AMENDED AGENDA
ELLETTSVILLE PLAN COMMISSION
Town Hall
1150 W. Guy McCown Drive
Ellettsville, Indiana
Thursday, July 6, 2023 - 6:00 P.M.

Pledge of Allegiance

Roll Call

Approval of Minutes – June 1, 2023

Monthly Conflict of Interest Statement

Old Business

New Business

Preliminary Plat Approval for Five (5) Single Family Lots in Prominence Place, Phase IV, (N. Louden Road and W. Upland Drive); Petitioner: Valu-built Construction, LLC; Case No. PC 23-07

Public Hearing on the Town of Ellettsville Comprehensive Plan

Planning Department Update

Next Meeting – August 3, 2023

Privilege of the Floor – Non-Agenda Items

Plan Commission Comments

Adjournment

Planning Commission meetings are wheelchair accessible. The accessible entrance is located on the east side of the building. Accessible visitor parking spaces are located on the north side of the building. The Town further assures every effort will be made to ensure nondiscrimination in all of its programs and activities, whether those programs and activities are federally funded or not. Close captioning of the public meetings is broadcast on Community Access Television Series.

MEETING NOTICE

Thursday, July 6, 2023, at 6:00 P.M.

The Town of Ellettsville Plan Commission will conduct its regularly scheduled meeting on Thursday, July 6, 2023, at 6:00 p.m., local time.

The meeting will be conducted at Town Hall. Plan Commission members will attend the meeting in person. The public is invited to attend in person or by remote access. The meeting will be available by zoom.

The Town of Ellettsville Plan Commission is inviting you to a scheduled Zoom meeting.

Topic: Plan Commission
Time: July 6, 2023; 06:00 PM Eastern Time (US and Canada)

Join Zoom Meeting
https://us02web.zoom.us/j/87100312631?pwd=eDBWNVk2dTYya0QyNFlWYktqWVNtZz09

Meeting ID: 871 0031 2631
Passcode: 741314

One tap mobile
+13052241968,,87100312631#,,,,*741314# US
+13092053325,,87100312631#,,,,*741314# US

Dial by your location
• +1 305 224 1968 US
• +1 309 205 3325 US
• +1 312 626 6799 US (Chicago)
• +1 646 931 3860 US
• +1 929 205 6099 US (New York)
• +1 301 715 8592 US (Washington DC)
• +1 689 278 1000 US
• +1 719 359 4580 US
• +1 253 205 0468 US
• +1 253 215 8782 US (Tacoma)
• +1 346 248 7799 US (Houston)
• +1 360 209 5623 US
• +1 386 347 5053 US
• +1 507 473 4847 US
• +1 564 217 2000 US
• +1 669 444 9171 US
• +1 669 900 6833 US (San Jose)

Meeting ID: 871 0031 2631
Passcode: 741314

June 1, 2023

The Ellettsville, Indiana, Plan Commission met in regular session on Thursday, June 1, 2023, at Town Hall. David Drake called the meeting to order at 6:00 p.m. and Pat Wesolowski led the Pledge of Allegiance.

Roll Call: Members participating were: David Drake, President; Dan Swafford, Vice President; Don Calvert; Pamela Samples; Pat Wesolowski and Steve Hale. Absent were: Sandra Hash. Denise Line, Planning Director, Mike Burns, Assistant Planner, and Darla Brown, Town Attorney, were also present.

Approval of the Minutes

David Drake entertained a motion to approve the minutes for the regular meeting on May 4, 2023. Dan Swafford made a motion to approve the minutes for May 4, 2023. Pamela Samples seconded the motion. Motion carried.

Monthly Conflict of Interest Statement

Comprehensive Plan Update

Old Business

Discussion on Chapter 4 (Our Land Use Plan) of the Comprehensive Plan

Denise Line, Planning Director, reviewed the Land Use Plan, page by page, and she asked if they had any questions or changes. On page 69, Denise Line said that she would like to change an area on the west side that was labeled as General Business to Mixed Use-Village Center. After a short discussion the members agreed with this proposed change. On page 71, labeled Planned Neighborhood, Denise Line recommended changing the wording to read: Low-density areas should strive for 4 DU/A for single family detached, medium-density areas should strive for 8-10 DU/A, and high-density areas should strive for 10-15 DU/A for multi-family residential. In addition, Denise Line suggested adding on street parking areas on pages 71 and 72. Dan Swafford requested that the review of the Land Use Plan be added to the agenda for July 5, 2023, so the members can review the materials. After discussion it was agreed that the discussion of Chapter 4 would be added to agenda for next month's meeting.

Discussion on Town Council's Changes to Ordinance 2023-05

Darla Brown, Town Attorney, explained that Town Council has made three amendments to Ordinance 2023-05 that the Plan Commission approved on the May 4, 2023. The first amendment is to require the moratorium on new construction which is defined as construction that requires a building permit. Also, the term head shops, is changed to read paraphernalia shops. The last amendment is to change the time in which the moratorium is in effect to read: until the UDO is enacted.

Steve Hale made a motion to approve the amendments and it was seconded by Pat Wesolowski. Roll call vote: David Drake-Yes, Dan Swafford - Yes, Don Calvert - Yes, Steve Hale – Yes, Pamala Samples - Yes, Pat Wesolowski-Yes. Motion Carried

Planning Department Updates

Denise Line, Planning Director, advised there will be some new business next month. The next meeting will be July 5, 2023.

Plan Commission Comments

Privilege of the Floor

Kyle Hannon, Envision Ellettsville, reported that the Envision Ellettsville Plan received an award for an outstanding plan from the American Association of Planners.

Dan Rarey, Advisory Board Member for Envision Ellettsville said the community meeting of Envision Ellettsville on May 16, 2023 was attended by 60 people and went well.

Adjournment

David Drake adjourned the meeting at 6:43 p.m.

David Drake, President	Dan Swafford, Vice President
Don Calvert	Steve Hale
Sandra Hash	Pamela Samples
Pat Wesolowski	Mike Burns, Secretary

Town of Ellettsville
Department of Planning & Development

Technical Review Meeting Notes
Prominence Place, Phase IV

Project Description

Location: N. Louden Drive/W. Upland Drive

Size: +/- 30.21 Acres

Current Zoning: R-1: Single Family Residential

Planning Comments

The following are shown on the preliminary plat for the Phase 1 of Prominence Place but will also be shown on Phase IV: Street trees, curb ramp and sidewalk.

Summary

The development plan request is for Phase IV of the Prominence Place subdivision. The Technical Review Committee met on June 20th to discuss the preliminary plat. Those in attendance were Town Manager and Public Works Superintendent Mike Farmer, Planning Director Denise Line, Assistant Planner, Mike Burns, Deputy Fire Chief Chris Clouse, Street Commissioner Kip Headdy, and Building Inspector, Ron Vandeventer. Also, in attendance were A.J. Willis, project engineer, and Ernest Xi, developer. Comments included are those that have been received by the Planning Office. Any additional comments from the Technical Review committee that are not listed above, shall still be taken into consideration. Plan Commission should approve the development plan after the above-mentioned items have been addressed but may also add conditions as they see fit.

Any requested revisions may be submitted in electronic form, with paper copies only necessary after Plan Commission approval.

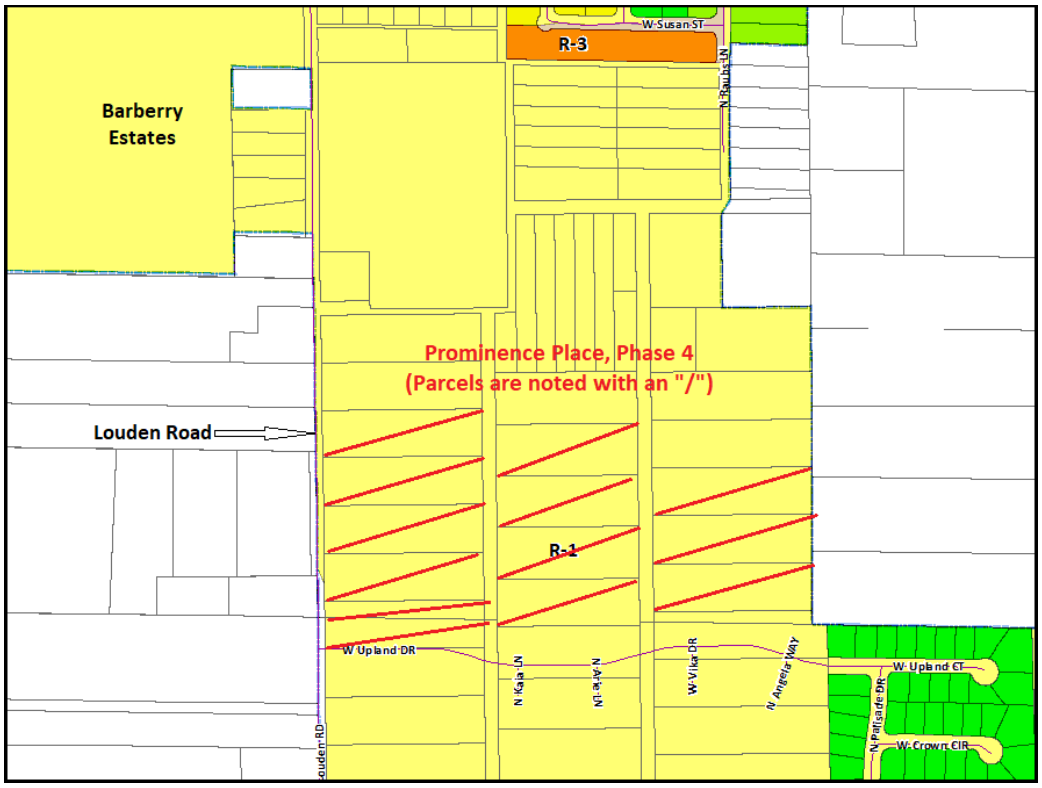
Submitted by Denise Line
Director, Ellettsville Planning
June 29, 2023

Town of Ellettsville
Department of Planning & Development

PC 22-05 – Preliminary Plat
Staff Report

Petition

Case - PC 23-07 – Prominence Place, Phase IV, Subdivision. A request by Valu-built Construction, LLC, for consideration of primary approval for the Prominence Place, Phase IV, preliminary plat. The subject property is located at the north end of W. Upland Drive and parallel to N. Louden Road.



	Zoning District	Property Use
North:	R-1; Single Family Residential	Undeveloped Subdivision
South:	R-1; Single Family Residential	Platted Residential (Prominence Place, Phases 1, 2 & 3)
East:	R-1; Single Family Residential	Residential Subdivision
West:	AG/RR; Agriculture/Rural Reserve (County)	Unplatted Residential

Considerations

1. The applicant is requesting preliminary plat approval for a total of five (5) single family lots totaling 30.21 acres.
2. Four (4) single family lots will be platted and will total approximately one (1) acre.
3. The fifth lot will be subdivided in the future.
4. The lots are zoned R-1; Single Family Residential and will be built with single family homes.
5. The subdivision will be accessed from W. Upland Drive.
6. The lots will meet all size and dimensional requirements.
7. New infrastructure will be constructed to Town requirements.
8. The Tech Review Committee met on June 20th at Town Hall. Comments received from Town Departments are attached. All items have been or will be addressed by the date of the meeting.
9. A letter of credit will be required to cover any outstanding items prior to recording of the final plat.

Plan Commission Action

The Plan Commission action on the preliminary plat can be in the form of approval, approval with conditions, denial or to continue the hearing. The Plan Commission has the final say in these matters.

Staff Recommendation

It is of Staff opinion that the proposed plat will meet all required zoning and subdivision regulations and there are no significant concerns with the proposed plat. This section will be parallel to N. Louden Road and continue to spur development in that area as well as continued growth of the Prominence Place subdivision. Therefore, Staff recommends that the Plan Commission approve the Prominence Place, Phase IV, preliminary plat.

Submitted by Denise Line
Director, Ellettsville Planning
July 6, 2023

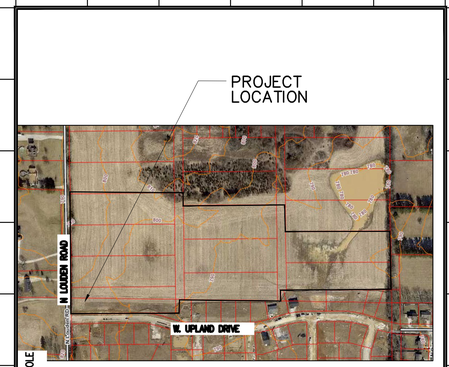
Site Photos

PROMINENCE PLACE PH 4
PROJECT NO. 402319

PROPOSED:

PROMINENCE PLACE SUBDIVISION PHASE FOUR

W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404



VICINITY/LOCATION MAP
NOT TO SCALE

SHEET INDEX

SHEET NO.	SHEET NO.
C101	GENERAL NOTES & LEGENDS
C201-C202	OVERALL SITE PLAN
C301	SITE & UTILITY PLAN
C401	GRADING & DRAINAGE PLAN
C501	MISCELLANEOUS DETAILS
C601-C604	STORMWATER POLLUTION PREVENT PLAN, INFORMATION, AND DETAILS
C701	LINE 'SS-1' PLAN AND PROFILE
C801	LANDSCAPE PLAN

UTILITY CONTACT INFORMATION

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

DIAL '811' BEFORE YOU DIG
PER INDIANA STATE LAW IC8-1-26.
IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

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

architecture
civil engineering
planning

OWNER/DEVELOPER:
VALU-BUILT CONSTRUCTION LLC
2775 N. THOMAS ROAD
BLOOMINGTON, IN 47404

THE CURRENT EDITION OF THE INDIANA DEPARTMENT OF TRANSPORATION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES & CITY OF BLOOMINGTON UTILITIES STANDARD SPECIFICATIONS IS TO BE USED WITH THESE PLANS

Certified By:

JEFFREY S. FANYO, P.E.
IND. REG. NO. 60018283

Revisions

PROMINENCE PLACE PH 4
PROJECT NO. 402319

UTILITY LEGEND

PROPOSED PRIVATE DOMESTIC SERVICE LINE: ——— DSL ———
FOR 2-INCH OR LESS SERVICE LINES FROM THE EXISTING MAIN TO THE METER SHALL BE EITHER TYPE 'K' COPPER IN CONFORMANCE WITH ASTM B88 OR BLUE POLYETHYLENE AWWA 901 PE4710, ASTM D2737, CTS SDR9 PC250 (NSF 61). A SINGLE SERVICE LINE WILL BE USED FROM THE EXISTING MAIN TO THE METER OR DOUBLE METER. USE SDR-21 AND FITTINGS FOR DOMESTIC WATER SERVICE LINES FROM THE METER TO THE BUILDINGS, 48" COVER MIN., REFER TO THE 'P' SERIES DRAWINGS FOR MORE INFORMATION AND FINAL SIZE DETERMINATION. ONE LINE SHOWN SHALL BE CONNECTED AND SPLIT WITH VALVES AS INDICATED FOR ALL DOMESTIC AND COMMERCIAL PORTIONS OF THE BUILDINGS. SEE TOWN OF ELLETTSVILLE UTILITY SPECIFICATIONS.

PROPOSED WATER VALVE PER TOWN OF ELLETTSVILLE UTILITIES SPECIFICATIONS

DOUBLE METER PIT WITH 1 2" SERVICE LINE. REFER TO TOWN OF ELLETTSVILLE UTILITIES CONSTRUCTION SPECIFICATIONS

PROPOSED ASTM D3034 SDR 35 PVC ——— SSL ——— C.O.
6" MIN. SANITARY LATERAL AND SANITARY SEWER CLEAN-OUT, REFER TO DETAILS. 24" COVER MIN., REFER TO PLUMBING PLAN FOR PROPOSED INVERT ELEVATIONS LEAVING PROPOSED BUILDING. SLOPE AT 1.04% MIN. TO CONNECTION TO EXISTING SANITARY MAIN AS SEEN ON THE PLAN. - REFER TO CONNECTION DETAIL, BACKFILL DETAIL OF PROPOSED PIPING AND CLEANOUT DETAIL. NOTIFY ENGINEER OF ANY DISCREPANCIES BEFORE PARTS ARE ORDERED AND WORK HAS COMMENCED.

PROPOSED ASTM D3034 SDR 35 PVC SANITARY SEWER ———●———
MAIN PIPING AND MANHOLES, REFER TO PROFILES, PLAN AND DETAILS.
NOTE: PROPOSED SANITARY MAIN SHOWN AS A PART OF THIS PROJECT IS TO BE PUBLIC AND MAINTAINED BY TOWN OF ELLETTSVILLE UTILITIES AFTER CONSTRUCTION IS COMPLETE

SEE ARCHITECTURAL & STRUCTURAL DRAWINGS FOR ALL SHADED AREAS

PROPOSED RIGHT-OF-WAY TO BE DEDICATED TO THE TOWN OF ELLETTSVILLE

NOTE: ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF ELLETTSVILLE UTILITY SPECIFICATIONS.

SITE IMPROVEMENT LEGEND

(PP) PROPOSED PAVEMENT PATCH - REFER TO DETAILS

(F) PROPOSED CONCRETE PATIO OR SIDEWALK. REFER TO PLAN FOR LOCATIONS AND REFER TO DETAIL.

(R) PROPOSED SIDEWALK ACCESSIBLE RAMP TYPE H

SEE ARCHITECTURAL & STRUCTURAL DRAWINGS, DETAILS AND SPECIFICATIONS FOR ALL SHADED AREAS

GRADING/DRAINAGE LEGEND

EXISTING CONTOUR ---------XXX---------
PROPOSED CONTOUR ——— XXX ———
PROPOSED INTENDED FLOWLINE DIRECTION ——— FL> ———

PROPOSED SPOT GRADE ELEVATION — XXX.XX

TC=PROPOSED TOP OF CURB ELEVATION
EP=PROPOSED EDGE OF PAVEMENT ELEVATION AT BOTTOM OF CURB — TC=XXX.XX EP=XXX.XX

FINISH PAD ELEVATION, ELEVATION OF SOIL ONCE PAD CONSTRUCTION IS COMPLETE. FINISHED FLOOR ELEVATION 12" MIN. ABOVE FINISHED PAD ELEVATION. — FP=XXX.XX

FINISH EDGE OF PAVEMENT AT GRADE — EP=XXX.XX

MATCH THE EXISTING'S CONDITIONS GRADES ELEVATION FOR BEST FIT OF PROPOSED GRADING ADJACENT TO THE EXISTING CONDITION. NOTIFY THE ENGINEER OF ANY DISCREPANCIES — MEG=XXX.XX

PROPOSED STORM PIPE AND INLET/MANHOLE, REFER TO PLAN FOR INLET DESIGN AND DETAILS FOR BACKFILL SPECIFICATIONS AND INLET/MANHOLE SPECIFICATIONS PER CBU STANDARDS

PROPOSED STORM BUILDING DRAIN: 6" MIN. ——— X" BD ——— C.O.
SCHEDULE 40 PVC DRAIN PIPE TO POINT OF DISCHARGE AT STORM STRUCTURE WITH APPROPRIATE FITTINGS AND REDUCER FITTINGS WHEN SHOWN TO INCREASE FROM A 6" TO 8" PIPE. 1.0% SLOPE MIN. WITH 24" COVER MIN. 6" MIN. DOWNSPOUT CONNECTIONS AND SCHEDULE 40 DOWNSPOUT BOOTS ARE REQUIRED AT ALL DOWNSPOUT LOCATIONS; SHOP PRIME AND PAINT, COLOR PER ARCHITECT. REFER TO 'A' SERIES DRAWINGS FOR EXACT LOCATION OF ALL DOWNSPOUTS, NOTIFY ENGINEER OF ANY DISCREPANCIES. REFER TO THE STORM CLEAN-OUT DETAIL FOR ALL BUILDING DRAIN CLEAN-OUTS SHOWN. CONTRACTOR TO USE A STEEL SLEEVE WHEN IT IS SHOWN TO ROUTE PIPING THROUGH WALL, COORDINATE WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS.

STATEMENT OF PERFORMANCE STANDARDS

ON BEHALF OF THE OWNER, VALU-BUILT CONSTRUCTION, LLC., BYNUM FANYO & ASSOCIATES, INC. INTENDS TO COMPLY WITH ALL STANDARDS SET FORTH IN THE TOWN OF ELLETTSVILLE ZONING ORDINANCE. WE PLAN ON WORKING CLOSELY WITH STAFF, PLAN COMMISSION MEMBERS, AND THE OWNER TO CREATE A QUALITY SITE PLAN AND SUCCESSFUL PROJECT THAT WILL EXEMPLIFY MONROE COUNTY'S INTERESTS, ORDINANCE AND MIXED USE FOR THIS SITE. THESE STANDARDS ARE AS FOLLOWS:

ALL PERMITTED USES ESTABLISHED OR PLACED INTO OPERATION AFTER THE EFFECTIVE DATE OF THE MONROE COUNTY ORDINANCE SHALL COMPLY WITH THE FOLLOWING PERFORMANCE STANDARDS IN THE INTEREST OF PROTECTING PUBLIC HEALTH, SAFETY AND WELFARE, AND LESSENING INJURY TO PROPERTY. NO USE IN EXISTENCE ON THE EFFECTIVE DATE OF THIS ORDINANCE SHALL BE SO ALTERED AS TO CONFLICT (OR INCREASE AND EXISTING CONFLICT) WITH THESE STANDARDS.

(A) FIRE PROTECTION.
FIRE FIGHTING EQUIPMENT AND PREVENTION MEASURES ACCEPTABLE TO THE LOCAL FIRE DEPARTMENT SHALL BE READILY AVAILABLE AND APPARENT WHEN ANY ACTIVITY INVOLVING THE HANDLING OR STORAGE OF FLAMMABLE OR EXPLOSIVE MATERIALS IS CONDUCTED.

(B) ELECTRICAL DISTURBANCE
NO USE SHALL CAUSE ELECTRICAL DISTURBANCE ADVERSELY AFFECTING RADIO, TELEVISION OR OTHER EQUIPMENT IN THE VICINITY OF THE USE.

(C) NOISE.
NO USE SHALL PRODUCE NOISE IN SUCH A MANNER AS TO BE OBJECTIONABLE BECAUSE OF VOLUME, FREQUENCY, INTERMITTENCE, HEAT, SHRILLNESS, OR VIBRATION. SUCH NOISE SHALL BE MUFFLED OR OTHERWISE CONTROLLED SO AS NOT TO BECOME DETRIMENTAL, PROVIDED HOWEVER, THAT PUBLIC SAFETY SIRENS AND RELATED APPARATUS USED SOLELY FOR PUBLIC PURPOSES SHALL BE EXEMPT FROM THIS STANDARD.

(D) VIBRATION
NO USE SHALL CAUSE VIBRATIONS OR CONCUSSIONS DETECTABLE BEYOND LOT LINES WITHOUT THE AID OF INSTRUMENTS.

(E) AIR POLLUTION.
NO USE SHALL DISCHARGE ACROSS LOT LINES FLY ASH, DUST, SMOKE, VAPORS, NOXIOUS, TOXIC OR CORROSIVE MATTER, OR OTHER AIR POLLUTANTS IN SUCH CONCENTRATION AS TO BE DETRIMENTAL TO HEALTH, ANIMALS, VEGETATION OR PROPERTY AND/OR IN CONFLICT WITH RELEVANT AIR QUALITY STANDARDS ESTABLISHED BY STATE AND/OR FEDERAL AGENCIES.

(F) HEAT AND GLARE.
NO USE SHALL PRODUCE HEAT OR GLARE IN SUCH MANNER AS TO CREATE A NUISANCE PERCEPTIBLE FROM ANY POINT BEYOND THE LOT LINES OF THE PROPERTY ON WHICH THE USE IS CONDUCTED. IN NONRESIDENTIAL AREAS, ANY LIGHTING USED TO ILLUMINATE AN OFF-STREET PARKING AREA, LOADING AREA, DRIVEWAY, OR SERVICE DRIVE SHALL BE SHIELDED WITH APPROPRIATE LIGHT FIXTURES DIRECTING THE LIGHT DOWN AND AWAY FROM ADJACENT PROPERTIES IN ORDER THAT THE ILLUMINATION AT ANY PROPERTY LINE SHALL NOT EXCEED ONE (1) FOOT CANDLE. ALL EXTERIOR LIGHTING SHALL BE HOODED AND SHIELDED SO THAT THE LIGHT SOURCE (I.E. BULB, FILAMENT, ETC.) IS NOT DIRECTLY VISIBLE FROM THE RESIDENTIAL PROPERTY LINES. IN RESIDENTIAL AREAS, EXTERIOR LIGHTING AT ANY PROPERTY LINE SHALL NOT EXCEED ONE (1) FOOT CANDLE.

(G) WATER POLLUTION
NO USE SHALL PRODUCE EROSION OR OTHER POLLUTANTS IN SUCH QUANTITY AS TO BE DETRIMENTAL TO ADJACENT PROPERTIES AND CONFLICT WITH RELEVANT WATER POLLUTION STANDARDS ESTABLISHED BY STATE AND/OR FEDERAL AGENCIES.

(H) WASTE MATTER.
NO USE SHALL ACCUMULATE WITHIN THE LOT, OR DISCHARGE BEYOND THE BOUNDARY LINES OF THE LOT ON WHICH THE USE IS LOCATED, ANY WASTE MATTER, WHETHER LIQUID OR SOLID, IN VIOLATION OF APPLICABLE PUBLIC HEALTH, SAFETY AND WELFARE STANDARDS AND REGULATIONS.

EROSION CONTROL LEGEND

EXISTING CONTOUR ---------XXX---------
PROPOSED CONTOUR ——— XXX ———
TEMPORARY SILTATION FENCE, REFER TO DETAIL — SF —
CONSRUCTION LIMITS: DELINEATED BY PROPERTY LINE UNLESS OTHERWISE SPECIFIED — CL —
TEMPORARY MULCH SEEDING - REFER TO DETAILS (MS)
25' x 100' STONE PAD, 6" DEEP TO KEEP FROM TRACKING MUD OFF SITE - REFER TO DETAIL (TEMPORARY DURING CONSTRUCTION) (SP)
TEMPORARY CONCRETE WASHOUT AREA - REFER TO DETAIL (CW)
PERMANENT EROSION CONTROL MATTING - CURLEX NET-FREE BRAND 100% BIO-DEGRADABLE EROSION CONTROL BLANKET OR APPROVED EQUAL - REFER TO DETAIL (EC)
D-50 RIP-RAP STORM OUTLET PROTECTION - REFER TO DETAIL AND PLAN FOR MIN. QUANTITY (PERMANENT) (RR)
(TR) 'CURLEX NET-FREE' TURF MATTING - PERMANENT - APPLY TO POND EMERGENCY OVERFLOW AS INDICATED - REFER TO DETAIL
TEMPORARY ROCK CHECK DAM - REFER TO DETAILS (CD)
GRAVEL DROP INLET PROTECTION (TEMPORARY) (TO BE USED ON ALL YARD INLETS) (DI)
GRAVEL DONUT DROP INLET PROTECTION (TEMPORARY) - REFER TO DETAILS (DD)
GRAVEL CURB INLET PROTECTION (TEMPORARY) (TO BE USED ON ALL CURB INLETS) (GP)

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

EXISTING FENCE — X X X —
EXISTING WATER LINE ——— W ———
EXISTING OVERHEAD UTILITY LINES ——— OHU ———
EXISTING UNDERGROUND ELECTRIC LINES ——— UGE ———
EXISTING UNDERGROUND TELEPHONE LINES ——— UGT ———
EXISTING UNDERGROUND FIBER OPTIC LINES ——— FO ———
EXISTING GAS LINE ——— GAS ———
EXISTING SANITARY FORCEMAIN ——— FM ———
EXISTING CONTOUR ---------XXX---------
FLOW LINE
EXISTING SANITARY SEWER AND MANHOLE
EXISTING STORM SEWER AND INLET
PROPERTY LINE

PARKING AND PAVEMENT NOTES

☐ 1. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC DEVICES, 1988 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.

LANDSCAPE NOTES

☒ 1. ALL PLANT MATERIAL SHALL ARRIVE ONSITE IN A HEALTHY, VIGOROUS CONDTION 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 ACCUMATED 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 DEFOLIATES 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.
☒ 19. ALL DISTURBED AREAS NOT INCLUDED IN LANDSCAPE MULCH BEDS ARE TO BE DEBRIS-RAKED AND FINED-GRADED AS NEEDED, THEN MULCH SEEDED (OR SODDED, PER PLAN) AND WATERED UNTIL A HEALTHY STAND OF TURF IS ESTABLISHED.
☒ 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.

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 SEEDED OR PLANTED.
☒ 2. AREAS OUTSIDE OF THE PARKING LOT PERIMETERS SHOWN TO BE SEEDED 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 HAVNG 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 (SEEDED 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 LOOSE 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 COMPACTING 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-698 (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.

GENERAL NOTES

1. BOUNDARY BY DECKARD LAND SURVEYING, 1604 S. HENDERSON STREET, BLOOMINGTON, INDIANA, 47401, 812-961-0235 TOPO BY BYNUM FANYO & ASSOCIATES, INC.
2. DEVELOPER: VALU-BUILT CONSTRUCTION LLC, 2775, N. THOMAS ROAD, BLOOMINGTON, INDIANA 47404
3. PROJECT ADDRESS: UPLAND COURT EXTENSION TO LOUDEN ROAD
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.

ON-SITE UTILITY NOTES

☒ 1. ALL WATER PIPE 6" AND LARGER SHALL BE PRESSURE CLASS 350 DIP WATER PIPE CONFORMING TO ALL STATE AND LOCAL STANDARDS.
☒ 2. WATER MAIN FITTINGS 6" AND LARGER SHALL BE DUCTILE IRON CONFORMING TO AWWA/ANSI STANDARD SPECIFICATIONS C153/A21.53, LATEST REVISION.
☒ 3. 2" WATER MAINS SHALL BE SDR-21 (PR200) AND 4" PIPE MAY BE EITHER SDR-21 (PR200) OR C900 (DR-14).
☒ 4. ALL WATER SERVICE LINES CONNECTING TO 2" PVC MAINS SHALL BE 1" TYPE "K" COPPER. ALL SERVICE LINES FROM MAIN TO METER SHALL BE TYPE "K" COPPER WITH FLARED ENDS.
☒ 5. MECHANICAL RESTRAINTS SHALL BE PROVIDED AT ALL WATER LINE BENDS, OFFSETS, TEES, PLUGS, ETC...
☒ 6. ALL WATER LINE GATE VALVES OTHER THAN AIR RELEASE VALVES AND TAPPING VALVES SHALL BE CAST IRON BODY, FULLY BRONZE MOUNTED, WITH RESILIENT SEAT AND NON-RISING STEM AND SHALL BE MANUFACTURED BY M & H VALVE COMPANY, DARLING VALVE AND MANUFACTURING COMPANY, KENNEDY VALVE COMPANY, OR MUELLER COMPANY.
☐ 7. FLUSH HYDRANTS SHALL BE PLACED AT THE ENDS OF ALL WATER MAINS AND AT ANY HIGH POINTS IN THE LINE.
☒ 8. AIR RELEASE VALVES SHALL BE PROVIDED AT ALL HIGH POINTS OF WATER MAINS AND SHALL BE VAL-MATIC BRAND AND SHALL INCORPORATE THE OPTIONAL VACUUM-CHECK FEATURE.
☒ 9. ALL FIRE HYDRANTS SHALL BE MANUFACTURED BY KENNEDY GUARDIAN OR MUELLER CENTURION.
☒ 10. ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED AND DISINFECTED BEFORE ACCEPTANCE. SEE SITE WORK SPECIFICATIONS.
☒ 11. WATER AND SANITARY SEWER MAINS SHALL HAVE A MINIMUM COVER OF 4'-0" ABOVE TOP OF PIPE.
☐ 12. ALL SPRINKLER, DOMESTIC, AND SANITARY LEADS TO THE BUILDING SHALL END AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT THE END (FOR OTHERS TO REMOVE AND EXTEND AS NECESSARY).
☒ 13. THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF THE WATER AND SEWER LINE IS TEN FEET (10'). THE MINIMUM VERTICAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF THE WATER AND SEWER LINE IS EIGHTEEN INCHES (18").
☒ 14. GRAVITY SANITARY SEWER PIPE 6" TO 15" SHALL BE CONSTRUCTED OF SDR-35 PVC.
☒ 15. THE UPSTREAM ENDS OF ALL SANITARY SEWER LATERALS SHALL BE CLEARLY MARKED WITH A 4x4 TREATED POST EXTENDING 3' BELOW GRADE AND 1' ABOVE GRADE.
☒ 16. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
☒ 17. SEE SITE SPECIFICATIONS FOR BACKFILLING AND COMPACTION REQUIREMENTS.
☒ 18. SITE CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
☒ 19. ALL WORK ON THIS PLAN SHALL BE DONE IN STRICT ACCORDANCE WITH SITE WORK SPECIFICATIONS.
☒ 20. ALL CATCH BASIN GRATE AND FRAMES ARE TO BE BY EAST JORDAN IRON WORKS.
☒ 21. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF UTILITY LINES ADJACENT TO THE WORK AREA. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD.
☐ 22. BUILDING CONTRACTOR SHALL PROVIDE & INSTALL A PERMANENT INDICATING VALVE 12" ABOVE THE FLOOR ON THE FIRE LINE AT THE TERMINATION POINT. THIS VALVE WILL BE USED TO HYDROSTATIC PRESSURE TEST AGAINST & WILL REMAIN AS PART OF THE SYSTEM ONCE ALL TESTING IS COMPLETED. THE FIRE LINE MAIN WILL NOT BE DISMANTLED FOR CONNECTION TO THE FIRE SUPPRESSION SYSTEM. SITE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FIRE MAIN WITH THE BUILDING CONTRACTOR.
☒ 23. ALL PROJECTS WILL REQUIRE A PRE-CONSTRUCTION MEETING WITH THE TOWN OF ELLETTSVILLE UTILITIES PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR AND/OR DEVELOPER MUST CONTACT MICHAEL FARMER AT (812)327-8030 TO SCHEDULE THE MEETING.
☒ 24. CONTRACTOR SHALL NOTIFY THE TOWN OF ELETTSVILLE UTILITIES DEPARTMENT ONE (1) WORKING DAY PRIOR TO CONSTRUCTION OF ANY WATER, STORM OR SANITARY SEWER UTILITY WORK. A TOWN INSPECTOR MUST HAVE NOTICE SO WORK CAN BE INSPECTED, DOCUMENTED, AND PROPER AS-BUILT MADE. WHEN A CONTRACTOR WORKS WEEKENDS, A TOWN DESIGNATED HOLIDAY, OR BEYOND NORMAL TOWN WORK HOURS, THE CONTRACTOR WILL PAY FOR THE INSPECTOR'S OVERTIME.

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

NOTE TO CONTRACTOR

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.

revisions:

ARCHITECTURE
CIVIL ENGINEERING
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528 north walnut street
bloomington, indiana
(812) 332-8030
(812) 339-2990 (Fax)

certified by: _____

PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: GENERAL NOTES & LEGENDS

designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C101
project no.: 402319

LOT 73
AREA – 0.27 AC.
AREA – 11,860 S.F.

LOT 74
AREA – 0.23 AC.
AREA – 10,000 S.F.

LOT 75
AREA – 0.23 AC.
AREA – 10,000 S.F.

LOT 76
AREA – 0.25 AC.
AREA – 10,695 S.F.

LOT 77
AREA – 29.24 AC.

SCALE: 1"=40'

NOTE TO CONTRACTOR

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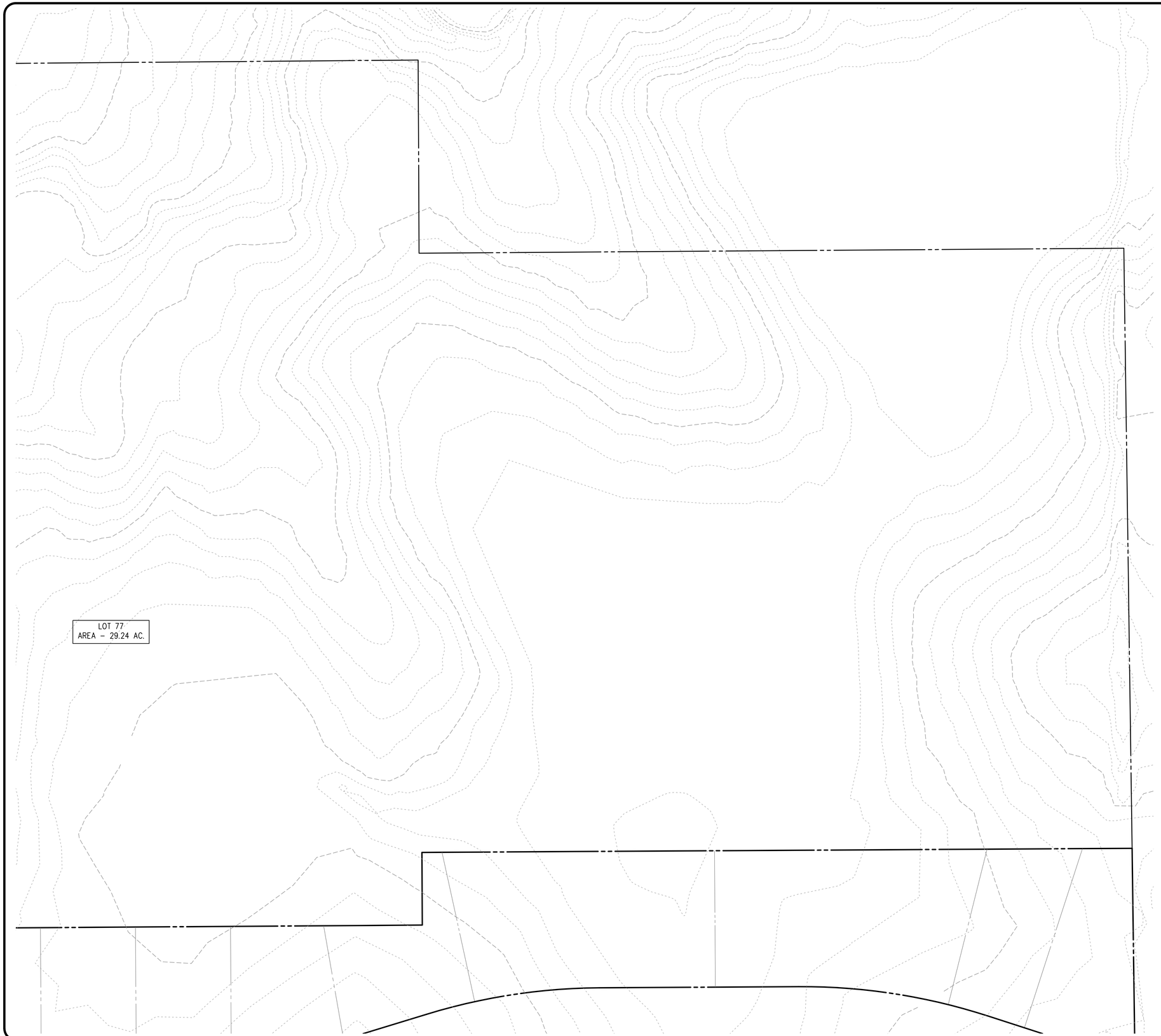
PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: OVERALL SITE LAYOUT (WEST)

designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C201
project no.: 402319



SCALE: 1"=40'

NOTE TO CONTRACTOR

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revisions:

BYNUM FANYO & ASSOCIATES, INC.
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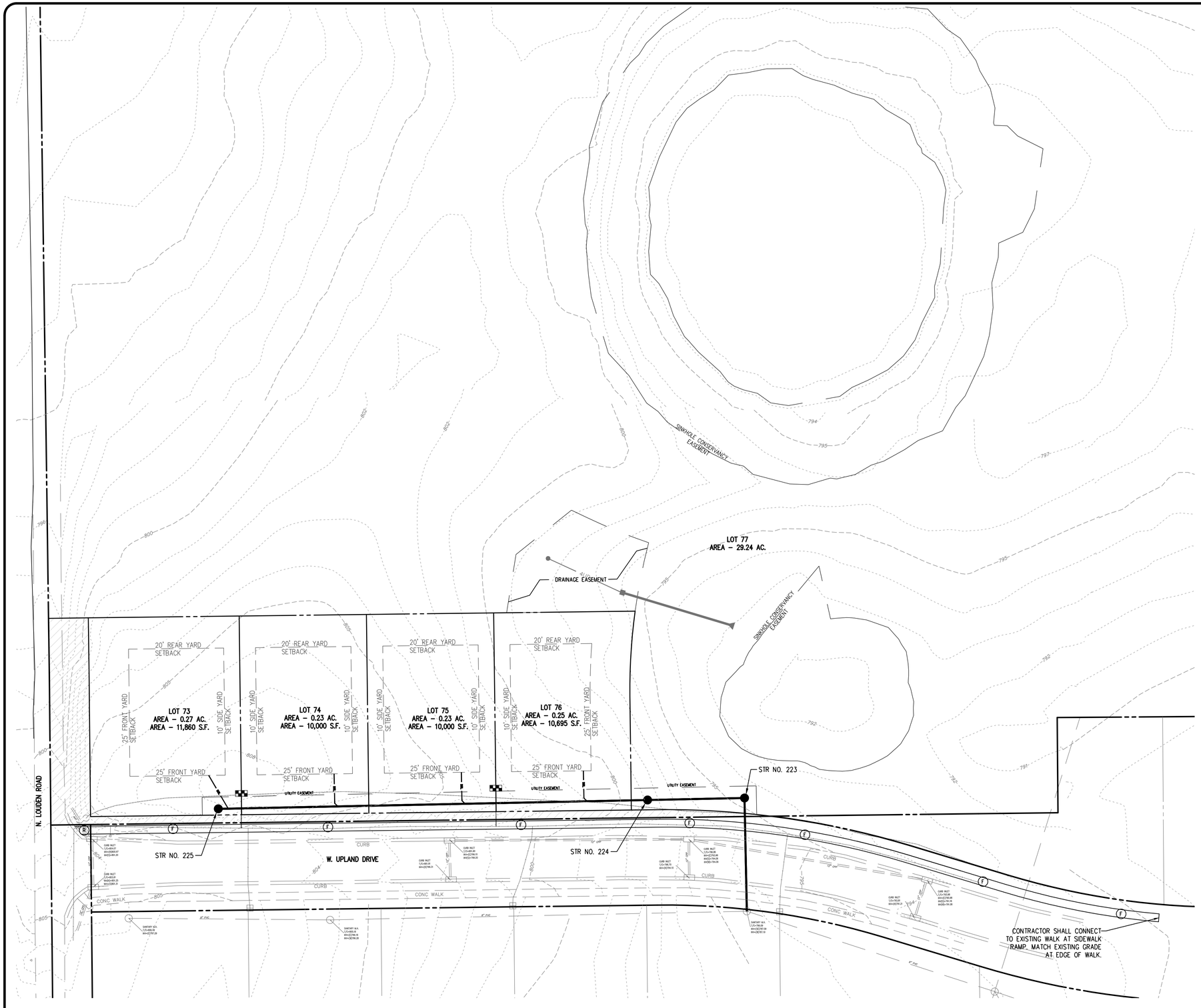
bloomington, indiana
(812) 339-2990 (Fax)

certified by:

PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: OVERALL SITE LAYOUT (EAST)

designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C202
project no.: 402319



SCALE: 1"=30'

EXISTING LEGEND

EXISTING FENCE	X X X
EXISTING WATER LINE	W
EXISTING OVERHEAD UTILITY LINES	OHU
EXISTING UNDERGROUND ELECTRIC LINES	UGE
EXISTING UNDERGROUND TELEPHONE LINES	UGT
EXISTING UNDERGROUND FIBER OPTIC LINES	FO
EXISTING GAS LINE	GAS
EXISTING SANITARY FORCEMAIN	FM
EXISTING CONTOUR	XXX
FLOW LINE	
EXISTING SANITARY SEWER AND MANHOLE	
EXISTING STORM SEWER AND INLET	
PROPERTY LINE	

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

UTILITY LEGEND

PROPOSED PRIVATE DOMESTIC SERVICE LINE: DSL
FOR 2-INCH OR LESS SERVICE LINES FROM THE EXISTING MAIN TO THE METER SHALL BE EITHER TYPE 'K' COPPER IN CONFORMANCE WITH ASTM B88 OR BLUE POLYETHYLENE AWWA 901 PE4710, ASTM D2737, CTS SDR9 PC250 (NSF 61). A SINGLE SERVICE LINE WILL BE USED FROM THE EXISTING MAIN TO THE METER OR DOUBLE METER. USE SDR-21 AND FITTINGS FOR DOMESTIC WATER SERVICE LINES FROM THE METER TO THE BUILDINGS, 48" COVER MIN., REFER TO THE 'P' SERIES DRAWINGS FOR MORE INFORMATION AND FINAL SIZE DETERMINATION. ONE LINE SHOWN SHALL BE CONNECTED AND SPLIT WITH VALVES AS INDICATED FOR ALL DOMESTIC AND COMMERCIAL PORTIONS OF THE BUILDINGS. SEE TOWN OF ELLETTSVILLE UTILITY SPECIFICATIONS.

PROPOSED WATER VALVE PER TOWN OF ELLETTSVILLE UTILITIES SPECIFICATIONS

DOUBLE METER PIT WITH 1 ½" SERVICE LINE. REFER TO TOWN OF ELLETTSVILLE UTILITIES CONSTRUCTION SPECIFICATIONS

PROPOSED ASTM D3034 SDR 35 PVC SSL C.O.
6" MIN. SANITARY LATERAL AND SANITARY SEWER CLEAN-OUT, REFER TO DETAILS. 24" COVER MIN., REFER TO PLUMBING PLAN FOR PROPOSED INVERT ELEVATIONS LEAVING PROPOSED BUILDING. SLOPE AT 1.04% MIN. TO CONNECTION TO EXISTING SANITARY MAIN AS SEEN ON THE PLAN – REFER TO CONNECTION DETAIL, BACKFILL DETAIL OF PROPOSED PIPING, AND CLEANOUT DETAIL. NOTIFY ENGINEER OF ANY DISCREPANCIES BEFORE PARTS ARE ORDERED AND WORK HAS COMMENCED.

PROPOSED ASTM D3034 SDR 35 PVC SANITARY SEWER MAIN PIPING AND MANHOLES. REFER TO PROFILES, PLAN AND DETAILS.
NOTE: PROPOSED SANITARY MAIN SHOWN AS A PART OF THIS PROJECT IS TO BE PUBLIC AND MAINTAINED BY TOWN OF ELLETTSVILLE UTILITIES AFTER CONSTRUCTION IS COMPLETE

SEE ARCHITECTURAL & STRUCTURAL DRAWINGS FOR ALL SHADED AREAS

PROPOSED RIGHT-OF-WAY TO BE DEDICATED TO THE TOWN OF ELLETTSVILLE

NOTE: ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF ELLETTSVILLE UTILITY SPECIFICATIONS.

SITE IMPROVEMENT LEGEND

PP	PROPOSED PAVEMENT PATCH – REFER TO DETAILS
F	PROPOSED CONCRETE PATIO OR SIDEWALK. REFER TO PLAN FOR LOCATIONS AND REFER TO DETAIL.
R	PROPOSED SIDEWALK ACCESSIBLE RAMP TYPE H
	SEE ARCHITECTURAL & STRUCTURAL DRAWINGS, DETAILS AND SPECIFICATIONS FOR ALL SHADED AREAS

NOTE TO CONTRACTOR

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revisions:

certified by:

ARCHITECTURE
CIVIL ENGINEERING
PLANNING
BYNUM FANYO & ASSOCIATES, INC.
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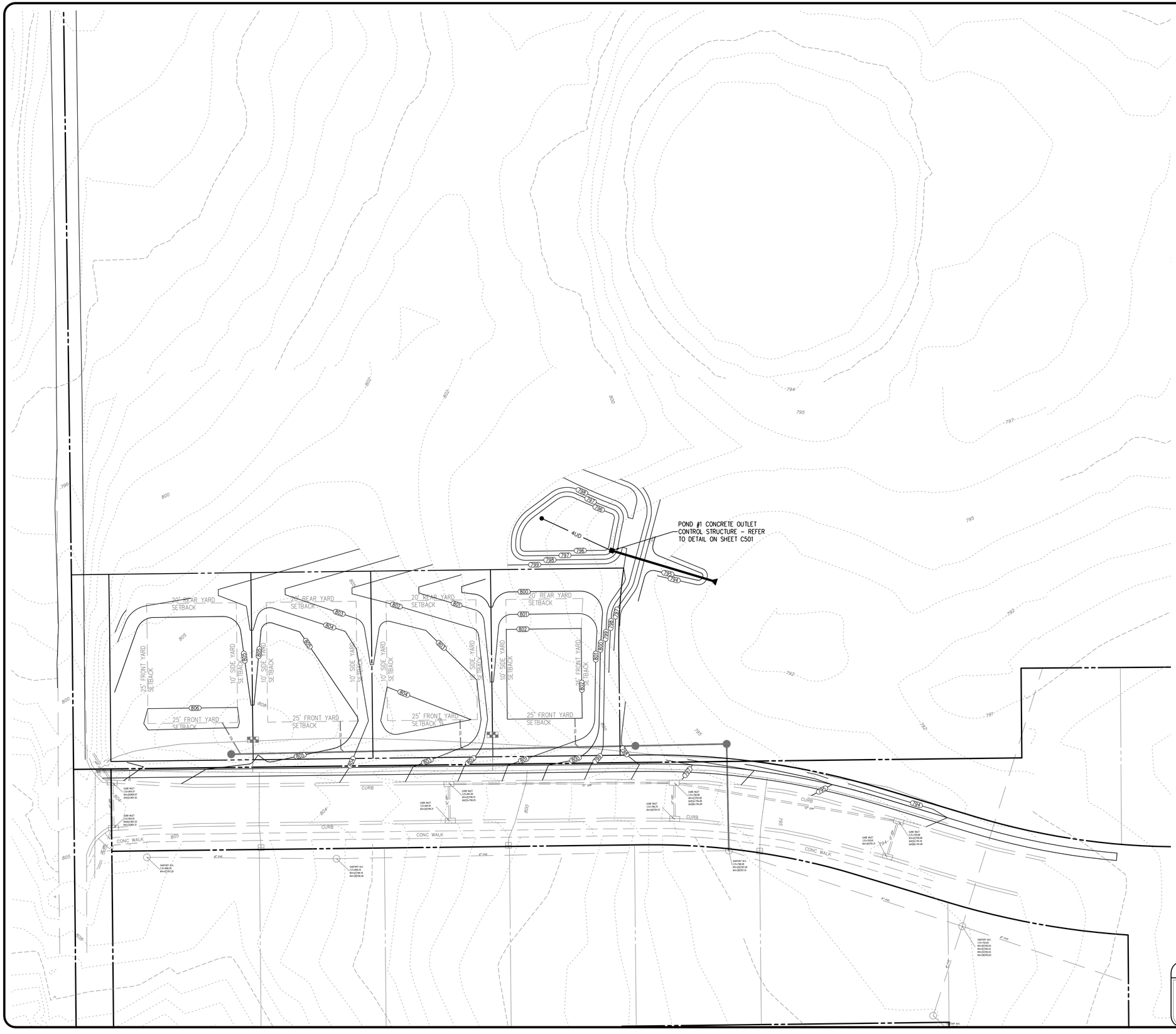
PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: SITE & UTILITY PLAN

designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C301
project no.: 402319



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

EXISTING FENCE	X X X
EXISTING WATER LINE	W
EXISTING OVERHEAD UTILITY LINES	OHU
EXISTING UNDERGROUND ELECTRIC LINES	UGE
EXISTING UNDERGROUND TELEPHONE LINES	UGT
EXISTING UNDERGROUND FIBER OPTIC LINES	FO
EXISTING GAS LINE	GAS
EXISTING SANITARY FORCEMAIN	FM
EXISTING CONTOUR	XXX
FLOW LINE	
EXISTING SANITARY SEWER AND MANHOLE	
EXISTING STORM SEWER AND INLET	
PROPERTY LINE	

GRADING/DRAINAGE LEGEND

EXISTING CONTOUR	XXX
PROPOSED CONTOUR	XXX
PROPOSED INTENDED FLOWLINE DIRECTION	FL>
PROPOSED SPOT GRADE ELEVATION	XXX.XX
TC=PROPOSED TOP OF CURB ELEVATION EP=PROPOSED EDGE OF PAVEMENT ELEVATION AT BOTTOM OF CURB	TC=XXX.XX EP=XXX.XX
FINISH PAD ELEVATION, ELEVATION OF SOIL ONCE PAD CONSTRUCTION IS COMPLETE. FINISHED FLOOR ELEVATION 12" MIN. ABOVE FINISHED PAD ELEVATION.	FP=XXX.XX
FINISH EDGE OF PAVEMENT AT GRADE	EP=XXX.XX
MATCH THE EXISTING'S CONDITIONS GRADES ELEVATION FOR BEST FIT OF PROPOSED GRADING ADJACENT TO THE EXISTING CONDITION. NOTIFY THE ENGINEER OF ANY DISCREPANCIES	MEG=XXX.XX
PROPOSED STORM PIPE AND INLET/MANHOLE, REFER TO PLAN FOR INLET DESIGN AND DETAILS FOR BACKFILL SPECIFICATIONS AND INLET/MANHOLE SPECIFICATIONS PER CBU STANDARDS	
PROPOSED STORM BUILDING DRAIN: 6" MIN. SCHEDULE 40 PVC DRAIN PIPE TO POINT OF DISCHARGE AT STORM STRUCTURE WITH APPROPRIATE FITTINGS AND REDUCER FITTINGS WHEN SHOWN TO INCREASE FROM A 6" TO 8" PIPE. 1.0% SLOPE MIN. WITH 24" COVER MIN. 6" MIN. DOWNSPOUT CONNECTIONS AND SCHEDULE 40 DOWNSPOUT BOOTS ARE REQUIRED AT ALL DOWNSPOUT LOCATIONS; SHOP PRIME AND PAINT, COLOR PER ARCHITECT. REFER TO 'A' SERIES DRAWINGS FOR EXACT LOCATION OF ALL DOWNSPOUTS, NOTIFY ENGINEER OF ANY DISCREPANCIES. REFER TO THE STORM CLEAN-OUT DETAIL FOR ALL BUILDING DRAIN CLEAN-OUTS SHOWN. CONTRACTOR TO USE A STEEL SLEEVE WHEN IT IS SHOWN TO ROUTE PIPING THROUGH WALL, COORDINATE WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS.	X" BD C.O.

SCALE: 1"=30'

NOTE TO CONTRACTOR

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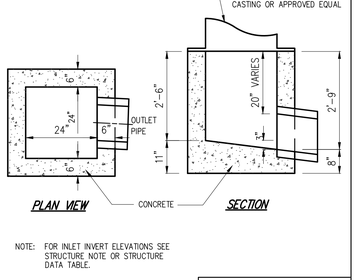
certified by:

PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: GRADING & DRAINAGE PLAN

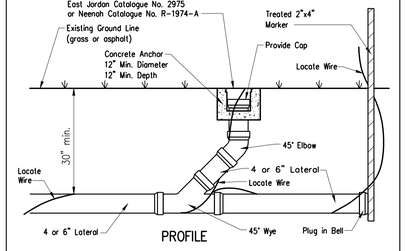
designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C301
project no.: 402319



NOTE: FOR INLET INVERT ELEVATIONS SEE STRUCTURE NOTE OR STRUCTURE DATA TABLE.

STORM INLET TYPE A

NOT TO SCALE



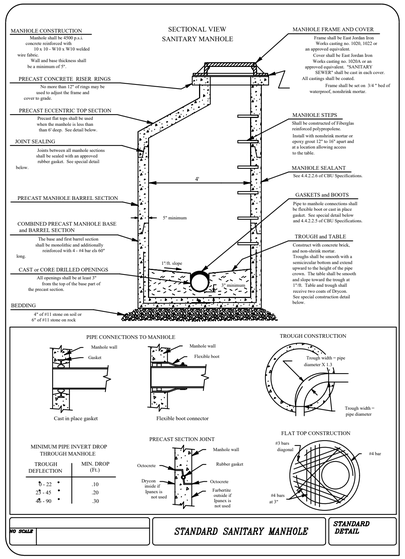
SANITARY LATERAL & CLEANOUT NOTES

1. ALL CLEAN-OUTS, WEATHER IN GRASSY AREAS OR IN PAVEMENT, SHALL BE SUB-SURFACE AND PROTECTED BY A SUITABLE METAL CASTING, SUCH AS EAST JORDAN IRON WORKS CATALOGUE NO. 2975 OR NEENAH CATALOGUE NO. R-1974-A. IN GRASSY AREAS, THE CASTING SHALL BE PROVIDED WITH A CIRCULAR CONCRETE COLLAR FLUSH WITH THE TOP OF THE CASTING AND THE GROUND SURFACE. THE COLLAR SHALL BE MINIMUM 6" THICK AND SHALL EXTEND AT LEAST 8" BEYOND THE OUTSIDE OF THE CASTING ON ALL SIDES. IN PAVED AREAS, THE TOP OF CASTING SHALL BE FLUSH WITH THE PAVEMENT SURFACE. TOP OF CLEAN-OUT SHALL BE NO MORE THAN 3" BELOW THE TOP OF CASTING.

2. A CLEAN-OUT SHALL BE PROVIDED ON SANITARY SEWER LATERALS EVERY 90 FEET AND AT ALL BENDS.

3. A #10 INSULATED SOLID COPPER LOCATOR WIRE SHALL BE WRAPPED AROUND ALL NONMETALLIC PIPES IN THE ROAD RIGHT OF WAYS SO THAT ONE REVOLUTION IS MADE AT LEAST EVERY PIPE JOINT. SPLICES ARE TO BE MADE WITH AN APPROVED CONNECTOR, AND ARE TO BE SUITABLY PROTECTED AGAINST CORROSION. THE WIRE IS TO BE BROUGHT TO THE SURFACE AT THE PROPERTY LINE WITH A CLEAN-OUT IN A CASTING. ALSO SEE (STANDARD SANITARY LATERAL CLEAN-OUT DETAIL 19) CBU CONSTRUCTION SPECIFICATIONS.

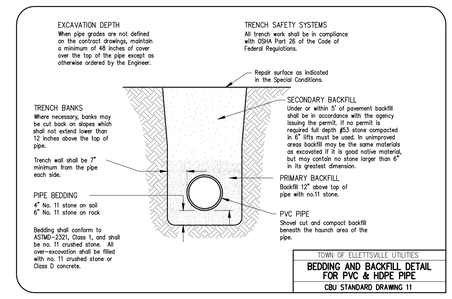
TOWN OF ELLETTSVILLE UTILITIES
STANDARD SANITARY LATERAL CLEAN-OUT FOR 4" & 6" PIPES
CBU STANDARD DETAIL NUMBER 19

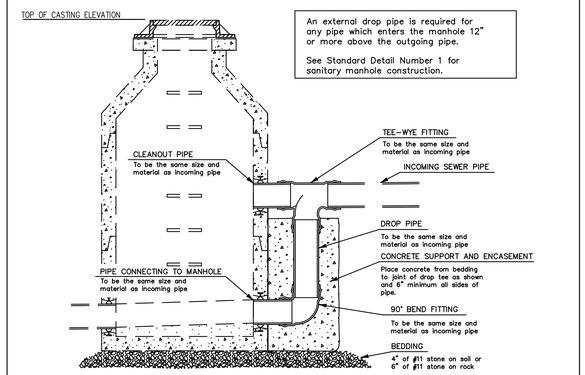


NOTE: SANITARY LATERALS

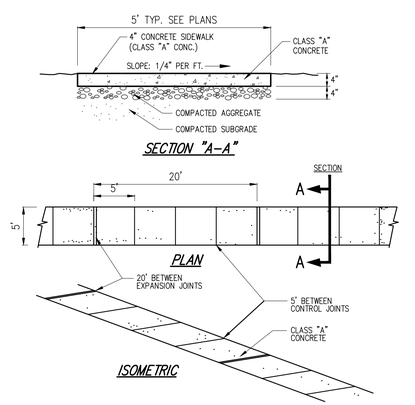
ALL CURB BOXES LOCATED IN PAVEMENT, SHALL BE SUB-SURFACE AND PROTECTED BY A SUITABLE METAL CASTING, SUCH AS EAST JORDAN IRON WORKS CATALOGUE NO. 2975 OR NEENAH CATALOGUE NO. R-1974-A.

A #10 INSULATED SOLID COPPER LOCATOR WIRE SHALL BE WRAPPED AROUND ALL NONMETALLIC PIPES IN THE ROAD RIGHT OF WAYS SO THAT ONE REVOLUTION IS MADE AT LEAST EVERY PIPE JOINT. SPLICES ARE TO BE MADE WITH AN APPROVED CONNECTOR, AND ARE TO BE SUITABLY PROTECTED AGAINST CORROSION. THE WIRE IS TO BE BROUGHT TO THE SURFACE AT A VALVE OR FLUSHING CONNECTION IN A CASTING.



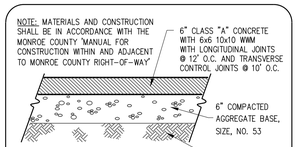


TOWN OF ELLETTSVILLE UTILITIES
EXTERNAL DROP PIPE DETAIL FOR SANITARY MANHOLE
CBU STANDARD DRAWING 2



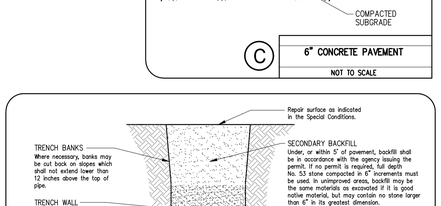
F — CONCRETE SIDEWALK

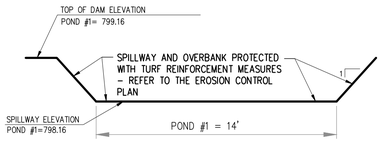
NOT TO SCALE



C — 6" CONCRETE PAVEMENT

NOT TO SCALE





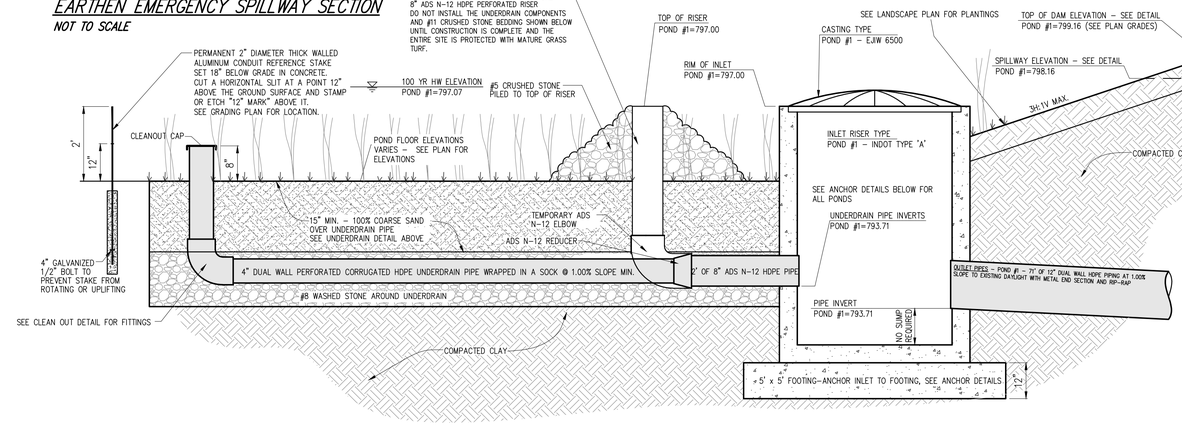
EARTHEN EMERGENCY SPILLWAY SECTION

NOT TO SCALE

NOTE: THE INSTALLATION OF THE POND MATERIALS INCLUDING SOILS AND PLANTINGS SHALL BE DIRECTLY COORDINATED WITH THE MONROE COUNTY PLANNING DEPARTMENT AND THE MONROE COUNTY HIGHWAY DEPARTMENT. CONTRACTOR TO CONTACT THE MONROE COUNTY HIGHWAY DEPARTMENT AT: (812)803-6345 48 HOURS IN ADVANCE TO START OF INSTALLATION OF THE PERMANENT STORMWATER POND #1

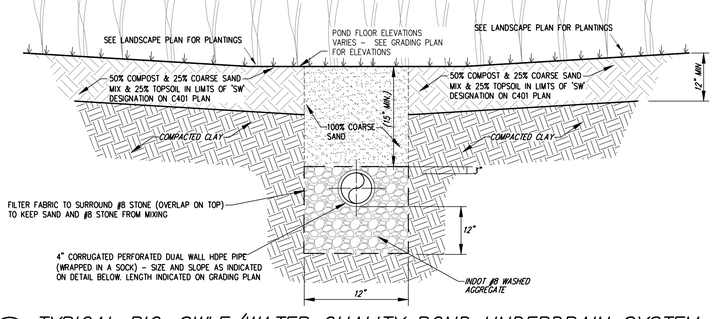
POST CONSTRUCTION
UPON COMPLETION OF ALL SITE IMPROVEMENTS & THE ESTABLISHMENT OF MATURE GRASS TURF, REMOVE THE 8" RISER AND CRUSHED STONE. INSTALL THE UNDER-DRAINS COMPONENTS, #11 STONE AND SPECIAL PLANTINGS. SEE TYPICAL POND UNDERDRAIN DETAIL ABOVE.

DURING CONSTRUCTION (ONLY)
1-TEMPORARY OUTLET CONTROL STRUCTURE - 8" ADS N-12 HDPE PERFORATED RISER
DO NOT INSTALL THE UNDERDRAIN COMPONENTS AND #11 CRUSHED STONE BEDDING SHOWN BELOW UNTIL CONSTRUCTION IS COMPLETE AND THE ENTIRE SITE IS PROTECTED WITH MATURE GRASS TURF.



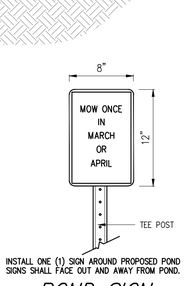
TEMPORARY AND PERMANENT BIO SWALE/WATER QUALITY POND DETAIL

NOT TO SCALE



UD TYPICAL BIO-SWLE/WATER QUALITY POND UNDERDRAIN SYSTEM

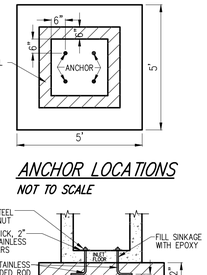
NOT TO SCALE



INSTALL ONE (1) SIGN AROUND PROPOSED POND SIGNS SHALL FACE OUT AND AWAY FROM POND.

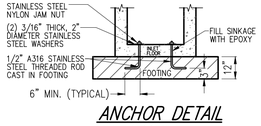
POND SIGN

NOT TO SCALE



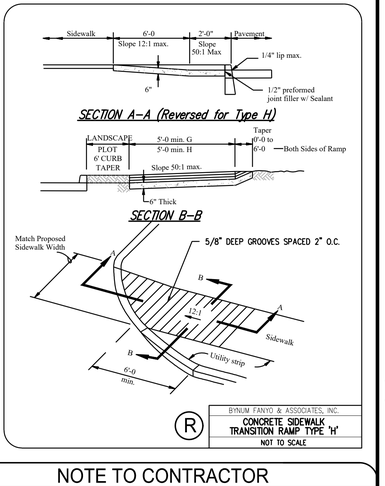
ANCHOR LOCATIONS

NOT TO SCALE



ANCHOR DETAIL

NOT TO SCALE



R — CONCRETE SIDEWALK TRANSITION RAMP TYPE 'H'

BYNUM FANYO & ASSOCIATES, INC.

NOT TO SCALE

NOTE TO CONTRACTOR

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.

revisions:

certified by:

BYNUM FANYO & ASSOCIATES, INC.
ARCHITECTURE
CIVIL ENGINEERING
PLANNING
528 north walnut street
bloomington, indiana
(812) 332-8030
(812) 339-2990 (Fax)

PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: MISCELLANEOUS DETAILS

designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C501
project no.: 402319

EROSION CONTROL LEGEND

EXISTING CONTOUR	XXX
PROPOSED CONTOUR	XXX
TEMPORARY SILTATION FENCE, REFER TO DETAIL	SF
CONSRUCTION LIMITS: DELINEATED BY PROPERTY LINE UNLESS OTHERWISE SPECIFIED	CL
TEMPORARY MULCH SEEDING - REFER TO DETAILS	MS
25' X 100' STONE PAD, 6" DEEP TO KEEP FROM TRACKING MUD OFF SITE - REFER TO DETAIL (TEMPORARY DURING CONSTRUCTION)	SP
TEMPORARY CONCRETE WASHOUT AREA - REFER TO DETAIL	CW
PERMANENT EROSION CONTROL MATTING - CURLEX NET-FREE BRAND 100% BIO-DEGRADABLE EROSION CONTROL BLANKET OR APPROVED EQUAL - REFER TO DETAIL	EC
D-50 RIP-RAP STORM OUTLET PROTECTION - REFER TO DETAIL AND PLAN FOR MIN. QUANTITY (PERMANENT)	RR
TR 'CURLEX NET-FREE' TURF MATTING - PERMANENT - APPLY TO POND EMERGENCY OVERFLOW AS INDICATED - REFER TO DETAIL	
TEMPORARY ROCK CHECK DAM - REFER TO DETAILS	CD
GRAVEL DROP INLET PROTECTION (TEMPORARY) (TO BE USED ON ALL YARD INLETS)	DI
GRAVEL DONUT DROP INLET PROTECTION (TEMPORARY) - REFER TO DETAILS	DD
GRAVEL CURB INLET PROTECTION (TEMPORARY) (TO BE USED ON ALL CURB INLETS)	GP

TEMPORARY TOPSOIL STOCK PILE LOCATION

TEMPORARY DISPLAY CABINET DURING CONSTRUCTION

15 SYS RIP-RAP
RR D_{50}=12"

4UD

20' REAR YARD SETBACK
25' FRONT YARD SETBACK
10' SIDE YARD SETBACK

CURB
CONC WALK
8" PVC
SANITARY M.H.

SCALE: 1"=20'

NOTE TO CONTRACTOR

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revisions:

BYNUM FANYO & ASSOCIATES, INC.
ARCHITECTURE
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528 north walnut street
bloomington, indiana
(812) 332-8030
(812) 339-2990 (Fax)

certified by:

PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: STORMWATER POLLUTION PREVENTION PLAN

designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C601
project no.: 402319

CONSTRUCTION STORMWATER GENERAL PERMIT

SECTION A – CONSTRUCTION PLAN ELEMENTS

A1. INDEX OF THE LOCATION OF REQUIRED PLAN ELEMENTS IN THE CONSTRUCTION PLAN: REFER TO THIS SHEET.

A2. A VICINITY MAP DEPICTING THE PROJECT SITE LOCATION IN RELATIONSHIP TO RECOGNIZABLE LOCAL LANDMARKS, TOWNS, AND MAJOR ROADS: REFER TO THE COVER SHEET.

A3. NARRATIVE OF THE NATURE AND PURPOSE OF THE PROJECT: THE PROJECT CONSISTS OF THE CONSTRUCTION OF FOUR SINGLE-FAMILY RESIDENTIAL LOTS.

A4. LATITUDE AND LONGITUDE TO THE NEAREST FIFTEEN (15) SECONDS: 39.223909, -86.638905

A5. LEGAL DESCRIPTION: REFER TO FINAL PLAT.

A6. 11 X 17-INCH PLAT SHOWING BUILDING LOT NUMBERS/BOUNDARIES AND ROAD LAYOUT/NAMES: REFER TO FINAL PLAT.

A7. BOUNDARIES OF THE ONE HUNDRED (100) YEAR FLOODPLAINS, FLOODWAY FRINGES, AND FLOODWAYS: DOES NOT APPLY.

A8. LAND USE OF ALL ADJACENT PROPERTIES: THE ADJACENT PROPERTY TO THE EAST, SOUTH, AND WEST IS SINGLE-FAMILY RESIDENTIAL. THE ADJACENT PROPERTY TO THE NORTH IS CURRENTLY VACANT.

A9. IDENTIFICATION OF A U.S. EPA APPROVED OR ESTABLISHED TMDL: .

A10. NAME(S) OF THE RECEIVING WATERS: PRIMARY – JACKS DEFEAT CREEK, SECONDARY: BEANBLOSSOM CREEK, TERTIARY: WHITE RIVER

A11. IDENTIFICATION OF DISCHARGES TO A WATER ON THE CURRENT 303(D) LIST OF IMPAIRED WATERS AND POLLUTANT(S) FOR WHICH IT IS IMPAIRED: 303(D) – SALT CREEK & CLEAR CREEK. E.COLI

A12: SOILS MAP OF THE PREDOMINATE SOIL TYPES: REFER TO THIS SHEET.

A13: IDENTIFICATION AND LOCATION OF ALL KNOWN WETLANDS, LAKES, AND WATER COURSES ON OR ADJACENT TO THE PROJECT SITE (CONSTRUCTION PLAN, EXISTING SITE LAYOUT): DOES NOT APPLY.

A14: IDENTIFICATION OF ANY OTHER STATE OR FEDERAL WATER QUALITY PERMITS OR AUTHORIZATIONS THAT ARE REQUIRED FOR CONSTRUCTION ACTIVITIES: DOES NOT APPLY.

A15. IDENTIFICATION AND DELINEATION OF EXISTING COVER, INCLUDING NATURAL BUFFERS: THERE IS NO EXISTING VEGETATION OTHER THAN GRASS ON THE SITE.

A16: EXISTING SITE TOPOGRAPHY AT AN INTERVAL APPROPRIATE TO INDICATE DRAINAGE PATTERNS: THE EXISTING SITE TOPOGRAPHY IS DEPICTED ON THE PLAN SHEETS C201-C401 AND C601.

A17: LOCATION(S) WHERE RUN-OFF ENTERS THE PROJECT SITE: THERE IS NO RUNOFF ENTERING THE PROJECT SITE.

A18: LOCATION (S) WHERE RUN-OFF DISCHARGES FROM THE PROJECT SITE PRIOR TO LAND DISTURBANCE: RUN-OFF DISCHARGES TO THE NORTH, EAST, SOUTH AND WEST VIA SHEET FLOW.

A19: LOCATION OF ALL EXISTING STRUCTURES ON THE PROJECT SITE: REFER TO THE SITE & UTILITY PLAN AND GRADING & DRAINAGE PLAN ON SHEETS C201-C301 AND C401.

A20: EXISTING PERMANENT RETENTION OR DETENTION FACILITIES, INCLUDING MANMADE WETLANDS, DESIGNED FOR THE PURPOSED OF STORMWATER MANAGEMENT: DOES NOT APPLY.

A21: LOCATIONS WHERE STORMWATER MAY BE DIRECTLY DISCHARGED INTO GROUND WATER, SUCH AS ABANDONED WELLS, SINKHOLES, OR KARST FEATURES: THERE ARE TWO SINKHOLES LOCATED NORTH AND EAST OF THE AREA OF DISTURBANCE. SEE PLAN SHEETS C201-C401.

A22: SIZE OF THE PROJECT AREA EXPRESSED IN ACRES: 30.22 ACRES.

A23: TOTAL EXPECTED LAND DISTURBANCE EXPRESSED IN ACRES: 1.51 ACRES

A24: PROPOSED FINAL TOPOGRAPHY: PROPOSED FINAL TOPOGRAPHY IS SHOWN ON THE GRADING & DRAINAGE PLAN ON SHEET C401.

A25: LOCATIONS AND APPROXIMATE BOUNDARIES OF ALL DISTURBED AREAS: THE CONSTRUCTION LIMITS ARE SHOWN ON THE SWPPP PLAN SHEET C601.

A26: LOCATIONS, SIZE, AND DIMENSIONS OF ALL STORMWATER DRAINAGE SYSTEM SUCH AS CULVERTS, STORMWATER SEWER, AND CONVEYANCE CHANNELS: PROPOSED STORMWATER DRAINAGE SYSTEMS ARE SHOWN ON THE GRADING & DRAINAGE PLAN ON SHEET C401 AND DETAILS ON SHEET C501.

A27: LOCATIONS OF SPECIFIC POINTS WHERE STORMWATER AND NON-STORMWATER DISCHARGES WILL LEAVE THE PROJECT SITE: SEE PLAN SHEET C401. STORMWATER CURRENTLY TRAVELS AWAY FROM THE CENTER OF THE SITE TO THE EAST AND WEST. THE PROPOSED PLAN WILL KEEP THIS PATTERN WITH SWALES CONVEYING RUNOFF TO THE DETENTION POND THAT OUTLETS TO THE EAST OF THE SITE.

A28: LOCATION OF ALL PROPOSED SITE IMPROVEMENTS, INLUDING ROADS, UTILITIES, LOT DELINEATION AND IDENTIFICATION, PROPOSED STRUCTURES, AND COMMEN AREAS: ALL PROPOSED SITE IMPROVEMENTS ARE SHOWN ON THE SITE & UTILITY PLAN, GRADING & DRAINAGE PLAN, AND PLAN AND PROFILE SHEET. SEE PLAN SHEETS C201-C301, C401, AND C701.

A29: LOCATION OF ALL ON-SITE AND OFF-SITE SOIL STOCKPILES AND BORROW AREAS: STOCKPILE LOCATIONS ARE SHOWN ON THE SWPPP PLAN SHEETS C601. OFF-SITE SOIL STOCKPILES AND BORROW AREAS ARE YET TO BE DETERMINED AT THIS TIME.

A30: CONSTRUCTION SUPPORT ACTIVITIES THAT ARE EXPECTED TO BE PART OF THE PROJECT: DOES NOT APPLY.

A31: LOCATION OF ANY IN-STREAM ACTIVITIES THAT ARE PLANNED FOR THE PROJECT INCLUDING, BUT NOT LIMITED TO, STEAM CROSSINGS AND PUMP AROUNDS: DOES NOT APPLY.

SECTION B – CONSTRUCTION COMPONENT

B1. DESCRIPTION OF THE POTENTIAL POLLUTANT GENERATING SOURCES AND POLLUTANTS, INCLUDING ALL POTENTIAL NON-STORMWATER DISCHARGES:
A. THE MOST ABUNDANT POLLUTANT CAUSED BY CONSTRUCTION WOULD BE SOIL SUSPENDED IN STORM WATER RUNOFF.
B. FUEL, OILS, AND OTHER FLUIDS ASSOCIATED WITH THE CONSTRUCTION EQUIPMENT COULD POSSIBLY RUNOFF AS WELL.
C. TRASH ASSOCIATED WITH HUMAN ACTIVITY, INCLUDING CONSTRUCTION MATERIALS.

B2. STABLE CONSTRUCTION ENTRANCE LOCATIONS AND SPECIFICATIONS: DOES NOT APPLY.

B3. SPECIFICATIONS FOR TEMPORARY AND PERMANENT STABILIZATION: REFER TO GRADING & DRAINAGE PLAN AND SWPPP PLAN ON SHEETS C401 AND C601.

B4: SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW AREAS: RIP-RAP OUTLET PROTECTION IS PROPOSED PROTECTING OUTLET PIPES FROM THE SITE INTO DETENTION POND FACILITIES.

B5. SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS: A COMBINATION OF SILT FENCE AND VEGETATED COVER ARE PROPOSED TO CONTROL EROSION FROM NEWLY GRADED AREAS. EROSION CONTROL BLANKET WILL BE USED ON EXTENDED SLOPES.

B6. RUN-OFF CONTROL MEASURES: PERMANENT SEDIMENT POND AND EROSION CONTROL BLANKET.

B7. STORMWATER OUTLET PROTECTION LOCATION AND SPECIFICATIONS: RIP-RAP APRONS WILL BE INSTALLED TO PROVIDE OUTLET PROTECTION (SEE SHEET C601-C604).

B8. GRADE STABILIZATION STRUCTURE LOCATIONS AND SPECIFICATIONS: NO ADDITIONAL GRADE STABILIZATION STRUCTURES ARE PROPOSED BESIDES PIPING OUTLETS WITH RIP-RAP APRONS.

B9. DEWATERING APPLICATIONS AND MANAGEMENT METHODS: DOES NOT APPLY.

B10. MEASURES UTILIZED FOR WORK WITHIN WATERBODIES: DOES NOT APPLY.

B11. MAINTENANCE GUIDELINES FOR EACH PROPOSED STORMWATER QUALITY MEASURE: MONITORING AND MAINTENANCE OF ALL POLLUTION PREVENTION MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL INSPECT ALL MEASURES AT LEAST ONCE A WEEK AND AFTER EACH STORM EVENT. THE CONTRACTOR SHALL PREPARE A WRITTEN REPORT FOR EACH INSPECTION NOTING CONDITIONS AND MAINTENANCE PROVIDED. A COPY OF EACH REPORT SHALL BE KEPT ON FILE AT THE PROJECT SITE. REFER TO EACH PREVENTION MEASURE DETAIL FOR CONSTRUCTION AND MAINTENANCE GUIDELINES. REFER TO THE OPERATIONS AND MAINTENANCE MANUAL.

B12. PLANNED CONSTRUCTION SEQUENCE THAT DESCRIBES THE IMPLEMENTATION OF STORMWATER QUALITY MEASURES IN RELATION TO LAND DISTURBANCE: SEE THE EROSION CONTROL SEQUENCE ON THIS SHEET.

B13. PROVISIONS FOR EROSION AND SEDIMENT CONTROL ON INDIVIDUAL RESIDENTIAL BUILDING LOTS REGULATED UNDER THE PROPOSED PROJECT: DOES NOT APPLY.

B14. MATERIAL HANDLING AND SPILL PREVENTION AND SPILL RESPONSE PLAN MEETING THE REQUIREMENTS IN 327 IAC 2-6.1: ALL MATERIALS ON-SITE WILL BE HANDLED PER THE REQUIREMENTS OF THE MSDS SHEETS. THE CONTRACTOR SHALL HAVE AN EMERGENCY SPILL CLEAN-UP KIT ON SITE FOR RECOVERY OF PETROLEUM PRODUCT SPILLS AT ALL TIMES. IF A REPORTABLE AMOUNT OF SEDIMENT LADEN WATER OR OTHER POLLUTANT IS ALLOWED TO LEAVE THE SITE, THE CONTRACTOR IS OBLIGATED TO NOTIFY IDEM'S SPILL LINE AT (317) 233-7745 WITHIN 24 HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINES AND ANY LIABILITY ASSOCIATED WITH SUCH AN EVENT. SEDIMENT LADEN WATER, WHICH OTHERWISE WOULD FLOW FROM THE PROJECT SITE, SHALL BE TREATED BY EROSION AND SEDIMENT CONTROL MEASURES APPROPRIATE TO MINIMIZE SEDIMENTATION. ALL WATER (INCLUDING STORMWATER, GROUNDWATER, OR ANY OTHER WATER) THAT LEAVES THE CONSTRUCTION SITE MUST HAVE A TOTAL SUSPENDED SOLIDS LEVEL OF LESS THAN 50 PARTS PER MILLION OR HAVE NO VISIBLE SEDIMENT. THIS CAN BE DETERMINED ON SITE BY TAKING A SETTLEABLE SOLIDS SAMPLE WITH AN IMHOFF CONE WITH A RESULT OF LESS THAN 0.5 ML PER LITER. IT SHOULD BE EXPECTED THAT ALL MATERIALS NECESSARY TO CONSTRUCT THE PROPOSED SITE IMPROVEMENTS WILL BE ENCOUNTERED ON SITE AT ONE TIME OR ANOTHER. ALL MATERIALS THAT APPEAR ON SITE WILL BE ACCOMPANIED WITH MSDS SHEETS IN ACCORDANCE WITH OSHA GUIDELINES AND THE CODE OF FEDERAL REGULATION (CFR). MSDS SHEETS PROVIDE AMONG OTHER THINGS, THE PROCEDURES FOR CLEAN-UP OF SPILLS AND LEAKS. REFER TO ITEM B1 ABOVE FOR ADDITIONAL INFORMATION.

B15. MATERIAL HANDLING PROCEDURES ASSOCIATE WITH CONSTRUCTION ACTIVITY: REFER TO B14 IN THIS NARRATIVE.

SECTION C – POST CONSTRUCTION COMPONENT

C1. DESCRIPTION OF POLLUTANTS AND THEIR SOURCES ASSOCIATED WITH WITH THE PROPOSED LAND USE: THE MAIN POST CONSTRUCTION POLLUTANTS MAY COME FROM AUTOMOTIVE USE.

C2. DESCRIPTION OF PROPOSED POST CONSTRUCTION STORMWATER MEASURES: THE MAJORITY OF STORMWATER WILL BE CONVEYED THROUGH THE PROPOSED WATER QUALITY/DETENTION POND.

C3. PLAN DETAILS FOR EACH STORMWATER MEASURE: REFER TO THE GRADING & DRAINAGE PLAN ON SHEETS C401 AND DRAINAGE DETAILS ON SHEET C501..

C4. SEQUENCE DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION:

1. CONTACT DENISE LINE AT THE TOWN OF ELLETTSVILLE AT (812) 876-8008 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
2. INSTALL CONSTRUCTION ENTRANCE AS SHOWN ON PLANS
3. PRIOR TO ANY EARTH MOVING PLACE SILTATION FENCE ALONG THE DOWN STREAM SIDE OF ALL GRADING ACTIVITY.
4. REMOVE VEGETATION IN AREAS TO BE DISTURBED ONLY.
5. STRIP TOP SOIL FROM ALL AREAS TO BE DISTURBED BY CONSTRUCTION AND STOCK PILE AT LOCATIONS ABOVE SILT FENCE. SEED WITH TEMPORARY SEED MIXTURE TYPE T, IMMEDIATELY.
6. MAINTAIN SILT FENCE DURING CONSTRUCTION AND KEEP CLEAR OF DEBRIS.
7. PERFORM CONSTRUCTION ACTIVITIES AS SHOWN ON THE PLANS. DO NOT DISTURB TURF AREAS OUTSIDE OF CONSTRUCTION LIMITS SO THAT TURF ACTS AS A VEGETATIVE FILTER STRIP.
8. ALL EROSION CONTROL STRUCTURES SHALL BE KEPT IN WORKING ORDER AND INSPECTED UPON COMPLETION OF EVERY RAIN EVENT. ADD ADDITIONAL MEASURES WHEN NECESSARY.
9. UPON COMPLETION OF CONSTRUCTION OF ALL IMPROVEMENTS REDISTRIBUTE TOP SOIL TO ALL PROPOSED GRASSED AREAS.
10. MULCH SEED ALL DISTURBED AREAS IMMEDIATELY UPON COMPLETION OF ALL EARTHMOVING AND UNDERGROUND UTILITY WORK IN ACCORDANCE WITH INDOT SS-621 SEED MIXTURE TYPE U.
11. FERTILIZE AND WATER SEEDED AREAS UNTIL MATURE TURF IS ESTABLISHED. 14. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES UPON THE ESTABLISHMENT OF THE TURF.

C5. DESCRIPTION OF MAINTENANCE GUIDELINES FOR PROPOSED POST CONSTRUCTION WATER QUALITY MEASURES: REFER TO THE OPERATIONS AND MAINTENANCE MANUAL.

C6. ENTITY THAT WILL BE RESPONSIBLE FOR OPERATION AND MAINTENANCE OF THE POST-CONSTRUCTION STORMWATER MEASURES: THE PROJECT SITE OWNER WILL BE RESPONSIBLE FOR OPERATION AND MAINTENANCE OF THE POST-CONSTRUCTION STORMWATER MEASURES. PROVIDE A COPY OF THE SIGN MOU TO THE MS4 ASSISTANT.

FUEL HANDLING

PREVENTATIVE MEASURES ARE THE BEST MEANS OF AVOIDING ACCIDENTAL RELEASE OF PETROLEUM PRODUCTS.

FUELING:
- WELDING, CUTTING, BURNING, HEAVY EQUIPMENT OPERATIONS IN THE IMMEDIATE AREA OF A FUELING OPERATION SHALL BE SUSPENDED DURING REFUELING.
- UNREELING OF FUEL TRANSFER HOSE AND NOZZLE SHALL BE DONE WITH THE NOZZLE IN THE UPRIGHT POSITION. THE NOZZLE SHALL BE KEPT CLEAR OF THE GROUND WHEN RETURNED TO THE REEL OR STORAGE POSITION.
- WRAP ABSORBENT PADS AROUND THE FUEL INLET OF THE RECEIVING EQUIPMENT PRIOR TO DISPENSING FUEL.
- TRANSFER OF FUEL IS TO BE STOPPED PRIOR TO OVERFLOWING, LEAVING ROOM FOR EXPANSION.

SPILLS:
IN THE EVENT OF AN ACCIDENTAL SPILL, THE FOLLOWING SHALL OCCUR:
1. STOP THE LEAK.
2. BLOCK OFF ANY DRAINS OR ACCESS TO DRAINAGE WAYS.
3. IF SPILL HAS ENTERED OR IS IN DANGER OF ENTERING A WATERWAY, BOOM-OFF AREA TO CONTAIN SPILL.
4. ASSESS THE LEVEL OF THE SPILL AND REPORT SPILL TO THE IDEM SPILL LINE AT (317)233-7745 AND THE LOCAL STORMWATER INSPECTOR AT (812)803-6345.
5. ASSESS THE METHOD OF CLEANUP.
6. PROCEED WITH RECOVERY OF SPILLED FUEL AND CLEAN-UP.
7. ARRANGE APPROPRIATE DISPOSAL OF RECOVERED FUEL AND DEBRIS AT A LANDFILL SITE.
8. MAINTAIN A RECORD OF THE SPILL AND CLEANUP.

TYPICAL SPILL CLEANUP KIT CONTENTS:
- FOUR 3" DIA. X 48" OIL SOCKS
- TWENTY-FIVE 17" X 19" OIL PADS
- DISPOSABLE MATERIAL CONTAINMENT BAGS
- LATEX GLOVES
- GRANULAR ABSORBENT
- PVC BAG CONTAINER

Potential Storm Water Pollutants Material Handling and Spill Prevention

Trade Name /Material	Source	Chemical/Physical Description	Storm Water Pollutants	Remedial Action
Fertilizer	Landscaping Activities	Liquid or solid grains	Nitrogen, Phosphorus	(1), (2), (3)
Cleaning Solvents	Normal Business Operation	Colorless, blue or yellow-green liquid	Percholoroethylene, methylene chloride, trichloroethylene, petroleum distillates	Seal drains and inlets with plastic and or tape and collect excess, (1), (2), (3), (4)
Asphalt	Site Construction	Black solid	Oil, petroleum distillates	(1), (2) due to contamination of runoff before curing is complete
Concrete	Bridge Construction	White solid	Limestone, sand	Concrete washout areas shall be utilized and concrete disposed of properly once hardened (2)
Paints	Roadway Striping	Various colored liquids	Metal oxides, stoddard solvent, talc, calcium carbonate, arsenic	Care should be taken to minimize overspray (1), (2), (3), (4)
Curing Compounds	Site Construction	Creamy white liquid	Naphtha	(1), (2), (3), (4)
Wastewater from constr. equipment washing	Construction Equipment	Water	Soil, oil, grease, solids	Equipment washing shall be executed in a location which does not cause wastewater to drain directly to storm sewers or ditches (i e. flat vegetated area) (2)
Hydraulic oil/fluids	Construction Equipment, Cars	Brown oily petroleum hydrocarbon	Mineral oil	Storm structures incorporate a hooded outlet preventing floatables from exiting site, (3), (4)
Gasoline	On site storage tanks, cars, construction equipment, fueling operations	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE	Storage tanks shall have emergency storage capacity below tank in case of rupture. 3'x3'x6" spill pans shall be used during fueling. (3), (4)
Diesel Fuel	On site storage tanks, cars, construction equipment, fueling operations	Clear, blue-green to yellow liquid	Bpetroleum distillate, oil and grease, naphthalene, xylenes	Storage tanks shall hove emergency storage capacity below tank in case of rupture, 3'x3'x6" spill pans shall be used during fueling. (3), (4)
Kerosene	Cleaning Operations, Heaters	Pale yellow liquid petroleum hydrocarbon	Coal oil, petroleum distillates, arseric, copper	3'x3'x6" spill pans shall be used during fueling operations and cleaning of equip. to catch excess, (1), (2), (3), (4)
Antifreeze Coolant	Construction Equipment, Cars	Clear green/yellow liquid	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)	(1), (2), (3), (4)
Soil Erosion	Exposed Soil	Solid particles	Soil sediment	Erosion control measures (this sht.)
Solid Waste Trash	Normal Business Operation	Trash, debris, refuse	Trash, debris, refuse	Trash cans shall be utilized on site during and after construction

This table was provided for general information only to supplement information used in the Rule 5 permitting process. The contractor is responsible for material handling and spill mitigation procedures.
Notes:
1. All excess materials shall be collected and disposed of in accordance with all federal, state and local regulations.
2 Material shall not be applied immediately preceding, during or following rainfall (when applicable).
3. Spillage should be cleaned immediately by a trained individual and disposed of per Note (2).
4. Store in sealed containers appropriate for specific use.

EROSION CONTROL SEQUENCE

1. CONTACT DENISE LINE OF THE TOWN OF ELLETTSVILLE: (812) 876-8008 TO SCHEDULE A PRE-CONSTRUCTION MEETING PRIOR TO ANY EARTH MOVING ACTIVITY ON-SITE.

2. CREATE OPENING AT LOCATION TO INSTALL CONSTRUCTION ENTRANCE AS SHOWN ON PLANS

3. PRIOR TO ANY EARTH MOVING INSTALL INITIAL EROSION CONTROLS. POST PERMITS IN A PUBLIC ACCESSIBLE LOCATION WITH THE FOLLOWING INFORMATION: CONTACT PHONE NUMBERS, EMERGENCY NUMBERS, IDEM SPILL LINE 1-888-233-7745, PRINTED PLAN SET LOCATION, SPILL KIT LOCATION, SELF-MONITORING INSPECTION SHEET LOCATION, AND CONTRACTOR TRAINING ITEMS.

4. REMOVE TREES THAT HAVE BEEN VERIFIED IN CONSTRUCTION ZONE OF THIS SITE. SEE DEMOLITION PLAN FOR DELINEATION LINE WITHIN WOODED AREAS.

5. CONSTRUCT THE TEMPORARY SEDIMENT PONDS BEFORE THE PERMANENT STORMWATER SYSTEM IS IN PLACE.

6. STRIP TOPSOIL FROM ALL AREAS TO BE DISTURBED BY CONSTRUCTION AND STOCK PILE AT LOCATIONS ABOVE SILT FENCE. SEED WITH TEMPORARY SEED MIXTURE TYPE T, IMMEDIATELY. DISCARD ANY UNSUITABLE SOILS OFF SITE AS DETERMINED BY THE GEOTECHNICAL ENGINEER.

7. MAINTAIN SILT FENCE DURING CONSTRUCTION AND KEEP CLEAR OF DEBRIS.

8. PERFORM CONSTRUCTION ACTIVITIES AS SHOWN ON THE PLANS. DO NOT DISTURB TURF AREAS OUTSIDE OF CONSTRUCTION LIMITS SO THAT TURF ACTS AS A VEGETATIVE FILTER STRIP.

9. ALL EROSION CONTROL STRUCTURES SHALL BE KEPT IN WORKING ORDER AND INSPECTED UPON COMPLETION OF EVERY MEASURABLE RAIN EVENT ($\frac{1}{2}$" OF RAINFALL. ADD ADDITIONAL MEASURES WHEN NECESSARY.

10. UPON COMPLETION OF CONSTRUCTION OF ALL IMPROVEMENTS REDISTRIBUTE TOP SOIL STOCKPILE TO ALL PROPOSED GRASSED AREAS OR VEGETATE THE STOCKPILE.

11. MULCH SEED ALL DISTURBED AREAS IMMEDIATELY UPON COMPLETION OF ALL EARTHMOVING AND UNDERGROUND UTILITY WORK IN ACCORDANCE WITH INDOT SS-621 SEED MIXTURE TYPE U.

12. FERTILIZE AND WATER SEEDED AREAS UNTIL MATURE TURF IS ESTABLISHED.

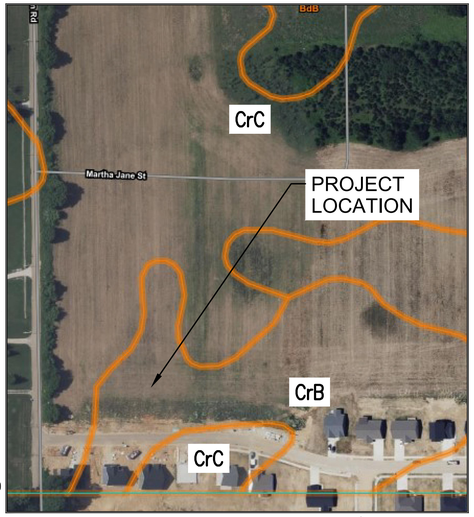
13. CALL DENISE LINE OF THE TOWN OF ELLETTSVILLE AT: (812) 876-8008 TO SCHEDULE A FINAL POND MATERIALS INSPECTION BEFORE BEING PLACED INTO THE PERMANENT POND. THESE MATERIALS TO BE INSPECTED INCLUDE THE PERMANENT POND SOIL.

14. REMOVE THE TEMPORARY COMPONENTS FOR WATER QUALITY AND INSTALL THE PERMANENT WATER QUALITY BASIN IN PLACE OF THE TEMPORARY SEDIMENT BASIN. ESTABLISH VEGETATION WITHIN THE WATER QUALITY POND.

15. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES UPON THE ESTABLISHMENT OF THE TURF. CONTACT DENISE LINE OF THE TOWN OF ELLETTSVILLE AT: (812) 876-8008 TO SCHEDULE A FINAL VEGETATION INSPECTION.

NOTE TO CONTRACTOR

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.



SOILS MAP
SCALE: NTS

CrC—Crider silt loam, 6 to 12 percent slopes
Map Unit Setting
National map unit symbol: 2vp3r
Elevation: 440 to 990 feet
Mean annual precipitation: 37 to 58 inches
Mean annual air temperature: 43 to 68 degrees F
Frost-free period: 150 to 212 days
Farmland classification: Not prime farmland
Map Unit Composition
Crider and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.
Description of Crider
Setting
Landform: Hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Fine-silty noncalcareous loess over clayey residuum weathered from limestone
Typical profile
Ap – 0 to 7 inches: silt loam
Bt1 – 7 to 36 inches: silty clay loam
2Bt2 – 36 to 80 inches: clay
Properties and qualities
Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

CrB—Crider silt loam, 2 to 6 percent slopes
Map Unit Setting
National map unit symbol: 2vp3p
Elevation: 350 to 1,120 feet
Mean annual precipitation: 37 to 62 inches
Mean annual air temperature: 41 to 68 degrees F
Frost-free period: 145 to 212 days
Farmland classification: All areas are prime farmland
Map Unit Composition
Crider and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.
Description of Crider
Setting
Landform: Hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Fine-silty noncalcareous loess over clayey residuum weathered from limestone
Typical profile
Ap – 0 to 7 inches: silt loam
Bt1 – 7 to 32 inches: silty clay loam
2Bt2 – 32 to 80 inches: clay
Properties and qualities
Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

revisions:

ARCHITECTURE
CIVIL ENGINEERING
PLANNING
BYNUM FANYO & ASSOCIATES, INC.
528 north walnut street
bloomington, indiana
(812) 332-8030
(812) 339-2990 (Fax)

certified by:

PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: SWPPP INFORMATION

designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C602
project no.: 402319

(SF) 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 (Exhibit 3.74–B and C)

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 pool.
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 projections 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 UV inhibitors and stabilizers to ensure 6–mo. minimum life at temperatures 0°–120°F.

Exhibit 3.74–B. Maximum Land Slope and Distance for Which a Silt Fence Is Applicable.

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 now 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:		
Standard strength	30lbs./linear in.	50lbs./linear in.
Extra strength	50lbs./linear in.	70lbs./linear in.
Slurry flow rate	0.3 gal./min./sq.ft.	4.5 gal./min./sq.ft.
Water flow rate	15 gal. /min./sq.ft.	220 gal./min./sq.ft.
UV resistance	70%	85%

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; weir 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 minims 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 overfall.
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 if the fence is supported by wire or 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, use the wrap joint method
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–packed commercial silt fence rather than constructing one, follow the manufacturer's installation instructions.

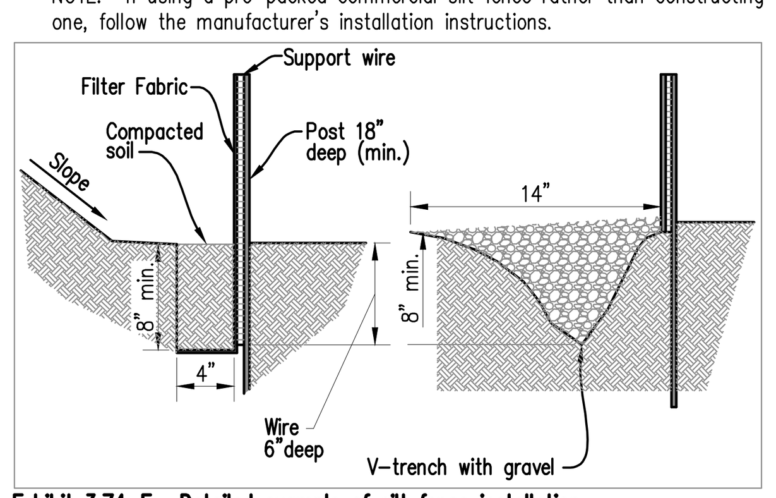
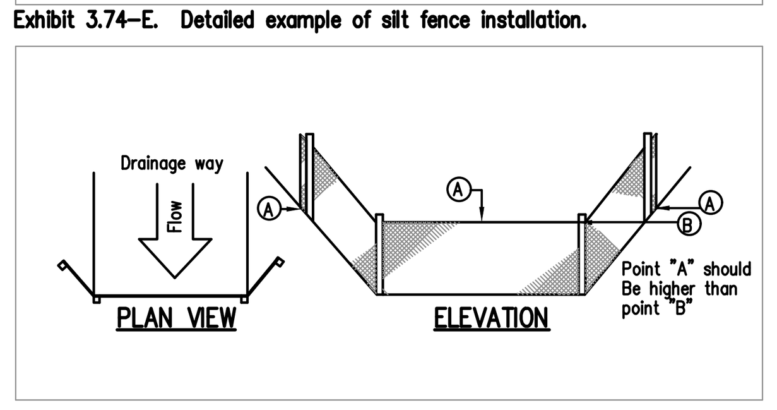
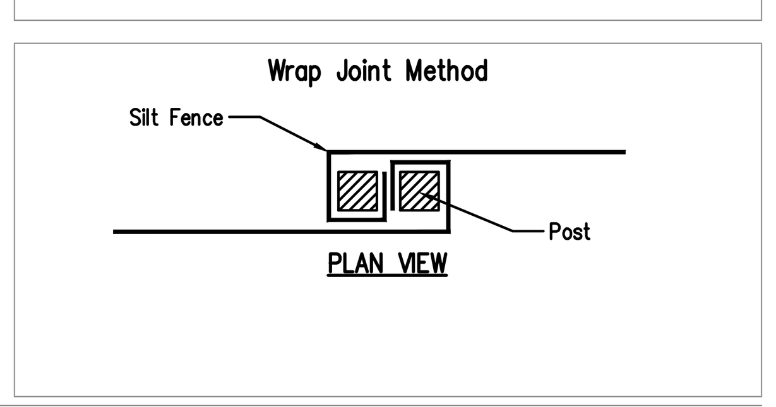
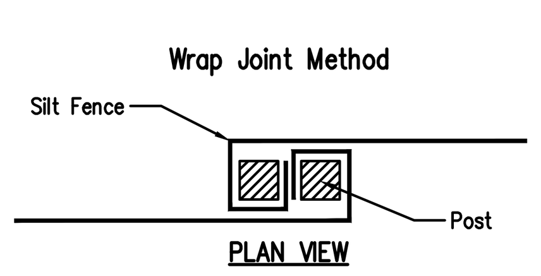


Exhibit 3.74–E. Detailed example of silt fence installation.





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, bring the disturbed area to grade, and stabilize.



(DI) Practice 3.51
Excavated Drop Inlet Protection

Purpose (Exhibit 3.51-A)

* To capture sediment at the approach to a storm drain inlet, allowing full use of the storm drain system during the construction period.

NOTE: This practice may be used to improve the ef-fectiveness and reliability of other sediment traps and barriers, such as fabric, block-and-gravel, slotted-barrel, straw bale, and gravel donut inlet protections.

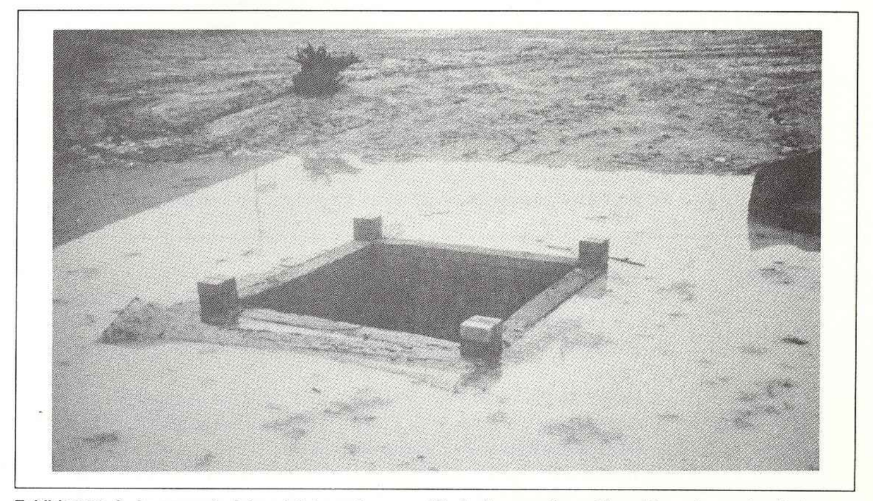


Exhibit 3.51-A An excavated drop inlet creates a pool that allows sediment to settle out as water drains.

Requirements (Exhibit 3.51-B and C)

Contributing drainage area: 1 acre maximum.
Capacity: Runoff from a 2-yr. frequency, 24-hr. storm event entering a storm drain without bypass flow.
Excavated depth: 1-2 ft. measured from top of inlet.
Excavated volume: Minimum of 945 cu.ft./acre disturbed.
Side slopes: 2:1 or flatter.
Dewatering system: Weep holes in the drop inlet, covered with hardware cloth and gravel.
Approach: Pool area flat (less than 1% slope), with sediment storage of 945 cu.ft./acre disturbed.

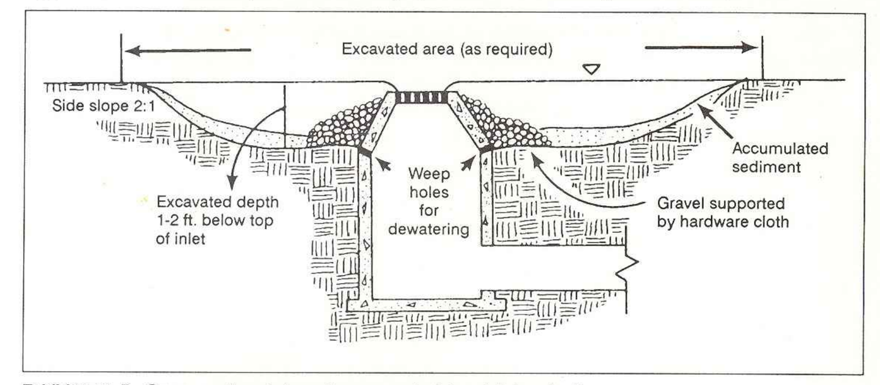


Exhibit 3.51-B. Cross-sectional view of an excavated drop inlet protection.

3.51-1

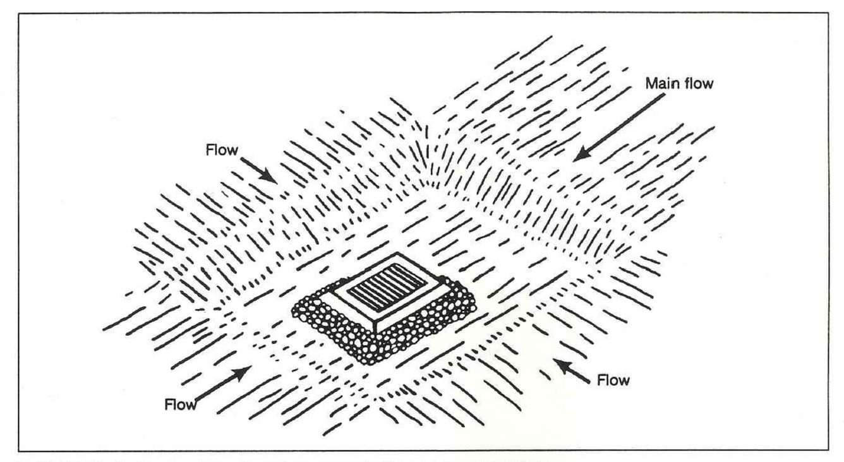


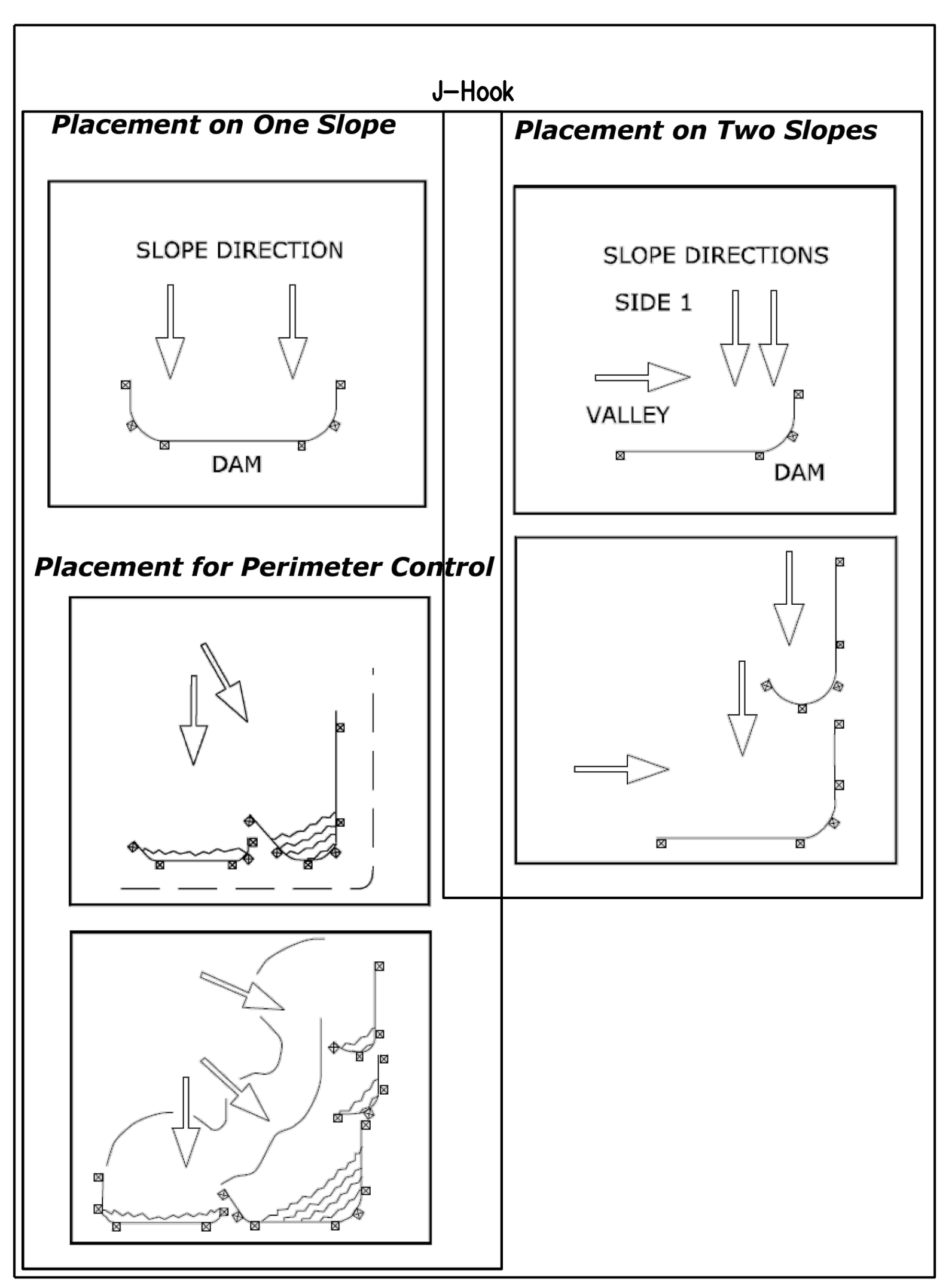
Exhibit 3.51-C. Perspective view of an excavated drop inlet protection.

Installation
1. Clear the area of all debris.
2. Excavate the basin to a 1-2 ft. depth, with 2:1 maximum side slopes and the longest dimension oriented toward the largest inflow (see *Exhibits 3.51-B and 3.51-C*).
3. Stockpile or spread the excavated soil so it will not block the flow or wash back into the excavation.
4. Install weep holes in the drop inlet so the pool drains slowly.
5. Cover the weep holes with hardware cloth and at least 1 ft. of gravel (INDOT CA No. 5) to retain the sediment (see *Exhibit 3.51-C*).
6. If necessary, spoil may be placed to form a dike on the downslope side of the excavation to prevent bypass flow.
7. Stabilize all disturbed areas, except the excavated pool bottom.

Maintenance
* Inspect the excavated basin after every storm event, and repair as necessary until the contributing drainage area has been permanently stabilized.
* Remove sediment when the basin is approximately half full of sediment.
* Remove and replace gravel over the weep holes when drainage stops.
* Once the contributing drainage area has been permanently stabilized, seal the weep holes, remove the sediment, fill the basin with soil, compact and grade to final elevation, and stabilize.

Common concerns

Sediment fills excavated basin and enters storm drain--the sediment-producing area is too large for the basin design or the inlet is not properly maintained.
Excessive ponding--gravel over the weep holes may be plugged with sediment; to correct, remove the debris, clear the sediment, and replace the gravel.



(SP) PRACTICE 3.01
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT PAD

PURPOSE
* To provide a stable entrance/exit condition from the construction site.
* To keep mud and sediment off public roads.

and C)

REQUIREMENTS (Exhibit 3.01–B)

Material: 2–3 in. washed stone (INDOT CA No. 2) over a stable foundation.
Thickness: 6 in. minimum
Width: 50 ft. minimum or full width of entrance/exit roadway, whichever is greater.
Length: 200 ft. minimum. The length can be shorter for small sites such as for an individual home.
Washing facility (optional): Level area with 3 in. washed stone minimum or a commercial rack, and waste water diverted to a sediment trap or basin (Practice 3.72).
Geotextile fabric underliner: May be used under wet conditions or for soils within a high seasonal water table to provide greater bearing strength.

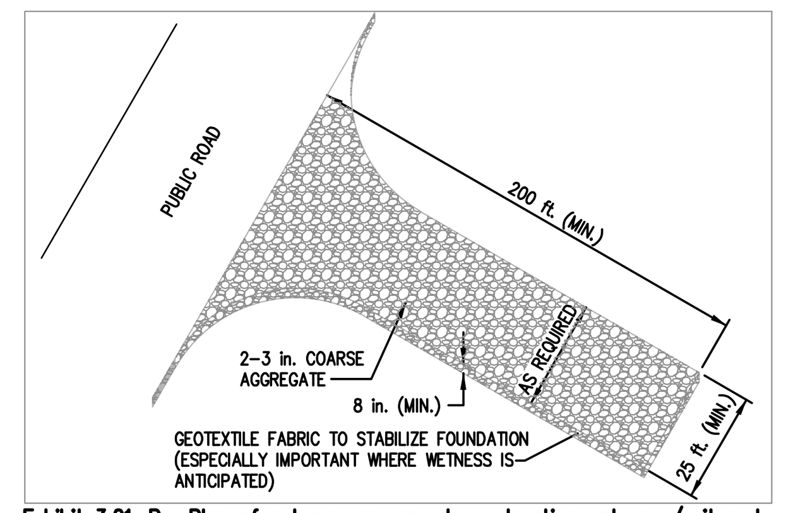


Exhibit 3.01–B. Plan of a temporary gravel construction entrance/exit pad.

INSTALLATION (Exhibit 3.01–C)
1. Avoid locating on steep slopes or at curves in public roads.
2. Remove all vegetation and other objectionable material from the foundation area, and grade and crown for positive drainage.
3. If slope towards the road exceeds 2%, construct a 6–8 in.–high water bar (ridge) with 3:1 side slopes across the foundation area about 15 ft. from the entrance to divert runoff away from the road (Practice 3.24) (see Exhibit 3.01–C).
4. Install pipe under the pad if needed to maintain proper public road drainage.
5. If wet conditions are anticipated, place geotextile fabric on the graded foundation to improve stability.
6. Place stone to dimensions and grade shown in the erosion/sediment control plan, leaving the surface smooth and sloped for drainage.
7. Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.

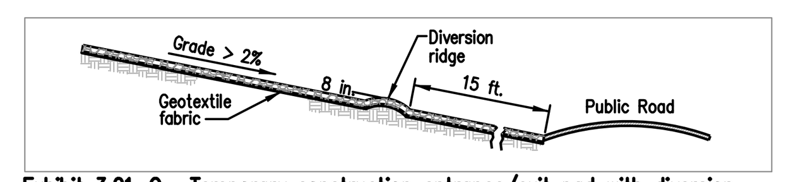


Exhibit 3.01–C. Temporary construction entrance/exit pad with diversion ridge where grade exceeds 2%.

MAINTENANCE
* Inspect entrance pad and sediment disposal area weekly and after storm events or heavy use.
* Reshape pad as needed for drainage and runoff control.
* Top dress with clean stone as needed.
* Immediately remove mud and sediment tracked or washed onto public roads by brushing or sweeping. Flushing should only be used if the water is conveyed into a sediment trap or basin.
* Repair any broken road pavement immediately.

(GP) PRACTICE 3.61–B
GRAVEL CURB INLET PROTECTION

REQUIREMENTS (Exhibit 3.61–B)

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.

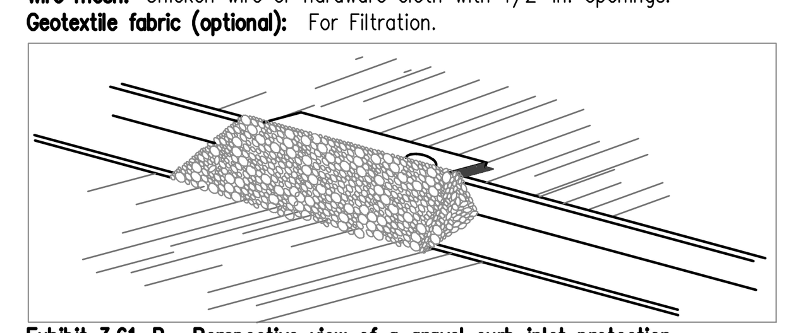


Exhibit 3.61–B. Perspective view of a gravel curb inlet protection.

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 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.

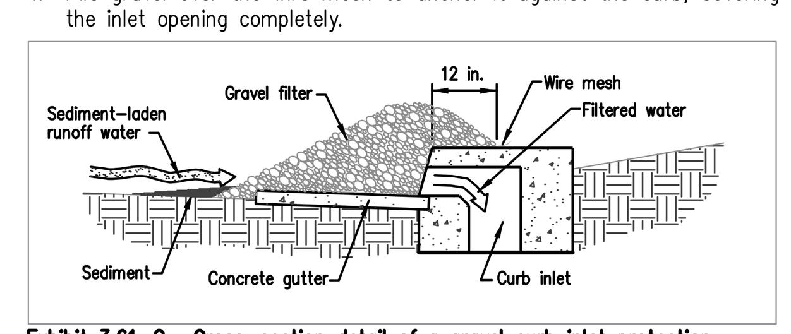


Exhibit 3.61–C. Cross–section detail of a gravel curb inlet protection.

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.

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, 3.73, 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,
2. 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.
3. 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 tackifying. Use of netting or erosion control blankets is possible, but may not be cost–effective for temporary 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
German millet	40 lbs.	1 to 2 in.	5/1 to 6/1
Sudangrass	35 lbs.	1 to 2 in.	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 seeding 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 seeded.)

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 or 3.75).

FOR DORMANT SEEDING
Site and seedbed preparation and mulching 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	150 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 of 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
+ smooth bromegrass	15 lbs.	
+ 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. Prarie 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).		
1. Smooth bromegrass	35 to 50 lbs.	5.5 to 7.5
+ red clover*	15 to 30 lbs.	
2. Prarie switch grass	50 to 75 lbs.	5.5 to 7.5
+ white or ladino clover*	1 1/2 to 3 lbs.	
3. Prarie 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.	
5. Crownvetch*	15 to 18 lbs.	5.6 to 7.0
+ prairie switchgrass	30 to 45 lbs.	
(Recommended north of US 40.)		
LAWNS 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. Prarie 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. Parennial 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
+ smooth bromegrass	15 lbs.	
+ switchgrass	5 lbs.	
+ timothy	6 lbs.	
+ perennial ryegrass	15 lbs.	
+ white or ladino clover*	1 1/2 to 3 lbs.	
3. Prarie switch grass	150 to 225 lbs.	5.5 to 7.5
+ white or ladino clover*	1 1/2 to 3 lbs.	
4. Prarie switch grass	150 to 225 lbs.	5.5 to 7.5
+ 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 seeing 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 need to 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 preferred date 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.
3. If drilling or broadcasting, firm the seedbed with a roller or cultipacker
4. 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
+ smooth bromegrass	10 lbs.	
+ 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
+ prarie switch grass	15 to 30 lbs.	
4. Prarie 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)		
1. Smooth bromegrass	25 to 35 lbs.	5.5 to 7.5
+ red clover*	10 to 20 lbs.	
2. Prarie switch grass	35 to 50 lbs.	5.5 to 7.5
+ white or ladino clover*	1 to 2 lbs.	
3. Prarie 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.	
5. Crownvetch*	10 to 12 lbs.	5.6 to 7.0
+ prairie switchgrass	20 to 30 lbs.	
(Recommended south of US 40)		
LAWNS 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. Prarie switch grass(turf–type)	130 to 107 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
+ smooth bromegrass	10 lbs.	
+ switchgrass	3 lbs.	
+ timothy	4 lbs.	
+ perennial ryegrass	10 lbs.	
+ white or ladino clover*	1 to 2 lbs.	
3. Prarie switch grass	100 to 150 lbs.	5.5 to 7.5
+ ladino or white clover*	1 to 2 lbs.	
4. Prarie 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–1.4 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 SWCD or Cooperative Extension office for assistance.)
* If additional fertilization is needed to get a satisfactory stand, do so according to soil test recommendations.

NOTE TO CONTRACTOR

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.

revisions:

ARCHITECTURE
CIVIL ENGINEERING
PLANNING
bloomington, indiana
(812) 339–2990 (Fax)
BYNUM FANYO & ASSOCIATES, INC.
528 north walnut street
(812) 332–8030

certified by:

PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: SWPPP DETAILS

designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C603
project no.: 402319

ROLLMAX™ ROLLED EROSION CONTROL

Specification Sheet

BioNet® S75BN™ Erosion Control Blanket

DESCRIPTION

The short-term single net erosion control blanket shall be a machine-produced mat of 100% agricultural straw with a functional longevity of up to 12 months. (NOTE: functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top side with a 100% biodegradable woven natural organic fiber net. The netting shall consist of machine directional strands formed from two intertwined yarns with across directional strands interwoven through the twisted machine strands (commonly referred to as a Leno weave) to form approximate 0.50 x 1.0 in. (1.27 x 2.54 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

The S75BN shall meet Type 2.C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.17

Material Content		
Matrix	100% straw fiber	0.5 lbs/sq yd (0.27 kg/sm)
Netting	Top side only: Leno woven 100% biodegradable natural organic fiber	9.3 lbs/1000 sq ft (4.5 kg/100 sm)
Thread	Biodegradable	

Standard Roll Size		
Width	6.67 ft (2.0 m)	8.0 ft (2.4 m)
Length	108 ft (32.92 m)	112 ft (34.14 m)
Weight ± 10%	46.4 lbs (21.05 kg)	50 lbs (22.68 kg)
Area	80 sq yd (66.9 sm)	100 sq yd (83.61 sm)

Design Permissible Shear Stress	
Unvegetated Shear Stress	1.60 psf (76 Pa)
Unvegetated Velocity	5.00 fps (1.52 m/s)

Index Property	Test Method	Typical
Thickness	ASTM D6525	0.28 in. (7 mm)
Resiliency	ECTC Guidelines	81.4%
Water Absorbency	ASTM D1117	440%
Mass/Unit Area	ASTM D6475	9.12 oz/sy (310 g/sm)
Swell	ECTC Guidelines	15.7%
Smolder Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D1388	6.92 oz-in
Light Penetration	ASTM D6567	9.1%
Tensile Strength - MD	ASTM D6818	146.4 lbs/ft (2.17 kN/m)
Elongation - MD	ASTM D6818	10.9%
Tensile Strength - TD	ASTM D6818	109.2 lbs/ft (1.62 kN/m)
Elongation - TD	ASTM D6818	14.3%
Biomass Improvement	ASTM D7322	398%

Slope Design Data: C Factors			
	Slope Gradients (S)		
Slope Length (L)	≤ 3:1	3:1 – 2:1	≥ 2:1
≤ 20 ft (6 m)	0.029	N/A	N/A
20-50 ft	0.11	N/A	N/A
≥ 50 ft (15.2 m)	0.19	N/A	N/A

Roughness Coefficients – Unveg.	
Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.055
0.50 – 2.0 ft	0.055-0.021
≥ 2.0 ft (0.60 m)	0.021

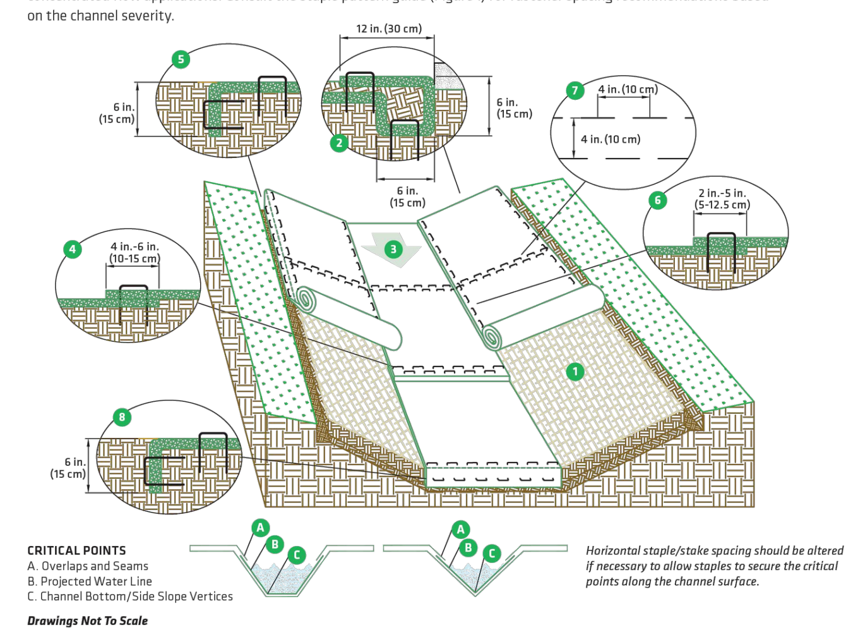
NORTH AMERICAN GREEN
Western Green
4609 E. Boonville-New Harmony Rd.
Evansville, IN 47725
nagreen.com
800-772-2040

EC_RMX_MPDS_S75BN_7.20

Channel Installation

EC

The following channel guide outlines general recommendations for installing RollMax System temporary and/or permanent RECPs in concentrated flow applications. Consult the staple pattern guide (Figure 1) for fastener spacing recommendations based on the channel severity.

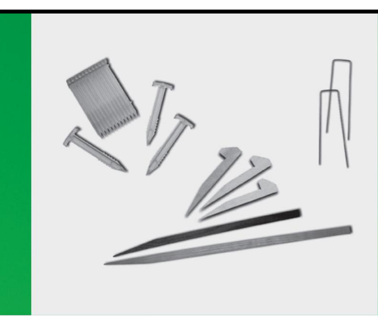


Drawings Not To Scale

CHANNEL INSTALLATION STEPS

1. Prepare soil before installing RECPs, including any necessary application of lime, fertilizer and seed.
2. Begin at the top of the channel by anchoring the RECPs in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench with approximately 12 in. (30 cm) of RECPs extended beyond the upslope portion of the trench. For supplemental scour protection, use RevetMax™ System ShoreMax® Mat at the channel/culvert outlet as needed. Anchor the RECPs with a row of staples/stakes approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12 in. (30 cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12 in. (30 cm) apart across the width of the RECPs.
3. Roll center RECPs in direction of water flow in bottom of channel. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
4. Place consecutive RECPs end-over-end (shingle style) with a 4 in.-6 in. (10-15 cm) overlap. Use a double row of staples staggered 4 in. (10 cm) apart and 4 in. (10 cm) on center to secure RECPs.
5. Full-length edge of RECPs at top of side slopes must be anchored with a row of staples/stakes approximately 12 in. (30 cm) apart in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench. Backfill and compact the trench after stapling.
6. Adjacent RECPs must be overlapped approximately 2 in.-5 in. (5-12.5 cm) (depending on RECP type) and stapled.*
7. In high flow channel applications a staple check slot is recommended at 30 to 40 ft (9-12 m) intervals. Use a double row of staples staggered 4 in. (10 cm) apart and 4 in. (10 cm) on center over entire width of the channel.
8. The terminal end of the RECPs must be anchored with a row of staples/stakes approximately 12 in. (30 cm) apart in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench. Backfill and compact the trench after stapling.

**NOTE: In adverse soil conditions longer staples/stakes or earth anchors may be necessary to properly secure the RECPs.*



Installation Made Easy

When under the pressure of severe conditions, even the best erosion control products can't function to their full potential without proper installation and anchoring. North American Green supplies a wide variety of fastener options for nearly every application and soil type.

For use in cohesive soils, wire staples are a cost-effective means to fasten RollMax™ System Rolled Erosion Control Products (RECPs). Available in 6 in., 8 in., 10 in. and 12 in. lengths, our U-shaped staples reach various depths to ensure adequate pull-out resistance. For installation using our handy Pin Pounder installation tool, 6 in. V-top staples or 6 in. circle top pins are available.

Our biodegradable BioStakes® are available in 4 in. and 6 in. lengths and provide an environmentally friendly alternative to metal staples. For an even more durable, deeper reaching yet all-natural anchoring option, our wood EcoStakes® are available in 6 in., 12 in., 18 in. and 24 in. lengths.

For severe applications needing the ultimate, long-lasting hold, try our 12 in. and 18 in. rebar staples, our 12 in. plastic ShoreMax® stakes, or our complete line of percussion earth anchors. The earth anchors reach deep into the soil strata to offer enhanced anchoring in the worst conditions. Our variety of earth anchors are designed for durability and holding power under extreme hydraulic stresses and adverse soil conditions.

STAPLE PATTERNS

Proper staple patterns must be used to achieve optimal results in RECP installation. We recommend the following general stapling patterns as guidance for use with our RECPs as seen in (Figure 1). Site-specific staple pattern recommendations based on soil type and severity of application may be acquired through our Erosion Control Materials Design Software (ECMDS®), **www.ecmds.com**.

STAPLE PATTERN GUIDE

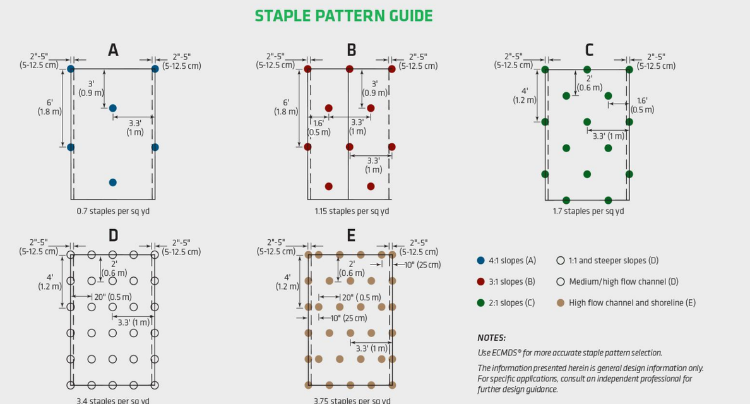
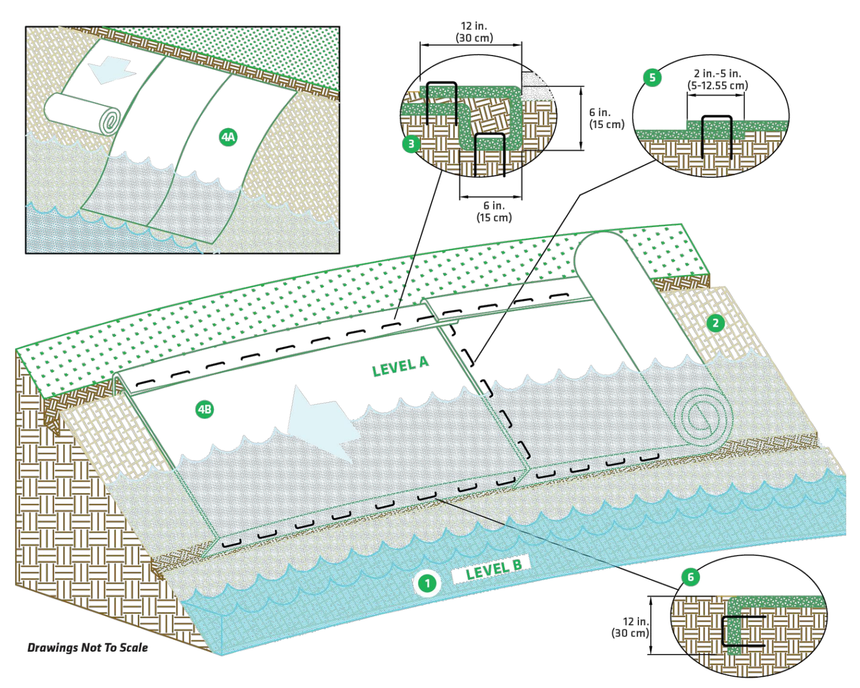


FIGURE 1

NOTE: EROSION CONTROL MATTING TO BE INSTALLED OUTSIDE OF THE DRIP LINE OF EXISTING TREES TO MINIMIZE DAMAGE TO ROOTS

Shoreline Installation

Below are recommendations for installing RollMax System temporary and/or permanent RECPs along shoreline and stream bank applications. Consult the staple pattern guide (Figure 1) for fastener spacing recommendations based on the bank severity.



Drawings Not To Scale

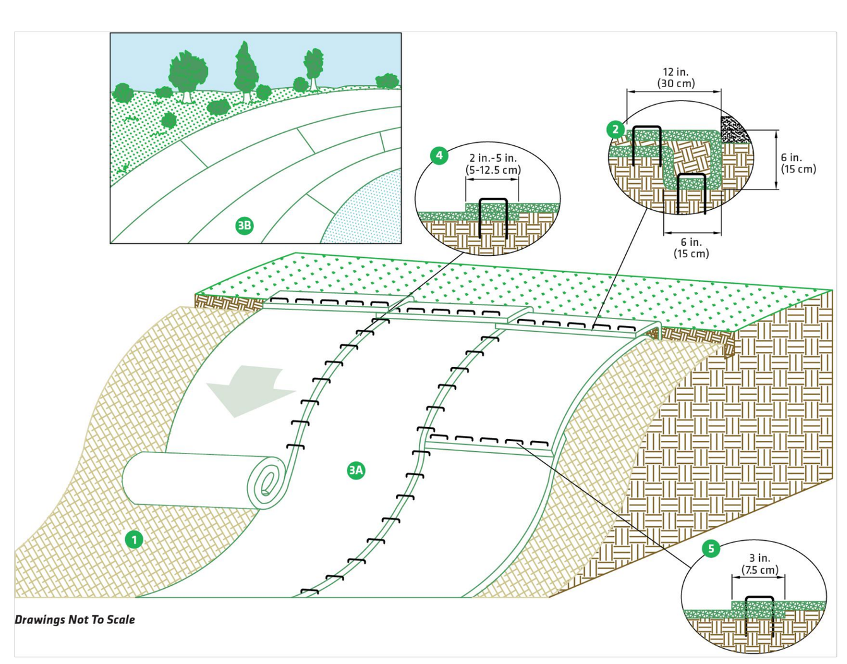
SHORELINE/STREAMBANK INSTALLATION STEPS

1. For easier installation, lower water level from Level A to Level B before installation to allow bottom trenching.
2. Prepare soil before installing RECPs, including any necessary application of lime, fertilizer and seed.
3. Begin at the top of the shoreline by anchoring the RECPs in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench with approximately 12 in. (30 cm) of RECPs extended beyond the upslope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12 in. (30 cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12 in. (30 cm) apart across the width of the RECPs.
4. Roll RECPs either (A) down the shoreline for long banks (top to bottom) or (B) horizontally across the shoreline slope. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
5. The edges of all horizontal and vertical seams must be stapled with an approximately 2 in.-5 in. (5-12.5 cm) overlap. In streambank applications, seam overlaps should be shingled in the predominant flow direction.
6. The edges of the RECPs at or below normal water level must be anchored by placing the RECPs in a 12 in. (30 cm) deep x 6 in. (15 cm) wide anchor trench. Anchor the RECPs with a row of staples/stakes spaced approximately 12 in. (30 cm) apart in the trench. Backfill and compact the trench after stapling (stone or soil may be used as backfill). For installation at or below normal water level, use of a ShoreMax Mat on top of the RECP or geotextile may be recommended. Bottom anchor trench can be eliminated when using a ShoreMax Mat over RECP along the bottom edge.

NOTE: In adverse soil conditions longer staples/stakes or earth anchors may be necessary to properly secure the RECPs.

Slope Installation

The following slope guide outlines general recommendations for installing RollMax™ System temporary and/or permanent RECPs on sloping applications. Consult the staple pattern guide (Figure 1) for fastener spacing recommendations based on the slope severity.



Drawings Not To Scale

SLOPE INSTALLATION STEPS

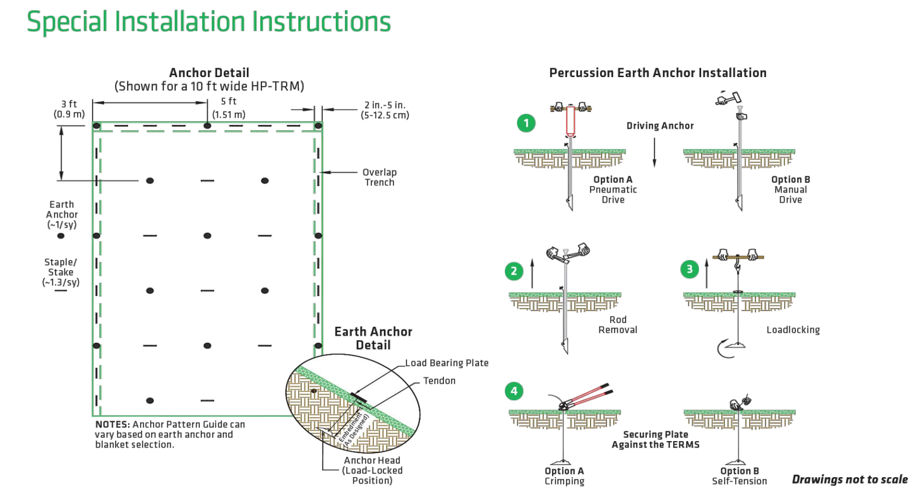
1. Prepare soil before installing RECPs, including any necessary application of lime, fertilizer and seed.
2. Begin at the top of the slope by anchoring the RECPs in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench with approximately 12 in. (30 cm) of RECPs extended beyond the upslope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12 in. (30 cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12 in. (30 cm) apart across the width of the RECPs.
3. Roll the RECPs (3A) down or (3B) horizontally across the slope. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
4. The edges of parallel RECPs must be stapled with an approximately 2 in.-5 in. (5-12.5 cm) overlap depending on the RECP type.
5. Consecutive RECPs spliced down the slope must be end-over-end (shingle style) with an approximate 3 in. (7.5 cm) overlap. Staple through overlapped area, approximately 12 in. (30 cm) apart across entire RECPs width.*

**NOTE: In adverse soil conditions longer staples/stakes or earth anchors may be necessary to properly secure the RECPs.*

MAINTENANCE

* INSPECT WITHIN 24 HOURS OF EACH RAIN EVENT AND AT LEAST ONCE EVERY SEVEN CALENDAR DAYS.
* CHECK FOR EROSION OR DISPLACEMENT OF THE BLANKET
* IF ANY AREA SHOWS EROSION, PULL BACK THAT PORTION OF THE BLANKET COVERING THE ERODED AREA, ADD SOIL AND TAMP, RESEED THE AREA, REPLACE AND STAPLE THE BLANKET.

Special Installation Instructions



ANCHORING DETAIL

Consult the *RollMax™ Turf and Earth Reinforced Mat Systems (TERMS) Installation Guide* for details about using earth anchors with RollMax RECPs. The performance of ground anchoring devices is highly dependent on numerous site/project specific variables. It is the responsibility of the project engineer and/or contractor to select the appropriate anchor.

1. Staples and/or stakes should be at least 6 in. (15 cm) in length and with sufficient ground penetration to resist pullout. Longer staples and/or stakes may be needed in looser soils.
2. The percussion earth anchor assembly includes an anchor head, a tendon, a faceplate, and an end-piece device. Consult Earth Anchor specification for detailed information on assembly components and associated pull-out strength.

PERCUSSION EARTH ANCHOR INSTALLATION

1. Insert the drive rod into the assembly's anchor head then use either a sledge hammer or a vibratory hammer to drive the anchor to the desired depth.
2. After the desired anchor depth is achieved, retract the drive rod.
3. Lock the anchor assembly by swiftly pulling the cable upwards until the anchor head rotates as signaled by sudden resistance to pulling. A hooked setting tool may be used to aid in this step.
4. Secure the faceplate to the HP-TRM surface by locking the end-piece. If using a copper or aluminum stop, crimp the ferrule to secure. If using a self-tensioning end-piece (grip or wedge grip) set by simply tightening the end-piece against the faceplate. If needed, cut the remaining cable to desired length.

SEEDING AND VEGETATING

When using a Composite Turf Reinforcement Mat (C-TRM) with fiber components:

1. Pre-seed prepared soils prior to the installation of the C-TRM. Install matting as directed. C-TRM does not require soil infill or a top dressing of seed. Overseeding may be done as a secondary form of seeding.
2. Sod may be installed in place of seeding on top of the C-TRM. Additional staking of sod is recommended in high-flow conditions. Sodded areas should be irrigated until rooting through the mat and into subgrade occurs.

When using a woven HP-TRM:

1. Install the HP-TRM as directed prior to seed and soil filling.
2. Place seed into the installed HP-TRM. After seeding, spread a layer of fine soil into the mat. Using the flat side of a rake, broom or other tool, completely fill the voids. Smooth soil-fill in order to just expose the top of the HP-TRM matrix. Do not place excessive soil above the mat.
3. Additional seed, hydraulic mulching, or the use of a temporary Erosion Control Blanket (ECB) can be applied over the soil-filled mat for increased protection.
4. Sod may be installed in place of seeding. Install HP-TRM, and soil-fill as outlined above. Place sod directly onto the soil-filled HP-TRM. Additional staking of sod is recommended in high-flow conditions. Sodded areas should be irrigated until rooting through the mat and into subgrade occurs.
5. Consult with a manufacturer's technical representative for installation assistance if unique conditions apply.

SITE ACCESS & PREPARATION

Tree Preservation & Protection

***Tree preservation and protection** methods are used to preserve and protect desirable trees from damage during project development.*

Purpose

To protect and insure survival of desirable existing trees from the effects of construction activities.

Specifications

Tree Selection and Planning

- Gather information from soil and topographic maps, aerial photos, and professional foresters to better understand the site, desirable trees, and how to save them.
- Walk the site to map out potential specimen trees, special features, and sensitive areas.
- Clearly identify and delineate on the construction plans all trees to be protected.
- Plan roads, sidewalks, and other infrastructure to save specimen trees and green space areas.
- Plan underground utilities so they can be combined in the same trench away from trees and potential planting sites. (If near trees, tunnel under the roots.)

Tree Protection

- Protect trees from equipment damage. (Wounds provide entry for insects and disease and reduce transport of sap.)
- If trees are damaged, repair immediately. (Repair of wounded areas allows trees to heal quickly, thus reducing insect and disease problems.)

TREE PRESERVATION & PROTECTION

Materials

- Fencing (orange safety fencing for increased visibility), snow fence and support posts.
- Signage.
- Wood mulch, chips, etc.
- Specialized equipment (brush cutter, rotary axe, hand tools).

Application

Tree Protection

1. Walk the site with plan and site map to verify location of specimen trees, special features, and sensitive areas.
2. If necessary, adjust the planned layout of roads, sidewalks, utilities, etc. to save specimen trees and green space areas.
3. Flag or mark all trees to be protected. Designate trees having high aesthetic value based on condition, spacing, and species. (More desirable species include beech, dogwood, sweetgum, sycamore, sugar maple, locust, hawthorn, oak, and hackberry. Less desirable species include aspen, elm, cherry, silver maple, willow, box elder, sassafras, cottonwood, and poplar.)
4. Mark for removal all undesirable or hazardous trees in the construction area. Thinning a stand ahead of time lets the remaining trees adjust to a more open environment.
5. If underground utilities must pass near or under tree rooting systems, tunnel under the roots.
6. Create traffic patterns to keep soil compaction to a minimum. (Compaction reduces the amount of air and water available to tree roots.)
7. Consider planting and/or transplanting. Small trees of desirable species can sometimes be transplanted from areas to be cleared. Property buffers, windbreaks, or green space areas can be economically established with these trees.

Avoid Compaction

1. Install fencing around a specimen tree(s) as far out as its crown to keep equipment off the rooting area.
2. If a fence cannot be erected, cushion the rooting area with six inches of wood chips, wood, or brick paths.
3. Create traffic patterns to keep soil compaction to a minimum.
4. Store supplies and equipment away from specimen tree areas.
5. Designate sites well away from trees for burning debris and washing out concrete trucks.

TREE PRESERVATION & PROTECTION

Reduce Damage from Grading

1. When clearing, use equipment such as a brush cutter or rotary axe, or cut by hand.
2. Where root areas must be graded, cut large roots instead of tearing them with equipment.
3. Minimize changes in the drainage pattern. (Existing trees are acclimated to the current pattern; creating a new one could injure them.)
4. Where applicable, construct retaining walls to minimize root damage from grading operations. Removal or disturbance of soil may damage the root system of the tree.
5. Avoid putting fill over the root system. Adding soil material reduces water and air availability required for the root system and tree.

Avoid Wounding Trees

1. Protect trees from equipment damage by creating some type of barrier, fencing them off, or wrapping individual trees with snow fencing.
2. Prune low-hanging limbs that could otherwise be broken off by equipment.
3. Where feasible, leave trees in groups. Trees growing in wooded areas are used to shade from the surrounding trees, so when they are suddenly exposed to open areas they become susceptible to sun scald, frost cracks, excessive branching, and wind throw.

Repair Tree Damage

(Utilize the services of a consulting forester)

1. Properly prune all damaged limbs. Avoid leaving stubs.
2. Aerate soil where compaction has been excessive.
3. Fertilize to improve tree growth, vigor, and appearance.
4. Water during dry periods to help offset soil compaction and root damage.

Maintenance

- Inspect at least once every seven calendar days.
- Repair perimeter barriers if damaged.
- Inspect for damage from construction equipment, etc. Repair wounds simply by removing damaged bark and wood tissue. **Do not use tree paint.**
- Cable and brace any trunk splits, weak forks, and large limbs.

(CW) TEMPORARY CONCRETE WASHOUT AREA

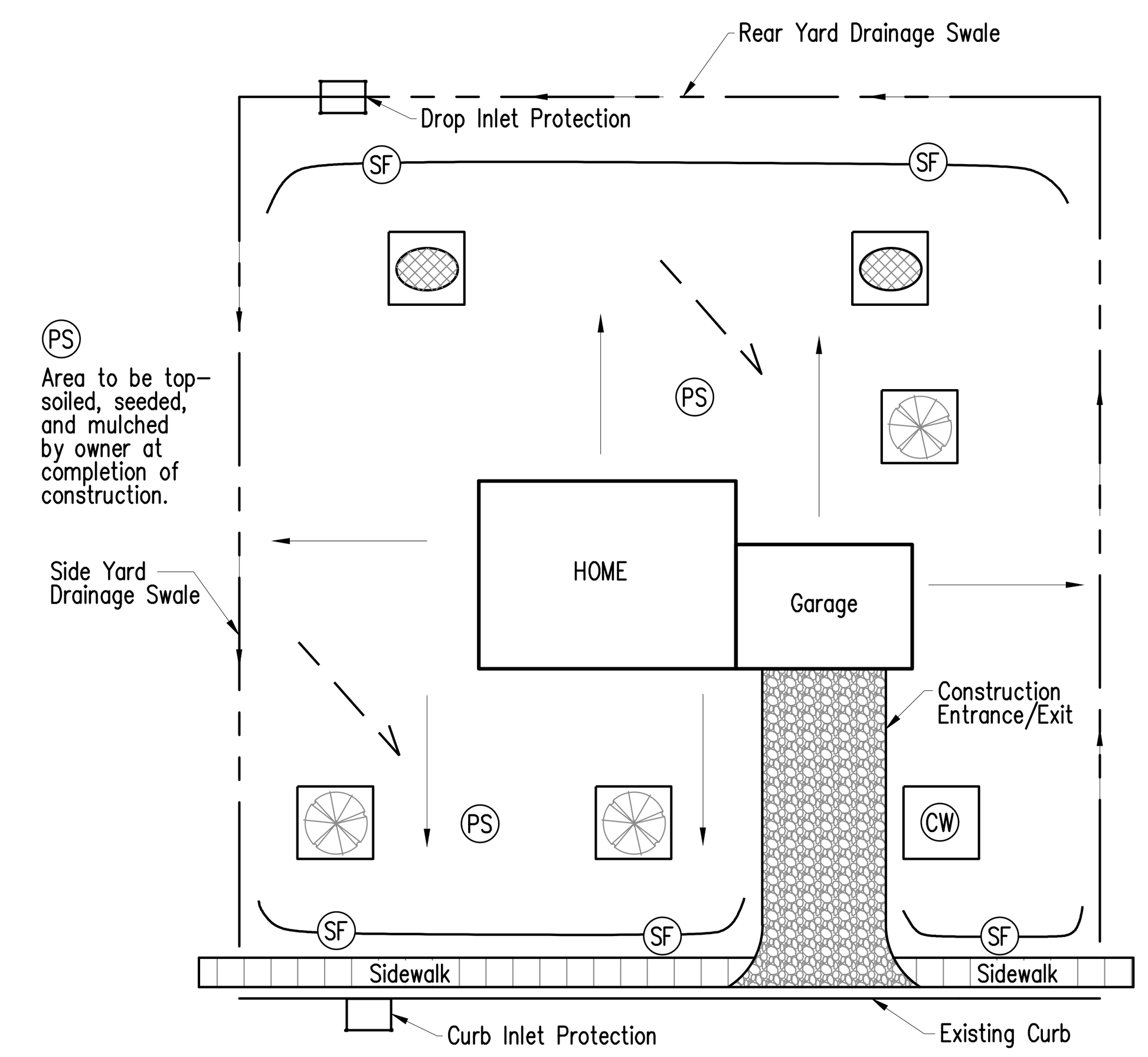
REQUIREMENTS **Capacity:** Temporary washout facilities shall be constructed above grade with a dumpster or other temporary container. Temporary washout facilities shall be constructed and maintained in sufficient quality and size to contain all liquid and concrete waste generated by washout operations.
Type: Above grade dumpster or other temporary container.

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.

INSTALLATION
* Temporary concrete washout facilities shall be constructed as described below. All temporary washout facilities shall have at minimum 10' width, 3' depth, and sufficient length to contain all liquid and concrete waste generated Add signage and orange safety fencing around concrete wash-out areas.

"Above Grade"
1. The dumpster or container shall be placed in desired location. Ensure the ground beneath the dumpster or container is flat and in stable condition.
2. Secure the dumpster or container in place.
3. The dumpster or container shall be lined with 10 mil plastic sheeting which shall be attached to the outside face of the dumpster or container.
4. Construct a ramping system to allow for pump trucks to be elevated if necessary for washout purposes.

MAINTENANCE
* Temporary concrete washout facilities should be maintained to provide adequate holding capacity with a minimum freeboard of 4 in. for above 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.



EROSION CONTROL DETAIL
FOR INDIVIDUAL BUILDING CONSTRUCTION
NOT TO SCALE

LEGEND

- PROPERTY LINE/ DRAINAGE SWALE
- EXISTING DRAINAGE
- FINISHED DRAINAGE
- SOIL SALVAGE AND UTILIZATION
- TREE CONSERVATION
- (SF) SILT FENCING
- (PS) PERMANENT SEEDING
- (CW) CONCRETE WASHOUT AREA
- DROP INLET PROTECTION
- CURB INLET PROTECTION
- GRAVEL ENTRANCE/ EXIT PAD

NOTE TO CONTRACTOR

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.

revisions:

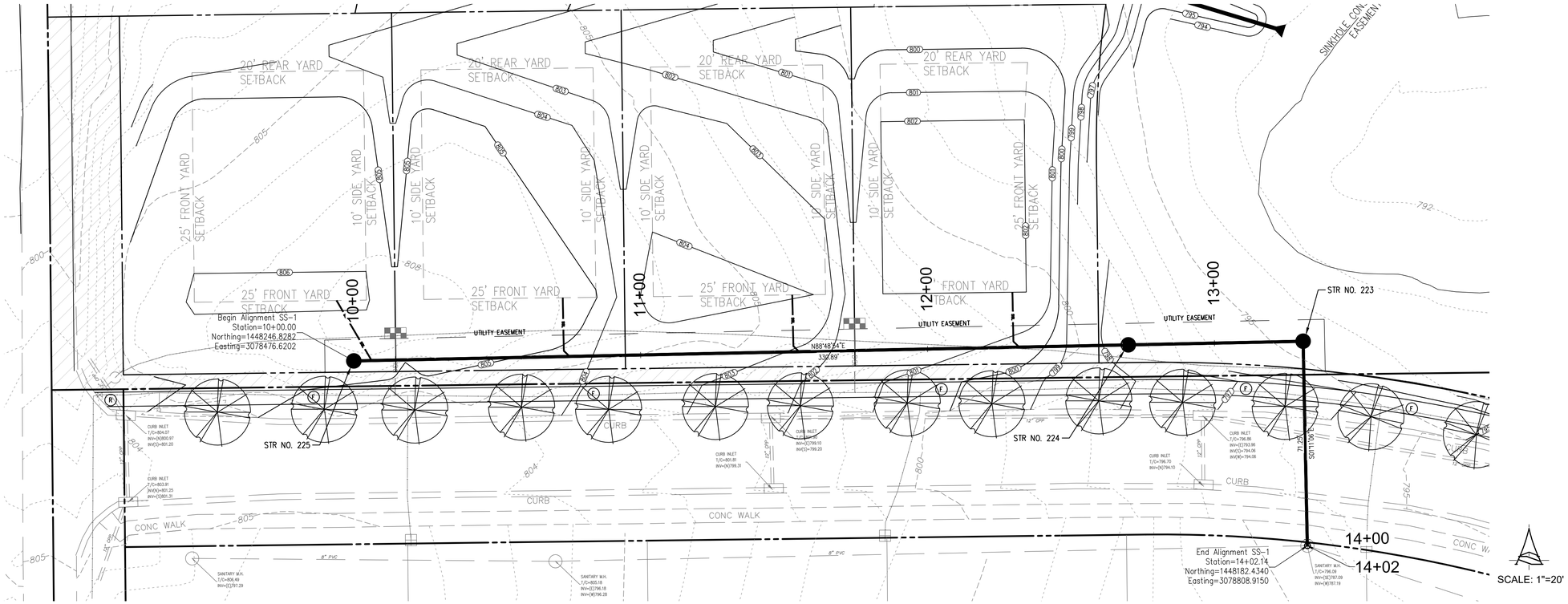
ARCHITECTURE
CIVIL ENGINEERING
PLANNING
BYNUM FANYO & ASSOCIATES, INC.
528 north walnut street
bloomington, indiana
(812) 332-8030
(812) 339-2990 (Fax)

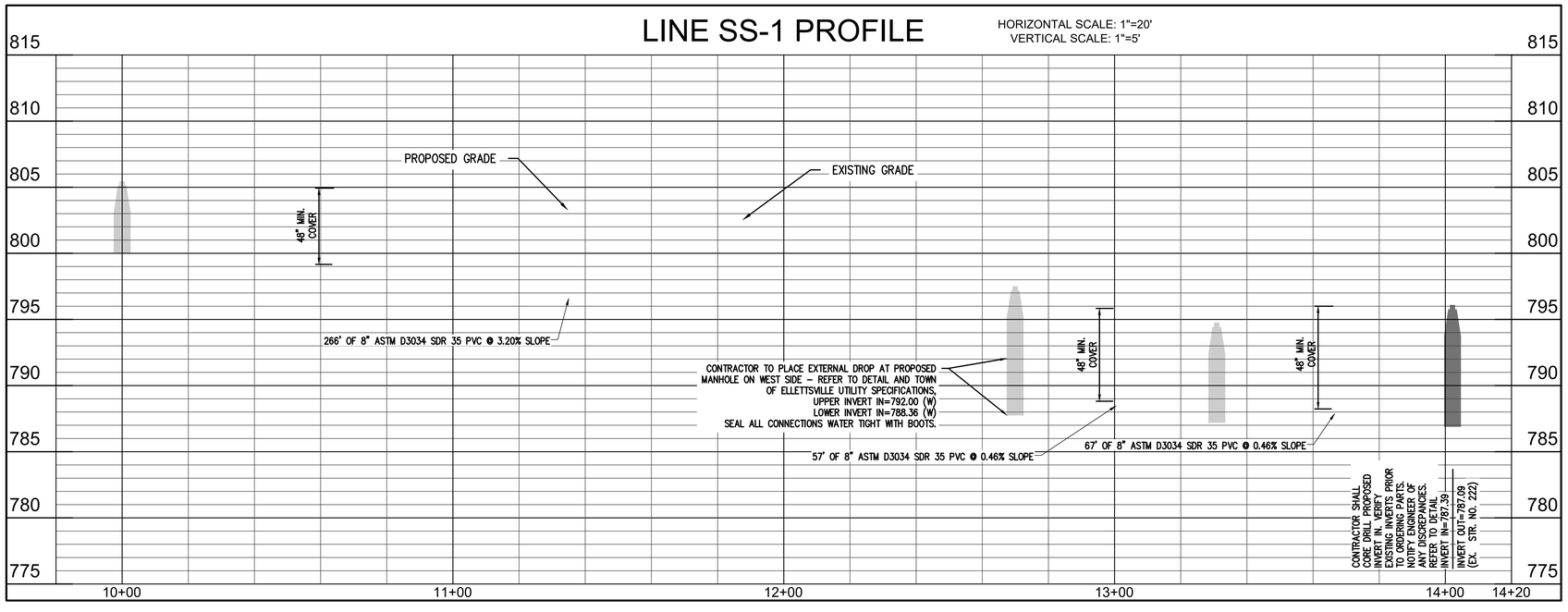
certified by:

PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: SWPPP DETAILS

designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C604
project no.: 402319





NOTE: ANY PROPOSED SANITARY WYE FITTINGS DEEPER THAN 6' SHALL BE SDR-26 PER CBU CONSTRUCTION SPECIFICATION 4.5.2.1.5.

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PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: LINE 'SS-1' PLAN & PROFILE

designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C701
project no.: 402319

SCALE: 1"=30'

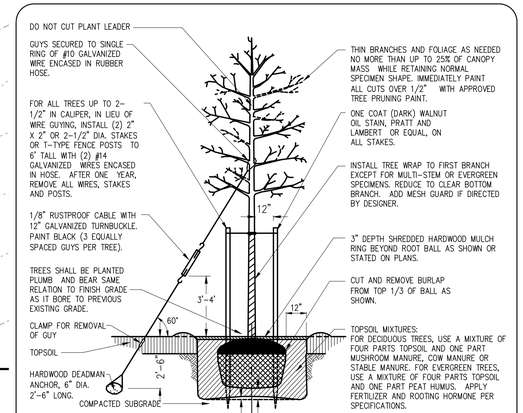
PLANT LIST

LEGEND	KEY	BOTANICAL NAME	COMMON NAME	QTY	SIZE & CONDITION
LARGE CANOPY DECIDUOUS TREES					
	QP	QUERCUS PRINUS	CHESNUT OAK	6	2" CAL., B & B
	AG	AESCULUS GLABRA	OHIO BUCKEYE	6	2" CAL., B & B
	AR	ACER RUBRUM	RED SUNSET MAPLE	6	2" CAL., B & B
SMALL / MEDIUM DECIDUOUS TREES					
	BN	BETULA NIGRA	RIVER BIRCH	0	2" CAL., B & B
EVERGREEN TREES					
	PS	PINUS STROBES	WHITE PINE	0	5-6' HEIGHT
DECIDUOUS SHRUBS					
	AA	ARONIA ARBUTIFOLIA	BLACK CHOKEBERRY		24" SPREAD*
	PH	PHILADELPUS	MOCHORANGE		24" HEIGHT*
EVERGREEN SHRUBS					
	TM	TAXUS X MEDIA 'BROWNII'	BROWN'S YEW		24" HGT., CONT.
	RS	RHODODENDRON SPECIES	RHODODENDRON		24" HGT., CONT.

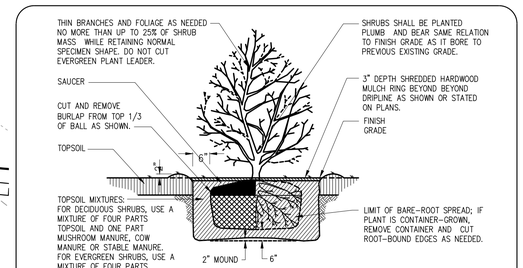
XX PLANT QUANTITY
XX PLANT TYPE
XX REQUIREMENT DESIGNATION
PL=PARKING LOT PERIMETER PLANTINGS
IP=INTERIOR PLANTINGS
ST=STREET TREES

*CONTAINER OR BALL AND BURLAP CONDITION ACCEPTABLE

NOTE: SPECIES SHOWN THAT ARE NOT LISTED IN THE CITY OF BLOOMINGTON ZONING ORDINANCE CHAPTER 20.06 TABLES OF RECOMMENDED PLANT MATERIALS ARE GIVEN BOTANICALLY COMPARABLE DENSITY VALUES.



BYNUM FANYO & ASSOCIATES
TREE PLANTING WITH GUYING OR STAKING
NOT TO SCALE



BYNUM FANYO & ASSOCIATES
SHRUB PLANTING
NOT TO SCALE

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revisions:

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certified by:

PROPOSED
PROMINENCE PLACE PHASE FOUR
W. UPLAND DRIVE
ELLETTSVILLE, INDIANA 47404

title: LANDSCAPE PLAN

designed by: AJW
drawn by: AJW
checked by: JSF
sheet no: C801
project no.: 402319