IMPROVEMENT PLANS

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140
APRIL 29, 2022

VICINITY MAP N.T.S.

INDEX OF DRAWINGS

CIVIL

LANDSCAPE

NOT INCLUDED IN SUBMITTAL
INCLUDED IN SUBMITTAL
INCLUDES SHEET CHANGES SPECIFIC TO REVISION #

03/25/2022 - COUNTY AND UTILITY COMMENTS
04/04/2022 - COUNTY COMMENTS
04/29/2022 - ISSUED FOR BID

PROPOSED LEGEND

- PROPOSED CATCH BASIN
- PROPOSED STORM STRUCTURE
- PROPOSED CLEAN OUT
- PROPOSED SANITARY PUMP STATION
- PROPOSED EXTERIOR GREASE INTERCEPTOR
- PROPOSED ELECTRIC TRANSFORMER
- PROPOSED LIGHT POLE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CURB
- PROPOSED TRAFFIC SIGN
- PROPOSED GRASSED SWALE
- PROPOSED PAINTED ADA SYMBOL
- PROPOSED DIRECTIONAL PAVEMENT MARKINGS
- PROPOSED TRANSVERSE STRIPING
- PROPOSED CONCRETE
- PROPOSED STANDARD DUTY ASPHALT
- PROPOSED HEAVY DUTY ASPHALT

EXISTING LEGEND

- EXISTING IRON PIN FOUND AS NOTED
- EXISTING MONUMENT BOX FOUND AS NOTED
- 5/8" x 30" REBAR WITH CAP "GPD" SET
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- EXISTING POWER & LIGHT POLE
- EXISTING POWER, TELEPHONE & LIGHT POLE
- EXISTING ELECTRIC MANHOLE
- EXISTING SIGNAL POLE
- EXISTING SIGNAL PULL BOX
- EXISTING TRAFFIC MANHOLE
- EXISTING CATCH BASIN
- EXISTING CURB INLET
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING GAS VALVE
- EXISTING TELEPHONE PEDESTAL
- EXISTING TELEPHONE MANHOLE
- EXISTING POST OR BOLLARD
- EXISTING SIGN
- EXISTING CLEANOUT
- EXISTING GUY WIRE
- EXISTING CONCRETE PAD/AREA
- P/L — EXISTING PROPERTY LINE
- R/W — EXISTING RIGHT OF WAY LINE
- C/L — EXISTING CENTER LINE
- OH — EXISTING OVERHEAD UTILITY LINES
- GAS — EXISTING UNDERGROUND GAS LINES
- ST — EXISTING UNDERGROUND STORM LINES
- SAN — EXISTING UNDERGROUND SANITARY LINES
- W — EXISTING UNDERGROUND WATER LINES
- E — EXISTING UNDERGROUND ELECTRIC LINES
- T — EXISTING UNDERGROUND TELEPHONE LINES
- EXISTING CURB
- EXISTING BUSH
- EXISTING DECIDUOUS TREE
- 000 — EXISTING CONTOUR

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE CONSTRUCTION OF A NEW TACO BELL RESTAURANT WITH A DUAL DRIVE-THRU LANE, PARKING, AND SITE AMENITIES. THE EXISTING PARCEL IS CURRENTLY VACANT. THE SITE IS SURROUNDED BY WEST JOHN L. MDOGLIN DRIVE AND MT COMFORT RD. NORTH OF THE PROPERTY IS AN RV DEALERSHIP. EAST OF THE PROPERTY IS A CAMP GROUND.

INDIANA SPECIFICATION

THE STANDARD SPECIFICATIONS OF THE STATE OF INDIANA, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

PLAN REPRODUCTION WARNING
THE PLANS HAVE BEEN PREPARED FOR PRINTING ON ANSI D (34"x22") SHEETS. PRINTING ON OTHER SIZE SHEETS MAY DISTORT SCALES. REFER TO GRAPHIC SCALES.

OWNER

VERITAS REALITY
JAMISON DOWNS
6440 WESTFIELD BOULEVARD
INDIANAPOLIS, IN 46220

DEVELOPER

TACO BELL
JAMISON DOWNS
6440 WESTFIELD BOULEVARD
INDIANAPOLIS, IN 46220

Indiana 811

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

	DATE	REMARKS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE:	-
BUILDING TYPE:	END20
PLAN VERSION:	OCTOBER 2021
BRAND DESIGNER:	DICKSON
SITE NUMBER:	315289
STORE NUMBER:	456917
PA/PM:	JW/KB
DRAWN BY.:	NDG
JOB NO.:	2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

ENDEAVOR 20

TITLE SHEET

C-000

PLOT DATE:

DEMOLITION NOTES

1. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO ANY DEMOLITION PROCESS. CERTAIN ACTIVITIES ASSOCIATED WITH CONSTRUCTION WILL REQUIRE AIR PERMITS INCLUDING BUT NOT LIMITED TO: MOBILE CONCRETE BATCH PLANTS, MOBILE ASPHALT PLANTS, CONCRETE CRUSHERS, LARGE GENERATORS, ETC. THESE ACTIVITIES WILL REQUIRE SPECIFIC CURRENT STATE'S EPA OR LOCAL GOVERNING AUTHORITIES AIR PERMITS FOR INSTALLATION AND OPERATION. CONTRACTORS MUST SEEK AUTHORIZATION FROM THE CORRESPONDING GOVERNING BODIES. FOR DEMOLITION OF ALL COMMERCIAL SITES, A NOTIFICATION FOR RESTORATION AND DEMOLITION MUST BE SUBMITTED TO THE CURRENT STATE'S EPA AND LOCAL GOVERNING AUTHORITIES TO DETERMINE ANY CORRECTIVE ACTIONS THAT MAY BE REQUIRED.

2. DEMOLITION INCLUDES THE FOLLOWING:
2.A. TRANSFER BENCHMARK CONTROL TO NEW LOCATIONS OUTSIDE THE DISTURBED AREA PRIOR TO COMMENCING DEMOLITION OPERATIONS (WHEN APPLICABLE).
2.B. DEMOLITION AND REMOVAL OF SITE IMPROVEMENTS NECESSARY FOR THE PROPOSED CONSTRUCTION OF NEW IMPROVEMENTS.
2.C. REROUTING, RELOCATING, DISCONNECTING, CAPPING OR SEALING, AND ABANDONING/REMOVING SITE UTILITIES IN PLACE (WHICHEVER IS APPLICABLE).

3. REMOVE AND LEGALLY DISPOSE OF ITEMS CALLED OUT TO BE REMOVED. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS. THOSE ITEMS INDICATED TO BE REINSTALLED, SALVAGED, OR TO REMAIN SHALL BE CLEANED, SERVICED, AND OTHERWISE PREPARED FOR REUSE. CONTRACTOR TO STORE AND PROTECT AGAINST DAMAGE. REINSTALL ITEMS IN LOCATIONS INDICATED.

4. PROTECT ITEMS INDICATED TO REMAIN AGAINST DAMAGE AND SOILING THROUGHOUT CONSTRUCTION. WHEN PERMITTED BY THE CONSTRUCTION MANAGER OR OWNER, ITEMS MAY BE REMOVED TO A SUITABLE, PROTECTED STORAGE LOCATION THROUGHOUT CONSTRUCTION AND THEN CLEANED AND REINSTALLED IN THEIR ORIGINAL LOCATIONS. PROMPTLY REPAIR DAMAGES TO ADJACENT FACILITIES CAUSED BY DEMOLITION OPERATIONS AT THE CONTRACTORS COST.

5. CONTRACTOR SHALL SCHEDULE DEMOLITION ACTIVITIES WITH THE CONSTRUCTION/PROJECT MANAGER INCLUDING THE FOLLOWING:
5.A. DETAILED SEQUENCE OF DEMOLITION AND REMOVAL WORK, WITH STARTING AND ENDING DATES FOR EACH ACTIVITY.
5.B. DATES FOR SHUTOFF, CAPPING, AND CONTINUATION OF UTILITY SERVICES.
5.C. IDENTIFY AND ACCURATELY LOCATE UTILITIES AND OTHER SUBSURFACE STRUCTURAL, ELECTRICAL, OR MECHANICAL CONDITIONS.

6. REGULATORY REQUIREMENTS: COMPLY WITH GOVERNING EPA NOTIFICATION REGULATIONS BEFORE STARTING DEMOLITION. COMPLY WITH HAULING AND DISPOSAL REGULATIONS OF AUTHORITIES HAVING JURISDICTION

7. MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE THROUGHOUT CONSTRUCTION OPERATIONS.
7.A. DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR OPERATING FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY OWNER'S REPRESENTATIVE AND AUTHORITIES HAVING JURISDICTION. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING UTILITIES, AS ACCEPTABLE TO OWNER AND TO GOVERNING AUTHORITIES.

8. LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF INDICATED UTILITY SERVICES SERVING THE SITE. ARRANGE TO SHUT OFF AND CAP UTILITIES WITH UTILITY COMPANIES AND FOLLOW THEIR RESPECTIVE UTILITY KILL AND CAP POLICIES. DO NOT START DEMOLITION WORK UNTIL UTILITY DISCONNECTING AND SEALING HAVE BEEN COMPLETED AND VERIFIED IN WRITING BY THE UTILITY COMPANY.

9. CONDUCT DEMOLITION OPERATIONS TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS AND FACILITIES TO REMAIN. ENSURE SAFE PASSAGE OF PEOPLE AROUND DEMOLITION AREA. SAFE PASSAGE INCLUDES THE ERECTION OF TEMPORARY PROTECTION AND/OR BARRICADES AS PER LOCAL GOVERNING AUTHORITIES AND IN ACCORDANCE WITH THE CURRENT ADA REGULATIONS. USE OF EXPLOSIVES WILL NOT BE PERMITTED.

10. CLEAN ADJACENT BUILDINGS AND IMPROVEMENT OF DUST, DIRT, AND DEBRIS CAUSED BY DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE START OF DEMOLITION.

11. PROMPTLY DISPOSE OF DEMOLISHED MATERIALS. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE. STORAGE OR SALE OF REMOVED ITEMS OR MATERIALS ON-SITE WILL NOT BE PERMITTED. NO BURNING OF ANY MATERIALS ON SITE SHALL BE PERMITTED.

12. IT IS NOT EXPECTED THAT ASBESTOS WILL BE ENCOUNTERED IN THE COURSE OF THIS CONTRACT. IF ANY MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE ENCOUNTERED, DO NOT DISTURB THE MATERIALS. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER AND THE OWNER.

13. SURVEY THE CONDITION OF THE STRUCTURE TO DETERMINE WHETHER REMOVING ANY ELEMENT MIGHT RESULT IN A STRUCTURAL DEFICIENCY OR UNPLANNED COLLAPSE OF ANY PORTION OF THE STRUCTURE OR ADJACENT STRUCTURES THROUGHOUT CONSTRUCTION.

14. DEMOLISH BUILDING AND STRUCTURAL PADS COMPLETELY AND REMOVE FROM THE SITE. USE METHODS REQUIRED TO COMPLETE WORK WITHIN LIMITATIONS OF GOVERNING REGULATIONS AND AS FOLLOWS:
14.A. DISPOSE OF DEMOLISHED ITEMS AND MATERIALS PROMPTLY.
14.B. DEMOLISH CONCRETE AND MASONRY IN SMALL SECTIONS.
14.C. BREAK UP AND REMOVE CONCRETE SLABS ON GRADE.

15. BELOW-GRADE DEMOLITION: DEMOLISH FOUNDATION WALLS, PAVEMENTS, AND OTHER BELOW-GRADE DEMOLITION, AS FOLLOWS:
15.A. COMPLETELY REMOVE BELOW-GRADE DEMOLITION, INCLUDING FOUNDATION WALLS FOOTINGS, KNOWN AND UNKNOWN PAVEMENT SECTIONS INCLUDING UNDERLYING CONCRETE SLABS, AND OTHER BELOW GRADE CONCRETE SLABS FOUND DURING DEMOLITION (INCLUDING ITEMS WHICH MAY NOT BE IDENTIFIED HEREIN).

16. FILLING BELOW-GRADE AREAS: COMPLETELY FILL BELOW-GRADE AREAS AND VOIDS RESULTING FROM DEMOLITION OF BUILDINGS, PAVEMENTS, AND OTHER REMOVED ITEMS WITH SOIL MATERIALS ACCORDING TO REQUIREMENTS PER SOILS REPORT AND ON-SITE GEOTECHNICAL ENGINEER'S REPRESENTATIVE. CONTRACTOR SHALL CONTACT GEOTECHNICAL ENGINEER PRIOR TO FILLING ANY AREAS TO OBSERVE FILL PROCEDURES.

17. CONDUCT DEMOLITION OPERATIONS AND REMOVE DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED AND USED FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER ADJACENT OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM OWNER AND AUTHORITIES HAVING JURISDICTION. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS IF REQUIRED BY GOVERNING REGULATIONS.

18. CONTRACTOR TO WET SAWCUT EXISTING PAVEMENT TO REMAIN AT NEXT NEAREST JOINT PRIOR TO REMOVALS OF CURB, GUTTER, PAVEMENT, ETC.

19. IF UNDERGROUND TANKAGE IS CALLED FOR DEMOLITION, THE CONTRACTOR SHALL COORDINATE REMOVAL AND REPLACEMENT WITH THE STATE BUREAU OF UNDERGROUND STORAGE TANK REGULATIONS (BUSTR). UNDERGROUND TANK REMOVAL SHALL ALSO INCLUDE THE REMOVAL OF ANY MONITORING WELLS, OIL/GAS WELLS, AND MINE SHAFTS, IN ACCORDANCE WITH GOVERNING AUTHORITIES HAVING JURISDICTION.

20. CONTRACTOR SHALL FULLY SECURE WORK AREA WITH THE APPROPRIATE SIGNAGE, FENCING, AND BARRICADES WHICH ACCOMMODATE VISUALLY IMPAIRED PERSONS AS AGREED UPON WITH SITE CONSTRUCTION/PROJECT MANAGER AND OWNER TO WARN AND KEEP PEOPLE OUT OF THE SITE WORK AREA FOR THE DURATION OF THE PROJECT.

GENERAL PLAN AND SURVEY NOTES

1. PRIOR TO STARTING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

2. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE SECTION OF THESE NOTES ENTITLED "GRADING PLAN NOTES" FOR DEFINITIONS AS MAY BE NECESSARY FOR "GEOTECHNICAL ENGINEER" AND "SOILS REPORT".

3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY. THE SOILS REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION/PROJECT MANAGER OF ANY DISCREPANCY BETWEEN SOILS REPORT AND PLANS, ETC.

4. THE CONTRACTOR SHALL, UPON BECOMING AWARE OF SUBSURFACE OR LATENT PHYSICAL CONDITIONS DIFFERING FROM THOSE DISCLOSED BY THE ORIGINAL SOIL EXPLORATION WORK, PROMPTLY NOTIFY THE OWNER VERBALLY TO PERMIT VERIFICATION OF THE CONDITIONS AND IN WRITING, AS TO THE NATURE OF THE DIFFERING CONDITIONS. NO CLAIM BY THE CONTRACTOR FOR ANY CONDITIONS DIFFERING FROM THOSE ANTICIPATED IN THE PLAN AND SPECIFICATIONS AND DISCLOSED BY THE SOIL STUDIES WILL BE ALLOWED UNLESS THE CONTRACTOR HAS SO NOTIFIED THE OWNER, VERBALLY AND IN WRITING AS REQUIRED ABOVE, OF SUCH DIFFERING CONDITIONS.

5. ALL WORK WITHIN THE RIGHTS OF WAY SHALL BE IN ACCORDANCE WITH THE GOVERNING JURISDICTION AND SPECIFICATIONS.

6. CONTRACTOR SHALL COORDINATE ANY MAINTENANCE OF TRAFFIC WITH THE OWNER'S REPRESENTATIVE AND THE LOCAL JURISDICTION PRIOR TO CONSTRUCTION.

7. CONTRACTOR SHALL AT ALL TIMES ENSURE THAT SWPP MEASURES PROTECTING EXISTING DRAINAGE FACILITIES BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY PHASE OF THE SITE CONSTRUCTION OR LAND ALTERATION. (SEE SWPP PLANS).

8. ALL WORK SHALL BE COMPLETED IN A NEAT AND ORDERLY MANNER REMOVING ALL EXCESS MATERIAL AND WASTE FROM THE SITE INCLUDING TIMELY REMOVAL OF ANY CONCRETE SPLATTER. UPON COMPLETION OF PROJECT, CONTRACTOR SHALL CLEAN THE PAVED AREAS PRIOR TO REMOVAL OF TEMPORARY SEDIMENT CONTROLS, AS DIRECTED BY THE CITY AND/OR CONSTRUCTION/PROJECT MANAGER. IF POWER WASHING IS USED, NO SEDIMENT LADEN WATER SHALL BE WASHED INTO THE STORM SYSTEM. ALL SEDIMENT LADEN MATERIAL ON PAVEMENT OR WITHIN THE STORM SYSTEM SHALL BE COLLECTED AND REMOVED FROM THE SITE AT CONTRACTOR'S EXPENSE (SEE SWPP PLANS).

9. THESE PROJECT CONSTRUCTION DOCUMENTS SHALL NOT CONSTITUTE A CONTRACTUAL RELATIONSHIP BETWEEN GPD GROUP, INC. AND THE CONTRACTOR / SUBCONTRACTOR / OR OTHER AFFILIATED PARTIES.

10. THE ENGINEER WILL NOT BE RESPONSIBLE FOR CONSTRUCTION OR SAFETY, MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES UTILIZED IN CONSTRUCTION BY THE CONTRACTOR OR SUBCONTRACTORS. ANY SEQUENCING OR SUGGESTED NOTATIONS WHICH MAY APPEAR IN THE PLANS IS INTENDED TO ASSIST IN THE UNDERSTANDING OF PROJECT INTENT.

11. DETAILS, NOTES, AND OTHER REFERENCES CONTAIN HEREIN MAY HAVE BEEN ATTAINED FROM OUTSIDE REFERENCE SOURCE LOCATIONS SUCH AS, BUT NOT LIMITED TO, LOCAL AUTHORITY AGENCIES, DESIGN REFERENCE MANUALS, MANUFACTURE'S RECOMMENDED DOCUMENTATION, OR OTHER INDUSTRY SOURCES. GPD DOES NOT WARRANT INFORMATION OR REPRESENTATION OF SAID CONTENT CONTAINED HEREIN, IT IS SHOWN SOLELY FOR REFERENCE ONLY OF DESIGN INTENT AT THE TIME OF PLAN PREPARATION. THE CONSTRUCTION TEAM MEMBERS (CONTRACTOR AND CONSTRUCTION MANAGER, WHERE APPLICABLE) SHALL OBTAIN THE MOST CURRENT DETAILED INFORMATION FROM THE RESPECTIVE SOURCE TO CONSTRUCT THE IMPROVEMENTS UNDER THE AUTHORITY OF THE RESPECTIVE GOVERNING AGENCIES. IF ANY DISCREPANCIES ARE DISCOVERED BETWEEN THE ORIGINAL DESIGN INTENT AND THE CONSTRUCTION TEAM OBTAINED REFERENCE MATERIAL, THE CONSTRUCTION MANAGER OR THE PROJECT'S CONTACT PERSON SHALL BE NOTIFIED PRIOR TO COMMENCING OF ASSOCIATED WORK.

12. CONDUCT CONSTRUCTION OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED AND USED FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER ADJACENT OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM OWNER AND AUTHORITIES HAVING JURISDICTION. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS.

13. THE A.L.T.A. SURVEY BY GPD GROUP INC., DATED OCTOBER 26, 2021 SHALL BE CONSIDERED A PART OF THESE PLANS. THE G.C. IS RESPONSIBLE FOR LOCATING IMPROVEMENTS PER THESE PLANS.

14. THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THE PLANS ARE BASED ON GENERAL FIELD SURVEYS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO BECOME FAMILIAR WITH THE SITE'S POSSIBLE BELOW GRADE FEATURES, INCLUDING BUT NOT LIMITED TO, ROOMS, VAULTS, UTILITIES, ETC. AND SHALL CONDUCT A WALK THROUGH WITH THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO STARTING CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR REPAIR TO DAMAGE CAUSED BY THEIR WORK FORCE TO FACILITIES WHICH ARE NOT INTENDED TO BE DISTURBED .

15. ALL DIMENSIONS, GRADES, AND UTILITY LOCATIONS SHOWN ON THESE PLANS WERE BASED ON THE SURVEY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION/PROJECT MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO INFORMATION SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

16. IN SOME CASES, THE DEVELOPER OR OWNER MAY HAVE PROVIDED THEIR OVERALL DEVELOPMENT PLANS FOR THE PROJECT DESIGN RATHER THAN A FIELD SURVEY. (SEE SITE PLAN FOR NOTES WHEN THIS IS THE CASE). ALL DIMENSIONS, GRADES, AND UTILITY LOCATIONS SHOWN ON THESE PLANS WERE BASED ON SAID DEVELOPMENT PLANS. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO INFORMATION SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

17. THE CONTRACTOR SHALL RUN AN INDEPENDENT VERTICAL CONTROL TRAVERSE TO CHECK BENCHMARKS AND A HORIZONTAL CONTROL TRAVERSE THROUGH THE REFERENCED PROJECT CONTROL DATUM TO CONFIRM GEOMETRIC DATA. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.

CONCRETE NOTES AND SPECIFICATIONS

1. ALL EXTERIOR SITE SPECIFIC PORTLAND CEMENT CONCRETE (PCC) (I.E. SIDEWALK, PAVEMENT OR CURBING) SHALL MEET THE MINIMUM REQUIREMENTS OF THE LATEST EDITIONS OF THE STATE DEPARTMENT OF TRANSPORTATION (DOT) AND THE AMERICAN CONCRETE INSTITUTE (ACI) SPECIFICATIONS USING THE RESPECTIVE ASTM STANDARDS FOR MATERIALS USED, MIXING, TRANSPORTATION, FORMING, PLACEMENT, CURING, AND SEALING. THE MINIMUM STRENGTH FOR NORMAL WEIGHT CONCRETE IS 4000 PSI AT 28 DAY STRENGTH. CONTRACTOR SHALL REFER TO DETAILS, NOTES, AND SPECIFICATIONS WITHIN THE CONSTRUCTION DOCUMENTS FOR VARIATIONS TO THIS SPECIFICATION. MIX DESIGN SHOP DRAWINGS SHALL BE TAILORED TO THE ACTUAL FIELD PLACEMENT CONDITIONS AND BE SUBMITTED TO THE CONSTRUCTION/PROJECT MANAGER IN ACCORDANCE WITH THE PROJECT REQUIREMENTS.

2. ALL EXTERIOR CONCRETE CURBS SHALL HAVE JOINTS PER ACI 330. CURB JOINTS ARE TO ALIGN WITH CONCRETE PAVEMENT JOINTS WHERE APPLICABLE, TYPICALLY BEING 10 FT TO 12 FT. ALL EXTERIOR VEHICULAR CONCRETE PAVEMENT AND FLATWORK SHALL HAVE CONTROL JOINTS PER TABLE BELOW AND EXPANSION JOINTS PER ACI 330 TYPICAL RECOMMENDATIONS.

SLAB THICKNESS - " T "	MAXIMUM JOINT SPACING
LESS THAN 4 INCHES	8 FEET
4 - < 5 INCHES	10 FEET
5 - < 6 INCHES	12.5 FEET
6 INCHES - < 8 INCHES	15 FEET
8 INCHES - 10 INCHES	15 FEET

3. ALL JOINTS, INCLUDING SAWED JOINTS, SHALL BE SEALED. JOINTS SHALL BE CLEANED AND DRIED PRIOR TO SEALING. JOINT SEALING MATERIALS SHALL COMPLY WITH ASTM D 3406 FOR HOT APPLIED ELASTOMERIC, TT-S-001543A FOR SILICONE RUBBER, AND TT-S-00230S FOR SINGLE COMPONENT ELASTOMERIC. SEALER WIDTH, DEPTH, AND PREPARED APPLICATION SURFACES SHALL BE PER MANUFACTURES RECOMMENDATIONS. JOINT FILLER MATERIAL SHALL CONFORM TO ASTM D1751 OR ASTM D8139 AND EXTEND THE FULL DEPTH OF CONTACTING SURFACE.

4. ALL CONCRETE PANELS SHALL BE SQUARE WITH A LENGTH TO WIDTH RATIO NO GREATER THAN 1.25 TO 1 AND HAVE A MEDIUM BROOM FINISH (TRANSVERSE, SLIP RESISTANT FOR PEDESTRIAN PATHWAYS) WHICH SHALL BE TO MINIMUM STRENGTH PRIOR TO OPENING FOR VEHICULAR TRAFFIC AREAS. STAGGERED/OFFSET JOINT, INTERIOR CORNERS, ANGLES LESS THAN 60 DEGREES, SLABS LESS THAN 18-INCHES WIDE, AND ODD SHAPES SHALL NOT BE PERMITTED. BLOCKOUTS AROUND ALL PAVEMENT CASTINGS SHALL BE PROVIDED IN ACCORDANCE WITH ACI RECOMMENDATIONS.

5. ALL JOINTING (IF) SHOWN HEREIN IS ONLY A GENERAL GUIDELINE OF DESIGN INTENT. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR FINAL LAYOUT OF THE JOINTING WHICH COINCIDES WITH THEIR MEANS AND METHODS TO ENSURE NO UNDESIRED CRACKS FORM THROUGH ANY PLACED CONCRETE. JOINTS SHALL BE APPROPRIATELY PLACED AS SOON AS POSSIBLE TO KEEP UNNECESSARY CRACKS FROM DEVELOPING. CONTRACTOR SHALL SUBMIT SHOP DRAWING OF THEIR PAVEMENT JOINT LAYOUT TO OWNER / CONSTRUCTION MANAGER PRIOR TO PLACEMENT FOR RECORD. THE CONTRACTOR SHALL REPLACE ANY CRACKED CONCRETE, WHICH HAS NOT BEEN PLACED/FINISHED IN ACCORDANCE WITH ACI STANDARDS, TO THE NEXT JOINT PAST THE EFFECTED AREA AT NO ADDITIONAL COST TO THE PROJECT WITHIN ONE YEAR OF PROJECT COMPLETION.

6. DESIGN INTENT CONCRETE AND SHALL CONFORM TO THE FOLLOWING MINIMUM AND MAXIMUM VALUES:

a.	STRENGTH	PER MIX DESIGN, MINIMUM 4000 PSI
b.	PORTLAND CEMENT CONTENT	550 LB / CY (ASTM C150 TYPE I/II)
c.	POZZOLAN MATERIALS (SEE NOTES BELOW)	SILICA FUME MAY REPLACE MAX. 7% CEMENT FLY ASH OR SLAG CEMENT MAY REPLACE MAX. 20% CEMENT
d.	MAX W/C RATIO	PER MIX DESIGN, MAXIMUM 0.45
e.	ENTRAINED AIR	6.5% AVG ± 1.5% (7.0% TARGET) ASTM C260
f.	SLUMP	4" MAX WITHOUT WATER REDUCER
g.	SLUMP WITH HRWR OR MID RANGE WR	6" TO 8"
h.	WATER REDUCER	NORMAL TYPE A (ASTM C494)
i.	RETARDER	NORMAL TYPE B OR D AS NEEDED (REQUIRED IF CONCRETE TEMPERATURE EXCEEDS 85F)
j.	CONCRETE TEMPERATURE AT PLACEMENT	50F-90F
k.	ACCELERATOR	NON-CHLORIDE TYPE ONLY - CALCIUM CHLORIDE IS PROHIBITED
l.	FIBERS TO BE USED FOR SHRINKAGE CRACK CONTROL - (CURBS, WALKS, STEPS, RAMPS) - FOR USE AS W.W.F. REPLACEMENT (VEHICULAR TRAFFIC PAVEMENT)	POLYPROPYLENE OR POLYETHYLENE MiCRO SYNTHETIC FIBERS @ 1.5 LBS / CY (FIBERMESH 300 OR APPROVED EQUAL) MACRO SYNTHETIC FIBERS @ 4.0 LBS / CY (TUF-STRAND SF OR APPROVED EQUAL)

7. ALL SYNTHETIC FIBERS SHALL BE TYPE III PER ASTM C1116 AND ASTM D7508. MACRO FIBERS SHALL BE 1.5 TO 2.25 INCHES IN LENGTH.

8. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, ASTM A1064, ASTM A307, AND ASTM A775. WHEN USED, ALL W.W.F. SLAB REINFORCEMENT SHALL BE SUPPORTED ON CHAIRS AND BE FLAT SHEETS ONLY. ZINC REPAIR MATERIAL SHALL CONFORM TO ASTM A780.

9. CONCRETE SHALL ARRIVE AT JOB SITE WITH APPROPRIATE W/C RATIO. NO WATER SHALL BE ADDED TO CONCRETE ON SITE WHICH EXCEEDS THE MAXIMUM ALLOWED W/C RATIO AS INDICATED BY THE WRITTEN BATCH PLANT TICKET FROM THE SUPPLIER. SUPERPLASTICIZER AND/OR OTHER ADMIXTURES MAY BE UTILIZED TO ACHIEVE DESIRED WORKABILITY OR TO ACCOUNT FOR ADVERSE PLACEMENT CONDITIONS. ADMIXTURES SHALL BE UTILIZED ONLY IN ACCORDANCE WITH THE MANUFACTURES WRITTEN INSTRUCTIONS AND MEET THE REQUIREMENTS OF ASTM C494 AND/OR ASTM C1017.

10. CONTRACTOR SHALL HAVE A MIN. 5 YEARS EXPERIENCE WITH SUCCESSFUL PLACEMENT OF CONCRETE UTILIZING POZZOLAN MATERIALS. MIX DESIGNS WHICH UTILIZED POZZOLAN MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL DOT SPECIFICATIONS AND ACI STANDARDS. FLY ASH SHALL MEET THE REQUIREMENTS OF ASTM C618, CLASS C OR CLASS F, EXCEPT THE LOSS ON IGNITION MUST NOT EXCEED 5%. SLAG CEMENT ACCORDING TO ASTM C989, GRADE 100 MINIMUM. SILICA FUME SHALL BE DRY DENSIFIED MEETING THE REQUIREMENTS OF ASTM C1240. USE OF MATERIALS SHALL BE IN ACCORDANCE WITH ACI 211.1.

11. AGGREGATES SHALL BE LOW-SHRINKAGE / WELL GRADED PER ASTM C33 AND THE LOCAL DOT SPECIFICATIONS WHICH ARE RESISTANT TO FREEZE / THAW, SULFATE ATTACK, AND ARE NOT ALKALI-CARBONATE AGGREGATES OR SUSCEPTIBLE TO ALKALI-AGGREGATE REACTIVITY. SLAG AGGREGATES SHALL NOT BE PERMITTED IN ANY CONCRETE MIX.

12. LIQUID MEMBRANE FORMING CURING COMPOUNDS SHALL BE PER ASTM C1315 TYPE II CLASS A IN ACCORDANCE WITH ACI 308. LIQUID MEMBRANE FORMING CURING COMPOUNDS SHALL BE WHITE PIGMENTED AND TWO COATS APPLIED IN TWO PERPENDICULAR UNIFORM APPLICATIONS PER MANUFACTURES RECOMMENDATIONS WITHIN THE ALLOWABLE TIME PERIODS. APPLICATIONS SHALL BE PHOTOGRAPH DOCUMENTED FOR EVEN AND CONSISTENT COVERAGE SIMILAR TO THE APPEARANCE OF A BLANK WHITE SHEET OF COPY PAPER. NO POOLING OF MATERIAL SHALL BE ACCEPTED.

13. CONCRETE SEALER SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. A WRITTEN STATEMENT FROM THE MANUFACTURE FOR THE SEALER AND CURING COMPOUND SHALL BE PROVIDED GUARANTEEING COMPATIBILITY.

14. REFER TO ACI INDUSTRY STANDARDS FOR CONCRETE PLACEMENT AND INSTALLATION. CONTRACTOR SHALL INCLUDE PROVISIONS IN ACCORDANCE WITH ACI 305R AND 306R FOR HOT AND COLD WEATHER PLACEMENT WHEN PROJECT SCHEDULE TIMING FALLS WITHIN THE REQUIRED TEMPERATURE RANGES PER ACI AND THE LOCAL DOT.

GRADING PLAN NOTES

1. A SOILS REPORT HAS BEEN PREPARED BY ALT & WITZIG ENGINEERING, INC., DATED JANUARY 27, 2021 AND SHALL BE CONSIDERED TO BE A PART OF THIS PLAN SET.

2. BEFORE STARTING GRADING OPERATIONS, SEE STORMWATER POLLUTION PREVENTION PLAN, NOTES AND DETAILS (SWPP), LANDSCAPE PLAN AND SOILS REPORT FOR TREATMENT OF EXISTING GRADE.

3. PRIOR TO SITE CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL INSTALL ALL SWPP MEASURES TO PROTECT EXISTING DRAINAGE FACILITIES. CONTRACTOR SHALL PREVENT SILTATION FROM LEAVING THE SITE AT ALL TIMES.

4. STRIP BUILDING AND PAVEMENT AREAS OF ALL ORGANIC TOPSOILS. STOCKPILE SUITABLE TOPSOILS FOR RESPREADING ONTO LANDSCAPE AREAS. ALL EXCESS EXCAVATED MATERIALS SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE. SEE GEOTECHNICAL REPORT FOR STRIPPING AND TOPSOIL REQUIREMENTS.

5. OBTAIN APPROVED BORROW SOIL MATERIALS OFF-SITE WHEN SUFFICIENT SATISFACTORY SOIL MATERIALS ARE NOT AVAILABLE ON-SITE.

6. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. UNLESS OTHERWISE SPECIFIED IN THE PLANS, SPECIFICATIONS, OR GEOTECHNICAL REPORT THE SITE GRADING, EXCAVATION, AND EMBANKMENT SHALL BE IN ACCORDANCE WITH THE STATE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

7. AT A MINIMUM ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 93% (FOR ROADS, DRIVES & PARKING AREAS, INCLUDING FUTURE AREAS), 95% (UNDER FOUNDATIONS & FOOTINGS), 93% (SUBGRADE BELOW SLAB-ON-GRADE), 80% (GREEN SPACE NOT INCLUDING PERMANENT SLOPES), MAXIMUM 85% (LANDSCAPED AREAS UPPER 1'), 95% (UTILITY TRENCH BACKFILL) OF MODIFIED PROCTOR MAXIMUM DRY DENSITY PER A.S.T.M. TEST D-1557. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 1% TO 2% OVER OPTIMUM. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND RETAIN A QUALIFIED SOILS ENGINEER REGISTERED WITHIN THE STATE TO ENSURE COMPLIANCE WITH THE GEOTECHNICAL REPORT, MAKE GEOTECHNICAL RECOMMENDATIONS BASED ON FIELD CONDITIONS, AND ENSURE THAT ALL SHORING AND DEWATERING MEANS AND METHODS WILL NOT COMPROMISE THE STABILITY OF EXISTING OR PROPOSED FOOTINGS/FOUNDATIONS. THE OWNER SHALL RECEIVE ALL COMPACTION REPORTS PREPARED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT. NOTIFY PROJECT CONSTRUCTION MANAGER IF ANY UNSUITABLE SOILS ARE FOUND.

8. FOLLOWING GRADING OF SUBSOIL TO SUBGRADE ELEVATIONS THE CONTRACTOR SHALL PLACE TOPSOIL TO A 6" DEPTH (UNLESS OTHERWISE SPECIFIED IN LANDSCAPING DETAILS) IN ALL DISTURBED AREAS WHICH ARE NOT TO BE PAVED. SMOOTHLY FINISH GRADE TO MEET SURROUNDING LAWN AREAS AND ENSURE POSITIVE DRAINAGE. STOCKPILED TOPSOIL SHALL BE SCREENED PRIOR TO RESPREADING. TOPSOIL SHALL BE FREE OF SUBSOIL, DEBRIS, BRUSH AND STONES LARGER THAN 1" IN ANY DIMENSION. ROCK HOUNDING IN PLACE WILL NOT BE PERMITTED. ALL EXCESS TOPSOIL SHALL BE LEGALLY DISPOSED OF OFF SITE.

9. ELEVATIONS GIVEN ARE AT BOTTOM FACE OF CURB AND/OR FINISHED PAVEMENT GRADE UNLESS OTHERWISE SPECIFIED ON GRADING PLAN. ALL PAVEMENT SHALL BE LAID ON A STRAIGHT, EVEN, AND UNIFORM GRADE WITH A MINIMUM OF 1% SLOPE TOWARD THE COLLECTION POINTS UNLESS OTHERWISE SPECIFIED ON THE GRADING PLAN. DO NOT ALLOW NEGATIVE GRADES OR PONDING OF WATER.

10. SLOPE BUILDING SIDEWALK AWAY FROM THE BUILDING AT A MAXIMUM OF 1.5% (UNLESS OTHERWISE INDICATED ON THE GRADING PLAN).

11. WHEN CONSTRUCTING ASPHALTIC CONCRETE PAVEMENTS, CONTRACTOR SHALL PROVIDE BUTT END JOINT TO MEET EXISTING PAVEMENT IN ELEVATION AT DRIVE RETURNS AND ENSURE POSITIVE DRAINAGE.

GENERAL UTILITY NOTES

1. CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES IMMEDIATELY AFTER BID IS AWARDED AND ENSURE THE UTILITY COMPANIES HAVE THE ESSENTIALS REQUIRED FOR COMPLETE SERVICE INSTALLATION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER OF ANY TIME FRAMES ESTABLISHED BY UTILITY COMPANIES WHICH WILL NOT MEET OPENING DATE.

2. CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, INVERT ELEVATION, AND CONDITION OF EXISTING UTILITIES WHICH ARE INTENDED TO BE UTILIZED AS A CONNECTION POINT FOR ALL PROPOSED UTILITIES PRIOR TO ANY CONSTRUCTION. CONTRACTOR TO ENSURE EXISTING UTILITIES ARE IN GOOD CONDITION AND FREE FLOWING (IF APPLICABLE). IF ELEVATIONS, SIZE, OR LOCATION DIFFER FROM WHAT IS SHOWN ON PLANS, CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IMMEDIATELY.

3. WHERE PLANS PROVIDE FOR PROPOSED WORK TO BE CONNECTED TO, OR CROSS OVER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING THE PROPOSED WORK. IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE RESULTS IN A CHANGE IN THE PLAN, THE CONSTRUCTION MANAGER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED WORK WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY. PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT ITEM.

4. UTILITY SERVICE PROVIDERS RULES AND REQUIREMENTS TAKE PRECEDENCE OVER INFORMATION HEREIN. IF DISCREPANCY ARISES, CONTRACTOR SHALL FULLY COORDINATE WITH UTILITY SERVICE PROVIDER PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL CONFIRM ALL CONSTRUCTION AND MATERIALS PROVIDED BY UTILITY SERVICE PROVIDER VERSUS PROVIDED BY THE CONTRACTOR.

5. ALL STRUCTURES WITHIN PAVEMENT AREAS SHALL HAVE A FRAME 6" MINIMUM IN HEIGHT.

SANITARY SEWER NOTES

1. SANITARY SEWER LATERAL INVERT AT BUILDING SHALL BE A MINIMUM OF 6'-3" BELOW FINISH FLOOR.

2. CLEAN-OUTS TO BE INSTALLED AT ALL PIPE BENDS AND ANGLES, UNLESS A MANHOLE IS INDICATED.

3. THE CONTRACTOR SHALL HIRE A LOCAL PLUMBER LICENSED WITH THE LOCAL SANITARY JURISDICTION TO MAKE ALL CONNECTIONS FROM THE BUILDING TO THE EXISTING SEWER. CONTRACTOR SHALL SECURE A SANITARY SEWER CONNECTION PERMIT PRIOR TO ANY CONSTRUCTION. THE CONTRACTORS PRICE FOR SANITARY SEWER INSTALLATION SHALL INCLUDE ALL FEES AND APPURTENANCES REQUIRED BY THE LOCAL SANITARY JURISDICTION TO PROVIDE A COMPLETE WORKING SERVICE. COORDINATE ALL WORK WITH JIM SHIELDS @ AQUA INDIANA, INC. (317) 577-1390 EXT 55207, JESHIELDS@AQUAAMERICA.COM

4. ALL GRAVITY SANITARY PIPE MATERIAL SHALL BE 6" PVC, SDR 35 CONFORMING TO ASTM D 3034, WITH JOINTS PER ASTM 3212 UNLESS OTHERWISE REQUIRED BY THE LOCAL JURISDICTION.

5. ALL PRESSURE SANITARY PIPE MATERIAL SHALL BE HDPE DR-11 CONFORMING TO AWWA/ASTM D-2774 STANDARDS AND MANUFACTURER'S RECOMMENDATIONS. IF ANY CONFLICT BETWEEN AQUA INDIANA STANDARDS AND MANUFACTURER'S RECOMMENDATIONS, THE MANUFACTURER'S RECOMMENDATION SHALL TAKE PRECEDENCE.

6. SEE SHEET C-134, C-135 & C-136 FOR ADDITIONAL PUMP STATION AND FORCE MAIN INFORMATION.

STORM SEWER NOTES

1. ALL STORM SEWER PIPE ON SITE 12" OR GREATER IN DIAMETER SHALL BE REINFORCE CONCRETE PIPE (RCP) (UNLESS OTHERWISE NOTED ON PLAN OR PART OF THE DETENTION SYSTEM). RCP PIPE SHALL BE CLASS IV CONFORMING TO ASTM C-76 AND JOINTS PER ASTM C 443. STORM SEWER LESS THAN 12" IN DIAMETER SHALL BE PVC, SDR 35, PER ASTM D 3034 AND JOINTS PER ASTM D 3212 (OR APPROVED EQUAL).

2. ALL STORM SEWER PIPE WITHIN THE RIGHT OF WAY SHALL BE RCP PER INDOT STANDARDS AND SPECIFICATIONS.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRENCHING, BACKFILLING AND PIPE INSTALLATION, PIPE MATERIAL AND TAP CONNECTION. COORDINATE ALL WORK WITH SUSAN BODIK @ HANCOCK COUNTY SURVEYOR, (317) 477-115, SBOKIN@HANCOCKCOINGOV.ORG

4. ALL DRAINAGE STRUCTURES AT PAVEMENT SUMPS SHALL HAVE FINGER DRAINS PER DETAILS IN PLANS.

WATER NOTES

1. WATER SERVICE MATERIALS SHALL BE COPPER TYPE "K" UNLESS OTHERWISE NOTED ON PLANS. DIAMETER SHALL BE AS NOTED ON THESE PLANS AND SHALL BE INSTALLED WITH A MINIMUM COVER OF 54" OR BELOW FROST LINE, WHICHEVER IS GREATER.

2. WATER MAIN EXTENSION MATERIALS SHALL BE PVC C-900 CONFORMING TO AWWA AND PER NINESTAR STANDARDS AND SPECIFICATIONS AND INSTALLED WITH A MINIMUM COVER OF 54" OR BELOW FROST LINE, WHICHEVER GREATER AND PER NINESTAR STANDARDS AND SPECIFICATIONS. SEE SHEET C-508 FOR ADDITIONAL INFORMATION.

3. ALL FITTINGS SHALL BE PER NINESTAR STANDARDS AND SPECIFICATIONS. JOINTS SHALL BE RESTRAINED USING A RETAINED MECHANICAL JOINT PER NINESTAR STANDARDS AND SPECIFICATIONS. SEE SHEET C-508 FOR ADDITIONAL INFORMATION.

4. CONTRACTOR SHALL COORDINATE ALL WORK WITH ALAN MARTIN @ NINESTAR, (317) 323-2035.

5. CONTRACTOR SHALL PROVIDE 100% IRRIGATION PER CONSTRUCTION/PROJECT MANAGER AND CITY/VILLAGE/TOWNSHIP REQUIREMENTS. COORDINATE SLEEVE LOCATIONS WITH THE CONSTRUCTION/PROJECT MANAGER AND IRRIGATION CONSULTANT PRIOR TO PAVEMENT AND CURB INSTALLATION.

6. CONSTRUCTION AND MATERIALS PROVIDED BY THE CONTRACTOR:
   a. FURNISH AND INSTALL WATER SERVICE AND WATERMAIN EXTENSION LINES, INCLUDING ALL TRENCHING AND BACKFILLING.
   b. INCLUDE ALL FEES AND REQUIRED MATERIALS BY THE WATER COMPANY TO PROVIDE A COMPLETE WORKING SERVICE.
   c. COORDINATE ALL WORK WITH THE UTILITY COMPANY

ELECTRICAL NOTES

1. SEE ELECTRICAL DRAWINGS ADDITIONAL INFORMATION, INCLUDING SITE WIRING AND DUCT SPECIFICATIONS.

2. CONSTRUCTION AND MATERIALS PROVIDED BY THE ELECTRIC COMPANY:
   a. FURNISH AND INSTALL POLE MOUNTED TRANSFORMER.
   b. MAKE APPROPRIATE PRIMARY AND SECONDARY CONNECTIONS AT TRANSFORMER.
   c. FURNISH AND INSTALL METER.
   d. RUN CONDUIT UP POLE.
   e. FURNISH CT CABINET, METER BASE AND METER.
   f. MAKE CONNECTIONS AT METER.
   g. COORDINATE ALL WORK WITH JOHN NEUENSCHWANDER @ DUKE ENERGY, (317) 468-5497.

3. CONSTRUCTION AND MATERIALS PROVIDED BY THE CONTRACTOR:
   a. FURNISH AND INSTALL DUCTS, INCLUDING ALL TRENCHING AND BACKFILLING FROM TRANSFORMER TO BUILDING.
   b. FURNISH AND INSTALL SECONDARY WIRE FROM THE BUILDING TO THE TRANSFORMER.
   c. INSTALL METER BASE AND CT CABINET.
   d. INCLUDE ALL FEES REQUIRED BY ELECTRIC COMPANY TO PROVIDE A COMPLETE WORKING SERVICE.
   e. COORDINATE ALL WORK WITH THE UTILITY COMPANY

TELEPHONE NOTES

1. CONSTRUCTION AND MATERIALS PROVIDED BY THE TELEPHONE COMPANY:
   a. PROVIDE AND INSTALL WIRING TO EXISTING SERVICE.

2. CONSTRUCTION AND MATERIALS PROVIDED BY THE CONTRACTOR:
   a. FURNISH AND INSTALL PVC SCH. 40 CONDUIT WITH PULLWIRE FROM THE BUILDING TO EXISTING SERVICE.
   b. ALL TRENCHING AND BACKFILLING.
   c. INCLUDE ALL FEES REQUIRED BY TELEPHONE COMPANY TO PROVIDE A COMPLETE WORKING SERVICE.
   d. COORDINATE NUMBER OF LINES REQUIRED WITH THE CONSTRUCTION MANAGER.
   e. COORDINATE ALL WORK WITH THE UTILITY COMPANY - NINESTAR

3. CONTRACTOR SHALL COORDINATE THE NUMBER OF LINES REQUIRED WITH THE CONSTRUCTION/ PROJECT MANAGER.

NATURAL GAS NOTES

1. CONSTRUCTION AND MATERIALS PROVIDED BY THE GAS COMPANY:
   a. TAP MAIN.
   b. FURNISH AND INSTALL SERVICE FROM TAP TO BUILDING.
   c. ALL TRENCHING AND BACKFILLING.
   d. FURNISH AND INSTALL METER.
   e. COORDINATE ALL WORK WITH RANDY CRUTCHFIELD @ CENTER POINT ENERGY, (317) 776-5560.

2. CONSTRUCTION AND MATERIALS PROVIDED BY THE CONTRACTOR:
   a. FURNISH AND INSTALL SERVICE FROM METER TO BUILDING AND THROUGHOUT THE BUILDING.
   b. CONTRACTOR SHALL INCLUDE ALL FEES REQUIRED BY THE GAS COMPANY TO PROVIDE A COMPLETE WORKING SERVICE.
   c. COORDINATE ALL WORK WITH THE UTILITY COMPANY.

CABLE NOTES

1. INSTALL 4" CABLE TVSS CONDUIT PER CITY, STATE OR NEC CODE, WHICHEVER IS MORE STRINGENT (FOR FUTURE USE). SEE ELECTRICAL SHEETS FOR DETAILS. TERMINATE CABLE CONDUIT AT RIGHT-OF-WAY. PROVIDE END CAP AND NOTE LOCATION ON AS-BUILT DRAWINGS

GPD GROUP, INC.®

520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

	DATE	REMARKS
1	03/22/2022	REVISION #1 - COUNTY AND UTILITY COMMENTS
3	04/29/2022	ISSUED FOR BID

CONTRACT DATE: -
BUILDING TYPE: END20
PLAN VERSION: OCTOBER 2021
BRAND DESIGNER: DICKSON
SITE NUMBER: 315289
STORE NUMBER: 456917
PA/PM: JW/KB
DRAWN BY.: NDG
JOB NO.: 2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

ENDEAVOR 20

GENERAL NOTES

C-001

PLOT DATE:

Drawing Name: O:\2021\2021088\41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\C\Sheets\0 - 2021088.41 TS Notes Details.dwg
April 29, 2022 - ngotliebowski

GENERAL NOTES

1. ALL WORK SPECIFIED AS A DEPARTMENT OF TRANSPORTATION ITEM SHALL BE GOVERNED BY THE CURRENT STATE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS AS WELL AS THE CURRENT EDITION OF THE LOCAL JURISDICTION STORM WATER MANAGEMENT MANUAL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO POSSESS AND TO BE FAMILIAR WITH APPLICABLE SECTIONS.

2. THESE CONTRACT DRAWINGS SHALL BE MADE AVAILABLE ON SITE AT ALL TIMES AND PRESENTED UPON REQUEST. IF UNFORESEEN STORM WATER POLLUTION IS ENCOUNTERED, ADDITIONAL STORM WATER POLLUTION PREVENTION (SWPP) MEASURES SHALL BE IMPLEMENTED TO MANAGE THE CURRENT SITE CONDITIONS WHICH MAY BE REQUESTED BY THE OWNER, COUNTY ENGINEER, PROJECT ENGINEER OR SOIL AND WATER CONSERVATION SERVICE REPRESENTATIVE AT ANYTIME. SUCH REQUESTS AND CHANGE IN SITE CONDITIONS SHALL BE IMPLEMENTED IMMEDIATELY AT CONTRACTOR'S EXPENSE.

3. ALL STORM WATER POLLUTION PREVENTION PRACTICES SHALL BE INSTALLED BEFORE ANY OTHER EARTH MOVING OCCURS.

4. SEDIMENT BARRIERS SHALL BE INSTALLED DOWNSLOPE OF DISTURBED AREAS. SEDIMENT BARRIERS SHALL BE INSTALLED ALONG LEVEL CONTOURS. MAXIMUM CONTRIBUTING DRAINAGE AREA TO SEDIMENT BARRIERS SHALL BE PER THE CURRENT STATE'S EPA OR THE LOCAL AUTHORITY REQUIREMENTS. COMPOSITE FILTER SOCKS USED IN LIEU OF SILT FENCE SHALL BE A MINIMUM OF 12 INCHES IN DIAMETER.

5. SILT BARRIERS SHALL BE INSTALLED AROUND ALL EXISTING AND NEW STORM INLETS, CATCH BASINS AND YARD DRAINS. INSTALL ROCK CHECK DAMS FOR HEADWALL INLETS FOR STORM WATER POLLUTION PREVENTION.

6. STORM WATER POLLUTION PREVENTION MEASURES SHALL BE INSTALLED AROUND ALL DIRT OR TOPSOIL STOCKPILES AND OTHER TEMPORARILY DISTURBED AREAS AS MAY BE SHOWN ON THESE PLANS AND/OR AS DIRECTED BY THE ENGINEER OR THE LOCAL AUTHORITY HAVING JURISDICTION.

7. SILT BARRIERS, CONSTRUCTION ENTRANCES, AND SILT PERIMETER CONTROLS SHALL REMAIN IN PLACE UNTIL A GOOD STAND OF GRASS HAS BEEN OBTAINED AND/OR PAVING OPERATIONS ARE COMPLETE. CONTRACTOR SHALL KEEP SILT FROM ENTERING ANY STORM DRAINAGE SYSTEM. ONCE SITE HAS BEEN COMPLETELY STABILIZED, ANY SILT IN PIPES AND DRAINAGE SWALES SHALL BE REMOVED WITHIN 10 DAYS.

8. ALL EXISTING WATER COURSES WITHIN THE PROJECT LIMITS SHALL BE TEMPORARILY PROTECTED DURING LAND CLEARING AND GRADING OPERATIONS. SOILS WITHIN 50 FEET OF SAID WATER COURSES SHALL BE STABILIZED WITHIN 2 DAYS OF THE INITIAL CLEARING / GRADING OPERATION.

9. CONSTRUCTION ENTRANCE SHALL BE UTILIZED. IF CONDITIONS ARE SUCH THAT MUD IS COLLECTING ON VEHICLE TIRES, THE TIRES MUST BE CLEANED BEFORE THE VEHICLES ENTER THE PUBLIC ROADWAY. THE SITE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING OR FLOW OF MUD ONTO THE PUBLIC RIGHT-OF-WAY. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO THE ROADWAY MUST BE REMOVED PROMPTLY.

10. IF FOR ANY REASON, THE PROJECT IS SUSPENDED, THE CONTRACTOR SHALL ENSURE THAT ALL INSTALLED EROSION MEASURES ARE FUNCTIONING AND PROPERLY MAINTAINED DURING THIS PERIOD, AND THAT ALL BARE SOILS ARE SEEDED AND MULCHED WITH TEMPORARY SEED MIXTURE.

11. CONCRETE WASHOUT FACILITY (IF APPLICABLE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH PLAN DETAILS AND LOCAL GOVERNING AUTHORITY REGULATIONS AND INSTRUCTIONS.

12. IMPLEMENTATION OF EROSION AND SEDIMENT CONTROLS SHALL CONFORM TO STATE OF INDIANA CONSTRUCTION GENERAL PERMIT AND HANCOCK COUNTY CODIFIED ORDINANCES. IF A CONFLICT EXISTS BETWEEN THE TWO REGARDING EROSION AND SEDIMENT CONTROL IMPLEMENTATION, THE MORE RESTRICTIVE SHALL APPLY.

13. DISTURBED AREAS WITHIN 50' OF A STREAM SHALL HAVE PERMANENT STABILIZATION APPLIED WITHIN 2 DAYS OF FINAL GRADE.

14. DISTURBED AREAS WHICH WILL REMAIN DORMANT FOR OVER 1 YEAR OR ARE AT FINAL GRADE SHALL HAVE PERMANENT STABILIZATION APPLIED WITHIN 7 DAYS OF LAST EARTHWORK DISTURBANCE.

INSPECTION NOTES

1. CONTRACTOR SHALL INSPECT ALL SWPP MEASURES DAILY AND LOGGED BY THE CONTRACTOR FOR INSPECTION. LOGGING SHALL BE WEEKLY AND AFTER EVERY 1/2" RAINFALL EVENT. REPAIR AS NECESSARY TO PREVENT EROSION. SILTATION SHALL BE REMOVED FROM AREAS WHERE FAILURES HAVE OCCURRED AND CORRECTIVE ACTION TAKEN WITHIN 24 HOURS TO MAINTAIN ALL SWPP.

2. CONTRACTORS INSPECTOR SHALL BE A QUALIFIED INDIVIDUAL. ONLY A QUALIFIED INSPECTION PERSONNEL IS TO PERFORM THE INSPECTIONS. SITE INSPECTIONS SHALL BE DONE WEEKLY AND WITHIN 24 HRS AFTER EVERY RAINFALL EVENT EXCEEDING 1/2" OF RAINFALL. ALL NECESSARY REPAIRS SHOULD BE IMPLEMENTED IMMEDIATELY AFTER SUCH INSPECTIONS.

3. CONTRACTOR'S INSPECTOR SHALL BE RESPONSIBLE FOR PREPARING AND SIGNING WEEKLY AND ALL INTERMEDIATE EROSION CONTROL INSPECTION REPORTS AFTER EVERY INSPECTION, WHICH INCLUDE BUT NOT LIMITED TO (DISTURBED AREAS, MATERIAL STORAGE AREAS, EROSION AND SEDIMENT CONTROLS; DISCHARGE LOCATIONS AND VEHICLE ENTRANCE/EXIT LOCATIONS). SUCH REPORTS SHALL BE MADE AVAILABLE TO OWNER, ENGINEER AND CITY / STATE OFFICIALS UPON THEIR REQUEST.

4. REPORTS SHALL BE KEPT FOR 3 YEARS AFTER TERMINATION OF THE CONSTRUCTION ACTIVITIES.

5. CONTRACTOR MAY SUBMIT A WAIVER REQUEST TO THE LOCAL AND STATE GOVERNING AUTHORITIES FOR A REDUCTION TO MONTHLY INSPECTIONS IF THE SITE WILL BE STABILIZED AND DORMANT FOR A LONG PERIOD, AND/OR THE RUNOFF IS UNLIKELY DUE TO WEATHER CONDITIONS FOR AN EXTENDED PERIOD OF TIME (FROZEN GROUND).

6. FOR BMPS THAT REQUIRE REPAIR OR MAINTENANCE - NON SEDIMENT POND BMPS ARE TO BE REPAIRED WITHIN 3 DAYS OF INSPECTION AND SEDIMENT PONDS ARE TO BE REPAIRED OR CLEANED OUT WITHIN 10 DAYS OF INSPECTION.

7. FOR BMPS THAT DO NOT MEET THE INTENDED FUNCTION, A NEW BMP SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION.

8. FOR MISSING BMPS REQUIRED, THE MISSING BMPS SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION.

SPILLS AND CONTAMINATION

1. CONSTRUCTION PERSONNEL, INCLUDING SUBCONTRACTORS WHO MAY USE OR HANDLE HAZARDOUS OR TOXIC MATERIALS, SHALL BE MADE AWARE OF THE FOLLOWING GENERAL GUIDELINES REGARDING DISPOSAL AND HANDLING OF HAZARDOUS AND CONSTRUCTION WASTES:
   a. PREVENT SPILLS
   a. USE PRODUCTS UP
   b. FOLLOW LABEL DIRECTIONS FOR DISPOSAL
   c. REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH
   d. RECYCLE WASTES WHENEVER POSSIBLE
   e. DON'T POUR INTO WATERWAYS, STORM DRAINS OR ONTO THE GROUND
   f. DON'T POUR DOWN THE SINK, DOOR DRAIN OR SEPTIC TANKS
   g. DON'T BURY CHEMICALS OR CONTAINERS
   h. DON'T BURN CHEMICALS OR CONTAINERS
   i. DON'T MIX CHEMICALS TOGETHER

2. ANY DISCHARGE OF PETROLEUM OR PETROLEUM PRODUCTS OF LESS THAN 25 GALLONS ONTO A PERVIOUS SURFACE SHALL BE LEGALLY REMOVED AND PROPERLY TREATED OR PROPERLY DISPOSED OF, OR OTHERWISE REMEDIATED, SO THAT NO CONTAMINATION FROM THE DISCHARGE REMAINS ON-SITE. SPILLS OF 25 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO THE CURRENT STATE'S EPA, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE DISCOVERY OF THE RELEASE. ALL SPILLS WHICH CONTACT WATERS OF THE STATE MUST BE REPORTED TO THE CURRENT STATE'S EPA.

3. SPILL REPORTING REQUIREMENTS: SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST OR KITTY LITTER AND DISPOSED OF WITH THE TRASH AT A LICENSED SANITARY LAND FILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. SPILLS SHALL BE REPORTED TO THE CURRENT STATE'S EPA.

4. CONTAINERS SHALL BE PROVIDED FOR THE PROPER COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS USED ON-SITE. CONTAINERS SHALL BE COVERED AND NOT LEAKING. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL. CONSTRUCTION DEMOLITION AND DEBRIS (CD&D) WASTE MUST BE DISPOSED OF AT THE CURRENT STATE'S EPA APPROVED CD&D LAND FILL.

5. PROCESS WASTE WATER/LEACHATE MANAGEMENT : EPA'S CONSTRUCTION GENERAL PERMIT ONLY ALLOWS THE DISCHARGE OF STORM WATER AND DOES NOT INCLUDE OTHER WASTE STREAMS/DISCHARGES SUCH AS VEHICLE AND/OR EQUIPMENT WASHING, ON-SITE SEPTIC LEACHATE CONCRETE WASH OUTS, WHICH ARE CONSIDERED PROCESS WASTEWATERS. ALL PROCESS WASTEWATERS MUST BE COLLECTED AND PROPERLY DISPOSED AT AN APPROVED DISPOSAL FACILITY. IN THE EVENT, LEACHATE OR SEPTAGE IS DISCHARGED; IT MUST BE ISOLATED FOR COLLECTION AND PROPER DISPOSAL AND CORRECTIVE ACTIONS TAKEN TO ELIMINATE THE SOURCE OF WASTE WATER.

6. WASTES GENERATED BY CONSTRUCTION ACTIVITIES (I.E. CONSTRUCTION MATERIALS SUCH AS PAINTS, SOLVENTS, FUELS, CONCRETE, WOOD, ETC) MUST BE DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATIONS. HAZARDOUS AND TOXIC SUBSTANCES ARE USED ON VIRTUALLY ALL CONSTRUCTION SITES. GOOD MANAGEMENT OF THESE SUBSTANCES IS ALWAYS NEEDED.

7. NO CONSTRUCTION RELATED WASTE MATERIALS ARE TO BE BURIED OR BURNED ON-SITE.

8. HANDLING CONSTRUCTION CHEMICALS: MIXING, PUMPING, TRANSFERRING OR OTHER HANDLING OF CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.

9. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM WATERCOURSES, DITCHES OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL FUEL OIL STORAGE TANKS. THESE AREAS MUST BE INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HRS. OF A 0.5 INCH OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER. SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS MAY APPLY. AN SPCC PLAN IS REQUIRED FOR SITES WITH ONE SINGLE ABOVE GROUND TANK OF 660 GALLONS OR MORE, ACCUMULATIVE ABOVE GROUND STORAGE OF 1330 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. CONTAMINATED SOILS MUST BE PROPERLY DISPOSED OF IN ACCORDANCE WITH LOCAL GOVERNING AUTHORITY REGULATIONS. SPCC PLAN AND APPROVALS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

10. CONTAMINATED SOILS: IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO THE SOIL, THE SOIL SHOULD BE DUG UP AND DISPOSED OF AT LICENSED SANITARY LAND FILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY (NOT A CONSTRUCTION / DEMOLITION DEBRIS LAND FILL). NOTE THOSE STORM WATER RUNOFFS ASSOCIATED WITH CONTAMINATED SOILS ARE NOT BE AUTHORIZED UNDER CURRENT REGULATIONS OF CONSTRUCTION ACTIVITIES.

11. CONTRACTOR SHALL TAKE PREVENTIVE MEASURES FOR WATER DISCHARGES FROM CONTAMINATED SOILS BY ANY MEANS POSSIBLE, INCLUDING THE FOLLOWING:
   11.1. THE USE OF BERMS, TRENCHES, AND PITS TO COLLECT CONTAMINATED RUNOFF AND PREVENT DISCHARGES.
   11.2. PUMPING RUNOFF INTO A SANITARY SEWER (WITH PRIOR WRITTEN APPROVAL OF THE SANITARY SEWER SERVICE OPERATOR) OR INTO A CONTAINER FOR TRANSPORT TO AN APPROPRIATE TREATMENT/DISPOSAL FACILITY.
   11.3. COVERING AREAS OF CONTAMINATION WITH TARPS OR OTHER METHODS THAT PREVENT STORMWATER FROM COMING INTO CONTACT WITH CONTAMINATED MATERIALS.

MULCH

1. MULCH AND OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN 21 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.

2. MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:
   2.1. STRAW SHALL BE UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/AC. OR 90 LB./1,000 SQ. FT. (TWO TO THREE BALES) THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND PLACE TWO 45-LB BALES OF STRAW IN EACH SECTION.
   2.2. WOOD CELLULOSE FIBER SHOULD BE USED AT 2,000 LB.AC, OR 46 LB/1,000 SQ. FT.
   2.3. ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS AND ROLLED EROSION CONTROL PRODUCTS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD MULCH/CHIPS APPLIED AT 10-20 TONS/AC.

3. MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH.
   3.1. USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 INCHES.
   3.2. USE MULCH NETTINGS ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING REQUIREMENTS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
   3.3. FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER. ALL APPLICATIONS OF SYNTHETIC BINDERS MUST BE CONDUCTED IN SUCH A MANNER WHERE THERE IS NO CONTACT WITH WATERS OF THE STATE.
   3.4. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB/AC. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB/100 GAL. OF WOOD CELLULOSE FIBER.

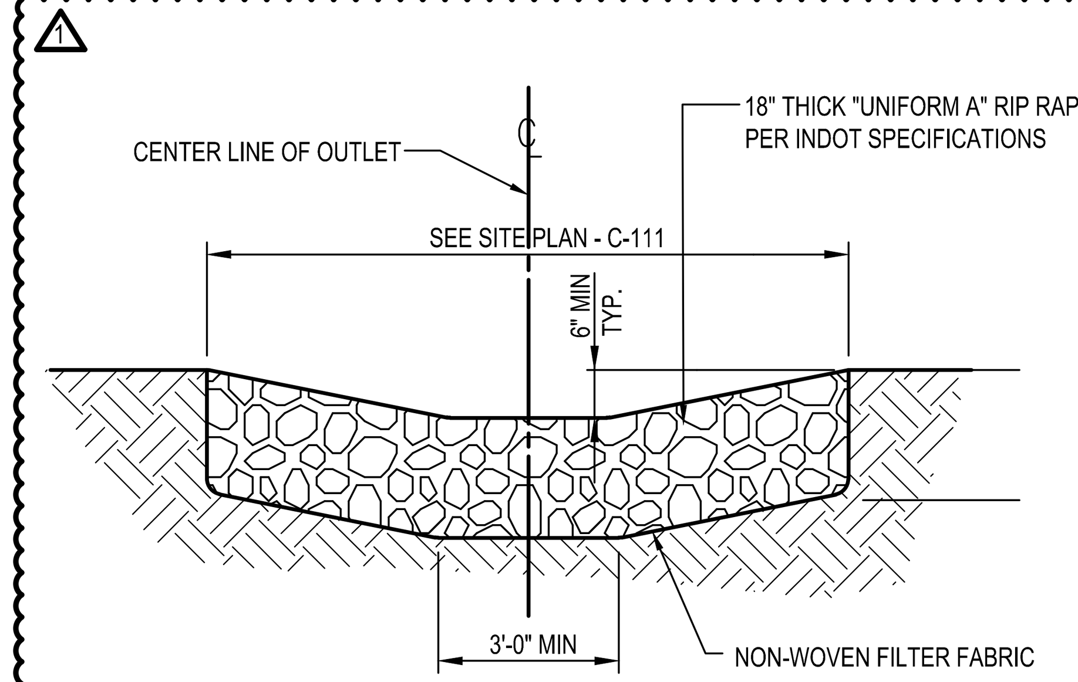
DUST CONTROL NOTES

1. DUST CONTROL SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. IF POSSIBLE GRADING SHALL BE DONE BY PHASING IN ORDER TO MINIMIZE THE AMOUNT OF LAND DISTURBANCE AT ONE TIME. IF PHASING IS NOT AN OPTION, DUST SHALL BE CONTROLLED WITH WATER DURING EARTHWORK OPERATIONS. AFTER EARTHWORK OPERATIONS, THE EXPOSED SOILS SHALL BE COVERED WITH STRAW OR MULCH UNTIL SEEDED.

2. DUST CONTROL OR DUST SUPPRESSANTS MAY BE USED TO PREVENT NUISANCE CONDITIONS WHEN APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION. WHEN USED, SUPPRESSANTS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND IN A MANNER, WHICH PREVENTS A DISCHARGE TO WATERS OF THE STATE. SUFFICIENT DISTANCE MUST BE PROVIDED BETWEEN APPLICATIONS AND NEARBY BRIDGES, CATCH BASINS, AND OTHER WATERWAYS. APPLICATION (EXCLUDING WATER) MAY NOT OCCUR WHEN RAIN IS IMMINENT AS NOTED IN THE SHORT TERM FORECAST. OIL MAY NOT BE APPLIED FOR DUST CONTROL.

3. SUGGESTED METHODS OF CONSTRUCTION DUST CONTROL MAY INCLUDE THE FOLLOWING:
   3.1. CONSTRUCTION SEQUENCING AND DISTURBING ONLY SMALL AREAS AT A TIME CAN GREATLY REDUCE PROBLEMATIC DUST FROM THE SITE. IF LAND MUST BE DISTURBED, ADDITIONAL TEMPORARY STABILIZATION MEASURES SHOULD BE CONSIDERED PRIOR TO DISTURBANCES.
   3.2. APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 14 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUSE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS.
   3.3. SPRAY DISTURBED SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS MAY BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.
   3.4. GRADED ROADWAYS AND OTHER SUITABLE AREAS MAY BE STABALIZED USING CRUSHED STONE OR COARSE GRAVEL AS SOON AS PRACTICABLE AFTER REACHING AN INTERIM OR FINAL GRADE. CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER TO PROVIDE CONTROL OF SOIL EMISSIONS.
   3.5. EXISTING WINDBREAK VEGETATION SHALL BE MARKED AND PRESERVED TO THE EXTENT POSSIBLE. SNOW FENCING OR OTHER SUITABLE BARRIER MAY BE PLACED PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHTS TO CONTROL AIR CURRENTS AND BLOWING SOIL.
   3.6. WHEN TEMPORARY DUST CONTROL MEASURES ARE USED; REPETITIVE TREATMENT SHOULD BE APPLIED AS NEED TO ACCOMPLISH SATISFACTORY CONTROL.
   3.7. PAVED AREAS THAT HAVE ACCUMULATED SEDIMENT FROM CONSTRUCTION SHOULD BE CLEANED DAILY, OR AS NEEDED, UTILIZING A STREET SWEEPER OR BUCKET-TYPE ENDLOADER OR SCRAPER.

⚠1



NOTE:
1. SEE SITE PLAN FOR LENGTH
2. CONTRACTOR SHALL CAREFULLY PLACE STONE TO CREATE A CHANNEL SHAPE

E1 OUTLET PROTECTION RIP RAP
N.T.S.

DEWATERING

DEWATERING REFERS TO THE ACT OF REMOVING AND DISCHARGING WATER FROM EXCAVATED AREAS ON CONSTRUCTION SITES, UTILITY LINE CONSTRUCTION OR FROM SEDIMENT TRAPS OR BASINS ON CONSTRUCTION SITES. GIVEN THE UNIQUE CONDITIONS AT ANY PARTICULAR CONSTRUCTION SITE, ANY OR ALL OF THE PRACTICES MAY APPLY. IN ALL CASES, EVERY EFFORT SHALL BE MADE TO ELIMINATE SEDIMENT POLLUTION ASSOCIATED WITH DEWATERING.

PRACTICES FOR DEWATERING EXCAVATED AREAS
1. PUMPING OF WATER TO AN EXISTING SEDIMENT BASIN OR TRAP IN WHICH THE ENTIRE VOLUME OF WATER FROM THE AREA TO BE DEWATERED CAN BE CONTAINED WITHOUT DISCHARGE TO RECEIVING WATERS.
2. PUMPING OF WATER TO AN EXISTING SEDIMENT BASIN OR TRAP SUCH THAT THE ENTIRE VOLUME OF WATER FROM THE AREA TO BE DEWATERED CAN BE MANAGED WITHOUT EXCEEDING THE DESIGN OUTFLOW FROM THE SEDIMENT CONTROL STRUCTURE.
3. USE OF A STRAW BALE/SILT FENCE PIT OR TRAP AS DESCRIBED HEREIN AND APPROVED BY THE LOCAL GOVERNING AUTHORITY.
4. PUMPING WATER THROUGH A GEOTEXTILE BAG MADE SPECIFICALLY FOR THIS PURPOSE.
5. A WELL-VEGETATIVE FILTER STRIP, CAPABLE OF WITHSTANDING THE VELOCITY OF DISCHARGED WATER WITHOUT ERODING, INCLUDING THE INSTALLATION OF ENERGY DISSIPATION (HAYBALES, RIPRAP OR SHEET OF PLYWOOD) AT THE PUMP DISCHARGE.
6. USE A SUMP PIT TO REDUCE THE PUMPING OF MUD.

DEWATERING OF SEDIMENT TRAPS AND BASINS. IN ALL CASES, WATER REMOVED FROM TRAPS AND BASINS SHALL BE DISCHARGED SO THAT IT PASSES THROUGH A SEDIMENT CONTROL DEVICE APPROVED BY THE LOCAL GOVERNING AUTHORITY PRIOR TO ENTERING RECEIVING WATERS. PRACTICES FOR DEWATERING OF TRAPS AND BASINS MAY INCLUDE SOME OR ALL OF THE FOLLOWING AS MAY BE APPROVED AND APPLICABLE. IN ALL CASES, THE DEWAERING OPERATIONS UTILIZED MUST BE CONTINUOUSLY MONITORED BY THE CONTRACTOR.

1. USE OF A STRAW BALE/SILT FENCE PIT OR TRAP.
   1.1. AN EXCAVATED BASIN (APPLICABLE TO "STRAW BALE/SILT FENCE PIT") MAY BE LINED WITH FILTER FABRIC TO HELP REDUCE SCOUR AND TO PREVENT EROSION OF SOIL FROM WITHIN THE STRUCTURE. IT MAY ALSO BE HELPFUL TO DIRECT THE DISCHARGE ONTO A HAY OR STRAW BALE OR RIPRAP.
   1.2. MEASURES SHALL CONSIST OF STRAW BALES, SILT FENCE AND A STONE OUTLET CONSISTING OF A COMBINATION OF 4-8 INCH RIPRAP AND ½ TO 2 INCH AGGREGATE AND A WET STORAGE PIT ORIENTED AS SHOWN IN DRAWING.
   1.3. THE EXCAVATED AREA SHOULD BE A MINIMUM OF 3 FEET BELOW THE BASE OF THE PERIMETER MEASURES (STRAW BALES OR SILT FENCE).
   1.4. ONCE THE WATER LEVEL NEARS THE CREST OF THE STONE WEIR (EMERGENCY OVERFLOW), THE PUMP MUST BE STOPPED WHILE THE STRUCTURE DRAINS DOWN TO THE ELEVATION OF THE WET STORAGE.
   1.5. THE WET STORAGE PIT MAY BE DEWATERED ONLY AFTER A MINIMUM OF 6 HOURS OF SEDIMENT SETTLING TIME. THIS EFFLUENT SHOULD BE PUMPED ACROSS A WELL-VEGETATED AREA OR THROUGH A SILT FENCE PRIOR TO ENTERING A WATERCOURSE.
   1.6. ONCE THE DEVICE HAS BEEN REMOVED, GROUND CONTOURS SHALL BE RETURNED TO ORIGINAL CONDITION.

2. PUMPING WATER THROUGH A GEOTEXTILE BAG MADE SPECIFICALLY FOR THIS PURPOSE.
   2.1. THE BAG SHALL BE INSTALLED ON A VERY SLIGHT SLOPE SO INCOMING WATER FLOWS DOWNHILL THROUGH THE BAG WITHOUT CREATING MORE EROSION.
   2.2. THE INLET OPENING OF THE DEWATERING DEVICE SHALL HAVE A FILL SPOUT LARGE ENOUGH TO ACCOMMODATE THE DISCHARGE HOSE AND SHALL USE TWO STAINLESS STEEL STRAPS TO SECURE THE HOSE AND PREVENT PUMPED WATER FROM ESCAPING WITHOUT BEING FILTERED.
   2.3. THE BAG SHOULD BE PLACED ON AN AGGREGATE OR HAY BALE BED TO MAXIMIZE WATER FLOW THROUGH THE ENTIRE SURFACE AREA OF THE BAG.
   2.4. THE FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR PASS WATER AT A REASONABLE RATE.
   2.5. FLOW RATES VARY DEPENDING ON THE SIZE OF THE DEWATERING DEVICE, AMOUNT OF SEDIMENT DISCHARGED INTO THE DEWATERING DEVICE, THE TYPE OF GROUND, ROCK, OR OTHER SUBSTANCE UNDER THE BAG AND THE DEGREE OF THE SLOPE ON WHICH THE BAG LIES. THE FILTER BAG SHOULD BE SIZED TO ACCOMMODATE THE ANTICIPATED FLOW RATES FROM THE TYPE OF PUMP USED. IN ALL CASES FOLLOW THE MANUFACTURERS RECOMMENDATIONS FOR PUMPING FLOW RATES.
   2.6. THE FILTER BAG CAN BE LEFT IN PLACE AFTER CUTTING THE TOP OFF AND SEEDING AND MULCHING THE ACCUMULATED SEDIMENT OR REMOVED AND DISPOSED OF OFFSITE IN AN APPROVED LANDFILL.

3. A WELL-VEGETATIVE FILTER STRIP, CAPABLE OF WITHSTANDING THE VELOCITY OF DISCHARGED WATER WITHOUT ERODING, INCLUDING THE INSTALLATION OF ENERGY DISSIPATION (HAYBALES, RIPRAP OR SHEET OF PLYWOOD) AT THE PUMP DISCHARGE. SUCH OTHER METHODS AS MAY BE APPROVED BY THE LOCAL GOVERNING AUTHORITY.

4. REGARDLESS OF THE TYPE OF TREATMENT, ALWAYS USE A FLOATING SUCTION HOSE TO PUMP THE CLEANER WATER FROM THE TOP OF THE POND. AS THE CLEANER WATER IS PUMPED, THE SUCTION HOSE WILL LOWER AND EVENTUALLY ENCOUNTER SEDIMENT-LADEN WATER. AT THIS POINT CEASE PUMPING OPERATIONS AND REMOVE THE REMAINDER OF THE TRAPPED SEDIMENT WITH MACHINERY. EVEN WHEN PUMPING FROM THE TOP OF THE WATER COLUMN, PROVISIONS MUST STILL BE MADE TO FILTER WATER AS REQUIRED IN THIS SECTION PRIOR TO DISCHARGING TO A STREAM. DURING THE DEWATERING, PERSONNEL SHOULD BE ASSIGNED TO MONITOR PUMPING OPERATIONS AT ALL TIMES TO ENSURE THAT SEDIMENT POLLUTION IS ABATED. PUMPING SEDIMENT-LADEN WATER INTO THE WATERS OF THE STATE WITHOUT FILTRATION IS PROHIBITED.

5. THE DEWATERING DEVICE MUST BE SIZED (AND OPERATED) TO ALLOW PUMPED WATER TO FLOW THROUGH THE FILTERING APPARATUS WITHOUT EXCEEDING THE CAPACITY OF THE STRUCTURE.

PERMANENT SEEDING

1. REFER TO LANDSCAPE PLANS FOR PERMANENT SEEDING SPECIFICATIONS.

TEMPORARY SEEDING

MATERIALS
- SOIL AMENDMENTS - SELECT MATERIALS AND RATES AS DETERMINED BY A SOIL TEST (CONTACT YOUR COUNTY SOIL AND WATER CONSERVATION DISTRICT OR COOPERATIVE EXTENSION OFFICE FOR ASSISTANCE AND SOIL INFORMATION, INCLUDING AVAILABLE SOIL TESTING SERVICES) OR 400 TO 600 POUNDS OF 12-12-12 ANALYSIS FERTILIZER, OR EQUIVALENT. CONSIDER THE USE OF REDUCED PHOSPHORUS APPLICATION WHERE SOIL TESTS INDICATE ADEQUATE PHOSPHOROUS LEVELS IN THE SOIL PROFILE.
- SEED - SELECT APPROPRIATE PLANT SPECIES SEED OR SEED MIXTURES ON THE BASIS OF QUICK GERMINATION, GROWTH, AND TIME OF YEAR TO BE SEEDED (SEE TABLE 1).
- MULCH -
  - STRAW, HAY, WOOD FIBER, ETC. (TO PROTECT SEEDBED, RETAIN MOISTURE, AND ENCOURAGE PLANT GROWTH).
  - ANCHORED TO PREVENT REMOVAL BY WIND OR WATER OR COVERED WITH MANUFACTURED EROSION CONTROL BLANKETS.

TABLE 1. TEMPORARY SEEDING SPECIFICATIONS

Seed Species[1]	Rate per Acre	Planting Depth	Optimum Dates[2]
Wheat or Rye	150 lbs.	1 to 1½ inches	Sept. 15 – Oct. 30
Spring Oats	100 lbs.	1 inch	March 1 – April 15
Annual Ryegrass	40 lbs.	¼ inch	March 1 – May 1 Aug. 1 – Sept. 1
German Millet	40 lbs.	1 to 2 inches	May 1 – June 1
Sudangrass	35 lbs.	1 to 2 inches	May 1 – July 30
Buckwheat	60 lbs.	1 to 2 inches	April 15 – June 1
Corn (*broadcast*)	300 lbs.	1 to 2 inches	May 11 – Aug. 10
Sorghum	35 lbs.	1 to 2 inches	May 1 – July 15

1. PERENNIAL SPECIES MAY BE USED AS A TEMPORARY COVER, ESPECIALLY IF THE AREA TO BE SEEDED WILL REMAIN IDLE FOR MORE THAN ONE YEAR (SEE PERMANENT SEEDING ON PAGE 35).

2. SEEDING DONE OUTSIDE THE OPTIMUM SEEDING DATES INCREASES THE CHANCES OF SEEDING FAILURE. DATES MAY BE EXTENDED OR SHORTENED BASED ON THE LOCATION OF THE PROJECT SITE WITHIN THE STATE.

NOTES:

MULCH ALONE IS AN ACCEPTABLE TEMPORARY COVER AND MAY BE USED IN LIEU OF TEMPORARY SEEDING, PROVIDED THAT IT IS APPROPRIATELY ANCHORED.

A HIGH POTENTIAL FOR FERTILIZER, SEED, AND MULCH TO WASH EXISTS ON STEEP BANKS, CUTS, AND IN CHANNELS AND AREAS OF CONCENTRATED FLOW.

APPLICATION

SEEDBED PREPARATION
1. TEST SOIL TO DETERMINE PH AND NUTRIENT LEVELS.
2. APPLY SOIL AMENDMENTS AS RECOMMENDED BY THE SOIL TEST. IF TESTING IS NOT DONE, APPLY 400 TO 600 POUNDS PER ACRE OF 12-12-12 ANALYSIS FERTILIZER, OR EQUIVALENT.
3. WORK THE SOIL AMENDMENTS INTO THE UPPER TWO TO FOUR INCHES OF THE SOIL WITH A DISK OR RAKE OPERATED ACROSS THE SLOPE.

SEEDING
1. SELECT A SEED SPECIES OR AN APPROPRIATE SEED MIXTURE AND APPLICATION RATE FROM TABLE 1.
2. APPLY SEED UNIFORMLY WITH A DRILL OR CULTIPACKER SEEDER OR BY BROADCASTING. PLANT OR COVER SEED TO THE DEPTH SHOWN IN TABLE 1.

NOTES:
- IF DRILLING OR BROADCASTING THE SEED, ENSURE GOOD SEED-TO-SOIL CONTACT BY FIRMING THE SEEDBED WITH A ROLLER OR CULTIPACKER AFTER COMPLETING SEEDING OPERATIONS.
- DAILY SEEDING WHEN THE SOIL IS MOIST IS USUALLY MOST EFFECTIVE.
- IF SEEDING IS DONE WITH A HYDROSEEDER, FERTILIZER AND MULCH CAN BE APPLIED WITH THE SEED IN A SLURRY MIXTURE.

3. APPLY MULCH AND ANCHOR IT IN PLACE.

MAINTENANCE

- INSPECT WITHIN 24 HOURS OF EACH RAIN EVENT AND AT LEAST ONCE EVERY SEVEN CALENDAR DAYS.
- CHECK FOR EROSION OR MOVEMENT OF MULCH AND REPAIR IMMEDIATELY.
- MONITOR FOR EROSION DAMAGE AND ADEQUATE COVER (80 PERCENT DENSITY); RESEED, FERTILIZE, AND APPLY MULCH WHERE NECESSARY.
- IF NITROGEN DEFICIENCY IS APPARENT, TOP-DRESS FALL SEEDED WHEAT OR RYE SEEDING WITH 50 POUNDS PER ACRE OF NITROGEN IN FEBRUARY OR MARCH.

GPD GROUP, INC.®
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330.572.2100 Fax 330.572.2101

	DATE	REMARKS
⚠1	03/22/2022	REVISION #1 - COUNTY AND UTILITY COMMENTS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE:	-
BUILDING TYPE:	END20
PLAN VERSION:	OCTOBER 2021
BRAND DESIGNER:	DICKSON
SITE NUMBER:	315289
STORE NUMBER:	456917
PA/PM:	JW/KB
DRAWN BY.:	NDG
JOB NO.:	2021088.41

TACO BELL

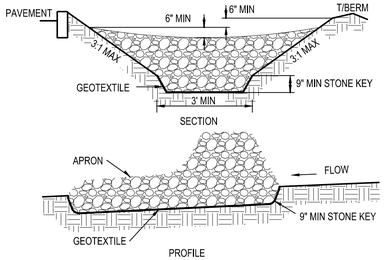
5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

ENDEAVOR 20
SWPPP NOTES

C-010

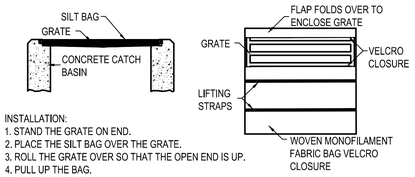
PLOT DATE:

Drawing Name: O:\2021\2021088\41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\C\Sheets\1 - 2021088.41 SWPP.dwg
April 28, 2022 - mkinder



NOTES:
1. THE CHECK DAM SHALL BE CONSTRUCTED OF 4-8 INCH DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL.
2. THE CHECK DAM SHALL BE UNDERLAIN WITH GEOTEXTILE FILTER FABRIC.
3. MAXIMUM HEIGHT OF CHECK DAM SHALL NOT EXCEED 3 FEET.
4. THE MIDPOINT OF THE ROCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES.
5. THE BASE OF THE CHECK DAM SHALL BE ENTRENCHED APPROXIMATELY 9 INCHES.
6. A SPLASH APRON SHALL BE CONSTRUCTED WHERE CHECK DAMS ARE EXPECTED TO BE IN USE FOR AN EXTENDED PERIOD OF TIME. A STONE APRON SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE CHECK DAM TO PREVENT FLOWS FROM UNDERCUTTING THE STRUCTURE. THE APRON SHOULD BE 6 IN. THICK AND ITS LENGTH TWO TIMES THE HEIGHT OF THE DAM.
7. STONE PLACEMENT SHALL BE PERFORMED EITHER BY HAND OR MECHANICALLY AS LONG AS THE CENTER OF CHECK DAM IS LOWER THAN THE SIDES AND EXTENDS ACROSS ENTIRE CHANNEL.
8. SIDE SLOPES SHALL BE A MINIMUM OF 2:1.

C1 ROCK CHECK DAM
N.T.S.



INSTALLATION:
1. STAND THE GRATE ON END.
2. PLACE THE SILT BAG OVER THE GRATE.
3. ROLL THE GRATE OVER SO THAT THE OPEN END IS UP.
4. PULL UP THE BAG.
5. TUCK THE FLAP IN.
6. PRESS THE VELCRO STRAPS TOGETHER.
7. BE SURE THAT THE END OF THE GRATE IS COMPLETELY COVERED BY THE FLAP OR THE SILT BAG WILL NOT WORK PROPERLY.
8. HOLDING THE HANDLES, CAREFULLY PLACE THE SILT BAG WITH THE GRATE INSERTED INTO THE CATCH BASIN FRAME.

MAINTENANCE:
TO ENSURE PROPER OPERATION REMOVE SILT, SEDIMENT, AND DEBRIS FROM THE SURFACE AND THE VICINITY OF THE UNIT WITH A SQUARE POINT SHOVEL OR STIFF BRISTLE BROOM AWAY FROM ENVIRONMENTALLY SENSITIVE AREAS AND WATERWAYS IN MANNER SATISFACTORY TO THE ENGINEER/INSPECTOR. REMOVE FINE MATERIAL FROM INSIDE SILT BAG AS NEEDED. DISPOSE OF SILT BAG NO LONGER IN USE AT AN APPROPRIATE RECYCLING OR SOLID WASTE FACILITY.

INLET INSPECTION:
TO INSPECT INLET, REMOVE SILT BAG WITH GRATE INSIDE, INSPECT CATCH BASIN AND REPLACE SILT BAG BACK INTO GRATE FRAME.
NOTE:
PONDING IS LIKELY IF SEDIMENT IS NOT REMOVED REGULARLY. THE SILT BAG MUST NEVER BE USED WHERE OVERFLOW MAY ENDANGER AN EXPOSED SLOPE.

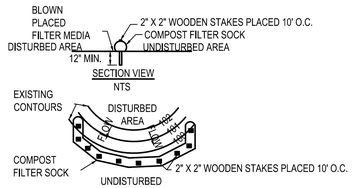
C2 SILT BAG PROTECTION
N.T.S.

COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

MATERIAL TYPE	3 mil HDPE	5 mil HDPE	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (MFPP)
MATERIAL CHARACTERISTICS	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 PSI	26 PSI	44 PSI	202 PSI
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS
TWO-PLY SYSTEMS					
INNER CONTAINMENT NETTING	HDPE BIAXIAL NET				
	CONTINUOUSLY WOUND				
	FUSION-WELDED JUNCTURES				
	3/4" X 3/4" MAX. APERTURE SIZE				
OUTER FILTRATION MESH	COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER & NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)				
	3/16" MAX. APERTURE SIZE				
SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS					

COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	80% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.0
MOISTURE CONTENT	35% - 55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS MAXIMUM

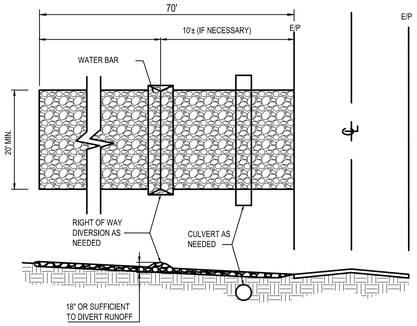


1. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT.
2. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES ½ THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
4. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH ½ INCH STORM RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
5. BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
6. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

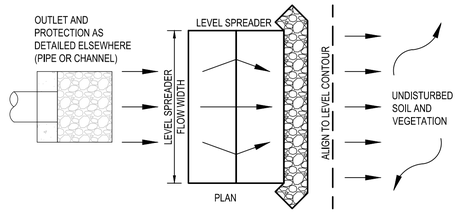
A2 COMPOST FILTER SOCK
N.T.S.

CONSTRUCTION ENTRANCE NOTES

1. STONE SIZE - NO. 2 STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. THE CONSTRUCTION ENTRANCE SHALL COINCIDE WITH THE PROPOSED DRIVE AS SHOWN ON THE PLAN.
3. PAVEMENT THICKNESS - STONE LAYER SHALL BE 6" THICK FOR STANDARD DUTY ACTIVITY AND 10" THICK FOR HEAVY DUTY ACTIVITY.
4. DRIVEWAY WIDTH - THE ENTRANCE SHALL BE AT LEAST 20' WIDE. CONTRACTOR SHALL ENSURE ALL VEHICLES UTILIZE THE CONSTRUCTION ENTRANCE UNTIL PAVEMENT IS IN PLACE.
5. BEDDING-A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE SPECIFICATIONS SHOWN BELOW.
6. CULVERT-A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
7. WATER BAR - A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
8. MAINTENANCE - TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
9. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SHALL BE RESTRICTED FROM MUDDY AREAS.
10. THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

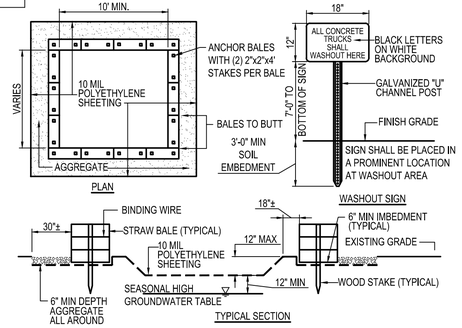


A1 TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



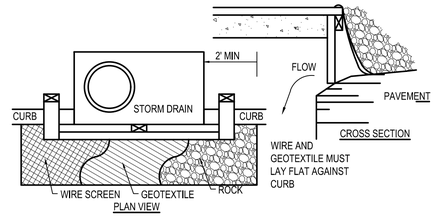
NOTES:
1. CONSTRUCT LEVEL SPREADER ON LEVEL GRADE TO ENSURE UNIFORM SPREAD OF STORM RUNOFF
2. LEVEL SPREADERS SHALL BE CONSTRUCTED ON UNDISTURBED SOIL/SUBGRADE, NOT ON FILL.
3. THE LEVEL SPREADER SHALL OUTLET TO EROSION RESISTANT AREAS WITH ESTABLISHED VEGETATION.
4. ROCK SHALL BE WHERE 50% OF THE MATERIAL BY WEIGHT IS LARGER THAN 6 INCHES, AND 85% OF THE MATERIAL BY WEIGHT IS LARGER THAN 3 INCHES BUT 100% OF THE MATERIAL BY WEIGHT IS LESS THAN 12 INCHES.
5. ROCK IN LEVEL SPREADER SHALL BE COMPACTED WITH AT LEAST TWO PASSES OF HEAVY MACHINERY TO PREVENT FURTHER SETTLING. SPREAD GRAVEL OR SOIL OVER TOP OF THE PLACED RIPRAP SURFACE TO FILL THE VOIDS AND INTERLOCK THE RIPRAP TOGETHER.

B3 RIGID LIP LEVEL SPREADER
N.T.S.



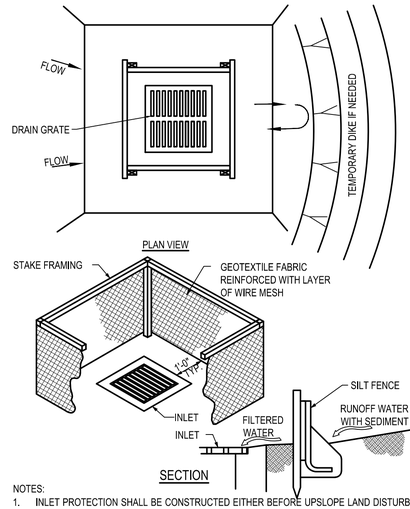
NOTES:
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

A3 CONCRETE WASHOUT AREA
N.T.S.



1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE INLET BECOMES FUNCTIONAL.
2. CONSTRUCT A WOODEN FRAME OF 2-BY-4-IN. CONSTRUCTION-GRADE LUMBER. THE END SPACERS SHALL BE A MINIMUM OF 1 FT, BEYOND BOTH ENDS OF THE THROAT OPENING. THE ANCHORS SHALL BE NAILED TO 2-BY-4-IN. STAKES DRIVEN ON THE OPPOSITE SIDE OF THE CURB.
3. THE WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC AND STONE. IT SHALL BE A CONTINUOUS PIECE WITH A MINIMUM WIDTH OF 30 IN. AND 4 FT. LONGER THAN THE THROAT LENGTH OF THE INLET, 2 FT. ON EACH SIDE.
4. GEOTEXTILE CLOTH SHALL HAVE AN EQUIVALENT OPENING SIZE (EOS) OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE AT LEAST THE SAME SIZE AS THE WIRE MESH.
5. THE WIRE MESH AND GEOTEXTILE CLOTH SHALL BE FORMED TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET AND SECURELY FASTENED TO THE 2-BY-4-IN. FRAME.
6. TWO-INCH STONE SHALL BE PLACED OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE CLOTH.
7. THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE STONE AND/OR GEOTEXTILE REPLACED WHEN CLOGGED WITH SEDIMENT.

C4 CURB INLET PROTECTION
N.T.S.



NOTES:
1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
2. SILT FENCE SHALL BE GEOTEXTILE FABRIC, PER STATE'S DEPARTMENT OF TRANSPORTATION STANDARDS, AND SHOULD BE CUT FROM A CONTINUOUS ROLL TO AVOID JOINTS.
3. STAKES SHALL BE 1" x 2" WOOD (PREFERRED) OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3 FEET. STAKES SHALL BE SPACED AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3 FEET APART AND SECURELY DRIVEN INTO THE GROUND (MINIMUM OF 8 INCHES). THE TOP OF THE FRAME SHALL BE AT LEAST 6 IN. BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
5. THE SILT FENCE SHALL BE STAPLED WITH HEAVY DUTY WIRE STAPLES AT LEAST 1/2 INCH LONG, TO THE WOODEN STAKES, AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE HEIGHT OF THE FILTER BARRIER SHALL BE A MINIMUM OF 15 INCHES AND SHALL NOT EXCEED 18 INCHES (PLATE 1.08B)
6. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
7. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP AROUND THE OUTSIDE PERIMETER OF THE STAKES.
8. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6 IN. LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
9. A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION AND IF RUNOFF BYPASSING THE INLET WILL NOT FLOW TO A SETTLING POND. THE TOP OF EARTH DIKES SHALL BE AT LEAST 6 IN. HIGHER THAN THE TOP OF THE FRAME.

MAINTENANCE:
SILT FENCE SHOULD BE INSPECTED REGULARLY AND FREQUENTLY AS WELL AS AFTER EACH RAINFALL EVENT TO ENSURE THAT THEY ARE INTACT AND THERE ARE NO GAPS AT THE FENCE-GROUND INTERFACE OR TEARS ALONG THE LENGTH OF THE FENCE. IF GAPS OR TEARS ARE FOUND, THEY SHOULD BE REPAIRED OR THE FABRIC REPLACED IMMEDIATELY. ACCUMULATED SEDIMENTS SHOULD BE REMOVED FROM THE FENCE BASE WHEN THE SEDIMENT REACHES ONE-THIRD TO ONE-HALF THE HEIGHT OF THE FENCE. SEDIMENT REMOVAL SHOULD OCCUR MORE FREQUENTLY IF ACCUMULATED SEDIMENT IS CREATING NOTICEABLE STRAIN ON THE FABRIC AND THERE IS THE POSSIBILITY OF THE FENCE FAILING FROM A SUDDEN STORM EVENT. WHEN THE SILT FENCE IS REMOVED, THE ACCUMULATED SEDIMENT SHOULD BE REMOVED.

A4 SILT BARRIER
N.T.S.

NOTES:
1) SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.

2) ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.

3) TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.

4) WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.

5) WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FT. (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.

6) THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 IN. ABOVE THE ORIGINAL GROUND SURFACE.

7) THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6 INCH OVERLAP, AND SECURELY SEALED.

8) POSTS SHALL BE A MINIMUM OF 5 FEET LONG, 2 INCHES IN DIAMETER AND SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND. WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.

9) THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.

10) THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8 IN. OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6 IN. DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.

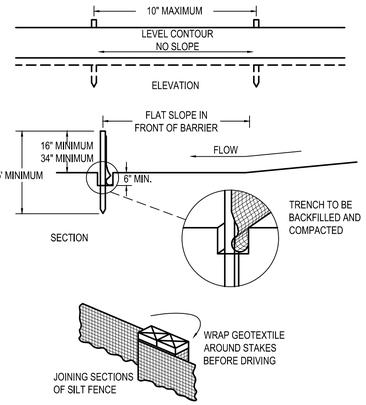
11) WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS.

12) THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.

13) SEAMS BETWEEN SECTION OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.

14) SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: A) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, B) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR C) OTHER PRACTICES SHALL BE INSTALLED.

MAINTENANCE:
SILT FENCE SHOULD BE INSPECTED REGULARLY AND FREQUENTLY AS WELL AS AFTER EACH RAINFALL EVENT TO ENSURE THAT THEY ARE INTACT AND THERE ARE NO GAPS AT THE FENCE-GROUND INTERFACE OR TEARS ALONG THE LENGTH OF THE FENCE. IF GAPS OR TEARS ARE FOUND, THEY SHOULD BE REPAIRED OR THE FABRIC REPLACED IMMEDIATELY. ACCUMULATED SEDIMENTS SHOULD BE REMOVED FROM THE FENCE BASE WHEN THE SEDIMENT REACHES ONE-THIRD TO ONE-HALF THE HEIGHT OF THE FENCE. SEDIMENT REMOVAL SHOULD OCCUR MORE FREQUENTLY IF ACCUMULATED SEDIMENT IS CREATING NOTICEABLE STRAIN ON THE FABRIC AND THERE IS THE POSSIBILITY OF THE FENCE FAILING FROM A SUDDEN STORM EVENT. WHEN THE SILT FENCE IS REMOVED, THE ACCUMULATED SEDIMENT SHOULD BE REMOVED.



CRITERIA FOR GEOTEXTILE FABRIC SILT FENCE, PER CURRENT STATE'S DOT SPECIFICATIONS.

FABRIC PROPERTIES	VALUES	TEST METHOD
MINIMUM TENSILE STRENGTH	120 LB. MINIMUM	ASTM D 4632
MINIMUM BURST STRENGTH	200 PSI MINIMUM	
MINIMUM PERMITTNITY	1x10-2sec-1	ASTM D 4491
APPARENT OPENING SIZE	AOS < 0.84 mm	ASTM D 4751
UV EXPOSURE STRENGTH RETENTIOL	70%	ASTM G 4335
MAXIMUM ELONGATION AT 60 LBS.	50%	ASTM D 4632
MINIMUM PUNCTURE STRENGTH	50 LBS (220N)	ASTM D 4833
MINIMUM TEAR STRENGTH	40 LBS (180N)	ASTM D 4533

A5 SILT FENCE
N.T.S.

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

	DATE	REMARKS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE:	-
BUILDING TYPE:	END20
PLAN VERSION:	OCTOBER 2021
BRAND DESIGNER:	DICKSON
SITE NUMBER:	315289
STORE NUMBER:	456917
PA/PM:	JW/KB
DRAWN BY.:	NDG
JOB NO.:	2021088.41

TACO BELL

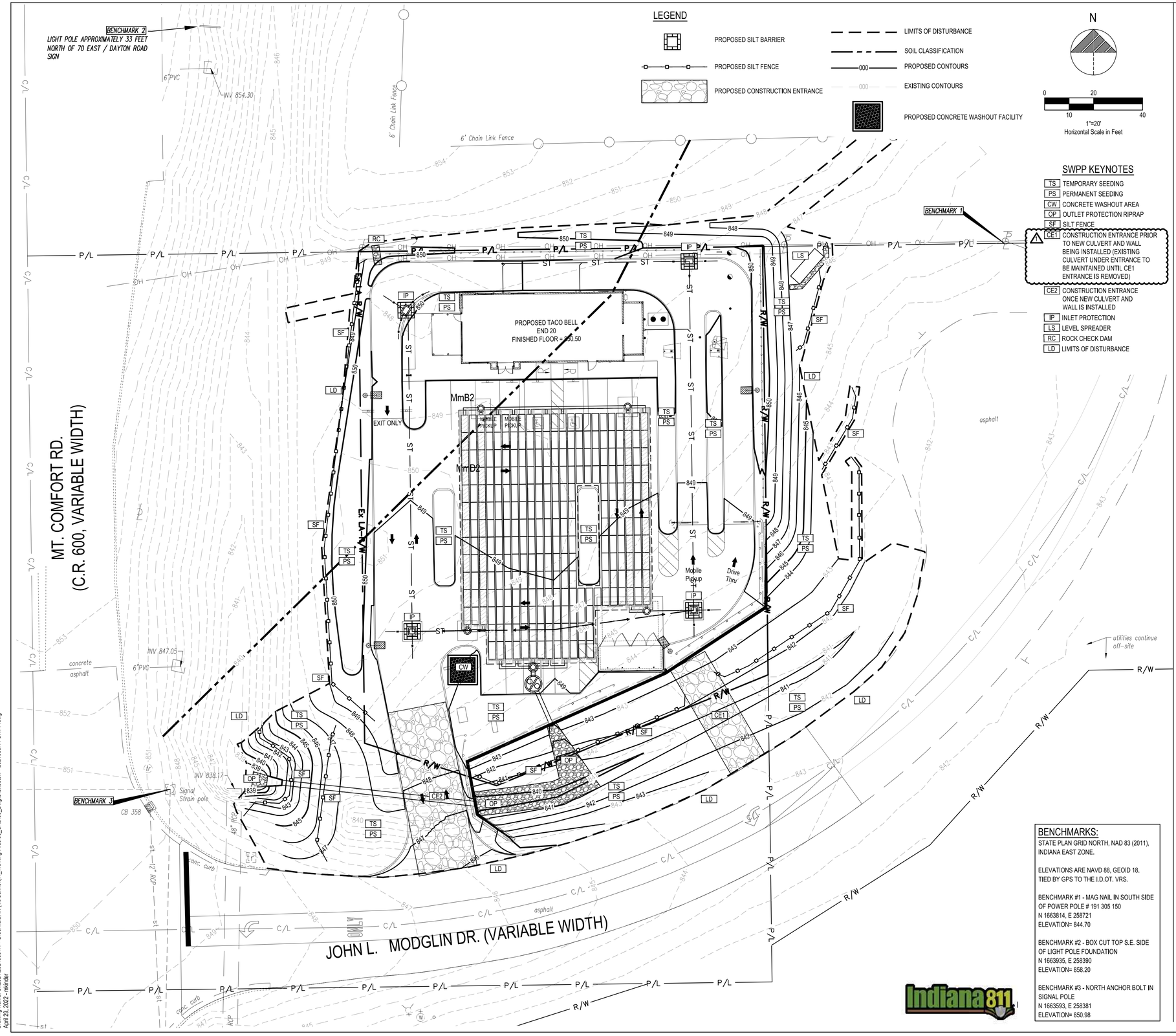
5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

ENDEAVOR 20
SWPPP DETAILS

C-011

PLOT DATE:

Drawing Name: O:\2021\2021088\41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\CiSheets\1 - 2021088.41 SWPP.dwg
April 28, 2022 - mkinder



CONSTRUCTION SEQUENCE

1. DURING PRECONSTRUCTION MEETING ALL EROSION & SEDIMENT CONTROL FACILITIES & PROCEDURES SHALL BE DISCUSSED. A GENERAL CONSTRUCTION SEQUENCE FOLLOWS AND MAY NEED TO BE UPDATED BY THE CONTRACTOR TO SUIT THE SPECIFICS OF THE SITE AND INTENDED CONTRACTOR SPECIFIC SEQUENCING.
   - 1.1. INSTALL CONSTRUCTION ENTRANCE AS DETAILED ON PLANS. TEMPORARY CONSTRUCTION FENCING SHALL BE INSTALLED AROUND PERIMETER OF CONSTRUCTION SITE. WHERE THERE IS EXISTING FENCE ALONG THE PERIMETER OF THE SITE, IT CAN BE UTILIZED. FENCING SHALL BE USED TO RESTRICT OUTSIDE TRAFFIC TO SITE.
   - 1.2. DELIVER CONSTRUCTION TRAILER TO SITE AND INSTALL TEMPORARY POWER AND TELEPHONE, IF REQUIRED. TEMPORARY UTILITY SERVICES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
   - 1.3. STAKE AND/OR FLAG LIMITS OF CLEARING.
   - 1.4. CLEAR & GRUB, AS NECESSARY, FOR INSTALLATION OF PERIMETER CONTROLS. INSTALL SILT PERIMETER CONTROLS AS SHOWN ON PLANS. SILT PERIMETER CONTROLS SHALL BE INSTALLED LEVEL, ALONG THE CONTOURS, WITH ENDS TURNED UPSLOPE TO PREVENT CONCENTRATED FLOW AT THE SILT PERIMETER CONTROLS.
   - 1.5. INSTALL TEMPORARY SILT INLET PROTECTION ON ALL EXISTING CATCH BASINS AND INLETS, AS DESIGNATED IN THE PLANS. REMOVAL OF SILT INLET PROTECTION FROM DESIGNATED INLETS CAN ONLY OCCUR WHEN A STRUCTURE IS REMOVED, AND AS REQUIRED BY THE PROGRESSION OF THE DEMOLITION AND CONSTRUCTION.
   - 1.6. CLEAR & GRUB, AS NECESSARY, FOR INSTALLATION AND CONSTRUCT AND MAINTAIN TEMPORARY DIVERSION SWALE AND / OR DIVERSION BERM DURING FILLING & GRADING ACTIVITIES.
   - 1.7. CLEAR & GRUB THE REMAINING SITE AS NECESSARY. TOPSOIL SHALL BE STRIPPED AND STOCKPILED ON SITE FOR REUSE, OR REMOVED TO AN APPROVED OFFSITE SPOIL AREA.
   - 1.8. UTILIZE DUST CONTROL MEASURES AS REQUIRED TO MINIMIZE AIR-BORNE POLLUTION BY METHODS APPROVED BY THE AUTHORIZING EPA OFFICE.
   - 1.9. BEGIN FILLING & GRADING AS REQUIRED TO REACH SUBGRADE.
   - 1.10. ONCE PAVEMENT GRADES HAVE BEEN ESTABLISHED, AS DESIGNATED ON THE PLANS, THE CONTRACTOR SHALL UTILIZE THESE AREAS FOR STRUCTURE CONSTRUCTION.
   - 1.11. CONSTRUCT UNDERGROUND UTILITY WORK INCLUDING STORM DRAINAGE FACILITIES. UPON INSTALLATION OF STORM DRAINAGE CATCH BASINS, YARD DRAINS AND INLETS, INSTALL REQUIRED INLET PROTECTION.
   - 1.12. DO NOT REPLACE ANY TOPSOIL SEED OR INSTALL FINAL PAVEMENT PRIOR TO COMPLETION OF BUILDING SHELL. SHOULD SITEWORK BE COMPLETED PRIOR TO THIS DATE, MULCH DISTURBED AREAS TO BE PLANTED AND INSTALL STONE SUBBASE IN DISTURBED AREAS TO BE PAVED.
   - 1.13. FOLLOWING COMPLETION OF BUILDING SHELL AND PAVEMENT INSTALLATION, BEGIN LANDSCAPE INSTALLATION.
   - 1.14. COMPLETE SITEWORK, PAVEMENT MARKINGS AND FINAL CLEAN-UP. RESEED ANY AREAS THAT MAY REQUIRE ATTENTION IMMEDIATELY. NOTE THAT LAWN AREAS WILL NOT BE DEEMED STABLE UNTIL A MINIMUM 80% VEGETATIVE DENSITY HAS BEEN ACHIEVED.
   - 1.15. MAINTAIN EROSION & SEDIMENTATION CONTROL MEASURES UNTIL THE SITE HAS BEEN COMPLETELY STABILIZED. ALL AREAS OF VEGETATIVE SURFACE, WHETHER PERMANENT OR TEMPORARY, SHALL BE CONSIDERED TO BE IN PLACE AND FUNCTIONAL WHEN THE REQUIRED UNIFORM RATE OF COVERAGE (80%) IS OBTAINED.
   - 1.16. REMOVE SEDIMENT CONTROLS.

PROJECT DESCRIPTION

THIS SITE WAS HOME TO A VACANT LOT INCLUDING ONLY A DRIVEWAY, AND LANDSCAPING.

THE IMPROVEMENTS TO THE SITE INCLUDE A NEW TACO BELL RESTAURANT BUILDING, NEW PARKING LOT, CONCRETE SIDEWALKS, STORM DRAINAGE SYSTEM, ALL APPURTENANT UTILITY CONNECTIONS, GRADING AND LANDSCAPING. THE EXISTING STORMWATER DRAINAGE FLOWS INTO AN EXISTING SWALE, THIS CONDITION IS MAINTAINED IN THE POST DEVELOPMENT.

PROJECT COMPLETION STATISTICS

PARCEL SIZE :	0.76 ACRES
TOTAL DISTURBED AREA:	1.31 ACRES
EXISTING LAND USE FOR THE SITE IS A VACANT LOT =.	
ESTIMATED PRE-CONSTRUCTION IMPERVIOUS AREA:	0.00 ACRES
ESTIMATED PRE-CONSTRUCTION IMPERVIOUS PERCENT:	0%
PRE-CONSTRUCTION RUN-OFF CURVE NUMBER:	80
PROPOSED LAND USE WILL BE RETAIL RESTAURANT.	
ESTIMATED POST-CONSTRUCTION IMPERVIOUS AREA:	0.55 ACRES
ESTIMATED POST-CONSTRUCTION IMPERVIOUS PERCENT:	72.4%
POST-CONSTRUCTION RUN-OFF CURVE NUMBER:	93

PROJECT LOCATION:

LATITUDE	LONGITUDE
39.815923°	-85.914295°

EXISTING SITE SOIL TYPES:

MmB2: MIAMI SILT LOAM, 2% TO 6% SLOPES, ERODED
MmD2: MIAMI SILT LOAM, 12% TO 18% SLOPES, ERODED
REFERENCE: USDA NATIONAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.

FLOOD INSURANCE RATE MAP (FIRM)

PANEL NUMBER: 18059C0108E
EFFECTIVE DATE:03/17/2014
FLOOD ZONE: PARTIAL ZONE X - NO ESTABLISHED BFE
PARTIAL ZONE AE - ESTABLISHED BFE OF 843.2 (APPROXIMATE VALUE BASED ON FIRM MAP)

FIRST AND SUBSEQUENT RECEIVING STREAM:
INITIAL RECEIVING WATER IS AN EXISTING DRAINAGE DITCH LOCATED OUTSIDE THE PROPERTY AND THE SUBSEQUENT RECEIVING WATER IS BUCK CREEK.

POST CONSTRUCTION WQv / BMP DESCRIPTION
STORMWATER ON THE PROPOSED DEVELOPMENT WILL ENTER A HYDRODYNAMIC SEPARATOR PRIOR TO ENTERING AN UNDERGROUND DETENTION SYSTEM WHERE STORMWATER RUNOFF WILL BE CONTROLLED AND SLOWLY RELEASED INTO A GRASS SWALE.

OWNER CONTACT:
RANDALL JAY WEBBER
OWNER
5376 PRINCETON ROAD
LIBERTY TOWNSHIP, OH 45011
513-237-1444
WEBBERHOMESLLC@YAHOO.COM

PARTICIA ANN WEBBER
OWNER
5376 PRINCETON ROAD
LIBERTY TOWNSHIP, OH 45011
PATTY_WEBBER@YAHOO.COM

ANTICIPATED TIMING:

CONSTRUCTION BEGIN:	TBD
CONSTRUCTION COMPLETE:	TBD
CONTRACTOR: T.B.D.	_____
CONTACT:	_____
PHONE NUMBER:	_____

CONTRACTOR SHALL MAINTAIN A CONSTRUCTION LOG DOCUMENTING ALL GRADING AND STABILIZATION ACTIVITIES.

BENCHMARKS:

STATE PLAN GRID NORTH, NAD 83 (2011), INDIANA EAST ZONE.

ELEVATIONS ARE NAVD 88, GEOID 18, TIED BY GPS TO THE I.D.OT. VRS.

BENCHMARK #1 - MAG NAIL IN SOUTH SIDE OF POWER POLE # 191 305 150
N 1663814, E 258721
ELEVATION= 844.70

BENCHMARK #2 - BOX CUT TOP S.E. SIDE OF LIGHT POLE FOUNDATION
N 1663935, E 258390
ELEVATION= 858.20

BENCHMARK #3 - NORTH ANCHOR BOLT IN SIGNAL POLE
N 1663593, E 258381
ELEVATION= 850.98

Indiana 811

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

	DATE	REMARKS
1	03/22/2022	REVISION #1 - COUNTY AND UTILITY COMMENTS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE: -
BUILDING TYPE: END20
PLAN VERSION: OCTOBER 2021
BRAND DESIGNER: DICKSON
SITE NUMBER: 315289
STORE NUMBER: 456917
PA/PM: JW/KB
DRAWN BY.: NDG
JOB NO.: 2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

ENDEAVOR 20
SWPP PLAN

C-012

PLOT DATE:

Drawing Name: O:\2021\2021088\41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\C\Sheets\1 - 2021088.41 SWPP.dwg
April 29, 2022 - mkinder

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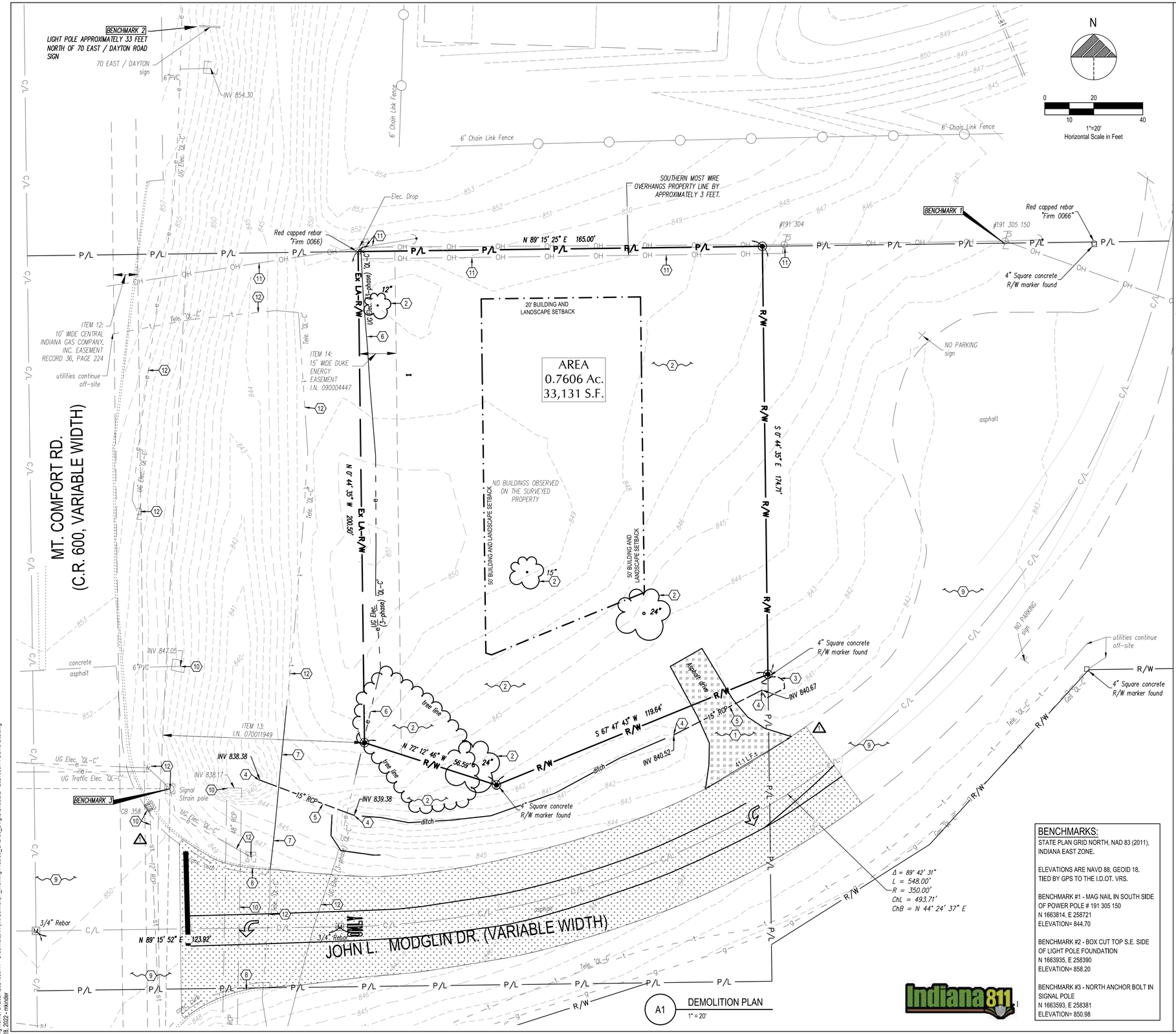

A1 DEMOLITION PLAN
1" = 20'

PLAN KEYNOTES (#)

1. EXISTING PAVEMENT TO BE SAWCUT AND REMOVED.
2. EXISTING LANDSCAPING (INCLUDING BUSHES, TREES, ETC.) TO BE REMOVED.
3. EXISTING OUTLET PROTECTION (RIPRAP) TO BE REMOVED.
4. EXISTING HEADWALL TO BE REMOVED.
5. EXISTING CULVERT TO BE REMOVED.
6. EXISTING DUKE ENERGY DUCT BANK TO BE REMOVED AND RELOCATED WITHIN 15' EASEMENT AS REQUIRED TO ENSURE A MINIMUM COVER OF 48" IS ACHIEVED DURING CONSTRUCTION. MINIMUM COVER SHALL BE ACHIEVED PER PROPOSED GRADING ON SHEET C-121. CURRENT DEPTH OF LINE IS UNKNOWN, CONTRACTOR SHALL VERIFY DEPTH OF LINE PRIOR TO REMOVING AND RELOCATING LINE. IF CURRENT DEPTH OF DUCT BANK AND PROPOSED GRADING PROVIDES THE REQUIRED COVER, THE DUCT BANK SHALL REMAIN AS IS, ALL WORK TO BE COORDINATED WITH DUKE ENERGY.
7. EXISTING TELECOMMUNICATION DUCT BANK TO BE REMOVED AND RELOCATED AS REQUIRED TO ENSURE A MINIMUM COVER OF 48" IS ACHIEVED DURING CONSTRUCTION AND AVOIDING PROPOSED UTILITIES. MINIMUM COVER SHALL BE ACHIEVED PER PROPOSED GRADING ON SHEET C-121. CURRENT DEPTH OF LINE IS UNKNOWN, CONTRACTOR SHALL VERIFY DEPTH OF LINE PRIOR TO REMOVING AND RELOCATING LINE. ALL WORK TO BE COORDINATED WITH THE UTILITY COMPANY.
8. EXISTING CURB TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION.
9. EXISTING PAVEMENT TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION.
10. EXISTING STORMWATER UTILITIES (HEADWALLS, CULVERTS, PIPES, CURB INLETS, ETC.) TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION.
11. EXISTING POWER POLES, OVERHEAD LINES, GUY WIRES, AND ASSOCIATED TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION.
12. EXISTING ELECTRIC AND TELECOMMUNICATION STRUCTURES, CONDUIT, AND ASSOCIATED TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION.

DEMOLITION NOTE:

ALL EXISTING SITE AND SURROUNDING FEATURES SUCH AS UTILITIES, PAVEMENT, CURB, LANDSCAPING, ETC. SHALL REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION UNLESS NOTED OTHERWISE, OR ARE REQUIRED TO BE MODIFIED OR REMOVED FOR THE INSTALLATION OF PROPOSED IMPROVEMENTS. ALL DISTURBED FEATURES SHALL BE RESTORED OR RELOCATED AS REQUIRED TO THE SATISFACTION OF THE OWNER. CONTRACTOR SHALL REPAIR/REPLACE ANY SURROUNDING FEATURES DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER.

LEGEND

(SEE SHEET C-001 FOR GENERAL LEGEND)

- EXISTING ASPHALT TO BE REMOVED
- ##L.F.± — DENOTES LIMITS OF SAWCUT
- (#) — DEMOLITION KEYNOTE
- EXISTING SURFACE TO BE CLEANED THOROUGHLY IN PREPARATION FOR PROPOSED OVERLAY PER INDOT STANDARDS AND SPECIFICATIONS.

EXISTING STRUCTURES

STRCT. ID	STRUCTURE DETAILS
CB 358	RIM = 850.30 12" RCP (S)= 845.70

BENCHMARKS:

STATE PLAN GRID NORTH, NAD 83 (2011), INDIANA EAST ZONE.

ELEVATIONS ARE NAVD 88, GEOID 18, TIED BY GPS TO THE I.D.OT. VRS.

BENCHMARK #1 - MAG NAIL IN SOUTH SIDE OF POWER POLE # 191 305 150
N 1663814, E 258721
ELEVATION= 844.70

BENCHMARK #2 - BOX CUT TOP S.E. SIDE OF LIGHT POLE FOUNDATION
N 1663935, E 258390
ELEVATION= 858.20

BENCHMARK #3 - NORTH ANCHOR BOLT IN SIGNAL POLE
N 1663593, E 258381
ELEVATION= 850.98

Indiana 811

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330.572.2100 Fax 330.572.2101

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TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

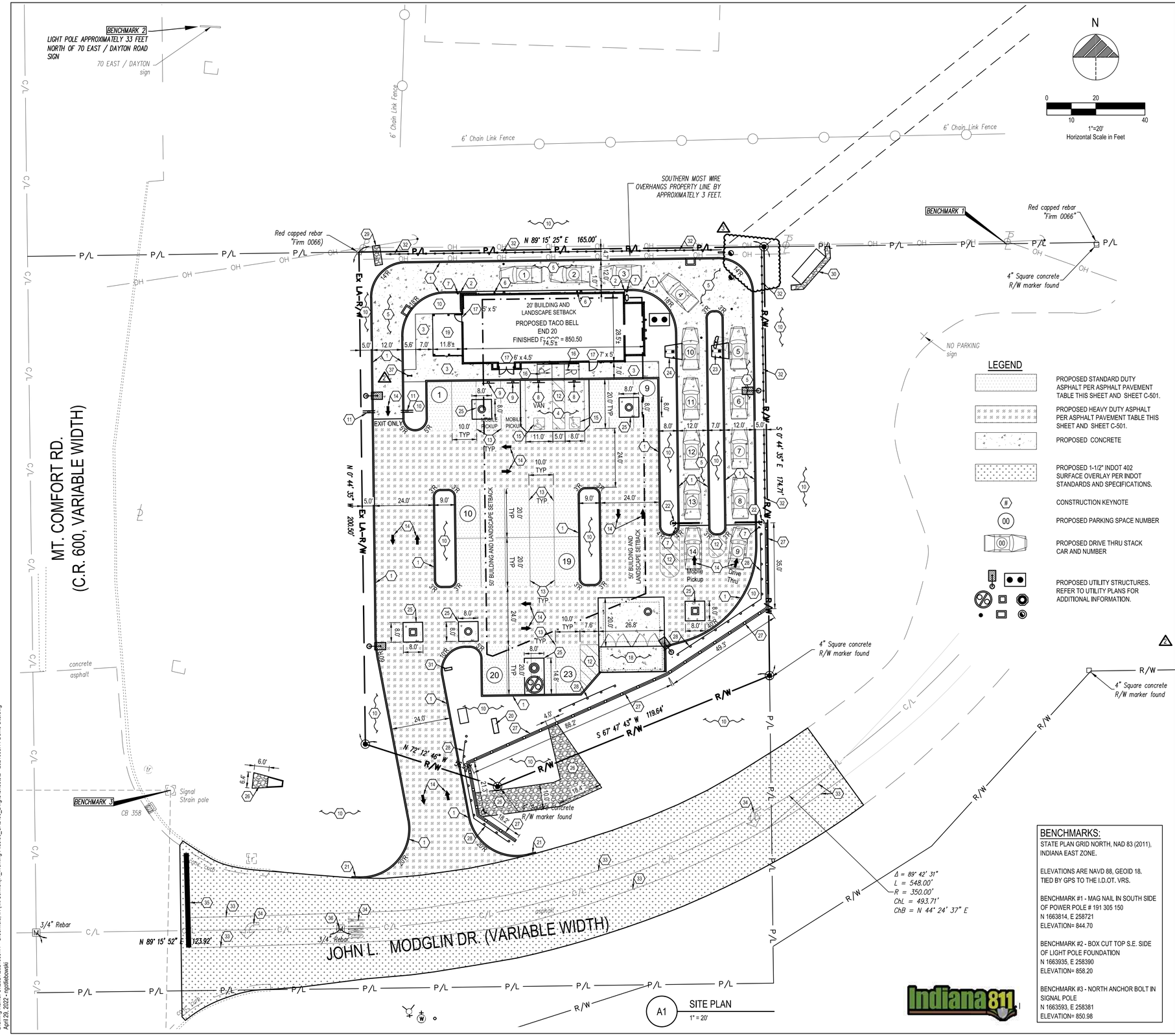
ENDEAVOR 20

DEMOLITION PLAN

C-101

PLOT DATE:

Drawing Name: O:\2021\2021088\41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\CSheets\2 - 2021088.41 Demo Site.dwg
April 28, 2022 - mkinder



N

0 20 10 40

1"=20'
Horizontal Scale in Feet

LEGEND

- PROPOSED STANDARD DUTY ASPHALT PER ASPHALT PAVEMENT TABLE THIS SHEET AND SHEET C-501.
- PROPOSED HEAVY DUTY ASPHALT PER ASPHALT PAVEMENT TABLE THIS SHEET AND SHEET C-501.
- PROPOSED CONCRETE
- PROPOSED 1-1/2" INDOT 402 SURFACE OVERLAY PER INDOT STANDARDS AND SPECIFICATIONS.
- # CONSTRUCTION KEYNOTE
- 00 PROPOSED PARKING SPACE NUMBER
- PROPOSED DRIVE THRU STACK CAR AND NUMBER
- PROPOSED UTILITY STRUCTURES. REFER TO UTILITY PLANS FOR ADDITIONAL INFORMATION.

PLAN KEYNOTES (#)

1. PROPOSED P.C.C. CURB, SEE SHEET C-501.
2. PROPOSED CURB AT DRIVE THRU, SEE SHEET C-501.
3. PROPOSED P.C.C. CURBED WALK, SEE SHEET C-501.
4. PROPOSED 5" P.C.C. PAVEMENT W/ W.W.F. 6" x 6"-W2.9 x W2.9 (CONTROL JTS. 12'-0" O.C.) OVER 6" CRUSHED AGGREGATE OR GRAVEL BASE. APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT.
5. PROPOSED 7" P.C.C. PAVEMENT W/ W.W.F. 6" x 6"-W2.9 x W2.9 (CONTROL JTS. 12'-0" O.C.) OVER 6" CRUSHED AGGREGATE OR GRAVEL BASE. APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT.
6. PROPOSED BOLLARD IN CURB, SEE SHEET C-502.
7. PROPOSED DETERRENT BOLLARD, SEE SHEET C-501.
8. PROPOSED ADA PARKING SIGN, SEE SHEET C501.
9. PROPOSED "MOBILE ORDER PICKUP" SIGN PER SIGN SUPPLIER SPECIFICATIONS.
10. PROPOSED LANDSCAPING AREA. SOD ALL DISTURBED AREAS EXCEPT WHERE PLANTING BEDS ARE INDICATED.
11. PROPOSED "DO NOT ENTER" AND "STOP" SIGN PER INDOT STANDARDS. SEE SHEET C-501.
12. PROPOSED PAINTED TRANSVERSE STRIPING, SEE SHEET C-501.
13. PROPOSED PAINTED 4" WIDE SOLID STRIPE - WHITE ON ASPHALT, YELLOW ON CONCRETE, BLUE FOR ADA.
14. PROPOSED DIRECTIONAL PAVEMENT MARKINGS - WHITE ON ASPHALT, YELLOW ON CONCRETE. SEE SHEET C-501.
15. PROPOSED PAINTED INTERNATIONAL ADA SYMBOL PER ADA SPECIFICATIONS. SEE SHEET C-501.
16. PROPOSED ADA ACCESSIBLE RAMP PER ADA SPECIFICATIONS. SEE SHEET C-501.
17. PROPOSED FROST SLAB AT DOOR. SEE STRUCTURAL PLANS FOR ADDITIONAL INFORMATION. SEE PLAN VIEW FOR MINIMUM SIZING.
18. PROPOSED REFUSE ENCLOSURE ON P.C.C. PAD OVER CRUSHED AGGREGATE OR GRAVEL BASE. SEE ARCHITECTURAL PLANS. APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT.
19. PROPOSED PATIO. SEE ARCHITECTURAL PLANS.
20. PROPOSED MONUMENT SIGN WITH A MAXIMUM 49.9 SF AREA UNDER SEPARATE PERMIT PER SIGN SUPPLIER SPECIFICATIONS. SIGN SUPPLIER SHALL DESIGN AND INSTALL FOUNDATION.
21. PROPOSED CURB TAPER, SEE SHEET C-501.
22. PROPOSED EVOLUTION PORTAL CLEARANCE BAR, SEE SHEET C-502.
23. PROPOSED MENU BOARD AND ORDER CONFIRMATION PER BOARD SIGN SUPPLIER SPECIFICATIONS. SIGN SUPPLIER TO PROVIDE A TEMPLATE FOR G.C. G.C. TO COORDINATE A MEETING WITH THE CONSTRUCTION/PROJECT MANAGER AND OPERATIONS TO VERIFY LOCATION AND PLACEMENT OF MENU BOARD AND ORDER CONFIRMATION BOARD PRIOR TO NAY CONSTRUCTION. SIGN SUPPLIER SHALL PROVIDE G.C. WITH FOUNDATION DETAILS. G.C. RESPONSIBLE FOR SIGN FOUNDATIONS/ELECTRICAL. SEE SHEET C-502.
24. PROPOSED ORDER CONFIRMATION BOARD PER SIGN SUPPLIER SPECIFICATIONS. SIGN SUPPLIER TO PROVIDE A TEMPLATE FOR G.C. G.C. TO COORDINATE A MEETING WITH THE CONSTRUCTION/PROJECT MANAGER AND OPERATIONS TO VERIFY LOCATION AND PLACEMENT OF MENU BOARD AND ORDER CONFIRMATION BOARD PRIOR TO ANY CONSTRUCTION. SIGN SUPPLIER SHALL PROVIDE G.C. WITH FOUNDATION DETAILS. G.C. RESPONSIBLE FOR SIGN FOUNDATIONS/ELECTRICAL. SEE SHEET C-502.
25. PROPOSED CONCRETE COLLAR, SEE SHEET C-503.
26. PROPOSED 18" THICK INDOT "UNIFORM A" OUTLET PROTECTION RIP RAP. SEE PLAN VIEW FOR DIMENSIONS. SEE SHEET C-010.
27. PROPOSED RETAINING WALL WITH PEDESTRIAN GUARD RAIL MOUNTED ON TOP. SEE SHEET C-502 FOR PEDESTRIAN GUARD RAIL. REFER TO STRUCTURAL PLANS FOR ADDITIONAL INFORMATION.
28. PROPOSED VEHICULAR INDOT MSG GUARD RAIL SYSTEM WITH TIMBER POSTS AND CABLE TERMINAL ANCHORING PER INDOT STANDARDS AND SPECIFICATIONS, SEE SHEET C-504.
29. PROPOSED ROCK CHECK DAM, SEE SHEET C-011.
30. PROPOSED LEVEL SPREADER, SEE SHEET C-011.
31. PROPOSED WAY FINDING SIGN PER SIGN SUPPLIERS SPECIFICATIONS. SIGN SUPPLIER SHALL DESIGN AND INSTALL FOUNDATION.
32. PROPOSED 6' TALL TREX FENCING, SEE SHEET C-504.
33. PROPOSED 4" WIDE PAINTED LANE LINE TO MATCH EXISTING PER INDOT STANDARDS AND SPECIFICATIONS.
34. PROPOSED DIRECTIONAL PAVEMENT MARKINGS TO MATCH EXISTING PER INDOT STANDARDS AND SPECIFICATIONS.
35. PROPOSED PAINTED STOP BAR TO MATCH EXISTING PER INDOT STANDARDS AND SPECIFICATIONS.
36. EXISTING MONUMENT BOX TO BE ADJUSTED TO PROPOSED GRADE PER INDOT STANDARDS AND SPECIFICATIONS.
37. PROPOSED BIKE RACK, SEE SHEET C-502.

BENCHMARKS:

STATE PLAN GRID NORTH, NAD 83 (2011), INDIANA EAST ZONE.

ELEVATIONS ARE NAVD 88, GEOID 18. TIED BY GPS TO THE I.D.OT. VRS.

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N 1663814, E 258721
ELEVATION= 844.70

BENCHMARK #2 - BOX CUT TOP S.E. SIDE OF LIGHT POLE FOUNDATION
N 1663935, E 258390
ELEVATION= 858.20

BENCHMARK #3 - NORTH ANCHOR BOLT IN SIGNAL POLE
N 1663593, E 258381
ELEVATION= 850.98

Indiana 811

BUILDING SETBACKS

	REQUIRED	PROVIDED
FRONT: JOHN L. MOD	50'	153.7'
REAR: NORTH	50'	17.2'
SIDE: MT. COMFORT	50'	29.6'
SIDE: EAST	50'	49.0'

PARKING SETBACKS

	REQUIRED	PROVIDED
FRONT: JOHN L. MOD	50'	21.6'
REAR: NORTH	20'	4.2'
SIDE: MT. COMFORT	50'	4.5'
SIDE: EAST	50'	4.5'

LANDSCAPE SETBACKS

	REQUIRED	PROVIDED
FRONT: JOHN L. MOD	50'	21.6'
REAR: NORTH	20'	4.2'
SIDE: MT. COMFORT	50'	4.5'
SIDE: EAST	50'	4.5'

PARKING SPACES

	REQUIRED	PROVIDED
NUMBER OF SPACES	15	23

PARKING REQUIREMENTS
1 SPACE FOR EVERY 3 SEATS PLUS 1 SPACE PER WORKING EMPLOYEE. THEREFORE 20 / 3 + 8 = 14.67 = 15 SPACES REQUIRED

LAND USE DATA

	% OF SITE AREA	AREA PROVIDED
BUILDING	6.6%	0.05 AC.
PAVEMENT/IMPERVIOUS	65.8%	0.50 AC.
LANDSCAPING	27.6%	0.21 AC.
TOTAL	100%	0.76 AC.

CURRENT ZONING:
B-2 WITH CR 600 HIGHWAY CORRIDOR OVERLAY

ASPHALT PAVEMENT

MATERIAL	DEPTH (HVY. DUTY)	DEPTH (STD. DUTY)	INDOT SPECIFICATIONS ITEM
A.C. SURFACE COURSE	1.5"	1.5"	INDOT 402 SURFACE
A.C. INTERMEDIATE COURSE	2.5"	2"	INDOT 402 INTERMEDIATE
AGG. BASE COURSE	8"	6"	INDOT #53's
SUBGRADE COMPACTION	PER SOILS REPORT	PER SOILS REPORT	PER SOILS REPORT

SOILS REPORT GOVERNS IF ANY DISCREPANCIES OCCUR.
SEE TYPICAL SECTION SHEET C-501.

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TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

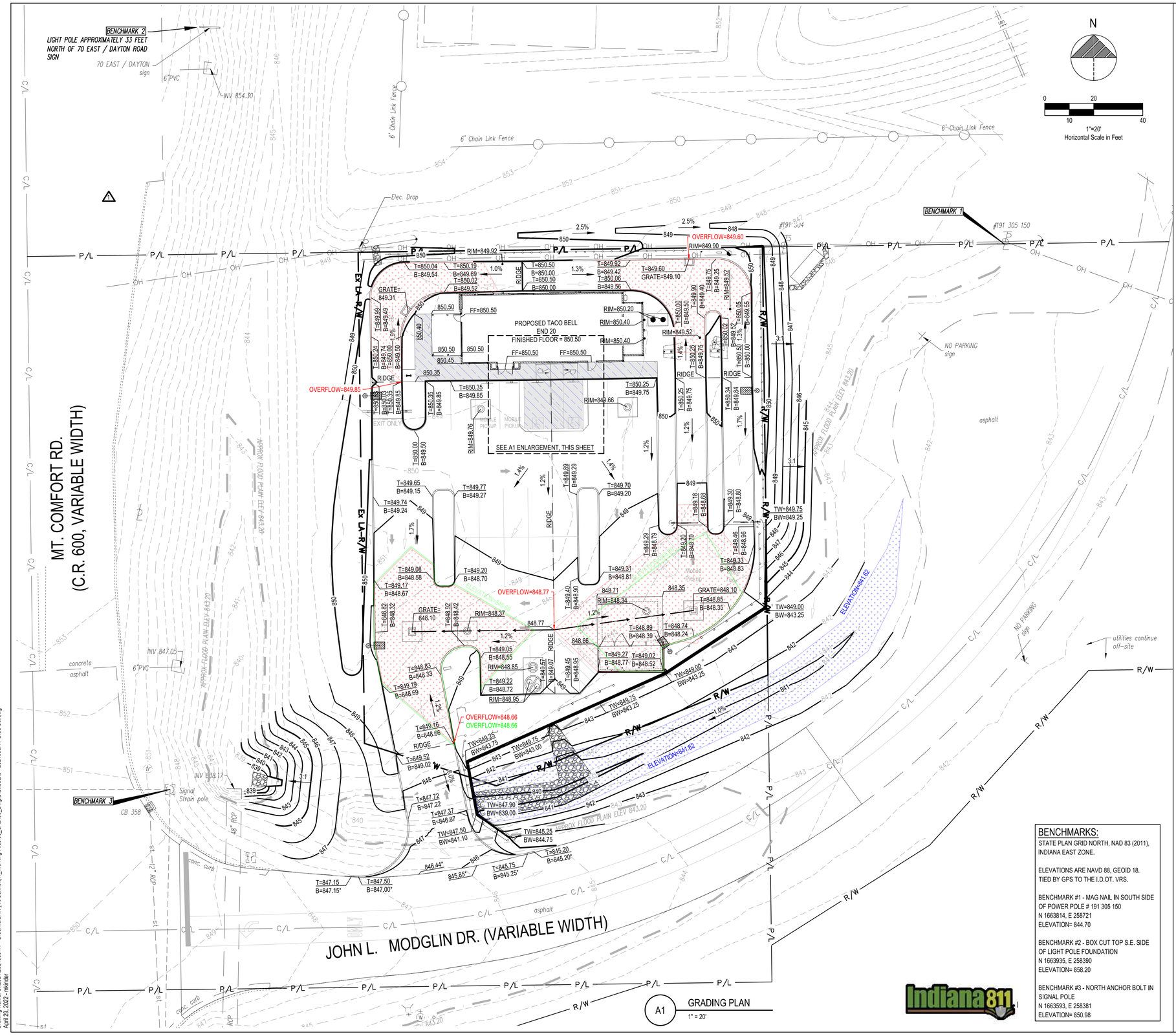
ENDEAVOR 20

SITE PLAN

C-111

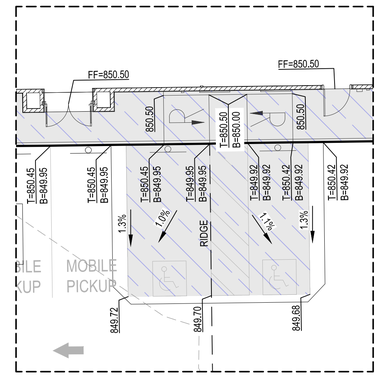
PLOT DATE:

Drawing Name: O:\2021\2021088141 - Greenfield, IN (Mt.Comfort)\4_Working Files\00_CAD\00_Dwg\C\Sheets\2 - 20210888.41 Demo Site.dwg
April 29, 2022 - mgottlebowski



LEGEND

- 000 — PROPOSED CONTOURS
- PROPOSED SWALE/DITCH
- 000 — EXISTING CONTOURS
- T=000.00 / B=000.00 — TOP OF CURB ELEVATION / BOTTOM OF CURB/FINISHED PAVEMENT ELEVATION
- TW=000.00 / BW=000.00 — TOP OF WALL ELEVATION / BOTTOM OF WALL/FINISHED GRADE ELEVATION
- RIM / GRATE= 000.00 — RIM / GRATE ELEVATION
- XXX — FINISHED GRADE SLOPE
- EMERGENCY OVERLAND FLOW DRAINAGE ROUTING
- EXISTING EXISTING TOPOGRAPHIC FLOOD PLAIN ELEVATION = 843.2±
- PROPOSED TOPOGRAPHIC FLOOD PLAIN ELEVATION = 843.2± (1)
- PROPOSED MAXIMUM PONDING ASSUMING DETENTION OUTLET CLOGGED = 848.66 (2)
- ADA ACCESSIBLE ROUTE
- (2) MAXIMUM POSSIBLE PONDING AROUND EACH CATCH BASIN, INDEPENDENT OF DETENTION SYSTEM PRIOR TO OVERFLOWING CURBS AND/OR RIDGES (SEE PLAN VIEW FOR ELEVATION). ONLY THE SOUTHERN CATCH BASIN AREAS WILL SURCHARGE, SHOULD THE DETENTION BASIN OUTLET BE CLOGGED. NEARLY 2 FEET OF FREEBOARD IS PROVIDED FOR DETENTION BASIN OVERFLOW TO FINISHED FLOOR ELEVATION. ALL INLETS CASTING CAPACITIES ARE GRATER THAN 100-YEAR FLOW RATES. SEE STORMWATER MANAGEMENT REPORT.
- MAXIMUM HEADWATER PONDING AT CURLVERT DURING 100-YEAR STORM PEAK FLOW (SEE PLAN VIEW FOR ELEVATION) SEE STORMWATER MANAGEMENT REPORT.



A1 ADA ENLARGEMENT
SCALE : 1"=10'

(1) NOTE:
EXISTING FLOOD PLAIN ELEVATION LIMITS WERE DELINEATED BASED ON THE APPLICATION OF THE BASE FLOOD ELEVATION (BFE) TO SITE-SPECIFIC TOPOGRAPHY. EXISTING FLOOD PLAIN LIMITS SHOWN IN PLAN WILL BE MODIFIED TO FOLLOW THE PROPOSED FINISHED CONTOURS. NET STORAGE VOLUME OF FLOOD PLAIN IS INCREASE BY 25± CUBIC YARDS FROM PRE TO PROPOSED DEVELOPMENT CONDITIONS. SEE STORMWATER MANAGEMENT REPORT FOR CUT/FILL REPORT EXHIBIT.

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N 1663593, E 258381
ELEVATION= 850.98

A1 GRADING PLAN
1" = 20'

Indiana 811

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TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

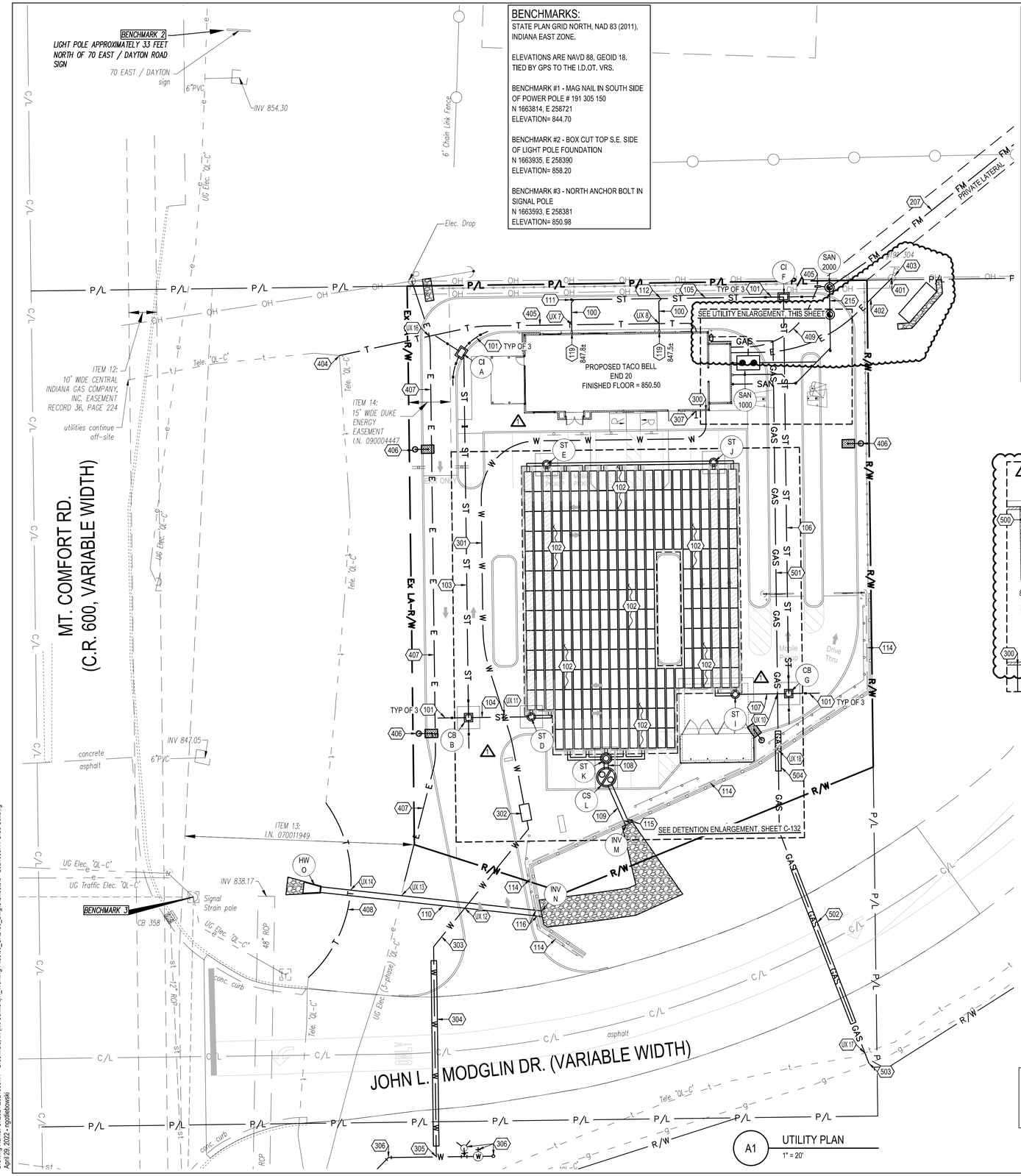
TACO BELL

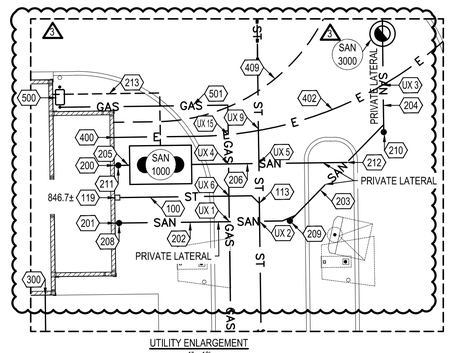
ENDEAVOR 20

GRADING PLAN

C-121

PLOT DATE:





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N 1663593, E 258381
ELEVATION= 850.98

PROPOSED STRUCTURES

STRCT. ID	STRUCTURE DETAILS
CI A	PROPOSED CURB INLET (SEE SHEET C-503) GRATE=849.31 INV. 4" F.D. (NE,NW&SW)=847.81 INV. 12" (S)=846.09
CB B	PROPOSED CATCH BASIN (SEE SHEET C-503) GRATE=848.10 INV. 4" F.D. (N,W&S)=846.60 INV. 12" (N&E)=844.79
ST D	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=848.37 INV. 12" (E,W&N)=844.50
ST E	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=849.76 INV. 12" (E,W&S)=844.50
CI F	PROPOSED CURB INLET (SEE SHEET C-503) GRATE=849.10 INV. 4" F.D. (E,W&S)=847.60 INV. 6" (W)=846.78 INV. 12" (S)=846.28
CB G	PROPOSED CATCH BASIN (SEE SHEET C-503) GRATE=848.10 INV. 4" F.D. (N,E&S)=846.60 INV. 12" (N&W)=844.86
ST I	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=848.34 INV. 12" (E,W&N)=844.50

PROPOSED STRUCTURES

STRCT. ID	STRUCTURE DETAILS
ST J	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=849.66 INV. 12" (E,W&S)=844.50
ST K	PROPOSED 30" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=848.85 INV. 12" (W,N&E)=844.50 INV. 18" (S)=844.00
CS L	PROPOSED CONTROL STRUCTURE (SEE SHEET C-132) RIM=848.95 INV. 18" (N)=843.95 INV. 6" (NE)=843.28 INV. 18" (S)=843.18
INV M	PROPOSED INVERT THRU WALL (SEE STRUCTURAL PLANS) INV. 18" (N)=843.00
INV N	PROPOSED INVERT THRU WALL (SEE STRUCTURAL PLANS) INV. 18" (W)=839.00
HW O	PROPOSED INDOT END SECTION (SEE SHEET C-505) INV. 18" (E)=838.60
SAN 1000 (PRIVATE)	PROPOSED 1,000 GALLON GREASE INTERCEPTOR (SEE SHEET C-503) RIM=850.20 INV. 6" (W)=844.25 INV. 6" (E)=844.00
SAN 2000 (PRIVATE)	PROPOSED SANITARY LIFT STATION (SEE SHEETS C-134, C-135 & C-136) RIM=849.90 INV. 1.25" (NE)=844.90 INV. 6" (S)=843.06
SAN 3000 (PRIVATE)	PROPOSED SAMPLING AND METERING CONTROL MANHOLE WITH NO FLUME (SEE SHEET C-505) RIM=849.40 INV. 6" (N&S)=843.20

UTILITY CROSSINGS

GENERAL UTILITY CROSSING NOTES:

1. CONTRACTOR SHALL COORDINATE ALL CROSSINGS/RELOCATIONS WITH THE RESPECTIVE UTILITY COMPANIES.
2. EXISTING AND PROPOSED PRESSURIZED (WATER & GAS) AND DRY (ELECTRIC & COMMUNICATIONS) UTILITIES SHALL DEFLECT TO MAINTAIN 18" CLEAR AT SANITARY OR STORM SEWER CROSSINGS WHEN CONFLICTS OCCUR.
3. WHEN A PROPOSED PRESSURIZED / DRY UTILITY IS IN CROSSING CONFLICT WITH AN EXISTING PRESSURIZED / DRY UTILITY, THE PROPOSED UTILITY SHALL DEFLECT TO OBTAIN MINIMUM CLEARANCE.
4. CONTRACTOR SHALL FIELD LOCATE EXISTING PRESSURIZED / DRY UTILITIES AT PROPOSED CROSSINGS.
5. FOR CLEARANCE BETWEEN PIPES OF LESS THAN 18", THE CONTRACTOR SHALL PROVIDE CONCRETE ENCASEMENT PER SHEET C-503.

UX 1 — PROP. GAS (SEE NOTES ABOVE) / PROP. 6" SAN INV. = 844.0±
UX 2 — PROP. 12" STORM INV. = 846.0± / PROP. 6" SAN INV. = 843.9±
UX 3 — PROP. ELECTRIC (SEE NOTES ABOVE) / PROP. 6" SAN INV. = 843.4±
UX 4 — PROP. GAS (SEE NOTES ABOVE) / PROP. 6" SAN INV. = 843.9±
UX 5 — PROP. 12" STORM INV. = 846.1± / PROP. 6" SAN INV. = 843.8±
UX 6 — PROP. GAS (SEE NOTES ABOVE) / PROP. 6" STORM INV. = 846.4±
UX 7 — PROP. 6" STORM INV. = 846.7± / PROP. TELEPHONE (SEE NOTES ABOVE)
UX 8 — PROP. 6" STORM INV. = 846.4± / PROP. TELEPHONE (SEE NOTES ABOVE)
UX 9 — PROP. ELECTRIC (SEE NOTES ABOVE) / PROP. 12" STORM INV. = 846.1±
UX 10 — PROP. GAS (SEE NOTES ABOVE) / PROP. 12" STORM INV. = 844.9±
UX 11 — PROP. 12" STORM INV. = 844.6± / PROP. WATER (SEE NOTES ABOVE)
UX 12 — PROP. 18" STORM INV. = 838.8± / PROP. WATER (SEE NOTES ABOVE)
UX 13 — EX. ELECTRIC (SEE NOTES ABOVE) / PROP. 18" STORM INV. = 838.7±
UX 14 — PROP. 18" STORM INV. = 838.6± / PROP. TELEPHONE (SEE NOTES ABOVE)
UX 15 — PROP. GAS (SEE NOTES ABOVE) / PROP. TELEPHONE (SEE NOTES ABOVE)
UX 16 — PROP. GAS (SEE NOTES ABOVE) / PROP. ELECTRIC (SEE NOTES ABOVE)
UX 17 — PROP. TELEPHONE (SEE NOTES ABOVE) / PROP. ELECTRIC (SEE NOTES ABOVE)
UX 18 — UTILITY AND WALL CONFLICT. CONTRACTOR SHALL PROVIDE CASING PIPE UNDER RETAINING WALL FOOTER PER UTILITY COMPANY REQUIREMENTS. CONTRACTOR SHALL BACKFILL TRENCHING BELOW RETAINING WALL FOUNDATION WITH CONCRETE. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE UTILITY COMPANY PRIOR TO INSTALLATION. APPROXIMATE CASING PIPE INV. = 839.0±. REFER TO STRUCTURAL PLANS FOR ADDITIONAL INFORMATION.
UX 19 — PROP. GAS (SEE NOTES ABOVE) / PROP. ELECTRIC (SEE NOTES ABOVE)

NOTE:
ALL STORM CATCH BASINS, CURB INLETS AND NYLOPLAST STRUCTURES SHALL HAVE A 24" MINIMUM SUMP

PLAN KEYNOTES

STORM

100. PROPOSED DOWNSPOUT COLLECTOR LINE @ 2.00% MINIMUM. 45 L.F. TOTAL.
101. PROPOSED FINGER DRAIN, SEE SHEET C-503.
102. PROPOSED UNDERGROUND DETENTION - 277 STORMTECH SC-310 CHAMBERS
- TOP OF STONE = 846.33
- TOP OF CHAMBER = 845.83
- BOTTOM OF CHAMBER = 844.50
- BOTTOM OF STONE / U.D. INVERT = 843.50
- SEE ENLARGEMENT, SHEET C-132 FOR ADDITIONAL INFORMATION.
- SEE DETAILS, SHEET C-506.

103. PROPOSED 130 L.F. OF 12" (RCP) STORM SEWER @ 1.00% (1)
104. PROPOSED 23 L.F. OF 12" (RCP) STORM SEWER @ 1.29%
105. PROPOSED 76 L.F. OF 6" (PVC) STORM SEWER @ 1.00%
106. PROPOSED 142 L.F. OF 12" (RCP) STORM SEWER @ 1.00%
107. PROPOSED 19 L.F. OF 12" (RCP) STORM SEWER @ 1.88%
108. PROPOSED 7 L.F. OF 18" (RCP) STORM SEWER @ 0.74%
109. PROPOSED 19 L.F. OF 18" (RCP) STORM SEWER @ 0.97%
110. PROPOSED 80 L.F. OF 18" (RCP) STORM SEWER CULVERT @ 0.50%
111. PROPOSED STORM SEWER CLEANOUT AND WYE CONNECTION, SEE SHEET C-503. 6" INVERT = 847.54
112. PROPOSED WYE CONNECTION, SEE SHEET C-503. 6" INV = 847.22.
113. PROPOSED WYE CONNECTION, SEE SHEET C-503. 6" INV = 846.24. 12" INV = 845.99.
114. PROPOSED 210 L.F. OF 6" PVC RETAINING WALL UNDERDRAIN @ 0.25% SLOPE MINIMUM TOWARD CONNECTION POINTS. REFER TO STRUCTURAL PLANS FOR ADDITIONAL INFORMATION.
115. PROPOSED TWO (2) INSERTA-TEE CONNECTIONS TO PROPOSED 18" HDPE DETENTION OUTLET PIPE. 6" INVERTS = 844.02. 18" INVERT = 843.02
116. PROPOSED TWO (2) INSERTA-TEE CONNECTIONS TO PROPOSED 18" RCP CULVERT. 6" INVERTS = 839.99. 18" INVERT = 838.99
117. NOT USED (2)
118. NOT USED
119. PROPOSED DOWNSPOUT BUILDING CONNECTION. SEE PLAN VIEW FOR INVERT ELEVATION.

SANITARY

200. PROPOSED BUILDING SANITARY GREASE CONNECTION. 6" INV=844.29. CONTRACTOR TO PROVIDE SIZE / MATERIAL TRANSITION FITTINGS AS REQUIRED.
201. PROPOSED BUILDING SANITARY WASTE CONNECTION. 6" INV=844.30. CONTRACTOR TO PROVIDE SIZE / MATERIAL TRANSITION FITTINGS AS REQUIRED.
202. (PRIVATE) PROPOSED 24 L.F. OF 6" (PVC) SANITARY SEWER @ 2.00%.
203. (PRIVATE) PROPOSED 18 L.F. OF 6" (PVC) SANITARY SEWER @ 2.00%.
204. (PRIVATE) PROPOSED 13 L.F. OF 6" (PVC) SANITARY SEWER @ 2.00%.
205. (PRIVATE) PROPOSED 2 L.F. OF 6" (PVC) SANITARY SEWER @ 2.00%.
206. (PRIVATE) PROPOSED 20 L.F. OF 6" (PVC) SANITARY SEWER @ 2.00%.
207. (PRIVATE) PROPOSED 431 L.F. OF 1.25" (HDPE DR-11) SANITARY FORCE MAIN. SEE SHEET C-134, C-135, AND C-136 FOR CONTINUATION AND ADDITIONAL INFORMATION.
208. (PRIVATE) PROPOSED SANITARY CLEANOUT, SEE SHEET C-503. 6" INVERT = 844.30.
209. (PRIVATE) PROPOSED SANITARY CLEANOUT AND WYE CONNECTION, SEE SHEET C-503. 6" INVERT = 843.82
210. (PRIVATE) PROPOSED SANITARY CLEANOUT AND WYE CONNECTION, SEE SHEET C-503. 6" INVERT = 843.46.
211. (PRIVATE) PROPOSED SANITARY CLEANOUT, SEE SHEET C-503. 6" INVERT = 844.29
212. (PRIVATE) PROPOSED SANITARY WYE CONNECTION, SEE SHEET C-503. 6" INVERT = 843.60
213. (PRIVATE) PROPOSED 3" VENT LINE. SEE PLUMBING PLANS FOR ADDITIONAL INFORMATION.
214. (PRIVATE) PROPOSED SANITARY LIFT STATION CONTROLS. SEE SHEET C-134, C-135 AND C-136 AND ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.
215. (PRIVATE) PROPOSED 10 L.F. OF 6" (PVC) SANITARY SEWER @ 2.00%. (2)

WATER

300. PROPOSED BUILDING WATER CONNECTION. REFER TO BUILDING PLANS FOR ADDITIONAL INFORMATION.
301. PROPOSED 207 L.F. 2" (COPPER TYPE K) WATER SERVICE LINE.
302. PROPOSED WATER METER IN VAULT PER NINESTAR STANDARDS AND SPECIFICATIONS. BACKFLOW PREVENTOR LOCATED INSIDE BUILDING. REFER TO PLUMBING PLANS.
303. PROPOSED 133 L.F. 2" (CTS POLY PIPE) WATER SERVICE CONNECTION.
304. PROPOSED WATER SERVICE LINE BORING PER HANCOCK COUNTY AND NINESTAR STANDARDS AND SPECIFICATIONS.
305. PROPOSED WATER SERVICE CONNECTION PER NINESTAR STANDARDS AND SPECIFICATIONS. (1)
306. PROPOSED WATER MAIN EXTENSION. REFER TO SHEET C-133 FOR ADDITIONAL INFORMATION.
307. PROPOSED 1" IRRIGATION LINE OUT OF BUILDING. REFER TO IRRIGATION PLANS FOR CONTINUATION. IRRIGATION METER AND BACKFLOW PREVENTOR INSIDE BUILDING. REFER TO BUILDING PLANS.

ELECTRIC AND COMMUNICATIONS

400. PROPOSED ELECTRIC METER PER ELECTRIC COMPANY SPECIFICATIONS. SEE BUILDING DRAWINGS FOR ADDITIONAL INFORMATION. ELECTRIC SERVICE LINE TO BE COORDINATED WITH THE ELECTRIC COMPANY.
401. PROPOSED ELECTRIC SERVICE CONNECTION TO BE COORDINATED WITH THE UTILITY COMPANY.
402. PROPOSED 67 L.F. ELECTRIC SERVICE LINE TO BE COORDINATED WITH THE UTILITY COMPANY. (2)
403. PROPOSED POLE MOUNTED ELECTRICAL TRANSFORMER PER ELECTRICAL COMPANY STANDARDS AND SPECIFICATIONS. G.C. TO VERIFY AND COORDINATE EXACT LOCATION AND SIZE WITH THE UTILITY ENGINEER.
404. PROPOSED TELECOMMUNICATION SERVICE CONNECTION TO BE COORDINATED WITH THE UTILITY COMPANY
405. PROPOSED 131 L.F. TELECOMMUNICATION SERVICE LINE TO BE COORDINATED WITH THE UTILITY COMPANY.
406. PROPOSED LIGHT POLE, SEE SHEET C-502 FOR FOUNDATION. SEE ELECTRICAL DRAWINGS FOR SPECIFICATIONS AND ADDITIONAL INFORMATION.
407. PROPOSED LOWERING / RELOCATION OF EXISTING ELECTRICAL LINES PER ELECTRICAL COMPANY STANDARDS AND SPECIFICATIONS.
408. PROPOSED LOWERING / RELOCATION OF EXISTING TELECOMMUNICATION LINES PER TELECOMMUNICATION COMPANY STANDARDS AND SPECIFICATIONS.
409. PROPOSED SANITARY LIFT STATION SECONDARY POWER LINE. SEE SHEET C-134, C-135 AND C-136 AND ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.

GAS

500. PROPOSED GAS METER PER GAS COMPANY SPECIFICATIONS. SEE BUILDING DRAWINGS FOR ADDITIONAL INFORMATION. GAS SERVICE LINE TO BE COORDINATED WITH THE GAS COMPANY.
501. PROPOSED 283 L.F. GAS SERVICE CONNECTION TO BE COORDINATED WITH THE GAS COMPANY.
502. PROPOSED GAS SERVICE LINE BORING PER HANCOCK COUNTY STANDARDS AND SPECIFICATIONS.
503. PROPOSED GAS SERVICE CONNECTION PER GAS COMPANY STANDARDS AND SPECIFICATIONS.
504. PROPOSED CASING PIPE UNDER RETAINING WALL PER UTILITY COMPANY STANDARDS AND SPECIFICATIONS.

N

0 10 20 40
1"=20'
Horizontal Scale in Feet

Indiana 811

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330.572.2100 Fax 330.572.2101

	DATE	REMARKS
1	03/22/2022	REVISION #1 - COUNTY AND UTILITY COMMENTS
2	04/29/2022	ISSUED FOR BID

CONTRACT DATE: -
BUILDING TYPE: END20
PLAN VERSION: OCTOBER 2021
BRAND DESIGNER: DICKSON
SITE NUMBER: 315289
STORE NUMBER: 456917
PA/PM: JW/KB
DRAWN BY.: NDG
JOB NO.: 2021088.41

TACO BELL
5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

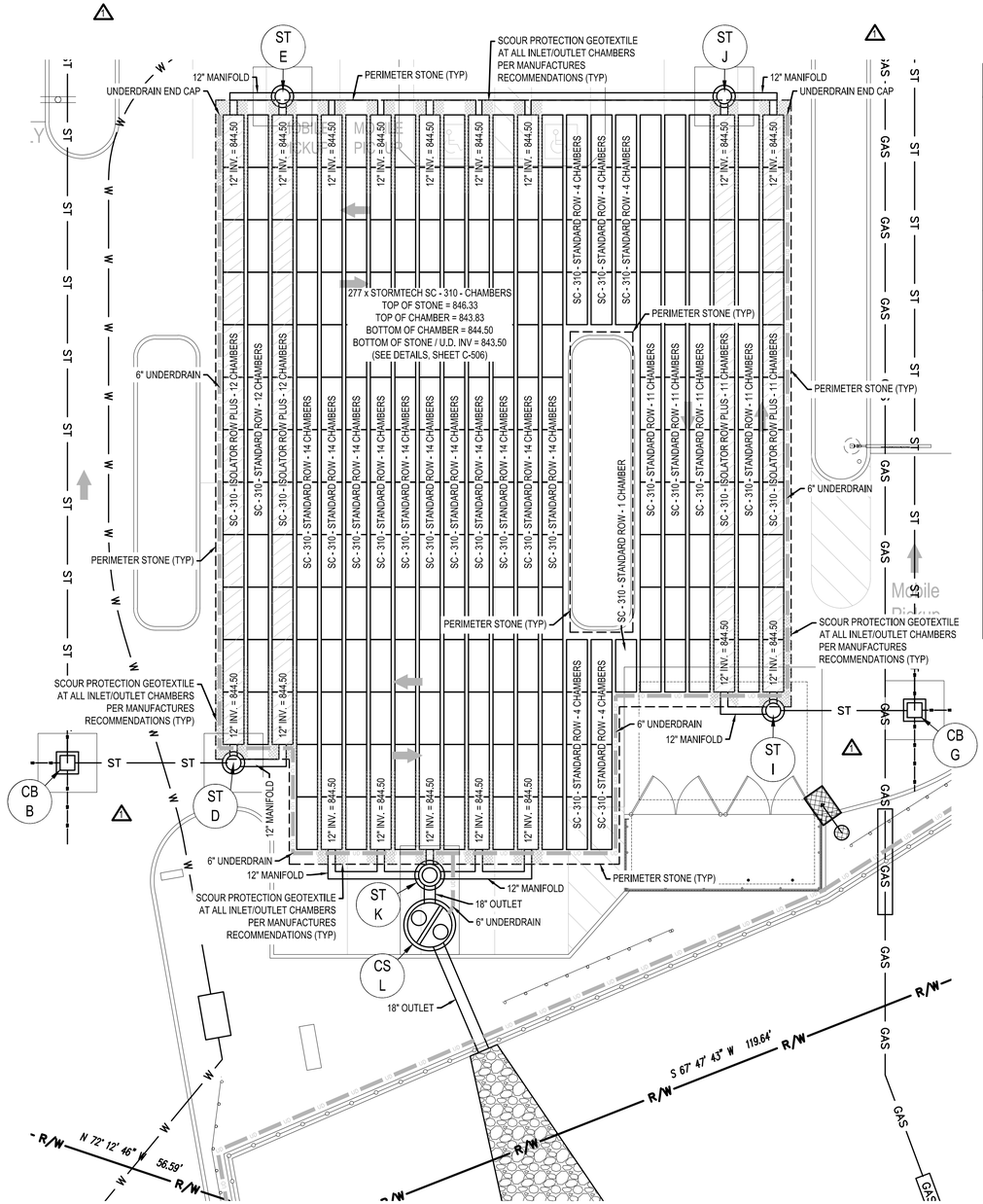
ENDEAVOR 20

UTILITY PLAN

C-131

PLOT DATE:

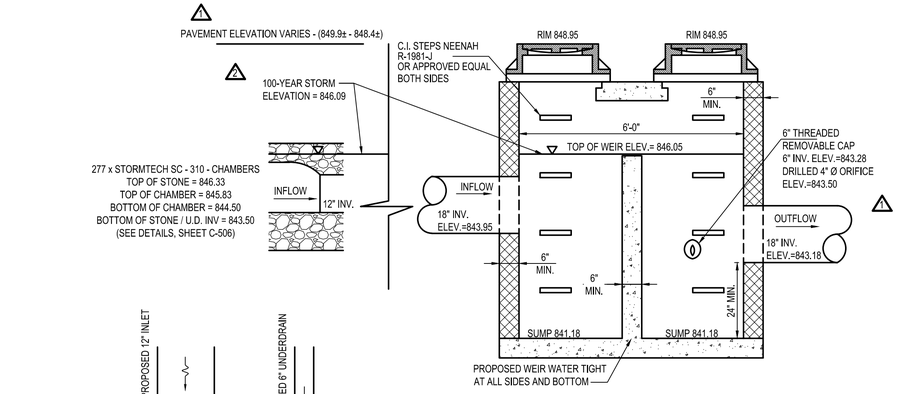
Drawing Name: O:\2021\2021088\41 - Greenfield, IN (Mt.Comfort)\4_Working Files\00_CAD\00_Dwg\C\Sheets\3 - 20210881.41 Grad Util.dwg
April 29, 2022 - mgottlebowski



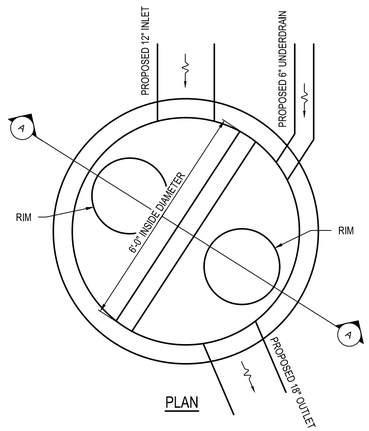
A1 STORMTECH DETENTION ENLARGEMENT

SCALE : 1"=10'

PROPOSED STRUCTURES	
STRCT. ID	STRUCTURE DETAILS
CB B	PROPOSED CATCH BASIN (SEE SHEET C-503) GRATE=848.10 INV. 4" F.D. (N,W&S)=846.60 INV. 12" (N&E)=844.79
ST D 1	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=848.37 INV. 12" (E,W&N)=844.50
ST E 1	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=849.76 INV. 12" (E,W&S)=844.50
CB G	PROPOSED CATCH BASIN (SEE SHEET C-503) GRATE=848.10 INV. 4" F.D. (N,E&S)=846.60 INV. 12" (N&W)=844.86
ST I 1	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=848.34 INV. 12" (E,W&N)=844.50
ST J 1	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=849.66 INV. 12" (E,W&S)=844.50
ST K	PROPOSED 30" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=848.85 INV. 12" (W,N&E)=844.50 INV. 18" (S)=844.00
CS L	PROPOSED CONTROL STRUCTURE (SEE SHEET C-132) RIM=848.95 INV. 18" (N)=843.95 INV. 6" (NE)=843.28 INV. 18" (S)=843.18



SECTION A



PLAN

B4 CONTROL STRUCTURE (CS-L)

NTS

NOTE:

1. PRECAST WALLS SHALL BE REINFORCED SUFFICIENTLY TO PERMIT SHIPPING AND HANDLING WITHOUT DAMAGE.
2. CAST-IN-PLACE CONCRETE SHALL BE 4,000 PSI @ 28 DAY. ALL PRECAST CONCRETE SHALL MEET STATE REQUIREMENTS WITH 6% +/- 2% AIR VOID CONTENT IN THE CURED CONCRETE.
3. CONTRACTOR SHALL COORDINATE WITH PRE-CAST CONCRETE MANUFACTURER FOR FINAL DESIGN.
4. CONTRACTOR SHALL PLACE THE ORIFICE HOLE INTO THE 6" CAP AND ENSURE A TIGHT CONNECTION.
5. ALL WALL JOINTS AND WEIR WALL TO STRUCTURE JOINTS (3 SIDES) SHALL BE WATER-TIGHT.
6. CONTROL STRUCTURE TO BE DESIGNED FOR H20 LOADING REQUIREMENTS, INCLUDING CASTINGS.

BENCHMARKS:

STATE PLAN GRID NORTH, NAD 83 (2011), INDIANA EAST ZONE.

ELEVATIONS ARE NAVD 88, GEOID 18. TIED BY GPS TO THE I.D.OT. VRS.

BENCHMARK #1 - MAG NAIL IN SOUTH SIDE OF POWER POLE # 191 305 150
N 1663814, E 258721
ELEVATION= 844.70

BENCHMARK #2 - BOX CUT TOP S.E. SIDE OF LIGHT POLE FOUNDATION
N 1663935, E 258390
ELEVATION= 858.20

BENCHMARK #3 - NORTH ANCHOR BOLT IN SIGNAL POLE
N 1663593, E 258381
ELEVATION= 850.98

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	DATE	REMARKS
1	03/22/2022	REVISION #1 - COUNTY AND UTILITY COMMENTS
2	04/04/2022	REVISION #2 - COUNTY COMMENTS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE:	-
BUILDING TYPE:	END20
PLAN VERSION:	OCTOBER 2021
BRAND DESIGNER:	DICKSON
SITE NUMBER:	315289
STORE NUMBER:	456917
PA/PM:	JW/KB
DRAWN BY.:	NDG
JOB NO.:	2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

ENDEAVOR 20
STORMTECH DETENTION PLAN

C-132A

PLOT DATE:

Drawing Name: O:\2021\2021088\41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\C\Sheets\3 - 2021088.41 Grad Util.dwg
April 29, 2022 - mleinder

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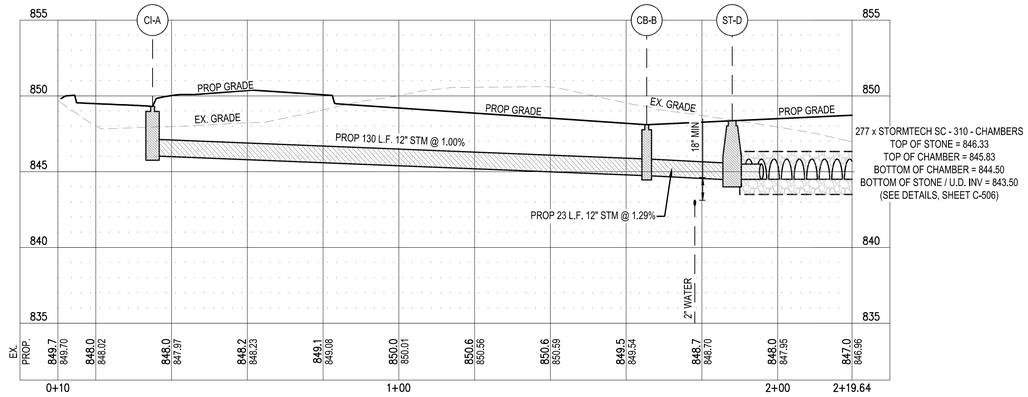

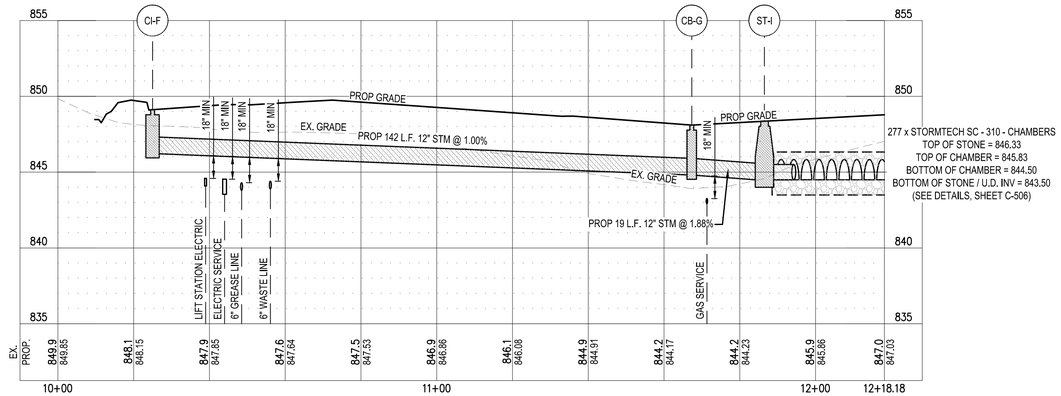

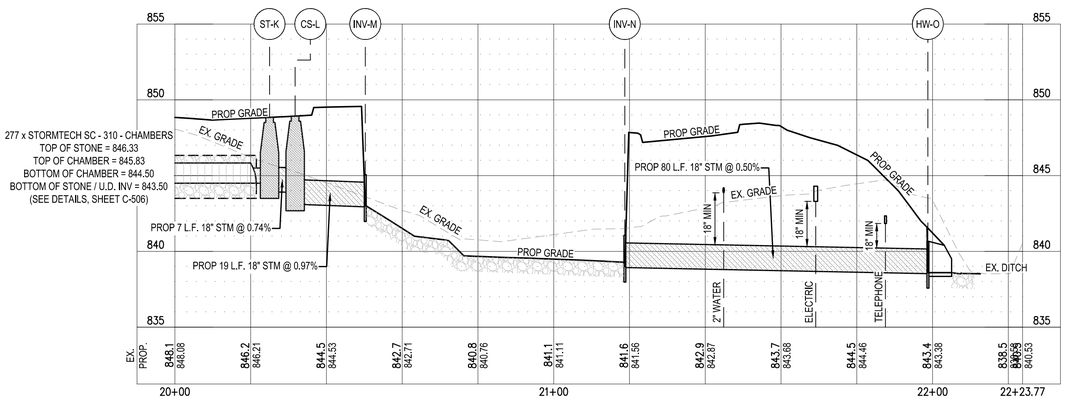

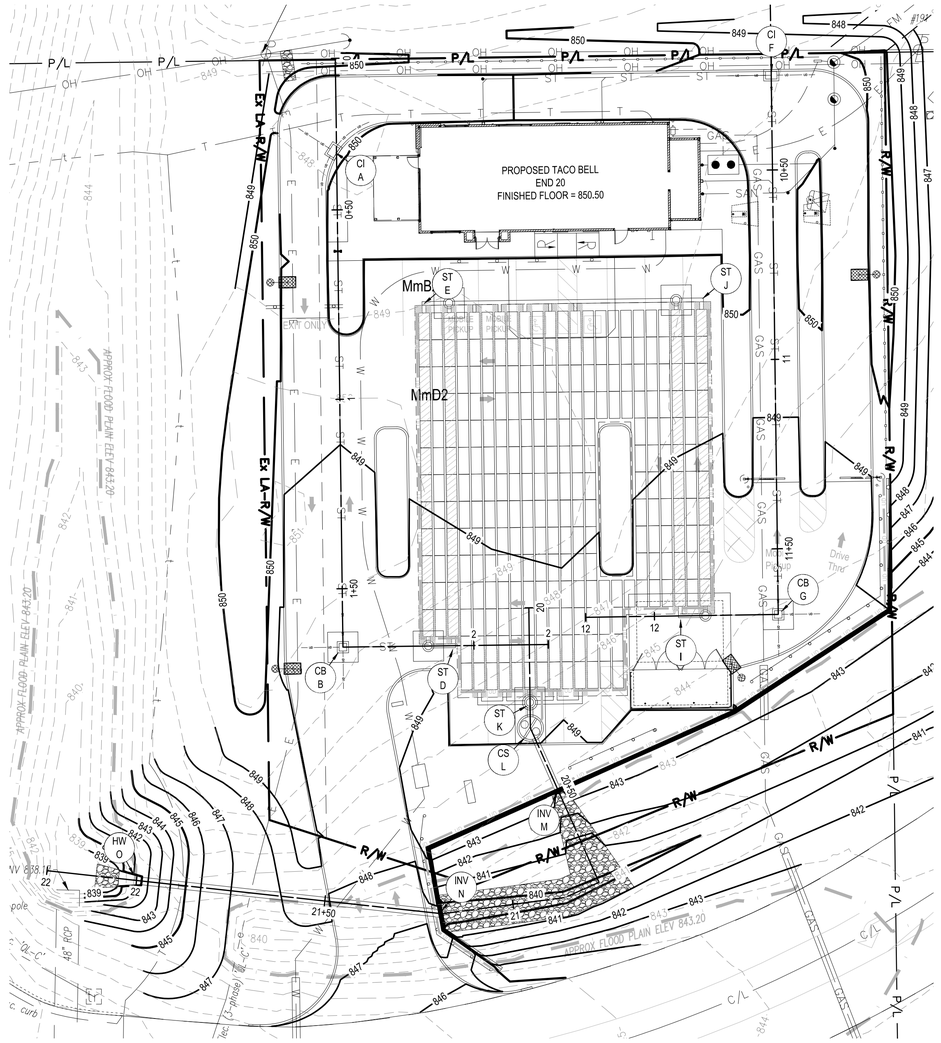

PROPOSED STRUCTURES

STRCT. ID	STRUCTURE DETAILS
CI A	PROPOSED CURB INLET (SEE SHEET C-503) GRATE=849.31 INV. 4" F.D. (NE,NW&SW)=847.81 INV. 12" (S)=846.09
CB B	PROPOSED CATCH BASIN (SEE SHEET C-503) GRATE=848.10 INV. 4" F.D. (N,W&S)=846.60 INV. 12" (N&E)=844.79
ST D	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=848.37 INV. 12" (E,W&N)=844.50
ST E	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=849.76 INV. 12" (E,W&S)=844.50
CI F	PROPOSED CURB INLET (SEE SHEET C-503) GRATE=849.10 INV. 4" F.D. (E,W&S)=847.60 INV. 6" (W)=846.78 INV. 12" (S)=846.28
CB G	PROPOSED CATCH BASIN (SEE SHEET C-503) GRATE=848.10 INV. 4" F.D. (N,E&S)=846.60 INV. 12" (N&W)=844.86
ST I	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=848.34 INV. 12" (E,W&N)=844.50

PROPOSED STRUCTURES

STRCT. ID	STRUCTURE DETAILS
ST J	PROPOSED 24" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=849.66 INV. 12" (E,W&S)=844.50
ST K	PROPOSED 30" H20 LOADING NYLOPLAST WITH SOLID CASTING (SEE SHEET C-505) RIM=848.85 INV. 12" (W,N&E)=844.50 INV. 18" (S)=844.00
CS L	PROPOSED CONTROL STRUCTURE (SEE SHEET C-132) RIM=848.95 INV. 18" (N)=843.95 INV. 6" (NE)=843.28 INV. 18" (S)=843.18
INV M	PROPOSED INVERT THRU WALL (SEE STRUCTURAL PLANS) INV. 18" (N)=843.00
INV N	PROPOSED INVERT THRU WALL (SEE STRUCTURAL PLANS) INV. 18" (W)=839.00
HW O	PROPOSED INDOT END SECTION (SEE SHEET C-505) INV. 18" (E)=838.60

N

0 20 10 40

1"=20'
Horizontal Scale in Feet

BENCHMARKS:

STATE PLAN GRID NORTH, NAD 83 (2011), INDIANA EAST ZONE.

ELEVATIONS ARE NAVD 88, GEOID 18, TIED BY GPS TO THE I.D.OT. VRS.

BENCHMARK #1 - MAG NAIL IN SOUTH SIDE OF POWER POLE # 191 305 150
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ELEVATION= 844.70

BENCHMARK #2 - BOX CUT TOP S.E. SIDE OF LIGHT POLE FOUNDATION
N 1663935, E 258390
ELEVATION= 858.20

BENCHMARK #3 - NORTH ANCHOR BOLT IN SIGNAL POLE
N 1663593, E 258381
ELEVATION= 850.98

Indiana 811

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	DATE	REMARKS
1	03/22/2022	REVISION #1 - COUNTY AND UTILITY COMMENTS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE: -
BUILDING TYPE: END20
PLAN VERSION: OCTOBER 2021
BRAND DESIGNER: DICKSON
SITE NUMBER: 315289
STORE NUMBER: 456917
PA/PM: JW/KB
DRAWN BY.: NDG
JOB NO.: 2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

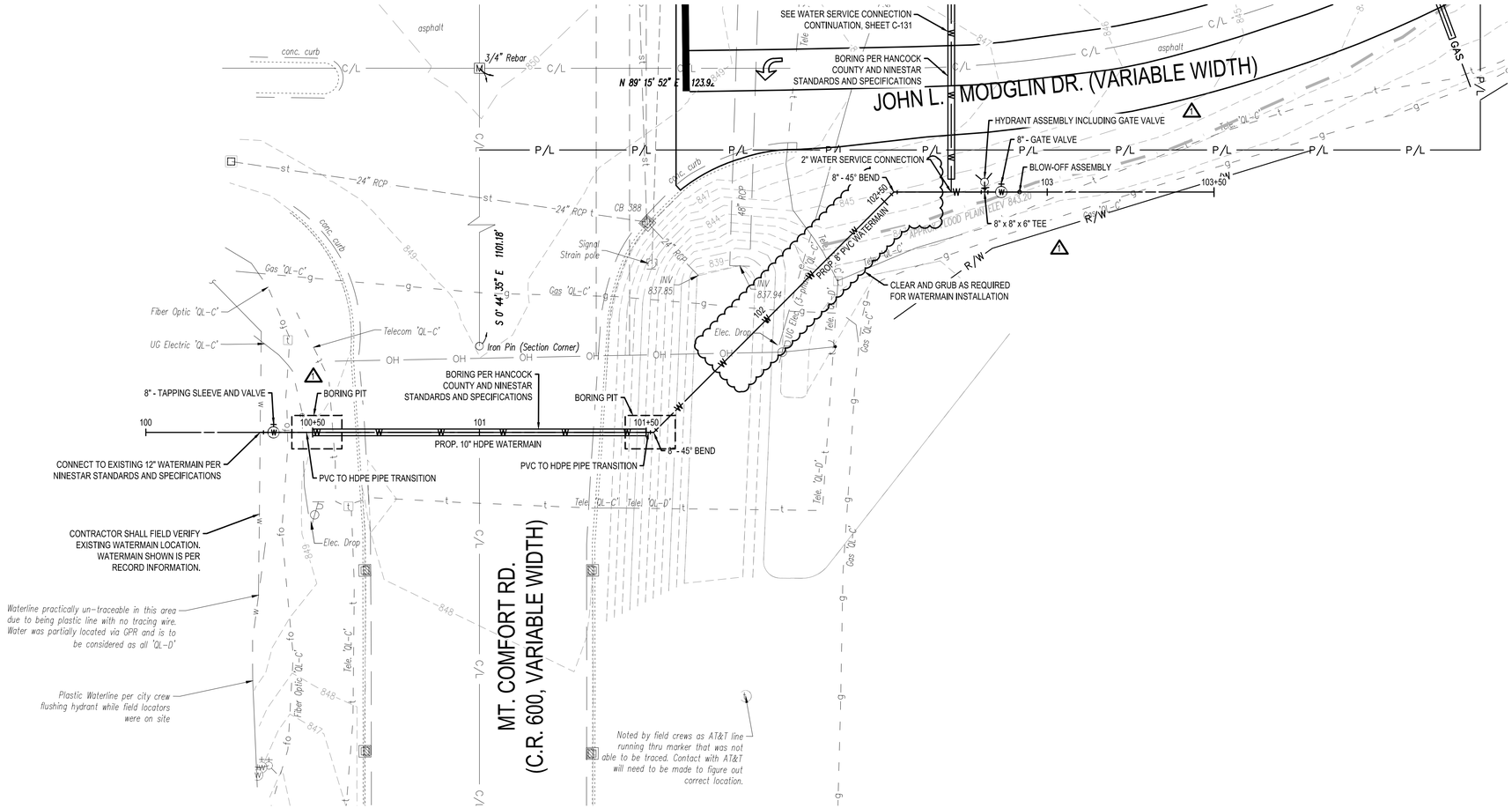
ENDEAVOR 20
STORM SEWER PROFILES

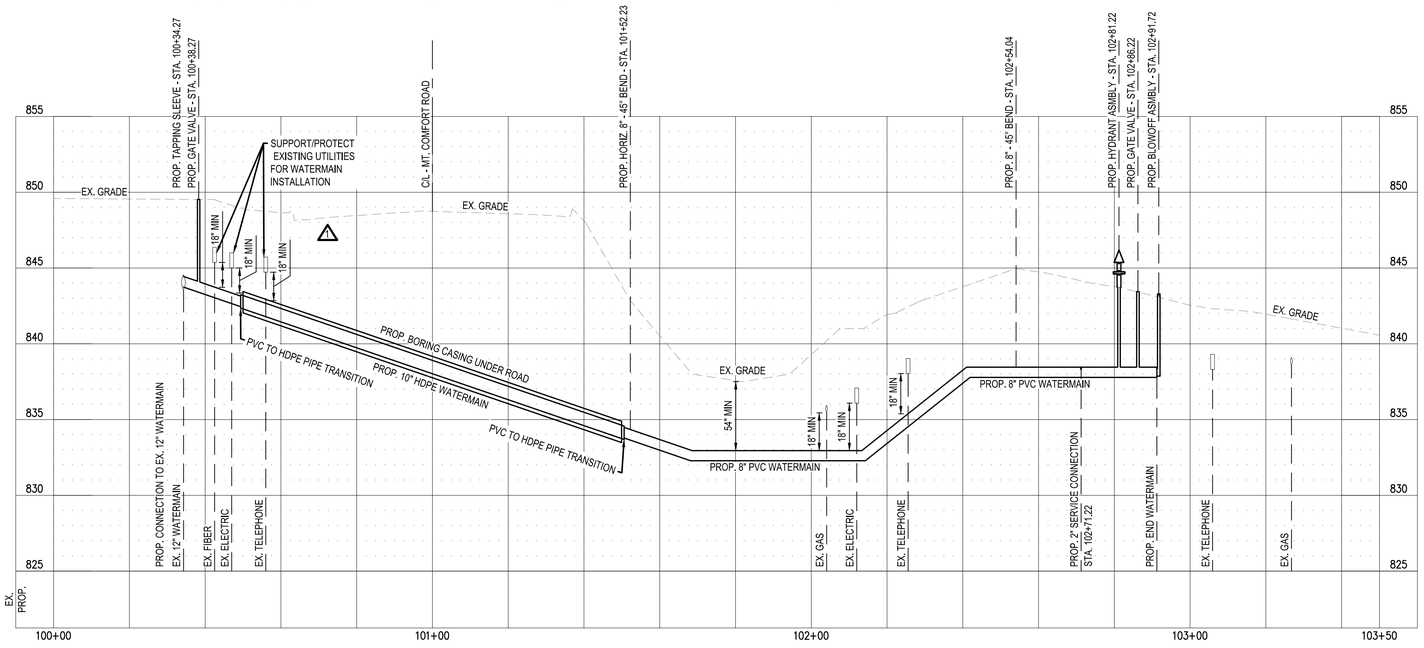
1

C-132B

PLOT DATE:

Drawing Name: O:\2021\2021088\41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\C\Sheets\3 - 2021088.41 Grad Util.dwg
April 29, 2022 - mkinder





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	DATE	REMARKS
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	04/29/2022	ISSUED FOR BID

CONTRACT DATE:	-
BUILDING TYPE:	END20
PLAN VERSION:	OCTOBER 2021
BRAND DESIGNER:	DICKSON
SITE NUMBER:	315289
STORE NUMBER:	456917
PA/PM:	JW/KB
DRAWN BY.:	NDG
JOB NO.:	2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

ENDEAVOR 20 WATER MAIN EXTENSION PLAN

C-133

PLOT DATE:

BENCHMARKS:

STATE PLAN GRID NORTH, NAD 83 (2011), INDIANA EAST ZONE.

ELEVATIONS ARE NAVD 88, GEOID 18, TIED BY GPS TO THE I.D.O.T. VRS.

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ELEVATION= 858.20

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N 1663593, E 258381
ELEVATION= 850.98

Indiana 811

Drawing Name: O:\2021\2021088\41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\C\Sheets\3 - 2021088.41 Grad Util.dwg
April 29, 2022 - mlender

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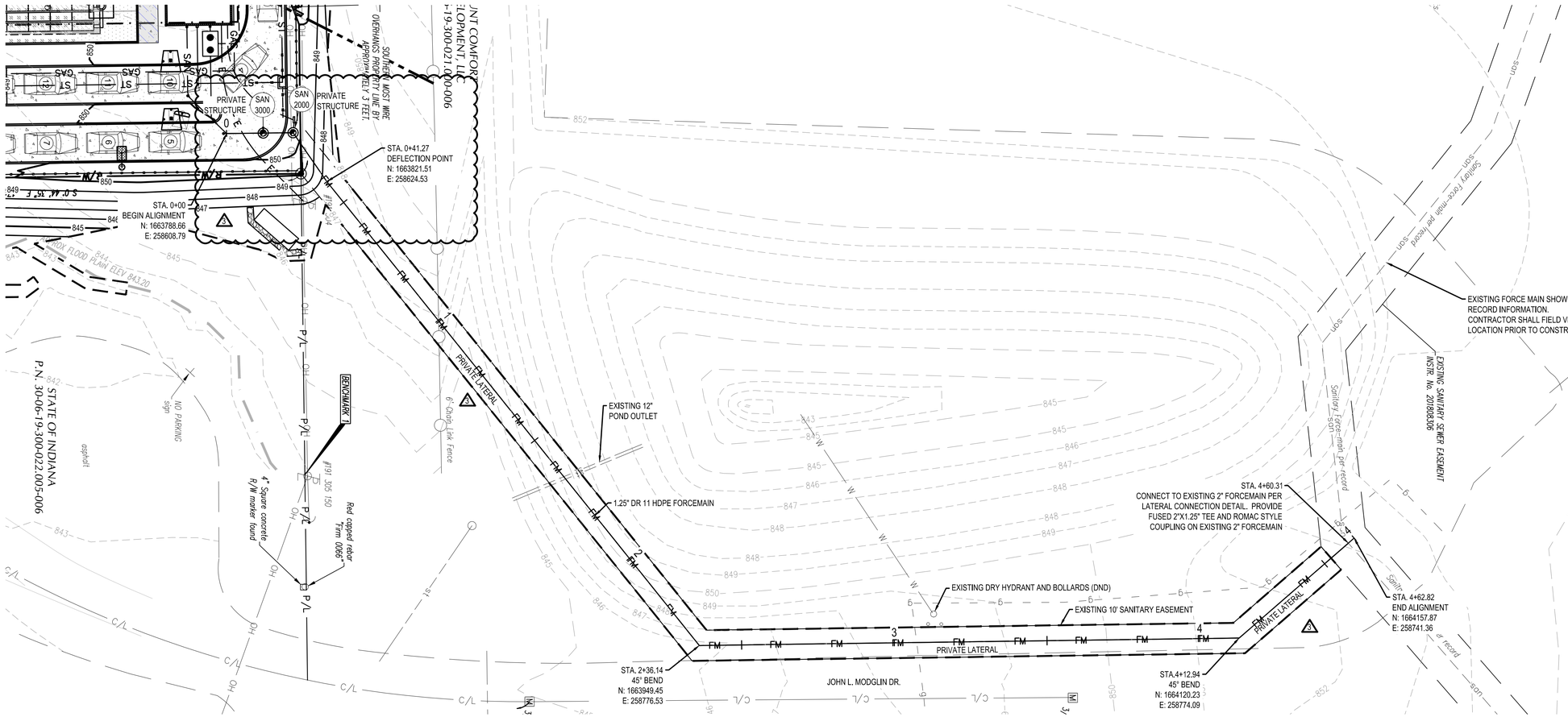

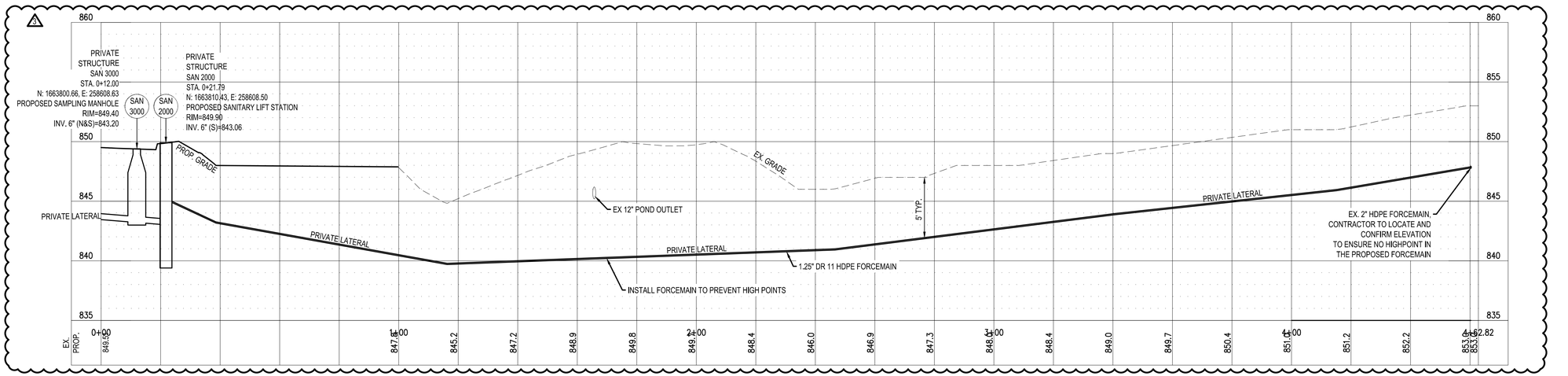

BENCHMARKS:

STATE PLAN GRID NORTH, NAD 83 (2011), INDIANA EAST ZONE.

ELEVATIONS ARE NAVD 88, GEOID 18, TIED BY GPS TO THE I.D.OT. VRS.

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N 1663935, E 258390
ELEVATION= 858.20

BENCHMARK #3 - NORTH ANCHOR BOLT IN SIGNAL POLE
N 1663593, E 258381
ELEVATION= 850.98

Indiana 811

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

	DATE	REMARKS
1	04/29/2022	ISSUED FOR BID

CONTRACT DATE: -
BUILDING TYPE: END20
PLAN VERSION: OCTOBER 2021
BRAND DESIGNER: DICKSON
SITE NUMBER: 315289
STORE NUMBER: 456917
PA/PM: JW/KB
DRAWN BY.: NDG
JOB NO.: 2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

ENDEAVOR 20
SANITARY FORCEMAIN PLAN & PROFILE

C-134

PLOT DATE:

Drawing Name: O:\2021\2021088-01 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\CStreets\2021088.41 FM P&P.dwg
April 29, 2022 - rigolletbowski

PART 1 – GENERAL

1.1 SCOPE OF WORK

A. CUSTOMER shall furnish and install a complete factory-built and tested grinder pump station consisting of a grinder pump suitably mounted in a basin constructed of high density polyethylene (HDPE) or fiberglass, electrical quick disconnect, pump removal system, shut-off valve, anti-siphon valve, and check valve assembled within the basins, electrical alarm/disconnect panel, and all necessary internal wiring and controls.

B. UTILITY shall operate and maintain the low-pressure sewer system collection line and appurtenances constructed.

1.2 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. The equipment specified shall be a product of a company experience in the design and manufacture of grinder pumps for specific use in low pressure sewage systems. The company shall submit detailed installation and user instructions for this product; submit evidence of an established service program including complete parts and service manuals and be responsible for maintaining a continuing inventory of grinder pump replacement parts.

1.3 SUBMITTALS

A. Submit shop drawings for review by the utility and customer showing the following:

1. Complete description in sufficient detail to permit an itemized comparison with the specifications.
2. Dimensions and installation requirements.
3. Descriptive information including manufacturers' catalog cuts and specifications for all components.
4. Electrical schematics and layouts.
5. Hydraulic calculations demonstrating compliance with the specified hydraulic characteristics.

PART 2 – PRODUCTS

2.1 GRINDER STATION

A. Grinder pumps shall be of semi-positive displacement pump design. Grinder pump stations shall be manufactured by Environment One Corporation, Zoller Pump Company or approved equal.

2.2 GENERAL GRINDER STATION REQUIREMENTS

A. PUMP:

1. The pump shall be capable of delivering 15 GPM against a rated total dynamic head of 0 feet and 9 GPM against a rated total dynamic head of 138 feet. The pump must also be capable of operating at negative total dynamic head without overloading the motor. Under no conditions shall in-line piping of valving be allowed to create a false apparent head. The material shall be suitable for domestic wastewater service. Its physical properties shall include high tear and abrasion resistance,

   grease resistance, water and detergent resistance, temperature stability, excellent aging properties, and outstanding wear resistance.

B. GRINDER:

1. The grinder shall be placed immediately below the pumping elements and shall be direct driven by a single, one-piece motor shaft. The grinder will be of the rotating type with a stationary hardened and ground stainless steel shredding ring spaced in close annular alignment with the driven impeller assembly, which shall carry two hardened type 400 series stainless steel cutter bars.
   a. This assembly shall be dynamically balanced and operate without objectionable noise or vibration over the entire range of recommended operating pressures. The grinder shall be constructed so as to eliminate clogging and jamming under all normal operating conditions including starting. Sufficient vortex action shall be created to scour the tank free of deposits or sludge banks which would impair the operation of the pump.
   b. The grinder shall be capable of reducing all components in normal domestic sewage, including a reasonable amount of "foreign objects," such as paper, wood, plastic, glass, rubber and the like, to finely-divided particles which will pass freely through the passages of the pump and the 1-1/4" diameter stainless steel discharge piping.

C. ELECTRIC MOTOR:

1. As a maximum, the motor shall be a 1 HP, 1725 RPM, 208 Volt 60 Hertz, 1 Phase, capacitor start, ball bearing, air-cooled induction type with a low starting current not to exceed 30 amperes and high starting torque of 8.4 foot pounds. Inherent protection against running overloads or locked rotor conditions for the pump motor shall be provided by the use of an automatic-reset, integral thermal overload protector incorporated into the motor. This motor protector combination shall have been specifically investigated and listed by Underwriters Laboratories, Inc., for the application. Installation shall include a buck boost transformer per electrical drawings.

D. MECHANICAL SEAL:

1. The pump/core shall be provided with a mechanical shaft seal to prevent leakage between the motor and pump. The seal shall have a stationary ceramic seat and carbon rotating surface with faces precision lapped and held in position by a stainless steel spring.

E. TANK AND INTEGRAL ACCESSWAY:

1. The tank shall be made of fiberglass or high density polyethylene.
   a. Corrugated sections are to be made of a double wall construction with the internal wall being generally smooth to promote scouring. Corrugations of the outside wall are to be of a minimum amplitude of 1/2" to provide necessary transverse stiffness. Any incidental sections of a single wall construction are to be a minimum .250 inch thick. All seams created during tank construction are to be thermally welded and factory tested for leak tightness. Tank wall and bottom must withstand the pressure exerted by saturated soil loading at maximum burial depth. All station components must function normally when exposed to 150 percent of the maximum external soil and hydrostatic pressure.
   b. The grinder pump station tank shall have an optimum capacity of 70 gallons.
   c. The accessway shall be an integral extension of the wet well assembly and include a lockable cover assembly mounting and watertight capability. Accessway design and construction shall enable field adjustment of station height in increments of 4" or less without the use of any adhesives or sealants requiring cure time before installation can be completed.
   d. The station shall have all necessary penetrations molded in and factory sealed. To ensure a leak free installation no field penetrations shall be acceptable.
   e. All discharge piping shall be constructed of 304 Series Stainless Steel and terminate outside the accessway bulkhead with a stainless steel, 1 1/4 inch female NPT fitting. The discharge piping shall include a stainless steel ball valve rated for 200 psi; PVC ball valves will not be accepted. The bulkhead penetration shall be factory installed and warranted by the manufacturer to be watertight.
   f. The accessway shall include a single NEMA 6P electrical quick disconnect for all power and control functions, factory installed with accessway penetrations warranted by the manufacturer to be watertight. Plug-type connections of the power cable onto the pump housing will not be acceptable due to the potential for leaks and electrical shorts. The accessway shall also include a 2-inch PVC vent to prevent sewage gases from accumulating in the tank.

F. CHECK VALVE:

1. The pump discharge shall be equipped with a factory installed, gravity operated, flapper-type integral check valve built into the stainless steel discharge piping. The check valve will provide a full-ported passageway when open, and shall introduce a friction loss of less than 6 inches of water at maximum rated flow. Moving parts will be made of a 300 series stainless steel and fabric reinforced synthetic elastomer to ensure corrosion resistance, dimensional stability, and fatigue strength. A nonmetallic hinge shall be an integral part of the flapper assembly providing a maximum degree of freedom to assure seating even at a very low back- pressure.
   a. Each grinder pump installation shall also include one separate curb stop with check valve in the 1 1/4" service lateral between the grinder pump station and the sewer main. Said assembly shall be the responsibility of the Utility to install and maintain.

G. ANTI-SIPHON VALVE:

1. The pump discharge shall be equipped with a factory-installed, gravity-operated, flapper-type integral anti-siphon valve built into the stainless steel discharge piping. Moving parts will be made of 300 series stainless steel and fabric- reinforced synthetic elastomer to ensure corrosion resistance, dimensional stability, and fatigue strength. A nonmetallic hinge shall be an integral part of the flapper assembly, providing a maximum degree of freedom to ensure proper operation even at a very low pressure. The valve body shall be injection-molded from a glass-filled thermoplastic resin. Holes or ports in the discharge piping are not acceptable anti-siphon devices, due to their tendency to clog from the solids in the slurry being pumped.

H. CONTROLS:

1. All necessary controls, including motor and level controls, shall be located in the top housing of the core unit. The top housing will be attached with stainless steel fasteners.
   a. Non-fouling wastewater level controls for controlling pump operation shall be accomplished by monitoring the pressure changes in an integral air column connected to a pressure switch. The level detection device shall have no moving parts in direct contact with the wastewater. High-level sensing will be accomplished in the manner detailed above by a separate air-bell sensor and pressure switch of the same type. Closure of the high-level sensing device will energize an alarm circuit as well as a redundant pump-on circuit. For increased reliability, pump ON/OFF and High-level alarm functions shall not be controlled by the same switch. Float switches of any kind, including float trees, will not be accepted due to the periodic need to maintain (rinsing, cleaning) such devices.
   b. To assure reliable operation of the pressure switches, each core shall be equipped with a breather assembly, complete with a suitable means to prevent accidental entry of water into the motor compartment.

I. ALARM PANEL:

1. Each grinder pump station shall include a NEMA 4X, UL listed ALARM PANEL suitable for wall mounting. The NEMA 4X enclosure shall be manufactured of thermoplastic to assure corrosion resistance. The enclosure shall include a hinged, lockable cover, padlock, and secured dead front.
   a. The Alarm Panel shall include the following features: audio & visual alarm, push-to-run switch, and high level (redundant) pump starting control. The alarm sequence is to be as follows:
      1) When liquid level in the sewage wet-well rises above the alarm level, visual and audio alarms will be activated. The contacts on the alarm pressure switch will close. The redundant pump starting system will be energized.
      2) The audio alarm may be silenced by means of the externally mounted, push- to-silence button.
      3) Visual alarm remains illuminated until the sewage level in the wet-well drops below the "off" setting of the alarm pressure switch.
      4) The entire Alarm Panel as manufactured, shall be listed by Underwriters Laboratories, Inc.

J. SERVICEABILITY:

1. The grinder pump core unit shall have two lifting hooks complete with nylon lift-out harness connected to its top housing to facilitate easy core removal when necessary. All mechanical and electrical connections must provide easy disconnect capability for core unit removal and installation. A push-to-run feature will be provided for field trouble shooting. All motor control components shall be mounted on a readily replaceable bracket for ease of field service.

K. OSHA CONFINED SPACE:

1. All maintenance tasks for the grinder pump station must be possible without entry into the grinder pump station (as per OSHA 1910.146, permit-required confined spaces). "Entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space."

L. SAFETY:

1. The Grinder Pump shall be free from electrical and fire hazards as required in a residential environment. As evidence of compliance with this requirement, the completely assembled and wired Grinder Pump Station shall be listed by Underwriters Laboratories, Inc., to be safe and appropriate for the intended use. UL listing of components of the station, or third-party testing to UL standard will not be acceptable.
2. The grinder pump shall meet accepted standards for plumbing equipment for use in or near residences, shall be free from noise, odor, or health hazards, and shall have been tested by an independent laboratory to certify its capability to perform as specified in either individual or low pressure sewer system applications. As evidence of compliance with this requirement, the grinder pump shall bear the seal of NSF International. Third-party testing to NSF standard will not be acceptable.

2.3 LOW PRESSURE SEWER SYSTEM PIPING

A. Low Pressure Sewer System (LPSS) shall be constructed using High Density Polyethylene pipe (HDPE). No PVC low pressure sewer main shall be permitted.

B. All pressure sewer lateral pipe and fittings shall be not less than 1-1/4 inch inner diameter HDPE, brass or stainless steel.

C. Refer to Aqua Sanitary Sewer Construction Standards Part 2.3.E for HDPE pressure pipe specifications.

D. Refer to Aqua Sanitary Sewer Construction Standards Part 4.1.C.7 for HDPE pressure pipe testing.

E. Pipe and Fittings

1. Shall be either DR-9 or DR-11
2. All pipe shall have fused joints
3. Electrofusion fittings or butt fusion connections are preferred
4. Polypropylene (PP) Compression Fittings for Polyethylene (PE) pressure piping applications are permitted
5. Brass fittings (pre-approval by Aqua required)
6. Stainless Steel (pre-approval by Aqua required)
7. No clamp on style saddles are permitted on PE pipe. Electrofusion saddles are required for all lateral connections.

F. Joints:

1. All pipe joints shall be fused
2. Brass (pre-approval by Aqua required)
3. Stainless Steel (pre-approval by Aqua required)
4. Compress style couplings will be supplied with stainless steel inserts or approved equivalent where required.

2.4 LOW PRESSURE SEWER SYSTEM COMPONENTS

A. Isolation Valve

1. Valve shall be manufactured of high density polyethylene (PE). Valve shall be a ball valve design with a full bore opening. The valve shall be suitable for operation in systems with pressure up to 200 psig. The valve operation shall be ¼ turn (clockwise open) using a 2" square drive. Valve shall be suitable for installation

   by butt fusion, electrofusion or mechanical jointing. Valve shall meet requirements of NSF/ANSI 61, AWWA C901/906, ASTM-D2513, ASTM D3261 and ASME16.40.

B. Fitting and Connections

1. PE fittings shall be of molded high density polyethylene (PE) design with no inner fusion bead, fully pressure rated up to 200 psig and a wall thickness that remains consistent throughout fitting. All fittings shall be manufactured from the highest quality Virgin black high density resin designed for use in wastewater applications. Joints shall be made using either butt fusion, electrofusion or use of an approved transition fitting. Fittings shall meet requirements of ASTM –D2513 AWWA C- 901/C-906 and manufactured with resin having a material designation code of PE 3408, PE 3608, PE 4710, and PE 100.
2. Connections may be made using compression fitting connections including a Buna-N O-ring for sealing to the outside diameter of the pipe. Polypropylene (PP) compression fittings for PE pressure piping applications shall be of injection molding design using PP material. All fittings shall be designed for use in wastewater applications. A split-collet locking device shall be integrated into all pipe connection fittings to securely restrain the pipe from hydraulic pressure and external loading caused by shifting and settling. Fitting shall be full port and with a pressure rated up to 200 psig. Fittings shall meet requirements of AWWA C- 901/C-906.

C. Curb Stop Check Valve Assembly

1. The pressure lateral shall have a ball valve curb stop and 1-1/4 inch redundant check valve installed at the property line or permanent easement boundary
2. A curb box with arch pattern base shall be installed over the curb stop assembly.
3. Curb Stop/Check Valve Assembly: The ball valve actuator shall include position stop features at the fully opened and closed positions and shall be of stainless steel material. The curb stop/check valve assembly shall be designed to withstand a working pressure of 235 psi.
4. The stainless steel check valve shall be integral with the curb stop valve. The check valve will provide a full-ported 1-1/4" passageway and shall introduce minimal friction loss at maximum rated flow. The flapper hinge design shall provide a maximum degree of freedom and ensure seating at low back pressure
5. Curb Boxes shall be constructed of cast iron or ABS, conforming to ASTM-D 1788. All components shall be heavily coated with asphalt paint to assure durability in the ground. Curb boxes shall provide 12" of height adjustment downward (shorter) from their extended height. The curb box shall say SEWER on its lid.
6. The valve shall operate through a compound lever system that will seal both the pressure orifice and the air and vacuum orifice simultaneously.

D. Flushing Station

1. Flushing stations shall be constructed using a 20-inch minimum diameter HDPE corrugated meter pit style. Frames and covers shall be cast iron and labeled "SEWER" and be the "drop-in" type. Locking covers are not permitted. Flushing stations shall be installed within the right-of-way or easement line. Each flushing station shall be furnished with an isolation valve, 3-inch male camlock coupler with Female NPT threads and camlock dust plug. Flushing stations shall be installed vertically and shall be perfectly centered over the 3-inch camlock.

   Flushing stations shall never be installed in any sidewalk, or in a driveway in the area where the public sidewalk crosses the driveway. Flushing stations shall be installed such that the top of the box is flush with the dirt surface. Flushing stations shall never pose a trip hazard or pose a potential threat of damage to lawn mowers. The cast iron frame shall be centered on the box.

PART 3 – EXECUTION

3.1 FACTORY TEST

A. Each grinder pump shall be submerged and operated for 5 minutes (minimum). Included in this procedure will be the testing of all ancillary components such as, the anti-siphon valve, check valve, discharge assembly and each unit's dedicated level controls and motor controls. All factory tests shall incorporate each of the above listed items. Actual appurtenances and controls which will be installed in the field, shall be particular to the tested pump only. A common set of appurtenances and controls for all pumps will not be acceptable. Certified test results shall be available upon request showing the operation of each grinder pump at two (2) different points on its curve, with the maximum pressure no less than 60 psi.

B. All completed stations shall be factory leak tested to assure the integrity of all joints, seams and penetrations. All necessary penetrations such as inlets, discharge fittings and cable connectors shall be included in this test along with their respective sealing means (grommets, gaskets etc.).

3.2 INSTALLATION

A. CONTRACTOR shall install grinder pump units in accordance with the MANUFACTURER'S Drawings, shop drawings and instructions.

3.3 START-UP AND FIELD TESTING

A. The MANUFACTURER shall provide the services of qualified factory trained technician(s) who shall inspect the placement and wiring of each station, perform field tests, and instruct the personnel in the operation and maintenance of the equipment before the stations are accepted by the OWNER (Customer).

B. All equipment and materials necessary to perform testing shall be the responsibility of the installing CONTRACTOR. This will include, as a minimum, a portable generator (if temporary power is required) and water in each basin.

C. The services of a trained factory-authorized technician shall be provided.

D. Upon completion of the start-up and testing, the CONTRACTOR/OWNER (customer) shall submit to the UTILITY the start-up form describing the results of the tests performed for each Grinder Pump Station.

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

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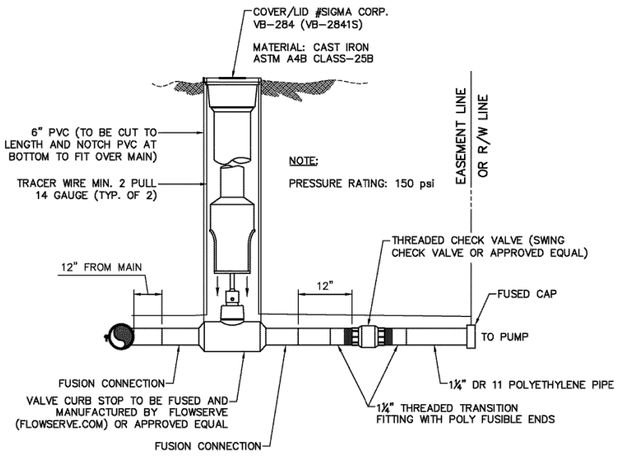
TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

ENDEAVOR 20
SANITARY PUMP STATION NOTES

C-135

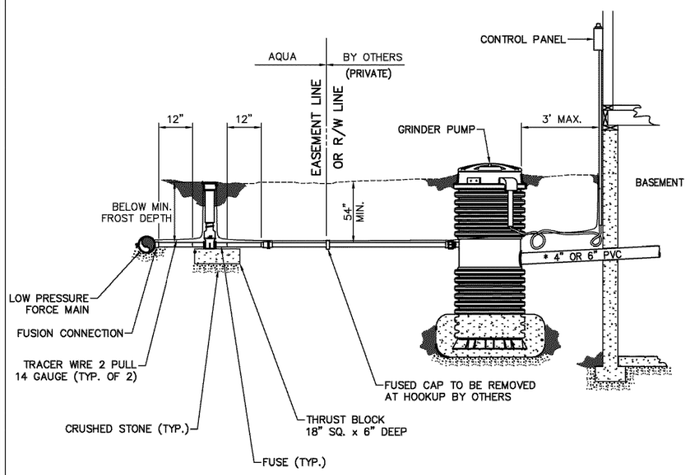
PLOT DATE:



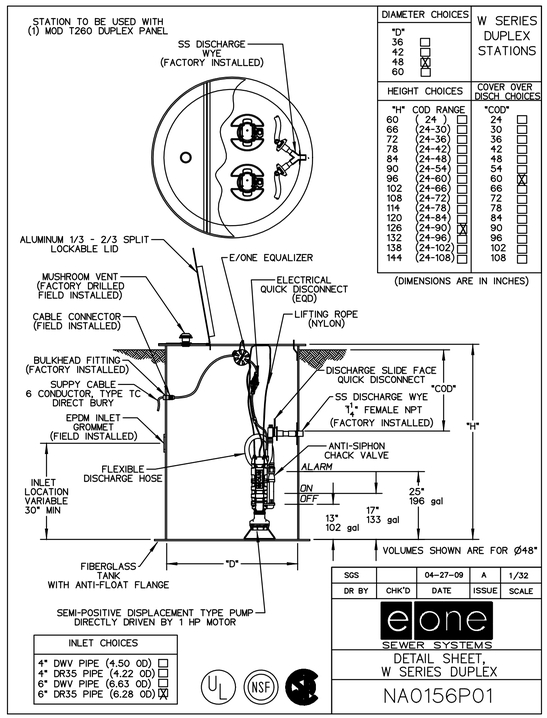
PLASTIC LATERAL ASSEMBLY
(1-1/4" DR 11 HDPE PIPE ARCH PATTERN)
NOT TO SCALE

NOTES:

1. ALL LATERALS TO BE DIRECTIONAL DRILLED ACROSS STREET.
2. ALL CONNECTIONS SHALL BE ELECTRO-FUSION OR THREADED TRANSITION FITTING. COMPRESSION FITTINGS ARE NOT ACCEPTABLE.
* IF GREATER THAN 3', CLEANOUT MUST BE IMPLEMENTED AND 6" PIPE MUST BE USED.



TYPICAL LATERAL INSTALLATION
NOT TO SCALE



DIAMETER CHOICES	
"D"	
36	☐
42	☐
48	☒
60	☐

HEIGHT CHOICES			COVER OVER DISCH CHOICES
"H"	COD RANGE		"COD"
60	(24)	☐	24 ☐
66	(24-30)	☐	30 ☐
72	(24-36)	☐	36 ☐
78	(24-42)	☐	42 ☐
84	(24-48)	☐	48 ☐
90	(24-54)	☐	54 ☐
96	(24-60)	☐	60 ☒
102	(24-66)	☐	66 ☐
108	(24-72)	☐	72 ☐
114	(24-78)	☐	78 ☐
120	(24-84)	☐	84 ☐
126	(24-90)	☒	90 ☐
132	(24-96)	☐	96 ☐
138	(24-102)	☐	102 ☐
144	(24-108)	☐	108 ☐

(DIMENSIONS ARE IN INCHES)

W SERIES DUPLEX STATIONS

INLET CHOICES
4" DWV PIPE (4.50 OD) ☐
4" DR35 PIPE (4.22 OD) ☐
6" DWV PIPE (6.63 OD) ☐
6" DR35 PIPE (6.28 OD) ☒

SGS		04-27-09	A	1/32
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

DETAIL SHEET, W SERIES DUPLEX

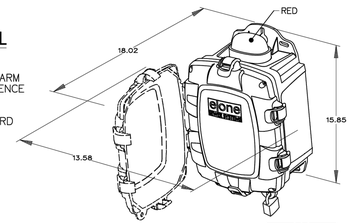
NA0156P01

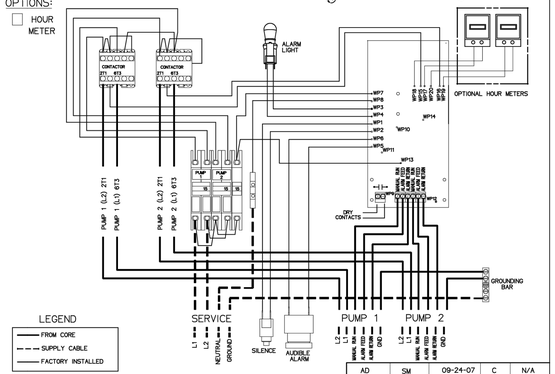
DUPLEX ALTERNATING PANEL T-260

EXTERNAL VISUAL & AUDIBLE ALARM
EXTERNAL LATCHING MANUAL SILENCE
MANUAL RUN
PUMP RUN INDICATORS
CONFORMAL COATED CIRCUIT BOARD
PADLOCK
ALARM DRY CONTACT
NEMA 4X ENCLOSURE ASSEMBLY

CORROSION PROOF THERMOPLASTIC POLYESTER APPROVED BY UL FOR ELECTRICAL CONTROL ENCLOSURE

OPTIONS:
☐ HOUR METER





LEGEND
— FROM CORE
- - - SUPPLY CABLE
——— FACTORY INSTALLED

PIN	FUNCTION	2000S	EXTREME
1	MANUAL RUN	RED	BROWN
2	L1	BLACK	RED
3	L-2	WHITE	BLACK
4	GND	GREEN	GRN/YEL
5	ALARM FEED	ORANGE	YELLOW
6	ALARM RETURN	BLUE	BLUE

CONTROL CABLE:
TYPE TC: DIRECT BURIAL, 12AWG, SIX CONDUCTOR

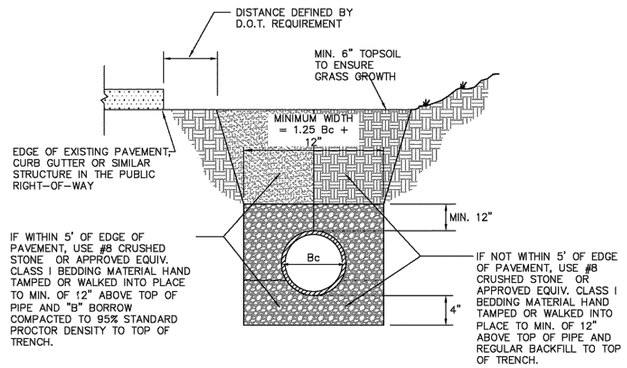
CE UPC® ANSI A112.3.4
LR26268 LISTED 508D

AD	SM	09-24-07	C	N/A
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

DUPLEX T-260 ALTERNATING PANEL, 240V 60Hz DOUBLE POLE POWER WIRED LEVEL CONTROL

LM000329 P1



LEGEND

Bc= OUTSIDE DIAMETER
D= INSIDE DIAMETER
d= DEPTH OF BEDDING MATERIAL BELOW PIPE

NOTES:

1. ALL INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS.
2. A MIN. 9" OF CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE.

PLASTIC PIPE (PVC & HDPE) BEDDING DETAIL
NOT TO SCALE

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

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TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

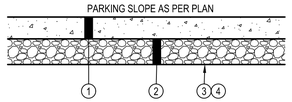
TACO BELL

ENDEAVOR 20
SANITARY PUMP STATION DETAILS

C-136

PLOT DATE:

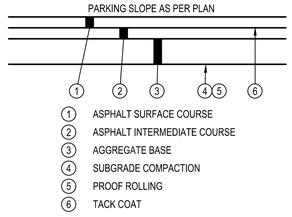
Drawing Name: O:\2021\2021088\41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\CSheets\2021088.41 Pump Station Notes Details.dwg
April 28, 2022 - mkinder



NOTES:

1. APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT. APPLY CONCRETE SEALANT CONFORMING TO ASTM D6690 WHERE PROPOSED CONCRETE MEETS EXISTING CONCRETE.
2. SEE SITE PLAN FOR PAVEMENT THICKNESSES AND REINFORCEMENT.
3. CONCRETE PAVEMENT SHALL HAVE CONTROL JOINTS PER CONCRETE NOTES SHEET C-001.

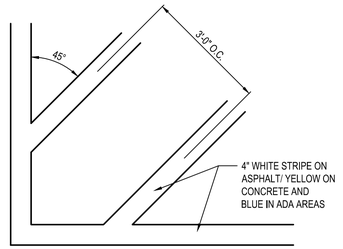
A1 TYPICAL CONCRETE PAVEMENT SECTION
N.T.S.



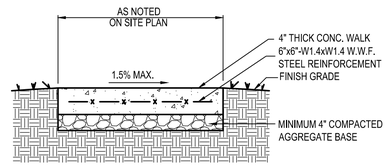
NOTES:

1. APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT AND WHERE PROPOSED ASPHALT MEETS EXISTING ASPHALT INCLUDING SAW CUT JOINTS.
2. SEE SITE PLAN FOR PAVEMENT THICKNESSES.
3. NO RAP SHALL BE PERMITTED IN ASPHALT SURFACE COURSE.

A2 TYPICAL ASPHALT PAVEMENT SECTION
N.T.S.



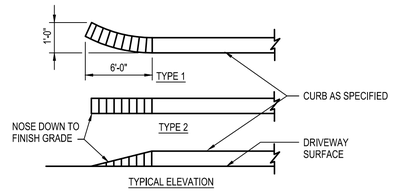
A3 TRANSVERSE STRIPING
N.T.S.



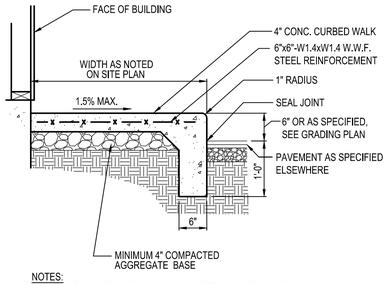
NOTES:

1. CONTRACTOR SHALL INSTALL 1/2" PRE-FORMED EXPANSION JOINT MATERIAL AND JOINT SEALER WHERE PAVEMENT ABUTS BUILDING.
2. FIBER MAY BE USED IN PLACE OF STEEL REINFORCEMENT, SEE CONCRETE NOTES SHEET C-001.

A4 CONCRETE WALK
N.T.S.



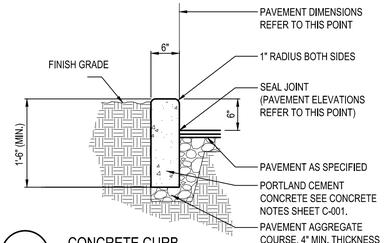
A5 CONCRETE CURB TAPER
N.T.S.



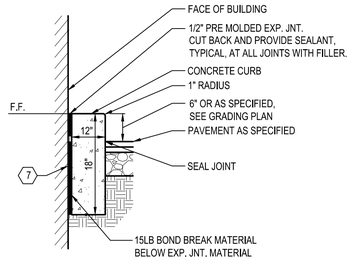
NOTES:

1. CONTRACTOR SHALL INSTALL 1/2" PRE-FORMED EXPANSION JOINT MATERIAL AND JOINT SEALER WHERE PAVEMENT ABUTS BUILDING.
2. FIBER MAY BE USED IN PLACE OF STEEL REINFORCEMENT, SEE CONCRETE NOTES SHEET C-001.

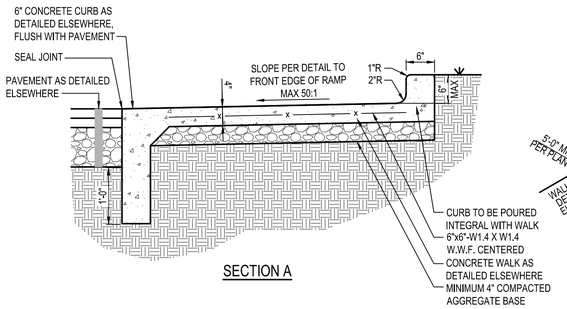
B1 CONCRETE CURBED WALK
N.T.S.



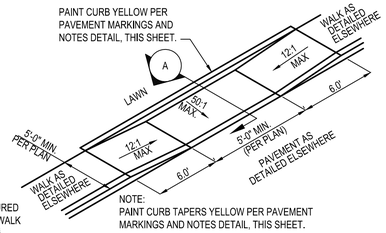
B2 CONCRETE CURB
N.T.S.



B3 CONCRETE CURB AT DRIVE THRU
N.T.S.



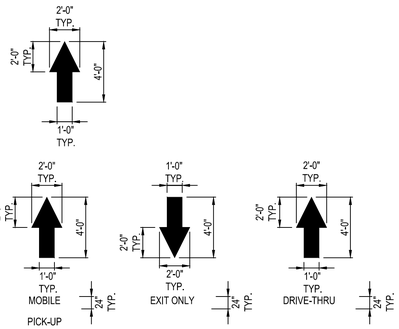
SECTION A



NOTE:
PAINT CURB TAPERS YELLOW PER PAVEMENT MARKINGS AND NOTES DETAIL, THIS SHEET.

PARALLEL RAMP

B4 ADA ACCESSIBLE RAMP
N.T.S.



NOTES:

ALL PAVEMENT MARKINGS TO BE WHITE PAVEMENT PAINT, UNLESS STATED OTHERWISE. ALL PAVEMENT MARKINGS WITHIN ADA AREAS SHALL BE PAINTED BLUE EXCEPT FOR COLORS DEFINED ON THE ADA PAVEMENT SYMBOL.

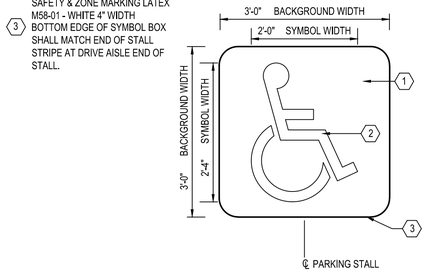
MARKING (STRIPING) PAINT FOR PARKING SPACES, TRAFFIC ARROWS, ADA PARKING AND SYMBOLS, ETC., PER LOCAL REQUIREMENTS AND AS FOLLOWS:

PAVEMENT MARKINGS SHALL BE PER INDOT SECTION 921.

PROVIDE A NON-SLIP AGGREGATE ADDITIVE TO MARKING PAINT USED AT ADA ACCESS RAMPS.

APPLY 2 COATS WITH STRAIGHT EDGES, YELLOW ON CONCRETE/WHITE ON ASPHALT EXCEPT WHEN MATCHING ADJACENT OR EXISTING COLOR WHEN THE PAVING IS AN EXPANSION OR SEGMENT OF A LARGER LOT. CONTRACTOR SHALL APPLY THE SECOND COAT NO SOONER THAN 30 DAYS OF APPLYING THE FIRST COAT.

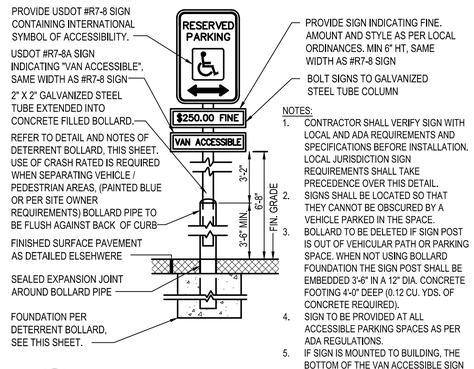
C1 PAVEMENT MARKINGS & NOTES
N.T.S.



KEYED NOTES

1. PAINT BACKGROUND BENJAMIN MOORE M58 SAFETY & ZONE MARKING LATEX M58-30 - BLUE
2. PAINT SYMBOL BENJAMIN MOORE M58 SAFETY & ZONE MARKING LATEX M58-01 - WHITE 4" WIDTH
3. BOTTOM EDGE OF SYMBOL BOX SHALL MATCH END OF STALL STRIPE AT DRIVE AISLE END OF STALL.

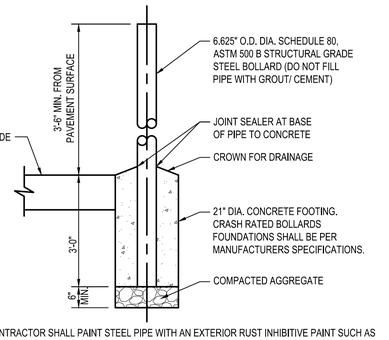
C2 ADA PAVEMENT SYMBOL
N.T.S.



NOTES:

1. CONTRACTOR SHALL VERIFY SIGN WITH LOCAL AND ADA REQUIREMENTS AND SPECIFICATIONS BEFORE INSTALLATION. LOCAL JURISDICTION SIGN REQUIREMENTS SHALL TAKE PRECEDENCE OVER THIS DETAIL.
2. SIGNS SHALL BE LOCATED SO THAT THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.
3. BOLLARD TO BE DELETED IF SIGN POST IS OUT OF VEHICULAR PATH OR PARKING SPACE. WHEN NOT USING BOLLARD FOUNDATION THE SIGN POST SHALL BE EMBEDDED 3'-6" IN A 12" DIA. CONCRETE FOOTING 4'-0" DEEP (0.12 CU. YDS. OF CONCRETE REQUIRED).
4. SIGN TO BE PROVIDED AT ALL ACCESSIBLE PARKING SPACES AS PER ADA REGULATIONS.
5. IF SIGN IS MOUNTED TO BUILDING, THE BOTTOM OF THE VAN ACCESSIBLE SIGN SHALL BE 5'-0" FROM THE FINISH GRADE.

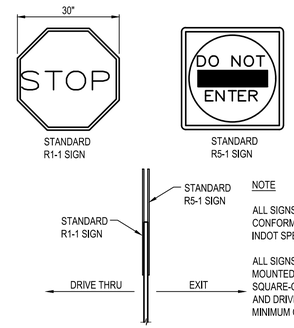
C3 HANDICAPPED PARKING SIGN
N.T.S.



NOTE:

1. CONTRACTOR SHALL PAINT STEEL PIPE WITH AN EXTERIOR RUST INHIBITIVE PAINT SUCH AS SHERWIN-WILLIAMS MACROPOXY 646 FAST CURE (B58W610), IN ACCORDANCE WITH MANUFACTURERS PREPARATION REQUIREMENTS AND PROVIDE A YELLOW (BLUE FOR ADA) BOLLARD COVER. COVER SUCH AS A STREET SMART SOLUTIONS POST GUARD, DOME-TOP COVER BY US-POSTMAN.COM OR APPROVED EQUAL.
2. WHERE UTILIZED FOR PEDESTRIAN SEPARATION/ PROTECTION CONTRACTOR SHALL INSTALL A CRASH RATED BOLLARD AND FOOTING PER ASTM F3016/3016M. TYPICAL SPACING OF 5'-6" CENTER TO CENTER WITH AN ANTICIPATED S20 RATING FOR BIDDING PURPOSES - FINAL SPACING AND RATING SHALL BE IN ACCORDANCE WITH ASTM AND THE MANUFACTURERS REQUIREMENTS FOR PROPOSED LOCATIONS AND POSSIBLE VEHICLE APPROACH SPEED. UTILIZATION OF CRASHCORE BOLLARD BY MCCUE.COM OR APPROVED EQUAL SHALL BE IN ACCORDANCE WITH MANUFACTURE SPECIFICATIONS. CONTRACTOR SHALL BE OR BECOME CERTIFIED INSTALLERS, CONTACT MANUFACTURER(S) FOR DETAILS.

C4 DETERRENT BOLLARD
N.T.S.



NOTE

ALL SIGNS NOTED SHALL CONFORM TO THE LATEST INDOT SPECIFICATIONS.

ALL SIGNS SHALL BE MOUNTED TO STANDARD SQUARE-CHANNEL POST AND DRIVEN TO A MINIMUM OF 42" DEPTH

C5 DO NOT ENTER & STOP SIGN
N.T.S.

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

	DATE	REMARKS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE: -
BUILDING TYPE: END20
PLAN VERSION: OCTOBER 2021
BRAND DESIGNER: DICKSON
SITE NUMBER: 315289
STORE NUMBER: 456917
PA/PM: JW/KB
DRAWN BY.: NDG
JOB NO.: 2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

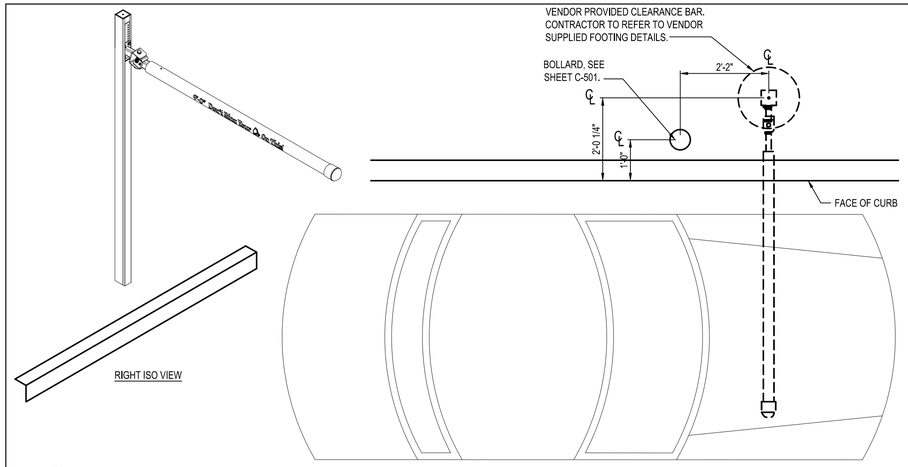
ENDEAVOR 20

DETAILS

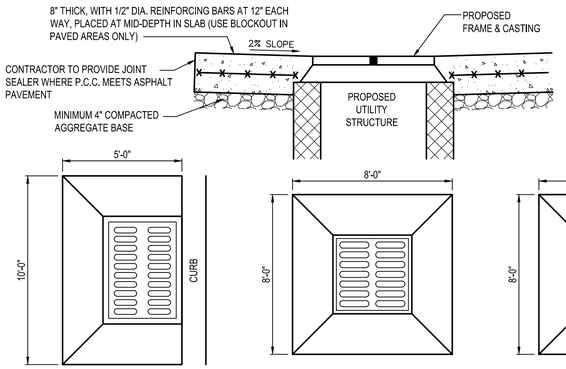
C-501

PLOT DATE:

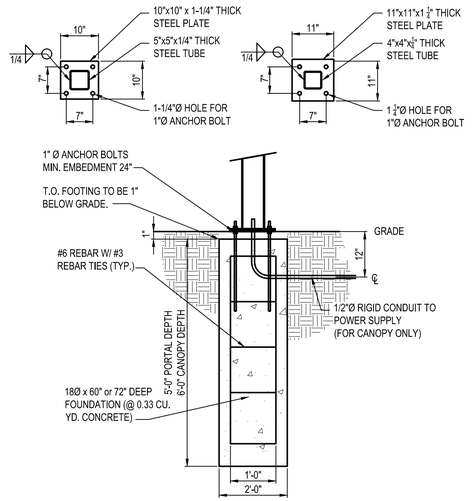
Drawing Name: O:\2021\2021088\41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\CSheets\0 - 2021088.41 TS Notes Details.dwg
April 28, 2022 - mkinder



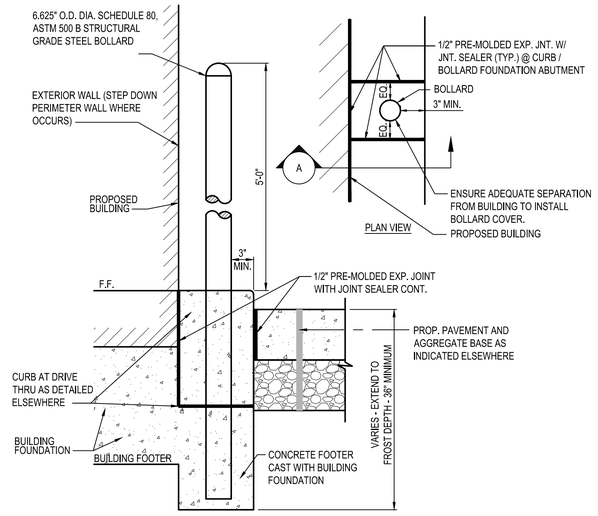
A1 PORTAL PLACEMENT DETAIL
N.T.S.



B1 CONCRETE COLLAR
N.T.S.



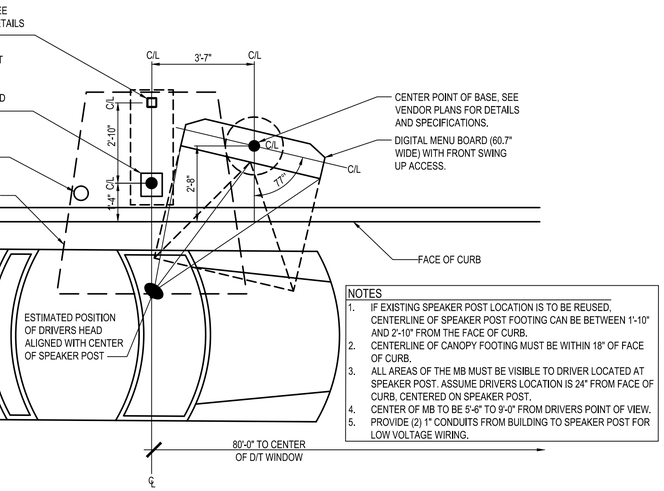
B2 EVOLUTION FOUNDATION DETAIL
N.T.S.



SECTION A

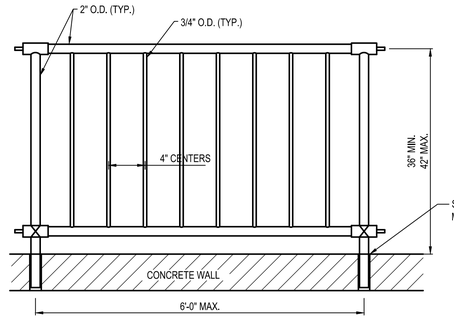
NOTE:
1. CONTRACTOR SHALL PAINT STEEL PIPE WITH AN EXTERIOR RUST INHIBITIVE PAINT SUCH AS SHERWIN-WILLIAMS MACROPOXY 646 FAST CURE (B58W610), IN ACCORDANCE WITH MANUFACTURERS PREPARATION REQUIREMENTS AND PROVIDE A YELLOW BOLLARD COVER. COVER SUCH AS A STREET SMART SOLUTIONS POST GUARD, DOME-TOP COVER BY US-POSTMAN.COM OR APPROVED EQUAL.
2. WHERE UTILIZED FOR PEDESTRIAN SEPARATION/ PROTECTION CONTRACTOR SHALL INSTALL A CRASH RATED BOLLARD AND FOOTING PER ASTM F3016/3016M. TYPICAL SPACING OF 5'-6" CENTER TO CENTER WITH AN ANTICIPATED S20 RATING FOR BIDDING PURPOSES - FINAL SPACING AND RATING SHALL BE IN ACCORDANCE WITH ASTM AND THE MANUFACTURERS REQUIREMENTS FOR PROPOSED LOCATIONS AND POSSIBLE VEHICLE APPROACH SPEED. UTILIZATION OF CRASHCORE BOLLARD BY MCCUE.COM OR APPROVED EQUAL SHALL BE IN ACCORDANCE WITH MANUFACTURE SPECIFICATIONS. CONTRACTOR SHALL BE OR BECOME CERTIFIED INSTALLERS. CONTACT MANUFACTURER(S) FOR DETAILS.

B4 DETERRENT BOLLARD IN CURB
N.T.S.



NOTES
1. IF EXISTING SPEAKER POST LOCATION IS TO BE REUSED, CENTERLINE OF SPEAKER POST FOOTING CAN BE BETWEEN 1'-10" AND 2'-10" FROM THE FACE OF CURB.
2. CENTERLINE OF CANOPY FOOTING MUST BE WITHIN 18" OF FACE OF CURB.
3. ALL AREAS OF THE MB MUST BE VISIBLE TO DRIVER LOCATED AT SPEAKER POST. ASSUME DRIVERS LOCATION IS 24" FROM FACE OF CURB, CENTERED ON SPEAKER POST.
4. CENTER OF MB TO BE 5'-6" TO 9'-0" FROM DRIVERS POINT OF VIEW.
5. PROVIDE (2) 1" CONDUITS FROM BUILDING TO SPEAKER POST FOR LOW VOLTAGE WIRING.

C1 ENLARGED MENU BOARD DETAIL @ STRAIGHT CURB
N.T.S.

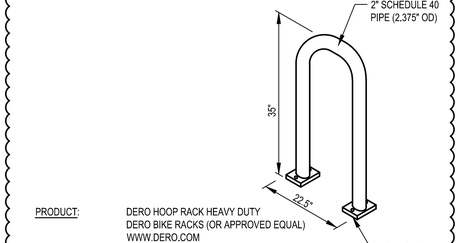


PROFILE

PIPE RAILING NOTES

1. RAILING SHALL BE CV PIPE RAIL OR APPROVED EQUAL. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
2. SHOP DRAWINGS OF RAIL SHALL BE SUBMITTED FOR APPROVAL SHOWING COMPLETE DIMENSIONS AND DETAILS OF FABRICATION INCLUDING AN ERECTION DIAGRAM. MATERIALS BEING USED SHALL BE SPECIFIED IN THE SHOP DRAWINGS.
3. ALL ALUMINUM PARTS SHALL BE GIVEN CLEAR ANODIC COATING AT LEAST 0.0006 INCHES THICK AND HOT WATER SEALED AND SHALL HAVE A UNIFORM FINISH.
4. PIPE RAILING AND PIPE SPLICES MAY BE HEATED TO NOT MORE THAN 400° FOR A PERIOD NOT TO EXCEED 30 MINUTES TO FACILITATE FORMING OR BENDING.
5. CUTTING SHALL BE DONE BY SAWING OR MILLING AND ALL CUTS SHALL BE TRUE AND SMOOTH. FLAME CUTTING WILL NOT BE PERMITTED.
6. PIPE RAILING, PIPE BALUSTERS AND PIPE RAILING SPLICES SHALL BE ADEQUATELY WRAPPED TO ENSURE SURFACE PROTECTION DURING HANDLING AND TRANSPORTATION TO THE JOB SITE.
7. WELDING OF ALUMINUM SHALL BE IN ACCORDANCE WITH SECTION 5 OF THE LATEST AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.
8. ALLOW FOR EXPANSION AT APPROXIMATELY EVERY FOURTH POST.
9. RAILS, POSTS AND FORMED ELBOWS SHALL BE A.S.T.M. B-241 OR B-429. ALLOW 6063-T6 SCHEDULE REINFORCING SLEEVES SHALL BE DRAWN ALUMINUM TUBING 6063-T832.
10. RAILINGS SHALL RESIST A CONCENTRATED LOAD OF 200# IN ANY DIRECTION & A 50# LF LOAD IN ANY DIRECTION. (NOT CONCURRENTLY)

C2 PEDESTRIAN GUARD RAIL
N.T.S.



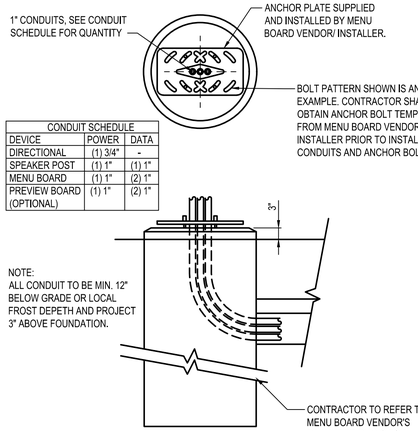
PRODUCT: DERO HOOP RACK HEAVY DUTY
DERO BIKE RACKS (OR APPROVED EQUAL)
WWW.DERO.COM
1-800-298-4915

CAPACITY: 2 BIKES

MATERIALS: 2" SCHEDULE 40 PIPE (2.375" OD)

CONTRACTOR SHALL COORDINATE FINISH AND PREFERRED INSTALLATION METHOD WITH CONSTRUCTION MANAGER.

C3 BIKE RACK DETAIL
N.T.S.



CONDUIT SCHEDULE		
DEVICE	POWER	DATA
DIRECTIONAL	(1) 3/4"	-
SPEAKER POST	(1) 1"	(1) 1"
MENU BOARD	(1) 1"	(2) 1"
PREVIEW BOARD (OPTIONAL)	(1) 1"	(2) 1"

C4 FOUNDATION CONDUIT DETAIL
N.T.S.

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

	DATE	REMARKS
2	04/04/2022	REVISION #2 - COUNTY COMMENTS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE: -
BUILDING TYPE: END20
PLAN VERSION: OCTOBER 2021
BRAND DESIGNER: DICKSON
SITE NUMBER: 315289
STORE NUMBER: 456917
PA/PM: JW/KB
DRAWN BY.: NDG
JOB NO.: 2021088.41

TACO BELL
5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

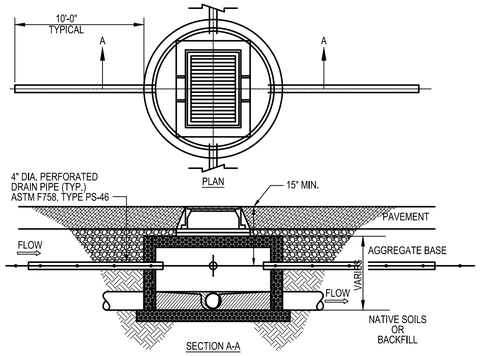
ENDEAVOR 20

DETAILS

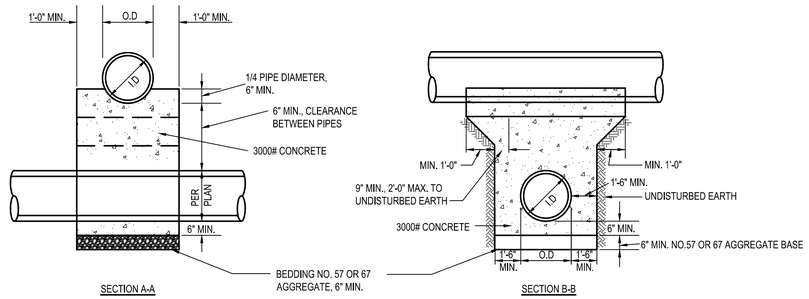
C-502

PLOT DATE:

Drawing Name: C:\2021\2021088\41 - Greenfield, IN (Mt.Comfort)\4_Working Files\00_CAD\00_Dwg\CI\Sheets\0 - 20210088.41 TS Notes Details.dwg
April 28, 2022 - mkinder



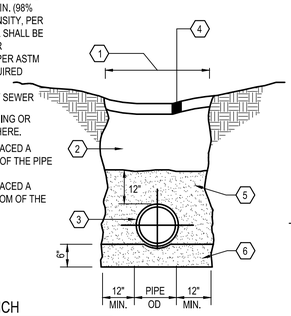
A1 FINGER DRAIN DETAIL
N.T.S.



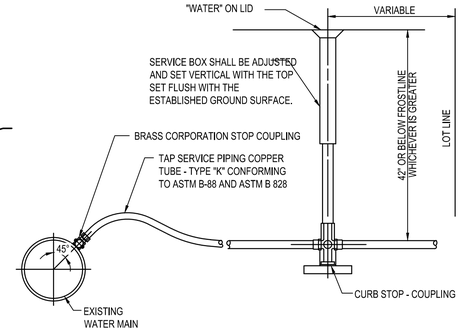
A2 CONCRETE ENCASEMENT MONOLITHIC CRADLING OF UPPER PIPE FOR CROSSINGS WITH LESS THAN 18" MINIMUM CLEARANCE
N.T.S.

KEYED NOTES

1. EXCAVATE WIDTH OF TRENCH AS NEEDED
2. PLACE SUITABLE SOIL OR GRANULAR BACKFILL IN 6" MAX. LIFTS. SUITABLE SOIL SHALL BE COMPACTED TO 90% MIN. (98% MIN. UNDER PAVEMENT) DRY DENSITY, PER ASTM D698, GRANULAR BACKFILL SHALL BE COMPACTED TO 75% (80% UNDER PAVEMENT) RELATIVE DENSITY, PER ASTM 4353. GRANULAR BACKFILL REQUIRED UNDER PAVEMENT.
3. PROPOSED STORM OR SANITARY SEWER
4. TOPSOIL, SEED/SOD, AND MULCHING OR PAVEMENT AS DETAILED ELSEWHERE.
5. NO. 57 OR NO. 67 AGGREGATE PLACED A MINIMUM OF 12" ABOVE THE TOP OF THE PIPE
6. NO. 57 OR NO. 67 AGGREGATE PLACED A MINIMUM OF 6" BELOW THE BOTTOM OF THE PIPE



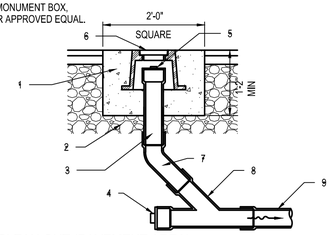
A4 SEWER TRENCH
N.T.S.



A5 WATER SERVICE TAP
N.T.S.

KEYED NOTES

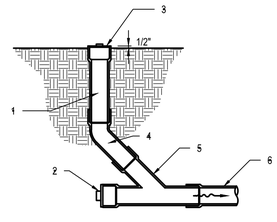
1. CONCRETE, MATCH PAVEMENT SPEC.
2. 6" (MIN.) AGGREGATE BASE
3. 6" DIA. CLEAN-OUT PIPE
4. CAP AND SEAL CONDUIT
5. THREADED CLEAN-OUT CAP
6. CAST-IRON MONUMENT BOX, EJIW 1565 OR APPROVED EQUAL.
7. 45° BEND
8. WYE
9. SEWER



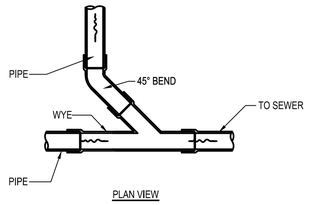
B1 CLEAN OUT (PAVEMENT AREA)
N.T.S.

KEYED NOTES

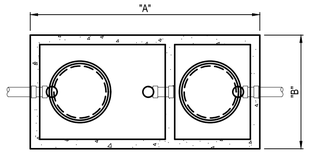
1. 6" DIA. CLEAN-OUT PIPE
2. CAP AND SEAL CONDUIT
3. THREADED CLEAN-OUT CAP
4. 45° BEND
5. WYE
6. SEWER

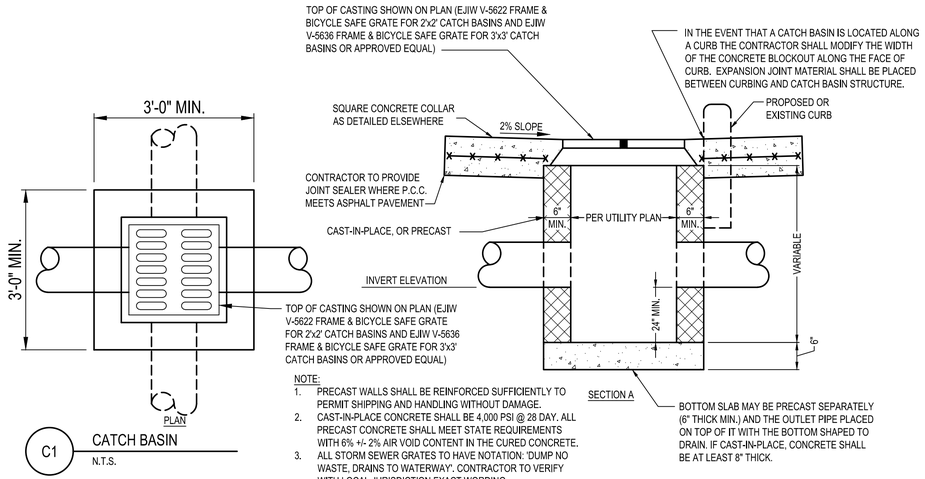


B2 CLEAN OUT (LAWN AREA)
N.T.S.



B3 WYE CONNECTION
N.T.S.

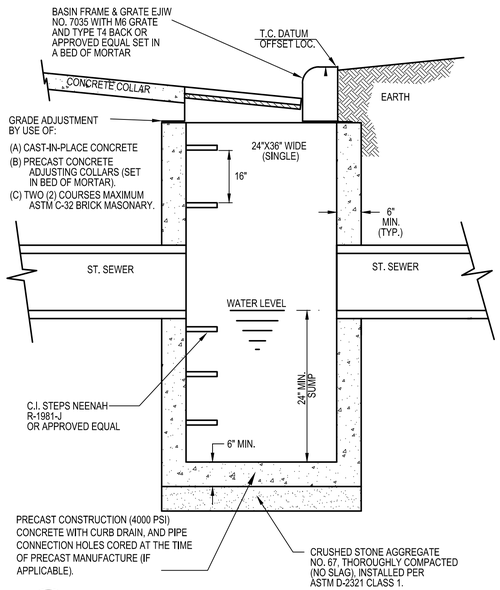




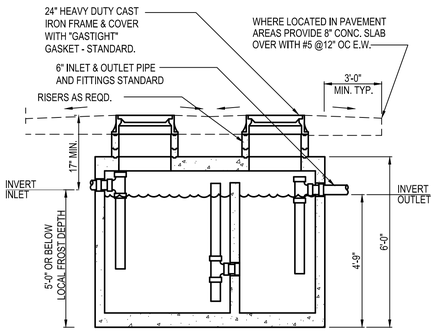
NOTE:
1. PRECAST WALLS SHALL BE REINFORCED SUFFICIENTLY TO PERMIT SHIPPING AND HANDLING WITHOUT DAMAGE.
2. CAST-IN-PLACE CONCRETE SHALL BE 4,000 PSI @ 28 DAY. ALL PRECAST CONCRETE SHALL MEET STATE REQUIREMENTS WITH 6% +/- 2% AIR VOID CONTENT IN THE CURED CONCRETE.
3. ALL STORM SEWER GRATES TO HAVE NOTATION: 'DUMP NO WASTE, DRAINS TO WATERWAY'. CONTRACTOR TO VERIFY WITH LOCAL JURISDICTION EXACT WORDING.

BOTTOM SLAB MAY BE PRECAST SEPARATELY (6" THICK MIN.) AND THE OUTLET PIPE PLACED ON TOP OF IT WITH THE BOTTOM SHAPED TO DRAIN. IF CAST-IN-PLACE, CONCRETE SHALL BE AT LEAST 8" THICK.

C1 CATCH BASIN
N.T.S.



C3 CURB INLET
N.T.S.



SECTION

G.T. SIZE	DIM. "A"	DIM. "B"
500 GALLON	6'-2"	4'-2"
750 GALLON	8'-1"	4'-0"
1000 GALLON	8'-2"	5'-1"
1250 GALLON	8'-6"	5'-9"
1500 GALLON	*	*

* PER MANUFACTURER SPECIFICATIONS.

GC SHALL INSTALL GREASE INTERCEPTOR, (G.I.) AS APPROVED BY LOCAL WASTEWATER JURISDICTION INSTALLATION SHALL INCLUDE VENT, SAMPLING PORT/ MANHOLE, REINF. CONCRETE TRAFFIC LID, ETC. AS REQUIRED PER WASTEWATER DEPARTMENT STANDARDS. G.I. SHALL BE DESIGNED FOR H20 VEHICLE LOADS.

C4 EXTERIOR GREASE INTERCEPTOR
N.T.S.

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

	DATE	REMARKS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE:	-
BUILDING TYPE:	END20
PLAN VERSION:	OCTOBER 2021
BRAND DESIGNER:	DICKSON
SITE NUMBER:	315289
STORE NUMBER:	456917
PA/PM:	JW/KB
DRAWN BY.:	NDG
JOB NO.:	2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

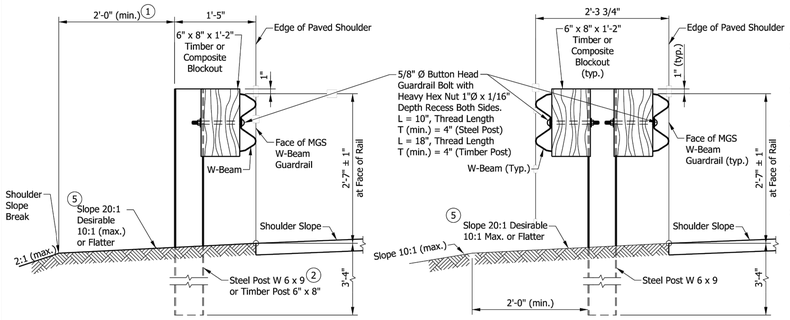
TACO BELL

ENDEAVOR 20

DETAILS

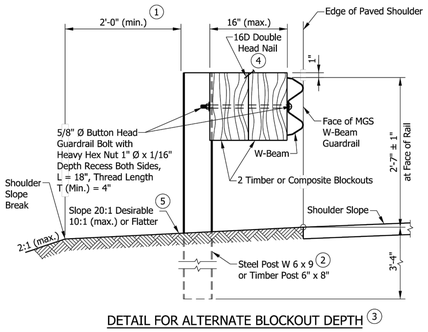
C-503

PLOT DATE:



TYPICAL MGS W-BEAM INSTALLATION

TYPICAL DOUBLE-FACED MGS W-BEAM INSTALLATION

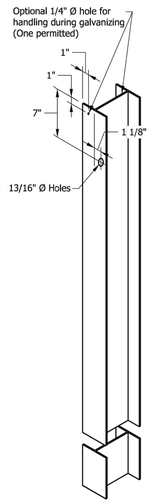


DETAIL FOR ALTERNATE BLOCKOUT DEPTH 3

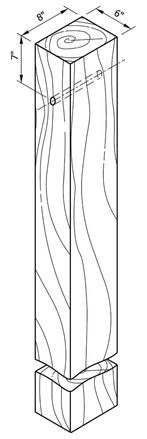
NOTES:

1. Where the distance from back of post to shoulder slope break is less than 2 ft, the working width shall be adjusted. See Standard Drawing E 601-MGSA-23.
2. Timber and steel posts shall not be intermixed. See Standard Drawing E 601-MGSA-04 for post details.
3. Blockouts of 12 in. or 16 in. depth may be utilized to increase the post offset. There is no limit to the number of posts that can have additional blockouts up to a 16 in. depth.
4. Where two timber blockouts are installed, one 16D galvanized double head nail shall be centered at the back of the blockout and driven into the adjacent blockout to limit rotation.
5. The post shall not be encased with asphalt, concrete, or riprap.

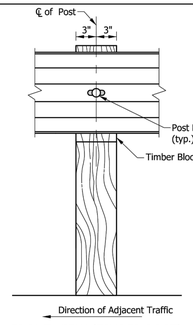
INDIANA DEPARTMENT OF TRANSPORTATION	
MIDWEST GUARDRAIL SYSTEM ASSEMBLY SEPTEMBER 2018	
STANDARD DRAWING NO. E 601-MGSA-02	
ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER	/s/ Elizabeth W. Phillips 03/20/18 DESIGN STANDARDS ENGINEER DATE /s/ John Leckie 04/25/18 CHIEF ENGINEER DATE



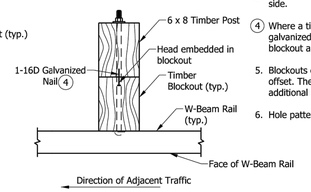
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) 2



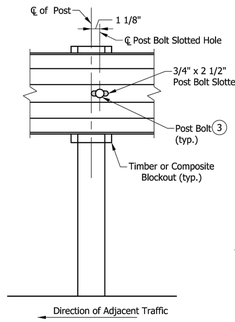
TIMBER POST (6" X 8") NOMINAL



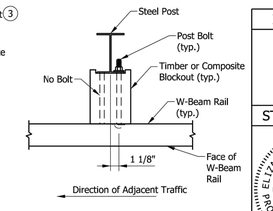
FRONT VIEW (TIMBER POST)



PLAN VIEW (TIMBER POST)



FRONT VIEW (STEEL POST)

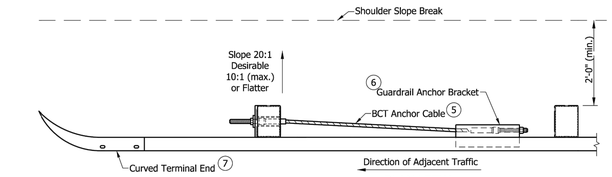


PLAN VIEW (STEEL POST)

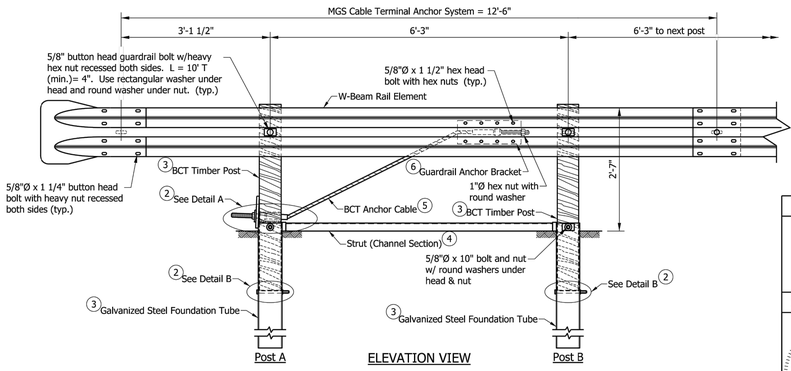
NOTES:

1. Timber or steel posts may be used. Timber and steel posts shall not be intermixed.
2. Steel guardrail post W 6 x 8.5 may be substituted for W 6 x 9.
3. Steel posts shall be installed with bolt holes on approaching traffic side.
4. Where a timber post and a timber blockout are installed, one 16D galvanized double head nail shall be centered at the back of the blockout and driven into the adjacent post to limit rotation.
5. Blockouts of 12 in. or 16 in. depth may be utilized to increase the post offset. There is no limit to the number of posts that can have additional blockouts up to a 16 in. depth.
6. Hole pattern for posts may be drilled in back flange.

INDIANA DEPARTMENT OF TRANSPORTATION	
MIDWEST GUARDRAIL SYSTEM ASSEMBLY SEPTEMBER 2018	
STANDARD DRAWING NO. E 601-MGSA-04	
ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER	/s/ Elizabeth W. Phillips 03/20/18 DESIGN STANDARDS ENGINEER DATE /s/ John Leckie 04/25/18 CHIEF ENGINEER DATE



PLAN VIEW



ELEVATION VIEW

NOTES:

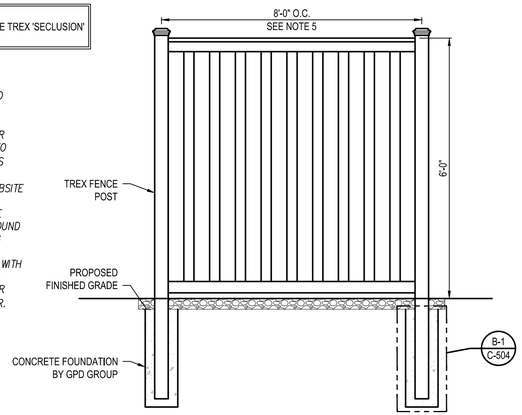
1. The MGS cable terminal anchor system shall only be used at the outgoing end of an MGS w-beam guardrail run not exposed to oncoming traffic.
2. See Standard Drawing E 601-MGSA-18 for Details A and B.
3. See Standard Drawing E 601-MGSA-19 for BCT timber post and steel foundation tube details.
4. See Standard Drawing E 601-MGSA-20 for strut details.
5. See Standard Drawing E 601-MGSA-21 for BCT anchor cable assembly details.
6. See Standard Drawing E 601-MGSA-22 for guardrail anchor bracket details.
7. See Standard Drawing E 601-WBGC-01 for curved terminal end details.

INDIANA DEPARTMENT OF TRANSPORTATION	
MIDWEST GUARDRAIL SYSTEM ASSEMBLY, CABLE TERMINAL ANCHOR SYSTEM SEPTEMBER 2018	
STANDARD DRAWING NO. E 601-MGSA-17	
ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER	/s/ Elizabeth W. Phillips 03/20/18 DESIGN STANDARDS ENGINEER DATE /s/ John Leckie 04/25/18 CHIEF ENGINEER DATE

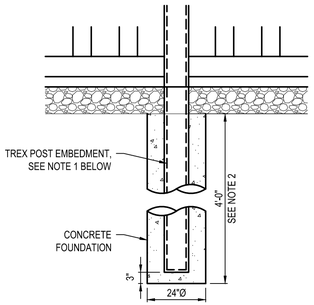
NOTE:
FENCING SHALL BE TREX 'SECLUSION' TYPE

NOTES

1. *INSTALLATION TO BE COMPLETED PER MANUFACTURER'S SPECIFICATION.*
2. *THIS DRAWING IS PROVIDED FOR PLANNING PURPOSES. REFER TO MANUFACTURER'S INSTALLATIONS FOR CONSTRUCTION DETAILS.*
3. *REFER TO MANUFACTURER'S WEBSITE FOR PRODUCT INFORMATION.*
4. *ENGINEER OF RECORD SHALL BE CONTACTED IMMEDIATELY IF GROUND WATER IS ENCOUNTERED DURING CONSTRUCTION.*
5. *VERIFY ENCLOSURE DIMENSIONS WITH PLAN SHEETS, THIS SET. POSTS SHALL NOT BE SPACED FURTHER THAN 8'–0", CENTER TO CENTER. CONTACT GC FOR ANY DISPCREPANCIES.*



B-1 TREX FENCE (FOR REFERENCE ONLY)
NTS



NOTES

1. *TREX POST EMBEDMENT IS DEPICTED FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION AND SPECIFICATIONS WITH MANUFACTURER.*
2. *IF FROST DEPTH EXCEEDS 4'–0", FOOTER TO EXCEED FROST DEPTH.*
3. *ENGINEER OF RECORD SHALL BE CONTACTED IMMEDIATELY IF GROUND WATER IS ENCOUNTERED DURING CONSTRUCTION.*

B-1 TREX FOUNDATION DETAIL
NTS

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

FOR REFERENCE ONLY

	DATE	REMARKS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE:	-
BUILDING TYPE:	END20
PLAN VERSION:	OCTOBER 2021
BRAND DESIGNER:	DICKSON
SITE NUMBER:	315289
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PA/PM:	JW/KB
DRAWN BY.:	NDG
JOB NO.:	2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

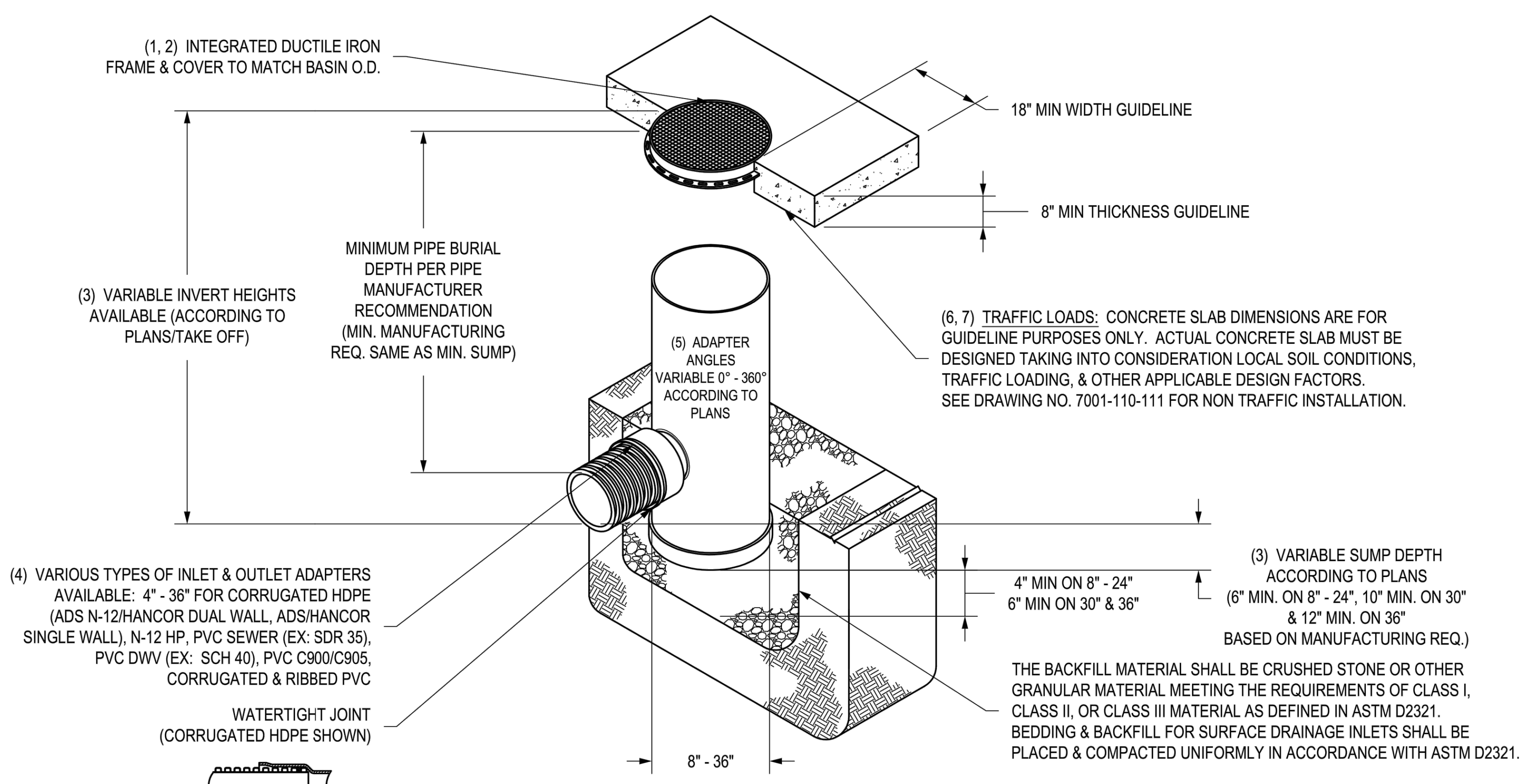
ENDEAVOR 20

DETAILS

C-504

PLOT DATE:

NYLOPLAST DRAIN BASIN WITH SOLID COVER



(1, 2) INTEGRATED DUCTILE IRON
FRAME & COVER TO MATCH BASIN O.D.
18" MIN WIDTH GUIDELINE
8" MIN THICKNESS GUIDELINE
MINIMUM PIPE BURIAL
DEPTH PER PIPE
MANUFACTURER
RECOMMENDATION
(MIN. MANUFACTURING
REQ. SAME AS MIN. SUMP)
(3) VARIABLE INVERT HEIGHTS
AVAILABLE (ACCORDING TO
PLANS/TAKE OFF)
(5) ADAPTER
ANGLES
VARIABLE 0° - 360°
ACCORDING TO
PLANS
(6, 7) TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR
GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE
DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS,
TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS.
SEE DRAWING NO. 7001-110-111 FOR NON TRAFFIC INSTALLATION.
(4) VARIOUS TYPES OF INLET & OUTLET ADAPTERS
AVAILABLE: 4" - 36" FOR CORRUGATED HDPE
(ADS N-12/HANCOR DUAL WALL, ADS/HANCOR
SINGLE WALL), N-12 HP, PVC SEWER (EX: SDR 35),
PVC DWV (EX: SCH 40), PVC C900/C905,
CORRUGATED & RIBBED PVC
WATERTIGHT JOINT
(CORRUGATED HDPE SHOWN)
4" MIN ON 8" - 24"
6" MIN ON 30" & 36"
(3) VARIABLE SUMP DEPTH
ACCORDING TO PLANS
(6" MIN. ON 8" - 24", 10" MIN. ON 30"
& 12" MIN. ON 36"
BASED ON MANUFACTURING REQ.)
THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER
GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I,
CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321.
BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE
PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.
8" - 36"

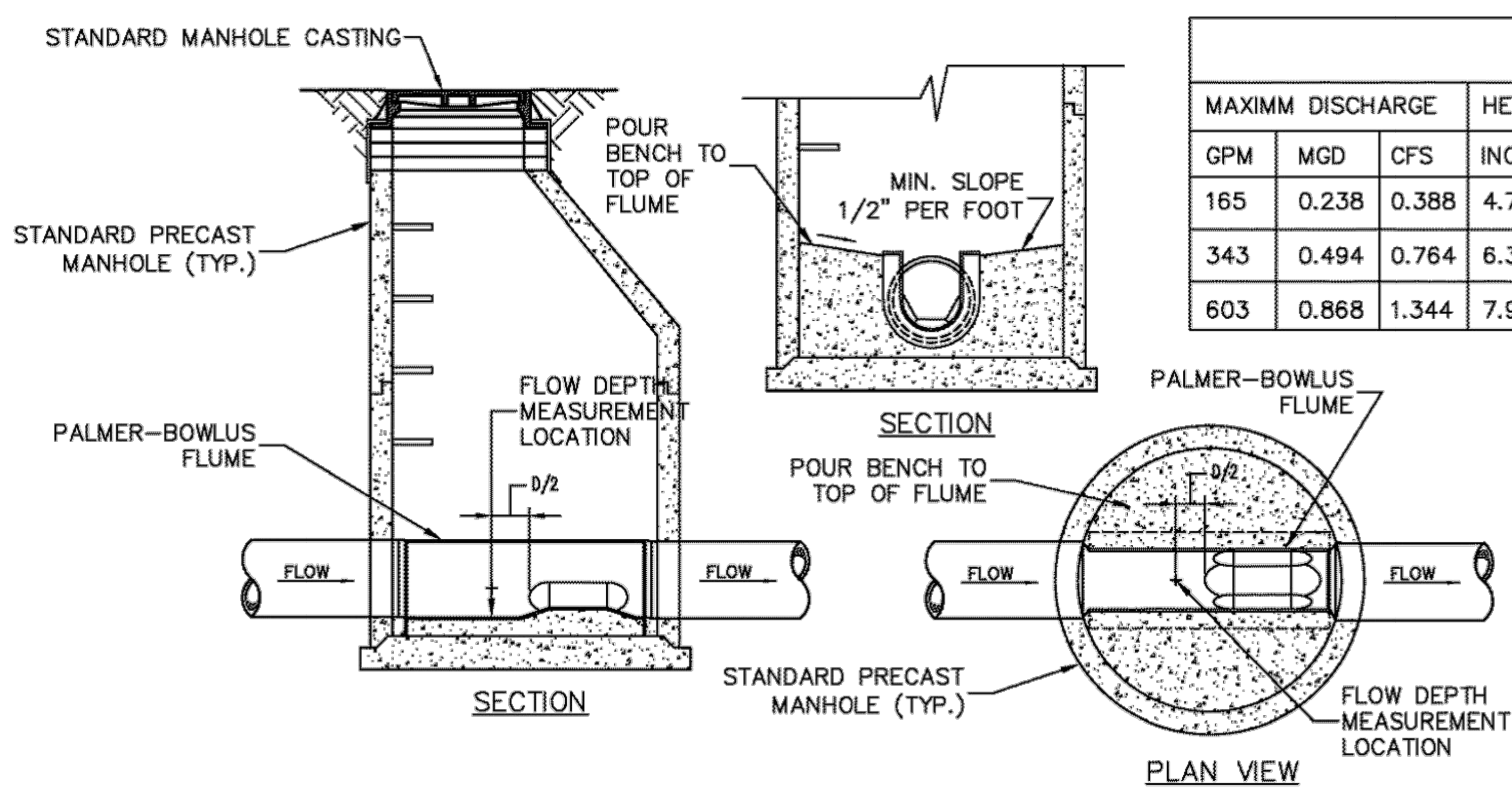
1 - 8" - 30" SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
8" & 10" SOLID COVERS FIT DIRECTLY ONTO DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 30" SOLID COVERS SHALL MEET H-20 LOAD RATING.
7 - 8" & 10" SOLID COVERS ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

	DRAWN BY EBC DATE 09-14-07 REVISED BY NMH DATE 06-12-18 DWG SIZE A	MATERIAL PROJECT NO./NAME SCALE 1:40 SHEET 1 OF 1	Nyloplast 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com TITLE DRAIN BASIN WITH SOLID COVER QUICK SPEC INSTALLATION DETAIL DWG NO. 7001-110-298 REV E

1

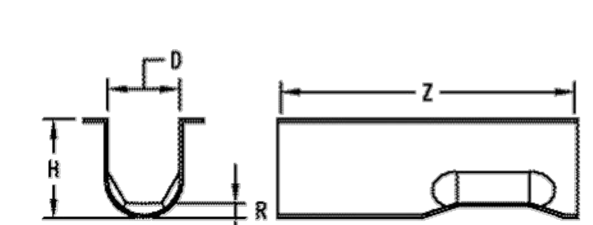
This document has not been reviewed by the stamping party. Therefore, the stamping party makes no representation(s) with respect to its contents, and shall not be liable for such. Any reliance on this stamp shall be at the relying party(ies)'s own risk and hereby waives any and all claim(s) related to the existence of the stamp or otherwise.

3



STANDARD MANHOLE CASTING
STANDARD PRECAST
MANHOLE (TYP.)
POUR
BENCH TO
TOP OF
FLUME
MIN. SLOPE
1/2" PER FOOT
FLOW DEPTH
MEASUREMENT
LOCATION
PALMER–BOWLUS
FLUME
D/2
FLOW
FLOW
SECTION
SECTION
POUR BENCH TO
TOP OF FLUME
PALMER–BOWLUS
FLUME
STANDARD PRECAST
MANHOLE (TYP.)
FLOW DEPTH
MEASUREMENT
LOCATION
PLAN VIEW

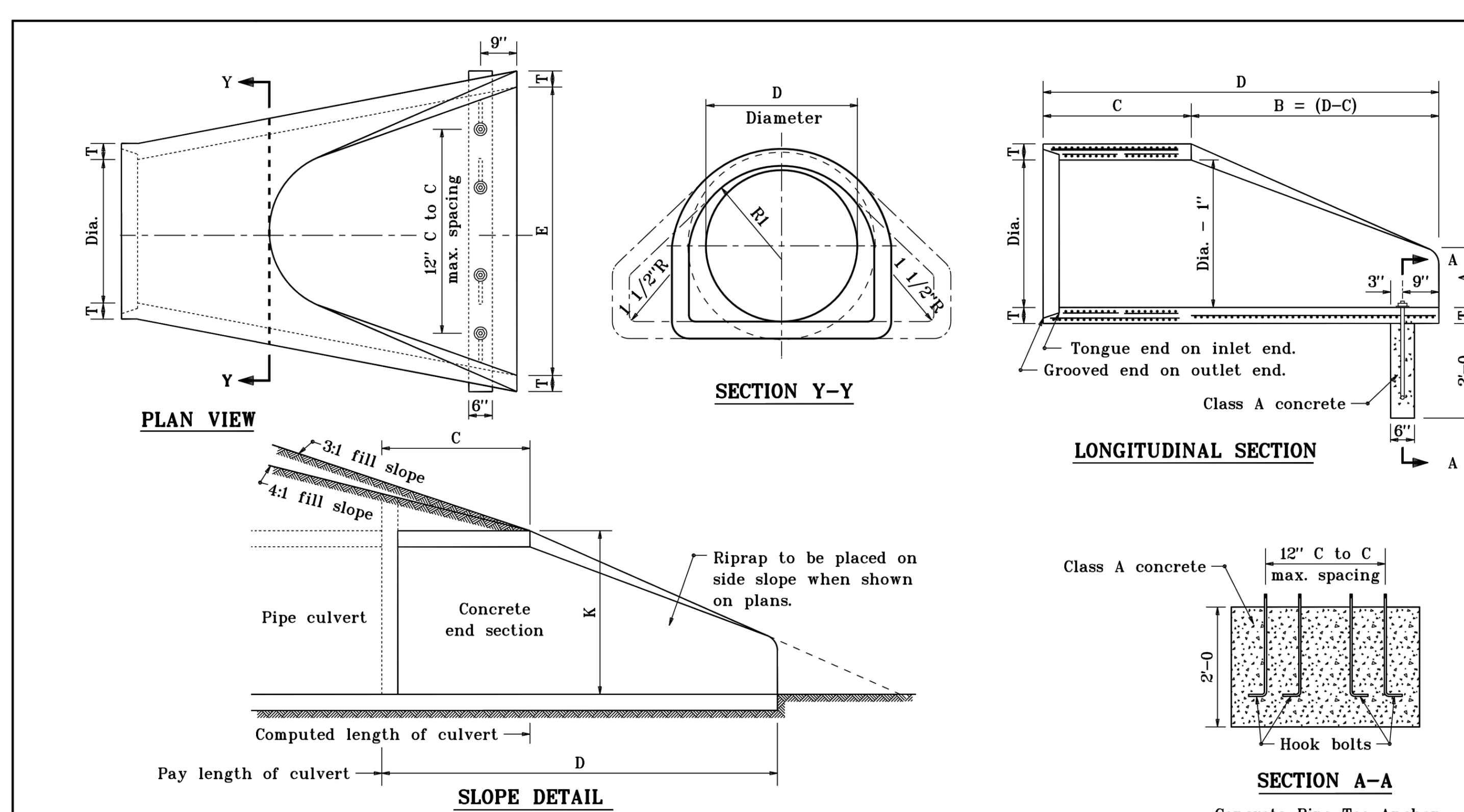
FLUME											MANHOLE SIZE	SLOPE UPSTREAM (%)
MAXIMM DISCHARGE			HEAD	MODEL	DIMENSIONS (INCHES)							
GPM	MGD	CFS	INCHES		D	D/2	R	H	Z		MIN.	MAX.
165	0.238	0.388	4.70	PBF–6	6	2	1.00	8	25		6' DIA.	2.2
343	0.494	0.764	6.30	PBF–8	8	3	1.33	10	33		6' DIA.	2.0
603	0.868	1.344	7.90	PBF–10	10	4	1.67	12	41		6' DIA.	1.8



PALMER–BOWLUS FLUME

NOTES:
1. FLUME SHALL BE A PALMER–BOWLUS FLUME.
2. FIELD POUR CONCRETE BENCH WITH FLUME INSTALLED IN MANHOLE AT LINE SLOPE.
3. FLUME SELECTION SHALL BE BASED UPON THE FLOW TO BE MEASURED AND NOT UPON THE PIPE SIZE.

SAMPLING AND METERING CONTROL MANHOLE DETAIL
NOT TO SCALE



PLAN VIEW
Dia.
12" C to C max. spacing
9"
6"
E
SECTION Y-Y
D
Diameter
R1
1 1/2"R
LONGITUDINAL SECTION
C
B = (D–C)
Dia. – 1"
3"
9"
2'–0
Tongue end on inlet end.
Grooved end on outlet end.
Class A concrete
3:1 fill slope
4:1 fill slope
Pipe culvert
Concrete end section
K
Riprap to be placed on side slope when shown on plans.
Computed length of culvert
Pay length of culvert
SLOPE DETAIL
Class A concrete
12" C to C max. spacing
Hook bolts
SECTION A–A
Concrete Pipe Toe Anchor

TABLE OF DIMENSIONS									
DIA.	T (min.)	A (±1")	C (±1")	D (±1")	E (±1")	K	R1	R2	APPROX. WEIGHT, lb.
12"	2"	5"	4'–3	6'–2	2'–0	1.3	10 1/8"	9"	800
15"	2 1/4"	7"	4'–0	6'–3	2'–6	1.5	12 1/2"	11"	1100
18"	2 1/2"	11"	4'–1	6'–2	3'–0	1.8	15 1/2"	12"	1300
21"	2 3/4"	11"	3'–6	6'–3	3'–6	2.1	16 1/8"	13"	1500
24"	3"	1'–0	2'–8	6'–3	4'–0	2.3	16 3/16"	14"	1800
27"	3 1/4"	1'–1	2'–5	6'–3	4'–6	2.6	18 9/16"	14 1/2"	2100
30"	3 1/2"	1'–2	1'–10	6'–3	5'–0	2.9	18 1/2"	15"	2400
33"	3 3/4"	1'–3	3'–6	8'–3	5'–6	3.1	23 3/4"	17 1/2"	4100
36"	4"	1'–5	3'–1	8'–3	6'–0	3.4	24 5/16"	20"	4200

INDIANA DEPARTMENT OF TRANSPORTATION
PRECAST CONCRETE END SECTION
MAY 1998
STANDARD DRAWING NO. E 715–PCES–01

ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER
DESIGN STANDARDS ENGINEER
DETAILS PLACED IN THIS FORMAT 11-15-99
/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE
/s/ Firooz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE
ORIGINALLY APPROVED 5-01-98

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

FOR REFERENCE ONLY

	DATE	REMARKS
1	03/22/2022	REVISION #1 - COUNTY AND UTILITY COMMENTS
3	04/29/2022	ISSUED FOR BID

CONTRACT DATE: -
BUILDING TYPE: END20
PLAN VERSION: OCTOBER 2021
BRAND DESIGNER: DICKSON
SITE NUMBER: 315289
STORE NUMBER: 456917
PA/PM: JW/KB
DRAWN BY.: NDG
JOB NO.: 2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

ENDEAVOR 20

DETAILS

C-505

PLOT DATE:

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

ADS Advanced Drainage Systems, Inc.

SiteASSIST™ FOR STORMTECH INSTRUCTIONS, DOWNLOAD THE INSTALLATION APP

TACO BELL

GREENFIELD, IN

SC-310 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-310.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418-16a (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

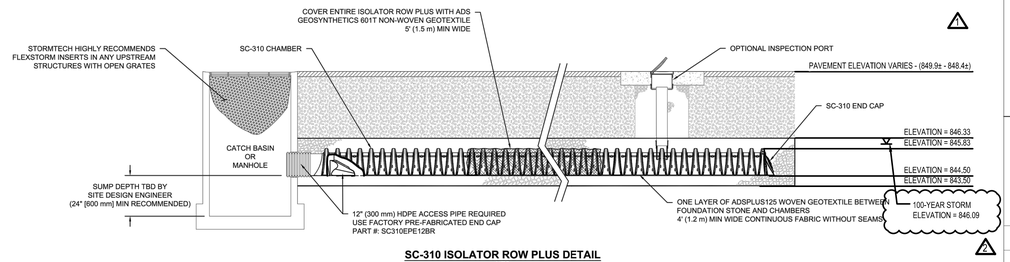
1. STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



SC-310 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

TACO BELL | GREENFIELD, IN | DRAWN: NG | DATE: | PROJECT #: | CHECKED: N/A

DATE	DRW	CHK	DESCRIPTION

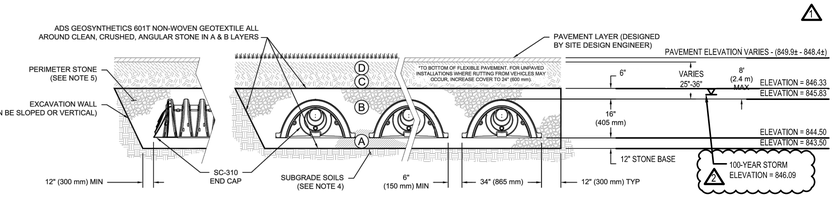
StormTech® Chamber System | 888-892-2694 | WWW.STORMTECH.COM

ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

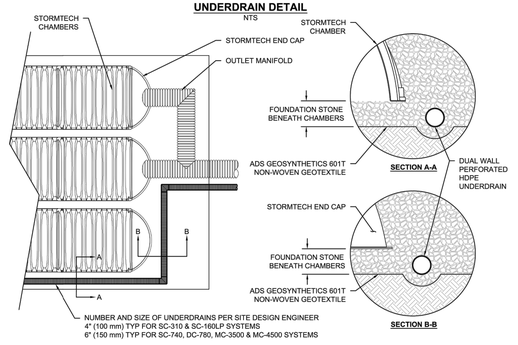
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



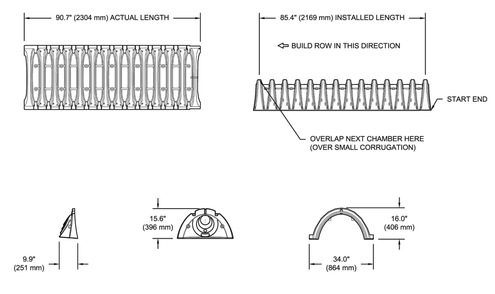
NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418-16a (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

UNDERDRAIN DETAIL
NTS



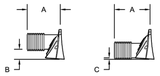
SC-310 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	31.0 CUBIC FEET	(0.88 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUB AT BOTTOM OF END CAP WITH FLAMP END WITH "BR"
PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	---
SC310EPE06B / SC310EPE06BPC			---	0.5" (13 mm)
SC310EPE08T / SC310EPE08TPC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	---
SC310EPE08B / SC310EPE08BPC			---	0.6" (15 mm)
SC310EPE10T / SC310EPE10TPC	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	---
SC310EPE10B / SC310EPE10BPC			---	0.7" (18 mm)
SC310EPE12B	12" (300 mm)	13.5" (343 mm)	---	0.9" (23 mm)
SC310EPE12BR	12" (300 mm)	13.5" (343 mm)	---	0.9" (23 mm)

ALL STUBS, EXCEPT FOR THE SC310EPE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310EPE12B THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

TACO BELL | GREENFIELD, IN | DRAWN: NG | DATE: | PROJECT #: | CHECKED: N/A

DATE	DRW	CHK	DESCRIPTION

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ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

FOR REFERENCE ONLY

	DATE	REMARKS
1	03/22/2022	REVISION #1 - COUNTY AND UTILITY COMMENTS
2	04/04/2022	REVISION #2 - COUNTY COMMENTS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE:	-
BUILDING TYPE:	END20
PLAN VERSION:	OCTOBER 2021
BRAND DESIGNER:	DICKSON
SITE NUMBER:	315289
STORE NUMBER:	456917
PA/PM:	JW/KB
DRAWN BY.:	NDG
JOB NO.:	2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

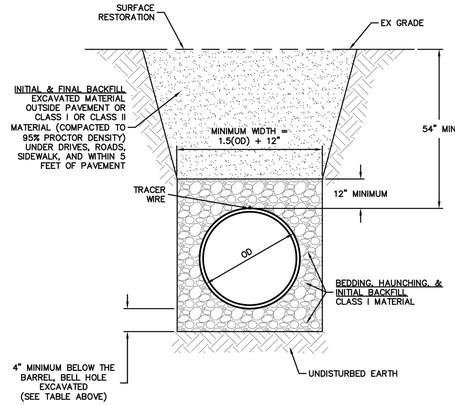
ENDEAVOR 20

DETAILS

C-506

PLOT DATE:

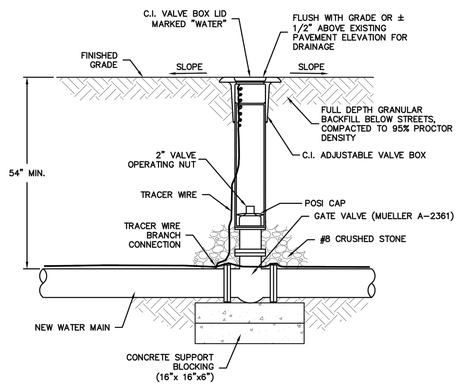
PIPE SIZE	3" TO 15"	18" TO 30"
BEDDING BELOW THE PIPE BARREL	4"	OD / 4



PLASTIC (PVC OR HDPE) PIPE TRENCH

SCALE: NONE

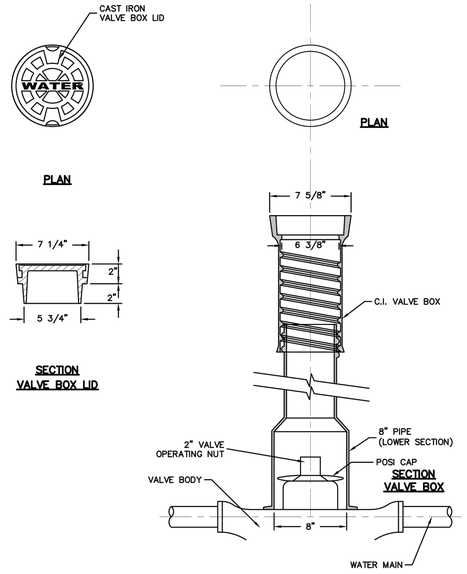
DETAIL NO. 7B
DATE: JUNE 2019



GATE VALVE

SCALE: NONE

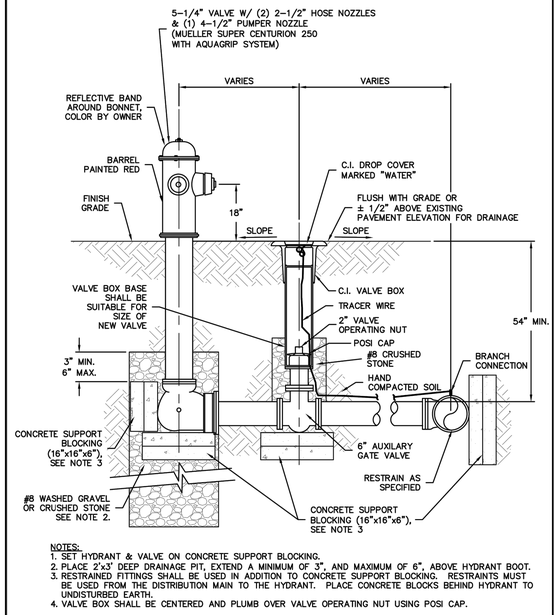
DETAIL NO. 7C
DATE: JUNE 2019



STANDARD 8" VALVE BOX & COVER

SCALE: NONE

DETAIL NO. 7D
DATE: JUNE 2019

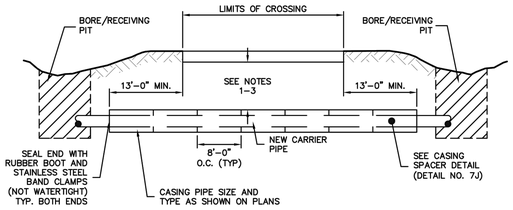


NOTES:
1. SET HYDRANT & VALVE ON CONCRETE SUPPORT BLOCKING.
2. PLACE 2'x3' DEEP DRAINAGE PIT, EXTEND A MINIMUM OF 3", AND MAXIMUM OF 6", ABOVE HYDRANT BOOT.
3. RESTRAINED FITTINGS SHALL BE USED IN ADDITION TO CONCRETE SUPPORT BLOCKING. RESTRAINTS MUST BE USED FROM THE DISTRIBUTION MAIN TO THE HYDRANT. PLACE CONCRETE BLOCKS BEHIND HYDRANT TO UNDISTURBED EARTH.
4. VALVE BOX SHALL BE CENTERED AND PLUMB OVER VALVE OPERATING NUT USING POSI CAP.

HYDRANT ASSEMBLY

SCALE: NONE

DETAIL NO. 7E
DATE: JUNE 2019

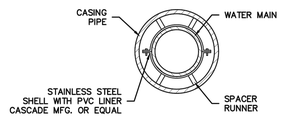


NOTES:
1. WATERWAY CROSSINGS: CASING PIPE SHALL BE AT LEAST 3'-0" BELOW WATERWAY BOTTOM.
2. HIGHWAY/ROADWAY CROSSINGS: CASING PIPE SHALL BE AT LEAST 4'-6" BELOW ROADWAY SUBBASE.
3. RAILROAD CROSSINGS: CASING PIPE SHALL BE DEPTH SPECIFIED BY RAILROAD AUTHORITY AND AS LISTED IN THE APPROVED PERMIT APPLICATION.

CASING PIPE

SCALE: NONE

DETAIL NO. 71
DATE: JUNE 2019



NOTES:
1. CASTING SPACERS TO BE THE CENTERED AND RESTRAINED TYPE.
2. INSTALL CASING SPACERS AT 8' INTERVALS.

CASING SPACER

SCALE: NONE

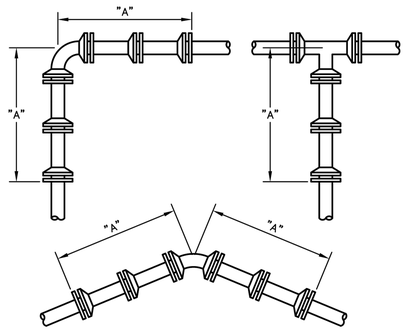
DETAIL NO. 7J
DATE: JUNE 2019

PVC & HDPE PIPE RESTRAINT

FEET OF RESTRAINED PIPE @ 150 PSI (A)

FITTING TYPE	WATER MAIN SIZE 4 INCH	6 INCH	8 INCH	10 INCH	12 INCH	14 INCH	16 INCH	18 INCH
11 1/4° BEND	1'	2'	2'	2'	2'	3'	3'	3'
22 1/2° BEND	2'	3'	3'	4'	4'	5'	5'	6'
45° BEND	3'	5'	6'	7'	8'	9'	10'	11'
90° BEND	8'	11'	13'	16'	19'	22'	24'	27'
11 1/4° VERTICAL BEND	2'	3'	4'	5'	6'	6'	7'	8'
22 1/2° VERTICAL BEND	4'	6'	8'	9'	11'	12'	14'	15'
45° VERTICAL BEND	9'	12'	15'	19'	22'	25'	28'	31'
90° VERTICAL BEND	20'	29'	37'	45'	52'	60'	67'	75'
VALVE/PLUG	20'	29'	37'	45'	52'	60'	67'	75'
TEE OUTLET	18'	27'	35'	43'	50'	58'	66'	73'
DEAD END	20'	29'	37'	45'	52'	60'	67'	75'

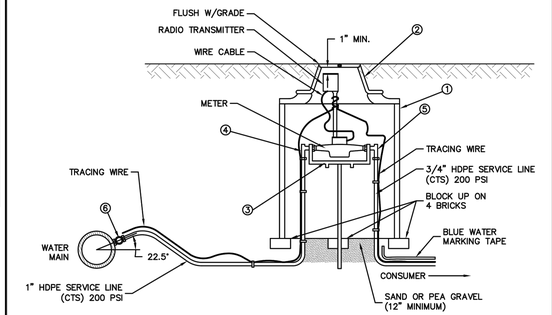
NOTE: TYPE 5 TRENCH, GOOD SAND OR GRAVEL BACKFILL



WATER MAIN RESTRAINED PIPING

SCALE: NONE

DETAIL NO. 7N
DATE: JUNE 2019



NOTES:
1. METER AND TRANSMITTER FURNISHED AND SET BY NINESTAR CONNECT.
2. ALL SERVICE LINES MUST HAVE 4-½' COVER REGARDLESS OF THE WATER MAIN DEPTH.
3. LOCATE METER PIT AS CLOSE TO PROPERTY LINE AS POSSIBLE TAKING THE OTHER UTILITIES INTO ACCOUNT. (LOCATE PIT ON ADJOINING LOT).
4. DO NOT LOCATE PIT IN DRIVEWAYS.
5. DO NOT BACKFILL THE SERVICE LINE TO THE CONSUMER UNTIL IT HAS BEEN INSPECTED.
6. THE TEN-FOOT SEPARATION BETWEEN WATER AND SEWER MUST BE MAINTAINED.
7. PROVIDE MUELLER H15403-250N COMPRESSION COUPLINGS.

KEYED NOTES:
① MUELLER/HUNT METER PIT RISER 20" EZ SETTER FOR SINGLE METERS AND FOR DOUBLE METERS
② VESTEL 20" METER PIT FRAME AND 12A FOX-1WA-LID (PLASTIC)
③ MUELLER H5020-203 METER YOKE
④ MUELLER B24273-250N ANGLE BALL VALVE (STREET)
⑤ MUELLER 14245-250N ANGLE CHECK VALVE (HOUSE)
⑥ MUELLER CORPORATION STOP (CTS COMPRESSION OUTLET)

WATER METER AND SERVICE LINE

SCALE: NONE

DETAIL NO. 7P
DATE: JUNE 2019

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

FOR REFERENCE ONLY

	DATE	REMARKS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE: -
BUILDING TYPE: END20
PLAN VERSION: OCTOBER 2021
BRAND DESIGNER: DICKSON
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TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

ENDEAVOR 20

DETAILS

C-507

PLOT DATE:

SECTION 7 - DOMESTIC WATER DISTRIBUTION SYSTEM

7.01 GENERAL DESIGN STANDARDS

A. Design domestic water systems to be owned and operated by NineStar Connect to conform to American Water Works Association (AWWA) Standards and the standards herein.

B. The Utility, with its Engineer, will dictate the size of the mains required to provide adequate fire protection and to allow for future growth. Early coordination with the Utility is strongly encouraged.

C. Design water systems with fire hydrants at all intersections and at intervals no greater than 500 feet. Closer hydrant spacing may be required by the Utility depending upon the nature of the development.

D. Design systems with adequate valves to isolate areas of the system for routine maintenance and repair. Isolation valves are required at all intersections (3 valves at tees; 4 valves at crosses) and at intervals no greater than 600 feet. Tightly group valves and place out of the roadway where possible. The Utility reserves the right to require smaller valve intervals if it believes that the nature of the development necessitates such.

E. Design and install water mains at depths no less than 54 inches. Hydrants shall be connected to valves by anchor couplings. Valves shall be connected to tees by anchor couplings or other approved joint restraint methods.

7.02 VALVES

A. Gate Valves

1. Provide resilient seated gate valves of cast iron body with mechanical joint ends and conforming to AWWA C509.
2. Valves shall open counterclockwise (left) and have a 2-inch operating nut.

B. Butterfly Valves

1. Provide resilient seated butterfly valves with mechanical joint ends and conforming to AWWA C501.
2. Iron body, bronze retainer, stainless steel shaft type with O-ring packing.
3. Provide valves with an underground external operator.
4. Valves shall open counterclockwise (left) and have a 2-inch operating nut.
5. Manufacturer: Mueller Company

C. Tapping Valves

1. Provide iron body, non-rising stem gate valves conforming to AWWA C515. Supply valve gates, gate rings, and body-seat rings which are oversized to permit entry and exit of tapping machine cutters.
2. Valve end connecting to tapping sleeve shall have a flange for bolting to the sleeve. The flange shall have a tongue which fits a recess in the tapping sleeve.

3. Valve end connecting to plain end of water main pipe or adapter shall be mechanical joint.
4. Valves shall open counterclockwise (left) and have a 2-inch operating nut.

D. Tapping Sleeves

1. Stainless steel with a stainless-steel flange end branch connection fabricated in accordance with AWWA C223.
2. Oversized branch connection inside diameter to permit entry and exit of tapping machine cutters.
3. Flange end shall have a recess to center the tapping valve.

E. Air Release Valves

1. Cast iron body, cover and baffle, with stainless steel float brass water diffuser and Buna-N seat.
2. Install air release valves in vented meter boxes as shown in detail included in these standards.

F. Valve Boxes

1. Supply all buried valves with 5 ¼" Sigma VB266-8 screw type or Tyler 29U Series screw type valve box and components.
2. Provide with removable cast iron lid with the word "water" marked on it.
3. Provide with a posi-cap for stabilization and centering.
4. Provide all valve boxes located outside of traffic areas with a six-foot long steel fence post, painted blue.
5. Provide valve boxes as shown in detail included in these standards.

7.03 HYDRANTS

A. Provide hydrants conforming to AWWA C502 and as follows.

1. Two (2), 2-1/2-inch NST connections and one (1) Storz connection.
2. Open counterclockwise (left).
3. Provide each hydrant with a 2-component exterior grade full gloss polyurethane exterior enamel topcoat. Touch-painting in the field shall be in accordance with the manufacturer's recommendations.
4. 6-inch auxiliary gate valve
5. One (1) operating wrench for every ten (10) hydrants supplied

B. Provide hydrants as shown in detail included in these standards.

C. Flush hydrants shall be Mueller A411.

7.04 BLOW-OFF ASSEMBLIES

A. Provide temporary blow-off assemblies used for flushing and testing in accordance with detail include in these standards.

7.05 WATER MAIN

A. Ductile Iron (DI) Pipe

1. Provide pipe conforming to AWWA C151 with a minimum of:
   a. 350 PSI rated working pressure for 12-inch diameter and smaller pipe
   b. 250 PSI rated working pressure for 16-inch diameter and larger pipe
2. Markings: Each length of pipe and fittings shall be plainly stamped or indelibly marked, or color coded as to the weight, class, and type, and include the manufacturer trademark or name and the National Sanitation Seal of Approval.
3. Lining and coating: Standard cement mortar lined, and seal coated with an approved asphaltic seal coat in accordance with AWWA C104 (ANSI A21.4). Coat the exterior surfaces with an approved bituminous coating meeting the requirements of AWWA C110 and AWWA 151 (ANSI 21.51).
4. Pipe joint and gasket: push-on type joints and gaskets conforming to AWWA C111. O-ring gaskets sealing the slip joint shall be made of rubber of special composition having a texture to assure a watertight and permanent seal, and be resistant to common ingredients of sewage, industrial waste and groundwater, and which will endure permanently under the conditions likely to be imposed by this service.
5. Provide Tyton Joint pipe as manufactured by U.S. Pipe, Fastite Joint pipe as manufactured by American, or approved equal.

B. Polyvinyl Chloride (PVC) Pipe C900 or C905 (Ductile Iron O.D.)

1. Provide pipe conforming to AWWA C900 or C905 as applicable and having a dimension ratio of:
   a. DR-18 for 12-inch diameter and smaller pipe
   b. DR-25 for 16-inch diameter and larger pipe
2. Pipe materials: conform to ASTM Specification D-1784, Class 12454-B.
3. Pipe joint and gasket: push-on type joints conforming to ASTM D-3139. Gaskets shall conform to ANSI Standards A21.11.
4. Provide J-M Eagle, North American Pipe Corporation, National Pipe and Plastics, Inc., or approved equal.

C. Ductile Iron Fittings

1. Provide ductile iron fittings standardized for the type of pipe and joint specified. Fittings shall comply with AWWA C110 (ANSI A21.10) and have standard thickness cement mortar lining as specified in AWWA C104 and a bituminous seal outside coating as specified in AWWA C151.

D. Fitting Restraints

1. Series 1100 Megalug by EBAA Iron for DI pipe (3- to 48-inch diameter)
2. Series 2000 PV Megalug by EBAA Iron for C900 or C905 PVC pipe (3- to 36-inch diameter)
3. JCM 610 Sur-Grip Restrainer by JCM for DI pipe (4- to 12-inch diameter)
4. JCM 610 Sur-Grip Restrainer by JCM for C905 PVC pipe (14- to 30-inch diameter)

5. Ford Meter Box Uni-Flange Series 1400 Restrainer for DI pipe (3- to 36-inch diameter)
6. Ford Meter Box Uni-Flange Series 1500 Restrainer for C900 pipe (3- to 36-inch diameter)

E. Pipe Joint Restraints

1. Series 1500/1600 Bell Restraint Harness by EBAA Iron for C900 PVC pipe (4- to 12-inch diameter)
2. Series 2800 Megalug Restraint Harness by EBAA Iron for C905 PVC pipe (14- to 48-inch diameter)
3. Series 1700 Megalug Restraint Harness by EBAA Iron for DI pipe (4- to 48-inch diameter)
4. Field Lok 350 Gaskets by U.S. Pipe & Foundry Company for DI pipe (4- to 24-inch diameter)
5. Flex-Ring Joint System by American Ductile Iron Pipe for DI pipe (14- to 48-inch diameter)
6. JCM 620 Sur-Grip Bell Joint Restrainer for DI or C900 PVC pipe (4- to 12-inch diameter)
7. JCM 621 Sur-Grip Bell Joint Restrainer by JCM for C905 PVC pipe (14- to 30-inch diameter)
8. Ford Meter Box Uni-Flange Series 1390 Joint Restrainer for C900 or C905 PVC pipe (4- to 36-inch diameter)
9. Ford Meter Box Uni-Flange Series 1390 Joint Restrainer for DI pipe (black body) (4- to 16-inch diameter)

F. Nuts and Bolts

1. Furnish high strength, heat-treated cast iron nuts and bolts which conform to AWWA C111. Nuts shall be hexagonal, and bolts shall be tee head.

G. Polyethylene Encasement

1. Provide polyethylene encasement for use with ductile iron pipe and fittings conforming to ANSI/AWWA C105/A21.5
2. Encasement: three layers of co-extruded linear low-density polyethylene, fused into a single thickness of not less than 8 mils. The inside surface of the wrap to be in contact with the pipe exterior shall be infused with a blend of anti-microbial biocide to mitigate microbiologically influenced corrosion and a volatile corrosion inhibitor to control galvanic corrosion.
3. Provide V-Bio Enhanced Polyethylene Encasement as manufactured by U.S. Pipe, or approved equal.

H. High Density Polyethylene (HDPE) Pipe

1. Provide pipe conforming to AWWA C901 and C906, manufactured from high density, extra high molecular weight polyethylene and conforming to PE Standard Code PE 4710. Pipe shall have a minimum cell classification of 445574C per the requirements of ASTM D3350.

2. Markings: blue shell or blue permanent striping and AWWA specification stamp embedment or permanent blue-line print clearly and continuously marked longitudinally along the outside pipe wall.
3. Designed and manufactured in iron pipe size and to the pressure class specified. The pipe Dimension Ratio (DR) shall be used to determine the pressure rating classification. Pipe shall be designed to withstand crushing, buckling and deformation resulting in ovality at the specified depth of bury.
4. Deflection: Do not deflect pipe on a radius of more than 80% of the allowance recommended by the manufacturer.

I. HDPE Fittings

1. Provide fittings manufactured from high density, extra high molecular [illegible] polyethylene which conforms to PE Standard Code PE 4710. Fittings shall have a minimum cell classification of 445574C per the requirements of ASTM D3350.
2. Provide fabricated polyethylene fittings designed and manufactured for one pressure class rating higher than the pressure class rating of the pipe specified.
3. Manufactured per the requirements of ASTM D3261; injection molded or fabricated using a combination of extrusion and machining. Supply HDPE fittings manufactured or fabricated in facilities designed for that purpose. Field fabricated HDPE fittings are not allowed.
4. Fitting markings: blue shell or permanent blue striping and the AWWA pipe specification stamp embedment or permanent blue-line print clearly and continuously marked longitudinally along the outside pipe wall.

J. HDPE Flange Backup Rings and Gaskets

1. Provide flange backup rings conforming to AWWA C207; Class D with bolting dimensions conforming to ASTM B16.5.
2. Flange backup ring coating: fusion-bonded epoxy applied to all exterior and interior exposed surfaces with a minimum dry film thickness of 4 mil.
3. Flange gaskets: synthetic red rubber (SBR) hardness (Shore A) 80 +/- 5, ring or full face, 1/8-inch thick and conform to ASTM D1330 grades I and II. Asbestos gaskets are not allowed.

K. Bolts and Nuts

1. Flange to flange connection bolts: carbon steel, ASTM A307 grade B for Class D flanges.
2. Nuts conforming to ASTM A194 grade 2H.
3. Furnish bolts and nuts having regular unfinished hexagonal dimensions in accordance with ASTM B18.2.1 for wrench head bolts and nuts and wrench openings.
4. Minimum bolt lengths shall be the sum of the mating flange maximum thicknesses, the gasket and the depth of nut plus 1/8 inch minimum before torqueing.

L. HDPE Mechanical Joints

1. Use polyethylene mechanical joint adaptors when making connections to mechanical joint fittings and when connecting to dissimilar pipe materials such as PVC or ductile iron.
2. Connect polyethylene adaptor to mechanical joint fitting using a mechanical joint gland and gasket and in accordance with the specifications regarding mechanical joint ductile iron fittings. Meg-A-Lugs and Field-Lok gaskets are not allowed for use with polyethylene mechanical joint adaptors.
3. Provide "Harvey" style polyethylene mechanical joint adaptors that include a stainless-steel stiffener inserted into the inside of the mechanical seal end of the adaptor to provide additional axial strength and prevent pipe diameter reduction at the seal.
4. Provide mechanical joint adaptors as a kit complete with gasket, mechanical gland, bolts and nuts per this section.

7.06 SERVICES AND METER PITS

A. Saddles - Provide saddles (for PVC pipe only) cast from 85-5-5-5 waterworks brass and manufactured and tested in accordance with AWWA C800. Supply Series S-13000 (hinged) as manufactured by Mueller Company, or approved equal.

B. Service Lines – Provide 1-inch polyethylene from the water main to the meter pit and ¾" polyethylene from the pit to the consumer constructed with a pressure rating of 200 psi with Mueller 110 compression fittings. Larger service lines may be necessary for larger water consumers.

C. Meter Pit and Brass Fittings – Provide meter pit and materials as shown on detail included in these standards.

7.07 BACKFLOW PREVENTION

A. A backflow prevention device is required to be installed where any water line from an auxiliary water supply enters or passes within one (1) foot of any part of a commercial or industrial facility, all irrigation systems, or any service connections designated to have a potential cross connection hazard (see detail included in these standards).

B. The backflow prevention device shall be a University of Southern California (USC) or other IDEM approved device and shall be installed in a location approved by the Utility. The device must be periodically tested by an Indiana registered cross connection control tester at intervals determined by IDEM.

C. Service connections to facilities designated as a cross-connection hazard by 327 IAC 8-10-4(c) shall be equipped with either an air gap or reduced pressure principle backflow preventer in accordance with 327 IAC 8-10-7.

7.08 SPECIAL CROSSINGS

A. Steel Casing Pipe

1. Provide welded steel pipe conforming to ASTM A139 Grade B for "Electric Fusion of Welded Steel Pipe" with minimum yield of 35,000 psi.
2. Inside diameter at least 6 inches greater than the largest bell diameter of the carrier pipe.
3. Provide when casing pipe needs to be 24 inches or larger.
4. Provide where crossing State Highways and railroads.
5. Minimum wall thickness:
   a. 0.250 inches – pipe diameter 18" and less
   b. 0.375 inches – pipe diameter 20" to 26"
   c. 0.500 inches – pipe diameter 28" to 42"

B. HDPE Casing Pipe

1. Pipe conforming to the requirements of this Section.
2. Inside diameter at least 6 inches greater than the largest bell diameter of the carrier pipe.
3. Provide when casing pipe needs to be less than 24 inches.
4. Dimension ratio DR-9

C. Casing Spacers

1. Meet all applicable American Water Works Association (AWWA) Standards
2. Provide as shown on detail included in these standards.

7.09 INSTALLATION

A. General

1. Install water mains, fittings, valves, hydrants, and other appurtenances as specified in these standards. Provide proper implements, tools, and facilities for the safe and expeditious performance of the work.
2. Clean each length of pipe, fitting, and valve of all debris, dirt, and other foreign material before laying and keep clean until accepted as completed work.
3. Lay and maintain pipe to the lines and grades shown on the approved plans unless otherwise allowed by the Utility. Install fittings, valves, and hydrants in the locations shown on the approved drawings.
4. Where the piping is to be constructed parallel to and close to existing buried utilities, the exact location of which is unknown, adjust the alignment of the piping to least interfere with these utilities.
5. Do not lay pipe in water or when the trench or weather conditions are unsuitable for proper installation.
6. Lower pipe, fittings and valves into the trench by hand, by means of hoists or ropes, or by other suitable tools or equipment which will not damage materials, coatings, or linings. Do not drop or dump pipe, fittings, or valves.

7. As each length of pipe is placed in the trench, assemble the joint, and bring the pipe to the correct line and grade. Excavate bell holes in advance of pipe laying so the entire barrel will bear uniformly.

B. Minimum Separation

1. Lay potable piping at least ten (10) feet horizontally from any existing sanitary sewer, sewage force main, or storm sewer. The distance shall be measured from edge of pipe to edge of pipe.
2. Lay potable water piping crossing sanitary sewers or sewage force mains to provide a minimum vertical distance of 18 inches between the outside edge of the potable water piping and the outside edge of the sewer force main. The 18-inch separation shall apply whether the potable water piping is over or under the sewer or force main. Lay potable water piping at crossings of sewers and force mains so a full length of pipe is centered on the sewer.

C. Joint Restraints

1. Provide joint restraints at horizontal and vertical deflection fittings and at tees, caps, reducers, bends, plugs, tapping sleeves, and tapping saddles. General joint restraint details and lengths are shown in the details included in these standards.

D. Open Excavation

1. Secure open excavation at all times. At the end of each day's work, protect the open ends of all pipes against the entrance of animals, children, earth, or debris by bulkheads or stoppers. Earth or other material that finds entrance into the watermain through open end must be removed at the Contractor's expense.

E. Magnetic Locator Wire

1. Install #12 AWG THWN solid or stranded magnetic locator wire with all PVC or non-metallic pipe and service lines. Wire shall be made electrically sound by soldering all joints, then made watertight with 3m "Super 33" electrical tape, coated with 3m "Liquid Tape" or approved equal.
2. On pipe installed by horizontal directional drill, pull a minimum of 2 strands of tracer wire with pipe. Provide Copperhead Direct Burial 12 AWG solid, steel core hard drawing extra high strength wire.

F. Location Material

1. Provide non-detectable tape such as Terra Tape Non-Detectable Standard Tape, as manufactured by Reef Industries, Inc. or approved equal.
2. Provide blue location material marked with "Caution Water Line Buried Below."

G. Sampling Station

1. The Owner is required to provide one (1) sample point to be installed within the system depending upon the size of the new development in a location and manner as approved by the Utility.

2. Sampling station shall be Eclipse No. 88 as manufactured by Kupferle Foundry.

7.10 PIPE BEDDING, HAUNCHING, AND BACKFILL

A. Lay each length of pipe in a firm foundation of bedding material and haunch and backfill with care.

B. Uniformly compacted, clean granular bedding shall be installed below all water mains. Bring bedding material to grade along the entire length of pipe to be installed. Use hand or mechanical tamping to compact the bedding material to a minimum 95% Standard Proctor Density.

C. In yielding subsoils, undercut the trench bottom to the depth necessary and backfill with graded, crushed stone to form a firm foundation.

D. Where excavation occurs in rock or hard shale, undercut the trench bottom and place a minimum of 6 inches of No. 8 crushed stone bedding prior to typical bedding installation.

E. Embodiment material shall be placed around flexible pipe. Place Class 1 backfill between the bedding material and to 12 inches over the top of the pipe. If fine sand, silt, or clayey gravels are used for initial backfilling over the pipe, place in 6 to 8-inch layers and compact on both sides of the pipe to an elevation 12 inches over the top of the pipe.

F. Trench widths and bedding requirements shall, conform to manufacturer's recommendations, AWWA/ASTM Standards, and these standards. Where conflicts exist, the most stringent shall apply.

G. Unless otherwise shown on plans, rigid pipe, such as ductile iron, shall be backfilled between the bedding material and a height of 12 inches over the top of the pipe with hand placed finely divided earth, free from debris and stones.

H. Granular backfill shall be used in accordance with INDOT Standard Specifications. Place all granular fill and achieve compaction of not less than 95% of the maximum dry density as determined in accordance with AASHTO T99, Method A (Std. Proctor) for the entire depth of the excavation. The manner in which the contractor achieves proper compaction shall be demonstrated at the beginning of the project (first 1,000 cu. yd.) and this method shall be used for the duration of the project. Use an independent testing agency to verify proper compaction.

I. Upon approval, flowable fill may be used to fill trenches for pipe and structures under pavement, and other locations. Installation, materials, and construction requirements shall be in accordance with INDOT Standards.

J. Backfill and bedding shall be as shown on the detail included in these standards unless approved in writing by NineStar Connect.

7.11 PIPE ASSEMBLY

A. Assemble joints in accordance with the manufacturer's instructions.

1. Properly apply the manufacturer's lubricant where applicable.
2. Center spigot ends in the bell of the pipe and push the pipe home bringing it to the correct line and grade. Remove pipe and fittings that do not allow a sufficient and uniform space for joints and replace with pipe of proper dimensions.
3. Prevent dirt or other materials from entering the joint space.

B. When it is necessary to deflect pipe from a straight line in either the horizontal or vertical plane, the amount of joint deflection shall not exceed 80% of the allowance recommended by the manufacturer. If alignment results in excess joint deflection, install additional fittings or shorter lengths of pipe.

C. Cut pipe for insertion of valves, fittings, or closure pieces in conformance with recommendations of the manufacturer of the pipe and cutting equipment. Cutting shall be done in a safe, workman like manner without creating damage to the pipe lining. An oxyacetylene torch shall not be used. Ends and rough edges shall be ground smooth. Bevel the cut ends of push-on joint connections using methods recommended by the manufacturer.

7.12 SERVICE LINE INSTALLATION

A. Install service lines within the public Right-of-Way in accordance with these standards, AWWA C800 and the Uniform Plumbing Code.

B. Where new meters are installed on opposite sides of the road from new mains, push services under the road to connect to meters. No open cutting of road surfaces will be allowed for service lines.

C. Install meter pits at Right-of-Way property lines or as directed by the Utility. Set meter boxes plumb and adjust meter box covers so they are flush with the finish grade (+/- 1 inch).

D. Install, flush, and perform leakage tests on service lines in accordance with the Uniform Plumbing Code.

E. Where new meter pits are to be installed and existing meter pits are to be removed, re-install existing meter read equipment in the new meter pits at the direction of the Utility.

F. For developments with new street curb, stamp the top of curb with a "W" at locations of water services.

7.13 HYDRANT INSTALLATION

A. Placement

1. Hydrants shall be installed in locations to provide complete accessibility. Placement shall reduce the possibility of damage from vehicles or injury to pedestrians.
2. When placed behind the curb, set the hydrant barrel so that no portion of the hose nozzle cap will be less than 2 feet nor more than 6 feet from the gutter face of the curb.
3. When set in lawn space between the curb and the sidewalk, or between the sidewalk and property line, no portion of the hydrant or nozzle shall be within 6" of the sidewalks.

B. Installation

1. Hydrants shall stand plumb and be situated so that side nozzles face the curb at a 90-degree angle. If located on private property or a rural road, the nozzle shall point to the nearest roadway. Connect hydrant to the main with a minimum 6" diameter branch unless otherwise shown on plans.
2. Provide hydrant extensions where required to obtain the proper elevation.
3. Hydrants shall have 3 cubic feet of "L" rock, No. 8 Stone, washed, or other approved stone no smaller than 3/4" diameter placed around the base of the barrel for drainage capacity. Provide stone from the bottom of the trench to a minimum of 6" above the waste opening in the hydrant elbow.
4. During construction, place a bag over new hydrants that are not ready for service. Remove the bag after the water main has been tested and placed in service.
5. Hydrants shall be tied to the pipe with suitable anchor couplings, or restrained joints.

C. Restraint

1. Hydrants and auxiliary valves shall be installed with a manufactured thrust restraint system, or stainless steel all threads, to stabilize valve and hydrant under all operating conditions including removal and replacement activities.

7.14 TESTING AND DISINFECTION TAPS

A. Water mains shall be flushed, tested and disinfected in accordance with Section 4.06 of these Rules and Standards.

7.15 SERVICE TAPS

A. Service taps will be reviewed and approved by the Utility on a case by case basis. An observer from the Utility must be present during the tap. Schedule tap appointments 48 hours in advance of construction.

B. Submit a site plan showing service line location, sump discharge line, meter pit and location of proposed service line prior to issuance of a permit.

C. Excavation trench must comply with OSHA requirements. A minimum of 36" shall be provided between the water main and trench wall during installation. The bottom of the trench must be a minimum of 12" below the bottom of the main and 18" behind the main.

D. Keep the trench bottom dry and free from water. Place stone in unstable or wet trench bottoms.

E. No taps shall be made within 3 pipe diameters of fittings or bells or within 7 feet of a hydrant.

End of Section 7
Domestic Water Distribution System

GPD GROUP, INC.®
520 South Main Street, Suite 2531
Akron, OH 44311
330.572.2100 Fax 330.572.2101

FOR REFERENCE ONLY

	DATE	REMARKS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE: -
BUILDING TYPE: END20
PLAN VERSION: OCTOBER 2021
BRAND DESIGNER: DICKSON
SITE NUMBER: 315289
STORE NUMBER: 456917
PA/PM: JW/KB
DRAWN BY.: NDG
JOB NO.: 2021088.41

TACO BELL

5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

TACO BELL

ENDEAVOR 20

DETAILS

C-508

PLOT DATE:

LANDSCAPE NOTES & PLANTING SPECIFICATIONS

SCOPE OF WORK

1. THIS WORK SHALL CONSIST OF PERFORMING CLEARING AND GRUBBING, SOIL PREPARATION, FINISH GRADING, PLANTING AND DRAINAGE, INCLUDING ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT.

2. QUANTITY TAKEOFF IS SUPPLIED FOR CONTRACTOR'S ASSISTANCE ONLY. CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ALL PLANT MATERIALS AS PER PLAN.

3. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR WITHIN EASEMENT OR RIGHT-OF-WAY LIMITS.

PRESERVATION/PROTECTION (IF APPLICABLE)

1. CONTRACTOR SHALL MAINTAIN AND PRESERVE TREES AND SHRUBS NOT BEING REMOVED, INCLUDING THEIR ROOTS. TREE PROTECTION FENCING SHALL BE USED AT THE DRIP LINE OF ALL TREES AND SHRUBS WITHIN 50 FEET OF CONSTRUCTION EXCEPT AS SHOWN ON PLAN. FENCING SHALL REMAIN IN PLACE UNTIL FINAL PLANT INSPECTION FOLLOWING CONSTRUCTION. MATERIALS SHALL NOT BE STOCKPILED WITHIN THIS DEFINED AREA AND VEHICLES AND OTHER EQUIPMENT SHALL BE OPERATED TO AVOID SOIL COMPACTION.

2. FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA EQUAL TO TWICE THE TREE CIRCUMFERENCE (MEASURED 6" ABOVE THE GROUND LINE IN INCHES) EXPRESSED IN FEET. (EXAMPLE: A CIRCUMFERENCE OF 10" WOULD HAVE A 'NO CUT' ZONE OF 20 FEET IN ALL DIRECTIONS FROM THE TREE). THIS SHOULD APPLY TO UTILITY SERVICES, IF FEASIBLE. THE ONLY EXCEPTION TO THIS REQUIREMENT WILL BE THOSE SPECIFICALLY ALLOWED BY THE LANDSCAPE ARCHITECT, SPECIFICATIONS OR AS INDICATION ON THE PLANS.

3. TREE TRUNKS AND EXPOSED ROOTS DAMAGED DURING EQUIPMENT OPERATIONS SHALL BE TREATED IN ACCORDANCE WITH THE ARBOR CULTURAL STANDARDS OF THE CITY.

PLANT MATERIALS

1. GENERAL - ALL MATERIALS SHALL BE OF ITS KIND AVAILABLE AND SHALL HAVE BEEN GROWN IN A CLIMATE SIMILAR TO THAT ON SITE.

2. PLANTS - ALL PLANTS SHALL BE HEALTHY, OF NORMAL GROWTH, WELL ROOTED, FREE FROM DISEASE AND INSECTS. QUALITY AND SIZE OF PLANT MATERIAL SHALL CONFORM TO ANSI Z60.1 "AMERICAN STANDARDS FOR NURSERY STOCK".

3. VARIETIES AND SIZES OF PLANTS SHALL BE AS SHOWN ON DRAWINGS.

4. PLANTS SHALL BE IN A HEALTHY, VIGOROUS CONDITION, FREE OF DEAD OR BROKEN BRANCHES, SCARS THAT ARE NOT COMPLETELY HEALED, FROST CRACKS, DISFIGURING KNOTS, BROKEN OR ABRADED BARK, REDUNDANT LEADERS OR BRANCHES, OR ABERRATIONS OF ANY KIND. PLANTS SHALL NOT HAVE MULTIPLE LEADERS, UNLESS THIS IS THE NATURAL FORM.

5. BALLED AND BURLAPPED (B&B) PLANTS SHALL BE DUG WITH A FIRM ROOT BALL OF NATURAL EARTH, OF A SIZE IN PROPORTION TO THE PLANT'S SIZE, AS MEASURED BY CALIPER, HEIGHT, OR SPREAD. BALLED AND BURLAPPED PLANTS SHALL BE HANDLED ONLY BY THE ROOT BALL, NOT BY THE TRUNK OR BRANCHES, AS THIS MAY BREAK OR LOOSEN THE ROOT BALL AND DAMAGE THE ROOT SYSTEM. CONTAINER PLANTS SHALL HAVE BEEN ESTABLISHED FOR A MINIMUM OF ONE FULL GROWING SEASON IN THEIR CONTAINERS BEFORE INSTALLATION. CONTAINER PLANTS SHALL BE HANDLED ONLY BY THE CONTAINER, NOT BY THE STEMS OR BRANCHES, AS THIS MAY PULL THE PLANT OUT OF THE CONTAINER AND BREAK OR LOOSEN THE ROOT BALL AND DAMAGE THE ROOT SYSTEM.

6. PLANTS SHALL BE PROTECTED FROM DRYING OUT DURING SHIPPING WITH TARPAULINS OR OTHER COVERINGS. PLANTS SHALL BE PROTECTED FROM DRYING OUT AFTER DELIVERY BY PLANTING IMMEDIATELY; IF THIS IS NOT POSSIBLE, THE ROOT BALL SHALL BE COVERED WITH PEAT MOSS OR EARTH, AND WATERED FREQUENTLY TO KEEP IT MOIST UNTIL PLANTING.

7. DO NOT HANDLE, MOVE, BIND, TIE OR OTHERWISE TREAT PLANTS SO AS TO DAMAGE THE ROOT BALL, ROOTS, TRUNK, OR BRANCHES IN ANY WAY.

TOPSOIL

1. TOPSOIL HAS BEEN (OR WILL BE) STOCKPILED FOR REUSE IN LANDSCAPE WORK. IF QUANTITY OF STOCKPILED TOPSOIL IS INSUFFICIENT, PROVIDE ADDITIONAL TOPSOIL AS REQUIRED TO COMPLETE LANDSCAPE WORK. IMPORTED TOPSOIL SHALL CONSIST OF LOOSE, FRIABLE, LOAMY TOPSOIL WITHOUT ADMIXTURE OF SUBSOIL OR REFUSE. ACCEPTABLE TOPSOIL SHALL CONTAIN NOT LESS THAN 3 PERCENT NOR MORE THAN 20 PERCENT ORGANIC MATTER.

2. PLANTING BACKFILL FOR PARKING LOT ISLANDS SHALL CONSIST OF A HOMOGENEOUS MIXTURE OF 3 PARTS TOPSOIL TO ONE PART SPHAGNUM PEAT INSTALLED OVER A 6" THICKNESS OF NO. 57 AGGREGATE.

SOIL CONDITIONING

1. OBTAIN LABORATORY ANALYSIS OF STOCKPILED AND IMPORTED TOPSOIL COMPLETE WITH RECOMMENDATIONS FOR SOIL AMENDMENT.

2. BEFORE MIXING, CLEAN TOPSOIL OF ROOTS, PLANTS, SOD, STONES, CLAY LUMPS, AND OTHER EXTRANEOUS MATERIALS HARMFUL OR TOXIC TO PLANT GROWTH.

3. MIX SPECIFIED SOIL AMENDMENTS AND FERTILIZERS WITH TOPSOIL AT RATES SPECIFIED BY THE LAB REPORT. DELAY MIXING OF FERTILIZER IF PLANTING WILL NOT FOLLOW PLACING OF PLANTING SOIL WITHIN A FEW DAYS.

4. FOR PLANTING BEDS AND LAWNS, MIX PLANTING SOIL EITHER PRIOR TO PLANTING OR APPLY ON SURFACE OF TOPSOIL AND MIX THOROUGHLY BEFORE PLANTING. MIX LIME WITH DRY SOIL PRIOR TO MIXING OF FERTILIZER.

5. PREVENT LIME FROM CONTACTING ROOTS OF ACID-LOVING PLANTS.

6. APPLY PHOSPHORIC ACID FERTILIZER (OTHER THAN THAT CONSTITUTING A PORTION OF COMPLETE FERTILIZERS) DIRECTLY TO SUBGRADE BEFORE APPLYING PLANTING SOIL AND TILLING.

PLANTING SOIL

1. PLANTING SOIL MIX SHALL BE CLEAR OF ALL STONES AND DEBRIS 1" OR LARGER, AND CONSIST OF THE FOLLOWING: 25% ORGANIC COMPOST, 75% ACCEPTABLE TOPSOIL.

OTHER MATERIALS

1. BED EDGING - EDGING SHALL BE 4" STEEL EDGING WITH THREE (3) METAL ANCHOR STAKES PER 20 FOOT SECTION. ALL MASS PLANTING BEDS SHALL HAVE EDGING PLACED BETWEEN MULCH AREA AND ANY ADJACENT TURF AREA.

2. MULCH: ORGANIC MULCH FREE FROM DELETERIOUS MATERIALS AND SUITABLE FOR TOP DRESSING OF TREES, SHRUBS, OR PLANTS AND CONSISTING OF THE FOLLOWING:

   a. RIVER ROCK MULCH AREA: AGGREGATE MULCH, 3/4"-2" IN SIZE, WASHED AND ROUNDED, SHALL BE INSTALLED WITHIN THE RIVER ROCK MULCH AREA PER THE PLAN. RIVER ROCK MULCH SHALL BE INSTALLED AT 3" INCHES DEPTH.

   b. NON-DRYED, DOUBLE SHREDDED HARDWOOD SHALL BE INSTALLED IN ALL OTHER LANDSCAPE BEDS OUTSIDE OF THE RIVER ROCK MULCH AREA AT A DEPTH OF 3 INCHES.

GENERAL WORK PROCEDURES

1. LANDSCAPE WORK SHALL BE ACCORDING TO THE WORKMANLIKE STANDARDS ESTABLISHED FOR LANDSCAPE CONSTRUCTION AND PLANTING IN THE INDIANA STANDARDIZED LANDSCAPE SPECIFICATIONS (ASLA) AND ANY LOCAL LANDSCAPE ORDINANCES.

2. CONTRACTOR SHALL OBTAIN A COPY OF LOCAL ORDINANCES REGARDING ACCEPTABLE PLANT AND PLANTING DETAILS AND ABIDE BY THOSE ORDINANCES AND DETAILS.

3. ENGINEER RESERVES THE RIGHT TO REJECT ALL PLANT MATERIAL DEEMED NOT ACCEPTABLE.

4. ANY PROPOSED PLANT SUBSTITUTIONS SHALL BE EQUIVALENT IN FORM, HABIT, STRUCTURE, BRANCHING AND LEAF TYPE AND MUST BE ISSUED TO THE LANDSCAPE ARCHITECT FOR APPROVAL, IN WRITING, PRIOR TO INSTALLATION.

WEEDING

1. BEFORE AND DURING PRELIMINARY GRADING AND FINISH GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

PLANTING

1. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE OWNER BEFORE EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.

2. PLANTING PITS SHALL BE AS PER DETAILS.

3. PREPARED SOIL SHALL BE TAMPED FIRMLY AT BOTTOM OF PIT. FILL WITH PLANTING SOIL AROUND BALL OF PLANT. COMPLETE BACKFILLING AND WATER THOROUGHLY.

4. EACH TREE AND SHRUB SHALL RECEIVE THE LANDSCAPER'S BIONUTRITION (3-0-3) GRANULAR WITH MYCORRHIZAL TECHNOLOGY FERTILIZER OR APPROVED OTHER. APPLY FERTILIZER PER MANUFACTURER'S SPECIFICATIONS.

5. WATER IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED.

6. INSTALL BED EDGING AND MULCH PER MATERIALS SPECIFICATION AND DETAILS.

7. REMOVE ALL SALES TAGS, STRINGS, STRAPS, WIRE, ROPE OR OTHER MATERIALS THAT MAY INHIBIT PLANT GROWTH BOTH ABOVE AND BELOW THE SURFACE OF THE SOIL.

8. REMOVE ANY BROKEN, SUCKERING, DISEASED, CRISSCROSSED OR AESTHETICALLY DISPLEASING BRANCHES BACK TO LIVE LEADER OR SIDE LATERAL WITH A FLUSH CUT.

FINISH GRADING

1. ALL AREAS WILL BE GRADED BY THE CONTRACTOR TO SUBSTANTIALLY PLUS/MINUS 0.1 FOOT OF FINISH GRADE.

2. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN, UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE. SOIL AREAS ADJACENT TO THE BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS.

3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER.

4. PARKING LOT ISLAND SHALL BE BACKFILLED AS PART OF THIS CONTRACT.

GROUND COVER

1. SPACING AND VARIETY OF GROUND COVER SHALL BE AS SHOWN ON DRAWINGS.

2. MULCH GROUND COVER WITH 2" THICKNESS OF SPHAGNUM PEAT.

3. IMMEDIATELY AFTER PLANTING GROUND COVER, CONTRACTOR SHALL THOROUGHLY WATER GROUND COVER.

4. ALL GROUND COVER AREAS SHALL BE TREATED WITH A PRE-EMERGENT BEFORE FINAL LANDSCAPE INSPECTION. GROUND COVER AREAS SHALL BE WEEDED PRIOR TO APPLYING PRE-EMERGENT. PRE-EMERGENT TO BE APPLIED AS PER MANUFACTURER'S RECOMMENDATION.

GUARANTEE

1. CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF PROJECT ACCEPTANCE BY THE OWNER.

CLEANUP

1. UPON THE COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. AN 'ACCEPTABLE CONDITION' SHALL BE AS DEFINED AND APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

IRRIGATION

1. CONTRACTOR SHALL PROVIDE & INSTALL AN IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE OF THE SITE.

2. IRRIGATED AREAS WITHIN 5 FEET OF BUILDING WALLS SHALL BE IRRIGATED BY DRIP IRRIGATION OR SIMILAR. CONTRACTOR SHALL ENSURE BUILDING WALLS AND WINDOWS WILL NOT BE DAMAGED OR STAINED BY IMPROPER IRRIGATION INSTALLATION OR POOR SELECTION OF FIXTURES.

3. SYSTEM SHALL INCLUDE ALL SPRINKLER FIXTURES, DRIP TUBING, PIPING, VALVES, WIRING AND CONTROLS TO PROVIDE A COMPLETE FUNCTIONAL SYSTEM THAT SHALL COMPLY WITH CITY CODE.

5. IRRIGATION CONTRACTOR SHALL PROVIDE A METHOD FOR WINTERIZATION. WINTERIZATION SHALL BE PERFORMED BY CONTRACTOR UPON COMPLETION IF SYSTEM IS INSTALLED BETWEEN NOVEMBER 1 AND MARCH 31.

6. PRIOR TO UPDATING THE IRRIGATION SYSTEM, A CERTIFIED IRRIGATION DESIGNER SHALL PROVIDE SHOP DRAWINGS TO ENGINEER FOR APPROVAL.

5. UPON APPROVAL OF SHOP DRAWINGS, THE UPDATED IRRIGATION SYSTEM SHALL BE APPROVED BY OWNER FOR FINAL ACCEPTANCE.

MAINTENANCE

(MAINTENANCE PERIOD TO COMMENCE AFTER FINAL INSPECTION.)

1. MAINTENANCE PERIOD FOR THIS CONTRACT SHALL BE 90 CALENDAR DAYS COMMENCING AFTER FINAL INSPECTION OF CONSTRUCTION.

2. MAINTAIN TREES, SHRUBS AND OTHER PLANTS BY PRUNING, CULTIVATING AND WEEDING AS REQUIRED FOR HEALTHY GROWTH. RESTORE PLANTING SAUCERS. RESET TREES AND SHRUBS TO PROPER GRADES OR VERTICAL POSITION AS REQUIRED.

3. MAINTAIN LAWNS BY WATERING, MOWING, TRIMMING, AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.

4. MAINTAIN THE LANDSCAPING BY KEEPING ALL PLANTS DISEASE-FREE AND PLANTING BEDS GROOMED, EXCEPT IN NATURALLY OCCURRING VEGETATION AREAS.

5. REPLACE ANY REQUIRED PLANTING(S), WHICH SEVERELY DECLINE OR DIE AFTER THE DATE OF PLANTING. SUCH REPLACEMENT SHALL OCCUR DURING THE NEXT APPROPRIATE PLANTING SEASON.

SODDING

1. SOD SHALL BE FIRST GRADE CERTIFIED BLENDS OF THE FOLLOWING SPECIES PER HARDINESS ZONE CONTAINING NOT MORE THAN 30 PERCENT OF OTHER GRASSES AND CLOVERS, AND FREE FROM ALL NOXIOUS WEEDS.

   ZONES 3, 4 & 5: APPROVED BLUE GRASS BLEND
   ZONE 6: APPROVED FESCUE BLEND
   ZONES 7 & 8: APPROVED BERMUDA BLEND
   ZONES 9 & 10: APPROVED ST AUGUSTINE FLORATAM BLEND

2. SOD SHALL BE RECENTLY MOWED TO A HEIGHT OF NOT LESS THAN 3 INCHES. IT SHALL BE CUT INTO STRIPS OF NOT LESS THAN 3 FEET AND NOT OVER 6 FT. WITH A UNIFORM WIDTH OF NOT OVER 24 INCHES.

3. SOD SHALL BE CUT TO A DEPTH EQUAL TO THE GROWTH OF THE FIBROUS ROOTS BUT IN NO CASE LESS THAN 1 INCH.

4. SOD SHALL BE DELIVERED TO THE JOB WITHIN 24 HOURS AFTER BEING CUT AND SHALL BE INSTALLED WITHIN 48 HOURS AFTER BEING CUT.

5. BEFORE SOD IS PLACED, THE SOD BED WILL HAVE BEEN EXCAVATED TO SUCH A DEPTH THAT WHEN THE SOD IS IN PLACE THE TOP OF THE SOD WILL BE FLUSH WITH THE SURROUNDING GRADE.

6. NO SOD SHALL BE PLACED WHEN THE TEMPERATURE IS BELOW 32 DEGREES F. NO FROZEN SOD SHALL BE PLACED NOR SHALL ANY SOD BE PLACED ON FROZEN SOIL.

7. WHEN LAID ON A SLOPE, SOD SHALL BE LAID ON CONTOUR, STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP.

8. SOD SECTIONS OR STRIPS SHALL BE STAGGERED WHEN LAID, IN A BRICK-LIKE PATTERN, WITH SNUG EVEN JOINTS.

9. AFTER SOD IS PLACED, SECURE THE SOD TO THE SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES, OR SPLIT SHINGLES. CONTRACTOR SHALL ENSURE SOD IS STABLE ON SLOPES AND AT A MINIMUM INSTALL ONE FASTENER AT EACH SHORT END OF THE SOD STRIP. FASTENERS SHALL NOT IMPAIR MOWING OR SHOULD BE REMOVED ONCE WELL-ROOTED, ESTABLISHED.

10. THE SOD SHALL BE WATERED THOROUGHLY AND TAMPED WITH APPROVED SOD TAMPERS SUFFICIENTLY TO BRING THE SOD INTO CLOSE CONTACT WITH THE SOD BED AND INSURE TIGHT JOINTS BETWEEN THE SECTIONS OR STRIPS.

11. THE CONTRACTOR SHALL KEEP ALL SODDED AREAS INCLUDING SUBGRADE, THOROUGHLY MOIST FOR 30 DAYS AFTER SODDING.

12. THE CONTRACTOR SHALL REPAIR ANY AREAS DAMAGED FOLLOWING INSTALLATION AS DIRECTED BY THE ENGINEER. SOD SHALL BE IN PLACE AT LEAST 30 DAYS BEFORE FINAL ACCEPTANCE.

13. IF MOWING IS REQUIRED PRIOR TO FULL SOD ESTABLISHMENT, CONTRACTOR SHALL USE APPROPRIATE EQUIPMENT TO NOT DISTURB OR ERODE/RUT SOD.

SEEDING

1. GRASS SEED SHALL BE FRESH, CLEAN, DRY, NEW-CROP SEED COMPLYING WITH THE ASSOCIATION OF OFFICIAL SEED ANALYSTS "RULES FOR TESTING SEEDS" FOR PURITY AND GERMINATION TOLERANCES.

2. ALL AREAS TO BE SEEDED SHALL RECEIVE NO LESS THAN 0.23 POUNDS OF SEED PER ONE THOUSAND SQUARE FEET. APPLY SEED AND PROTECT WITH STRAW MULCH AS REQUIRED FOR NEW LAWNS.

3. GRASS SEED MIX SHALL CONSIST OF AT LEAST 3 ZOYSIA GRASS (ZOYSIA SP.) VARIETIES, OR MATCH EXISTING SPECIES ON SITE. SEED MIX SHALL BE APPLIED AT A RATE OF 3-4 LB PER 1,000 SF.

PLANTING SCHEDULE

1. ALL PLANTING IS RECOMMENDED TO BE DONE WITHIN THE FOLLOWING DATES. WHEN PLANTING OUTSIDE THESE DATES, WRITTEN DOCUMENTATION SHALL BE PROVIDED THAT SURVIVAL OR REPLACEMENT WILL BE ENSURED. NO PLANTING SHALL BE DONE IN FROZEN SOIL.

NORMAL PLANTING SEASONS	SPRING	FALL
ALL TREES AND SHRUBS	MARCH 15-MAY 15	OCTOBER 1-DECEMBER 1
EVERGREENS	APRIL 1-MAY 15	OCTOBER 1-NOVEMBER 15
GROUNDCOVERS	APRIL 1-JUNE1	WHEN SOD IS WORKABLE
SEED AND MULCH	APRIL 1-MAY 15	OCTOBER 1-NOVEMBER 15

GENERAL NOTE

1. ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE WITHIN THE RIGHT-OF-WAY SHALL BE FINE GRADED TO MAINTAIN POSITIVE DRAINAGE, HAVE A 4" LAYER OF TOPSOIL APPLIED AND BE SEEDED ACCORDING TO SPECIFICATIONS ON THIS SHEET.

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Akron, OH 44311
330.572.2100 Fax 330.572.2101

	DATE	REMARKS
	04/29/2022	ISSUED FOR BID

CONTRACT DATE:	-
BUILDING TYPE:	END20
PLAN VERSION:	OCTOBER 2021
BRAND DESIGNER:	DICKSON
SITE NUMBER:	315289
STORE NUMBER:	456917
PA/PM:	JW/KB
DRAWN BY.:	JRA
JOB NO.:	2021088.41

TACO BELL

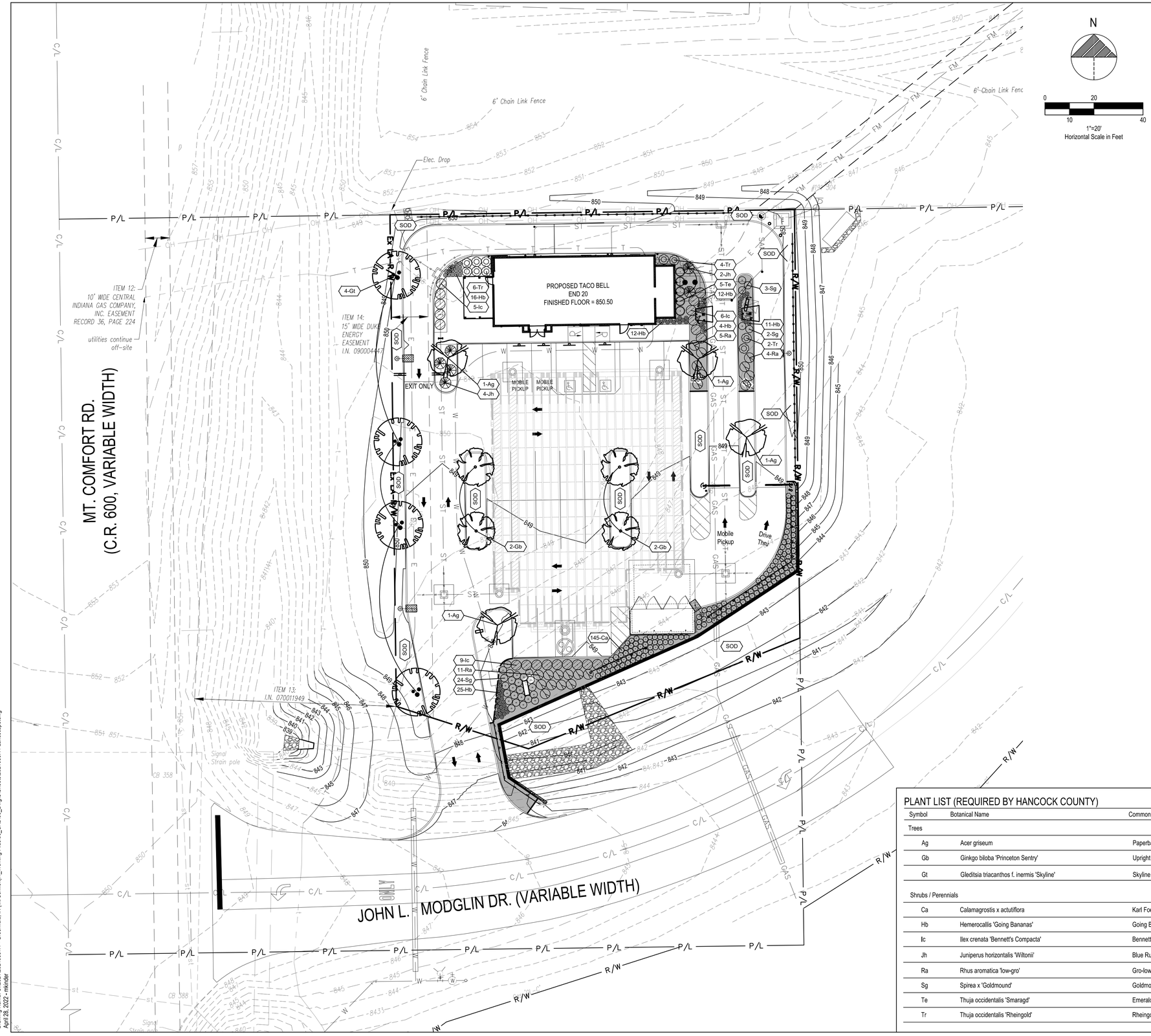
5964 WEST JOHN L. MODGLIN DR.
GREENFIELD, IN 46140

ENDEAVOR 20
LANDSCAPE NOTES

L-001

PLOT DATE:

Drawing Name: O:\2021\2021088.41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\CSheets\2021088.41 Landscape.dwg
April 28, 2022 - mkinder



N

0 20 10 40

1"=20'
Horizontal Scale in Feet

LANDSCAPE NOTES

1. MULCH PER LANDSCAPE SPECIFICATIONS.
2. ALL DISTURBED AREAS NOT TO BE PAVED OR MULCHED SHALL BE SODDED PER SPECIFICATIONS.
3. ALL DISTURBED AREAS WITHIN THE R.O.W. NOT TO BE PAVED, SHALL BE SEEDED PER THE SPECIFICATIONS.

LANDSCAPE LEGEND

- PROPOSED LANDSCAPE BED EDGE
- PROPOSED HANCOCK COUNTY REQUIRED TREE
- PROPOSED HANCOCK COUNTY REQUIRED SHRUB
- PROPOSED LIMESTONE BOULDER, DESERT SAND, 12"-36"
- ##-Xx — PROPOSED PLANT QUANTITY AND SYMBOL
- SOD — PROPOSED LAWN AREA
- PROPOSED RIVER ROCK MULCH AREA

LANDSCAPE CALCULATIONS

156.075(B)(4) NON-RESIDENTIAL PERIMETER REQ:
1 TREE PER 35 WITH A MOUND OR SHRUB ROW A MINIMUM OF 15 FT WIDE
(THIS MAY BE ELIMINATED IF REQUIRED SCREENING FOR PARKING AREAS OR BUFFERYARDS IS WITHIN 20 FT OF ROW)

PROP: DISTANCE BETWEEN BACK OF CURB TO ROW IS 4.5 FT IN MOST AREAS.
[VARIANCE REQUESTED]

156.075(B)(6) SITE INTERIOR PLANTING REQ:
1 TREE FOR EVERY 1,000 SQ FT OF YARD AREA

MT. COMFORT RD (N 600 W)
1,062.6 SF
REQ: 1 TREE
PROP: 4 TREES

JOHN L MODGLIN DR (W 225 N)
3,121.7 SF
REQ: 3 TREES
PROP: 0 TREES

156.075(B)(7) PARKING LOT PERIMETER:
ALL PARKING LOTS SHALL BE SEPERATED FROM ALL ROW'S BY LANDSCAPE AREA WITH MIN. 20' WIDTH

PROP: DISTANCE BETWEEN BACK OF CURB TO ROW IS 4.5 FT IN MOST AREAS.
[VARIANCE REQUESTED FOR 20' WIDTH]

(a) 1 TREE PER 30 LF OF LANDSCAPE AREA, 1 SHRUB PER 5LF (50% EVERGREEN)
49 LF
REQ: 1.6 TREES
REQ: 8.1 SHRUBS
PROP: DUE TO UNDERGROUND DETENTION SYSTEM LOCATION AND PROPOSED WALL, NO TREES ARE LOCATED ADJACENT TO PARKING FACING JOHN L MODGLIN RD. SOME SHRUBS HAVE BEEN ADDED ALONG TOP OF WALL.
[VARIANCE REQUESTED]

156.075(B)(8) PARKING LOT INTERIOR REQ:
(a) 5% LANDSCAPE FOR ALL PAVED AREA
20,112.8 SF PAVED
5% REQ. = 1,005.6 SF
PROPOSED LS = 2,716 SF

156.075(B)(8) PARKING LOT INTERIOR REQ:
(c)(3) ALL LS AREAS MUST BE A MIN OF 200 SF & CONTAIN 1 BROADLEAF TREE

PROP: ALL LANDSCAPE ISLANDS CONTAIN, AT LEAST, ONE TREE

PLANT LIST (REQUIRED BY HANCOCK COUNTY)

Symbol	Botanical Name	Common Name	Qty.	Min. Size	Condition	Remarks
Trees						
Ag	Acer griseum	Paperbark Maple	4	2" cal	B&B	Single-stem
Gb	Ginkgo biloba 'Princeton Sentry'	Upright Ginkgo	4	2" cal	B&B	Matching
Gt	Gleditsia triacanthos f. inermis 'Skyline'	Skyline Honeylocust	4	2" cal	B&B	Specimen
Shrubs / Perennials						
Ca	Calamagrostis x actutiflora	Karl Foerster Feather Reed Grass	69	No. 2	Cont.	2' o/c
Hb	Hemerocallis 'Going Bananas'	Going Bananas Daylily	71	No. 1	Cont.	1.5' o/c
Ic	Ilex crenata 'Bennett's Compacta'	Bennett's Compact Japanese Holly	20	24" Ht.	B&B	4' o/c
Jh	Juniperus horizontalis 'Wiltonii'	Blue Rug Juniper	6	No. 5	Cont.	4.5' o/c
Ra	Rhus aromatica 'low-gro'	Gro-low Fragrant Sumac	20	24" Spread	Cont.	4' o/c
Sg	Spirea x 'Goldmound'	Goldmound Spirea	29	18" Ht.	Cont.	3' o/c
Te	Thuja occidentalis 'Smaragd'	Emerald Arborvitae	5	5' Ht.	B&B	4' o/c
Tr	Thuja occidentalis 'Rheingold'	Rheingold Arborvitae	10	24" Ht.	B&B	4' o/c

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TACO BELL

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TACO BELL

ENDEAVOR 20
LANDSCAPE PLAN

L-101

PLOT DATE:

Drawing Name: O:\2021\2021088.41 - Greenfield, IN (Mt Comfort)\4_Working Files\00_CAD\00_Dwg\C\Sheets\2021088.41 Landscape.dwg
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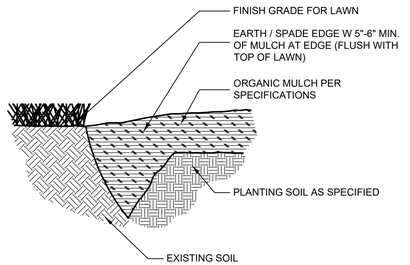
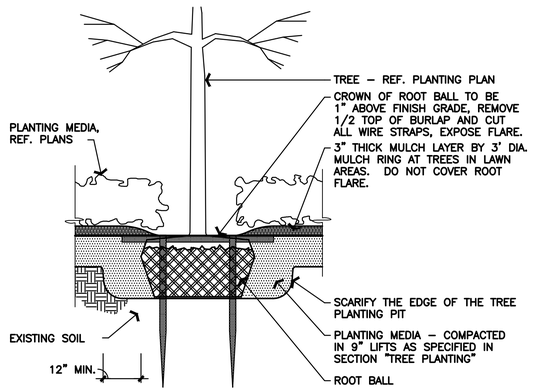


GENERAL NOTES:

USE WHEREVER MULCHED PLANTINGS TRANSITION TO TURF AREAS, INCLUDING ALL TREE MULCH RINGS, SHRUB BEDS, MASS PLANTINGS BEDS, ETC...

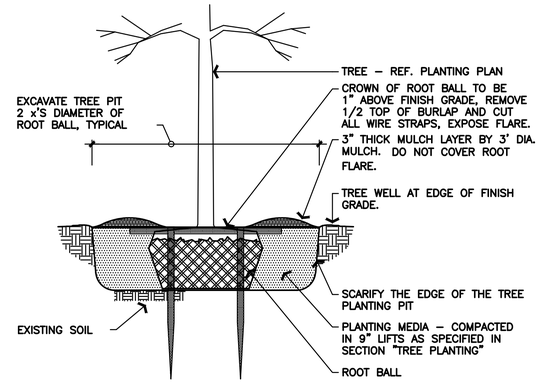
EARTH SPADE EDGE DETAIL

N.T.S.



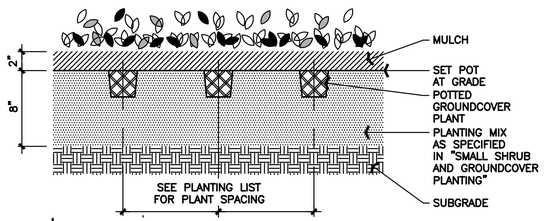
TREE PLANTING IN PLANTER – SECTION

1/2" = 1'–0" 0 2'



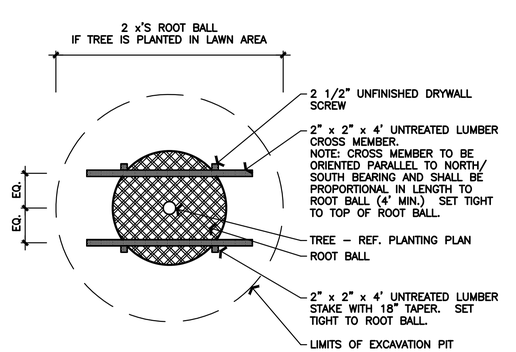
TREE PLANTING IN LAWN – SECTION

1/2" = 1'–0" 0 2'



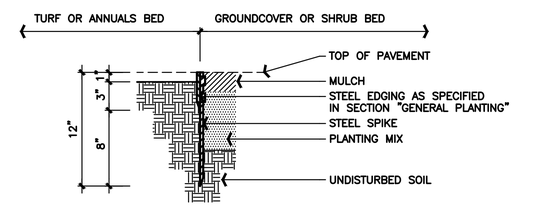
GROUNDCOVER PLANTING – SECTION

1 1/2" = 1'–0" 0 1'



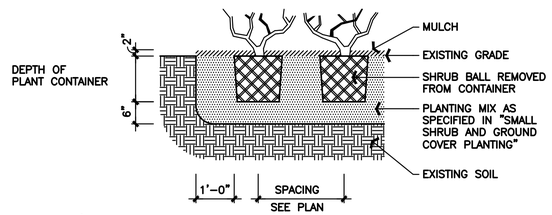
TYPICAL TREE STAKING – PLAN

1/2" = 1'–0" 0 2'



STEEL EDGING – SECTION

1 1/2" = 1'–0" 0 1'



SHRUB PLANTING – SECTION

1/2" = 1'–0" 0 2'

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LANDSCAPE DETAILS

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