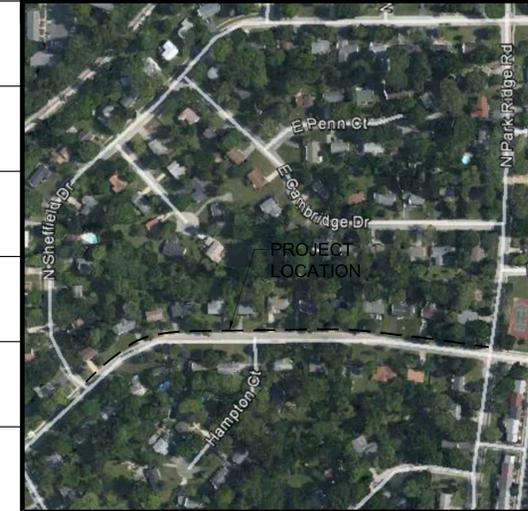


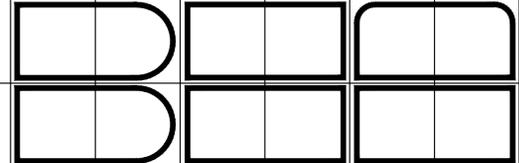
PROPOSED:
MORNINGSIDE DRIVE
Sidewalk from Sheffield Drive to
Park Ridge Drive
BLOOMINGTON, INDIANA



VICINITY/LOCATION MAP
SCALE: 1"=2000'

UTILITY CONTACT INFORMATION		
GAS VECTREN 205 S. MADISON ST. BLOOMINGTON, IN 47401 DOUG ANDERSON (812)330-4009	SEWER AND WATER CITY OF BLOOMINGTON UTILITIES 600 E. MILLER DR. BLOOMINGTON, IN 47402 NANCY AXSON (812)349-3689	ELECTRIC DUKE ENERGY 1619 W. DEFFENBAUGH ROAD KOKOMO, INDIANA 46902 JIM SHIELDS (317)375-2071
TELEPHONE AT&T P.O. BOX 56 BLOOMINGTON, IN 47402 BRENT McCABE (812)334-4521	CABLE TELEVISION COMCAST 2450 SOUTH HENDERSON STREET BLOOMINGTON, IN 47404 SCOTT TEMPLETON (812)355-7822	UNDERGROUND UTILITY LOCATION INDIANA UNDERGROUND PLANT PROTECTION 1-(800)382-5544

SHEET INDEX	
SHEET NO.	SHEET NO.
C 101	GENERAL NOTES & LEGENDS
C 201	MISCELLANEOUS DETAILS
C 301	EROSION CONTROL DETAILS
C 401- C 403	PLAN & PROFILE SHEETS
C 501 - C 506	CROSS SECTION SHEETS



BYNUM FANYO & ASSOCIATES, INC.
528 North Walnut Street
Bloomington, Indiana 47404 (812) 332-8030

architecture
civil engineering
planning

<p>OWNER/DEVELOPER: CITY OF BLOOMINGTON 401 N. MORTON STREET BLOOMINGTON, IN 47404</p>	<p>THE CURRENT EDITION OF THE INDIANA DEPARTMENT OF TRANSPORTATION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES & CITY OF BLOOMINGTON UTILITIES STANDARD SPECIFICATIONS IS TO BE USED WITH THESE PLANS</p>			<p>Certified By: <i>Jeffrey S. Fanyo</i> JEFFREY S. FANYO, P.E. IND. REG. NO. 60018283</p>	<p>Revisions CBU Approval 9-13-16</p> <p>MORNINGSIDE DRIVE SIDEWALK PROJECT NO. 401618</p>
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GENERAL LEGEND

---	PROPERTY LINE
---	PROPERTY LINE
XXX/XXX	DEED BOOK AND PAGE
T.B.R.	TO BE REMOVED
T.R.U.	TO REMAIN UNDISTURBED
X' SBL	SETBACK LINE
	PROPOSED ACCESSIBLE PARKING SPACE
S.S.E.	SANITARY SEWER EASEMENT
G.E.	GAS EASEMENT
W.L.E.	WATER LINE EASEMENT
E.E.	ELECTRIC EASEMENT
D.E.	DRAINAGE EASEMENT
U.E.	UTILITY EASEMENT

EXISTING LEGEND

— x —	EXISTING FENCE
— W —	EXISTING WATER LINE
— OHE —	EXISTING OVERHEAD ELECTRIC LINES
— UGE —	EXISTING UNDERGROUND ELECTRIC LINES
— OHT —	EXISTING OVERHEAD TELEPHONE LINES
— UGT —	EXISTING UNDERGROUND TELEPHONE LINE
— GAS —	EXISTING GAS LINE
--- XXX ---	EXISTING CONTOUR & ELEVATION
— FLOW LINE —	FLOW LINE
— SS —	EXISTING SANITARY SEWER AND MANHOLE
— ST —	EXISTING STORM SEWER AND INLET

SITE LEGEND

(A)	PROPOSED BITUMINOUS PAVING
(A1)	PROPOSED HEAVY DUTY ROAD BITUMINOUS PAVING
(W)	PROPOSED ALL-PURPOSE TRAIL BITUMINOUS PAVING
(C)	PROPOSED REINFORCED CONCRETE PAVING
(F)	PROPOSED CONCRETE SIDEWALK
(F1)	PROPOSED MONOLITHIC CURB AND SIDEWALK
(PP)	PROPOSED CITY OF BLOOMINGTON STANDARD PAVEMENT PATCH
(13)	PROPOSED 6 IN. STANDING CURB
(14)	PROPOSED ROLL CURB
(15)	PROPOSED SIDEWALK ACCESSIBLE CONCRETE CURB
(R1)	PROPOSED INDOT SIDEWALK ACCESSIBLE RAMP TYPE G
(R)	PROPOSED CONCRETE SIDEWALK TRANSITION RAMP
(R3)	PROPOSED SIDEWALK ACCESSIBLE RAMP TYPE H
(R4)	PROPOSED SIDEWALK ACCESSIBLE RAMP TYPE K
(R5)	PROPOSED INDOT SIDEWALK ACCESSIBLE RAMP TYPE E
(21)	PROPOSED SOLID WHITE 4 IN. WIDE PAINTED PAVEMENT MARKING
(29)	PROPOSED SOLID WHITE 12 IN. WIDE PAINTED CROSS HATCH PAVEMENT MARKING - SPACED AT 5 FT. O.C. IN LIMITS SHOWN
(20)	PROPOSED SOLID BLUE 4 IN. WIDE PAINTED ADA PARKING MARKING
(36)	PROPOSED SOLID THERMOPLASTIC WHITE 24 IN. WIDE STOP BAR PAVEMENT MARKING
(38)	PROPOSED SOLID WHITE THERMOPLASTIC 24 IN. WIDE CROSSWALK PAVEMENT MARKING - 24 IN. SPACING
(R1-1)	PROPOSED INDOT 30 IN. X 30 IN. ROAD STOP SIGN
(RW)	PROPOSED REINFORCED CONCRETE RETAINING WALL AND RAILING - REFER TO STRUCTURAL DRAWINGS FOR MORE DETAILS
(XX)	PROPOSED NUMBER OF PARKING SPACES PER LOT
(B)	PROPOSED BOLLARD
(S)	PROPOSED CONCRETE STAIRS SPACED 4 FT. O.C. MIN. AS REQUIRED, STEP HEIGHT VARIES, 7 IN. MAXIMUM, REFER TO GRADING PLAN FOR MORE INFORMATION
(SI)	PROPOSED WOOD STAIRS TO 2ND FLOOR AS REQUIRED, RISER HEIGHT VARIES, REFER TO GRADING AND ARCHITECTURAL PLANS FOR MORE INFORMATION
(BP)	PROPOSED BIKE PARKING AREA WITH CONCRETE PAD, REFER TO TYPICAL SIDEWALK CONCRETE DETAIL - REFER ALSO TO LANDSCAPE AND ARCHITECTURAL PLANS FOR ADDITIONAL DETAIL AND FOUNDATION INFORMATION
(PB)	PROPOSED CONCRETE PARKING BUMPER BLOCK, 7 FT. LONG

UTILITY LEGEND

— FSL —	PROPOSED DIP FIRE SERVICE LINE
— DSL —	PROPOSED DOMESTIC SERVICE LINE
	PROPOSED WATER VALVE
	PROPOSED FIRE HYDRANT
— SSL —	PROPOSED SANITARY SEWER LATERAL AND SANITARY SEWER CLEAN-OUT
— ST —	PROPOSED STORM SEWER INLET AND PIPE
— BD —	PROPOSED SCHEDULE 40 PVC BUILDING DRAIN
— GAS —	PROPOSED GAS SERVICE LINE
— ELEC —	PROPOSED ELECTRIC SERVICE LINE

GRADING LEGEND

— XXX —	PROPOSED GRADE CONTOUR
--- XXX ---	EXISTING GRADE CONTOUR
— FL> —	PROPOSED FLOWLINE
XXX.XX	PROPOSED SPOT GRADE ELEVATION
XXX.XX	PROPOSED TOP OF CURB ELEVATION
XXX.XX	PROPOSED PAVEMENT ELEVATION
FC=XXX.XX	FINISH TOP OF CURB ELEVATION
FF=XXX.XX	FINISH FLOOR ELEVATION
FG=XXX.XX	FINISH EARTH GRADE ELEVATION
FQH=XXX.XX	FINISH EARTH GRADE ELEVATION ON HIGH SIDE OF RETAINING WALL
FGL=XXX.XX	FINISH EARTH GRADE ELEVATION ON LOW SIDE OF RETAINING WALL
FP=XXX.XX	FINISH PATIO ELEVATION
FR=XXX.XX	FINISH RAMP ELEVATION
FS=XXX.XX	FINISH STEP ELEVATION
FW=XXX.XX	FINISH WALK ELEVATION
TC=XXX.XX	FINISH TOP OF CASTING
TW=XXX.XX	FINISH TOP OF RETAINING WALL

EROSION CONTROL LEGEND

— SF —	SILTATION FENCE (TEMPORARY)
— CL —	CONSTRUCTION LIMITS
(MS)	MULCH SEEDING - SEE SPECIFICATIONS (TEMPORARY)
(SP)	20' X 50' STONE PAD, 6" DEEP TO KEEP FROM TRACKING MUD OFF SITE (TEMPORARY)
(CD)	CHECK DAM (TEMPORARY)
(CW)	CONCRETE WASHOUT AREA (TEMPORARY)
(ECB)	EROSION CONTROL BLANKET (PERMANENT)
(SBI)	STRAW BALE (TEMPORARY) (TO BE USED ON ALL YARD INLETS)

revisions:
CJU Approval 9-13-16

ARCHITECTURE
CIVIL ENGINEERING
PLANNING

BYNUM FANYO & ASSOCIATES, INC.

528 north walnut street
(812) 332-8030

bloomington, indiana
(812) 339-2990 (Fax)

JEFFREY S. FANYO
Professional Engineer
No. 60018283
STATE OF INDIANA
03-24-16

certified by

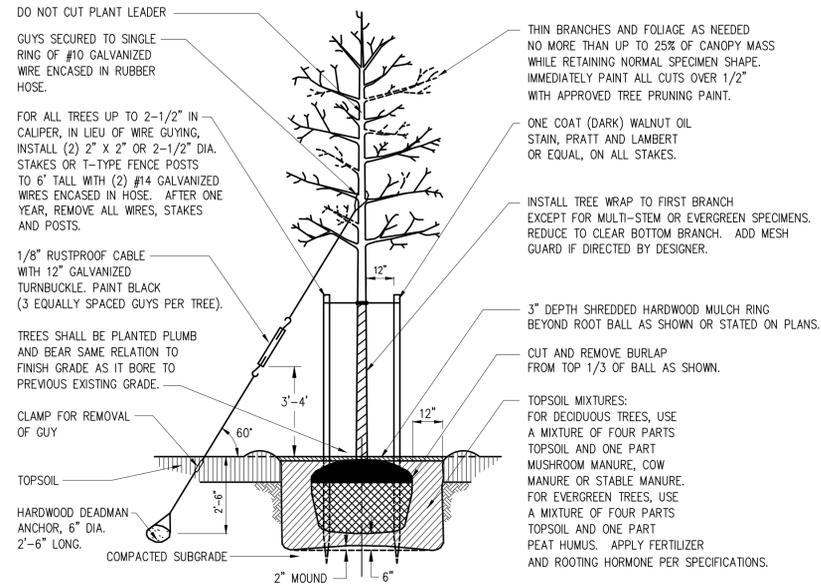
PROPOSED
MORNINGSIDE SIDEWALK PROJECT
FROM SHEFFIELD DRIVE TO PARK
RIDGE ROAD
BLOOMINGTON, INDIANA

title: GENERAL NOTES & LEGENDS

designed by: RLC
drawn by: RLC
checked by: JSF
sheet no: C101
project no.: 401618

LANDSCAPE NOTES

1. ALL PLANT MATERIAL SHALL ARRIVE ONSITE IN A HEALTHY, VIGOROUS CONDITION AND BE FREE OF PESTS AND DISEASE.
2. ALL PLANTS SHALL BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE PLANT LIST.
3. ALL TREES SHALL BE STRAIGHT-TRUNKED, FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.
4. ALL TREES SHALL BE GUYED OR STAKED PLUMB AS SHOWN IN THE DETAILS.
5. ALL PLANTING MASS BEDS SHALL BE SPADE CUT UNLESS SPECIFIED WITH A MOW STRIP OR OTHER INSTALL EDGING. TREES TO HAVE A 5' DIAMETER MULCH RING.
6. ALL PLANTING AREAS SHALL BE COMPLETELY MULCHED WHERE SPECIFIED.
7. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE LANDSCAPE CONSTRUCTION. PLANTING LOCATIONS MAY REQUIRE ADJUSTMENTS IN FIELD TO AVOID OVERHEAD AND UNDERGROUND UTILITIES.
8. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES AND SPECIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK.
9. THE CONTRACTOR IS RESPONSIBLE FOR FULLY MAINTAINING ALL PLANTING AND LAWN AREAS INCLUDING, BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, PRUNING, FERTILIZING, ETC., UNTIL WORK IS ACCEPTED IN FULL BY THE OWNER.
10. THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR BEGINNING ON THE DATE OF TOTAL ACCEPTANCE. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE OR AT THE END OF THE GUARANTEE PERIOD.
11. THE OWNER SHALL APPROVE THE STAKING LOCATION OF ALL PLANT MATERIAL PRIOR TO INSTALLATION.
12. AFTER BEING DUG AT THE NURSERY SOURCE, ALL TREES IN LEAF SHALL BE ACCLIMATED FOR TWO (2) WEEKS UNDER A MIST OR DRIP IRRIGATION SYSTEM PRIOR TO INSTALLATION. WATER ALL SPECIMENS WITHIN 24 HOURS OF PLANTING.
13. ANY NEW OR TRANSPLANTED PLANT MATERIAL WHICH DIES, TURNS BROWN OR DEFOOLIATES PRIOR TO TOTAL ACCEPTANCE OF THE WORK SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY AND SIZE TO MEET ALL PLANT LIST SPECIFICATIONS.
14. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
15. ALL SHRUB, GROUNDCOVER, ANNUAL AND HERBACEOUS PERENNIAL PLANTING BEDS ARE TO BE COMPLETELY COVERED WITH HARDWOOD MULCH TO A MINIMUM DEPTH OF FOUR INCHES.
16. DURING THE GROWING SEASON ALL ANNUALS AND HERBACEOUS PERENNIALS SHALL REMAIN IN A HEALTHY CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
17. ALL PLANT MATERIAL QUANTITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN ON PLANS.
18. ALL DISTURBED AREAS NOT INCLUDED IN LANDSCAPE MULCH BEDS ARE TO BE DEBRIS-RAKED AND FINED-GRADED AS NEEDED, THEN SODDED AND WATERED UNTIL A HEALTHY STAND OF TURF IS ESTABLISHED.
19. ANY PLANT OR OTHER LANDSCAPE MATERIAL SUBSTITUTIONS INSTALLED WITHOUT DESIGNER AND/OR OWNER APPROVAL SHALL BE REPLACED AT CONTRACTOR'S EXPENSE. ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE OWNER BEFORE, DURING AND AFTER INSTALLATION.
20. ANY PLANT OR OTHER LANDSCAPE MATERIAL SUBSTITUTIONS INSTALLED WITHOUT DESIGNER AND/OR OWNER APPROVAL SHALL BE REPLACED AT CONTRACTOR'S EXPENSE. ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE OWNER BEFORE, DURING AND AFTER INSTALLATION.



TREE PLANTING WITH GUYING OR STAKING
NOT TO SCALE

PARKING AND PAVEMENT NOTES

1. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC DEVICES, CURRENT EDITION AS AMENDED.
2. ALL PAVEMENT MARKINGS SHALL BE PAINTED WHITE ON ASPHALT PAVEMENT / YELLOW ON CONCRETE PAVEMENT AND SHALL BE FOUR (4) INCHES WIDE UNLESS INDICATED OTHERWISE.
3. ALL DIMENSIONS ARE TO EDGE OF PAVEMENT UNLESS INDICATED OTHERWISE. ALL CURB RADIUS ARE TO BE 5' UNLESS INDICATED OTHERWISE.
4. CONTRACTOR SHALL FURNISH AND INSTALL PAVEMENT MARKINGS AS SHOWN ON THE PLANS.
5. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES WITH OTHER CONTRACTORS ON THE SITE.
6. JOINTS OR SCORE MARKS ARE TO BE SHARP AND CLEAN WITHOUT SHOWING EDGES OF JOINTING TOOLS.
7. CONTRACTOR SHALL SAW-CUT TIE-INS AT EXISTING CURBS AS NECESSARY TO INSURE SMOOTH TRANSITIONS. CONTRACTOR SHALL SAW-CUT AND TRANSITION TO MEET EXISTING PAVEMENT AS NECESSARY AND AS DIRECTED BY INSPECTOR TO INSURE POSITIVE DRAINAGE. (TYPICAL AT ALL INTERSECTIONS).
8. CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY A.G.C. OF AMERICA, INC. AND THE HEALTH AND SAFETY REGULATIONS FOR CONSTRUCTION ISSUED BY THE U.S. DEPARTMENT OF LABOR.

NOTE: ALL TREES NOT REMOVED SHALL BE TRIMMED 9 FEET ABOVE THE NEW SIDEWALK BY THE CONTRACTOR.

SOD SHALL BE PLACED FROM THE CURB TO THE SIDEWALK AND A MINIMUM OF 3 FEET BEHIND THE SIDEWALK OR TO THE END OF THE GRADING WHICHEVER IS GREATER.

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT THE ROOT SYSTEM OF EXISTING TREES AND SHRUBS.

THE CITY OF BLOOMINGTON UTILITIES CONSTRUCTION SPECIFICATIONS TO BE USED FOR WATER, SEWER AND STORM SEWER CONSTRUCTION.

NOTE: CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS & DEPTHS AND NOTIFY ENGINEER OF ANY INACCURACIES IN LOCATION OR ELEVATION OR ANY CONFLICTS PRIOR TO & AFTER ANY EXCAVATION. NO PAYMENT SHALL BE MADE TO CONTRACTOR FOR UTILITY DESTRUCTION OR UNDERGROUND CHANGES REQUIRED DUE TO CONFLICTING ELEVATIONS.

GENERAL NOTES

1. BOUNDARY AND TOPO BY BYNUM FANYO AND ASSOCIATES, 528 NORTH WALNUT STREET, BLOOMINGTON, INDIANA 47404. PHONE (812) 332-8030
2. DEVELOPER: CITY OF BLOOMINGTON
3. PROJECT ADDRESS: MORNINGSIDE DRIVE - PARK RIDGE EAST SUBDIVISION
4. ALL WORK IS TO BE IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS.
5. ALL PERMITS ARE TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
6. HYDRANT LOCATION SHALL BE APPROVED BY THE LOCAL FIRE MARSHALL.
7. EXISTING UTILITIES ON SITE SHALL BE RELOCATED AS REQUIRED. CONTRACTOR SHALL PAY ALL COSTS ASSOCIATED WITH RELOCATION.
8. SAFE, CLEARLY MARKED PEDESTRIAN AND VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES MUST BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS.

GRADING NOTES

1. NEW FINISHED CONTOURS SHOWN ARE TOP OF FUTURE PAVING IN AREAS TO RECEIVE PAVEMENT AND TOP OF TOPSOIL IN AREAS TO BE SEEDER OR PLANTED.
2. AREAS OUTSIDE OF THE PARKING LOT PERIMETERS SHOWN TO BE SEEDER OR PLANTED SHALL RECEIVE 6" OF TOPSOIL. THIS TOPSOIL IS TO BE PLACED AND LEVELED BY THE CONTRACTOR.
3. CONTRACTOR SHALL NOTIFY AND COOPERATE WITH ALL UTILITY COMPANIES OR FIRMS HAVING FACILITIES ON OR ADJACENT TO THE SITE BEFORE DISTURBING, ALTERING, REMOVING, RELOCATING, ADJUSTING, OR CONNECTING TO SAID FACILITIES. CONTRACTOR SHALL PAY ALL COSTS IN CONNECTION WITH ALTERATION OF OR RELOCATION OF THE FACILITY.
4. ALL AREAS NOT COVERED BY BUILDING OR PAVING ARE TO BE VEGETATED (SEEDER OR PER LANDSCAPE PLAN).
5. UNUSABLE EXCAVATED MATERIALS AND ALL WASTE RESULTING FROM CLEARING AND GRUBBING SHALL BE DISPOSED OF OFF SITE BY CONTRACTOR.
6. ALL EXCAVATING IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED.
7. BEFORE ANY MACHINE WORK IS DONE, CONTRACTOR SHALL STAKE OUT AND MARK THE ITEMS ESTABLISHED BY THE SITE PLAN. CONTROL POINTS SHALL BE PRESERVED AT ALL TIMES DURING THE COURSE OF CONSTRUCTION. THE LACK OF PROPER WORKING POINTS AND GRADE STAKES MAY REQUIRE CESSATION OF OPERATIONS UNTIL SUCH POINTS AND GRADES HAVE BEEN PLACED TO THE OWNER'S SATISFACTION.
8. CONTRACTOR SHALL COMPACT AND MAINTAIN A 30,000 SQ. FT. STONEBASE CONSTRUCTION LAYDOWN AREA W/ STONE ACCESS FROM THE CONSTRUCTION ENTRANCE AND STONE ACCESS TO THE BUILDING PAD.
9. THESE DOCUMENTS ARE SCHEMATIC IN NATURE AND CANNOT SHOW EVERY ITEM NEEDED FOR A COMPLETE OPERATIONAL STORM SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE OPERATING STORM SYSTEM.
10. ALL FILL SHALL BE FREE OF VEGETABLE MATTER, RUBBISH, LARGE ROCK, AND OTHER DELETERIOUS MATERIAL. THE FILL MATERIAL SHOULD BE PLACED IN LAYERS NOT TO EXCEED SIX (6) INCHES IN THICKNESS AND SHOULD BE SPRINKLED WITH WATER AS REQUIRED TO SECURE SPECIFIED COMPACTION. EACH LAYER SHOULD BE UNIFORMLY COMPACTED BY MEANS OF SUITABLE EQUIPMENT AS DICTATED BY THE TYPE OF FILL MATERIAL. UNDER NO CIRCUMSTANCES SHOULD A BULLDOZER OR SIMILARLY TRACKED VEHICLE BE USED AS COMPACTION EQUIPMENT. MATERIAL CONTAINING AN EXCESS OF WATER SHOULD BE SPREAD AND DRIED TO A MOISTURE CONTENT THAT WILL PERMIT PROPER COMPACTION. ALL FILL SHOULD BE COMPACTED TO THE SPECIFIED PERCENTAGE OF THE MAXIMUM DENSITY OBTAINED IN ACCORDANCE WITH ASTM DENSITY TEST D-998 (95 PERCENT OF MAXIMUM DRY DENSITY). IF THE SPECIFIED COMPACTION LIMITS ARE NOT MET, SUCH AREAS SHOULD BE REWORKED AND RETESTED AS REQUIRED UNTIL THE SPECIFIED LIMITS ARE REACHED.

NOTE: ONLY NOTES ON THIS SHEET MARKED WITH AN APPLY TO THIS PROJECT.

ECB PRACTICE 3.74
SILT FENCE (SEDIMENT FENCE)

PURPOSE To retain sediment from small, sloping disturbed areas by reducing the velocity of sheet flow.
(NOTE: Silt fence captures sediment by ponding water to allow deposition, not by filtration. Although the practice usually works best in conjunction with temporary basins, traps or diversions, it can be sufficiently effective to be used alone. A silt fence is not recommended for use as a diversion; nor is it to be used across a stream, channel or anywhere that concentrated flow is anticipated.)

REQUIREMENTS **Drainage Area:** Limited to 1/4 acre per 100 ft. of fence; further restricted by slope steepness (see Exhibit 3.74-B).
Location: Fence nearly level, approximately following the land contour, and at least 10 ft. from toe of slope to provide a broad, shallow sediment pond.
Trench: 8 in. minimum depth, flat-bottom or v-shaped, filled with compacted soil or gravel to bury lower portion of support wire and/or fence fabric.
Support posts: 2 x 2-in. hardwood posts (if used) or steel fence posts set at least 1 ft. deep.* (Steel posts should project for fastening fabric.)
Spacing of posts: 8 ft. maximum, if fence supported by wire, 6 ft. for extra-strength fabric without wire backing.
Fence height: High enough so depth of impounded water does not exceed 1 1/2 ft. at any point along fence line.
Support wire (optional): 14 gauge, 6 in. wire fence (needed if using standard-strength fabric).
Fence fabric: Woven or non-woven geotextile fabric with specified filtering efficiency and tensile strength (see Exhibit 3.74-C) and containing geotextile stabilizers to ensure 6-mo. minimum life at temperatures 0°-120°.

Land slope	Max. distance above fence
Less than 2%	100 ft.
2 to 5%	75 ft.
5 to 10%	50 ft.
10 to 20%	25 ft.
More than 20%	15 ft.

* Some commercial silt fences come ready to install, with support posts attached and requiring no wire support.

Exhibit 3.74-C. Specifications Minimums for Silt Fence Fabric.

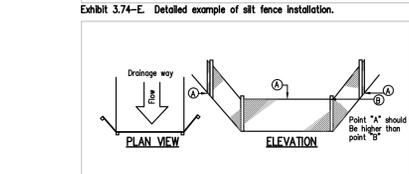
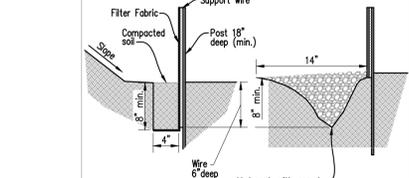
Physical Property	Woven Fabric	Non-woven fabric
Filtering efficiency	85%	85%
Tensile strength at 20% elongation	30lbs./linear in.	50lbs./linear in.
Standard strength	50lbs./linear in.	70lbs./linear in.
Extra strength	4.5 gal./min./sq.ft.	4.5 gal./min./sq.ft.
Silky flow rate	15 gal./min./sq.ft.	220 gal./min./sq.ft.
Water flow rate	70%	85%
UV resistance		

Outlet (optional): To allow for safe storm flow bypass without overtopping fence. Placed along fence line to limit water depth to 1 1/2 ft. maximum; crest—1 ft. high maximum; wet width—4 ft. maximum; splash pad—5 ft. wide, 3 ft. long, 1 ft. thick minimum.

INSTALLATION **SITE PREPARATION:**
1. Plan for the fence to be at least 10 ft. from the toe of the slope to provide a sediment storage area.
2. Provide access to the area if sediment cleanout will be needed.

OUTLET CONSTRUCTION (OPTIONAL)
1. Determine the appropriate location for a reinforced, stabilized bypass flow outlet.
2. Set the outlet elevation so that water depth cannot exceed 1 1/2 ft. at the lowest point along the fence line.
3. Locate the outlet weir support posts no more than 4 ft. apart, and install a horizontal brace between them. (Weir height should be no more than 1 ft. and water depth no more than 1 1/2 ft. anywhere else along the fence.)
4. Excavate the foundation for the outlet splash pad to minima of 1 ft. deep, 5 ft. wide and 5 ft. long on level grade.
5. Fill the excavated foundation with INDOT CA No. 1 stone, being careful that the finished surface blends with the surrounding area, allowing no overflow.
6. Stabilize the area around the pad.

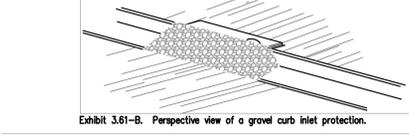
OUTLET CONSTRUCTION (OPTIONAL)
1. Along the entire intended fence line, dig an 8 in. deep flat-bottomed or V-shaped trench.
2. On the downslope side of the trench, drive the wood or steel support posts at least 1 ft. into the ground, spacing them no more than 8 ft. apart if the fence is supported by wire and 6 ft. if extra strength fabric is used without support wire. Adjust spacing, if necessary, to ensure that posts are set at the low points along the fence line. (NOTE: If the fence has pre-attached posts or stakes, drive them deep enough so the fabric is satisfactory in the trench as described in step 6.)
3. Fasten support wire fence to the upslope side of the posts, extending it 8 in. into the trench.
4. Run a continuous length of geotextile fabric in front of the support wire and posts avoiding joints, particularly at low points in the fence line.
5. If a joint is necessary, nail the overlap to the nearest post with a lath.
6. Place the bottom 1 ft. of fabric in the 8 in. deep trench, extending the remaining 4 in. toward the upslope side.
7. Backfill the trench with compacted earth or gravel.
NOTE: If using a pre-pocked commercial silt fence rather than constructing one, follow the manufacturer's installation instructions.



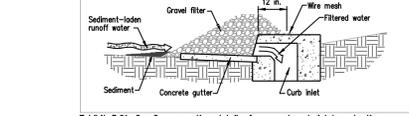
MAINTENANCE
• Inspect the silt fence periodically and after each storm event.
• If fence fabric tears, starts to decompose or in any way becomes ineffective, replace the affected portion immediately.
• Remove deposited sediment when it reaches half the height of the fence at its lowest point or is causing the fabric to bulge.
• Take care to avoid undermining the fence during clean out.
• After the contributing area has been stabilized, remove the fence and sediment deposits, being the disturbed area to grade, and stabilize.

ECB PRACTICE 3.61-B
GRAVEL CURB INLET PROTECTION

REQUIREMENTS **Contributing drainage area:** 1 acre maximum.
Capacity: Runoff from a 2-yr., frequency, 24-hr. duration storm event entering the storm drain without bypass flow.
Location: At curb inlets where ponding is not likely to cause inconvenience or damage.
Gravel: 1-2 in. diameter (INDOT CA No. 2)
Wire mesh: Chicken wire or hardware cloth with 1/2-in. openings.
Geotextile fabric (optional): For Filtration.



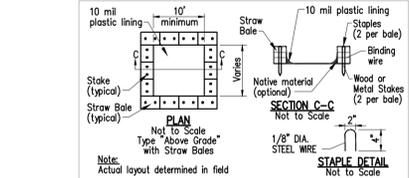
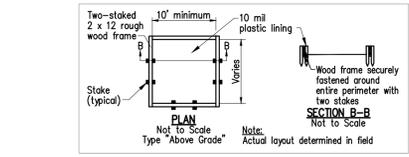
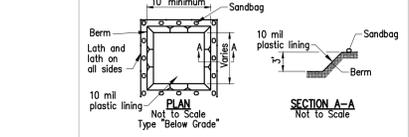
INSTALLATION (Exhibit 3.61-B)
1. Install gravel curb inlet protections as soon as the streets are paved in a new development situation or before land-disturbing activities in stabilized areas.
2. Place wire mesh over the curb inlet opening and/or grate so it extends at least 12 in. beyond both top and bottom of the opening/grate.
3. Install geotextile fabric over the wire mesh for additional filtration (optional).
4. Pile gravel over the wire mesh to anchor it against the curb, covering the inlet opening completely.



MAINTENANCE
• After each storm event, remove sediment and replace the gravel; replace the geotextile filter fabric if used.
• Periodically remove sediment and tracked-on soil from the street (but not by flushing with water) to reduce the sediment load on the curb inlet practice.
• Inspect periodically, and repair damage caused by vehicles.
• When the contributing drainage area has been stabilized, remove the gravel, wire mesh, geotextile fabric, and any sediment, and dispose of them properly.

CW TEMPORARY
CONCRETE WASHOUT AREA

REQUIREMENTS **Capacity:** Temporary washout facilities shall be constructed above or below grade at the option of the contractor. Temporary washout facilities shall be constructed and maintained in sufficient quality and size to contain all liquid and concrete waste generated by washout operations.
Type: Below grade concrete washout facilities are typical. Above grade facilities are used if excavation is not practical.
Location: Facilities shall be located a minimum of 50' from storm drain inlets, open drainage facilities, and water courses.
Plastic Lining Material: Minimum 10 mil polyethylene sheeting and should be free of holes, tears or other defects.
Straw Bale Dimensions: Approximately 14 in. x 18 in. x 36 in.
Bale Anchoring: Two 36-in. long (minimum) steel rebars or 2 x 2-in. hardwood stakes driven through each bale.



INSTALLATION
• Temporary concrete washout facilities shall be constructed as shown in the above details, and as described below. All temporary washout facilities shall have a minimum 10' width, 3' depth, and sufficient length to contain all liquid and concrete waste generated.

- "Below Grade"**
- A pit shall be excavated with a minimum width of 10', depth of 3' and to contain all liquid and concrete waste generated.
 - The pit should be lined with a minimum 10 mil plastic lining which overlaps the pit rim by 5' in each direction.
 - Sandbags shall be placed on top of the plastic lining at 3' intervals along the rim of the excavated pit.
 - Lath and flogging shall be installed on all sides of the excavated pit to clearly mark its location.
- "Above Grade"**
- A wood frame shall be constructed using two 2 x 12 boards staked on edge with a minimum width of 10' and length sufficient to contain all liquid and concrete waste generated.
 - The wood frame shall be securely fastened around the entire perimeter using steel rebar or 2 in. x 2 in. hardwood stakes (two per bale).
 - The wood frame shall be lined with 10 mil plastic sheeting which shall be attached to the outside face of the wood frame.
 - Straw bales shall be arranged such that they create a basin with a minimum width of 10' and length sufficient to contain all liquid and concrete waste generated.
 - The straw bales shall be securely staked using steel rebar or 2 in. x 2 in. hardwood stakes (two per bale).
 - The basin shall be lined with 10 mil plastic sheeting which is attached to the straw bales using 4" steel wire staples. (two per bale)

MAINTENANCE
• Temporary concrete washout facilities should be maintained to provide adequate holding capacity with a minimum freeboard of 4 in. for above grade facilities and 12 in. for below grade facilities. Maintaining temporary concrete washout facilities should include removing and disposing of hardened concrete and returning the facilities to a functional condition. Hardened concrete materials should be removed and disposed of.
• Washout facilities must be cleaned, or new facilities must be constructed ready for use once the washout is 75% full.
• At the conclusion of concrete construction activities the temporary concrete washout area shall be removed and returned to its original condition.

SS PRACTICE 3.11
TEMPORARY SEEDING

REQUIREMENTS **Site and seedbed preparation:** Graded and fertilizer applied.
Plant Species: Selected on the basis of quick germination, growth, and time of year to be seeded (see Exhibit 3.11-B).
Mulch: Clean grain, straw, hay, wood, fibre, etc., to protect seedbed and encourage plant growth.
Seeding Frequency: As often as possible following construction activity. Daily seeding of rough graded areas when the soil is loose and moist is usually most effective.

APPLICATION (Exhibit 3.11-B)
SITE PREPARATION:
1. Install practices needed to control erosion, sedimentation, and water runoff, such as temporary and permanent diversions, sediment traps or basins, silt fences, and straw bale dams (practices 3.21, 3.22, 3.72, 3.74, and 3.75).
2. Grade the site as specified in the construction plan.

SEEDBED PREPARATION:
1. Test soil to determine its nutrient levels. (Contact your county SWDC or Cooperative Extension office for assistance and soils information, or Fertilize as recommended by the soil test. If testing is not done, consider applying 400-600 lbs./acre of 12-12 analysis, or equivalent, fertilizer.
2. Work the fertilizer into the soil 2-4 in. deep with a disk or rake operated across the slope.

SEEDING:
1. Select a seeding mixture and rate from Exhibit 3.11-B, and plant at depth and on dates shown, including available soil testing services.)
2. Apply seed uniformly with a drill or cultipacker-seeder or by broadcasting, and cover to the depth shown in Exhibit 3.11-B.
3. If drilling or broadcasting, firm the seedbed with a roller or cultipacker.
4. Mulch seeded areas to increase seeding success. Anchor all mulch by crimping or tackfying. Use of netting or erosion control blankets is possible, but may not be cost-effective for permanent seeding.

Exhibit 3.11-B. Temporary Seeding Recommendations

Seed Species*	Rate/acre	Planting Depth	Optimum dates**
Wheat or rye	150 lbs.	1 to 1 1/2 in.	9/15 to 10/30
Spring oats	100 lbs.	1 in.	3/1 to 4/15
Annual ryegrass	40 lbs.	1/4 in.	3/1 to 5/1
			8/1 to 9/1
			5/1 to 7/30

* Perennial species may be used as temporary cover, especially if the area to be seeded will remain idle for more than a year (Practice 3.12).
** Seeding done outside the optimum dates increases the chances of seedling failure.

MAINTENANCE
• Inspect periodically after planting to see that vegetative stands are adequately established; reseed if necessary.
• Check for erosion damage after storm events and repair; reseed and mulch if necessary.
• Topdress fall seeded wheat or rye seedings with 50 lbs./acre of nitrogen in February or March if nitrogen deficiency is apparent. (Exhibit 3.11-B shows only wheat/rye fall seedings.)

SS SWALE SEEDING

REQUIREMENTS **Site and seedbed preparation:** Proposed pond grading, as shown on Grading Plan, entire area to be swale seeded shall be cleared of old underbrush and debris so as to expose topsoil but not to disturb existing trees.
Plant Species: Swale Seeding Mix as referred to in the latest JF NEW catalog (574,586,2412) or equal.

APPLICATION 1/4 acre permanent grasses as referred to in the latest JF NEW catalog (574,586,2412) or equal.

MS PRACTICE 3.13
DORMANT AND FROST SEEDING

PURPOSES
• To provide early germination and soil stabilization in the spring.
• To reduce sediment runoff to downstream areas.
• To improve the visual aesthetics of the construction area.
• To repair previous seedings.

REQUIREMENTS **Site and seedbed preparation:** Graded as needed, and lime and fertilizer applied.
Plant Species: Selected on the basis of soil type, adaptability to the region, and planned use of the area (see Exhibits 3.13-B and 3.13-C).

APPLICATION (Exhibit 3.13-B and C)
SITE PREPARATION:
1. Grade the area to be seeded.
2. Install needed erosion/water runoff control practices, such as temporary or permanent diversions, sediment basins, silt fences, or straw bale dams (Practices 3.21, 3.22, 3.72, 3.74, and 3.75).

FOR DORMANT SEEDING
Site and seedbed preparation can be done months ahead of actual seeding or if the existing ground cover is adequate, seeding can be directly into it.
Seeding dates: Dec. 1-Feb. 28 (north of US 40), Dec. 10-Jan. 15 (south of US 40).

1. Broadcast Fertilizer as recommended by a soil test; or if testing was not done consider applying 400-600 lbs./acre of 12-12-12 analysis or equivalent, fertilizer.
2. Apply mulch upon completion of grading (Practice 3.15).
3. Select an appropriate seed species or mixture from Exhibit 3.13-B or Exhibit 3.13-C, and broadcast on top of the mulch and/or into existing ground cover at rate shown.

FOR FROST SEEDING
Seed is broadcast over the prepared seedbed and incorporated into the soil by natural freeze-thaw action.
Seeding dates: Feb. 28-Mar. 28 (north of US 40), Feb. 15-Mar. 15 (south of US 40).
1. Broadcast Fertilizer as recommended by a soil test; or if testing was not done consider applying 400-600 lbs./acre of 12-12-12 analysis or equivalent, fertilizer.
2. Apply mulch upon completion of grading (Practice 3.15).
3. Select an appropriate seed species or mixture from Exhibit 3.13-B or Exhibit 3.13-C, and broadcast on top of the mulch and/or into existing ground cover at rate shown. Do not work the seed into the soil.

Exhibit 3.13-B. Temporary Dormant or Frost Seeding Recommendations.

Seed species*	Rate per acre
Wheat or rye	150lbs.
Spring oats	100 lbs.
Annual ryegrass	60 lbs.

* Perennial species may be used as a temporary cover, especially if the area to be seeded will remain idle for more than a year (Practice 3.12).

Exhibit 3.13-C. Permanent Dormant or Frost Seeding Recommendations.
This table provides several seeding options. Additional seed species and mixtures are available commercially. When selecting a mixture, consider site conditions, including soil properties, slope aspect and the tolerance of each species to shade and droughtiness.

Seed species*	Rate per acre	Optimum soil pH
OPEN AND DISTRIBUTED AREAS (REMAINING IDLE MORE THAN 1 YR.)		
1. Perennial ryegrass	50 to 75 lbs.	5.6 to 7.0
+ white or ladino clover*	1 1/2 to 3 lbs.	
2. Kentucky bluegrass	30 lbs.	5.5 to 7.5
+ switchgrass	5 lbs.	
+ timothy	6 lbs.	
+ perennial ryegrass	15 lbs.	
+ white or ladino clover*	1 1/2 to 3 lbs.	
3. Perennial ryegrass	22 to 45 lbs.	5.6 to 7.0
+ prairie switchgrass	22 to 45 lbs.	
4. Prairie switch grass	50 to 75 lbs.	5.5 to 7.5
+ white or ladino clover*	1 1/2 to 3 lbs.	

STEEP BANKS AND CUTS, LOW MAINTENANCE AREAS (NOT MOWED).

2. Prairie switch grass	50 to 75 lbs.	5.5 to 7.5
+ white or ladino clover*	1 1/2 to 3 lbs.	
3. Prairie switch grass	50 to 75 lbs.	5.5 to 7.5
+ red clover*	15 to 30 lbs.	
(Recommended north of US 40.)		
4. Orchardgrass	30 to 45 lbs.	5.6 to 7.0
+ red clover*	15 to 30 lbs.	
+ ladino clover*	1 1/2 to 3 lbs.	

LAINNS AND HIGH MAINTENANCE AREAS

1. Bluegrass	160 to 210 lbs.	5.5 to 7.5
2. Perennial ryegrass (turf-type)	70 to 90 lbs.	5.6 to 7.0
+ bluegrass	105 to 135 lbs.	
3. Prairie switch grass (turf-type)	195 to 250 lbs.	5.6 to 7.5
+ bluegrass	30 to 45 lbs.	

CHANNELS AND AREAS OF CONCENTRATED FLOW

1. Perennial ryegrass	150 to 225 lbs.	5.6 to 7.0
+ white or ladino clover*	1 1/2 to 3 lbs.	
2. Kentucky bluegrass	30 lbs.	5.5 to 7.5
+ switchgrass	5 lbs.	
+ timothy	6 lbs.	
+ perennial ryegrass	15 lbs.	
+ white or ladino clover*	1 1/2 to 3 lbs.	
3. Prairie switch grass	150 to 225 lbs.	5.5 to 7.5
+ white or ladino clover*	1 1/2 to 3 lbs.	
+ perennial bluegrass	22 to 30 lbs.	
+ kentucky bluegrass	22 to 30 lbs.	

* For best results: (a) legume seed should be inoculated; (b) seeding mixtures containing legumes should preferably be spring-seeded, although the grass may be fall-seeded and the legume frost-seeded; (c) if legumes are fall-seeded, do so in early fall.
NOTE: If using mixtures other than those listed here, increase the seeding rate by 50% over the conventional rate.

MAINTENANCE
• Apply 200-300 lbs./acre of 12-12-12 or equivalent fertilizer between Apr. 15 and May 10 or during periods of vigorous growth.
• Re-seed and mulch any areas that have inadequate cover by mid to late Apr. For best results, re-seed within the recommended dates shown in Practices 3.11 for temporary seeding or 3.12 for permanent seeding.

MS PRACTICE 3.12
PERMANENT SEEDING

REQUIREMENTS **Site and seedbed preparation:** Graded, and lime and fertilizer applied.
Plant Species: Selected on the basis of soil type, soil pH, region of the state, time of year, and planned use of the area to be seeded (see Exhibit 3.12-C).
Mulch: Clean grain, straw, hay, wood, fibre, etc., to protect seedbed and encourage plant growth. The mulch may be anchored to reduce removal by wind or water, or erosion control blankets may be considered.

APPLICATION (Exhibit 3.12-B, C, and D)
Permanently seed all final grade areas (e.g., landscape berms, drainage swales, erosion control structures, etc.) as each is completed and all areas where additional work is not scheduled for a period of more than a year.

SITE PREPARATION:
1. Install practices needed to control erosion, sedimentation, and runoff prior to seeding. These include temporary and permanent diversions, sediment traps and basins, silt fences, and straw bale dams (Practices 3.21, 3.22, 3.72, 3.73, 3.74, and 3.75).
2. Grade the site and fill in depressions that can collect water.
3. Add topsoil to achieve needed depth for establishment of vegetation (Practice 3.02).

SEEDBED PREPARATION:
1. Test soil to determine pH and nutrient levels. (Contact your county SWDC or Cooperative Extension office for assistance and soils information, including available soil testing services.)
2. If soil pH is unsuitable for the species to be seeded, apply lime according to test recommendations.
3. Fertilize as recommended by the soil test. If testing was not done, consider applying 400-600 lbs./acre of 12-12-12 analysis, or equivalent, fertilizer.
4. Till the soil to obtain a uniform seedbed, working the fertilizer and lime into the soil 2-4 in. deep with a disk or rake operated across the slope (Exhibit 3.12-B).

SEEDING:
Optimum seeding dates are Mar. 1-May 10 and Aug. 10-Sept. 30. Permanent seeding done between May 10 and Aug. 10 may need to be irrigated. As an alternative, use temporary seeding (Practice 3.11) until the prepared site for permanent seeding.
1. Select a seeding mixture and rate from Exhibit 3.12-C, based on site conditions, soil pH, intended land use, and expected level of maintenance.
2. Apply seed uniformly with a drill or cultipacker-seeder (Exhibit 3.12-D) or by broadcasting, and cover to a depth of 1/4-1/2 in. If drilling or broadcasting, firm the seedbed with a roller or cultipacker.
3. Mulch all seeded areas (Practice 3.15). Consider using erosion blankets on sloping areas (Practice 3.17). (NOTE: If seeding is done with a hydroseeder, fertilizer and mulch can be applied with the seed in a slurry mixture.)

Exhibit 3.12-C. Permanent Seeding Recommendations
This table provides several seeding options. Additional seed species and mixtures are available commercially. When selecting a mixture, consider site conditions, including soil properties (e.g., soil pH and drainage), slope aspect and the tolerance of each species to shade and droughtiness.

Seed species and mixtures	Rate per acre	Optimum soil pH
OPEN AND DISTURBED AREAS (REMAINING IDLE MORE THAN 1 YR.)		
1. Perennial ryegrass	35 to 50 lbs.	5.6 to 7.0
+ white or ladino clover*	1 to 2 lbs.	
2. Kentucky bluegrass	20 lbs.	5.5 to 7.5
+ switchgrass	3 lbs.	
+ timothy	4 lbs.	
+ perennial ryegrass	10 lbs.	
+ white or ladino clover*	1 to 2 lbs.	
3. Perennial ryegrass	15 to 30 lbs.	5.6 to 7.0
+ prairie switch grass	15 to 30 lbs.	
4. Prairie switch grass	35 to 50 lbs.	5.5 to 7.5
+ ladino or white clover*	1 to 2 lbs.	

STEEP BANKS AND CUTS, LOW MAINTENANCE AREAS (NOT MOWED)

2. Prairie switch grass	35 to 50 lbs.	5.5 to 7.5
+ white or ladino clover*	1 to 2 lbs.	
3. Prairie switch grass	35 to 50 lbs.	5.5 to 7.5
+ red clover*	10 to 20 lbs.	
(Recommended north of US 40)		
4. Orchardgrass	20 to 30 lbs.	5.6 to 7.0
+ red clover*	10 to 20 lbs.	
+ ladino clover*	1 to 2 lbs.	

LAINNS AND HIGH MAINTENANCE AREAS

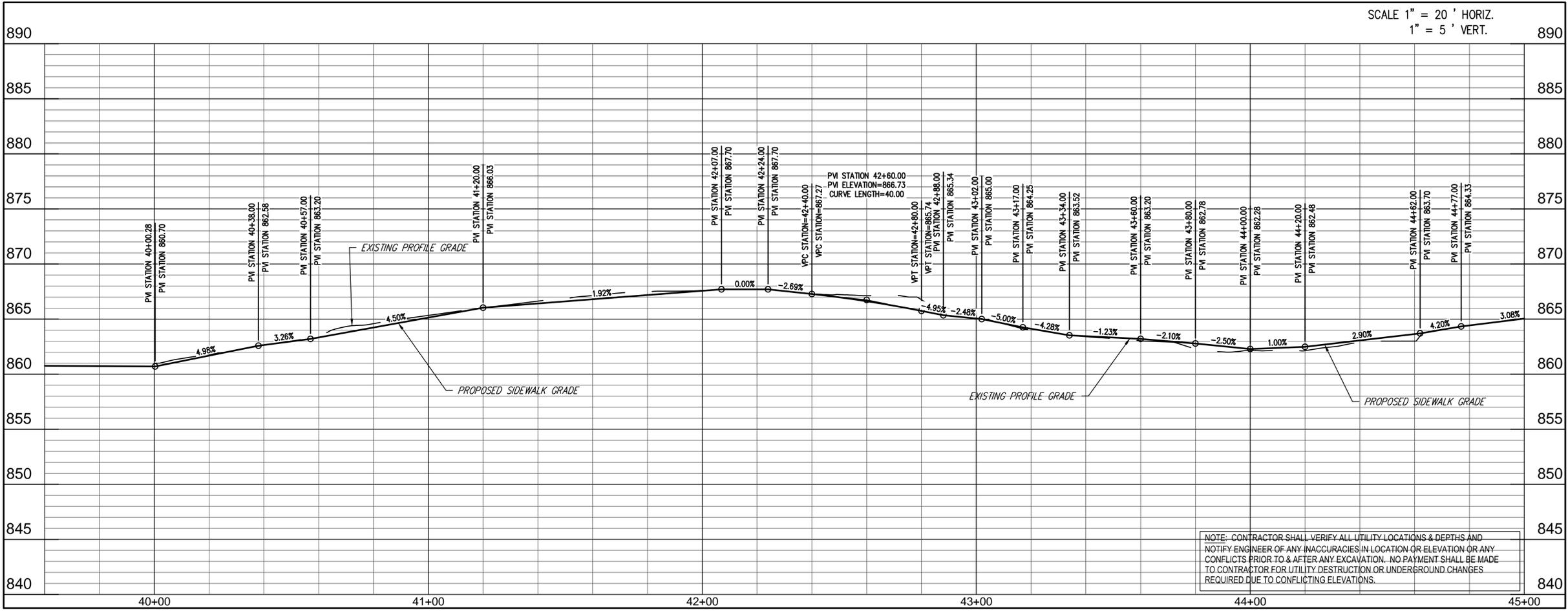
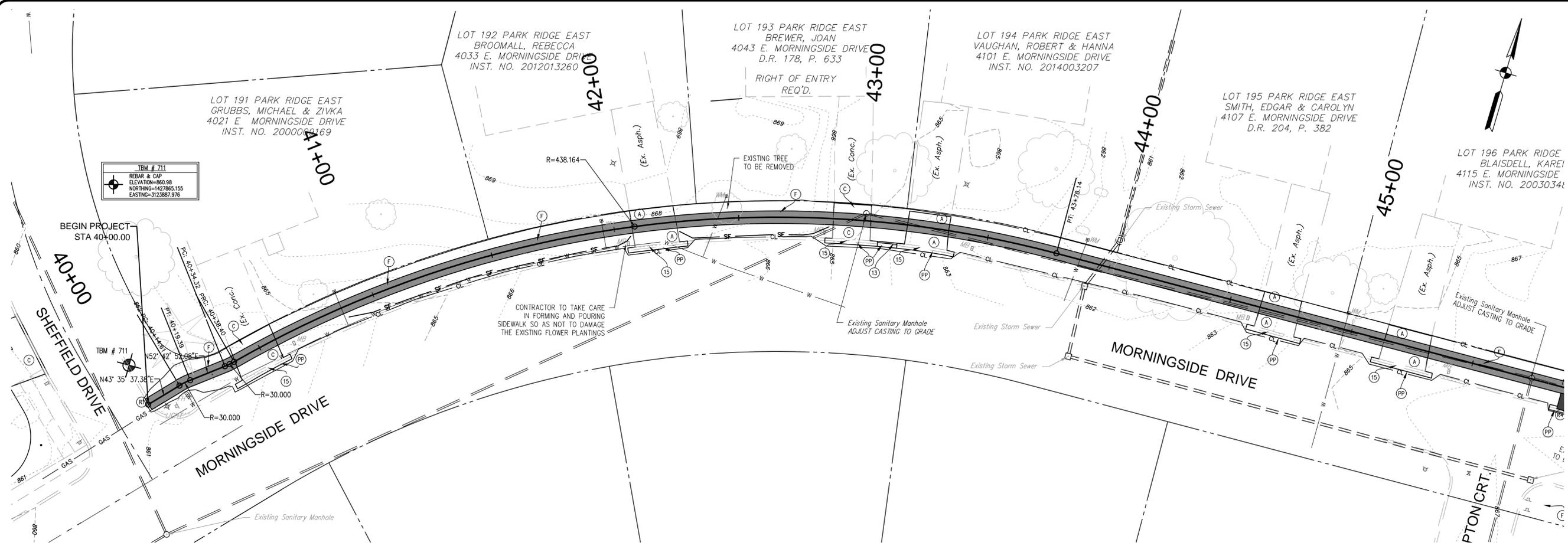
1. Bluegrass	105 to 150 lbs.	5.5 to 7.0
2. Perennial ryegrass (turf-type)	45 to 60 lbs.	5.6 to 7.0
+ bluegrass	70 to 90 lbs.	
3. Prairie switch grass (turf-type)	150 to 167 lbs.	5.5 to 7.5
+ bluegrass	20 to 30 lbs.	

CHANNELS AND AREAS OF CONCENTRATED FLOW

1. Perennial ryegrass	100 to 150 lbs.	5.6 to 7.0
+ white or ladino clover*	1 to 2 lbs.	
2. Kentucky bluegrass	20 lbs.	5.5 to 7.5
+ switchgrass	3 lbs.	
+ timothy	4 lbs.	
+ perennial ryegrass	10 lbs.	
+ white or ladino clover*	1 to 2 lbs.	
3. Prairie switch grass	100 to 150 lbs.	5.5 to 7.5
+ ladino or white clover*	1 to 2 lbs.	
4. Prairie switch grass	100 to 150 lbs.	5.5 to 7.5
+ Perennial ryegrass	15 to 20 lbs.	
+ Kentucky bluegrass	15 to 20 lbs.	

* For best results: (a) legume seed should be inoculated; (b) seeding mixtures containing legumes should preferably be spring-seeded, although the grass may be fall-seeded and the legume frost-seeded (Practice 3.13); and (c) if legumes are fall-seeded, do so in early fall.
NOTE: An oat or wheat companion or nurse crop may be used with any of the above permanent seeding mixtures. If so, it is best to seed during the fall seeding period, especially after Sept. 15, and at the following rates: spring oats—1 1/4 to 3/4 bu./acre; wheat—no more than 1/2 bu./acre.

MAINTENANCE
• Inspect periodically, especially after storm events, until the stand is successfully established. (Characteristics of a successful stand include: vigorous dark green or bluish-green seedlings; uniform density with nurse plants, legumes, and grasses well inter-mixed; green leaves; and the perennials remaining green throughout the summer, at least at the plant base.)
• Plan to add fertilizer the following growing season according to soil test recommendations.
• Repair damaged, bare or sparse areas by filling any gullies, re-fertilizing, over- or re-seeding, and mulching.
• If plant cover is sparse or patchy, review the plant materials chosen, soil fertility, moisture condition, and mulching; then repair the affected area either by over-seeding or by re-seeding and mulching after re-preparing the seedbed.
• If vegetation fails to grow, consider soil testing to determine acidity or nutrient deficiency problems. (Contact your SWDC or Cooperative Extension office for assistance.)<



NOTE: CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS & DEPTHS AND NOTIFY ENGINEER OF ANY INACCURACIES IN LOCATION OR ELEVATION OR ANY CONFLICTS PRIOR TO & AFTER ANY EXCAVATION. NO PAYMENT SHALL BE MADE TO CONTRACTOR FOR UTILITY DESTRUCTION OR UNDERGROUND CHANGES REQUIRED DUE TO CONFLICTING ELEVATIONS.

SCALE 1" = 20' HORIZ.
1" = 5' VERT.

revisions:
CBU Approval 9-13-16

ARCHITECTURE
CIVIL ENGINEERING
PLANNING

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JEFFREY S. FANYO
No. 60018283
STATE OF INDIANA
PROFESSIONAL ENGINEER
3-24-16

certified by *[Signature]*

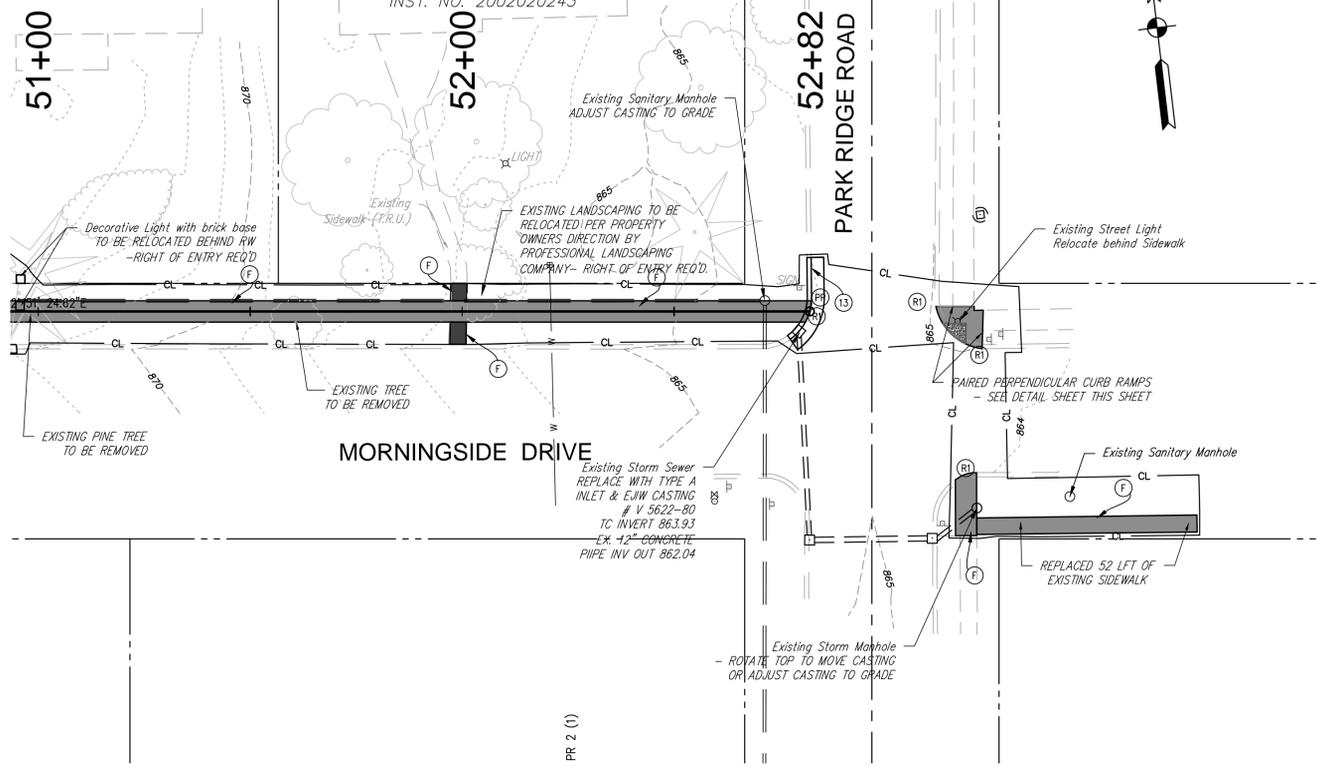
PROPOSED
MORNINGSIDE SIDEWALK PROJECT
FROM SHEFFIELD DRIVE TO PARK
RIDGE ROAD
BLOOMINGTON, INDIANA

title: LINE PR 2 PLAN & PROFILE

designed by: RLC
drawn by: RLC
checked by: JSF
sheet no: C401
project no.: 401618

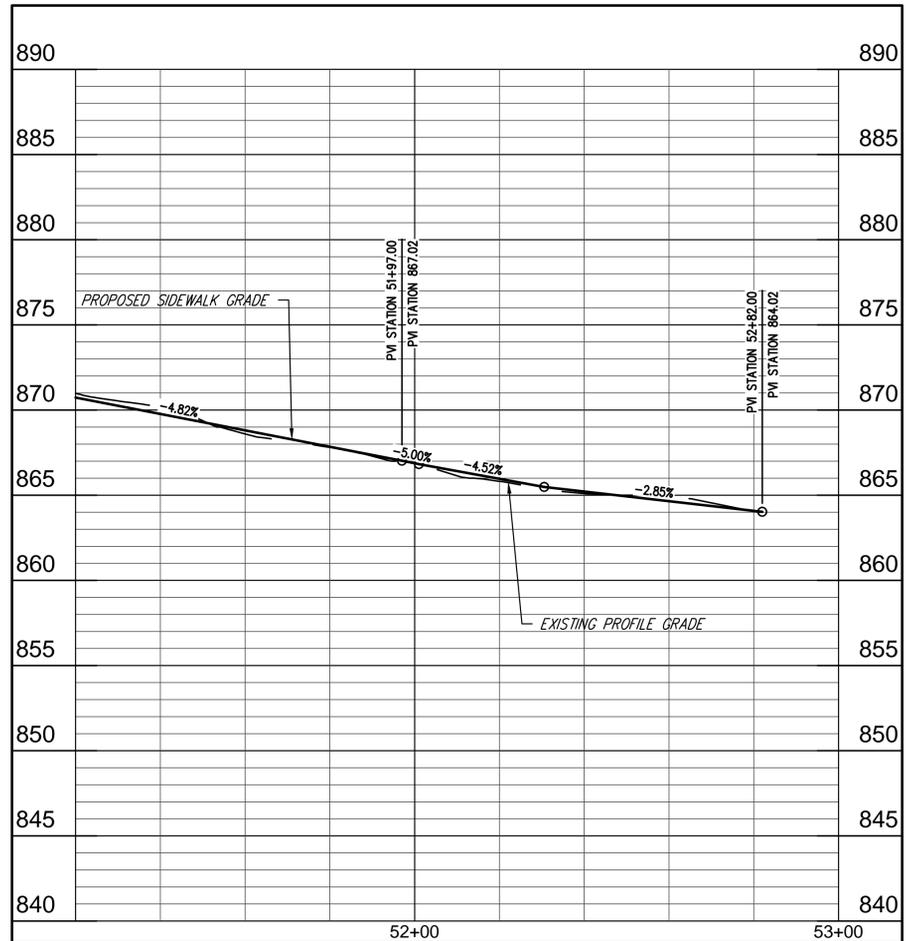
GSIDE DRIVE
121017731

LOT 203 PARK RIDGE EAST
OGAN, PEKIN, CHRISTINE & ELIF
4317 E. MORNINGSIDE DRIVE
INST. NO. 2002020243



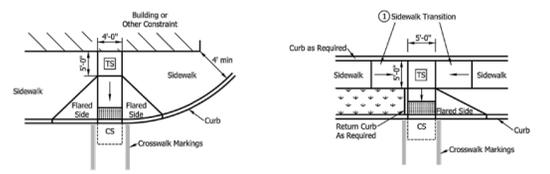
PR 2 (1)

SCALE 1" = 20' HORIZ.
1" = 5' VERT.



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NOTE: ALL RAMPS SHALL BE 5 FEET IN WIDTH PER CITY OF BLOOMINGTON SPECIFICATIONS.



PERPENDICULAR CURB RAMP ADJACENT WALKABLE SURFACE
TIERED PERPENDICULAR CURB RAMP

R4 PERPENDICULAR CURB RAMP ADJACENT NON-WALKABLE SURFACE

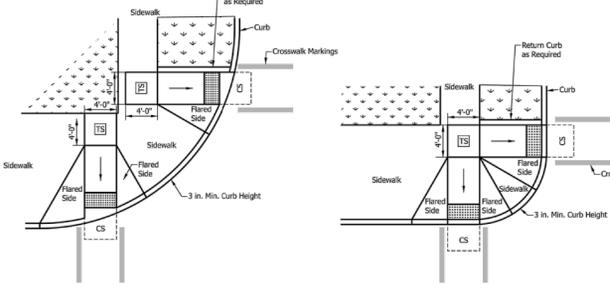
NOTES:
1. Where insufficient width between the curb and back of sidewalk prevent a standard perpendicular curb ramp running slope, a sidewalk transition may be used to lower the sidewalk grade. The sidewalk transition running slope shall not exceed 8.33%.
2. The turning space shall have a minimum clear dimension of 4 ft x 4 ft. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope. Where a tiered perpendicular curb ramp is used, a constrained turning space shall have a minimum clear dimension of 5 ft x 5 ft.

LEGEND:
[Symbol] Buffer or Other Non-Walkable Surface
[Symbol] Ramp
[Symbol] Detectable Warning Surface
[Symbol] Turning Space
[Symbol] Clear Space

INDIANA DEPARTMENT OF TRANSPORTATION
PERPENDICULAR CURB RAMP TYPICAL PLACEMENT
SEPTEMBER 2016
STANDARD DRAWING NO. E 604-SWCR-02

DESIGNED BY: [Signature] 03/15/16
DATE: 03/15/16
CHECKED BY: [Signature] 03/15/16
DATE: 03/15/16

NOTE: ALL RAMPS SHALL BE 5 FEET IN WIDTH PER CITY OF BLOOMINGTON SPECIFICATIONS.



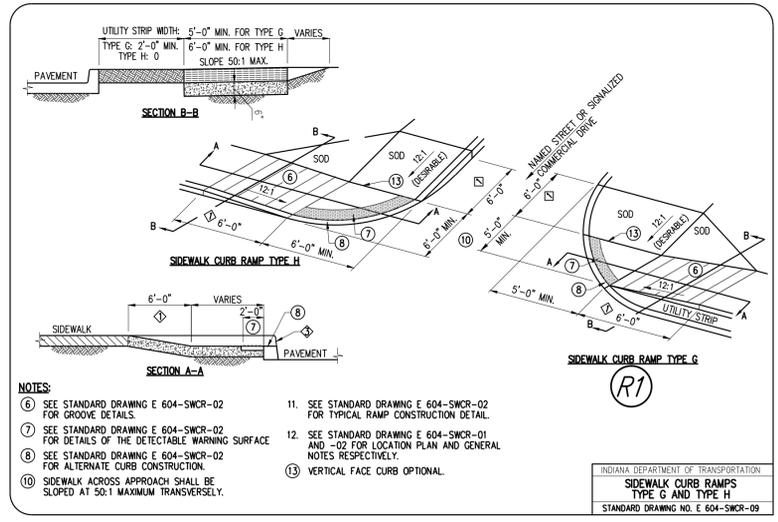
PAIRED PERPENDICULAR CURB RAMPS AT LARGE RADIUS
PAIRED PERPENDICULAR CURB RAMPS AT SMALL RADIUS

NOTES:
1. The turning space shall have a minimum clear dimension of 4 ft x 4 ft and a turning slope of 2.00% maximum. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope.

LEGEND:
[Symbol] Buffer or Other Non-Walkable Surface
[Symbol] Ramp
[Symbol] Detectable Warning Surface
[Symbol] Turning Space
[Symbol] Clear Space

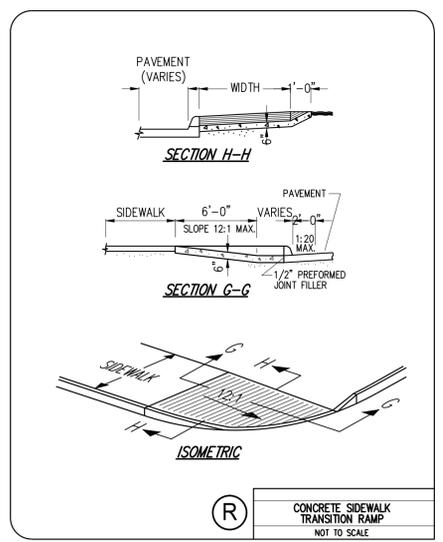
INDIANA DEPARTMENT OF TRANSPORTATION
PAIRED PERPENDICULAR CURB RAMPS TYPICAL PLACEMENT
SEPTEMBER 2016
STANDARD DRAWING NO. E 604-SWCR-03

DESIGNED BY: [Signature] 03/15/16
DATE: 03/15/16
CHECKED BY: [Signature] 03/15/16
DATE: 03/15/16



NOTES:
6. SEE STANDARD DRAWING E 604-SWCR-02 FOR GROOVE DETAILS.
7. SEE STANDARD DRAWING E 604-SWCR-02 FOR DETAILS OF THE DETECTABLE WARNING SURFACE.
8. SEE STANDARD DRAWING E 604-SWCR-02 FOR ALTERNATE CURB CONSTRUCTION.
9. SIDEWALK ACROSS APPROACH SHALL BE SLOPED AT 50:1 MAXIMUM TRANSVERSELY.
10. SEE STANDARD DRAWING E 604-SWCR-02 FOR TYPICAL RAMP CONSTRUCTION DETAIL.
11. SEE STANDARD DRAWING E 604-SWCR-01 AND -02 FOR LOCATION PLAN AND GENERAL NOTES RESPECTIVELY.
12. SEE STANDARD DRAWING E 604-SWCR-01 AND -02 FOR LOCATION PLAN AND GENERAL NOTES RESPECTIVELY.
13. VERTICAL FACE CURB OPTIONAL.

INDIANA DEPARTMENT OF TRANSPORTATION
SIDEWALK CURB RAMPS TYPE G AND TYPE H
STANDARD DRAWING NO. E 604-SWCR-09



CONCRETE SIDEWALK TRANSITION RAMP
NOT TO SCALE

revisions:
CBU Approval 9-13-16

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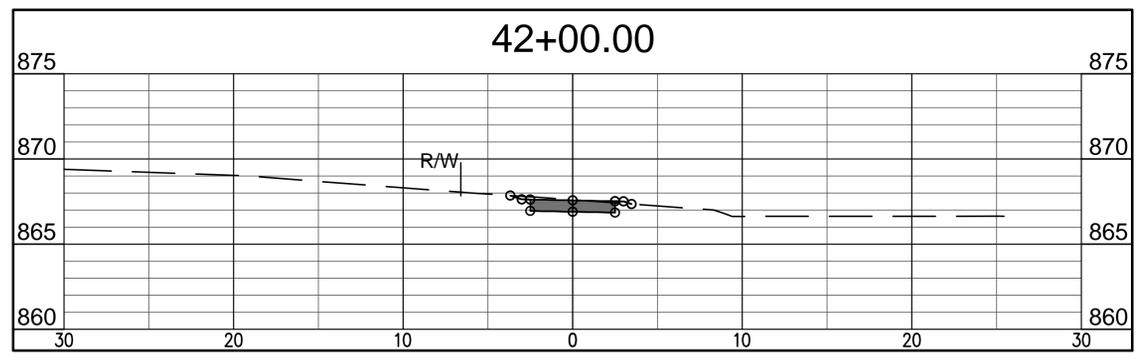
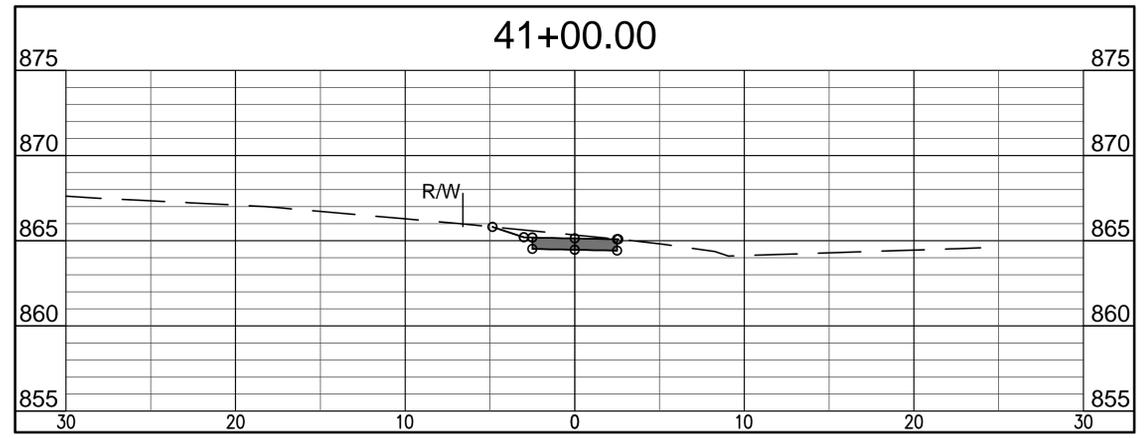
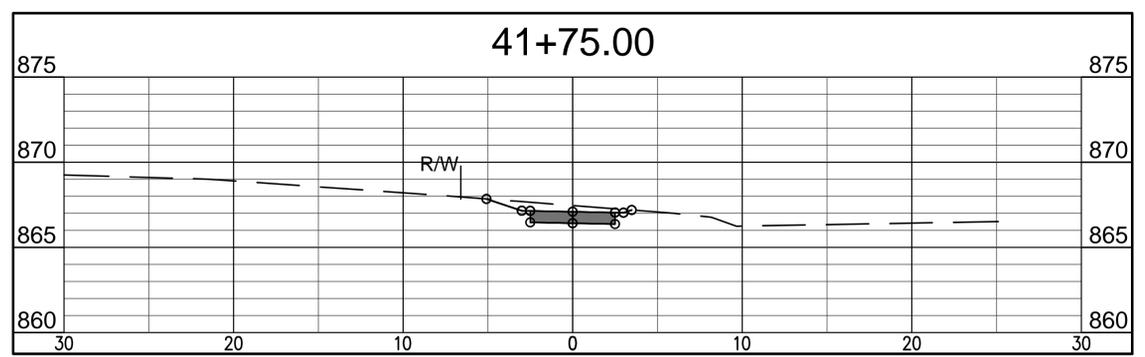
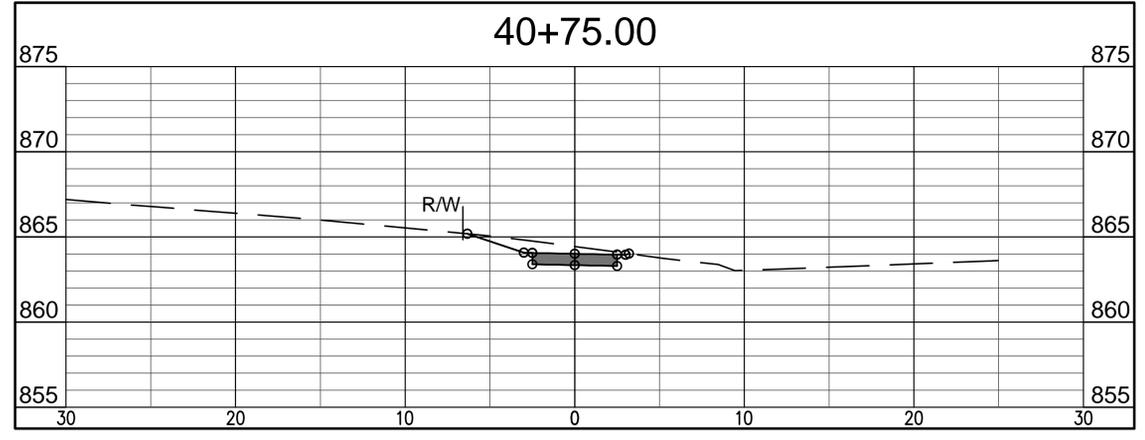
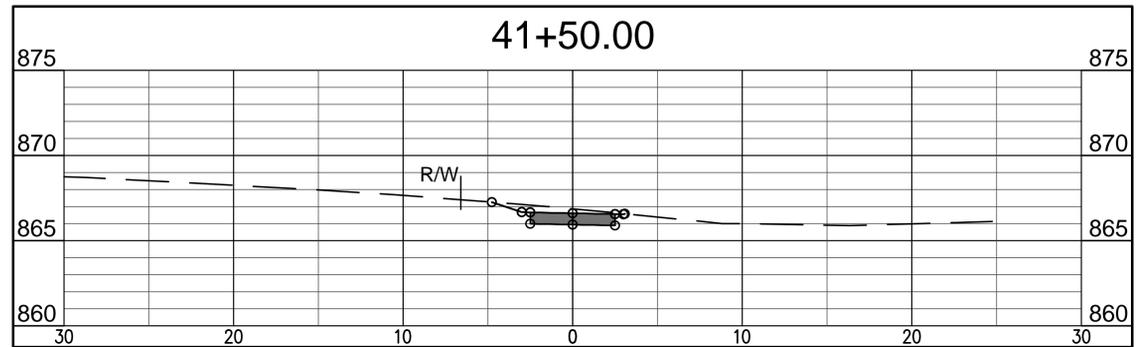
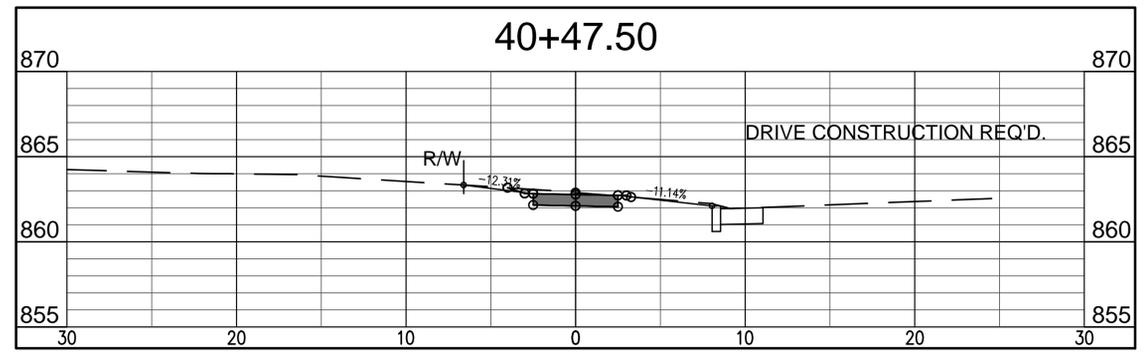
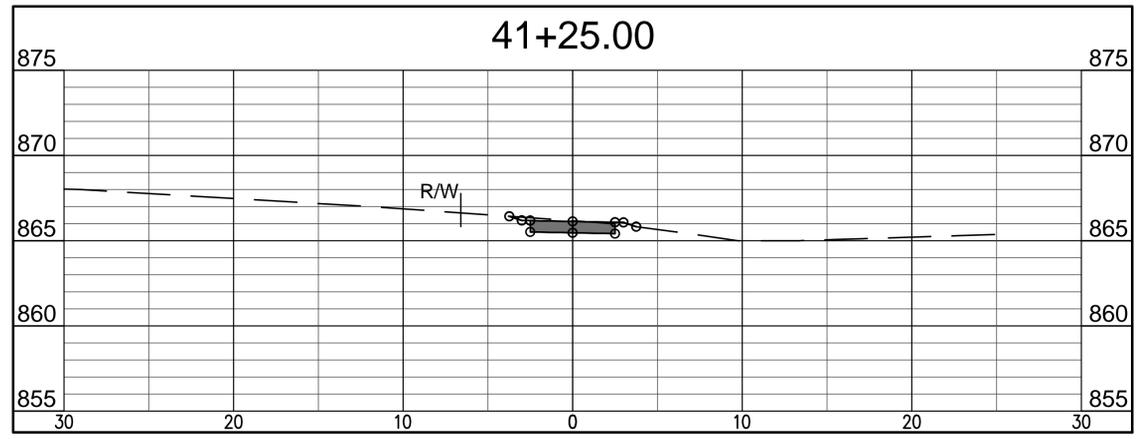
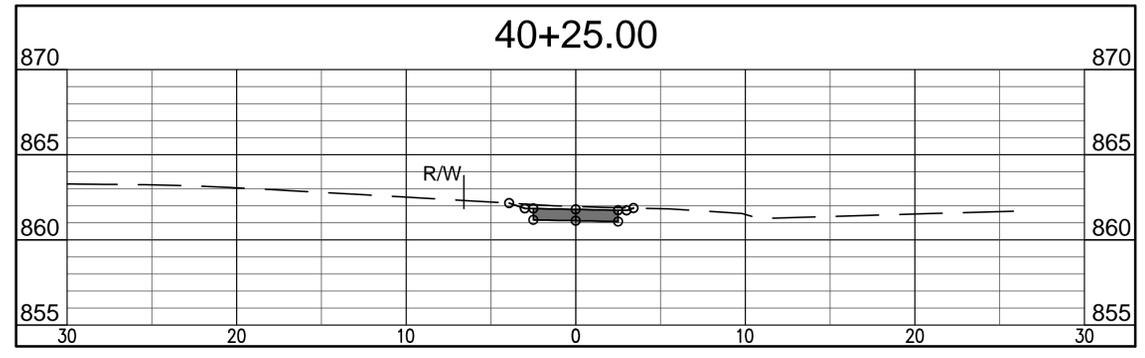
Professional Engineer
No. 60018283
STATE OF INDIANA
Professional Engineer
03-24-16

PROPOSED
MORNINGSIDE SIDEWALK PROJECT
FROM SHEFFIELD DRIVE TO PARK
RIDGE ROAD
BLOOMINGTON, INDIANA

title: LINE PR-2 PLAN & PROFILE

designed by: RLC
drawn by: RLC
checked by: JSF
sheet no: C403
project no.: 401618

revisions:
CBU Approval 9-13-16



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CIVIL ENGINEERING
PLANNING
Bloomington, Indiana
(812) 339-2990 (Fax)

BEB
BYNUM FANYO & ASSOCIATES, INC.
528 north walnut street
(812) 332-8030

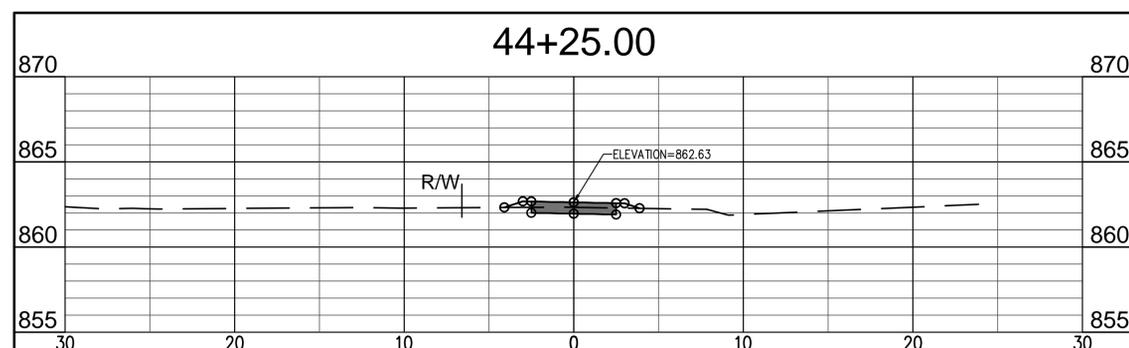
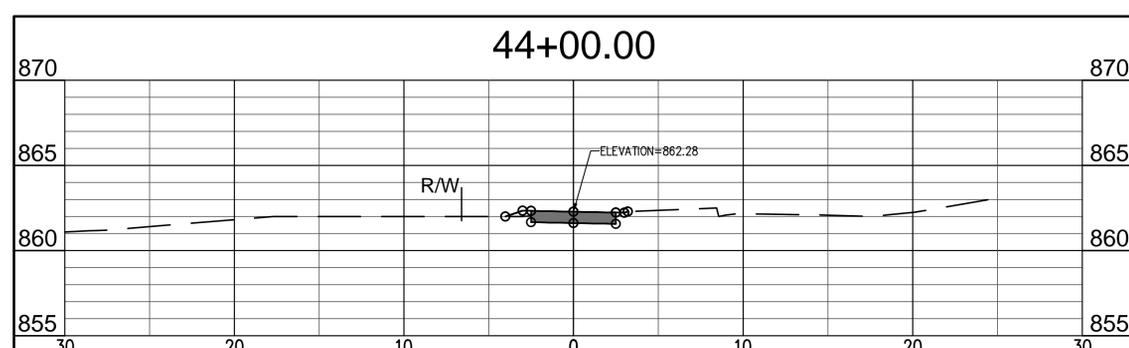
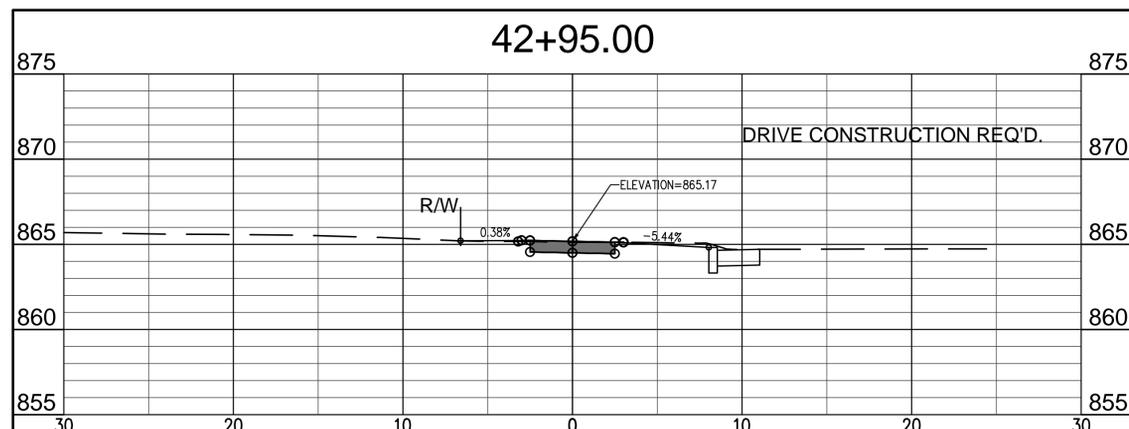
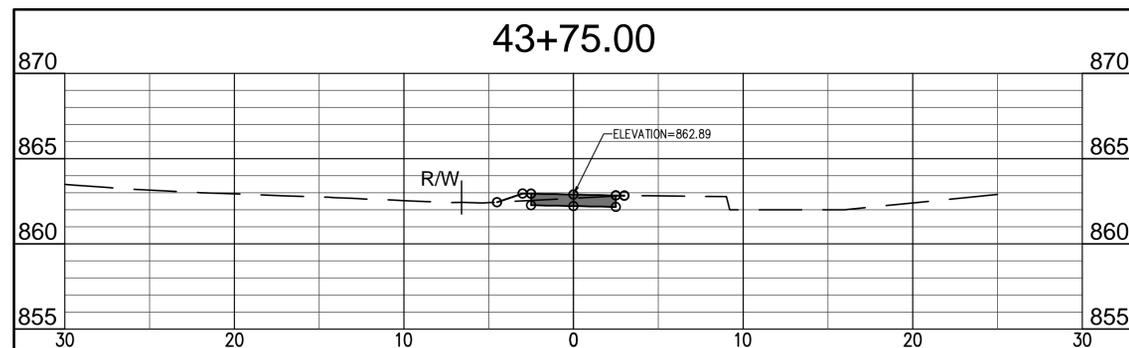
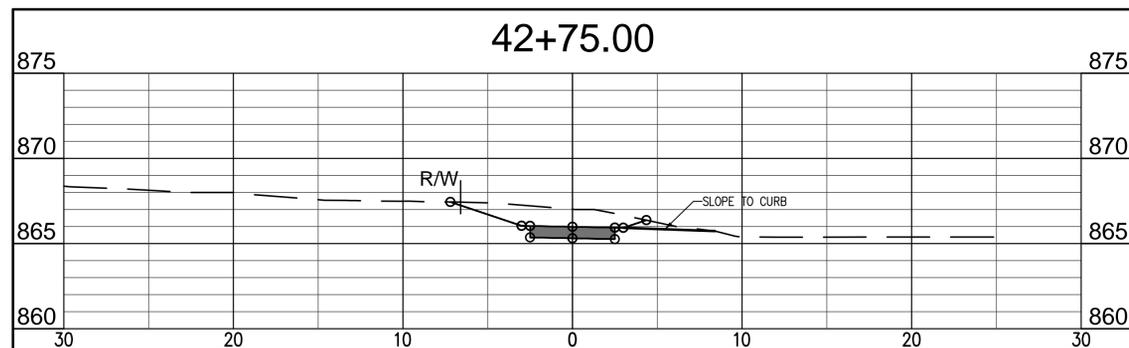
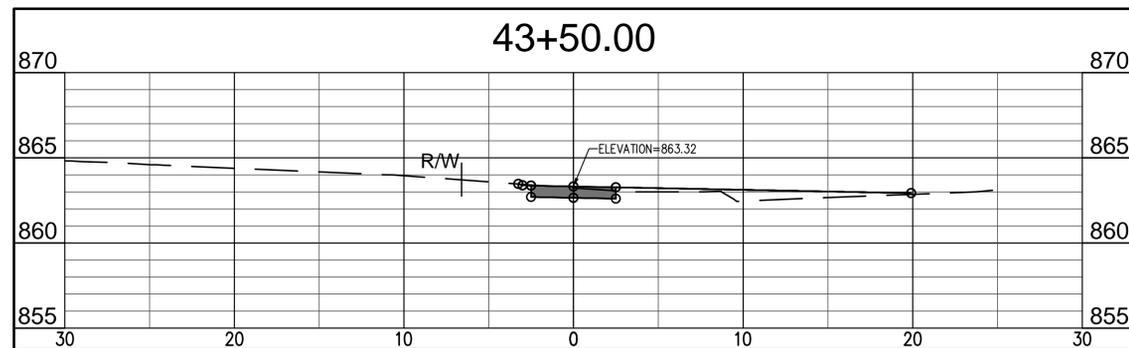
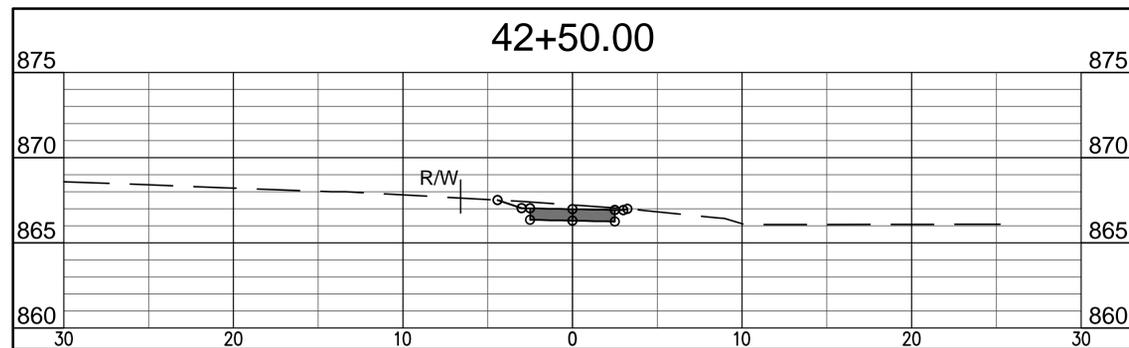
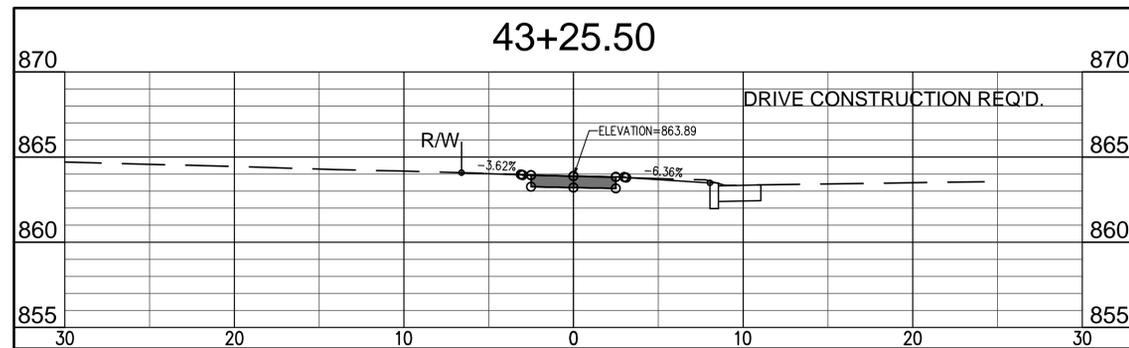
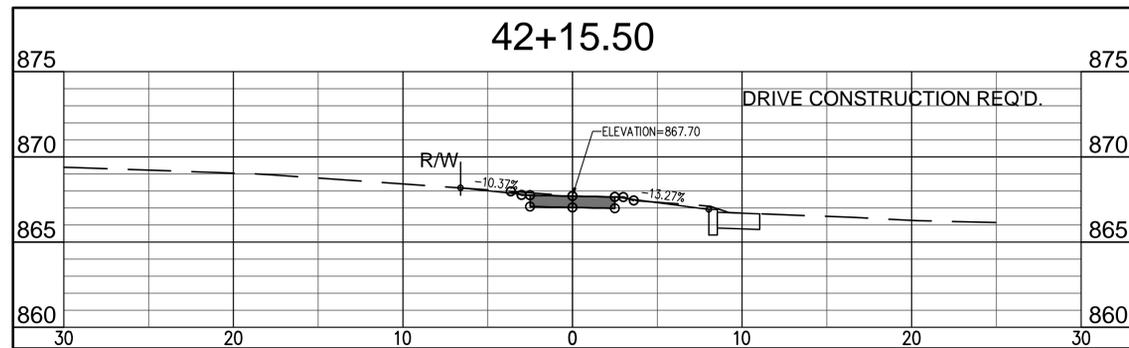
JEFFREY S. FANYO
No. 60018283
STATE OF INDIANA
PROFESSIONAL ENGINEER
3-24-16
certified by *[Signature]*

PROPOSED
MORNINGSIDE SIDEWALK PROJECT
FROM SHEFFIELD DRIVE TO PARK
RIDGE ROAD
BLOOMINGTON, INDIANA

title: Cross Sections
40+25 - 42+00

designed by: RLC
drawn by: RLC
checked by: JSF
sheet no: CX 501
project no.: 401618

SCALE: 1" = 5' HORIZ.
1" = 5' VERT.



SCALE: 1" = 5' HORIZ.
1" = 5' VERT.

revisions:
CBU Approval 9-13-16

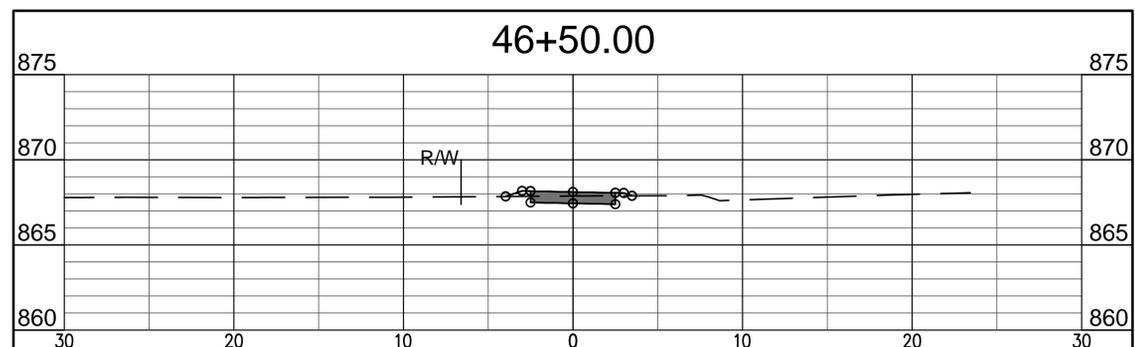
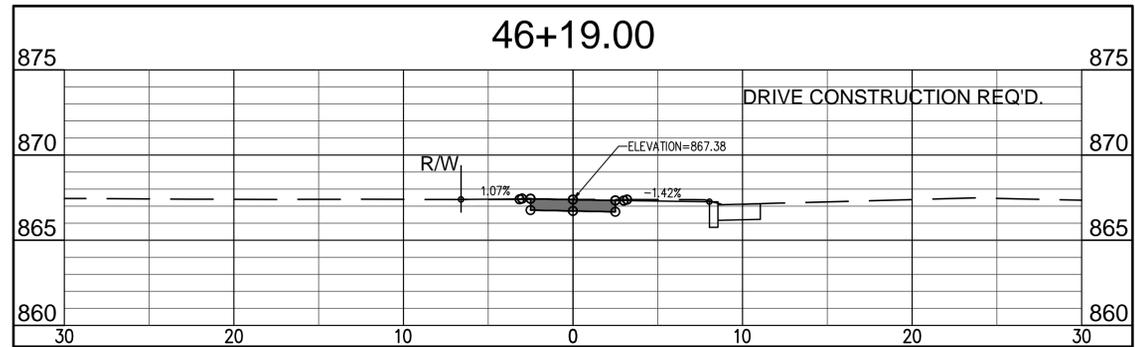
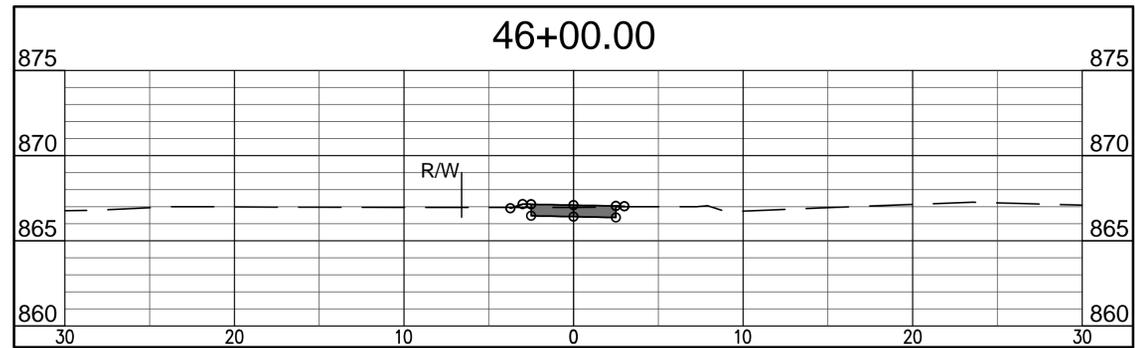
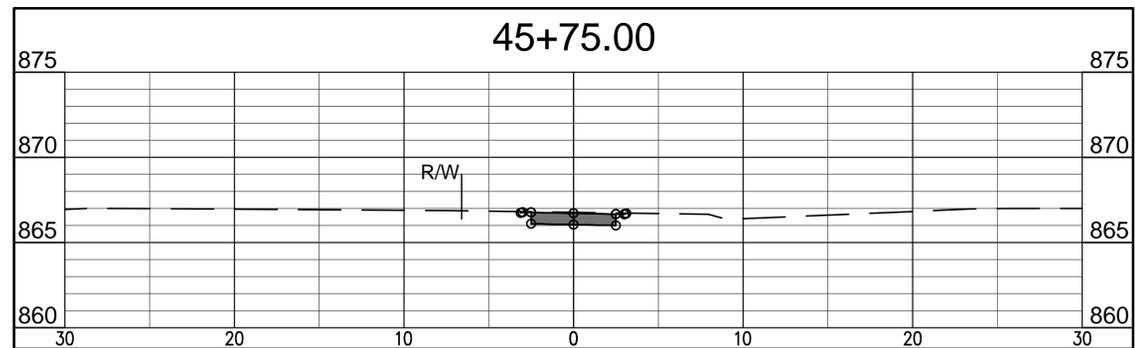
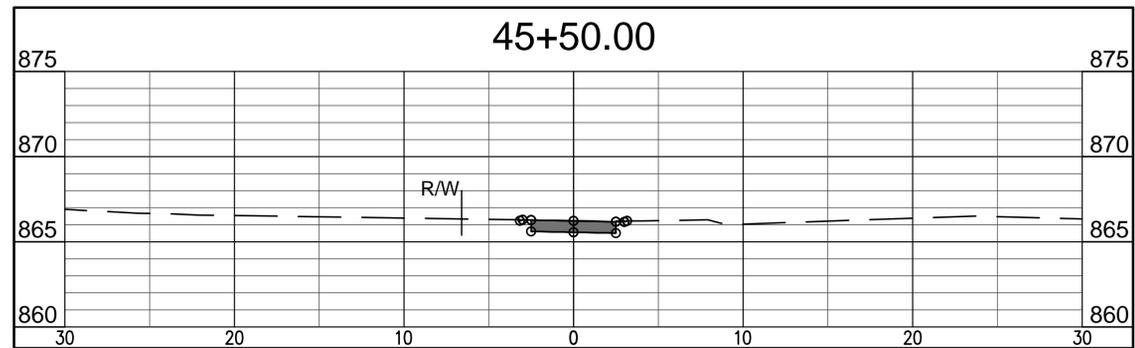
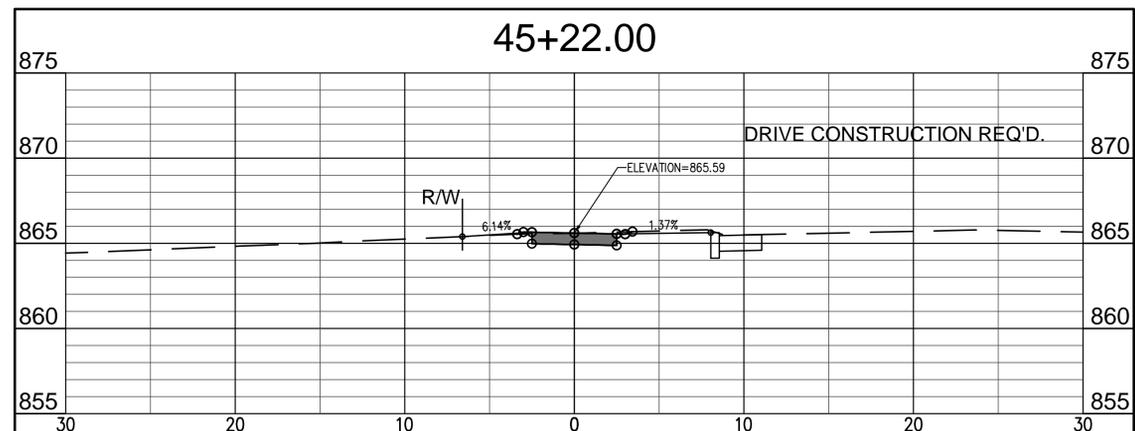
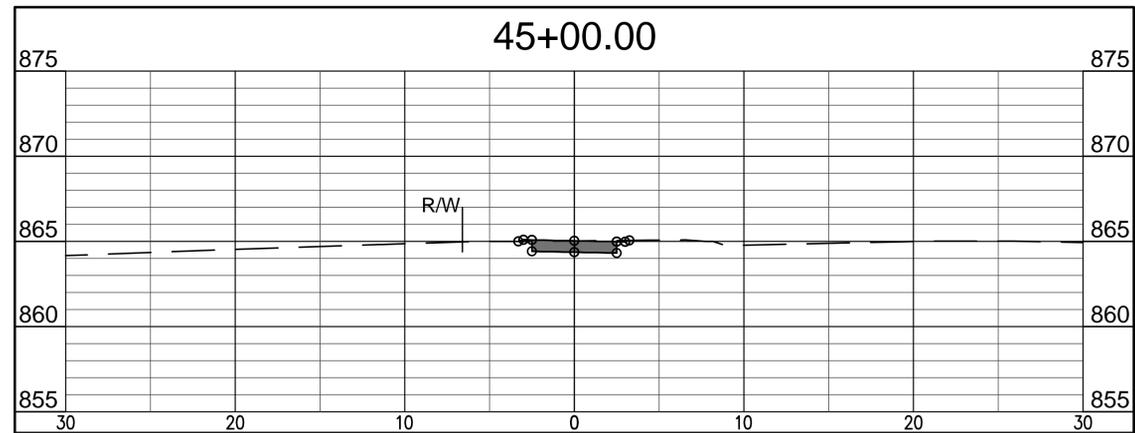
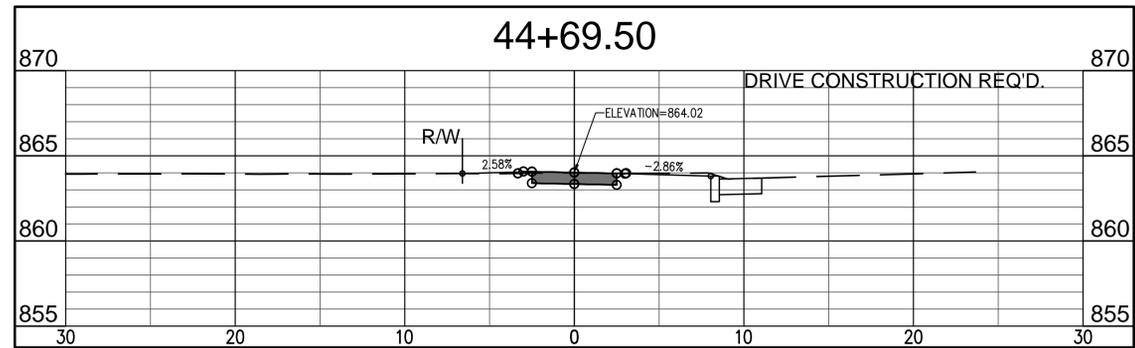
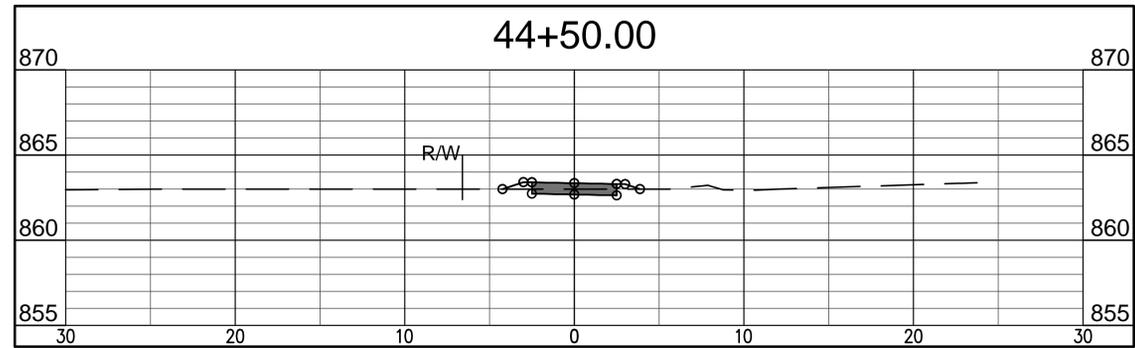
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BYNUM FANYO & ASSOCIATES, INC.
528 north walnut street
Bloomington, Indiana
(812) 332-8030 (Fax)



PROPOSED
MORNINGSIDE SIDEWALK PROJECT
FROM SHEFFIELD DRIVE TO PARK
RIDGE ROAD
BLOOMINGTON, INDIANA

title: Cross Sections
42+15.5 - 44+25
designed by: RLC
drawn by: RLC
checked by: JSF
sheet no: CX 502
project no.: 401618

revisions:
 CBU Approval 9-13-16



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bloomington, indiana
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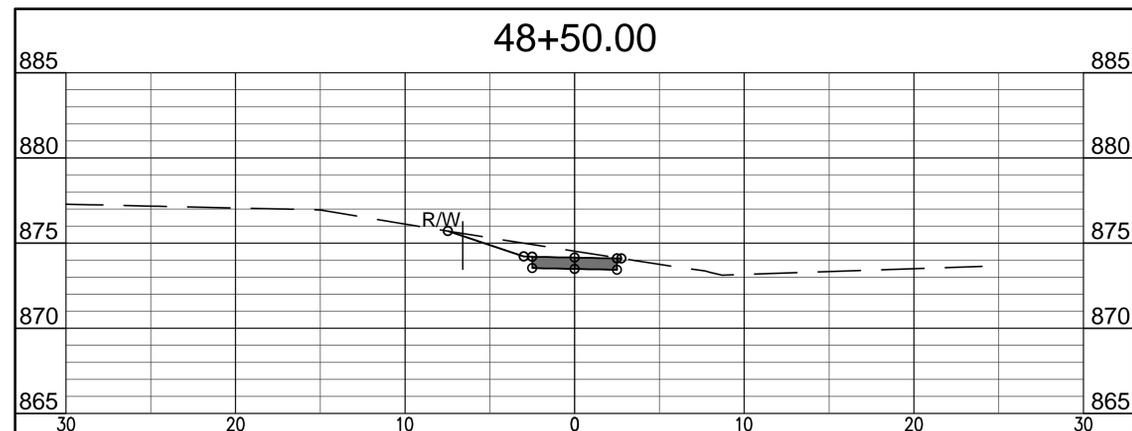
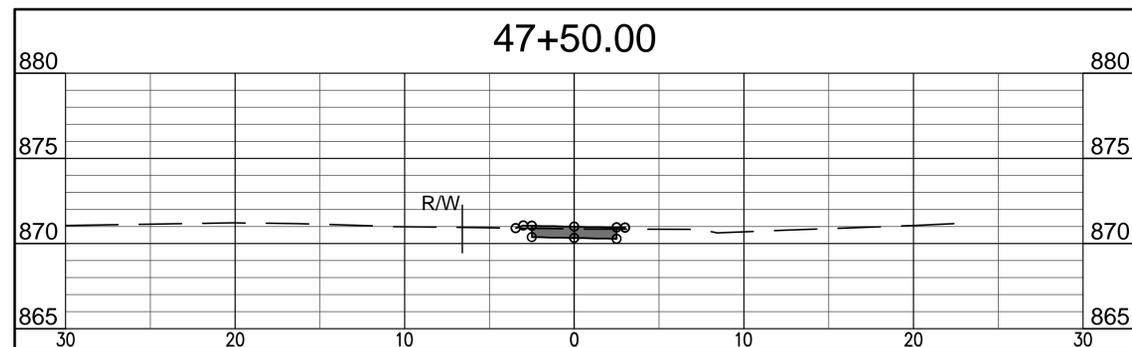
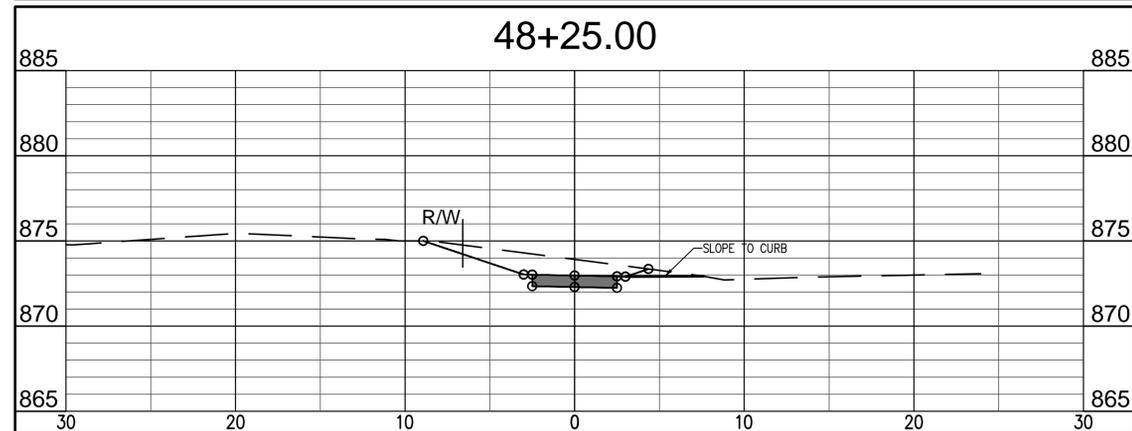
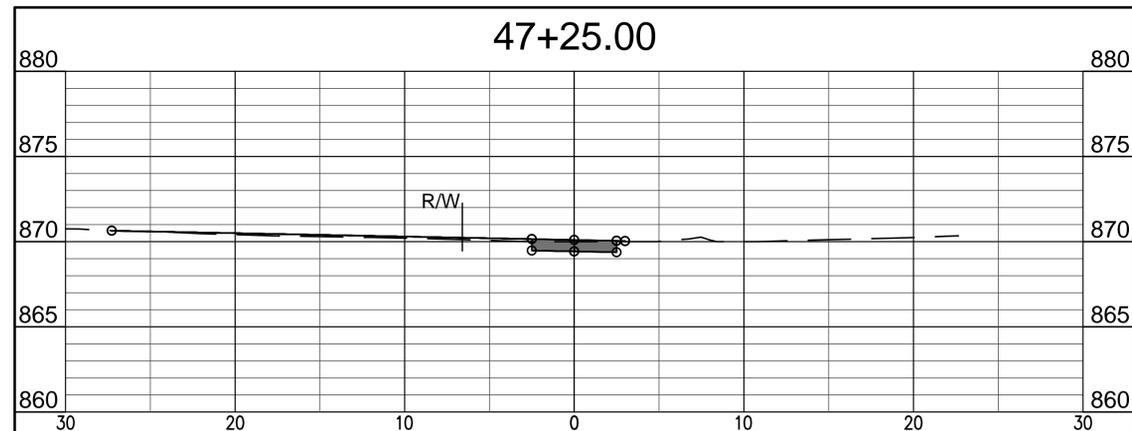
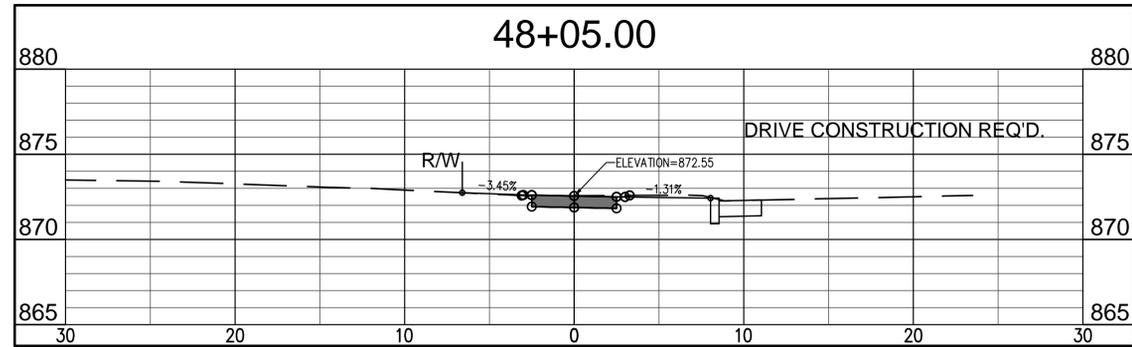
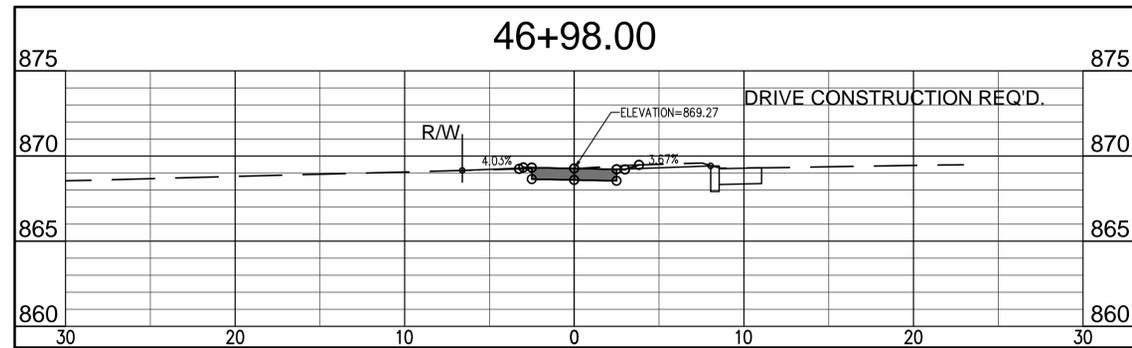
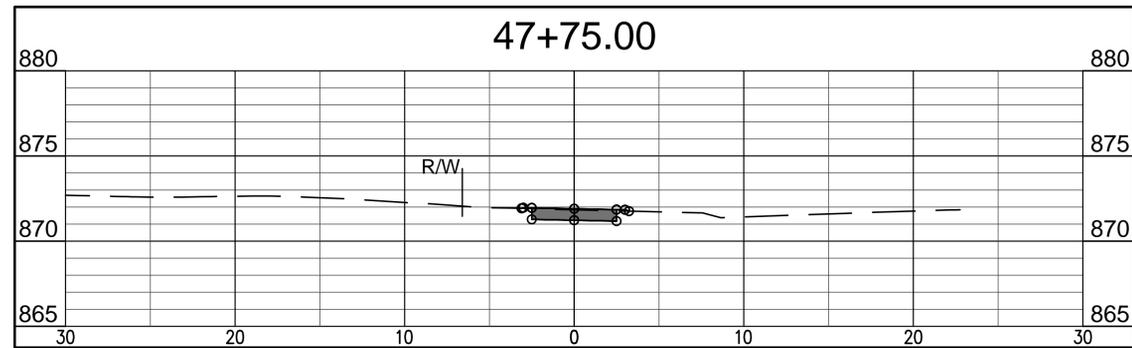
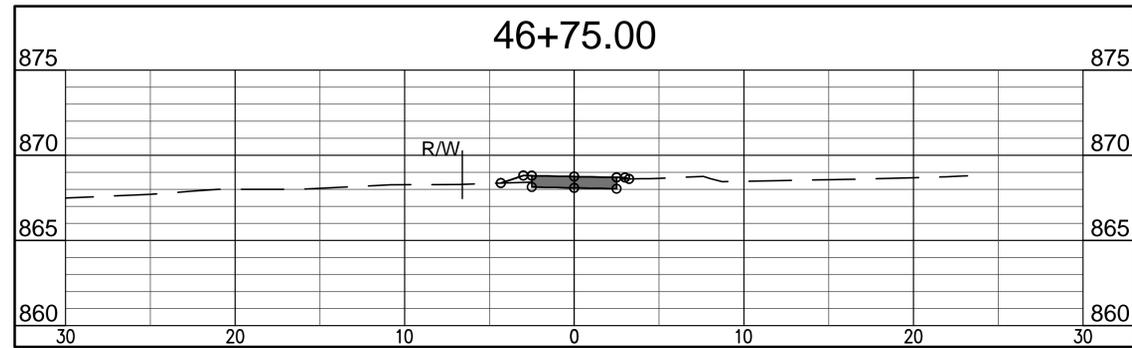
PROPOSED
MORNINGSIDE SIDEWALK PROJECT
FROM SHEFFIELD DRIVE TO PARK
RIDGE ROAD
BLOOMINGTON, INDIANA

title: Cross Sections
 44+50 - 46+50

designed by: RLC
 drawn by: RLC
 checked by: JSF
 sheet no: CX 503
 project no.: 401618

SCALE: 1" = 5' HORIZ.
 1" = 5' VERT.

revisions:
 CBU Approval 9-13-16



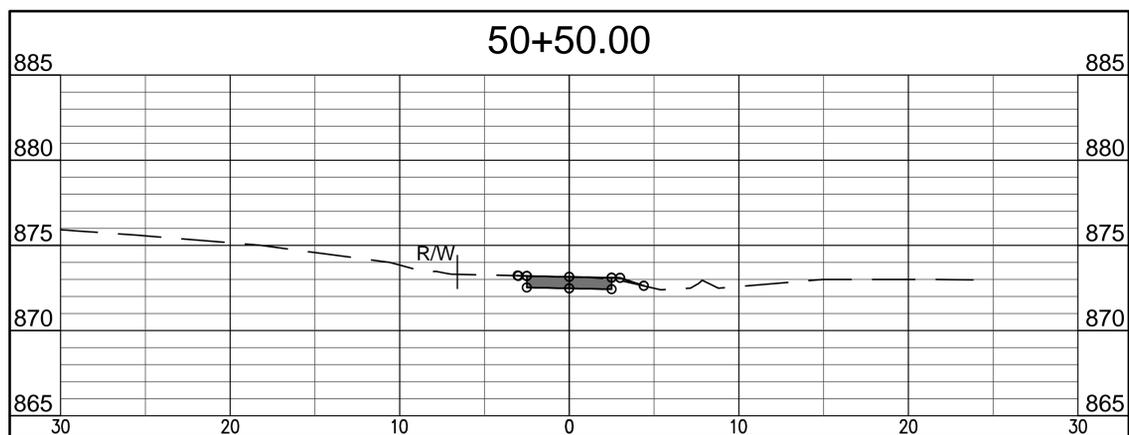
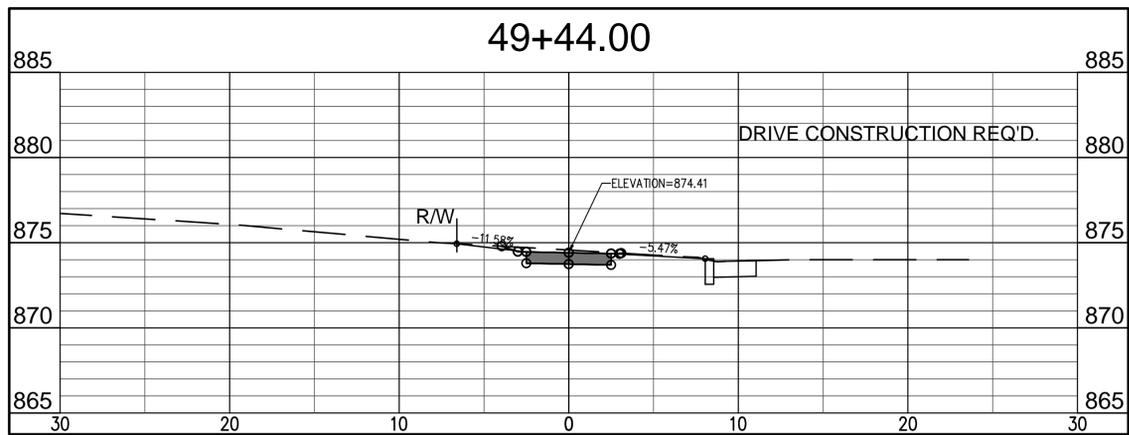
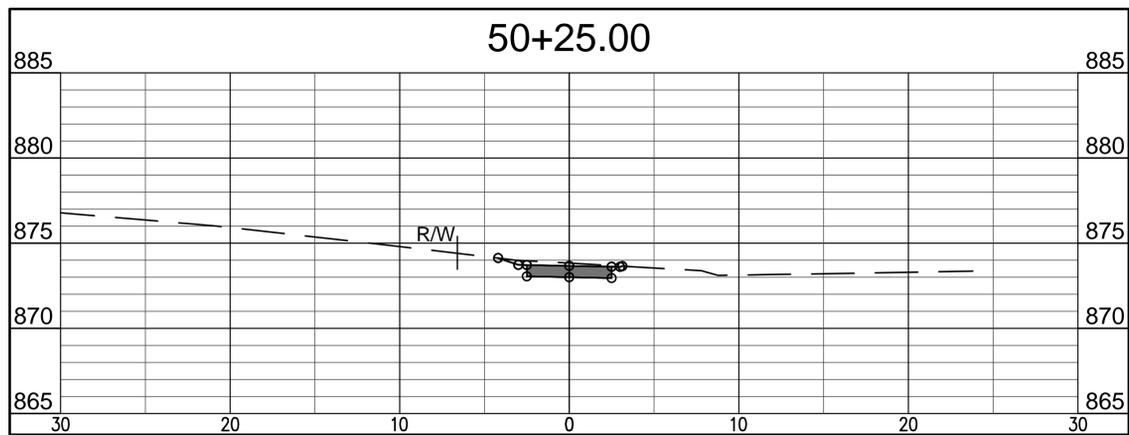
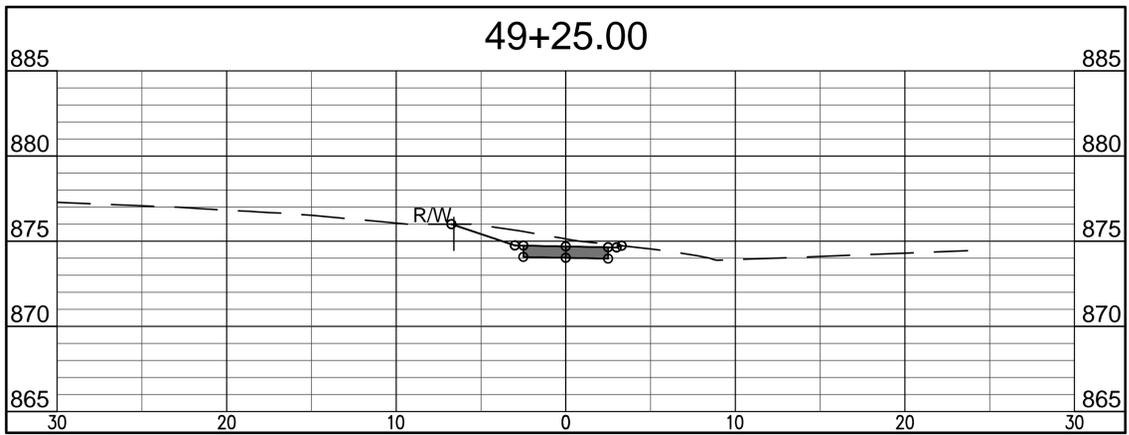
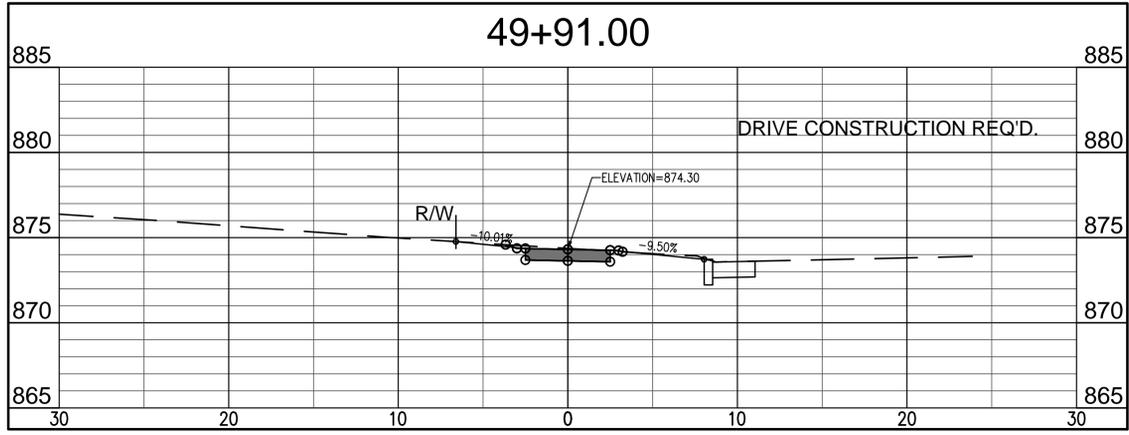
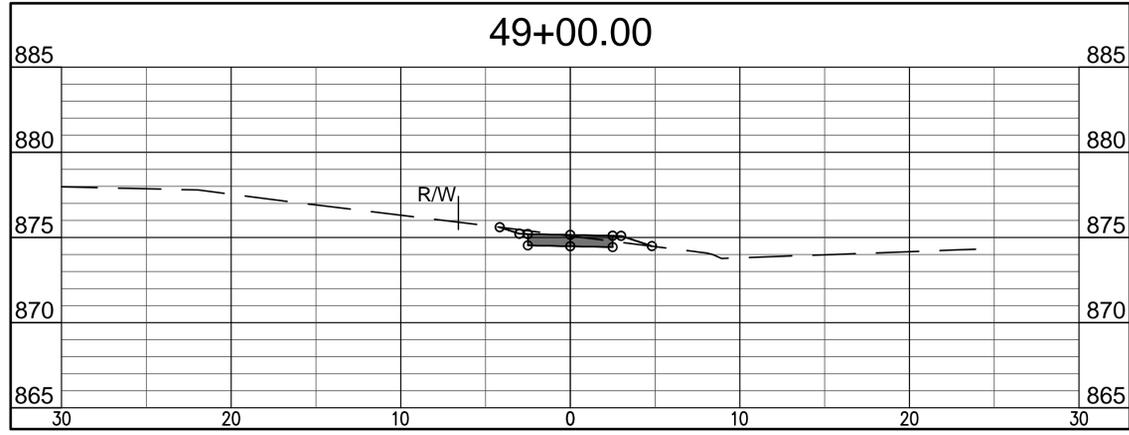
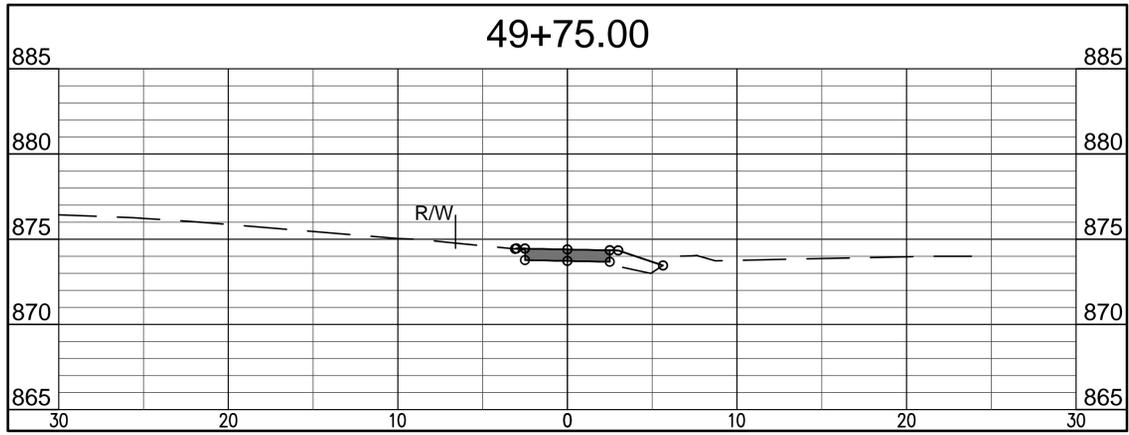
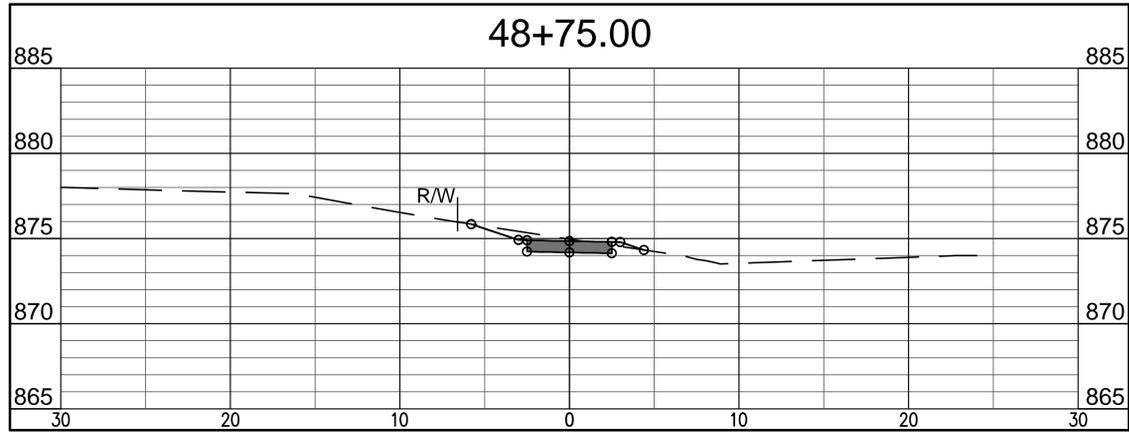
SCALE: 1" = 5' HORIZ.
 1" = 5' VERT.

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certified by *[Signature]*
PROPOSED
MORNINGSIDE SIDEWALK PROJECT
FROM SHEFFIELD DRIVE TO PARK
RIDGE ROAD
BLOOMINGTON, INDIANA

title: Cross Sections
 46+75 - 48+50
 designed by: RLC
 drawn by: RLC
 checked by: JSF
 sheet no: CX 504
 project no.: 401618



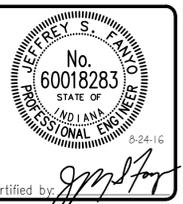
SCALE: 1" = 5' HORIZ.
1" = 5' VERT.

revisions:
CBU Approval 9-13-16

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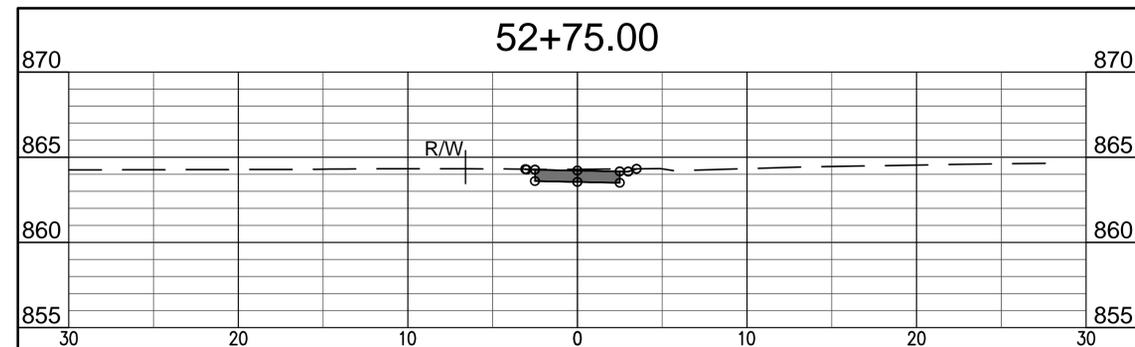
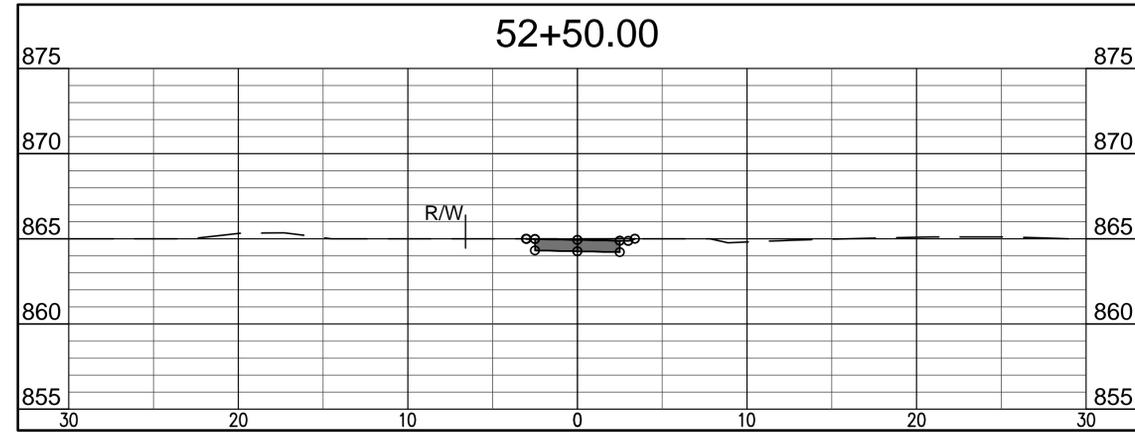
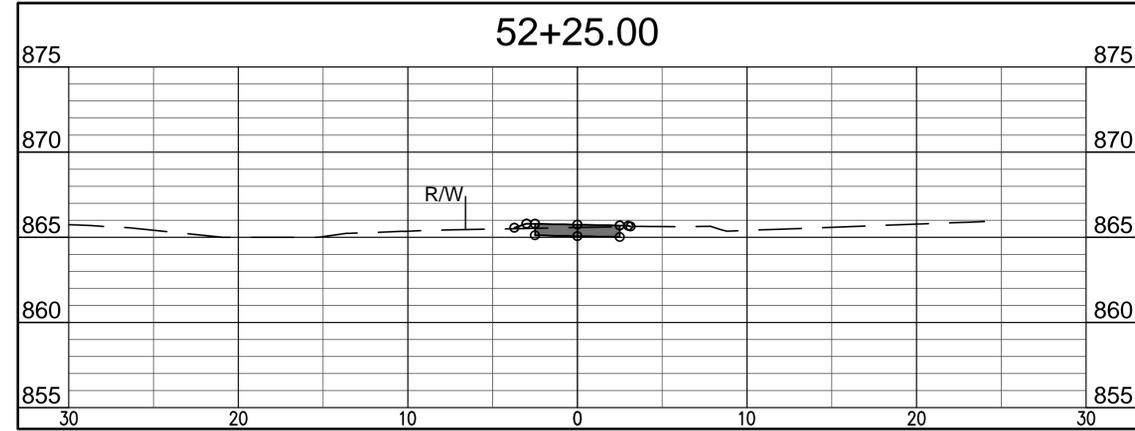
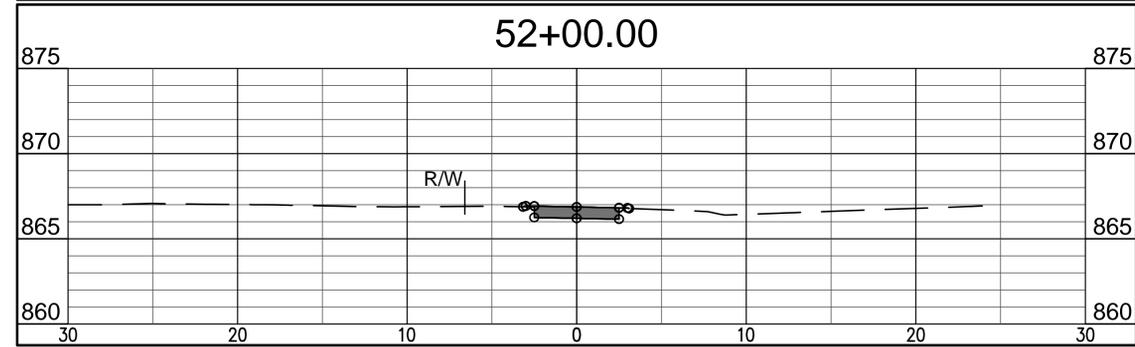
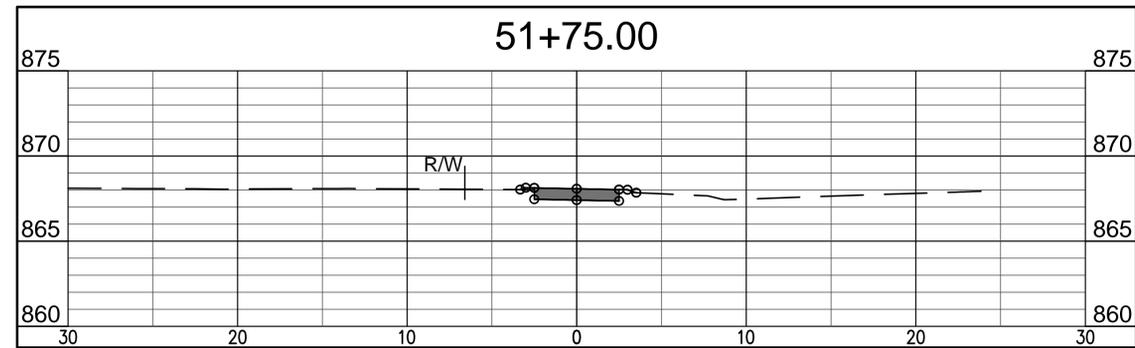
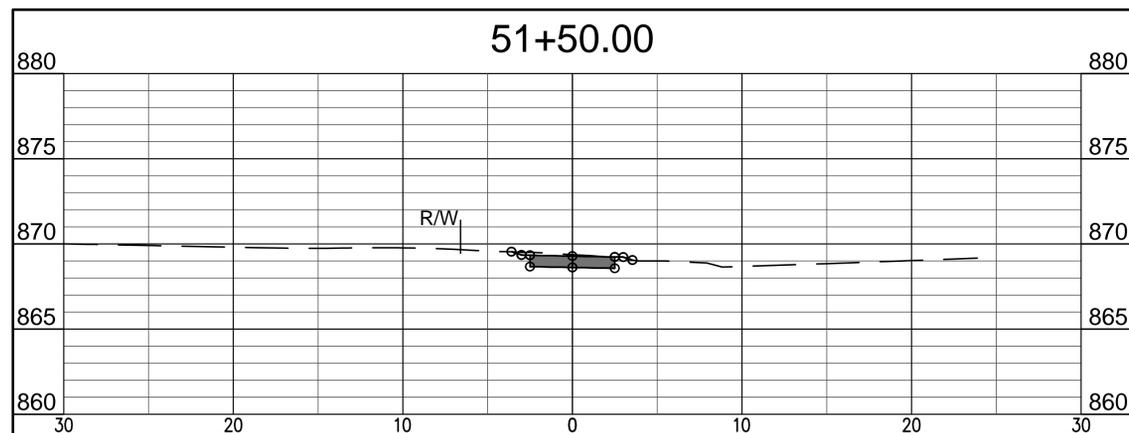
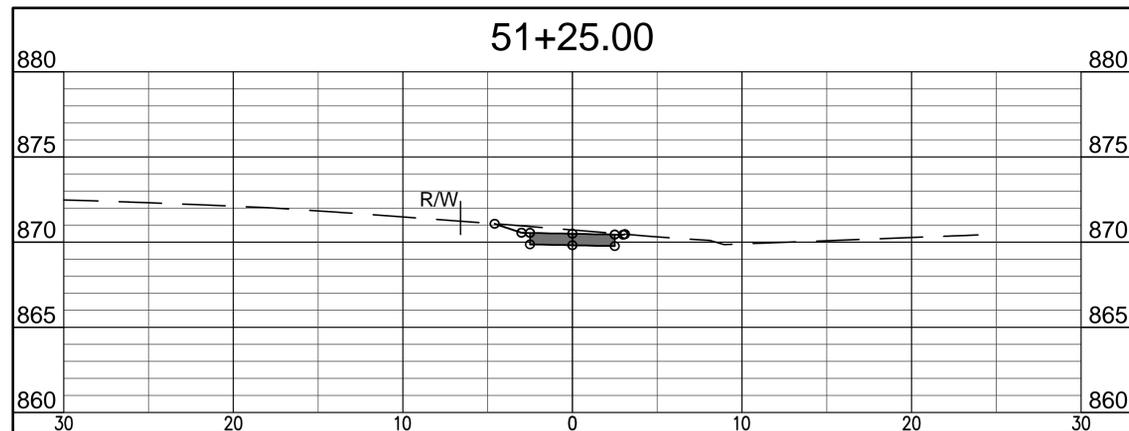
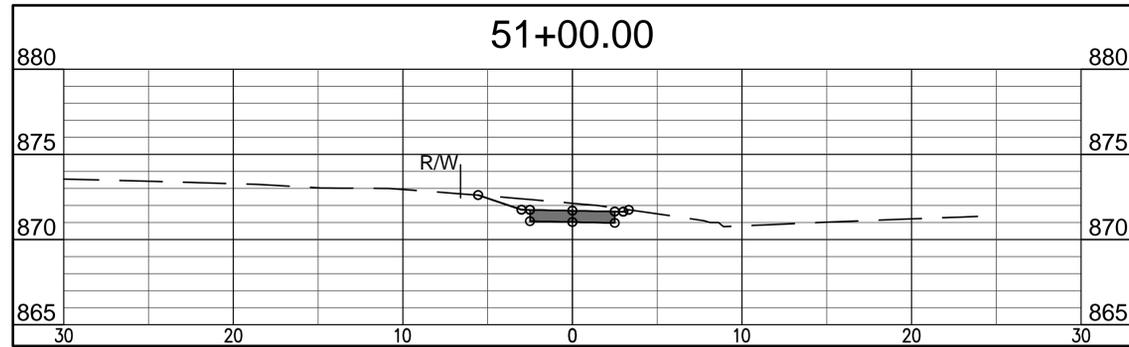
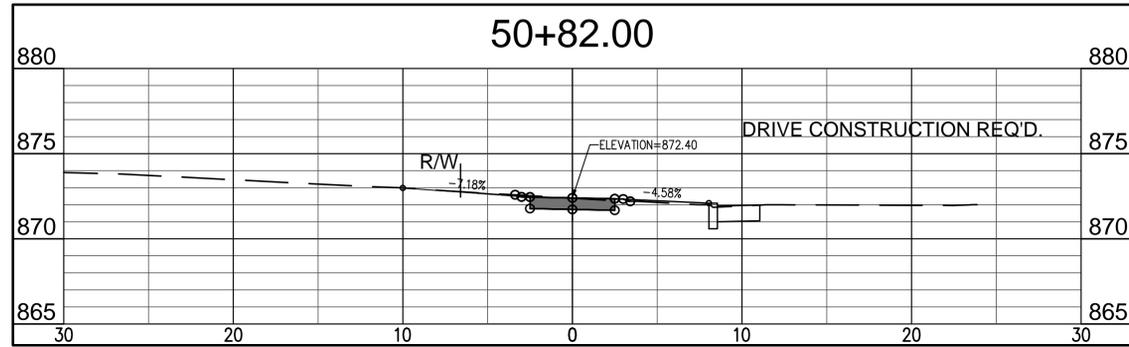
bloomington, indiana
(812) 339-2990 (Fax)



PROPOSED
MORNINGSIDE SIDEWALK PROJECT
FROM SHEFFIELD DRIVE TO PARK
RIDGE ROAD
BLOOMINGTON, INDIANA

title: Cross Sections
48+75 - 50+50

designed by: RLC
drawn by: RLC
checked by: JSF
sheet no: CX 505
project no.: 401618



revisions:
CBU Approval 9-13-16

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PROPOSED
MORNINGSIDE SIDEWALK PROJECT
FROM SHEFFIELD DRIVE TO PARK
RIDGE ROAD
BLOOMINGTON, INDIANA

title: Cross Sections
50+82 - 52+75
designed by: RLC
drawn by: RLC
checked by: JSF
sheet no: CX 506
project no.: 401618

SCALE: 1" = 5' HORIZ.
1" = 5' VERT.