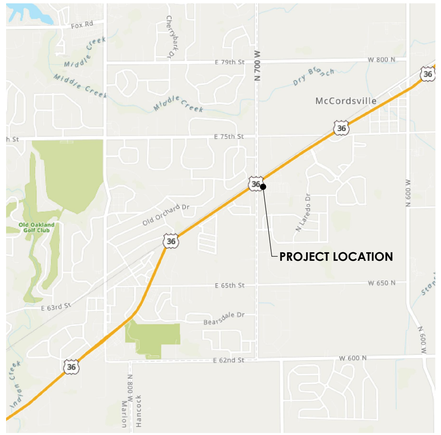
CIVIL CONSTRUCTION PLANS

FOR

CREW CARWASH | MCCORDSVILLE

North 700 West
McCordsville, Indiana 46055



VICINITY MAP 1" = 3,000'

MCCORDSVILLE, INDIANA

SHEET INDEX

CONSULTANT TEAM

DEVELOPER/OWNER

CREW CARWASH
11700 EXIT 5 PARKWAY
FISHERS, INDIANA 46037
PH: (317) 572-9250

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REVISION BLOCK

MICHAEL THOMPSON — No. 11011309 — STATE OF INDIANA — REGISTERED PROFESSIONAL ENGINEER

Michael Thompson

DATE 04/18/2022

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HAMILTON DESIGNS
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Fishers, Indiana 46038
P. (317) 570-8800
www.hamilton-designs.com

CONSTRUCTION PLANS FOR:
CREW CARWASH | MCCORDSVILLE
North 700 West
McCordsville, Indiana 46055

CREW CARWASH
11700 Exit 5 Parkway
Fishers, Indiana 46037

PROJECT NO. 2021-0095

DATE 04/18/2022

SCALE

SHEET NAME **COVER SHEET**

SHEET NO. C-001

DEMOLITION NOTES

1. NO ATTEMPT IS MADE TO STIPULATE EVERY REQUIRED ITEM OF REMOVAL AND DEMOLITION EITHER ON DRAWINGS OR IN SPECIFICATIONS. THE CONTRACTOR MUST VISIT THE SITE AND STUDY EXISTING PHYSICAL CONDITIONS, REVIEW DRAWINGS, AND REACH THEIR OWN CONCLUSIONS ON WORK NECESSARY TO ACCOMPLISH INTENDED RESULTS DESCRIBED BY THE PROJECT DOCUMENTS.
2. CONTRACTOR SHALL REQUEST UTILITY LOCATIONS PRIOR TO THE COMMENCEMENT OF WORK. IT SHALL BE THE RESPONSIBILITY OF EACH SUBCONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PRIOR TO ANY EXCAVATION AT LEAST 72 HOURS PRIOR TO THEIR PHASE OF WORK. CONTRACTOR SHALL NOTIFY IN WRITING TO THE OWNER OR THE ENGINEER OF ANY CHANGES, OMISSIONS OR ERRORS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.
3. ALL WORK TO BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL LOCAL ORDINANCES, CITY OR STATE.
4. THE CONTRACTOR SHALL COORDINATE WORK ASSOCIATED WITH THE REMOVAL, RELOCATION OR ABANDONMENT OF UTILITIES WITH THE UTILITY COMPANY OR ENTITY HAVING OWNERSHIP OF EACH RESPECTIVE UTILITY. COSTS FOR DISCONNECTION, REMOVAL, AND/OR RELOCATION OF EXISTING UTILITIES AS SHOWN ON THE DRAWINGS OR AS NECESSARY TO ALLOW FOR EXECUTION OF THE WORK SHALL BE PAID BY THE CONTRACTOR.
5. NO OPEN BURNING SHALL BE PERMITTED ON THE SITE.
6. THE OWNER HAS FIRST SALVAGE RIGHTS ON ALL ITEMS REMOVED. IF OWNER FORFEITS RIGHTS THEN ALL DEMOLISHED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LEGALLY DISPOSED OF OFF-SITE UNLESS OTHERWISE SHOWN.
7. WITHIN THE CONSTRUCTION LIMITS, THE INTENT IS TO HAVE A CLEAN, CLEAR SITE, FREE OF ALL EXISTING ITEMS NOTED TO BE REMOVED IN ORDER TO PERMIT THE CONSTRUCTION OF THE NEW PROJECT.
8. A CLEAN, STRAIGHT EDGE SHALL BE SAWCUT BETWEEN ALL CONCRETE AND ASPHALT SURFACES SCHEDULED FOR DEMOLITION AND CONCRETE AND ASPHALT SURFACES TO REMAIN IN-PLACE.
9. FOR ALL ITEMS NOTED TO BE REMOVED - REMOVE NOT ONLY THE ABOVE GROUND ELEMENTS, BUT ALL UNDERGROUND ELEMENTS AS WELL INCLUDING BUT NOT NECESSARILY LIMITED TO: FOUNDATIONS, GRAVEL FILLS, TREE ROOTS, OLD PIPE, ETC.
10. BACKFILL ALL EXCAVATIONS RESULTING FROM THE DEMOLITION WORK TO MEET THE REQUIREMENTS FOR THE PROPOSED USE. FOR ALL UTILITY LINES AND STRUCTURES DESIGNATED TO BE REMOVED, PLACE AND COMPACT STRUCTURAL BACKFILL WITHIN TRENCH.
11. GENERAL CONTRACTOR IS RESPONSIBLE TO VERIFY, PRIOR TO THE FINAL CONTRACT EXECUTION, IF ANY BUILDING STRUCTURE THAT IS NOTED TO BE REMOVED HAS A BASEMENT, IF SO THE BUILDING STRUCTURE, BOTH FLOOR STRUCTURES, BASEMENT, FOUNDATION, ETC., ARE TO BE REMOVED AND BACKFILLED TO EXISTING GRADE ELEVATIONS SURROUNDING THE EXISTING STRUCTURE.
12. ALL NECESSARY APPROVALS FROM AGENCIES GOVERNING THIS WORK SHALL BE SECURED BY THE CONTRACTOR IF THEY HAVE NOT BEEN PREVIOUSLY OBTAINED BY THE OWNER PRIOR TO BEGINNING WORK.
13. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF VEHICULAR AND PEDESTRIAN TRAFFIC MEASURES PRIOR TO THE COMMENCEMENT OF DEMOLITION. ALL MEASURES SHALL BE APPROVED BY THE OWNER AND WILL REMAIN IN PLACE UNTIL COMPLETION OF PROJECT. CONTRACTOR SHALL ADJUST AS NEEDED DURING CONSTRUCTION.
14. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING BENCHMARKS AND RELOCATING BENCHMARKS IF NECESSARY. BENCHMARKS SHALL BE RELOCATED TO ORIGINAL ELEVATION. ALL BENCHMARKS SHALL BE RELOCATED OR REPLACED BY A INDIANA LICENSED SURVEYOR.
15. ALL DEMOLITION AND CONSTRUCTION ACTIVITY ON THIS SITE IS TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
16. CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO ANY EXISTING CONDITIONS DAMAGED DURING DEMOLITION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE PATTERNS, UTILITIES, LIGHTING, PAVEMENT, SIDEWALKS, CURBS, ETC. REPAIRS SHALL BE EQUAL TO EXISTING CONDITIONS.
17. EROSION CONTROL SHALL BE IN PLACE PRIOR TO ANY SOIL DISTURBANCE, INCLUDING PAVEMENT REMOVAL.
18. MANHOLES, CATCH BASINS, CLEANOUTS, VALVE BOXES, FRAMES COVERS AND GRATES REMAINING IN USE SHALL BE PROTECTED AND ADJUSTED TO FINAL GRADES.

SITE NOTES

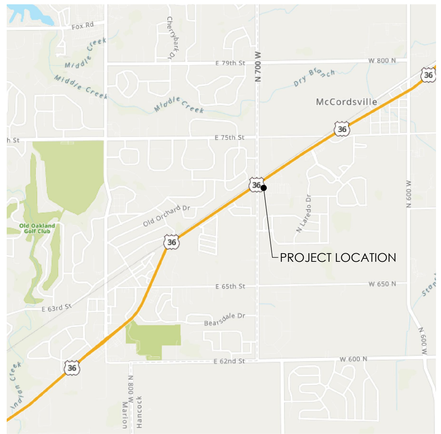
1. ALL RADII AND OTHER DIMENSIONS FOR 6" STANDING CURB AND CONCRETE CURB AND WALK ARE TO THE FACE OF CURB AND/OR EDGE OF WALK.
2. ALL DIMENSIONS ARE TO OUTSIDE FACE OF BRICK OR FACING MATERIAL, WHERE APPLICABLE.
3. BEARINGS, DIMENSIONS AND EASEMENTS ARE SHOWN FOR REFERENCE. REFER TO RECORDED PLATS AND SURVEYS FOR ADDITIONAL PROPERTY INFORMATION.
4. SEE ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS.
5. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO HIS PHASE OF WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES FOR PROPER STAKE LOCATIONS FOR EACH UTILITY BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER OR THE ENGINEER OF ANY CHANGES, OMISSIONS, OR ERRORS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.
6. ALL SIDEWALK CURB AND GUTTER STREET PAVING, CURB CUTS, DRIVEWAY APPROACHES, HANDICAP RAMP, ETC., CONSTRUCTED OUTSIDE THE PROPERTY LINE IN THE RIGHT-OF-WAY SHALL CONFORM TO ALL MUNICIPAL AND/OR STATE SPECIFICATIONS AND REQUIREMENTS.
7. FOR AREAS OUTSIDE THE PROPERTY LINES, REPAIR AND/OR REPLACE ALL DAMAGE DONE TO EXISTING ELEMENTS (SIDEWALKS, PAVING, LANDSCAPING, ETC.) AS REQUIRED BY OWNER AND/OR GOVERNING AUTHORITY.
8. PROOF ROLL BUILDING AND ALL PARKING AREAS. NOTIFY THE ENGINEER OF ANY UNACCEPTABLE AREAS.
9. EDGE OF NEW PAVEMENT TO BE FLUSH WITH EXISTING PAVEMENT.
10. SIDEWALK EXPANSION JOINTS ARE TO BE PLACED AT ALL WALK INTERSECTIONS AND BETWEEN WALKS AND PLATFORMS. SIDEWALK SCORES AND CONTROL JOINTS ARE TO BE EQUALLY SPACED BETWEEN EXPANSION JOINTS AND PERPENDICULAR TO SIDEWALKS AT 5' INTERVALS OR LESS WITH AN EXPANSION JOINT EVERY 30' OR LESS.
11. PARKING SPACE STRIPES SHALL BE 4 INCHES WIDE. YELLOW OR WHITE STRIPES SHALL BE PROVIDED AT OWNER'S PREFERENCE UNLESS OTHERWISE SHOWN.
12. UNLESS OTHERWISE SHOWN, PERMANENT SIGNS SHALL BE MOUNTED ON A SINGLE U-CHANNEL DRIVE POST DRIVEN 42 INCHES BELOW GRADE. THE BOTTOM EDGE OF THE SIGN SHALL BE 6 FEET ABOVE THE NEAREST PAVEMENT EDGE ELEVATION.
13. ALL EXCAVATED AREAS TO BE SEEDED AND/OR SODDED AFTER FINISH GRADING UNLESS OTHERWISE NOTED. ALL NEWLY SODDED/SEEDED AREAS SHALL HAVE A MINIMUM OF 4" OF TOPSOIL. HOLD SOIL DOWN 1" FROM PAVEMENT ELEVATION. CONTRACTOR TO SUPPLY STRAW MULCH WHERE GRASS SEED HAS BEEN PLANTED.
14. RESURFACE OR RECONSTRUCT AT LEAST TO ORIGINAL CONDITIONS ALL AREAS WHERE TRAFFIC BY CONTRACTORS, SUBCONTRACTORS OR SUPPLIERS HAVE DAMAGED EXISTING PAVEMENT, LAWNS OR OTHER IMPROVEMENTS DURING CONSTRUCTION. AFTER CONSTRUCTION WORK IS COMPLETE.
15. ALL UTILITY TRENCHES WITHIN 5 FEET OF PAVEMENT SHALL BE COMPLETELY BACKFILLED WITH GRANULAR BACKFILL.
16. FOR PROPOSED UTILITY LOCATIONS, SEE THE UTILITY PLAN.
17. TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
18. ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY, OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.
19. ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.

GRADING NOTES

1. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 72 HOURS BEFORE CONSTRUCTION IS TO START. TO VERIFY IF ANY UTILITIES ARE PRESENT ON SITE. ALL VERIFICATIONS (LOCATION, SIZE AND DEPTH) SHALL BE MADE BY THE APPROPRIATE UTILITY COMPANIES. WHEN EXCAVATING IS AROUND OR OVER EXISTING UTILITIES, THE CONTRACTOR MUST NOTIFY THE UTILITY COMPANY SO A REPRESENTATIVE OF THAT UTILITY COMPANY CAN BE PRESENT TO INSTRUCT AND OBSERVE DURING CONSTRUCTION.
2. THE EXCAVATING CONTRACTOR MUST TAKE PARTICULAR CARE WHEN EXCAVATING IN AND AROUND EXISTING UTILITY LINES AND EQUIPMENT. VERIFY COVER REQUIREMENTS BY UTILITY CONTRACTORS AND/OR UTILITY COMPANIES SO AS NOT TO CAUSE DAMAGE.
3. ALL GRADES AT PROJECT LIMITS SHALL MEET EXISTING GRADES.
4. THE CONTRACTOR SHALL NOTIFY, IN WRITING, THE OWNER AND THE ENGINEER OF ANY CHANGES, OMISSIONS, OR ERRORS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.
5. ANY PART OF THE UTILITY PIPE TRENCHES RUNNING WITHIN 5 FEET OF PAVED AREAS TO BE BACKFILLED WITH GRANULAR MATERIAL.
6. REMOVE AND BACKFILL ALL AREAS WHERE ANY FIELD TILE CROSSES PROPOSED BUILDING PAD. ALL FIELD TILES INTERCEPTED TO BE PERPETUATED INTO THE STORM SEWER SYSTEM. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER IN ANY CIRCUMSTANCES WHERE THIS CANNOT BE ACCOMPLISHED.
7. ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.0% (1:50) AND A MAXIMUM RUNNING SLOPE OF 5.0% (1:20).
8. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS/SIDEWALK. GRASS SHALL NOT CREATE BARRIER FOR DRAINAGE FROM SIDEWALK TO LAWN. BUILDING PERIMETER SIDEWALKS SHALL DRAIN 2% MAXIMUM AWAY FROM STRUCTURE.
9. TOPSOIL SHALL BE STRIPPED FROM ALL AREAS TO RECEIVE PAVING AND FROM WITHIN THE LIMITS OF PROPOSED BUILDINGS AND STRUCTURES. TOPSOIL SHALL BE STRIPPED TO THE DEPTH SHOWN IN THE GEOTECHNICAL REPORT, OR TO A DEPTH OF 6 INCHES, WHICHEVER IS GREATER.
10. AFTER STRIPPING TOPSOIL MATERIAL, PROOFROLL WITH A MEDIUM WEIGHT ROLLER TO DETERMINE LOCATIONS OF ANY POCKETS OF UNSUITABLE MATERIAL. THE NECESSITY FOR SUBDRAINS AND/OR REMOVAL OF ANY UNSUITABLE MATERIAL WITHIN THE PROPOSED PARKING AREAS WILL BE DETERMINED AT THE TIME OF CONSTRUCTION.
11. TOPSOIL SHALL BE PLACED TO A DEPTH OF 4 TO 6 INCHES IN ALL AREAS TO BE SEEDED OR SODDED PER THE SPECIFICATIONS.
12. EXCESS TOPSOIL MAY BE PLACED IN MOUNDING AREAS AND NONSTRUCTURAL FILL AREAS AS AVAILABLE.
13. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED OR SODDED UNLESS OTHERWISE SHOWN.
14. FINAL GRADES AT THE PROJECT BOUNDARY SHALL MATCH EXISTING ELEVATIONS UNLESS OTHERWISE SHOWN.
15. PROVIDE POSITIVE DRAINAGE WITHOUT PONDING, IN ALL AREAS, AFTER INSTALLATION. CONTRACTOR TO TEST FOR, AND CORRECT, IF ANY, "BIRD BATH" CONDITIONS.
16. ALL PROPOSED SPOT ELEVATIONS ARE THE FINAL PAVEMENT AND FINAL GRADE ELEVATIONS.
17. SEE APPROPRIATE DETAILS TO DETERMINE SUBGRADE ELEVATIONS BELOW FINISH GRADE ELEVATIONS INDICATED.
18. ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.
19. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS. IF ANY DISCREPANCIES ARE FOUND IN THESE PLANS FROM THE ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
20. CONTRACTOR TO PROVIDE CLEAN PLANTING SOIL IN ALL LANDSCAPE AREAS TO A DEPTH AS INDICATED ON THE LANDSCAPE INSTALLATION DETAILS, INCLUDING ADJACENT TO THE BUILDING. SOIL SHALL BE FREE OF GRAVEL AND ANY COMPACTED HARD PAN. COORDINATE WITH LANDSCAPE INSTALLER FOR APPROPRIATE BACKFILL IN ALL LANDSCAPE AREAS.

UTILITY NOTES

1. CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING & APPLYING FOR UTILITY SERVICE WITH EACH UTILITY COMPANY PRIOR TO STARTING CONSTRUCTION.
2. THE SIZE AND LOCATION OF EXISTING UTILITIES SHOWN ARE PER INFORMATION PROVIDED BY THE SURVEY AND RESPECTIVE UTILITY COMPANIES. ALL UTILITY COMPANIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION FOR FIELD LOCATION OF SERVICES.
3. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONDITIONS PERTAINING TO THEIR PHASE OF WORK. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNERS OF THE VARIOUS UTILITIES FOR PROPER STAKE LOCATION FOR EACH UTILITY BEFORE WORK IS STARTED. THE CONTRACTOR SHALL NOTIFY, IN WRITING, THE OWNER AND THE ENGINEER OF ANY CHANGES, OMISSIONS, OR ERRORS FOUND ON THESE PLANS OR IN THE FIELD BEFORE WORK IS STARTED OR RESUMED.
4. ANY PART OF THE UTILITY PIPE TRENCHES RUNNING WITHIN 5 FEET OF PAVED AREAS TO BE BACKFILLED WITH GRANULAR MATERIAL.
5. CONTRACTOR SHALL MINIMIZE DAMAGE TO EXISTING TREES.
6. REMOVE AND BACKFILL ALL AREAS WHERE ANY FIELD TILE CROSSES PROPOSED BUILDING PAD. ALL FIELD TILES INTERCEPTED TO BE PERPETUATED INTO THE STORM SEWER SYSTEM. THE CONTRACTOR SHALL NOTIFY IN WRITING THE OWNER AND THE ENGINEER IN ANY CIRCUMSTANCES WHERE THIS CANNOT BE ACCOMPLISHED.
7. CONTRACTOR TO SUPPLY ALL TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
8. ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
9. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING PLANS FOR CONTINUATION OF UTILITIES WITHIN 5 FEET OF STRUCTURES.
10. PRESSURE UTILITY SERVICE LINES MAY NEED TO BE INSTALLED AT A DEPTH GREATER THAN THAT SPECIFIED OR SHOWN ON THE DRAWINGS TO CLEAR EXISTING AND PROPOSED CROSSING UTILITIES. IN SUCH CASES, THE CONTRACTOR SHALL INSTALL VERTICAL BENDS AS REQUIRED TO ACHIEVE APPROPRIATE CLEARANCE BETWEEN THE CROSSING UTILITIES.
11. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET BETWEEN WATER LINES AND SEWERS SHALL BE MAINTAINED AT ALL TIMES. A MINIMUM VERTICAL SEPARATION OF 18 INCHES BETWEEN WATER LINES AND SEWERS SHALL BE MAINTAINED AT CROSSINGS.
12. PIPE LENGTHS SHOWN ARE MEASURED FROM CENTER TO CENTER OF STRUCTURES ROUNDED TO THE NEAREST FOOT.
13. WHERE GRADE MODIFICATIONS (CUT OR FILL) ARE SHOWN ADJACENT TO EXISTING VALVE BOX COVERS AND MANHOLE CASTINGS, THE VALVE BOX COVERS AND MANHOLE CASTINGS SHALL BE ADJUSTED FLUSH WITH THE PROPOSED GRADE.
14. ADJUSTMENTS OF EXISTING MANHOLE CASTINGS TO GRADE TO A MAXIMUM OF 12 INCHES SHALL BE MADE USING PRECAST CONCRETE ADJUSTING RINGS PROVIDED THE TOTAL HEIGHT OF EXISTING AND NEW ADJUSTING RINGS DOES NOT EXCEED 12 INCHES.
15. ADJUSTMENTS OF CASTINGS WHERE THE TOTAL HEIGHT OF ADJUSTING RINGS WOULD EXCEED 12 INCHES SHALL BE MADE BY REPLACING THE CONE AND/OR BARREL SECTION OF THE STRUCTURE.
16. PAVEMENTS, WALKS, CURBS AND OTHER SURFACE IMPROVEMENTS REQUIRING REMOVAL FOR INSTALLATION OF UNDERGROUND UTILITIES SHALL BE RESTORED TO THEIR PRESENT CONDITION UNLESS OTHERWISE SHOWN.
17. MANHOLE CASTINGS LOCATED WITHIN ASPHALT PAVEMENT AREAS SHALL INCLUDE A CONCRETE PAVED COLLAR EXTENDING A MINIMUM OF 12 INCHES IN ALL DIRECTIONS FROM THE EDGE OF THE CASTING PER THE DETAILS.
18. CONTRACTOR TO PROVIDE THE NECESSARY CONDUIT TO PROPERLY RUN AND FEED THE PROPOSED SITE LIGHTING PRIOR TO PAVING.



VICINITY MAP

1" = 3,000'

MCCORDSVILLE, INDIANA

EROSION CONTROL NOTES

1. EARTH MOVING MAY NOT COMMENCE UNTIL ITEMS 1-6 OF "PRE-CONSTRUCTION ACTIVITIES" (CE-101) HAVE BEEN COMPLETED IN ADDITION TO ITEMS DEPICTED ON PLAN.
2. ALL DISTURBED AREAS THAT WILL POTENTIALLY BE IDLE FOR 14 DAYS OR MORE SHALL BE STABILIZED (SEEDED, MULCHED, ETC.) IMMEDIATELY.
3. ADDITIONAL STORMWATER POLLUTION PREVENTION MAY BE REQUIRED IN THE FIELD BY TOWN OF MCCORDSVILLE OR REVIEW AUTHORITY.
4. ALL EROSION CONTROL MATERIALS MUST BE APPROVED BY THE TOWN OF MCCORDSVILLE INSPECTOR PRIOR TO INSTALLATION.
5. THERE SHALL BE NO DIRT, DEBRIS OR STORAGE OF MATERIALS IN THE STREETS.
6. APPROXIMATE CONSTRUCTION SCHEDULE:
   START DATE: JUNE 2022
   COMPLETION DATE: JUNE 2023
7. RECEIVING WATER: FALL CREEK
8. LATITUDE: 39°53'11" N
   LONGITUDE: 85°56'15" W
9. CONTACT PERSON:
   CREW CARWASH
   11700 EXIT 5 PARKWAY
   FISHERS, INDIANA 46037
   PH: (317) 572-9250
   ANDY GOEBES
   EMAIL: agoebes@crewcarwash.com
10. WARNING: THIS SHEET TO BE USED FOR STORMWATER POLLUTION PREVENTION PURPOSES ONLY. FOR ANY OTHER INFORMATION SEE SHEET CS-101.
11. SEE SHEETS CE-501 FOR ALL STORMWATER POLLUTION PREVENTION PLAN DETAILS & NOTES.
12. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH INDIANA STORMWATER QUALITY MANUAL AND TOWN OF MCCORDSVILLE STORMWATER TECHNICAL STANDARDS MANUAL.
13. ALL CONSTRUCTION ACTIVITY ON THIS SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
14. EXISTING EROSION CONTROL MEASURES: ANY PART DAMAGED, DESTROYED OR DISTURBED DURING CONSTRUCTION IS TO BE REPLACED IMMEDIATELY.

LANDSCAPING NOTES

1. IN CASE OF DISCREPANCIES BETWEEN THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.
2. ALL SHRUB PLANTING AREAS TO BE COVERED WITH A 3" LAYER OF ROCK MULCH. ROCK MULCH TO BE APPROVED BY OWNER.
3. AN APPROVED PRE-EMERGENT HERBICIDE SHALL BE APPLIED IN ALL PLANTING BEDS AT A RATE SPECIFIED BY MANUFACTURER FOR EACH PLANT VARIETY.
4. FINAL PLACEMENT OF PLANT MATERIALS, ETC. SHALL BE APPROVED BY LANDSCAPE ARCHITECT BEFORE PLANTING OPERATIONS ARE TO PROCEED. ALL TREE LOCATIONS SHALL BE MARKED WITH A WOOD STAKE INDICATING VARIETY AND SIZE OF TREE. ALL GROUND COVER AND PLANTING BED LINES SHALL BE MARKED WITH HIGHLY VISIBLE PAINT LINES WITH OCCASIONAL WOOD STAKES FOR REFERENCE. ALL STAKES SHALL BE REMOVED FOLLOWING PLANTING OPERATIONS. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST PLANT LOCATIONS ON THE SITE.
5. NO SUBSTITUTIONS OF PLANT MATERIALS SHALL BE ALLOWED. IF PLANTS ARE NOT AVAILABLE, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT PRIOR TO THE BID IN WRITING. ALL PLANTS SHALL BE INSPECTED AND TAGGED WITH PROJECT I.D. AT NURSERY OR CONTRACTOR'S OPERATIONS PRIOR TO MOVING TO THE JOB SITE. PLANTS MAY BE INSPECTED, APPROVED OR REJECTED ON THE JOB SITE BY LANDSCAPE ARCHITECT.
6. ALL PLANTS SHALL MEET OR EXCEED AMERICAN STANDARDS FOR NURSERY STOCK, 2004 EDITION, AS SET FORTH BY AMERICAN ASSOCIATION OF NURSERYMEN.
7. PLANTS AND ALL OTHER MATERIALS TO BE STORED ON SITE WILL BE PLACED WHERE THEY WILL NOT CONFLICT WITH CONSTRUCTION OPERATIONS AND AS DIRECTED BY LANDSCAPE ARCHITECT.
8. ALL LANDSCAPE PLANTINGS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FOLLOWING FINAL INSPECTION BY LANDSCAPE ARCHITECT. AT THE END OF THIS PERIOD, PLANT MATERIAL TERMED DEAD OR UNSATISFACTORY BY LANDSCAPE ARCHITECT SHALL BE REPLACED AT NO ADDITIONAL CHARGE BY THE CONTRACTOR.
9. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IN WRITING PRIOR TO BID DATE OF ANY PLANTS HE/SHE FEELS MAY NOT SURVIVE IN LOCATIONS NOTED ON PLANS.
10. ALL LANDSCAPE PLANTINGS TO BE MAINTAINED BY CONTRACTOR FOR 60 DAYS FOLLOWING FINAL INSPECTION BY LANDSCAPE ARCHITECT. MAINTENANCE TO INCLUDE WATERING, WEEDING, CULTIVATING, MULCHING, MOWING, AND ALL OTHER NECESSARY OPERATIONS REQUIRED FOR PROPER ESTABLISHMENT PLANTINGS.

IRRIGATION NOTE

LANDSCAPE INSTALLER TO INCLUDE IRRIGATION TO ALL PLANTS SHOWN ON PLAN. WORK TO INCLUDE ALL NECESSARY INFRASTRUCTURE UP TO THE STUBBED WATER SERVICE.

LEGAL DESCRIPTION

LOT FOUR (4) AND LOT FIVE (5) IN THE SECONDARY PLAT OF MEIJER MCCORDSVILLE SUBDIVISION, AS PER PLAT THEREOF RECORDED JUNE 21, 2016, AS INSTRUMENT 201605904, IN PLAT CABINET C, SLIDE 370, IN THE OFFICE OF THE RECORDER OF HANCOCK COUNTY, INDIANA.

FLOOD NOTE

THE ACCURACY OF ANY FLOOD HAZARD DATA SHOWN ON THIS REPORT IS SUBJECT TO MAP SCALE UNCERTAINTY AND TO ANY OTHER UNCERTAINTY IN LOCATION OR ELEVATION ON THE REFERENCED FLOOD INSURANCE RATE MAP. THE WITHIN DESCRIBED TRACT OF LAND LIES WITHIN FLOOD HAZARD ZONE X (UNSHADED) AS SAID TRACT PLOTS BY SCALE ON COMMUNITY PANEL NUMBER 18059C0018D THE FLOOD INSURANCE RATE MAPS FOR HANCOCK COUNTY, INDIANA (MAPS DATED DECEMBER 4, 2007).

SURVEY AND UTILITY DISCLAIMER

PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATION (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER AND SANITARY SEWER. ANY CONFLICTS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND THE APPROPRIATE AUTHORITIES.

BENCHMARK

SITE BENCHMARK #1 ELEVATION = TBM#15 ELEVATION = 855.36

NOTES

1. SEE SHEET C-002 FOR GENERAL NOTES
2. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION DOCUMENT SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.

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REVISION BLOCK

MICHAEL THOMPSON — No. 11011309 — STATE OF INDIANA — REGISTERED PROFESSIONAL ENGINEER

Michael Thompson

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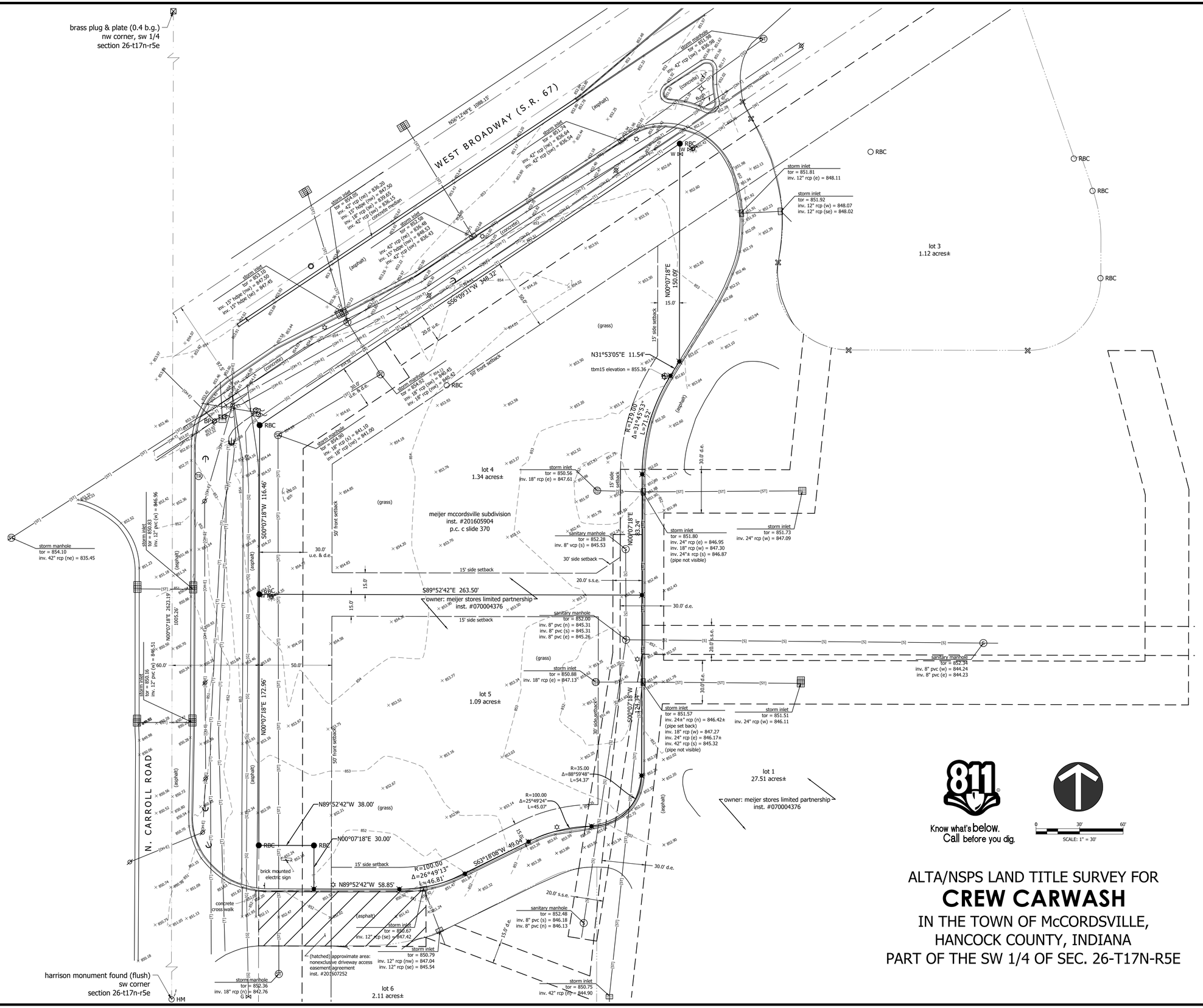
SCALE

SHEET NAME GENERAL NOTES

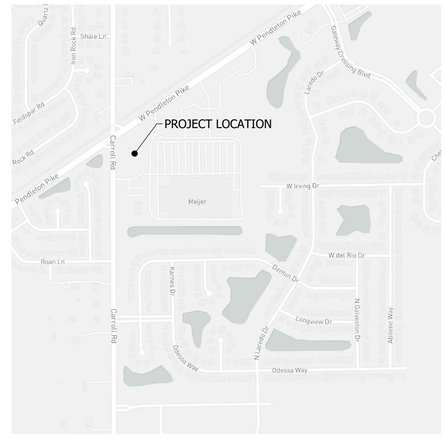
SHEET NO. C-002



LEGEND OF EXISTING FEATURES

PROPERTY LINE		HM	HARRISON MONUMENT FOUND
RIGHT-OF-WAY LINE		RBC	CAPPED REBAR FOUND
SETBACK LINE		⊠	MISCELLANEOUS MONUMENT FOUND
EASEMENT		⊕	TEMPORARY BENCHMARK
SECTION LINE		○	IRON PIPE FOUND
CENTERLINE		✕	CUT "X" FOUND
799	INTERMEDIATE CONTOUR	✱	MAG NAIL TO BE SET
800	INDEX CONTOUR	● RBC	REBAR W/CAP TO BE SET FIRM 0214
[T]	TELEPHONE UNDER GR.	ET HC	TRANSFORMER HVAC
[OH-T]	TELEPHONE OVERHEAD	E Ⓜ E	ELECTRIC METER ELECTRIC MANHOLE
[FO]	FIBER OPTIC SERVICE	⌀	UTILITY POLE | GUY WIRE
[G]	GAS SERVICE	☼	LIGHT POLE
[E]	POWER UNDERGROUND	△ T	TELEPHONE PEDESTAL TELEPHONE MANHOLE
[OH-E]	POWER OVERHEAD	G E	GAS MARKER ELECTRIC MARKER
[OH-U]	UTILITY OVERHEAD	TR⌀ TR	TRAFFIC POLE TRAFFIC MANHOLE
[W]	WATER SERVICE	BP⌀	TRAFFIC BRACE POLE
[S]	SANITARY SEWER	G Ⓜ G	GAS METER GAS VALVE
[ST]	STORM SEWER	ST S	STORM MANHOLE SANITARY MANHOLE
[NP]	POND NORMAL POOL		STORM INLETS
ooo	EX. FLOWLINE	C.O. D.S.	CLEAN-OUT DOWNSPOUT
o o o	CHAIN LINK FENCE		FIRE HYDRANTS
x x	FARM FENCE	W Ⓜ W	WATER METER WATER VALVES
/ /	WOOD FENCE		POST INDICATOR VALVE FIRE DEPARTMENT CONN.
IRON FENCE | RAILING			SIGNS
BUILDING | STRUCTURE			MAILBOX
EX. BUILDING OVERHEAD			TREES
TOR	RIM ELEVATION		SHRUB
INV.	INVERT ELEVATION	851.25	SPOT GRADE
D.E. | S.S.E | U.E	DRAINAGE | SANITARY SEWER | UTILITY EASEMENT	A.G. | B.G.	ABOVE | BELOW GRADE

NOTE: SETBACKS AND EASEMENTS SHOWN PER PLAT (P.C. C SLIDE 370/ INST. #201605904)



VICINITY MAP N.T.S.

MCCORDSVILLE, INDIANA

Know what's below. Call before you dig.

0 30' 60'

SCALE: 1" = 30'

ALTA/NSPS LAND TITLE SURVEY FOR
CREW CARWASH
IN THE TOWN OF McCORDSVILLE, HANCOCK COUNTY, INDIANA
PART OF THE SW 1/4 OF SEC. 26-T17N-R5E

"I AFFIRM, UNDER THE PENALTIES FOR PERJURY, THAT I HAVE TAKEN REASONABLE CARE TO REDACT EACH SOCIAL SECURITY NUMBER IN THIS DOCUMENT, UNLESS REQUIRED BY LAW." TERRY D. WRIGHT

HAMILTON DESIGNS
A LIMITED LIABILITY COMPANY
11 Municipal Drive, Suite 300
Fishers, Indiana 46038
P. (317) 570-8800
www.hamilton-designs.com

PROJECT NO.	2021-0095
DATE	01/14/2022
SCALE	1" = 30'
SHEET NO.	1 OF 2
DRAWN BY: TDW/KRE	CHECKED BY: TDW
LAND AREA:	1.34 & 1.09 ACRES±

SHEET NAME: ALTA/NSPS LAND TITLE SURVEY

TITLE LAND DESCRIPTION

LOT FOUR (4) AND LOT FIVE (5) IN THE SECONDARY PLAT OF MEIJER MCCORDSVILLE SUBDIVISION, AS PER PLAT THEREOF RECORDED JUNE 21, 2016, AS INSTRUMENT 201605904, IN PLAT CABINET C, SLIDE 370, IN THE OFFICE OF THE RECORDER OF HANCOCK COUNTY, INDIANA.

TITLE COMMITMENT NOTES

THIS SURVEY WAS CONDUCTED ACCORDING TO THE TITLE COMMITMENT FURNISHED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, COMMITMENT NO. 102200020, DATED JANUARY 10, 2022. EASEMENTS CREATED OR RELINQUISHED AFTER THIS DATE ARE NOT SHOWN HEREON.

13. EASEMENT FOR ELECTRIC LINE GRANTED TO INDIANAPOLIS POWER & LIGHT COMPANY BY INSTRUMENT DATED MAY 6, 1974, AND RECORDED JUNE 14, 1974, AS INSTRUMENT NO. 74-2574.

    NOTE: DOES NOT OCCUR ON SUBJECT PARCEL

14. DECLARATION OF RESTRICTIONS RECORDED JULY 21, 2016 AS INSTRUMENT NO. 201607254 IN THE HANCOCK COUNTY RECORDER'S OFFICE.

    NOTE: BLANKET/ NOT SURVEY RELATED

15. NONEXCLUSIVE STORM WATER DISCHARGE AGREEMENT RECORDED JULY 21, 2016 AS INSTRUMENT NO. 201607253.

    NOTE: BLANKET/ NOT SURVEY RELATED

16. NONEXCLUSIVE DRIVEWAY ACCESS EASEMENT AGREEMENT RECORDED JULY 21, 2016 AS INSTRUMENT NO. 201607252.

    NOTE: APPROXIMATE LOCATION SHOWN ON SURVEY

17. COVENANTS, CONDITIONS, RESTRICTIONS, EASEMENTS AND BUILDING LINES AS SHOWN IN THE PLAT OF SECONDARY PLAT OF MEIJER MCCORDSVILLE SUBDIVISION RECORDED IN PLAT CABINET C, SLIDE 370.

    NOTE: AS SHOWN ON SURVEY

NOTE: REMAINING ITEMS NOT CURRENTLY FOUND TO BE SURVEY RELATED

SURVEYOR NOTES

#1 PURSUANT TO THE ACCURACY STANDARDS AS ADOPTED BY ALTA AND NSPS IN EFFECT ON THE DATE OF THIS CERTIFICATION, UNDERSIGNED FURTHER CERTIFIES THAT IN MY PROFESSIONAL OPINION, AS A LAND SURVEYOR IN THE STATE OF INDIANA, THE RELATIVE POSITION OF ACCURACY OF THIS SURVEY DOES NOT EXCEED THAT WHICH IS SPECIFIED THEREIN.

#2 THIS SURVEY IS BASED ON A COMPLETED TITLE COMMITMENT REPORT BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, COMMITMENT NO. 102200020, DATED JANUARY 10, 2022 AND IS SUBJECT TO THAT COMMITMENT. ANY MISSING OR NEW INFORMATION THAT IS FOUND AFTER THE SIGNING OF THIS SURVEY DOES NOT REFLECT THE COMPETENCE OF THIS SURVEYOR. NO TITLE RESEARCH WAS COMPLETED BY THIS SURVEYOR TO PROVE OR DISPROVE ANY WORK THE TITLE COMPANY PROVIDED.

#3 BASIS OF BEARINGS: THE BEARINGS SHOWN ON THIS SURVEY ARE BASED ON THE INDIANA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD83 (2011.00). SAID BEARINGS ORIGINATED FROM A FIELD TRAVERSE WHICH WAS TIED (REFERENCED) TO SAID COORDINATE SYSTEM BY GPS OBSERVATIONS USING INDIANA'S INCORS RTK NETWORK.
VERTICAL DATUM: NAVD 88
TBM SHOWN ON SURVEY

#4 THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

#5 A COMBINATION OF GPS COLLECTION AND ROBOTIC TOTAL STATION WAS UTILIZED IN COMPLETING THIS SURVEY. THE LOCATIONS OF BOUNDARY CONTROL MONUMENTS WAS COMPLETED WITH A DUAL FREQUENCY GPS RECEIVER, UTILIZING THE INDOT INCORS RTK NETWORK. ALL EQUIPMENT USED WERE TRIMBLE GPS ROVERS, TOTAL STATIONS, DATA COLLECTORS AND LEVELING INSTRUMENTS.

SURVEYOR REPORT

PURPOSE OF THIS SURVEY: TO PERFORM AN ALTA/NSPS SURVEY OF LOTS 4 AND 5 OF THE MEIJER MCCORDSVILLE SUBDIVISION LOCATED AND THE SOUTHEAST CORNER OF NORTH CARROLL ROAD AND S.R. 67 IN MCCORDSVILLE, INDIANA.

IN ACCORDANCE WITH TITLE 865, ARTICLE 1.1, CHAPTER 12, SECTION 1 THROUGH 30 OF THE INDIANA ADMINISTRATIVE CODE, THE FOLLOWING OBSERVATIONS AND OPINIONS ARE SUBMITTED REGARDING THE VARIOUS UNCERTAINTIES IN THE LOCATIONS OF THE LINES AND CORNERS ESTABLISHED ON THIS SURVEY AS A RESULT OF:

a) VARIANCE IN THE REFERENCE MONUMENTS;
b) DISCREPANCIES IN RECORD DESCRIPTION AND PLATS;
c) INCONSISTENCIES IN LINES OF OCCUPATION AND;
d) ACCEPTABLE RELATIVE POSITIONAL ACCURACY

THIS SURVEY IS A RETRACEMENT SURVEY AS DEFINED IN IAC 865, ARTICLE 1.1, CHAPTER 12 SECTIONS 6-18.

THE FEDERAL GOVERNMENT ORIGINALLY MONUMENTED SECTION AND CERTAIN QUARTER SECTION CORNERS IN THE ORIGINAL SUBDIVISION OF THE STATE OF INDIANA. WOOD POSTS WERE ORIGINALLY PLACED TO MARK THESE CORNERS. THE PASSAGE OF TIME HAS OBLITERATED ALL EVIDENCE OF THE ORIGINAL WOOD POSTS. WITHOUT A CONTINUOUS CHAIN OF RECORD PROVING THE PERPETUATION OF THE LOCATION OF THE WOOD POSTS, IT IS IMPOSSIBLE TO KNOW THAT THE MONUMENTS FOUND AT THESE CORNERS TODAY ARE IN THE SAME LOCATION AS THE ORIGINAL WOOD POSTS.

FINDING OF FACTS:
WITHOUT ADDITIONAL PROOF, THE FACT THAT SURVEYORS ACCEPT A MONUMENT DOES NOT MAKE IT CORRECT; THE MONUMENT MUST HAVE BEEN INITIALLY CORRECT. COMMON RAPPORT AND REPUTATION EVIDENCE DOES NOT OVERCOME CONTRARY PROOF. THEREFORE, THE LOCATION OF ANY OF THE ABOVE-DISCUSSED MONUMENTS MAY YET BE CONTRADICTED AND OVERCOME BY UNDISCOVERED EVIDENCE. AS A RESULT, ANY PROPERTY BOUNDARY, WHOSE LOCATION IS DEPENDENT ON THESE CORNER MONUMENTS, IS SUBJECT TO UNDISCOVERED EVIDENCE, WHICH MIGHT RESULT IN A DIFFERENT LOCATION FOR THE CORNERS. BECAUSE A DIMENSIONAL VALUE TO THE UNCERTAINTY OF THESE CORNERS IS SUBJECTIVE, AND FOR THESE REASONS CITED ABOVE, THE UNCERTAINTY OF THESE CORNERS IS UNKNOWN.

IF FENCES ARE TO BE INSTALLED IT SHOULD BE KEPT IN MIND THE UNCERTAINTIES OF CORNERS FOUND OR SET.

OF THE CORNERS SHOWN ON THIS SURVEY, SOME ARE REFERENCED AS TITLE CORNERS AND OTHERS AS RECORD CORNERS. A RECORD CORNER BEING A MONUMENT IN ITS PROPER LOCATION ACCORDING TO THE RULES OF THE SUBDIVISION OF SECTIONS. A TITLE CORNER IS AN EXISTING MONUMENT ESTABLISHED AND HAVING BEEN ACCEPTED OVER A PERIOD OF TIME AS THE PROPER CORNER. A TITLE CORNER IS SUBJECT TO UNDISCOVERED EVIDENCE.

AS A RESULT OF THE ABOVE OBSERVATIONS, IT IS TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE UNCERTAINTIES IN THE LOCATIONS OF THE LINES AND CORNERS ESTABLISHED ON THIS SURVEY AREA AS FOLLOWS:

THEORY OF LOCATION:

THE SUBJECT PARCEL IS LOT 4 AND LOT 5 OF THE SECONDARY PLAT OF THE MEIJER MCCORDSVILLE SUBDIVISION (P.C. C SLIDE 370/ INST. #201605904). SAID PLAT WAS USED TO DETERMINE THE LOCATION OF THE SUBJECT PARCEL. THE WEST LINE OF THE SOUTHWEST QUARTER OF SECTION 16 WAS LOCATED BY A HARRISON MONUMENT AND BRASS PLUG & PLATE. SAID WEST LINE WAS HELD AND THE PLAT WAS ROTATED TO STATE PLATE BEARING. NO MONUMENTS WERE FOUND NEAR LOT 4 OR LOT 5. HOWEVE, SEVERAL MONUMENTS (CUT Xs AND CAPPED REBAR SHOWN HEREON) WERE LOCATED NEAR LOT 3. SAID MONUMENTS DO NOT APPEAR TO BE ORIGINAL MONUMENTATION (THE PLAT DOES NOT APPEAR TO SPECIFY MONUMENTS TO BE SET AT LOT CORNERS). OF THE TEN (10) MONUMENTS LOCATED NEAR LOT 3, THE LARGEST ERROR WAS 0.4'. IN MY OPINION, THERE IS AS MUCH AS 0.4' OF TOTAL UNCERTAINTY IN THIS SURVEY.

DUE TO VARIANCES IN REFERENCE MONUMENTS:

THE SOUTHWEST CORNER OF SECTION 26 IS MONUMENTED BY A HARRISON MONUMENT FOUND FLUSH. THIS IS CONSISTENT WITH THE HANCOCK COUNTY TIES (BEING LOCATED WITHIN 0.1'± OF THE SPECIFIED NORTHING/EASTING) AND THE MONUMENTATION REFERENCED ON THE RECORDED SECONDARY PLAT OF THE MEIJER MCCORDSVILLE SUBDIVISION. IN MY OPINION, THIS MONUMENT APPEARS TO BE THE ACCEPTED POSITION OF SAID CORNER.

THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION IS MONUMENTED BY A BRASS PLUG & PLATE 0.4' BELOW GRADE. THIS IS CONSISTENT WITH THE HANCOCK COUNTY TIES (BEING LOCATED WITHIN 0.2'± OF THE SPECIFIED NORTHING/EASTING). IN MY OPINION, THIS MONUMENT APPEARS TO BE THE ACCEPTED POSITION OF SAID CORNER.

DUE TO DISCREPANCIES IN THE RECORD DESCRIPTIONS:

THERE ARE NO APPARENT DISCREPANCIES IN RECORD DESCRIPTIONS. ALL ADJOINING PROPERTIES ARE PLATTED LOTS PER THE ABOVE MENTIONED MEIJER MCCORDSVILLE SUBDIVISION.

DUE TO INCONSISTENCIES IN LINES OF OCCUPATION:

THERE ARE NO APPARENT INCONSISTENCIES IN LINES OF OCCUPATION. THERE ARE NO GAPS OR OVERLAPS DUE TO ADJOINING PARCELS BEING PLATTED LOTS.

RELATIVE POSITIONAL TOLERANCE:
THE RELATIVE POSITIONAL TOLERANCES IS DETERMINED BY THE FUTURE AND CURRENT USE OF THE PROPERTY. THE PARCEL IS CURRENTLY LOCATED IN THE TOWN LIMITS OF MCCORDSVILLE, INDIANA AND APPEARS TO BE COMMERCIAL USE. THEREFORE THIS SURVEY IS CLASSIFIED AS AN URBAN SURVEY. URBAN SURVEYS ARE PERFORMED ON LAND LYING WITHIN OR CONTIGUOUS WITH A CITY OR TOWN, EXCEPT FOR SINGLE FAMILY RESIDENTIAL LOTS. URBAN SURVEYS INCLUDE COMMERCIAL AND INDUSTRIAL PROPERTIES, CONDOMINIUMS, TOWNHOUSES, APARTMENTS, AND OTHER MULTI-UNIT DEVELOPMENTS. URBAN SURVEYS ACCEPTABLE RELATIVE POSITIONAL ACCURACY IS 0.07 FEET (21 MILLIMETERS) PLUS 50 PARTS PER MILLION.

SURVEYOR'S CERTIFICATION

TO THE BEST OF MY KNOWLEDGE INFORMATION AND BELIEF THE WITHIN PLAT REPRESENTS A SURVEY MADE UNDER MY SUPERVISION IN ACCORDANCE WITH TITLE 865, ARTICLE 1, CHAPTER 12 OF THE INDIANA ADMINISTRATIVE CODE.

TO: FIDELITY NATIONAL TITLE INSURANCE COMPANY; DAHM ACQUISITIONS, LLC; MEIJER STORES LIMITED PARTNERSHIP

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1-5, 6A, 7B1, 8, 9, 11, 13, 14, 17-19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON JANUARY 15, 2022.

PRO FORMA

TERRY D. WRIGHT
INDIANA REGISTRATION # LS9700013

"I AFFIRM, UNDER THE PENALTIES FOR PERJURY, THAT I HAVE TAKEN REASONABLE CARE TO REDACT EACH SOCIAL SECURITY NUMBER IN THIS DOCUMENT, UNLESS REQUIRED BY LAW." TERRY D. WRIGHT

TABLE "A" ITEMS

ITEM #1 MONUMENTS PLACED (OR A REFERENCE MONUMENT OR WITNESS TO THE CORNER) AT ALL MAJOR CORNERS OF THE BOUNDARY OF THE PROPERTY, UNLESS ALREADY MARKED OR REFERENCED BY EXISTING MONUMENTS OR WITNESSES IN CLOSE PROXIMITY TO THE CORNER.
COMMENT: SHOWN HEREON

ITEM #2 ADDRESS(ES) OF THE SURVEYED PROPERTY IF DISCLOSED IN DOCUMENTS PROVIDED TO OR OBTAINED BY THE SURVEYOR, OR OBSERVED WHILE CONDUCTING THE FIELDWORK.
COMMENT: NONE DISCLOSED

ITEM #3 FLOOD ZONE CLASSIFICATION (WITH PROPER ANNOTATION BASED ON FEDERAL FLOOD INSURANCE RATE MAPS OR THE STATE OR LOCAL EQUIVALENT) DEPICTED BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY.
COMMENT: THE PROPERTY DESCRIBED HEREON IS LOCATED IN FLOOD ZONE "X" (AREA DETERMINED TO BE OUTSIDE THE ANNUAL 0.2% ANNUAL CHANCE FLOODPLAIN) PER FEMA FLOOD INSURANCE MAP NO. 18059C0018D, DATED 12/04/2007.

FLOOD PLAIN CERTIFICATION IS RESTRICTED TO A REVIEW OF THE FLOOD INSURANCE RATE MAPS, AND SHALL NOT BE CONSTRUED AS A CONFIRMATION OR DENIAL OF FLOODING POTENTIAL. NOTE: ALL FLOOD MAPPING IS SUBJECT TO MAP SCALE UNCERTAINTY.

ITEM #4 GROSS LAND AREA (AND OTHER AREAS IF SPECIFIED BY THE CLIENT).
COMMENT: LOT 4 (1.34 ACRES±) & LOT 5 (1.09 ACRES±)

ITEM #5 VERTICAL RELIEF WITH THE SOURCE OF INFORMATION (E.G., GROUND SURVEY, AERIAL MAP), CONTOUR INTERVAL, DATUM, AND ORIGINATING BENCHMARK IDENTIFIED.
COMMENT: TOPOGRAPHY SHOWN HEREON

ITEM #6(A) IF SET FORTH IN A ZONING REPORT OR LETTER PROVIDED TO THE SURVEYOR BY THE CLIENT, LIST THE CURRENT ZONING CLASSIFICATION, SETBACK REQUIREMENTS, THE HEIGHT AND FLOOR SPACE AREA RESTRICTIONS, AND PARKING REQUIREMENTS. IDENTIFY THE DATE AND SOURCE OF THE REPORT OR LETTER.
COMMENT: SETBACKS SHOWN PER PLAT

ITEM #7(B) SQUARE FOOTAGE OF:

(1) EXTERIOR FOOTPRINT OF ALL BUILDINGS AT GROUND LEVEL.
COMMENT: NONE

ITEM #8 SUBSTANTIAL FEATURES OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK (IN ADDITION TO THE IMPROVEMENTS AND FEATURES REQUIRED PURSUANT TO SECTION 5 ABOVE) (E.G., PARKING LOTS, BILLBOARDS, SIGNS, SWIMMING POOLS, LANDSCAPED AREAS, SUBSTANTIAL AREAS OF REFUSE).
COMMENT: SHOWN HEREON

ITEM #9 NUMBER AND TYPE (E.G., DISABLED, MOTORCYCLE, REGULAR AND OTHER MARKED SPECIALIZED TYPES) OF CLEARLY IDENTIFIABLE PARKING SPACES ON SURFACE PARKING AREAS, LOTS AND IN PARKING STRUCTURES. STRIPING OF CLEARLY IDENTIFIABLE PARKING SPACES ON SURFACE PARKING AREAS AND LOTS.
COMMENT: NONE

ITEM #11 LOCATION OF UTILITIES EXISTING ON OR SERVING THE SURVEYED PROPERTY AS DETERMINED BY:
- OBSERVED EVIDENCE COLLECTED PURSUANT TO SECTION 5.E.IV.
- EVIDENCE FROM PLANS REQUESTED BY THE SURVEYOR AND OBTAINED FROM UTILITY COMPANIES, OR PROVIDED BY CLIENT (WITH REFERENCE AS TO THE SOURCES OF INFORMATION), AND
- MARKINGS REQUESTED BY THE SURVEYOR PURSUANT TO AN 811 UTILITY LOCATE OR SIMILAR REQUEST REPRESENTATIVE EXAMPLES OF SUCH UTILITIES INCLUDE, BUT ARE NOT LIMITED TO:
- MANHOLES, CATCH BASINS, VALVE VAULTS AND OTHER SURFACE INDICATIONS OF SUBTERRANEAN USES;
- WIRES AND CABLES (INCLUDING THEIR FUNCTION, IF READILY IDENTIFIABLE) CROSSING THE SURVEYED PROPERTY, AND ALL POLES ON OR WITHIN TEN FEET OF THE SURVEYED PROPERTY. WITHOUT EXPRESSING A LEGAL OPINION AS TO THE OWNERSHIP OR NATURE OF THE POTENTIAL ENCROACHMENT, THE DIMENSIONS OF ALL ENCROACHING UTILITY POLE CROSSMEMBERS OR OVERHANGS; AND
- UTILITY COMPANY INSTALLATIONS ON THE SURVEYED PROPERTY.

NOTE TO THE CLIENT, INSURER, AND LENDER - WITH REGARD TO TABLE A, ITEM 11, SOURCE INFORMATION FROM PLANS AND MARKINGS WILL BE COMBINED WITH OBSERVED EVIDENCE OF UTILITIES PURSUANT TO SECTION 5.E.IV. TO DEVELOP A VIEW OF THE UNDERGROUND UTILITIES. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. IN ADDITION, IN SOME JURISDICTIONS, 811 OR OTHER SIMILAR UTILITY LOCATE REQUESTS FROM SURVEYORS MAY BE IGNORED OR RESULT IN AN INCOMPLETE RESPONSE, IN WHICH CASE THE SURVEYOR SHALL NOTE ON THE PLAT OR MAP HOW THIS AFFECTED THE SURVEYOR'S ASSESSMENT OF THE LOCATION OF THE UTILITIES. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION AND/OR A PRIVATE UTILITY LOCATE REQUEST MAY BE NECESSARY.
COMMENT: SHOWN HEREON

ITEM #13 NAMES OF ADJOINING OWNERS ACCORDING TO CURRENT TAX RECORDS. IF MORE THAN ONE OWNER, IDENTIFY THE FIRST OWNER'S NAME LISTED IN THE TAX RECORDS FOLLOWED BY "ET AL."
COMMENT: SHOWN HEREON

ITEM #14 AS SPECIFIED BY THE CLIENT, DISTANCE TO THE NEAREST INTERSECTING STREET.
COMMENT: SHOWN HEREON

ITEM #17 PROPOSED CHANGES IN STREET RIGHT OF WAY LINES, IF SUCH INFORMATION IS MADE AVAILABLE TO THE SURVEYOR BY THE CONTROLLING JURISDICTION. EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.
COMMENT: NONE PROVIDED

ITEM #18 IF THERE HAS BEEN A FIELD DELINEATION OF WETLANDS CONDUCTED BY A QUALIFIED SPECIALIST HIRED BY THE CLIENT, THE SURVEYOR SHALL LOCATE ANY DELINEATION MARKERS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK AND SHOW THEM ON THE FACE OF THE PLAT OR MAP. IF NO MARKERS WERE OBSERVED, THE SURVEYOR SHALL SO STATE.
COMMENT: NONE

ITEM #19 INCLUDE ANY PLOTTABLE OFFSITE (I.E., APPURTENANT) EASEMENTS OR SERVITUDES DISCLOSED IN DOCUMENTS PROVIDED TO OR OBTAINED BY THE SURVEYOR AS A PART OF THE SURVEY PURSUANT TO SECTIONS 5 AND 6 (AND APPLICABLE SELECTED TABLE A ITEMS) (CLIENT TO OBTAIN NECESSARY PERMISSIONS).
COMMENT: SHOWN HEREON

ALTA/NSPS LAND TITLE SURVEY FOR

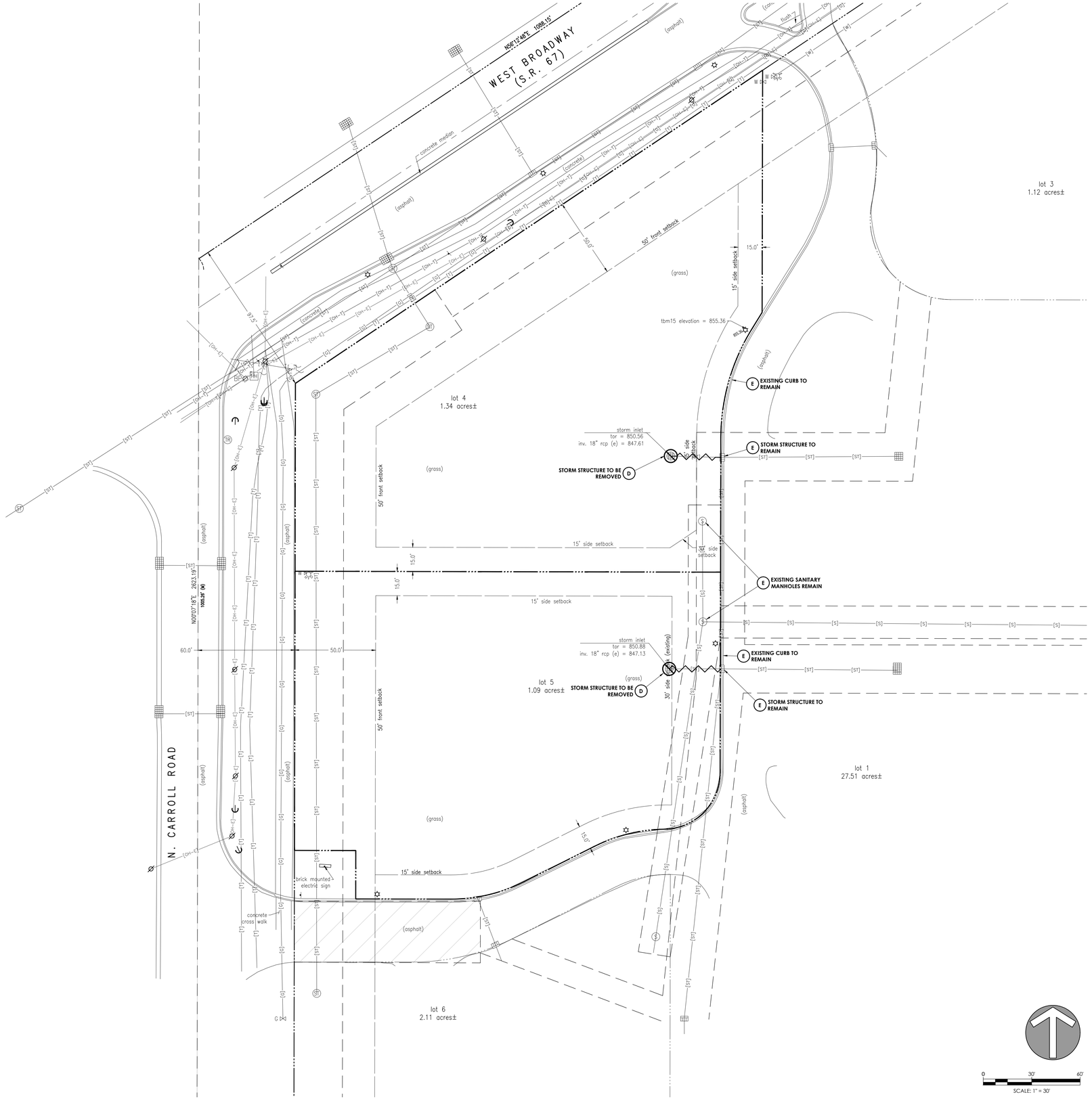
CREW CARWASH

IN THE TOWN OF McCORDSVILLE,
HANCOCK COUNTY, INDIANA
PART OF THE SW 1/4 OF SEC. 26-T17N-R5E

HAMILTON DESIGNS
A LIMITED LIABILITY COMPANY
11 Municipal Drive, Suite 300
Fishers, Indiana 46038
P. (317) 570-9800
www.hamilton-designs.com

PROJECT NO.	2021-0095
DATE	01/14/2021
SCALE	1" = 30'
SHEET NO.	2 OF 2
DRAWN BY	TDW/KRE
CHECKED BY	TDW
LAND AREA:	1.34 & 1.09 ACRES±

SHEET NAME
ALTA/NSPS
LAND TITLE SURVEY



SCALE: 1" = 30'

LEGEND OF EXISTING FEATURES

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SETBACK LINE
- EASEMENT
- SECTION LINE
- CENTERLINE
- 799 INTERMEDIATE CONTOUR
- 800 INDEX CONTOUR
- [T] TELEPHONE UNDER GR.
- [OH--T] TELEPHONE OVERHEAD
- [FO] FIBER OPTIC SERVICE
- [G] GAS SERVICE
- [E] POWER UNDERGROUND
- [OH--E] POWER OVERHEAD
- [W] WATER SERVICE
- [S] SANITARY SEWER
- [ST] STORM SEWER
- [NP] POND NORMAL POOL
- EX. FLOWLINE
- CHAIN LINK FENCE
- FARM FENCE
- WOOD FENCE
- IRON FENCE | RAILING
- BUILDING | STRUCTURE
- EX. BUILDING OVERHEAD
- RIM RIM ELEVATION
- INV. INVERT ELEVATION
- FFE FINISHED FLOOR ELEVATION
- BENCHMARK
- RBC MONUMENT
- SECTION CORNER
- ET / HC TRANSFORMER HVAC
- E(M) / (E) ELECTRIC METER ELECTRIC MANHOLE
- POWER POLE | GUY WIRE
- LIGHT POLE
- T TELEPHONE PEDESTAL TELEPHONE MANHOLE
- G E GAS MARKER ELECTRIC MARKER
- TR TRAFFIC POLE TRAFFIC MANHOLE
- G(M) G GAS METER GAS VALVE
- ST S STORM MANHOLE SANITARY MANHOLE
- STORM INLETS
- C.O. D.S. CLEAN-OUT DOWNSPOUT
- FIRE HYDRANTS
- W(V) W WATER METER WATER VALVES
- POST INDICATOR VALVE FIRE DEPARTMENT CONN.
- SIGNS
- MAILBOX
- ADA PARKING
- 24 PARKING COUNT
- TREES
- SHRUB
- + 851.25 SPOT GRADE

DEMOLITION LEGEND

- ASPHALT TO BE REMOVED
- CONCRETE TO BE REMOVED
- BUILDING | STRUCTURE TO BE REMOVED
- TREES, SHRUBS, AND GROUND COVER TO BE REMOVED

- (A) ABANDON IN PLACE
- (C) SAWCUT, CLEAN EDGE
- (D) DEMOLISH OR REMOVE
- (E) EXISTING TO REMAIN
- (R) RELOCATE

- CURB TO BE REMOVED
- WALL TO BE REMOVED
- SAWCUT, CLEAN EDGE
- UTILITY TO BE REMOVED
- PROJECT LIMITS
- CONSTRUCTION BARRELS

REVISION BLOCK

MICHAEL THOMPSON
REGISTERED
No. 11011309
STATE OF INDIANA
PROFESSIONAL ENGINEER

Michael Thompson

DATE 04/18/2022

DRAWN BY HYC | CHECKED BY AEF

HAMILTON DESIGNS
A LIMITED LIABILITY COMPANY
11 Municipal Drive, Suite 300
Fishers, Indiana 46038
P. (317) 570-8800
www.hamilton-designs.com

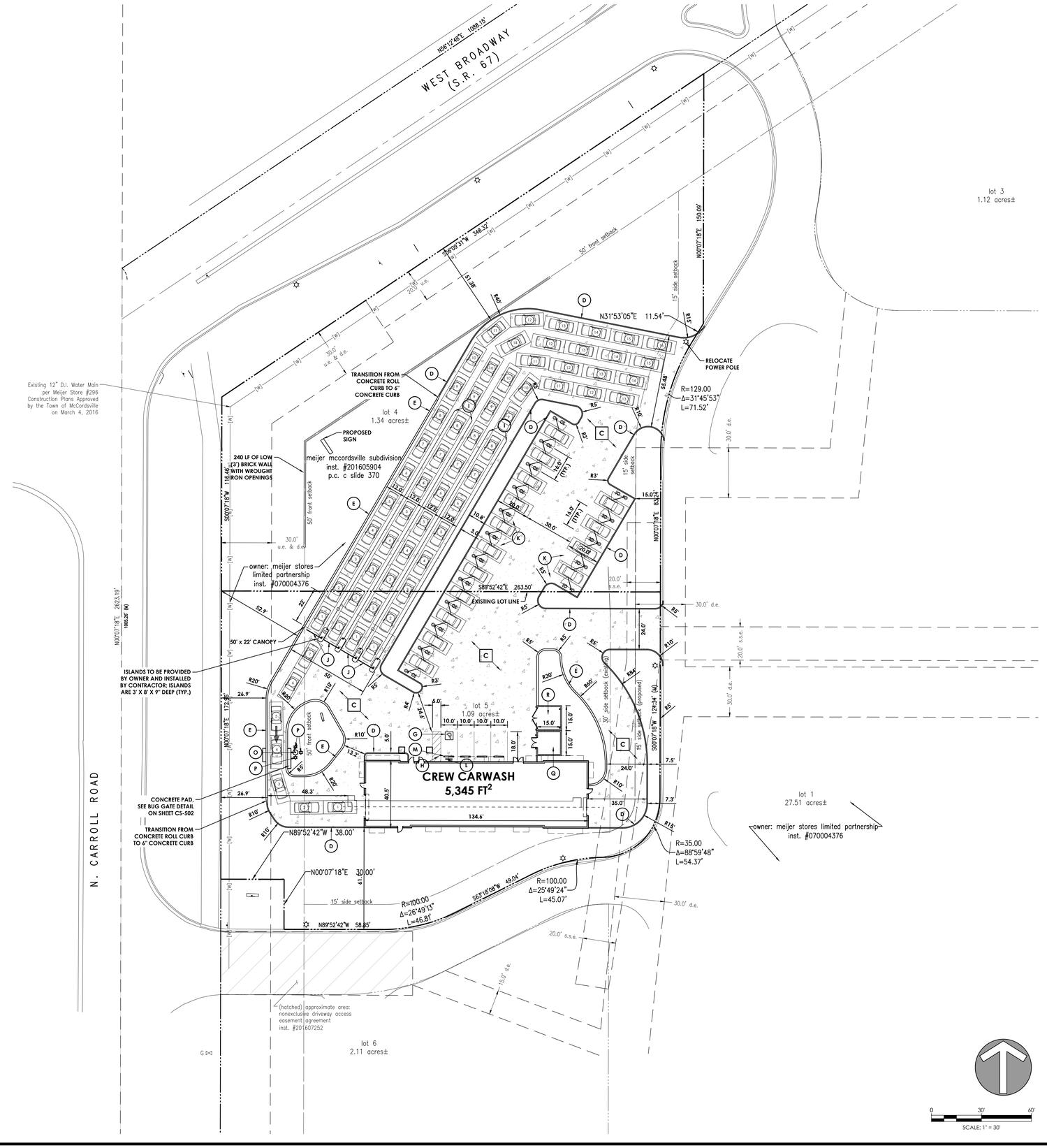
CONSTRUCTION PLANS FOR:
CREW CARWASH | MCCORDSVILLE
North 700 West
McCordsville, Indiana 46055

CREW CARWASH
11700 Exit 5 Parkway
Fishers, Indiana 46037

PROJECT NO. 2021-0095
DATE 04/18/2022
SCALE 1" = 30'
SHEET NAME **DEMOLITION PLAN**
SHEET NO. CD-101

811 Know what's below. Call before you dig.

p:\2021\0095 - crew carwash - mccordsville in\drawings\ccs-101.dwg



LEGEND OF EXISTING FEATURES

	PROPERTY LINE		BENCHMARK
	RIGHT-OF-WAY LINE	RBC	MONUMENT
	SETBACK LINE		SECTION CORNER
	EASEMENT	ET HC	TRANSFORMER HVAC
	SECTION LINE	E(M) E	ELECTRIC METER ELECTRIC MANHOLE
	CENTERLINE		POWER POLE | GUY WIRE
799	INTERMEDIATE CONTOUR		LIGHT POLE
800	INDEX CONTOUR	T	TELEPHONE PEDESTAL TELEPHONE MANHOLE
[T]	TELEPHONE UNDER GR.	G E	GAS MARKER ELECTRIC MARKER
[OH--T]	TELEPHONE OVERHEAD	TR	TRAFFIC POLE TRAFFIC MANHOLE
[FO]	FIBER OPTIC SERVICE	G(M) G	GAS METER GAS VALVE
[G]	GAS SERVICE	ST S	STORM MANHOLE SANITARY MANHOLE
[E]	POWER UNDERGROUND		STORM INLETS
[OH--E]	POWER OVERHEAD	C.O. D.S.	CLEAN-OUT DOWNSPOUT
[W]	WATER SERVICE		FIRE HYDRANTS
[S]	SANITARY SEWER	W(V) W	WATER METER WATER VALVES
[ST]	STORM SEWER		POST INDICATOR VALVE FIRE DEPARTMENT CONN.
[NP]	POND NORMAL POOL		SIGNS
OHW	EX. FLOWLINE		MAILBOX
	CHAIN LINK FENCE		ADA PARKING
	FARM FENCE	24	PARKING COUNT
	WOOD FENCE		TREES
	IRON FENCE | RAILING		SHRUB
	BUILDING | STRUCTURE		
	EX. BUILDING OVERHEAD		SPOT GRADE
RIM	RIM ELEVATION		
INV.	INVERT ELEVATION		
FFE	FINISHED FLOOR ELEVATION		

SITE PLAN LEGEND - PROPOSED

- CONCRETE PAVEMENT ····· CS-501
- (D) 6" CONCRETE CURB ····· CS-501
- (E) CONCRETE ROLL CURB ····· CS-501
- (F) NOT USED
- (G) ACCESSIBLE PARKING PAVEMENT MARKINGS ····· CS-501
- (H) PAVEMENT STRIPING, 4" (SOLID WHITE) ····· CS-501
- (I) DRIVE-THROUGH LANE MARKING, 6" (SOLID YELLOW) ····· CS-501
- (J) NOT USED
- (K) VACUUM STATION ····· CS-501
- (L) ACCESSIBLE PARKING SIGNAGE ····· CS-501
- (M) PRECAST CONCRETE WHEELSTOP ····· CS-501
- (N) NOT USED
- (O) 50' FLAG POLE AND FOUNDATIONS TO BE INSTALLED BY CONTRACTOR (OWNER TO SUPPLY PRODUCT DETAILS AND SPECIFICATIONS FOR INSTALLATION)
- (P) GROUND MOUNTED LIGHTING (COORDINATE WITH OWNER)
- (Q) STORAGE ENCLOSURE (COORDINATE WITH ARCHITECT)
- (R) DUMPSTER ENCLOSURE (COORDINATE WITH ARCHITECT)
- (S) NOT USED
- (T) NOT USED
- (U) NOT USED
- (V) NOT USED

SITE INFORMATION

PARCEL NUMBER:	
LOT 4	30-01-26-307-004.000-018
LOT 5	30-01-26-307-005.000-018
ZONING DISTRICT:	CR, REGIONAL COMMERCIAL
TOTAL LOT AREA:	2.43 ACRES
BUILDING AREA:	5,345 FT²
ADJOINER ZONING:	
NORTH	CR, REGIONAL COMMERCIAL
SOUTH	CR, REGIONAL COMMERCIAL
EAST	CR, REGIONAL COMMERCIAL
WEST	CR, REGIONAL COMMERCIAL
PROPOSED USE:	CARWASH
BUILDING SETBACKS	
FRONT	50 FEET
SIDE	15 FEET

REVISION BLOCK

MICHAEL THOMPSON — REGISTERED — No. 11011309 — STATE OF INDIANA — PROFESSIONAL ENGINEER

Michael Thompson

DATE 04/18/2022

DRAWN BY AEF | CHECKED BY MAT

HAMILTON DESIGNS
A LIMITED LIABILITY COMPANY
11 Municipal Drive, Suite 300
Fishers, Indiana 46038
P. (317) 570-8800
www.hamilton-designs.com

CONSTRUCTION PLANS FOR:
CREW CARWASH | MCCORDSVILLE
North 700 West
McCordsville, Indiana 46055

CREW CARWASH
11700 Exit 5 Parkway
Fishers, Indiana 46037

PROJECT NO. 2021-0095
DATE 04/18/2022
SCALE 1" = 30'
SHEET NAME **SITE PLAN**
SHEET NO. CS-101

811 Know what's below. Call before you dig.

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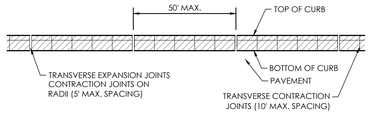
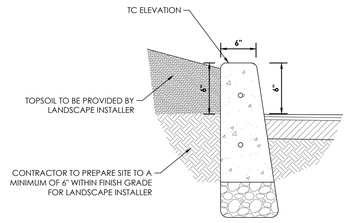


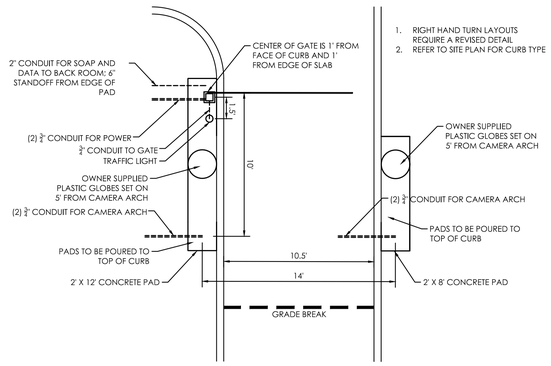
CURB JOINT DETAILS

NOT TO SCALE



TYPICAL CURB AND LANDSCAPE

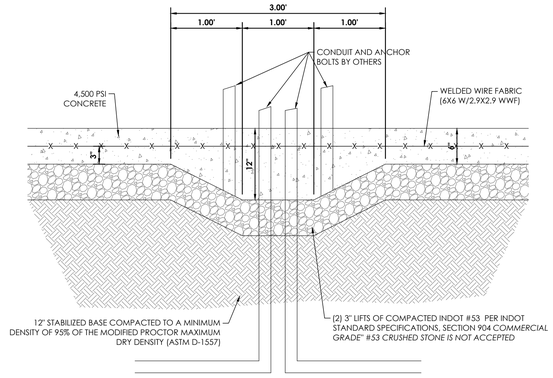
NOT TO SCALE



1. RIGHT HAND TURN LAYOUTS REQUIRE A REVISED DETAIL
2. REFER TO SITE PLAN FOR CURB TYPE

BUG GATE LAYOUT

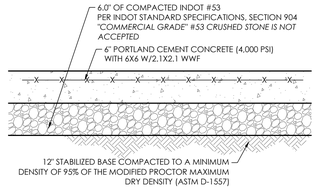
NOT TO SCALE



1. CONCRETE TO BE CLASS "A"
2. REFER TO APPLICABLE DETAIL FOR CONCRETE JOINT DETAILS
3. SEE NOTES THIS SHEET

THICKEN SLAB FOR VACUUM STATIONS

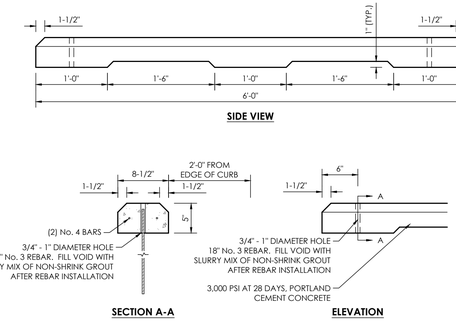
NOT TO SCALE



1. REFER TO APPLICABLE DETAIL FOR CONCRETE JOINT DETAILS
2. SEE NOTES THIS SHEET

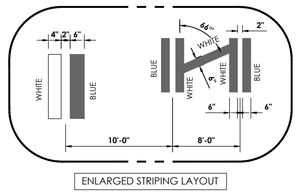
CONCRETE PAVEMENT

NOT TO SCALE



PRECAST CONCRETE WHEELSTOP

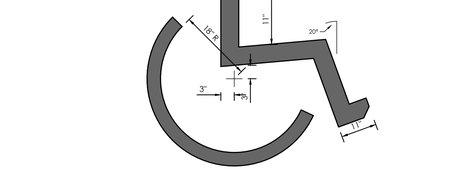
NOT TO SCALE



ENLARGED STRIPING LAYOUT

ACCESSIBLE PARKING PAVEMENT MARKINGS

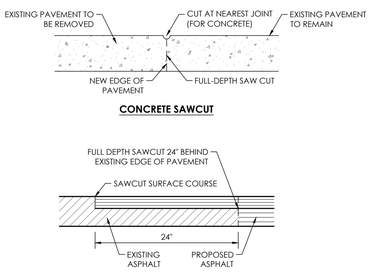
NOT TO SCALE



1. ALL STRIPES TO BE 4" PAINTED

ACCESSIBLE PARKING PAVEMENT MARKINGS

NOT TO SCALE

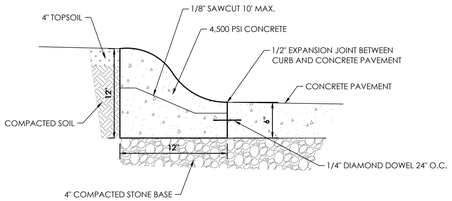


CONCRETE SAWCUT

ASPHALT SAWCUT AND LAP JOINT

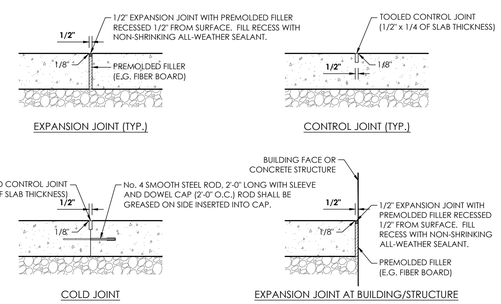
SAWCUT / LAP JOINT DETAIL

NOT TO SCALE



CONCRETE ROLL CURB DETAIL

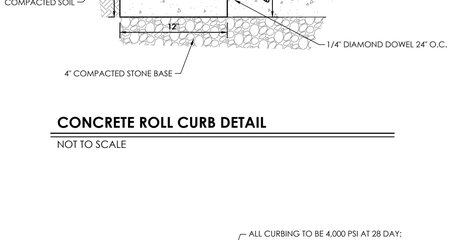
NOT TO SCALE



1. ALL MATERIALS AND INSTALLATION PER APPLICABLE IDOT STANDARD SPECIFICATIONS, LATEST EDITION.

CONCRETE PAVING JOINT DETAILS

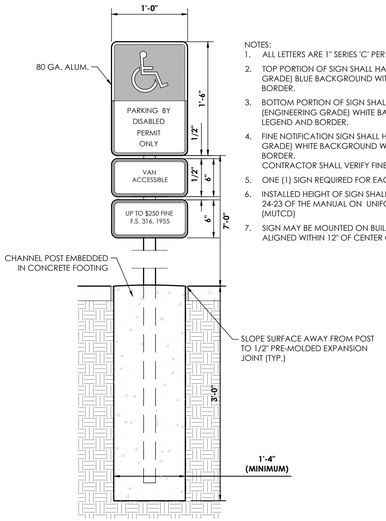
NOT TO SCALE



1. CONFIRM CONCRETE MINIMUM STRENGTH WITH GEOTECHNICAL REPORT.
2. PROVIDE EXPANSION JOINTS AT 20'-0" O.C.

STRAIGHT CONCRETE CURB DETAIL

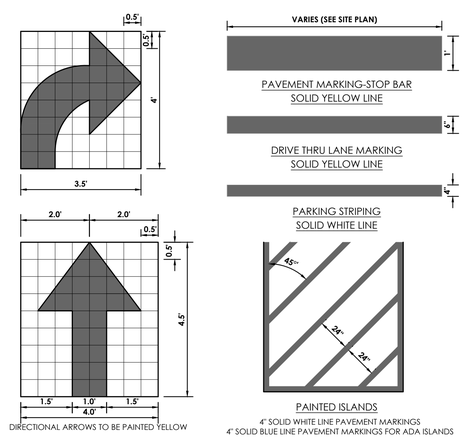
NOT TO SCALE



NOTES:
1. ALL LETTERS ARE 1" SERIES 'C' PER 2003 MUTCD.
2. TOP PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND AND BORDER.
3. BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
4. FINE NOTIFICATION SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
   CONTRACTOR SHALL VERIFY FINE AMOUNT AND ORDINANCE NUMBER.
5. ONE (1) SIGN REQUIRED FOR EACH ACCESSIBLE PARKING SPACE.
6. INSTALLED HEIGHT OF SIGN SHALL BE IN ACCORDANCE WITH SECTION 24-23 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (MUTCD)
7. SIGN MAY BE MOUNTED ON BUILDING/WALL, AT PROPER HEIGHT, IF ALIGNED WITHIN 12" OF CENTER OF PARKING SPACE.

ACCESSIBLE PARKING SIGNAGE

NOT TO SCALE



NOTE: THERMOPLASTIC PAINT SHALL BE UTILIZED FOR MARKINGS EXCEPT FOR THE PARKING STRIPING AND PAINTED ISLANDS WHERE LATEX IS TO BE UTILIZED

PAVEMENT MARKINGS

NOT TO SCALE

REVISION BLOCK

MICHAEL THOMPSON
REGISTERED
No. 11011309
STATE OF INDIANA
PROFESSIONAL ENGINEER

Michael Thompson

DATE 04/18/2022

DRAWN BY HYC | CHECKED BY AEF

HAMILTON DESIGNS
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CONSTRUCTION PLANS FOR:
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North 700 West
McCordsville, Indiana 46055

CREW CARWASH
11700 Exit 5 Parkway
Fishers, Indiana 46037

PROJECT NO. 2021-0095

DATE 04/18/2022

SCALE

SHEET NAME
SITE DETAILS

SHEET NO.
CS-501

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1. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.
2. Design Mixtures for each concrete mixture indicate the following:
   a. Area(s) in the project where mix will be used
   b. Completed mix constituent list by weight
   c. Specific cementitious constituents by weight
   d. Water cement ratio
   e. Slump prior to addition of water reducing admixtures
   f. Admixture identification with product sheets
   g. Aggregate gradation by sieve size
   h. Amount of fine aggregate to coarse aggregate ratio
   i. Test data substantiating design strength per ACI-301 Method 1 or 2. Test data submitted must be less than 2 years old.
   j. Indicate amounts of mixing water to be withheld for later additions at Project Site.
   k. Shop Drawings for steel reinforcement.
   l. Material test reports and certifications.
3. Manufacturer Qualifications: A firm experienced in manufacturing ready- mixed concrete products and that complies with ASTM C94 requirements for production facilities and equipment.
4. Manufacturer certified according to NRMCA's Plant and Truck Certification program.
5. Forms for Exposed Finish Concrete: Plywood, metal, metal framed plywood faced, or other acceptable panel - type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings.
6. Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least 2 edges and on side for tight fit.
7. Form Coatings: Provide water based commercial formulation form- coating compounds that will not bond with, stain, nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.
8. Manufacturer: Subject to compliance with requirements, provide products of the following: a) Debond: L & M Construction Chemicals, Inc.; b) Release #1: The Burke Co.; c) or approved equal.
9. Form Ties: Factory-fabricated, adjustable-length, removable or snap off metal form ties, designed to prevent form deflection and to prevent spalling concrete upon removal. Provide plastic cone or button type units which will leave no metal closer than 1 ½" to surface. Provide ties which, when removed, will leave holes not larger than 1" diameter in concrete surface.
10. Steel Reinforcement
    a. Reinforcing Bars: ASTM A 615 - Grade 60, deformed
    b. Plain-Steel Welded Wire Reinforcement: ASTM A 185 - plain, fabricated form as-drawn steel wire into flat sheets.
    c. Deformed-Steel Welded Wire Reinforcement ASTM A 497 - flat sheet.
    d. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's Manual of Standard Practice.
    e. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs. Concrete brick may be used.
    f. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI, Class 2).
11. Concrete materials
    a. Cementitious Material: Use the following cementitious materials, of the same type, brand and source throughout the project.
    b. Portland Cement- ASTM C150, Type 1 Supplement with the following: FlyAsh - ASTM C618, Class F
    c. Normal-Weight Aggregates - ASTM C33, graded see Mix Design Section for maximum aggregate sizes.
    d. Fine Aggregate - free of materials with deleterious reactivity to alkali in cement.
    e. Water - ASTM C94 and potable.
    f. Admixtures:
       - General - Provide admixtures that contain not more than 0.15 percent chloride ions, and NO Calcium Chloride thyocyanates.
       - Air Entrainment Admixture- ASTM C260
       - Water-Reducing Admixture - ASTM C94 Type A
       - High-Range Water-Reducing Admixture (Superplasticizer) - ASTM C494 Type F or Type G
       - Water-Reducing, Non-Corrosive, Non-Chloride Accelerator Admixture ASTM C494 Type C or E, and not containing more chloride ions than are present in municipal drinking water. The admixture manufacture must have long-term non- corrosive test data from an independent testing laboratory (of at least a year's duration) using an acceptable accelerated corrosion test method such as those using electrical potential measures.
       - Water-Reducing, Retarding Admixture - ASTM C494 Type D.
12. Vapor Retarders: Plastic Vapor Retarder - ASTM E 1745 Class C - not less than 10 mils thick. Include manufacturer's recommended adhesive or pressure- sensitive joint tape.
13. Curing Materials
    a. Cure and Seal 25 - No alternatives without approval
14. Concrete Mixtures: Prepare design mixtures for each type of strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
    a. Proportion normal-weight concrete mixture as follows: Prepare design mixes for each type and strength of concrete by either Laboratory trial batch or field experience methods as specified in ACI 301. If trial batch method used, use an independent testing facility acceptable to Architect/Engineer for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing.
    b. Submit written reports to Architect/Engineer and Structural Engineer of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until Architect/Engineer has reviewed mixes.
15. Design Mixes: Provide normal weight concrete with the following properties, as indicated on drawings.

	INTERIOR CONCRETE	EXTERIOR CONCRETE
F'c	4,000	4,500
MAX W/C RATIO	0.5300	0.4500
SLUMP	5" +/- 1"	5" +/- 1"
FINE AGGREGATE	INDOT #23/#24	INDOT #23/#24
COARSE AGGREGATE	INDOT CLASS A OR AP	INDOT CLASS AP
AIR CONTENT	3% MAXIMUM	6.5% +/- 1.5%
SUPPLEMENTARY CEMENTITIOUS MATERIALS	--	PER INDOT SECTION 502
COARSENESS FACTOR CHART REQUIREMENTS	ZONE II	GRADATIONS PER INDOT SECTION 502
MORTAR FRACTION	55% +/- 1%	--

16. Admixture: Use mid range water-reducer or high range water-reducer admixture in concrete as required for placement and workability.
    a. If necessary, use non-chloride accelerating admixture in concrete placed in ambient temperatures below 50 degrees F.
17. Related materials:
    a. Expansion and Isolation Joint Filler Strips - ASTM D1751 -asphalt saturated cellulosic fiber;
    b. Waterstops - Provide types as noted on plan for special applications. Performed, flat, dumbbell or center bulb types at construction joints and other joints as indicated. Rubber Waterstops - Corps of Engineers CRD- C 513; Polyvinyl Chloride Waterstops - Corps of Engineers CRD-C 572.
    c. Non-Shrink Grout - CRD-C 621 Factory pre-mixed grout. Non- metallic.
    d. Bonding Compound - Polyvinyl acetate or acrylic base. Products - Subject to compliance with requirements, provide one of the following:
       - Polyvinyl Acetate (Interior Only);
       - Euco Weld - Euclid Chemical Co.;
       - Everweld - L & M Construction Chemicals
       - Acrylic or Styrene Butadiene
       - Everbond - L & M Construction Chemicals
       - Sonocrete - Sonneborn
       - Acrylic Bondcrete - The Burke Co
       - SBR Latex - Euclid Chemical Co.
       - Daraweld C - W R Grace
       - Acryl Set - Master Builders
       - Interlok - W R Grace
       - iii. Epoxy Adhesive - ASTM C881 - two-component material suitable for use on dry or damp surfaces. Provide material Type, Grade and Class to suite project requirements.
18. Joints:
    a. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
    b. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
    c. Contraction joints in Slab-on-Grade and Exterior Pavement: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints shall be installed utilizing early entry technology. Raveling of sawn joints shall not be permitted.
    d. Isolation Joints in Slab-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
19. Concrete Placement: Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
    a. Cold Weather Placement - Comply with ACI 306.1.
    b. Hot Weather Placement - Comply with ACI 301
20. Interior Slab on Grade Finish Tolerances: Local Flatness/Levelness Tolerances: All floors shall conform to the following ACI F-Number requirements: a) Specified overall value: FF-25/FL-20; b) Minimum local value: FF-20/FL-15.
    a. At construction joints in all areas, a 10-foot straight edge centered on the construction joint shall not have a gap of more than 1/8 inch at center (joint too low) or either end (joint too high).
    b. General Conformity to Design Grade: The floor shall fall within +/- ½ inch of the finished floor elevation shown on the plans.
    c. Floor Tolerance Measurements: Floor flatness and levelness test on the floor shall be conducted in accordance with the provisions set forth in current version of ASTM E 1155. Results of all floor tolerance tests - including a formal notice of acceptance or rejection of the work - shall be provided to the Contractor within 24 hours after data collection.
    d. Weekends and holidays shall be ignored when computing the testing and reporting deadlines specified above.
    e. Remedy for out-of-tolerance work: All floor sections measuring at or above both of the specified minimum local F-Numbers shall be accepted for tolerances compliance as constructed. All floor sections measuring below either (or both) of the specified minimum local F-Numbers shall be removed and replaced.
21. Finishing Formed Surfaces
    a. Rough-Formed Finish: As-cast concrete texture imparted by form- facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities. Apply to concrete surfaces not exposed to public view.
    b. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, to be covered with a coating or covering material applied directly to concrete.
    c. Rubbed Finish: Apply the following to smooth-formed finished as- cast concrete where indicated.
       i. Smooth-Rubbed Finish: No later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
       ii. Grout-Cleaned Finishes: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part Portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white Portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.
    d. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.
22. Finishing Interior Slabs: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
    a. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms,or rakes to produce a profile amplitude of ½ inch in 1 direction. Apply scratch finish to surfaces indicated and to receive concrete flooringtoppings or to receive mortar setting beds for bonded cementitious floor finishes.
    b. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats.Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surfaces is left with a uniform, smooth,granular texture. Apply float finish to surfaces to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up ormembrane roofing, or sand-bed terrazzo.
    c. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continuetroweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surfacedefects that would telegraph through applied coatings or floor coverings. Apply a trowel finish to surfaces exposed to view or to be coveredwith resilient flooring, carpet, and ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system. Finishand measure surface so gap at any point between concrete surface and an unleveled, freestanding, 10-foot-long straightedge resting on 2high spots and placed anywhere on the surface does not exceed 3/16 inch.
    d. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scarify surface with a fine broom. Comply with flatness and levelness tolerances for trowel finished floor surfaces.
    e. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps and elsewhere as indicated.
    f. The following shall apply to slabs on grade that will be diamond polished.
       i. All concrete shall be initially struck off utilizing surface vibration.
       ii. All construction joint shall be externally vibrated.
       iii. The surface shall be treated with a rolling jitterbug. The marks created by the jitterbug shall be removed by bullfloating.
       iv. Bump cutting is prohibited.
       v. The slab shall be floated utilizing a minimum of a 3' pan.
       vi. All craftsmen shall wear smooth bottom finishing shoes when walking on the slab's surface. Finishing slicks (www.finishingslicks.com) and Shoe Ins (www.shoeinprofinish.com are acceptable.
       vii. Immediately after finishing, the surface shall receive a lithium silicate densifier.
23. Finishing exterior concrete
    i. The final finish shall be a medium broom finish.
    ii. Placing and finishing techniques that damage the air content of the concrete are prohibited
24. Concrete Protecting and Curing: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
   a. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lbs/sq.ft. X h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
   b. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
      i. Moist Curing- Keep surfaces continuously moist for not less than seven days;
      ii. Moisture-Retaining-Cover Curing- Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover materials and waterproof tape.
      iii. Curing Compound - Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
      iv. After curing period had elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on project.
      v. Curing and Sealing Compound- Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeatprocess 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.
25. Water Repellent Treatment of Exterior Concrete
    i. Following the curing period and prior to the first winter, the exterior concrete pavement shall be thoroughly cleaned by powerwashing. The cleaning shall remove all dirt, grime and construction residue as well as any remaining curing compound.
    ii. The surface of the concrete shall be treated with a liquid water repellent conforming to the requirements published in NCHRP 244 Series II. The water repellent shall be applied after the pavement markings are installed.
    iii. At Crew's discretion, the cleaning and application of the water repellent may be postponed until the spring of the following year.
26. Concrete Surface Repairs: Defective Concrete - repair patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
27. Quality Control Testing During Construction
    a. Employ a testing laboratory to perform test and to submit test reports. The inspector shall be ACI Certified Level 1.
    b. Sampling and testing for quality control during placement of concrete may include the following, as directed by Architect/Engineer.
    i. Sampling Fresh Concrete ASTM C172, except modified for slump to comply with ASTM C94.
    i. Slump: ASTM C143: one test at point of discharge for each time test cylinders are taken. Additional tests when concrete consistency seems to have changed.
    ii. Air Content: ASTM C173, volumetric method for lightweight or normal weight concrete; ASTM C231 pressure method for normal weight concrete; one for each time test cylinders are taken.
    iii. Unit Weight: ASTM C29 Bulk Density (Unit Weight).
    i. Concrete Temperature: Test hourly when air temperature is 40 degree F and below, and when 80 degree F and above; and each time a set of compression test specimens are made.
    ii. Compression Test Specimen: ASTM C31, one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.
    iii. Compressive Strength Test: ASTM C39; one set for each day's pour exceeding 5 cu.yds, plus additional sets for each 50 cy.yd. over and above the first 25 cu.yds. of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one retained in reserve for later testing if required.
    i. Interior Slabs: One test specimen set per two bays of floor slab. No less than one set per pour.
    ii. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches from each batch if fewer than 5 are used.
    iii. When total quantity of a given class of concrete is less than 50 cu.yds, strength test may be waived by Architect/Engineer if, in his judgment, adequate evidence of satisfactory strength is provided.
    iv. When strength of field-cured cylinders is less than 85 percent of companion laboratory cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
    v. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed the specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 4000 psi.
    ii. Flexural Strength of Concrete: ASTM C78, the flexural strength of concrete used for concrete slab-on- grade shall be established prior to start of concrete placement operations.
    i. One test specimen set per for bays of floor slab. No less than one set per pour. Four beams per specimen set mold and store for lab curing. Test one at 28 days, two at 56 days, and one spare.
    ii. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceedthe specified flexural strength, and no individual strength test result falls below specified flexural strength by more than 50 psi.
    iii. Concrete Floor Flatness and Levelness
    i. Two (2) devices are used to run test. Type I device - dipstick and Type II device - Wheel. Make sure that the device being used has been recently calibrated within three months. Owing to the mathematics involved in F-Numbers, instrument inaccuracies will always result in a lowering of reported F-Numbers.
    ii. Two (2) Layout Pattern Per ASTM E1155-87. 45 degree angles to the longest boundary (x pattern). Easier to run less time to run pattern. Must be used for narrow width floor slab pours. 90 degree angle to the longest boundary (+ pattern).
    iii. Perform the floor flatness and levelness testing as follows: Minimum of the first three slab pours. Minimum of every other slab pour after the first three slab pours. Testing must be performed within 48 hours after slab is poured. The results of the testing must be reported to the Contractor with 24 hours.
    iv. At construction joints specify the following: Specify that all construction joints must be checked with a 10-foot straight edge centered on the construction joint. Any joint that does not meet with a 1/8 inch or less gap under the straight edge either at the center (joint too low) or at the ends (joint too high straight edge rocks) will require grinding until the 1/8 inch tolerance is et or the joint is acceptable. The construction joints must be checked within 48 hours after the last abutting slab is poured.
    iv. Test results will be reported in writing to Architect/Engineer, the Owner and Contractor within 24 hours after test. Reports of compressive strength test shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials; compressive strength, breaking load and type of break for both 7-day and 28-days test.
    v. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.
    vi. Additional Tests: The testing service will make additional test of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect/Engineer. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42, or by other methods as directed. Contactor shall pay for such test when unacceptable concrete is verified

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Michael Thompson

DATE 04/18/2022

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CONSTRUCTION PLANS FOR:
CREW CARWASH | MCCORDSVILLE
North 700 West
McCordsville, Indiana 46055

CREW CARWASH
11700 Exit 5 Parkway
Fishers, Indiana 46037

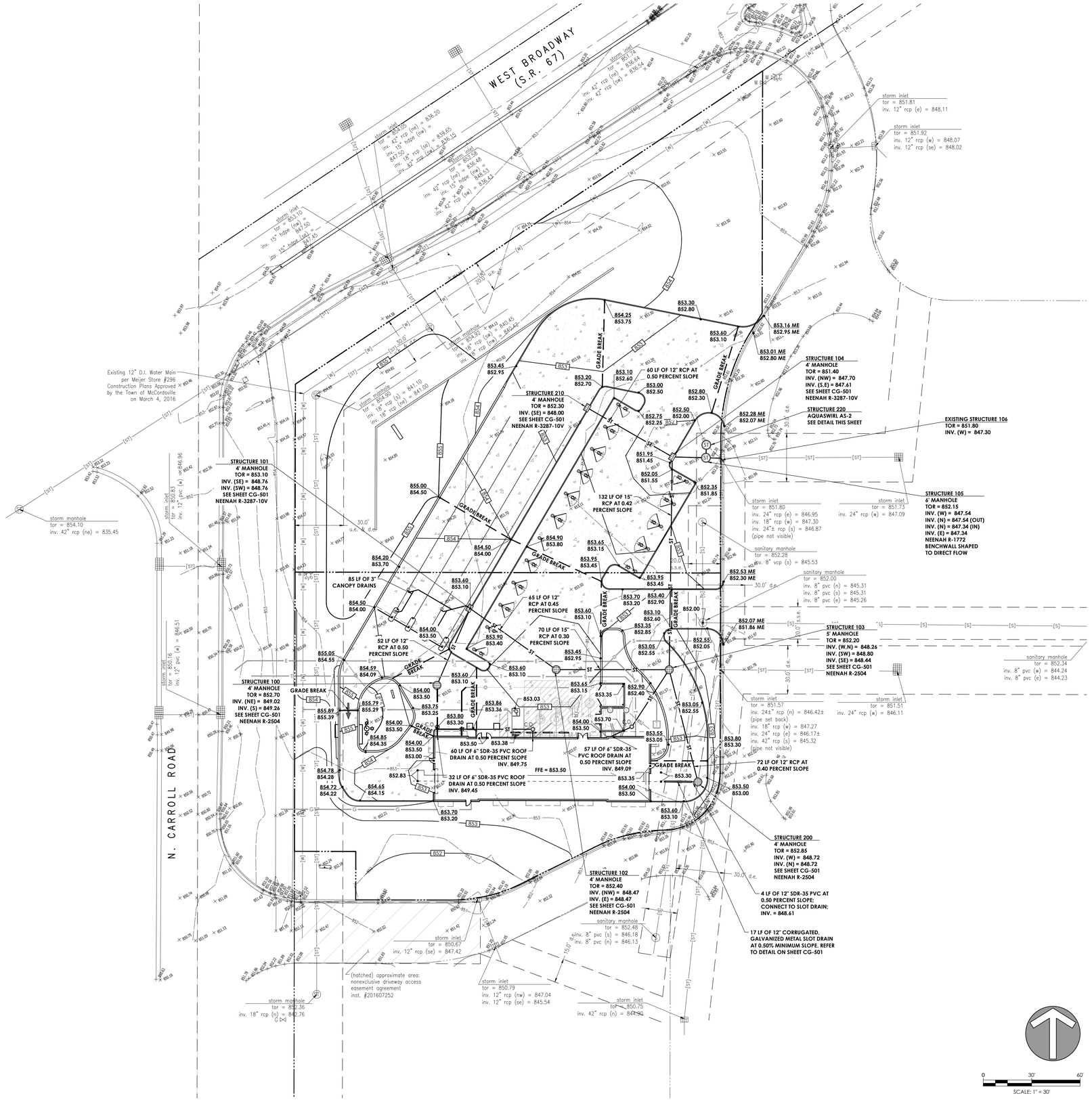
PROJECT NO. 2021-0095

DATE 04/18/2022

SCALE

SHEET NAME
SITE DETAILS

SHEET NO.
CS-502

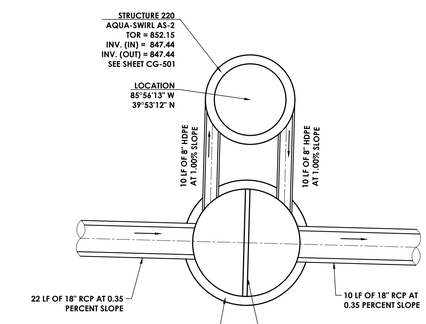


LEGEND OF EXISTING FEATURES

PROPERTY LINE		BENCHMARK	
RIGHT-OF-WAY LINE		RBC	MONUMENT
SETBACK LINE			SECTION CORNER
EASEMENT	ET	HC	TRANSFORMER HVAC
SECTION LINE	E(M)	(E)	ELECTRIC METER ELECTRIC MANHOLE
CENTERLINE			POWER POLE | GUY WIRE
799			LIGHT POLE
800		T	INDEX CONTOUR TELEPHONE PEDESTAL TELEPHONE MANHOLE
[T]	G	E	GAS MARKER ELECTRIC MARKER
[OH-T]	TR	TR	TELEPHONE OVERHEAD TRAFFIC POLE TRAFFIC MANHOLE
[FO]	G(M)	G	FIBER OPTIC SERVICE GAS METER GAS VALVE
[G]	ST	S	GAS SERVICE STORM MANHOLE SANITARY MANHOLE
[E]			POWER UNDERGROUND STORM INLETS
[OH-E]	C.O.	D.S.	POWER OVERHEAD CLEAN-OUT DOWNSPOUT
[W]			WATER SERVICE FIRE HYDRANTS
[S]	W(M)	W	SANITARY SEWER WATER METER WATER VALVES
[ST]			STORM SEWER POST INDICATOR VALVE FIRE DEPARTMENT CONN.
[NP]			POND NORMAL POOL SIGNS
EX. FLOWLINE			MAILBOX
CHAIN LINK FENCE			ADA PARKING
FARM FENCE		24	PARKING COUNT
WOOD FENCE			TREES
IRON FENCE | RAILING			SHRUB
BUILDING | STRUCTURE			
EX. BUILDING OVERHEAD		851.25	SPOT GRADE
RIM	RIM ELEVATION		
INV.	INVERT ELEVATION		
FFE	FINISHED FLOOR ELEVATION		

GRADING PLAN LEGEND

ST	STORM SEWER	RIM	RIM ELEVATION
SSD	SUBSURFACE DRAIN	INV.	INVERT ELEVATION
	SWALE | FLOWLINE	FFE	FINISHED FLOOR ELEVATION
NP	POND (NORMAL POOL)		FLOW ARROW
799	INTERMEDIATE CONTOUR	ST	STORM MANHOLE
800	INDEX CONTOUR		STORM INLETS
800.00 ME	MATCH EXISTING		STORM ENDSECTION
800.00	PAVEMENT SPOT GRADE	C.O.	CLEAN-OUT
800.4	GROUND SPOT GRADE	D.S.	DOWNSPOUT
800.00 / 800.50	TOP OF CURB / BOTTOM OF CURB		
800.00 TW / 800.50 BW	TOP OF WALL / BOTTOM OF WALL		



AQUA-SWIRL DETAIL

NOT TO SCALE

REVISION BLOCK

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PROJECT NO. 2021-0095

DATE 04/18/2022

SCALE 1" = 30'

SHEET NAME **GRADING PLAN**

SHEET NO. CG-101

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STANDARD SIZES			
GAGE OF PIPE	DIA OF PIPE 12"	15"	18"
16	X	X	X
14	X	X	X

GRATE TYPE	"A"	
TRAP	2-1/2"	2-1/4"
TRAP	6"	3"

TRAP=TRAPEZOIDAL

SLOTTED DRAIN NOTES
1. GRATING IS AVAILABLE IN DEPTHS OF 2-1/2" AND 6".
2. FOR 6" TRAPEZOIDAL REQUIREMENTS, THE SLOTTED DRAIN BAND MAY BE FURNISHED WITH THE BAND ANGLE.
3. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.

MANUFACTURING TOLERANCES
1. VERTICAL BOW ± 3/8"
2. HORIZONTAL BOW ± 5/8"
3. TWIST ± 1/2"

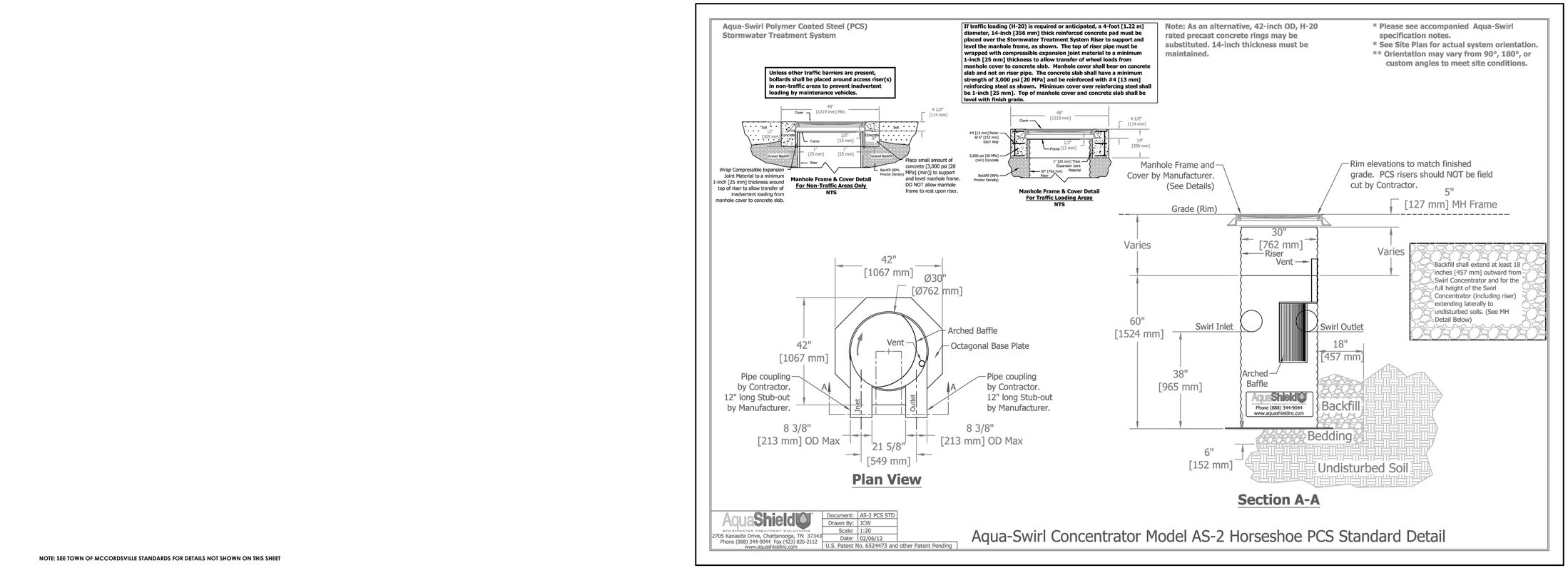
St Regis project

MARK	DATE	DESCRIPTION	BY

SLOTTED DRAIN DETAIL
TRAPEZOIDAL GRATE

SCALE: NTS
DRAWN BY: mhs DATE: 02/24/2010
REV. BY: DATE:
SHEET: 1 of 1

ST REGIS CULVERT INC.
202 Morrell St.
Charlotte, MI 48813



NOTE: SEE TOWN OF MCCORDSVILLE STANDARDS FOR DETAILS NOT SHOWN ON THIS SHEET

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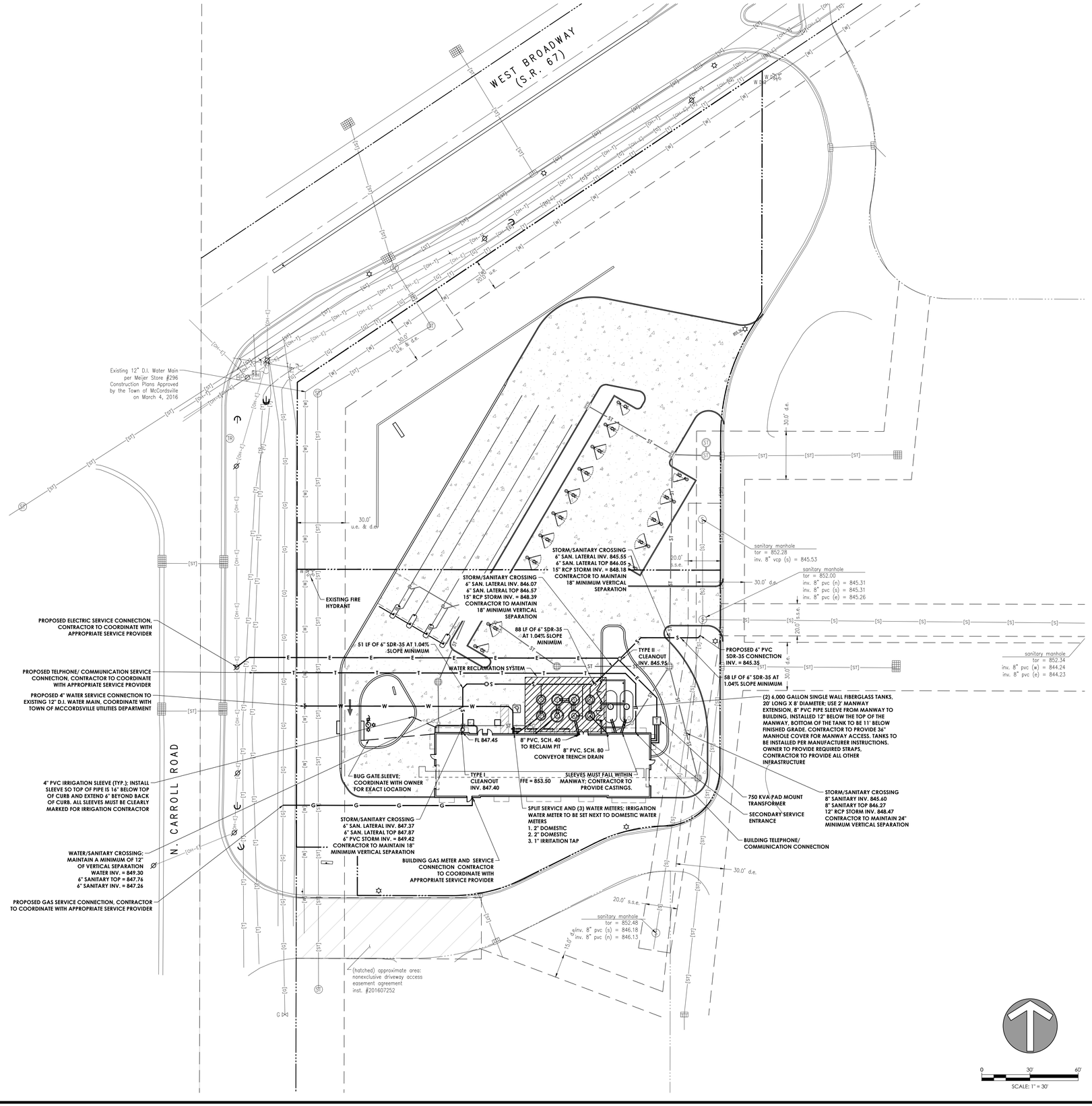
SCALE
SHEET NAME **GRADING DETAILS**
SHEET NO. CG-501



LEGEND OF EXISTING FEATURES

PROPERTY LINE		BENCHMARK	
RIGHT-OF-WAY LINE		MONUMENT	RBC
SETBACK LINE		SECTION CORNER	
EASEMENT		TRANSFORMER HVAC	ET, HC
SECTION LINE		ELECTRIC METER ELECTRIC MANHOLE	E(M), (E)
CENTERLINE		POWER POLE | GUY WIRE	
799	INTERMEDIATE CONTOUR	LIGHT POLE	
800	INDEX CONTOUR	TELEPHONE PEDESTAL TELEPHONE MANHOLE	
[T]	TELEPHONE UNDER GR.	GAS MARKER ELECTRIC MARKER	
[OH-T]	TELEPHONE OVERHEAD	TRAFFIC POLE TRAFFIC MANHOLE	
[FO]	FIBER OPTIC SERVICE	GAS METER GAS VALVE	G(M), G
[G]	GAS SERVICE	STORM MANHOLE SANITARY MANHOLE	ST, S
[E]	POWER UNDERGROUND	STORM INLETS	
[OH-E]	POWER OVERHEAD	CLEAN-OUT DOWNSPOUT	C.O., D.S.
[W]	WATER SERVICE	FIRE HYDRANTS	
[S]	SANITARY SEWER	WATER METER WATER VALVES	W(M), W
[ST]	STORM SEWER	POST INDICATOR VALVE FIRE DEPARTMENT CONN.	
[NP]	POND NORMAL POOL	SIGNS	
EX. FLOWLINE		MAILBOX	
CHAIN LINK FENCE		ADA PARKING	
FARM FENCE		PARKING COUNT	24
WOOD FENCE		TREES	
IRON FENCE | RAILING		SHRUB	
BUILDING | STRUCTURE			
EX. BUILDING OVERHEAD		SPOT GRADE	+ 851.25
RIM	RIM ELEVATION		
INV.	INVERT ELEVATION		
FFE	FINISHED FLOOR ELEVATION		

UTILITY PLAN LEGEND - PROPOSED

ST	STORM SEWER	SANITARY MANHOLE	S
S	SANITARY SEWER	SANITARY SEWER CLEANOUT	
W	WATER SERVICE	FIRE HYDRANT	
F	FIRE SERVICE	WATER METER WATER VALVE	W(M), W
G	GAS SERVICE	POST INDICATOR VALVE FIRE DEPARTMENT CONN.	
T	TELEPHONE / COMMUNICATION	RIM	RIM ELEVATION
OH-T	OVERHEAD TELEPHONE / COMMUNICATION	INV.	INVERT ELEVATION
E	ELECTRIC SERVICE	FFE	FINISHED FLOOR ELEVATION
OH-E	OVERHEAD ELECTRIC SERVICE	STORM MANHOLE	ST
T	TRANSFORMER	STORM INLETS	
	POWER POLE	STORM ENDSECTION	
	LIGHT POLE	STORM SEWER CLEANOUT	C.O.
		DOWNSPOUT	D.S.

UTILITY CONTACTS

ELECTRIC SERVICE
INDIANAPOLIS POWER & LIGHT
1220 W. MORRIS STREET
INDIANAPOLIS, IN 46221
CONTACT: JACKIE BULTMAN
P. (317) 261-5267
E. jackie.bultman@aes.com

PHONE SERVICE
NINESTAR CONNECT
P.O. BOX 108
MAXWELL, IN 46154
CONTACT: GEORGE PLISINSKI
P. (317) 323-2078
E. gplisinski@ninestarconnect.com

GAS SERVICE
VECTREN / CENTERPOINT ENERGY
16000 ALLISONVILLE ROAD
NOBLESVILLE, IN 46061
CONTACT: DAVID SHERRY
P. (317) 776-5585
E. dsherry@centerpointenergy.com

WATER SERVICE
CITIZENS ENERGY GROUP
1220 WATERWAY BLVD.
INDIANAPOLIS, IN 46206
CONTACT: MARK SHOCKLEY
P. (317) 264-7718
E. mshockley@citizensenergygroup.com

SEWER DISTRICT
TOWN OF McCORDSVILLE
6280 WEST 800 NORTH
McCORDSVILLE, IN 46055
CONTACT: WILLIAM GROUT
P. (317) 335-3604
E. mwitsman@mccordsville.org

UTILITY NOTES

1. TOWN OF McCORDSVILLE STANDARDS AND DETAILS TO APPLY WHERE NECESSARY. REFERENCE SHEETS 8 AND 9 OF THE TOWN STANDARDS AT THE END OF THIS PLAN SET FOR SANITARY SEWER DETAILS AND SPECIFICATIONS.

REVISION BLOCK

MICHAEL THOMPSON
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STATE OF INDIANA
PROFESSIONAL ENGINEER

Michael Thompson

DATE 04/18/2022

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CREW CARWASH
11700 Exit 5 Parkway
Fishers, Indiana 46037

PROJECT NO. 2021-0095
DATE 04/18/2022
SCALE 1" = 30'
SHEET NAME **UTILITY PLAN**
SHEET NO. CU-101

811 Know what's below. Call before you dig.

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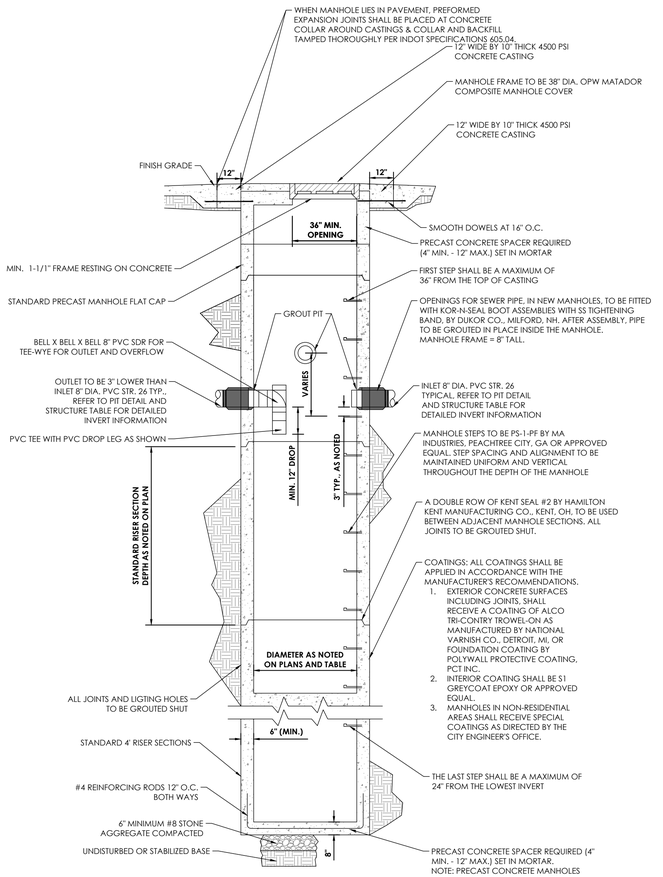
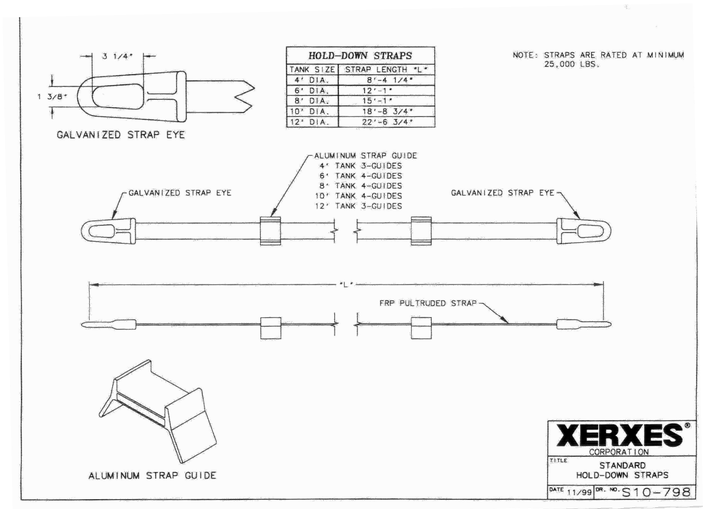
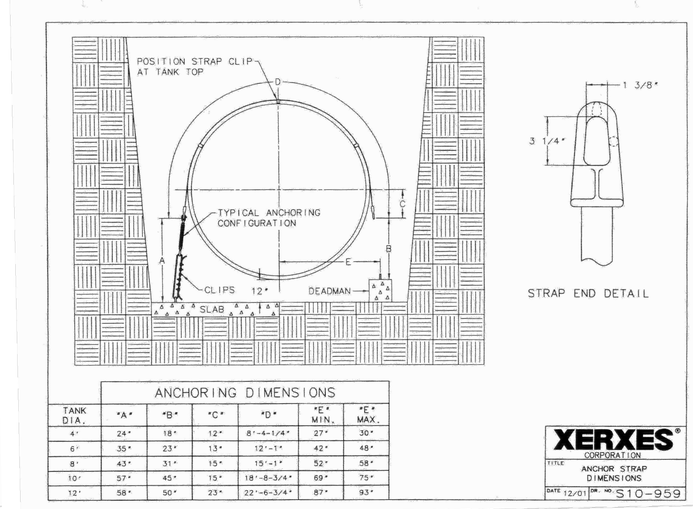
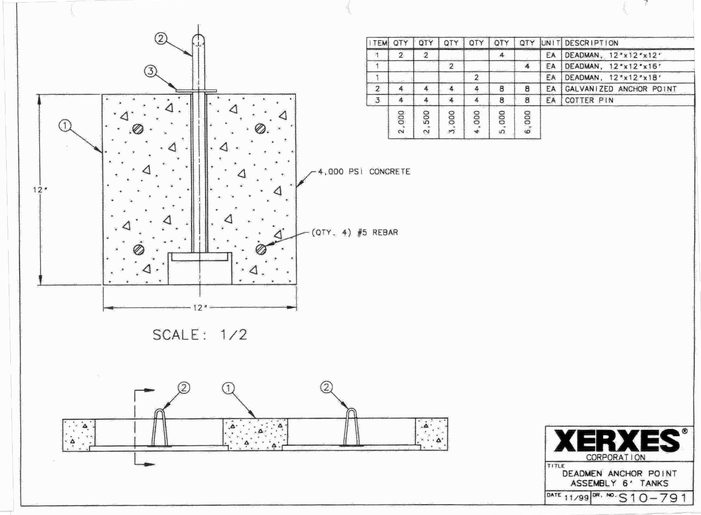


WATER RECLAIM SYSTEM GRIT PIT MANHOLE

NOT TO SCALE







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DATE 04/18/2022

SCALE

SHEET NAME **UTILITY DETAILS**

SHEET NO. CU-501

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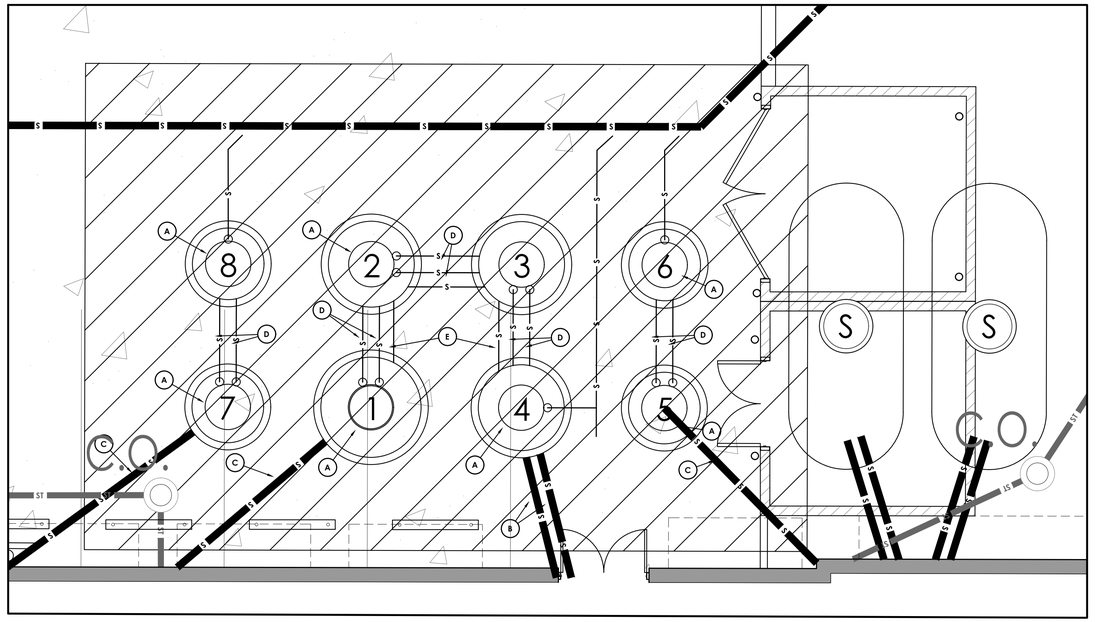
WATER RECLAIM SYSTEM (GRIT PIT) STRUCTURE TABLE

F.F.E. = 853.50

STRUCTURE NO.	STRUCTURE DIAMETER (INCHES)	PROVIDED STORAGE (CU. FT.)	PROVIDED STORAGE (US GAL.)	DIFFERENCE (FFE - INVERT IN)	INVERT IN (FEET)	DIFFERENCE (FFE - INVERT OUT)	INVERT OUT (FEET)	SUMP (FEET)	SUBGRADE	RIM ELEVATION (FEET)
1	84	298.25	2230	-5.83	847.67	-6.08	847.42	839.67	839.17	853.25
2	72	212.06	1586	-6.08	847.42	-6.33	847.17	839.67	839.17	853.05
3	72	205.00	1533	-6.33	847.17	-6.58	846.92	839.67	839.17	852.92
4	72	197.92	1480	-6.58	846.92	-6.83	846.67	839.67	839.17	853.21
5	60	142.35	1065	-5.83	847.67	-6.08	847.42	839.67	839.17	853.22
6	60	137.40	1028	-6.08	847.42	-6.33	847.17	839.67	839.17	852.92
7	60	137.40	1028	-5.83	847.67	-6.08	847.42	839.67	839.17	853.27
8	60	132.54	991	-6.08	847.42	-6.33	847.17	839.67	839.17	853.12



SCALE: 1" = 5'

WATER RECLAMATION SYSTEM KEYNOTE LEGEND

- (A) ACCESS RISER AND OPERATING 38" DIAMETER STEEL PLAT LID, MODEL PER OWNER SPECIFICATIONS. STRUCTURE TOP TO HAVE A 36" DIAMETER AND 6" THICKNESS TO ACCOMODATE SITE CONCRETE OPENING CASTING. LID TO BE ALIGNED WITH LADDER RUNGS IN MANHOLE
- (B) 8" PVC, SCHEDULE 40 TO RECLAIM PIT
- (C) 8" PVC, SCHEDULE 80 CONVEYOR TRENCH DRAIN. CONVEYOR TRENCH DRAINS MUST BE RUN IN STRAIGHT LINES WITH NO TURNS
- (D) 8" PVC CONNECTOR TO SLEEVES. REFER TO TABLE FOR INVERT ELEVATIONS
- (E) 4" PVC CONNECTOR TO SLEEVES. INVERT ELEVATION = FFE - 4' = 853.50' - 4' = 849.50'

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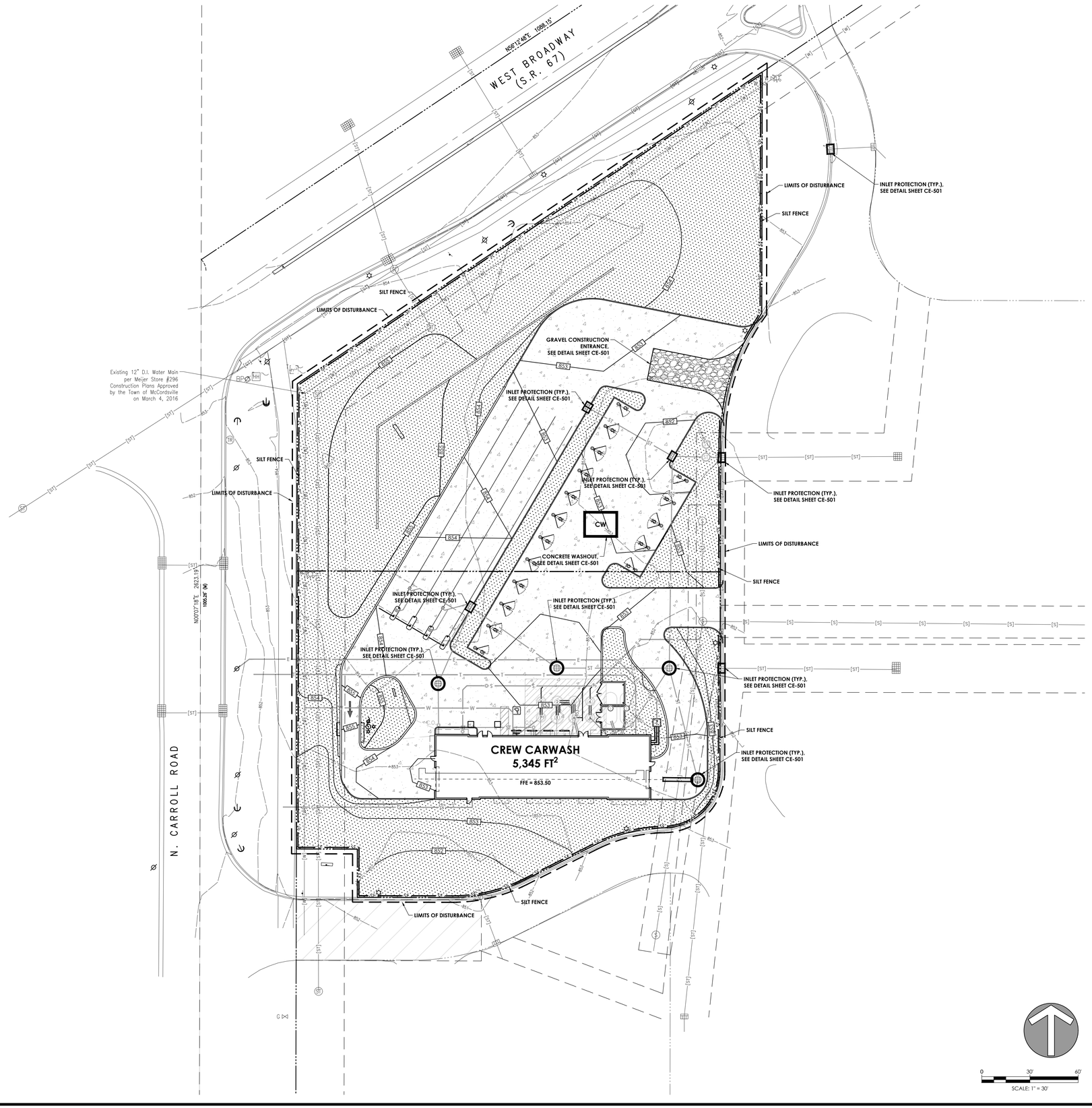

LEGEND OF EXISTING FEATURES

PROPERTY LINE		BENCHMARK	
RIGHT-OF-WAY LINE		RBC	MONUMENT
SETBACK LINE			SECTION CORNER
EASEMENT		ET / HC	TRANSFORMER HVAC
SECTION LINE		E(M) / E	ELECTRIC METER ELECTRIC MANHOLE
CENTERLINE			POWER POLE | GUY WIRE
799	INTERMEDIATE CONTOUR		LIGHT POLE
800	INDEX CONTOUR		TELEPHONE PEDESTAL TELEPHONE MANHOLE
[T]	TELEPHONE UNDER GR.	G / E	GAS MARKER ELECTRIC MARKER
[OH--T]	TELEPHONE OVERHEAD	TR / TR	TRAFFIC POLE TRAFFIC MANHOLE
[FO]	FIBER OPTIC SERVICE	G(M) / G	GAS METER GAS VALVE
[G]	GAS SERVICE	ST / S	STORM MANHOLE SANITARY MANHOLE
[E]	POWER UNDERGROUND		STORM INLETS
[OH--E]	POWER OVERHEAD	C.O. / D.S.	CLEAN-OUT DOWNSPOUT
[W]	WATER SERVICE		FIRE HYDRANTS
[S]	SANITARY SEWER	W(V) / W	WATER METER WATER VALVES
[ST]	STORM SEWER		POST INDICATOR VALVE FIRE DEPARTMENT CONN.
[NP]	POND NORMAL POOL		SIGNS
EX. FLOWLINE			MAILBOX
CHAIN LINK FENCE			ADA PARKING
FARM FENCE		24	PARKING COUNT
WOOD FENCE			TREES
IRON FENCE | RAILING			SHRUB
BUILDING | STRUCTURE			
EX. BUILDING OVERHEAD		+ 801.25	SPOT GRADE
RIM	RIM ELEVATION		
INV.	INVERT ELEVATION		
FFE	FINISHED FLOOR ELEVATION		

STORMWATER POLLUTION PREVENTION PLAN LEGEND

PROPOSED SEEDING	CE-501	CONSTRUCTION LIMITS	CONCRETE WASHOUT
EROSION CONTROL MATTING	CE-501	SF SILT FENCE	INLET PROTECTION
RIPRAP OUTLET PROTECTION	CE-501	ST STORM SEWER	STORM MANHOLE
GRAVEL CONSTRUCTION ENTRANCE	CE-501	SSD SUBSURFACE DRAIN	STORM INLETS
		SWALE | FLOWLINE	INVERT ELEVATION
		799 INTERMEDIATE CONTOUR	C.O. CLEAN-OUT
		800 INDEX CONTOUR	D.S. DOWNSPOUT
		FLOW ARROW	

CONSTRUCTION SEQUENCE

PRE-CONSTRUCTION ACTIVITIES:

1. CALL 811 SERVICE AT 811 TO CHECK THE LOCATION OF ANY EXISTING UTILITIES. THEY SHOULD BE NOTIFIED TWO WORKING DAYS BEFORE CONSTRUCTION TAKES PLACE.
2. A SILT FENCE SHALL BE INSTALLED AT THE EDGES OF THE PROJECT SITE WHERE THERE IS POTENTIAL FOR ANY STORMWATER RUNOFF. POTENTIAL AREAS ARE IDENTIFIED BASED ON EXISTING TOPOGRAPHY AND SHOWN ON SHEET CE-101. THE INSTALLED SILT FENCE SHOULD BE INSPECTED AND ANY ACCUMULATING SEDIMENT REMOVED.
3. EVALUATE EXISTING VEGETATION SUITABLE FOR USE AS FILTER STRIPS ALONG THE PROPERTY BOUNDARIES.
4. A CONSTRUCTION ENTRANCE SHALL BE PLACED AS SHOWN ON SHEET CE-101.
5. ESTABLISH CONSTRUCTION STAGING AREA FOR EQUIPMENT AND VEHICLES AS FAR FROM INLETS AND SWALES AS POSSIBLE.
6. ESTABLISH ONSITE LOCATION FOR OWNER/OPERATOR/CONTRACTOR PLACEMENT OF APPROVED PLANS AND INSPECTION DOCUMENTATION.

CONSTRUCTION ACTIVITIES:

1. ONCE EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE, BEGIN LAND CLEARING FOLLOWED IMMEDIATELY BY ROUGH GRADING. DO NOT LEAVE LARGE AREAS UNPROTECTED FOR MORE THAN 14 DAYS. ALL DISTURBED AREAS THAT POTENTIALLY WILL BE IDLE FOR 14 DAYS OR MORE WILL BE STABILIZED (SEEDED, MULCHED, ETC.,) IMMEDIATELY.
2. AFTER COMPLETION OF MASS GRADING, FINAL GRADE AND SEED LANDSCAPE BERMS, AND SWALES IMMEDIATELY AFTER GRADING IS COMPLETED.
3. UPON COMPLETION OF MASS GRADING, INSTALL SANITARY AND STORM SEWERS. AS STORM SEWERS ARE CONSTRUCTED, INSTALL INLET PROTECTION MEASURES. INSTALL RIPRAP UPON COMPLETION OF END SECTION INSTALLATION.
4. UPON COMPLETION OF SEWER INSTALLATION AND INLET PROTECTION, PROCEED WITH ASPHALT PAVEMENT CONSTRUCTION.
5. AS NECESSARY, LIMING OF ASPHALT PARKING SHOULD BE DONE PRIOR TO THE INSTALLATION OF STORM SEWERS TO PREVENT THE TRANSMISSION OF LIME DUST TO PONDS OR RECEIVING WATERS.
6. CONTRACTOR SHALL MAINTAIN EROSION CONTROL MEASURES AND DEVICES DURING THE CONSTRUCTION PHASE AND UNTIL SILTATION OF THE STREETS AND STORM SEWERS WILL NO LONGER OCCUR.
7. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT FROM INSTALLED EROSION CONTROL FEATURES.
8. WHEN 70% OF VEGETATIVE COVER IS OBTAINED THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

Know what's below. Call before you dig.

p:\2021\0095 - crew carwash - mccordsville, in\drawings\ce-101.dwg

REVISION BLOCK

MICHAEL THOMPSON — REGISTERED — No. 11011309 — STATE OF INDIANA — PROFESSIONAL ENGINEER

Michael Thompson

DATE 04/18/2022

DRAWN BY HYC | CHECKED BY AEF

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CONSTRUCTION PLANS FOR:
CREW CARWASH | MCCORDSVILLE
North 700 West
McCordsville, Indiana 46055

CREW CARWASH
11700 Exit 5 Parkway
Fishers, Indiana 46037

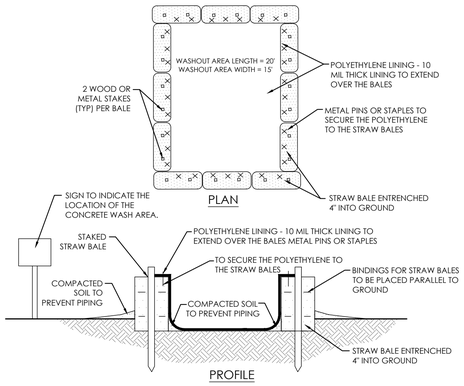
PROJECT NO. 2021-0095

DATE 04/18/2022

SCALE 1" = 30'

SHEET NAME **STORMWATER POLL. PREVENTION PLAN**

SHEET NO. CE-101

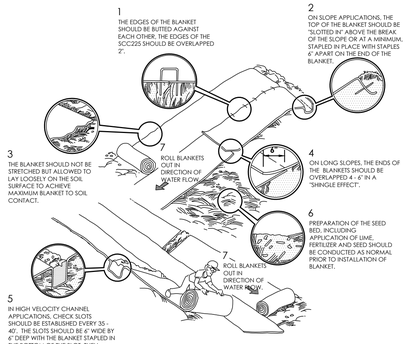


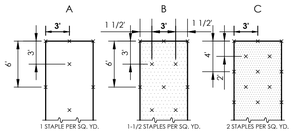
NOTES:

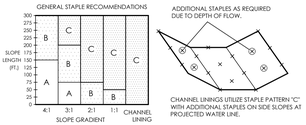
1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
3. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
4. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
5. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE INSPECTOR.
6. CONTRACTOR SHALL PROVIDE ADDITIONAL WASHOUT STRUCTURES OR LARGER STRUCTURES IF REQUIRED

CONCRETE WASHOUT

NOT TO SCALE







STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN EROSION CONTROL BLANKETS. STAPLE PATTERNS MAY VARY DEPENDING UPON SOIL TYPE AND AVERAGE ANNUAL RAINFALL.

AT SLOPE LENGTHS GREATER THAN 300 FEET OR WHERE DRAINAGE OVER LARGE AREAS IS DIRECTED ONTO THE BLANKETS, STAPLE PATTERN "C" SHOULD BE UTILIZED.

EROSION CONTROL MATTING

NOT TO SCALE

Seedbed Preparation

Apply lime to raise the pH to the level needed for species being seeded. Apply 23 pounds of 12-12-12 analysis fertilizer (or equivalent) per 1000 sq. ft. (approximately 1000 pounds per acre) or fertilize according to test. Application of 150 lbs. of ammonium nitrate on areas low in organic matter and fertility will greatly enhance vegetative growth.

Work the fertilizer and lime into the soil to a depth of 2-3 inches with a harrow, disk or rake operated across the slope as much as possible.

Seeding

Select a seed mixture based on projected use of the area (Figure 5-2), while considering best seeding dates. See Figure 5-3 this sheet. If tolerances are a problem, such as salt tolerance of seedings adjacent to streets and highways, see Figure 5-4 this sheet before final selection.

Figure 5-2: Permanent Seed Mixtures

Species	Seeding Rate lbs/acre		Suitable pH lbs/1000 sq. ft.	Site Suitability* Droughty	Well Drained	Wet
Level and Sloping, Open Areas						
Tall Fescue	35	0.8	5.5 - 8.3	2	1	2
Tall Fescue	25	0.6	5.5 - 8.3		1	
Red Clover**	5	0.12				
Kentucky Bluegrass	15	0.4	5.5 - 7.5	2	1	
Creeping Red Fescue	15	0.4				
Steep Banks and Cuts						
Tall Fescue	15	0.4	5.8 - 7.5	2	1	2
Kentucky Bluegrass	25	0.6				
Tall Fescue	35	0.8	5.5 - 8.3	2	1	
Emerald Crownvetch**	10	0.25				
Lawns and High Maintenance Areas						
Kentucky Bluegrass	40	0.9	5.8 - 7.5	2	1	
Creeping Red Fescue	40	0.9				
Perennial Ryegrass (Turf Type)	170	4.0	5.0 - 7.5		1	
Tall Fescue	170	4.0	5.5 - 8.3	2	1	2

* 1 - Preferred 2 - Will Tolerate
** Inoculate with specific Inoculant.

Temporary Seeding Dates

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Wheat or Rye												
Oats												
Annual Ryegrass												

Permanent Seeding Dates

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Native Seed												
Non-Irrigated*												
Irrigated												
Dormant Seeding**												

Irrigation needed during this period. To control erosion at times other than in the shaded areas, use mulch.

* Late summer seeding dates may be extended 5 days if mulch is applied.

** Note: If temporary stabilization must occur during the winter straw mulch applied at a rate of 2 tones per acre and crimped in will be an acceptable cover.

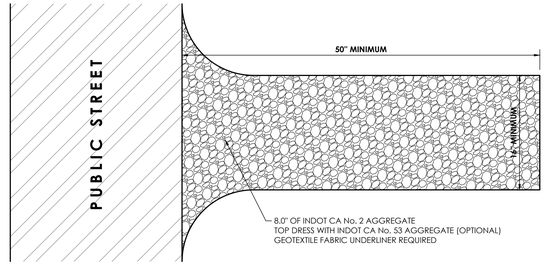
Temporary Seed Application Rates

Kind of Seed	1000 Sq. Ft.	Acre	Remarks
Wheat or Rye	3.5 lbs.	150 lbs.	Cover seed 1" to 1 1/2" deep
Spring Oats	2.3 lbs.	100 lbs.	Cover seed 1" deep
Annual ryegrass	1.0 lb.	40 lbs.	Cover seed 1/4"deep*

* Not necessary where mulch is applied.

SEEDING SCHEDULE

NOT TO SCALE



1. ADAPTED FROM THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT - INDIANA STORMWATER QUALITY MANUAL, 2007

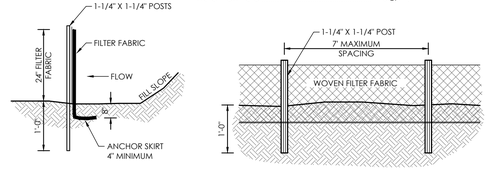
GRAVEL CONSTRUCTION ENTRANCE

NOT TO SCALE

SILT FENCE JOINT WRAP DETAIL

Silt Fence shall be a machine produced, woven geotextile fabric. All stakes shall be 1 1/4" X 1 1/4" hardwood 36" tall with 24" tall lath stapled to stakes over fabric as reinforcement.

Textile Strength @ 20% elongation	30 lbs. per linear inch
UV Resistance	>70%
Filtering Efficiency	85%
Slurry Flow Rate	0.3 gpm/ft²
Water Flow Rate	15 gpm/ft²



NOTES:

1. FILTER FABRIC FENCE SHALL BE A MINIMUM OF 36" IN WIDTH.
2. TURN SILT FENCE UP SLOPE AT ENDS.

TEMPORARY SILT FENCE

NOT TO SCALE

SOILS LEGEND + DESCRIPTION

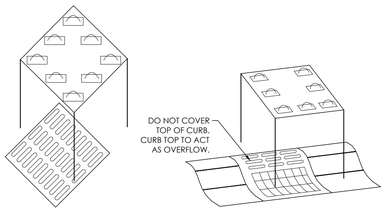
Map Unit: YbvA - Brookston silty clay loam-Urban land complex, 0 to 2 percent slopes

Map Unit: YcuA - Crosby silt loam-Urban land complex, 0 to 2 percent slopes

Map Unit: YmsB2 - Miami silt loam-Urban land complex, 2 to 6 percent slopes, eroded

SOILS MAP

NOT TO SCALE



1. REMOVE SEDIMENT, DEBRIS, ICE AND SNOW FROM THE INLET GRATE SURFACE AND SURROUNDING AREA.

2. VERIFY FIT BY PLACING FILTER OVER INLET GRATE TO ENSURE THAT INLET FILTER EXTENDS AT LEAST ONE INCH BEYOND THE FRONT AND BOTH CURB ENDS. THE OVERLAP SLOWS WATER FLOW AND STARTS FILTERING SEDIMENT AND DEBRIS BEFORE WATER DROPS INTO THE INLET. THE USER IS RESPONSIBLE FOR PROPER INSTALLATION.

3. POSITION THE MAT. PLACE INLET FILTER ON GRATE WITH THE NET SIDE DOWN. FLUSH TO THE BACK EDGE AND EXTENDING BEYOND THE GRATE OPENING ON THE FRONT AND BOTH SIDES. THE ZIP TIES ATTACH INLET FILTER TO THE INLET GRATE COVER WITHOUT LIFTING THE GRATE COVER.

4. INSERT ZIP TIES. LIFT INLET FILTER SLIGHTLY TO ENABLE YOU TO SEE THE FIRST GRATE BAR FROM THE EDGE OF THE GRATE COVER. PUSH THE POINTED END OF A SCREWDRIVER THROUGH INLET FILTER TO CREATE A PILOT HOLE TO THE SIDE OF THE GRATE BAR. PUSH THE POINTED END OF ZIP TIE THROUGH HOLE IN HOLD-DOWN PAD AND THEN THROUGH THE INLET FILTER. BEND ABOUT 3" OF THE END OF THE ZIP TIE BACK ON ITSELF AND STEP ON THE FOLD TO FORM A HOOK SHAPE. THE HOOK SHAPE MAKES IT EASIER TO GRAB THE END AFTER LOOPING UNDER THE GRATE BAR. NOW LOOP THE ZIP TIE UNDER THE GRATE BAR AND PULL UP; INSERT POINTED END OF TIE IN BOTTOM OF INLET FILTER ABOUT 2 INCHES FROM THE FIRST ENTRY POINT AND PUSH UP AND THROUGH FILTER AND SECOND HOLE IN HOLD-DOWN PAD.

5. TIGHTEN ZIP TIES. AFTER ATTACHING ALL OF THE ZIP TIES, RE-POSITION INLET FILTER TO COMPLETELY COVER AND OVERLAP THE GRATE. PULL FREE END OF ZIP-TIES HAND TIGHT TO ANCHOR INLET FILTER TO THE GRATE. CUT OFF FREE END OF ZIP TIES TO LEAVE A 1" TAIL.

6. EXTREME FLOW INSTALLATION REQUIRE- MENTS. SOME MUNICIPALITIES REQUIRE EXPOSED OVERFLOW. CHECK LOCAL REGULATIONS. EXPOSING THE EMERGENCY OVERFLOW ALLOWS UNFILTERED FLOW WHEN WATER DEPTH EXCEEDS INLET FILTER HEIGHT. IF NECESSARY, CUT INLET FILTER WITH A KNIFE OR SHEARS TO EXPOSE THE UPPER PORTION OF THE OVERFLOW SECTION. ALLOW THE STANDARD OVERLAP ON ALL SIDES OF INLET FILTER BEFORE CUTTING. MAINTENANCE INLET FILTER WILL COLLECT A LOT OF SEDIMENT. SWEEP TOP AND SIDES OF INLET FILTER TO REMOVE SEDIMENT AND DEBRIS AFTER EACH 1/2" RAIN EVENT. IN CASE OF STANDING WATER AT INLET, SWEEPING AWAY BUILT-UP DEBRIS ALLOWS WATER TO DRAIN THROUGH INLET FILTER.

COIR FIBER MAT INLET PROTECTION

NOT TO SCALE

REVISION BLOCK

MICHAEL THOMPSON — REGISTERED — No. 11011309 — STATE OF INDIANA — PROFESSIONAL ENGINEER

Michael Thompson

DATE 04/18/2022

DRAWN BY HYC | CHECKED BY AEF

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www.hamilton-designs.com

CONSTRUCTION PLANS FOR:
CREW CARWASH | MCCORDSVILLE
North 700 West
McCordsville, Indiana 46055

CREW CARWASH
11700 Exit 5 Parkway
Fishers, Indiana 46037

PROJECT NO. 2021-0095

DATE 04/18/2022

SCALE

SHEET NAME
STORMWATER POLL. PREV. DETAILS

SHEET NO.
CE-501

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STORMWATER POLLUTION PREVENTION PLAN INDEX

A1 Plan Index provided below
A2 n/a, see sheet CS-101 for proposed improvements.
A3 Project Type: Carwash
The proposed construction activities include installation of pavement, curb, sidewalk, foundations, storm sewer, sanitary sewer, and utilities for the proposed facility, parking, and an AS-2 Aquaswirl.

A4 Vicinity Map: Denoted on Sheet C-001
A5 Legal Description of Project Site: See sheet C-002

Latitude: 39°49'28"N
Longitude: 86°09'35"W

A6 Location of all lots and proposed site improvements: See sheet CS-101
A7 14 Digit Hydrologic Unit Code: 051202011002

A8 State or Federal water quality permits: IDEM Rule 5

A9 Specific points where stormwater discharge will leave the site: Stormwater will outlet from the proposed underground storm sewer network into the existing curb inlet (Structure 106) located on the east of the site and into the existing storm sewer network, a part of Meijer Subdivision. Some runoff will drain into the existing inlets located on the north and west of the site. The existing inlet then routes the stormwater into the existing underground network along West Broadway and North Carroll Road as shown on the Site Grading Plans, CG-101.

A10 Location of all wetlands, lakes & water courses on and adjacent to site: No known wetlands are located onsite.
A11 Receiving Waters: Fall Creek
A12 Identification of potential discharges to groundwater: Excavation pits can be potential sources of discharge into groundwater. There is a potential for discharges into ground water from sediment resulting from exposed soils, leaves, mulch, and vehicular sources if a significant rain event occurs while excavations are open.
A13 100 Year Floodplains, Floodways and Flood Fringes: Site is located in Zone X (unshaded).
A14 Pre-Construction and Post Construction Peak Discharge:
10 year Pre-Construction Peak Discharge: N/A
10 year Post Construction Peak Discharge: N/A
100 year Pre-Construction Peak Discharge: N/A
100 year Post Construction Peak Discharge: N/A

A15 Adjacent Land Use:
North: CR, Regional Commercial
South: CR, Regional Commercial
East: CR, Regional Commercial
West: CR Regional Commercial

A16 Locations and approximate boundaries of all disturbed areas: See sheet CE-101 for locations.
A17 Identification of existing vegetative cover: See ALTA/NSPS Land Title Survey for locations.
A18 Soils Map including descriptions and limitations: YbvA, 0 to 2 percent slopes;
Hydrologic soil group B; See sheet CE-501 for soils map. description and limitations.
A19 Locations, size and dimensions of proposed stormwater systems: See sheet CG-101 for proposed earthwork.
A20 Locations, size and dimensions of any proposed off-site construction activities associated with this project: Improvements include drive entrance connections, proposed utility connections in the North Carroll Road ROW and storm sewer connections in Meijer Subdivision. See sheets CG-101, CU-101, and CS-101 for locations and dimensions.
A21 Locations of Soil Stockpiles: NA
A22 Existing site topography: See sheets 1 of 1 for existing site topography.
A23 Proposed final topography: See sheets CG-101 for proposed final site topography. It is anticipated that the project will result in a mostly balanced site.

B1 Description of potential pollutants sources associated with the construction activities: Silt and sediment from exposed soils, leaves, mulch, vehicular sources such as leaking fuel or oil, brake fluid, brake dust, trash, debris, biological agents found in trash, fertilizers, herbicides, pesticides, acid rain, lime dust and concrete washout.
B2 Sequencing of stormwater quality implementation relative to land disturbance activities:
This plan has been created in an effort to eliminate sediment from leaving the Crew Carwash project during construction protecting the adjoining properties and adjoining waterways.

PRE-CONSTRUCTION ACTIVITIES:
1. Call Indiana 811 service ("Holey Moley") at 811 to check the location of any existing utilities. They should be notified two working days before construction takes place.
2. A silt fence shall be installed at the edges of the project site where there is potential for any stormwater runoff. Potential areas are identified based on existing topography and shown on sheets CE-101. The installed silt fence should be inspected and any accumulating sediment removed.
3. Riprap Outlets and Riprap check dams to be installed to provide sediment control.
4. Evaluate existing vegetation suitable for use as filter strips along the project boundaries.
5. A construction entrance shall be placed as shown on sheet CE-101.
6. Establish construction staging area for equipment and vehicles as far from swales as possible.
7. Establish onsite location for owner/operator/contractor placement of approved plans and Rule 5 NOI and Rule 5 inspection documentation.

CONSTRUCTION ACTIVITIES:
1. Once erosion and sediment control measures are in place, begin land clearing. Land clearing and demolition shall be followed immediately by rough grading. Do not leave large areas unprotected for more than 14 days. Rule 5 requires that all disturbed areas that potentially will be idle for 14 days or more will be stabilized (seeded, mulched, etc.) immediately.
2. After completion of mass grading, final grade and seed landscape berms, and swales immediately after grading is completed.
3. Upon completion of mass grading, install sanitary and storm sewers. As storm sewers are constructed, install inlet protection measures.
4. Upon completion of sewer installation and inlet protection, proceed with concrete pavement construction.
5. As necessary, liming of streets should be done prior to the installation of storm sewers to prevent the transmission of lime dust to ponds or receiving waters.
6. Once inlet protection is in place, final grade all areas.
7. Contractor shall maintain erosion control measures and devices during the construction phase and until siltation of the streets and storm sewers will no longer occur.
8. After all disturbed areas have been stabilized, remove accumulated sediment from sediment basin and diversion swales.
9. When 70% of vegetative cover is obtained and all temporary erosion and sediment control measures have been removed, the owner shall submit a Notice of Termination form to IDEM in order to terminate the Rule 5 Construction General Permit coverage.

B3 Stable construction entrance locations and specifications: Temporary construction entrance
See sheets CE-101 for locations and
Sheet CE-501 for construction details and specifications.
B4 Sediment control measures for sheet flow areas: Silt fence, temporary seeding, and permanent seeding
See sheets CE-101 for locations and
Sheet CE-501 for construction details and specifications.
B5 Sediment control measures for concentrated flow areas: Erosion control blanket, permanent seeding, riprap outlet
See sheets CE-101 for locations and
Sheet CE-501 for construction details and specifications.
B6 Storm sewer inlet protection measures: Dandy Sack
See sheets CE-101 for locations and
Sheet CE-501 for construction details and specifications.

B7 Runoff control measures: Permanent seeding
See sheets CG-101 and CE-101 for locations and
Sheet CE-501 for construction details and specifications.

B8 Stormwater outlet protection specifications: Not Applicable.

B9 Location, dimensions, specifications and construction details of each stormwater quality measure: Permanent seeding
See sheets CG-101 and CE-101 for locations and
Sheet CE-501 for construction details and specifications.

B10 Temporary surface stabilization methods appropriate for each season: Erosion control blanket and temporary seeding
See sheets CE-101 for locations and
Sheet CE-501 for construction details and specifications.

B11 Permanent surface stabilization specifications: Permanent Seeding
See sheets CE-101 and LP-101 for locations and
Sheet CE-501 for construction details and specifications.

B12 Material handling and 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 agents, 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 Amendements:
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: Stormwater runoff leaves the site through the proposed detention facility and into the existing ditch along the northern boundary of the property.
3. Possible Spill Sources (During and post construction): Vehicular sources such as leaking fuel or oil, brake fluid, grease, antifreeze; construction 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.
4. 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 city sanitary sewer and city water.

STORMWATER POLLUTION PREVENTION PLAN INDEX (Cont.)

Alert Procedures for Spills:
1. Any personnel observing a spill will immediately instigate the following procedure:
a.) Dialing "0" 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 Indianapolis Fire Department Phone: 9-1-1
d.) Notify the Indianapolis 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 stabilized 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 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. When spills occur which could endanger human life and this becomes 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.

B14 Monitoring and maintenance guidelines for pollution prevention measures:

Silt Fence Maintenance Requirements
1. Inspect the silt fence periodically and after each storm event.
2. If fence fabric tears, starts to decompose, or in any way becomes ineffective, replace the affected portion immediately.
3. Remove deposited sediment when it reaches half the height of the fence at it's lowest point or is causing the fabric to bulge.
4. Take care to avoid undermining the fence during cleanout.
5. After the contributing drainage area has been stabilized, remove the fence and sediment deposits, bring the disturbed area to grade and stabilize.

Inlet Protection Maintenance Requirements
1. Inspect frequently for damage by vehicular traffic and repair if necessary.
2. Inspect after each storm event.
3. Remove sediment, without flushing, when it reaches half the height of the barrier.
4. Deposit removed sediment where it will not enter storm sewer drains.

Temporary Gravel Construction Entrance Maintenance Requirements
1. Inspect entrance pad and sediment disposal area weekly and after storm events or heavy use.
2. Reshape as needed for drainage and runoff control.
3. Topdress with clean stone as needed.
4. Immediately remove mud and sediment tracked or washed onto streets by brushing or sweeping.
5. Repair any broken road pavement immediately.

B15 Erosion & sediment control specifications for individual building lots: n/a

C1 Description of pollutants and their sources associated with the proposed land use:

Silt and sediment from exposed soils, leaves, mulch, vehicular sources such as leaking fuel or oil, brake fluid, brake dust, grease, antifreeze, metals, rubber fragments, road grit, salts and sands, construction trash and debris, fertilizers, household items including but not limited to cleaning agents, chemicals, paint, miscellaneous home improvement materials, toys, clothing and animal waste, elevated storm runoff temperatures, acid rain pesticides and pathogens.

C2 Sequence describing stormwater quality measure implementation:

1. Inspect and maintain all erosion control measures as detailed in the Stormwater Pollution Prevention Measures Maintenance Requirements beginning immediately after installation and continuing until vegetation has been sufficiently established and all construction activity is complete.
2. Remove all individual inlet protection, silt fences, etc. only after seeding and sufficient vegetative growth has been established in each area to a point where sediment/pollutants will not enter the detention facilities or storm sewer system.
3. Inspection and maintenance of all landscape areas and infrastructure improvements is the responsibility of the owner.

C3 Description of proposed post construction stormwater quality measures:

The proposed post construction stormwater quality measures include a proposed AS-2 Aqua-Swirl. See CG-101.

The proposed post construction storm water quality measures will be installed as the storm structures and facilities are installed, maintained during construction, and cleaned immediately after construction is finished.

It is the intent of this plan that the implementation of the above described storm water quality measures be executed in accordance with the enclosed plans and details in order to meet the requirements of Rule 5 storm water quality.

C4 Location, dimensions, specifications and construction details of stormwater quality measures:
Aqua-Swirl AS-2; See Sheets CG-101, CG-501, drainage report and Operations and Maintenance Manual

C5 Description of proposed post construction stormwater quality measures:

Inspection and cleaning of the pretreatment hydrodynamic separator and filtration chamber shall include, but shall not be limited to:

1. Removal of floatable debris and and oil if depth of oil is equal to or greater than one half (1/2) inch.
2. Schedule cleaning if distance to top of sediment pile from top of standing water is 48 to 42 inches or less for Models AS-3 through AS-13 or 32 to 30 inches or less for Model AS-2.
3. Inspect filter media noting color and saturation or containments. If media is dark brown or black, the media is fully spent and should be replaced.
4. Inspect weir or bypass feature for structural decay or damage.
5. Inspect diversion structure and bypass piping for signs of structural damage or blockage from debris or sediment accumulation.
6. Inspect downstream (convergence) structure(s) for sign of blockage or structural failure.

Schedule cleaning with local vactor company or AquaShield to remove sediment, oil and other floatable pollutants. The spent filter containers and captured material generally does not require special treatment or handling for disposal. Site-specific conditions or the presence of known contaminants may necessitate that appropriate actions be taken to clean and dispose of materials captured and retained by the Aqua-Filter system. All cleaning activities should be performed in accordance with property health and safety procedures.

AquaShield always recommends that all materials removed from the Aqua-Filter system (Aqua-Swirl and filtration chamber) during the maintenance process be handles and disposed in accordance with local and state environmental or other regulatory requirements.

See measures included on this sheet. Refer to O&M Manual for additional guidelines.

ADDITIONAL STORMWATER POLLUTION PREVENTION MEASURES

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).

Implementation
If maintenance must occur onsite, use designated areas, located away from drainage courses. Dedicated maintenance areas should be protected from stormwater runon and runoff, and should be located at least 50 ft from downstream drainage facilities and watercourses.
1. Drip pans or absorbent pads should be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area.
2. Place a stockpile of spill cleanup materials where it will be readily accessible.
3. All fueling trucks and fueling areas are required to have spill kits and/or use other spill protection devices.
4. Use adsorbent materials on small spills. Remove the absorbent materials promptly and dispose of properly.
5. Inspect onsite vehicles and equipment daily at startup for leaks, and repair immediately.
6. Keep vehicles and equipment clean; do not allow excessive build-up of oil and grease.
7. Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic and transmission fluids. Provide secondary containment and covers for these materials if stored onsite.
8. Train employees and subcontractors in proper maintenance and spill cleanup procedures.
9. Drip pans or plastic sheeting should be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than 1 hour.
10. Properly dispose of used oils, fluids, lubricants, and spill cleanup materials.
11. Do not place used oil in a dumpster or pour into a storm drain or watercourse.
12. Properly dispose of or recycle used batteries.
13. Do not bury used tires.
14. Repair leaks of fluids and oil immediately.
15. Listed below is further information if you must perform vehicle or equipment maintenance onsite.

Inspection and Maintenance
Inspect and verify that BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly to verify continued BMP implementation.
1. Keep ample supplies of spill cleanup materials onsite.
2. Maintain waste fluid containers in leak proof condition.
3. Vehicles and equipment should be inspected on each day of use. Leaks should be repaired immediately or the problem vehicle(s) or equipment should be removed from the project site.
4. Inspect equipment for damaged hoses and leaky gaskets routinely. Repair or replace as needed.

VEHICLE AND EQUIPMENT FUELING

Description and Purpose
Vehicle equipment fueling procedures and practices are designed to prevent fuel spills and leaks, and reduce or eliminate contamination of stormwater. This can be accomplished by using offsite facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors in proper fueling procedures.

Limitations
Onsite vehicle and equipment fueling should only be used where it is impractical to send vehicles and equipment offsite for fueling. Sending vehicles and equipment offsite should be done in conjunction with a Stabilized Construction Entrance/ Exit.

Implementation
Use offsite fueling stations as much as possible. These businesses are better equipped to handle fuel and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate fueling area at a site.
1. Discourage "topping-off" of fuel tanks.
2. Absorbent spill cleanup materials and spill kits should be available in fueling areas and on fueling trucks, and should be disposed of properly after use.
3. Drip pans or absorbent pads should be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area.
4. Use absorbent materials on small spills. Do not hose down or bury the spill. Remove the adsorbent materials promptly and dispose of properly.
5. Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas.
6. Train employees and subcontractors in proper fueling and cleanup procedures.
7. Dedicated fueling areas should be protected from stormwater runon and runoff, and should be located at least 50 ft away from downstream drainage facilities and watercourses. Fueling must be performed on level-grade areas.
8. Protect fueling areas with berms and dikes to prevent runon, runoff, and to contain spills.
9. Nozzles used in vehicle and equipment fueling should be equipped with an automatic shutoff to control drips. Fueling operations should not be left unattended.
10. Federal, state, and local requirements should be observed for any stationary above ground storage tanks.

Inspection and Maintenance
Vehicles and equipment should be inspected each day of use for leaks. Leaks should be repaired immediately or problem vehicles or equipment should be removed from the project site.
1. Keep ample supplies of spill cleanup materials onsite.
2. Immediately clean up spills and properly dispose of contaminated soil and cleanup materials.

SOLID WASTE MANAGEMENT

Description and Purpose
Solid waste management procedures and practices are designed to prevent or reduce the discharge of pollutants to stormwater from solid or construction waste by providing designated waste collection areas and containers, arranging for regular disposal, and training employees and subcontractors.

Suitable Applications
This BMP is suitable for construction sites where the following wastes are generated or stored:
1. Solid waste generated from trees and shrubs removed during land clearing, demolition of existing structures (rubble), and building construction
2. Packaging materials including wood, paper, and plastic
3. Scrap or surplus building materials including scrap metals, rubber, plastic, glass pieces and masonry products
4. Domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers, and cigarettes
5. Construction wastes including brick, mortar, timber, steel and metal scraps, pipe and electrical cuttings, nonhazardous equipment parts, Styrofoam and other materials send transport and package construction materials

Implementation
The following steps will help keep a clean site and reduce stormwater pollution:
1. Select designated waste collection areas onsite
2. Inform trash-hauling contractors that you will accept only watertight dumpsters for onsite use
3. Inspect dumpsters for leaks and repair any dumpster that is not watertight
4. Provide an adequate number of containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy
5. Plan for additional containers and more frequent pickup during the demolition phase of construction
6. Collect site trash daily, especially during rainy and windy conditions
7. Remove this solid waste promptly since erosion and sediment control devices tend to collect litter
8. Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris
9. Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor
10. Arrange for regular waste collection before containers overflow
11. Clean up immediately if a container does spill
12. Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.

Collection, Storage, and Disposal
1. Littering on the project site should be prohibited
2. To prevent clogging of the storm drainage system, litter and debris removal from drainage grates, trash racks, and ditch lines should be a priority
3. Trash receptacles should be provided in the contractor's yard, field trailer areas, and at locations where workers congregate for lunch and break periods
4. Litter from work areas within the construction limits of the project site should be collected and laced in watertight dumpsters at least weekly, regardless of whether the litter was generated by he contractor, the public, or others. Collected litter and debris should not be placed in or next to drain inlets, stormwater drainage systems, or watercourses
5. Dumpsters of sufficient size and number should be provided to contain the solid waste generated by the project
6. Full dumpsters should be removed from the project site and the contents should be disposed of by the trash hauling contractor
7. Construction debris and waste should be removed from the site biweekly or more frequently as needed
8. Construction material visible to the public should be stored or stacked in an orderly manner.
9. Stormwater runon should be prevented from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures or through the use of measures to elevate waste from site surfaces
10. Solid waste storage areas should be located at least 50 ft from drainage facilities and watercourses and should not be located in areas prone to flooding or ponding

Inspection and Maintenance
1. Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly to verify continued BMP implementation
2. Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur
3. Inspect construction waste area regularly
4. Arrange for regular waste collection

STORMWATER POLLUTION PREVENTION SCHEDULE

EROSION CONTROL MEASURE	MAINTENANCE	INSTALLATION SEQUENCE
STONE ENTRANCE	AS NEEDED	PRIOR TO CLEARING AND GRADING
SILT FENCE	WEEKLY, AFTER STORM EVENTS AND AS NEEDED	PRIOR TO CLEARING AND GRADING
TEMPORARY SEEDING	WATER AS NEEDED	AFTER ROUGH GRADING
PERMANENT SEEDING	WATER AS NEEDED	AFTER FINISH GRADING
SEED, SOD & LANDSCAPE AROUND	WATER AS NEEDED	AFTER FINISHED GRADING AROUND FINISHED UNITS
REMOVAL OF SILT FENCE	N/A	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED

REVISION BLOCK

MICHAEL THOMPSON
REGISTERED
No. 11011309
STATE OF INDIANA
PROFESSIONAL ENGINEER

Michael Thompson

DATE 04/18/2022

DRAWN BY HYC | CHECKED BY AEF

HAMILTON DESIGNS
A LIMITED LIABILITY COMPANY
11 Municipal Drive, Suite 300
Fishers, Indiana 46038
P. (317) 570-8800
www.hamilton-designs.com

CONSTRUCTION PLANS FOR:
CREW CARWASH | MCCORDSVILLE
North 700 West
McCordsville, Indiana 46055

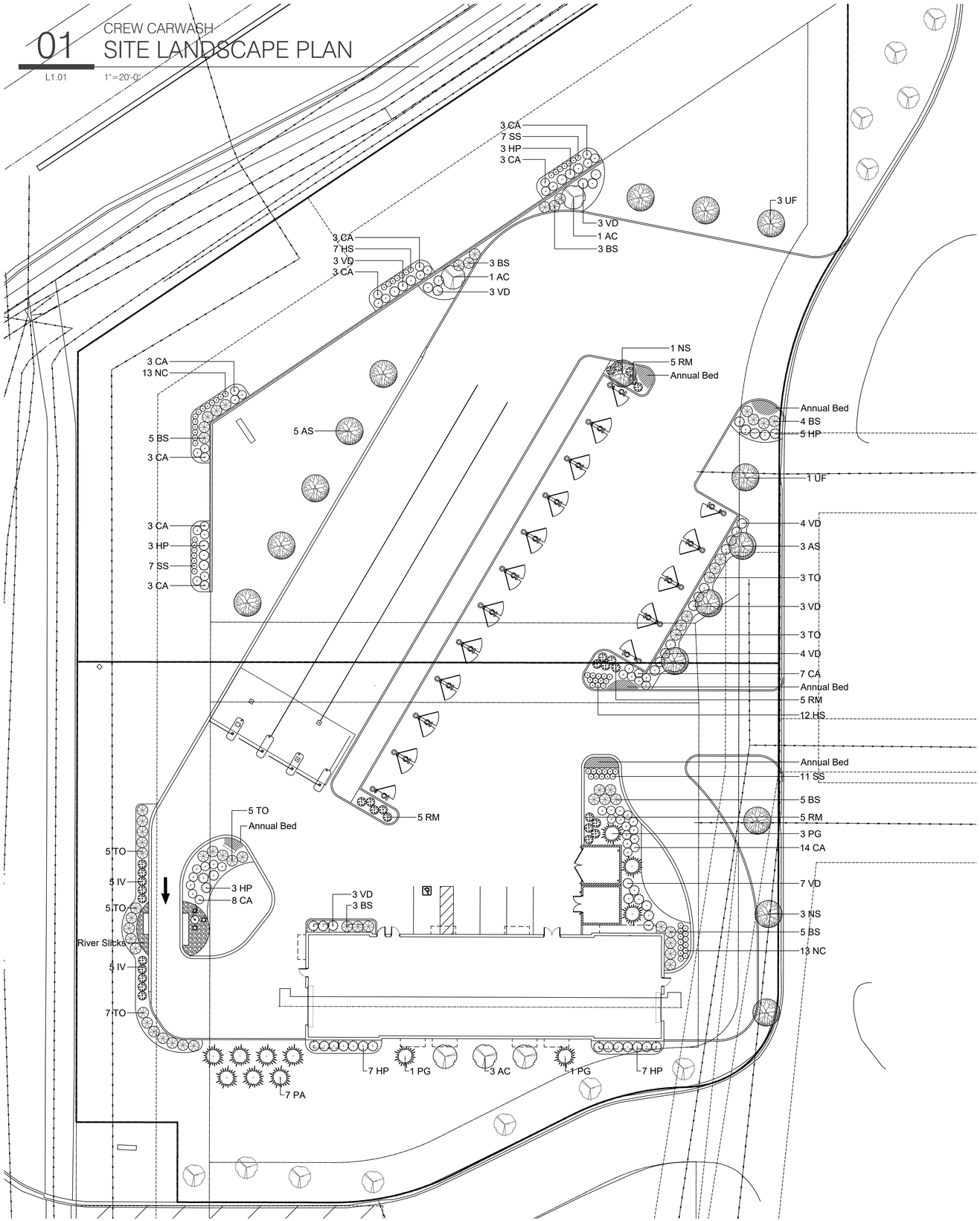
CREW CARWASH
11700 Exit 5 Parkway
Fishers, Indiana 46037

PROJECT NO. 2021-0095
DATE 04/18/2022
SCALE
SHEET NAME
STORMWATER POLL. PREVENTION NOTES
SHEET NO. CE-502

p:\2021\0095 - crew carwash - mccordsville, in\drawings\ce-501.dwg

01 CREW CARWASH SITE LANDSCAPE PLAN

L1.01 1"=20'-0"



NOTES

GENERAL NOTES:

1. UTILITY LOCATION NOTE: ALL LOCATIONS SHOWN ARE APPROXIMATE AND BASED ON INFORMATION SUPPLIED BY EITHER THE CIVIL ENGINEER, SURVEYOR, OWNER, AND/OR MEASURED IN THE FIELD. IF DISCREPANCIES ARE PRESENT, CONTRACTOR SHALL NOTIFY OWNER AND LANDSCAPE ARCHITECT IMMEDIATELY AND PRIOR TO BEGINNING WORK.
2. IN CASE OF DISCREPANCIES BETWEEN THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.
3. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL PREPARATION, MATERIALS, DELIVERY, INSTALLATION AND INITIAL MAINTENANCE FOR THE LANDSCAPE PORTION OF THE PROJECT AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE OWNER'S REPRESENTATIVE. THE LANDSCAPE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND FEES THAT MAY BE REQUIRED FOR HIS PORTION OF WORK.
4. PLANTS AND ALL OTHER MATERIALS TO BE STORED ON SITE WILL BE PLACED WHERE THEY WILL NOT CONFLICT W/ CONSTRUCTION OPERATIONS AND AS DIRECTED BY OWNER'S REPRESENTATIVE .
5. ALL UTILITIES SHALL BE LOCATED AND MARKED/FLAGGED PRIOR TO BEGINNING WORK. RELOCATE PLANTS FROM OVER OR UNDER UTILITIES. RELOCATION SHALL BE APPROVED PRIOR TO INSTALLATION.
6. CLEAN UP ALL DEBRIS AND REMOVE FROM SITE, REPAIR ALL DAMAGED OR DISTURBED AREAS CAUSED BY LANDSCAPE WORK.

PLANTING NOTES:

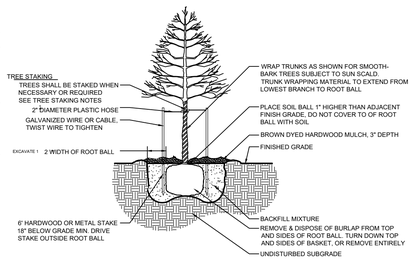
1. REMOVE WEEDS, ORGANIC MATTER AND ROCKS LARGER THAN 1.5" FROM SOIL.
2. BACKFILL FOR TREE PLANTING SHALL BE 100% OF SURROUNDING TOPSOIL. A 5-10-5 ANALYSIS SLOW RELEASE FERTILIZER SHALL BE INCORPORATED INTO BACKFILL AT APPROVED RATES.
3. THE TOPS OF ALL TREE AND SHRUB ROOT BALLS TO BE PLACED A MAXIMUM OF ONE (1) INCH ABOVE FINAL GRADE. ALL TREES LOCATED OUTSIDE OF BEDS SHALL HAVE A MINIMUM SIX (6) FOOT DIAMETER NON-LIPPED SAUCER AROUND PLANTING PIT. ALL SAUCERS SHALL BE WEED AND GRASS FREE. AN APPROVED PRE-EMERGENT HERBICIDE SHALL BE APPLIED IN ALL PLANTING BEDS AT A RATE SPECIFIED BY MANUFACTURER FOR EACH PLANT VARIETY.
4. ALL TREE SAUCERS AND PLANTING BEDS SHALL RECEIVE MINIMUM OF THREE (3) INCHES GRADE A, BROWN DYED SHREDDED HARDWOOD BARK MULCH.
5. NO SUBSTITUTIONS OF PLANT MATERIALS WILL BE ALLOWED. IF PLANTS ARE NOT AVAILABLE, THE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT/ OWNER'S REPRESENTATIVE IN WRITING. ALL PLANTS SHALL BE INSPECTED AND TAGGED WITH PROJECT I.D. AT NURSERY OR CONTRACTORS OPERATIONS PRIOR TO MOVING TO JOB SITE. PLANTS MAY BE INSPECTED AND APPROVED OR REJECTED ON THE JOB SITE BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE .
6. THE OWNER, OWNER'S AGENT, OR THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY AND ALL PLANT MATERIALS AT ANY TIME DURING THE COURSE OF THE PROJECT UNTIL PROJECT IS ACCEPTED BY THE OWNER.
7. LANDSCAPE CONTRACTOR SHALL LAYOUT AND STAKE ALL PLANT LOCATIONS AS SHOWN ON THE DRAWINGS PRIOR TO INSTALLATION. OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT SHALL INSPECT AND APPROVE PLANT LOCATIONS FOR ACCURACY AND COMPLIANCE WITH DESIGN INTENT PRIOR TO INSTALLATION.
8. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE PLANTING OF SPECIFIED PLANTS AND MAINTAINING ALL PLANT MATERIALS IN AN ALIVE AND QUALITY CONDITION UNTIL ACCEPTANCE BY THE OWNER. THIS INCLUDES AS A MINIMUM: WATERING, WEEDING, INSECT AND DISEASE CONTROL, PRUNING OF DAMAGED OR UNSIGHTLY LIMBS, AND KEEPING PLANTS IN TRUE AND UPRIGHT POSITIONS.
9. CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL TO REMAIN ALIVE AND HEALTHY FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE BY THE OWNER. ALL REPLACEMENTS SHALL BE PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. GUARANTEE REPLACEMENTS SHALL BE AS DIRECTED BY THE OWNER UNTIL FINAL ACCEPTANCE OF THE PROJECT FOLLOWING THE GUARANTEE PERIOD.

SODDING AND PREPARATION:

1. CONTRACTOR TO FINE GRADE AND PREPARE ALL SITE AREAS TO RECEIVE SOD. MAKE SITE SMOOTH TO FINAL GRADING PLAN ELEVATIONS, FILL IN DEPRESSIONS, LOW SPOTS AND GRADE SMOOTH.
2. ALL LAWN AREAS WITHIN LAWN LIMIT LINES TO RECEIVE 6" APPROVED STERILIZED TOPSOIL PRIOR TO SODDING OPERATIONS. ONCE TOPSOIL HAS BEEN PLACED, CONSTRUCTION ACTIVITY OF ANY KIND (EXCLUDING LANDSCAPING) SHALL NOT BE PERMITTED ON OR ACROSS ANY PLANTING AREA. CONTRACTOR SHALL FULLY EXCAVATE ANY PLANTING AREA THAT IS DISTURBED AND REPLACE WITH APPROVED TOPSOIL.
3. PROVIDE FRESH, CLEAN NEW-CROP 'PREMIUM' GRADE SOD.
   100% TURF TYPE TALL FESCUE
4. SCARIFY SOIL TO DEPTH OF 3 INCHES PRIOR TO APPLICATION.
5. WATER AND MAINTAIN GRASS UNTIL STAND IS ESTABLISHED AND READY FOR MOWING AT MINIMUM 4 INCH HEIGHT. CONTINUE TO WATER FOR A MINIMUM 30 DAYS OR UNTIL ACCEPTED BY OWNER.
6. FOLLOWING SODDING OPERATIONS, CLEAN UP EXCESS MATERIALS, AND CLEAN ALL BARK MULCHED AND PAVED AREAS.
7. FOLLOWING ESTABLISHMENT, APPLY HERBICIDE TO ALL GRASS GROWTH IN PLANT MULCH AREAS.
8. ALL LAWNS SHALL BE GUARANTEED TO HAVE A FULL UNIFORM STAND OF ACCEPTABLE GRASS AT THE END OF THE ONE YEAR GUARANTEE PERIOD WITH NO BARE SPOTS COMPRISING MORE THAN 2% OF ANY LAWN AREA. ANY AREA SO NOTED WILL BE RESEEDED OR SODDED UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED.
9. ALL DISTURBED LAWN AREAS SHALL BE SODDED AS NOTED AND AS APPROVED BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.

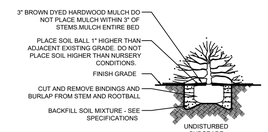
TREE STAKING NOTES:

1. CONTRACTOR TO STAKE WHEN NECESSARY OR REQUIRED, SUCH AS WIND PRONE AREAS OR UNSTABLE SOILS. STAKES SHALL BE PLACED IN MULCHED AREAS TO ALLOW FOR MOWING ADJACENT TURF.
2. STAKING SHOULD NOT BE USED TO COMPENSATE FOR DAMAGED OR WEAK TRUNKS OR ROOT BALLS, THESE TREES SHOULD BE REJECTED.
3. 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 GROWING SEASON AFTER PLANTING.
4. ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN.).
5. WIRES OR CABLE SIZES SHALL BE 14 to 12 GAUGE.
6. TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE TO BE LONG ENOUGH TO ACCOMMODATE 1.5" OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.
7. TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.



02 DECIDUOUS TREE

PLANTING DETAIL - NOT TO SCALE



03 SHRUB

PLANTING DETAIL - NOT TO SCALE

Symbol	Scientific Name	Common Name	QTY	Size
AC	Amelanchier canadensis	Serviceberry	5	6' Clump
AS	Acer saccharum 'Barrett Cole'	Apollo Sugar Maple	8	2.5"
BS	Buxus x 'Green Velvet'	Green Velvet Boxwood	28	3 g
CA	Calamagrostis x acutiflora Karl Foerster	Karl Foerster Feather Reed Grass	53	3 g
HP	Hydrangea paniculata 'Little Quick Fire®'	Quick Fire Hydrangea	28	3 g
HS	Hemerocallis 'Happy Returns'	Happy Returns Daylily	19	1 g
IV	Itea virginica "Little Henry"	Little Henry Sweetspire	10	3 g
NC	Nepeta 'Cat's Pajamas'	Cat's Pajamas Catmint	26	1 g
NS	Nyssa sylvatica	Black Gum	4	2.5"
PA	Picea abies	Norway Spruce	7	6'
PG	Picea glauca 'Densata'	Black Hills Spruce	5	6'
RM	Rosa 'Meigalpio'	Drift Rose	15	3 g
SS	Salvia sylvestris 'May Night'	May Night Salvia	25	1 g
TO	Thuja occidentalis 'Little Giant'	Little Giant Arborvitae	28	3 g
UF	Ulmus 'Frontier'	Frontier Elm	4	2.5"
VD	Viburnum dentatum	Arrowwood Viburnum	30	3 g

Wild Ridge LAWN & LANDSCAPE

www.wildridgelandscape.com

811 Know what's below. Call before you dig.

Crew Carwash

W Broadway

McCordsville, IN

DATE
6/15/22

REVISIONS

NORTH

SCALE IN FEET
0 20 40

SHEET TITLE
Landscape Plan

DESIGN
KR

ACCOUNT MANAGER
KR

SHEET NUMBER
1 of 1

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

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.

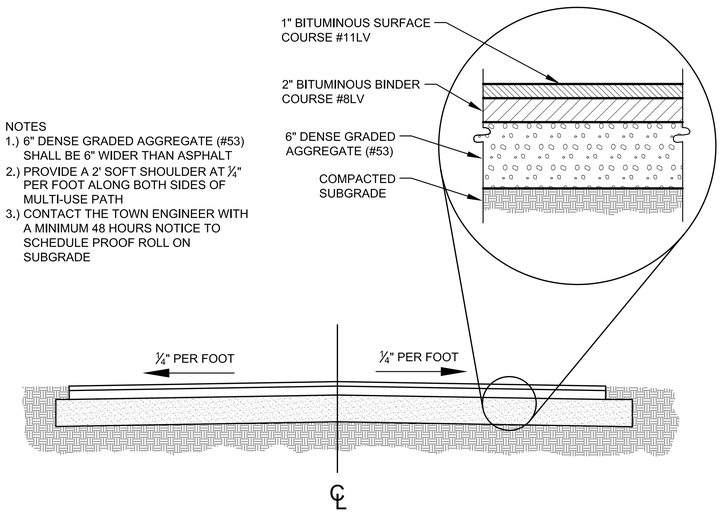
Compaction shall be continued until the Contractor has shown that the lime modified layer has a density not less than 100 percent within the special subgrade treatment zone and/or 95 percent below special subgrade treatment zone, of the maximum dry density.

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.

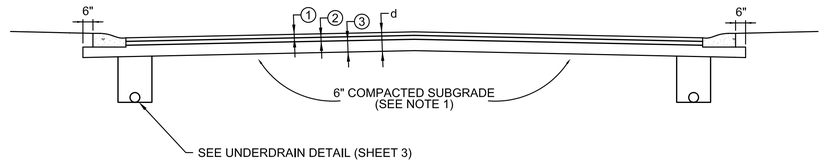
f) Finishing: When compaction of the lime modified soil is nearing completion, the surface shall be shaped to the required line, grades and cross section, and compaction continued until uniform and adequate compaction if obtained.

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.

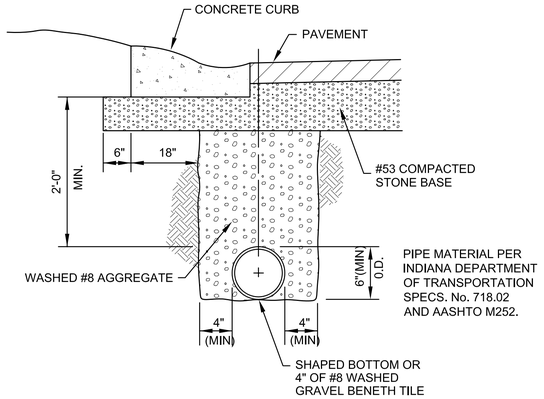
REVISIONS		
REV. NO.	DESCRIPTION	DATE

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



UNDERDRAIN 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.

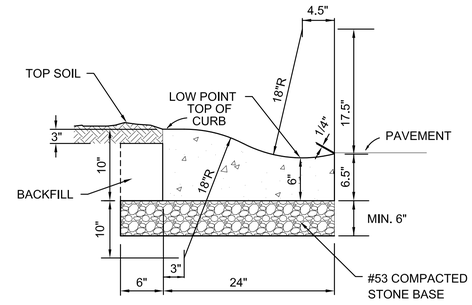
5. THE EXISTING PAVEMENT IS TO BE TACK COATED PRIOR TO THE LAYING OF NEW ASPHALT. TACK COAT IS TO BE APPLIED AS SPECIFIED IN THE LATEST INDOT SPECIFICATIONS, SECTIONS 409 AND 902.

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.

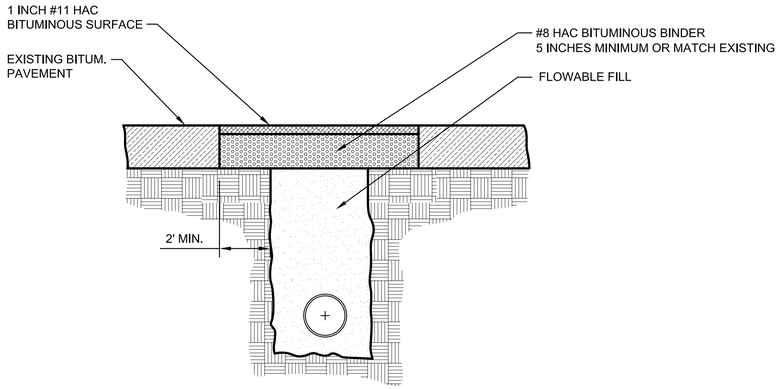
9. THE COMPRESSIVE STRENGTH OF THE FLOWABLE FILL IS NOT TO EXCEED 100 PSI AT 28 DAYS.



(TYPE I)

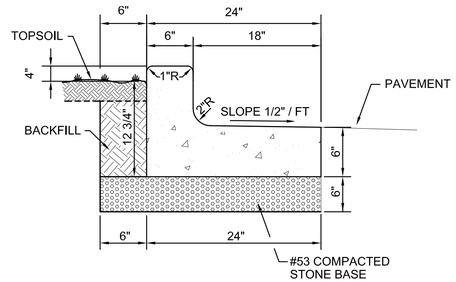
2' CONCRETE ROLL CURB & GUTTER

SCALE: NONE



ROAD CUT PATCH DETAIL

NOT TO SCALE



(TYPE II)

2' COMBINED CONCRETE CURB AND GUTTER

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:

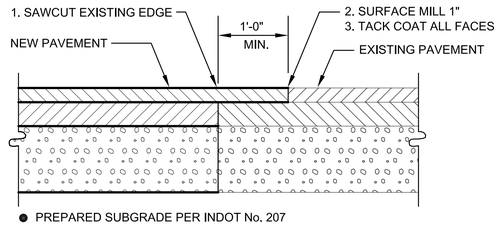
WIDTH(inches)	NO. OF POSTS	THICKNESS (inches) ALUMINUM SHEET
Up to 24"	1	0.080
25" to 30"	1	0.080
31" to 60"	2	0.100
61" and over	2	0.125

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.

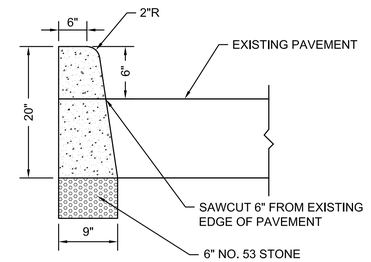
ROAD NAME SIGN DETAIL

SCALE: NONE



TYPICAL PAVEMENT TIE-IN

SCALE: NONE



CONCRETE CURB (BARRIER)

SCALE: NONE

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

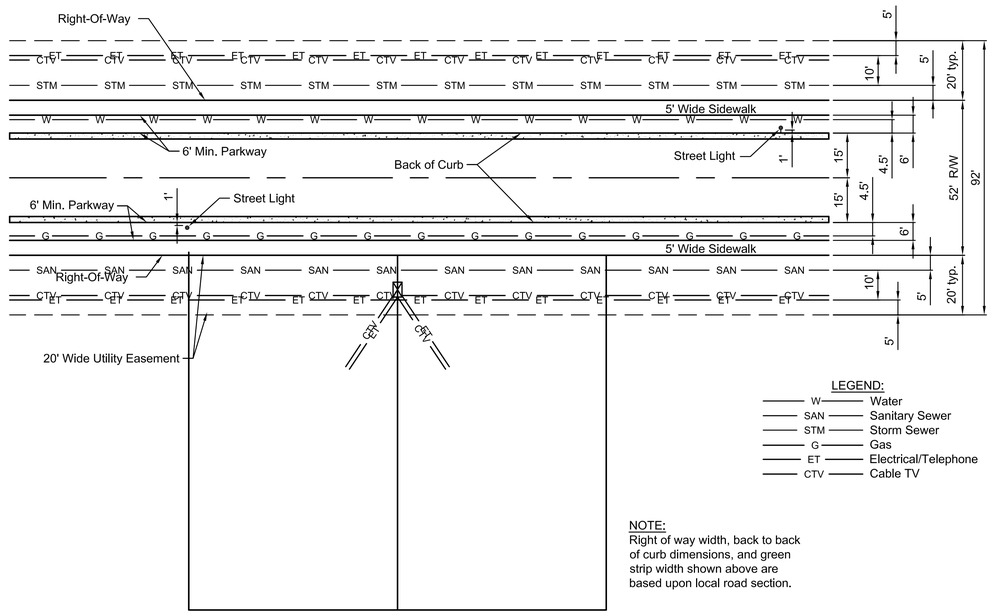
APPROVED — PUBLIC WORKS COMMISIONER — DATE 7/12/05

APPROVED — TOWN COUNCIL PRESIDENT — DATE 7/12/05

TOWN OF McCORDSVILLE

TOWN STANDARDS RIGHT-OF-WAY DETAILS

SHEET 3 OF 10



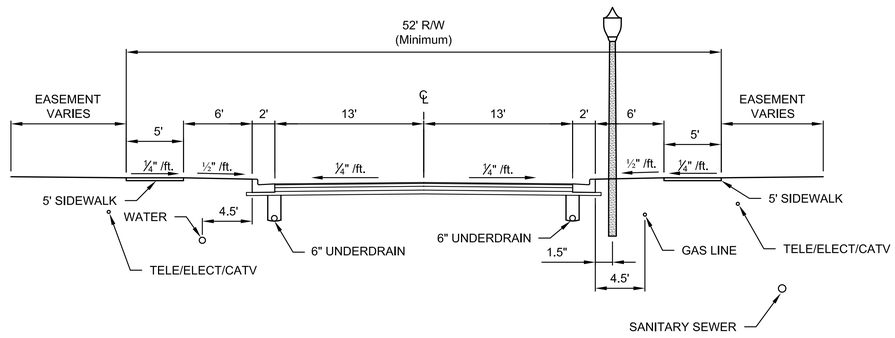
NOTE:
Right of way width, back to back of curb dimensions, and green strip width shown above are based upon local road section.

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	7/12/05 DATE
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

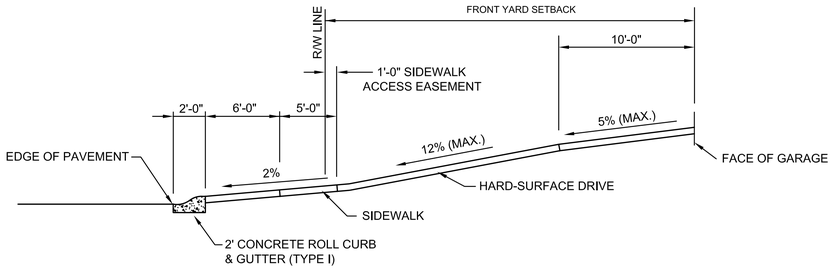
TOWN STANDARDS UTILITY LOCATION GUIDELINES

RESIDENTIAL DRIVES

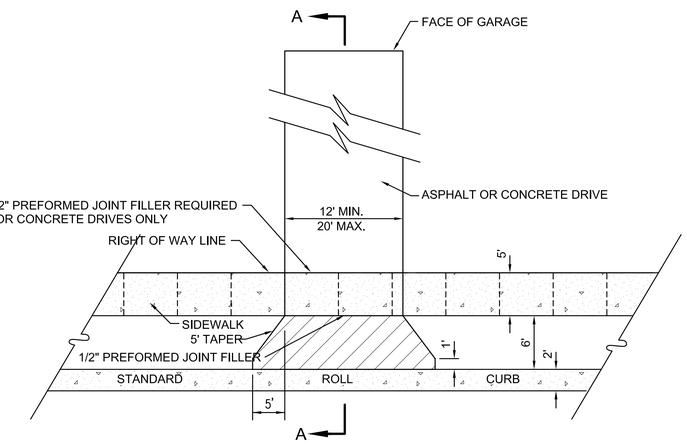
1.) THE MAXIMUM ALGEBRAIC DIFFERENCE IN GRADE FOR ANY 10 FOOT INTERVAL SHALL NOT EXCEED 8% FOR CREST VERTICAL CURVES. NOR 10% FOR SAG VERTICAL CURVES.

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"



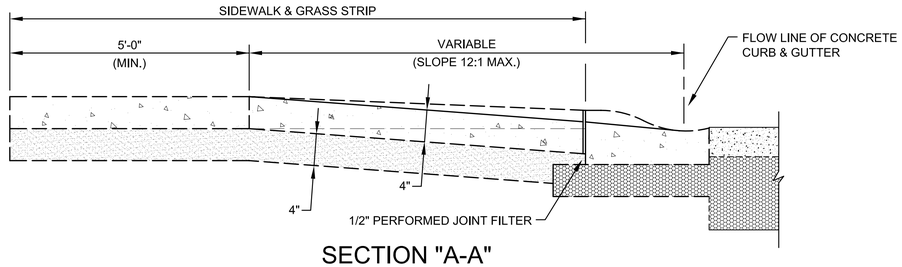
1. CROSS HATCHED AREAS SHALL BE EITHER 6" PLAIN CONCRETE OR 1" SURFACE ON 2" BITUMINOUS BASE ON 4" #53 COMPACTED AGGREGATE BASE, EXTENDING TO THE SIDEWALK OR R/W LINE WHICHEVER IS NEAREST TO THE ROADWAY.

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

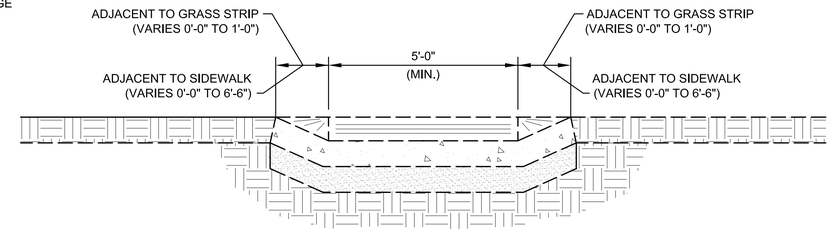
3. SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROPRIATE STANDARD AND SHALL BE CONTINUOUS ACROSS THE DRIVEWAY. SIDEWALK SECTION ACROSS DRIVEWAY SHALL BE SAME THICKNESS AS DRIVEWAY WITH A 6-INCH MINIMUM.

RESIDENTIAL DRIVEWAY DETAIL

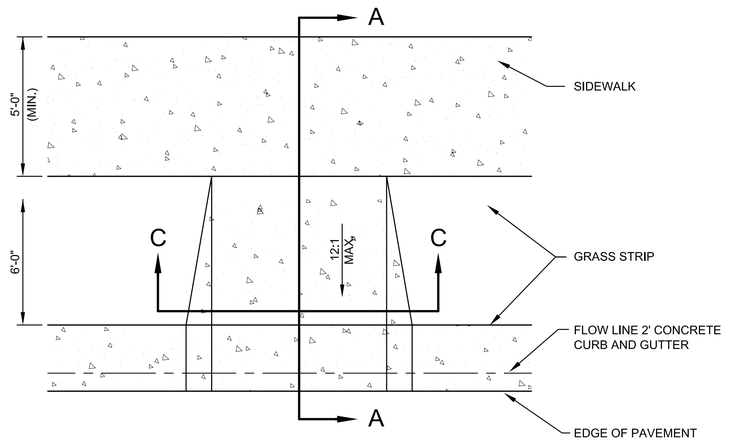
SCALE: NONE



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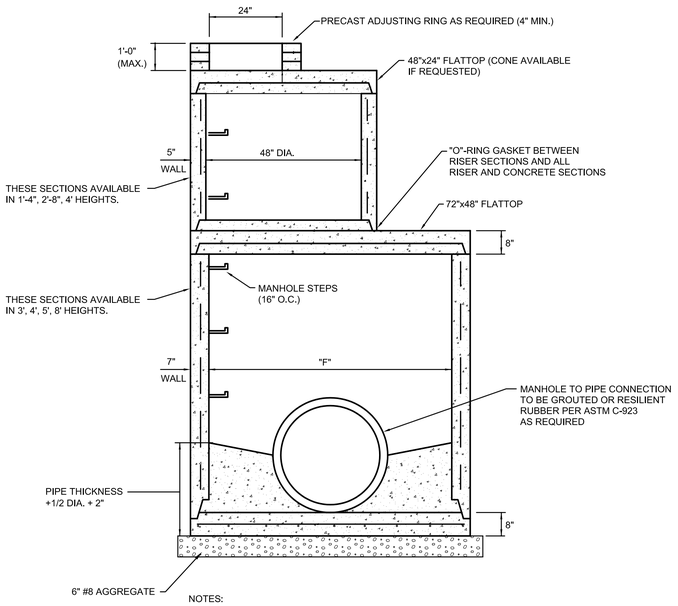
APPROVED	PUBLIC WORKS COMMISIONER	7/12/05 DATE
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

TOWN STANDARDS DRIVE WAY AND HANDICAP RAMP DETAILS

SHEET 5 OF 10



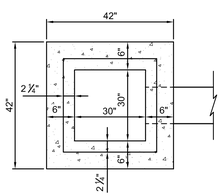
NOTES:

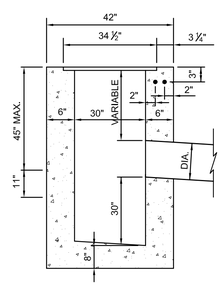
1.) MANHOLE CONFORMS TO A.S.T.M. C-478.

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





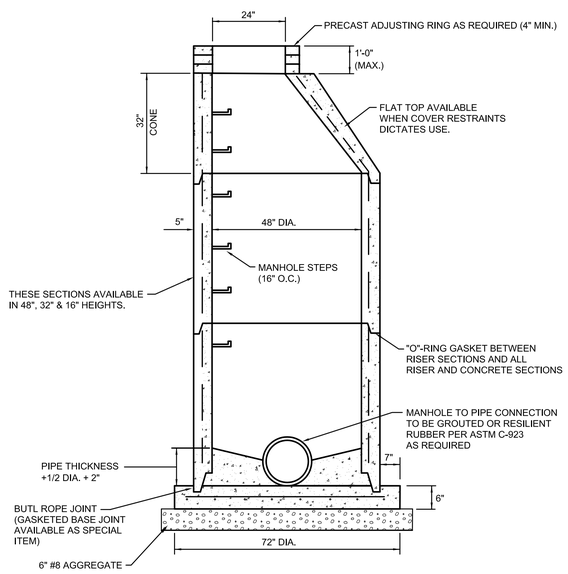
NOTE:

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.

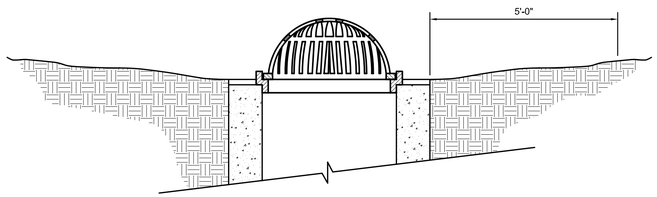
3.) Castings for inlets which drain open pavement areas without curbing shall be Neenah R-3402-E or as approved by the Town Engineer.

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

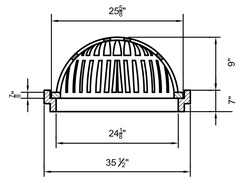
5.) Castings for use on inlets or manholes which drain swales or dry bottom detention basins shall be Neenah R-2560 or as approved by the Town Engineer.

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

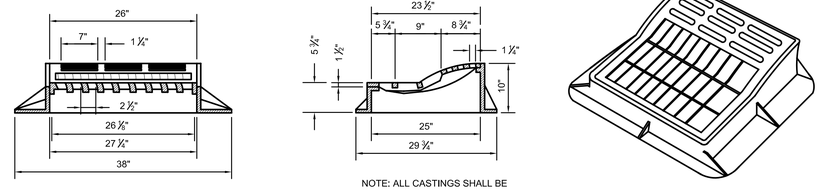
7.) All castings shall be stamped "DUMP NO WASTE".



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



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



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

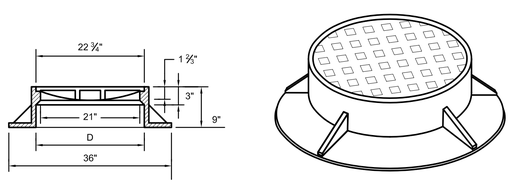
R-3501-T(L&R) NEENAH CURB INLET FRAME, GRATE & CURB BOX DETAIL
NOT TO SCALE

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		
REV. NO.	DESCRIPTION	DATE

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

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

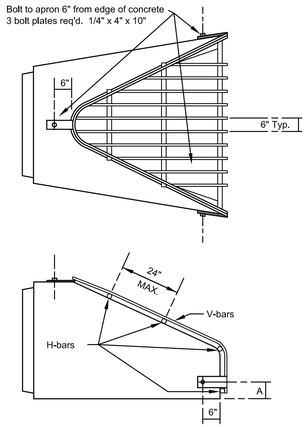
APPROVED — PUBLIC WORKS COMMISIONER — DATE 7/12/05

APPROVED — TOWN COUNCIL PRESIDENT — DATE 7/12/05

TOWN OF McCORDSVILLE

TOWN STANDARDS STORM SEWER STRUCTURE DETAILS

SHEET 6 OF 10

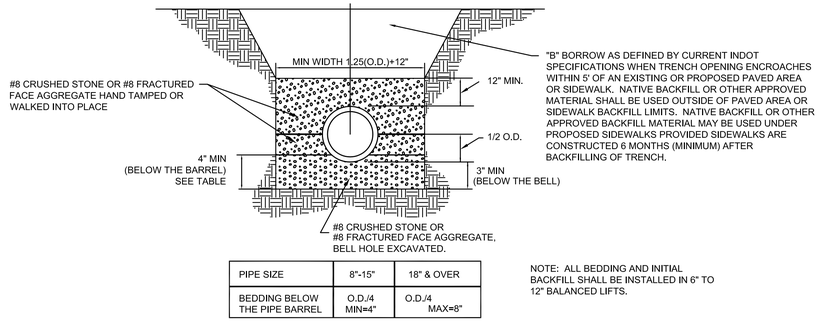


NOTES:

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

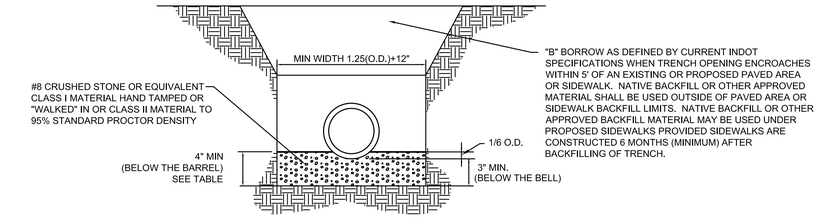


PIPE SIZE	8"-15"	18" & OVER
BEDDING BELOW THE PIPE BARREL	O.D./4 MIN=4"	O.D./4 MAX=8"

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"

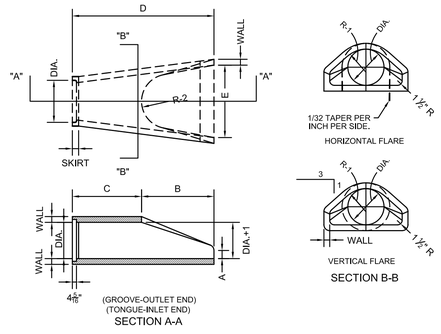
NOTE: ALL BEDDING AND INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS.

RIDGID PIPE (RCP) TRENCH DETAIL

NOT TO SCALE

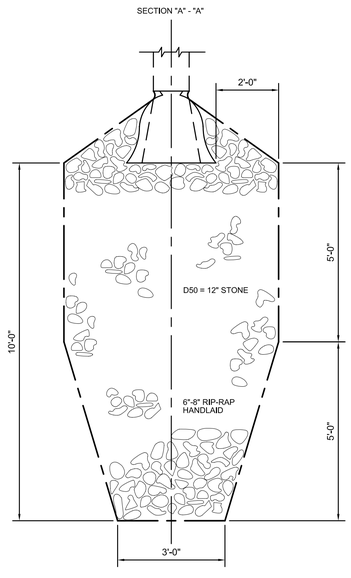
DIA.	WALL	G or T	WT. SEC.	A	B	C	D	E	DIA. +1	R-1	R-2	SKIRT
12	2	1 1/2	530	4	24	48 1/8	72 7/8	24	13	10 1/16	9	3 1/2
15	2 1/4	2	740	6	27	46	73	30	16	12 1/2	11	3 1/2
18	2 1/2	2 1/2	990	9	27	46	73	36	19	15 1/2	12	4
21	2 3/4	2 1/4	1280	9	35	38	73	42	22	16 1/8	13	4
24	3	2 1/2	1520	9 1/2	43 1/2	30	73 1/2	48	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.



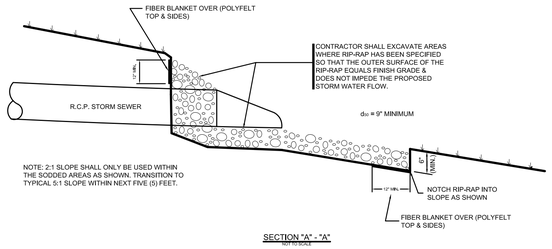
PRECAST CONCRETE END SECTION DETAIL

NOT TO SCALE



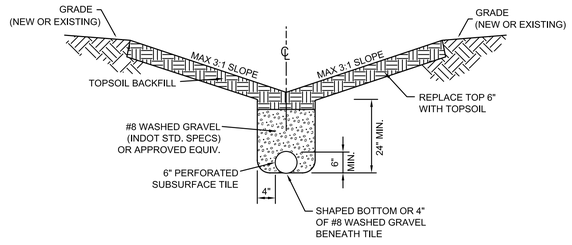
RIP-RAP DETAIL

NOT TO SCALE



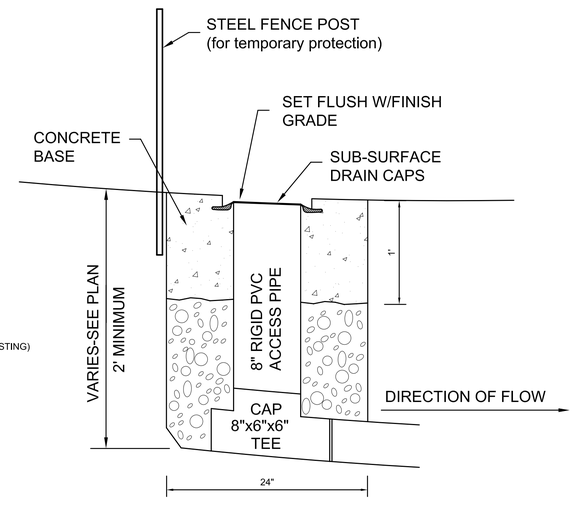
SECTION "A" - "A"
NOT TO SCALE

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

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

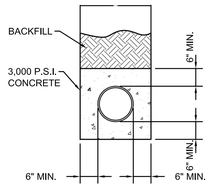
RECOMMEND FOR APPROVAL	DESIGN ENGINEER	7/12/05 DATE
APPROVED	PUBLIC WORKS COMMISIONER	7/12/05 DATE
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

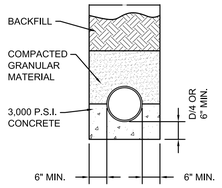
TOWN STANDARDS SANITARY SEWER SPECIFICATIONS

SHEET 8 OF 10

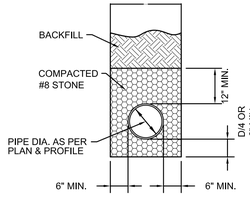
1. CONCRETE OR STONE BEDDING TO EXTEND TO UNDISTURBED TRENCH WALLS.
2. FOR PIPE DIA., REFER TO PLAN AND PROFILES.



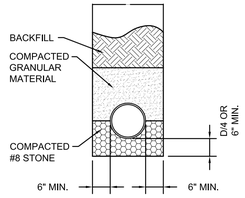
CONCRETE ENCASEMENT
CLASS "A-A"



CONCRETE CRADLE
CLASS "A"



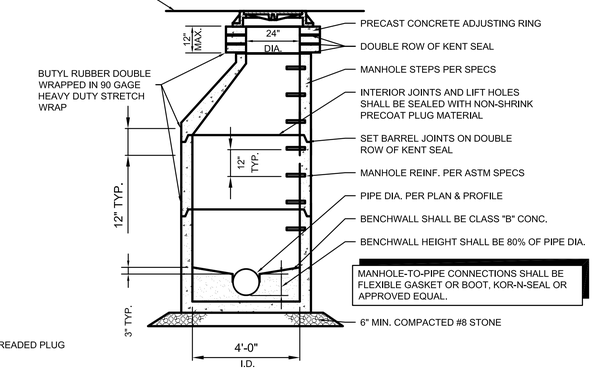
FLEXIBLE PIPE BEDDING
TYP. PVC



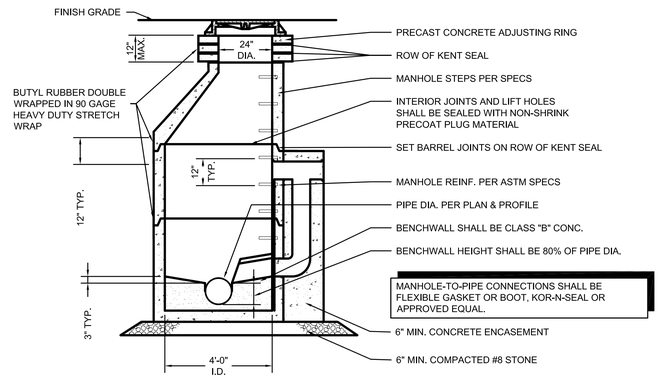
RIGID PIPE BEDDING
TYP. DI

PIPE BEDDING DETAILS
NOT TO SCALE

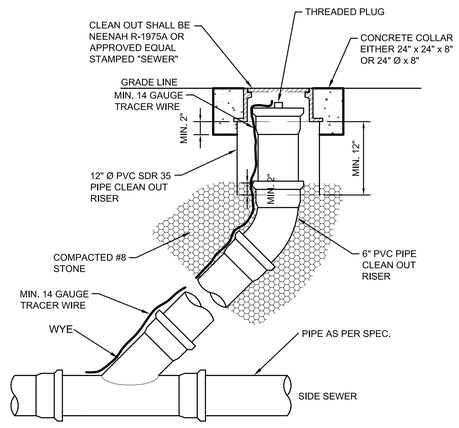
CASTING SHALL BE EITHER SELF-SEALING OR WATERTIGHT, (SEE PLAN & PROFILE SHEETS FOR CASTING TYPE). LIDS SHALL BE STAMPED "SANITARY SEWER" AND HAVE CLOSED PICKHOLES. FRAME SHALL BE SET ON ROW OF KENT SEAL. SEE MANHOLE SPECIFICATIONS FOR APPROVED CASTINGS.



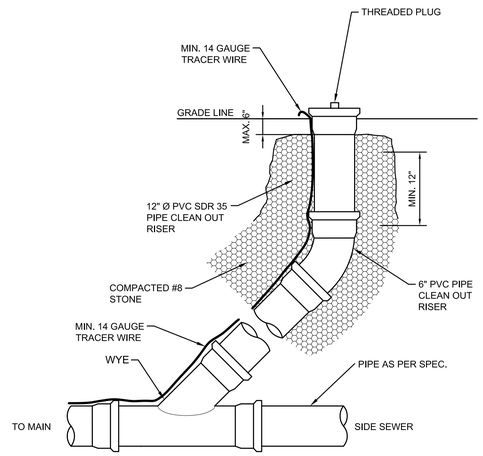
SANITARY MANHOLE
NOT TO SCALE



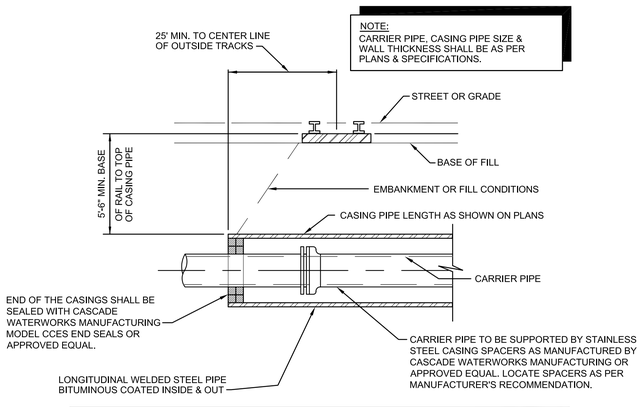
DROP SANITARY MANHOLE
NOT TO SCALE



CLEAN OUT TYPE II
SCALE: NONE

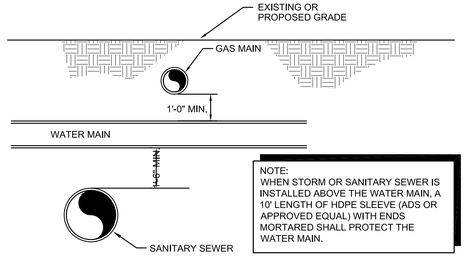


CLEAN OUT TYPE I
SCALE: NONE

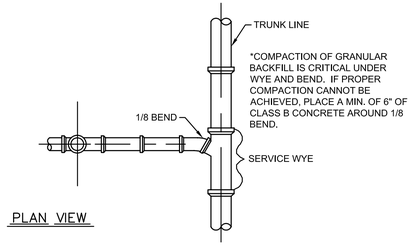


NOTE
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE I.N.D.O.T. STANDARD SPECIFICATIONS. WHERE NO PROCEDURES FOR A PARTICULAR PORTION OF THE WORK ARE GIVEN, THE RECOMMENDATIONS OF THE HORIZONTAL EARTH BORING AND PIPE JACKING MANUAL OR THE AMERICAN RAILWAY ENGINEERING ASSOCIATION SHALL BE FOLLOWED.

TYPICAL RAILROAD AND HIGHWAY BORING DETAIL
NOT TO SCALE

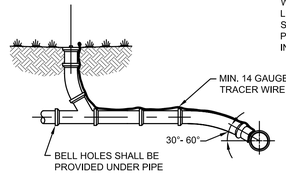


TYPICAL UTILITY CROSSING
NOT TO SCALE



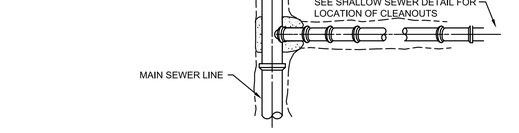
PLAN VIEW

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.

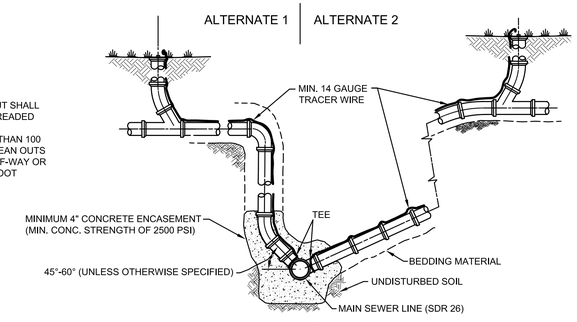


ELEVATION

SERVICE CONNECTION FOR SHALLOW SEWERS
LESS THAN 15' DEEP



PLAN VIEW



ELEVATION

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

REVISIONS		
REV. NO.	DESCRIPTION	DATE

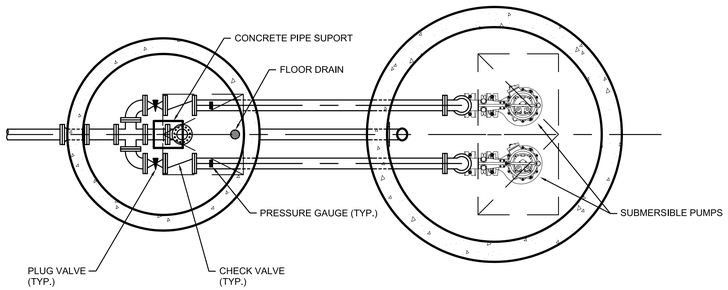
MARK J. WITSMAN REGISTERED No. 10100264 STATE OF INDIANA PROFESSIONAL ENGINEER

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

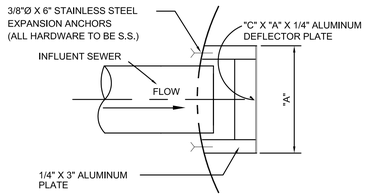
TOWN OF McCORDSVILLE

TOWN STANDARDS SANITARY SEWER DETAILS

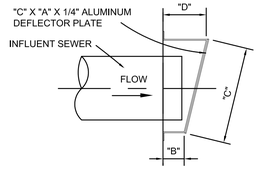
SHEET 9 OF 10



LIFT STATION - PLAN
SCALE: NONE



PLAN

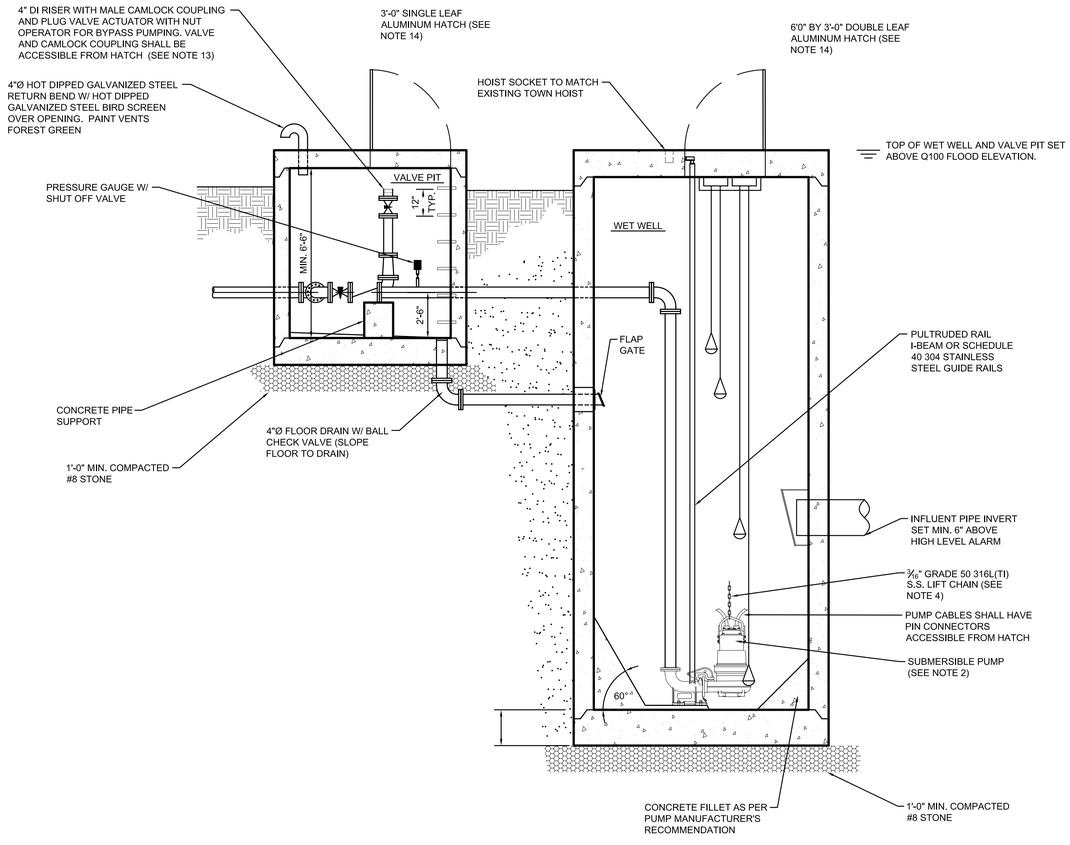


SECTION

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