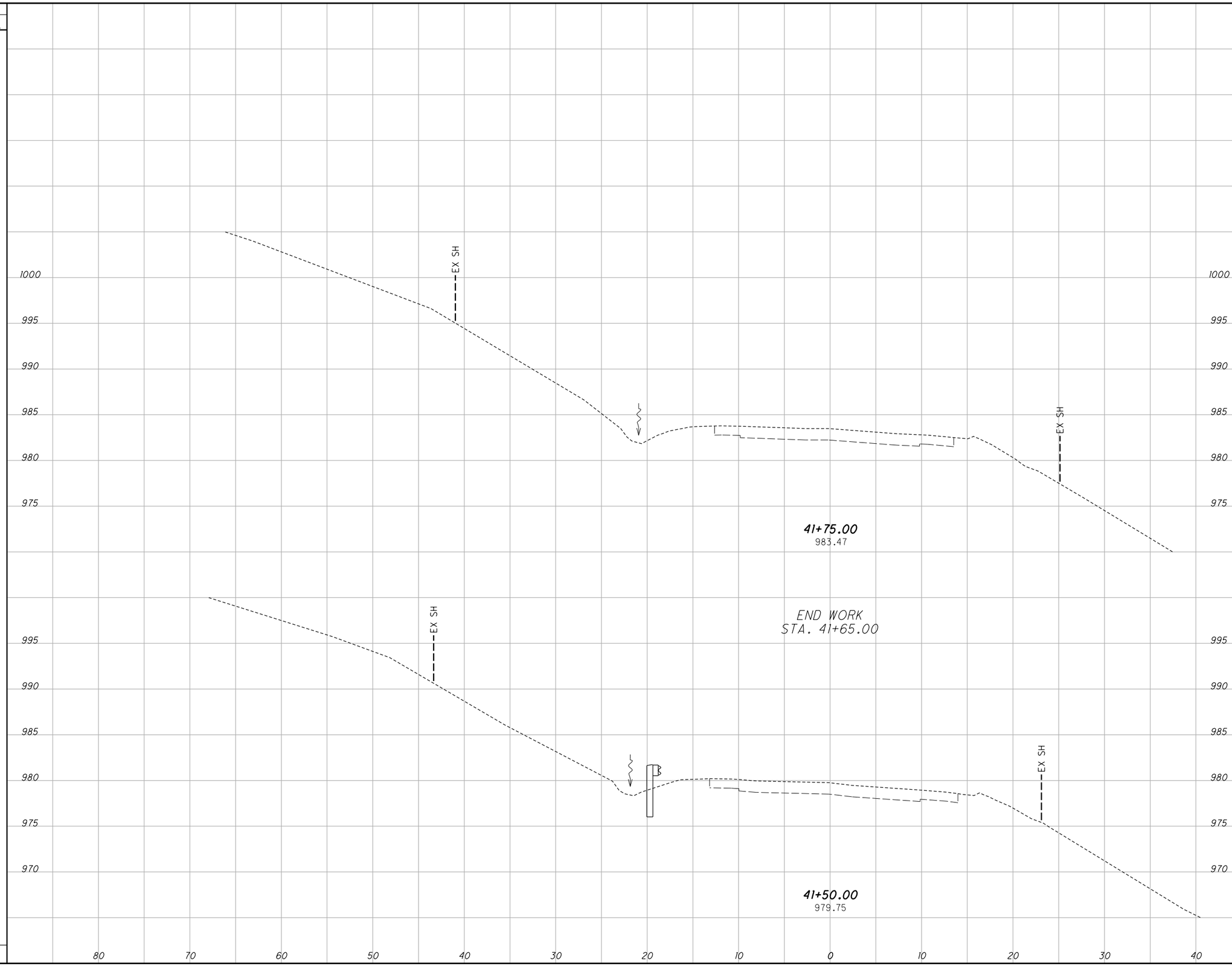
SEEDING	
END WIDTH	SQ. YDS.
0	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	0

CALCULATED DJR
CHECKED JRE

CROSS SECTIONS S.R. 608
STA. 41+50.00 TO STA. 41+75.00

LAK-608-0.85

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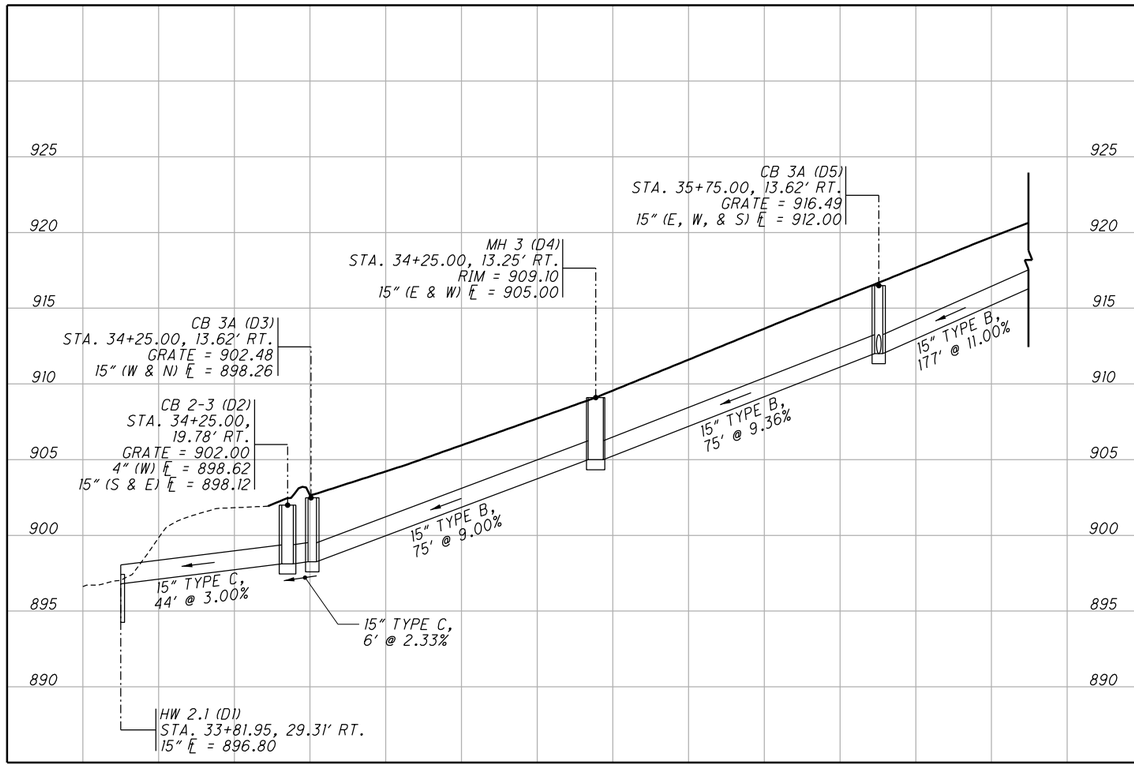

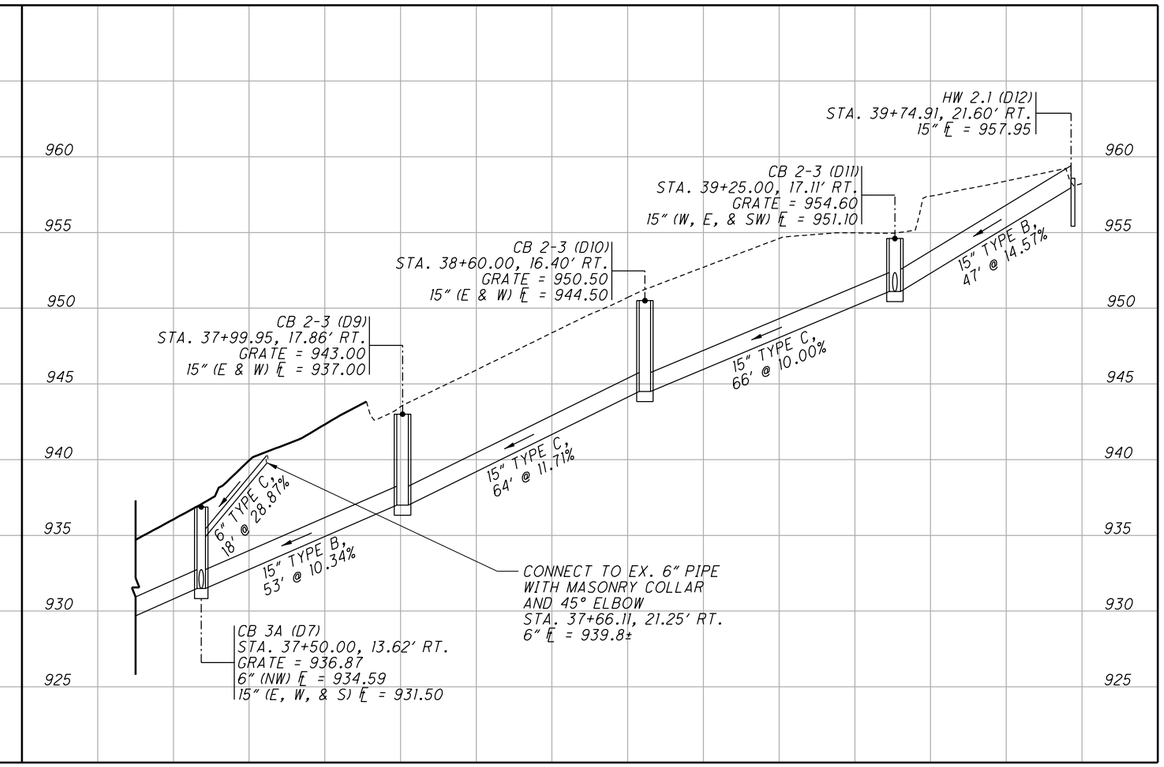

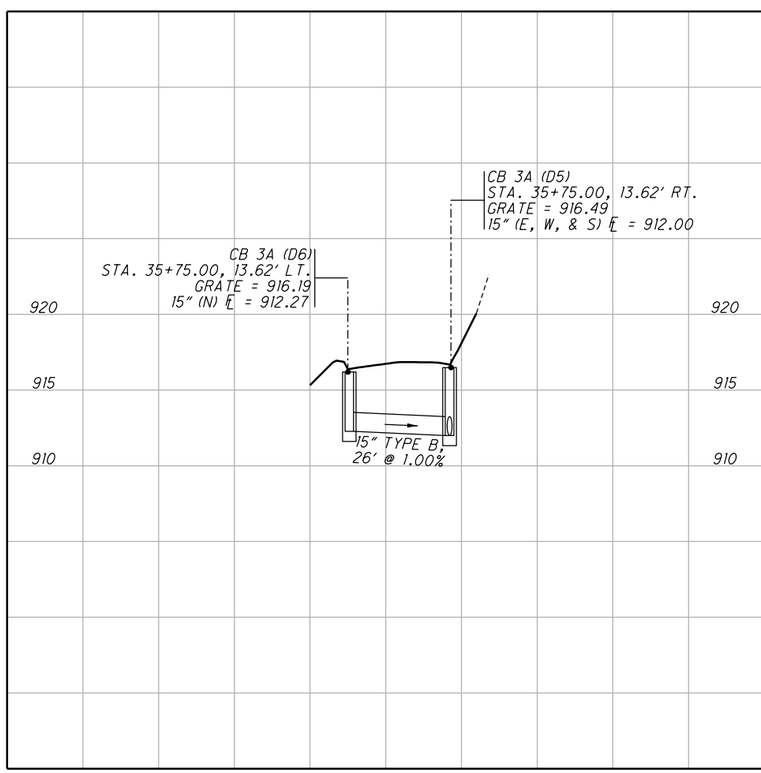

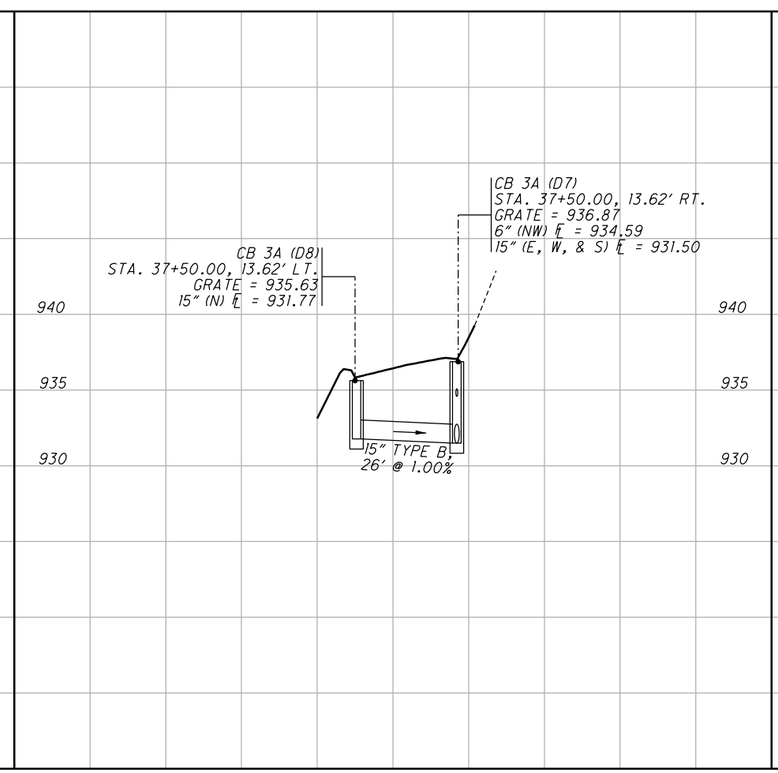

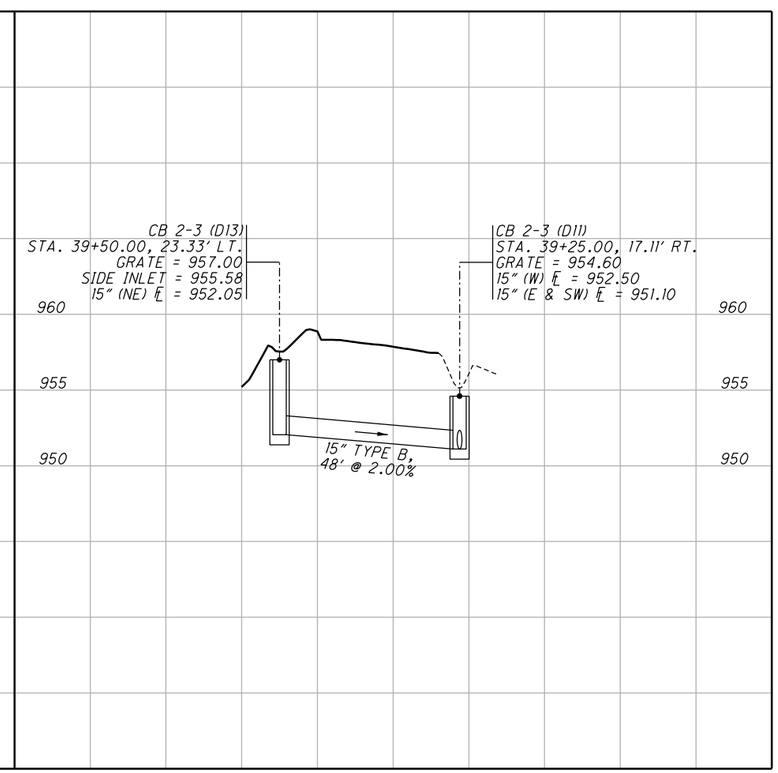

CALCULATED DJR
CHECKED JRE

STORM SEWER PROFILES

LAK-608-0.85

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 SIGN POST REFLECTOR (YELLOW) EACH	630 SIGN, FLAT SHEET SF	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH
38	S1	S.R. 608	34+50	RT	W1-4L	30 X 30	12.5		6.3		
					W13-1P	18 X 18			2.3		
38	S2	S.R. 608	36+98	RT	W1-8L	18 X 24	8.5	1	3.0		
38	S3	S.R. 608	37+02	RT	W1-8R	18 X 24	8.5	1	3.0		
38	S4	S.R. 608	37+43	RT						1	1
38	S5	S.R. 608	37+98	RT	W1-8L	18 X 24	8.0	1	3.0		
38	S6	S.R. 608	38+02	RT	W1-8R	18 X 24	8.0	1	3.0		
38	S7	S.R. 608	38+75	RT	W1-8R	18 X 24	8.0	1	3.0		
38	S8	S.R. 608	39+50	LT	W1-8R	18 X 24	9.5	1	3.0		
38	S9	S.R. 608	40+18	LT	W1-8R	18 X 24	9.5	1	3.0		
38	S10	S.R. 608	40+22	LT	W1-8L	18 X 24	9.5	1	3.0		
38	S11	S.R. 608	40+29	LT						1	1
38	S12	S.R. 608	40+57	LT						2	2
38	S13	S.R. 608	40+85	LT						2	2
38	S14	S.R. 608	40+98	LT	W1-8R	18 X 24	9.5	1	3.0		
38	S15	S.R. 608	41+02	LT	W1-8L	18 X 24	9.5	1	3.0		
38	S16	S.R. 608	41+70	LT						2	2
TOTALS CARRIED TO GENERAL SUMMARY							101.0	10	38.5	8	8

CALCULATED DJR
CHECKED JRE

SIGNING SUBSUMMARY

LAK-608-0.85

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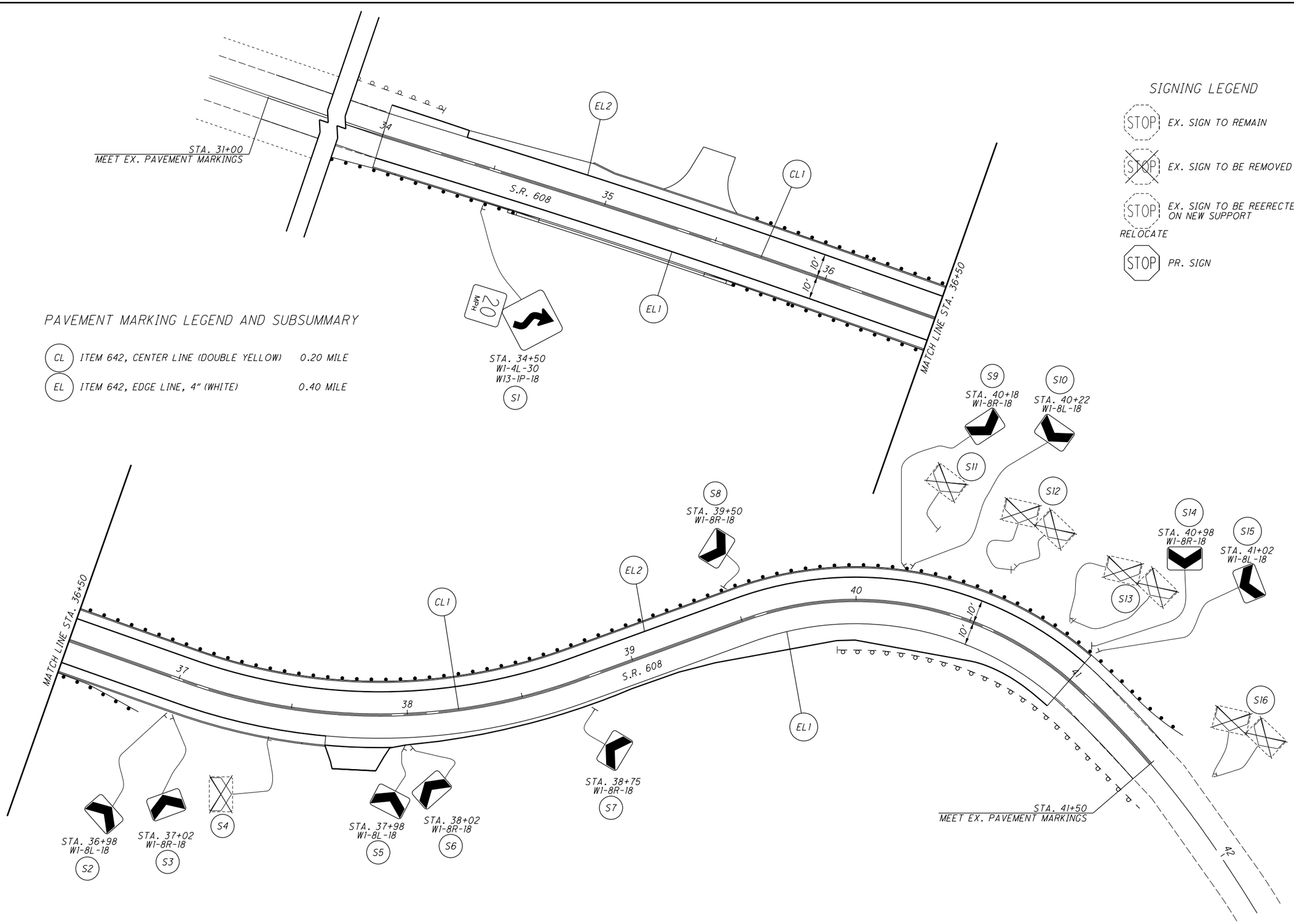

PAVEMENT MARKING LEGEND AND SUBSUMMARY

CL	ITEM 642, CENTER LINE (DOUBLE YELLOW)	0.20 MILE
EL	ITEM 642, EDGE LINE, 4" (WHITE)	0.40 MILE

SIGNING LEGEND

STOP EX. SIGN TO REMAIN

STOP EX. SIGN TO BE REMOVED

STOP EX. SIGN TO BE REERECTED ON NEW SUPPORT

RELOCATE

STOP PR. SIGN

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED JRE
CHECKED DJR

TRAFFIC CONTROL
STA.13+00 TO STA. 21+50

LAK-608-0.85

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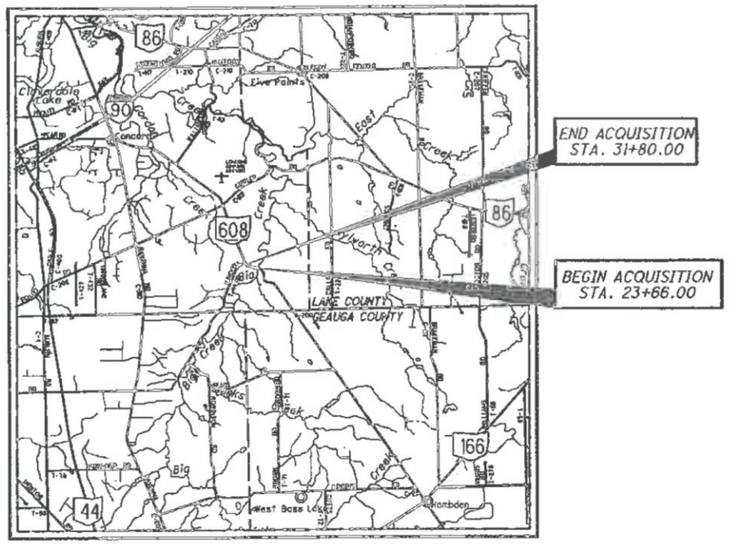

LOCATION MAP
LATITUDE: 41°39'00" LONGITUDE: 81°11'15"

RIGHT OF WAY LEGEND SHEET
LAK-608-0.85

TRACT 1, LOT 16
CONCORD TOWNSHIP
LAKE COUNTY, OHIO

PROJECT DESCRIPTION

DRAINAGE AND SIDE SLOPE GRADING INPROVEMENTS ALONG CONCORD-HAMBDEN ROAD (S.R.608) FROM JUST NORTH OF BIG CREEK TO WINCHELL ROAD. THE EXISTING AND PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF SURVEY AND RIGHT OF WAY OF SR 608.

PROJECT CONTROL

STATE PLANE GRID: NAD 83 (2011)
PROJECT ADJUSTMENT FACTOR: 0.99995101 (GROUND TO GRID)

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING LAKE COUNTY ENGINEER'S PLAT TO ESTABLISH TRUE LOCATION OF CONCORD-HAMBDEN RD. IN CONCORD TOWNSHIP, FROM THE SOUTH LINE OF LAKE COUNTY TO WINCHELL ROAD

INDEX OF SHEETS:

LEGEND SHEET	1
PROPERTY MAP	2
SUMMARY OF ADDITIONAL R/W	3
TOPOGRAPHIC SHEETS	4 & 6
BOUNDARY SHEETS	5 & 7

PLANS PREPARED BY:

FIRM NAME: CT CONSULTANTS, INC.
R/W DESIGNER: PAMELA LEIVO
R/W REVIEWER: TIMOTHY HADDEN
FIELD REVIEWER: PAMELA LEIVO
PRELIMINARY FIELD REVIEW DATE: 5/6/2016
TRACINGS FIELD REVIEW DATE: 9/12/2016
OWNERSHIP UPDATED BY: PAMELA LEIVO
DATE COMPLETED: 9/12/2016
PLAN COMPLETION DATE: 9/14/2016

UTILITY OWNERS	
ELECTRIC	CEI FIRST ENERGY 7755 AUBURN ROAD PAINESVILLE, OHIO 44077 RALPH DELLIGATTI (440) 358-4991
GAS	DOMINION EAST OHIO GAS COMPANY 320 SPRINGSIDE DRIVE AKRON, OHIO 44333 BRYAN DAYTON (330) 664-2488
PHONE	AT&T 13630 LORAIN AVE. - 2ND FLOOR CLEVELAND, OHIO 44111 JAMES JANIS (216) 476-6142
CABLE	TIME WARNER CABLE 7820 DIVISION DRIVE MENTOR, OHIO 44060 CHARLES SULLIVAN (440) 974-3401 X125

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

STRUCTURE KEY

RESIDENTIAL
COMMERCIAL
OUT-BUILDING

TYPES OF TITLE LEGEND:
SH = STANDARD HIGHWAY EASEMENT
T = TEMPORARY EASEMENT
SL = SLOPE EASEMENT

CONVENTIONAL SYMBOLS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (Ex) (Pr)
Center Line
Right of Way (Ex) Ex R/W
Right of Way (Pr) R/W
Standard Highway Ease.(Ex) Ex SH
Temporary Right of Way TMP
Slope Ease. (Pr) SL
Utility Ease. (Ex) Ex U
Railroad or
Guardrail (Ex) (Pr)
Construction Limits
Edge of Pavement (Ex)
Edge of Pavement (Pr)
Edge of Shoulder (Ex)
Edge of Shoulder (Pr)
Ditch / Creek (Ex)
Ditch / Creek (Pr)
Tree Line (Ex)
Ownership Hook Symbol , Example
Property Line Symbol , Example
Break Line Symbol , Example
Tree (Pr) , Tree (Ex) , Shrub (Ex)
Tree (Remove) , Shrub (Remove)
Evergreen (Ex) , Stump
Evergreen (Remove) , Stump (Remove)
Wetland (Pr) , Grass (Pr) , Aerial Target
Post (Ex) , Mailbox (Ex) , Mailbox (Pr)
Light (Ex) , Telephone Marker (Ex) TEL
Fire Hydrant (Ex) , Water Meter (Ex)
Water Valve (Ex) , Utility Valve Unknown (Ex.)
Telephone Pole (Ex) , Power Pole (Ex)
Light Pole (Ex)

I, Matt Puhl, P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in July of 2014. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinate System, North Zone on NAD 83 (2011) datum and NAVD88 vertical datum.

The Project Coordinates (US Survey feet) are relative to State Plane Grid Coordinates (meters or US Survey feet) by a Project Adjustment Factor multiplier of 0.99995101 (Ground to Grid).

As a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein.

All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "A Minimum Standards for Boundary Surveys in the State of Ohio" unless noted.
The words I and my as used herein are to mean either myself or someone working under my direct supervision.

Matt Puhl, Professional Land Surveyor No. 8363 Date: 08/09/2017

STATE OF OHIO MATTHEW J. PUHL 08363 REGISTERED PROFESSIONAL SURVEYOR
SURVEYORS SEAL

I, Timothy P. Hadden, P. S. as a part of this project have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein.

All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean either myself or someone working under my direct supervision.

Timothy P. Hadden, Professional Land Surveyor 6786 Date: 9/14/16

TIMOTHY P. HADDEN 6786 REGISTERED SURVEYOR

FEDERAL PROJECT NO. E130590
PID NO. 94539
CALCULATED PSL CHECKED TPH
RIGHT OF WAY LEGEND SHEET
LAK-608-0.85
1/7
39/45

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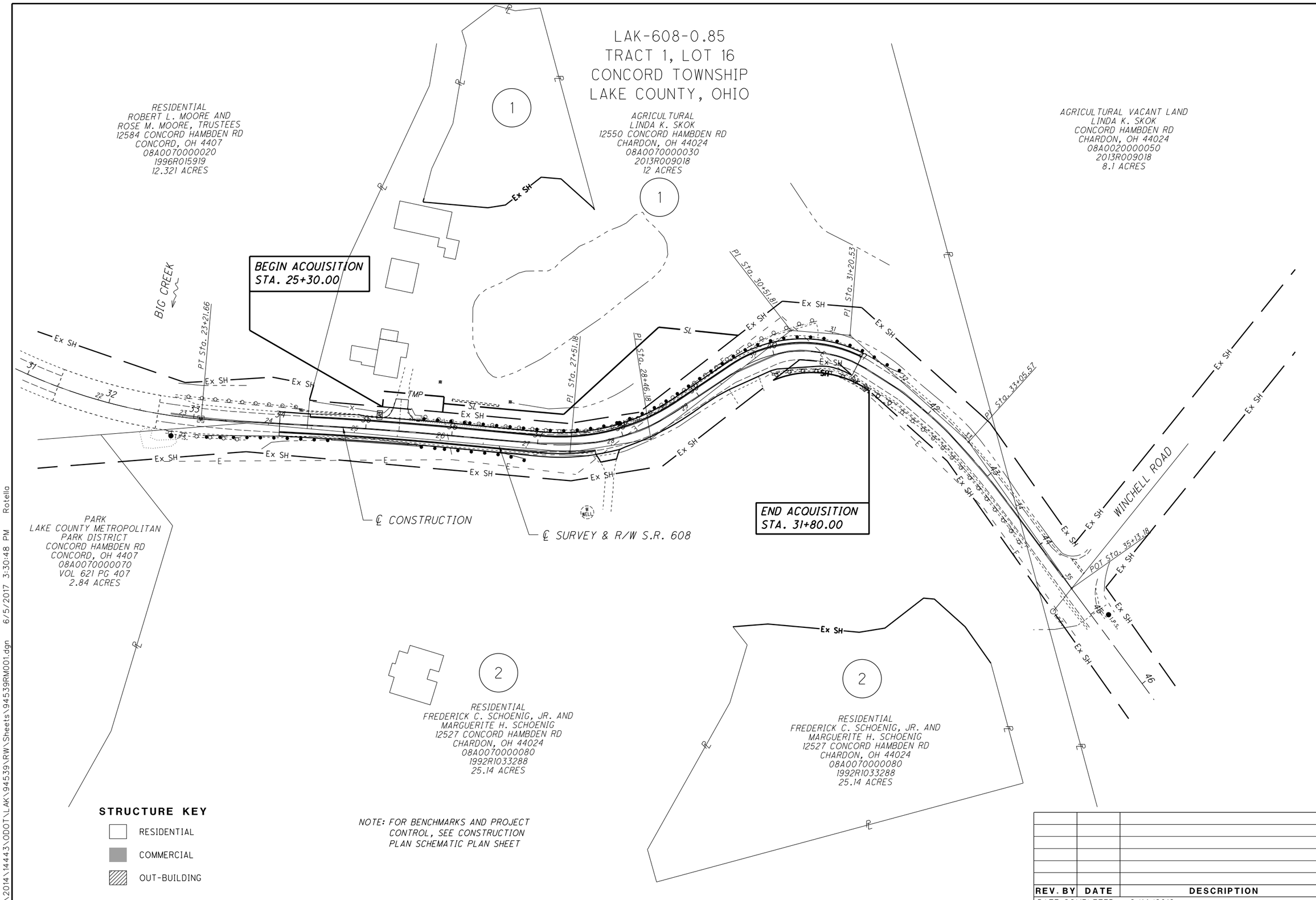

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 9/14/2016

HORIZONTAL SCALE IN FEET 0 25 50 100

PID NO. 94539

R/W DESIGNER PSL
R/W REVIEWER TPH

PROPERTY MAP

LAK-608-0.85

2 / 7

40 / 45

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TOTAL NUMBER OF :

2 OWNERSHIPS 0 TOTAL TAKES

3 PARCELS 0 OWNERSHIPS W/ STRUCTURES INVOLVED

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE * DENOTES RIGHT OF WAY ENCROACHMENT

(c) = CALCULATED AREA

ALL AREAS IN ACRES

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1-SL	LINDA K SKOK	4-7	DOC #2013R009018	08A0070000030	12.00	0.62	0.249	0	0.249				STATE	3-12" TREES TO BE REMOVED	2017R021207	
1-T							0.029		0.029				STATE	DRIVE RECONSTRUCTION & GRADING		
														*60 LF FENCE; *2 ROCKS		
2-SH	FREDERICK C SCHOENIG, JR. & MARGUERITE H SCHOENIG	4-7	DOC. #1992R1033288	08A0070000080	25.14	0.737	0.025	0	0.025			24.378	STATE	*22 TREES (VARIES 9" TO 36")	2017R021208	
														* SIGN POST		

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

NOTE: ALL TEMPORARY PARCELS TO BE OF 12 MONTH DURATION.

TYPES OF TITLE LEGEND:

SH = STANDARD HIGHWAY EASEMENT
T = TEMPORARY EASEMENT
SL = SLOPE EASEMENT

REV. BY	DATE	DESCRIPTION
ODOT	10/5/17	ADDED "AS ACQUIRED" INFO.
DJR	6/5/17	REMARKS REVISED FOR PARCEL 2-SH

FIELD REVIEW BY Pamela Leivo DATE: 9/12/2016

OWNERSHIP VERIFIED BY Pamela Leivo DATE: 9/12/2016

DATE COMPLETED 9/14/2016

FEDERAL PROJECT NO. E130590

PID NO. 94539

STATE JOB NO. 520596

R/W DESIGNER PSL

R/W REVIEWER TPH

SUMMARY OF ADDITIONAL RIGHT OF WAY

LAK-608-0.85

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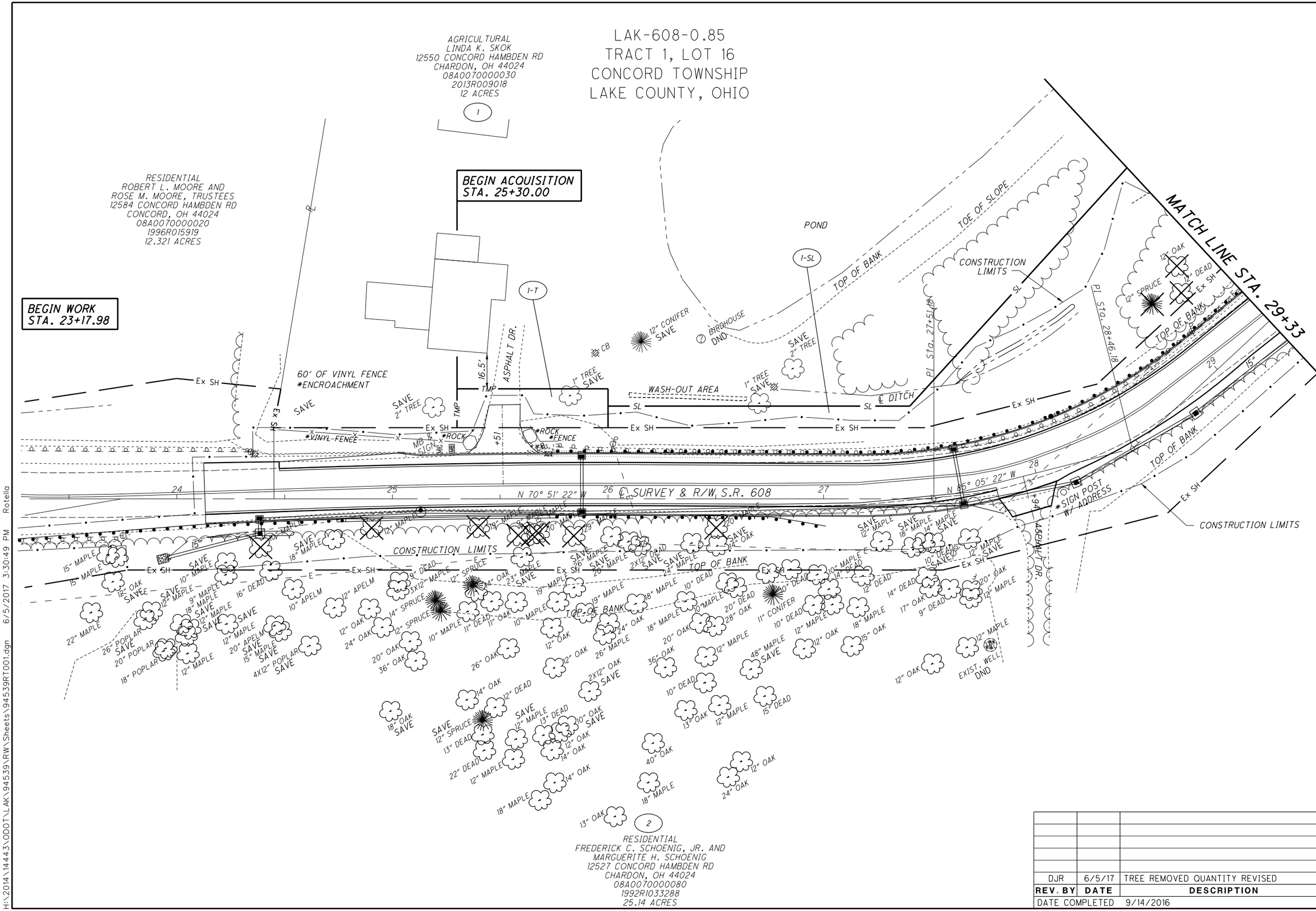
LAK-608-0.85
TRACT 1, LOT 16
CONCORD TOWNSHIP
LAKE COUNTY, OHIO



REV. BY	DATE	DESCRIPTION
DJR	6/5/17	TREE REMOVED QUANTITY REVISED
DATE COMPLETED	9/14/2016	

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 94539

R/W DESIGNER PSL
R/W REVIEWER TPH

RIGHT OF WAY TOPO SHEET
STA. 23+50 TO STA. 29+33

LAK-608-0.85

4 / 7

42 / 45

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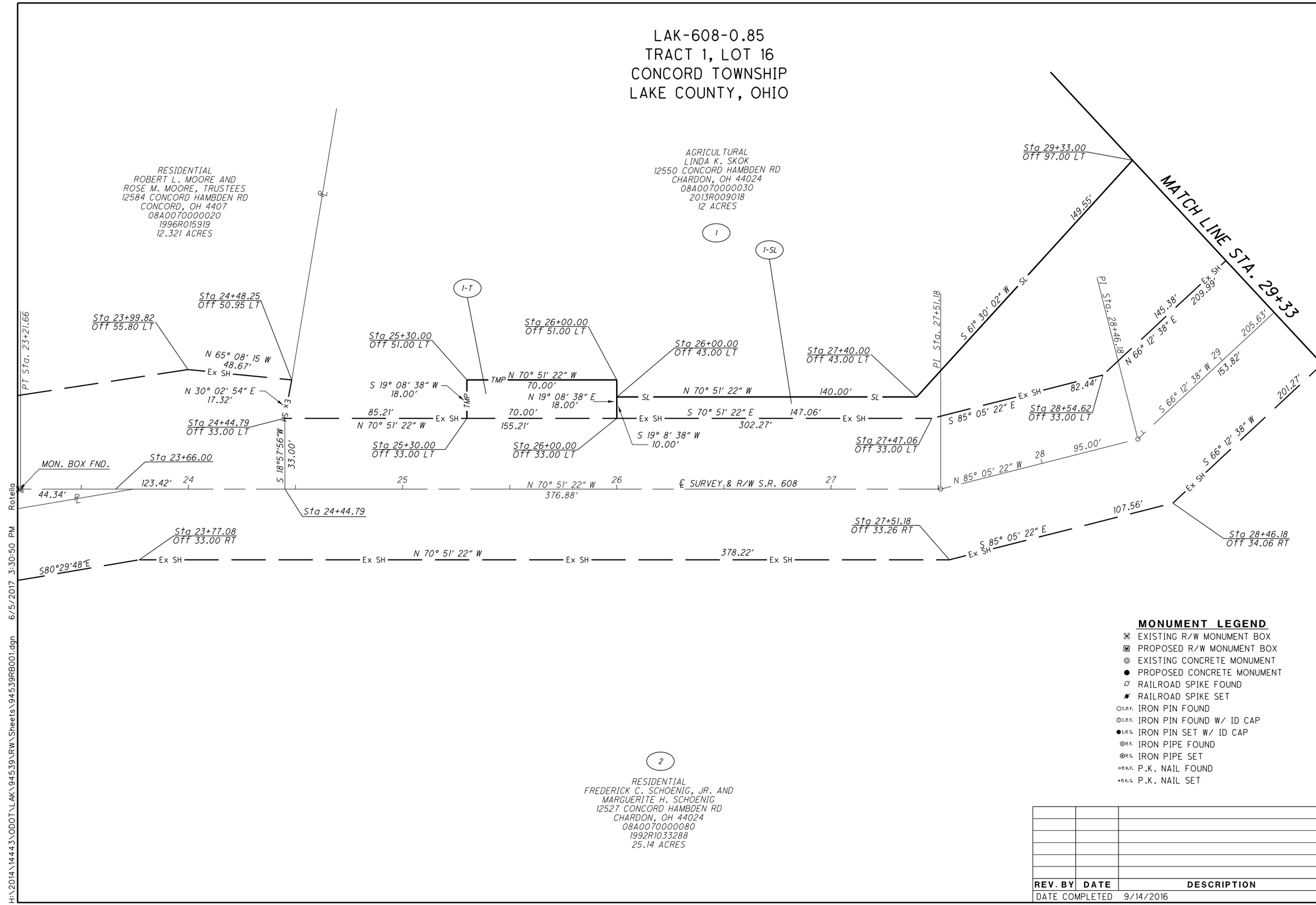
LAK-608-0.85
TRACT 1, LOT 16
CONCORD TOWNSHIP
LAKE COUNTY, OHIO



MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.R.F. IRON PIN FOUND
- I.R.F. IRON PIN FOUND W/ ID CAP
- I.R.S. IRON PIN SET W/ ID CAP
- R.F. IRON PIPE FOUND
- R.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 9/14/2016

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 94539

R/W DESIGNER PSL
R/W REVIEWER TPH

RIGHT OF WAY BOUNDARY SHEET
STA. 23+50 TO STA. 29+33

LAK-608-0.85

5 / 7

43 / 45

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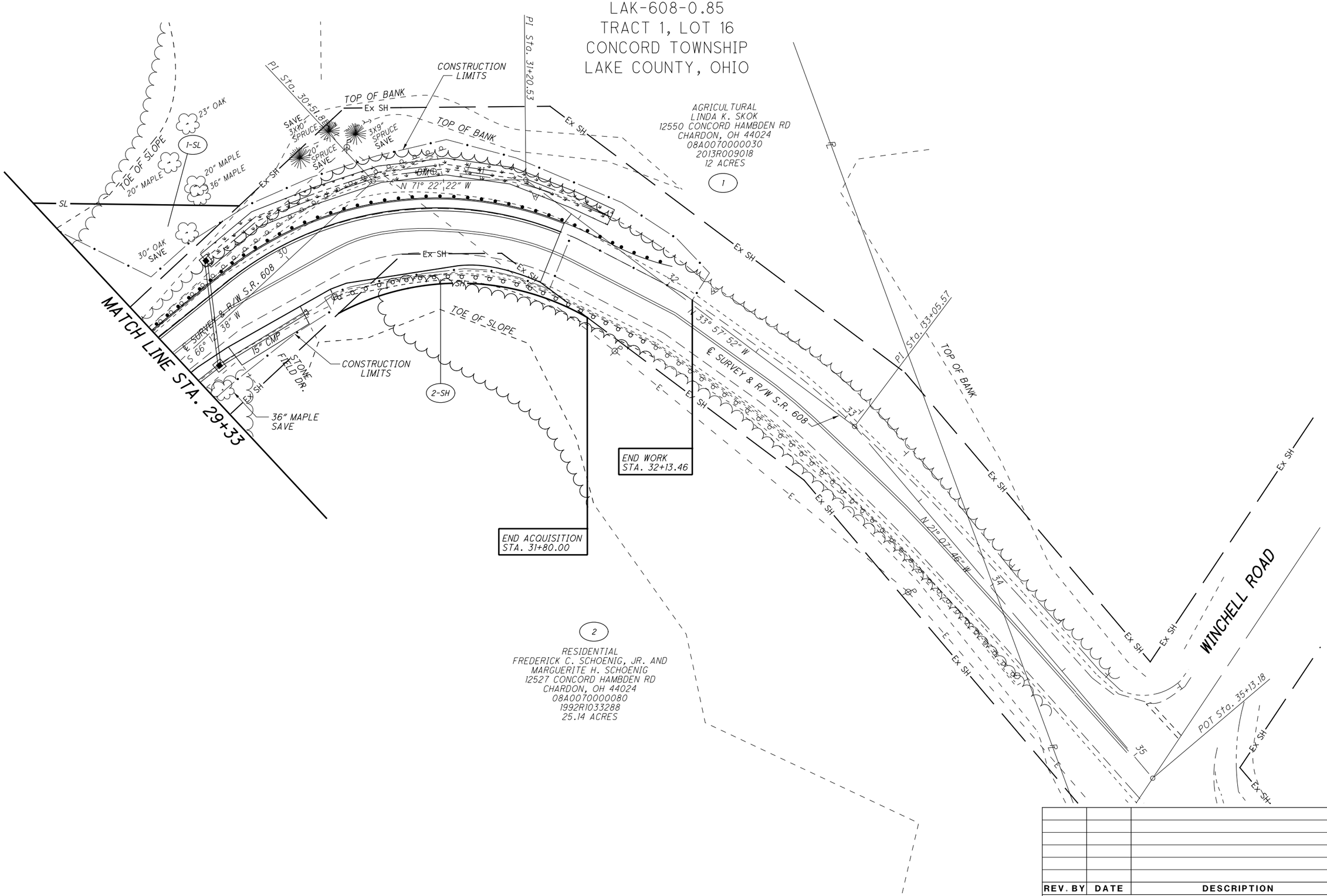

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 9/14/2016

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 94539

R/W DESIGNER PSL
R/W REVIEWER TPH

RIGHT OF WAY TOPO SHEET
STA. 29+33 TO STA. 35+13.18

LAK-608-0.85

6 / 7

44 / 45

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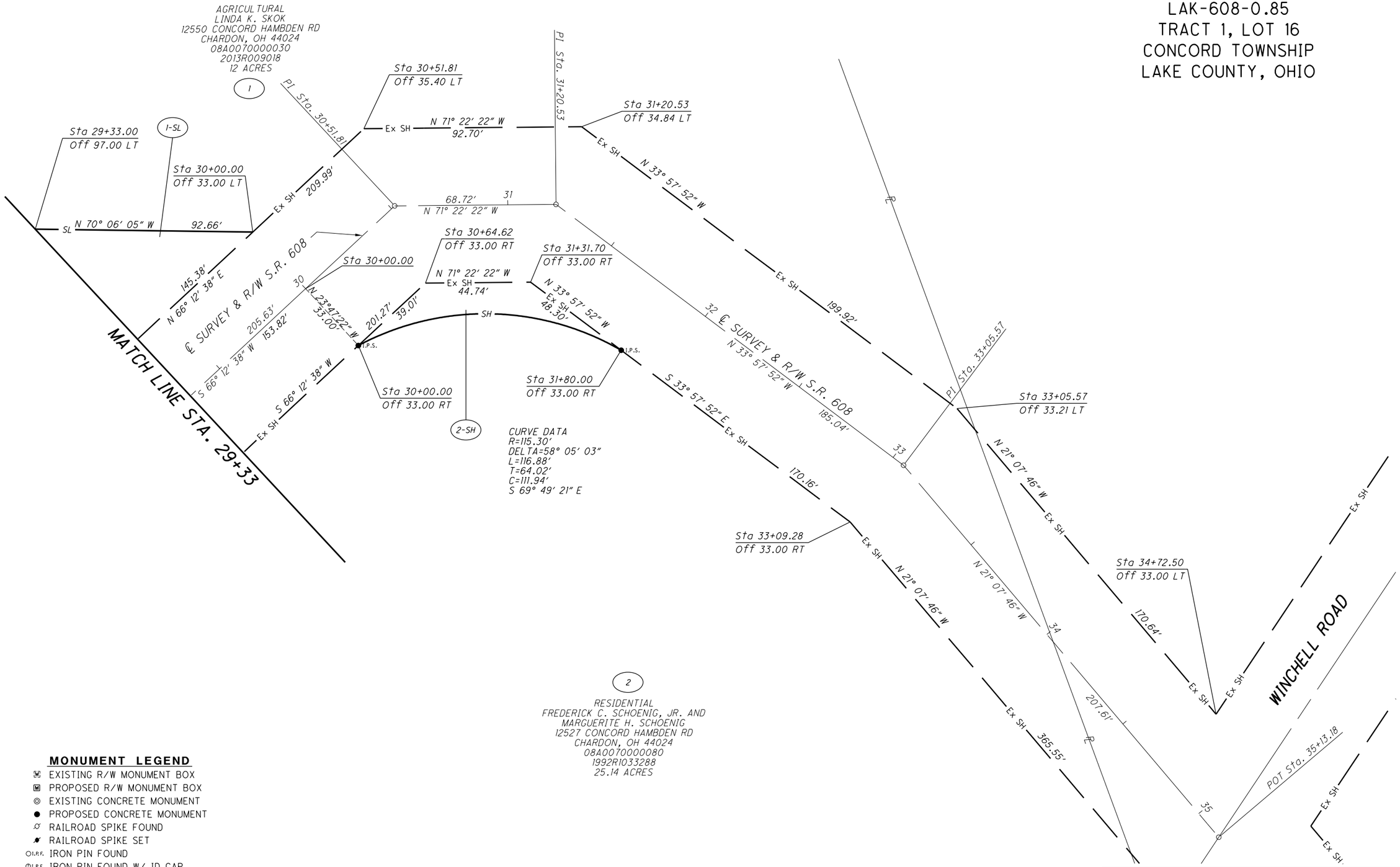
LAK-608-0.85
TRACT 1, LOT 16
CONCORD TOWNSHIP
LAKE COUNTY, OHIO



MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
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- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 9/14/2016

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 94539

R/W DESIGNER PSL
R/W REVIEWER TPH

RIGHT OF WAY BOUNDARY SHEET
STA. 29+33 TO STA. 35+13.18

LAK-608-0.85

7 / 7

45 / 45

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PROJECT DESCRIPTION
PROVIDE SLOPE AND DRAINAGE IMPROVEMENTS ALONG CONCORD-HAMBDEN ROAD FROM BIG CREEK TO WINCHELL ROAD.

HISTORIC RECORDS
ODOT HISTORICAL BORING DATA WAS AVAILABLE FROM BORINGS DRILLED FOR THE BRIDGE AT BIG CREEK AND FOR A CIRCA 1972 SLOPE REPAIR. THE LOCATION OF THEBORINGS IS NOT ACCURATELY KNOWN SO THEY ARE NOT SHOWN ON THE PLAN SHEET AND THE BORING "STICKS" ARE NOT INCLUDED ON THE PROFILE SHEETS. LOGS ARE INCLUDED IN THE PLANS

GEOLOGY
THE NEAR SURFACE GEOLOGIC SETTING WITHIN THE PROJECT AREA CONSISTS OF PLEISTOCENE AGE GROUND MORAINE IN THE UPPER ELEVATIONS, PLEISTOCENE OUTWASH IN THE LOW LYING AREA ALONG THE BANKS OF BIG CREEK NEAR SR 608, AND RECENT ALLUVIUM ALONG THE CREEK AND ITS LOWER BANKS. OHIO DEPARTMENT OF NATURAL RESOURCES BEDROCK MAPS INDICATE DEVONIAN AGE SHALE WHICH IS VISIBLE IN THE OUTCROPS ALONG BIG CREEK. THIS SHALE IS OVERLAIN BY MISSISSIPPIAN AGE INTERBEDDED SHALE AND SANDSTONE AT HIGHER ELEVATIONS NEAR WINCHELL ROAD. IT IS LIKELY THAT THE MISSISSIPPIAN AGE INTERBEDDED SHALE AND SANDSTONE ARE ALSO PRESENT ON THE HIGH KNOB OF LAND NORTH OF SR 608 JUST WEST OF BIG CREEK. IT APPEARS THAT RELATIVELY MINOR CUTS AND FILLS WERE REQUIRED FOR THE CONSTRUCTION OF SR 608.

RECONNAISSANCE
RECONNAISSANCE FOR THIS PROJECT INCLUDED FIELD OBSERVATION OF THE SHALE OUTCROPS ALONG BIG CREEK AT THE BRIDGE, AND THE SLOPES NORTH AND SOUTH OF THE ROAD. OFFICE RECONNAISSANCE INCLUDED RESEARCH OF HISTORICAL BORING RECORDS, GEOLOGIC MAPPING, AND WATER WELL LOGS. DATA FROM WATER WELL LOGS FROM PROPERTIES NEAR THE PROJECT WERE GENERALLY CONSISTENT WITH THE GEOLOGIC MAPPING. LATER DISCUSSIONS WITH THE PROPERTY OWNER NORTH OF THE ROAD CONFIRMED THAT SANDSTONE WAS ENCOUNTERED DURING EXCAVATION. THIS IS CONSISTENT WITH THE MAPPING.

SUBSURFACE EXPLORATION
EIGHT (8) BORINGS WERE DRILLED IN TWO PHASES FOR THIS PROJECT. B-001-0-14 THROUGH B-003-0-14 WERE DRILLED DURING THE FIRST PHASE. THESE BORINGS WERE ALL DRILLED IN THE ROADWAY. B-004-0-15 THROUGH B-008-0-15 WERE DRILLED IN THE SECOND PHASE ON THE SLOPES NORTH AND SOUTH OF THE ROAD. TRUCK, ATV, AND TRIPOD ROPE AND CATHEAD METHODS WERE USED. THE TRUCK AND ATV BORINGS WERE DRILLED WITH 3-1/4-INCH I.D. HOLLOW STEM AUGERS. TWO-INCH O.D. SOLID STEM AUGERS WERE USED FOR THE TRIPOD ROPE AND CATHEAD BORINGS. DISTURBED SOIL SAMPLES WERE OBTAINED IN ACCORDANCE WITH AASHTO T206. UNDISTURBED SOIL SAMPLES WERE OBTAINED IN ACCORDANCE WITH AASHTO T207. THE TRUCK AND ATV HAMMER SYSTEMS WERE LAST CALIBRATED IN APRIL AND MAY 2012. BORINGS B-001-0-14 THROUGH B-003-0-14 AND B-006-0-15 WERE ADVANCED TO BEDROCK ENCOUNTER AND ROCK WAS CORED USING AN NX SERIES, DIAMOND-BIT, CORE BARREL.

SPECIFICATIONS
THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL ENGINEERING, DATED JULY 2014.

AVAILABLE INFORMATION
ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE OR THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1980 WEST BROAD STREET.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	1	2
GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT, AND CLAY	A-2-6	1	2
COARSE AND FINE SAND	A-3a	-	2
SANDY SILT	A-4a	6	1
SILT	A-4b	1	1
SILT AND CLAY	A-6a	12	12
SILTY CLAY	A-6b	2	5
	TOTAL	23	25
SHALE	VISUAL		
INTERBEDDED SHALE AND SILTSTONE	VISUAL		
SILTSTONE	VISUAL		
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		

BORING LOCATION - PLAN VIEW.

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

WC — INDICATES WATER CONTENT IN PERCENT.

N_{60} — INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

X/Y/D" — NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X= NUMBER OF BLOWS FOR 6 INCHES (UNCORRECTED). Y/D"=NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.

W— INDICATES FREE WATER ELEVATION.

▼— INDICATES FREE WATER ELEVATION.

ST — INDICATES A SHELBY TUBE SAMPLE

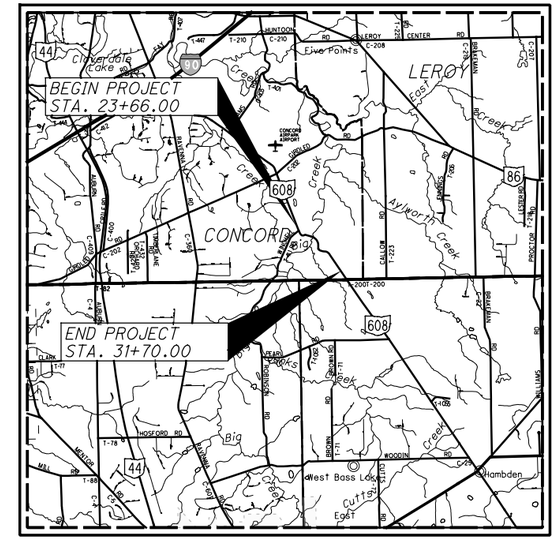
NX — INDICATES AN NX SIZE ROCK CORE

TR — INDICATES TOP OF ROCK

SS — INDICATES A SPLIT SPOON SAMPLE.

NP — INDICATES A NON-PLASTIC SAMPLE.

QU — INDICATES ROCK COMPRESSION TEST, ASTM D7012, METHOD C, RESULTS



LOCATION MAP
SCALE IN MILES
0 1 2 3 4
N

PARTICLE SIZE DEFINITIONS

BOULDERS	12"	COBBLES	3"	GRAVEL	2.0 mm (No. 10 SIEVE)	COARSE SAND	0.42 mm (No. 40 SIEVE)	FINE SAND	0.074 mm (No. 200 SIEVE)	SILT	0.005 mm	CLAY

RECON. - AJE
DRILLING - RH/RM/JH/CS 7/10/14-6/3/15
DRAWN -AMB 9/1/16
REVIEWED -AJE 9/1/16

BEDROCK TEST SUMMARY

BORING NO.	SAMPLE	DEPTH	QU (PSI)
B-002-0-14	S-1	31.5' - 31.9'	3100
B-003-0-14	S-1	17.7' - 18.3'	13250
B-006-0-15	S-1	27.5' - 28.0'	760
	S-2	33.8' - 34.2'	520
	S-3	36.5' - 37.0'	830
	S-4	44.0' - 44.5'	520

GEOTECHNICAL CONSULTANT
SME, INC.
9375 CHILLICOTHE RD.
KIRTLAND, OH 44094

PID NO. 94359

SLOPE AND DRAINAGE IMPROVEMENTS

LAK-608-00.85

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EXPLORATION FINDINGS

SURFACE MATERIALS ENCOUNTERED IN THE ROADWAY BORINGS CONSISTED OF 6 TO 9 INCHES OF ASPHALT OVER 7 TO 12 INCHES OF ASPHALT MILLINGS (BASE) FOLLOWED BY FILL TO DEPTHS RANGING FROM 3 TO 4 FEET. SLOPE BORINGS DRILLED SOUTH OF THE ROAD ENCOUNTERED UP TO 5 INCHES OF TOPSOIL, THEN FILL TO DEPTHS RANGING FROM 5* TO 8 FEET. SLOPE BORINGS DRILLED NORTH OF THE ROAD ENCOUNTERED UP TO 4 INCHES OF TOPSOIL AND NO FILL. BELOW THE SURFICIAL MATERIALS AT ABOUT STATION 16+00, THE BORINGS ENCOUNTERED MEDIUM STIFF SANDY SILT (A-4A) AND MEDIUM DENSE COARSE AND FINE SAND (A- 3A) OR GRAVEL (A-2-6). THIS IS THEN UNDERLAIN BY VERY STIFF TO HARD SILT AND CLAY (A-6A), FOLLOWED BY GRAY SHALE. THE UPPER FEW FEET OF THE SHALE IS VERY WEAK TO WEAK AND SEVERELY TO UNWEATHERED. WITH INCREASING DEPTH INTO THE FORMATION, THE SHALE BECOMES MODERATELY STRONG AND UNWEATHERED. A THIN LAYER OF SILTSTONE CAPS THE SHALE AT B-002-0-14. BELOW THE SURFICIAL MATERIALS AT ABOUT STATION 18+50, THE BORINGS ENCOUNTERED VERY STIFF TO HARD SILTY CLAY (A-6B) AND SILT AND CLAY (A-6A) SOILS. THIS OVERBURDEN IS UNDERLAIN BY GRAY SHALE. THE SHALE HERE IS WEAK TO SLIGHTLY STRONG AND UNWEATHERED AT THE SURFACE AND BECOMES MODERATELY STRONG WITH DEPTH INTO THE FORMATION. BORINGS DRILLED ON THE SLOPE SOUTH OF THE ROAD ENCOUNTERED ABOUT 3 FEET OF LOOSE GRAVEL (A-1-A) JUST ABOVE THE SHALE. BORINGS NORTH OF THE ROAD, ENCOUNTERED MEDIUM STIFF SILT AND CLAY (A-6A), UNDERLAIN BY HARD SILTY CLAY (A-6B) OR SILT AND CLAY (A-6A), AND THEN SHALE BEDROCK. B- 006-0-15 ENCOUNTERED SHALE AT A DEPTH OF 16 FEET. AT THE SURFACE OF THE FORMATION, THE SHALE IS VERY WEAK AND UNWEATHERED. TRIPOD BORINGS DRILLED ON THE FACE OF THE SLOPE ENCOUNTERED SHALE AT A DEPTH OF ABOUT 3 FEET. HERE THE DEGREE OF WEATHERING WAS SEVERE AT THE SURFACE OF THE FORMATION. ABOUT 2 FEET INTO THE FORMATION THE SHALE WAS UNWEATHERED.

GEOTECHNICAL CONSULTANT
SME, INC.
9375 CHILLICOTHE RD.
KIRTLAND, OH 44094

PID NO. 94359

SLOPE AND DRAINAGE IMPROVEMENTS
EXPLORATION NOTES

LAK-608-00.85

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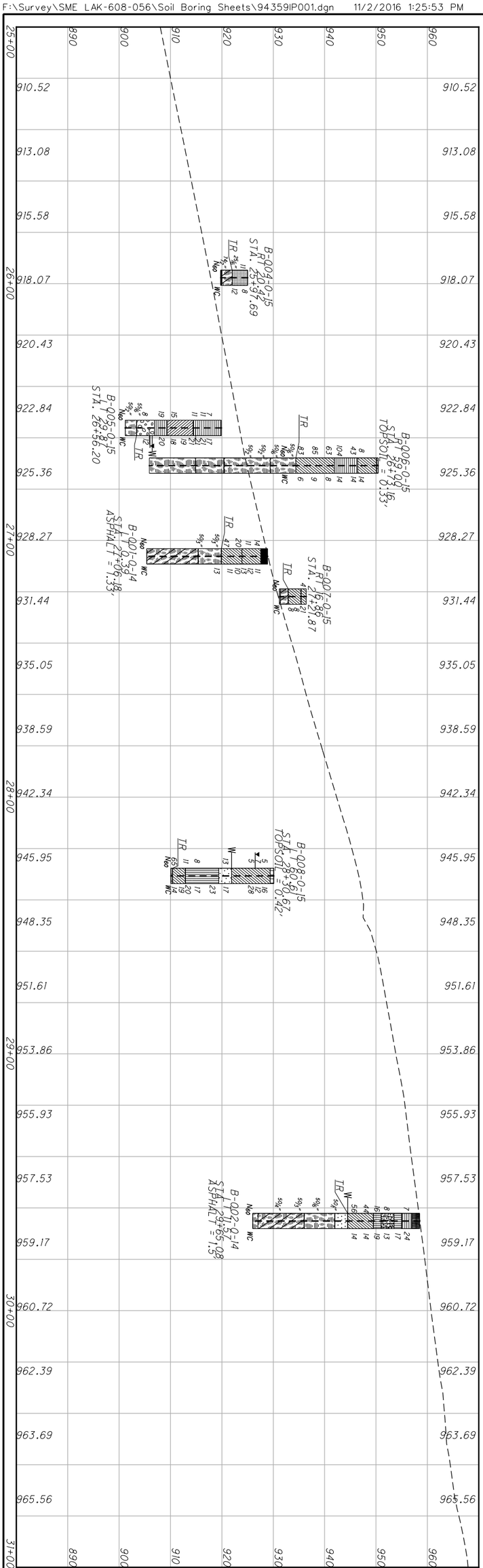

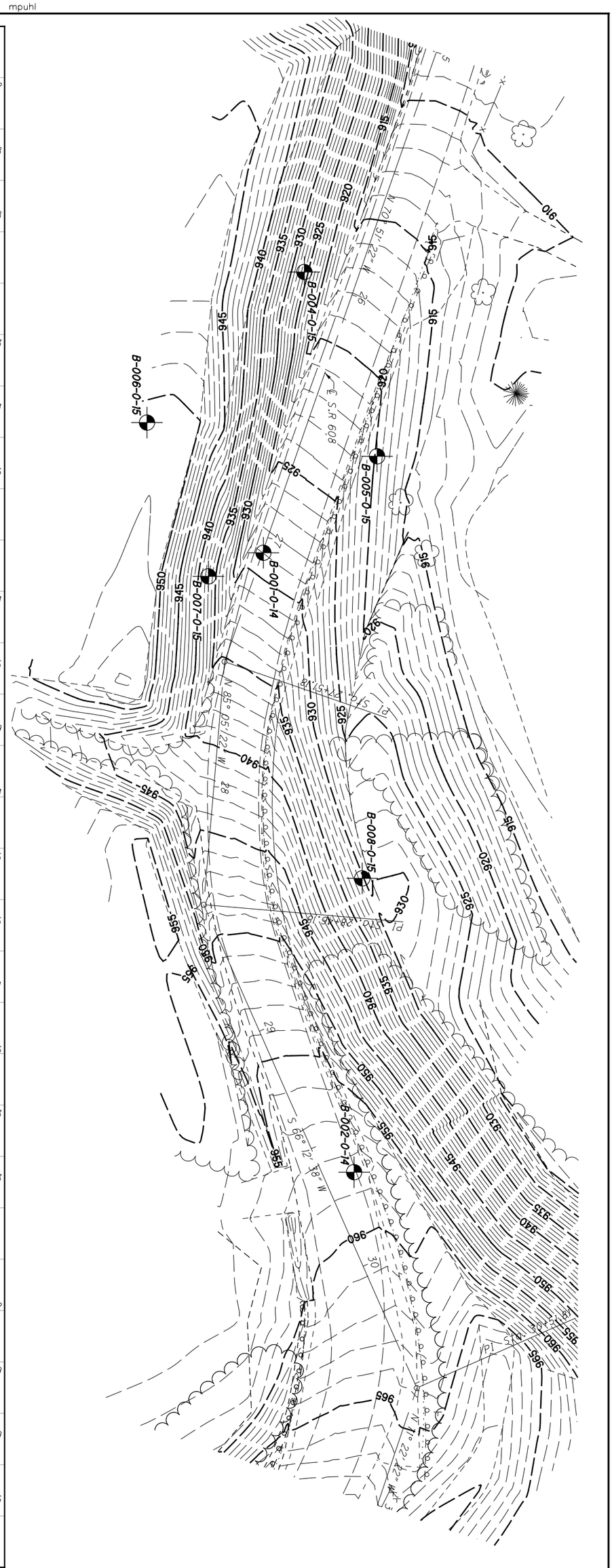

3/11	LAK-608-00.85	SLOPE AND DRAINAGE IMPROVEMENTS STA. 25+00 TO STA. 31.00	DRAWN AMB CHECKED	0 10 20 40 HORIZONTAL SCALE IN FEET	N

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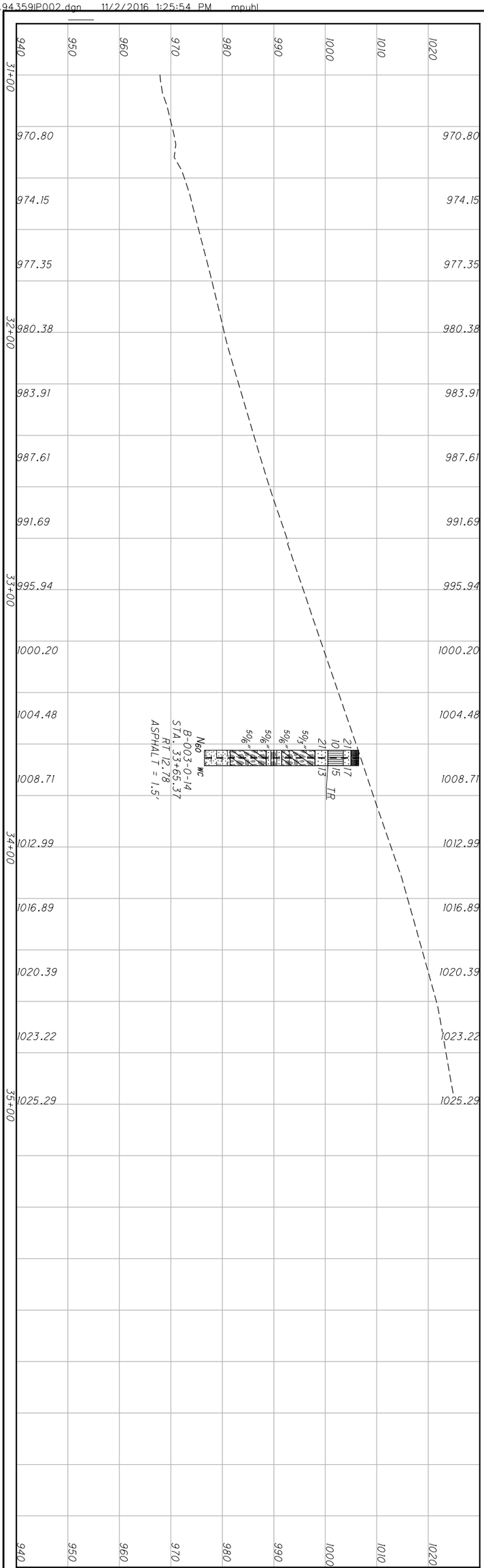
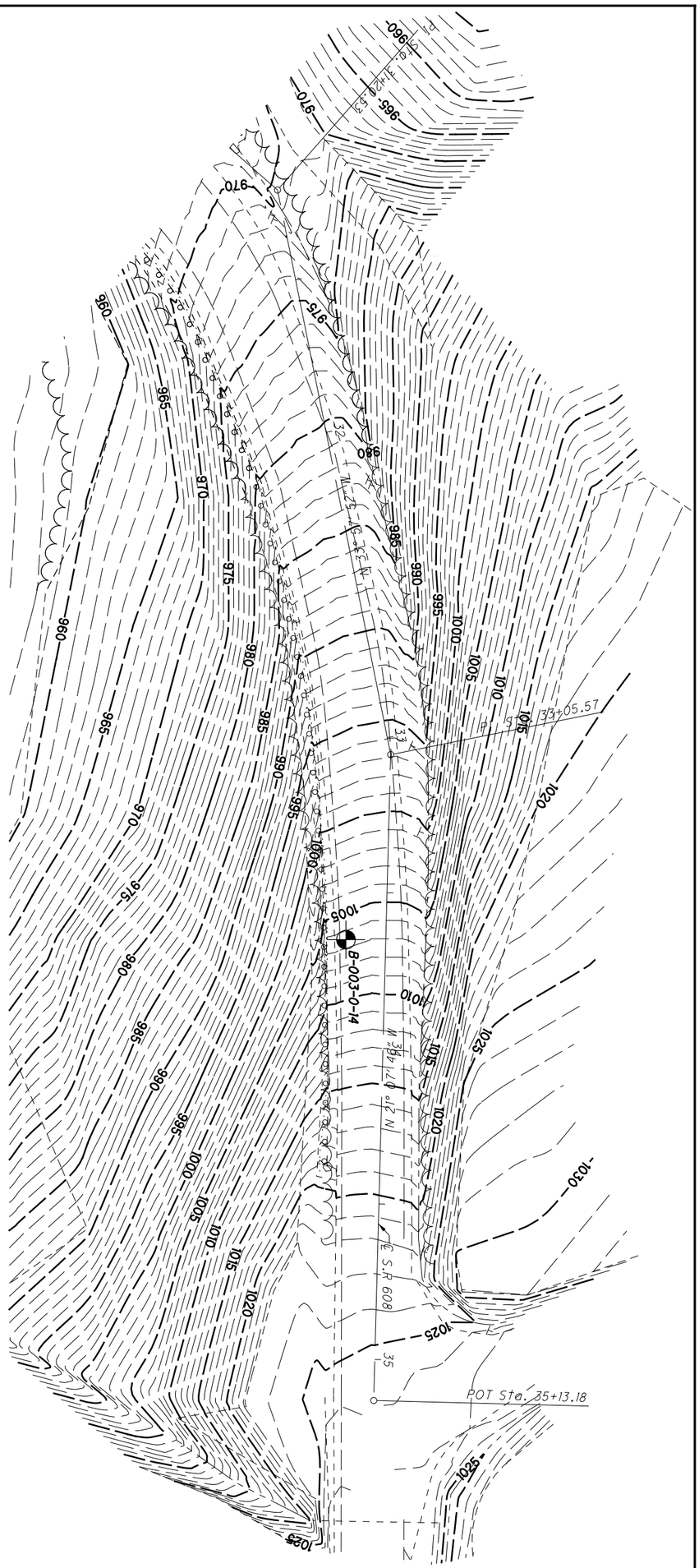
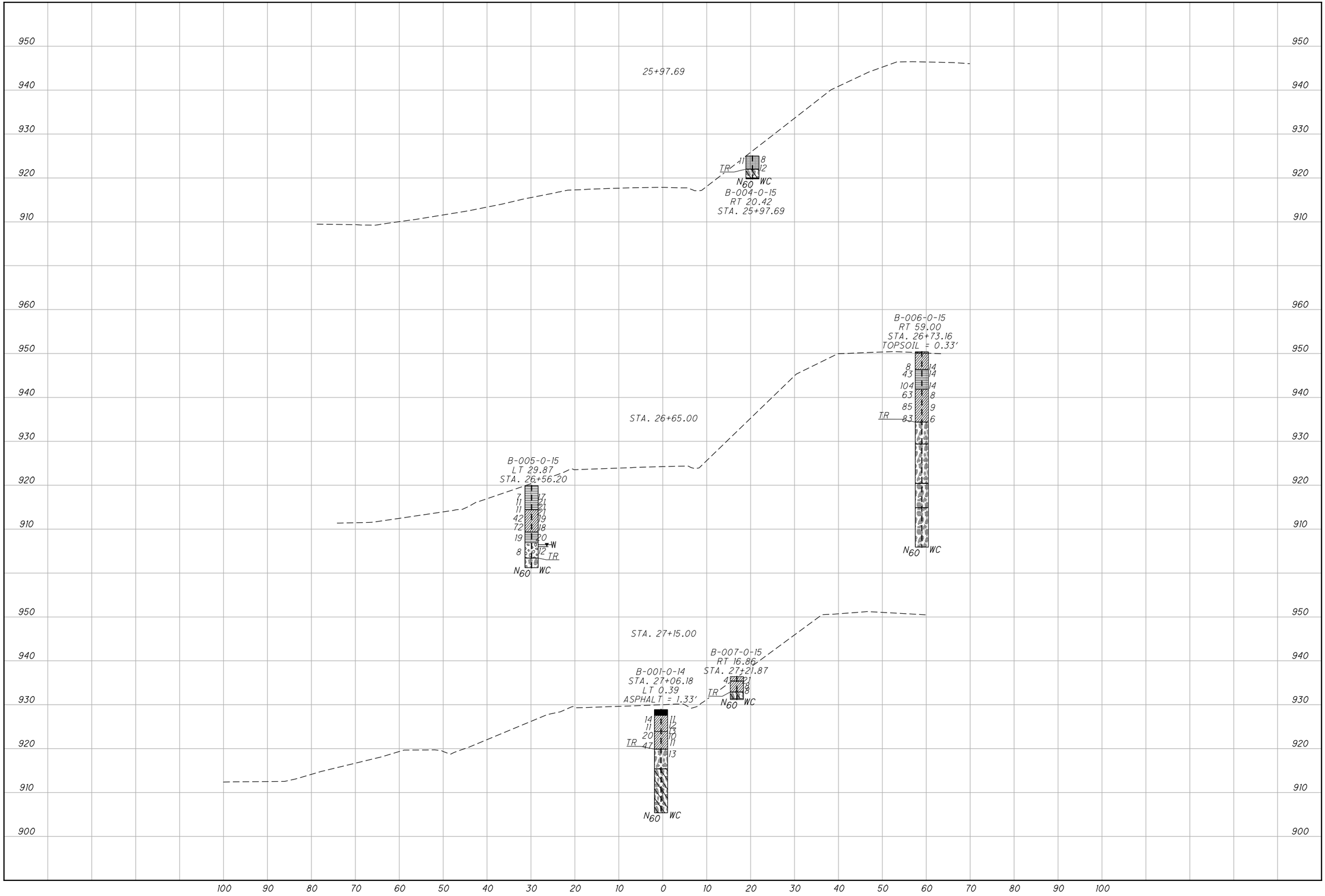




4/11	LAK-608-00.85	SLOPE AND DRAINAGE IMPROVEMENTS STA. 31+00 TO STA. 36+00	DRAWN AMB CHECKED	0 10 20 40 HORIZONTAL SCALE IN FEET	N



HORIZONTAL SCALE IN FEET
0 5 10 20

DRAWN AMB
CHECKED

SLOPE AND DRAINAGE IMPROVEMENTS
STA. 25+97.69, 26+65.00, AND 27+15.00

LAK-608-00.85

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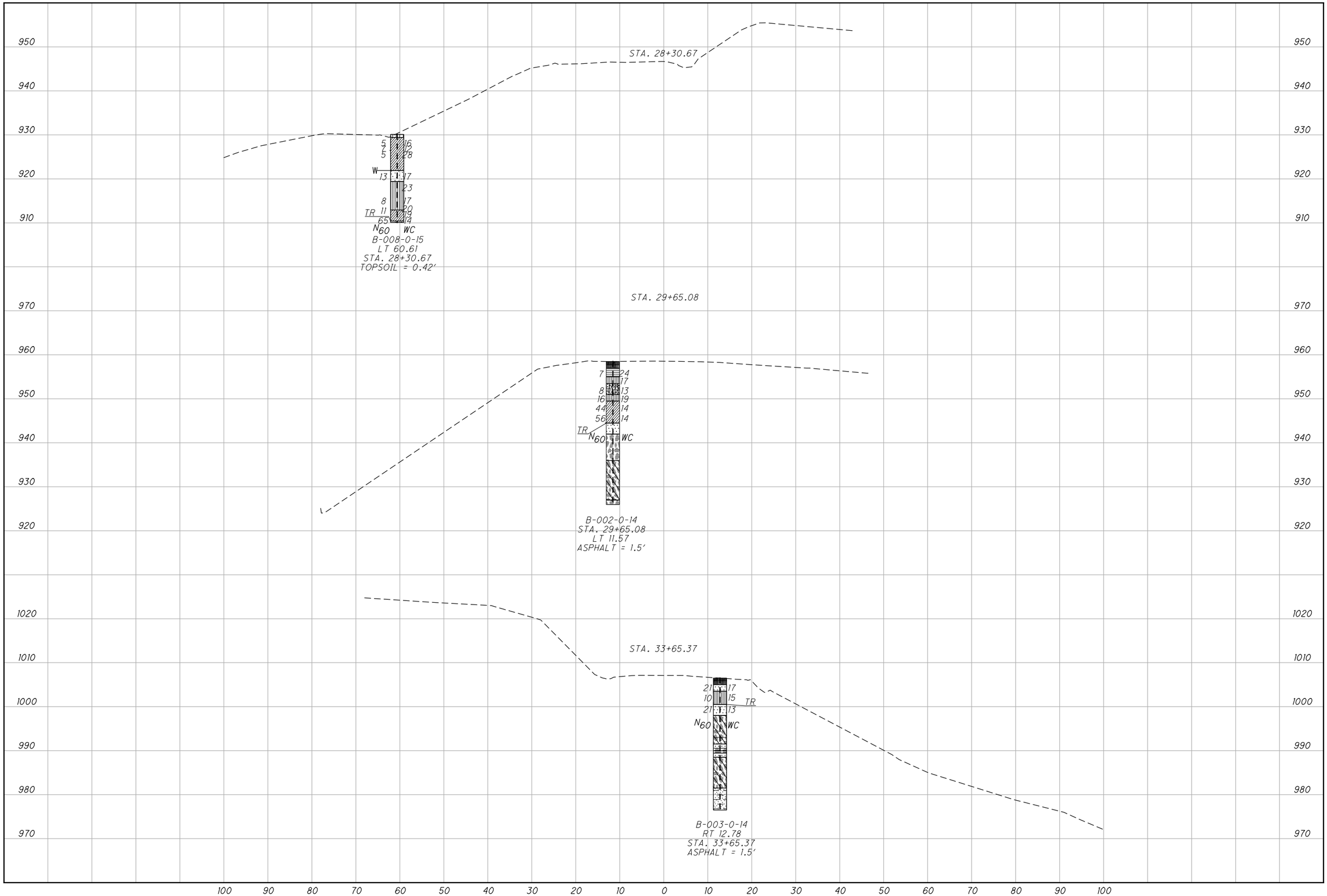

HORIZONTAL SCALE IN FEET

DRAWN AMB
CHECKED

SLOPE AND DRAINAGE IMPROVEMENTS
STA. 28+30.67, 29+65.08, AND 33+65.37

LAK-608-00.85

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PROJECT: LAK-608-00.85	DRILLING FIRM / OPERATOR: SME / RH/RM	DRILL RIG: SME CME-55 TRUCK	STATION / OFFSET: 27+06, 0' LT.	EXPLORATION ID B-001-0-14
TYPE: SLOPE REPAIR	SAMPLING FIRM / LOGGER: SME / BPL	HAMMER: CME AUTOMATIC	ALIGNMENT: CL SR 608	
PID: 94539 SFN: N/A	DRILLING METHOD: 3.75" HSA / WASH / NX	CALIBRATION DATE: 4/20/12	ELEVATION: 928.9 (MSL) EOB: 23.5 ft.	PAGE 1 OF 1
START: 7/11/14 END: 7/11/14	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.7	LAT / LONG: 41.649838, -81.189078	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
9" ASPHALT AND 7" ASPHALT MILLINGS (DRILLERS DESCRIPTION)	927.6																	
VERY STIFF, BROWN AND GRAY, **SILT AND CLAY**, SOME GRAVEL, SOME SAND, **FILL**, DAMP		2.5	4 4 6	14	78	SS-1	2.50	21	10	25	21	23	25	14	11	11	A-6a (2)	
			4 4 4	11	89	SS-2	2.50	-	-	-	-	-	-	-	-	12	A-6a (V)	
	923.9	5.0				SS-3A	-	-	-	-	-	-	-	-	-	13	A-6a (V)	
HARD, BROWN, **SILT AND CLAY**, TRACE GRAVEL, LITTLE TO TRACE SAND, (SEVERELY WEATHERED SHALE), DRY			4 6 8	20	100	SS-3B	4.50	0	4	7	55	34	31	20	11	10	A-6a (8)	
		7.5	9 12 21	47	100	SS-4	4.50	6	4	5	48	37	33	21	12	11	A-6a (9)	
	919.9	TR	27 50/3"	-	100	SS-5A	-	-	-	-	-	-	-	-	-	13	A-6a (V)	
SHALE, GRAY.		10.0				SS-5B	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			50/3"	-	100	SS-6	-	-	-	-	-	-	-	-	-	-		
		12.5																
	915.4																	
SHALE, GRAY, MODERATELY TO SLIGHTLY WEATHERED, SLIGHTLY TO MODERATELY STRONG; RQD 37%, REC 100%.		15.0																
		17.5																
		20.0	37		100	NX-7											CORE	
		22.5																
	905.4	EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: CEMENT-BENTONITE GROUT TO -1.0'; EPCO HOLE PLUG; CONCRETE; ASPHALT COLD PATCH

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/1/16 18:16 - \\SME-INC\PZ\WIP\069875.00\DATA\GINT ODOT\069875.00 ODOT LAK-608-00.85.GPJ

PROJECT: LAK-608-00.85	DRILLING FIRM / OPERATOR: SME / RH/RM	DRILL RIG: SME CME-55 TRUCK	STATION / OFFSET: 29+65, 12' LT.	EXPLORATION ID B-002-0-14
TYPE: SLOPE REPAIR	SAMPLING FIRM / LOGGER: SME / BPL	HAMMER: CME AUTOMATIC	ALIGNMENT: CL SR 608	
PID: 94539 SFN: N/A	DRILLING METHOD: 3.75" HSA / WASH / NX	CALIBRATION DATE: 4/20/12	ELEVATION: 958.5 (MSL) EOB: 32.5 ft.	PAGE 1 OF 1
START: 7/11/14 END: 7/11/14	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.7	LAT / LONG: 41.649751, -81.189962	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
8" ASPHALT AND 10" ASPHALT MILLINGS (DRILLERS DESCRIPTION)	958.5																	
STIFF, BROWN, **SILTY CLAY**, TRACE SAND, **POSSIBLE FILL**, DAMP	957.0	2.5	2 3 2	7	67	SS-1	1.75	-	-	-	-	-	-	-	-	24	A-6b (V)	
BROWN, **SANDY SILT**, SOME GRAVEL, SOME CLAY, DAMP	955.0				-	ST-2A	-	25	11	18	26	20	27	17	10	17	A-4a (2)	
LOOSE, BROWN, **GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT, AND CLAY**, DAMP	953.5	5.0				ST-2B	-	-	-	-	-	-	-	-	-	-	A-2-6 (V)	
			6 3 3	8	100	SS-3	-	16	22	30	17	15	26	15	11	13	A-2-6 (0)	
	951.0	7.5				SS-4A	-	-	-	-	-	-	-	-	-	-	A-2-6 (V)	
MEDIUM DENSE, BROWN, **SANDY SILT**, LITTLE CLAY, TRACE GRAVEL, MOIST	949.5		3 4 7	16	100	SS-4B	-	10	18	31	23	18	23	16	7	19	A-4a (1)	
HARD, BROWN, **SILT AND CLAY**, TRACE TO LITTLE GRAVEL, TRACE SAND, (SEVERELY WEATHERED SHALE), DRY		10.0	7 12 19	44	100	SS-5	4.50	11	4	5	38	42	35	22	13	14	A-6a (9)	
		12.5	11 14 26	56	100	SS-6	-	-	-	-	-	-	-	-	-	14	A-6a (V)	
	944.5	W TR																
SANDSTONE, BROWN.		15.0	50/1"	-	100	SS-7	-	-	-	-	-	-	-	-	-	-	Rock (V)	
	942.0																	
SHALE, GRAY.		17.5	28 50/6"	-	100	SS-8	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		20.0	32 50/3"	-	100	SS-9	-	-	-	-	-	-	-	-	-	-	Rock (V)	
	936.0	22.5	50/4"	-	100	SS-10	-	-	-	-	-	-	-	-	-	-	Rock (V)	
SHALE, GRAY, MODERATELY WEATHERED, WEAK TO SLIGHTLY STRONG; RQD 28%, REC 100%.		25.0																
		27.5	36		100	NX-11											CORE	
		30.0																
	927.0																	
SHALE, GRAY, UNWEATHERED, MODERATELY STRONG; RQD 100%, REC 100%. @ 31.5' TO 31.9'; Qu = 3100 PSI	926.0	EOB 32.5																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: CEMENT-BENTONITE GROUT TO -1.0'; EPCO HOLE PLUG; CONCRETE; ASPHALT COLD PATCH

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/1/16 18:16 - \\SME-INC\PZ\WIP\069875.00\DATA\GINT ODOT\069875.00 ODOT LAK-608-00.85.GPJ

PROJECT: LAK-608-00.85	DRILLING FIRM / OPERATOR: SME / RH/RM	DRILL RIG: SME CME-55 TRUCK	STATION / OFFSET: 33+65, 13' RT.	EXPLORATION ID B-003-0-14
TYPE: SLOPE REPAIR	SAMPLING FIRM / LOGGER: SME / BPL	HAMMER: CME AUTOMATIC	ALIGNMENT: CL SR 608	
PID: 94539 SFN: N/A	DRILLING METHOD: 3.75" HSA / WASH / NX	CALIBRATION DATE: 4/20/12	ELEVATION: 1006.5 (MSL) EOB: 30.0 ft.	PAGE 1 OF 1
START: 7/10/14 END: 7/10/14	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.7	LAT / LONG: 41.650342, -81.190909	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
6" ASPHALT AND 12" ASPHALT MILLINGS (DRILLERS DESCRIPTION)	1005.0																	
MEDIUM DENSE, BROWN, **SANDSTONE**, SOME SAND, SOME CLAY, **POSSIBLE FILL**, DAMP	1003.5	2.5	5 6 9	21	33	SS-1	-	-	-	-	-	-	-	-	-	17	A-1-a (V)	
STIFF TO VERY STIFF, BROWN, **SANDY SILT**, AND TO SOME SANDSTONE, LITTLE TO SOME CLAY, DAMP		5.0	3 4 3	10	67	SS-2	2.00	40	5	8	28	19	28	20	8	15	A-4a (2)	
	1000.5		10 4 11	21	89	SS-3	-	28	7	7	35	23	30	22	8	13	A-4a (5)	
BROWN, **SANDSTONE**, DRY		TR 7.5	50/3"	-	100	SS-4	-	-	-	-	-	-	-	-	-	-	Rock (V)	
	998.0		50/6"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	
SHALE, BROWN AND GRAY, SEVERELY WEATHERED, VERY WEAK.		10.0																
		12.5	30 50/6"	-	-	SS-6	-	-	-	-	-	-	-	-	-	-	Rock (V)	
	993.0																	
INTERBEDDED SHALE AND SANDSTONE, BROWN.			50/6"	-	-	SS-7	-	-	-	-	-	-	-	-	-	-	Rock (V)	
	991.5	15.0																
INTERBEDDED SHALE (70%) AND SILTSTONE (30%), RQD 9%, REC. 60%; **SHALE**, BROWN AND GRAY, SEVERELY WEATHERED, VERY WEAK; **SILTSTONE**, GRAY, UNWEATHERED, STRONG. @ 17.7' TO 18.3'; Qu = 13250 PSI		17.5 20.0 22.5	9		60	NX-8											CORE	
	981.5	25.0																
SILTSTONE, GRAY, UNWEATHERED, STRONG; RQD 46%, REC 100%.		27.5	46		100	NX-9											CORE	
	976.5	EOB 30.0																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: CEMENT-BENTONITE GROUT TO -1.5'; EPCO HOLE PLUG; CONCRETE; ASPHALT COLD PATCH

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/1/16 18:16 - \\SME-INC\PZ\WIP\069875.00\DATA\GINT ODOT\069875.00 ODOT LAK-608-00.85.GPJ

PROJECT: LAK-608-00.85	DRILLING FIRM / OPERATOR: SME / RM/CS	DRILL RIG: TRIPOD	STATION / OFFSET: 25+98, 20' RT.	EXPLORATION ID B-004-0-15
TYPE: SLOPE REPAIR	SAMPLING FIRM / LOGGER: SME / BPL	HAMMER: ROPE AND CATHEAD	ALIGNMENT: CL SR 608	
PID: 94539 SFN: N/A	DRILLING METHOD: 2" SSA	CALIBRATION DATE: N/A	ELEVATION: 925.0 (MSL) EOB: 5.2 ft.	PAGE 1 OF 1
START: 5/14/15 END: 5/14/15	SAMPLING METHOD:	ENERGY RATIO (%): 60	LAT / LONG: 41.649789, -81.188678	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
STIFF, BROWN, **SILT**, SOME CLAY, LITTLE SAND, TRACE GRAVEL, DRY	925.0	1	3 4 7	11	100		-	-	-	-	-	-	-	-	-	8	A-4b (V)	
	922.0	TR 2	25/6"	-	100		-	2	12	6	51	29	28	18	10	12	A-4b (8)	
SHALE, GRAY, SEVERELY WEATHERED, VERY WEAK.		3 4																
	920.0																	
SHALE, GRAY, UNWEATHERED, MODERATELY STRONG.	919.8	EOB 5	74/2"	-	100		-	-	-	-	-	-	-	-	-	-	Rock (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/1/16 18:20 - \\SME-INC\PZ\WIP\069875.01\DATA\GINT\069875.01 LAK-608 BORING LOGS.GPJ

PROJECT: LAK-608-00.85	DRILLING FIRM / OPERATOR: SME / RH/RM	DRILL RIG: SME CME 45B ATV	STATION / OFFSET: 26+56, 30' LT.	EXPLORATION ID B-005-0-15
TYPE: SLOPE REPAIR	SAMPLING FIRM / LOGGER: SME / BPL	HAMMER: SAFETY HAMMER	ALIGNMENT: CL SR 608	
PID: 94539 SFN: N/A	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 5/8/12	ELEVATION: 919.9 (MSL) EOB: 18.7 ft.	PAGE 1 OF 1
START: 6/3/15 END: 6/3/15	SAMPLING METHOD: SPT	ENERGY RATIO (%): 80.8	LAT / LONG: 41.649714, -81.188942	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
	919.9																	
BROWN AND GRAY, **SILTY CLAY**, LITTLE TO SOME GRAVEL, LITTLE SAND, **FILL**, TRACE ASPHALT FRAGMENTS, DAMP		1																
		2	2 3 2	7	100		1.25	-	-	-	-	-	-	-	-	17	A-6b (V)	
		3	3 4 4	11	67		1.00	-	-	-	-	-	-	-	-	21	A-6b (V)	
	914.4	4	3 4 4	11	100		-	-	-	-	-	-	-	-	-	21	A-6b (V)	
VERY STIFF, BROWN, **SILT AND CLAY**, LITTLE SAND, LITTLE GRAVEL, DAMP		5					2.75	12	7	7	37	37	36	22	14	21	A-6a (9)	
		6			42		-	12	9	10	36	33	31	20	11	19	A-6a (7)	
		7																
		8																
		9	4 5 6	15	72		3.00	-	-	-	-	-	-	-	-	18	A-6a (V)	
	909.4	10																
HARD, BROWN, **SILTY CLAY**, LITTLE SAND, TRACE GRAVEL, DAMP		11																
		12	5 6 8	19	100		4.00	3	7	7	39	44	38	22	16	20	A-6b (10)	
	906.9	13																
LOOSE, BROWN AND GRAY, **GRAVEL AND/OR STONE FRAGMENTS**, SOME SAND, LITTLE SILT, TRACE CLAY, WET		14 (W)	4 3 3	8	39		-	56	21	9	13	1	NP	NP	NP	12	A-1-a (0)	
	903.4	15																
SHALE, GRAY, WEAK TO SLIGHTLY STRONG.		16 TR	19 55/6"	-	100		-	-	-	-	-	-	-	-	-	7	A-1-a (V)	
		17					-	-	-	-	-	-	-	-	-	-	Rock (V)	
	901.2	18 EOB	50/2"	-	100		-	-	-	-	-	-	-	-	-	-	Rock (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/1/16 18:20 - \\SME-INC\PZW\P\069875.01\DATA\GINT\069875.01 LAK-608 BORING LOGS.GPJ

PROJECT: LAK-608-00.85	DRILLING FIRM / OPERATOR: SME / RM/JH	DRILL RIG: SME CME 45B ATV	STATION / OFFSET: 26+73, 59' RT.	EXPLORATION ID B-006-0-15
TYPE: SLOPE REPAIR	SAMPLING FIRM / LOGGER: SME / BPL	HAMMER: SAFETY HAMMER	ALIGNMENT: CL SR 608	
PID: 94539 SFN: N/A	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 5/8/12	ELEVATION: 950.4 (MSL) EOB: 44.5 ft.	PAGE 1 OF 2
START: 5/13/15 END: 5/13/15	SAMPLING METHOD: SPT/NX CORE	ENERGY RATIO (%): 80.8	LAT / LONG: 41.649961, -81.188889	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
4" TOPSOIL (DRILLERS DESCRIPTION)	950.1																	
MEDIUM STIFF, BROWN, **SILT AND CLAY**, TRACE SAND, TRACE GRAVEL, DRY	946.4	1, 2, 3	2 2 4	8	17		-	3	4	3	45	45	35	21	14	14	A-6a (10)	
HARD, BROWN, **SILTY CLAY**, TRACE TO LITTLE SAND, TRACE GRAVEL, DRY	941.9	4, 5, 6, 7, 8	12 16 16	43	28		-	9	5	5	37	44	40	23	17	14	A-6b (11)	
			18 32 45	104	100		-	-	-	-	-	-	-	-	-	14	A-6b (V)	
HARD, BROWN TO GRAY, **SILT AND CLAY**, TRACE SAND, TRACE GRAVEL, DRY	934.4	9, 10, 11	17 22 25	63	100		-	0	4	5	56	35	31	19	12	8	A-6a (9)	
		12, 13	24 28 35	85	100		-	0	3	5	48	44	35	24	11	9	A-6a (8)	
		14, 15	24 30 32	83	100		-	3	2	2	46	47	33	20	13	6	A-6a (9)	
SHALE, GRAY, UNWEATHERED, VERY WEAK.	929.4	TR 16	50/6"	-	100		-	-	-	-	-	-	-	-	-	-	Rock (V)	
		19	50/6"	-	100		-	-	-	-	-	-	-	-	-	-	Rock (V)	
SHALE, GRAY, UNWEATHERED, MODERATELY STRONG; RQD 29%, REC 90%.		21	50/2"	-	100		-	-	-	-	-	-	-	-	-	-	Rock (V)	
		24	50/2"	-	100		-	-	-	-	-	-	-	-	-	-	Rock (V)	
@ 27.5' TO 28.0'; Qu = 760 PSI		29	38		95	NX-11											CORE	

PID: 94539	SFN: N/A	PROJECT: LAK-608-00.85	STATION / OFFSET: 26+73, 59' RT.	START: 5/13/15	END: 5/13/15	PG 2 OF 2	B-006-0-15

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
SHALE, GRAY, UNWEATHERED, MODERATELY STRONG; RQD 29%, REC 90%. *(continued)*		31, 32, 33, 34																
@ 33.8' TO 34.2'; Qu = 520 PSI	914.9																	
SHALE, GRAY, UNWEATHERED, MODERATELY STRONG; RQD 81%, REC 97%.		35, 36, 37, 38, 39, 40, 41, 42, 43, 44	73		90	NX-12											CORE	
@ 36.5' TO 37.0'; Qu = 830 PSI																		
@ 44.0' TO 44.5'; Qu = 520 PSI	905.9	EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/1/16 18:20 - \\SME-INC\PZ\WIP\069875.01\DATA\GINT\069875.01 LAK-608 BORING LOGS.GPJ

PROJECT: LAK-608-00.85	DRILLING FIRM / OPERATOR: SME / RM/CS	DRILL RIG: TRIPOD	STATION / OFFSET: 27+22, 17' RT.	EXPLORATION ID B-007-0-15
TYPE: SLOPE REPAIR	SAMPLING FIRM / LOGGER: SME / BPL	HAMMER: ROPE AND CATHEAD	ALIGNMENT: CL SR 608	
PID: 94539 SFN: N/A	DRILLING METHOD: 2" SSA	CALIBRATION DATE: N/A	ELEVATION: 936.4 (MSL) EOB: 5.2 ft.	PAGE 1 OF 1
START: 5/14/15 END: 5/14/15	SAMPLING METHOD:	ENERGY RATIO (%): 60	LAT / LONG: 41.649897, -81.189111	

MATERIAL DESCRIPTION AND NOTES	ELEV. 936.4	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
STIFF, BROWN, **SILT AND CLAY**, LITTLE SAND, SLIGHTLY ORGANIC, DAMP	935.4	1	0 2 2	4	78		1.50	-	-	-	-	-	-	-	-	21	A-6a (V)	
HARD, BROWN, **SILT AND CLAY**, LITTLE SAND, DRY	932.9	2 3	9 37/6"	-	100		-	-	-	-	-	-	36	22	14	8	A-6a (V)	
SHALE, GRAY, SEVERELY WEATHERED, VERY WEAK.	931.4	TR 4																
SHALE, GRAY, UNWEATHERED, MODERATELY STRONG.	931.2	EOB 5	50/2"	-	100		-	-	-	-	-	-	-	-	-	-	Rock (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/1/16 18:20 - \\SME-INC\PZ\WIP\069875.01\DATA\GINT\069875.01 LAK-608 BORING LOGS.GPJ

PROJECT: LAK-608-00.85	DRILLING FIRM / OPERATOR: SME / RH/RM	DRILL RIG: SME CME 45B ATV	STATION / OFFSET: 28+31, 61' LT.	EXPLORATION ID B-008-0-15
TYPE: SLOPE REPAIR	SAMPLING FIRM / LOGGER: SME / BPL	HAMMER: SAFETY HAMMER	ALIGNMENT: CL SR 608	
PID: 94539 SFN: N/A	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 5/8/12	ELEVATION: 930.1 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 6/3/15 END: 6/3/15	SAMPLING METHOD: SPT	ENERGY RATIO (%): 80.8	LAT / LONG: 41.649739, -81.189544	

MATERIAL DESCRIPTION AND NOTES	ELEV. 930.1	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
5" TOPSOIL (DRILLERS DESCRIPTION)	929.6																	
BROWN AND GRAY, **SILT AND CLAY**, SOME SAND, TRACE GRAVEL, **FILL** , DAMP TO MOIST		1 2 3	3 2 2	5	67		2.50	-	-	-	-	-	-	-	-	16	A-6a (V)	
		4	3 2 3	7	56		1.00	-	-	-	-	-	-	-	-	12	A-6a (V)	
		5 6	3 2 2	5	78		1.25	1	8	25	32	34	36	21	15	28	A-6a (8)	
	922.1	7 8 W			58		-	-	-	-	-	-	-	-	-	-	A-6a (V)	
GRAY, **COARSE AND FINE SAND**, SOME TO AND GRAVEL, LITTLE SILT, LITTLE CLAY, **FILL** , TRACE SLAG, DAMP							-	-	-	-	-	-	-	-	-	-	A-3a (V)	
		9 10	4 5 5	13	100		-	-	-	-	-	-	-	-	-	17	A-3a (V)	
	919.6																	
MEDIUM STIFF TO STIFF, GRAY, **SANDY SILT**, SOME CLAY, TRACE GRAVEL, MOIST TO DAMP		11 12 13			71		-	7	14	8	39	32	31	21	10	23	A-4a (7)	
		14 15	2 3 3	8	67		1.00	7	6	4	48	35	32	22	10	17	A-4a (8)	
	913.1	16 17	3 4 4	11	50		2.00	-	-	-	-	-	-	-	-	20	A-4a (V)	
VERY STIFF, GRAY, **SILT AND CLAY**, TRACE SAND, TRACE GRAVEL, DAMP							2.00	-	-	-	-	-	-	-	-	19	A-6a (V)	
	910.6	18 19 TR	8 16 32	65	100		3.00	1	2	2	55	40	33	21	12	14	A-6a (9)	
SHALE, GRAY, VERY WEAK.	910.1	EOB 20					-	-	-	-	-	-	-	-	-	-	Rock (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/1/16 18:20 - \\SME-INC\PZ\WIP\069875.01\DATA\GINT\069875.01 LAK-608 BORING LOGS.GPJ