FINAL ENGINEERING PLANS

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

MCCORDSVILLE, IN 46055

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UTILITY AND GOVERNING AGENCY CONTACTS

SERVICE / JURISDICTION	COMPANY / DEPT.	ADDRESS	PHONE NUMBER	CONTACT
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WATER	CITIZENS ENERGY GROUP/CWA AUTHORITY, INC	2150 DR MARTIN LUTHER KING JR ST., INDIANAPOLIS, IN 46202	(317) 927-4351	BRAD HOSTETLER
STREETS	McCORDSVILLE PUBLIC WORKS	6280 W 800 N McCORDSVILLE, IN 46055	(317) 335-3493	RON CRIDER
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PROJECT TEAM

ROLE	COMPANY	ADDRESS	PHONE NUMBER	CONTACT
DEVELOPER/OWNER	REBAR COMMERCIAL, LLC	8700 NORTH ST., STE 120, FISHERS, IN 46038	(317) 670-7997	SHELBY BOWEN
CIVIL ENGINEER	KIMLEY-HORN & ASSOCIATES, INC.	500 E. 96TH ST., STE 300, INDIANAPOLIS, IN 46240	(317) 218-9560	KARMEN DEATON, PE
LANDSCAPE ARCHITECT	KIMLEY-HORN & ASSOCIATES, INC.	500 E. 96TH ST., STE 300, INDIANAPOLIS, IN 46240	(317) 218-9560	MICHELE DYER, PLA
LAND SURVEYOR	CENTRAL STATES CONSULTING, LLC	23-B NORTH GREEN STREET, BROWNSBURG, IN 46112	(317) 858-8662	DONALD R. MOSSON

LEGAL DESCRIPTION

LOT 2 OF MCCORD SQUARE PHASE TWO PLAT, McCORDSVILLE, INDIANA, RECORDED AS INSTRUMENT NUMBER 202309145 IN THE HANCOCK COUNTY RECORDERS OFFICE.

LOCATION MAP

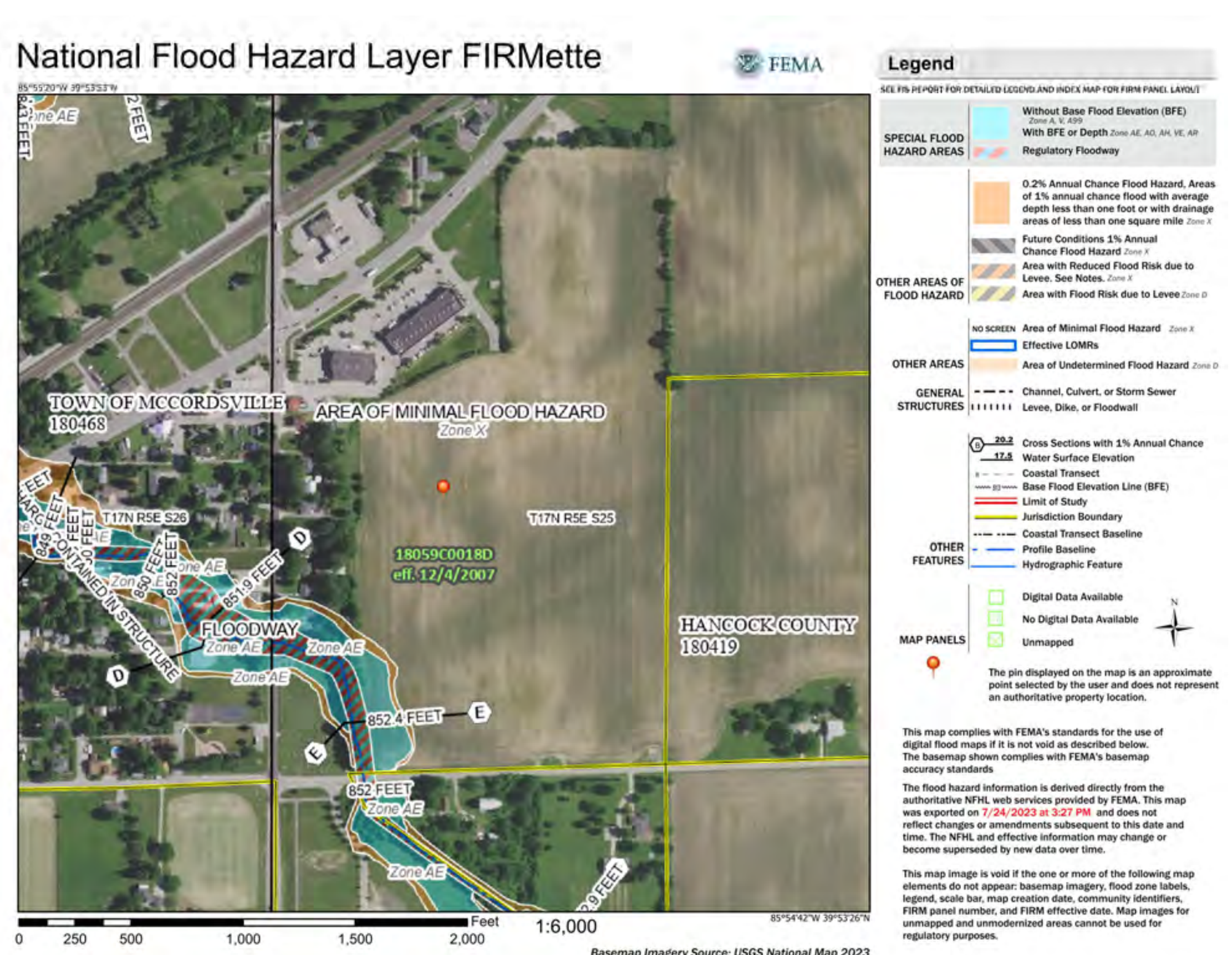
(NOT TO SCALE)

HANCOCK COUNTY

CONSTRUCTION OF A ±3,800 SF 2-STORY COMMERCIAL BUILDING ON ±0.2 AC. PROJECT IS IN SECTION 25 OF T17N, R5E IN THE TOWN OF McCORDSVILLE, HANCOCK COUNTY, INDIANA.

Sheet List Table

Sheet Number	Sheet Title
C0.0	TITLE SHEET
C1.0	GENERAL SPECIFICATIONS
C1.1	GENERAL NOTES
C2.0	EXISTING CONDITIONS AND DEMO PLAN
C3.0	SITE PLAN
C4.0	EROSION CONTROL PLAN
C4.1	EROSION CONTROL DETAILS
C4.2	SWPPP
C5.0	GRADING AND DRAINAGE PLAN
C6.0	UTILITY PLAN
C7.0	CONSTRUCTION DETAILS
L1.0	LANDSCAPE PLAN
L1.1	LANDSCAPE DETAILS
1-10	TOWN OF MCCORDSVILLE DETAILS



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REVISIONS		
No.	DATE	BY

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NOT APPROVED FOR CONSTRUCTION

REBAR DEVELOPMENT

TITLE SHEET

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE: 02/09/2024

KHA PROJECT NO. 170046010

SHEET NUMBER

C0.0

GENERAL NOTES

1. THE MUNICIPALITY REQUIREMENTS AND THE LATEST INDIANA DEPARTMENT OF TRANSPORTATION (INDOT) STANDARD SPECIFICATIONS INCLUDING CHANGES SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE A PART OF THIS PLAN UNLESS OTHERWISE NOTED. WHEN CONFLICTS ARISE BETWEEN ABOVE LISTED SPECIFICATIONS, THE MORE STRINGENT SHALL TAKE PRECEDENCE.
2. STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, AND RECURRING SPECIAL PROVISIONS, CONSTRUCTION PLANS, AND SUBSEQUENT DETAILS ARE ALL TO BE CONSIDERED AS PART OF THE CONTRACT. INCIDENTAL ITEMS OR ACCESSORIES NECESSARY TO COMPLETE THIS WORK MAY NOT BE SPECIFICALLY NOTED, BUT ARE CONSIDERED A PART OF THIS CONTRACT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE UTILITY COMPANIES LOCATE THEIR FACILITIES IN THE FIELD PRIOR TO CONSTRUCTION AND SHALL ALSO BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THESE FACILITIES. THE ENGINEER DOES NOT WARRANT THE LOCATION OF ANY EXISTING UTILITIES SHOWN ON THE PLAN. THE CONTRACTOR SHALL CALL INDIANA UTILITIES PROTECTION SERVICE (811 OR 1.800.362.2764) AND THE MUNICIPALITY FOR UTILITY LOCATIONS.
4. NO CONSTRUCTION PLANS SHALL BE USED FOR CONSTRUCTION UNLESS SPECIFICALLY MARKED ”FOR CONSTRUCTION” PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AFFECTING THE WORK WITH THE ACTUAL CONDITIONS AT THE JOB SITE. IN ADDITION, THE CONTRACTOR MUST VERIFY THE SURVEYOR'S LINE AND GRADE STAKES. IF THERE ARE ANY DISCREPANCIES WITH WHAT IS SHOWN ON THE CONSTRUCTION PLANS, HE/SHE MUST IMMEDIATELY REPORT THEM TO THE SURVEYOR OR ENGINEER BEFORE DOING ANY WORK. OTHERWISE, THE CONTRACTOR ASSUMES FULL RESPONSIBILITY. IN THE EVENT OF DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, SPECIFICATIONS, AND/OR SPECIAL DETAILS, THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTION FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSIONS OR DISCREPANCIES. FAILING TO SECURE SUCH INSTRUCTION, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT THE CONTRACTOR'S OWN RISK AND EXPENSE. IN THE EVENT OF ANY DOUBT OR QUESTIONS ARISING WITH RESPECT TO THE TRUE MEANING OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE DECISION OF THE ENGINEER SHALL BE FINAL AND CONCLUSIVE.
5. NOTIFICATION OF COMMENCING CONSTRUCTION:

5.1. THE CONTRACTOR SHALL NOTIFY AFFECTED GOVERNMENTAL AGENCIES IN WRITING AT LEAST THREE FULL WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL NOTIFY, AS NECESSARY, ALL TESTING AGENCIES, THE MUNICIPALITY, AND THE OWNER SUFFICIENTLY IN ADVANCE OF CONSTRUCTION.

5.2. FAILURE OF THE CONTRACTOR TO ALLOW PROPER NOTIFICATION TIME WHICH RESULTS IN THE TESTING COMPANIES TO BE UNABLE TO VISIT THE SITE AND PERFORM TESTING WILL CAUSE THE CONTRACTOR TO SUSPEND THE OPERATION TO BE TESTED UNTIL THE TESTING AGENCY CAN SCHEDULE TESTING OPERATIONS. COST OF SUSPENSION OF WORK SHALL BE BORNE BY THE CONTRACTOR.

6. ALL CONTRACTORS SHALL KEEP ACCESS AVAILABLE AT ALL TIMES FOR ALL EMERGENCY TRAFFIC, AS DIRECTED BY THE MUNICIPALITY.
7. ALL PROPOSED GRADES SHOWN ON PLANS ARE FINISHED SURFACE ELEVATIONS, UNLESS NOTED OTHERWISE.
8. THE CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES UNTIL THEY ARE NO LONGER NEEDED. ANY STAKES DESTROYED OR DISTURBED BY THE CONTRACTOR PRIOR TO THEIR USE SHALL BE RESET BY THE SURVEYOR AT THE CONTRACTOR'S EXPENSE.
9. ALL FRAMES AND LIDS FOR STORM AND SANITARY SEWERS, VALVE VAULT COVERS, FIRE HYDRANTS, AND B-BOXES ARE TO BE ADJUSTED TO MEET FINISHED GRADE. THIS ADJUSTMENT IS TO BE MADE BY THE SEWER AND WATER CONTRACTOR, AND THE COST IS TO BE CONSIDERED INCIDENTAL. THESE ADJUSTMENTS TO FINISHED GRADE WILL NOT ALLEVIATE THE CONTRACTOR FROM ANY ADDITIONAL ADJUSTMENTS AS REQUIRED BY THE MUNICIPALITY UPON FINAL INSPECTION OF THE PROJECT. FINAL GRADES MAY BE DETERMINED BY THE MUNICIPALITY AND MAY VARY FROM PLAN GRADE.
10. ANY EXISTING SIGNS, LIGHT STANDARDS, AND UTILITY POLES THAT INTERFERE WITH CONSTRUCTION OPERATIONS AND ARE NOT NOTED ON THE PLANS FOR DISPOSAL SHALL BE REMOVED AND RESET BY THE CONTRACTOR AT HIS/HER OWN EXPENSE, AS DIRECTED BY THE ENGINEER. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS/HER OWN EXPENSE TO THE SATISFACTION OF THE OWNER. ANY SIGNS NOT REQUIRED TO BE RESET SHALL BE DELIVERED TO THE RESPECTIVE OWNERS.
11. REMOVAL OF SPECIFIED ITEMS, INCLUDING BUT NOT LIMITED TO, PAVEMENT, SIDEWALK, CURB, CURB AND GUTTER, CULVERTS, ETC., SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR AT THE CONTRACTOR'S OWN EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR ANY PERMITS REQUIRED FOR SUCH DISPOSAL.
12. ANY FIELD TILES ENCOUNTERED SHALL BE INSPECTED BY THE MUNICIPALITY. THE DRAIN TILE SHALL BE CONNECTED TO THE STORM SEWER SYSTEM AND A RECORD KEPT BY THE CONTRACTOR OF THE LOCATIONS AND TURNED OVER TO THE MUNICIPALITY UPON COMPLETION OF THE PROJECT. THE COST OF THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT, AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
13. BEFORE ACCEPTANCE, ALL WORK SHALL BE INSPECTED BY THE MUNICIPALITY, AS NECESSARY.
14. EASEMENTS FOR THE EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE, AND UTILITIES WITHIN PUBLIC RIGHT-OF-WAYS ARE SHOWN ON THE PLANS ACCORDING TO AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THESE UTILITY LINES AND THEIR PROTECTION FROM DAMAGE DUE TO CONSTRUCTION OPERATIONS. IF EXISTING UTILITY LINES OF ANY NATURE ARE ENCOUNTERED WHICH CONFLICT WITH LOCATIONS OF THE NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
15. OWNER SHALL OBTAIN EASEMENTS AND APPROVAL OF PERMITS NECESSARY TO FACILITATE CONSTRUCTION OF THE PROPOSED UTILITIES. THE CONTRACTOR, HOWEVER, SHALL FURNISH ALL REQUIRED BONDS AND EVIDENCE OF INSURANCE NECESSARY TO SECURE THESE PERMITS AND EASEMENTS.
16. THE CONTRACTORS SHALL PLAN THEIR WORK BASED ON THEIR OWN BORINGS, EXPLORATIONS, AND OBSERVATIONS TO DETERMINE SOIL CONDITIONS AT THE LOCATION OF THE PROPOSED WORK.
17. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFETY ON THE JOB PER OSHA REGULATIONS.
18. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE PROPER BARRICADING, WARNING DEVICES, AND THE SAFE MANAGEMENT OF TRAFFIC WITHIN THE AREA OF CONSTRUCTION. ALL SUCH DEVICES AND THEIR INSTALLATION SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS, LATEST EDITION, AND IN ACCORDANCE WITH THE MUNICIPAL ORDINANCES.
19. THE CONTRACTOR SHALL COLLECT AND REMOVE ALL CONSTRUCTION DEBRIS, EXCESS MATERIALS, TRASH, OIL AND GREASE RESIDUE, MACHINERY, TOOLS, AND OTHER MISCELLANEOUS ITEMS WHICH WERE NOT PRESENT PRIOR TO PROJECT COMMENCEMENT AT NO ADDITIONAL EXPENSE TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ANY AND ALL PERMITS NECESSARY FOR THE HAULING AND DISPOSAL REQUIRED FOR CLEANUP, AS DIRECTED BY THE ENGINEER OR OWNER. BURNING ON THE SITE IS NOT PERMITTED.
20. NO UNDERGROUND WORK SHALL BE COVERED UNTIL IT HAS BEEN APPROVED BY THE MUNICIPALITY. APPROVAL TO PROCEED MUST BE OBTAINED FROM THE MUNICIPALITY PRIOR TO INSTALLING PAVEMENT BASE, BINDER, AND SURFACE, AND PRIOR TO POURING ANY CONCRETE AFTER FORMS HAVE BEEN SET, AS NECESSARY.
21. ALL EXISTING UTILITIES OR IMPROVEMENTS, INCLUDING WALKS, CURBS, PAVEMENT, AND PARKWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE PROMPTLY RESTORED TO THEIR RESPECTIVE ORIGINAL CONDITION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNLESS A PAY ITEM IS LISTED ON THE BID LIST.
22. AT THE CLOSE OF EACH WORKING DAY AND AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS.
23. TREES NOT MARKED FOR REMOVAL SHALL BE CONSIDERED AS DESIGNATED TO BE SAVED AND SHALL BE PROTECTED, AS PER MUNICIPAL STANDARDS.
24. LIMB PRUNING SHALL BE PERFORMED UNDER THE SUPERVISION OF AN APPROVED LANDSCAPE ARCHITECT, FORESTER, OR ARBORIST AND SHALL BE UNDERTAKEN IN A TIMELY FASHION SO AS NOT TO INTERFERE WITH CONSTRUCTION. ALL LIMBS, BRANCHES, AND OTHER DEBRIS RESULTING FROM THIS WORK SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR AT HIS/HER OWN EXPENSE. ALL CUTS OVER ONE (1) INCH IN DIAMETER SHALL BE PAINTED WITH AN APPROVED TREE PAINT.
25. WHERE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, EXISTING DRAINAGE STRUCTURES AND PIPE SHALL BE CLEANED OF DEBRIS AND PATCHED AS NECESSARY TO ASSURE INTEGRITY OF THE STRUCTURE. THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE MERGED INTO THE CONTRACT UNIT PRICE EACH FOR STRUCTURES AND CONTRACT UNIT PRICE PER LINEAL FOOT FOR STORM SEWERS, WHICH SHALL BE PAYMENT IN FULL FOR CLEANING, PATCHING, REMOVAL, AND DISPOSAL OF DEBRIS AND DIRT. DRAINAGE STRUCTURES AND STORM SEWERS CONSTRUCTED AS PART OF THIS PROJECT SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS EXPENSE. NO EXTRA PAYMENT WILL BE MADE FOR CLEANING STRUCTURES OR STORM SEWERS CONSTRUCTED AS PART OF THIS PROJECT.
26. HYDRANTS SHALL NOT BE FLUSHED DIRECTLY ONTO THE ROAD SUBGRADES. WHENEVER POSSIBLE, HOSES SHALL BE USED TO DIRECT THE WATER INTO LOT AREAS OR THE STORM SEWER SYSTEM, IF AVAILABLE. DAMAGE TO THE ROAD SUBGRADE OR LOT GRADING DUE TO EXCESSIVE WATER SATURATION AND/OR EROSION FROM HYDRANT FLUSHING, OR FROM LEAKS IN THE WATER DISTRIBUTION SYSTEM, WILL BE REPAIRED BY THE CONTRACTOR FLUSHING OR USING THE HYDRANT AT THE CONTRACTOR'S OWN EXPENSE. LEAKS IN THE WATER DISTRIBUTION SYSTEM SHALL BE THE RESPONSIBILITY OF THE WATER MAIN CONTRACTOR AND SHALL BE REPAIRED AT HIS EXPENSE.
27. AFTER THE STORM SEWER SYSTEM HAS BEEN CONSTRUCTED, THE CONTRACTOR SHALL PLACE EROSION CONTROL AT LOCATIONS INDICATED BY THE ENGINEER. THE PURPOSE OF THE EROSION CONTROL WILL BE TO MINIMIZE THE AMOUNT OF SILTATION THAT NORMALLY WOULD ENTER THE STORM SEWER SYSTEM FROM ADJACENT AND/OR UPSTREAM DRAINAGE AREAS.
28. THE TRENCHES FOR PIPE INSTALLATION SHALL BE KEPT DRY AT ALL TIMES DURING PIPE PLACEMENT. APPROPRIATE FACILITIES TO MAINTAIN THE DRY TRENCH SHALL BE PROVIDED BY THE CONTRACTOR, AND THE COST OF SUCH SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR THE ITEM. PLANS FOR THE SITE DEWATERING, IF EMPLOYED, SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR DEWATERING DURING CONSTRUCTION UNLESS APPROVED IN WRITING BY THE OWNER.
29. EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH IDEM REGULATIONS AND STANDARDS FOR SOIL EROSION AND SEDIMENTATION CONTROL AND SHALL BE MAINTAINED BY THE CONTRACTOR AND REMAIN IN PLACE UNTIL A SUITABLE GROWTH OF GRASS, ACCEPTABLE TO THE ENGINEER, HAS DEVELOPED.

EROSION CONTROL NOTES

1. CONSTRUCTION ENTRANCE SHALL BE LOCATED SO AS TO PROVIDE THE LEAST AMOUNT OF DISTURBANCE TO THE FLOW OF TRAFFIC IN AND OUT OF THE SITE. ADDITIONALLY, CONSTRUCTION ENTRANCE SHALL BE LOCATED TO COINCIDE WITH THE PHASING OF THE PAVEMENT REPLACEMENT.
2. POST CONSTRUCTION STORM WATER POLLUTION CONTROL MEASURES INCLUDE STABILIZATION BY PERMANENT PAVING, DRAINAGE SYSTEM STRUCTURE, OR LANDSCAPING.
3. TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE. AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. OTHER BMP'S SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
4. BMP'S HAVE BEEN LOCATED AS INDICATED IN THESE PLANS IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE: SILT FENCES LOCATED AT TOE OF SLOPE AND INLET PROTECTION FOR INLETS RECEIVING SEDIMENT FROM SITE RUN-OFF

DEMOLITION NOTES

1. THE INTENT OF THE DEMOLITION PLAN IS TO DEPICT EXISTING FEATURES THAT ENCUMBER THE PROPOSED CONSTRUCTION AREA AND ARE SCHEDULED FOR REMOVAL. SOME INCIDENTAL ITEMS MAY HAVE BEEN INADVERTENTLY OMITTED FROM THE PLAN. THE CONTRACTOR IS ENCOURAGED TO THOROUGHLY INSPECT THE SITE AS WELL AS REVIEW THE PLANS AND SPECIFICATIONS PRIOR TO SUBMITTING PRICING. CONTRACTOR WILL NOT RECEIVE ADDITIONAL COMPENSATION FOR INCIDENTAL ITEMS NOT SHOWN ON THE DEMOLITION PLAN.
2. THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO COMMENCING ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES AND FIELD VERIFY ALL UNDERGROUND UTILITIES.
3. THE CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO THE EXISTING BUILDING AT ALL TIMES. UTILITY SERVICES SHALL NOT BE INTERRUPTED WITHOUT APPROVAL FROM THE CONSTRUCTION MANAGER.
4. CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY DEMOLITION PERMITS.
5. THE CONTINUOUS ACCESS SHALL BE MAINTAINED FOR THE TRUCKS AT ALL TIMES DURING DEMOLITION OF THE EXISTING FACILITIES.
6. CONTRACTOR MAY LIMIT SAW-CUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THESE CONSTRUCTION PLANS BUT IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, ETC., THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR.
7. THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES OR PRIOR TO ANY FURTHER DEMOLITION. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
8. THE CONTRACTOR SHALL USE DUE CARE IN HAULING DEBRIS FROM SITE TO ENSURE THE SAFETY OF THE PUBLIC.
9. DAMAGE TO ALL EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
10. CONTRACTOR SHALL LIMIT ALL DEMOLITION ACTIVITIES TO THOSE AREAS DELINEATED ON THE CONSTRUCTION DRAWINGS UNLESS OTHERWISE DIRECTED BY THE CONSTRUCTION MANAGER.
11. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING AIRBORNE DUST AND POLLUTANTS BY USING WATER SPRINKLING OR OTHER SUITABLE MEANS OF CONTROL.
12. CONTRACTOR TO USE CARE IN HANDLING DEBRIS FROM SITE TO ENSURE THE SAFETY OF THE PUBLIC. HAUL ROUTE TO BE CLOSELY MONITORED FOR DEBRIS OR MATERIALS TRACKED ONTO ADJOINING ROADWAYS, ETC. ROADWAYS AND WALKWAYS TO BE CLEARED DAILY OR AS NECESSARY TO MAINTAIN PUBLIC SAFETY.
13. DEWATERING SHOULD BE ANTICIPATED AND INCLUDED. DEWATERING SHALL BE DONE IN ACCORDANCE WITH LOCAL AND REGIONAL REQUIREMENTS.

EARTHWORK NOTES

1. GENERAL

1.1. ALL EARTHWORK OPERATIONS TO CONFORM TO GEOTECHNICAL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.

1.2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE SOIL AND GROUNDWATER CONDITIONS AT THE SITE.

1.3. ANY QUANTITIES IN THE BID PROPOSAL ARE INTENDED AS A GUIDE FOR THE CONTRACTOR'S USE IN DETERMINING THE SCOPE OF THE COMPLETED PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALL MATERIAL QUANTITIES AND APPRISE HIMSELF/HERSELF OF ALL SITE CONDITIONS. THE CONTRACT PRICE SUBMITTED BY THE CONTRACTOR SHALL BE CONSIDERED AS LUMP SUM FOR THE COMPLETE PROJECT. NO CLAIMS FOR EXTRA WORK WILL BE RECOGNIZED.

1.4. THE CONTRACTOR WILL NOTE THAT THE ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS ARE FINISHED GRADE AND SUBGRADE ELEVATIONS (AS NOTED) AND THAT PAVEMENT THICKNESS, TOPSOIL, ETC., MUST BE ACCOUNTED FOR.

1.5. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND PREVENT STORMWATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS. THE FAILURE TO PROVIDE PROPER DRAINAGE WILL NEGATE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF. FINAL GRADES SHALL BE PROTECTED AGAINST DAMAGE FROM EROSION, SEDIMENTATION, AND TRAFFIC.

1.6. PLANS FOR THE SITE DEWATERING, IF EMPLOYED, SHALL BE SUBMITTED AND APPROVED PRIOR TO IMPLEMENTATION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR DEWATERING DURING CONSTRUCTION.

1.7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. THE INITIAL ESTABLISHMENT OF EROSION CONTROL PROCEDURES AND THE PLACEMENT OF SILT AND FILTER FENCING, ETC., TO PROTECT ADJACENT PROPERTY, ETC., SHALL OCCUR BEFORE GRADING BEGINS.

1.8. PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES, THE CONTRACTOR SHALL ERECT A CONSTRUCTION FENCE AROUND ANY TREE DESIGNATED TO BE PRESERVED. SAID FENCE SHALL BE PLACED IN A CIRCLE CENTERED AROUND THE TREE, THE DIAMETER OF WHICH SHALL BE SUCH THAT THE ENTIRE DRIP ZONE (EXTENT OF FURTHEST EXTENDING BRANCHES) SHALL BE WITHIN THE FENCE LIMITS. THE EXISTING GRADE WITHIN THE FENCED AREA SHALL NOT BE DISTURBED.

1.9. IF LANDSCAPE PLANTINGS ARE WITHIN OR ADJACENT TO AREAS WHERE LIME STABILIZATION OCCURS, CONTRACTOR SHALL FULLY REMOVE SOIL CONTAINING LIME STABILIZATION AND REPLACE WITH HIGH QUALITY PLANTING SOIL.

2. TOPSOIL EXCAVATION INCLUDES:

2.1. EXCAVATION OF TOPSOIL AND OTHER STRUCTURALLY UNSUITABLE MATERIALS WITHIN THOSE AREAS THAT WILL REQUIRE EARTH EXCAVATION OR COMPACTED EARTH FILL MATERIAL. EXISTING VEGETATION SHALL BE REMOVED PRIOR TO STRIPPING TOPSOIL OR FILLING AREAS.

2.2. PLACEMENT OF EXCAVATED MATERIAL IN OWNER-DESIGNATED AREAS FOR FUTURE USE WITHIN AREAS TO BE LANDSCAPED AND THOSE AREAS NOT REQUIRING STRUCTURAL FILL MATERIAL. PROVIDE NECESSARY EROSION CONTROL MEASURES FOR STOCKPILE.

2.3. TOPSOIL STOCKPILED FOR RESPREAD SHALL BE FREE OF CLAY AND SHALL NOT CONTAIN ANY OF THE TRANSITIONAL MATERIAL BETWEEN THE TOPSOIL AND CLAY. THE TRANSITIONAL MATERIAL SHALL BE USED IN NON-STRUCTURAL FILL AREAS OR DISPOSED OF OFF-SITE.

2.4. TOPSOIL RESPREAD SHALL INCLUDE HAULING AND SPREADING OF TOPSOIL DIRECTLY OVER AREAS TO BE LANDSCAPED WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE OWNER.

3. EARTH EXCAVATION INCLUDES:

3.1. EXCAVATION OF SUBSURFACE MATERIALS WHICH ARE SUITABLE FOR USE AS STRUCTURAL FILL. THE EXCAVATION SHALL BE TO WITHIN A TOLERANCE OF 0.1 FEET OF THE PLAN SUBGRADE ELEVATIONS WHILE MAINTAINING PROPER DRAINAGE. THE TOLERANCE WITHIN PAVEMENT AREAS SHALL BE SUCH THAT THE EARTH MATERIALS SHALL ”BALANCE” DURING THE FINE GRADING OPERATION.

3.2. PLACEMENT OF SUITABLE MATERIALS SHALL BE WITHIN THOSE AREAS REQUIRING STRUCTURAL FILL IN ORDER TO ACHIEVE THE PLAN SUBGRADE ELEVATIONS TO WITHIN A TOLERANCE OF 0.1 FEET. THE FILL MATERIALS SHALL BE PLACED IN LOOSE LIFTS THAT SHALL NOT EXCEED EIGHT (8) INCHES IN THICKNESS, AND THE WATER CONTENT SHALL BE ADJUSTED IN ORDER TO ACHIEVE REQUIRED COMPACTION.

3.3. STRUCTURAL FILL MATERIAL MAY BE PLACED WITHIN THOSE PORTIONS OF THE SITE NOT REQUIRING STRUCTURAL FILL, WITHIN SIX (6) INCHES OF THE PLAN FINISHED GRADE ELEVATION. IN AREAS REQUIRING STRUCTURAL FILL, HOWEVER, THIS MATERIAL SHALL NOT BE PLACED OVER TOPSOIL OR OTHER UNSUITABLE MATERIALS UNLESS SPECIFICALLY DIRECTED BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.

3.4. COMPACTION OF SUITABLE MATERIALS SHALL BE TO AT LEAST 93% OF THE MODIFIED PROCTOR DRY DENSITY WITHIN PROPOSED PAVEMENT AREAS, SIDEWALK, ETC. COMPACTION SHALL BE AT LEAST 95% OF THE MODIFIED PROCTOR WITHIN PROPOSED BUILDING PAD AREAS OR AS RECOMMENDED BY THE GEOTECHNICAL REPORT.

4. UNSUITABLE MATERIAL: UNSUITABLE MATERIALS SHALL BE CONSIDERED MATERIAL THAT IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION, AND IS ENCOUNTERED BELOW NORMAL TOPSOIL DEPTHS AND THE PROPOSED SUBGRADE ELEVATION. THE DECISION TO REMOVE SAID MATERIAL AND TO WHAT EXTENT SHALL BE MADE BY THE GEOTECHNICAL ENGINEER OR SOILS TESTING AGENCY WITH THE CONCURRENCE OF THE OWNER.

5. MISCELLANEOUS. THE CONTRACTOR SHALL:

5.1. SPREAD AND COMPACT UNIFORMLY TO THE DEGREE SPECIFIED ALL EXCESS TRENCH SPOIL AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS.

5.2. SCARIFY, DISC, AERATE, AND COMPACT, TO THE DEGREE SPECIFIED, THE UPPER TWELVE (12) INCHES OF THE SUITABLE SUBGRADE MATERIAL IN ALL AREAS THAT MAY BE SOFT DUE TO EXCESS MOISTURE CONTENT. THIS APPLIES TO CUT AREAS AS WELL AS FILL AREAS.

5.3. PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTENT FOR THE PURPOSE OF ACHIEVING THE SPECIFIED COMPACTION.

5.4. BACKFILL THE CURB AND GUTTER AFTER ITS CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE MATERIAL.

6. TESTING AND FINAL ACCEPTANCE

6.1. THE CONTRACTOR SHALL PROVIDE AS A MINIMUM A FULLY LOADED SIX-WHEEL TANDEM AXLE TRUCK FOR PROOF ROLLING THE PAVEMENT SUBGRADE PRIOR TO THE PLACEMENT OF THE CURB AND GUTTER AND THE BASE MATERIAL. THIS SHALL BE WITNESSED BY THE GEOTECHNICAL ENGINEER OR SOILS TESTING AGENCY AND THE OWNER. (SEE PAVING SPECIFICATION.)

6.2. ANY UNSUITABLE AREA ENCOUNTERED AS A RESULT OF PROOF ROLLING SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL OR OTHERWISE CORRECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER OR SOILS TESTING AGENCY.

PAVING NOTES

1. GENERAL

1.1. PAVING WORK INCLUDES FINAL SUBGRADE SHAPING, PREPARATION, AND COMPACTION; PLACEMENT OF SUBBASE OR BASE COURSE MATERIALS; BITUMINOUS INTERMEDIATE AND/OR SURFACE COURSES; FORMING, FINISHING, AND CURING CONCRETE PAVEMENT, CURBS, AND WALKS; AND FINAL CLEAN-UP AND ALL RELATED WORK.

2. SUBGRADE PREPARATION

2.1. EARTHWORK FOR PROPOSED PAVEMENT SUBGRADE SHALL BE FINISHED TO WITHIN 0.1 FOOT, PLUS OR MINUS, OF PLAN ELEVATION. THE CONTRACTOR SHALL SATISFY HIMSELF THAT THE SUBGRADE HAS BEEN PROPERLY PREPARED AND THAT THE FINISH TOP SUBGRADE ELEVATION HAS BEEN GRADED WITHIN TOLERANCES ALLOWED IN THESE SPECIFICATIONS, UNLESS THE CONTRACTOR ADVISES THE ENGINEER IN WRITING PRIOR TO FINE GRADING FOR BASE COURSE CONSTRUCTION. IT IS UNDERSTOOD THAT HE/SHE HAS APPROVED AND ACCEPTS THE RESPONSIBILITY FOR THE SUBGRADE.

2.2. AFTER STRIPPING TO THE PROPOSED SUBGRADE LEVEL, THE BUILDING AND PARKING AREA SHOULD BE PROOF-ROLLED WITH A TANDEM AXLE DUMP TRUCK OR SIMILAR HEAVY RUBBER TIRED VEHICLE TYPICALLY WITH AN AXIAL LOAD GREATER THAN NINE (9) TONS OR MEETING SPECIFICATIONS OUTLINED IN INDOT CMS ITEM 204 FOR ROADWAY SUBGRADE COMPACTION AND PROOF-ROLLING.

2.3. MAXIMUM DEFLECTION ALLOWED IN ISOLATED AREAS MAY BE ONE (1) INCH IF NO DEFLECTION OCCURS OVER THE MAJORITY OF THE AREA.

2.4. PRIOR TO THE CONSTRUCTION OF THE CURB AND GUTTER AND THE PLACEMENT OF THE BASE MATERIAL, THE PAVEMENT AREA SHALL BE FINE-GRADED TO WITHIN 0.04 FEET (1/2 INCH) OF FINAL SUBGRADE ELEVATION, TO A POINT TWO (2) FEET BEYOND THE BACK OF THE CURB, SO AS TO ENSURE THE PROPER THICKNESS OF PAVEMENT COURSES. NO CLAIMS FOR EXCESS QUANTITY OF BASE MATERIALS DUE TO IMPROPER SUBGRADE PREPARATION WILL BE HONORED.

2.5. PRIOR TO PLACEMENT OF THE BASE COURSE, THE SUBGRADE SHALL BE APPROVED BY THE TESTING ENGINEER.

3. CONCRETE WORK

3.1. ALL EXTERIOR CONCRETE SHALL BE PORTLAND CEMENT CONCRETE CLASS S1 OR PV. CONCRETE SHALL BE A MINIMUM OF SIX (6) BAG MIX AND SHALL DEVELOP A MINIMUM OF 4,000 PSI COMPRESSIVE STRENGTH AT TWENTY-EIGHT (28) DAYS. ALL CONCRETE SHALL BE BROOM-FINISHED PERPENDICULAR TO THE DIRECTION OF TRAVEL.

3.2. CONCRETE CURB AND/OR COMBINATION CURB AND GUTTER SHALL BE OF THE TYPE SHOWN ON THE PLANS. THE CONTRACTOR IS CAUTIONED TO REFER TO THE CONSTRUCTION STANDARDS AND THE PAVEMENT CROSS SECTION TO DETERMINE THE GUTTER FLAG THICKNESS AND THE AGGREGATE BASE COURSE THICKNESS BENEATH THE CURB AND GUTTER. PRE-MOLDED FIBER EXPANSION JOINTS, WITH TWO 3/4-INCH BY 18-INCH EPOXY-COATED STEEL DOWEL BARS, SHALL BE GREASED AND FITTED WITH METAL EXPANSION TUBES. SAWED OR FORMED CONTRACTION JOINTS SHALL BE PROVIDED AT NO GREATER THAN TEN TO TWENTY-FIVE FOOT INTERVALS BETWEEN EXPANSION JOINTS. NO HONEY-COMBING OF THE CURB AND GUTTER WILL BE ACCEPTED.

3.3. CURBS SHALL BE DEPRESSED AT LOCATIONS WHERE PUBLIC WALKS INTERSECT CURB LINES AND OTHER LOCATIONS, AS DIRECTED, FOR THE PURPOSE OF PROVIDING ACCESSIBILITY.

3.4. THE CURBS SHALL BE BACKFILLED AFTER THEIR CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE.

3.5. CONCRETE SIDEWALK SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS. PROVIDE SCORED JOINTS AT MAXIMUM 6-FOOT INTERVALS AND 1/2-INCH PRE-MOLDED FIBER EXPANSION JOINTS AT 20-FOOT MAXIMUM INTERVALS AND ADJACENT TO CONCRETE CURBS, DRIVEWAYS, FOUNDATIONS, AND OTHER STRUCTURES.

3.6. CONCRETE DRIVEWAY APRONS SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS. PROVIDE 6-INCH BY 6-INCH NO. 6 WELDED WIRE MESH IN ALL DRIVEWAYS. PROVIDE 1/2-INCH PRE-MOLDED FIBER EXPANSION JOINT ADJACENT TO CURBS AND CONCRETE SIDEWALKS. PROVIDE SAWED OR FORMED CONTRACTIONS JOINT AT MID-POINT AND 15-FOOT MAXIMUM.

3.7. STANDARD REINFORCED CONCRETE PAVEMENT SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS. SAWED OR FORMED CONTRACTION EXPANSION JOINTS SHALL BE AS SHOWN ON THE PLANS.

3.8. CONCRETE CURING AND PROTECTION SHALL BE PER INDOT STANDARDS. TWO (2) COATS OF INDOT APPROVED CURING AGENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES.

3.9. THE COST OF AGGREGATE BASE OR SUBBASE UNDER CONCRETE WORK SHALL BE INCLUDED IN THE COST OF THE RESPECTIVE CONCRETE ITEM.

4. FLEXIBLE PAVEMENT

4.1. THE PAVEMENT MATERIALS FOR BITUMINOUS STREETS, PARKING LOTS, AND DRIVE AISLES SHALL BE AS DETAILED ON THE PLANS. UNLESS OTHERWISE SHOWN ON THE PLANS, THE FLEXIBLE PAVEMENTS SHALL CONSIST OF AGGREGATE BASE, ASPHALT INTERMEDIATE COURSE TYPE 2, AND ASPHALT SURFACE COURSE TYPE 1, OF THE THICKNESS AND MATERIALS SPECIFIED ON THE PLANS. THICKNESSES SPECIFIED SHALL BE CONSIDERED TO BE THE MINIMUM COMPACTED THICKNESS.

4.2. ALL TRAFFIC SHALL BE KEPT OFF THE COMPLETED AGGREGATE BASE UNTIL THE INTERMEDIATE COURSE IS LAID.

4.3. PRIOR TO PLACEMENT OF THE SURFACE COURSE, THE INTERMEDIATE COURSE SHALL BE CLEANED AND TACK-COATED IF DUSTY OR DIRTY. ALL DAMAGED AREAS IN THE INTERMEDIATE COURSE, BASE, OR CURB SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER PRIOR TO LAYING THE SURFACE COURSE. THE CONTRACTOR SHALL PROVIDE WHATEVER EQUIPMENT AND STAFF NECESSARY, INCLUDING THE USE OF POWER BROOMS IF REQUIRED BY THE OWNER, TO PREPARE THE PAVEMENT FOR APPLICATION OF THE SURFACE COURSE. THE TACK COAT SHALL BE UNIFORMLY APPLIED TO THE BINDER COURSE AT A RATE OF 0.05 TO 0.10 GALLONS PER SQUARE YARD. TACK COAT SHALL BE AS PER INDOT STANDARDS.

4.4. SEAMS IN SURFACE AND BASE COURSES SHALL BE STAGGERED A MINIMUM OF 6 INCHES.

5. TESTING AND FINAL ACCEPTANCE.

5.1. THE CONTRACTOR SHALL FOLLOW THE QUALITY CONTROL TESTING PROGRAM FOR CONCRETE AND PAVEMENT MATERIALS ESTABLISHED BY THE ENGINEER.

5.2. PRIOR TO PLACEMENT OF THE BITUMINOUS CONCRETE SURFACE COURSE, THE CONTRACTOR, WHEN REQUIRED BY THE MUNICIPALITY, SHALL OBTAIN SPECIMENS OF THE INTERMEDIATE COURSE WITH A CORE DRILL WHERE DIRECTED, FOR THE PURPOSE OF THICKNESS VERIFICATION.

5.3. WHEN REQUIRED BY THE MUNICIPALITY, THE CONTRACTOR SHALL OBTAIN SPECIMENS OF THE FULL DEPTH BITUMINOUS CONCRETE PAVEMENT STRUCTURE WITH A CORE DRILL WHERE DIRECTED IN ORDER TO CONFIRM THE PLAN THICKNESS. DEFICIENCIES IN THICKNESS SHALL BE ADJUSTED FOR BY THE METHOD REQUIRED BY INDOT STANDARDS.

5.4. FINAL ACCEPTANCE OF THE TOTAL PAVEMENT INSTALLATION SHALL BE SUBJECT TO THE TESTING AND CHECKING REQUIREMENTS CITED ABOVE.

5.5. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE MUNICIPAL CODE. WHEN CONFLICTS ARISE BETWEEN MUNICIPAL CODE, AND GENERAL NOTES, THE MORE STRINGENT SHALL TAKE PRECEDENCE.

SIGNING AND PAVEMENT MARKING NOTES

1. ALL SIGNING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE INDIANA DEPARTMENT OF TRANSPORTATION (INDOT) STANDARDS.
2. SIGNS: SIGNS SHALL BE CONSTRUCTED OF 0.080-INCH THICK FLAT ALUMINUM PANELS WITH REFLECTORIZED LEGEND ON THE FACE. LEGEND SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. POSTS: SIGN POSTS SHALL BE NEW GALVANIZED STEEL PIPE IN ACCORDANCE WITH ASTM A 53 OR ASTM F 1083. USE STANDARD WEIGHT, SCHEDULE 40 PIPE PER THE INDOT STANDARDS.
4. SIGNS AND POSTS SHALL BE INSTALLED IN ACCORDANCE WITH INDOT STANDARDS.
5. PAVEMENT MARKINGS: ALL PAVEMENT MARKINGS IN THE ROADWAY LIMITS, SUCH AS STOP LINES, CENTERLINES, CROSSWALKS, AND DIRECTIONAL ARROWS, SHALL BE REFLECTORIZED THERMOPLASTIC HOT ROLLED INTO PAVEMENT OR PAINT PER INDOT STANDARDS.
6. PAVEMENT MARKINGS ON BIKE PATHS, PARKING LOT STALLS, AND SIMILAR ”LOW-WEAR” APPLICATIONS, SHALL BE PAINT IN ACCORDANCE WITH INDOT STANDARDS.
7. COLOR, WIDTH, STYLE, AND SIZE OF ALL MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND MUNICIPAL CODE.
8. THERMOPLASTIC MARKINGS SHALL BE INSTALLED WHEN THE PAVEMENT TEMPERATURE IS 55 DEGREES FAHRENHEIT AND RISING. PAINT MARKINGS MAY BE INSTALLED WHEN THE AIR TEMPERATURE IS 50 DEGREES FAHRENHEIT AND RISING.

SANITARY SEWER NOTES

1. ALL UNSUITABLE MATERIALS SHALL BE REMOVED BELOW THE PROPOSED SANITARY SEWER AND REPLACED WITH COMPACTED CRUSHED GRAVEL OR STONE, AS PER INDOT STANDARDS.
2. ALL TRENCHES BENEATH PROPOSED OR EXISTING UTILITIES, PAVEMENTS, ROADWAYS, SIDEWALKS, AND FOR A DISTANCE OF THREE (3) FEET ON EITHER SIDE OF SAME, AND/OR WHERE SHOWN ON THE PLANS, SHALL BE BACKFILLED WITH MATERIAL THAT HAS BEEN TREATED AND COMPACTED TO 95% OF STD. PROCTOR MAXIMUM DAY DENSITY.
3. ALL SANITARY SEWERS ARE TO BE CONSTRUCTED USING A LASER INSTRUMENT TO MAINTAIN LINE AND GRADE.
4. CONNECTIONS TO EXISTING SANITARY SEWER SYSTEM SHALL NOT BE DONE UNTIL AUTHORIZED BY THE MUNICIPALITY.
5. WATERMAINS SHALL BE SEPARATED FROM SANITARY SEWERS AND STORM SEWERS IN ACCORDANCE WITH INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT REQUIREMENTS, AS SPECIFIED IN THE STANDARDS FOR WATER AND SEWER CONSTRUCTION IN INDIANA.
6. NO WATER LINE SHALL BE PLACED IN THE SAME TRENCH AS A SEWER LINE, EXCEPT UNDER SPECIAL CIRCUMSTANCES AND THEN ONLY UNDER THE FOLLOWING RULES:

6.1. IF NECESSARY PERMISSION SHALL BE OBTAINED FROM THE MUNICIPALITY IN WRITING PRIOR TO BEGINNING CONSTRUCTION.

6.2. THE BOTTOM OF A WATER LINE SHALL BE INSTALLED ON A SHELF A MINIMUM OF 18 INCHES ABOVE THE TOP OF THE SEWER AND 18 INCHES HORIZONTALLY AWAY FROM THE EDGE OF THE SEWER.

7. ALL PIPE CONNECTION OPENINGS SHALL BE PRECAST WITH RESILIENT RUBBER WATER-TIGHT SLEEVES. THE BOTTOM OF THE MANHOLE SHALL HAVE A CONCRETE BENCH POURED TO FACILITATE SMOOTH FLOWS.
8. FRAMES AND LIDS: ALL SANITARY SEWER MANHOLE FRAMES AND LIDS SHALL BE PER DETAIL SHEET, UNLESS OTHERWISE NOTED ON THE PLANS AND DETAILS. THE LIDS SHALL HAVE RECESSED (CONCEALED) PICK HOLE AND BE SELF-SEALING WITH AN ”O” RING GASKET. THE JOINTS BETWEEN THE FRAME AND CONCRETE SECTION SHALL BE SEALED WITH A BUTYL ROPE.
9. A MAXIMUM OF TWELVE (12) INCHES OF CONCRETE-ADJUSTING RINGS SHALL BE USED TO ADJUST FRAME ELEVATIONS. RINGS SHALL BE SEALED TOGETHER WITH BUTYL ROPE.
10. CLEANING: ALL MANHOLES AND PIPES SHALL BE THOROUGHLY CLEANED OF DIRT AND DEBRIS, AND ALL VISIBLE LEAKAGE ELIMINATED, BEFORE FINAL INSPECTION AND ACCEPTANCE.
11. TESTING: DEFLECTION, AIR, AND LEAKAGE TESTING WILL BE REQUIRED. THE PROCEDURE AND ALLOWABLE TESTING LIMITS SHALL BE IN ACCORDANCE WITH THE TEN STATE STANDARDS.
12. TESTING THE ALIGNMENT/STRAIGHTNESS SHALL BE IN ACCORDANCE WITH MUNICIPAL STANDARDS.
13. TELEVISING: IF REQUIRED BY THE MUNICIPALITY, ALL SANITARY SEWERS SHALL BE TELEVISED, AND A COPY OF THE TAPE AND A WRITTEN REPORT SHALL BE SUBMITTED AND REVIEWED BY THE MUNICIPALITY BEFORE FINAL ACCEPTANCE. THE REPORT SHALL INCLUDE STUB LOCATION AS WELL AS A DESCRIPTION OF ALL DEFECTS, WATER LEVEL, LEAKS, AND LENGTHS. IDENTIFY MANHOLE TO MANHOLE BOTH VERBALLY AND ON-SCREEN USING MANHOLE NUMBERS FROM APPROVED PLANS. ORDER OF WRITTEN REPORT SHALL BE THE SAME AS THE VIDEOTAPES.
14. TEST RESULTS: IF THE SANITARY SEWER INSTALLATION FAILS TO MEET THE TEST REQUIREMENTS SPECIFIED, THE CONTRACTOR SHALL DETERMINE THE CAUSE OR CAUSES OF THE DEFECT AND REPAIR, OR REPLACE ALL MATERIALS AND WORKMANSHIP, AS MAY BE NECESSARY TO COMPLY WITH THE TEST REQUIREMENTS.
15. CERTIFICATION: CONTRACTOR SHALL SUBMIT CERTIFIED COPIES OF ALL REPORTS OF TESTS CONDUCTED BY AN INDEPENDENT LABORATORY BEFORE INSTALLATION OF PVC PLASTIC PIPE. TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH STANDARD METHOD OF TEST FOR ”EXTERNAL LOADING PROPERTIES OF PLASTIC PIPE BY PARALLEL PLATE LOADING.” ASTM STANDARDS D-2241, AS APPROPRIATE FOR THE PIPE, TO BE USED. TESTS SHALL ALSO BE CONDUCTED TO DEMONSTRATE JOINT PERFORMANCE AT FIVE (5) PERCENT MAXIMUM DIAMETRIC DEFLECTION OF THE SPIGOT.
16. IF CONFLICT ARISES BETWEEN MUNICIPAL STANDARDS AND SANITARY SEWER NOTES, THE MORE STRINGENT SHALL APPLY.
17. ALL SANITARY SEWER LINES SHALL BE PVC MEETING ASTM D-3034 STANDARDS AND JOINTS MEETING ASTM D-3212. ALL SANITARY MANHOLES TO BE CONCRETE AND MEET MANHOLE DESIGN SPECIFICATION OF ASTM C-478 AND JOINT SPECIFICATIONS OF ASTM C-443. SANITARY SEWER LINES THAT ARE PROPOSED AT A DEPTH 15 FEET OR GREATER SHALL BE DUCTILE IRON CLASS 51 PIPE.
18. NO SANITARY SEWER MANHOLE SHALL BE WITHIN EIGHT (8) FEET OF A WATER MAIN AS MEASURED FROM THE OUTSIDE OF THE SANITARY SEWER MANHOLE TO THE OUTSIDE EDGE OF THE WATER MAIN.
19. ALL PVC GRAVITY SEWERS AND THE ACCESSORIES MUST BE INSTALLED IN ACCORDANCE WITH ASTM D2321, STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS.
20. A DEFLECTION TEST SHALL BE PERFORMED ON EACH FLEXIBLE PIPE FOLLOWING THE ELAPSE OF THIRTY (30) DAYS AFTER THE PLACEMENT OF THE FINAL BACKFILL. NO PIPE SHALL EXCEED A DEFLECTION OF FIVE PERCENT (5%) OR GREATER.
21. THE DIAMETER OF THE RIGID BALL OR MANDREL USED FOR A DEFLECTION TEST SHALL BE NO LESS THAN NINETY-FIVE PERCENT (95%) OF THE BASE INSIDE THE DIAMETER OF THE PIPE TO BE TESTED DEPENDENT ON WHAT IS SPECIFIED IN THE CORRESPONDING ASTM STANDARD. THE TEST SHALL NOT BE PERFORMED WITH THE AID OF A MECHANICAL PULLING DEVICE.

STORM SEWER NOTES

1. STORM SEWER PIPE: ALL STORM SEWER PIPE SHALL BE RCP, UNLESS OTHERWISE NOTED ON THE PLANS, IN ACCORDANCE WITH THE FOLLOWING:

PLAN CODE	MATERIAL
12”-66”	RCP REINFORCED CONCRETE PIPE (ASTM C-76)
< 12”	PVC SDR-35, ASTM D-3034

REFER TO PLANS FOR PIPE SIZES.

FOR PIPE SIZES 12” TO 54” WITH COVER BETWEEN 1'-3', USE SEWER CLASS III CONCRETE PIPE. FOR COVER GREATER THAN 3' BUT LESS THAN 9', USE CLASS II CONCRETE PIPE. FOR COVER BETWEEN 9'-13', USE CLASS III CONCRETE PIPE. FOR PIPE SIZES GREATER THAN 54” WITH COVER BETWEEN 1'-9', USE CLASS II CONCRETE PIPE. FOR COVER GREATER THAN 9' BUT LESS THAN 13', USE CLASS III CONCRETE PIPE.

2. BAND-SEAL OR SIMILAR COUPLING SHALL BE USED WHEN JOINING STORM SEWER PIPES OF DISSIMILAR MATERIALS.
3. ALL FOOTING DRAIN DISCHARGE PIPES AND DOWN SPOUTS SHALL DISCHARGE TO THE GROUND/STORM SEWER SYSTEM.
4. CONSTRUCTION: ALL STORM SEWERS ARE TO BE CONSTRUCTED USING A LASER INSTRUMENT TO MAINTAIN LINE AND GRADE.
5. COVER: THE CONTRACTOR SHALL MAINTAIN AT LEAST TWO (2) FEET OF COVER OVER THE TOP OF SHALLOW PIPES AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL MOUND OVER ANY PIPES THAT HAVE LESS THAN TWO (2) FEET OF COVER DURING CONSTRUCTION UNTIL THE AREA IS FINAL GRADED OR PAVED.
6. STRUCTURES: MANHOLE, CATCH BASIN, AND INLET BOTTOMS SHALL BE PRECAST CONCRETE SECTIONAL UNITS OR MONOLITHIC CONCRETE. MANHOLES AND CATCH BASINS SHALL BE A MINIMUM OF FOUR (4) FEET IN DIAMETER UNLESS OTHERWISE SPECIFIED ON THE PLANS. STRUCTURE JOINTS SHALL BE SEALED WITH ”O” RING OR BUTYL ROPE. A MAXIMUM OF TWELVE (12) INCHES OF ADJUSTING RINGS SHALL BE USED.
7. A CONCRETE BENCH TO DIRECT FLOWS SHALL BE CONSTRUCTED IN THE BOTTOM OF ALL INLETS AND MANHOLES.
8. THE FRAME, GRATE, AND/OR CLOSED LID SHALL BE CAST IRON OF THE STYLE SHOWN ON THE PLANS.
9. CLEANING: THE STORM SEWER SYSTEM SHALL BE THOROUGHLY CLEANED PRIOR TO FINAL INSPECTION AND TESTING.
10. MANHOLES, CATCH BASINS, INLETS, FRAMES, GRATES, AND OTHER STRUCTURES SHALL BE CONSTRUCTED OF THE TYPE, STYLE, AND SIZE AS SET FORTH WITH THE ORDINANCES AND STANDARDS OF THE MUNICIPALITY.
11. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE MUNICIPAL CODE. WHEN CONFLICTS ARISE BETWEEN MUNICIPAL CODE AND GENERAL NOTES, THE MORE STRINGENT SHALL TAKE PRECEDENCE.
12. WHEN NOTED ON PLANS OR APPROVED BY ENGINEER, HIGH-DENSITY POLYETHYLENE PIPE (HDPE) IN GENERAL CONFORMANCE WITH ASTM F2648 / F2648M MAY BE UTILIZED.

WATERMAIN NOTES

1. ALL WATER LINE MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS OF THE MUNICIPALITY UTILITIES DEPARTMENT.
2. PIPE MATERIALS: WATERMAINS SHALL BE CONSTRUCTED OF AWWA C900 OR AWWA C905 PLASTIC PIPE AND SHALL BE CLASS 150 UNLESS OTHERWISE INDICATED ON THE PLANS. ONE COUPLING WITH TWO RUBBER GASKETS SHALL BE FURNISHED WITH EACH LENGTH OF PIPE. IT SHALL BE THE SAME MATERIAL AND BY THE SAME MANUFACTURER AS THE PIPE AND CONFORM TO ASTM D3139. RUBBER GASKETS SHALL CONFORM TO ASTM F477.
3. TESTING OF THE PIPE AND COUPLINGS SHALL BE MADE IN ACCORDANCE WITH AWWA C900. REGARDLESS OF THE PLACE OF MANUFACTURE, ALL PIPE SHALL BE TESTED WITHIN THE CONTINENTAL UNITED STATES.
4. PRESSURE RATING: THE PIPE SHALL BE DR 14 FOR FIRE PROTECTION MAINS AND DR 18 FOR WATER MAINS.
5. JOINTS: JOINTS SHALL BE BELL END OR COUPLING PUSH-ON TYPE. THE PUSH-ON JOINT AND JOINT COMPONENTS SHALL MEET THE REQUIREMENTS FOR ASTM D-3139, JOINT FOR PLASTIC PRESSURE PIPE, USING FLEXIBLE ELASTOMERIC SEALS. THE JOINT SHALL BE DESIGNED SO AS TO PROVIDE FOR THE THERMAL EXPANSION AND CONTRACTION EXPERIENCED WITH A TOTAL TEMPERATURE CHANGE OF 75 DEGREES F IN EACH JOINT OF PIPE. THE LUBRICANT SHALL HAVE NO DETERIORATING EFFECTS ON THE GASKET OR THE PIPE. GASKETS SHALL MEET ALL APPLICABLE REQUIREMENTS OF ANSI STANDARD A21.11.
6. FITTINGS: ALL FITTINGS SHALL BE OF DUCTILE IRON WITH GASKETS, GLANDS AND T-HEAD BOLTS WITH NUTS. DUCTILE IRON FITTINGS SHALL CONFORM TO ANSI/AWWA C110/A21.10, 350 POUNDS PER SQUARE INCH (PSI) PRESSURE RATING REQUIREMENTS. ALL FITTINGS SHALL BE CEMENT MORTAR LINED CONFORMING TO ANSI/AWWA C104/A21.4 AND SHALL BE COATED OUTSIDE WITH A BITUMINOUS COATING OR FUSION-BONDED EPOXY. FITTINGS SHALL HAVE DISTINCTLY CAST INTO THE PIPE EXTERIOR THE PRESSURE RATING AND LETTERS ”DI” OR ”DUCTILE”. ALL DUCTILE IRON FITTINGS ACCEPTABLE TO THE UTILITY SHALL BE RATED AT A MINIMUM OF 70-50-05 (KSI TENSILE STRENCHT-KSI YIELD STRENGTH-PERCENT ELONGATION), IN ACCORDANCE WITH ANSI/AWWA C110 STANDARDS REGARDING STRENGTH OF MATERIALS.
7. FITTING JOINTS SHALL BE OF THE STANDARD MECHANICAL JOINT TYPE CONFORMING TO ANSI/AWW C111/A21.11 OR PUSH JOINT TYPE CONFORMING TO ANSI/AWWA C111/A21.11. ALL GASKETS, GLANDS AND T-HEAD BOLTS SHALL BE IN ACCORDANCE WITH AWWA C111/A21.11.
8. POLYETHYLENE ENCASEMENT: HIGH DENSITY CROSS-LAMINATED POLYETHYLENE ENCASEMENT MATERIALS SHALL BE USED FOR DUCTILE IRON PIPE AND FITTINGS. THE HIGH DENSITY CROSS-LAMINATED POLYETHYLENE TUBE MATERIAL SHALL CONFORM TO ANSI/AWWA C105 WITH A MINIMUM THICKNESS OF 4 MILS.
9. VALVES: GATE VALVES SHALL BE USED ON ALL WATERMAINS. ALL VALVES SHALL TURN COUNTER-CLOCKWISE TO OPEN. VALVES SHALL BE IRON BODY RESILIENT WEDGE GATE VALVES WITH BRONZE-MOUNTED SEATS AND NON-RISING STEMS CONFORMING TO AWWA C-509. THE VALVES SHALL HAVE MECHANICAL JOINTS.
10. WHERE WATERMAINS AND SERVICES CROSS PROPOSED OR EXISTING STREETS, BACKFILL SHALL BE COMPACTED GRANULAR MATERIAL EXTENDING AT LEAST 5 FEET BEYOND THE BACK OF CURB OR EDGE OF PAVEMENT.
11. PROVIDE AND INSTALL FOUR MEGALUG JOINT RESTRAINTS AT EACH JOINT FROM THE MAINLINE TEE TO THE AUXILIARY VALVE AND BETWEEN THE AUXILIARY VALVE AND THE HYDRANT BARREL.
12. THE BREAK FLANGE AND ALL BELOW-GRADE FITTING SHALL HAVE STAINLESS STEEL NUTS AND BOLTS.
13. CORPORATION STOPS: CORPORATION STOPS SHALL BE BRONZE BODY KEY STOPS CONFORMING TO AWWA C-800 AND SHALL INCLUDE ”J” BEND, TAILPIECE, AND COMPRESSION FITTINGS. SIZE AND LOCATION AS SHOWN ON THE PLANS.
14. MAXIMUM DEFLECTION AT PIPE JOINTS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURER'S CURRENT RECOMMENDATIONS AND AWWA SPECIFICATIONS.
15. BEDDING: ALL WATERMAINS SHALL BE BEDDED ON FIRM GROUND, WITH BELLHOLES EXCAVATED SO THAT THE PIPE HAS AN EVEN BEDDING FOR ITS ENTIRE LENGTH.
16. GRANULAR BEDDING MATERIAL OR GRANULAR BACKFILL MATERIAL SHALL BE CAREFULLY PLACED TO TWELVE (12) INCHES OVER THE TOP OF THE PIPE BEFORE FINAL BACKFILLING AND COMPACTION.
17. A MINIMUM DEPTH OF COVER OF FIFTY-FOUR (54) INCHES SHALL BE MAINTAINED OVER THE WATER LINES. THE MAXIMUM COVER SHALL BE SEVENTY-TWO (72) INCHES, EXCEPT AT SPECIAL CROSSINGS.
18. ”MEGA-LUG” RETAINER GLANDS AND THRUST BLOCKING SHALL BE INSTALLED ON WATERMAINS AT ALL BENDS, FITTINGS, TEES, ELBOWS, ETC. ”MEGA-LUG” RESTRAINED JOINTS ARE REQUIRED ON ALL VALVES AND ALL FITTINGS.
19. HORIZONTAL SEPARATION

19.1. WATERMAINS SHALL BE LAID AT LEAST TEN (10) FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED DRAIN, STORM SEWER, SANITARY SEWER, OR SEWER SERVICES CONNECTION.

19.2. WATERMAINS MAY BE LAID CLOSER THAN TEN (10) FEET TO A SEWER LINE WHEN:

19.2.1. LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF TEN (10) FEET;

19.2.2. THE WATERMAIN INVERT IS AT LEAST EIGHTEEN (18) INCHES ABOVE THE CROWN OF THE SEWER;

19.2.3. THE WATERMAIN IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED EARTH SHELF LOCATED TO ONE SIDE OF THE SEWER.

19.3. BOTH THE WATERMAIN AND DRAIN OR SEWER SHALL BE CONSTRUCTED WITH PIPE EQUIVALENT TO WATERMAIN STANDARDS OF CONSTRUCTION WHEN IT IS IMPOSSIBLE TO MEET (1) OR (2) ABOVE. THE DRAIN OR SEWER SHALL BE PRESSURE-TESTED TO THE MAXIMUM EXPECTED SURCHARGE HEAD BEFORE BACKFILLING.

20. VERTICAL SEPARATION

20.1. ALL SERVICE PIPES SHALL BE BURIED AT LEAST FIFTY-FOUR (54) INCHES DEEP IN THE GROUND.

20.2. A WATERMAIN SHALL BE LAID SO THAT ITS INVERT IS EIGHTEEN (18) INCHES ABOVE THE CROWN OF THE DRAIN OR SEWER WHENEVER WATERMAINS CROSS STORM SEWERS, SANITARY SEWERS, OR SEWER SERVICE CONNECTIONS. THE VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATERMAIN LOCATED WITHIN TEN (10) FEET HORIZONTALLY OF ANY SEWER OR DRAIN CROSSED. A LENGTH OF WATERMAIN PIPE SHALL BE CENTERED OVER THE SEWER TO BE CROSSED WITH JOINTS EQUIDISTANT FROM THE SEWER OR DRAIN.

20.3. BOTH THE WATERMAINS AND SEWER SHALL BE CONSTRUCTED WITH PIPE EQUIVALENT TO WATERMAIN STANDARDS OF CONSTRUCTION WHEN:

20.3.1. IT IS IMPOSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION, AS DESCRIBED IN (1) ABOVE;

20.3.2. OR THE WATERMAIN PASSES UNDER A SEWER OR DRAIN.

20.4. A VERTICAL SEPARATION OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE SEWER OR DRAIN AND THE CROWN OF THE WATERMAIN SHALL BE MAINTAINED WHERE A WATERMAIN CROSSES UNDER A SEWER. SUPPORT THE SEWER OR DRAIN LINES TO PREVENT SETTLING AND BREAKING THE WATERMAIN.

20.5. CONSTRUCTION SHALL EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE NORMAL DISTANCE FROM THE WATERMAIN TO THE SEWER OR DRAIN LINE IS AT LEAST TEN (10) FEET.

21. ALL WATERMAINS SHALL BE PRESSURE-TESTED FOR A MIN. OF 2 HOURS AT 150 PSI, FLUSHED, AND DISINFECTED IN ACCORDANCE WITH AWWA AND MUNICIPAL SPECIFICATIONS. EACH VALVE SECTION SHALL BE PRESSURE-TESTED FOR A MINIMUM OF ONE (1) HOUR. ALLOWABLE LEAKAGE IS PER THE MUNICIPAL STANDARDS. AT NO TIME IS THERE TO BE ANY VISIBLE LEAKAGE FROM THE WATERMAIN.
22. IDEM WATERMAIN NOTES

22.1. ALL WATERLINES SHALL BE AWWA APPROVED.

22.2. THE NORMAL WORKING PRESSURE IN THE WATERLINES WILL NOT BE LESS THAN 35 PSI.

22.3. INDIVIDUAL BOOSTER PUMPS WILL NOT BE ALLOWED FOR ANY INDIVIDUAL SERVICE.

22.4. ALL FIRE HYDRANTS SHALL BE AWWA APPROVED.

WARNING: CONTRACTOR TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: KED
DRAWN BY: KED
CHECKED BY: WAB

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NOT APPROVED FOR CONSTRUCTION

REBAR DEVELOPMENT

GENERAL SPECIFICATIONS

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE:
02/09/2024
KHA PROJECT NO.
170046010
SHEET NUMBER
C1.0

Drawing name: K:\IND_LDEV\170046010_rebar_mccord square north_mccordsville_in\2 Design\CADD\plansheets\C1.0-GENERAL SPECIFICATIONS.dwg C1.0 Feb 08, 2024 2:59pm by: jared.schingel

DEMOLITION NOTES

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF THE EXISTING STRUCTURES, RELATED UTILITIES, PAVING, AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED.
2. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
3. THE GENERAL CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
4. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.
5. IF DEMOLITION OR CONSTRUCTION ON SITE WILL INTERFERE WITH THE ADJACENT PROPERTY OWNER'S TRAFFIC FLOW, THE CONTRACTOR SHALL COORDINATE WITH ADJACENT PROPERTY OWNER, TO MINIMIZE THE IMPACT ON TRAFFIC FLOW. TEMPORARY RE-ROUTING OF TRAFFIC IS TO BE ACCOMPLISHED BY USING INDOT APPROVED TRAFFIC BARRICADES, BARRELS, AND/OR CONES. TEMPORARY SIGNAGE AND FLAGMEN MAY BE ALSO NECESSARY.
6. CONTRACTOR SHALL NOT DEMOLISH ANYTHING OUTSIDE THE OWNERS LEASE/PROPERTY LINE UNLESS SPECIFICALLY MENTIONED ON THIS SHEET.
7. QUANTITIES DEPICTED ON THIS SHEET SHALL SERVE AS A GUIDE ONLY. CONTRACTOR TO VERIFY ALL DEMOLITION QUANTITIES.
8. PRIOR TO BIDDING AND CONSTRUCTION, CONTRACTOR TO REFER TO OWNER PROVIDED PHASE I ENVIRONMENTAL SITE ASSESSMENT AND ASBESTOS REPORT FOR SITE SPECIFIC CONDITIONS AND CONSIDERATIONS.
9. CONTRACTOR SHALL BEGIN CONSTRUCTION OF ANY LIGHT POLE BASES FOR RELOCATED LIGHT FIXTURES AND RELOCATION OF ELECTRICAL SYSTEM AS SOON AS DEMOLITION BEGINS. CONTRACTOR SHALL BE AWARE THAT INTERRUPTION OF POWER TO ANY LIGHT POLES OR SIGNS SHALL NOT EXCEED 24 HOURS
10. EROSION CONTROL MUST BE ESTABLISHED PRIOR TO ANY WORK ON SITE INCLUDING DEMOLITION. REFER TO THE EROSION CONTROL SHEET.
11. REFER TO GEOTECHNICAL REPORT PROVIDED BY OTHERS FOR ALL SUBSURFACE INFORMATION.

DEMOLITION NOTES

THE EXTENT OF SITE DEMOLITION WORK IS AS SHOWN ON THE CONTRACT DOCUMENTS AND AS SPECIFIED HEREIN. SEE ARCHITECTURAL DRAWINGS FOR LIMITS AND PROPER DEMOLITION OF EXISTING BUILDING. FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND SERVICE NECESSARY TO COMPLETE THE WORK. DEMOLITION INCLUDES, BUT IS NOT LIMITED TO, REMOVAL AND DISPOSAL OFFSITE OF THE FOLLOWING ITEMS:

- SIDEWALK AND ON-SITE PAVEMENT
- BUILDINGS, FOUNDATIONS, AND SUPPORTING WALLS AND SLABS
- DEBRIS AND FOUNDATIONS FROM ALL DEMOLISHED STRUCTURES
- ALL PAVEMENT TO BE REMOVED ADJACENT TO PAVEMENT THAT IS TO REMAIN SHALL BE SAWCUT FULL DEPTH AT THE EDGES PRIOR TO REMVAL TO OBTAIN A "CLEAN" JOINT WHERE IT ABUTS NEW CURB OR PAVEMENT.

CONTRACTOR MUST RECEIVE APPROVAL FROM CIVIL ENGINEER AND GEOTECHNICAL ENGINEER FOR THE MATERIAL TYPE AND USE IF CONTRACTOR DESIRES TO REUSE DEMOLISHED SITE PAVEMENT AS STRUCTURAL FILL.

DISPOSAL OF DEMOLISHED MATERIALS

REMOVE FROM SITE DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS. BURNING OF REMOVED MATERIALS FROM DEMOLISHED STRUCTURES WILL NOT BE PERMITTED ON SITE. TRANSPORT MATERIALS REMOVED FROM DEMOLISHED STRUCTURES AND DISPOSE OF OFF SITE IN A LEGAL MANNER.

LANDSCAPE PROTECTION AND REMOVAL

SEE LANDSCAPE PLANS FOR INFORMATION ON LANDSCAPE AND TREE PROTECTION, PRESERVATION AND REMOVAL.

UTILITY SERVICES

EXISTING UTILITIES, WHICH DO NOT SERVICE STRUCTURES BEING DEMOLISHED, ARE TO BE KEPT IN SERVICE AND PROTECTED AGAINST DAMAGE DURING DEMOLITION OPERATIONS. CONTRACTOR SHALL ARRANGE FOR SHUT-OFF OF UTILITIES SERVING STRUCTURES TO BE DEMOLISHED. CONTRACTOR IS RESPONSIBLE FOR TURNING OFF, DISCONNECTING, AND SEALING INDICATED UTILITIES BEFORE STARTING DEMOLITION OPERATIONS. EXISTING UTILITIES TO BE ABANDONED ARE TO BE CAPPED AT BOTH ENDS AND FILLED WITH FLOWABLE FILL OR APPROVED EQUAL. ALL UNDERGROUND UTILITIES TO BE REMOVED ARE TO BE BACKFILLED WITH ENGINEERED FILL OR SELECT EXCAVATED MATERIAL, AS APPROVED BY THE GEOTECHNICAL ENGINEER, TO 95% OF MODIFIED PROCTOR DENSITY WITHIN PAVED AREAS AND TO 90% OF MODIFIED PROCTOR DENSITY FOR GREEN SPACE AREAS, IN ACCORDANCE WITH THE EARTHWORK SPECIFICATIONS. ALL PRIVATE UTILITIES (ELECTRIC, CABLE, TELEPHONE, FIBER OPTIC, GAS) SHALL BE REMOVED AND RELOCATED PER THE UTILITY OWNER AND THE LOCAL MUNICIPALITY'S REQUIREMENTS.

UTILITY PROTECTION

UNDERGROUND UTILITIES SHOWN ARE BASED ON ATLASES AND AVAILABLE INFORMATION PRESENTED AT THE TIME OF SURVEY. CONTRACTOR SHOULD CALL INDIANA 811 (811 OR 800-382-5544) TO COORDINATE FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES BEFORE ORDERING MATERIALS OR COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY. CONTRACTOR SHALL LOCATE AND PROTECT EXISTING UNDERGROUND AND OVERHEAD UTILITIES DURING CONSTRUCTION. UTILITY PROTECTION SHALL BE COORDINATED WITH THE RESPECTIVE UTILITY OWNER AND AS DIRECTED BY THE GOVERNING MUNICIPALITY. DAMAGED CABLES/CONDUITS SHALL BE REPLACED IMMEDIATELY. ALL EXISTING STRUCTURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PROCESS. ALL DAMAGED STRUCTURES SHALL BE REPLACED IN-KIND AND THEIR REPLACEMENT COST SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. PROPER NOTIFICATION TO THE OWNERS OF THE EXISTING UTILITIES SHALL BE MADE AT LEAST 48 HOURS BEFORE CONSTRUCTION COMMENCES.

POLLUTION CONTROLS

USE WATER SPRINKLING, TEMPORARY ENCLOSURES, AND OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT RISING AND SCATTERING IN THE AIR TO THE LOWEST LEVEL. COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION. SEE EROSION CONTROL SHEETS FOR FURTHER EROSION CONTROL REQUIREMENTS.

FILLING BASEMENTS AND VOIDS

COMPLETELY FILL BELOW-GRADE AREAS AND VOIDS RESULTING FROM DEMOLITION OF STRUCTURES TO THE FINAL LINES AND GRADES SHOWN ON THE CONTRACT DOCUMENTS. BACKFILL MATERIAL SHALL BE INDOT APPROVED CRUSHED LIMESTONE OR APPROVED EQUAL. USE SATISFACTORY SOIL MATERIALS CONSISTING OF STONE, GRAVEL AND SAND, FREE FROM DEBRIS, TRASH, FROZEN MATERIALS, ROOTS AND OTHER ORGANIC MATTER. PRIOR TO PLACEMENT OF FILL MATERIALS, ENSURE THAT AREAS TO BE FILLED ARE FREE OF STANDING WATER, FROST, FROZEN MATERIAL, TRASH AND DEBRIS. PLACE FILL MATERIALS IN HORIZONTAL LAYERS NOT EXCEEDING 9" IN LOOSE DEPTH. COMPACT EACH LAYER AT OPTIMUM MOISTURE CONTENT OF FILL MATERIAL TO 95% OF MODIFIED PROCTOR DENSITY UNLESS SUBSEQUENT EXCAVATION FOR NEW WORK IS REQUIRED.

SITE NOTES

1. ALL DIMENSIONS REFER TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
2. BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
3. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS, DOOR LOCATIONS, PRIOR TO ORDERING MATERIALS.
4. RADII ADJACENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 5-FEET, TYPICAL.
5. REFER TO ARCHITECTURAL PLANS FOR MONUMENT SIGN DETAILS. SEE MEP PLANS FOR SITE ELECTRICAL DRAWINGS.
6. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.

EROSION CONTROL NOTES

TEMPORARY EROSION CONTROL NOTES

1. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.
2. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST, OR ARBORIST AS APPROPRIATE. MAJOR REVISIONS MUST BE APPROVED BY THE PLANNING AND DEVELOPMENT DEPARTMENT AND THE DRAINAGE UTILITY DEPARTMENT. MINOR CHANGES OR ADDITIONAL CONTROL MEASURES TO BE MADE AS FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES AT NO ADDITIONAL COST TO THE OWNER.
3. CONTRACTOR SHALL PLACE EROSION CONTROL BLANKET (NORTH AMERICAN GREEN S150 OR APPROVED EQUAL) ON ALL SITE AREAS WITH SLOPES GREATER THAN 4:1, AND IN THE BOTTOM AND SIDE SLOPES OF ALL SWALES.
4. PRIOR TO FINAL ACCEPTANCE, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.
5. PERMANENT, FINAL PLANT COVERING OR STRUCTURES SHALL BE INSTALLED PRIOR TO FINAL ACCEPTANCE.
6. ALL CONTROL DEVICES THAT FUNCTION SIMILARLY TO SILT FENCE OR FIBER ROLLS MUST BE REPAIRED, REPLACED OR SUPPLEMENTED WITH EFFECTIVE CONTROLS WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES ONE-THIRD THE HEIGHT OF THE DEVICE. THESE REPAIRS MUST BE MADE WITHIN 24 HOURS OF THE RAINFALL EVENT OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.
7. ALL SEDIMENT DELTAS AND DEPOSITS MUST BE REMOVED FROM SURFACE WATERS, DRAINAGE WAYS, CATCH BASINS AND OTHER DRAINAGE SYSTEMS. ALL AREAS WHERE SEDIMENT REMOVAL RESULTED IN EXPOSED SOIL MUST BE RESTABILIZED. THE REMOVAL AND STABILIZATION MUST TAKE PLACE IMMEDIATELY, BUT NO MORE THAN 7 DAYS AFTER THE RAINFALL EVENT UNLESS PRECLUDED BY LEGAL, REGULATORY OR PHYSICAL ACCESS CONSTRAINTS. ALL REASONABLE EFFORTS MUST BE USED TO OBTAIN ACCESS. ONCE ACCESS IS OBTAINED, REMOVAL AND STABILIZATION MUST TAKE PLACE IMMEDIATELY, BUT NO MORE THAN 7 DAYS LATER. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL APPROPRIATE AUTHORITIES AND RECEIVING THE APPLICABLE PERMITS PRIOR TO CONDUCTING ANY WORK.
8. ACCUMULATIONS OF TRACKED AND DEPOSITED SEDIMENT MUST BE REMOVED FROM OFF-SITE PAVED SURFACES WITHIN 24 HOURS OR SOONER IF REQUIRED. SEDIMENT TRACKING MUST BE MINIMIZED BY THE APPROPRIATE MANAGEMENT PRACTICE, LIKE A DEDICATED SITE EXIT WITH AN AGGREGATE SURFACE OR DESIGNATED OFFSITE PARKING AREA. CONTRACTOR IS RESPONSIBLE FOR STREET SWEEPING AND/OR SCRAPING IF YOUR PRACTICES ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED FROM THE SITE.
9. SURFACE WATERS, DRAINAGE DITCHES AND CONVEYANCE SYSTEMS MUST BE INSPECTED FOR SEDIMENT DEPOSITS.
10. PUMPING SEDIMENT LADEN WATER INTO ANY STORMWATER FACILITY THAT IS NOT DESIGNATED TO BE A SEDIMENT TRAP, DRAINAGEWAY, OR OFFSITE AREA EITHER DIRECTLY OR INDIRECTLY WITHOUT FILTRATION IS PROHIBITED.
11. SOIL STOCKPILES SHALL NOT BE LOCATED IN A DRAINAGEWAY, FLOOD PLAIN AREA OR A DESIGNATED BUFFER, UNLESS OTHERWISE APPROVED, UNDER SPECIFIC CONDITIONS TO BE ESTABLISHED BY THE DIRECTOR OR ADMINISTRATOR.
12. STOCKPILES TO REMAIN IN PLACE FOR MORE THAN THREE DAYS SHALL BE PROVIDED WITH SESC MEASURES. MATERIAL IS TO BE HAULED OFF IMMEDIATELY AND LEGALLY IF NO STOCKPILE IS TO REMAIN IN PLACE.
13. ALL TEMPORARY SESC MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED.TRAPPED SEDIMENT AND OTHER DISTURBED SOILS RESULTING FROM TEMPORARY MEASURES SHALL BE PROPERLY DISPOSED OF PRIOR TO PERMANENT STABILIZATION.
14. WATER REMOVED FROM TRAPS, BASINS, AND OTHER WATER HOLDING DEPRESSIONS OR EXCAVATIONS MUST FIRST PASS THROUGH A SEDIMENT CONTROL AND/OR FILTRATION DEVICE. WHEN DEWATERING DEVICES ARE USED, DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION.

GRADING NOTES

1. CONTRACTOR TO VERIFY ALL EXISTING TOPOGRAPHY AND STRUCTURES ON THE SITE AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING WORK.
2. ALL PAVEMENT SPOT GRADE ELEVATIONS AND RIM ELEVATIONS WITHIN OR ALONG CURB AND GUTTER REFER TO EDGE OF PAVEMENT ELEVATIONS UNLESS OTHERWISE NOTED.
3. ALL ELEVATIONS SHOWN DEPICT FINISHED GRADE OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED. GENERAL CONTRACTOR TO COORDINATE WITH EXCAVATION, LANDSCAPE AND PAVING SUBCONTRACTORS REGARDING TOPSOIL THICKNESS FOR LANDSCAPE AREAS AND PAVEMENT SECTION THICKNESS FOR PAVED AREAS TO PROPERLY ENSURE ADEQUATE CUT TO ESTABLISH SUBGRADE ELEVATIONS.
4. NO EARTHEN SLOPE SHALL BE GREATER THAN 3:1, UNLESS OTHERWISE NOTED.
5. MAXIMUM SLOPE IN ACCESSIBLE PARKING SPACES AND LOADING ZONES SHALL NOT EXCEED 2.0% IN ALL DIRECTIONS.
6. MAXIMUM RUNNING SLOPE SHALL NOT EXCEED 5% AND CROSS SLOPE SHALL NOT EXCEED 2% ON ALL SIDEWALKS AND ACCESSIBLE ROUTES UNLESS OTHERWISE NOTED.
7. WHEN NATURAL FLOW OF DRAINAGE IS AWAY FROM CURB, CONTRACTOR TO INSTALL REVERSE GUTTER PITCH.
8. MATCH EXISTING ELEVATIONS AT THE PROPERTY LIMITS.
9. ALL STOOPS OR PEDESTRIAN EGRESS POINTS FROM THE BUILDING(S) SHALL BE NO GREATER THAN 2% FOR THE FIRST 5'.

UTILITY NOTES

GENERAL UTILITY NOTES

1. ALL WATER LINES SHALL BE PVC C900 DR-14 OR DUCTILE IRON CL 350.
2. ALL SANITARY SEWER LINES SHALL BE PVC MEETING, ASTM D-3034 SDR 26 EXCEPT FOR SANITARY SEWER THAT CROSSES ABOVE WATER MAIN, THIS PIPE SHALL BE AWWA C900 (UNLESS WATER MAIN CASING IS UTILIZED). PROVIDE 36" MINIMUM COVER (PER IDEM).
3. CONTRACTOR SHALL COORDINATE ANY DISRUPTIONS TO EXISTING UTILITY SERVICES WITH ADJACENT PROPERTY OWNERS.
4. ALL ELECTRIC AND TELEPHONE EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES.
5. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED BY THE ENGINEER FROM THE APPROPRIATE GOVERNING AUTHORITY AND CONTRACTOR HAS BEEN NOTIFIED BY THE ENGINEER.
6. CONTRACTOR TO CALL INDIANA 811 (811 OR 800-382-5544) TO COORDINATE FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES BEFORE ORDERING MATERIALS OR COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
7. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OTHER UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE ENGINEER AND THE OWNER/ DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION. THE MUNICIPALITY SHALL BE NOTIFIED OF ANY AND ALL CHANGES TO THE DESIGN PLANS.
8. CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS REQUIRED BY OSHA.
9. CONTRACTOR TO AVOID DISRUPTION OF ANY ADJACENT TENANT'S TRAFFIC OPERATIONS DURING INSTALLATION OF UTILITIES.
10. ALL DIMENSIONS ARE TO CENTERLINE OF PIPE OR CENTER OF MANHOLE UNLESS NOTED OTHERWISE.
11. SEE ARCHITECTURAL AND MEP PLANS FOR EXACT UTILITY CONNECTION LOCATIONS AT BUILDING.
12. LIGHT POLES SHOWN FOR COORDINATION PURPOSES ONLY AND DO NOT REPRESENT ACTUAL SIZE. SEE SITE LIGHTING PLANS BY OTHERS FOR MORE INFORMATION.
13. SEE DETAILS FOR LOCATING STORM STRUCTURES WITHIN THE CURB LINE.
14. STORMWATER FACILITIES MUST BE FUNCTIONAL BEFORE BUILDING CONSTRUCTION BEGINS.

Indiana Utilities Protection Service

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EXISTING LEGEND

BOLLARD	MISC LID	YARD LIGHT
CONTROL BENCHMARK	MONITOR WELL	SANITARY CLEANOUT
ROW MONUMENT	GAS MARKER	SANITARY MANHOLE
FLAG POLE	GAS METER	VENT PIPE
MAIL BOX	GAS VALVE	STORM CURB INLET
UTILITY POLE	AC UNIT	STORM INLET
POST	AREA LIGHT	STORM ROOF DRAIN
SOIL BORING	ELECTRICAL BOX	STORM DRAIN MANHOLE
HANDICAP SYMBOL	ELECTRICAL HAND HOLE	STORM YARD DRAIN
SIGN	ELECTRICAL METER	FIRE DEPT CONNECTION
CABLE MANHOLE	ELECTRICAL MANHOLE	FIRE HYDRANT
CABLE PEDESTAL	ELECTRICAL MARKER	IRRIGATION VALVE
TELEPHONE PEDESTAL	ELECTRICAL TRANSFORMER	POST INDICATOR VALVE
TELEPHONE HAND HOLE	GUY POLE/WIRE	WELL
TELEPHONE MARKER	POWER POLE	WATER METER
TELEPHONE MANHOLE	TRAFFIC SIGNAL POLE	WATER VALVE
FIBER OPTIC MARKER	TRAFFIC MANHOLE	TREE / STUMP
SWALE		TOE OF SLOPE
FENCE LINE		TOP OF BANK
SANITARY SEWER		UNDERGROUND FIBER OPTIC
STORM DRAIN		OVERHEAD ELECTRICAL
WATER LINE		UNDERGROUND GAS
TREE LINE		UNDERGROUND TELEPHONE

BENCHMARKS

ORIGINATING BENCHMARK:

THE HORIZONTAL AND VERTICAL LOCATION DATA SHOWN ON THIS SURVEY ARE BASED UPON A POSITIONAL SOLUTION DERIVED FROM GLOBAL POSITION SYSTEM (GPS) OBSERVATIONS. THE COORDINATE VALUES SHOWN ARE IN THE INDIANA STATE PLANE COORDINATE SYSTEM (EAST ZONE) REFERENCE TO THE 1983 NORTH AMERICAN DATUM UTILIZING THE CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS) ADJUSTMENT AS DETERMINED BY NGS (NAD 82 (CORDS 96)(EPOCH 2002.0000) AND REPORTED ON THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD88). THIS ORTHOMETRIC ELEVATION WAS COMPUTED USING GEOID18.

SITE BENCHMARKS:
(LOCATIONS SHOWN ON SURVEY)

SBM #500 N.1750742.79, E.214874.89
ELEVATION=820.77 CUT X SET

SBM #501 N.1750710.19, E.214811.54
ELEVATION=821.26 MAG NAIL PER TIE

SBM #502 N.1750453.49, E0214843.16
ELEVATION=821.11 CUT X SET

SBM #503 N.1750245.34, E.214833.50
ELEVATION=821.11 CUT X SET

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NO.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: KED
DRAWN BY: KED
CHECKED BY: WAB

WILLIAM A. BOS
REGISTERED
PROFESSIONAL ENGINEER
STATE OF INDIANA
NOT APPROVED FOR CONSTRUCTION

REBAR DEVELOPMENT

GENERAL NOTES

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE: 02/09/2024
KHA PROJECT NO. 170046010
SHEET NUMBER
C1.1

Indiana Utilities Protection Service

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NORTH

GRAPHIC SCALE IN FEET
0 5' 10' 20'

DEMOLITION LEGEND

A.	X X X X X X X	UTILITY REMOVAL
B.		CONCRETE REMOVAL – CONTRACTOR TO REPLACE WITH SAME PAVEMENT SECTION, MATERIAL FINISH, AND JOINTING PATTERN
C.		ITEM TO BE REMOVED
D.		ITEM TO REMAIN, PROTECT THROUGHOUT DURATION OF CONSTRUCTION

SITE DEMOLITION NOTE

SITE DEMOLITION BY OTHERS HAS BEEN COMPLETED SINCE THE DATE OF SURVEY. ALL STRUCTURES AND THE MAJORITY OF THE PAVEMENT HAS BEEN DEMOLISHED. IN ADDITION, ALL OF THE EXISTING TREES HAVE BEEN REMOVED AND SOME OF THE OVERHEAD ELECTRIC LINES. CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION REMAINING TO COMPLETE THE PROPOSED PROJECT. CONTRACTOR SHALL VISIT THE SITE TO UNDERSTAND WHAT IS REMAINING. STRUCTURES, PAVEMENTS, TREES, ETC. ARE SHOWN ON THIS PLAN AS REFERENCE FOR THE CONTRACTOR'S INFORMATION.

25.0' R/W

SIDEWALK

SIDEWALK

LIGHT POLE

LIGHT POLE

TREES AND SHRUBS WITHIN THIS BOX TO BE REMOVED/RELOCATED IF FEASIBLE

STR. EX MH
R: 855.09
INV IN: 849.36 (N)
INV OUT: 849.36 (S)

STR. EX 24" INLET
R: 856.00
INV OUT: 850.02

TREES TO BE REMOVED/RELOCATED IF FEASIBLE

SIGN

RAMP

STR. D10 (BY OTHERS)
R: 856.50
INV OUT: 853.83 (S)

S00°07'28"W (M)
70.00' (M&P)

GENERAL PLAN NOTES

REFER TO GENERAL NOTES SHEET FOR MORE INFORMATION INCLUDING THE FOLLOWING: (EXISTING LEGEND, BENCHMARK INFORMATION, AND SPECIFIC GENERAL PLAN NOTES.)

NO.	REVISIONS	DATE	BY

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WILLIAM A. BLOOM
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PROFESSIONAL ENGINEER
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REBAR DEVELOPMENT

EXISTING CONDITIONS AND DEMO PLAN

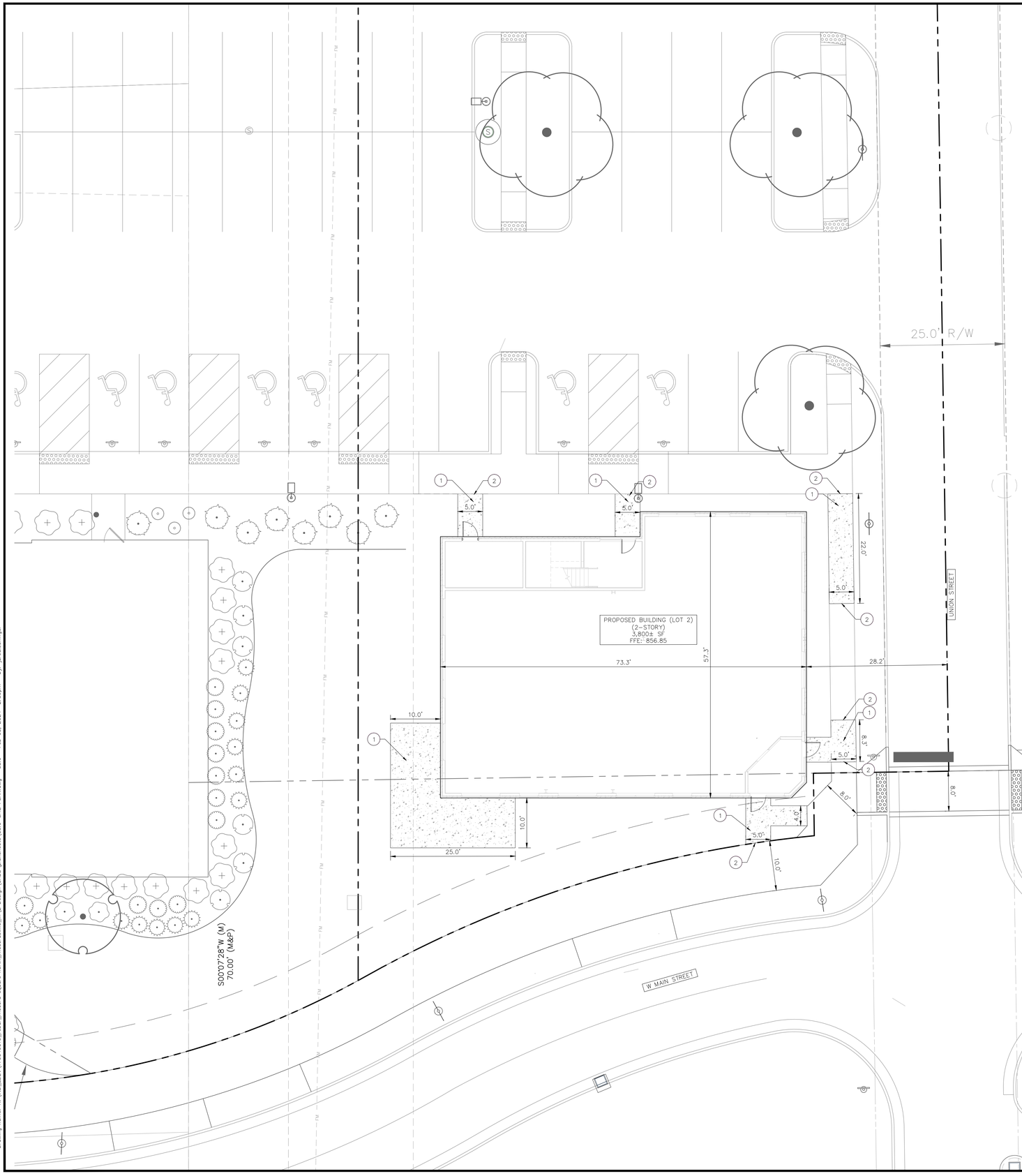
REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE: 02/09/2024

KHA PROJECT NO. 170046010

SHEET NUMBER

C2.0



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NORTH

GRAPHIC SCALE IN FEET
0 5' 10' 20'

PAVING LEGEND

CONCRETE SIDEWALK
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION

SITE SUMMARY

SITE ZONING	=	PUD
SITE ACREAGE	=	0.20 AC.±
BUILDING AREA	=	3,800 SF
BUILDING HEIGHT	=	25' FT
PARKING SPACES (STANDARD) REQUIRED	=	16 SPACES
PARKING SPACES (ACCESSIBLE) REQUIRED	=	1 SPACES
PARKING SPACES (STANDARD) PROVIDED (EX)	=	36 SPACES
PARKING SPACES (ACCESSIBLE) PROVIDED (EX)	=	2 SPACES
SHARED PARKING SPACES PROVIDED	=	35 SPACES
TOTAL PARKING SPACES PROVIDED	=	73 SPACES

KEY NOTES

1. CONCRETE SIDEWALK, TYP. (SEE DETAILS)
2. CONNECT TO EXISTING PAVEMENT, SIDEWALK, CURB, TYP.

BENCHMARKS

ORIGINATING BENCHMARK:

THE HORIZONTAL AND VERTICAL LOCATION DATA SHOWN ON THIS SURVEY ARE BASED UPON A POSITIONAL SOLUTION DERIVED FROM GLOBAL POSITION SYSTEM (GPS) OBSERVATIONS. THE COORDINATE VALUES SHOWN ARE IN THE INDIANA STATE PLANE COORDINATE SYSTEM (EAST ZONE) REFERENCE TO THE 1983 NORTH AMERICAN DATUM UTILIZING THE CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS) ADJUSTMENT AS DETERMINED BY NGS (NAD 82 (CORDS 96)(EPOCH 2002.0000) AND REPORTED ON THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD88). THIS ORTHOMETRIC ELEVATION WAS COMPUTED USING GEOID18.

SITE BENCHMARKS:
(LOCATIONS SHOWN ON SURVEY)

SBM #500 N.1750742.79, E.214874.89
ELEVATION=820.77 CUT X SET

SBM #501 N.1750710.19, E.214811.54
ELEVATION=821.26 MAG NAIL PER TIE

SBM #502 N.1750453.49, E0214843.16
ELEVATION=821.11 CUT X SET

SBM #503 N.1750245.34, E.214833.50
ELEVATION=821.11 CUT X SET

GENERAL PLAN NOTES

REFER TO GENERAL NOTES SHEET FOR MORE INFORMATION INCLUDING THE FOLLOWING: (EXISTING LEGEND, BENCHMARK INFORMATION, AND SPECIFIC GENERAL PLAN NOTES.)

NO.	REVISIONS	DATE	BY

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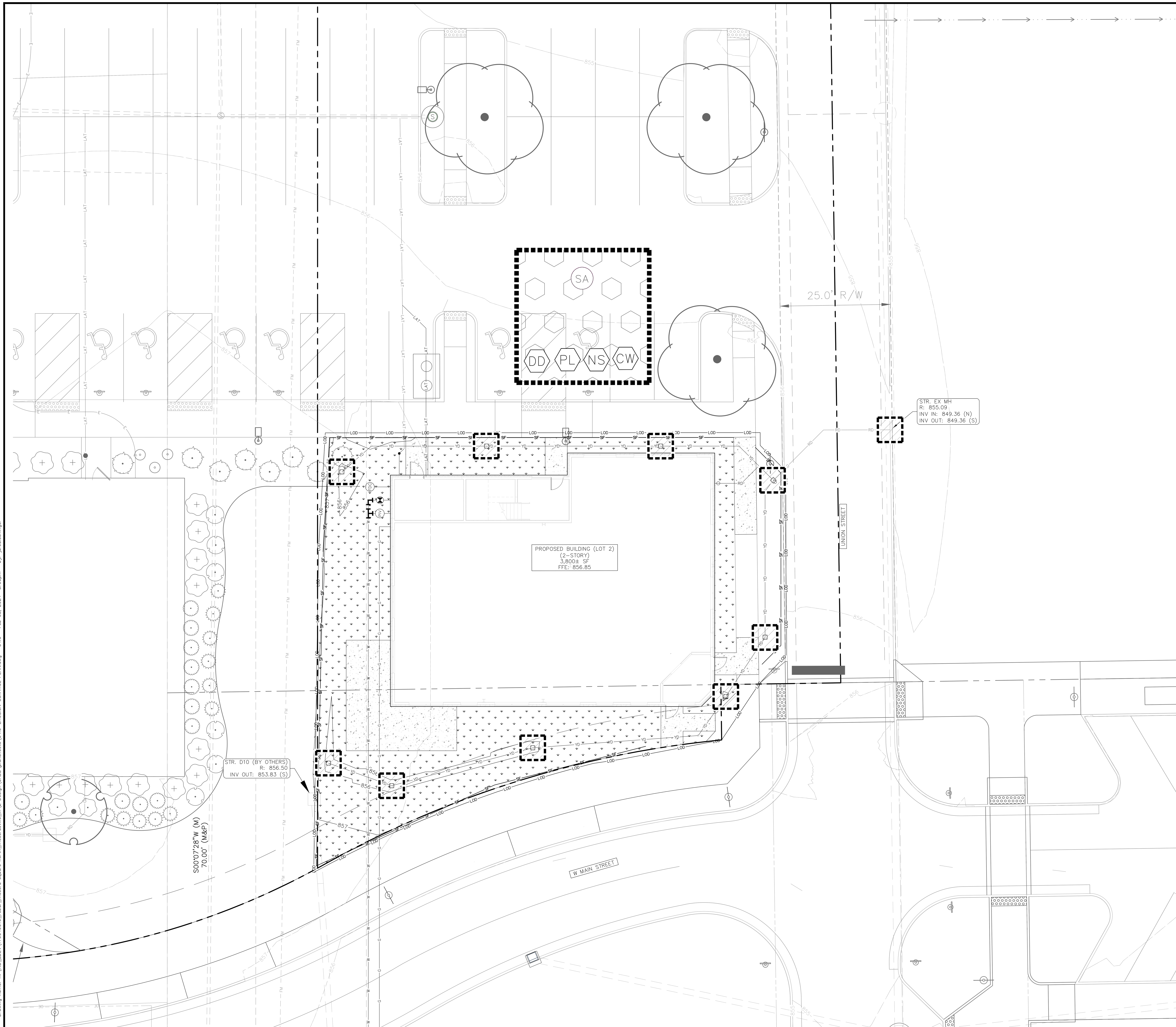
PROFESSIONAL ENGINEER
STATE OF INDIANA
NOT APPROVED FOR CONSTRUCTION

REBAR DEVELOPMENT

SITE PLAN

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE: 02/09/2024
KHA PROJECT NO. 170046010
SHEET NUMBER
C3.0



Indiana Utilities Protection Service
Call 811
before you dig

NORTH

GRAPHIC SCALE IN FEET
0 5' 10' 20'

EROSION CONTROL LEGEND

	TEMPORARY SEEDING (SEE EROSION CONTROL DETAILS)
	TEMPORARY EROSION CONTROL BLANKET (SEE TEMPORARY EROSION CONTROL NOTE #3)
	CONSTRUCTION ENTRANCE (SEE EROSION CONTROL DETAILS)
SF	SILT FENCE (SEE EROSION CONTROL DETAILS)
	AREA INLET PROTECTION (SEE EROSION CONTROL DETAILS)
CW	CONCRETE WASHOUT (SEE EROSION CONTROL DETAILS) (TO BE DETERMINED BY CONTRACTOR)
	RIP RAP (SEE EROSION CONTROL DETAILS)
	ROCK DONUT (SEE EROSION CONTROL DETAILS)
SF	TEMPORARY SOIL STOCKPILE
LOD	LIMITS OF DISTURBANCE
	CHECK DAM
620	EXISTING CONTOURS
620	PROPOSED CONTOURS
NS	N.O.I. SIGN
	STAGING AREA
DD	DEBRIS DUMPSTER
PL	PORT-O-LET

EXISTING LEGEND

BOLLARD	MISC LID	YARD LIGHT
CONTROL BENCHMARK	MONITOR WELL	SANITARY CLEANOUT
ROW MONUMENT	GAS MARKER	SANITARY MANHOLE
FLAG POLE	GAS METER	VENT PIPE
MAIL BOX	GAS VALVE	STORM CURB INLET
UTILITY POLE	AC UNIT	STORM INLET
POST	AREA LIGHT	STORM ROOF DRAIN
SOIL BORING	ELECTRICAL BOX	STORM DRAIN MANHOLE
HANDICAP SYMBOL	ELECTRICAL HAND HOLE	STORM YARD DRAIN
SIGN	ELECTRICAL METER	FIRE DEPT CONNECTION
CABLE MANHOLE	ELECTRICAL MANHOLE	FIRE HYDRANT
CABLE PEDESTAL	ELECTRICAL MARKER	IRRIGATION VALVE
TELEPHONE PEDESTAL	ELECTRICAL TRANSFORMER	POST INDICATOR VALVE
TELEPHONE HAND HOLE	GUY POLE/WIRE	WELL
TELEPHONE MARKER	POWER POLE	WATER METER
TELEPHONE MANHOLE	TRAFFIC SIGNAL POLE	WATER VALVE
FIBER OPTIC MAKER	TRAFFIC MANHOLE	TREE / STUMP

< o o o	SWALE	TS	TOE OF SLOPE
X	FENCE LINE	TB	TOP OF BANK
SS	SANITARY SEWER	FIB	UNDERGROUND FIBER OPTIC
SD	STORM DRAIN	OHE	OVERHEAD ELECTRICAL
W	WATER LINE	GAS	UNDERGROUND GAS
	TREE LINE	TEL	UNDERGROUND TELEPHONE

GENERAL PLAN NOTES

REFER TO GENERAL NOTES SHEET FOR MORE INFORMATION INCLUDING THE FOLLOWING: (EXISTING LEGEND, BENCHMARK INFORMATION, AND SPECIFIC GENERAL PLAN NOTES.)

REVISIONS | DATE | BY | No.

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WILLIAM A. BU... REGISTERED PROFESSIONAL ENGINEER ... INDIANA
NOT APPROVED FOR CONSTRUCTION

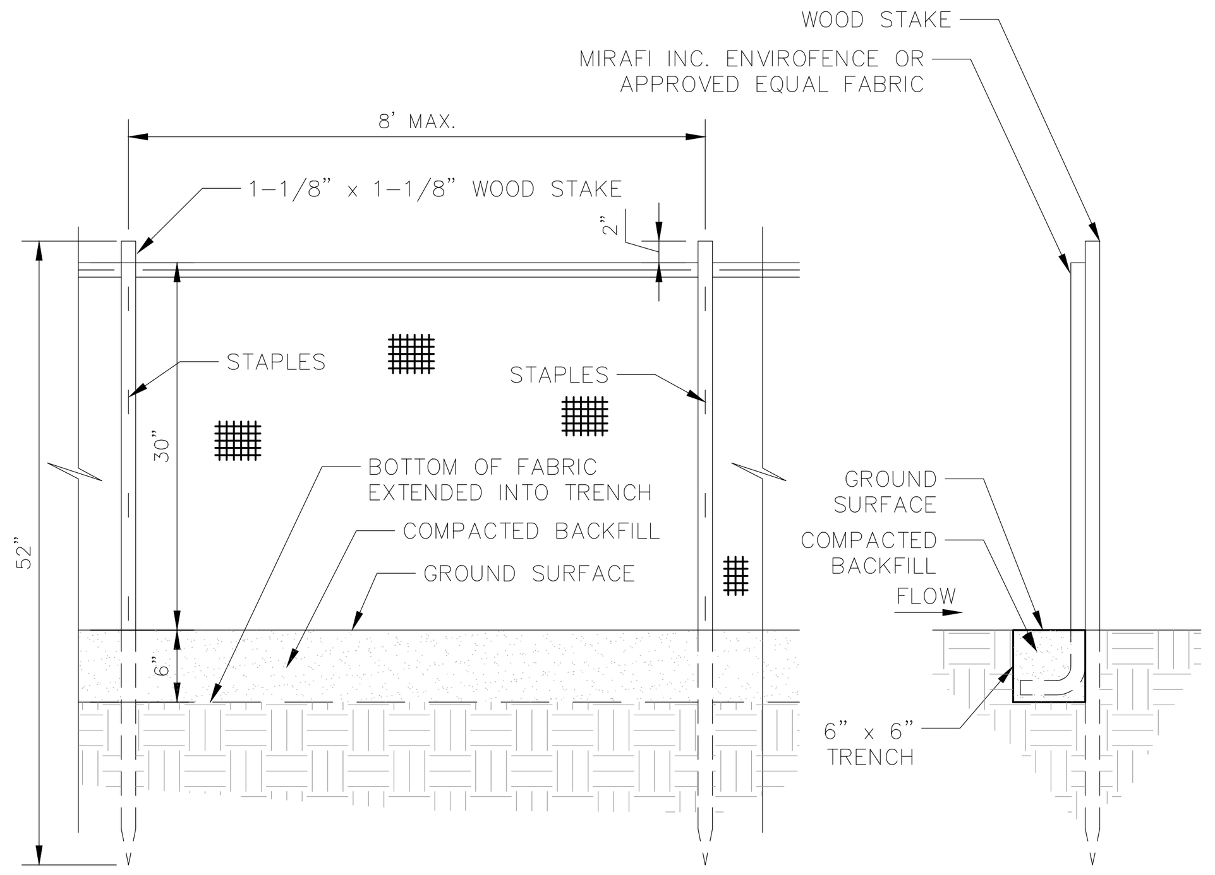
REBAR DEVELOPMENT

EROSION CONTROL PLAN

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE: 02/09/2024
KHA PROJECT NO. 170046010
SHEET NUMBER
C4.0

Drawing name: K:\IND_LDEV\170046010_rebar_mccord square north_mccordsville_in\2 Design\CAD\PlanSheets\C4.0-EROSION CONTROL PLAN.dwg C4.0 Feb 08, 2024 3:00pm by: jared.schingel



SEDIMENTATION/SILT FENCE

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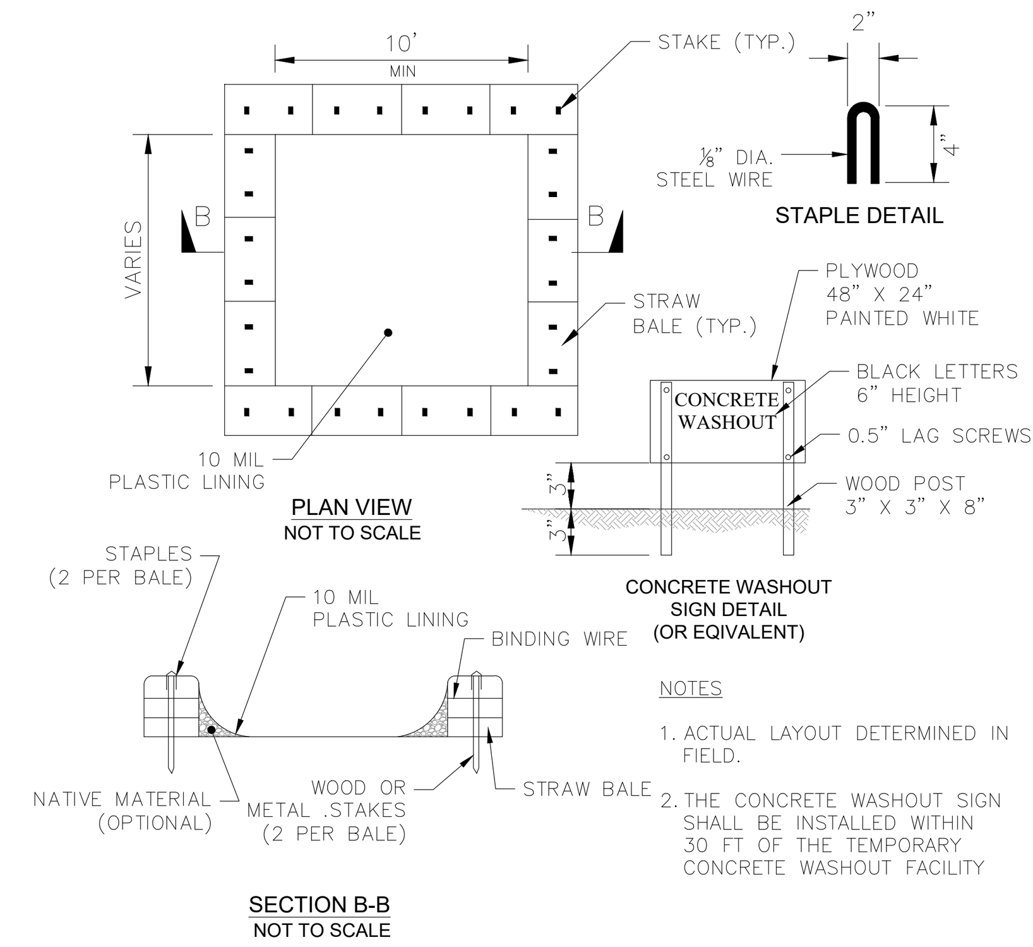
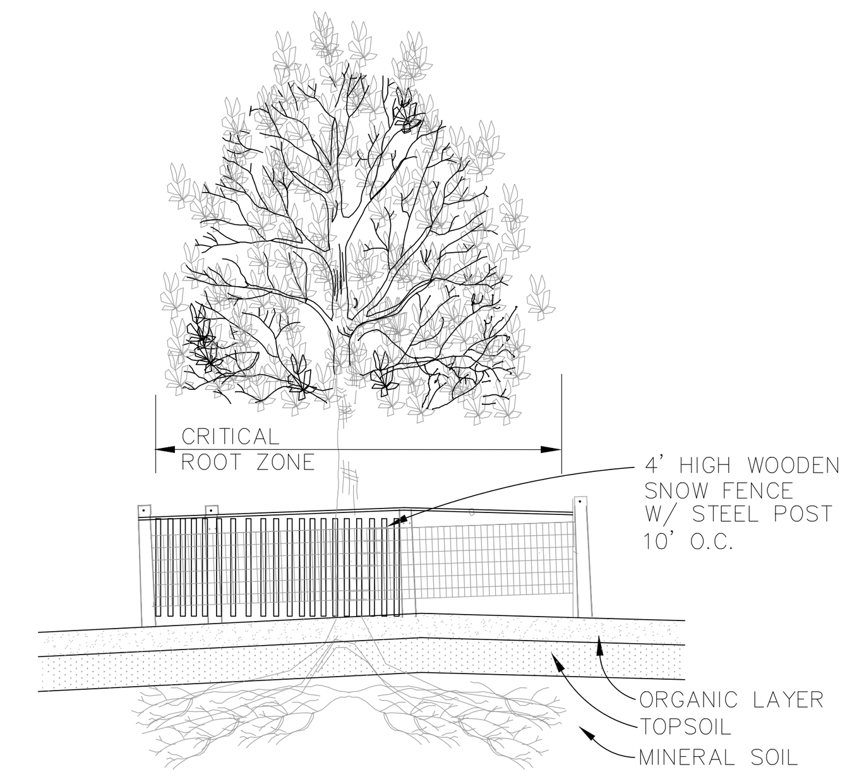


NOTES

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT OF THE TEMPORARY CONCRETE WASHOUT FACILITY

CONCRETE WASHOUT

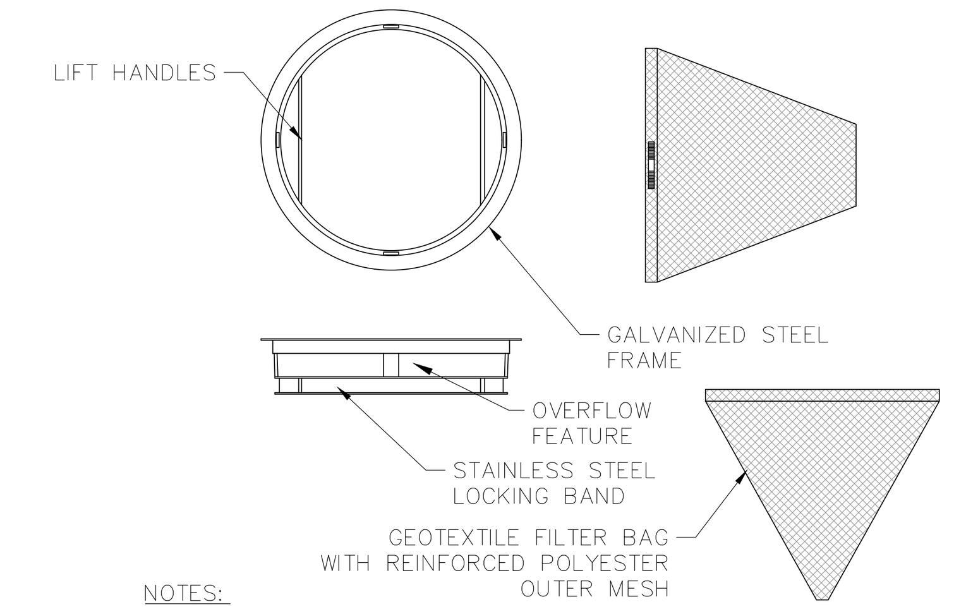
N.T.S.



PROVIDE FENCE AROUND CRITICAL ROOT ZONE OF TREE. FENCE SHALL BE PLACED IN A CIRCLE WITH A RADIUS OF 1' PER 1" DIAMETER OF THE TREE MEASURED AT 4.5' ABOVE GROUND FOR INDIVIDUAL TREES OR STANDS OF TREES.

TREE PROTECTION

N.T.S.



NOTES:

ALL PRODUCTS MANUFACTURED BY INLET AND PIPE PROTECTION, INC OR APPROVED EQUAL.

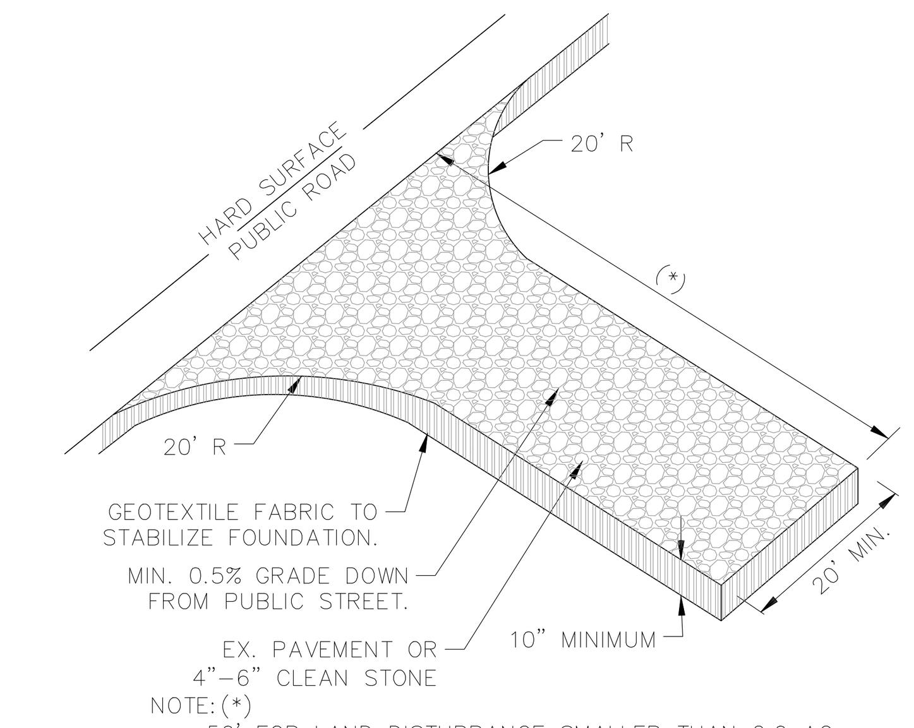
NOTE: INLET FILTERS ARE SLIGHTLY SMALLER THAN THE INLET GRATE SIZES. WHEN IDENTIFYING OR SPECIFYING FILTERS/CASTINGS PLEASE REFER TO THE DIAMETER "D" OR WIDTH "W" AND HEIGHT "H" OF FILTER FRAMES OR CASTING GRATES. YOU MAY ALSO REFER TO OUR CASTING CROSS REFERENCE GUIDE FOR INDOT STANDARDS

NOTE: ROUND AND SQUARE INLET FILTERS AVAILABLE FOR MOST NEENAH AND EAST JORDAN BEEHIVE, ROLL CURB AND CURB BOX FRAME TYPES

ALL IPP INLET FILTERS TO CONFORM TO INDOT SPECIFICATIONS.

INLET PROTECTION

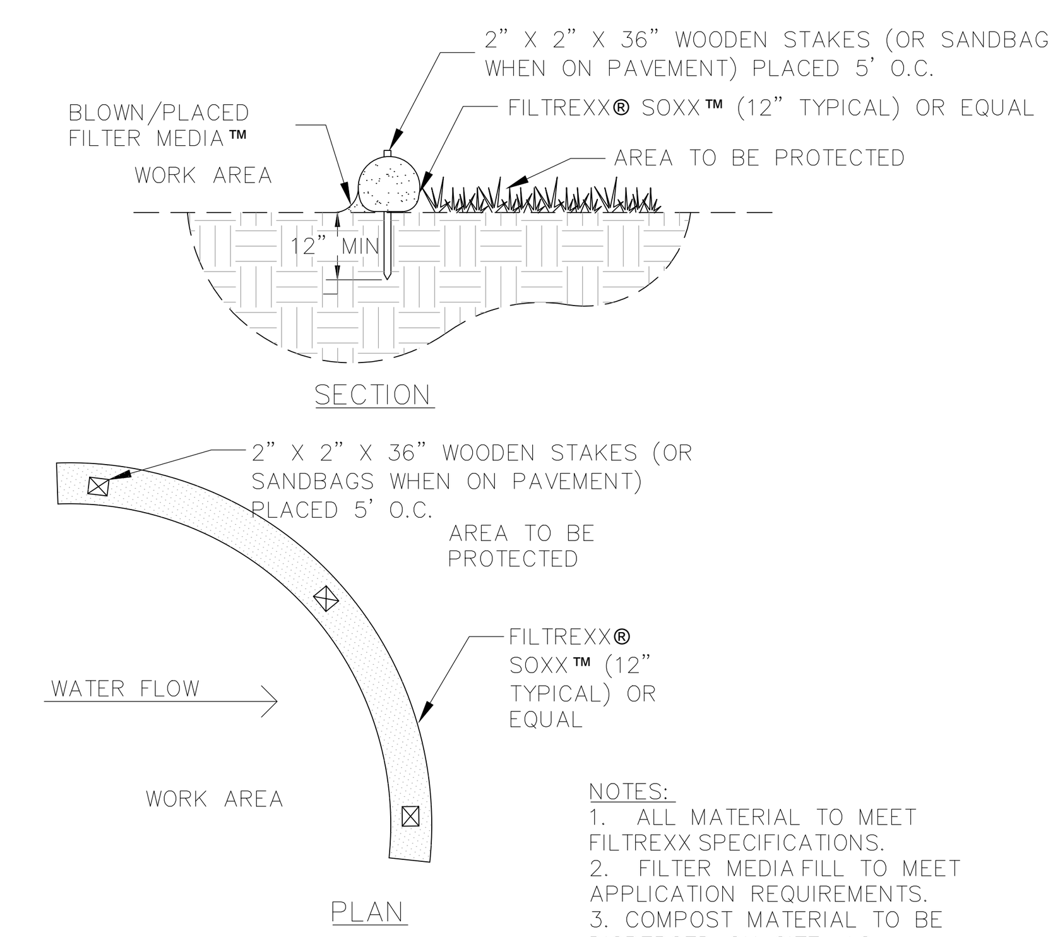
N.T.S.



NOTE: (*)
50' FOR LAND DISTURBANCE SMALLER THAN 2.0 AC.
150' FOR LAND DISTURBANCE LARGER THAN 2.0 AC.

CONSTRUCTION ENTRANCE

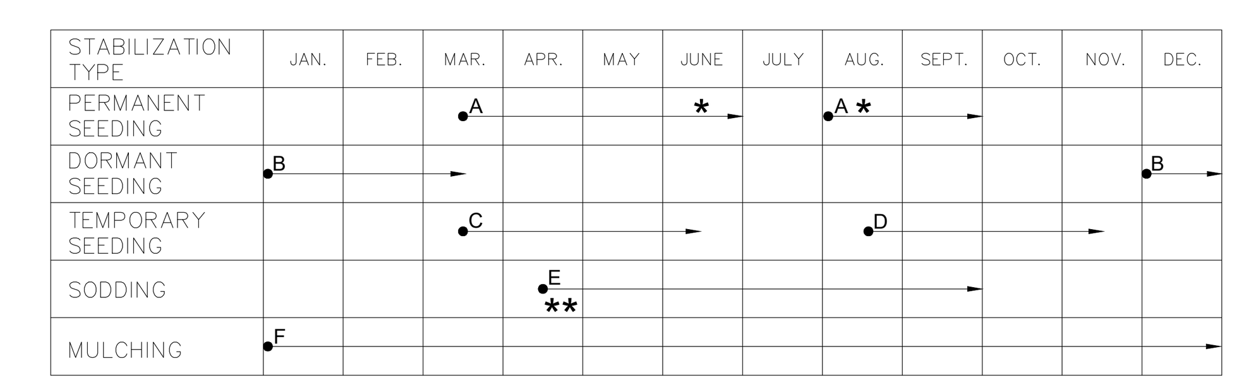
N.T.S.



NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTER SOCK SEDIMENT CONTROL

N.T.S.



A KENTUCKY BLUEGRASS 90 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 30 LBS/ACRE

B KENTUCKY BLUEGRASS 135 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 45 LBS/ACRE + 2 TONS STRAW MULCH/ACRE

C SPRING OATS 100 LBS/ACRE

D WHEAT OR CEREAL RYE 150 LBS/ACRE

E SOD

F STRAW MULCH 2 TONS/ACRE

* IRRIGATION NEEDED DURING JUNE AND AUGUST

** IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD DURING ANY PART OF THE YEAR

SEEDING CHART

DE-WATERING AND PUMPING OPERATIONS

DESCRIPTION AND PURPOSE

DE-WATERING OPERATIONS ARE PRACTICES THAT MANAGE THE DISCHARGE OF POLLUTANTS WHEN NON-STORMWATER AND ACCUMULATED PRECIPITATION MUST BE REMOVED FROM A WORK LOCATION SO THAT CONSTRUCTION WORK MAY BE ACCOMPLISHED.

SUITABLE APPLICATIONS
THESE PRACTICES ARE IMPLEMENTED FOR DISCHARGES OF NON-STORM WATER FROM CONSTRUCTION SITES. NON-STORMWATERS INCLUDE, BUT ARE NOT LIMITED TO, GROUNDWATER, WATER FROM COFFERDAMS, WATER DIVERSIONS, AND WATERS USED DURING CONSTRUCTION ACTIVITIES THAT MUST BE REMOVED FROM A WORK AREA. PRACTICES IDENTIFIED IN THIS SECTION ARE ALSO APPROPRIATE FOR IMPLEMENTATION WHEN MANAGING THE REMOVAL OF ACCUMULATED PRECIPITATION (STORMWATER) FROM DEPRESSED AREAS AT A CONSTRUCTION SITE.

LIMITATIONS
SITE CONDITIONS WILL DICTATE DESIGN AND USE OF DEWATERING OPERATIONS. THE CONTROLS DISCUSSED IN THIS BEST MANAGEMENT PRACTICE (BMP) ADDRESS SEDIMENT ONLY. THE CONTROLS DETAILED IN THIS BMP ONLY ALLOW FOR MINIMAL SETTLING TIME FOR SEDIMENT PARTICLES. USE ONLY WHEN SITE CONDITIONS RESTRICT THE USE OF THE OTHER CONTROL METHODS. DEWATERING OPERATIONS WILL REQUIRE, AND MUST COMPLY WITH, APPLICABLE LOCAL PERMITS.

IMPLEMENTATION
DE-WATERING DISCHARGES MUST NOT CAUSE EROSION AT THE DISCHARGE POINT. A VARIETY OF METHODS CAN BE USED TO TREAT WATER DURING DE-WATERING OPERATIONS. THIS SHEET PROVIDES OPTIONS TO ACHIEVE SEDIMENT REMOVAL. THE SIZE OF PARTICLES PRESENT IN THE SEDIMENT AND PERMIT OR RECEIVING WATER LIMITATIONS ON SEDIMENT ARE KEY CONSIDERATIONS FOR SELECTING SEDIMENT TREATMENT OPTION(S); IN SOME CASES, THE USE OF MULTIPLE DEVICES MAY BE APPROPRIATE.

GRAVITY BAG FILTER

DESCRIPTION:
A GRAVITY BAG FILTER, ALSO REFERRED TO AS A DEWATERING BAG, IS A SQUARE OR RECTANGULAR BAG MADE OF NON-WOVEN GEOTEXTILE FABRIC THAT COLLECTS SAND, SILT, AND FINES.

APPROPRIATE APPLICATIONS:
EFFECTIVE FOR THE REMOVAL OF SEDIMENTS (GRAVEL, SAND, AND SILT). SOME METALS ARE REMOVED WITH THE SEDIMENT.

IMPLEMENTATION:
WATER IS PUMPED INTO ONE SIDE OF THE BAG AND SEEPS THROUGH THE BOTTOM AND SIDES OF THE BAG.

A SECONDARY BARRIER, SUCH AS A ROCK FILTER BED AND/OR A STRAW BALE BARRIER, IS PLACED BENEATH AND BEYOND THE EDGES OF THE BAG TO CAPTURE SEDIMENTS THAT ESCAPE THE BAG.

MAINTENANCE:
INSPECTION OF THE FLOW CONDITIONS, BAG CONDITION, BAG CAPACITY, AND THE SECONDARY BARRIER IS REQUIRED.

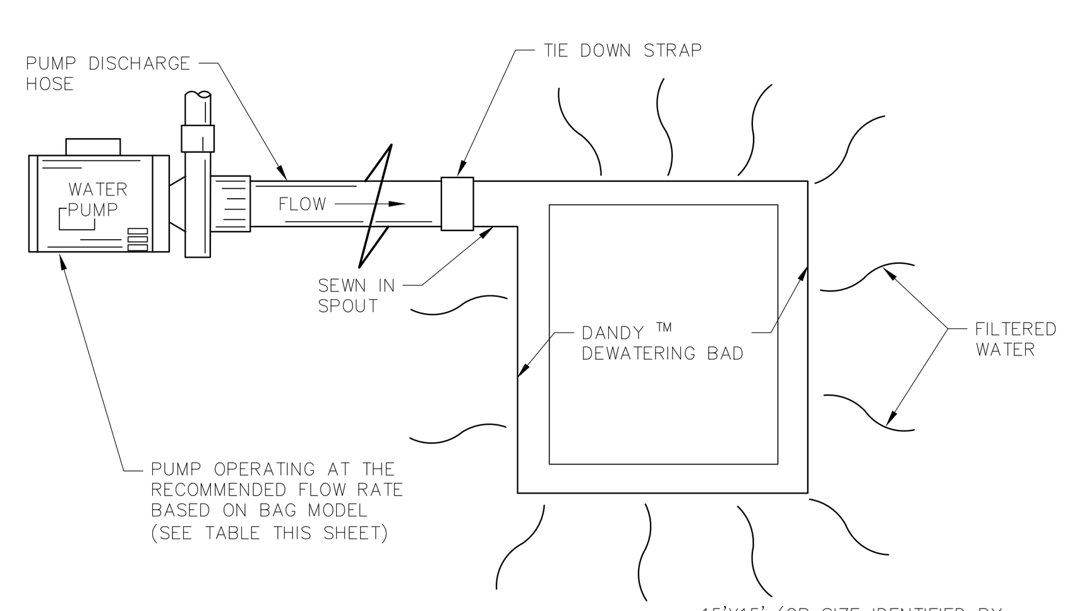
REPLACE THE BAG WHEN IT NO LONGER FILTERS SEDIMENT OR PASSES WATER AT A REASONABLE RATE. THE BAG IS DISPOSED OF OFFSITE.

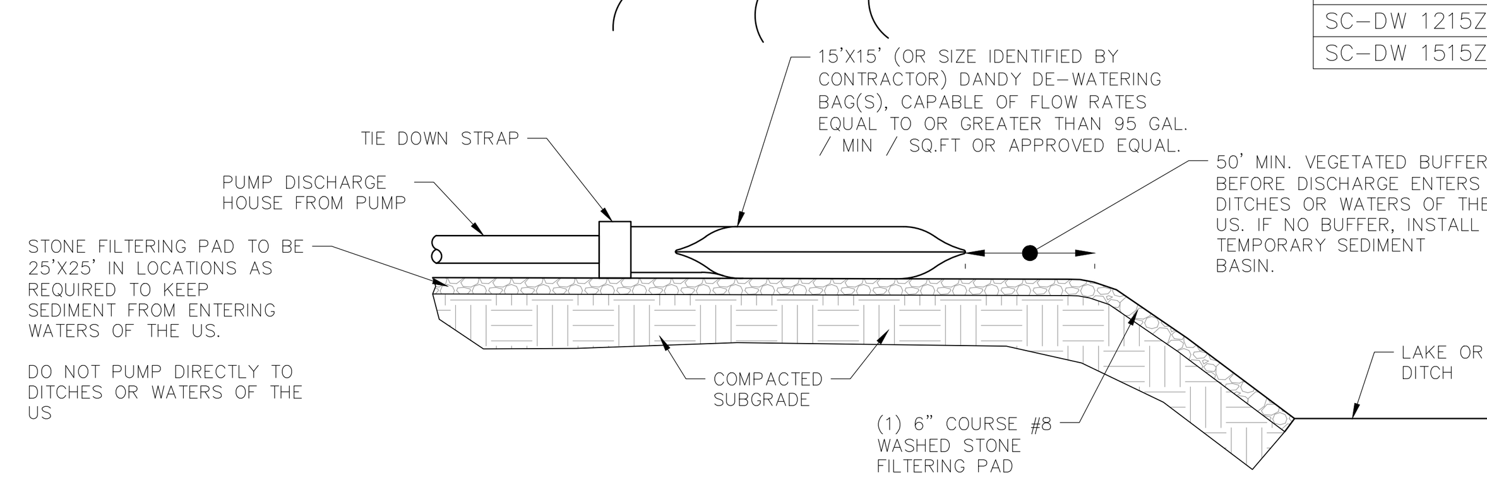
SINGLE-USE DEWATERING BAG SPECIFICATIONS

MODEL	OD (ft)	INLET/OUTLET CONNECTION (in)	RECOMMENDED FLOW RATE (gpm)	CAPACITY (cft)	STANDARD MATERIAL NONWOVEN LINER (oz)
SC-DW 1260	1 X 5	3	2 - 5	3	8.0
SC-DW 2460	2 X 5	3	3 - 30	5	8.0
SC-DW 46	4 X 6	3	8 - 80	10	8.0
SC-DW 1010	10 X 10	3	35 - 350	45	8.0
SC-DW 1215	12 X 15	3	60 - 600	80	8.0

REUSABLE DEWATERING BAG SPECIFICATIONS

MODEL	OD (ft)	INLET/OUTLET CONNECTION (in)	RECOMMENDED FLOW RATE (gpm)	CAPACITY (cft)	STANDARD MATERIAL NONWOVEN LINER (oz)
SC-DW 467	4 X 6	3	8 - 80	10	8.0
SC-DW 1010Z	10 X 10	3	35 - 350	45	8.0
SC-DW 1215Z	12 X 15	3	6 - 600	80	8.0
SC-DW 1515Z	15 X 15	3	80 - 800	100	8.0



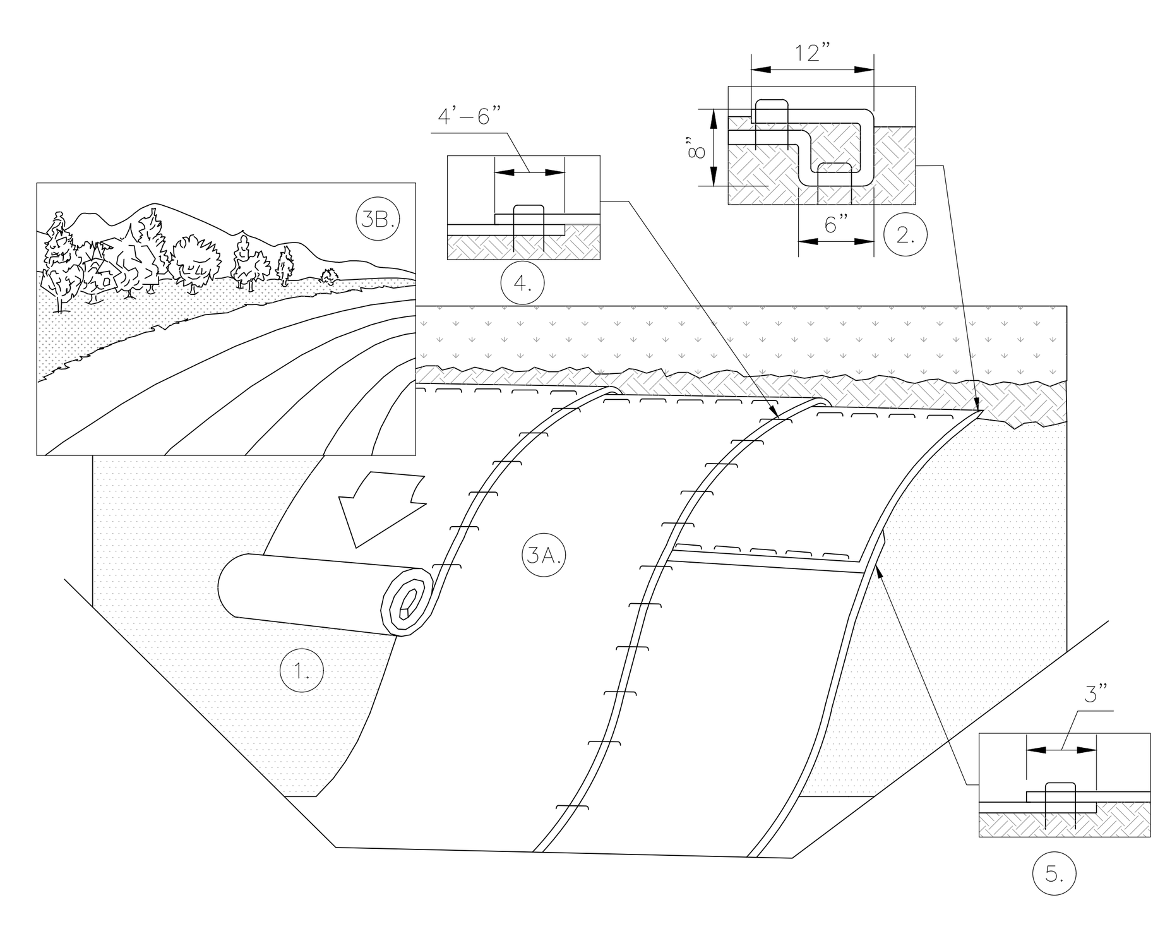


NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR DETERMINING HOW MANY DEWATERING BAGS ARE REQUIRED, THE LOCATION AND THE NUMBER AND SIZE OF PUMPS REQUIRED.

2. WHEN DEWATERING BAG IS FULL OF SEDIMENT, REMOVE BAG AND DEPOSIT SEDIMENT IN A LOCATION DETERMINED BY THE ON-SITE ENGINEER

3. MEASURE TO BE USED IN ACCORDANCE WITH MANUFACTURER'S STATED INSTALLATION AND MAINTENANCE SPECIFICATIONS, AND LIMITATIONS.

DEWATERING BAG DETAIL



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.

2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH AS SHOWN IN DETAIL. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.

3. ROLL THE BLANKETS (3A.) DOWN OR (3B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURES RECOMMENDATION.

4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH MINIMUM 6" OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.

5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.

7. PLACE STAPLES/STAKES PER MANUFACTURER'S RECOMMENDATION FOR THE APPROPRIATE SLOPE BEING APPLIED.

NOTES:
1. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO
PROPERLY SECURE THE BLANKETS.

2. FOLLOW EROSION CONTROL TECHNOLOGY COUNCIL SPECIFICATION FOR PRODUCT SELECTION.

EROSION CONTROL BLANKET (SLOPE INSTALLATION)

N.T.S.

No. REVISIONS DATE BY

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CHECKED BY: WAB

WILLIAM A. BUSH — REGISTERED PROFESSIONAL ENGINEER — INDIANA — NOT APPROVED FOR CONSTRUCTION

REBAR DEVELOPMENT

EROSION CONTROL DETAILS

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE: 02/09/2024
KHA PROJECT NO. 170046010
SHEET NUMBER
C4.1

GENERAL PROJECT INFORMATION

SITE NAME

THE AREA SCHEDULED FOR CONSTRUCTION IS KNOWN AS "REBAR COMMERCIAL BUILDING AT MCCORD SQUARE" (HEREINAFTER REFERRED TO AS THE "PROJECT").

PROJECT LOCATION

THE PROJECT IS LOCATED IN VERNON TOWNSHIP, McCORDSVILLE, HANCOCK COUNTY, INDIANA.

ADDRESS: MAIN ST, McCORDSVILLE, IN 46055
LATITUDE: 39° 53'40.68"N
LONGITUDE: 85° 55'04.28"W

OWNER'S INFORMATION

NAME: REBAR COMMERCIAL LLC
ADDRESS: 8700 NORTH STREET, SUITE 120 FISHERS, IN 46038
REPRESENTATIVE: SHELBY BOWEN
TELEPHONE: (317) 670-7997

DEVELOPER'S INFORMATION

NAME: SAME AS OWNER
ADDRESS:
REPRESENTATIVE:
TELEPHONE:

ASSESSMENT OF CONSTRUCTION PLAN ELEMENTS - SECTION A

A1 INDEX SHOWING LOCATIONS OF REQUIRED PLAN ELEMENTS

REFER TO THE FOLLOWING LIST FOR LOCATIONS OF REQUIRED PLAN ELEMENTS

C0.0 TITLE SHEET	A2, A5
C2.X SERIES EXISTING CONDITIONS AND DEMOLITION(S)	A13, A15, A16
C3.X SERIES SITE PLAN(S)	A6, A28
C4.X SERIES EROSION CONTROL PLAN(S)	A12, A25, A28, A29
C5.X SERIES GRADING PLAN(S)	A24, A28
C6.X SERIES UTILITY PLAN(S)	A26, A27, A28

A2 VICINITY MAP

REFER TO THE TITLE SHEET.

A3 PROJECT DESCRIPTION

CONSTRUCTION OF A ±3,800 SF COMMERCIAL BUILDING ON ±0.20 ACRES.
THE PROJECT IS LOCATED IN SECTION 25 OF T17N, R5E, IN THE TOWN OF MCCORDSVILLE, HANCOCK COUNTY, IN.

A4 LATITUDE AND LONGITUDE

REFER TO PROJECT LOCATION ABOVE.

A5 LEGAL DESCRIPTION OF THE PROJECT SITE

REFER TO C0.0 TITLE SHEET.

A6 11"x17" PLAT

REFER TO C3.X SERIES SITE PLAN(S).

A7 100-YEAR FLOODPLAINS, FLOODWAYS, AND FLOODWAY FRINGES

THE PROJECT SITE IS LOCATED WITHIN UNSHADED ZONE "X" WHICH IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FIRM MAP PANEL 18059C0018D, DATED DECEMBER 04, 2007.

A8 ADJACENT LANDUSE, INCLUDING UPSTREAM WATERSHED

NORTH: COMMERCIAL
SOUTH: COMMERCIAL
EAST: RESIDENTIAL
WEST: RESIDENTIAL

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

THE PROJECT FALLS WITHIN THORPE CREEK-GEIST RESERVOIR WATERSHED FOR WHICH THERE IS NOT A U.S. EPA APPROVED OR ESTABLISHED TMDL.

A10 IDENTIFICATION OF RECEIVING WATERS

THE PROJECT SITE DISCHARGES EAST INTO EXISTING STORM INFRASTRUCTURE THAT IS ROUTED TO THE MASTER-PLANNED WET POND. THIS POND ULTIMATELY DISCHARGES TO STANSBURY DITCH.

A11 IDENTIFICATION OF DISCHARGES TO A WATER ON THE CURRENT 303(D) LIST OF IMPAIRED WATERS

THE PROJECT SITE DIRECTLY DISCHARGES INTO STANSBURY DITCH WHICH IS CATEGORIZED AS GOOD.

A12 SOILS MAP INCLUDING SOIL DESCRIPTIONS AND LIMITATIONS

THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) NATURAL RESOURCES CONSERVATION SERVICE (NRCS) WEB SOIL SURVEY OF HANCOCK COUNTY, INDIANA, INDICATES THAT (BROOKSTON SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES (Br); CROSBY SILT LOAM, NEW CASTLE TILL PLAIN, 0 TO 2 PERCENT SLOPES (CrA)) SOILS ARE THE PREDOMINANT SOILS WITHIN THE PROJECT SITE. CONTRACTOR TO FOLLOW GEOTECHNICAL ENGINEER'S RECOMMENDATIONS FOR SOIL REMEDIATION AS REQUIRED. REFER TO SHEET C0.0 - TITLE SHEET FOR SOILS MAP.

A13 LOCATION AND NAME OF ALL WETLANDS, LAKES AND WATER COURSES ON AND ADJACENT TO THE PROJECT SITE

EXISTING WETLANDS DO NOT EXIST WITHIN THE PROJECT SITE.

A14 STATE / FEDERAL WATER QUALITY PERMITS

ADDITIONAL STATE / FEDERAL PERMITS ARE NOT REQUIRED FOR THIS PROJECT.

A15 IDENTIFICATION OF EXISTING VEGETATIVE COVER

THE PROJECT SITE IS PREDOMINATELY UNDEVELOPED ROW CROP AGRICULTURE FIELD.

A16 EXISTING SITE TOPOGRAPHY AT AN INTERVAL APPROPRIATE TO INDICATE DRAINAGE PATTERNS

THE EXISTING TOPOGRAPHY WITHIN THE PROJECT SITE IS SHOWN ON THE C2.X EXISTING CONDITIONS AND DEMOLITION PLAN(S).

A17 LOCATIONS WHERE RUNOFF ENTERS THE PROJECT SITE

THERE ARE NO SIGNIFICANT OFFSITE AREA AS THE LOT HAS BEEN MASS GRADED AND MASTER PLANNED.

A18 SPECIFIC POINTS WHERE EXISTING STORMWATER DISCHARGE WILL LEAVE THE PROJECT SITE

IN THE EXISTING CONDITION, THE SITE DRAINS TO THE EAST TOWARD EXISTING STORM INFRASTRUCTURE THAT IS MASTER PLANNED FOR THE SITE.

A19 LOCATION OF ALL EXISTING STRUCTURES ON THE PROJECT SITE

REFER TO THE C2.X EXISTING CONDITIONS AND DEMOLITION PLAN(S) FOR LOCATIONS OF EXISTING STRUCTURES.

A20 EXISTING PERMANENT RETENTION OR DETENTION FACILITIES

THERE IS AN EXISTING WET DETENTION POND LOCATED TO THE SOUTH OF THE PROJECT SITE THAT IS MASTER PLANNED FOR THIS PROJECT.

A21 IDENTIFICATION OF POTENTIAL DISCHARGES TO GROUND WATER

RUNOFF WILL NOT BE DISCHARGED TO GROUND WATER.

A22 PROJECT AREA

0.2± ACRES

A23 EXPECTED LAND DISTURBANCE AREA

0.2± ACRES

A24 PROPOSED FINAL TOPOGRAPHY AT AN INTERVAL APPROPRIATE TO INDICATE DRAINAGE PATTERNS

THE PROPOSED TOPOGRAPHY WITHIN THE PROJECT SITE IS SHOWN ON C5.X SERIES GRADING AND DRAINAGE PLAN(S).

A25 LOCATIONS AND APPROXIMATE BOUNDARIES OF ALL DISTURBED AREAS

REFER TO C4.X SERIES EROSION CONTROL PLAN(S) FOR APPROXIMATE LIMITS OF DISTURBANCE.

A26 LOCATIONS, SIZE AND DIMENSIONS OF PROPOSED STORMWATER SYSTEMS

REFER TO C3.X SERIES SITE AND UTILITY PLAN FOR INFORMATION ON THE PROPOSED STORM SEWER SYSTEM.

A27 SPECIFIC POINTS WHERE PROPOSED STORMWATER DISCHARGE WILL LEAVE THE PROJECT SITE

STORMWATER RUNOFF FOR THE PROPOSED 3,800 SF COMMERCIAL BUILDING WILL DRAIN VIA SHEET AND SHALLOW CONCENTRATED FLOW INTO STORM STRUCTURES WHERE IT WILL BE CONVEYED TO THE EXISTING MASTER PLANNED WET POND OFFSITE TO THE SOUTH SIDE OF THE SITE. THE EXISTING DETENTION POND DISCHARGES TO STANSBURY DITCH.

A28 LOCATION OF ALL LOTS AND PROPOSED SITE IMPROVEMENTS

REFER TO C3.X SERIES SITE PLAN(S).

A29 LOCATIONS OF PROPOSED SOIL STOCKPILES AND/OR BORROW/DISPOSAL AREAS

PROPOSED STOCKPILE LOCATIONS ARE SHOWN ON C4.X SERIES EROSION CONTROL PLAN(S).

A30 CONSTRUCTION SUPPORT ACTIVITIES

REFER TO C4.X SERIES EROSION CONTROL PLAN(S) FOR THE LOCATIONS OF ALL CONSTRUCTION SUPPORT ACTIVITIES ASSOCIATED WITH THIS PROJECT INCLUDING THE STAGING AREA, DEBRIS DUMPSTER, PORT-O-LET, CONCRETE WASHOUT, NOI SIGN, AND CONSTRUCTION ENTRANCE.

A31 LOCATION OF IN-STREAM ACTIVITIES

THIS PROJECT DOES NOT INCLUDE WORK WITHIN A STREAM.

SWPPP - CONSTRUCTION - SECTION B

B1 DESCRIPTION OF POTENTIAL POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION ACTIVITIES

THE FOLLOWING POTENTIAL POLLUTANT SOURCES MAY BE ASSOCIATED WITH CONSTRUCTION ACTIVITIES AT THE PROJECT SITE:

1. SIGNIFICANT MATERIAL INVENTORY
   1.1. THE VEHICLES USED BY THE FACILITY POSE A THREAT TO STORMWATER RUNOFF. STORMWATER IN THE AREA COULD BE CONTAMINATED BY AUTOMOBILE FLUIDS CONTAINING HEAVY METALS, OIL, GREASE, AND ALCOHOLS. FUELING OF VEHICLES SHOULD OCCUR ONLY IN MAINTENANCE GARAGES, OR OTHER APPROVED LOCATIONS. CONCRETE PAVEMENT SHOULD BE LAID IN FUELING AREAS, AND APPROPRIATE DRAIN COLLECTION SYSTEMS (INDEPENDENT OF STORM SEWER SYSTEMS) SHALL BE INSTALLED. THE VEHICLES SHOULD BE MAINTAINED REGULARLY TO AVOID LEAKAGE.
   1.2. THE BITUMINOUS ASPHALT THAT IS BEING LAID ALSO POSES A POTENTIAL POLLUTION RISK. WHEN THE ASPHALT COMES IN CONTACT WITH RAINWATER, PETROLEUM SURFACTANTS CAN BE LIFTED FROM THE ASPHALT AND TRANSPORTED INTO THE STORM SEWER. THESE POLLUTANTS CAN BE HARMFUL TO ANIMALS.
2. POTENTIAL POLLUTANTS
   2.1. SOLID WASTE DISPOSAL - NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS ARE ALLOWED TO BE DISCHARGED FROM THE SITE VIA STORMWATER. ALL SOLID WASTE, INCLUDING DISPOSABLE MATERIALS INCIDENTAL TO THE MAJOR CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN CONTAINERS. ALL CONTAINERS (DUMPSTERS) MUST BE COVERED. INDIANA'S SOLID WASTE REGULATIONS REQUIRE THAT CONSTRUCTION AND DEMOLITION WASTE BE TAKEN TO A PERMITTED SANITARY LANDFILL. NO LIQUIDS OR HAZARDOUS WASTE WILL BE ACCEPTED. THE CONTRACTOR SHALL CONTACT THE NEAREST IDEM FIELD OFFICE TO DETERMINE THE NEAREST PERMITTED SANITARY LANDFILL. NO RUBBLE MAY BE PLACED WITHIN WATERWAYS, FLOODPLAINS, OR WETLANDS WITHOUT IDEM OR JURISDICTION APPROVAL.
   2.2. SANITARY FACILITIES - ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. TEMPORARY SANITARY FACILITIES WILL BE PROVIDED AT THE SITE THROUGHOUT THE CONSTRUCTION PHASE. THEY MUST BE UTILIZED BY ALL CONSTRUCTION PERSONNEL AND WILL BE SERVICED BY A COMMERCIAL OPERATOR.
   2.3. HAUL MATERIALS - ALL MATERIALS HAULED TO OR FROM THE SITE SHOULD BE SECURED TO PREVENT LITTERING AND ANY SPILLS MUST BE CLEANED UP IMMEDIATELY.
   2.4. CONCRETE/MASONRY - A CONCRETE/MASONRY WASHOUT SHALL BE PRESENT ONSITE. CONTRACTOR SHALL NOT USE UNLINED EARTHEN PITS BUT SHALL ENSURE THAT THE WASHOUT IS AN APPROPRIATE SIZE AND INCLUDES A LINING AND SOMETHING TO PREVENT THE POLLUTANTS FROM REACHING THE STORM SEWER SYSTEM AND THE SOILS ONSITE. A PREFABRICATED WASHOUT IS RECOMMENDED. TO PROLONG THE LIFE OF THE PREFABRICATED WASHOUTS, SCRAPINGS MAY BE STOCKPILED NEXT TO THE WASHOUT, PROVIDED THE WASHOUT AND STOCKPILE ARE REGULARLY MAINTAINED, LEGIBLY SIGNED WITH USE INSTRUCTIONS, AND THE AREA RESTORED TO PREVIOUS CONDITIONS WHEN FINISHED.
   2.5. LITTER - THE CONSTRUCTION SITE SHALL BE KEPT CLEAN AT ALL TIMES. MISCELLANEOUS LITTER POSES A THREAT TO SURROUNDING WATERWAYS AND IS AN AESTHETIC NUISANCE.
   2.6. SEDIMENT/ EXPOSED SOIL - ALL EXPOSED SOILS ARE TO BE TEMPORARILY SEEDED OR MULCHED SO AS TO NOT BE LEFT UNEXPOSED FOR MORE THAN 7 DAYS. PROJECT SITE IS TO HAVE SILT FENCE AND INLET PROTECTION FOR SEDIMENT CONTROL.

B2 STABLE CONSTRUCTION ENTRANCE LOCATIONS AND SPECIFICATIONS (AT ALL POINTS OF INGRESS AND EGRESS)

REFER TO C4.X SERIES EROSION CONTROL PLAN(S) FOR THE PROPOSED LOCATION OF THE CONSTRUCTION ENTRANCE(S). ENTRANCE(S) SHALL BE INSTALLED PRIOR TO ANY SITE WORK.

B3 TEMPORARY AND PERMANENT SURFACE STABILIZATION SPECIFICATIONS

TEMPORARY SURFACE STABILIZATION

1. TEMPORARY SEEDING
   1.1. TEMPORARY SEEDING IS THE PLANTING OF FAST-GROWING GRASSES TO HOLD DOWN THE SOILS IN DISTURBED AREAS SO THAT THEY ARE LESS LIKELY TO BE CARRIED OFFSITE BY STORMWATER RUNOFF OR WIND. WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY CEASES ON ANY PARTICULAR AREA, ALL DISTURBED GROUND WHERE THERE WILL NOT BE CONSTRUCTION FOR LONGER THAN 7 DAYS MUST BE SEEDED WITH FAST-GERMINATING TEMPORARY SEED AND PROTECT WITH MULCH. IN THE EVENT OF SNOW COVER, STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE THEREAFTER. REFER TO PLANTING PLAN OR SEED CHART FOR RECOMMENDED SEED MIXTURE.
   1.2. ANNUAL RYEGRASS SHALL BE USED FROM MARCH THROUGH NOVEMBER. MIXTURE SHALL BE APPLIED AT THE RATE OF 40 LB/ACRE.
   1.3. SPRING MIX SHALL BE USED FROM MARCH THROUGH MAY. THIS MIXTURE SHALL BE APPLIED AT THE RATE OF 150 LB/ACRE. THIS MIX SHALL CONSIST OF OATS.
   1.4. FALL MIX SHALL BE USED FROM SEPTEMBER THROUGH NOVEMBER. THIS MIXTURE SHALL BE APPLIED AT A RATE OF 150 LB/ACRE. THIS MIX SHALL CONSIST OF WINTER WHEAT.

PERMANENT SURFACE STABILIZATION

THE PURPOSE OF SOIL STABILIZATION IS TO PREVENT SOIL FROM LEAVING THE SITE. IN THE NATURAL CONDITION, SOIL IS STABILIZED BY NATIVE VEGETATION. THE PRIMARY TECHNIQUE TO BE USED AT THIS SITE FOR STABILIZING SITE SOIL WILL BE TO PROVIDE A PROTECTIVE COVER OF TURF GRASS, PAVEMENT, OR BUILDING.

1. STEPS IN INSTALLING AND MAINTAINING PERMANENT SURFACE STABILIZATION MEASURES.
   1.1. SOIL PREPARATION - LOOSEN SOIL TO A DEPTH OF 6 INCHES. IF SOIL AMENDMENTS / FERTILIZERS ARE REQUIRED, APPLY AT MANUFACTURER'S RECOMMENDED APPLICATION RATE.
   1.2. FERTILIZER FOR LAWNS - PROVIDE A FAST-RELEASE FERTILIZER FOR LAWN APPLICATIONS.
   1.3. FERTILIZER FOR TREES / SHRUBS - PROVIDE A SLOW-RELEASE GRANULAR FERTILIZER FOR TREE / SHRUB APPLICATIONS.
   1.4. REMOVE TRASH, DEBRIS, STONES LARGER THAN 1 INCH IN DIAMETER, AND OTHER OBJECTS THAT MAY INTERFERE WITH PLANT ESTABLISHMENT. FINE GRADE SOIL SURFACE TO A SMOOTH FINISH. APPLY SEED USING A SPREADER OR SEEDING MACHINE AND DO NOT SEED WHEN WIND VELOCITIES ARE IN EXCESS OF 5 MPH. WHEN SOWING, APPLY IN TWO DIRECTIONS THAT ARE PERPENDICULAR TO EACH OTHER.
   1.5. RAKE SEED LIGHTLY INTO THE TOP 1/8 INCH OF SOIL, ROLL LIGHTLY, AND WATER WITH A FINE SPRAY.
   1.6. PROTECT FRESHLY SOWED SEED BY INSTALLING A LAYER OF CLEAN, SEED-FREE STRAW MULCH UNIFORMLY TO PROVIDE A BLANKET NOT LESS THAN 11/2 INCHES THICK.
   1.7. GENTLY WATER AREA TO KEEP STRAW MOIST UNTIL THE SEEDS HAVE ESTABLISHED.

B4 SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW AREAS

WATER REMOVED FROM TRAPS, BASINS, AND OTHER HOLDING DEPRESSIONS OR EXCAVATIONS MUST FIRST PASS THROUGH A SEDIMENT CONTROL AND/OR FILTRATION DEVICE. WHEN DEWATERING DEVICES ARE USED, DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION.

SILT FENCES AND STRAW BALES ARE NOT AN ACCEPTABLE MEASURES FOR CONCENTRATED FLOW PROTECTION.

B5 SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS

REFER TO C4.X SERIES EROSION CONTROL PLAN(S) FOR SHEET FLOW AREAS TO BE PROTECTED BY SEEDING, MULCHING, SILT FENCE OR HYDROSEEDING. IF CONCENTRATED FLOW IS EXPERIENCED DUE TO INTERIM GRADING DURING CONSTRUCTION, CONTRACTOR SHALL UTILIZE EROSION CONTROL BLANKETS AND ROCK DONUTS AT INLET LOCATIONS TO SLOW RUNOFF AND REDUCE THE POTENTIAL FOR EROSION AND SEDIMENTATION.

B6 RUNOFF CONTROL MEASURES

N/A

B7 STORM WATER OUTLET PROTECTION SPECIFICATIONS

N/A

B8 GRADE STABILIZATION STRUCTURE LOCATIONS AND SPECIFICATIONS

N/A

B9 DEWATERING APPLICATIONS AND MANAGEMENT METHODS

IF THE DETENTION BASIN(S) ARE EXCAVATED PRIOR TO THE INSTALLATION OF THE STORMWATER OUTFALL PIPES, CONTRACTOR SHALL DEWATER BASIN(S) AS NECESSARY BY ROUTING FLOW THROUGH FILTER BAGS AND DISCHARGING TO THE GROUND SURFACE. CONTRACTOR SHALL MONITOR FLOW PATH DOWN TO OUTFALL TO ENSURE EROSION DOES NOT OCCUR.

B10 MEASURES UTILIZED FOR WORK WITHIN WATERBODIES

NO WORK IS BEING PROPOSED WITHIN ANY WATERBODIES.

B11 MONITORING AND MAINTENANCE GUIDELINES FOR EACH PROPOSED STORMWATER QUALITY MEASURE

INSPECTION SCHEDULE / REPORTING

1. ALL DISTURBED AREAS WITHIN THE PROJECT SITE, INCLUDING ALL EROSION AND SEDIMENT CONTROL DEVICES, SHALL BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT TOTALING ½" OF RAIN OR MORE.
2. INSPECTIONS AND WRITTEN REPORTS SHALL BE PREPARED BY A QUALIFIED PERSON WHO IS FAMILIAR WITH THIS SWPPP, THE PROJECT, AND THE EPA NPDES STORM WATER GENERAL PERMIT. PAPER COPIES OF INSPECTIONS SHALL BE KEPT ON-SITE FOR INSPECTION BY LOCAL AND STATE OFFICIALS.
3. INSPECTION REPORTS SHALL INCLUDE:
   3.1. TYPE OF INSPECTION
   3.2. FIELD OBSERVATIONS
   3.3. ACTIONS TAKEN AS A RESULT OF INSPECTION RESULTS
   3.4. OVERALL ASSESSMENT OF SWPPP COMPLIANCE
   3.5. THE CONTRACTOR SHALL KEEP A COPY OF THE REPORTS ONSITE AND PERMANENTLY FOR A PERIOD OF 2 YEARS FOLLOWING CONSTRUCTION.
4. CONSTRUCTION ENTRANCE
   4.1. VERIFY ADEQUATE STONE COVERAGE
   4.2. VERIFY CONSTRUCTION ACTIVITIES ARE NOT TRACKING SITE SOIL OUT ONTO ADJACENT ROADWAYS
5. CONCRETE WASHOUT
   5.1. INSPECT DAILY AS WASHOUT CONTAINMENTS ARE BEING USED AND AFTER EACH STORM EVENT.
   5.2. INSPECT THE SYSTEM FOR LEAKS OR SPILLS. DISCONTINUE USE IF UNITS ARE OVERFLOWING OR LEAKING. IMMEDIATELY INSTALLED "CLOSED" SIGN, COVER AND PUMP FLUIDS TO ADDITIONAL CONTAINMENTS OR REMOVE FROM THE SITE FOR PROPER DISPOSAL FOR TREATMENT OR REUSE AT THE CONCRETE PLANT.
   5.3. MAINTAIN ALL WEATHER ACCESS TO THE CONTAINMENT FACILITY TO MINIMIZE TRACKING.
   5.4. INSPECT THE WATERPROOF LINING FOR FAILURE, INCLUDING TEARS AND PUNCTURES OR SLIDE DOWN FROM CONTAINMENT STRUCTURE WALLS.
   5.5. WHEN CONTAINMENTS REACH 75 PERCENT OF CAPACITY OR ACCORDING TO THE CONTAINMENT FILL LEVEL REQUIREMENTS, DISCONTINUE USE WITH SIGNAGE IDENTIFYING "CLOSED", AND INSTALL OR BRING IN ADDITIONAL CONTAINMENTS PRIOR TO CREATING ADDITIONAL CEMENTITOUS WASHWATER.
6. MATERIAL STORAGE
   6.1. VERIFY MATERIAL STORAGE AREAS ARE PROTECTED FROM RAINFALL
   6.2. VERIFY FLUID IS NOT LEAKING FROM THE AREA
   6.3. OFFSITE STORAGE AREAS ARE TO BE CONSIDERED PART OF THE PROJECT
7. SOIL STABILIZATION
   7.1. VERIFY THAT SEEDED AREAS EXHIBIT HEALTHY PLANT ESTABLISHMENT
   7.2. THE SITE HAS ACHIEVED FINAL STABILIZATION ONCE ALL AREAS ARE EITHER COVERED BY PAVEMENT OR HAVE REACHED 70% OF THE VEGETATION DENSITY. THIS VEGETATION DENSITY MUST BE MAINTAINED IN ORDER TO REMAIN CATEGORIZED AS FINAL STABILIZATION. MEASURES MUST BE TAKEN TO REACH THIS LEVEL IF STANDARD PROCEDURES DO NOT YIELD ADEQUATE PLANT ESTABLISHMENT.
8. EROSION AND SEDIMENT CONTROL INSPECTIONS - THE FOLLOWING IS A LIST OF INSPECTION / MAINTENANCE PRACTICES THAT SHOULD BE CONDUCTED FOR EACH CONTROL MEASURE:
9. GEOTEXTILES/EROSION CONTROL MATS - MISSING / LOOSE MATS SHALL BE REPLACED AND REINSTALLED PER MANUFACTURER'S RECOMMENDATION.
   9.1. INLET PROTECTION - INLET PROTECTION MEASURES SHALL BE ROUTINELY INSPECTED AND ACCUMULATED SEDIMENT SHALL BE REMOVED TO ENSURE PROPER OPERATION.
   9.2. DIVERSION SWALES - REMOVE ACCUMULATED DEBRIS THAT REDUCES THE HYDRAULIC CAPACITY OF THE SWALE.
   9.3. MULCHING - APPLY ADDITIONAL MULCH TO SPARSE OR BARE SPOTS.
   9.4. SEDIMENT TRAP - REMOVE ACCUMULATED SEDIMENT TO ENSURE PROPER OPERATION.
   9.5. SEDIMENT BASIN - REMOVE ACCUMULATED SEDIMENT TO ENSURE PROPER OPERATION.
   9.6. SILT FENCE - REMOVE ACCUMULATED SEDIMENT THAT POSES A THREAT TO THE STABILITY OF THE FENCE ($\frac{1}{3}$ HEIGHT OF FENCE).
   9.7. CONSTRUCTION ENTRANCE - REDRESS ENTRANCE WITH ADDITIONAL STONE PERIODICALLY TO MAINTAIN FUNCTIONALITY.
   9.8. VEGETATION - ENSURE NEWLY SEEDED AREAS ARE PROTECTED FROM EROSION.
   9.9. GOOD HOUSEKEEPING - VERIFY THAT LITTER, MISCELLANEOUS CONSTRUCTION DEBRIS, CONSTRUCTION RELATED CHEMICALS, AND OTHER POTENTIALLY HARMFUL MATERIALS ARE PROPERLY STORED, COVERED, AND/OR DO NOT HAVE THE POTENTIAL TO ENTER THE STORM SEWER SYSTEM.
10. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, DOWNSTREAM SEDIMENT MUST BE REMOVED IMMEDIATELY TO REDUCE THE RISK OF ADVERSE IMPACTS.
11. BASED ON THE ACTUAL CONDITIONS OBSERVED ONSITE, ANY NECESSARY MODIFICATIONS TO THE PROJECT SWPPP SHALL BE IMPLEMENTED WITHIN 7 CALENDAR DAYS OF THE INSPECTION. ALL MODIFICATIONS TO THE SWPPP SHALL BE RECORDED BY THE CONTRACTOR AND SHALL BE PROVIDED UPON REQUEST.
12. IT IS THE OPERATOR'S SOLE RESPONSIBILITY TO ENSURE THE EROSION AND SEDIMENT CONTROL MEASURES ONSITE ARE SUFFICIENT TO MEET THE REQUIREMENTS OF THE EPA NPDES STORM WATER DISCHARGE PERMIT. IF ADDITIONAL MEASURES ARE REQUIRED, THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING SUCH MEASURES.

NOTICE OF TERMINATION (NOT)

13. COMPLIANCE WITH THE GENERAL CONSTRUCTION PERMIT IS THE RESPONSIBILITY OF THE OPERATOR / PERMITTEE WHO SUBMITTED THE NOI UNTIL A NOTICE OF TERMINATION (NOT) HAS BEEN PROCESSED. THE PERMITTEE'S AUTHORIZATION TO DISCHARGE UNDER THE GENERAL CONSTRUCTION PERMIT TERMINATES AT MIDNIGHT OF THE DAY THE NOT IS SIGNED.
14. ALL PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER ONE OR MORE OF THE FOLLOWING CONDITIONS HAVE BEEN MET:
    14.1. FINAL STABILIZATION HAS BEEN ACHIEVED ONSITE
    14.2. ANOTHER OPERATOR / PERMITTEE HAS ASSUMED CONTROL OVER THE AREAS OF THE SITE THAT HAVE YET TO ACHIEVE FINAL STABILIZATION
    14.3. 13.3. IN RESIDENTIAL CONSTRUCTION OPERATIONS, TEMPORARY STABILIZATION HAS BEEN COMPLETED AND THE RESIDENCE HAS BEEN TRANSFERRED TO THE HOMEOWNER.

B12 SEQUENCE DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION RELATIVE TO LAND DISTURBING ACTIVITIES

1. FILE THE CONSTRUCTION STORMWATER GENERAL PERMIT (CSGP) WITH IDEM AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
2. INSTALL CONSTRUCTION ENTRANCE.
3. INSTALL SILT FENCE AND INLET PROTECTION AT INLETS.
4. POST NOI SIGN AT ENTRANCE.
5. DESIGNATE A PERSON TO BE RESPONSIBLE FOR SITE INSPECTIONS AFTER EACH RAINFALL AND A MINIMUM OF 1 TIME PER WEEK.
6. INSTALL STAGING AREA, FUELING STATION, MATERIAL STORAGE AREA, CONCRETE WASHOUT, AND PORT-O-LET.
7. STRIP TOPSOIL AND STOCKPILE.
8. REMOVE PAVEMENT AND OTHER ITEMS SHOWN TO BE DEMOLISHED.
9. ROUGH GRADE THE PROJECT SITE, SEED DISTURBED AREAS IMMEDIATELY FOLLOWING ROUGH GRADING. AREAS THAT WILL NOT BE DISTURBED AGAIN SHOULD BE PERMANENTLY SEEDED. NO UN-VEGETATED AREAS SHALL BE LEFT EXPOSED FOR MORE THAN 7 DAYS. TEMPORARY OR PERMANENT STABILIZATION METHODS MUST BE INITIATED BY END OF THE SEVENTH DAY THAT AN AREA HAS BEEN IDLE AND COMPLETED WITHIN 14 DAYS.
10. BEGIN SITE CONSTRUCTION.
11. INSTALL UNDERGROUND UTILITIES. EROSION CONTROL MEASURES SHALL BE INSTALLED AT NEW DRAIN INLET LOCATIONS IMMEDIATELY UPON INSTALLATION.
12. FINAL GRADE THE SITE.
13. PAVING OPERATIONS. EROSION CONTROL MEASURES SHALL BE LEFT IN-PLACE UNTIL THE SITE VEGETATION HAS ESTABLISHED.
14. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AT THE CONCLUSION OF THE PROJECT AS DIRECTED BY THE COUNTY AND THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT.
15. LEAVE PERMANENT EROSION CONTROL MEASURES IN PLACE.

NOTE: THE SEQUENCE OF CONSTRUCTION SHOWN ABOVE IS A GENERAL OVERVIEW AND IS INTENDED TO CONVEY THE GENERAL CONCEPTS OF THE EROSION CONTROL DESIGN AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETAILED PHASING AND CONSTRUCTION SEQUENCING NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS INCLUDED IN THESE PLANS. THE CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IMMEDIATELY, PRIOR TO AND/OR DURING CONSTRUCTION IF ANY ADDITIONAL INFORMATION ON THE CONSTRUCTION SEQUENCE IS NECESSARY. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND ALL OTHER APPLICABLE LAWS.

B13 EROSION & SEDIMENT CONTROL SPECIFICATIONS FOR INDIVIDUAL BUILDING LOTS

THE ENTIRE PROJECT SITE IS UNDER THE SAME OWNER, THERE ARE NO INDIVIDUAL BUILDING LOTS.

B14 MATERIAL HANDLING AND SPILL PREVENTION PLAN

1. SOIL TRACKING
   1.1. CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION ENTRANCE. A WHEEL WASH SHALL BE USED BY THE CONTRACTOR IF REQUESTED BY THE MUNICIPALITY. PRIOR TO LEAVING THE SITE. THE PURPOSE IS TO TRAP DUST AND MUD THAT WOULD OTHERWISE BE CARRIED OFF-SITE BY CONSTRUCTION TRAFFIC. ALL DIRT TRACKED ONTO PUBLIC AND PRIVATE STREETS SHALL BE CLEANED BY THE END OF DAY AT A MINMUM.
2. DUST CONTROL
   2.1. WATER TRUCKS WILL BE USED AS NEEDED DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE GENERAL CONTRACTOR TO A DEGREE THAT IS IN COMPLIANCE WITH APPLICABLE LOCAL AND STATE DUST CONTROL REGULATIONS. AFTER CONSTRUCTION, THE SITE WILL BE STABILIZED (AS DESCRIBED ELSEWHERE), WHICH WILL REDUCE THE POTENTIAL FOR DUST GENERATION.
3. WATER SOURCE
   3.1. NON-STORMWATER COMPONENTS OF SITE DISCHARGE MUST BE CLEAN WATER. WATER USED FOR CONSTRUCTION, WHICH DISCHARGES FROM THE SITE MUST ORIGINATE FROM A PUBLIC WATER SUPPLY OR PRIVATE WELL APPROVED BY THE STATE HEALTH DEPARTMENT. WATER USED FOR CONSTRUCTION THAT DOES NOT ORIGINATE FROM AN APPROVED PUBLIC SUPPLY MUST NOT DISCHARGE FROM THE SITE. IT CAN BE RETAINED IN THE PONDS UNTIL IT INFILTRATES AND EVAPORATES.
4. CONCRETE WASTE FROM CONCRETE READY-MIX TRUCKS
   4.1. DISCHARGE OF EXCESS OR WASTE CONCRETE AND/OR WASH WATER FROM CONCRETE TRUCKS WILL BE ALLOWED ON THE CONSTRUCTION SITE, BUT ONLY IN SPECIFICALLY DESIGNATED DIKED AREAS THAT HAVE BEEN PREPARED TO PREVENT CONTACT BETWEEN THE CONCRETE AND/OR WASH WATER AND STORMWATER THAT WILL BE DISCHARGED FROM THE SITE OR IN LOCATIONS WHERE WASTE CONCRETE CAN BE PLACED INTO FORMS TO MAKE RIPRAP OR OTHER USEFUL CONCRETE PRODUCTS. THE CURED RESIDUE FROM THE CONCRETE WASHOUT DIKED AREAS SHALL BE DISPOSED IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL REGULATIONS. THE JOBSITE SUPERINTENDENT IS RESPONSIBLE FOR ASSURING THAT THESE PROCEDURES ARE FOLLOWED.
5. FUEL TANKS
   5.1. TEMPORARY ON-SITE FUEL TANKS FOR CONSTRUCTION VEHICLES SHALL MEET ALL STATE AND FEDERAL REGULATIONS. TANKS SHALL HAVE APPROVED SPILL CONTAINMENT WITH THE CAPACITY REQUIRED BY THE APPLICABLE REGULATIONS. THE TANK SHALL BE IN SOUND CONDITION FREE OF RUST OR OTHER DAMAGE WHICH MIGHT COMPROMISE CONTAINMENT. HOSES, VALVES, FITTINGS, CAPS, FILLER NOZZLES, AND ASSOCIATED HARDWARE SHALL BE MAINTAINED IN PROPER WORKING CONDITION AT ALL TIMES.
6. MASONRY WASTES
   6.1. CLEANING MASONRY TOOLS AND EQUIPMENT GENERATE A VARIETY OF WASTES. EXCESS CEMENT AND RINSE WATER ARE TWO EXAMPLES. SWEEP STREETS, GUTTERS, ALLEYS, AND SIDEWALKS RATHER THAN HOSING, REUSE AND RECYCLE MATERIALS IF POSSIBLE AND COLLECT AND PROPERLY DISPOSE OF WASTE.
7. SANITARY FACILITIES
   7.1. ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. TEMPORARY SANITARY FACILITIES WILL BE PROVIDED AT THE SITE THROUGHOUT THE CONSTRUCTION PHASE. THEY MUST BE UTILIZED BY ALL CONSTRUCTION PERSONNEL AND WILL BE SERVICED BY A COMMERCIAL OPERATOR.
8. DUMPSTERS (LIDS AND LEAKS)
   8.1. WHEN WATER ENTERS THE DUMPSTER, IT CAN PICK UP POLLUTANTS FROM THE WASTE AND LEAK OUT AND EVENTUALLY ENTER THE STORM SEWER SYSTEM. TO PREVENT THIS, DUMPSTER LIDS MUST REMAIN CLOSED AT ALL TIMES AND DUMPSTERS MUST BE INSPECTED FOR LEAKS. NEVER PLACE HAZARDOUS WASTES IN A DUMPSTER OR TRASH BIN. DO NOT HOSE OUT THE DUMPSTER INTERIOR OR LOADING DOCKS. APPLY ABSORBENT OVER ANY FLUIDS SPILLED IN THE DUMPSTER. CHECK LOADING AND UNLOADING EQUIPMENT REGULARLY FOR LEAKS.
9. VEHICLE AND EQUIPMENT LEAKS
   9.1. VEHICLES AND CONSTRUCTION EQUIPMENT CONTAIN VARIOUS LIQUID POLLUTANTS THAT MAY LEAK AND ENTER THE STORM SEWER SYSTEM. TO PREVENT THIS, LOOK FOR AND REPORT LEAKS ON VEHICLES WHEN ADDING FUEL. USE SECONDARY CONTAINMENT WHEN TRANSFERRING FUEL FROM THE TANK TRUCK TO THE FUEL TANK. COVER STORM DRAINS IN THE VICINITY DURING THE TRANSFER. CLEAN UP SMALL SPILLS WITH ABSORBENT MATERIALS RATHER THAN HOSING DOWN THE AREA. REMOVE THE ABSORBENT MATERIALS PROMPTLY AND DISPOSE OF IN TRASH.
10. EQUIPMENT MAINTENANCE
    10.1. EQUIPMENT REQUIRES MAINTENANCE METHODS THAT CAN PRODUCE POLLUTANTS THAT WILL ENTER THE STORM SEWER SYSTEM IF NOT PROPERLY CLEANED. KEEP ACCURATE MAINTENANCE LOGS AND UP TO DATE INVENTORY OF MATERIALS. PERFORM MAINTENANCE IN COVERED, DESIGNATED SERVICE BAYS WHERE SPILLS AND LEAKS CAN BE PROPERTY CONTAINED. RECYCLE SPENT FLUIDS – DO NOT DUMP DOWN THE DRAIN OR IN THE TRASH. AVOID HOSING DOWN WORK AREAS – USE RAGS FOR SMALL SPILLS, A DAMP MOP FOR GENERAL CLEANUP, AND DRY ABSORBENT FOR LARGER SPILLS.
11. CHEMICALS USED IN CONSTRUCTION
    11.1. THE CONSTRUCTION PROCESS REQUIRES THE USE OF MANY CHEMICALS INCLUDING PAINT, SOLVENTS, AND FERTILIZERS. IT IS IMPORTANT TO HANDLE THESE CHEMICALS APPROPRIATELY TO PREVENT CONTAMINATION OF THE STORM SEWER SYSTEM. FIT OIL AND CHEMICAL STORAGE CONTAINERS WITH SECONDARY CONTAINMENT STRUCTURES TO CONTAIN SPILLED MATERIALS. IT IS PREFERABLE TO STORE MATERIALS INDOORS BUT IF THERE IS ONLY AN OUTDOOR STORAGE AREA AVAILABLE, KEEP MATERIALS COVERED TO PREVENT RAIN FROM CONTACTING THE MATERIAL. COVER AND/OR CONTAIN STOCKPILES OR RAW MATERIALS (I.E. SALT, SOIL) TO PREVENT POLLUTED STORMWATER RUNOFF.
12. SPILL CLEANUP PROCEDURES
    12.1. IF A SPILL OCCURS, NOTIFY THE KEY SPILL RESPONSE PERSONNEL. IF THE MATERIAL IS HAZARDOUS, CONTACT THE LOCAL FIRE DEPARTMENT. NEVER WASH A SPILL INTO THE STORM DRAIN OR LEAVE IT WITHOUT CLEANING IT UP. CONTAIN SPILLS AND BLOCK THE NEARBY STORM DRAIN. CLEAN UP NON-HAZARDOUS SPILLS BY USING A RAG, DAMP CLOTH, OR ABSORBENT MATERIALS.
    12.2. IN CASE OF HAZARDOUS MATERIAL SPILLS, CONTACT THE CORRESPONDING AGENCY. THE INDIANA DEPARTMENT OF ENVIRONMENTAL SPILL RESPONSE LINE CAN BE CONTACTED 24 HOURS-A-DAY, 7 DAYS-A-WEEK AT (317) 233-7745, OR CALL 911.

B15 MATERIAL HANDLING AND STORAGE PROCEDURES

MATERIAL HANDLING AND STORAGE LOCATIONS ARE PROVIDED ON C4.X SERIES EROSION CONTROL PLAN(S).

SWPPP - POST CONSTRUCTION - SECTION C

C1 DESCRIPTION OF POLLUTANTS AND THEIR SOURCES ASSOCIATED WITH THE PROPOSED LAND USE

POTENTIAL POLLUTANTS GENERATED DUE TO THIS PROJECT INCLUDE:

1. LITTER FROM USERS.
2. AUTOMOBILE FLUIDS FROM VEHICLES.

C2 DESCRIPTION OF PROPOSED POST-CONSTRUCTION STORMWATER QUALITY MEASURES

GOOD HOUSEKEEPING MEASURES:

- GOOD HOUSEKEEPING MEASURES SUCH AS REGULAR STREET SWEEPING AND, INSTALLATION OF TRASH RECEPTACLES, AND REDUCTION IN FERTILIZER OVERSPRAY CAN BE INCORPORATED BY THE OWNER AND/OR OCCUPANT.

MASTER PLANNED WET DETENTION POND:

- REFER TO MCCORD SQUARE INFRASTRUCTURE - PHASE 1 PLANS FOR INFORMATION.

C3 LOCATION, DIMENSIONS, SPECIFICATIONS, AND CONSTRUCTION DETAILS OF EACH STORMWATER QUALITY MEASURE

THE FOLLOWING ITEMS ARE STORMWATER QUALITY MEASURES THAT WILL BE INSTALLED DURING CONSTRUCTION. THESE ITEMS WILL REMAIN IN PLACE AFTER CONSTRUCTION IS COMPLETED AND ARE CONSIDERED TO SERVE ON INCIDENTAL FUNCTION AS POST-CONSTRUCTION STORMWATER QUALITY BMPS.

GOOD HOUSEKEEPING MEASURES:

- GOOD HOUSEKEEPING MEASURES SUCH AS REGULAR STREET SWEEPING AND, INSTALLATION OF TRASH RECEPTACLES, AND REDUCTION IN FERTILIZER OVERSPRAY CAN BE INCORPORATED BY THE OWNER AND/OR OCCUPANT.
- MASTER PLANNED WET POND IS EXISTING AND LOCATED TO THE SOUTH OF THE PROJECT SITE
- MASTER PLANNED FLEXSTORM PURE FILTER INLET INSERTS WERE INSTALLED ON ALL PRIVATE ON-SITE INLETS.

C4 SEQUENCE DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION

THE FOLLOWING ITEMS ARE STORMWATER QUALITY MEASURES THAT WILL BE INSTALLED DURING CONSTRUCTION. THESE ITEMS WILL REMAIN IN PLACE AFTER CONSTRUCTION IS COMPLETED AND ARE CONSIDERED TO SERVE ON INCIDENTAL FUNCTION AS POST-CONSTRUCTION STORMWATER QUALITY BMPS.

MASTER PLANNED WET POND AND FLEXSTORM INLET INSERTS HAVE ALREADY BEEN CONSTRUCTED/INSERTED, THEREFORE STORMWATER QUALITY TREATMENT WILL OCCUR IMMEDIATELY.

C5 DESCRIPTION OF MAINTENANCE GUIDELINES FOR POST-CONSTRUCTION STORMWATER QUALITY MEASURES

MAINTENANCE REQUIREMENTS FOR THE STORMWATER QUALITY MEASURES WHICH REMAIN IN PLACE AFTER CONSTRUCTION IS COMPLETE ARE DESCRIBED BELOW. REFER TO THE BMP OPERATIONS AND MAINTENANCE MANUAL FOR MORE DETAILED MAINTENANCE REQUIREMENTS.

MASTER PLANNED WET POND AND FLEXSTORM PURE FILTER INLET INSERTS SHALL BE MAINTAINED IN ACCORDANCE WITH ANY ASSOCIATION AGREEMENTS THAT MAY BE IN PLACE. REFER TO MCCORD SQUARE INFRASTRUCTURE - PHASE 1 PLANS AND IU HEALTH - MCCORDSVILLE PLANS BY OTHERS.

C6 ENTITY RESPONSIBLE FOR OPERATIONS AND MAINTENANCE OF POST CONSTRUCTION STORMWATER MEASURES

NAME: McCORDSVILLE PUBLIC WORKS
ADDRESS: 6280 W 800 N McCORDSVILLE, IN 47201
REPRESENTATIVE: RON CRIDER
TELEPHONE: (317) 335-3493

No.	REVISIONS	DATE	BY

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REBAR DEVELOPMENT

SWPPP

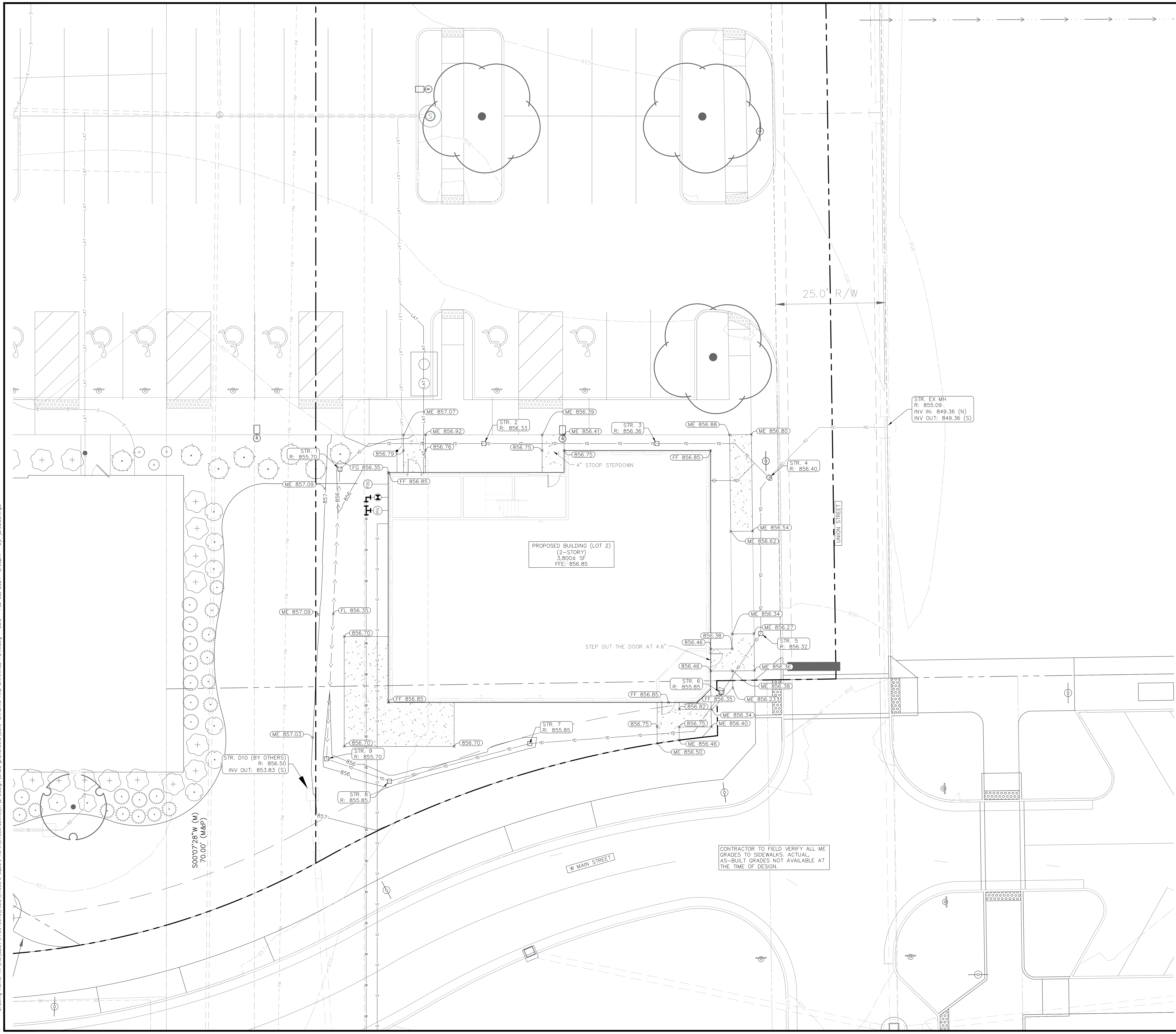
REBAR COMMERCIAL
BUILDING AT
MCCORD SQUARE

ORIGINAL ISSUE:
02/09/2024

KHA PROJECT NO.
170046010

SHEET NUMBER

C4.2



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NORTH

GRAPHIC SCALE IN FEET
0 5' 10' 20'

GRADING LEGEND

- FINISHED GRADE SPOT ELEVATION
- TOP OF CURB / BOTTOM OF CURB SPOT ELEVATION
- FLOW LINE SPOT ELEVATION
- MATCH EXISTING SPOT ELEVATION
- FINISHED FLOOR SPOT ELEVATION
- FINISHED GRADE NEAR BUILDING SPOT ELEVATION
- TOP OF WALL SPOT ELEVATION
- BOTTOM OF WALL SPOT ELEVATION
- RIM ELEVATION
- STRUCTURE ID & RIM ELEVATION
- STRUCTURE ID & INVERT ELEVATION
- PROPOSED CONTOUR
- RIDGE LINE
- SLOPE AND FLOW DIRECTION
- 100-YEAR OVERLAND OVERFLOW ROUTE
- DETENTION BASIN 100-YEAR EMERGENCY
- PROPOSED SWALE
- PROPOSED STORM SEWER
- PROPOSED STORM STRUCTURES
- PROPOSED SANITARY MANHOLE
- PROPOSED STORM/SANITARY CLEANOUT
- PROPOSED WATER STRUCTURES
- PROPOSED LIGHT POLES
- PROPOSED TRANSFORMER PAD

EXISTING LEGEND

BOLLARD, CONTROL BENCHMARK, ROW MONUMENT, FLAG POLE, MAIL BOX, UTILITY POLE, POST, SOIL BORING, HANDICAP SYMBOL, SIGN, CABLE MANHOLE, CABLE PEDESTAL, TELEPHONE PEDESTAL, TELEPHONE HAND HOLE, TELEPHONE MARKER, TELEPHONE MANHOLE, FIBER OPTIC MAKER

MISC LID, MONITOR WELL, GAS MARKER, GAS METER, GAS VALVE, AC UNIT, AREA LIGHT, ELECTRICAL BOX, ELECTRICAL HAND HOLE, ELECTRICAL METER, ELECTRICAL MANHOLE, ELECTRICAL MARKER, ELECTRICAL TRANSFORMER, GUY POLE/WIRE, POWER POLE, TRAFFIC SIGNAL POLE, TRAFFIC MANHOLE

YARD LIGHT, SANITARY CLEANOUT, SANITARY MANHOLE, VENT PIPE, STORM CURB INLET, STORM INLET, STORM ROOF DRAIN, STORM DRAIN MANHOLE, STORM YARD DRAIN, FIRE DEPT CONNECTION, FIRE HYDRANT, IRRIGATION VALVE, POST INDICATOR VALVE, WELL, WATER METER, WATER VALVE, TREE / STUMP

< o o o	SWALE	TS	TOE OF SLOPE
X	FENCE LINE	TB	TOP OF BANK
SS	SANITARY SEWER	FIB	UNDERGROUND FIBER OPTIC
SD	STORM DRAIN	OHE	OVERHEAD ELECTRICAL
W	WATER LINE	GAS	UNDERGROUND GAS
	TREE LINE	TEL	UNDERGROUND TELEPHONE

BENCHMARKS

ORIGINATING BENCHMARK:

THE HORIZONTAL AND VERTICAL LOCATION DATA SHOWN ON THIS SURVEY ARE BASED UPON A POSITIONAL SOLUTION DERIVED FROM GLOBAL POSITION SYSTEM (GPS) OBSERVATIONS. THE COORDINATE VALUES SHOWN ARE IN THE INDIANA STATE PLANE COORDINATE SYSTEM (EAST ZONE) REFERENCE TO THE 1983 NORTH AMERICAN DATUM UTILIZING THE CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS) ADJUSTMENT AS DETERMINED BY NGS (NAD 82 (CORDS 96)(EPOCH 2002.0000) AND REPORTED ON THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD88). THIS ORTHOMETRIC ELEVATION WAS COMPUTED USING GEOID18.

SITE BENCHMARKS:
(LOCATIONS SHOWN ON SURVEY)

SBM #500 N.1750742.79, E.214874.89
ELEVATION=820.77 CUT X SET

SBM #501 N.1750710.19, E.214811.54
ELEVATION=821.26 MAG NAIL PER TIE

SBM #502 N.1750453.49, E0214843.16
ELEVATION=821.11 CUT X SET

SBM #503 N.1750245.34, E.214833.50
ELEVATION=821.11 CUT X SET

GENERAL PLAN NOTES

REFER TO GENERAL NOTES SHEET FOR MORE INFORMATION INCLUDING THE FOLLOWING: (EXISTING LEGEND, BENCHMARK INFORMATION, AND SPECIFIC GENERAL PLAN NOTES.)

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CHECKED BY: WAB

WILLIAM A. BU... REGISTERED ... PE...45 STATE OF INDIANA PROFESSIONAL ENGINEER
NOT APPROVED FOR CONSTRUCTION

REBAR DEVELOPMENT

GRADING AND DRAINAGE PLAN

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE: 02/09/2024
KHA PROJECT NO. 170046010

SHEET NUMBER
C5.0

Drawing name: K:\IND_LDEV\170046010_rebar_mccord square north_mccordsville_in\2 Design\CAD\plansheets\C5.0-GRADING AND DRAINAGE PLAN.dwg C5.0 Feb 08, 2024 3:00pm by: jared.schingel

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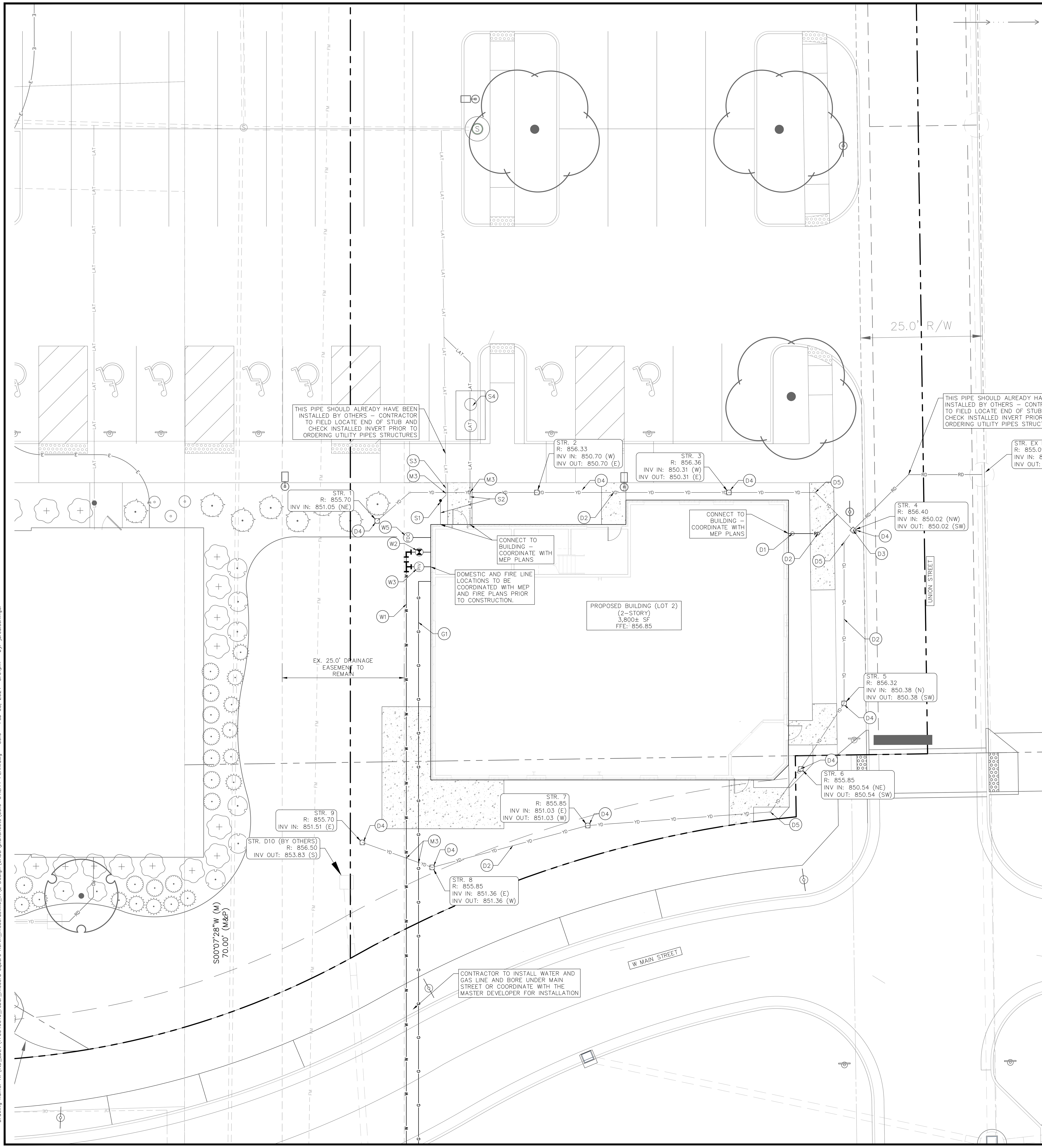
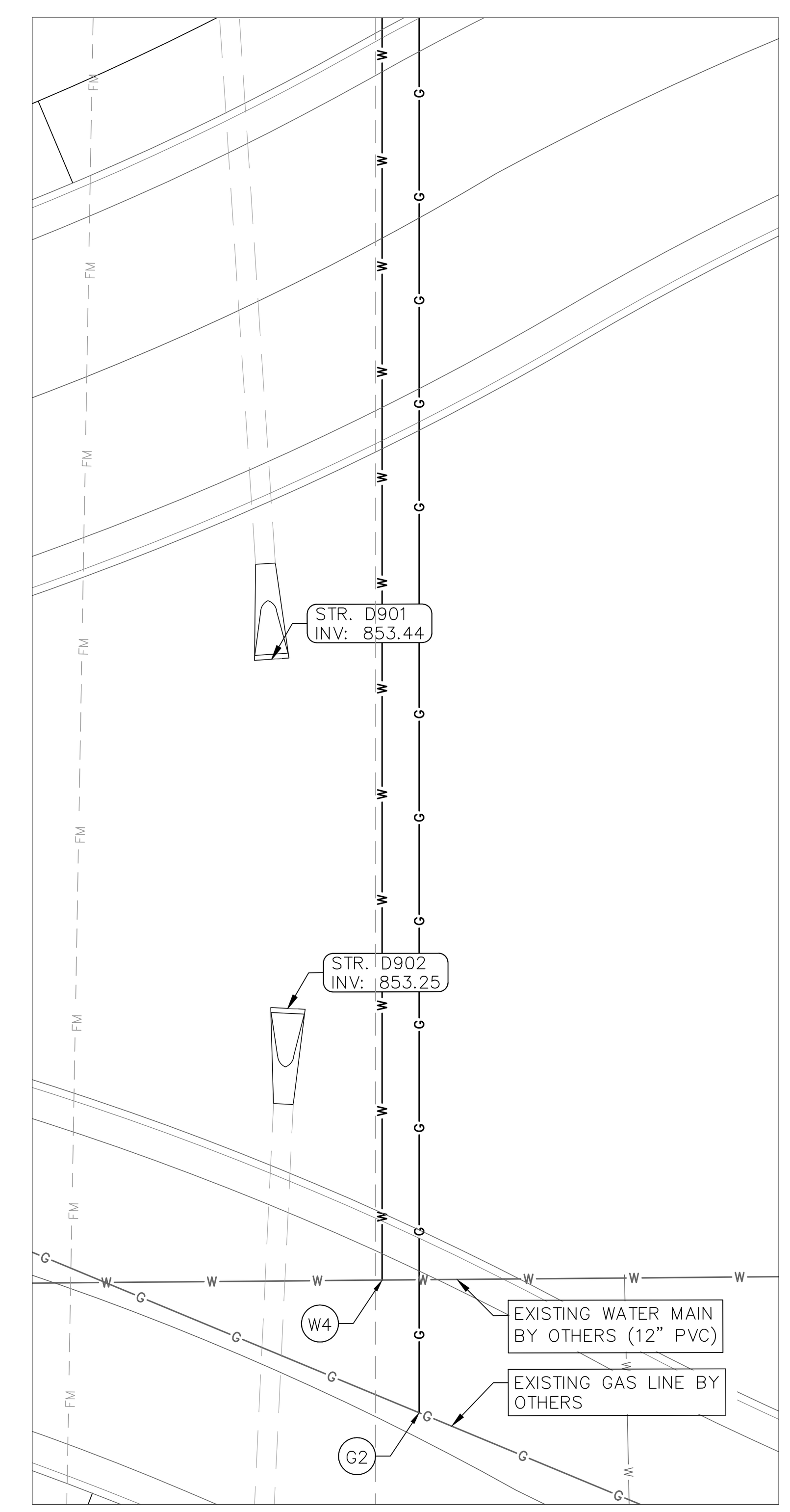
GRAPHIC SCALE IN FEET
0 5' 10' 20'





WATER MAIN CONNECTION

UTILITY LEGEND

E	PROPOSED UNDERGROUND ELECTRIC LINE
G	PROPOSED GAS LINE (BY GAS COMPANY)
T	PROPOSED PHONE LINE
RD	PROPOSED ROOF DRAIN LINE
	PROPOSED UNDERDRAIN
	PROPOSED SWALE
	PROPOSED STORM SEWER LINE
STR XX	STRUCTURE ID
	PROPOSED STORM STRUCTURES
SS	PROPOSED SANITARY SEWER LINE
LAT	PROPOSED SANITARY LATERAL LINE
S	PROPOSED SANITARY MANHOLE
	PROPOSED STORM/SANITARY CLEANOUT
W	PROPOSED WATER LINE
FP	PROPOSED FIRE PROTECTION LINE
PIV, WM, FH, FDC, WV	PROPOSED WATER VALVE BOX, PIV, METER FIRE HYDRANT, FIRE DEPT CONN. & VAULT
	PROPOSED WATER BENDS & TEE
	PROPOSED LIGHT POLE
T	PROPOSED TRANSFORMER PAD (BY OTHERS)

KEY NOTES

(D) DRAINAGE STORM SEWER
D1. ROOF DRAIN CLEANOUT
D2. ROOF DRAIN LINE (8" PVC CAPS @ 1% SLOPE MIN.)
D3. CONNECT TO EXISTING ROOF DRAIN LINE
D4. 12" NDS NYLOPLAST YARD INLET

(E) SANITARY SEWER
S1. SANITARY CLEANOUT
S2. 6" PVC SDR26 SANITARY LATERAL LINE AT 1.04% SLOPE
S3. CONNECT TO EXISTING SANITARY LATERAL
S4. GREASE TRAP

(F) WATER LINE
W1. WATER SERVICE LINE (8" – CONFIRM SIZE WITH MEP PLANS)
W2. WATER VALVE
W3. POST INDICATOR VALVE (PIV)
W4. CONNECT TO EXISTING WATER MAIN (12"X8" SADDLE LIVE TAP WITH VALVE)
W5. FIRE DEPT CONNECTION (FDC)

(G) GAS LINE
G1. GAS SERVICE LINE
G2. CONNECT TO EXISTING GAS LINE

(E) ELECTRIC / TELEPHONE / CABLE
E1. ELECTRIC SERVICE LINE
E2. ELECTRIC TRANSFORMER
E3. TELECOMMUNICATIONS LINE

(M) MISCELLANEOUS
M1. CONTRACTOR TO COORDINATE CONNECTION WITH UTILITY PROVIDER.
M2. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH AND SIZE OF EXISTING UTILITY TO ENSURE CONFLICTS DO NOT EXIST WITH PROPOSED UTILITIES.
M3. POTENTIAL UTILITY CONFLICT. ALL (WATER, SANITARY, DRAINAGE STORM) CROSSINGS TO HAVE 18" MIN. VERTICAL CLEARANCE. ALL WATER SERVICE LINES TO REMAIN PERPENDICULAR AT CROSSING IN SUCH THAT IT FORMS AN ANGLE BETWEEN 45° AND 90°.

NOTE: CONTRACTOR TO VERIFY WATER, SANITARY, GAS, & ETC LOCATIONS, SIZES AND TYPES WITH MEP PLANS PRIOR TO ORDERING MATERIALS.

EXISTING LEGEND

BOLLARD	MISC LID	YARD LIGHT
CONTROL BENCHMARK	MONITOR WELL	SANITARY CLEANOUT
ROW MONUMENT	GAS MARKER	SANITARY MANHOLE
FLAG POLE	GAS METER	VENT PIPE
MAIL BOX	GAS VALVE	STORM CURB INLET
UTILITY POLE	AC UNIT	STORM INLET
POST	AREA LIGHT	STORM ROOF DRAIN
SOIL BORING	ELECTRICAL BOX	STORM DRAIN MANHOLE
HANDICAP SYMBOL	ELECTRICAL HAND HOLE	STORM YARD DRAIN
SIGN	ELECTRICAL METER	FIRE DEPT CONNECTION
CABLE MANHOLE	ELECTRICAL MANHOLE	FIRE HYDRANT
CABLE PEDESTAL	ELECTRICAL MARKER	IRRIGATION VALVE
TELEPHONE PEDESTAL	ELECTRICAL TRANSFORMER	POST INDICATOR VALVE
TELEPHONE HAND HOLE	GUY POLE/WIRE	WELL
TELEPHONE MARKER	POWER POLE	WATER METER
TELEPHONE MANHOLE	TRAFFIC SIGNAL POLE	WATER VALVE
FIBER OPTIC MAKER	TRAFFIC MANHOLE	TREE / STUMP

	SWALE	TS	TOE OF SLOPE
X	FENCE LINE	TB	TOP OF BANK
SS	SANITARY SEWER	FIB	UNDERGROUND FIBER OPTIC
SD	STORM DRAIN	OHE	OVERHEAD ELECTRICAL
W	WATER LINE	GAS	UNDERGROUND GAS
	TREE LINE	TEL	UNDERGROUND TELEPHONE

GENERAL PLAN NOTES

REFER TO GENERAL NOTES SHEET FOR MORE INFORMATION INCLUDING THE FOLLOWING: (EXISTING LEGEND, BENCHMARK INFORMATION, AND SPECIFIC GENERAL PLAN NOTES.)

No. | REVISIONS | DATE | BY

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CHECKED BY: WAB

WILLIAM A. BU... REGISTERED PROFESSIONAL ENGINEER, STATE OF INDIANA
NOT APPROVED FOR CONSTRUCTION

REBAR DEVELOPMENT

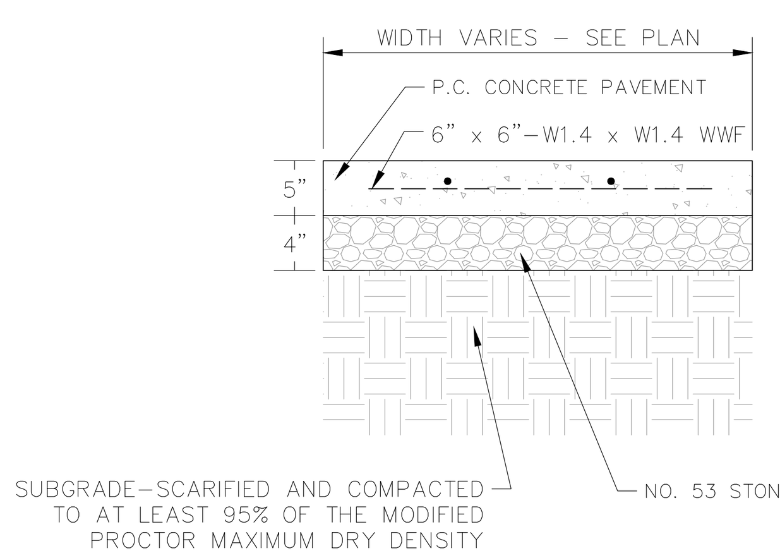
UTILITY PLAN

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE: 02/09/2024
KHA PROJECT NO. 170046010
SHEET NUMBER
C6.0

TOWN OF MCCORDSVILLE

1. SEE MCCORDSVILLE, INDIANA TOWN STANDARDS ATTACHED TO END OF THIS PLAN SET FOR ALL APPLICABLE STANDARD DETAILS.

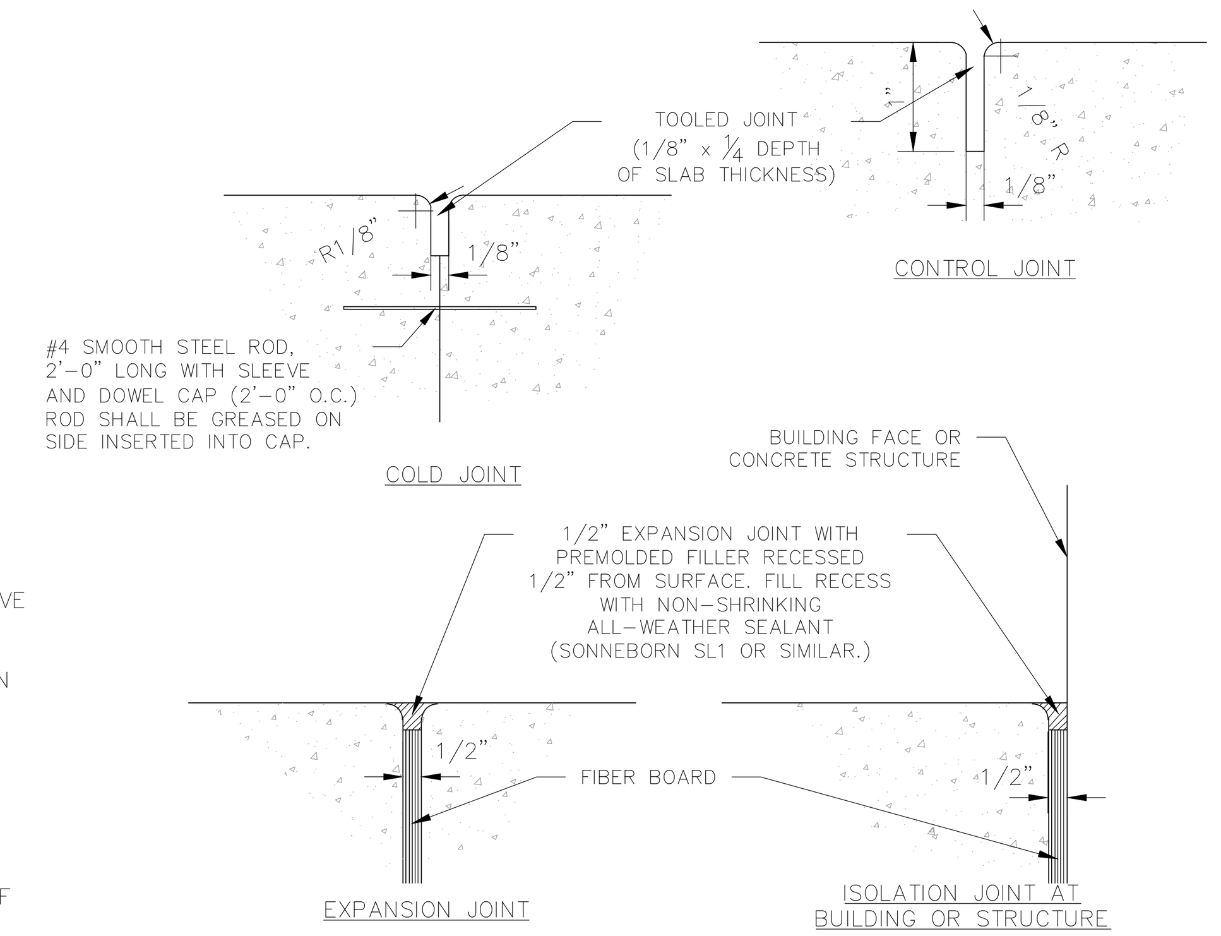


NOTES:

1. ALL SIDEWALK SHALL BE CONSTRUCTED WITH CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI AT 14 DAYS.
2. PROVIDE 1/2" EXPANSION JOINTS AT 20', MAXIMUM, SPACING AND FILLED WITH PREMOLDED BITUMINOUS EXPANSION JOINT FILLER MATERIAL OR REDWOOD. EXPANSION JOINTS SHALL HAVE #4 DOWELS, LUBRICATED, 18" LONG, AT 12" CENTERS, 6" FROM EDGE.
3. PROVIDE 3/8" GROOVED CONTROL JOINTS AT 5' CENTERS.
4. PROVIDE 1/2" BITUMINOUS EXPANSION JOINT FILLER MATERIAL WHERE WALK ABUTS EXISTING IMPROVEMENTS AND AT ALL CHANGES IN GRADE
5. USE 2–#4 REINFORCING BARS, 10' LONG OVER ALL UTILITY TRENCHES FOR NEW SIDEWALK AND CONNECTIONS TO EXISTING SIDEWALK.
6. AT DRIVE APPROACHES, SIDEWALK PCC AND BASE THICKNESS SHALL MATCH THAT OF THE DRIVE.

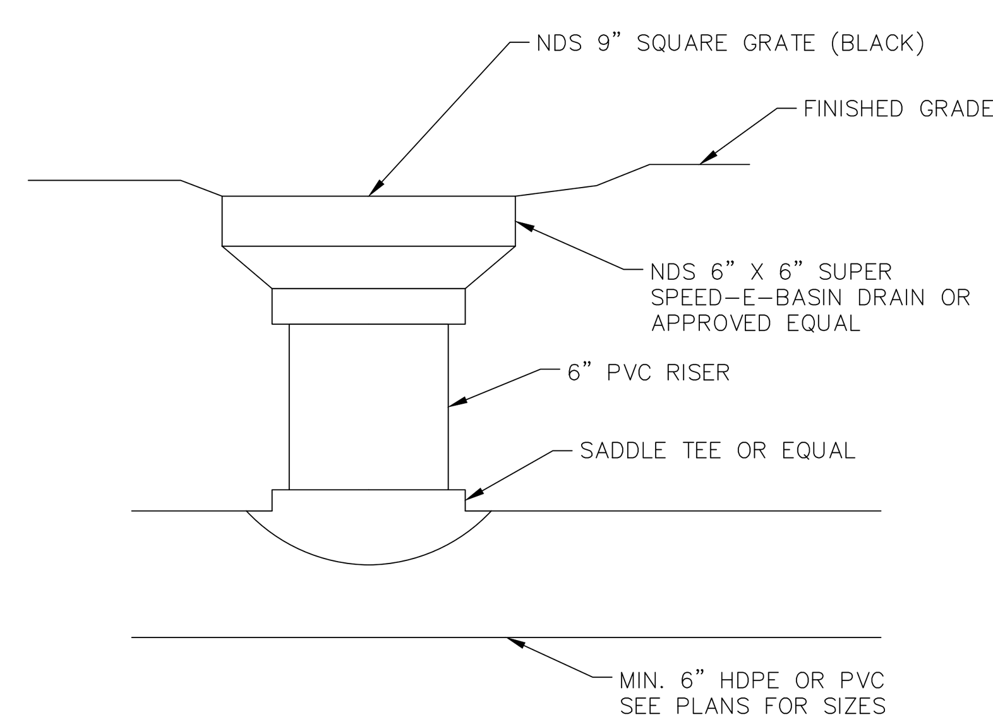
CONCRETE SIDEWALK

N.T.S.



TYPICAL CONCRETE JOINT DETAILS

N.T.S.



YARD DRAIN DETAIL

N.T.S.

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CHECKED BY: WAB

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REBAR DEVELOPMENT

CONSTRUCTION DETAILS

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE: 02/09/2024

KHA PROJECT NO. 170046010

SHEET NUMBER

C7.0

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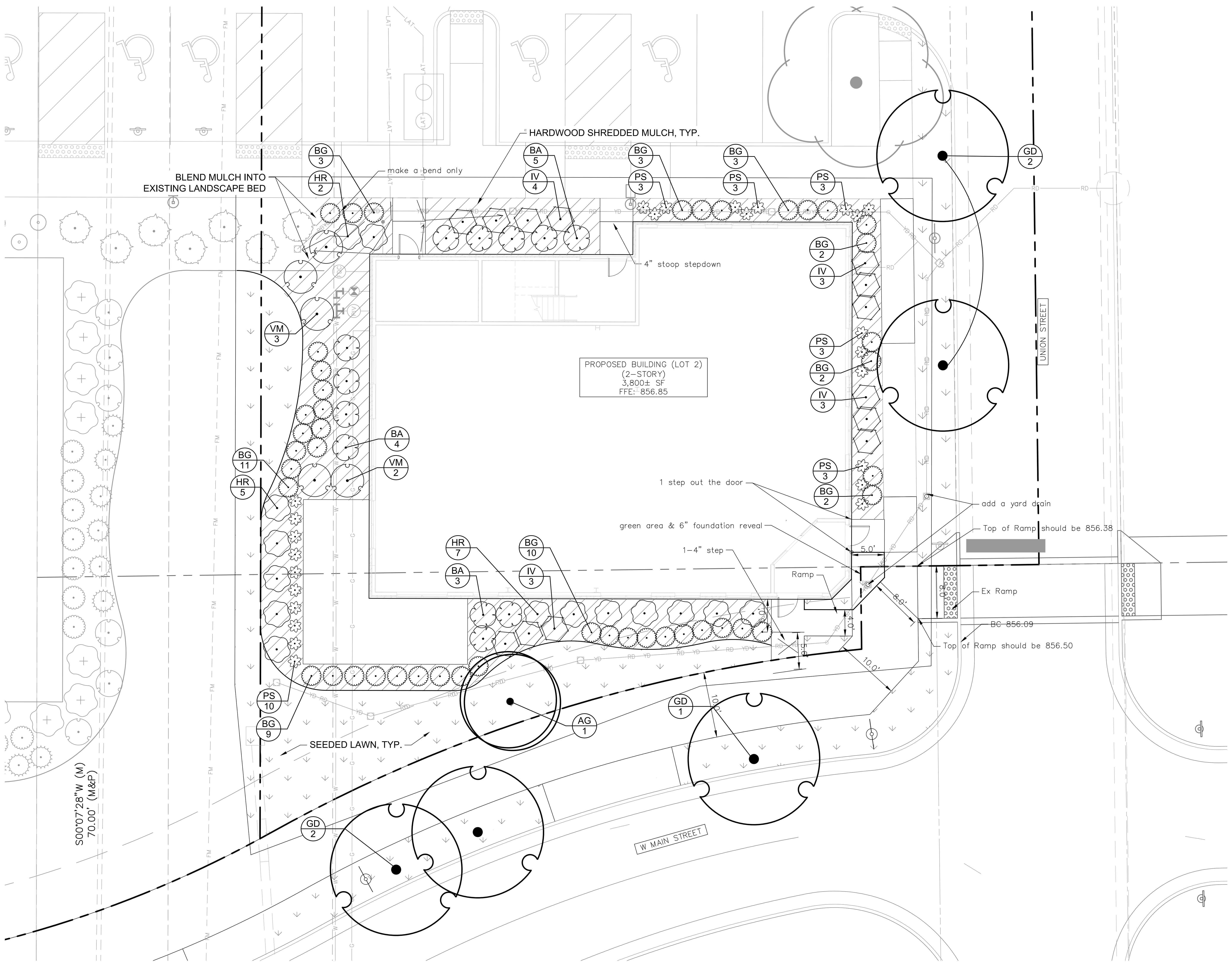

NOTE: REFER TO IU HEALTH MOB LANDSCAPE PLANS FOR PARKING LOT AND ADJACENT PLANTING

PLANT SCHEDULE

CODE	...	BOTANICAL NAME	COMMON NAME	CONT	CAL	HT
DECIDUOUS TREES						
AG	1	ACER GRISEUM	PAPERBARK MAPLE	B & B	2" CAL MIN	---
GD	5	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	B & B	2" CAL MIN	---

CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING	SIZE
DECIDUOUS SHRUBS						
BA	12	BAPTISIA AUSTRALIS	BLUE WILD INDIGO	---	SEE PLAN	18" HT MIN
HR	14	HYDRANGEA PANICULATA 'BOBO'	BOBO HYDRANGEA	---	SEE PLAN	18" HT MIN
IV	13	ITEA VIRGINICA 'HENRY'S GARNET'	HENRY'S GARNET SWEETSPIRE	---	SEE PLAN	18" HT MIN
VM	5	VIBURNUM DENTATUM 'BLUE MUFFIN'	BLUE MUFFIN ARROWWOOD VIBURNUM	---	SEE PLAN	18" HT MIN
EVERGREEN SHRUBS						
BG	45	BUXUS X 'GREEN VELVET'	GREEN VELVET BOXWOOD	---	SEE PLAN	18" HT MIN
SHRUBS AND GRASSES						
PS	25	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	---	SEE PLAN	18" HT MIN.

MULCHING LEGEND

MULCH
HARDWOOD SHREDDED MULCH,
NATURAL BROWN COLOR

SEEDING LEGEND

PERMANENT SEEDING
AMERITURF FRONTRUNNER BLEND TALL FESCUE; APPLY AT A RATE OF 350 LBS/ACRE (8LBS/1000 SQFT)

No.	REVISIONS	DATE	BY

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MICHELE C. ... LANDSCAPE ARCHITECT
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REBAR DEVELOPMENT

LANDSCAPE PLAN

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE: 01/05/2024
KHA PROJECT NO. 170046010
SHEET NUMBER
L1.0

Drawing name: K:\IND_LDEV\170046010_rebar_mccord square north_mccordsville_in\2 Design\CADD\plansheets\L1.0-LANDSCAPE PLAN.dwg L1.0 Feb 08, 2024 3:01pm by: jared.schingel

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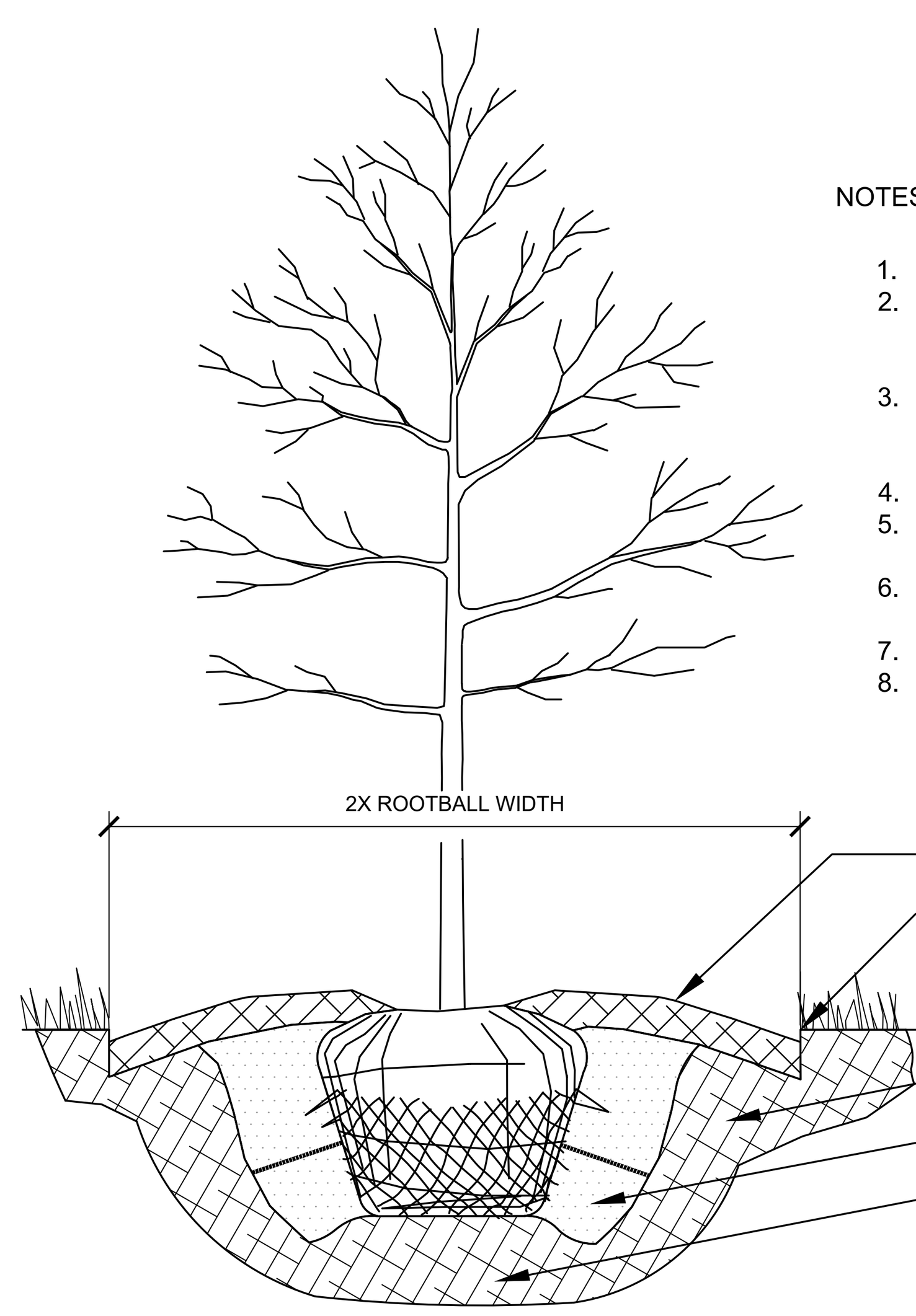
LANDSCAPE NOTES

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING MATERIALS AND PLANTS SHOWN ON THE LANDSCAPE PLAN. THE CONTRACTOR IS RESPONSIBLE FOR THE COST TO REPAIR UTILITIES, ADJACENT LANDSCAPE, PUBLIC AND PRIVATE PROPERTY THAT IS DAMAGED BY THE CONTRACTOR OR THEIR SUBCONTRACTOR'S OPERATIONS DURING INSTALLATION OR DURING THE SPECIFIED MAINTENANCE PERIOD. CALL FOR UTILITY LOCATIONS PRIOR TO ANY EXCAVATION AND PLANTING.
2. THE CONTRACTOR SHALL REPORT ANY DISCREPANCY IN PLAN VS. FIELD CONDITIONS IMMEDIATELY TO THE LANDSCAPE ARCHITECT, PRIOR TO CONTINUING WITH THAT PORTION OF WORK.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY OF THEIR TRENCHES OR EXCAVATIONS THAT SETTLE.
4. ALL NURSERY STOCK SHALL BE WELL BRANCHED, HEALTHY, FULL, PRE-INOCULATED AND FERTILIZED. DECIDUOUS TREES SHALL BE FREE OF FRESH SCARS. TRUNKS WILL BE WRAPPED IF NECESSARY TO PREVENT SUN SCALD AND INSECT DAMAGE. THE LANDSCAPE CONTRACTOR SHALL REMOVE THE WRAP AT THE PROPER TIME AS A PART OF THIS CONTRACT.
5. ALL NURSERY STOCK SHALL BE GUARANTEED, BY THE CONTRACTOR, FOR ONE YEAR FROM DATE OF FINAL INSPECTION.
6. PLANTING AREA SOIL SHALL BE TOPSOIL FOR ALL TREE, SHRUB, ORNAMENTAL GRASS, PERENNIAL, AND ANNUAL BEDS. AMENDED SOIL SHALL BE PROVIDED AND GRADED BY THE GENERAL CONTRACTOR UP TO A 6" DEPTH BELOW FINISHED GRADE IN TURF AREAS AND A 12" DEPTH IN PLANTING AREAS.
7. PLANTING AREA TOPSOIL SHALL BE AMENDED WITH 25% SPHAGNUM PEATMOSS, 5% HUMUS AND 65% PULVERIZED SOIL. AMENDED TURF AREA SOIL SHALL BE STANDARD TOPSOIL. TOPSOIL SHALL CONFORM TO TECHNICAL SPECIFICATIONS FREE OF HEAVY CLAY, ROCKS, AND DIRT CLODS OVER 1 INCH IN DIAMETER, AS WELL AS CONTAIN 3%-5% OF ORGANIC MATTER.
8. SEED/SOD LIMIT LINES ARE APPROXIMATE. CONTRACTOR SHALL SEED/SOD ALL AREAS WHICH ARE DISTURBED BY GRADING WITH THE SPECIFIED SEED/SOD MIXES.
9. CONTRACTOR SHALL STAKE INDIVIDUAL TREE AND SHRUB LOCATIONS AND OUTLINE HERBACEOUS PLANTING AREAS, SHALL ADJUST LOCATIONS WHEN REQUESTED, AND SHALL OBTAIN PROJECT LANDSCAPE ARCHITECT'S ACCEPTANCE PRIOR TO PLANTING.
10. ALL PLANT ID TAGS SHALL BE REMOVED AFTER INSTALLATION.
11. CONTRACTOR SHALL INSTALL SHREDDED HARDWOOD MULCH AT A 3" DEPTH TO ALL TREES, SHRUB, PERENNIAL, AND GROUNDCOVER AREAS. TREES PLACED IN AREA COVERED BY TURF SHALL RECEIVE A 4 FT WIDE MAXIMUM TREE RING WITH 3" DEPTH SHREDDED HARDWOOD MULCH. A SPADED BED EDGE SHALL SEPARATE MULCH BEDS FROM TURF OR SEEDED AREAS. A SPADED EDGE IS NOT REQUIRED ALONG CURBED EDGES.
12. WEED FABRIC SHALL BE REQUIRED UNDER MULCH.
13. MULCH SHALL NOT BE HELD IN PLACE BY PLASTIC NET, OR SPRAYING OF ANY BINDER MATERIAL OR ASPHALT EMULSION.
14. DO NOT DISTURB THE EXISTING PAVING, LIGHTING, OR LANDSCAPING THAT EXISTS ADJACENT TO THE SITE UNLESS OTHERWISE NOTED ON PLAN.
15. PLANT QUANTITIES SHOWN ARE FOR THE CONVENIENCE OF THE OWNER AND JURISDICTIONAL REVIEW AGENCIES. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES AS DRAWN.
16. THE OWNER'S REPRESENTATIVE MAY REJECT ANY PLANT MATERIALS THAT ARE DISEASED, DEFORMED, OR OTHERWISE NOT EXHIBITING SUPERIOR QUALITY.
17. WEEDING, LANDSCAPE MAINTENANCE, AND WATERING TO BE THE CONTRACTOR'S RESPONSIBILITY DURING CONSTRUCTION. ALL PLANT MATERIALS REQUIRED BY THIS SECTION SHALL BE MAINTAINED AS LIVING VEGETATION AND SHALL BE PROMPTLY REPLACED BY LANDSCAPE CONTRACTOR DURING WARRANTY PERIOD IF THE PLANT MATERIAL HAS DIED PRIOR TO FINAL ACCEPTANCE. PLANTING AREAS SHALL BE KEPT FREE OF TRASH, LITTER, AND WEEDS AT ALL TIMES.
18. THE CONTINUED MAINTENANCE OF ALL REQUIRED LANDSCAPING AFTER WARRANTY PERIOD EXPIRES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY ON WHICH SAID MATERIALS ARE REQUIRED.

ORDINANCE CHART

ZONING: McCord Square PUD		
REQUIREMENT	REQUIRED	PROVIDED
PERIMETER ROW LANDSCAPE AREA - SECTION E. 1. d.		
• 1 tree / 40 LF	Union Street = 74 LF • 74 / 40 LF = 2 trees West Main Street = 108 LF • 108 / 40 LF = 3 trees	Union Street • 2 trees West Main Street • 3 trees
FOUNDATION PLANTINGS - SECTION E. 1. g.		
• min 50% evergreen • min 30% of each façade must have plantings	• min 50% evergreen • min 30% of each façade must have plantings	• min 50% evergreen • min 30% of each façade must have plantings
SITE PLANTING - SECTION E. 1. h.		
• 1 tree on site	• 1 tree on site	• 1 tree on site

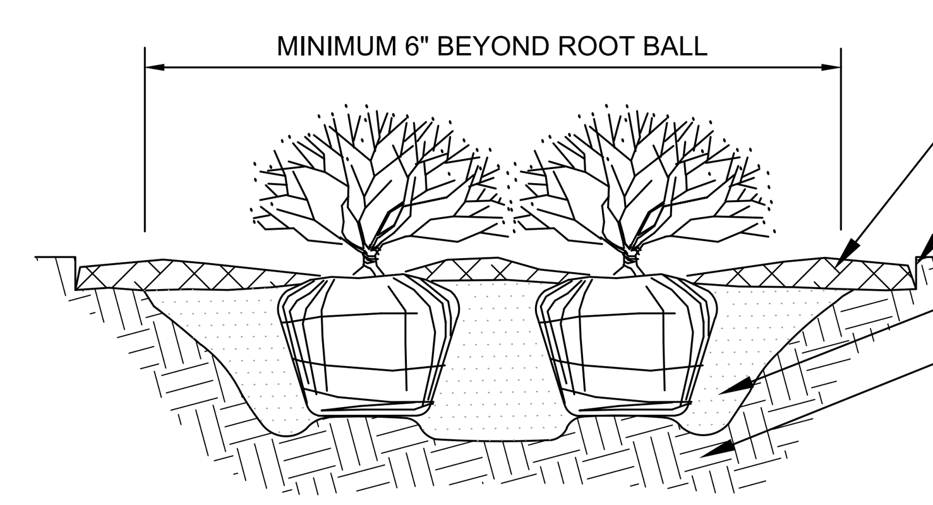


NOTES:

1. INSPECT TREE FOR DAMAGED BRANCHES, APPLY CORRECTIVE PRUNING.
2. SET ROOT BALL ON UNEXCAVATED OR TAMPED SOIL. TOP OF ROOTBALL SHALL BE TWO INCHES ABOVE SURROUNDING GRADE WITH BURLAP AND WIRE BASKET INTACT.
3. REMOVE WIRE BASKET AND BURLAP DOWN FOUR TO SIX INCHES BELOW TOP OF ROOT BALL. REMOVE ALL TWINE AND (IF USED), SYNTHETIC MATERIAL. REMOVE OR CORRECT GIRDLING ROOTS.
4. TAMP EXCAVATED SOIL AROUND BASE OF ROOTBALL.
5. BACKFILL REMAINDER EXCAVATED SOIL TAMPED LIGHTLY. HIGH CLAY OR POOR SOIL SHALL RECEIVE SOIL AMENDMENT PER LANDSCAPE NOTES.
6. WATER THOROUGHLY WITHIN TWO HOURS USING 10 TO 15 GALLONS OF WATER.
7. APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE.
8. FINAL LOCATION OF TREE TO BE APPROVED BY OWNER.

1 TREE PLANTING

NTS



NOTES:

1. APPLY CORRECTIVE PRUNING.
2. SET ROOT BALL OR CONTAINER ON UNEXCAVATED OR TAMPED SOIL. TOP OF ROOTBALL (CONTAINER) SHALL BE ONE INCH ABOVE SURROUNDING GRADE. FOR LARGER SHRUBS WITHIN PLANTING BED DIG A DEEPER PIT ONLY FOR THOSE SHRUBS.
3. REMOVE BURLAP FROM TOP HALF THE LENGTH OF ROOTBALL. TWINE AND (IF USED) SYNTHETIC MATERIAL SHALL BE REMOVED FROM PLANTING BED. FOR CONTAINER GROWN SHRUBS, REMOVE CONTAINER AND LOOSEN ROOTS PRIOR TO INSTALLATION.
4. REMOVE OR CORRECT GIRDLING ROOTS.
5. PLUMB AND BACKFILL WITH AMENDED SOIL PER LANDSCAPE NOTES. WATER THOROUGHLY WITHIN TWO HOURS.
6. APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE. MULCH LIMITS FOR SHRUBS EXTEND TO ALL LIMITS OF PLANTING BED, SEE PLANS FOR BED LAYOUTS.

2 SHRUB PLANTING

NTS

No. | REVISIONS | DATE | BY

Kimley»Horn

500 EAST 96TH STREET, SUITE 300,
INDIANAPOLIS, IN 46240
PHONE: 317-218-9560
WWW.KIMLEY-HORN.COM

SCALE: AS NOTED
DESIGNED BY: KED
DRAWN BY: KED
CHECKED BY: WAB

NOT APPROVED FOR CONSTRUCTION

REBAR DEVELOPMENT

LANDSCAPE DETAILS

REBAR COMMERCIAL BUILDING AT MCCORD SQUARE

ORIGINAL ISSUE: 01/05/2024

KHA PROJECT NO. 170046010

SHEET NUMBER

L1.1

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.

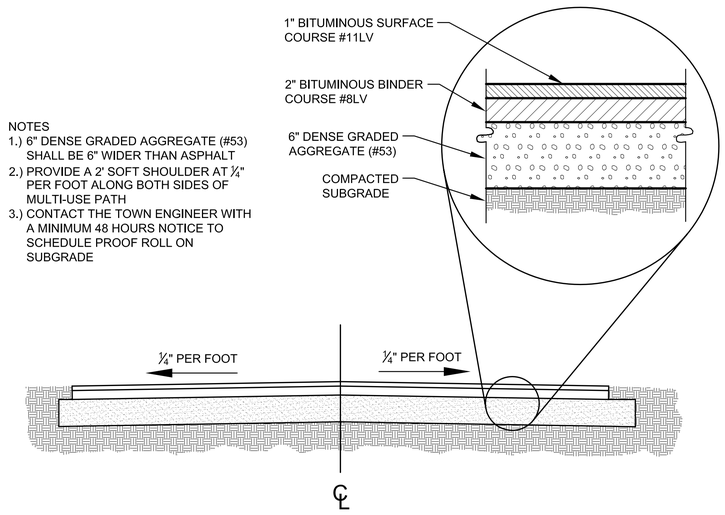
Compaction shall be continued until the Contractor has shown that the lime modified layer has a density not less than 100 percent within the special subgrade treatment zone and/or 95 percent below special subgrade treatment zone, of the maximum dry density.

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.

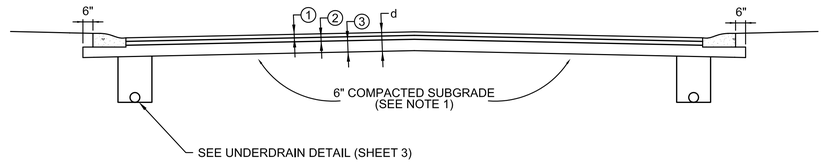
The Town Engineer reserves the right to determine the actual thickness of the completed and cured layer by coring or other means at the owner's expense, and any deficient areas shall be acceptably corrected.



NOTES
1.) 6" DENSE GRADED AGGREGATE (#53) SHALL BE 6" WIDER THAN ASPHALT
2.) PROVIDE A 2' SOFT SHOULDER AT ¼" PER FOOT ALONG BOTH SIDES OF MULTI-USE PATH
3.) CONTACT THE TOWN ENGINEER WITH A MINIMUM 48 HOURS NOTICE TO SCHEDULE PROOF ROLL ON SUBGRADE

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.

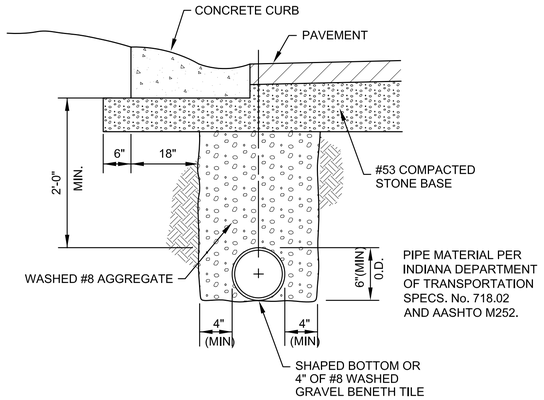
REVISIONS		
REV. NO.	DESCRIPTION	DATE

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

RECOMMEND FOR APPROVAL	DESIGN ENGINEER	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 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.

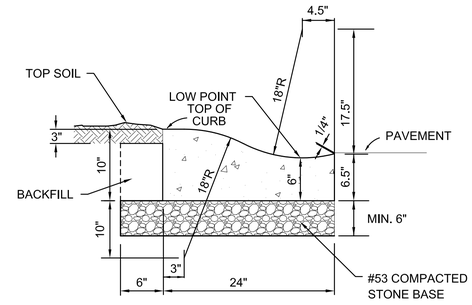
5. THE EXISTING PAVEMENT IS TO BE TACK COATED PRIOR TO THE LAYING OF NEW ASPHALT. TACK COAT IS TO BE APPLIED AS SPECIFIED IN THE LATEST INDOT SPECIFICATIONS, SECTIONS 409 AND 902.

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.

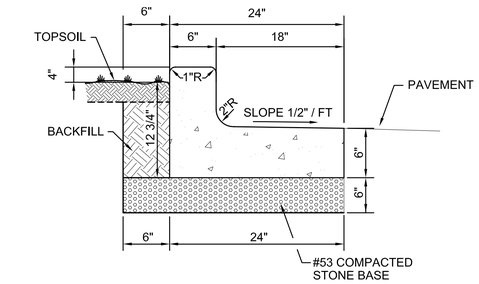
9. THE COMPRESSIVE STRENGTH OF THE FLOWABLE FILL IS NOT TO EXCEED 100 PSI AT 28 DAYS.



(TYPE I)

2' CONCRETE ROLL CURB & GUTTER

SCALE: NONE



(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:

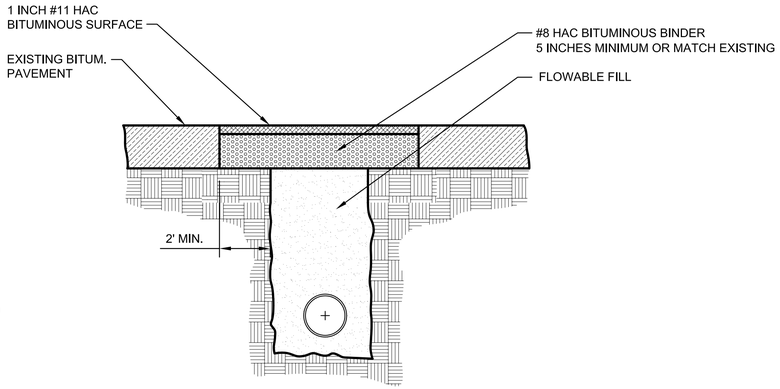
WIDTH(inches)	NO. OF POSTS	THICKNESS (inches) ALUMINUM SHEET
Up to 24"	1	0.080
25" to 30"	1	0.080
31" to 60"	2	0.100
61" and over	2	0.125

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.

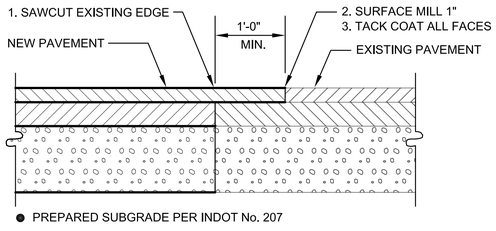
ROAD NAME SIGN DETAIL

SCALE: NONE



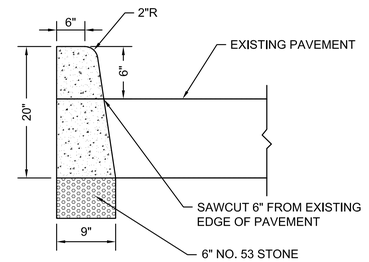
ROAD CUT PATCH DETAIL

NOT TO SCALE



TYPICAL PAVEMENT TIE-IN

SCALE: NONE



CONCRETE CURB (BARRIER)

SCALE: NONE

REVISIONS		
REV. NO.	DESCRIPTION	DATE

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

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

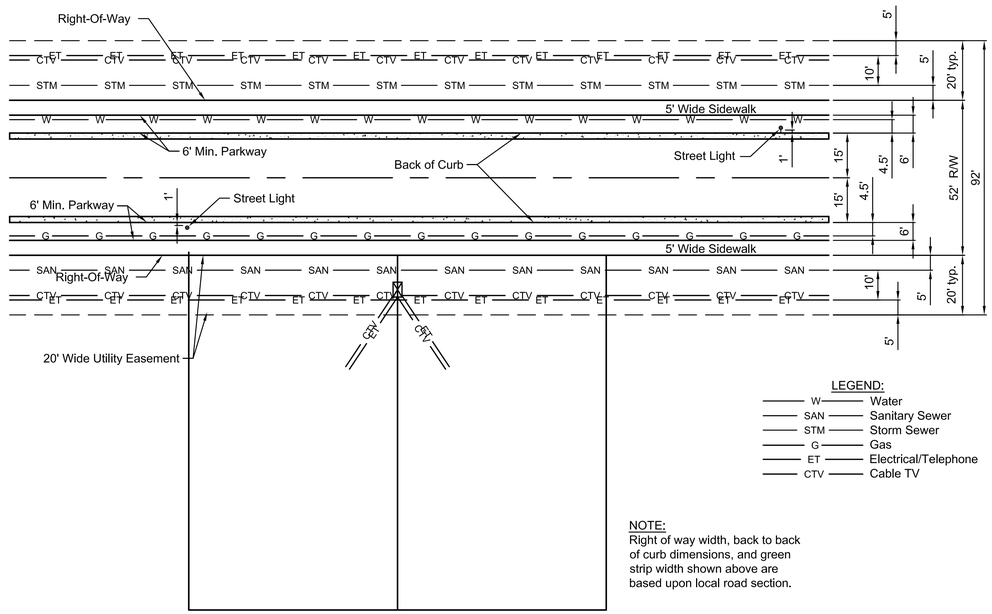
APPROVED — PUBLIC WORKS COMMISIONER — DATE 7/12/05

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

TOWN OF McCORDSVILLE

TOWN STANDARDS RIGHT-OF-WAY DETAILS

SHEET 3 OF 10



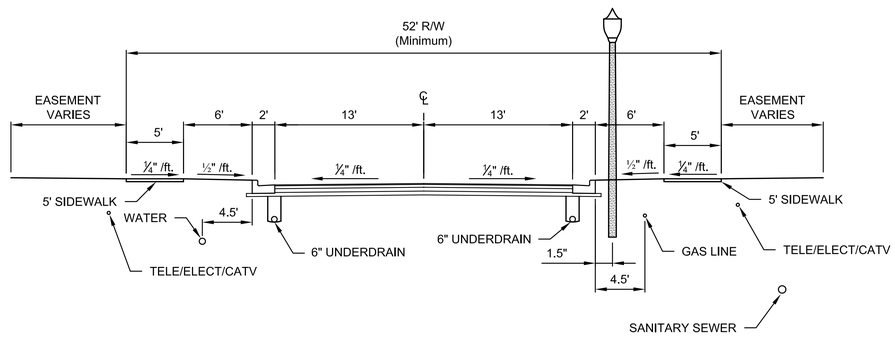
NOTE:
Right of way width, back to back of curb dimensions, and green strip width shown above are based upon local road section.

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		
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

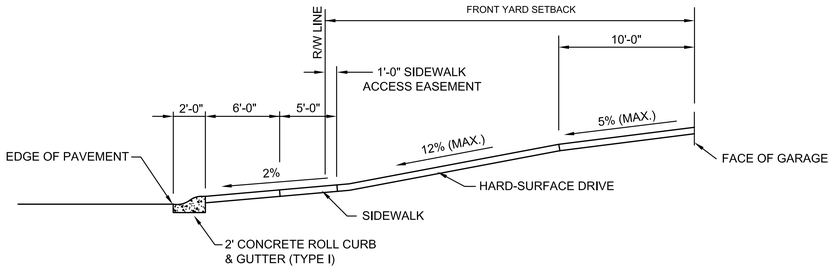
TOWN STANDARDS UTILITY LOCATION GUIDELINES

RESIDENTIAL DRIVES

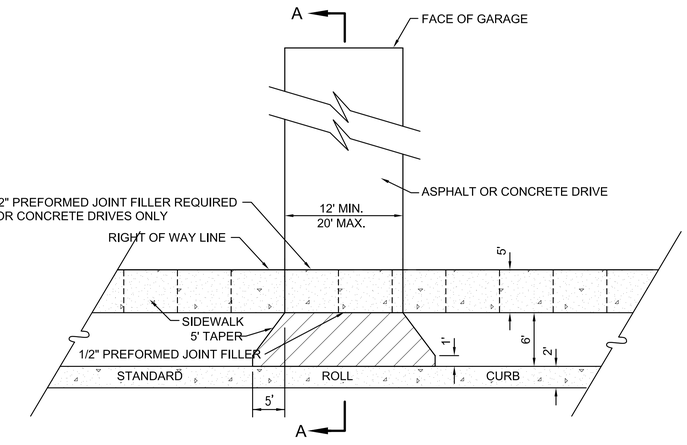
1.) THE MAXIMUM ALGEBRAIC DIFFERENCE IN GRADE FOR ANY 10 FOOT INTERVAL SHALL NOT EXCEED 8% FOR CREST VERTICAL CURVES. NOR 10% FOR SAG VERTICAL CURVES.

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"



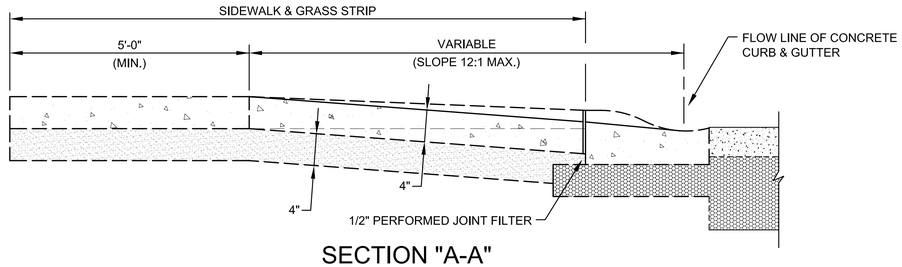
1. CROSS HATCHED AREAS SHALL BE EITHER 6" PLAIN CONCRETE OR 1" SURFACE ON 2" BITUMINOUS BASE ON 4" #53 COMPACTED AGGREGATE BASE, EXTENDING TO THE SIDEWALK OR R/W LINE WHICHEVER IS NEAREST TO THE ROADWAY.

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

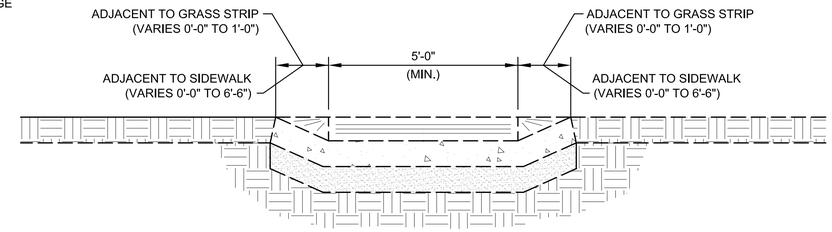
3. SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROPRIATE STANDARD AND SHALL BE CONTINUOUS ACROSS THE DRIVEWAY. SIDEWALK SECTION ACROSS DRIVEWAY SHALL BE SAME THICKNESS AS DRIVEWAY WITH A 6-INCH MINIMUM.

RESIDENTIAL DRIVEWAY DETAIL

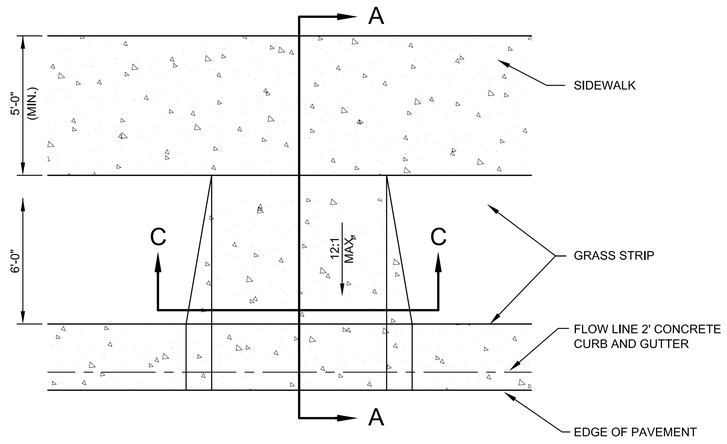
SCALE: NONE



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.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

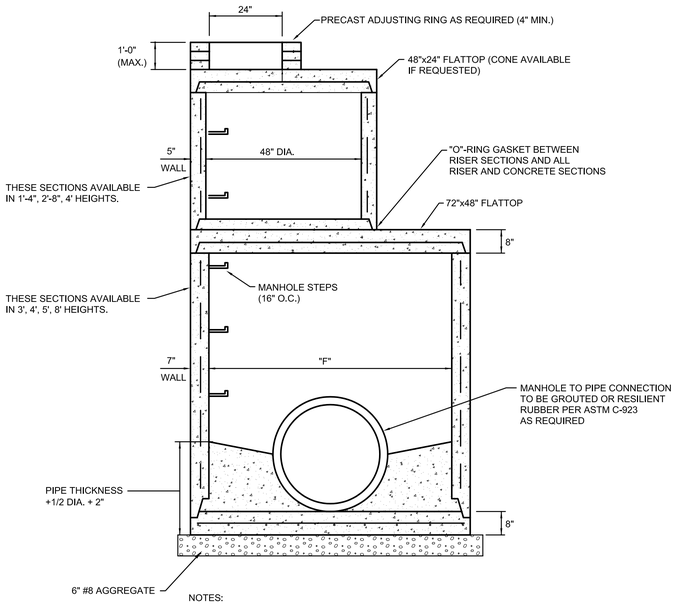
MARK J. WITSMAN REGISTERED No. 10100264 STATE OF INDIANA PROFESSIONAL ENGINEER

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 DRIVE WAY AND HANDICAP RAMP DETAILS

SHEET 5 OF 10



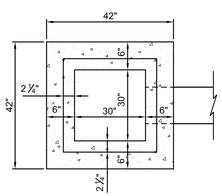
NOTES:

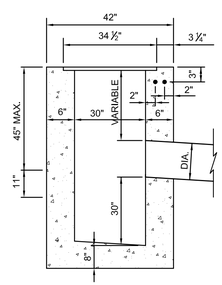
1.) MANHOLE CONFORMS TO A.S.T.M. C-478.

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





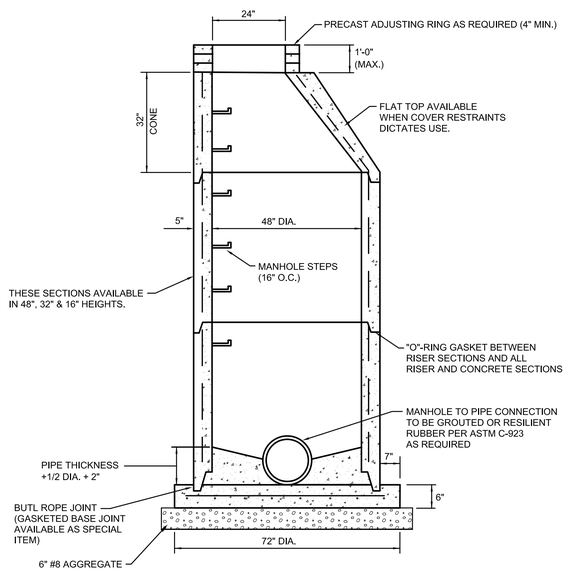
NOTE:

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.

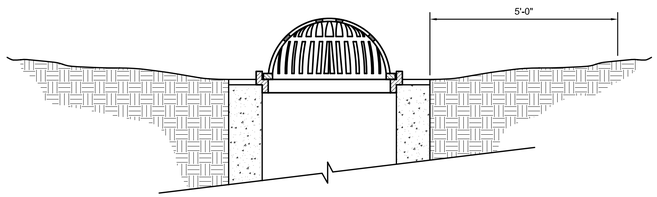
3.) Castings for inlets which drain open pavement areas without curbing shall be Neenah R-3402-E or as approved by the Town Engineer.

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

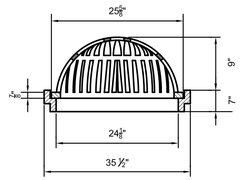
5.) Castings for use on inlets or manholes which drain swales or dry bottom detention basins shall be Neenah R-2560 or as approved by the Town Engineer.

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

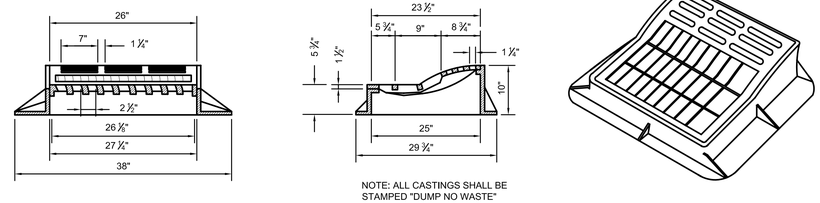
7.) All castings shall be stamped "DUMP NO WASTE".



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"

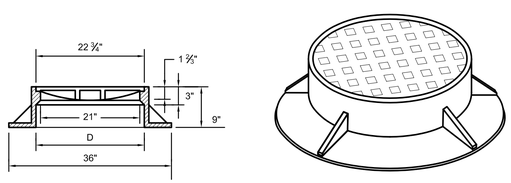
R-3501-T(L&R) NEENAH CURB INLET FRAME, GRATE & CURB BOX DETAIL
NOT TO SCALE

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

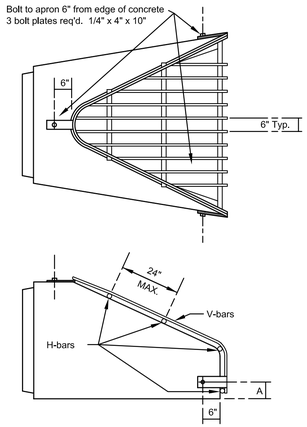
APPROVED — PUBLIC WORKS COMMISIONER — DATE 7/12/05

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

TOWN OF McCORDSVILLE

TOWN STANDARDS STORM SEWER STRUCTURE DETAILS

SHEET 6 OF 10

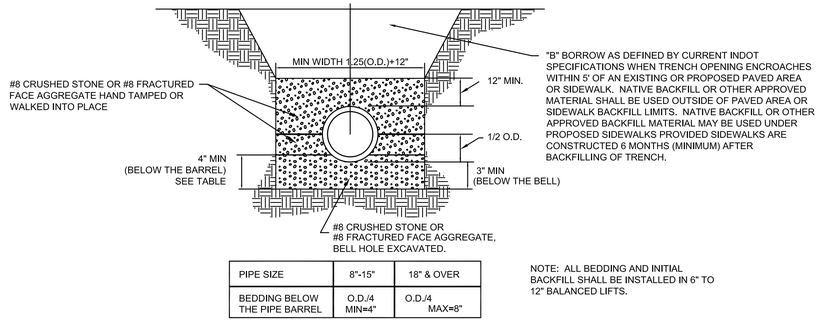


NOTES:

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

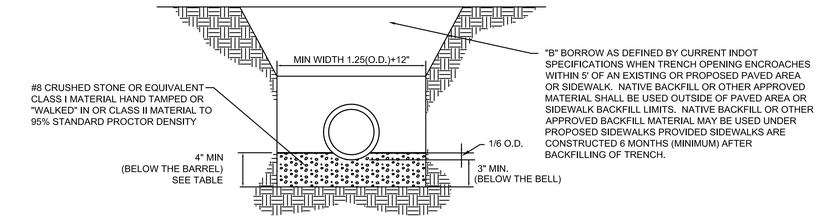


PIPE SIZE	8"-15"	18" & OVER
BEDDING BELOW THE PIPE BARREL	O.D./4 MIN=4"	O.D./4 MAX=8"

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"

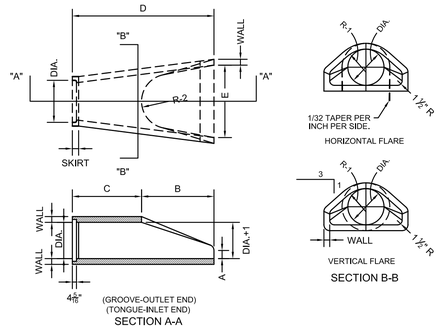
NOTE: ALL BEDDING AND INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS.

RIDGID PIPE (RCP) TRENCH DETAIL

NOT TO SCALE

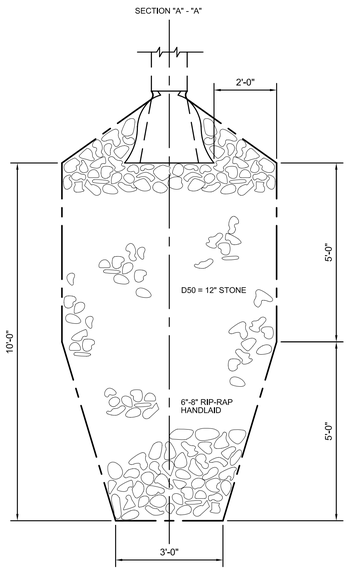
DIA.	WALL	G or T	WT. SEC.	A	B	C	D	E	DIA. +1	R-1	R-2	SKIRT
12	2	1 1/2	530	4	24	48 1/8	72 7/8	24	13	10 1/16	9	3 1/2
15	2 1/4	2	740	6	27	46	73	30	16	12 1/2	11	3 1/2
18	2 1/2	2 1/2	990	9	27	46	73	36	19	15 1/2	12	4
21	2 3/4	2 1/4	1280	9	35	38	73	42	22	16 1/8	13	4
24	3	2 1/2	1520	9 1/2	43 1/2	30	73 1/2	48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



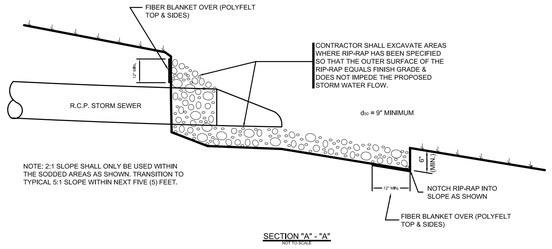
PRECAST CONCRETE END SECTION DETAIL

NOT TO SCALE

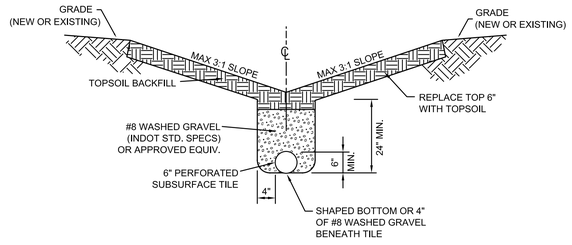


RIP-RAP DETAIL

NOT TO SCALE

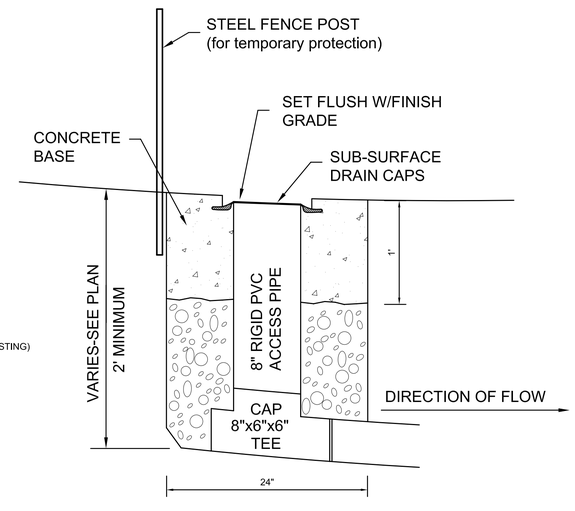


NOTE: SWALES SHALL BE CONSTRUCTED WITH A MINIMUM 1.0 PERCENT PROFILE GRADE. A 6" INCH DIAMETER UNDER DRAIN IS REQUIRED FOR ALL REAR YARD SWALES. SEE DETAIL SHOWN ON THIS SHEET.



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

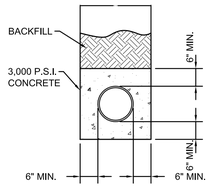
RECOMMEND FOR APPROVAL	DESIGN ENGINEER	7/12/05 DATE
APPROVED	PUBLIC WORKS COMMISIONER	7/12/05 DATE
APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

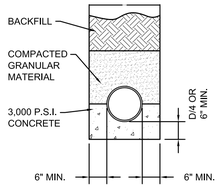
TOWN STANDARDS SANITARY SEWER SPECIFICATIONS

SHEET 8 OF 10

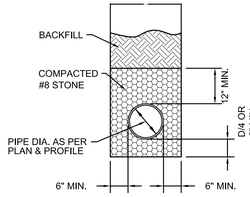
1. CONCRETE OR STONE BEDDING TO EXTEND TO UNDISTURBED TRENCH WALLS.
2. FOR PIPE DIA., REFER TO PLAN AND PROFILES.



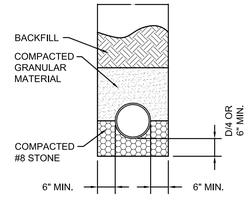
CONCRETE ENCASEMENT
CLASS "A-A"



CONCRETE CRADLE
CLASS "A"



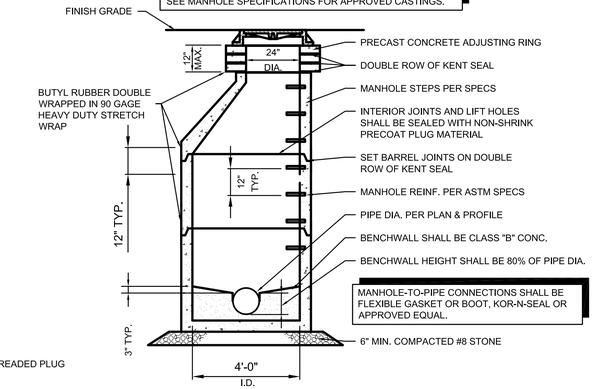
FLEXIBLE PIPE BEDDING
TYP. PVC



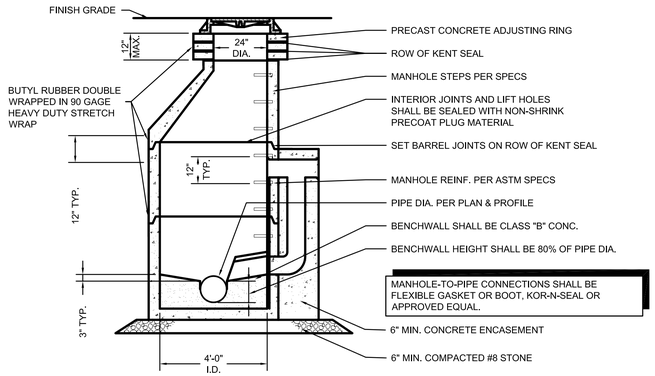
RIGID PIPE BEDDING
TYP. DI

PIPE BEDDING DETAILS
NOT TO SCALE

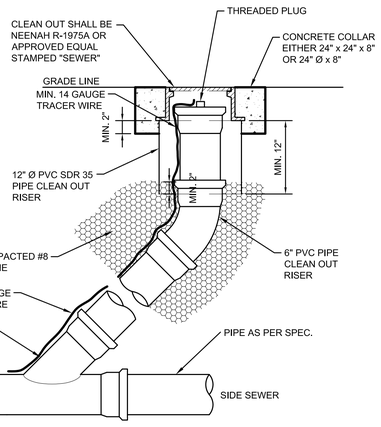
CASTING SHALL BE EITHER SELF-SEALING OR WATERTIGHT, (SEE PLAN & PROFILE SHEETS FOR CASTING TYPE). LIDS SHALL BE STAMPED "SANITARY SEWER" AND HAVE CLOSED PICKHOLES. FRAME SHALL BE SET ON ROW OF KENT SEAL. SEE MANHOLE SPECIFICATIONS FOR APPROVED CASTINGS.



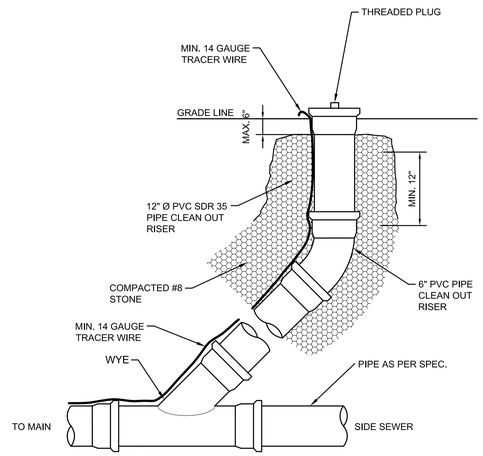
SANITARY MANHOLE
NOT TO SCALE



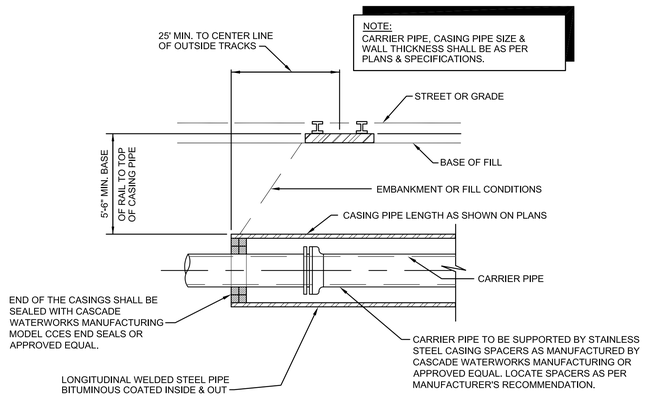
DROP SANITARY MANHOLE
NOT TO SCALE



CLEAN OUT TYPE II
SCALE: NONE

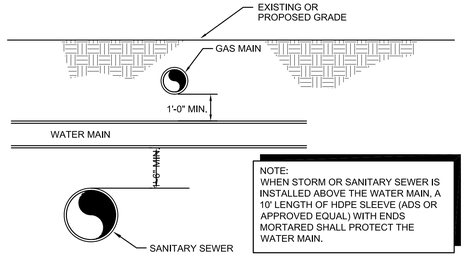


CLEAN OUT TYPE I
SCALE: NONE

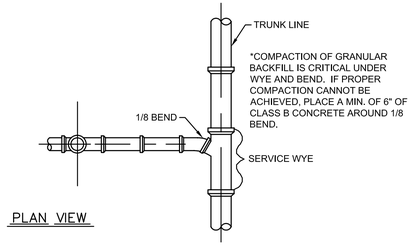


NOTE
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE I.N.D.O.T. STANDARD SPECIFICATIONS. WHERE NO PROCEDURES FOR A PARTICULAR PORTION OF THE WORK ARE GIVEN, THE RECOMMENDATIONS OF THE HORIZONTAL EARTH BORING AND PIPE JACKING MANUAL OR THE AMERICAN RAILWAY ENGINEERING ASSOCIATION SHALL BE FOLLOWED.

TYPICAL RAILROAD AND HIGHWAY BORING DETAIL
NOT TO SCALE

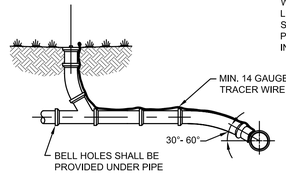


TYPICAL UTILITY CROSSING
NOT TO SCALE



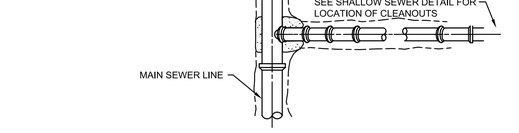
PLAN VIEW

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.

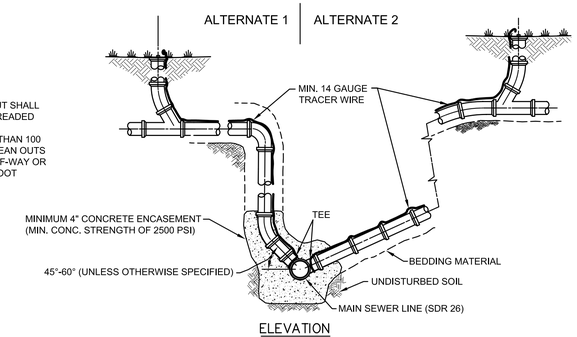


ELEVATION

SERVICE CONNECTION FOR SHALLOW SEWERS
LESS THAN 15' DEEP



PLAN VIEW



ELEVATION

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

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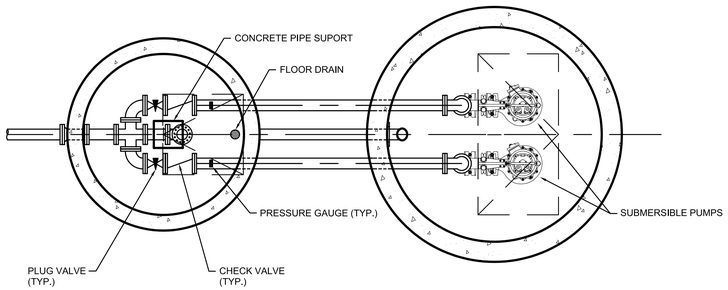
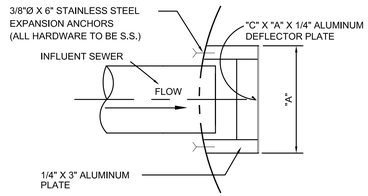
TOWN OF McCORDSVILLE

TOWN STANDARDS SANITARY SEWER DETAILS

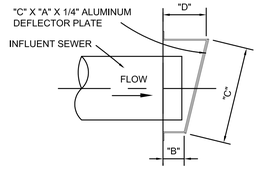
SHEET 9 OF 10



LIFT STATION - PLAN
SCALE: NONE



PLAN

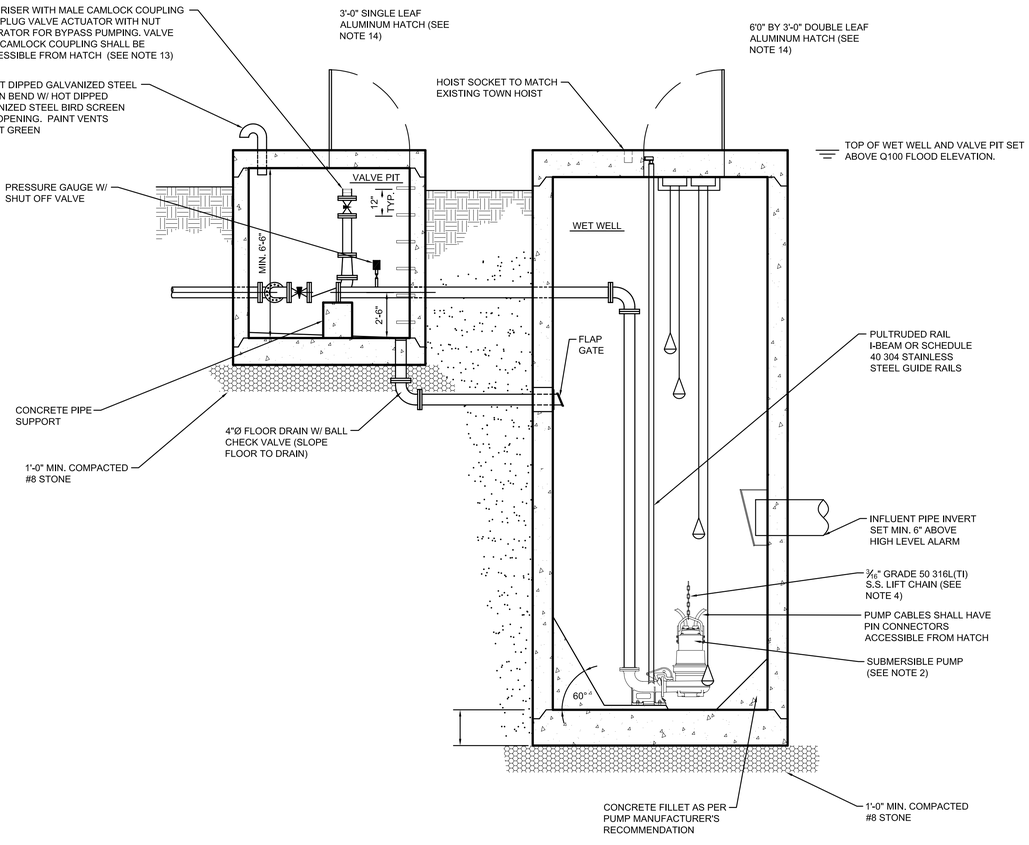


SECTION

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.

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APPROVED	TOWN COUNCIL PRESIDENT	7/12/05 DATE

TOWN OF McCORDSVILLE

TOWN STANDARDS SANITARY SEWER LIFT STATION STANDARDS & GUIDELINES

SHEET 10 OF 10