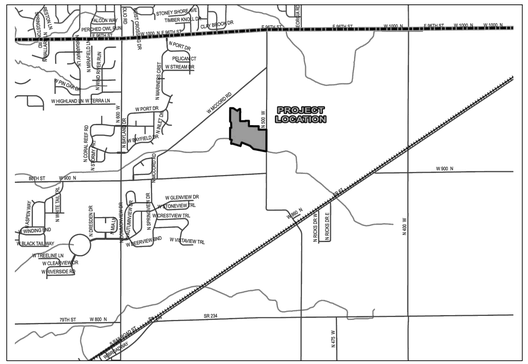
SUMMERTON AMENITY AREA

CONSTRUCTION PLANS

Lennar Homes of Indiana, LLC



LOCATION MAP
NOT TO SCALE

DEVELOPER:

ERIK ROBINSON
LENNAR HOMES OF INDIANA, LLC
11555 N. MERIDIAN ST., SUITE 400
CARMEL, IN 46032
317-659-3200
erik.robinson@lennar.ocm

CIVIL ENGINEER and SURVEYOR:

KYLE EICHHORN
HWC ENGINEERING
135 N. PENNSYLVANIA ST., SUITE 2800
INDIANAPOLIS, IN 46204
(317) 347-3663
keichhorn@hwcengineering.com

ZONED SUMMERTON AMENDED PUD ORDINANCE NO. _____, AN ORDINANCE AMENDING THE TOWN OF McCORDSVILLE ZONING ORDINANCE NO. 121410, AS AMENDED.

DEVELOPMENT STANDARDS

AREA "A"

MINIMUM LOT AREA	7,200 SQ. FT
MINIMUM LOT WIDTH AT BUILDING LINE	60
MINIMUM FRONT YARD SETBACK	25 FEET
MINIMUM SIDE YARD SETBACK	5 FEET
MINIMUM REAR YARD SETBACK	15 FEET
MINIMUM LIVABLE FLOOR AREA	1,500 SF (SINGLE STORY) 1,800 SF (MULTI STORY)
MIN. GROUND FLOOR LIVING AREA	900 SF (MULTI STORY)
MAXIMUM LOT COVERAGE	60%
MAXIMUM HEIGHT - PRINCIPAL	35 FEET

PLAN COMMISSION APPROVAL _____

DRAINAGE APPROVAL _____

ADDRESS APPROVAL _____

EROSION CONTROL APPROVAL _____

COUNTY ENGINEER APPROVAL _____

COUNTY SANITARIAN APPROVAL _____

COUNTY COMMISSIONERS APPROVAL _____

SITE MAP
SCALE: 1" = 200'

SOILS MAP
NOT TO SCALE

SOILS LEGEND

BR	BROOKSTON SILTY CLAY LOAM
CrA	CROSBY SILT LOAM, 0 TO 3 PERCENT SLOPES
MmB2	MIAMI SILT LOAM, 2 TO 6 PERCENT SLOPES, ERODED

SHEET LIST TABLE

Sheet Title	Sheet Description
C1.0	COVER
C1.1	SITE IMPROVEMENTS PLAN
C1.2	SITE GRADING PLAN
C1.3	PRE-CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN
C1.4	POST CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN
C1.5	SITE UTILITY PLAN
C8.0	STORMWATER POLLUTION PREVENTION NOTES
C8.1-C8.4	STORMWATER POLLUTION PREVENTION DETAILS
L1.0	LANDSCAPE PLAN
L1.1	LANDSCAPE DETAILS
SHEETS 1-10	McCORDSVILLE TOWN STANDARDS

McCORDSVILLE TOWN STANDARDS SHEET LIST TABLE

Sheet Title	Sheet Description
1	DIRECTIONS FOR USE & GENERAL NOTES
2	RIGHT-OF-WAY SECTIONS & PAVEMENT SPECIFICATIONS
3	RIGHT-OF-WAY DETAILS
4	UTILITY LOCATION GUIDELINES
5	DRIVE WAY & HANDICAP RAMP DETAILS
6	STORM SEWER STRUCTURE DETAILS
7	STORM SEWER BEDDING DETAILS AND GENERAL NOTES
8	SANITARY SEWER SPECIFICATIONS
9	SANITARY SEWER DETAILS
10	SANITARY SEWER LIFT STATION STANDARDS & GUIDELINES

CONTACT INFORMATION:

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BHOSTETLER@CITIZENSENERGYGROUP.COM

NINESTAR CONNECT (Electric & Telecom)
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2243 East Main Street
Greenfield, Indiana 46140
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McCordsville, Indiana 46055
P: (317) 335-9236

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F: (317) 776-5553
Mailing Address: P.O. Box 1700
Noblesville, Indiana 46061
sandra.casey@centerpointenergy.com

REVISIONS

DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

SUMMERTON AMENITY AREA
McCORDSVILLE, INDIANA
COVER

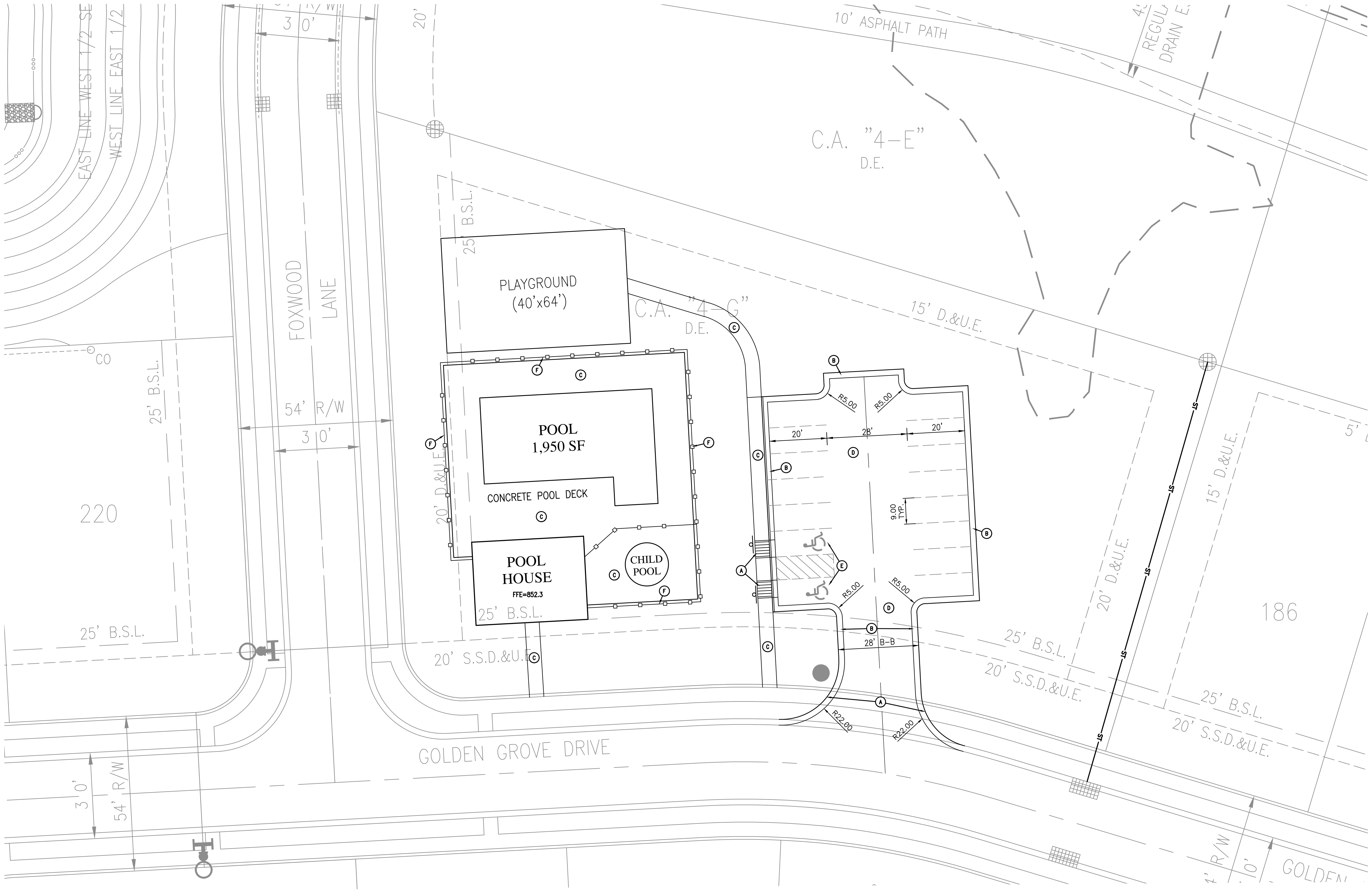
CHRISTOPHER K. EICHHORN
REGISTERED
No. 11400758
STATE OF INDIANA
PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

Kristopher K. Eichhorn

DRAWN BY	JOB NUMBER 2020-235-F
TS	
CHECKED BY	
KE	
DATE	
APRIL 22, 2024	
SCALE	
AS SHOWN	
SHEET	
C1.0	
COVER	

Plot Date: Apr 24, 2024 Plot Time: 1:56pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F Cover Sheet.dwg, Layout: C1.0 By: keichhorn



KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
Call 811 or 800-382-5544 Before you Dig!

GRAPHIC SCALE
0' 20' 40' 60'
(IN FEET)

LEGEND:

EXISTING		PROPOSED
	RIGHT-OF-WAY LINE	
	EASEMENT LINE	
	SETBACK LINE	
	CENTERLINE	
ooo	SWALE / FLOWLINE	ooo
	SUBSURFACE DRAIN	
S	SANITARY SEWER	S
ST	STORM SEWER	ST
ST	STORM CULVERT	ST
W	WATER MAIN	W
800	CONTOUR, MAJOR	800
799	CONTOUR, MINOR	799
x x x x x	FENCE	x x x x x
	TREE LINE	

POND SIGNAGE
STREET POST & LIGHT

S	SANITARY MANHOLE	XXX
ST	STORM MANHOLE	XXX
	STORM INLET	XXX
	STORM END SECTION	XXX
	FIRE HYDRANT	
N/A	FLOW ARROW	
XXX.X	SPOT ELEVATION	XXX.X
N/A	PAVEMENT ELEVATION	XXX.XX

A.D.A. CURB RAMP	A
2' ROLL CURB	B
CONCRETE SIDEWALK	C
ASPHALT DRIVE	D
ADA PARKING SPACES – CONCRETE	E
6' BLACK CHAIN LINK FENCE	F

ABBREVIATIONS:

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PC – POINT OF CURVATURE
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PVC – POLYVINYL CHLORIDE PIPE
PVI – POINT OF VERTICAL INTERSECTION
RCP – REINFORCED CONCRETE PIPE
R/W – RIGHT-OF-WAY
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MFPG – MINIMUM FLOOD PROTECTION GRADE
MFFE – MINIMUM FINISH FLOOR ELEVATION

THE DESIGN AND CONSTRUCTION SHALL COMPLY WITH THE CURRENT MCCORDSVILLE CONSTRUCTION SPECIFICATIONS AND STANDARD CONSTRUCTION DETAILS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT.

THE DESIGN AND CONSTRUCTION SHALL COMPLY WITH ALL ADA REQUIREMENTS.

REVISIONS

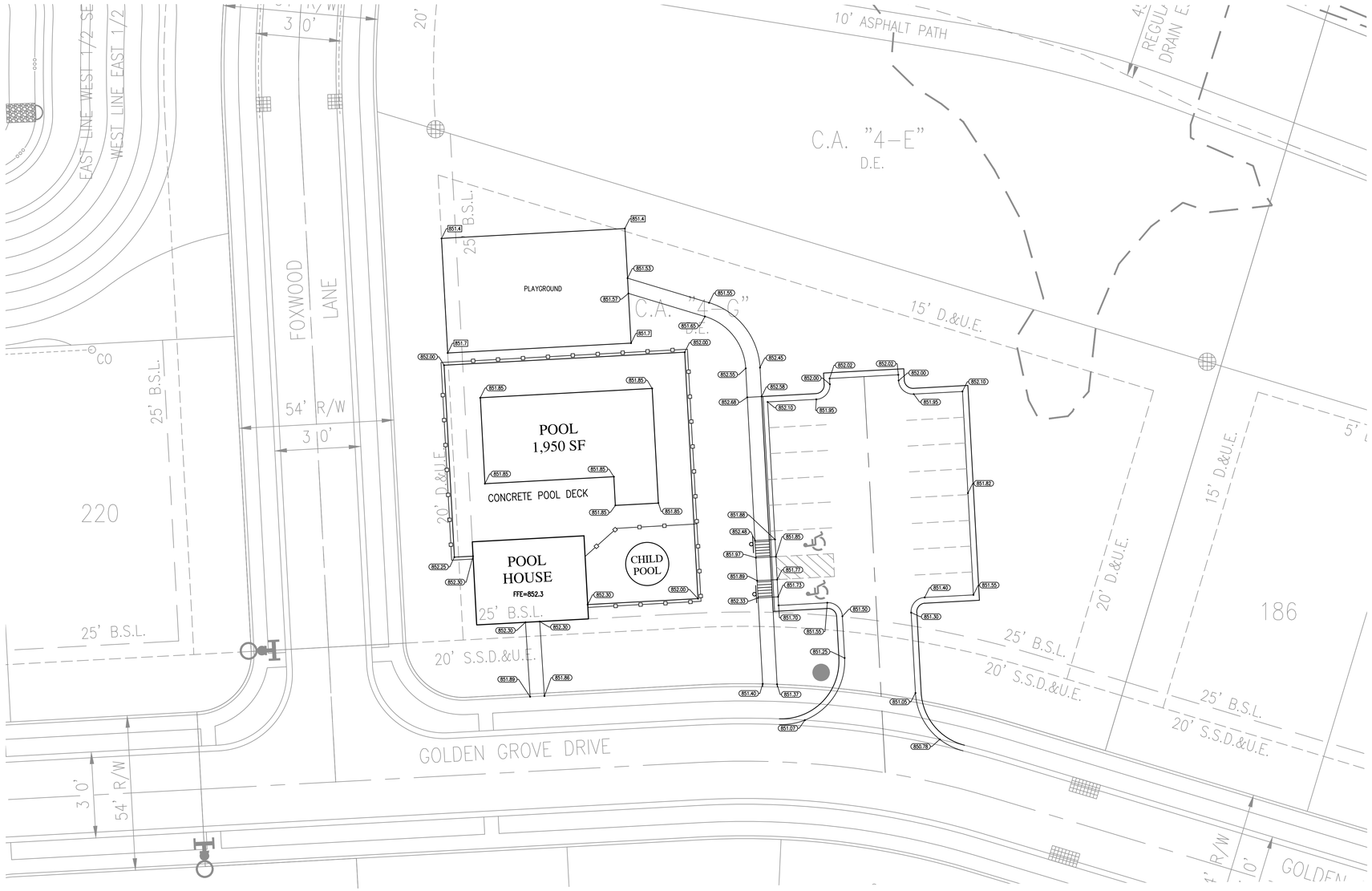
DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA
SITE IMPROVEMENTS PLAN

PRELIMINARY
NOT FOR CONSTRUCTION
KRISTOPHER K. EICHHORN REGISTERED No. 11400758 STATE OF INDIANA PROFESSIONAL ENGINEER
Kristopher K. Eichhorn

DRAWN BY
TS
CHECKED BY
KE
DATE
APRIL 22, 2024
SCALE
AS SHOWN
JOB NUMBER
2020-235-F
SHEET
C1.1
SITE IMPROVEMENTS PLAN



LEGEND:

EXISTING		PROPOSED
	RIGHT-OF-WAY LINE	
	EASEMENT LINE	
	SETBACK LINE	
	CENTERLINE	
	SWALE / FLOWLINE	
	SUBSURFACE DRAIN	
S	SANITARY SEWER	S
ST	STORM SEWER	ST
ST	STORM CULVERT	ST
W	WATER MAIN	W
800	CONTOUR, MAJOR	800
799	CONTOUR, MINOR	799
	FENCE	
	TREE LINE	
POND SIGNAGE		
STREET POST & LIGHT		

S	SANITARY MANHOLE	XXX
ST	STORM MANHOLE	XXX
	STORM INLET	XXX
	STORM END SECTION	XXX
	FIRE HYDRANT	
N/A	FLOW ARROW	
XXX.X	SPOT ELEVATION	XXX.X
N/A	PAVEMENT ELEVATION	XXX.XX

ABBREVIATIONS:

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Indiana 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
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GRAPHIC SCALE
0' 20' 40' 60'
(IN FEET)

REVISIONS

DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA
SITE GRADING PLAN

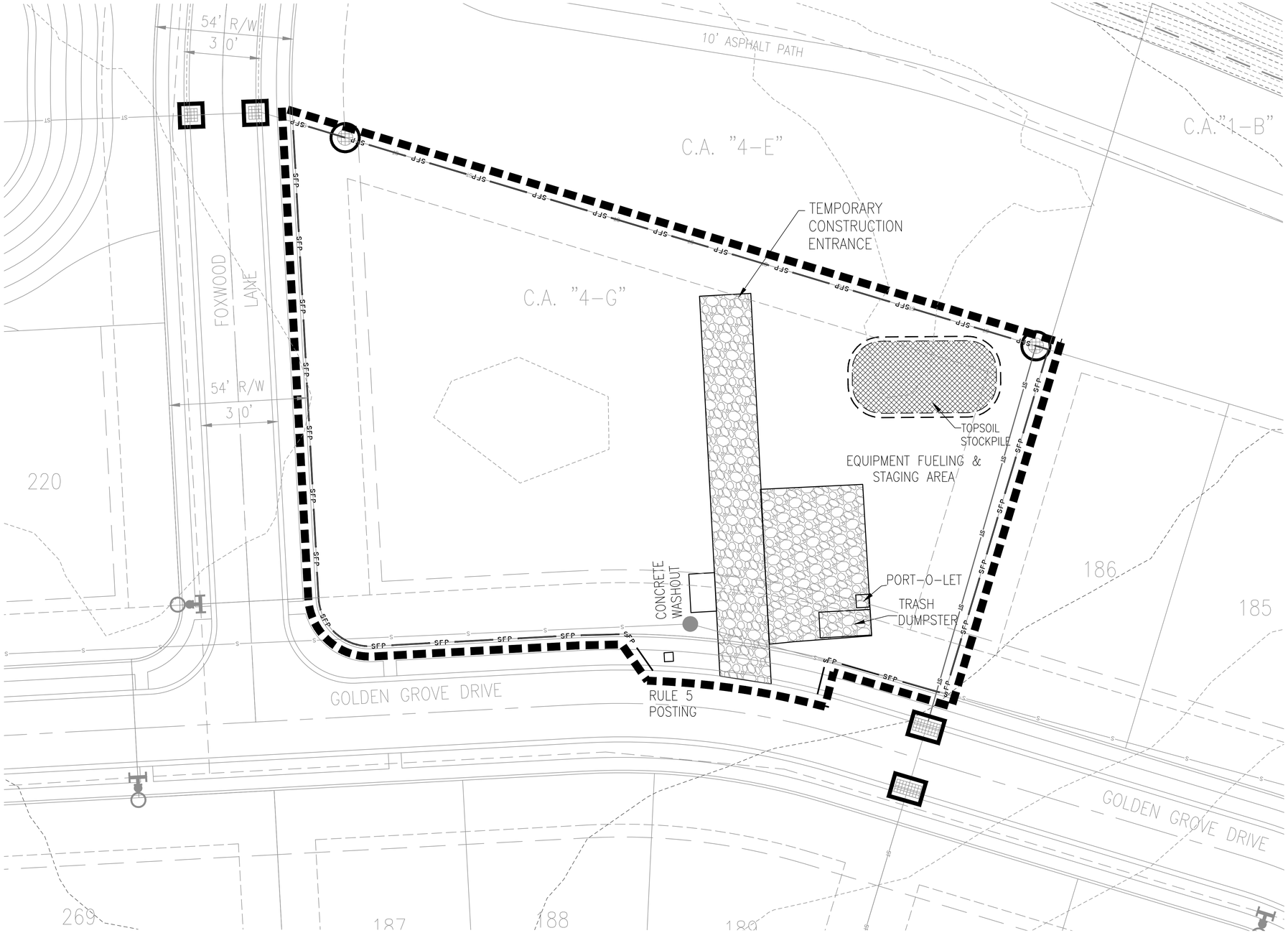
CHRISTOPHER K. EICHHORN
REGISTERED
11400758
STATE OF
PROFESSIONAL ENGINEER

DRAWN BY	JOB NUMBER 2020-235-F
TS	
CHECKED BY	
KE	
DATE	
APRIL 22, 2024	
SCALE	
AS SHOWN	

SHEET
C1.2
SITE GRADING PLAN

Plot Date: Apr. 24, 2024 Plot Time: 1:58pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F_Site Grading Plan.dwg, Layout: C1.2 By: keichhorn

THIS SHEET TO BE USED FOR EROSION CONTROL ONLY.



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GRAPHIC SCALE
0' 20' 40' 60'
(IN FEET)

LEGEND
- EX. TEMPORARY "DROP INLET PROTECTION BASKET"
- CURB INLET – EX. TEMPORARY CURB INLET PROTECTION SEE SHEET C8.1 FOR DETAIL
- TEMPORARY "DROP INLET PROTECTION BASKET"
- CURB INLET – TEMPORARY CURB INLET PROTECTION SEE SHEET C8.1 FOR DETAIL
- SFP – SILT FENCE
- CONSTRUCTION LIMITS/SOIL DISTURBANCE AREA
- PERMANENT SEEDING/SODDING
- TEMPORARY SITE CONSTRUCTION ENTRANCE

NOTES:
1. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED.
2. THERE SHALL BE NO DIRT, DEBRIS OR STORAGE OF MATERIALS IN THE STREET.
3. THIS SHEET TO BE USED FOR STORMWATER POLLUTION PREVENTION PURPOSES ONLY.
4. GEOTEXTILE FABRIC SHALL BE PLACED UNDER STONE LAYER OF THE CONSTRUCTION ENTRANCE.
5. ALL PORTABLE TOILETS MUST BE ANCHORED TO PREVENT SPILLS.
6. WHERE EXISTING DRAIN TILES OR FIELD TILES ARE ENCOUNTERED WHERE APPLICABLE, INTERCEPT EXISTING TILES AND TIE THEM INTO THE STORM SYSTEM.
7. CONTRACTOR TO ABIDE BY THE 7 DAY RULE AND STREETS ARE TO HAVE THEIR STONE SUBBASE LAID DOWN AS SOON AS THEY ARE BROUGHT TO GRADE

NOTE:
SEE SHEET C8.0 FOR A LIST IN SEQUENCE OF CONSTRUCTION ACTIVITIES.

REVISIONS

DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA
PRE-CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN

CHRISTOPHER K. EICHHORN REGISTERED No. 11400758 STATE OF INDIANA PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWN BY	JOB NUMBER 2020-235-F
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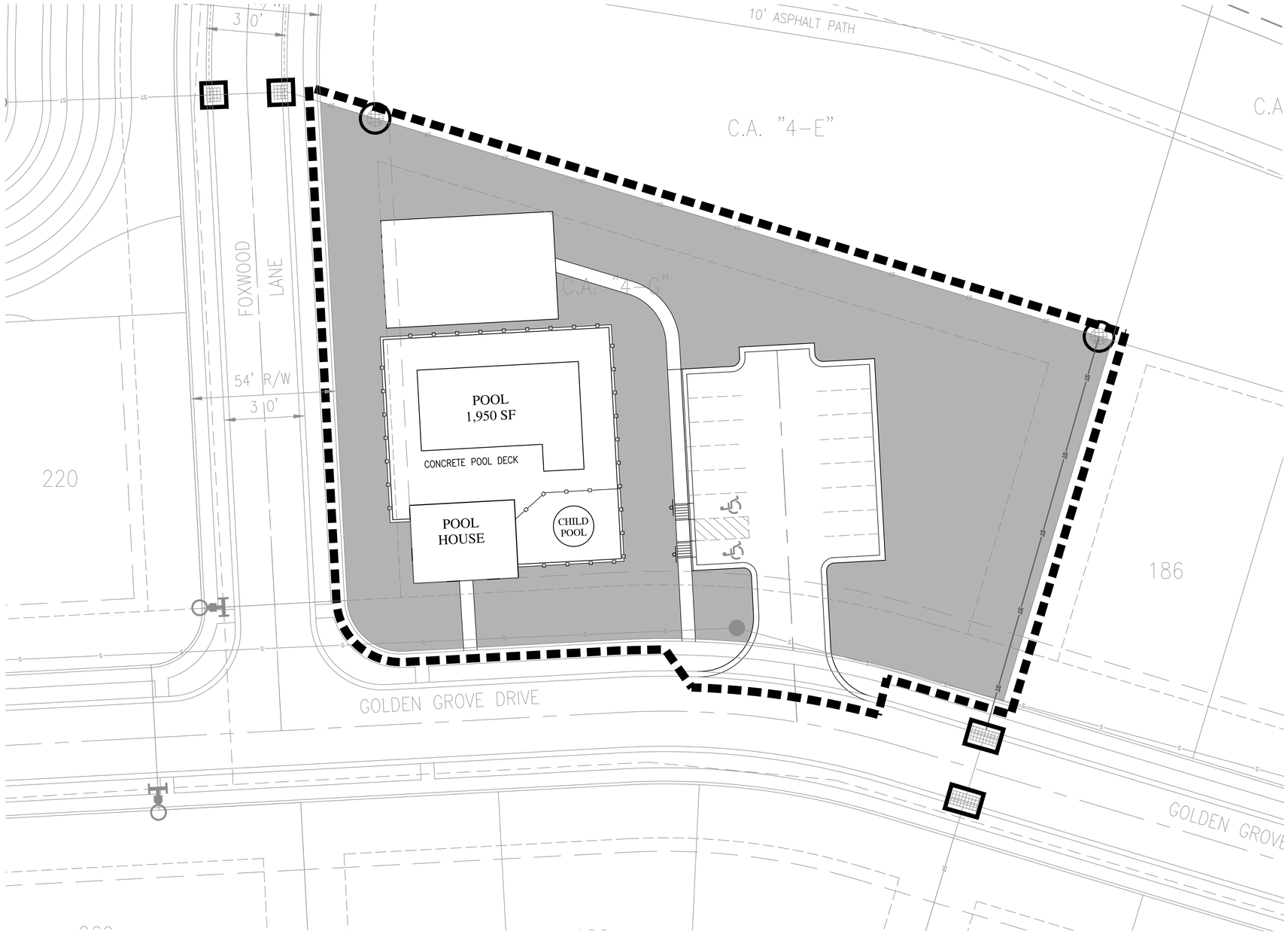
CHECKED BY	
KE	
DATE	
APRIL 22, 2024	
SCALE	
AS SHOWN	
SHEET	
C1.3	

PRE-CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN

Plot Date: Apr 24, 2024 Plot Time: 1:58pm File Name: W:\Lennar\2020-235-F Lennar – Summerton Amenity\Design\CAD\20235-F Erosion Control Plan.dwg, Layout: C1.3 By: keichhorn

THIS SHEET TO BE USED FOR EROSION CONTROL ONLY.



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GRAPHIC SCALE
0' 20' 40' 60'
(IN FEET)

LEGEND

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- CURB INLET – EX. TEMPORARY CURB INLET PROTECTION SEE SHEET C8.1 FOR DETAIL
- TEMPORARY "DROP INLET PROTECTION BASKET"
- CURB INLET – TEMPORARY CURB INLET PROTECTION SEE SHEET C8.1 FOR DETAIL
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- PERMANENT SEEDING/SODDING

NOTES:
1. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED.
2. THERE SHALL BE NO DIRT, DEBRIS OR STORAGE OF MATERIALS IN THE STREET.
3. THIS SHEET TO BE USED FOR STORMWATER POLLUTION PREVENTION PURPOSES ONLY.
4. GEOTEXTILE FABRIC SHALL BE PLACED UNDER STONE LAYER OF THE CONSTRUCTION ENTRANCE.
5. ALL PORTABLE TOILETS MUST BE ANCHORED TO PREVENT SPILLS.
6. WHERE EXISTING DRAIN TILES OR FIELD TILES ARE ENCOUNTERED WHERE APPLICABLE, INTERCEPT EXISTING TILES AND TIE THEM INTO THE STORM SYSTEM.
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NOTE:
SEE SHEET C8.0 FOR A LIST IN SEQUENCE OF CONSTRUCTION ACTIVITIES.

REVISIONS

DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

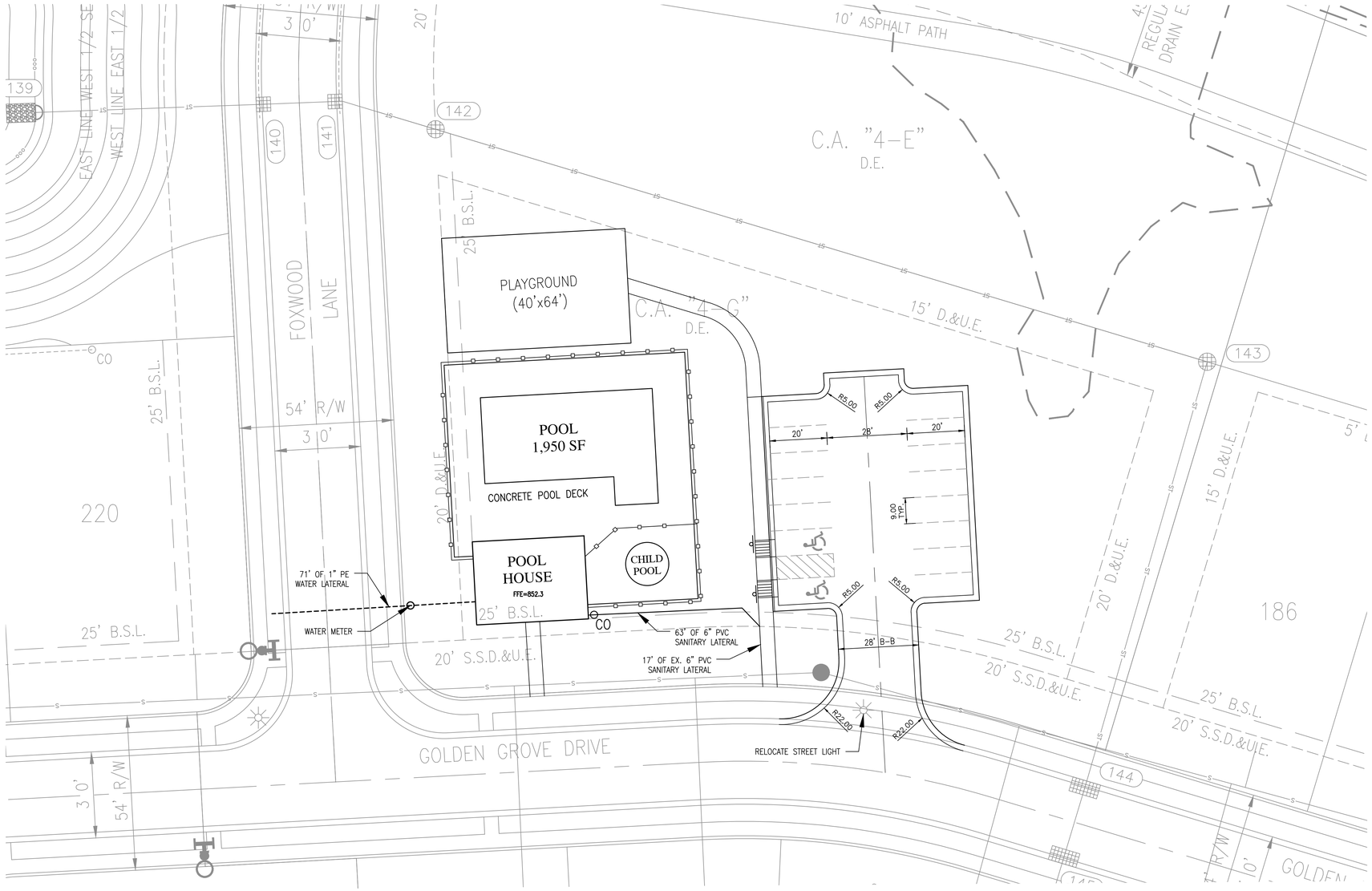
SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA
POST CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWN BY TS	JOB NUMBER 2020-235-F
CHECKED BY KE	
DATE APRIL 22, 2024	
SCALE AS SHOWN	

SHEET
C1.4
POST CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN

Plot Date: Apr 24, 2024 Plot Time: 1:59pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F Erosion Control Plan.dwg, Layout: C1.4 By: keichhorn



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GRAPHIC SCALE
0' 20' 40' 60'
(IN FEET)

LEGEND:

EXISTING		PROPOSED
	RIGHT-OF-WAY LINE	
	EASEMENT LINE	
	SETBACK LINE	
	CENTERLINE	
SWALE / FLOWLINE		SWALE / FLOWLINE
SUBSURFACE DRAIN		SUBSURFACE DRAIN
S	SANITARY SEWER	S
ST	STORM SEWER	ST
ST	STORM CULVERT	ST
W	WATER MAIN	W
800	CONTOUR, MAJOR	800
799	CONTOUR, MINOR	799
FENCE		FENCE
TREE LINE		TREE LINE
POND SIGNAGE		
STREET POST & LIGHT		

S	SANITARY MANHOLE	XXX
ST	STORM MANHOLE	XXX
	STORM INLET	XXX
	STORM END SECTION	XXX
	FIRE HYDRANT	
N/A	FLOW ARROW	
XXX.X	SPOT ELEVATION	XXX.X
N/A	PAVEMENT ELEVATION	XXX.XX

ABBREVIATIONS:

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LAFAYETTE - MUNCIE - NEW ALBANY
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SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA
SITE UTILITY PLAN

KRISTOPHER K. EICHHORN
REGISTERED
No. 11400758
STATE OF
PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

Kristopher K Eichhorn

DRAWN BY	JOB NUMBER 2020-235-F
TS	
CHECKED BY	
KE	
DATE	
APRIL 22, 2024	
SCALE	
AS SHOWN	

SHEET
C1.5
SITE UTILITY PLAN

Plot Date: Apr. 24, 2024 Plot Time: 1:59pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F_Site Utility Plan.dwg, Layout: C1.5 By: kelchhorn

Plot Date: Apr 24, 2024 Plot Time: 2:00pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F.SWPP Notes and Details.dwg, Layout: C8.0 By: keichhorn

Date: ______________________________
Project: ______________________________
Inspected by: ______________________________
Type of Inspection: ☐ Scheduled Weekly ☐ Rain Event

CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG
(To be Completed by Property Owner or Agent)

All stormwater pollution prevention BMPs shall be inspected and maintained as needed to ensure continued performance of their intended function during construction and shall continue until the entire site has been stabilized and a Notice of Termination has been issued. An inspection of the project site must be completed by the end of the next business day following each measurable storm event. If there are no measurable storm events within a given week, the site should be monitored at least once in that week. Maintenance and repair shall be conducted in accordance with the accepted site plans. This log shall be kept as a permanent record and must be made available to the Town Engineer, in an organized fashion, within forty-eight (48) hours upon request.

Yes	No	N/A	
			1. Is the site information posted at the entrance?
			2. Are all necessary permits attained and special provisions being implemented?
			3. Is a construction entrance installed and functioning properly?
			4. Are construction staging & parking areas restricted to areas designated on the plans?
			5. Are public and private streets clean of sediment, debris and mud?
			6. Are appropriate practices installed where stormwater leaves the site?
			7. Are all discharge points (outfalls) free of erosion or sediment transport?
			8. Has all silt fence been installed properly and being maintained? *(entrenched - upright - fabric not torn - terminated to higher ground - properly joined at ends)*
			9. Are sediment basins & traps installed according to plan & pipe or rock spillways functional?
			10. Are other sediment control barriers in place and functioning properly?
			11. Is the earthwork for erosion control practices properly graded, seeded and/or mulched?
			12. Are diversion swales and/or waterbars installed to plan & protected?
			13. Do perimeter practices have adequate capacity & do they need to be cleaned out?
			14. Is inlet protection installed properly on all functioning inlets & being maintained?
			15. Is catch basin insert protection installed where required & being maintained?
			16. Have swales and ditches been stabilized or protected?
			17. Are stormwater outlets adequately stabilized?
			18. Has temporary stabilization of disturbed ground been addressed? (dormant for 15 days?)
			19. Is permanent stabilization of disturbed ground progressing on all completed areas?
			20. Has hard or soft armoring been installed where natural vegetation will erode?
			21. Do water pumping operations have a protected outlet and discharge clear water?
			22. Are all dewatering structures functioning properly?
			23. Is a designated equipment washout area established, clearly marked and

Stormwater Ordinance
Technical Standards — Const. Insp. Page 1 of 2 — July 2004

Date: ______________________________
Project: ______________________________
Inspected by: ______________________________
Type of Inspection: ☐ Scheduled Weekly ☐ Rain Event

			being utilized?
			24. Is solid waste properly contained & a stable access provided to the storage & pickup area?
			25. Are fuel tanks and other hazardous materials safely stored and protected?
			26. Is spill response equipment on-site and easily accessible?
			27. Are temporary soil stockpiles in approved areas & properly protected?

If you answered "no" to any of the above questions, describe any corrective action which must be taken to remedy the problem and when the corrective actions are to be completed.

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Stormwater Ordinance
Technical Standards — Const. Insp. Page 2 of 1 — July 2004

STORMWATER POLLUTION PREVENTION PLAN INDEX

A1	PLAN INDEX	SEE COVER SHEET C1.0
A2	VICINITY MAP	SEE COVER SHEET C1.0
A3	PROJECT TYPE	THIS PROJECT IS: SUMMERTON AMENITY AREA
A4	LATITUDE AND LONGITUDE	LATITUDE IS 39°54'55" N AND LONGITUDE IS 85°54'08" W.
A5	LEGAL DESCRIPTION	SEE PLAT FOR LEGAL DESCRIPTION.
A6	11X17 PLAT	PROVIDED IN OVERALL SUBMITTAL.
A7	100 YEAR FLOODPLAINS, FLOODWAYS, AND FLOOD FRINGES	THE SITE LIES WITHIN FLOOD HAZARD ZONE AE, ZONE X (SHADED) AND ZONE X (UNSHADED) AS SAID ZONE PLOTS BY SCALE ON MAP NUMBERS 18059C0016D AND 18059C0017D OF THE FLOOD INSURANCE RATE MAPS FOR HANCOCK COUNTY INDIANA (MAP EFFECTIVE DATE DECEMBER 4, 2007).
A8	ADJACENT LAND USES	SEE SHEETS C1.1–C1.2 NORTH: SCHULTZ & SCHULTZ LEGAL DRAIN EAST: RESIDENTIAL SOUTH: AG / RESIDENTIAL WEST: RESIDENTIAL
A9	IDENTIFICATION OF U.S. EPA APPROVED OR ESTABLISHED TMDL	TMDL: NO, IMPAIRED: NO
A10	RECEIVING WATERS	SCHULTZ & SCHULTZ LEGAL DRAIN (NORTH FORK DRY BRANCH AUID: INW0189_T1010)
A11	IDENTIFICATION OF DISCHARGES TO A WATER ON THE CURRENT 303(d) LIST OF IMPAIRED WATERS AND THE POLLUTANT(S) FOR WHICH IT IS IMPAIRED.	TMDL: NO, IMPAIRED: NO
A12	SOILS MAP	SEE SHEET C1.0
A13	LOCATION OF WETLANDS, LAKES, WATER COURSES ADJACENT TO SITE	SEE SHEETS C1.1–C1.2
A14	STATE OR FEDERAL WATER QUALITY PERMITS	IDEM CONSTRUCTION STORMWATER GENERAL PERMIT
A15	IDENTIFICATION OF EXISTING VEGETATIVE COVER, INCLUDING NATURAL BUFFERS	SEE SHEETS C1.1–C1.2, NO NATURAL WATERWAY OR SURFACE WATERS WITHIN DEVELOPMENT SITE. OFFSITE POND IS ADJACENT TO NORTH FORK DRY BRANCH WHICH IS A COUNTY REGULATED DITCH.
A16	EXISTING SITE TOPOGRAPHY	SEE SHEETS C1.1–C1.2
A17	LOCATION(S) WHERE RUNOFF ENTERS PROJECT SITE	SEE SHEETS C1.1–C1.2. FROM WEST AND EAST – REFER TO DRAINAGE REPORT FOR DETAILS.
A18	LOCATION(S) WHERE RUNOFF DISCHARGES FROM THE PROJECT SITE PRIOR TO LAND DISTURBANCE	SEE SHEETS C1.1–C1.2. RUNOFF DISCHARGES FROM THE SITE TO SCHULTZ & SCHULTZ LEGAL DRAIN.
A19	LOCATION OF ALL EXISTING STRUCTURES ON THE PROJECT SITE.	SEE SHEETS C1.1–C1.2.
A20	EXISTING PERMANENT RETENTION OR DETENTION FACILITIES, INCLUDING MANMADE WETLANDS ,DESIGNED FOR THE PURPOSE OF STORMWATER MANAGEMENT.	SEE SHEETS C1.1–C1.2 FOR THE LOCATION OF DETENTION PONDS CONSTRUCTED AS A PART OF SUMMERTON SECTION 1.
A21	LOCATIONS WHERE STORMWATER MAY BE DIRECTLY DISCHARGED INTO GROUNDWATER, SUCH AS ABANDONED WELLS, SINKHOLES, OR KARST FEATURES	NONE.
A22	PROJECT AREA	35.93 ACRES±
A23	LAND DISTURBANCE	35.93 ACRES±
A24	PROPOSED SITE TOPOGRAPHY	SEE SHEETS C1.3–C1.6
A25	LOCATIONS AND BOUNDARIES OF DISTURBED AREAS	SEE SHEETS C1.7–C1.18
A26	LOCATIONS, SIZES, DIMENSIONS OF PROPOSED STORMWATER SYSTEM	SEE SHEETS C6.0–C6.3
A27	POINTS WHERE STORMWATER WILL DISCHARGE SITE	RUNOFF WILL BE COLLECTED BY THE PROPOSED STORM SEWER SYSTEM AND ROUTED TO EAST FORK DRY BRANCH (SHULTZ & SHULTZ REGULATED DRAIN)
A28	LOCATION OF ALL PROPOSED SITE IMPROVEMENTS, INCLUDING ROADS, UTILITIES, LOT DELINEATION AND IDENTIFICATION, PROPOSED STRUCTURES AND COMMON AREAS.	SEE SHEETS C1.2–C1.6
A29	LOCATION OF SOIL STOCKPILE	SEE SHEETS C1.7–C1.10
A30	CONSTRUCTION SUPPORT ACTIVITIES THAT ARE EXPECTED TO BE PART OF THE PROJECT	SEE SHEETS C1.7–C1.11 FOR CONSTRUCTION STAGING AND ASSOCIATED MEASURES.
A31	LOCATION OF ANY IN STREAM ACTIVITIES THAT ARE PLANNED FOR THE PROJECT INCLUDED BUT NOT LIMITED TO, STREAM CROSSINGS AND PUMP AROUNDS.	OUTFALL INTO NORTH FORK DRY BRANCH WILL HAVE RIPRAP TO STABILIZE THE BANK.
B1	POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION ACTIVITIES	ERODED SOILS AND SEDIMENTS; OILS, GREASES, COOLANTS, CONCRETE WASHOUT, PETROLEUM FUELS AND OTHER FLUIDS ASSOCIATED WITH OPERATION AND MAINTENANCE OF CONSTRUCTION EQUIPMENT PRESENT ON THE SITE; DEBRIS INCLUDING CUTTINGS, SEALANTS, ADHESIVES, AND COATINGS ASSOCIATED WITH INSTALLATION OF UNDERGROUND PIPES, INFRASTRUCTURE AND CONSTRUCTION OF THE BUILDING; PAINTS ASSOCIATED WITH PAVEMENT MARKING; FERTILIZERS ASSOCIATED WITH SEEDING AND PLANTING.
B2	STABLE CONSTRUCTION ENTRANCE LOCATION AND SPECIFICATIONS	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE FOR LOCATION: SEE SHEETS C1.7–C1.11 FOR DETAIL: SEE SHEET C8.2
B3	TEMPORARY AND PERMANENT STABILIZATION	TEMPORARY SEEDING IS REQUIRED FOR ANY POTENTIAL IDLE AREA AND MUST INITIATE STABILIZATION ON THE SEVENTH DAY (7 DAYS) SUCH AS TEMPORARY SEEDING AND MULCH. THE STABILIZATION ACTIVITY MUST BE COMPLETED WITHIN FOURTEEN (14) DAYS AFTER INITIATION PER IDEM CONSTRUCTION STORMWATER GENERAL PERMIT. TEMPORARY SEEDING IS ALSO REQUIRED IN AREAS THAT WILL BE DISTURBED IN FUTURE PROJECTS. THIS SEEDING WILL BE PLACED AFTER FINISH GRADING AND TOPSOIL REPLACEMENT. FOR LOCATIONS: SEE SHEETS C1.11–C1.18 FOR DETAILS: SEE SHEETS C8.0–C8.5 PERMANENT SEEDING WILL BE APPLIED WITH THE INSTALLATION OF THE EROSION CONTROL BLANKETS AROUND THE PONDS, EMBANKMENTS, WITH THE COMPLETION OF STORM DRAINAGE SYSTEM, SWALES, SANITARY SEWER AND WATER LINES, AND AFTER REPLACEMENT OF TOPSOIL AS DESCRIBED IN THE CONSTRUCTION SEQUENCING. FOR LOCATIONS: SEE SHEETS C1.11–C1.18 FOR DETAILS: SEE SHEETS C8.0–C8.5
B4	SEDIMENT CONTROL FOR CONCENTRATED FLOW AREAS	ROCK CHECK DAMS, TEMPORARY DIVERSION SWALES, SEDIMENT TRAPS, EROSION CONTROL BLANKETS AND RIP-RAP WILL BE INSTALLED TO REDUCE VELOCITY AND COLLECT SEDIMENT RUNOFF. FOR LOCATIONS: SEE SHEETS C1.1–C1.18 FOR DETAILS: SEE SHEETS C8.0–C8.5
B5	SEDIMENT CONTROL FOR SHEET FLOW AREAS	SILT FENCE WILL BE INSTALLED ALONG THE PERIMETER OF THE PROJECT TO COLLECT SEDIMENT RUNOFF. FOR LOCATIONS: SEE SHEETS C1.11–C1.18 FOR DETAIL: SEE SHEET C8.0–C8.5
B6	RUNOFF CONTROL MEASURES	ALMOST ALL OF THE EROSION CONTROL MEASURES USED AT THIS SITE CAN BE VIEWED AS RUNOFF CONTROL MEASURES. CONSTRUCTION ENTRANCE STABILIZES EARTH TO MINIMIZE SEDIMENT RUNOFF AT CRITICAL LOCATIONS OF ACCESS POINTS TO THE SITE TO MINIMIZE SEDIMENT TRACKING ON STREETS. CONCRETE WASHOUT AREA ARE DISPOSAL AREAS FOR CONTAINMENTS AND ACCESSIBLE FOR CLEANUP AND REMOVAL OFFSITE. SILT FENCE AND INLET PROTECTION MEASURES COLLECT SEDIMENT LADEN RUNOFF PRIOR TO LEAVING SITE. RIP RAP REDUCES THE ENERGY OF THE RUNOFF AND THUS REDUCES POTENTIAL FOR EROSIVE SOILS. EROSION CONTROL BLANKETS ANCHOR MATTING TO INCREASE SEED GERMINATION AND STABILIZE SLOPES TO MINIMIZE SEDIMENT RUNOFF. FOR LOCATIONS: SEE SHEETS C1.11–C1.18 FOR DETAIL: SEE SHEET C8.0–C8.5
B7	STORMWATER OUTLET PROTECTION	RIP RAP WILL BE INSTALL AT ALL STORM PIPE OUTLETS INTO THE PONDS, AND ALL POND OUTLETS AS OUTLET PROTECTION. FOR LOCATIONS: SEE SHEETS C1.11–C1.18 FOR DETAILS: SEE SHEETS C8.2–C8.5
B8	GRADE STABILIZATION STRUCTURES	NONE
B9	DEWATERING APPLICATIONS AND MANAGEMENT METHODS	ALL CONTRACTORS AND VENDORS ARE RESPONSIBLE FOR PREPARING AN APPROPRIATE DEWATERING PLAN BASED ON NEED, WHICH CAN VARY FROM UTILITY INSTALLATION, LOWERING OF PONDS, HOME FOUNDATIONS/BASEMENTS ETC. IN NO CIRCUMSTANCES SHOULD DEWATERING OPERATIONS BEGIN BASED ON ASSUMPTION WATER IS CLEAN. OFTEN SEDIMENT LADEN WATER IS ENCOUNTERED TOWARDS THE END OF THE OPERATION AND NOT THE BEGINNING. DEWATERING REQUIRES INTENSIVE MEASURES FOR MAINTENANCE, FREQUENT MONITORING, CLEANOUT, REPAIR AND/OR REPLACEMENTS. SUBMIT DEWATERING PLAN PRIOR TO COMMENCING WORK TO LENNAR HOME PROJECT MANAGER FOR APPROVAL.
B10	MEASURES UTILIZED FOR WORK WITHIN WATERBODIES	OUTFALL INTO NORTH FORK DRY BRANCH WILL HAVE RIPRAP TO STABILIZE THE BANK.
B11	MAINTENANCE GUIDELINES FOR EACH PROPOSED STORMWATER QUALITY MEASURE	REFER TO DETAILS ON SHEETS C8.2–C8.5.
B12	SCHEDULE OF STORMWATER QUALITY MEASURES RELATED TO LAND DISTURBING ACTIVITIES	STORMWATER POLLUTION PREVENTION PLAN HAS BEEN DEVELOPED TO ELIMINATE SEDIMENT FROM LEAVING THE PROJECT DURING CONSTRUCTION ACTIVITIES PROTECTING ADJOINING PROPERTIES AND THE RECEIVING WATERS.

PRE-CONSTRUCTION SCHEDULE

1 CONTRACTOR TO CALL INDIANA UNDERGROUND 811 BY CALLING 811 OR 800-382-5544 TO VERIFY LOCATION OF EXISTING UTILITIES TWO (2) WORKING DAYS PRIOR TO START OF CONSTRUCTION.

2 CONTRACTOR SHALL INSTALL STONE CONSTRUCTION ENTRANCE PRIOR TO THE START OF EARTHWORK IN ACCORDANCE WITH THE PLAN LOCATION ON SHEETS C1.7–C1.11 AND THE DETAIL ON SHEET C8.2.

3 CONTRACTOR TO INSTALL IDEM CONSTRUCTION STORMWATER GENERAL PERMIT INFORMATION POSTING, TRASH DUMPSTER, AND PORT-O-LET AS SHOWN ON SHEETS C1.7–C1.11.

4 CONTRACTOR TO INSTALL EXISTING STORM INLET PROTECTION AROUND THE PERIMETER OF THE SITE PRIOR TO CONSTRUCTION. CONTRACTOR SHALL EVALUATE EXISTING EROSION CONTROL MEASURES AND USE AND MAINTAIN, REPLACE AS NECESSARY.

5 CONTRACTOR SHALL INSTALL ALL REQUIRED SILT FENCE AROUND THE PERIMETER OF THE ENTIRE SITE (INCLUDING MASS GRADING AREAS OF FUTURE SECTIONS) AND ALL TREE PROTECTION FENCING ALONG THE NORTH BOUNDARY LINE PRIOR TO ANY EARTHWORK ACTIVITIES SUCH AS EARTH MOVING OR STRIPPING AS WELL AS TREE CLEARING.

6 CONTRACTOR SHALL INSTALL CONCRETE WASHOUT AREA AND CONSTRUCTION STAGING AREA PRIOR TO THE START OF EARTHWORK ACTIVITIES AS SHOWN ON SHEET C1.5.

7 CONTRACTOR TO EVALUATE LOCATION OF SOIL STOCKPILE AREAS AND PREPARE BY PLACING SILT FENCE DEFINING LIMITS, SEE SHEETS C1.7–C1.11.

8 CONTRACTOR AND DEVELOPER SHALL COORDINATE WITH ADJOINING PROPERTY OWNERS RELATED TO OFFSITE SANITARY SEWER, WATER MAIN, AND STORM SEWER WORK. CONTRACTOR SHALL INSTALL ALL REQUIRED SILT FENCE AROUND THE PERIMETER OF THE OFFSITE CONSTRUCTION LIMITS AS WELL AS ANY REQUIRED TREE PROTECTION FENCING PRIOR TO OFFSITE PHASE OF WORK.

9 DEWATERING: ALL CONTRACTORS AND VENDORS ARE RESPONSIBLE FOR PREPARING AN APPROPRIATE DEWATERING PLAN BASED ON NEED, WHICH CAN VARY FROM UTILITY INSTALLATION, LOWERING OF PONDS, HOME FOUNDATIONS/BASEMENTS ETC. IN NO CIRCUMSTANCES SHOULD DEWATERING OPERATIONS BEGIN BASED ON ASSUMPTION WATER IS CLEAN. OFTEN SEDIMENT LADEN WATER IS ENCOUNTERED TOWARDS THE END OF THE OPERATION AND NOT THE BEGINNING. DEWATERING REQUIRES INTENSIVE MEASURES FOR MAINTENANCE, FREQUENT MONITORING, CLEANOUT, REPAIR AND/OR REPLACEMENTS. SUBMIT DEWATERING PLAN PRIOR TO COMMENCING WORK TO LENNAR HOME PROJECT MANAGER FOR APPROVAL.

10 ONCE PERIMETER ELEMENTS ARE INSTALLED, ANY UTILITY MODIFICATION OR RELOCATION PER SHEETS C1.2–C1.4 CAN COMMENCE IN FINAL PREPARATION FOR MASS EARTHWORK OPERATIONS. ALL INTERIM FLOW REQUIREMENTS SUCH AS ROCK CHECK DAMS AND TEMPORARY SWALES SHALL BE COMPLETED PRIOR TO MASS EARTHWORK OPERATIONS. THESE MEASURES SHALL BE MAINTAINED AND ADJUSTED AS NEEDED UNTIL COMPLETION OF EARTHWORK AND THE SITE HAS BEEN FULLY STABILIZED. AS SOON AS LAKE 3 HAS BEEN SUFFICIENTLY EXCAVATED, THE PERMANENT POND OUTFALL SHALL BE INSTALLED WITH A FAIRCLOTH SKIMMER TO SERVE AS A SEDIMENT BASIN. THE FAIRCLOTH SKIMMER SHALL REMAIN UNTIL THE SITE HAS BEEN FULLY STABILIZED. EROSION CONTROL ADJUSTMENTS DURING DIFFERENT PHASES OF CONSTRUCTION ARE LIKELY REQUIRED AND SUBJECT TO WEATHER CONDITIONS.

CONSTRUCTION SCHEDULE

11 BEGIN CLEARING AND GRADING ACTIVITIES AFTER EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND ITEMS 1–10 OF THE PRE-CONSTRUCTION SCHEDULE ARE COMPLETE. EARTHMOVING SHALL BE DONE IN A MANNER TO MINIMIZE EROSION. CONTRACTOR SHALL VERIFY ALL EXISTING STORM SEWER AND UTILITY CONNECTION LOCATIONS AND ELEVATION PRIOR TO MOVING EARTH, CONTACT ENGINEER WITH ANY DISCREPANCIES. AS GRADING PROGRESSES, INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES TO CONTAIN SEDIMENT ON SITE.

12 CONTRACTOR SHALL STRIP TOPSOIL AND GRADE THE SITE PER PLAN AND PLACE PERMANENT AND TEMPORARY SEED AS INDICATED ON THE PLAN, INCLUDING SEEDING WITH FIBER BLANKET ON MOUNDS, POND BANKS, SWALES. DURATION OF EXPOSED AREAS SHALL BE KEPT MINIMAL DEPENDANT ON WEATHER, ALL POTENTIALLY IDLE AREAS SHALL INITIATE STABILIZATION ON THE SEVENTH DAY (7 DAYS) SUCH AS TEMPORARY SEEDING AND MULCH. THE STABILIZATION ACTIVITY MUST BE COMPLETED WITHIN FOURTEEN (14) DAYS AFTER INITIATION PER IDEM CONSTRUCTION STORMWATER GENERAL PERMIT.

13 PERMANENT AND FINAL VEGETATION, IN ADDITION TO STRUCTURAL MEASURES SHALL BE INSTALLED AS SOON AS PRACTICAL PER SHEETS C1.11–C1.18.

14 INSTALL STORM SEWER SYSTEM, SUBSURFACE DRAINAGE SYSTEM, AND SWALES.

15 CONTRACTOR SHALL INSTALL REMAINING UTILITIES AND RE-SEED ALL DISTURBED AREAS.

16 CONTRACTOR SHALL INSTALL ALL STREETS AS INDICATED ON PLANS.

17 INSTALL LOT SPECIFIC BMPs INCLUDING WASTE RECEPTACLES, CURB LINE BMPs, WASHOUTS, AND STABILIZED ENTRANCES.

18 INSTALL HOME (VERTICAL) CONSTRUCTION CONCRETE WASHOUT. LENNAR PROJECT MANAGER TO PROVIDE DIRECTION ON LOCATION FOR INSTALLATION. SEE DETAIL ON SHEET C8.3.

19 BUILDING FOUNDATION EXCAVATIONS.

20 VERTICAL CONSTRUCTION AND HOME BUILDING.

21 INSTALL PERMANENT OR TEMPORARY SOIL STABILIZATION AND LANDSCAPING.

22 CONTRACTOR SHALL MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION AND UNTIL SEDIMENTATION OF STREETS AND STORM SEWERS NO LONGER OCCURS. CONTRACTOR SHALL INSPECT ON A WEEKLY BASIS OR AFTER A SIGNIFICANT STORM EVENT (AN EVENT OF AT LEAST 0.5 INCHES OF RAINFALL). SEE SHEETS C8.0–C8.5 FOR DETAILS AND SPECIFICATIONS.

23 COMPLETE FINAL GRADING AND INSTALL SEEDING AND LANDSCAPING. STABILIZE ALL REMAINING EXPOSED AREAS AS A RESULT OF CONSTRUCTION RELATED ACTIVITIES.

24 ALL EROSION AND SEDIMENT CONTROL SHALL COMPLY WITH IDEM CONSTRUCTION STORMWATER GENERAL PERMIT.

B13 EROSION AND SEDIMENT CONTROL SPECIFICATIONS FOR INDIVIDUAL BUILDING LOTS

SEE SHEET C8.2

B14 MATERIAL HANDLING AND SPILL PREVENTION PLAN

MATERIAL HANDLING:
1. THE PROPER MANAGEMENT AND DISPOSAL OF WASTE SHOULD BE PRACTICED ON SITE AT ALL TIMES TO REDUCE POLLUTION OF STORM WATER RUNOFF. HAZARDOUS WASTE SHOULD ALWAYS BE DISPOSED OF THROUGH A DESIGNATED HAZARDOUS WASTE MANAGEMENT OR RECYCLING FACILITY.
2. DESIGNATE A WASTE COLLECTION AREA ON-SITE THAT DOES NOT RECEIVE A SUBSTANTIAL AMOUNT OF RUNOFF FROM UPLAND AREAS AND DOES NOT DRAIN DIRECTLY INTO A WATER BODY.
3. KEEP PRODUCTS IN ORIGINAL CONTAINERS WITH ORIGINAL LABELS AND MATERIAL SAFETY DATA INFORMATION ATTACHED. MAKE SURE PRODUCTS ARE PROPERLY SEALED TO PREVENT LEAKS AND SPILLS AND STORED IN A WEATHER PROOF SELF CONTAINED AREA AWAY FROM HEAT, SPARKS AND FLAMES.
4. A PROGRAM FOR RECYCLING OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THE PROJECT SITE SHALL BE ESTABLISHED BY THE CONTRACTOR. ALL RECYCLING CONTAINERS SHALL BE CLEARLY LABELED.
5. ALL CONSTRUCTION ACTIVITIES ARE TO BE MONITORED AND MAINTAINED BY THE CONTRACTOR. AS EACH NEW SUBCONTRACTOR COMES ON-SITE, THE CONTRACTOR WILL CONDUCT AND DOCUMENT A MEETING TO ENSURE AWARENESS OF THE POLLUTANT PREVENTION PROGRAM. GUIDELINES FOR PROPER HANDLING, STORAGE AND DISPOSAL OF CONSTRUCTION SITE WASTES SHALL BE POSTED IN THE STORAGE AND USE AREAS, AND WORKERS SHALL BE TRAINED IN THESE PRACTICES.
6. CONTAINERS AND EQUIPMENT MUST BE INSPECTED REGULARLY FOR LEAKS, CORROSION, SUPPORT OR FOUNDATION FAILURE, OR ANY OTHER SIGNS OF DETERIORATION AND MUST BE TESTED FOR SOUNDNESS. ANY FOUND TO BE DEFECTIVE SHOULD BE REPAIRED OR REPLACED IMMEDIATELY.

SPILL PREVENTION PLAN:

PURPOSE:
THE INTENTION OF THIS SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) IS TO ESTABLISH THE PROCEDURES AND EQUIPMENT REQUIRED TO PREVENT THE DISCHARGE OF OIL AND HAZARDOUS SUBSTANCES IN QUANTITIES THAT VIOLATE APPLICABLE WATER QUALITY STANDARDS, CAUSE A SHEEN UPON OR DISCOLORATION OF THE SURFACE OF NAVIGABLE WATERS OR ADJOINING SHORELINES, OR CAUSE SLUDGE OR EMULSION TO BE DEPOSITED BENEATH THE SURFACE OF THE WATER OR ADJOINING SHORELINES. THE PLAN ALSO ESTABLISHES THE ACTIVITIES REQUIRED TO MITIGATE SUCH DISCHARGES (I.E., COUNTERMEASURES) SHOULD THEY OCCUR.

DEFINITIONS:
POLLUTANT: MEANS POLLUTANT OF ANY KIND OR IN ANY FORM, INCLUDING BUT NOT LIMITED TO SEDIMENT, PAINT, CLEANING AGENT, CONCRETE WASHOUT, PESTICIDES, NUTRIENTS, TRASH, HYDRAULIC FLUIDS, FUEL, OIL, PETROLEUM, FUEL OIL, SLUDGE, OIL REFUSE, AND OIL MIXED WITH WASTES OTHER THAN DREDGED SOIL.

DISCHARGE:
INCLUDES BUT IS NOT LIMITED TO, ANY SPILLING, LEAKING, PUMPING, POURING, EMITTING, EMPTYING, OR DUMPING.

NAVIGABLE WATERS:
MEANS ALL WATERS OF THE UNITED STATES THAT ARE CONNECTED WITH A NAVIGABLE STREAM, LAKE, OR SEA. [NOTE: THIS DEFINITION IS USUALLY INTERPRETED TO MEAN ANY WASTEWATER (EVEN NORMALLY DRY WASH OR STORM SEWER) THAT EVENTUALLY DRAINS INTO A NAVIGABLE STREAM].

PLAN REVIEW AND AMENDMENTS:
THIS PLAN SHALL BE REVIEWED AND/OR AMENDED, IF NECESSARY, WHENEVER THERE IS A CHANGE IN THE DESIGN OF THE SITE, CONSTRUCTION, OPERATION, OR MAINTENANCE WHICH MATERIALLY AFFECTS THE SITE'S POTENTIAL FOR THE DISCHARGE OF REGULATED MATERIAL.

PREDICTION OF POTENTIAL SPILLS:
1. NEAREST NAVIGABLE WATER: WHITE RIVER
2. DRAINAGE SYSTEM: ALL STORM DRAINAGE LEAVES THE SITE BY CLOSED STORM SYSTEMS TO EXISTING POND SOUTH OF THE SITE. POSSIBLE SPILL SOURCES (DURING AND POST CONSTRUCTION): VEHICULAR SOURCES SUCH AS LEAKING FUEL OR OIL, BRAKE FLUID, GREASE, ANTIFREEZE; TRASH AND DEBRIS, BIOLOGICAL AGENTS FOUND IN TRASH AND DEBRIS, FERTILIZERS, HOUSEHOLD ITEMS INCLUDING BUT NOT LIMITED TO CLEANING AGENTS, CHEMICALS, PAINT, HERBICIDES AND PESTICIDES.
3. GROUNDWATER CONTAMINATION:
THE FACILITY MAINTAINS NO ABOVE GROUND OR UNDER GROUND STORAGE TANKS AT THIS SITE. THEREFORE, IT IS FELT THAT THERE IS LITTLE OR NO POSSIBILITY OF POST CONSTRUCTION GROUNDWATER CONTAMINATION. THE FACILITY DOES HAVE PUBLIC SANITARY SEWER AND PUBLIC WATER.

ALERT PROCEDURES FOR SPILLS:
1. ANY PERSONNEL OBSERVING A SPILL WILL IMMEDIATELY INSTIGATE THE FOLLOWING PROCEDURE:
   A. DIALING "911" FROM ANY TELEPHONE.
   B. NOTIFY THE APPROPRIATE EMERGENCY PERSONNEL.

2. THE EMERGENCY COORDINATOR WILL THEN TAKE THE FOLLOWING ACTIONS:
   A. BARRICADE THE AREA ALLOWING NO VEHICLES TO ENTER OR LEAVE THE SPILL ZONE.
   B. NOTIFY THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, OFFICE OF EMERGENCY RESPONSE BY CALLING THE APPROPRIATE TELEPHONE NUMBER:
   OFFICE 317-233-7745
   TOLL FREE 800-233-7745
   ALSO THE NATIONAL RESPONSE CENTER AT 800-424-8802 AND PROVIDE THE FOLLOWING INFORMATION:
   — TIME OF OBSERVATION OF THE SPILL
   — LOCATION OF THE SPILL
   — IDENTITY OF MATERIAL SPILLED
   — PROBABLE SOURCE OF THE SPILL
   — PROBABLE TIME OF THE SPILL
   — VOLUME OF THE SPILL AND DURATION
   — PRESENT AND ANTICIPATED MOVEMENT OF THE SPILL
   — WEATHER CONDITIONS
   — PERSONNEL AT THE SCENE
   — ACTION INITIATED BY PERSONNEL
   C. NOTIFY THE TOWN OF MCCORDSVILLE FIRE DEPARTMENT PHONE: 9-1-1
   D. NOTIFY THE TOWN OF MCCORDSVILLE POLICE DEPARTMENT PHONE: 9-1-1
   E. NOTIFY WASTE RECOVERY CONTRACTOR, MAINTENANCE PERSONNEL OR OTHER CONTRACTUAL PERSONNEL AS NECESSARY FOR CLEANUP.
   F. COORDINATE AND MONITOR CLEANUP UNTIL THE SITUATION HAS BEEN STABILIZE AND ALL SPILLS HAVE BEEN ELIMINATED.
   G. COOPERATE WITH THE IDEM-OER ON PROCEDURES AND REPORTS INVOLVED WITH THE EVENT.

CLEANUP PARAMETERS:
1. THE DEVELOPER SHALL BE CONTINUALLY KEPT INFORMED, MAINTAIN LISTS OF QUALIFIED CONTRACTORS AND AVAILABLE VAC-TRUCKS, TANK PUMPERS AND OTHER EQUIPMENT READILY ACCESSIBLE FOR CLEAN-UP OPERATIONS. IN ADDITION, A CONTINUALLY UPDATED LIST OF AVAILABLE ABSORBENT MATERIALS AND CLEAN-UP SUPPLIES SHOULD BE KEPT ON SITE.
2. ALL MAINTENANCE PERSONNEL WILL BE MADE AWARE OF TECHNIQUES FOR PREVENTION AND CONTAINMENT OF SPILLS. THEY WILL BE INFORMED OF THE REQUIREMENTS AND PROCEDURES OUTLINED IN THIS PLAN. THEY WILL BE KEPT ABREAST OF CURRENT DEVELOPMENTS OR NEW INFORMATION ON THE PREVENTION OF SPILLS AND/OR NECESSARY ALTERATIONS TO THIS PLAN.
3. IF SPILLS OCCUR WHICH COULD ENDANGER HUMAN LIFE, THIS BECOMES THE PRIMARY CONCERN. THE DISCHARGE OF THE LIFE SAVING PROTECTION FUNCTION WILL BE CARRIED OUT BY THE LOCAL POLICE AND FIRE DEPARTMENTS.
4. ABSORBENT MATERIALS, WHICH ARE USED IN CLEANING UP SPILLED MATERIALS, WILL BE DISPOSED OF IN A MANNER SUBJECT TO THE APPROVAL OF THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.
5. FLUSHING OF SPILLED MATERIAL WITH WATER WILL NOT BE PERMITTED UNLESS SO AUTHORIZED BY THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.

B15 MATERIAL HANDLING AND STORAGE PROCEDURES ASSOCIATED WITH CONSTRUCTION ACTIVITY

VEHICLE & EQUIPMENT MAINTENANCE

DESCRIPTION AND PURPOSE:
PREVENT OR REDUCE THE CONTAMINATION OF STORMWATER RESULTING FROM VEHICLE AND EQUIPMENT MAINTENANCE BY RUNNING A "DRY AND CLEAN SITE". THE BEST OPTION WOULD BE TO PERFORM MAINTENANCE ACTIVITIES AT AN OFFSITE FACILITY. IF THIS OPTION IS NOT AVAILABLE THEN WORK SHOULD BE PERFORMED IN DESIGNATED AREAS ONLY, WHILE PROVIDING COVER FOR MATERIALS STORED OUTSIDE, CHECKING FOR LEAKS AND SPILLS, AND CONTAINING AND CLEANING UP SPILLS IMMEDIATELY.

SUITABLE APPLICATIONS:
THESE PROCEDURES ARE SUITABLE ON ALL CONSTRUCTION PROJECTS WHERE AN ONSITE YARD AREA IS NECESSARY FOR STORAGE AND MAINTENANCE OF HEAVY EQUIPMENT AND VEHICLES.

LIMITATIONS:
ONSITE VEHICLE AND EQUIPMENT MAINTENANCE SHOULD ONLY BE USED WHERE IT IS IMPRACTICAL TO SEND VEHICLES AND EQUIPMENT OFFSITE FOR MAINTENANCE AND REPAIR. SENDING VEHICLES/EQUIPMENT OFFSITE SHOULD BE DONE IN CONJUNCTION WITH A STABILIZED CONSTRUCTION ENTRANCE/EXIT. OUTDOOR VEHICLE OR EQUIPMENT MAINTENANCE IS A POTENTIALLY SIGNIFICANT SOURCE OF STORMWATER POLLUTION. ACTIVITIES THAT CAN CONTAMINATE STORMWATER INCLUDE ENGINE REPAIR AND SERVICE, CHANGING OR REPLACEMENT OF FLUIDS, AND OUTDOOR EQUIPMENT STORAGE AND PARKING (ENGINE FLUID LEAKS).

STORMWATER POLLUTION PREVENTION PLAN IS IN COMPLIANCE WITH THE REQUIREMENTS OF IDEM CONSTRUCTION STORMWATER GENERAL PERMIT (CSGP)

SEE SWPPP BOOK FOR TRAINING OF LENNAR ASSOCIATE AND DELEGATION LETTER

PERSON ONSITE RESPONSIBLE FOR EROSION CONTROL:
ERIK ROBINSON
LENNAR HOMES OF INDIANA, LLC
PHONE: (317) 659-3200
EMAIL: erik.robinson@lennar.com

DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA

STORMWATER POLLUTION PREVENTION NOTES

KRISTOPHER K. EICHHORN REGISTERED No. 11400758 STATE OF INDIANA PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

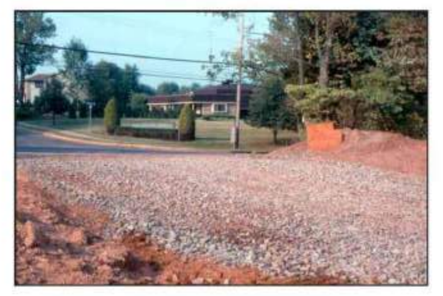
Kristopher K. Eichhorn

DRAWN BY TS	JOB NUMBER 2020-235-F
CHECKED BY KE	
DATE APRIL 22, 2024	
SCALE AS SHOWN	

SHEET
C8.0
STORMWATER POLLUTION PREVENTION NOTES

SITE ACCESS & PREPARATION

Temporary Construction Ingress/Egress Pad (Large Sites—Two Acres or Larger)



A ***temporary construction ingress/egress pad*** *is a sediment control measure consisting of a stabilized aggregate pad with geotextile underlayment that is used at any point where construction traffic will be traversing between a large construction site and adjoining public right-of-way, street, alley, sidewalk, or parking areas.*

Purpose

To provide ingress/egress to a construction site and minimize tracking of mud and sediment onto public roadways.

Specifications

Location
- Avoid locating on steep slopes or at curves in public roads.

Dimensions
- Width 20 feet minimum or full width of entrance/exit roadway, whichever is greater.
- Length 150 feet minimum (length can be shorter for small sites).
- Thickness eight inches minimum.

Washing Facility (optional)
- Level area with three inch, or larger, washed aggregate or install a commercial wash rack.
- Divert waste water to a sediment trap or basin.

TEMPORARY CONSTRUCTION INGRESS/EGRESS PAD (LARGE SITES—TWO ACRES OR LARGER)

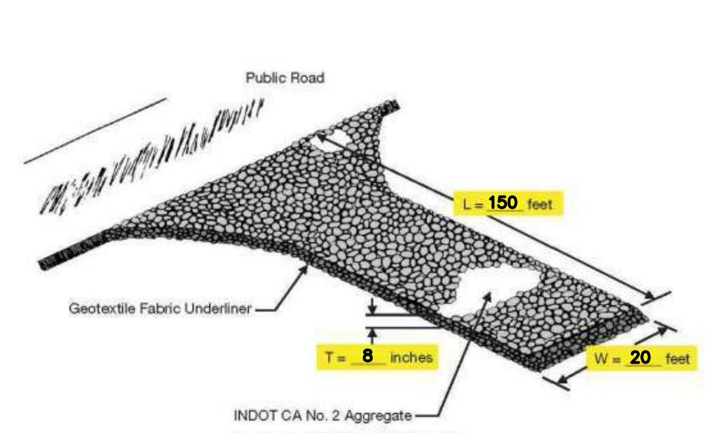
Materials
- One to two and one-half inch diameter washed aggregate [Indiana Department of Transportation Course Aggregate No. 2 (see Appendix D)].
- One-half to one and one-half inch diameter washed aggregate [INDOT CA No. 53 (see Appendix D)].
- Geotextile fabric underlayment (see Appendix C) (used as a separation layer to prevent intermixing of aggregate and the underlying soil material and to provide greater bearing strength when encountering wet conditions or soils with a seasonal high water table limitation).

Installation
1. Remove all vegetation and other objectionable material from the foundation area.
2. Grade foundation and crown for positive drainage. If the slope of the construction entrance is toward a public road and exceeds two percent, construct an eight inch high diversion ridge with a ratio of 3-to-1 side slopes across the foundation area about 15 feet from the entrance to divert runoff away from the road (see Temporary Construction Ingress/Egress Pad Cross-Section View Worksheet).
3. Install a culvert pipe under the pad if needed to maintain proper public road drainage.
4. If wet conditions are anticipated, place geotextile fabric on the graded foundation to improve stability.
5. Place aggregate (INDOT CA No. 2) to the dimensions and grade shown in the construction plans, leaving the surface smooth and sloped for drainage.
6. Top-dress the first 50 feet adjacent to the public roadway with two to three inches of washed aggregate (INDOT CA No. 53) [optional, used primarily where the purpose of the pad is to keep soil from adhering to vehicle tires].
7. Where possible, divert all storm water runoff and drainage from the ingress/egress pad to a sediment trap or basin.

Maintenance
- Inspect daily.
- Reshape pad as needed for drainage and runoff control.
- Top dress with clean aggregate as needed.
- Immediately remove mud and sediment tracked or washed onto public roads.
- Flushing should only be used if the water can be conveyed into a sediment trap or basin.

TEMPORARY CONSTRUCTION INGRESS/EGRESS PAD (LARGE SITES—TWO ACRES OR LARGER)

Temporary Construction Ingress/Egress Pad
Plan View Worksheet
(large sites—two acres or larger)



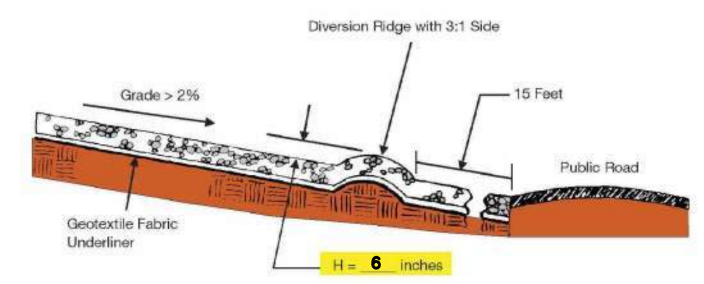
L = Ingress/Egress Pad Length
W = Ingress/Egress Pad Width
T = Aggregate Thickness

(Note: For minimum dimensions, see the "Specifications" section of this measure.)

Source: Adapted from North Carolina Erosion and Sediment Control Planning and Design Manual, 1993

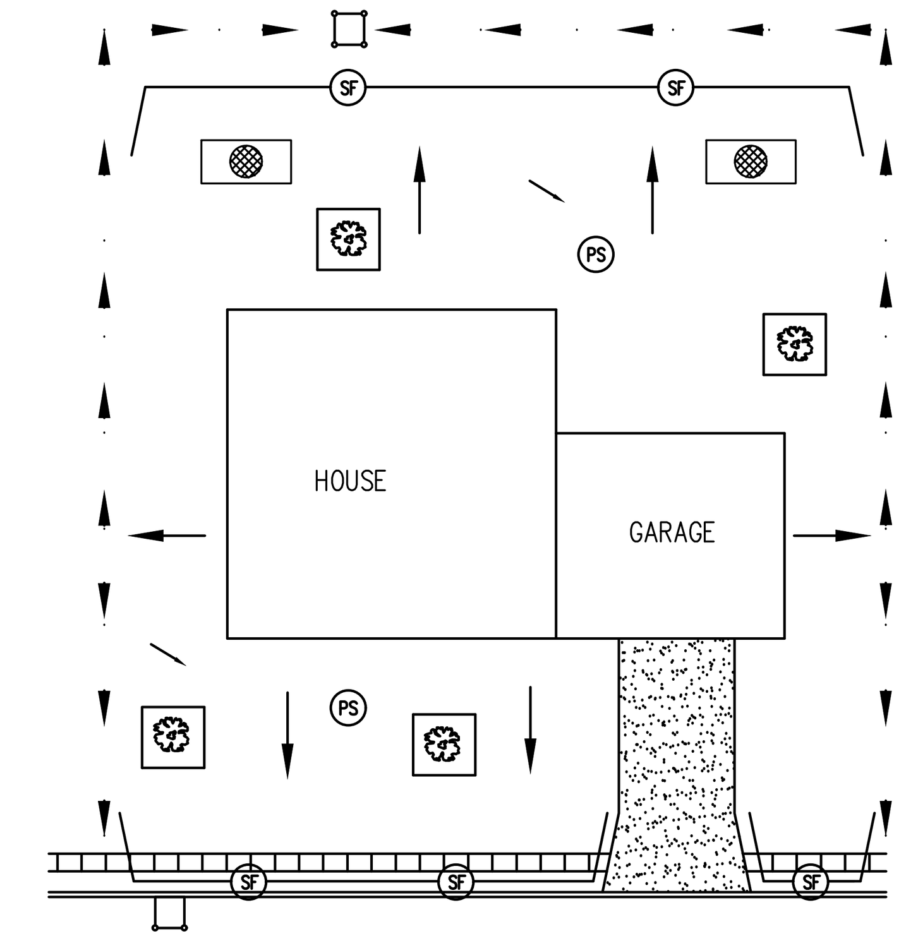
TEMPORARY CONSTRUCTION INGRESS/EGRESS PAD (LARGE SITES—TWO ACRES OR LARGER)

Temporary Construction Ingress/Egress Pad
Cross-Section View Worksheet
(large sites two acres or larger)



H = Height of Diversion Ridge
(Note: 8 inches minimum)

Source: Adapted from North Carolina Erosion and Sediment Control Planning and Design Manual, 1993



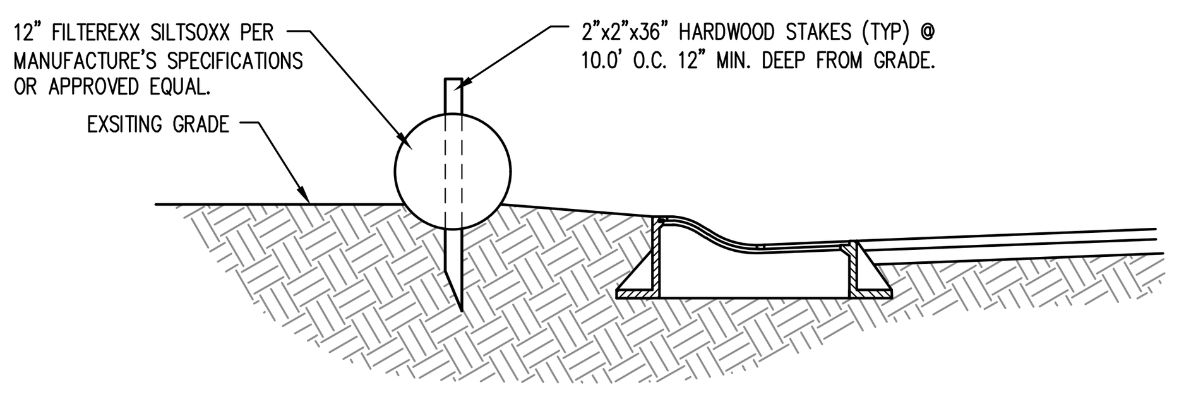
EROSION CONTROL PLAN LEGEND

- PROPERTY LINE/ DRAINAGE SWALE
- EXISTING DRAINAGE
- FINISHED DRAINAGE
- TREE CONSERVATION
- SILT FENCE OR TEMP SEDIMENT TRAP – BACK CUT CURB
- GRAVEL ENTRANCE/ EXIT PAD W/ GEOTEXTILE
- CURB INLET PROTECTION
- DROP INLET PROTECTION
- SOIL SALVAGE AND UTILIZATION
- PERMANENT SEEDING

NOTES:
1. EROSION/SEDIMENT CONTROL MEASURES MUST BE FUNCTIONAL AND BE MAINTAINED THROUGHOUT CONSTRUCTION.
2. MAINTAIN POSITIVE DRAINAGE FLOW AWAY FROM THE STRUCTURE(S).
3. PERMANENT SEEDING AREAS TO BE TOP-SOILED, SEEDED, AND MULCHED BY OWNER AT COMPLETION OF CONSTRUCTION.

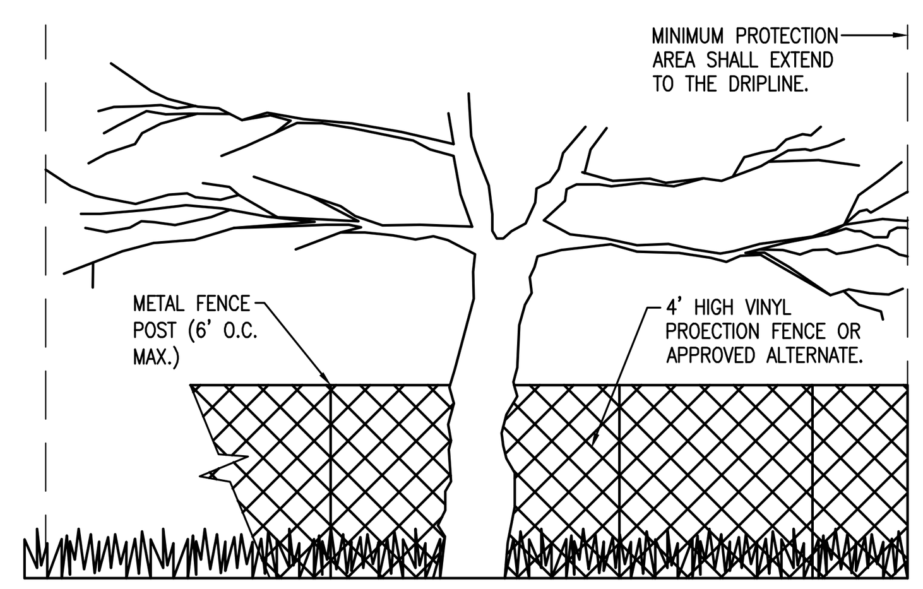
INDIVIDUAL LOT STORM WATER POLLUTION & PREVENTION DETAIL
NOT-TO-SCALE

RESIDENTIAL BUILDING LOT CONSTRUCTION SILT FENCE, INLET PROTECTION, STREET SWEEPING, CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT IS TO BE MAINTAINED THROUGHOUT LOT CONSTRUCTION BY DEVELOPER AND BUILDERS

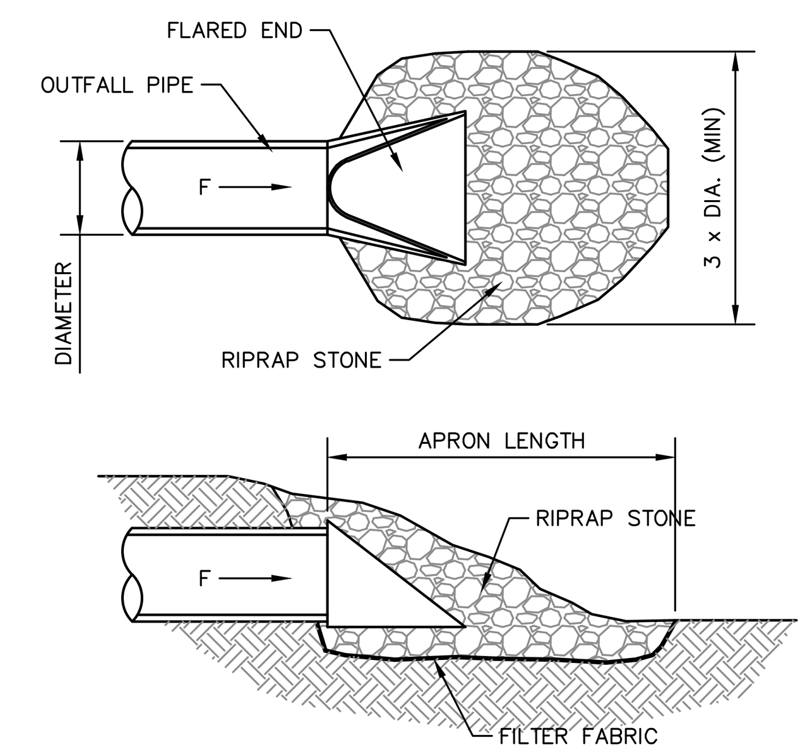


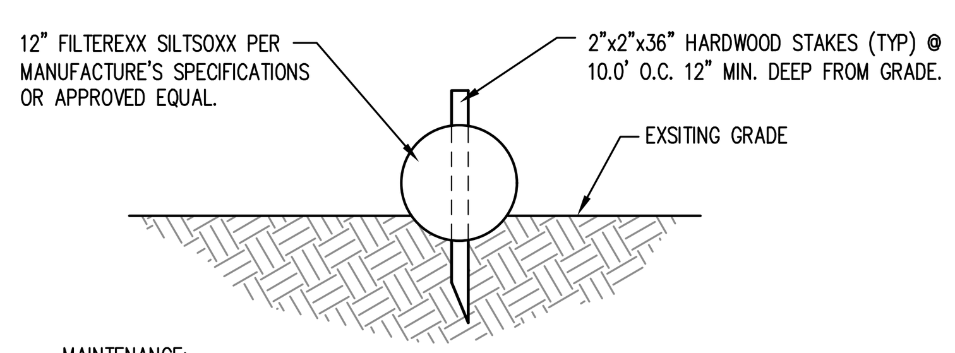
MAINTENANCE:
- * INSPECT DAILY
- * REMOVE ACCUMULATED SEDIMENT FROM PAVED AREA (DO NOT FLUSH WITH WATER) AFTER EACH STORM EVENT. DEPOSIT SEDIMENT IN AN AREA WHERE IT WILL NOT RE-ENTER THE PAVED AREA OR STORM DRAINS.
- * INSPECT FOR DAMAGE BY VEHICULAR TRAFFIC AND REPAIR IF NEEDED.

COIR LOG (FIBER ROLL) ALONG CURB
NOT TO SCALE



TREE PROTECTION DETAIL
NOT TO SCALE





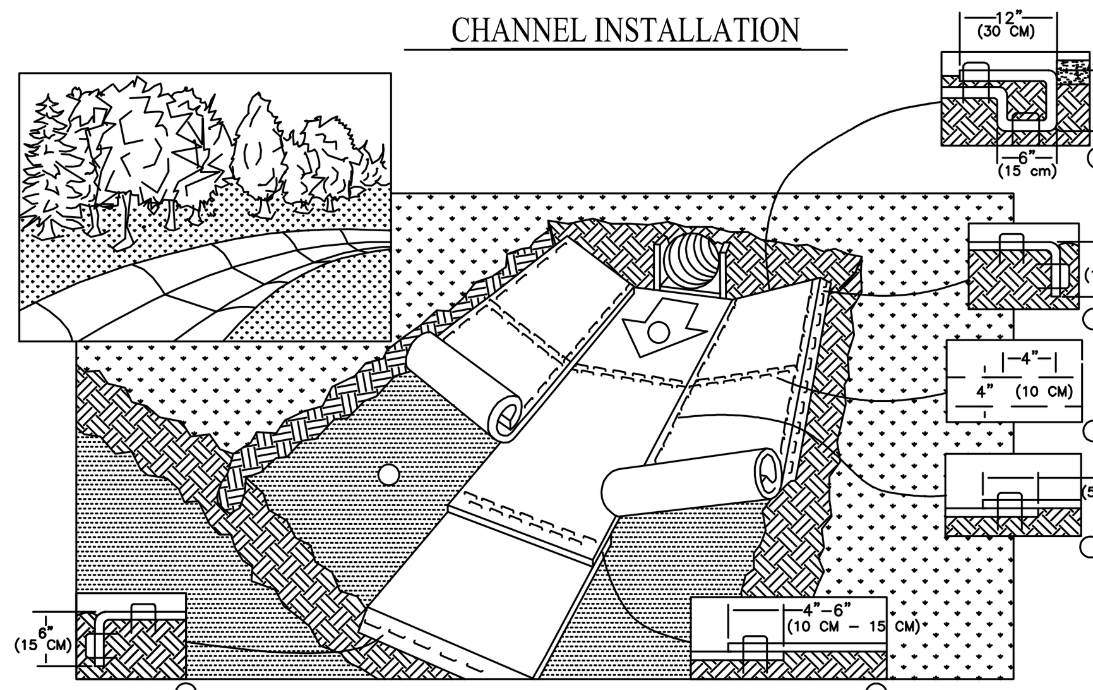
MAINTENANCE:
- * INSPECT DAILY
- * REMOVE ACCUMULATED SEDIMENT FROM PAVED AREA (DO NOT FLUSH WITH WATER) AFTER EACH STORM EVENT. DEPOSIT SEDIMENT IN AN AREA WHERE IT WILL NOT RE-ENTER THE PAVED AREA OR STORM DRAINS.
- * INSPECT FOR DAMAGE BY VEHICULAR TRAFFIC AND REPAIR IF NEEDED.

COIR LOG (FIBER ROLL)

EROSION CONTROL BLANKET

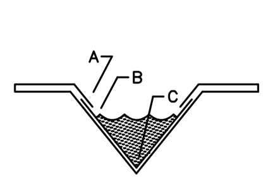
MAINTENANCE REQUIREMENTS:
- INSPECT WITHIN 24 HOURS OF EACH RAIN EVENT AND AT LEAST ONCE EVERY SEVEN CALENDAR DAYS.
- CHECK FOR EROSION OR DISPLACEMENT OF THE BLANKET.
- IF ANY AREA SHOWS EROSION, PULL BACK THAT PORTION OF THE BLANKET COVERING THE ERODED AREA, ADD SOIL AND TAMP, RESEED THE AREA, REPLACE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

CHANNEL INSTALLATION



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMAPCT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" (10 CM –15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (5 CM –12.5 CM) (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M – 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE:
* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

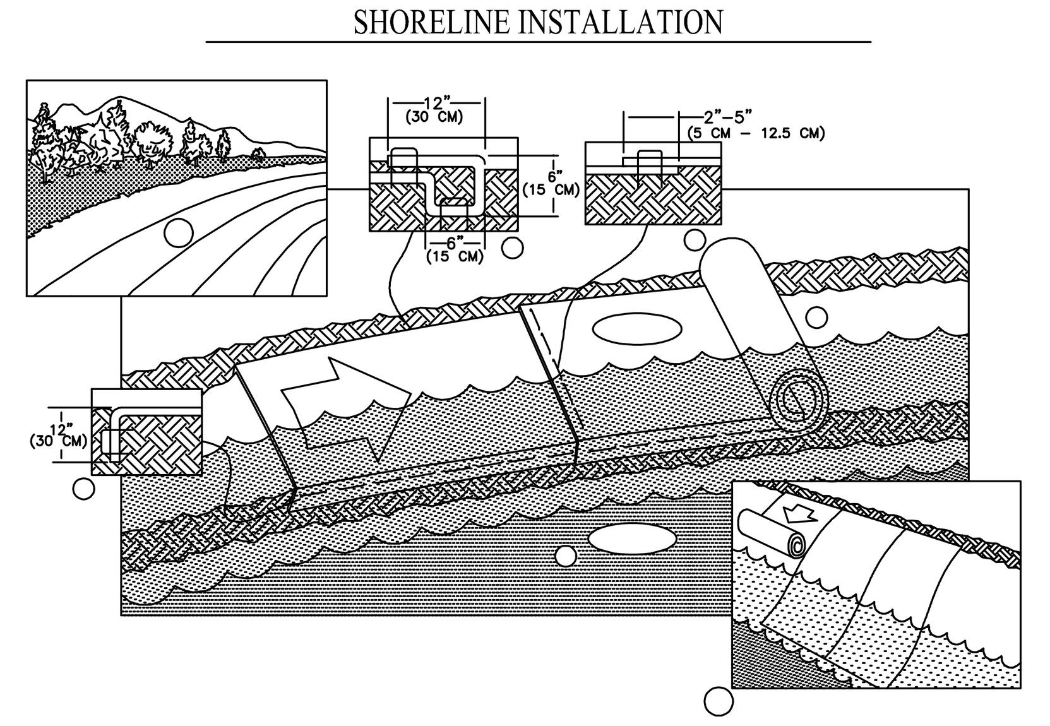


CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

SHORELINE INSTALLATION



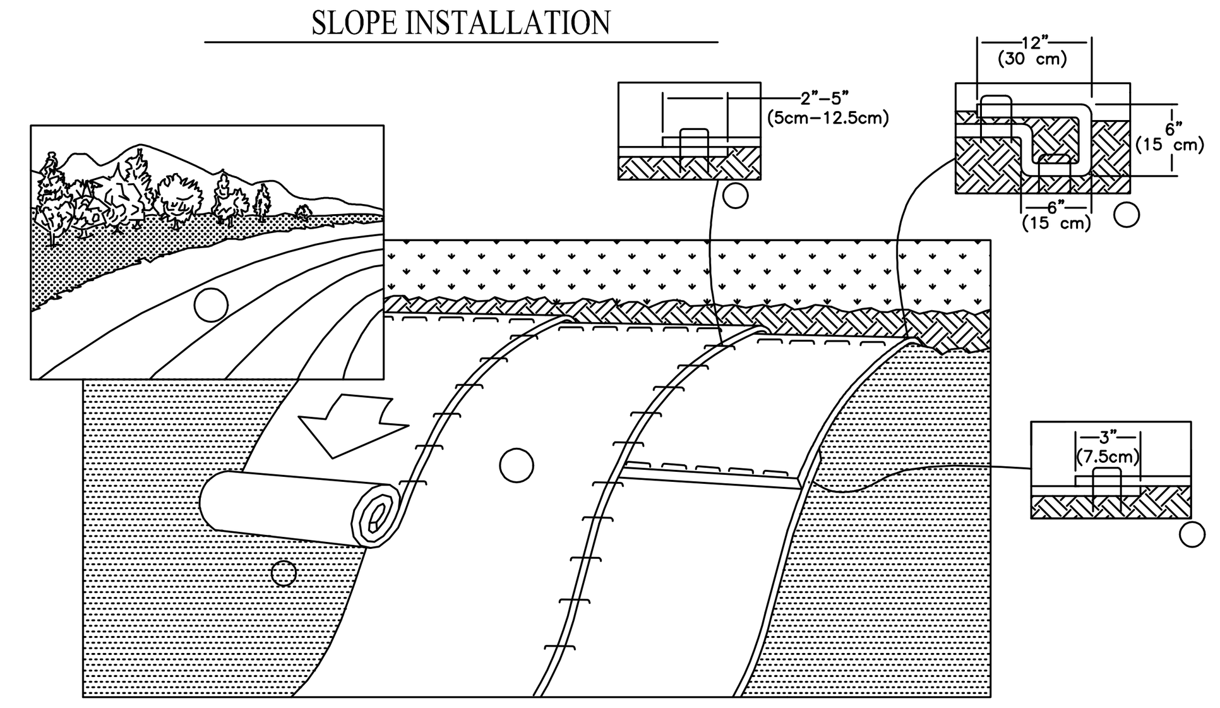
1. FOR EASIER INSTALLATION, LOWER WATER FROM LEVEL A TO LEVEL B BEFORE INSTALLATION.
2. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED, DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPERSIDE DOWN.
3. BEGIN AT THE TOP OF THE SHORELINE BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BACK OVER SEED AND COMPACTED SOIL. SECURE OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE BLANKET.
4. ROLL RECP's EITHER (A.) DOWN THE SHORELINE FOR LONG BANKS, (TOP TO BOTTOM) OR (B.) HORIZONTALLY ACROSS THE SHORELINE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
5. THE EDGES OF ALL HORIZONTAL AND VERTICAL SEAMS MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP.

NOTE:
* SEAM OVERLAP SHOULD BE SHINGLED ACCORDING TO PREDOMINANT EROSIVE ACTION.

6. THE EDGE OF THE BLANKET AT OR BELOW NORMAL WATER LEVEL MUST BE ANCHORED BY PLACING THE STAPLES/STAKES IN A 12" (30 CM) DEEP X 6" (15 CM) WIDE ANCHOR TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART IN THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING (STONE OR SOIL MAY BE USED AS BACKFILL.)

NOTE:
* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

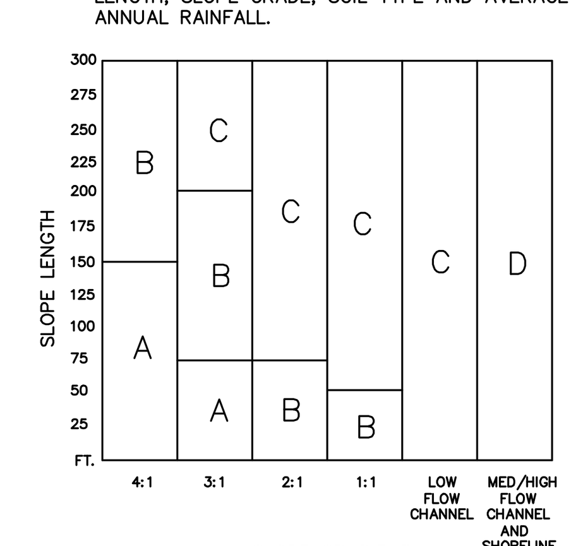
SLOPE INSTALLATION

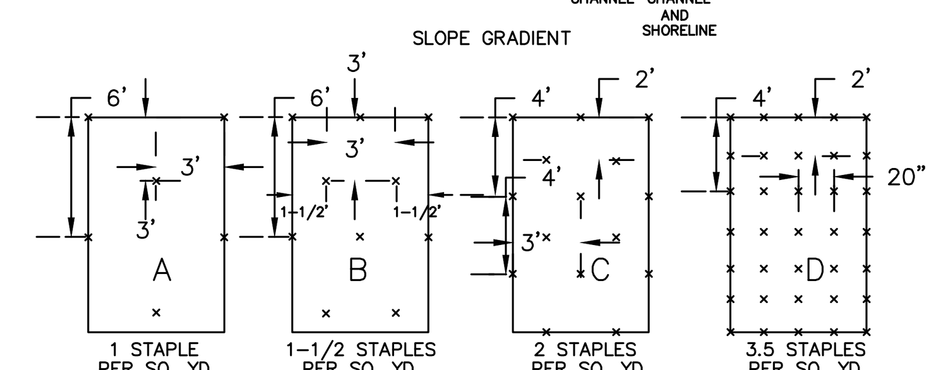


1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™ , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN GREEN EROSION CONTROL BLANKETS. STAPLE PATTERNS WILL VARY DEPENDING UPON SLOPE LENGTH, SLOPE GRADE, SOIL TYPE AND AVERAGE ANNUAL RAINFALL.





EROSION CONTROL BLANKET
STAPLE PATTERN GUIDE
NOT-TO-SCALE

SEEDING SCHEDULE

TEMPORARY SEEDING DATES

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
WHEAT OATS OR RYE			▨	▨	▨			▨	▨	▨	▨	
PERENNIAL RYGRASS				▨	▨	▨	▨	▨	▨			
DORMANT SEEDING	▨	▨	INCREASE APPLICATION RATES 50% FOR DORMANT SEEDING								▨	▨

PERMANENT SEEDING DATES

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NON-IRRIGATED			▨	▨	▨				▨	▨		
IRRIGATED			▨	▨	▨	▨	▨	▨	▨	▨		
DORMANT SEEDING	▨	▨	INCREASE APPLICATION RATES 50% FOR DORMANT SEEDING								▨	▨

NOTES:
1. PERMANENT SEEDING INFORMATION SHOWN ON THIS PLAN IS FOR EROSION CONTROL PURPOSES ONLY. IF THE LANDSCAPING PLANS AND SPECIFICATIONS CONTAIN INFORMATION CONCERNING PERMANENT LAWN SEEDING AND/OR SODDING, THEN THAT INFORMATION SHALL SUPERSEDE SIMILAR INFORMATION INDICATED ON THIS SHEET.
2. AREAS TO BE SEEDED SHALL BE SMOOTH AND UNIFORM AND SHALL BE IN ACCORDANCE WITH THE FINISHED GRADE AND CROSS SECTION SHOWN ON THE PLANS.
3. AREAS TO BE SEEDED SHALL HAVE A MINIMUM TOPSOIL DEPTH OF 6 INCHES. LIGHTLY COMPACT PLACED TOPSOIL BY ROLLING OR TAMPING.
4. PRIOR TO REPLACING TOPSOIL, LOOSEN SUBSOIL TO ENSURE GOOD BOND WITH TOPSOIL.
5. APPLY SEEDING WITH 800 LB/ACRE OF 12-12-12 FERTILIZER AND MULCH WITH A CONTINUOUS BLANKET OF STRAW AT A RATE OF 2 TONS/ACRE, OR USE HYDROSEEDING TECHNIQUES WITH EQUIVALENT APPLICATION RATES.
6. APPLY TEMPORARY SEEDING WITH 200 LB/ACRE OF 12-12-12 FERTILIZER AND MULCH WITH A CONTINUOUS BLANKET OF STRAW AT A RATE OF 2 TONS/ACRE, OR USE HYDROSEEDING TECHNIQUES WITH EQUIVALENT APPLICATION RATES.
7. ON SLOPES GRADED AT 3:1 OR STEEPER, STRAW MULCH SHALL BE HELD IN PLACE WITH POLYMERIC PLASTIC NET TACKED WITH WIRE STAPLES, OR EQUIVALENT METHOD.
8. SEED MIXTURES AND APPLICATION RATES:
GRASS MIX APPLIED AT 170 LB/ACRE (4 LB/1000 SQ.FT.) COMPRISED OF THE FOLLOWING:
KENTUCKY 31 FESCUE – 95 LB/ACRE
PERENNIAL RYEGRASS – 65 LB/ACRE
JASPER RED FESCUE – 10 LB/ACRE

THIS SHEET TO BE USED FOR EROSION CONTROL ONLY.

PERSON ONSITE RESPONSIBLE FOR EROSION CONTROL:
ERIK ROBINSON
LENNAR HOMES OF INDIANA, LLC
PHONE: (317) 659-3200
EMAIL: erik.robinson@lennar.com

REVISIONS

DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA

STORMWATER POLLUTION PREVENTION DETAILS

PRELIMINARY
NOT FOR CONSTRUCTION

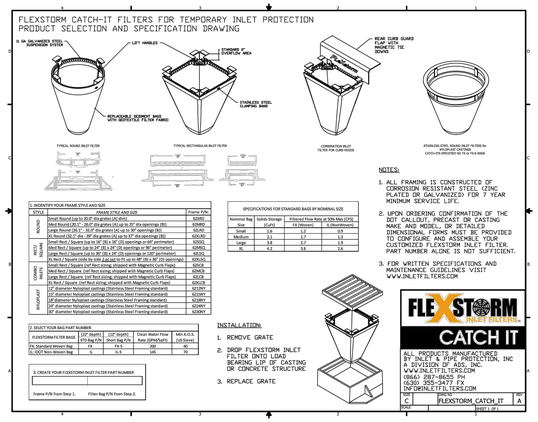
KRISTOPHER K. EICHHORN
REGISTERED
No. 11400758
STATE OF INDIANA
PROFESSIONAL ENGINEER

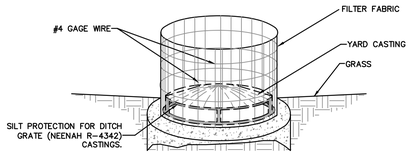
Kristopher K. Eichhorn

DRAWN BY
TS
CHECKED BY
KE
DATE
APRIL 22, 2024
SCALE
AS SHOWN
JOB NUMBER 2020-235-F

SHEET
C8.1
STORMWATER POLLUTION PREVENTION DETAILS

Plot Date: Apr 24, 2024 Plot Time: 2:00pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F.SWPP Notes and Details.dwg, Layout: C8.1 By: keichhorn





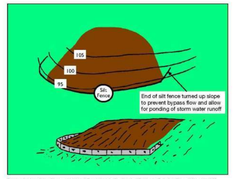
MAINTENANCE
1. INSPECT THE DROP INLET PROTECTION AFTER EACH STORM EVENT, AND MAKE NEEDED REPAIRS IMMEDIATELY.
2. REMOVE SEDIMENT FROM THE POOL AREA TO ENSURE ADEQUATE RUNOFF STORAGE FOR THE NEXT RAIN.
3. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ALL BARRELS, CONSTRUCTION MATERIAL, AND SEDIMENT AND DISPOSE OF PROPERLY, GRADE THE DISTURBED AREA TO THE ELEVATION OF THE TOP OF THE INLET AND STABILIZE.

Drop Inlet Protection Basket

It is the intent of this device to detain water for the purpose of allowing suspended solids in the water to settle out before the water enters the storm structure. Some filtering will occur as water passes through the device.
The bottom of this device is to seal against the flat outer part of the casting. The overall dimension of the basket shall be no smaller than the water inlet perforations in the casting and no larger than the outer dimensions of the casting. The height shall be 15".
The basket frame shall be welded wire mesh rolled or bent and welded to shelf to fit the casting. The wire size shall be no smaller than .149" dia, and openings no larger than 18 sq in. It is important that the bottom of the wire frame be smooth so as not to allow any leakage between the basket and casting. The top of the basket shall be open to prevent flooding during heavy storm events.
Fabric shall be woven polypropylene allowing 15-25gal/min/sq in. If non-woven fabric is used, the maintenance intervals should be increased to replace silt laden fabric. The fabric shall be attached to the frame and folded under the bottom to help seal against the casting.
This device should be used in conjunction with other Best Management Practices to maximize the efficiency of the erosion control plan.
Suppliers for this product include: Lakeside Supply Inc. (317) 281-2661, Turfgrass Inc (317) 894-3276.

BEEHIVE PROTECTION DETAIL
NOT-TO-SCALE

Exhibit 1



Source: Adapted from Commonwealth of Pennsylvania Erosion and Sediment Pollution Control Manual, 1990

Exhibit 2

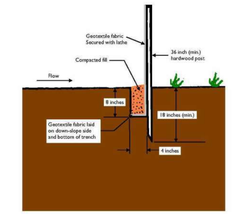
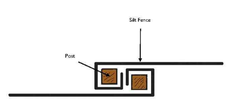


Exhibit 3



Silt Fence

*A **silt fence** is a temporary barrier of entrenched geotextile fabric stretched across and attached to supporting posts and installed on the contour to intercept and treat sediment-laden storm water runoff from small, unvegetated drainage areas.*

Purpose

To trap sediment from small, disturbed areas by reducing the velocity of sheet flow. Silt fences capture sediment by ponding water to allow deposition, not by filtration.

Note: **Silt fence is not recommended for use as a diversion and should not be used across a stream, channel, ditch, swale, or anywhere that concentrated flow is anticipated.**

Specifications

Drainage Area
- Limited to one-quarter acre per 100 linear feet of fence.
- Further restricted by slope steepness (see Table 1).

Effective Life

Six months (maximum).

Location
- Installed parallel to the slope contour.
- Minimum of 10 feet beyond the toe of the slope to provide a broad, shallow sediment pool.
- Accessible for maintenance (removal of sediment and silt fence repair).

Spacing

Table 1. Slope Steepness Restrictions

Percent Slope	Maximum Distance
< 2%	< 50:1	100 feet
2% – 5%	50:1 to 20:1	75 feet
5% – 10%[1]	20:1 to 10:1	50 feet
10% – 20%[1]	10:1 to 5:1	25 feet
> 20%[1]	> 5:1	15 feet

[1] Consider other alternatives.

Note: Multiple rows of silt fence are not recommended on the same slope.

Trench
- Depth – eight inches minimum.
- Width – four inches minimum.
- After installing fence, backfill with soil material and compact (to bury and anchor the lower portion of the fence fabric).

Note: **An alternative to trenching is to use mechanical equipment to plow in the silt fence.**

Materials and Silt Fence Specifications
- Fabric – woven or non-woven geotextile fabric meeting specified minimums outlined in Table 2.

Table 2. Geotextile Fabric Specifications for Silt Fence (minimum)

Physical Property	Woven Geotextile Fabric	Non-Woven Geotextile Fabric
Filtering efficiency	85%	85%
Tensile strength at 20% elongation: Standard strength / Extra strength	30 lbs. per linear inch / 50 lbs. per linear inch	60 lbs. per linear inch / 70 lbs. per linear inch
Slurry flow rate	0.3 gal./min./square feet	4.5 gal./min./square feet
Water flow rate	15 gal./min./square feet	220 gal./min./square feet
UV resistance	70%	85%
Post spacing	7 feet	5 feet

Note: Silt fences can be purchased commercially.

- Height – a minimum of 18 inches above ground level (30 inches maximum).
- Reinforcement – fabric securely fastened to posts with wood lathe.
- Support Posts
  - 2 x 2 inch hardwood posts. Steel fence posts may be substituted for hardwood posts (steel posts should have projections for fastening fabric).
  - Spacing
    - Eight feet maximum if fence is supported by wire mesh fencing.
    - Six feet maximum for extra-strength fabric without wire backing.

Installation

Prefabricated silt fence (see Exhibits 1, 2, and 3)

1. Lay out the location of the fence so that it is parallel to the contour of the slope and at least 10 feet beyond the toe of the slope to provide a sediment storage area. Turn the ends of the fence up slope such that the point of contact between the ground and the bottom of the fence end terminates at a higher elevation than the top of the fence at its lowest point (see Exhibit 1).
2. Excavate an eight-inch deep by four-inch wide trench along the entire length of the fence line (see Exhibit 2). Installation by plowing is also acceptable.
3. Install the silt fence with the filter fabric located on the up-slope side of the excavated trench and the support posts on the down-slope side of the trench.

Location
- At curb inlets on paved roads and parking lots.
- Down grade from construction activities (e.g., individual home sites).

Materials
- Metal frame or basket with a top width and length such that the frame fits into the inlet. (The frame is supported by the structural integrity of the storm sewer.)
- The metal frame or geotextile should be designed with a bypass to allow storm water to flow into the storm sewer system during excessive storm events.
- The system should be designed for ease of maintenance.
- Geotextile fabric.

Table 1. Geotextile Fabric Specifications

Physical Property	Woven	Non-Woven
Filtering Efficiency	85%	85%
UV Resistance (inhibitors and stabilizers to ensure six month minimum life at temperatures of 0° to 120° F)	70%	85%
Tensile Strength at 20% Elongation: Standard Strength / Extra Strength	30 lbs./linear inch / 50 lbs./linear inch	50 lbs./linear inch / 70 lbs./linear inch
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.

Installation

1. Remove the storm sewer grate and place the frame into the grate opening.
2. Place geotextile fabric into the frame and secure according to the manufacturer's recommendations.
3. Replace the storm sewer grate.

Maintenance
- Inspect daily.
- Remove accumulated sediment and debris after each storm event. Deposit sediment in an area where it will not re-enter the paved area or storm drains.
- Replace or clean geotextile fabric as needed.
- When the contributing drainage area has been stabilized, remove inlet protection.

Materials
- Support posts
  - 2 x 2 inch or 2 x 4 inch hardwood posts.
  - Three feet length, minimum.
- 1 x 2 inch or 1 x 3 inch hardwood cross bracing lumber.
- Lathe.
- Staples or nails.
- Geotextile fabric

Table 1. Geotextile Fabric Specifications

Physical Property	Woven	Non-Woven
Filtering Efficiency	85%	85%
UV Resistance (inhibitors and stabilizers to ensure six month minimum life at temperatures of 0° to 120° F)	70%	85%
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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.

Installation

(see Exhibits 1 and 2)

1. Dig an eight-inch deep, four-inch wide trench around the perimeter of the inlet.
2. If using pre-assembled geotextile fabric and posts, drive the posts into the soil, tightly stretching the geotextile fabric between posts as each is driven. (Posts must be placed on the inlet side of the anchor trench with the geotextile fabric on the side of the trench farthest from the inlet.)

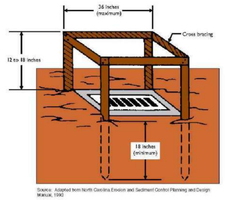
Note: If assembling the geotextile fabric and posts on-site, drive the posts into the soil and then secure the geotextile fabric to the posts by placing a piece of lathe over the fabric and fastening it to the post (stretching the fabric between posts as it is fastened).

3. Use the wrap join method when joining posts (see **Silt Fence** on page 215).
4. Place the bottom 12 inches of geotextile fabric into the eight-inch deep trench, laying the remaining four inches in the bottom of the trench and extending away from the inlet.
5. Backfill the trench with soil material and compact it in place.
6. Brace the posts by nailing braces into each corner post or utilize rigid panels to support fabric.

Note: **In situations where storm water may bypass the structure, either:**
- Set the top of the geotextile fabric filter at least six inches lower than the ground elevation on the down-slope side of the storm drain inlet,
- Build a temporary dike, compacted to six inches higher than the fabric, on the down-slope side of the storm drain inlet, AND/OR
- Use in conjunction with excavated drop inlet protection (see **Excavated Drop Inlet Protection** on page 145).

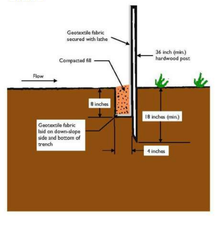
Maintenance
- Inspect daily.
- Inspect geotextile fabric and make needed repairs immediately.
- Remove sediment from pool area to provide storage for the next storm event. Avoid damaging or undercutting fabric during sediment removal.
- When contributing drainage area has been stabilized, remove sediment, properly dispose of all construction material, grade area to the elevation of the storm drain inlet top, then stabilize immediately.

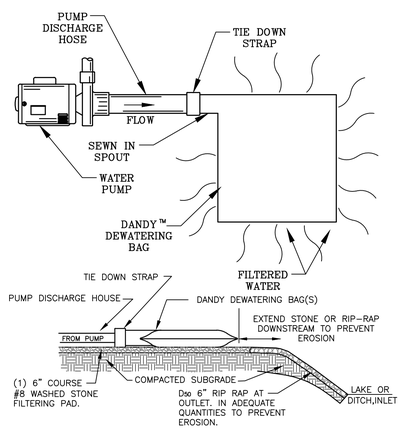
Exhibit 1



Source: Adapted from North Carolina Erosion and Sediment Control Planning and Design Manual, 1990

Exhibit 2





DANDY DEWATERING BAG
NOT-TO-SCALE

DANDY DEWATERING BAG™
SPECIFICATIONS

NOTE: THE DANDY DEWATERING BAG™ WILL BE **MANUFACTURED IN THE U.S.A.** FROM A NONWOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	0.9 (205) x 0.9 (205)
Grab Tensile Elongation	ASTM D 4632	%	50 x 50
Puncture Strength	ASTM D 4833	kN (lbs)	0.58 (130)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	2618 (380)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.36 (80) X 0.36 (80)
UV Resistance	ASTM D 4355	%	70
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.180 (80)
Flow Rate	ASTM D 4491	1/min/m² (gal/min/ft²)	3866 (95)
Permittivity	ASTM D 4491	Sec⁻¹	1.2

PROTOCOL FOR STAGING PORTABLE TOILETS

Portable toilets (port-o-lets) will be provided on the construction site for Associates and trade workers in compliance with applicable statutes and regulations. In accordance with **Indiana 327 IAC 15-5-7 General requirements for storm water quality control:** appropriate measures shall be implemented to minimize or eliminate wastewater (i.e. objectionable substances from a portable toilet unit) being carried from the project site by run-off.

All portable toilet units be will provided by a professional sanitation service contractor who will transport, deliver, stage, and maintain each unit in accordance with applicable statutes and regulations. Each unit shall be equipped with one urinal, one toilet, and one hand sanitizer dispenser / handwash sink. Objectionable waste contained within the unit will be disposed of by the professional sanitation service contractor in compliance with applicable statutes and regulations.

The Builder will prepare a designated location for placement and staging of each portable toilet unit. The preferred location for each unit will promote long term staging, and discourage frequent relocation of the unit; however, the Builder may relocate the unit more frequently, as long as sequencing protocol is implemented. The following staging protocol will be implemented for portable toilets units:

- Each unit will be staged on a reasonably level / flat ground; this may include a graveled construction entrance when site conditions are appropriate;
- Each unit, when located on an individual lot, must be placed behind or within perimeter BMPs;
- On occasion, units may be *temporarily* staged on a non-permeable surface when appropriate perimeter BMPs are utilized;
- When possible, units may be staged within a concrete washout area;
- The provision of reasonable access to units is expected. To prevent slips, trips and falls, optimal staging may include the installation of a gravel / stone pathway from curb to unit. Pathways will never be fabricated from scrap lumber or trash material, nor in likeness of any bridge or gangplank approach;
- Each unit will be staged a minimum of 6' from any curb, ***and never located near any stormwater inlet or conveyance***;
- Each unit will be staged in a manner that is easily accessible for routine maintenance;
- Each unit will be properly secured by staking all four corners of the unit to the ground;
- Units will never be staged on or within any public walkway or street;
- Units will be inspected weekly for proper staging and to verify any evidence of leaking.

In accordance with **Indiana Rule 6.1: 327 IAC 2-6.1-1 Spills; Reporting, Containment, and response:** spills of objectionable substances, that *exceed* a quantity of one pound or one pint (i.e. from a portable toilet unit) shall be contained, cleaned, removed, and properly disposed. Spills of reportable quantity, as defined by Indiana Rule 6.1 will be managed in accordance with applicable statutes and regulations.

LENNAR

Author: Kevin Rager

12/11/19

THIS SHEET TO BE USED FOR EROSION CONTROL ONLY.

PERSON ONSITE RESPONSIBLE FOR EROSION CONTROL:
ERIK ROBINSON
LENNAR HOMES OF INDIANA, LLC
PHONE: (317) 659-3200
EMAIL: erik.robinson@lennar.com

REVISIONS

DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA

STORMWATER POLLUTION PREVENTION DETAILS

DRAWN BY: TS
CHECKED BY: KE
DATE: APRIL 22, 2024
SCALE: AS SHOWN
JOB NUMBER: 2020-235-F
SHEET: C8.2
STORMWATER POLLUTION PREVENTION DETAILS

Plot Date: Apr. 24, 2024 Plot Time: 2:00pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\2023S-F_SWPP Notes and Details.dwg, Layout: C8.2 By: ketchhorn

Sequence Describing Storm Water Quality Measure Implementation Relative to the Vertical Construction Activity on an Individual Lot within a Larger Development.

Introduction – The project site owner has identified eight (8) phases within the vertical construction sequence. During the period of construction activities, all storm water quality measures necessary to meet the requirements of the Indiana storm water Rule shall be maintained in working order. The SWPPP shall serve as a guideline for storm water quality, but should not be interpreted to be the only basis for implementing, in accordance with the Rule, all measures to adequately prevent polluted storm water run–off. Alternative measures to site stabilization are acceptable if the site owner or their representative can demonstrate they have implemented erosion and sediment control measures adequate to prevent sediment discharge. Generally, the project site owner will have permitted projects within multiple municipalities; therefore, BMP practices will be modified as required by the enforcement of applicable regulation. Please make reference to: "Protocol for when BMP Maintenance is Required".

From time construction activity begins, and until the individual lot is stabilized, the lot owner will:

–Protect adjacent properties from sedimentation;

–Prevent mud/sedimentation from depositing on the public street;

–Protect drainage ways from erosion and sedimentation;

–Prevent sediment laden water from entering storm sewer inlets.

The following storm water quality measures will take place on an individual lot/home– site:

Phase 1 – Foundation – During the period of construction activities:

- A qualified professional shall install silt fence at front curb and rear swale; wattles may be utilized as permitted by applicable regulations (i.e. frozen ground conditions, feasibility for site access, transitional BMP, etc. Additional silt fence will be installed adjacent to establish lots or common areas, or the full perimeter of lot/home–site, as required by the enforcement of applicable regulation. A qualified professional shall verify the presence of appropriate BMP protection for nearby storm water inlets; if not present, the CM will be notified and these BMP devices will be installed promptly.
- The installation of the following House Keeping BMPs will be installed upon start of construction as required by enforcement of applicable regulations:
  - o Portable toilet(s) will be appropriately staged throughout the project site. Note: Please make reference to: "Protocol for Staging Portable Toilets";
  - o Trash containers or location of trash placement;
  - o Concrete washout (May be a stationary location for the entire site, or may be portable devices on an individual lot).
- Townhome Projects: Typically, a gravel staging area will be established on the site to accommodate storage of construction materials and equipment, concrete washout, and portable toilets. Perimeter silt fence or silt sock will be installed around the staging area. The project Construction Manager will evaluate each site for the appropriate location for the staging area.

- A temporary construction entrance shall be installed, as required by the enforcement of applicable regulations.
- Foundation soil stock pile may remain active throughout the Foundation Phase. Soil stock piles shall be placed on the lot/home site in a manner as not to challenge the integrity of perimeter BMPs. Soil stock piles will be distributed on site by machine grade in a timely manner.
- Up to two loads of soil may remain on site after backfill of foundation. Soil stock piles shall be placed on the lot/home site in a manner as not to challenge the integrity of perimeter BMPs. Soil will be distributed on site by machine grade in a timely manner.
- All concrete washout will occur at the designated concrete washout area. Washout may occur onsite of an individual lot utilizing portable washout devices.
- All construction trash/debris will be contained on site in a manner permitted the enforcement of applicable regulations (i.e. trash containers utilized as enforced by municipal authority, fly–a–way trash will be appropriately contained on site by end of day. Where permitted lumber trash /debris may be set at curb for weekly trash pick–up.)
- A qualified person(s) shall inspect and maintain all storm water measures. Lennar site Associates will participate in bi–weekly stormwater "toolbox talks".

Phase 2 – Framing – During the period of construction activity:

- All construction trash/debris will be contained on site in a manner permitted by the enforcement of applicable regulations (i.e. trash containers utilized as enforced by municipal authority, fly–a–way trash will be appropriately contained on site by end of day. Where permitted lumber trash /debris may be set at curb for weekly trash pick–up. Please refer to Builders Trash Act protocol.)
- Up to two loads of soil may remain on site. Soil stock piles shall be placed on the lot/home site in a manner as not to challenge the integrity of perimeter BMPs. Soil will be distributed on site by machine grade in a timely manner.
- A qualified person(s) shall inspect and maintain all storm water measures. Lennar site Associates will participate in bi–weekly stormwater "toolbox talks".

Phase 3 – Mechanical Rough – During the period of construction activity:

- All paint washout shall be done utilizing paint containers. All paint containers shall be removed from the lot/home– site by the paint contractor.
- Up to two loads of soil may remain on site. Soil stock piles shall be placed on the lot/home site in a manner as not to challenge the integrity of perimeter BMPs. Soil will be distributed on site by machine grade in a timely manner.
- All construction trash/debris will be contained on site in a manner permitted by the enforcement of applicable regulations (i.e. trash containers utilized as enforced by municipal authority, fly–a–way trash will be appropriately contained on site by end of day. Where permitted lumber trash /debris may be set at curb for weekly trash pick–up.)
- A qualified person(s) shall inspect and maintain all storm water measures. Lennar site Associates will participate in bi–weekly stormwater "toolbox talks".

Phase 4 – Insulation/Drywall – During the period of construction activity:

- All drywall scrap and debris shall be removed from the lot/home site by the drywall contractor. The drywall contractor will be responsible for the appropriate disposal of all drywall material. Washout of drywall spackling compounds shall be contained in buckets and removed from the lot/home site by the drywall contractor.
- While in the process of installing brick veneer, bagged dry mix mortar and brick material will be covered by a vapor barrier material to prevent exposure to a rain event. A vapor barrier material will be applied to the soil surface where brick mortar will be mixed. Washout of mortar material may occur on site when utilizing appropriate portable washout container. Hardened mortar debris and brick trash will be staged at curb side by the brick contractor for removal; or, placed in the provided trash container (i.e. dumpster) as required by enforcement of applicable regulations. In addition to the aforementioned guidance, the following requirements shall apply for washout of brick mortar for all Lennar Townhome construction sites:
  - o The staging area for mixing brick mortar shall be adjacent to the Site concrete washout.
  - o All brick mortar washout shall occur (in semi–solid condition) directly into the concrete washout in lieu of utilizing a washout bag.
  - o Lennar will not provide a washout container bag for Townhome construction sites.
  - o Note: Please make reference to: Brick Mortar Washout Protocol – Lennar BMP for detailed staging guidance.
- All concrete washout will occur at the designated concrete washout area. Washout may occur onsite utilizing portable washout devices.
- All construction trash/debris will be contained on site in a manner permitted by the enforcement of applicable regulations (i.e. trash containers utilized as enforced by municipal authority, fly–a–way trash will be appropriately contained on site by end of day. Where permitted lumber trash /debris may be set at curb for weekly trash pick–up.)
- Up to two loads of soil may remain on site. Soil stock piles shall be placed on the lot/home site in a manner as not to challenge the integrity of perimeter BMPs. Soil will be distributed on site by machine grade in a timely manner.
- A qualified person(s) shall inspect and maintain all storm water measures. Lennar site Associates will participate in bi–weekly stormwater toolbox talks.

Phase 5 – Exterior Finish – During the period of construction activity:

- A machine grade will occur on site to prepare for the installation of the permanent concrete driveway and walkways. During this transition, Curb back cut and/or wattles may be utilized as submittal BMP measures to adequately prevent polluted storm water run–off from the construction site.
- All concrete washout will occur at the designated concrete washout area. Washout may occur onsite utilizing portable washout devices.
- Washout of drywall spackling compounds, paint, tile grout, etc., shall be contained in buckets and removed from the lot/home site by the appropriate contractor.
- All construction trash/debris will be contained on site in a manner permitted by the enforcement of applicable regulations (i.e. trash containers utilized as enforced by municipal authority, fly–a–way trash will be appropriately contained on site by end of day. Where permitted lumber trash /debris may be set at curb for weekly trash pick–up.)
- Up to two loads of soil may remain on site. Soil stock piles shall be placed on the lot/home site in a manner as not to challenge the integrity of perimeter BMPs. Soil will be distributed on site by machine grade in a timely manner.
- A qualified person(s) shall inspect and maintain all storm water measures. Lennar site Associates will participate in bi–weekly stormwater toolbox talks.

Phase 6 – Interior Finish – During the period of construction activity:

- Washout of drywall spackling compounds, paint, tile grout, etc., shall be contained in buckets and removed from the lot/home–site by the appropriate contractor.
- All concrete washout will occur at the designated concrete washout area. Washout may occur onsite utilizing portable washout devices.
- All construction trash/debris will be contained on site in a manner permitted by the enforcement of applicable regulations (i.e. trash containers utilized as enforced by municipal authority, fly–a–way trash will be appropriately contained on site by end of day. Where permitted lumber trash /debris may be set at curb for weekly trash pick–up.)
- Up to two loads of soil may remain on site. Soil stock piles shall be placed on the lot/home site in a manner as not to challenge the integrity of perimeter BMPs. Soil will be distributed on site by machine grade in a timely manner.
- A qualified person(s) shall inspect and maintain all storm water measures. Lennar site Associates will participate in bi–weekly stormwater toolbox talks.

Phase 7 – Mechanical Trim – During the period of construction activity:

- A machine grade will be accomplish on site for purposes of filling ground settlement and surface erosion.
- Washout of drywall spackling compounds, paint, tile grout, etc., shall be contained and removed from the lot/home site by the appropriate contractor.
- All concrete washout will occur at the designated concrete washout area. Washout may occur onsite utilizing portable washout devices.
- All construction trash/debris will be contained on site in a manner permitted by the enforcement of applicable regulations (i.e. trash containers utilized as enforced by municipal authority, fly–a–way trash will be appropriately contained on site by end of day. Where permitted lumber trash /debris may be set at curb for weekly trash pick–up.)
- Up to two loads of soil may remain on site. Soil stock piles shall be placed on the lot/home site in a manner as not to challenge the integrity of perimeter BMPs. Soil will be distributed on site by machine grade in a timely manner.
- A qualified person(s) shall inspect and maintain all storm water measures. Lennar site Associates will participate in bi–weekly stormwater toolbox talks.

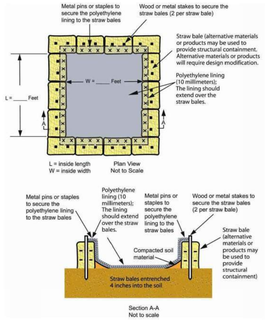
Phase 8 – Home Site Finish – During the period of construction activity:

- During seasonal conditions, all silt fence will be removed, wattles or turf matt may be utilized as transitional BMP while awaiting final stabilization, a machine grade will be accomplished on site in preparation for final stabilization (Note: adverse soil conditions my limit winter grading). Sod will be installed at front yard to front corners of house structure. Side and rear yards will be seeded and PennMulch soil stabilizer/fertilizer applied to soil surface, a row of turf matting will be installed at the rear swale easement line, and one piece of sod will placed at each downspout located within a seeded area of the lot. Other turf matting may be positioned on seeded areas due to extreme lot grade. When full sod option is chosen, sod will be installed at side and rear yard in–lieu–of seed, no turf mat will be applied rear easement line, rear swale shall be over seeded. During the New Home Orientation, the new property owner will be informed of the requirement for, and benefits of, final stabilization, and the prevention of stormwater pollution.
- Upon the completion of construction activity, and during unseasonable conditions, existing erosion and sediment control measures will remain in place on site, wattles or turf mat may be applied at curb in–lieu–of silt fence. A qualified person shall inspect and maintain all storm water measures. During the New Home Orientation, the new property owner will be informed of the requirement for, and benefits of, final stabilization, and the prevention of stormwater pollution.
- When seasonal conditions return, all perimeter BMPs will be removed, wattles or turf mat may be utilized as transitional BMP while awaiting final stabilization, sod will be installed at front yard, side and rear yards will be seeded and PennMulch soil stabilizer/fertilizer w/ tackifier applied to soil surface, and one piece of sod will placed at each downspout located within a seeded area of the lot. A single row of turf matting will be installed at the rear swale easement line. If full sod option is chosen, sod will be installed at side and rear yard in–lieu–of seed, no turf mat will be applied rear easement line, rear swale shall be over seeded.
- Washout of drywall spackling compounds, paint, tile grout, etc., shall be contained in buckets and removed from the lot/home site by the appropriate contractor.
- All concrete washout may occur at the designated concrete washout area; or, washout may occur on site of an individual lot utilizing portable washout devices.
- All construction trash/debris will be contained on site in a manner permitted by the enforcement of applicable regulations (i.e. trash containers utilized as enforced by municipal authority, fly–a–way trash will be appropriately contained on site by end of day. Where permitted lumber trash /debris may be set at curb for weekly trash pick–up.)

- A qualified person(s) shall inspect and maintain all storm water measures, until transfer of ownership has occurred and the new property owner has been informed of the requirement for, and benefits of, final stabilization. Lennar site Associates will participate in bi–weekly stormwater toolbox talks.

CONCRETE WASHOUT

Concrete Washout (Above Grade System) Worksheet



CONCRETE WASHOUT

residual loads due to potential to exceed the design capacity of the washout system. Small amounts of excess or residual concrete (not washout water) may be disposed of in areas that will not result in flow to an area that is to be protected.

- Install systems at strategic locations that are convenient and in close proximity to work areas and in sufficient number to accommodate the demand for disposal.
- Install signage identifying the location of concrete washout systems.

Location

- Locate concrete washout systems at least 50 feet from any creeks, wetlands, ditches, karst features, or storm drains/manmade conveyance systems.
- To the extent practical, locate concrete washout systems in relatively flat areas that have established vegetative cover and do not receive runoff from adjacent land areas.
- Locate in areas that provide easy access for concrete trucks and other construction equipment.
- Locate away from other construction traffic to reduce the potential for damage to the system.

General Design Considerations

- The structure or system shall be designed to contain the anticipated washout water associated with construction activities.
- The system shall be designed, to the extent practical, to eliminate runoff from entering the washout system.
- Runoff from a rainstorm or snowmelt should not carry wastes away from the washout location.
- Washout will not impact future land uses (i.e., open spaces, landscaped areas, home sites, parks).
- Washout systems/containment measures may also be utilized on smaller individual building sites. The design and size of the system can be adjusted to accommodate the expected capacity.

Prefabricated Washout Systems/Containers

- Self-contained sturdy containment systems that are delivered to a site and located at strategic locations for concrete disposal.

CONCRETE WASHOUT

- These systems are manufactured to resist damage from construction equipment and protect against leaks or spills.
- Manufacturer or supplier provides the containers. The project site manager maintains the system or the supplier provides complete service that includes maintenance and disposal.
- Units are often available with or without ramps. Units with ramps lend themselves to accommodate pump trucks.
- Maintain according to the manufacturer's recommendations.

Designed and Installed Units

These units are designed and installed on site. They tend to be less reliable than prefabricated systems and are often prone to failure. Concrete washout systems can be constructed above or below grade. It is not uncommon to have a system that is partly below grade with an additional containment structure above grade.

- Washout systems shall utilize a pit or bermed area designed and maintained at a capacity to contain all liquid and concrete waste generated by washout operations.
- The volume of the system must also be designed to contain runoff that drains to the system and rainfall that enters the system for a two-year frequency, 24-hour storm event.

■ Below Grade System

- A washout system installed below grade should be a minimum of ten feet wide by ten feet long, but sized to contain all liquid and waste that is expected to be generated between scheduled cleanout periods. The size of the pit may be limited by the size of polyethylene available. The polyethylene lining should be of adequate size to extend over the entire excavation.
- Include a minimum 12-inch freeboard to reasonably ensure that the structure will not overtop during a rain event.
- Line the pit with ten millimeter polyethylene lining to control seepage.
- The bottom of excavated pit should be above the seasonal high water table.

■ Above Grade System

- A system designed and built above grade should be a minimum of ten feet wide by ten feet long, but sized to contain all liquid and waste that is expected to be generated between scheduled cleanout periods. The size of the containment system may be limited by the size of

CONCRETE WASHOUT

polyethylene available. The polyethylene lining should be of adequate size to extend over the berm or containment system.

- The system design may utilize an earthen berm, straw bales, sandbags, or other acceptable barriers that will maintain its shape and integrity and support the polyethylene lining.
- Include a minimum four-inch freeboard as part of the design.

Washout Procedures

- Do not leave excess mud in the chutes or hopper after the pour. Every effort should be made to empty the chutes and hopper at the pour. The less material left in the chutes and hopper, the quicker and easier the cleanout. Small amounts of excess concrete (not washout water) may be disposed of in areas that will not result in flow to an area that is to be protected.
- At the washout location, scrape as much material from the chutes as possible before washing them. Use non-water cleaning methods to minimize the chance for waste to flow off site.
- Remove as much mud as possible when washing out.
- Stop washing out in an area if you observe water running off the designated area or if the containment system is leaking or overflowing and ineffective.
- Do not back flush equipment at the project site. Back flushing should be restricted to the plant as it generates large volumes of waste that more than likely will exceed the capacity of most washout systems. If an emergency arises, back flush should only be performed with the permission of an on-site manager for the project.
- Do not use additives with wash water. Do not use solvents or acids that may be used at the target plant.

Materials

- Minimum of ten millimeter polyethylene sheeting that is free of holes, tears, and other defects. The sheeting selected should be of an appropriate size to fit the washout system without seams or overlap of the lining **(designed and installed systems)**.
- Signage.
- Orange safety fencing or equivalent.
- Straw bales, sandbags (bags should be ultraviolet-stabilized geotextile fabric), soil material, or other appropriate materials that can be used to construct a containment system **(above grade systems)**.

CONCRETE WASHOUT

- Metal pins or staples at a minimum of six inches in length, sandbags, or alternative fastener to secure polyethylene lining to the containment system.
- Non-collapsing and non-water holding cover for use during rain events (optional).

Installation

Prefabricated Washout Systems/Containers

- Install and locate according to the manufacturer's recommendations.

Designed and Installed Systems

- Utilize and follow the design in the storm water pollution prevention plan to install the system.
- Dependent upon the type of system, either excavate the pit or install the containment system.
- A base shall be constructed and prepared that is free of rocks and other debris that may cause tears or punctures in the polyethylene lining.
- Install the polyethylene lining. For excavated systems, the lining should extend over the entire excavation. The lining for bermed systems should be installed over the pooling area with enough material to extend the lining over the berm or containment system. The lining should be secured with pins, staples, or other fasteners.
- Place flags, safety fencing, or equivalent to provide a barrier to construction equipment and other traffic.
- Place a non-collapsing, non-water holding cover over the washout facility prior to a predicted rainfall event to prevent accumulation of water and possible overflow of the system (optional).
- Install signage that identifies concrete washout areas.
- Post signs directing contractors and suppliers to designated locations.
- Where necessary, provide stable ingress and egress (**see Temporary Construction Ingress/Egress Pad** on page 17) or alternative approach pad for concrete washout systems.

CONCRETE WASHOUT

Maintenance

- Inspect daily and after each storm event.
- Inspect the integrity of the overall structure including, where applicable, the containment system.
- Inspect the system for leaks, spills, and tracking of soil by equipment.
- Inspect the polyethylene lining for failure, including tears and punctures.
- Once concrete wastes harden, remove and dispose of the material.
- Excess concrete should be removed when the washout system reaches 50 percent of the design capacity. Use of the system should be discontinued until appropriate measures can be initiated to clean the structure. Prefabricated systems should also utilize this criterion, unless the manufacturer has alternate specifications.
- Upon removal of the solids, inspect the structure. Repair the structure as needed or construct a new system.
- Dispose of all concrete in a legal manner. Reuse the material on site, recycle, or haul the material to an approved construction/demolition landfill site. Recycling of material is encouraged. The waste material can be used for multiple applications including but not limited to roadbeds and building. The availability for recycling should be checked locally.
- The plastic liner should be replaced after every cleaning; the removal of material will usually damage the lining.
- The concrete washout system should be repaired or enlarged as necessary to maintain capacity for concrete waste.
- Concrete washout systems are designed to promote evaporation. However, if the liquids do not evaporate and the system is near capacity it may be necessary to vacuum or remove the liquids and dispose of them in an acceptable method. Disposal may be allowed at the local sanitary sewer authority provided their National Pollutant Discharge Elimination System permits allow for acceptance of this material. Another option would be to utilize a secondary containment system or basin for further dewatering.
- Prefabricated units are often pumped and the company supplying the unit provides this service.
- Inspect construction activities on a regular basis to ensure suppliers, contractors, and others are utilizing designated washout areas. If concrete waste is being disposed of improperly, identify the violaters and take appropriate action.

CONCRETE WASHOUT

- When concrete washout systems are no longer required, the concrete washout systems shall be closed. Dispose of all hardened concrete and other materials used to construct the system.
- Holes, depressions and other land disturbances associated with the system should be backfilled, graded, and stabilized.

RUNOFF CONTROL

Rock Check Dam

***A rock check dam** is a series of runoff control structures, consisting of geotextile fabric and aggregate, placed across drainage channels to slow storm water runoff. This measure may also provide limited effectiveness as a sediment control measure.*

Purpose

- To reduce erosion in a drainage channel by slowing velocity of flow. (Check dams are commonly used (a) in channels that are eroding, but where permanent stabilization is impractical due to their short period of usefulness, and (b) in eroding channels where construction delays or weather conditions prevent timely installation of erosion-resistant linings.)
- To reduce flow velocities in a channel.

Note: **Do not use check dams in perennial streams.**

Specifications

Contributing Drainage Area

Two acres maximum.

Riprap Check Dam

- Dam height.
  - Two feet maximum.
  - center of the dam at least nine inches lower than the points of contact between the uppermost points of the riprap dam and channel banks.
- Side slope ratio of 2:1 or flatter.
- Spacing toe of the upstream dam at same elevation as overflow weir of the downstream dam.

ROCK CHECK DAM

Overflow Areas

Stabilized to reduce scour/erosion along sides and below the dam.

Filter Medium

- Placed on up-slope side of dam.
- Height – to base of overflow weir notch.

Materials

- Geotextile fabric (8 ounce or heavier; nonwoven).
- Indiana Department of Transportation Revetment riprap (see Appendix D) for dam.
- INDOT CA No. 5 aggregate (see Appendix D) for use as filter medium (Aggregate must be well-graded).

Note: **INDOT CA No. 8 aggregate is acceptable if No. 5 aggregate is not available. The use of No. 8 aggregate may result in more frequent overtopping of the structure and will increase the frequency of structure maintenance.**

Installation

1. Lay out the location of the check dam.
2. Excavate a cutoff trench into the channel bottom and ditch banks, extending it a minimum of 18 inches beyond the top of the ditch bank.
3. Install and anchor filter fabric in the channel and cutoff trench.
4. Place riprap in the cutoff trench and channel to the lines and dimensions shown in the construction plans. The center of each dam must be at least nine inches lower than the uppermost points of contact between the riprap dam and channel banks (see Rock Check Dam Worksheet on page 101).
5. Extend the riprap at least 18 inches beyond the top of the channel banks to keep overflow water from eroding areas adjacent to the channel banks before it re-enters the channel.
6. Place filter medium (INDOT CA No. 5 aggregate) on the up-slope side of the dam. Place filter medium over the entire face of the dam up to the base of the overflow weir notch.
7. Stabilize the channel above the uppermost dam.
8. Install an erosion-resistant lining in the channel below the lowermost dam. The lining should extend a minimum distance of six feet below the dam.

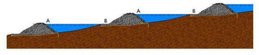
ROCK CHECK DAM

9. Additional sediment storage can be provided by excavating a small sediment trap on the upstream side of the check dam.

Maintenance

- Inspect within 24 hours of each rain event and at least once every seven calendar days.
- If significant erosion occurs between dams, install an erosion-resistant liner in that portion of the channel.
- Remove accumulated sediment when it reaches one-half the height of the dam to maintain channel capacity, allow drainage through the dam, and prevent large flow from displacing sediment.
- Add riprap and aggregate as needed to maintain design height and cross section of the dams.
- When dams are no longer needed, remove the riprap and aggregate and stabilize the channel, using an erosion-resistant lining if necessary. (Riprap and aggregate from the dam may be removed or utilized to stabilize the channel.)

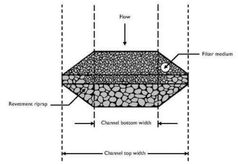
Exhibit 1



A = Crest of Dam
B = Toe of Dam

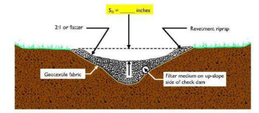
ROCK CHECK DAM

Exhibit 2



ROCK CHECK DAM

Rock Check Dam Worksheet



Source: Adapted from North Carolina Erosion and Sediment Control Planning and Design Manual, 1993

THIS SHEET TO BE USED FOR EROSION CONTROL ONLY.

PERSON ONSITE RESPONSIBLE FOR EROSION CONTROL:
ERIK ROBINSON
LENNAR HOMES OF INDIANA, LLC
PHONE: (317) 659–3200
EMAIL: erik.robinson@lennar.com

REVISIONS

DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA

STORMWATER POLLUTION PREVENTION DETAILS

CHRISTOPHER K. ECKHORN
REGISTERED
No. 11400758
STATE OF INDIANA
PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWN BY	JOB NUMBER 2020–235–F
TS	
CHECKED BY	
KE	
DATE	
APRIL 22, 2024	
SCALE	
AS SHOWN	

SHEET

C8.3

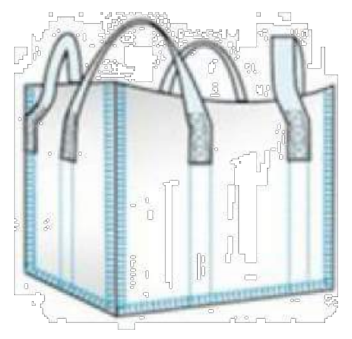
STORMWATER POLLUTION PREVENTION DETAILS

Plot Date: Apr 24, 2024 Plot Time: 2:00pm File Name: W:\Lennar\2020–235–F Lennar – Summerton Amenity\Design\CAD\20235–F SWPP Notes and Details.dwg Layout: C8.3 By: ketchhorn

Plot Date: Apr 24, 2024 Plot Time: 2:00pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F.SWPP Notes and Details.dwg, Layout: C8.4 By: keichhorn

Half (1/2) Yard – One Ton Bag

OTB-04: Half (1/2) Yard One Ton Bag™



Holds a half yard of material and 2,600 pounds. It has an open top and a closed bottom. It is perfect to deliver smaller quantities of product. **It can be used as a washout bag too.**

Size: 31"w x 31"l x 24"h
Capacity: 1/2 Cubic Yard, 2,600 lbs.

Protocol for Propane Tank Staging

The purpose of this memo is to establish protocol regarding the staging of 100# propane tank storage, and the occasional utilization of propane heaters within a structure in Lennar communities. The Lennar Injury & Illness Prevention Plan (IIPP), Code of Safe Work Practices requires that any propane storage on construction site be properly managed. This will assure a safe working environment for Associates, Trade Partners, and Homeowners. The following guidelines shall be implemented by all Associates managing propane fuel on a construction site:

Propane Tank Storage:

- The staging area for propane storage must be located at least 20' behind the street curb.
  - Concrete washout lot is a good location when there is adequate space.
- Tanks must be place a minimum of 10' away from any structure or combustible material.
- Tanks must *always* be in the upright position.
- Tank staging area must be inspected weekly.
- A appropriate fire extinguisher must be readily available;
- It is *not* recommended that any Associate attempt to lift or relocate any 100# tank without assistance. Proper lifting techniques should always be utilized. Tanks larger than 100lbs should be *only* moved or handled by the Propane Supplier;
- Tanks are to be place on a level platform:
  - The platform can be built by your framer;
  - The platform should be substantial enough to accommodate no more than ten (10) one hundred pound propane tanks;
  - The platform should have rails and/or side panels on three sides to prevent tipping of tanks;
  - The open side of the platform should be always be chained or equivalent product;
  - **"Danger – Propane Gas"** signage should be posted so viewable from the public street or walkway.

Considerations When Utilizing Propane / Natural Gas Heaters:

- Do *not* allow Trade Partner's to place *any* fuel source (i.e. Kerosene, etc.) for temporary heat while working within a structure;
- *Only* a qualified Plumber or Fuel Supplier may install, connect, or disconnect any heater to the fuel source;
- A propane heater may only be utilized within a structure when the following guidelines are implemented:
  - The fuel source is located outside the structure as required (10' from structure or combustible material);
  - The heater is set on a non-combustible surface;
  - The heater is placed away from any combustible material… minimum of 3' to 6'… higher btu units may require more clearance per manufacturer specifications;
  - Tank supply hoses must never be place thru door openings; rather, place hoses thru window openings. Block window sash to prevent crushing of the supply line;
  - The heater is monitored while workers are within the structure;
  - There must be adequate ventilation to prevent carbon monoxide exposure.

Remember, we can never be so busy that we cannot be safe. Work Safe… Work Smart!

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Re-Fueling Gas Operated Small Equipment Protocol

The purpose of this memo is to provide instruction to all Trade Partners regarding protocol when re-fueling gas operated small equipment on a Lennar construction site:

- **All fuel containers must meet OSHA standards for worker safety compliance, and DOT standards because fuel is being transported in a motor vehicle on a public roadway.** Approved fuel containers must meet the following standards:
  - Must contain less than five gallons of fuel;
  - Must be equipped with the following:
    - flash arrestor screen;
    - spill proof spring-closing lid;
    - child proof cap;
    - vent to release pressure and minimal vapor;
    - properly equipped metal cans are preferred;
    - plastic cans may be tolerated when meeting the above standards.
  - An appropriate fire extinguisher must be on site at all times when gas operated equipment is present and/or re-fueling is occurring.
- **Proper Re-fueling of small equipment on any Lennar construction site falls under the SWPPP (Storm Water Pollution Prevention Plan) guidelines for each construction site. Since fuels are considered hazardous substances by the USEPA, utilizing proper re-fueling protocol is important.** Considering that all OSHA /DOT requirements have been satisfied, proper re-fueling on a construction site should consider the following guidelines for compliance to the SWPPP:
  - Gas operated equipment and fuel containers should be securely staged on a non-permeable ground barrier or pan-like device;
  - Re-fueling of equipment may *only* be performed on a Lennar construction site when equipment is properly staged to prevent the spillage of fuel onto the ground.
  - In the event any fuel or motor fluid is spilled onto the ground, the contractor must immediately collect and remove polluted soils from the construction site for proper disposal by the contractor.
  - Leaking fuel containers or motor equipment should be removed from the construction site for proper repair / replacement.
  - Any spill of fuel and/or motor oil must be contained and cleaned by the subcontractor. Spills that meet or exceed "reportable" quantities must be immediately contained and reported to the site Construction Manager. The Construction Manager will assure proper protocol is followed for any clean-up of the spill, and determine if the Sub-Contractor is capable of managing the clean-up effort. The Construction Manager will determine when spill clean-up should be done by a professional remediation contractor.

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Brick Mortar Washout Protocol – Lennar BMP

As required by the Federal EPA, the State of Indiana, and Local Municipal Authorities, Lennar has designed and implemented a Storm Water Pollution Prevention Plan (SWPPP) for all construction sites. The SWPPP protects waterways from construction storm water run-off. Improper washout practices on construction sites can be a significant contributor to the pollution of surrounding waterways when stormwater run-off is poorly managed. **Lennar's SWPPP prohibits unlawful washout to occur on any construction site.** In an effort to provide specific direction to Trade partners regarding brick mortar washout, the following instructions are provided:

Lennar Individual Lot Construction Sites:

- Brick mortar washout is *never* allowed onto unprotected ground (this includes temporary graveled construction entrances, often referred to the temp drive).
- Any spillage of brick mortar washout onto the ground shall be removed and contained immediately.
- Equipment utilized for the mixing of brick mortar must be staged on a non-permeable barrier to protect the ground from washout spillage.
- Brick mortar washout must be contained within a water tight (non-permeable) container (i.e. non-permeable washout bag, etc).
- Lennar will provide one – half (1/2) yard washout container bag for each individual construction site. It will be included with the delivery of brick materials. When possible, the brick mason is encouraged to maintain usable bags for reuse on Lennar job sites.
- Brick mortar washout must be made into a semi-solid condition before being emptied into an approved container (i.e. the adding of sand to mixer washout to absorb fluid).
- The washout container bag should be placed at curb for trash pickup. When possible, the container should be place in the provided trash dumpster; or, its content emptied into the Site concrete washout.
- All hardened brick mortar and unused bags of mortar shall be treated as brick trash; collected and properly disposed per the Site trash disposal requirement. Unused mortar bags should *never* be broken open and spread onto the ground or temp drive.
- All fly-a-way trash (paper, wrappings, etc.) shall be contained in trash bags, or equivalent container; collected daily and properly disposed per the Site trash disposal requirement. Fly-a-way trash should *never* be left uncontained on the construction site.

In addition to the above practices, the following requirements shall apply for washout of brick mortar for all Lennar Townhome construction sites:

- The staging area for mixing brick mortar shall be adjacent to the Site concrete washout.
- All Brick mortar washout shall occur (in semi-solid condition) directly into the concrete washout in lieu of utilizing a washout bag.
- Lennar will not provide a washout container bag for Townhome construction sites.

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Solid Waste Trash Removal Protocol for an Individual Lot

The necessity to maintain clean and orderly job sites in our communities is a significant objective for Lennar Homes of Indiana, Inc. It is important that the first impression when entering a community or a new construction home, there is an appearance the site is being managed to achieve a clean and orderly job site. Keeping every job site free from accumulation of trash and debris will be beneficial to the builder, our customers, our homeowners, and provide a clean, safe, and professional work environment for all our Trade Partners. **Clean site… Done right… On time.**

Non-Construction trash (i.e. drink containers, food wrappers, other personal trash, etc.) shall not remain on any Lennar job site. Non-Construction trash must be removed from the site by the Trade Partner. All loose or fly-a-way construction trash must be contained in a trash bag or other disposable container.

Communities where trash containers (i.e. dumpsters) are *not* utilized for trash containment and removal. When allowed by the enforcement of applicable regulations, accumulated trash will be removed from each job site on a regularly scheduled basis, once every week. The Trade Partner providing solid waste removal services will provide the following on a weekly basis:

- Create and maintain a weekly trash route to collect trash from each job site.
- Remove all trash material left piled at the curb and/or left in the garage of each job site for disposal. (Note: Garage trash removal will begin after the drywall phase is completed, and will include sweeping the garage floor).

The following Trade Partners are allowed to *leave* construction trash in one pile placed in the front yard, located by the curb. All loose or fly-a-way construction trash must be contained in a trash bag or other disposable container. They are the following:

- Framer*
- Roof Shingle Installer
- Brick Mason
- Wood Siding Installer

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Direction to the Lennar Site Manager Regarding Spills

Depending on the phase of the construction site**,** the Land Project Manager and/or the Vertical Construction Manager or Area Construction Manager shall referred to as the "site manager".

Please note: Most spills typical to this site may not reportable to the State. However, it shall be the direction of the Permittee that all spill occurrences, which are excluded by the State as "reportable" shall be contained, cleaned, and brought to the attention of the site manager by the party responsible for the spill. The site manager will assure the spill has been properly managed by the party responsible for causing the spill. In the event the party causing the spill cannot be identified, or the product spilled cannot be identified, the site manager may utilize professional mediation clean-up resources available to Lennar. Should the spill be an insignificant quantity, and the product spilled provides no threat to the health and well-being of humans, the Site Manager may choose to contain and clean the spill themselves. However, no matter how the spill occurrence may be identified, it will be the site managers overall responsibility to assure the requirements of the Indiana CPG are satisfied.

The Indiana Rule 6.1. Spills; Reporting, Containment, and Response, 327 IAC 2-6.1-1 clarifies the following when referring to spills:

- When a spill occurrence is excluded by the Rule;
- What qualifies a spill occurrence as reportable to the State;
- When a spill occurrence qualifies as "reportable" to the State, the Rule provides direction as to:
  - when a report must be accomplished,
  - who will make the report,
  - where the report will be sent,
  - who will receive the report,
  - the time frame in which the report shall be sent..

The Indiana Rule 6.1 further states, "Notwithstanding any other section of this rule, **emergency spill response actions take precedence over reporting requirements**, and when emergency spill response activities render spill reporting inconsistent with effective response activities, communication of the spill report to the Indiana department of environmental management may be delayed. In situations where the spill report is delayed, the burden of proving the need for the delay shall be upon the responsible persons."

Finally, when a spill occurs on the site that is of "reportable" quantity or type, the Site Manager will contact the Division Environmental Manager for appropriate direction. **However, when the spill occurrence is of such magnitude as to be considered dangerous to life, limb property wildlife habitat the site manager will contact local emergency personnel immediately…. DIAL 911.** The Division Environmental Manager shall be contacted immediately after emergency services has been contacted.

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Protocol for the Transition from Land Development to Vertical Construction

The purpose for this sequence checklist is to identify how the transition will occur when a Land Development Project Section is ready to begin Vertical Construction. Vertical Construction will operate under the approval of the Project's Construction General Permit originally filed with the State. A copy of this checklist will remain in the Project Management Log.

The VP of Operations will determine when a Project Site Section is ready for the Pre-Construction Meeting. He will direct the VP of Land Development and the Director of Construction to schedule the meeting. The Land Project Manager, Director of Construction, Area Construction Manager, Construction Manager, Alpha Field Manager, and Division Environmental Manager will meet at the Project Site (participants might vary based on availability) to verify the following:

- ✓ The Site Plat has been recorded and all Permits are valid.
- ✓ The Project Site is compliant with the SWPPP / The PML documents are current (i.e. NOS included in book).
- ✓ All amendments regarding approved changes made to the site Plan are properly logged in the Project Management Log.
- ✓ All site BMPS are maintained and functioning as intended.
- ✓ Individual lots released for construction have established building pads, and swales.
- ✓ Access to all public utilities (water, sewer, gas, and electric) are present on all lots released for vertical construction.
- ✓ Once a section is released for Vertical Construction, there will be an understanding as to who is responsible for BMP maintenance related to individual lots not yet released for construction start, and including maintenance related to common areas (entry, ponds, swales, and recreational areas).
- ✓ BMP requirements for individual lots have been identified as may be required by the Municipal Authority and have been communicated to the site Construction Manager:
  - Perimeter silt fence requirements;
  - Approved BMPs identified;
  - Appropriate trash Containment.
- ✓ The BMP maintenance Trade Partner has been identified for Vertical Construction.
- ✓ The SWPPP Inspection Provider has been informed the Site now includes Vertical Construction.
- ✓ The Vertical Construction SWPPP Box is on site and compliant, or has been ordered and location determined.
- ✓ The Land Project Management Log has or will be moved from the Land SWPPP Box to the Vertical Construction SWPPP Box.
- ✓ Third Party Developer Projects: A Lennar Land Project Manager has been assigned to the Project for resolving Land related issues with the Third Party Developer.
- ✓ There is an agreement / understanding as to responsibility for BMP maintenance and Plan design issues related to swales, common areas, and individual lots not released for construction.
- ✓ A Construction Manager has been assigned to the community.
- ✓ The Municipal Vertical Construction Inspection process and contact person has been identified, and information provided to the Construction Manager.

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- ✓ The following has been provided to the Vertical Construction Manager:

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- Electronic access or paper copy of a full set of approved Project Plans;
- **Location of all outfalls and where stormwater discharges from the project site**;
- Community lot listing (including phase building order;
- Community information;
- Vertical Construction has been posted on SafetyPro and CM has access for inspections.

- ✓ The following items have be located on the project site for Vertical Construction as required by the SWPPP:
  - Portable Toilet is stage to required protocol;
  - Concrete Washout with proper signage.

Note: Any action items will be noted in punch list form. Punch list items will be accomplished in a timely manner and reported to the VP of Operations. Should punch list items continue to be unresolved, the V.P. of Operations may choose to delay Vertical Construction until all items are completed, or if items will not interfere with Vertical Construction Phase approve proceeding with construction.

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Protocol for when BMP Maintenance is Required for a Permitted Construction Site.

Introduction - The purpose of this protocol is to provide guidance as to when BMP maintenance is required on a permitted site, and should be noted on an inspection report. On occasion, guidance may be re-directed as required by the enforcement of applicable regulation.

When is maintenance required on a BMP?

- When the BMP is not permitted by applicable regulation.
- When the BMP is not installed correctly.
- When the BMP has failed.
- When the BMP no longer functions as intended.
- When the BMP is being utilized improperly.
- When the BMP is damaged to the extent that sediment is leaving or about to leave the site.

Note: Completed inventory home awaiting permanent stabilization. Continue to inspect and maintain perimeter BMPs routinely. A note will be made in comment section of inspection report regarding lot status.

Note: Transfer of Ownership of a home awaiting permanent stabilization. Perform inspection routinely. Only note maintenance when BMP is about to fail, or when BMP has failed, and creates the potential of a release of sediment into a swale, waterway, street, or stormwater inlet. A note will be made in the comment section of inspection report regarding the lot status.

Third Party SWPPP Inspector Responsibilities:

- The *entire* project site must be inspected noting all BMP maintenance required.
- Rain event inspections will be specific to maintenance required due to the event.
- Inspections need even-flow to avoid bursts of high volume repair and costs related to it.
- Failed printer issues that prevent the provision of a report being placed in the Inspection Log Book, must be resolved within the next day. The Site Manager should be notified.
- Maintenance related to a Third Party Developer should not be listed as an action item on the report. It may be added to comments if the items is a significant failure of a BMP. The CM should be notified.
- When you have a question regarding an item on the report, the site CM is your immediate contact. Questions needing immediate response should communicated via phone or text.
- The Third Party Inspector will meet with the CM / LPM after every inspection to review maintenance items. The CM /LPM will provide final direction regarding items to be included in the report.

BMP Maintenance Trades Attention:

- Make certain all repairs on a report are accomplished within five days of the report;
- Notify the site CM when you will begin repairs and when you are finished;
- Repairs that are reported to be oversighted must be accomplished within the next day;
- When you have a question regarding an item on the report, the site CM is your immediate contact. Questions needing immediate response should communicated via phone or text.

LENNAR

Author: Kevin Rager Page 1 of 1 12/11/19

THIS SHEET TO BE USED FOR EROSION CONTROL ONLY.

PERSON ONSITE RESPONSIBLE FOR EROSION CONTROL:
ERIK ROBINSON
LENNAR HOMES OF INDIANA, LLC
PHONE: (317) 659-3200
EMAIL: erik.robinson@lennar.com

REVISIONS		
DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA

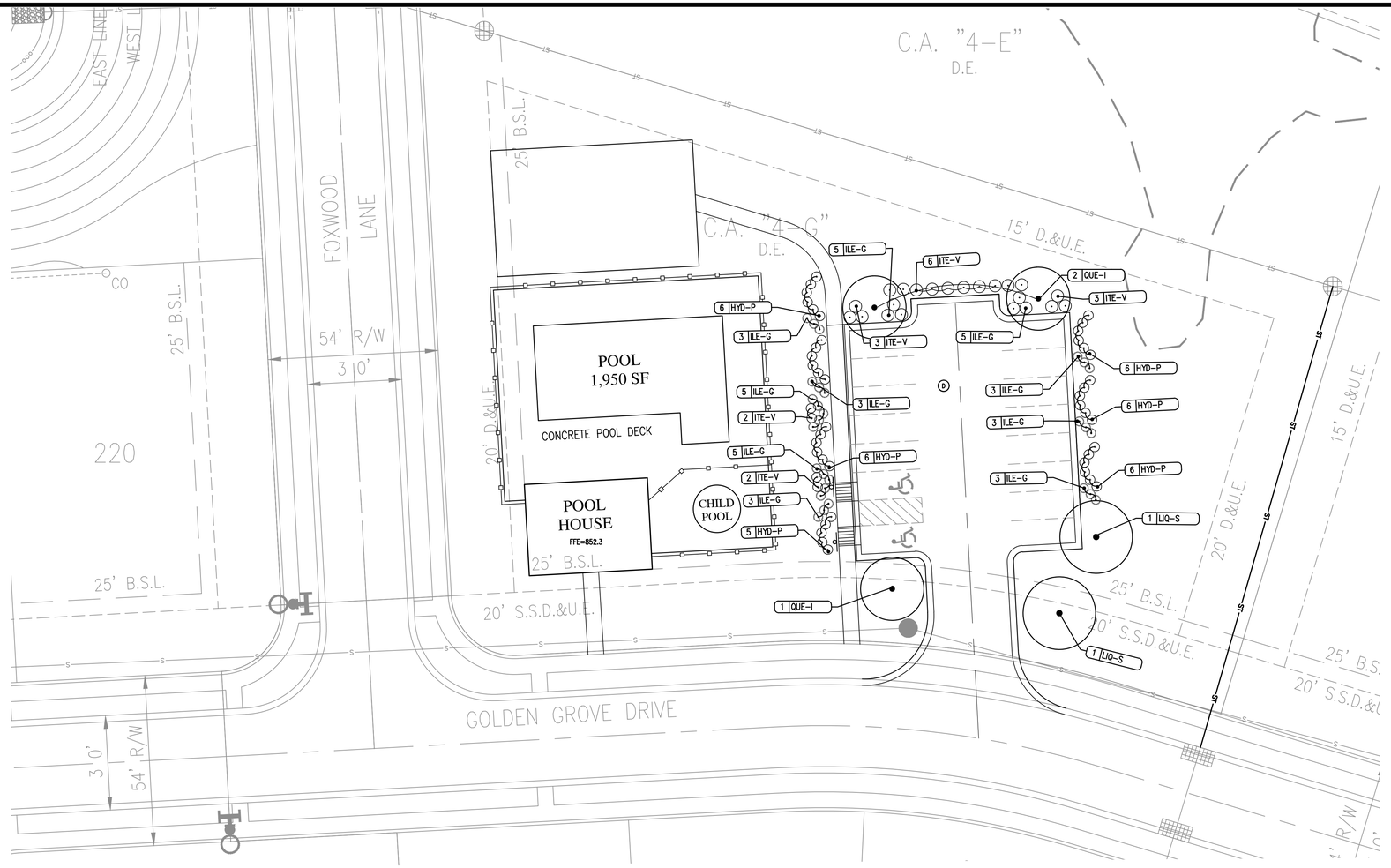
STORMWATER POLLUTION PREVENTION DETAILS

KRISTOPHER K. EICHHORN REGISTERED No. 11400758 STATE OF INDIANA PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

Kristopher K. Eichhorn

DRAWN BY
TD
CHECKED BY
KE
DATE
APRIL 22, 2024
SCALE
AS SHOWN
JOB NUMBER
2020-235-F
SHEET
C8.4
STORMWATER POLLUTION PREVENTION DETAILS



KEY	QTY	BOTANICAL NAME	COMMON NAME	CALIPER	HGT	ROOT	SPACING	REMARKS
SHADE TREES								
LIQ-S	2	LIQUIDAMBAR STYRACIFLUA 'ROTUNDALOBA'	FRUITLESS SWEETGUM	2"	-	B&B	SEE PLAN	CENTRAL LEADER
QUE-I	3	QUERCUS IMBRICARIA	SHINGLE OAK	2"	-	B&B	SEE PLAN	CENTRAL LEADER
SHRUBS								
HYD-P	29	HYDRANGEA PANICULATA 'LITTLE LIME'	LITTLE LIME HYDRANGEA	5 GAL.	18"	CONTAINER	SEE PLAN	FULL IN POT
ILE-G	35	ILEX GLABRA 'DENSA'	DENSA COMPACT INKBERRY	5 GAL.	18"	CONTAINER	SEE PLAN	FULL IN POT
ITE-V	16	ITEA VIRGINICA	VIRGINIA SWEETSPIRE	5 GAL.	18"	CONTAINER	SEE PLAN	FULL IN POT

LANDSCAPE GENERAL NOTES:

1. NOTIFY THE LANDSCAPE ARCHITECT IF SITE CONDITIONS ARE UNSUITABLE OR OTHER UNFORESEEN CONDITIONS ARE FOUND.
2. CONTRACTOR SHALL LOCATE AND VERIFY EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK, AND SHALL COORDINATE ALL LANDSCAPE WORK WITH CIVIL AND ELECTRICAL DRAWINGS, PROVIDE ADEQUATE MEANS OF PROTECTION OF UTILITIES AND SERVICES DESIGNATED TO REMAIN, AND REPAIR UTILITIES DAMAGED DURING OPERATIONS AT CONTRACTOR'S EXPENSE.
3. ALL PLANT MATERIAL SHALL BE IN CONFORMANCE WITH THE "AMERICAN STANDARD FOR NURSERY STOCK" ANSI Z60.1 LATEST EDITION.
4. ALL LANDSCAPING SHALL BE INSTALLED PER LOCAL ZONING REQUIREMENTS.
5. CONTRACTOR IS REQUIRED TO NOTIFY LANDSCAPE ARCHITECT OF ANTICIPATED INSTALLATION DATES ONE WEEK PRIOR TO ARRIVAL OF PLANT MATERIAL ON SITE. THE LANDSCAPE ARCHITECT WILL BE AVAILABLE TO REVIEW AND TAG TREES AT THE NURSERY. THE LANDSCAPE ARCHITECT SHALL INSPECT THE QUALITY OF PLANT MATERIAL ON-SITE BEFORE PLANTS ARE PLACED IN THE GROUND. THE LANDSCAPE ARCHITECT MAY REJECT ANY PLANT MATERIAL, AND IT SHALL BE REPLACED WITH ACCEPTABLE MATERIAL BY THE LANDSCAPE CONTRACTOR.
6. NO SUBSTITUTIONS FOR THE SPECIFIED LANDSCAPE MATERIAL ARE ALLOWED UNLESS ACCEPTED IN WRITING BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING OPERATIONS.
7. CONTRACTOR TO THOROUGHLY WATER ALL PLANT MATERIAL WITHIN SIX (6) HOURS OF INSTALLATION AND AS SPECIFIED THROUGHOUT THE MAINTENANCE PERIOD. THE OWNER IS RESPONSIBLE FOR WATERING PER CONTRACTOR'S WRITTEN MAINTENANCE INSTRUCTIONS THROUGHOUT THE GUARANTEE PERIOD. SEE NOTE 19. FOR MAINTENANCE AND GUARANTEE PERIOD REQUIREMENTS.
8. THE SITE IS TO BE LEFT IN A CLEAN AND NEAT CONDITION AT ALL TIMES.
9. MULCH: FINELY SHREDDED HARDWOOD BARK, AGED TO BE APPLIED AT A THREE (3) INCH DEPTH FOR ALL PLANTING BEDS AND TREE SAUCERS. RENEWAL OF MULCH DURING THE GUARANTEE PERIOD SHALL BE PERFORMED BY THE OWNER AS NEEDED. SEE NOTE 19. FOR MAINTENANCE AND GUARANTEE PERIOD REQUIREMENTS.ALL INTERIOR PARKING LOT PLANTING AREAS TO RECEIVE MULCH UNLESS NOTED OTHERWISE.
10. SEED WITH TURF GRASS/LAWN ALL DISTURBED AREAS NOT SCHEDULED FOR OTHER IMPROVEMENTS.
11. ALL PLANTING BEDS WITH ADJOINING LAWN AREAS SHALL BE EDGED WITH A SPADE, UNLESS NOTED OTHERWISE.
12. CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUALITY AND QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING AS SHOWN ON DRAWINGS. IF THERE IS A DISCREPANCY BETWEEN THE PLANS AND THE PLANT LIST, THE PLANS SHALL TAKE PRECEDENCE. IF THERE IS A DISCREPANCY BETWEEN THE QUANTITY OF PLAN SYMBOLS AND THE QUANTITY LABEL, THE PLAN SYMBOLS SHALL TAKE PRECEDENCE.
13. NO PLANT SHALL BE PUT INTO THE GROUND BEFORE ALL PAVEMENT AND ROUGH GRADING HAS BEEN FINISHED AND APPROVED. LANDSCAPE INSTALLATION SHALL NOT BE PHASED UNLESS APPROVED BY THE LANDSCAPE ARCHITECT. ALL PLANT MATERIAL SHALL BE INSTALLED IN ONE MOBILIZATION AT THE END OF THE PROJECT UNLESS OTHERWISE NOTED.
14. PRIOR TO PLANTING, THE LOCATIONS OF ALL TREES AND SHRUBS SHALL BE STAKED FOR APPROVAL BY THE OWNER'S REPRESENTATIVE.
15. STAKES AND GUY WIRES USED TO SUPPORT PLANTING MATERIALS SHALL BE REMOVED AFTER ONE YEAR.
16. ALL PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOTBOUND. ALL ROOT WRAPPING MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED AT THE TIME OF PLANTING. ALL TWINE OR ROPE SHALL BE REMOVED FROM AROUND CROWN OF TRUNK TO PREVENT GIRDLING OF TREE. ALL PLANTS SHALL BE PLANTED SO THAT THE ROOT CROWN IS PLANTED 1/2 – 1" ABOVE GRADE LEVEL.
17. WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE CONTAINER BALL SHALL BE CUT THROUGH THE SURFACE IN THREE VERTICAL LOCATIONS.
18. CONTRACTOR SHALL REPAIR ANY DAMAGE TO PROPERTY FROM PLANTING OPERATIONS AT NO COST TO THE OWNER.
19. MAINTENANCE PERIOD: CONTRACTOR SHALL BE REPSONSIBLE FOR ALL PLANT MAINTENANCE AND REPLACEMENT THROUGHOUT CONSTRUCTION. UPON RECEIVING WRITTEN ACCEPTANCE FROM THE LANDSCAPE ARCHITECT, CONTRACTOR'S MAINTENANCE PERIOD IS COMPLETE AND GUARANTEE PERIOD BEGINS. OWNER ACCEPTS MAINTENANCE OF PLANTS AND LANDSCAPE BEDS AT START OF GUARANTEE PERIOD PER CONTRACTORS WRITTEN MAINTENANCE INSTRUCTIONS.
20. WARRANTY: LANDSCAPE CONTRACTOR SHALL WARRANTY ALL NEW PLANT MATERIAL THROUGH ONE YEAR FROM THE TIME OF WRITTEN ACCEPTANCE BY THE LANDSCAPE ARCHITECT ESTABLISHING THE START OF THE GUARANTEE PERIOD.
21. REPLACEMENTS: AT THE CONCLUSION OF THE GUARANTEE PERIOD, THE LANDSCAPE ARCHITECT WILL PERFORM A FINAL INSPECTION. ANY MATERIAL DEEMED DEAD OR UNSATISFACTORY BY THE LANDSCAPE ARCHITECT AT THAT TIME WILL BE REPLACED EQUIVALENT IN SIZE AND SHAPE AT NO COST TO THE OWNER. REPLACEMENT PLANT MATERIAL IS TO BE PROVIDED WITH AN ADDITIONAL ONE-YEAR WARRANTY AND SHALL BE REPLACED IF DEAD, DYING, OR OTHERWISE UNACCEPTABLE TO THE LANDSCAPE ARCHITECT ONE FINAL TIME AT THE CONCLUSION OF THAT PERIOD.

Indiana 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
Call 811 or 800-382-5544 Before you Dig!

GRAPHIC SCALE
0' 20' 40' 60'
(IN FEET)

LANDSCAPE LEGEND:

# XXX	QUANTITY / KEY
	SHADE TREE
	DECIDUOUS SHRUB
	EVERGREEN SHRUB

REVISIONS

DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

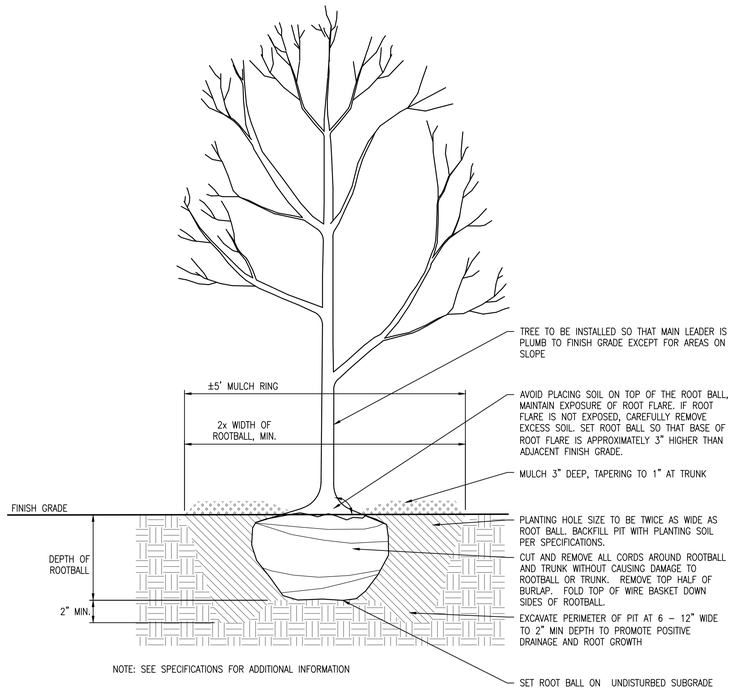
SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA
LANDSCAPE PLAN

CHRISTOPHER K. ECHHORN
REGISTERED
11400758
STATE OF
PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION

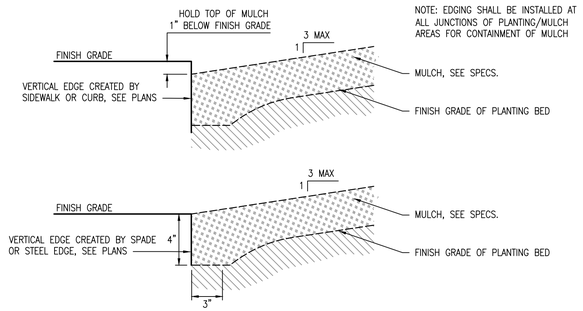
DRAWN BY	TS
CHECKED BY	KE
DATE	APRIL 22, 2024
SCALE	AS SHOWN
JOB NUMBER	2020-235-F
SHEET	L1.0

LANDSCAPE PLAN

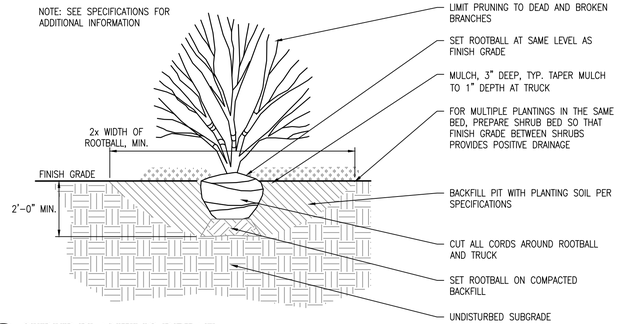
Plot Date: Apr 24, 2024 Plot Time: 2:01pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F Landscape Plan.dwg, Layout: L1.0 By: keichhorn



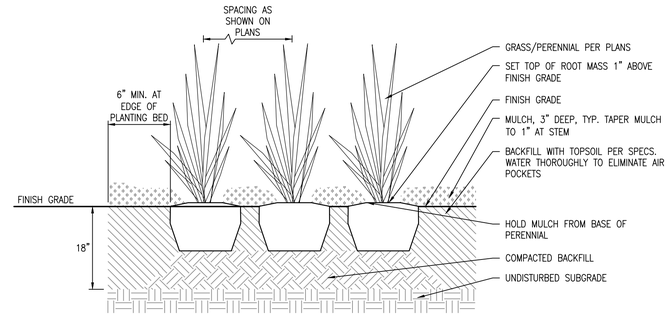
1 TYPICAL TREE PLANTING DETAIL
NOT TO SCALE



4 PLANTING BED PERIMETER
NOT TO SCALE

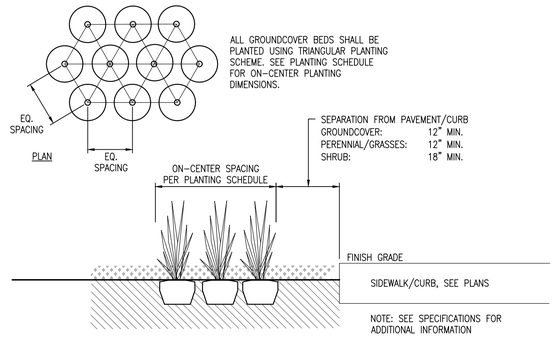


SHRUB PLANTING DETAIL
NOT TO SCALE



3 PERENNIALS & GRASSES DETAIL
NOT TO SCALE

NOTE: SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION



5 PLANT LAYOUT
NOT TO SCALE

PLANTING NOTES:

1. PLANT LOCATION SHALL BE STAKED BY THE CONTRACTOR AND REVIEWED BY THE LANDSCAPE ARCHITECT BEFORE PLANTING OPERATIONS COMMENCE. ADJUST AS REQUESTED TO AVOID UTILITY CONFLICTS.
2. NOTE THAT PLANT LIST QUANTITIES ARE FOR THE CONTRACTOR'S CONVENIENCE ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES PRIOR TO SUBMITTING THEIR BID FOR THIS PROJECT.
3. ALL PLANT MATERIAL SHALL CONFORM TO ANSI Z60.1 STANDARDS. LANDSCAPE ARCHITECT PRESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING INDUSTRY STANDARDS.
4. STREET TREES ARE TO BE SPACED AT 40' O.C., TYPICAL. HOWEVER, TREES WILL REQUIRED A MINIMUM 10' SEPARATION FROM SANITARY SEWER MAINLINES/LATERALS AND WATER MAINS.
5. PLANTING BEDS SHALL RECEIVE A 3" LAYER OF SHREDDED BARK MULCH.
6. SEED AND STRAW MULCH ALL LAWN AREAS DISTURBED DURING CONSTRUCTION, UNLESS NOTED OTHERWISE.
7. REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST FULL GROWING SEASON AFTER PLANTING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVED STAKING MATERIALS.
8. EXCAVATION FOR TREE PITS SHALL BE 2.5 TIMES DIAMETER OF ROOT BALL, SET ON UNDISTURBED SUBBASE.
9. REMOVE ALL RIBBONS OR TREE TAGS AFTER APPROVAL BY LANDSCAPE ARCHITECT.
10. TREES SHALL BE ALIGNED AND PLUMB AFTER WATERING AND SETTLING.
11. PRUNE TREES AS REQUIRED, AND AS DIRECTED BY THE LANDSCAPE ARCHITECT.
12. STAKING AND GUYING TO BE AT THE DISCRETION OF THE CONTRACTOR. TREES SHALL NOT SWAY EXCESSIVELY.
13. TREE SHALL BE TURNED SO BEST SIDE FACES FRONT
14. CONTRACTOR SHALL INSTALL TWO REINFORCED RUBBER HOSE SECTIONS WITH A DOUBLE STRAND OF #14 WIRE. WRAP WIRE A MINIMUM OF TWO TIMES AROUND EACH POST.
15. THE FIRST STAKE SHALL BE DIRECTLY SOUTHWEST OF THE TREE TRUNK.

PREPARED BY:

HWC ENGINEERING
135 N. PENNSYLVANIA ST., SUITE 2800
INDIANAPOLIS, IN 46204
P: 317-347-3663

REVISIONS		
DATE	DESCRIPTION	BY

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

SUMMERTON AMENITY AREA
MCCORDSVILLE, INDIANA
LANDSCAPE DETAILS

CHRISTOPHER K. EICHHORN
REGISTERED
No. 11400758
STATE OF INDIANA
PROFESSIONAL ENGINEER

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWN BY	JOB NUMBER 2020-235-F
TS	
CHECKED BY	
KE	
DATE	
APRIL 22, 2024	
SCALE	
AS SHOWN	

SHEET
L1.1
LANDSCAPE DETAILS

Plot Date: Apr 24, 2024 Plot Time: 2:01pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\2023-F Landscape Plan.dwg, Layout: L1.1 By: kelchhorn

McCORDSVILLE, INDIANA

TOWN STANDARDS

DIRECTIONS FOR USE

1.) The entire set of full size drawings shall be attached to the construction drawings and shall be considered part thereto. A partial set may be used for small projects when whole sections are not applicable. Approval of use of a partial set will be made by the Town Engineer at the time of approval of the construction drawings.

2.) Details prepared by outside sources shall not be included in the construction drawings when the said drawings cover work which is covered by McCordsville Standards.

3.) Individual McCordsville Standards that do not apply may be crossed out by the design engineer through placement of a single large X over the detail. Minor reference notations may be placed adjacent to individual standard titles for coordination. However, the standards themselves shall not be modified in any way.

4.) Details prepared by outside sources covering work which is not covered by the McCordsville Standards are the sole responsibility of the design engineer and shall be placed on sheets other than the McCordsville Standards.

GENERAL NOTES

1.) Contractor shall verify the exact location of all existing utilities at least 48 hours prior to any construction or excavation. All utilities shall be adequately supported to minimize damage. The contractor shall be responsible for repairing damaged utilities to the satisfaction of the Town of McCordsville and the owner of the utility.

2.) All benchmarks and elevations shall be from NAD 1983 (Conus) Datum. All coordinates shall conform with the Hancock County GIS standard.

3.) Wherever proprietary equipment is specified, all proposals for substitution shall be submitted in writing to the Town Engineer and shall be subject to the findings of the Town Engineer and may be appealed to the Public Works Committee.

4.) Whenever trench opening encroaches within 5 feet of an existing or proposed street or sidewalk, "B"-Borrow compacted in accordance with the most recent INDOT standard specifications shall be required. Approved backfill may be used under proposed sidewalks provided sidewalks are constructed six months after backfilling of the trench.

5.) Installation of or provisions for installation of all underground utilities (including service laterals) to be placed under pavement areas shall be established prior to the construction of pavements including lime stabilization.

HOLEY MOLEY SAYS

"DIG SAFELY"

"IT'S THE LAW"
CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-382-5544
CALL TOLL FREE
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.

REVISION LOG

SHEET NO.	SHEET DESCRIPTION	ISSUED	REVISED	REVISED	REVISED	REVISED
SHEET 1	DIRECTIONS FOR USE, GENERAL NOTES & REVISION LOG	06/14/05				
SHEET 2	RIGHT-OF-WAY SECTIONS & PAVEMENT SPECIFICATIONS	06/14/05				
SHEET 3	RIGHT-OF-WAY DETAILS	06/14/05				
SHEET 4	UTILITY LOCATION GUIDELINES	06/14/05				
SHEET 5	DRIVE WAYS, SIDEWALKS, AND HANDICAP RAMPS	06/14/05				
SHEET 6	STORM SEWER STRUCTURE DETAILS	06/14/05				
SHEET 7	STORM SEWER BEDDING DETAILS AND GENERAL NOTES	06/14/05				
SHEET 8	SANITARY SEWER SPECIFICATIONS	06/14/05				
SHEET 9	SANITARY SEWER DETAILS	06/14/05				
SHEET 10	SANITARY SEWER LIFT STATION STANDARDS & GUIDELINES	06/14/05				

TOWN OF McCORDSVILLE

THOMAS STRAYER — TOWN COUNCIL PRESIDENT

GRANT ADAMS — PUBLIC WORKS CHAIRMAN

TONYA GALBRAITH — TOWN MANAGER

RONALD D. CRIDER — PUBLIC WORKS COMMISSIONER

REVISIONS		
REV. NO.	DESCRIPTION	DATE

MARK J. WITSMAN REGISTERED No. 10100264 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMEND FOR APPROVAL — DESIGN ENGINEER — DATE 7/12/05

TOWN OF McCORDSVILLE

DIRECTIONS FOR USE, GENERAL NOTES & REVISION LOG

SHEET 1 OF 10

Plot Date: Apr 24, 2024 Plot Time: 2:01pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F McCordsville Standard Details.dwg, Layout: Detail 1 of 10 By: keichhorn

LIME STABILIZATION

DESCRIPTION: This work shall consist of upgrading of mostly fine grained soils by uniformly mixing small amounts of lime (3 to 6%) by weight to provide a working platform for the road subbase.

MATERIALS: Material shall meet the requirements of the Section 913 of the INDOT Standard Specification

LIME:

a) High calcium or dolomite Hydrated Lime (Ca(oH)2 +Mg(oH)2) shall have a minimum of 90% total available calcium hydroxide content and the hydrates must contain no more than 5 % carbon dioxide content if sampled at the lime plant, or no more than 7 % if sampled at the job site.

b) High calcium hydrated lime shall have a minimum available calcium hydroxide Ca(oH)2 content of 90%. The method used for determination of available lime shall conform to AASHTO T219-72 or ASTM C25.

c) Maximum Mechanical Moisture content shall be 4%.

d) Gradation: All hydrated lime shall conform to the following gradation requirement. At least 85% passing a #200 sieve (0.075 mm). Determination of particle size shall conform to the provision for wet sieving on ASTM C110.

e) Other lime products such as quicklime - high calcium (CaO) or Dolomite (CaO- MgO) may be substituted with written approval by the Town Engineer. By-product lime (kiln dust) shall not be used.

WATER: Water used for lime modification shall be in accordance with all applicable requirements of 913 and 913.01 of the INDOT Specifications, except that the minimum acceptable pH is 6.5.

STORAGE AND HANDLING

a) Hydrated lime shall be stored and handled in closed weatherproof containers until immediately before distribution on the subgrade. Hydrated lime in bags shall be stored in weather protected conditions with adequate protection from ground dampness, and the facility shall be approved by the Town Engineer prior to commencement of any lime work.

b) Each shipment shall be accompanied by a bill of loading and by a certificate of compliance stating conformance to the applicable specification requirements. The certificate of compliance shall be submitted to the Town Engineer prior to the proof roll on the subgrade.

c) The Contractor shall take appropriate preventive and protective (safety) measure that shall be exercised by those working with this material. All safety measures shall comply with applicable OSHA requirements.

MIXTURE COMPOSITION:

a) Mix Design: Lime will be proportioned within a range of 3 to 6 percent of soil (oven - dry basis). The required proportion of lime will be recommended by the Contractor and approved by the Town Engineer prior to construction using samples of soil and lime. The Town Engineer reserves the right to make such adjustments of lime proportioning as are considered necessary during the progress of the work within the range specified.

b) Source or type of lime shall not be changed during the progress of the work without permission of the Town Engineer. However, the Town Engineer may choose to use different types of lime on different portions of the project, but shall not be mixed.

CONSTRUCTION REQUIREMENTS:

a) Temperature and Weather Limitations: No lime modification shall be performed at a soil temperature less than 45 degrees Fahrenheit (7 degrees C) and the air temperature rising, of subgrade soil when it is measured 4" (100 mm) below the surface. Lime shall not be mixed with frozen soils or with soil containing frost.

b) Preparation of Existing Roadway: All deleterious material, such as stumps, roots, turf, etc. and aggregate larger than 3" (75 mm) shall be removed. Any soft organic soils shall be removed as directed by the Town Engineer.

c) Spreading of Lime: The roadbed shall be scarified or disked prior to distribution of the lime. The machine shall be of such design that a visible indication is given at all times that the machine is cutting to the required depth; The lime shall than be distributed uniformly over the surface by means of cyclone, screw-type, or pressure manifold type distributor. The Town Engineer may reject any procedure which does not provide even distribution of lime.

Lime shall not be applied when wind conditions are such that blowing lime becomes objectionable to adjacent property owners or creates a hazard to traffic on adjacent roadways.

The spreading of lime shall be limited to the amount which can be incorporated after mixing. In no case shall compaction be started later than three (3) days after mixing into the soil. In the event that rain intervenes causing cessation of work and exposure of the lime to washing or blowing, the Town Engineer may require additional lime to be spread.

d) Mixing: The lime, soil and water (if necessary) shall be thoroughly blended by rotary speed mixers or a disc harrow. The mixing shall continue until a homogeneous layer of the required thicknesses has been obtained and clods are broken down so that 100 %, exclusive of rock particle, will pass a one-inch (25 mm) sieve and at least 60% will pass a 4 sieve (4.75 mm). The loose thickness of a single lime modified layer shall not exceed eight (8) inches (200 mm) if a disc harrow is used and fourteen (14) inches (355 mm) if a rotary speed mixer Is used.

e) Compaction: Compaction of the mixture shall begin as soon as is practicable mixing unless approved by the Town Engineer. If compaction is to be delayed, the surface of the lime modified soil shall be crown-graded and sealed by either blade dragging or light rolling immediately after mixing.

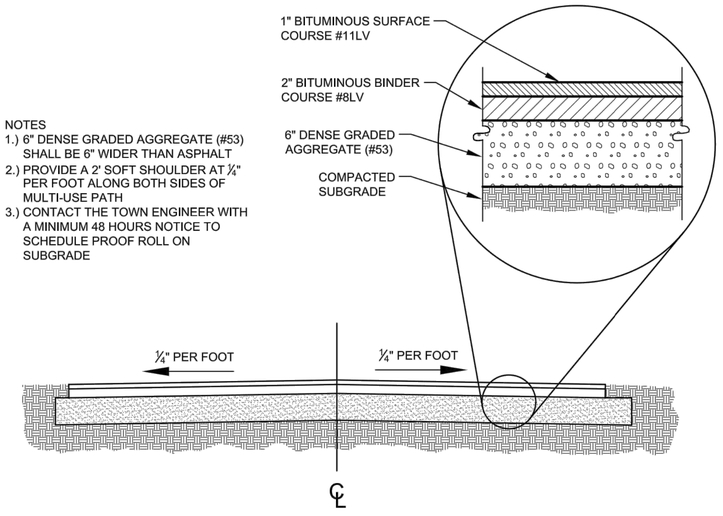
Compaction shall be continued until the Contractor has shown that the lime modified layer has a density not less than 100 percent within the special subgrade treatment zone and/or 95 percent below special subgrade treatment zone, of the maximum dry density.

The standard dry density of the lime treated soil shall be obtained by AASHTO 99. The field in-place dry density will be obtained by the Contractor in accordance with AASHTO T 191.

Aeration by means of further mixing, or the addition of water and further mixing, may be required by the Town Engineer to achieve the required compaction.

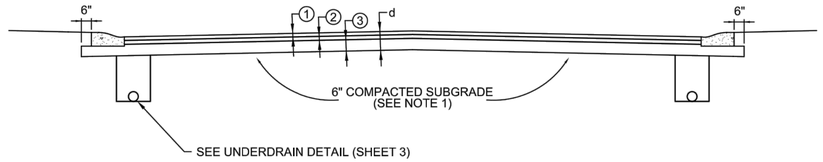
f) Finishing: When compaction of the lime modified soil is nearing completion, the surface shall be shaped to the required line, grades and cross section, and compaction continued until uniform and adequate compaction if obtained.

The Town Engineer reserves the right to determine the actual thickness of the completed and cured layer by coring or other means at the owner's expense, and any deficient areas shall be acceptably corrected.



MULTI-USE PATH DETAIL

SCALE: NONE



NOTES:

1. HMA SHALL BE PRODUCED FROM AN INDOT CERTIFIED HMA PLANT, IN ACCORDANCE WITH INDIANA TEST METHOD (ITM) 583.

2. THE CONTRACTOR SHALL PROVIDE A COPY OF THE CERTIFICATION TO THE TOWN ENGINEER AT OR BEFORE THE INSTALLATION OF THE HMA.

3. PG BINDER MATERIAL (LIQUID) SHALL BE PG 64-22 FOR TYPE A AND TYPE B MIXES.

4. RECYCLED MATERIALS, UP TO 25%, MAY BE USED BASE. IF OVER 15% RECYCLED MATERIAL IS USED, PG BINDER 58-28 SHALL BE USED RATHER THAN PG 64-22

LOCAL ROAD

d = 12"

① 1" HMA, TYPE A, 9.5 MM SURFACE

② 3" HMA, TYPE A, 19.0 MM INTERMEDIATE

③ 4" COMPACTED AGGREGATE BASE #53
4" COMPACTED AGGREGATE BASE #2

LOCAL ARTERIAL ROAD

d = 15"

① 1" HMA, TYPE A, 9.5 MM SURFACE

② 3" HMA, TYPE A, 19.0 MM INTERMEDIATE

③ 3" HMA, TYPE A, 25.0 MM BASE

④ 4" COMPACTED AGGREGATE BASE #53
4" COMPACTED AGGREGATE BASE #2

COLLECTOR ROAD

d = 18"

① 1" HMA, TYPE B, 9.5 MM SURFACE

② 3" HMA, TYPE B, 19.0 MM INTERMEDIATE

③ 6" HMA, TYPE B, 25.0 MM BASE

④ 4" COMPACTED AGGREGATE BASE #53
4" COMPACTED AGGREGATE BASE #2

PAVEMENT CONSTRUCTION

SCALE: NONE

PAVEMENT CONSTRUCTION

1.) Subgrade shall be lime stabilized per the lime stabilization specification on this sheet.

2.) Adequacy of existing subgrades shall be determined solely by the town based on a contractor performed proof roll with a fully loaded tri-axle dump truck. A proof roll shall be performed on all street subgrade prior to placing stone, under drains and installing curb. A second proof roll shall be performed on the stone prior to placing the asphalt base. The adequacy of the stone and subgrade shall be determined solely by the town.

3.) Place tack coat in accordance with the most recent INDOT standard specifications for asphalt pavement sections.

4.) Local Arterial Road is defined as a low capacity and low speed roads within subdivisions whose function is to become a collector street for local subdivision traffic and move traffic from within the community to other locations in the community and to the existing county roads. Whether a street is defined as a Local Arterial Road is at the sole discretion of the Public Works Commissioner.

5.) Installation of or provisions for installation of all underground utilities (including service lines and laterals) shall be placed prior to the construction of pavement including lime stabilization.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

MARK J. WITSMAN REGISTERED No. 10100264 STATE OF INDIANA PROFESSIONAL ENGINEER

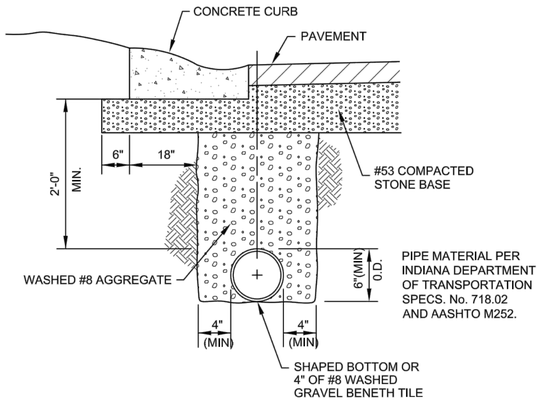
RECOMMEND FOR APPROVAL	DESIGN ENGINEER	7/12/05 DATE
APPROVED	PUBLIC WORKS COMMISIONER	7/12/05 DATE
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

TOWN STANDARDS RIGHT-OF-WAY SECTIONS & PAVEMENT SPECIFICATIONS

SHEET 2 OF 10

Plot Date: Apr 24, 2024 Plot Time: 2:01pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F McCordsville Standard Details.dwg, Layout: Detail 2 of 10 By: keichhorn



UNDERDRAIN DETAIL

SCALE: NONE

STREET SIGN STANDARDS

All traffic and road name signs in and as a result of a major subdivision or a minor subdivision with newly constructed streets, shall be supplied and installed by the developer. The placement of the signs shall be as shown on the traffic sign plan that is to be submitted with the construction drawings. The traffic sign plan shall show the type of sign, size of sign, location of sign with dimensions and the streets to scale. A five (5) year maintenance bond shall be posted on the signs. The installer or developer shall notify the Town Engineer in writing when the signs are installed, so they can be inspected. Also include the date and time of installation of each sign. The plat shall not be recorded until the signs have been accepted.

TRAFFIC SIGNS

1.) Traffic signs shall be designed and installed to conform with the applicable requirements of the Indiana Manual of Uniform Traffic Control Devices, latest edition.
2.) No spliced sheeting unless acceptable by the Indiana Department of Transportation standard specifications, latest edition.
3.) Reflective sheeting for traffic signs shall be encapsulated lens (high intensity).
4.) Posts used for traffic signs shall be 3 lb. galvanized channel posts.
5.) Traffic sign height shall comply with the Indiana Manual of Uniform Traffic Control Devices, latest edition.
6.) Posts shall be installed with no less than three (3) feet of post in the ground.
6.) Backing material will be made of sheet aluminum.
7.) Bolts for mounting shall be 5/16" galvanized, stainless steel or plated carriage bolts.
8.) The number of posts for mounting and the minimum thickness or gage of sheet shall be as shown for the appropriate sign width:

WIDTH(inches)	NO. OF POSTS	THICKNESS (inches) ALUMINUM SHEET
Up to 24"	1	0.080
25" to 30"	1	0.080
31" to 60"	2	0.100
61" and over	2	0.125

STREET NAME SIGNS

1.) Intersections shall have one (1) road name sign for each street.
2.) All road name signs shall be made of an aluminum extruded blade.
4.) Reflective sheeting for road name signs shall be inclosed lens (high intensity), green in color.
5.) Letters and numerals for the road name signs shall be high intensity reflective sheeting, series B letters, and white in color.
3.) Posts used for road name signs shall be 2 lb. galvanized channel posts.
6.) Minimum height to bottom of sign for road name signs shall be seven (7) feet.
7.) Posts shall be installed with no less than three (3) feet of post in the ground.
8.) Material for posts shall be galvanized steel.
7.) Bolts for mounting shall be 5/16" galvanized, stainless steel or plated carriage bolts.

ROAD NAME SIGN DETAIL

SCALE: NONE

1. THE EXISTING PAVEMENT IS TO BE SAW CUT TO PROVIDE A CLEAN JOINT.

2. TRENCH SPOIL IS TO BE REMOVED FROM THE WORK SITE AND DISPOSED OF OUT OF THE RIGHT-OF-WAY AT A PREDESIGNATED APPROVED AREA.

3. FLOWABLE FILL IS TO BE POURED INTO THE TRENCH TO SERVE AS BACKFILL, TO THE DIMENSIONS AND SPECIFICATIONS LISTED IN THIS DETAIL.

4. THE ASPHALT PATCH IS TO CONSIST OF A MINIMUM OF 5 (FIVE) INCHES OF #8 HAC BITUMINOUS BINDER AND 1 (ONE) INCH OF #11 HAC BITUMINOUS SURFACE. IF THE EXISTING PAVEMENT IS THICKER THAN 6 (SIX) INCHES, ADDITIONAL BINDER IS TO BE USED TO MATCH THE EXISTING PAVEMENT THICKNESS. IN NO CASE IS LESS THAT 6 (SIX) INCHES OF ASPHALT TO BE USED.

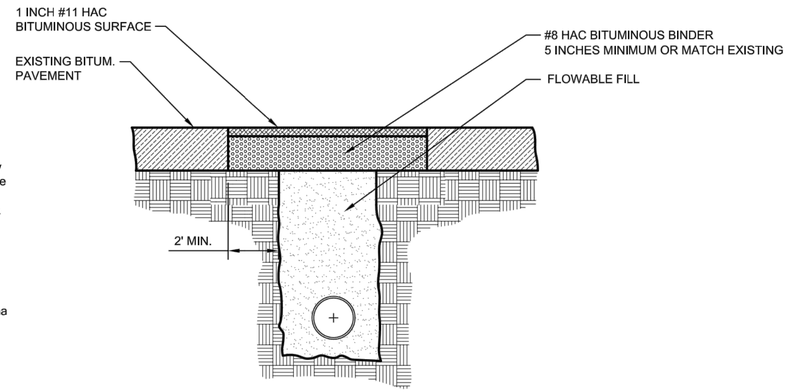
5. THE EXISTING PAVEMENT IS TO BE TACK COATED PRIOR TO THE LAYING OF NEW ASPHALT. TACK COAT IS TO BE APPLIED AS SPECIFIED IN THE LATEST INDOT SPECIFICATIONS, SECTIONS 409 AND 902.

6. THE NEW SURFACE IS TO BE SLOPED AT THE SAME RATE AS THE EXISTING SURFACE.

7. A 2 (TWO) INCH WIDE BAND OF CRACK SEALANT IS TO BE APPLIED ALONG THE JOINT BETWEEN THE EXISTING AND NEW ASPHALT SURFACE. SEALANT IS TO BE APPLIED IN ACCORDANCE WITH INDOT SPECIFICATIONS, SECTION 305.

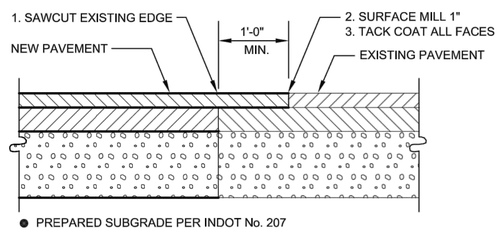
8. THE FLOWABLE FILL MIX IS TO CONTAIN, FOR EVERY CUBIC YARD OF BATCH MATERIAL, NO MORE THAN 50 LBS OF PORTLAND CEMENT, NO MORE THAN 500 LBS OF WATER.

9. THE COMPRESSIVE STRENGTH OF THE FLOWABLE FILL IS NOT TO EXCEED 100 PSI AT 28 DAYS.



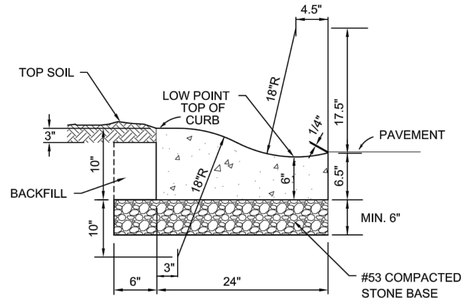
ROAD CUT PATCH DETAIL

NOT TO SCALE



TYPICAL PAVEMENT TIE-IN

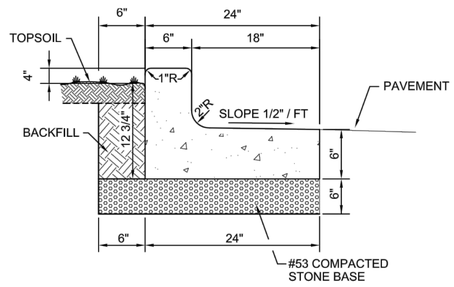
SCALE: NONE



(TYPE I)

2' CONCRETE ROLL CURB & GUTTER

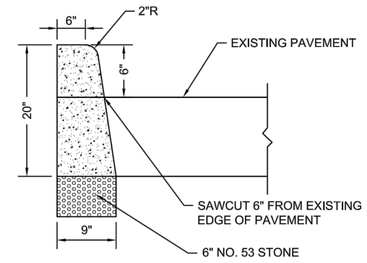
SCALE: NONE



(TYPE II)

2' COMBINED CONCRETE CURB AND GUTTER

SCALE: NONE



CONCRETE CURB (BARRIER)

SCALE: NONE

REVISIONS		
REV. NO.	DESCRIPTION	DATE

MARK J. WITSMAN REGISTERED No. 10100264 STATE OF INDIANA PROFESSIONAL ENGINEER

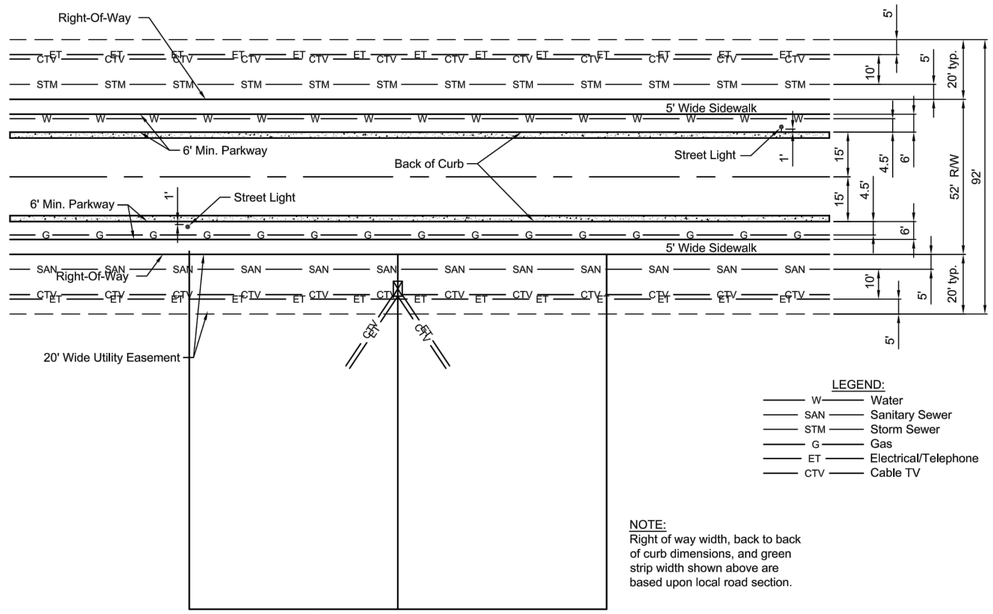
RECOMMEND FOR APPROVAL — DESIGN ENGINEER — DATE 7/12/05
APPROVED — PUBLIC WORKS COMMISIONER — DATE 7/12/05
APPROVED — TOWN COUNCIL PRESIDENT — DATE 7/12/05

TOWN OF McCORDSVILLE

TOWN STANDARDS RIGHT-OF-WAY DETAILS

SHEET 3 OF 10

Plot Date: Apr 24, 2024 Plot Time: 2:01pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F McCordsville Standard Details.dwg, Layout: Detail 3 of 10 By: keichhorn

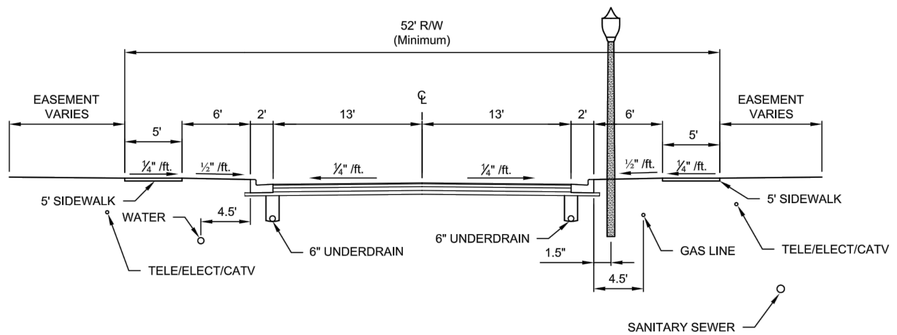


NOTE:
Right of way width, back to back of curb dimensions, and green strip width shown above are based upon local road section.

TYPICAL LOT UTILITY LOCATION

NOT TO SCALE

GENERAL NOTES:
1.) The location of proposed utilities as indicated hereon are based upon the orderly development of the land. Strict adherence to the indicated location is required. Requests to change the location of the proposed utilities shall be submitted in writing to the Public Works Commissioner. Utilities not meeting these requirements shall be removed and replaced as directed by the Public Works Commissioner at the owner's expense.



TYPICAL LOCAL ROAD UTILITY LOCATION

NOT TO SCALE

REVISIONS		
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APPROVED	PUBLIC WORKS COMMISIONER	7/13/05 DATE
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

TOWN STANDARDS UTILITY LOCATION GUIDELINES

SHEET 4 OF 10

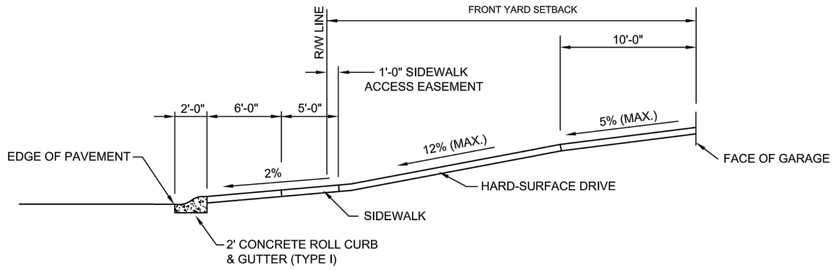
Plot Date: Apr 24, 2024 Plot Time: 2:02pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F McCordsville Standard Details.dwg, Layout: Detail 4 of 10 By: keichhorn

RESIDENTIAL DRIVES

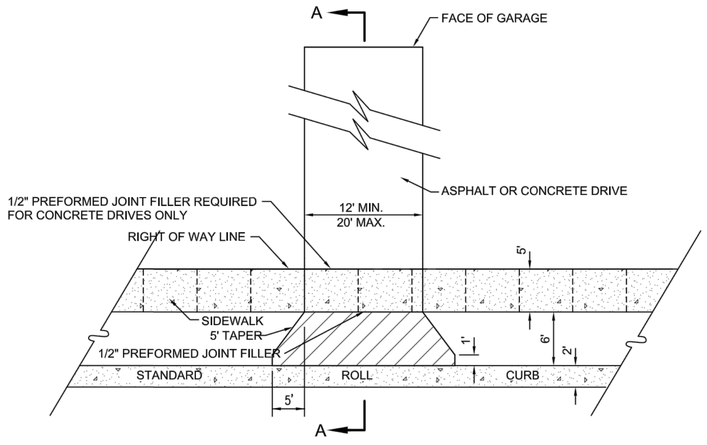
1.) THE MAXIMUM ALGEBRAIC DIFFERENCE IN GRADE FOR ANY 10 FOOT INTERVAL SHALL NOT EXCEED 8% FOR CREST VERTICAL CURVES. NOR 10% FOR SAG VERTICAL CURVES.

2.) ALL LOTS SHALL DRAIN TO ADJACENT STREETS EXCEPT WITH THE PRIOR APPROVAL OF THE PUBLIC WORKS COMMISSIONER.

3.) CONCRETE DRIVES REQUIRE CONTROL JOINTS EVERY 10 FEET EACH WAY.



SECTION "A-A"



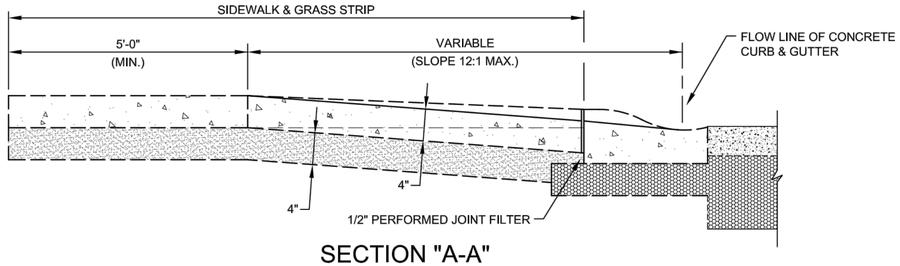
1. CROSS HATCHED AREAS SHALL BE EITHER 6" PLAIN CONCRETE OR 1" SURFACE ON 2" BITUMINOUS BASE ON 4" #53 COMPACTED AGGREGATE BASE, EXTENDING TO THE SIDEWALK OR R/W LINE WHICHEVER IS NEAREST TO THE ROADWAY.

2. SUBGRADE UNDER ALL SIDEWALKS AND DRIVES SHALL BE IN ACCORDANCE WITH SECTION 207.02 OF CURRENT INDOT STANDARD SPECIFICATIONS.

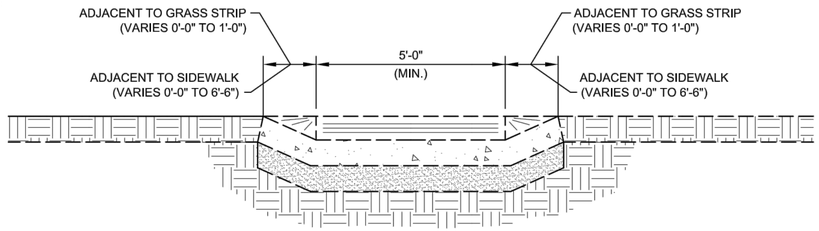
3. SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROPRIATE STANDARD AND SHALL BE CONTINUOUS ACROSS THE DRIVEWAY. SIDEWALK SECTION ACROSS DRIVEWAY SHALL BE SAME THICKNESS AS DRIVEWAY WITH A 6-INCH MINIMUM.

RESIDENTIAL DRIVEWAY DETAIL

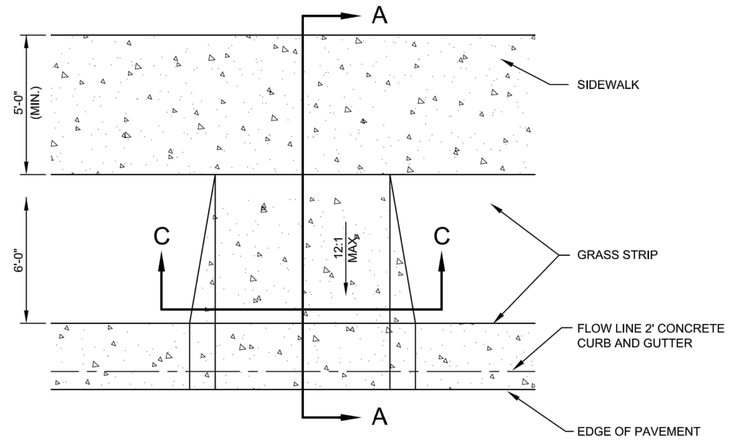
SCALE: NONE



SECTION "A-A"



SECTION "C-C"



HANDICAP RAMP CONSTRUCTION

SCALE: NONE

HANDICAP RAMP CONSTRUCTION

1.) All handicap ramps shall meet the requirements of the American Disabilities Act, the most recent INDOT standard specifications, and the Town of McCordsville's most recent standards. Curb modifications required for handicap ramps shall be provided at time of initial construction.

2.) Minimum width of curb ramp shall be 5 feet not including flares. Maximum slope of ramps and flares shall be 12:1.

3.) Handicap ramps are to be located as shown on the plans or as directed by the Public Works Commissioner.

4.) Ramps shall be provided at the centerline of radius at all corners of every street intersection where there is an existing or proposed sidewalk and curb. Ramps shall also be provided at walk locations at mid-block in vicinity of hospitals, medical centers, or athletic stadiums. The use of details contrary to those shown hereon shall require the prior written approval of the Public Works Commissioner.

5.) Surface texture of the ramp shall be ramp groves located 2" on center and 0.3" deep.

6.) Care shall be taken to assure a uniform grade on all ramps with no breaks in grade.

7.) Drainage structures shall not be placed in line with the ramps except where existing drainage structures are being utilized in the new construction. Location of the ramps shall take precedence over location of drainage structures.

8.) The normal gutter line profile shall not be maintained through the area of the ramp. Drainage inlets should be located uphill from the curb ramps to prevent puddles at the path of travel.

9.) Expansion joint for the ramp shall be a maximum 1/2" wide. The top of the joint filler for all ramp types shall be flush with adjacent concrete.

10.) Crosswalk and stop line marking, if used, shall be so located as to stop traffic short of ramp crossing.

SIDEWALK CONSTRUCTION

1.) Sidewalks shall be constructed of plain concrete four (4) inches thick except where crossing driveways where the sidewalk shall be a minimum of six (6) inches thick.

2.) Sidewalks shall be constructed on 2" of crushed stone or sand.

3.) Control joints shall be placed every 5 feet on center.

4.) Expansion joints shall be placed every 40 feet on center.

5.) Broom finish across the direction of travel and include a 1" steel trowel finish along both sides of the sidewalk and along either side of all expansion and control joints.

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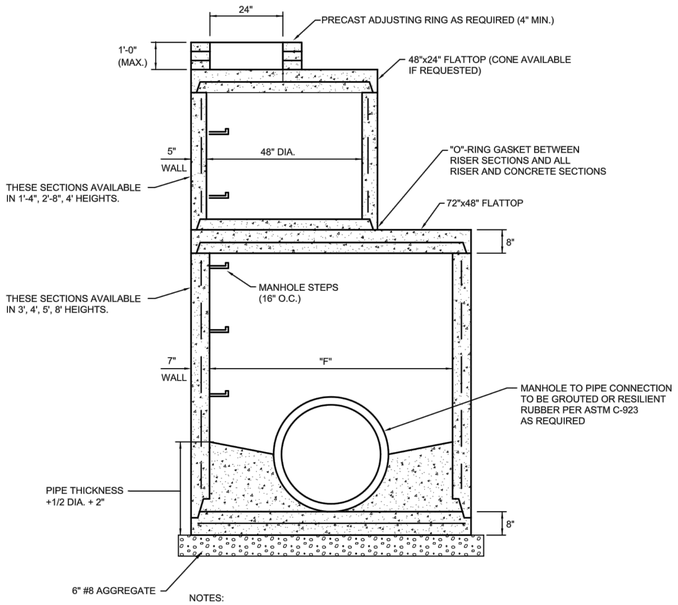
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

TOWN STANDARDS DRIVE WAY AND HANDICAP RAMP DETAILS

SHEET 5 OF 10



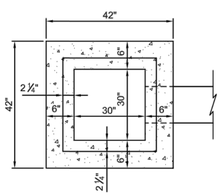
NOTES:

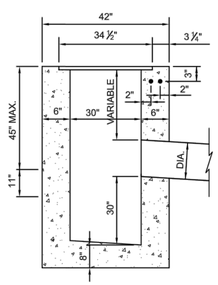
1.) MANHOLE CONFORMS TO A.S.T.M. C-478.

2.) TONGUE AND GROOVE JOINT WITH MASTIC, BUTYL ROPE OR GASKETED PER ASTM C-443 AS REQUIRED.

MANHOLE TYPE	MANHOLE DIAMETER "F"	MAXIMUM PIPE SIZE	
		PIPE ENTERING / PIPE EXITING AT 0°-45° BEND	PIPE ENTERING / PIPE EXITING AT 45°-90° BEND
J	60"	36"	33"
K	72"	48"	36"
L	96"	54"	48"
M	102"	72"	66"
N	108"	84"	72"

STORM MANHOLES TYPE "J - K - L - M & N"
NOT TO SCALE





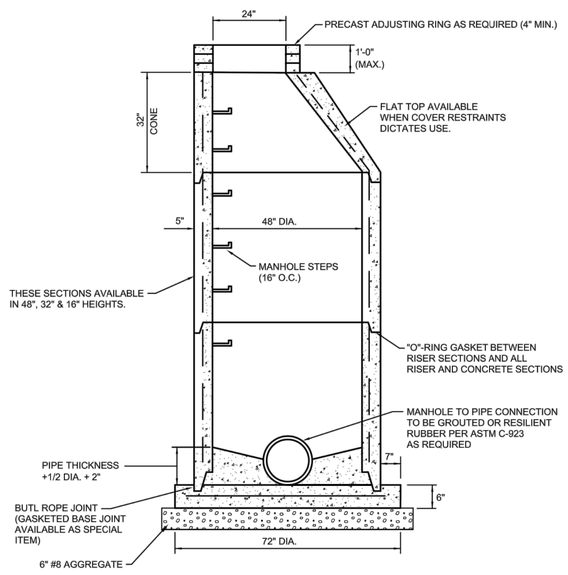
NOTE:

1.) STRUCTURE SHALL COMPLY WITH INDOT SPECIFICATIONS

2.) MIMIMUM CONCRETE COMPRESSIVE STRENGHT 4000 PSI

3.) MAXIMUM OF FOUR 2" ADJUSTING SECTIONS, STRIKE CLEAN INSIDE

CATCH BASIN
NOT TO SCALE



NOTE:

1.) MANHOLE CONFORMS TO A.S.T.M. C-478.

MAXIMUM PIPE SIZE	
PIPE ENTERING / PIPE EXITING AT 0°-45° BEND	PIPE ENTERING / PIPE EXITING AT 45°-90° BEND
24"	21"

STORM MANHOLES TYPE "C"
NOT TO SCALE

MANHOLE NOTES:

1.) Type "J, K, L, M & N" manholes as detailed hereon require a certain minimum depth. In cases where the depth of the storm sewer is not sufficient to meet the minimum depth as by the detail, "F" diameter manhole section may be used required by the detail, "F" diameter manhole section may be used throughout the depth of the manhole.

2.) Manholes shall conform to ASTM C-478. Joints shall conform to ASTM C-443. The use of cast-in-place concrete structures shall require the prior written approval of the Town Engineer. Regardless of the type of casting used, the casting shall be centered over the manhole steps.

3.) Manhole steps shall be made from a steel reinforcing rod encapsulated in a copolymer polypropylene resin. The manhole steps shall equal or exceed OSHA requirements manhole steps, PS1-PF as manufactured by M.A. Industries, Inc. Peachtree City, Georgia, or approved equal.

CASTING NOTES:

1.) Castings which drain combined curb and gutter, Type II curbing shall be Neenah R-3286-8V or Neenah R-3287-10V or as approved by the Town Engineer. Manholes shall not be used to drain combined curb and gutter, Type II curbing.

2.) Castings which drain roll curb and gutter, Type I curbing shall be Neenah R-3501-TR, or Neenah R-3501-TL or as approved by the Town Engineer. Manholes shall not be used to drain roll curb and gutter, Type I curbing.

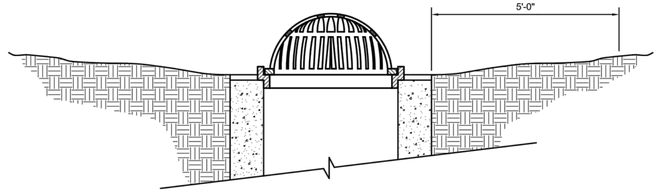
3.) Castings for inlets which drain open pavement areas without curbing shall be Neenah R-3402-E or as approved by the Town Engineer.

4.) Castings for manholes which drain open pavement areas without curbing shall be Neenah R-2501 or as approved by the Town Engineer.

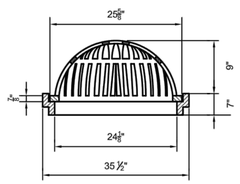
5.) Castings for use on inlets or manholes which drain swales or dry bottom detention basins shall be Neenah R-2560 or as approved by the Town Engineer.

6.) Castings for manholes which do not collect surface water shall be Neenah R-1772-A or as approved by the Town Engineer.

7.) All castings shall be stamped "DUMP NO WASTE".

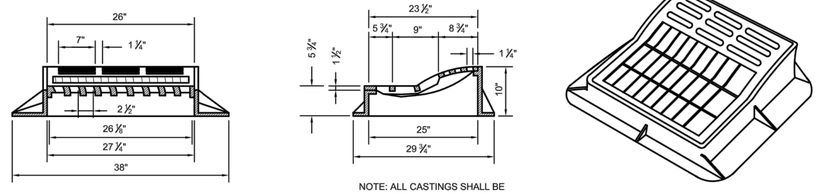


NOTE: ALL CASTINGS SHALL BE STAMPED "DUMP NO WASTE"



BEEHIVE GRATE CASTING WITH FRAME - NEENAH R-2560-E2
NOT TO SCALE

SEE ADDITIONAL DETAIL ON SHEET C8.5



NOTE: ALL CASTINGS SHALL BE STAMPED "DUMP NO WASTE"

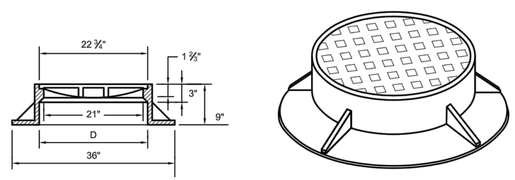
R-3501-T(L&R) NEENAH CURB INLET FRAME, GRATE & CURB BOX DETAIL
NOT TO SCALE

CATALOG NO.	D	Wt. Lbs.
R-1772	25"	250
R-1772-A	25"	285

HEAVY DUTY

FURNISHED WITH PLATEN LID, SIMILAR TO R-1706-1

NOTE: ALL CASTINGS SHALL BE STAMPED "DUMP NO WASTE"



STORM MANHOLE R-1772-A WITH CONCEALED PICK HOLES
NOT TO SCALE

REVISIONS		
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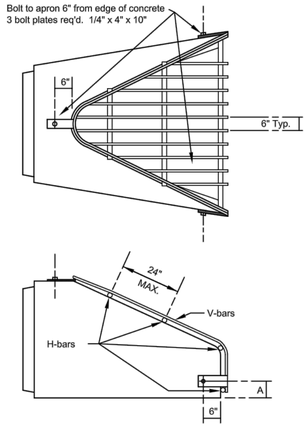
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

TOWN STANDARDS STORM SEWER STRUCTURE DETAILS

SHEET 6 OF 10

Plot Date: Apr 24, 2024 Plot Time: 2:02pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amerity\Design\CAD\20235-F McCordsville Standard Details.dwg, Layout: Detail 6 of 10 By: keichhorn

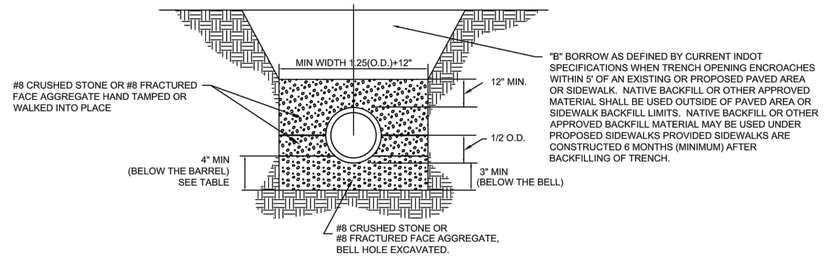


NOTES:

1. BARS & PLATES ARE HOT-ROLLED STEEL.
2. BARS, PLATES & PIPE ARE FINISHED WITH 2 COATS OF ALUMINUM PAINT.
3. BOLTS ARE GALVANIZED.
4. SEE STD. PLATES A-10 & A-11 FOR APRON DIMENSIONS.
5. TRASH GUARDS WITH DIFFERENT DIAMETER BARS ARE AVAILABLE, SPECIAL ORDER.

TRASH GUARDS FOR CONCRETE APRONS

NOT TO SCALE

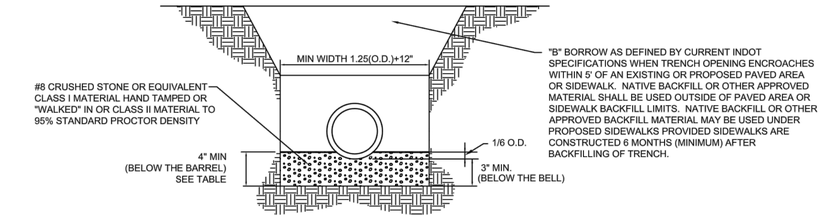


PIPE SIZE	8"-15"	18" & OVER
BEDDING BELOW THE PIPE BARREL	O.D./4 MIN=4"	O.D./4 MAX=8"

NOTE: ALL BEDDING AND INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS.

FLEXIBLE PIPE (HDPE & PVC) TRENCH DETAIL

NOT TO SCALE



PIPE SIZE	8"-15"	18" & OVER
BEDDING BELOW THE PIPE BARREL	O.D./4 MIN=4"	O.D./4 MAX=8"

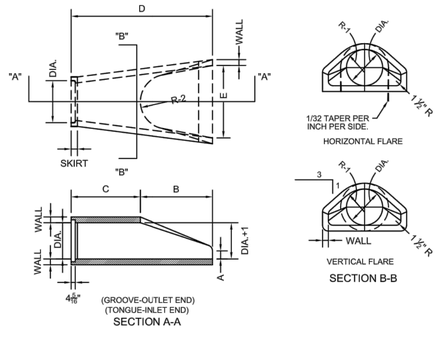
NOTE: ALL BEDDING AND INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS.

RIDGID PIPE (RCP) TRENCH DETAIL

NOT TO SCALE

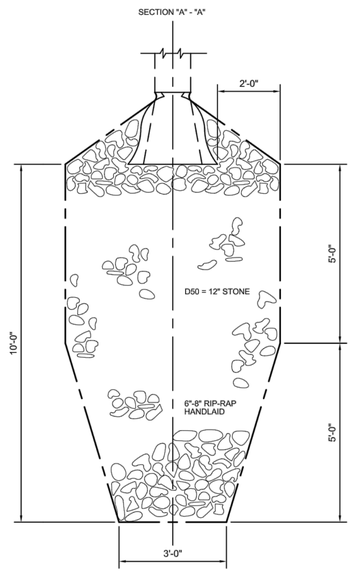
DIA.	WALL	G or T	WT. SEC	A	B	C	D	E	DIA. +1	R-1	R-2	SKIRT
12	2	1 1/2	530	4	24	48 1/8	72 7/8	24	13	10 1/16	9	3 1/2
15	2 1/4	2	740	6	27	46	73	30	16	12 1/2	11	3 1/2
18	2 1/2	2 1/2	990	9	27	46	73	36	19	15 1/2	12	4
21	2 3/4	2 1/4	1280	9	35	38	73	42	22	16 1/8	13	4
24	3	2 1/2	1520	9 1/2	43 1/2	30	73 1/2	48	25	16 11/16	14	4 1/2
27	3 1/4	2 1/2	1930	10 1/2	48	25 1/2	73 1/2	54	28	17 3/4	14 1/2	4 1/2
30	3 1/2	3	2190	12	54	19 3/4	73 3/4	60	31	18 5/16	15	5
33	3 3/4	3 3/8	3150	13 1/3	58 1/2	39 1/4	97 3/4	66	34	23 3/4	17 1/2	5 1/2
36	4	3 1/2	4100	15	63	34 3/4	97 3/4	72	37	24 1/16	20	5 1/2
42	4 1/2	3 3/4	5380	21	63	35	98	78	43	27 1/4	22	5 1/2
48	5	4 1/4	6550	24	72	26	98	84	49	28 1/8	22	5 3/4
54	5 1/2	4 3/4	8040	27	65	35	100	90	55	32 7/8	24	6 1/4
60	6	5	8750	30	60	39	99	96	61	36 3/4	24	6 3/4
66	6 1/2	5 1/2	10630	24	78	21	99	102	67	35 11/16	24	7 1/4
72	7	6	12520	34	78	21	99	108	73	38 5/8	24	7 3/4
78	7 1/2	6 1/2	14430	24	78	21	99	114	79	41 15/16	24	8 1/2
84	8	7	16350	24	78	21	99	120	85	44 13/16	24	9

NOTES: 1. MANUFACTURE OF END SECTION IS IN ACCORDANCE WITH APPLICABLE PORTIONS OF A.S.T.M. SPECIFICATION C76.



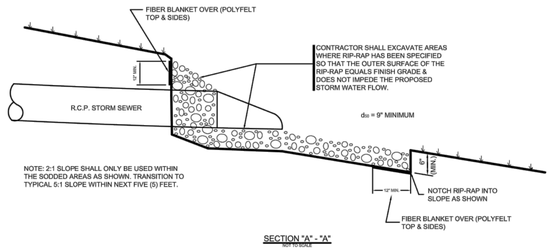
PRECAST CONCRETE END SECTION DETAIL

NOT TO SCALE

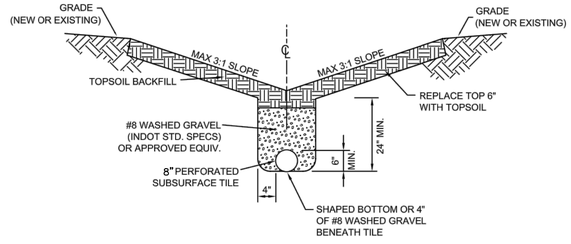


RIP-RAP DETAIL

NOT TO SCALE

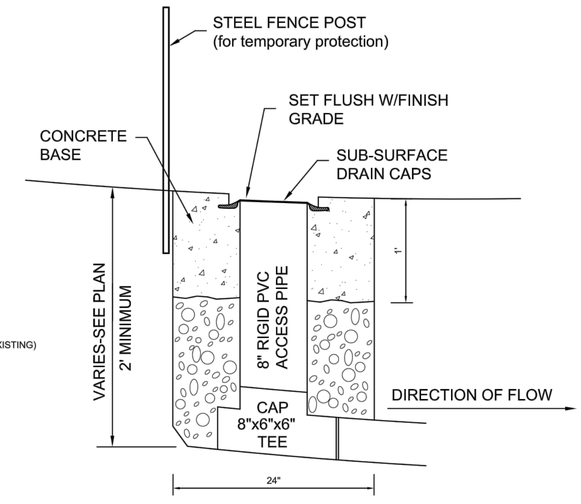


NOTE: SWALES SHALL BE CONSTRUCTED WITH A MINIMUM 1.0 PERCENT PROFILE GRADE. A 6" INCH DIAMETER UNDER DRAIN IS REQUIRED FOR ALL REAR YARD SWALES. SEE DETAIL SHOWN ON THIS SHEET.



SWALE UNDERDRAIN DETAIL

NOT TO SCALE



SUBSURFACE DRAIN (SSD) RISER DETAIL

NOT TO SCALE

REVISIONS		
REV. NO.	DESCRIPTION	DATE

MARK J. WITSMAN REGISTERED No. 10100264 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMEND FOR APPROVAL	DESIGN ENGINEER	7/12/05 DATE
APPROVED	PUBLIC WORKS COMMISIONER	7/12/05 DATE
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

TOWN STANDARDS STORM SEWER BEDDING DETAILS AND GENERAL NOTES

SHEET 7 OF 10

Plot Date: Apr 24, 2024 Plot Time: 2:02pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F McCordsville Standard Details.dwg, Layout: Detail 7 of 10 By: keichhorn

GENERAL NOTES

1.) Sanitary sewer pipe of other material not meeting Town of McCordsville Standards shall require the prior written approval of the Town Engineer.
2.) The Contractor shall submit information to the Town Engineer showing conformance with these specifications upon request.
3.) Forty-eight (48) hours notice shall be given to the Town Engineer prior to the start of sewer construction and prior to any testing.
4.) The contractor shall be responsible for verifying that all state highways, city, and county permits have been obtained by the developer prior to start of construction.
5.) Backfill around all structures and all cuts under paved areas with B-barrow as defined by current INDOT specifications. Trenches opening within 5-feet of paved roadways shall be backfilled with B-barrow as defined by current INDOT specifications. Backfill under sidewalks shall be B-barrow; unless the walks are constructed a minimum of 6 months after backfill has been in place. The Town of McCordsville may require an analysis of the B-barrow to confirm its compliance with INDOT specifications at the contractor's expense.
6.) Water and sewer line crossings and separations shall be in accordance with 327 IAC 3-6-9.
7.) Trench shall be opened sufficiently ahead of pipe laying to reveal obstruction, and shall be properly protected and/or barricaded when left unattended.
8.) No water shall be permitted to flow into the sanitary sewer system during construction. The contractor shall utilize a pump to keep the water level below the pipe. Pump discharge shall be directed to a storm outlet in accordance with local, state and federal laws and regulations. Any pipe entering existing sewers shall be plugged with screw type mechanical, braced plug and tied in place until such time as all tests on the sewers have been completed and the lines have passed all punch lists.
9.) The contractor shall use a laser and target wherever possible to insure proper construction at the planned grade.
10.) The contractor shall provide measurements of the slope of the sewer for each manhole section as construction progresses. Such measurements shall be certified by a registered land surveyor or engineer and be available on-site for observation by the Town Engineer. No more than three manhole sections can be constructed in advance of such measurements.
11.) The contractor shall be required to furnish the developer's engineer with a set of prints, marked in red pencil, showing actual sewer location and invert, to include lateral location, depth and length. Such asbuilt prints must be received by the developer's engineer before the final contract payment can be authorized. The sanitary sewer laterals and stubs termination shall be indicated on the surface with a 2"x4" wood board or other appropriate marker set immediately above the said termination point.
12.) Record drawings shall be provided to the Town Engineer for review and approval. Once approved, two copies and electronic images of the approved record drawings will be provided. The electronic images will be in an acceptable format approved by the Town Engineer. A site plan in state plane coordinates compatible with the Hancock County GIS system will also be provided with the electronic files showing the property lines, easements, streets and right-of-ways and as-built locations of the sanitary sewer, storm sewer and water lines.

SANITARY SEWER PIPE

1.) Sanitary sewer pipe between 6 and 15 inches in diameter shall be SDR 35 PVC in accordance with ASTM D3034 and ASTM 2321. Sanitary sewer pipe buried 15 feet or greater shall be SDR 26 PVC in accordance with ASTM D3034. PVC pipe shall have grooved bell and gasket. The pipe shall be made of PVC plastic in accordance with ASTM D1784.
2.) Sanitary sewer pipe greater than 15 inches in diameter shall be either:
   a. PVC SDR 35 in accordance with ASTM D3034 and ASTM 2321. PVC pipe shall have grooved bell and gasket. The pipe shall be made of PVC plastic as defined in ASTM D1784. Sanitary sewer pipe buried 15 feet or greater shall be SDR 26 PVC in accordance with ASTM D3034.
   b. Profile sewer in accordance with ASTM F949. The pipe and fittings shall have a minimum cell classification of 12454 in accordance with ASTM D1784. The joints shall be push-on bell and spigot type using elastomeric ring gaskets conforming to ASTM D3212 and ASTM F477. The pipe shall have a minimum stiffness of 46 PSI when measured in accordance with ASTM D2412. Profile sewer pipe is not permitted at depths 15 feet or greater.
3.) PVC sewer fittings shall be SDR 26 in accordance with ASTM D3034. Fittings in sizes through 8-inches shall be molded in one piece with elastomeric joints and minimum socket depths as specified in sections 6.2 and 7.3.2. Fittings 10-inches and larger shall be molded or fabricated in accordance with section 7.11 with manufacturers standard pipe bells and gaskets. Gaskets for elastomeric joints shall be molded with a minimum cross-sectional area of 0.20 square inches and conform to ASTM F-477 specification.
4.) The minimum slope for sewer acceptance by the Town of McCordsville are:

Size of pipe	Minimum constructed slope
8-inch	0.40%
10-inch	0.28%
12-inch	0.22%
15-inch	0.15%
18-inch	0.12%
21-inch	0.10%
24-inch	0.08%

In the event the contractor does not meet the minimum slopes, the sewer section and any other affected sewer sections shall be reconstructed to meet such minimum slopes.

SANITARY SEWER LATERALS OUTSIDE OF THE RIGHT OF WAY/EASEMENT

1.) Only approved contractors may install sewer laterals. Contractors must provide proof of liability insurance and a reference list for consideration to be added to the approved list.
2.) If working within an existing right-of-way, the contractor must obtain a right-of-way permit from the appropriate local jurisdiction.
3.) Contractors are responsible for obtaining all appropriate permits prior to construction. No deviations from the approved plot plan are permitted unless instructed by the Office of Public Works. Immediately notify the office of Public Works of any conflicts or discrepancies noted on the approved plot plan. It is the sole responsibility of the owner to ensure all contractors and subcontractors comply with the approved plot plan. A copy of the approved plot plan is to be provided to the Inspector at the time of inspection.
4.) The portion of the lateral installed from the right-of-way/easement to the building shall be inspected by the Office of Public Works prior to being backfilled.
5.) Lateral inspections shall be scheduled forty-eight (48) hours in advance with the Office of Public Works.
6.) A 6" diameter pipe Type I clean out shall be installed 3' away from building. A threaded plug shall be used to ensure the pipe is 100% watertight. For laterals greater than 100 LF as measured along the pipe, clean outs shall be installed at the right-of-way or property line or at 100 feet increments to provide access every 100 feet.
7.) Clean outs are not to be installed in sidewalks, driveways, or any other paved or unpaved traffic areas or pedestrian paths.
8.) All clean outs except within 3 feet of the building are to be Type II cleanouts.
9.) The connection of the building plumbing to the lateral shall be made with a fernco coupling within three (3) feet of the building before the cleanout except when the building has a basement. If the connection is made at the basement and there is not an adjacent slab or craw space, then a glued joint connection shall be made.
10.) The connection point shall not be made under porches or foundations.
11.) The fernco coupling shall be sealed watertight using steel band clamps. The piping on either side of the connection point shall be aligned and have no offsets or angles.

SANITARY SEWER LATERALS - GENERAL NOTES

1.) Laterals are to be constructed to the right-of-way/easement line and plugged tight with a braced plastic disc or cap capable of withstanding a low pressure air test without leakage. Only after the sanitary sewer has been tested and accepted by the Town Engineer is further installation of the laterals outside the right-of-way/easement permitted.
2.) Normal lateral slope is 1/4" per foot. Minimum lateral slope is 1/8" per foot. Any areas found not to comply with the minimum slope shall be removed and reinstalled.
3.) Lateral pipe shall be a minimum of 6" diameter and shall be SDR 35 PVC in accordance with ASTM D3034 and ASTM 2321. Laterals with any portion buried 15 feet or greater shall be SDR 26 PVC in accordance with ASTM D3034 to the terminus point either the right-of-way or easement line. PVC pipe shall have grooved bell and gasket. The pipe shall be made of PVC plastic conforming to ASTM D1784. Size and conformance shall be clearly labeled on pipe for inspection.
4.) All PVC sewer fittings shall be SDR 26 in accordance with ASTM D3034. Fittings shall be molded in one piece with elastomeric joints and minimum socket depths as specified in sections 6.2 and 7.3.2. Gaskets for elastomeric joints shall be molded with a minimum cross-sectional area of 0.20 square inches and conform to ASTM F-477 specification.
5.) All sewer laterals shall be bedded the same as the main line sewer. A minimum D/4 or 6-inches of compacted #8 stone under the pipe, 6-inches on either side of the pipe, and 12" above the pipe are required.
6.) Laterals are not to be installed under driveways.
7.) Full depth granular backfill is required for the lateral trench in areas within five (5) feet of drive ways, sidewalks or other traffic areas.
8.) Laterals are to be traced along the top of the pipe with a minimum size of 14 gauge wire from the wye to the clean out within three (3) feet of the building and extended above grade. The contractor will install the tracer wire utilizing a method does not require any splices in the tracer wire. The tracer wire will be mounted to the top of the pipe in at least three locations along each stick of pipe. Any splices that become necessary during construction will be sealed water tight.
9.) Laterals will be separated from water mains and water service lines by ten (10) feet when measured horizontally from the outside edge of the lateral to the outside edge of any existing or proposed water mains or water service lines except when crossing water mains or water service lines which shall be separated by eighteen (18) inches when measured vertically. Crossings must be at a minimum angle of 45 degrees.

SANITARY MANHOLES AND CASTINGS

1.) All sanitary manholes shall be precast concrete manholes in accordance with ASTM C-478 and section 720. O-rings shall conform to C-443. Kent seal or approved equal shall also be applied to all joints and between riser rings and castings. Manhole step spacing shall be no more than 16-inches.
2.) The casting elevations are set by plan. However, the castings are to be adjusted in the field by the Town's representative should a discrepancy occur between plan grade and existing grade. A new manhole ring and cover shall be installed to establish grade. Maximum height of adjusting rings from the top of the cone to the bottom of the casting shall be 12-inches.
3.) Butyl rubber coating shall be applied around each manhole joint from 6-inches above to 6-inches below each joint. The appropriate primer shall be applied prior to applying the double row of kent seal. Each manhole joint will then be wrapped four times with minimum 15 inch wide 80 gage (0.8 mil) polyethylene plastic stretch wrap. Inside joints to be filled with non-shrink grout or precoat plug material.
4.) The manhole chimneys, including all riser rings shall be sealed the same as the manhole joints. The butyl rubber and plastic stretch wrap shall extend over the flange of the casting.
5.) Manhole castings shall be East Jordan casting 1022-2 or approved equal with a heavy duty self-sealing lid stamped "SANITARY SEWER." Waterproof castings shall be East Jordan casting 1022-2 WT with a heavy duty lid stamped "SANITARY SEWER" or approved equal.

TESTING

1.) Manholes shall be air tested for leakage in accordance with ASTM C1244-93, standard test method for concrete sewer manholes by the negative air pressure (vacuum) test.
   a. Installation and operation of vacuum equipment and indicating devices must be in accordance with manufacturer's recommendations and performance specifications which have been provided by the manufacturer and accepted by the engineer.
   b. With the vacuum tester set in place:
      1. Using a plate testing device, connect the vacuum pump to the outlet port with the valve open.
      2. Draw a vacuum of ten (10) inches of hg. And close the valve.
   c. Accepted standards for leakage will be established from the elapsed time for a negative pressure change from ten (10) inches to nine (9) inches of mercury. The maximum allowable leakage rate for a four (4) foot diameter manhole must be in accordance with the following:

Minimum elapsed time for a manhole depth pressure change of 1 inch hg

10 feet or less	60 seconds
>10 feet but <15 feet	75 seconds
>15 feet	90 seconds

   For manholes five (5) feet in diameter, add an additional fifteen (15) seconds and for manholes six (6) feet in diameter, add an additional thirty (30) seconds to the time requirements for four (4) foot diameter manholes.
   d. If manhole joint sealants are pulled out during the vacuum test, the manhole must be disassembled and the joint sealants replaced.
   e. Manholes will be subject to visual inspection with all visual leaks being repaired.
2.) All sanitary sewer lines upon completion will be required to pass a low pressure air test. The test shall be conducted according to ASTM 1417-92, and witnessed by a representative of the Town of McCordsville. The testing shall be in accordance with Table 1. Add 0.5 psig for each foot of water above the sewer line being tested.
3.) Deflection tests shall be performed on all flexible* pipe after the final backfill has been in place at least 30 days. No pipe shall exceed a vertical deflection of 5% deflection test results. (*the following are considered non-flexible pipes: concrete pipe, ductile iron pipe, and cast iron pipe). The deflection test shall be performed with a nine-point mandrel. Proving rings shall be available.
4.) All sanitary sewer lines upon completion and six months prior to the expiration of the maintenance bond will be televised. The sanitary sewer lines will also be cleaned if necessary in the judgment of the Town's representative after observing the televising tapes.
5.) All testing shall be observed by a representative of the Town of McCordsville.

OIL/GREASE TRAP REQUIREMENTS

1.) All new commercial of industrial entities, which either generate and/or waste oil, grease or their by-products, shall construct a 1,000 gallon (minimum) grease trap. The design engineer shall submit detailed calculations for size justification of the trap. Calculations shall be accompanied with references, specifically denoted origin of sizing calculation method.
2.) Toilets, urinals and other similar fixtures shall not waste through the grease interceptor. All other waste shall enter through the grease interceptor, through the inlet pipe only.
3.) The grease interceptor and grease trap shall be sized such that it is easily accessible at all times for inspection/sampling and cleaning. The grease trap shall have a minimum of two (2) compartments with fittings designed for grease interception.
4.) The oil/ grease trap shall be located outside the building and at a distance far enough to allow soluble grease/oil to become insoluble.

SPECIFICATION TIME REQUIRED FOR A 0.5 PSIG PRESSURE DROP
FOR SIZE AND LENGTH OF PIPE INDICATED FOR Q=0.0015

1 Pipe Diameter (in.)	2 Minimum Time (sec)	3 Length For Minimum Time (ft)	4 Time for Longer Length (sec)	Specification Time for Length (L) Shown (min:sec)							
				100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft	450 ft
8	3:47	298	0.760 L	3:47	3:47	3:47	3:47	3:48	4:26	5:04	5:42
10	4:43	239	1.187 L	4:43	4:43	4:43	4:56	5:56	6:55	7:54	8:54
12	5:40	199	1.709 L	5:40	5:40	5:42	7:07	8:32	9:58	11:23	12:49
15	7:05	159	2.671 L	7:05	7:05	8:54	11:07	13:21	15:34	17:48	20:02
18	8:30	133	3.846 L	8:30	9:37	12:49	16:02	19:14	22:26	25:38	28:51
21	9:55	114	5.235 L	9:55	13:05	17:27	21:49	26:11	30:32	34:54	39:16
24	11:23	100	6.846 L	11:23	17:07	22:49	28:31	34:14	39:56	45:38	51:21

REVISIONS		
REV. NO.	DESCRIPTION	DATE

MARK J. WITSMAN REGISTERED No. 10100264 STATE OF INDIANA PROFESSIONAL ENGINEER

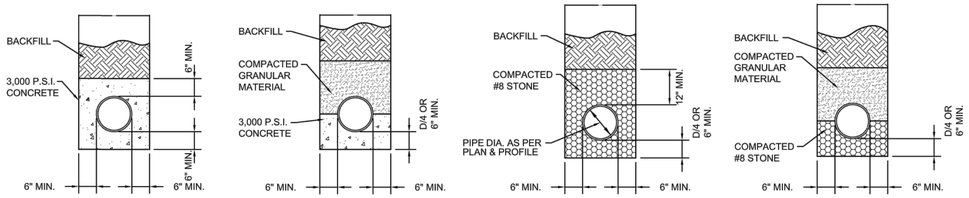
RECOMMEND FOR APPROVAL	DESIGN ENGINEER	7/12/05 DATE
APPROVED	PUBLIC WORKS COMMISIONER	7/12/05 DATE
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

TOWN STANDARDS SANITARY SEWER SPECIFICATIONS

SHEET 8 OF 10

1. CONCRETE OR STONE BEDDING TO EXTEND TO UNDISTURBED TRENCH WALLS.
2. FOR PIPE DIA., REFER TO PLAN AND PROFILES.



CONCRETE ENCASEMENT
CLASS "A-A"

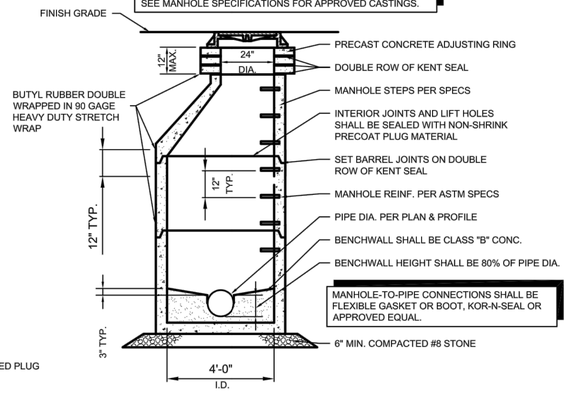
CONCRETE CRADLE
CLASS "A"

FLEXIBLE PIPE BEDDING
TYP. PVC

RIGID PIPE BEDDING
TYP. DI

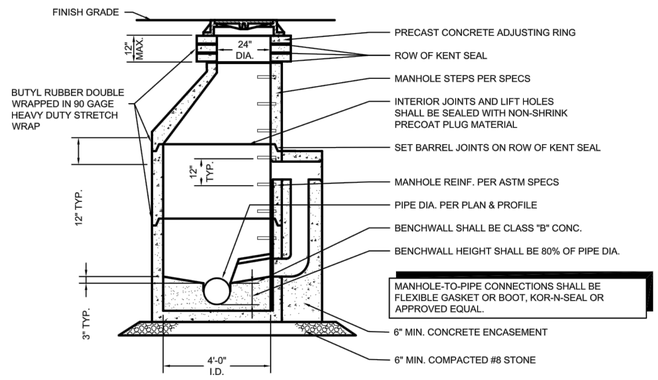
PIPE BEDDING DETAILS
NOT TO SCALE

CASTING SHALL BE EITHER SELF-SEALING OR WATERTIGHT, (SEE PLAN & PROFILE SHEETS FOR CASTING TYPE). LIDS SHALL BE STAMPED "SANITARY SEWER" AND HAVE CLOSED PICKHOLES. FRAME SHALL BE SET ON ROW OF KENT SEAL. SEE MANHOLE SPECIFICATIONS FOR APPROVED CASTINGS.



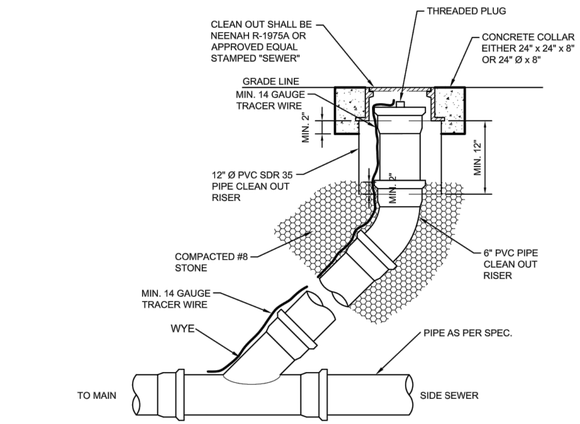
MANHOLE-TO-PIPE CONNECTIONS SHALL BE FLEXIBLE GASKET OR BOOT, KOR-N-SEAL OR APPROVED EQUAL.

SANITARY MANHOLE
NOT TO SCALE

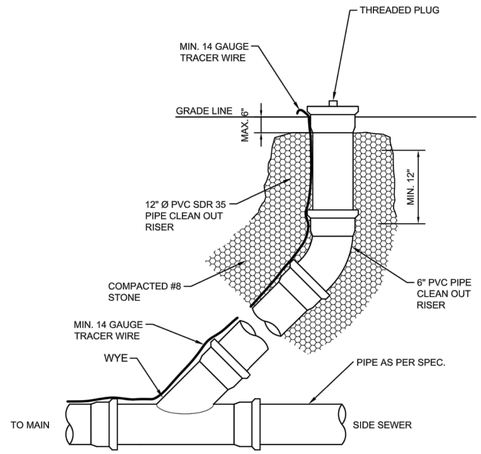


MANHOLE-TO-PIPE CONNECTIONS SHALL BE FLEXIBLE GASKET OR BOOT, KOR-N-SEAL OR APPROVED EQUAL.

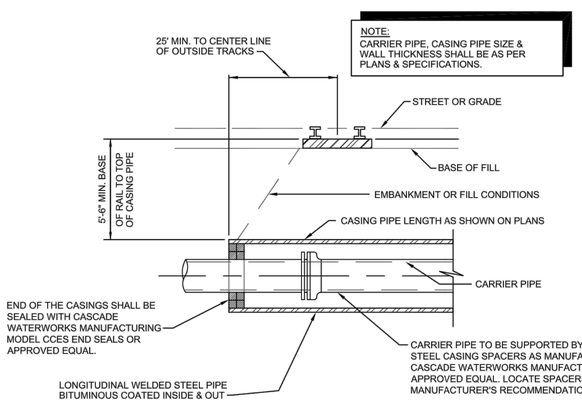
DROP SANITARY MANHOLE
NOT TO SCALE



CLEAN OUT TYPE II
SCALE: NONE



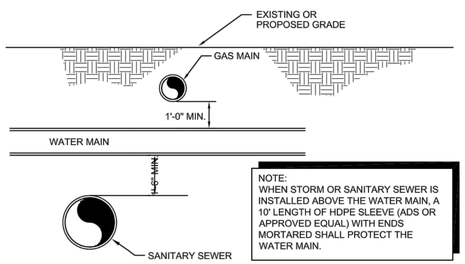
CLEAN OUT TYPE I
SCALE: NONE



NOTE:
CARRIER PIPE, CASING PIPE SIZE & WALL THICKNESS SHALL BE AS PER PLANS & SPECIFICATIONS.

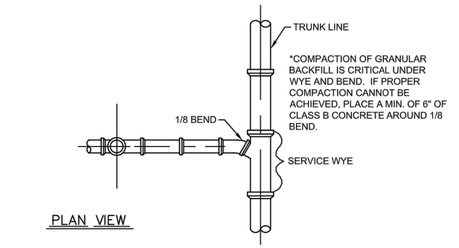
NOTE
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE I.N.D.O.T. STANDARD SPECIFICATIONS. WHERE NO PROCEDURES FOR A PARTICULAR PORTION OF THE WORK ARE GIVEN, THE RECOMMENDATIONS OF THE HORIZONTAL EARTH BORING AND PIPE JACKING MANUAL OR THE AMERICAN RAILWAY ENGINEERING ASSOCIATION SHALL BE FOLLOWED.

TYPICAL RAILROAD AND HIGHWAY BORING DETAIL
NOT TO SCALE

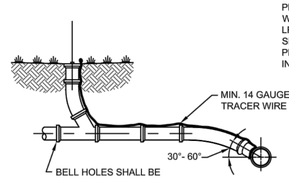


NOTE:
WHEN STORM OR SANITARY SEWER IS INSTALLED ABOVE THE WATER MAIN, A 10' LENGTH OF HDPE SLEEVE (ADS OR APPROVED EQUAL) WITH ENDS MORTARED SHALL PROTECT THE WATER MAIN.

TYPICAL UTILITY CROSSING
NOT TO SCALE



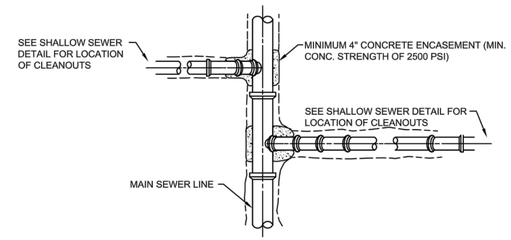
PLAN VIEW



ELEVATION

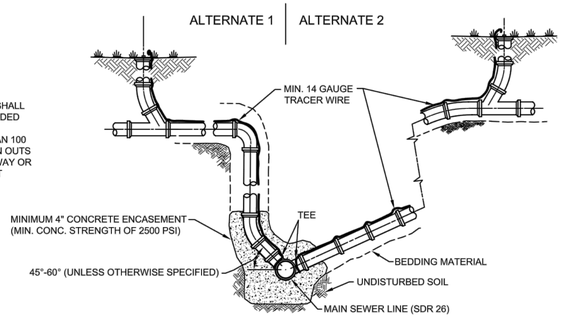
NOTE: A MINIMUM 6" DIA PIPE TYPE I CLEAN OUT SHALL BE INSTALLED 3' AWAY FROM BUILDING. A THREADED PLUG SHALL BE USED TO ENSURE 100% WATERTIGHTNESS. FOR LATERALS GREATER THAN 100 LF AS MEASURED ALONG THE PIPE, TYPE II CLEAN OUTS SHALL BE INSTALLED AT THE STREET RIGHT-OF-WAY OR PROPERTY LINE AS APPLICABLE AND AT 100 FOOT INCREMENTS AS APPROPRIATE.

SERVICE CONNECTION FOR SHALLOW SEWERS
LESS THAN 15' DEEP



PLAN VIEW

ALTERNATE 1 | ALTERNATE 2



ELEVATION

SERVICE CONNECTION FOR DEEP SEWERS (2 ALTERNATIVES)
15' DEEP AND OVER

REVISIONS		
REV. NO.	DESCRIPTION	DATE

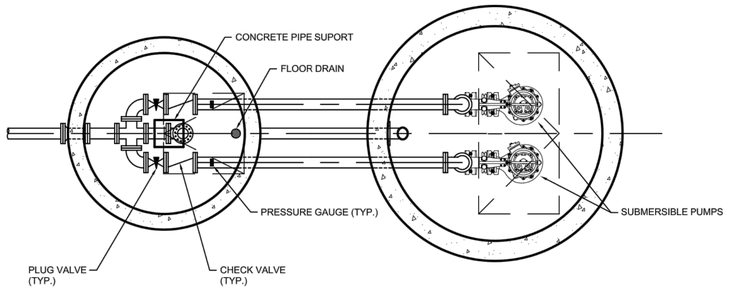
MARK J. WITSMAN REGISTERED No. 10100264 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMEND FOR APPROVAL	DESIGN ENGINEER	7/12/05 DATE
APPROVED	PUBLIC WORKS COMMISIONER	7/12/05 DATE
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

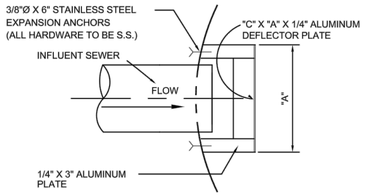
TOWN OF McCORDSVILLE

TOWN STANDARDS SANITARY SEWER DETAILS

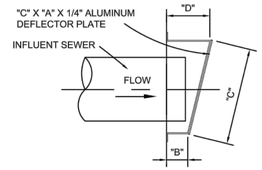
SHEET 9 OF 10



LIFT STATION - PLAN
SCALE: NONE



PLAN

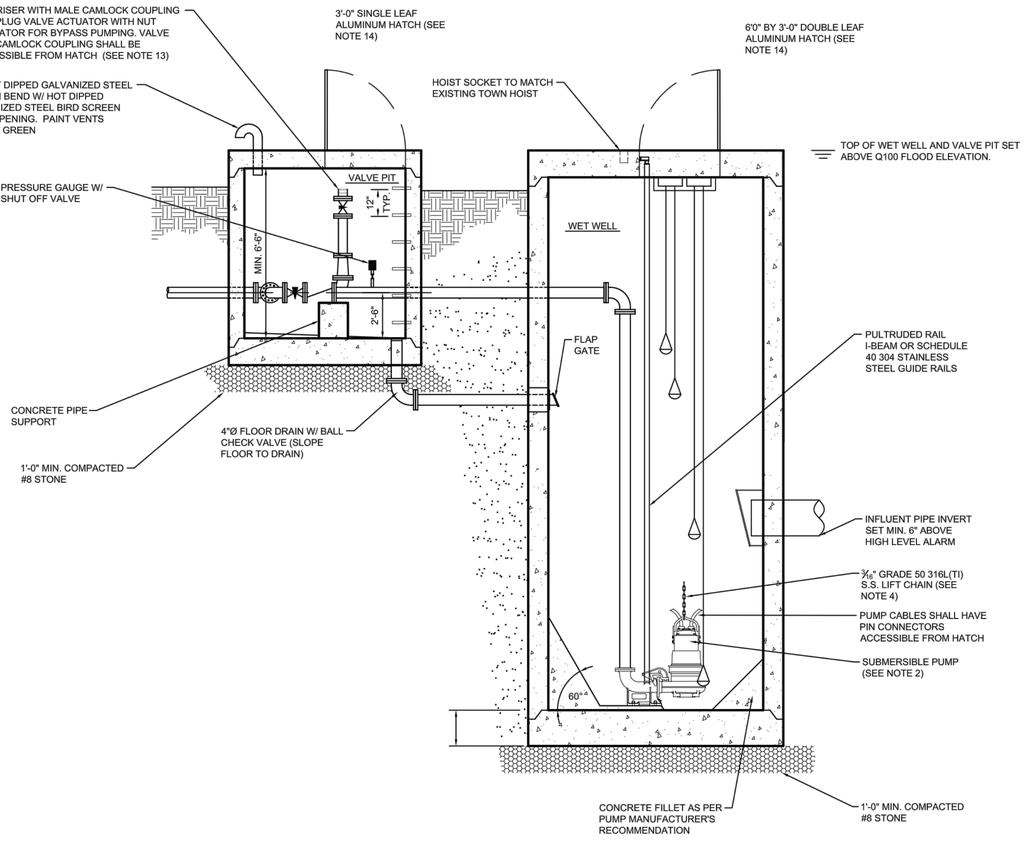


SECTION

ALL SURFACES CONTACTING CONCRETE SHALL HAVE A BITUMINOUS COATING

MATERIALS SCHEDULE				
INFLUENT SEWER I.D.	"A"	"B"	"C"	"D"
6"-10"Ø	19"	5"	13"	10"
10"-14"Ø	23"	5"	18"	10"
14"-18"Ø	27"	5"	23"	10"
18"-22"Ø	31"	5"	28"	10"
22"-26"Ø	35"	5"	37"	10"

DEFLECTION PLATE DETAILS
SCALE: NONE



LIFT STATION SECTION
SCALE: NONE

GENERAL NOTES

1.) Actual lift station dimensions, control settings, & pump selection to be indicated by the design engineer's certification sheet.

2.) Pumps "A" and "B" shall be identical, centrifugal, submersible, solids handling, non-clog design capable of handling 3" sphere solids, fibrous material, sludge, and material found in typical raw sewage. Fit replaceable bronze wear ring to volute. Pumps shall be Flygt, Hydromatic or approved equal. Manufacturer shall warrant the pumps for five years after installation.

All mating surfaces intended to be watertight shall be machined and fitted with nitrile rubber o-rings with sealing complete when metal-to-metal contact is made, resulting in controlled compression of o-rings without specific torque limit. Fasteners shall be 316 S.S.

Mechanical shaft seal system running in an oil reservoir shall have separate, constantly lubricated lapped seal faces. The lower seal unit between media and oil reservoir shall consist of one stationary seat and one rotating ring held in place by its own spring. The rotating seat ring and the stationary seat ring shall be made of Tungsten-Carbide. The lower seal shall be removable without disassembling the seal chamber. The upper seal between seal chamber and motor shall be of the same design with its own spring. Seals shall be maintenance free, but shall be easily inspectable.

The lift station control panel shall be stainless steel construction, NEMA 4X rating mounted on an aluminum pedestal. The control cabinet shall house the following controls and indication: Warning lights for each pump, Indicator lights, Common alarm, H-O-A switches, Silence button, Pump alternator, Warning reset buttons, Relays, Heater, Surge protection, Phase monitoring, Hour meters, and a GFI 110 volt, single phase convenience outlet.
Lower seal failure alarm shall be engaged by seal failure sensor provided in the seal chamber, which senses water intrusion through lower seal. A mini-float in the motor chamber which signals pump shutdown and alarm upon water intrusion through upper seal may be acceptable when approved by Town of McCordsville.

Over temperature alarm and pump shutdown shall be engaged by heat sensor attached to the motor windings. Motor winding and stator lead insulation shall be class F with maximum temperature capability of 155 degree C. Housing shall be filled with High-Dielectric Oil. Air filled housing may be acceptable when approved by Town of McCordsville.
Pump and motor shall be designed to operate partially or fully submerged in pumped media without the use of cooling jackets.

Rail system shall enable the easy removal of the pump without the need for a person to enter the wet well. A non-corrosive FRP I-beam or schedule 40 stainless steel guide rails shall be provided for each pump. The guide rail shall be supported at the bottom by the discharge elbow, aligned perfectly plumb and securely affixed to access frame. One intermediate guide rail support is required for each 9' of guide rail length.

3.) Check valve shall use packing material to seal the integral shaft or hinge pin. O-ring side plugs and O-ring shall not be used to seal integral shaft or hinge pin. Check valve shall be provided with bolted covers for easy access to the discs and shall be outside adjustable weight & Lever and shall be Clow F-5382 or approved by Town of McCordsville.

4.) Provide sufficient lift chain, float mounting cable, and pump power & control cable to enable non-spliced field adjustment. 304L stainless steel lift chain w/ 4:1 saftey factor shall have a minimum workload limit of 1100 pounds. Pump power & control cables shall be suitable for submersible pump applications and this shall be indicated by a code/legend permanently embossed on the cable. Provide sleve and pin on pump control cable and locate on bracket near hatch.

5.) Plug valve shall be hand lever operated and shall be Dezurik Fig. 118, Clow F-5412, or Town of McCordsville approved equal.

6.) Pressure gauge shall be Trerice Model 450 LFB or Town of McCordsville approved equal. Drill & tap run of pipe to install pressure gauge.

7.) Piping not within 2 feet of wet well and valve pit shall be DI Class 53, PVC ASTM D2241 SDR 21, PVC AWWA C900 or C905, or Town of McCordsville approved equal.

8.) Piping in and within 2 feet of wet well and valve pit shall be class 53 flanged ductile iron pipe.

9.) Piping, valves, and fittings in wet well and valve pit shall be factory primed Tnemec series 140 - 1211 to a dry film thickness of 5.0 to 11.0 mils and shall be field painted with Tnemec series 69 to a dry film thickness of 5.0 to 6.0 mils.

10.) Lift station and valve pit manholes shall be pre-cast concrete in accordance with ASTM C-478, with rubber gaskets equal to ASTM-443 with double row of 1/2"' Hamilton Kent-Seal Extrudable Preformed Gasket material or Town of McCordsville approved equal. Exterior joints to have butyl rubber applied over the joint to a minimum of 1'-0" above and below the joint. Interior joints are to be sealed with non-shrink grout or precoat plug material.

11.) Valve pit shall be constructed on undisturbed soil or compacted granular material compacted with ½ inch nominal size to 95% standard proctor density.

12.) Horizontal projections from precast integral base and riser may be required to enable the weight of the vertical soil ring above the projection to resist buoyancy forces. See design engineer's certification sheet.

13.) Camlock flanged coupler and dust cap shall be used within valve vault. Camlock coupling and eccentric plug valve on by-pass line shall be 6" diameter with transition to force main size occurring with concentric reducer placed on top of base elbow. Fix operating nut for eccentric plug in vertical position to enable wrench operation from surface. Layout of all valve vault fittings and equipment to be based upon by-pass line being up close to hatch opening as shown.

14.) Aluminum hatches shall be Bilco, Halliday or Town of McCordsville approved equal. Leaf shall be ¼" aluminum diamond plate live load rated to 300PSF. Access frames and covers shall be 1/4 inch thick one-piece, mill finish, extruded aluminum frame, incorporating a continuous concrete anchor. All surfaces contacting concrete shall have a bituminous coating. Hatch shall be provided with type 316 S.S. hardware throughout, compression spring operators, automatic hold-open arm with release handle, and non-corrosive locking bar used in conjunction with a Town of McCordsville supplied padlock.

15.) Sewer connection to wet well shall be KOR-N-SEAL, A-LOK, DURA-SEAL, or Town of McCordsville approved equal.

16.) Force main penetrations of wet well shall be KOR-N-SEAL, A-LOK, DURA-SEAL, or Town of McCordsville approved equal.

17.) Automatic pump control system shall include all necessary items and appurtenances, which might normally be considered a part of a complete system. System shall be supplied by one manufacturer, shall be factory assembled, wired and tested, and shall be per complete electrical drawings and instructions. Major components and sub-assemblies shall be identified as function with laminated, engraved, bakelite nameplates. System shall be built in a NEMA 4X S.S. enclosure suitable for the specified horsepower and voltage of the pumps. The outer door of the panel shall be a hinged dead front with provisions for padlocking. Inside shall be a separate hinged panel to protect all electrical components, H-O-A switches, run lights, circuit breakers, etc., mounted such that only the faces protrude through said panel with no wiring fixed to said panel. The manufacturer shall warrant the control center for one year after installation covering 100% parts and labor.

Provide the services of a factory-trained, qualified representative to inspect, to adjust, and to place the system in trouble-free operation and to instruct the operating personnel in the proper operation and care of the system.

All major components of control center shall be available from local sources. Pump manufacturer shall accept the control center in writing to ensure unit responsibility and warranty.

Provide a disconnect switch housed in a separate NEMA 4X S.S. enclosure with external operation handle capable of being locked in the "on" position. Provide 480 volt, 200 amp, 4 wire weatherproof receptacle, Crouse Hindes AR204 or equal, to match plug on existing portable generator.

Provide a Omni-site.net Crystall WM housed within the NEMA 4X control panel.

An incoming power terminal block shall be located at the bottom of the control enclosure. A lightning arrestor shall be provided at the terminal block and connected to each line of the incoming side of the power input terminals. A single main fusible/breaker disconnect switch of adequate size to provide power for control, operation, and appurtenant components shall be provided. Provide a circuit breaker and magnetic starter with each leg manual reset overload protected for each pump. Starters shall have auxiliary contacts on 3Φ applications to operate both pumps simultaneously. Provide a circuit breaker and transformer to power the control panel with 1Φ, 115 volt service for all control functions. Provide a green "run" light and H-O-A switch to enable field connections.

Materials and installation of the required equipment grounding shall be in accordance with NEC section 250-83(c). All wiring shall have not less than 600 volt insulation. Wiring and buss shall be in accordance with NEC, state, local, and NEMA standards. All wiring shall be color coded.

Minimum 4" diameter, schedule 40 conduit shall be provided from wet well to control panel enabling pump power & sensor cables and float switch cables to be easily pulled. Seal conduit at control panel to prevent sewer gases from entering. All conduits, fittings, or connections shall enter from the bottom of enclosures.

Sump level rise to lead pump run float causes lead pump to operate. Lead pump operating and sump level falling to pumps off float causes lead pump to shut off. Lead pump operating and sump level rising to lag pump run float causes lag pump to operate. Lag pump operating and sump level falling to pumps off float causes both pumps to shut off. Sump level rise to high level alarm causes high level alarm to operate. An alternating relay shall be provided to cause pumps to alternate whenever pumps off float is de-energized. If one pump fails for any reason, the remaining pump shall operate upon sump level rise to lag pump run float. An hour meter shall be provided for each pump to record the elapsed operating time of each pump.

18.) Four manuals shall be presented to the owner, which shall include the following minimum information: 1) Operation instructions, 2) Maintenance instructions, 3) Recommended spare parts list, 4) Lubrication schedule, 5) Structural diagrams, 6) As-built wiring diagrams, & 7) Bill of materials.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

MARK J. WITSMAN REGISTERED No. 10100264 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMEND FOR APPROVAL	DESIGN ENGINEER	7/12/05 DATE
APPROVED	PUBLIC WORKS COMMISIONER	7/12/05 DATE
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

TOWN STANDARDS
SANITARY SEWER LIFT STATION STANDARDS & GUIDELINES

SHEET 10 OF 10

Plot Date: Apr 24, 2024 Plot Time: 2:03pm File Name: W:\Lennar\2020-235-F Lennar - Summerton Amenity\Design\CAD\20235-F McCordsville Standard Details.dwg, Layout: Detail 10 of 10 By: keichhorn