

ENGINEERING PLANS FOR YOUNGS CREEK ADDITION FRANKLIN, INDIANA



TEMPORARY BENCHMARK INFO

TBM #1 CHISELED SQUARE @ THE NE CORNER OF THE BRIDGE OVER YOUNG'S CREEK ELEV.=725.25

TBM #2 CHISELED SQUARE @ THE NW CORNER OF TRANSFORMER PAD ELEV.=728.00

TBM #3 CHISELED "X" ON SOUTH TOP FLANGE BOLT OF FIRE HYDRANT ELEV.=730.48

TBM #4 CHISELED SQUARE NW CORNER CONCRETE PAD ELEV.=722.34

OWNER

Indiana Masonic Home 690 State St Franklin, IN 46131 (317) 346-1401 Contact: Mike Spencer mspencer@compasspark.org

OWNER'S REPRESENTATIVE

Baile Senior Development 10918 Whitetail Rd Rogers, MN 55374 (612) 802-6903 Contact: John Mehrkens jmehrkens@bailedev.com





	(IN FEET)	
1	INCH = 100 FT.	

	CIV
C0.0	COVE
C0.1	GENE
C0.2 - C0.4	SPECI
C1.0	EXISTI
C1.1	DEMO
C2.0	SITE P
C3.0	GRADI
C4.0	EROSI
C4.1-4.2	EROSI
C5.0	UTILIT
C5.1	STORI
C8.0 - 8.1	CONS

	SUP
L1.0 - L1.3, L2.0, L3.0	LANDS
	ARCHIT
	MECHA
	STRUC

PROJECT TEAM

ENGINEER & SURVEYOR

V3 Companies, Ltd. 1060 N Capitol Ave, Ste 6-301 Indianapolis, IN 46204 (317) 423-0690 Project Manager: David A. Marks dmarks@v3co.com Project Engineer: David A. Marks

ARCHITECT

RDL Architects 16102 Chagrin Blvd, Ste 200 Shaker Heights, OH 44120 (216) 752-4300 Contact: Eileen Nacht eileen@rdlarchitects.com

UTILITY CONTACT INFORMATION				
ELECTRIC	DUKE ENERGY	(765) 349-4012		
SEWER, STORM	FRANKLIN DPW, CITY OF	(317) 736-3640		
GAS	CENTERPOINT ENERGY	(765) 287-2119		
FIBER OPTIC	METRO FIBERNET, LLC.	(812) 253-2196		
WATER	IN AMERICAN WATER	(317) 885-2404		



INDEX				
IL ENGINEERING PLANS		PTION		
R SHEET RAL NOTES FICATIONS ING CONDITIONS PLAN		DESCRI		
LITION PLAN PLAN ING PLAN ION CONTROL PLAN (POST-CONSTRUCTION)	SUOISIONS	NO. DATE		
ON CONTROL DETAILS Y PLAN MSEWER PLAN & PROFILE TRUCTION DETAILS	ΓΕ: 11/07/2024 F	DESCRIPTION		
PPORTING DOCUMENTS	IAL ISSUE DAT	NTE		
SCAPE PLANS	3 ORIGIN	R: NO. DA		S
TECTURAL PLANS ANICAL, PLUMBING, ELECTRICAL PLANS CTURAL PLANS	PROJECT NO.: 24046	PROJECT MANAGEI	DESIGNED BY: DAN	IA DRAWN BY: PG:
		COVER SHEEL	YOUNGS CREEK ADDITION	FRANKLIN INDIA
PROFESSIONAL ENGINEER'S CERTIFICATION I, DAVID A. MARKS, A LICENSED PROFESSIONAL ENGINEER OF INDIANA, HEREBY CERTIFY THAT THE CIVIL ENGINEERING PLANS WERE PREPARED ON BEHALF OF INDIANA MASONIC HOMES/BALLE SENIOR DEVELOPMENT BY V3 COMPANIES, LTD. UNDER MY PERSONAL DIRECTION. THIS TECHNICAL SUBMISSION IS INTENDED TO BE USED AS AN INTEGRAL PART OF AND IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS. DATED THIS 7TH OF NOVEMBER, A.D., 2024.		Ave, Ste 6-301 Indianapolis, IN 46204	317.423.0690 phone www.v3co.com	
INDIANA LICENSED PROFESSIONAL ENGINEER		DRAW	/ING NO.)

N:\2024\240463\Drawings\ACAD\LD\S04\Sheet Drawings\240463_C0.0 COVER.dwg 11/7/2024

GENERAL NOTES

EXISTING SITE TOPOGRAPHY, UTILITIES, RIGHT-OF-WAY AND HORIZONTAL CONTROL SHOWN ON THE DRAWINGS WERE **OBTAINED FROM A SURVEY PREPARED BY:**

> V3 Companies, Ltd. 171 N Main St., Martinsville, IN 46151

COPIES OF THE SURVEY ARE AVAILABLE FROM THE SURVEYOR. SITE CONDITIONS MAY HAVE CHANGED SINCE THE SURVEY WAS PREPARED. CONTRACTORS TO VISIT SITE TO FAMILIARIZE THEMSELVES WITH THE CURRENT CONDITIONS.

- 2. ALL EXISTING TOPOGRAPHY. UNDERGROUND UTILITIES. STRUCTURES AND ASSOCIATED FACILITIES SHOWN ON THESE DRAWINGS HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATIONS AND ELEVATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER FACILITIES, THE EXISTENCE OF WHICH ARE NOT PRESENTLY KNOWN.
- 3. CONTRACTOR IS TO VERIFY ALL EXISTING STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL AND STARTING WORK.
- 4. ALL APPLICABLE PROVISIONS OF THE CURRENT OCCUPATIONAL SAFETY AND HEALTH ACT ARE HEREIN INCORPORATED BY REFERENCE.
- THE CONTRACTOR SHALL SUBSCRIBE TO ALL GOVERNING REGULATIONS AND SHALL OBTAIN ALL NECESSARY PUBLIC AGENCY PERMITS PRIOR TO STARTING WORK. THE CONTRACTOR, BY USING THESE PLANS FOR THEIR WORK, AGREE TO HOLD HARMLESS V3 COMPANIES LTD., THE MUNICIPALITY, THEIR EMPLOYEES AND AGENTS AND THE OWNER WHILE ACTING WITHIN THE SCOPE OF THEIR DUTIES FROM AND AGAINST ANY AND ALL LIABILITY, CLAIMS, DAMAGES, AND THE COST OF DEFENSE ARISING OUT OF CONTRACTOR(S) PERFORMANCE OF THE WORK DESCRIBED HEREIN, BUT NOT INCLUDING THE SOLE NEGLIGENCE OF THE OWNER, THEIR AGENTS, THE ENGINEER, THEIR EMPLOYEES AND AGENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR CONSTRUCTION ALONG OR ACROSS EXISTING STREETS OR HIGHWAYS. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE PROPER BRACING, SHORING AND OTHER REQUIRED PROTECTION OF ALL ROADWAYS BEFORE CONSTRUCTION BEGINS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE STREETS OR ROADWAYS AND ASSOCIATED STRUCTURES AND SHALL MAKE REPAIRS AS NECESSARY TO THE SATISFACTION OF THE OWNER OF THE ROADWAY.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ADEQUATE SIGNS, TRAFFIC CONTROL DEVICES AND WARNING DEVICES TO INFORM AND PROTECT THE PUBLIC DURING ALL PHASES OF CONSTRUCTION. BARRICADES AND WARNING SIGNS SHALL BE PROVIDED IN ACCORDANCE WITH THE INDOT STANDARD SPECIFICATIONS. ALL TRAFFIC CONTROL WORK SHALL BE DONE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
- 8. EXCEPT WHERE MODIFIED BY THE CONTRACT DOCUMENTS ALL WORK PROPOSED HEREON SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS WHICH ARE HEREBY MADE A PART HEREOF:
- a. "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AS PREPARED BY INDOT, LATEST EDITION.
- b. "RECOMMENDED STANDARDS FOR WATER WORKS" LATEST EDITION.
- c. "RECOMMENDED STANDARDS FOR WASTEWATER FACILIITIES"LATEST EDITION.
- d. THE LATEST EDITIONS OF THE MUNICIPAL CODE AND STANDARDS OF THE CITY OF FRANKLIN.
- e. THE NATIONAL ELECTRIC CODE
- f. THE INDIANA ACCESSIBILITY CODE.

TO SITE WORK ISSUES DESIGNED BY THE ENGINEER. THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

- 9. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY HAVING JURISDICTION AT LEAST 48 HOURS PRIOR TO COMMENCING ANY WORK AND FOR ANY NEW CONSTRUCTION REQUIRING INSPECTION.
- 10. ALL TREES TO BE SAVED SHALL BE IDENTIFIED PRIOR TO CONSTRUCTION AND SHALL BE PROTECTED PER INDOT STANDARDS. THE RIGHT-OF-WAY LINE AND LIMITS OF THE CONTRACTOR'S OPERATIONS SHALL BE CLEARLY DEFINED THROUGHOUT THE CONSTRUCTION PERIOD. ALL TREES IDENTIFIED TO REMAIN SHALL BE PROTECTED FROM DAMAGE INCLUDING TRUNKS, BRANCHES AND ROOTS. NO EXCAVATING, FILLING OR GRADING IS TO BE DONE INSIDE THE DRIP LINE OF TREES UNLESS OTHERWISE INDICATED.
- 11. CONSTRUCTION ACCESS POINTS TO THE SITE SHALL BE PROTECTED IN SUCH A WAY AS TO PREVENT ACCUMULATION OF MUD OR SOIL ON PUBLIC THOROUGHFARES. AT THE END OF EACH DAY AND AS OFTEN AS OTHERWISE NECESSARY THE CONTRACTOR SHALL CLEAN UP ALL MUD OR SOIL WHICH HAS BEEN TRACKED ONTO PUBLIC STREETS AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION AND AS DETAILED IN THE STORM WATER POLLUTION PREVENTION PLAN, SHEET C4.6.
- 12. THE CONTRACTOR SHALL PROVIDE FOR THE SAFE AND ORDERLY PASSAGE OF TRAFFIC AND PEDESTRIANS WHERE HIS/HER OPERATIONS ABUT PUBLIC THOROUGHFARES AND ADJACENT PROPERTY IN ACCORDANCE WITH THE CITY OF FRANKLIN MUNICIPAL CODE AND INDOT REQUIREMENTS.

- 13. NO HOLES ARE TO BE LEFT OPEN IN THE PAVEMENT OR PARKWAY OVER A HOLIDAY, WEEKEND OR AFTER 3:00 P.M. ON THE DAY PRECEDING A HOLIDAY OR A WEEKEND.
- 14. ALL EXISTING PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAWCUT ALONG LIMITS OF PROPOSED REMOVAL BEFORE COMMENCEMENT OF PAVEMENT REMOVAL.
- 15. REMOVED PAVEMENT, SIDEWALK, CURB AND GUTTER, ETC. SHALL BE LEGALLY DISPOSED OF BY THE CONTRACTOR AS PART OF THE BASE CONTRACT.
- 16. NO BURNING OR INCINERATION OF RUBBISH WILL BE PERMITTED ON SITE.
- 17. FOR REGULATED UTILITY LOCATIONS. THE CONTRACTOR SHALL CONTACT INDIANA811 AT 811 OR 800-382-5544. LOCAL GOVERNMENT AGENCIES SHOULD BE CONTACTED BY THE CONTRACTOR FOR LOCATION OF ALL NONREGULATED UTILITY LOCATIONS. CALL FOR LOCATES AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION.
- 18. BEFORE EXCAVATING OVER OR ADJACENT TO ANY EXISTING UTILITIES, CONTRACTOR SHALL NOTIFY THE OWNER OF SUCH UTILITIES TO ENSURE THAT PROTECTIVE WORK WILL BE COORDINATED AND PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER OF THE UTILITY INVOLVED. IF ANY EXISTING SERVICE LINES, UTILITIES AND UTILITY STRUCTURES WHICH ARE TO REMAIN IN SERVICE ARE UNCOVERED OR ENCOUNTERED DURING THIS OPERATION, THEY SHALL BE SAFEGUARDED, PROTECTED FROM DAMAGE AND SUPPORTED IF NECESSARY.
- 19. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A SET OF "APPROVED" ENGINEERING PLANS WITH THE LATEST REVISION DATE ON THE JOB SITE PRIOR TO THE START OF CONSTRUCTION.
- 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL.
- 21. ALL CURB RADII REFER TO FACE OF CURB.
- 22. ANY AREAS THAT ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED IN CONFORMANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND SHALL BE INCIDENTAL TO THE CONTRACT.
- 23. STREET PAVING AND CURBS TO REMAIN SHALL BE PROTECTED FROM DAMAGE AND IF DAMAGED, SHALL BE REPLACED PROMPTLY IN CONFORMANCE WITH THE MUNICIPALITY OR INDOT STANDARD SPECIFICATIONS IN MATERIALS AND WORKMANSHIP.
- 24. PROPOSED ELEVATIONS INDICATE FINISHED CONDITIONS. FOR ROUGH GRADING ELEVATIONS ALLOW FOR THICKNESS OF PROPOSED PAVING (ROADS, WALKS, DRIVES, ETC.) OR TOPSOIL AS INDICATED ON DRAWINGS.
- 25. CAD FILES ARE AVAILABLE FOR CONSTRUCTION LAYOUT UPON REQUEST.
- 26. BACKFILL SHALL BE PLACED NEXT TO THE CURB AS SOON AS PERMISSIBLE AFTER CONSTRUCTION TO PREVENT SCOURING AND UNDERCUTTING BY STORM WATER RUNOFF.
- 27. BUTT JOINTS SHALL BE PROVIDED WHEREVER NEW PAVEMENT ABUTS EXISTING PAVEMENT. ALL BUTT JOINTS SHALL BE CONSTRUCTED BY MILLING AND SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE BITUMINOUS SURFACE COURSE
- 28. WHEN AN EXISTING DRAINAGE ROUTE, EITHER A STORM SEWER OR WATERWAY, IS INTERRUPTED DUE TO CONSTRUCTION. THE DRAINAGE ROUTE SHALL BE REESTABLISHED TO ORIGINAL CONDITIONS BY THE END OF THE SAME WORK DAY, POSITIVE DRAINAGE MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
- 29. PROVIDE SMOOTH VERTICAL CURVES THROUGH HIGH AND LOW POINTS INDICATED BY SPOT ELEVATIONS. PROVIDE UNIFORM SLOPES BETWEEN NEW AND EXISTING GRADES. AVOID RIDGES AND DEPRESSIONS.
- 30. FINAL ADJUSTMENT OF FIRE HYDRANTS, VALVE VAULTS AND MANHOLES TO FINISHED GRADE ARE INCIDENTAL TO THEIR COST.
- IN THE EVENT OF CONFLICTING SPECIFICATIONS WITH REGARD 31. ANY EXISTING UTILITY STRUCTURES REQUIRING ADJUSTMENT ARE TO BE ADJUSTED OR RECONSTRUCTED BY THE CONTRACTOR TO THE UTILITY OWNER'S SATISFACTION. ADJUSTMENTS OR RECONSTRUCTIONS NOT CALLED FOR ON THE PLANS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
 - 32. ALL UTILITY CONNECTIONS TO EXISTING LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REGULATIONS AND TO THE SATISFACTION OF THE UTILITY OWNER.
 - 33. PROVIDE TRENCH BACKFILL IN ACCORDANCE WITH THE CITY OF FRANKLIN SPECIFICATIONS. BACKFILL SHALL BE PLACED AND COMPACTED PER THE MUNICIPALITY AND INDOT SPECIFICATIONS. COST OF BACKFILL IS TO BE CONSIDERED INCIDENTAL TO THE UTILITY WORK.
 - 34. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
 - 35. PRIOR TO DEMOBILIZATION, ALL WORK SHALL BE CLEANED AND INSPECTED TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION. THE COST OF THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
 - 36. THE GENERAL CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES TO PROVIDE CABLE TV, PHONE, ELECTRIC, GAS AND IRRIGATION SERVICES. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING SITE LAYOUTS FOR THESE UTILITIES AND SHALL COORDINATE AND PROVIDE CONDUIT CROSSINGS AS REQUIRED. THIS COORDINATION SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. ANY CONFLICTS IN UTILITIES SHALL BE CORRECTED BY THE GENERAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

37. BAND-SEAL CONNECTORS OR EQUIVALENT SHALL BE USED TO JOIN PIPES OF DISSIMILAR MATERIAL.

38. CONTRACTOR SHALL MAINTAIN ACCURATE RECORDS OF ALL CONSTRUCTION IN CONFORMANCE WITH ALL MUNICIPAL AND CLIENT REQUIREMENTS FOR USE IN PREPARING RECORD DRAWINGS.

39. THE SUBCONTRACTOR SHALL INSTALL A 2"x4"x6' POST ADJACENT TO THE TERMINUS OF UTILITY MAINS AND SERVICE LINES. POSTS SHALL BE MARKED IN ACCORDANCE WITH THE CITY OF FRANKLIN STANDARDS.

40. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING ANY EXCAVATION. ANY DEWATERING REQUIRED SHALL BE INCIDENTAL TO THE CONTRACT.

41. COPIES OF SOILS INVESTIGATION REPORTS MAY BE OBTAINED FROM THE OWNER. ANY BRACING, SHEETING OR SPECIAL CONSTRUCTION METHODS REQUIRED IN ORDER TO INSTALL THE PROPOSED IMPROVEMENTS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PROJECT. ANY ADDITIONAL SOILS DATA NEEDED TO CONFIRM THE CONTRACTOR'S OPINIONS OF THE SUBSOIL CONDITIONS SHALL BE DONE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL OBTAIN THE OWNER'S WRITTEN AUTHORIZATION TO ACCESS THE SITE TO CONDUCT A SUPPLEMENTAL SOILS INVESTIGATION.

42. ALL FIELD TILE ENCOUNTERED DURING CONSTRUCTION OPERATIONS SHALL BE CONNECTED TO THE PROPOSED STORM SEWER OR EXTENDED TO OUTLET INTO A PROPOSED DRAINAGE WAY AS DETERMINED BY THE ENGINEER. IF THIS CANNOT BE ACCOMPLISHED, THEN IT SHALL BE REPAIRED WITH NEW PIPE OF SIMILAR SIZE AND MATERIAL TO THE ORIGINAL LINE AND PUT IN ACCEPTABLE OPERATIONAL CONDITION. A RECORD OF THE LOCATION OF ALL FIELD TILE FOR ON-SITE DRAIN PIPE ENCOUNTERED SHALL BE KEPT BY THE SUBCONTRACTOR AND SUBMITTED TO THE ENGINEER UPON COMPLETION OF THE PROJECT. ALL FIELD TILE REPAIRS SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE PROVIDED.

43. THE ENGINEER AND OWNER ARE NOT RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, TIME OF PERFORMANCE, PROGRAMS OR FOR ANY SAFETY PRECAUTIONS USED BY THE CONTRACTOR. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXECUTION OF HIS/HER WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS.

44. ALL EXISTING PERIMETER ROAD DRAINAGE STRUCTURES AND BRIDGES ACROSS THE FRONTAGE OF THIS DEVELOPMENT ARE INDICATED ON THE PLANS. PROVISIONS HAVE BEEN MADE TO IMPROVE OR REPLACE ANY DRAINAGE STRUCTURES AND BRIDGES AS NECESSARY OR AS REQUESTED BY THE CITY TO ACCOMMODATE THE PAVEMENT WIDENING, AUXILIARY LANES, MULTI-USE PATH, AND ANY OTHER REQUIRED IMPROVEMENTS TO THE PROPERTY OR THE ROADWAY. THE COST TO IMPROVE OR REPLACE ANY DRAINAGE STRUCTURES AND BRIDGES WILL BE BORNE BY THE DEVELOPER.

45. UTILITY RELOCATIONS REQUIRED BY THE PROJECT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER. UTILITY LINE RELOCATIONS REQUIRED FOR ROAD PROJECTS THAT RESULT IN A CONFLICT WITH PROPOSED DEVELOPMENT SHALL BE THE DEVELOPER TO RESOLVE WITH THE UTILITY. EXISTING POLE LINES REQUIRED TO BE RELOCATED TO WITHIN ONE FOOT OF PROPOSED RIGHT-OF-WAY LINE.

46. DAMAGE TO THE EXISITNG RIGHT-OF-WAY SHALL BE RESTORED/REPAIRED TO THE SATISFACTION OF THE CITY AT THE COMPLETION OF THE PROJECT. THE CONTRACTOR IS ENCOURAGED TO INSPECT THE RIGHT-OF-WAY WITH THE CITY PRIOR TO THE START OF CONSTRUCTION TO DOCUMENT THE EXISTING CONDITION OF THE RIGHT-OF-WAY.

ABBREVIATIONS

B-B B/C BLDG ΒM B/P BV/VV B/W C & G CB CL CO DIP DIA DIWM DWG EJ ELEV E/P EX. F & CL F & G F & OL FES F-F FF F/G FH F/L G GD GV/VB GV/VV HDCP HDPE HDW HOR HP HWL IN LF LP ME MH MW N NIC NWL OC OL PC PCC PGL ΡI ΡL PP PRC PT PUE PVC PVI PVT RCP ROW SAN SF SFM SMH SHW STA ST T/C T/P T/W ΤY TYP UP VC VERT VCP WEST WM WATER MAIN

ARC LENGTH BACK TO BACK OF CURB BACK OF CURB BUILDING BENCHMARK BOTTOM OF PIPE BUTTERFLY VALVE IN VALVE VAULT BOTTOM OF WALL CURB AND GUTTER CATCH BASIN CENTERLINE CLOSED LID CLEAN OUT DUCTILE IRON PIPE DIAMETER DUCTILE IRON WATER MAIN DRAWING EAST OR ELECTRIC OR EDGE EXPANSION JOINT ELEVATION EDGE OF PAVEMENT EXISTING FRAME & CLOSED LID FRAME & GRATE FRAME & OPEN LID FLARED END SECTION FACE TO FACE OF CURB FINISHED FLOOR FINISHED GRADE FIRE HYDRANT FLOW LINE GAS LINE GROUND GATE VALVE IN VALVE BOX GATE VALVE IN VALVE VAULT HANDICAP HIGH DENSITY POLYETHYLENE PIPE HEADWALL HORIZONTAL **HIGH POINT** HIGH WATER LEVEL **INVERT ELEVATION** INLET LINEAL FEET LOW POINT OR LIGHT POLE LEFT MATCH EXISTING MANHOLE MONITORING WELL NORTH NOT IN CONTRACT / NOT INCLUDED NORMAL WATER LEVEL ON CENTER OPEN LID POINT OF CURVATURE PORTLAND CEMENT CONCRETE OR POINT OF COMPOUND CURVE PROFILE GRADE LINE POINT OF INTERSECTION PROPERTY LINE POWER POLE POINT OF REVERSE CURVATURE POINT OF TANGENCY PUBLIC UTILITY EASEMENT POINT OF VERTICAL CURVATURE OR POLYVINYL CHLORIDE PIPE POINT OF VERTICAL INTERSECTION POINT OF VERTICAL TANGENCY RADIUS OR RIGHT REINFORCED CONCRETE PIPE RIGHT OF WAY SLOPE OR SOUTH SANITARY SILTATION FENCE SANITARY FORCE MAIN SANITARY MANHOLE SUBMERGED HEADWALL STATION STORM STRUCTURE OR STORM SEWER TANGENT LENGTH OR TELEPHONE TOP OF CURB OR TOP OF CASTING TOP OF PIPE TOP OF WALL TYPE TYPICAL UTILITY POLE VERTICAL CURVE VERTICAL VITRIFIED CLAY PIPE



EARTHWORK

1. SCOPE OF WORK

A. Extent: The work required under this section consists of all excavating, filling, rough grading and related items necessary to complete the work indicated on the drawings and described in the specifications. The Contractor shall notify in writing the owners and the Engineer of any changes, errors or omissions found on the plans or in the field before work is started or resumed.
1. In general, the items of work to be performed under this section shall include:

clearing and grubbing, removal of trees and stumps (where required), protection of trees to remain, stripping and storage of topsoil, fill compaction and rough grading of entire site.
2. Excavated material that is suitable may be used for fills. All unsuitable material and all surplus excavated material not required shall be removed from the site. The location of dump and length of haul shall be the Contractor's responsibility.

Provide and place any additional fill material from off the site as may be necessary to produce the grades required. Fill obtained from off site shall be of kind and quality as specified for fills herein and the source approved by the Owner.
 The Contractor shall accept the site as he finds it and shall remove all trash, rubbish and debris from the site prior to starting excavation.

B. Work not included: The following items of related work are specified and included in other sections of these specifications:

- Excavation, grading and backfilling for utility lines
 Storm drainage systems
- 3. Sanitary sewer systems
- Streets and paving
 Water supply system

2. BENCH MARKS

A. Maintain carefully all bench marks, monuments and other other reference points; if disturbed or destroyed, Contractor shall contact engineer. Replacement shall be at Contractor's expense.

3. REMOVAL OF TREES

A. Remove all trees and stumps from area to be occupied by building, road and surfaced areas. Removal of trees outside these areas shall only be done as noted on drawings or approved by the Owner.

B. All brush, stumps, wood and other refuse from the trees shall be removed to disposal areas off of the site.

4. PROTECTION OF TREES

A. General Protection: The Contractor shall be responsible for the protection of tops, trunks and roots of existing trees on the project site that are to remain. Existing trees subject to construction damage shall be boxed, fenced or otherwise protected before any work is started; do not stockpile within branch spread. Remove interfering branches without injury to trunks and cover scars with tree paint. See landscape plans for additional detail.

5. HANDLING OF TOPSOIL

A. Remove all organic material from the areas to be occupied by buildings, roads, walks and parking areas. Pile and store topsoil at a location where it will not interfere with construction operations. Topsoil shall be reasonably free from subsoil, debris, weeds, grass, stones, etc..

B. After completion of site grading and subsurface utility installation, top soil shall be amended and replaced in areas designated on the grading plan for bioretention and the erosion control plan for seeding and/or sod. Any remaining topsoil shall be used for finished grading around structures and landscaping areas.

- 6. DISPOSITION OF UTILITIES:
 - A. Rules and regulations governing the respective utilities shall be observed in executing all work under this section.
- B. If active utilities are encountered but not shown shown on the drawings, the Engineer shall be advised before work is continued.

C. Inactive and abandoned utilities encountered in excavating and grading operations shall be reported to the Engineer. They shall be removed, plugged or capped as directed by the Utility Company or the Engineer.

D. It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractors responsibility to contact the owners of the various utilities before work is started.

7. SITE GRADING:

A. Grades: Contractor shall perform all cutting, filling, compacting of fills and rough grading required to bring entire project area to grade as shown on the drawings.

B. Rough Grading: the tolerance for paved areas shall not exceed 0.10 feet plus or minus above the established subgrade. All other areas shall not exceed 0.10 feet plus or minus the established grade. All banks and other breaks in grade shall be rounded at top and bottom.

C. Compaction Requirements:

1. All areas under building pads and paved areas shall be compacted to 95% maximum dry density in in accordance with ASTM D-1557

- 2. Compaction shall be avoided in areas designated for Green Infrastructure BMP's including infiltration and/or bioretention.
- All other fill areas shall be compacted to 80% modified proctor density.

 All areas where cut is necessary to meet the design sub-grade are required to be scarified 12 inches below sub-grade and meet the above compaction requirements.
 Refer to Subsurface Investigation & Geotechnical Recommendations report for additional design information.

8. EARTH WORK BALANCE

A. The Contractor shall confirm all earthwork quantities prior to start of construction. If an excess or shortage of earth is encountered, the Contractor shall confirm with the Owner and Engineer the requirements for stockpiling, removal or importing of earth.

B. Minor adjustments to the grades may be required to earthwork balances when minor excess material or shortages are encountered. It is recognized by the parties hereto that the calculations of the the Engineer in determining earthwork quantities shall be accomplished in accordance with the American Society of Civil Engineers Standards for such calculations. Further, that these calculations are subject to the interpretations of soil borings as the physical limits of the various soil types, the allowable variation in finish grade and compaction permitted the contractor, and that all of these parameters may cause either an excess or shortage of actual earthwork materials to complete the project. If such an actual minor excess or shortage of materials occurs, the contractor shall contact the Engineer to determine if adjustment can be made to correct the imbalance of earth.

9. TESTING

A. Contractor shall hire at Contractors expense an independent soil testing service to assure soil compaction with scope of testing to be approved by Engineer. Copies of test results shall be submitted to the Engineer. STORM SEWER SYSTEMS

1. SCOPE OF WORK

A. The work under this section includes all storm sewers, storm water inlets, and related items, including excavating and backfilling, necessary to complete the work shown on the drawings. All work and materials shall meet local specifications.

2. MATERIALS

A. Storm Sewers

1. Reinforced concrete sewer pipe shall conform to ASTM C-76 latest revision, with joints conforming to ASTM C-443 latest revision when storm pipe is located within public right-of-way.

2. Aluminized type 2 corrugated steel pipe shall be manufactured in accordance with AASHTO M36 (type I with 2 2/3" x 1/2" corrugations for 12" and 15" diameters; type IR with 3/4" x 7 4/2" corrugations for 18" diameter and larger). The pipe shall be formed from an aluminized steel type 2 coil that conforms to AASHTO M274. The minimum gage thickness of the pipe shall be as follows:

3. High density polyethylene pipe shall perform to AASHTO M252 and M294 Type S specifications, latest revision, and shall have material specifications conforming to ASTM D1248 or D3350, latest revision.

B. Manholes1. Precast rein

 Precast reinforced concrete manhole sections and steps shall conform to ASTM C-478 latest revision.
 Casting shall be of uniform quality, free from blow holes, porosity, hard spots,

shrinkage distortion or other defects. They shall be smooth and well cleaned by shot
-blasting or by some other approved method. They shall be coated with asphalt paint
which shall result in a smooth coating, tough and tenacious when cold, not tacky or brittle.
They shall be gray iron meeting ASTM A-48 latest revision.
Joints - Manhole sections shall be jointed with rubber type gaskets. The rubber type

gaskets shall meet ASTM C-443 latest revision. When manhole and storm pipe are continuously in water.4. Shop Drawings - Contractor to submit storm sewer structure precast drawings to

engineer for approval prior to installation

C. SUBDRAINS
1. Perforated plastic pipe subdrains shall conform to ASTM F-405, AASHTO M-252 (4" to 10" pipe).

3. APPLICATION

A. Permits and Codes - The intent of this section of the specifications is that the contractor's bid on the work covered herein shall be based upon the drawings and specifications but that the work shall comply with all applicable codes and regulations as amended by any waivers. Contractor shall furnish all bonds necessary to get permits for cuts and connections to existing sewers. Contractor shall notify the local governing jurisdiction a minimum of 72 hours prior to the commencement of storm sewer construction.

B. Local Standards - the term "Local Standards" as used herein means the standards of design and construction of the respective municipal department or utility company.

C. Existing Improvements - Maintain in operating condition all active utilities, sewers and other drains encountered in the sewer installation. Repair to the satisfaction of the owner any damage to existing active improvements.

D. Workmanship - To conform to all local, state and national codes and to be approved by all local and state agencies having jurisdiction.

E. Trenching - Lay all pipe in open trenches, except when the local authority gives written permission for tunneling. Open the trench sufficient ahead of pipe laying to reveal any obstructions. The width of the trench shall be the inside pipe diameter plus 24 inches for 12 inches above the pipe. Sheet and brace trench as necessary to protect workmen and adjacent structures. All trenching to comply with Occupational Safety and Health Administration Standards. Keep trenches free from water while construction is in progress. Under no circumstances lay pipe or appurtenances in standing water. Conduct the discharge from trench dewatering to drains or natural drainage channels.

F. Special Supports - Whenever in the opinion of the Engineer the soil at or below the pipe grade is unsuitable for supporting sewers and appurtenances specified in this section, such special support, in addition to those shown or specified, shall be provided as the Engineer may direct, and the contract will be adjusted.

G. Backfilling - for a depth of at least 12 inches above the top of the pipe, backfill with earth or granular material free from large stones, rock fragments, roots or sod. Tamp this backfill thoroughly, taking care not to disturb the pipe. For the remaining trench depth, backfill with earth or granular material containing stones or rocks not larger than 4 inches. Backfill under and within 5' of paved areas shall be granular material only and shall conform to local standards - thoroughly compacted by approved methods.

H. Manhole Inverts - Construct manhole flow channels of concrete sewer pipe or brick, smoothly finished and of semicircular section conforming to the inside diameter of the connecting sewers. Make changes in size or grade gradually and changes in direction by true curves. Provide such channels for all connecting sewers at each manhole.

I. Subdrains - All subdrains shall be of the size shown on the plans and shall be constructed to the grades shown. All drains constructed off-site as part of the outlet drain will be located as shown.

J. Utilities - It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractors responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners or the engineer of any changes, errors or omissions found on these plans or in the field before work is started or resumed.

STREETS AND PAVING

1. SCOPE OF WORK

A. The work required under this section includes all concrete and bituminous paving and related items necessary to complete the work indicated on drawings and described in the specifications, including but not limited to: All streets, parking areas in contract limits Curbs and gutters. Sidewalks and concrete slabs, exterior steps.

2. MATERIALS

other deleterious substances.

A. Concrete - Concrete shall be ready-mixed concrete and shall be a mix of proportioned fine and coarse aggregates with Portland cement and water. Minimum cement content shall be 6 bags per cubic yard of concrete and maximum water content shall be 5.5 U.S. gallons per sack of cement, including moisture in the aggregate. Slump for normal weight concrete shall be a maximum of 4 inches and a minimum of 2 inches. The slump of machine place concrete shall be no less than 1-1/4 inches nor more than 3 inches. Standard test ASTM C-143 shall be used to measure slump. Compressive strength of concrete at 28 days shall be 4000 psi. All exterior concrete shall have air entrainment of 5% to 8% by volume per ASTM C-260. Retempering delivered concrete will not be allowed. Concrete shall be composed of: 1. Portland cement - Conforming to ASTM C-150, Type IA or Type IIIA. 2. Aggregates: Conforming to ASTM C-33 3. Water - Shall be clear and free from injurious amounts of oils, acids, alkalis, organic materials or

B. Welded Steel Wire Fabric - Where required for concrete reinforcement shall conform to ASTM A185.

C. Premoulded Joint Filler - Shall be of non -extruding type meeting ASTM D-544 except that premoulded joint filler used in concrete walk construction may be either non-extruding or resilient.

D. Bituminous Pavement Materials - All materials proposed for the construction of bituminous pavements shall comply with the Indiana Department of Transportation specifications, per latest revision.

E. Compacted Aggregate Subbase: Shall be crushed stone or gravel. Crushed gravel shall be a minimum of 35% crushed material. Chert shall be limited to a maximum of 8% of the total. Material shall be free from an excess of flat, elongated, thinly laminated, soft or disintegrated pieces; and shall be free from fragments coated with dirt. Compacted aggregate shall be graded as follows:

SIEVE SIZE	% PASSING
1-1/2"	100
1"	80-100
3/4"	70-90
1/2"	55-80
#4	35-60
#8	25-50
#30	12-30
#200	5-10

3. APPLICATION

A. Grading - Do any necessary grading in addition to that performed in accordance with Earthwork Section, to bring subgrades, after final compaction, to the required grades and sections for site improvement.

B. Preparation of Subgrade - Remove spongy and otherwise unsuitable material and replace with stable material. No traffic will be allowed on prepared subgrade prior to paving.

C. Compaction of Subgrade - The first 12 inches below the subgrade shall be compacted to at least 100% of the maximum dry density as determined by the provisions of AASHTO T-99. Water shall be prevented from standing on the compacted subgrade.

D. Compacted Aggregate Subbase - the thickness shown on the drawings is the minimum thickness of the fully compacted subbase. Compaction shall be accomplished by rolling with a smooth wheeled roller weighing 8 to 10 tons. Compact to 95% standard proctor density (ASTM D698) Along curbs, headers and walls and at all placed not accessible to the roller, the aggregate material shall be tamped with mechanical tampers or with approved hand tampers.

E. Bituminous Pavement - Hot asphalt concrete pavement shall be as specified in Section 400-410 of the Indiana Department of Transportation Specifications latest revisions. Paving will not be permitted during unfavorable weather or when the temperature is not in compliance with section 401.05 of the INDOT Specifications.

F. Utility Structures - Check for correct elevation of all manhole covers, valve boxes and similar structures located within areas to be paved, and make, or have made, any necessary adjustments in such structures.

G. Placing Concrete

 Subgrade - Place concrete only on a moist, compacted subgrade or base free from loose material. Place no concrete on a muddy or frozen subgrade.
 Forms - All forms shall be free from warp, tight enough to prevent leakage and substantial enough to maintain their shape and position without springing or settling, when

concrete is placed. Forms shall be clean and smooth and coated with form release before placement of concrete.3. Placing Concrete - Concrete shall be deposited so as to require as little rehandling as practicable. When concrete is to be placed at an atmospheric temperature of 35 degrees

F. or less, paragraph 702.10 of the Indiana Department of Transportation Specifications latest revision shall be followed.

H. Concrete Curb

 Expansion Joints - Shall be 1/2 inch thick premoulded at ends of all returns and at a maximum spacing of 100 feet.
 Contraction Joints - Unless otherwise provided, contraction joints shall be sawed joints

spaced 20 feet on center.
 Finish - Tamp and screed concrete as soon as placed, and fill any honey combed

places. Finish square corners to 1/4" radius and other corners to radii shown.

I. Concrete Walks and Exterior Steps

 Slopes - Provide 1/4 inch per foot cross slope. Make adjustments in slopes at walk intersections as necessary to provide proper drainage.
 Dimensions - Walks and steps shall be one course construction and of widths and details shown on the drawings.

3. Finish - Screed concrete and trowel with a steel trowel to a hard dense surface after surface water has disappeared. Apply medium broom finish and scribe control joints at 5 foot spacing. Provide 1/2" expansion joints where sidewalks intersect, and at a maximum spacing of 48 feet between expansion joints.

J. Curing Concrete - Except as otherwise specified, cure all concrete by one of the methods described in Section 501.17 of the Indiana Department of Transportation Specifications, latest revision.



	SECTION 3	C. <u>Appli</u>	cation for Connection Permit (Section 4)
2.04	GENERAL RULES AND REQUIREMENTS		An application for a Connection Permit shall be made on the Forr the Director and available from the City Planning Department.
3.01 <u>G</u> Th M re	his Section provides the general rules and policies as set forth in City Council unicipal Ordinances for the construction of sanitary sewer systems including permit equirements and inspection. The ordinances governing these Standards are provided	D.	Prohibition Against Clean Water Discharges (Section 4) No person shall discharge or cause to be discharged to any sa either directly or indirectly:
in 3.02 <u>B</u>I Th ap sh	Appendix A. uilding Sewers (laterals) the following paragraphs provide a highlight of the provisions contained in the oplicable Ordinances. If any conflicts between these Standards and the Ordinances hall be superseded by the Ordinances. A. <u>Sewer Connection Permit (Section 4)</u>		Storm Water Surface Water Ground Water Roof Runoff Subsurface Drainage (gravity or pumped) Cooling Water Unpolluted Water Unpolluted Industrial Process Water
	The DPW requires connection permits to be issued by the City Planning Department for all repairs and modifications to or connection of a building sewer to a public sewer. Four (4) classes of Building Sewer Permits are applicable based upon water service: Class 1: 5/8" to 3/4" meter	E.	<u>Mandatory Inspection of Building Connections</u> It shall be the responsibility of the Holder of a Connection Permi DPW that the sewer work is available for inspection. The DPW inspections on connections from 7:00 AM to 4:00 PM Monday to except on observed City holidays. The building sewer shall be
	Class 2: 1" meter Class 3: 2" meter Class 4: all meters greater than 2"		from the foundation to the point of connection with the public sewer. The DPW shall take a minimum of two (2) construction "as-built" precord prior to backfilling.
Β.	 <u>Permit Fee (Section 4)</u> A fee per each connection to the sanitary sewer shall be charged for each new connection. Modifications or repairs of an existing service shall require a permit that <u>will not be subject to any fee</u>. 		The DPW and its authorized representative shall have the right of through any premises for purpose of inspection of sewer work a construction activity performed on or associated with the conn building sewer to the City sewer, including inspection for clear wat into the sewer.
	This fee shall cover the costs of mandatory inspection and any reinspection that may be necessary because of remedial construction. The City Council may revise the amount of such connection fees.	F.	Building Sewer Responsibility
	The fee schedule shall be as follows: Class 1: \$ 1,000.00 Class 2: \$ 2,500.00 Class 3: \$10,000.00 Class 4: \$23,000.00		It shall be the responsibility of the property owner(s) whose propert to provide for, install and make private connections for the use of it to an existing public or building sewer. Further, it shall be the respondence Owner to make all necessary repairs, extensions, relocations replacements thereof, and of any accessories thereto. These requires be altered, modified or waived at the discretion of the DPW when it compliance is not possible due to extenuating circumstances.
	These fees shall be additive if more than one water meter is provided.		
CITY OF FI	RANKLIN - STANDARD SPECIFICATIONS 1-5	CITY OF FRAN	KLIN - STANDARD SPECIFICATIONS
	The DPW currently allows the use of the following pipe material: Reinforced Concrete Pipe (RCP) Ductile Iron Pipe (DIP)		proposed connection to the DPW for approval. Conne approved by the DPW shall be subject to removal and replac an approved adaptor.
	Polyvinyl Chloride Pipe (PVC) High Density Polyethylene Pipe (HDPE) Composite Wall/Truss Pipe All pipe shall be the bell and spigot type with elastomeric seal joints.	:	 <u>Ductile Iron Pipe (DIP)</u> All ductile iron pipe shall conform to the ANSI A21.51 and AW latest revisions. Ductile iron pipe shall be Class 350 for 8" th For 14" through 18" Class shall be 250. Pipe shall have polyethylene coating in accordance with ANSI/ASTM D1248.
	<u>All pipe</u> shall be required to withstand a hydrostatic pressure of twenty (20) feet of water (8.6 psi) for two (2) hours while being deflected to the maximum amount recommended by manufacturer. Continuing the hydrostatic pressure, a shear load of one hundred (100) pounds per inch of nominal pipe diameter shall be applied to an unsupported spigot immediately adjacent to joint. During testing period, there shall be no visible leakage at joint.		Fittings shall be standardized for the type of pipe and joint sp shall comply with ANSI A21.10 and AWWA C110. Fittings sha mechanical joint or push-on type. Pipe joints shall use O-ring accordance with ANSI 21.11 and AWWA C 111.
В.	Sanitary Sewer Pipe Materials	(<u>Polyvinyl Chloride Pipe (PVC)</u> a. <u>Smooth Wall PVC</u>
	Reinforced concrete pipe shall be Reinforced Concrete Culvert, Storm Drain and Sewer Pipe conforming to ASTM Designation C 76. Pipe shall be wall thickness "B" or "C" as required by site conditions. Class shall be as required by loading conditions, but shall not be less than Class III. Reinforced concrete pipe shall be tested in accordance with ASTM Designation C 497		All PVC pipe 15 inches or less in diameter shall requirements of ASTM Designation D 3034. All PVC p than 15 inches in diameter shall meet or exceed the r of ASTM F 679. For diameters 15 inches or less, the have a minimum cell classification of 12454-B and for greater than 15 inches, the pipe shall have a min classification of 12454-C with all pipe having a minim strength of 7000 psi as defined in ASTM D 1784
	Joints for sewer pipe manufactured of reinforced concrete shall be flexible watertight joints conforming to "Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible, Watertight, Rubber Gaskets" (ASTM Designation C443). Joints shall be made using rubber or rubber-like materials manufactured to fit tongue and groove or bell-and-spigot type concrete pipe. The joint shall be installed in accordance with the		All PVC pipe shall be tested in accordance with Standa of Test for External Loading Properties of Plastic Pipe b Plate Loading, ASTM Designation 2412. Minimum pip shall be 46 psi. b. <u>Ribbed Polyvinyl Chloride Pipe (F</u>
	manufacturer's recommendations. Lateral connections to the RCP sewer shall be subject to DPW approval. Where lateral connections must be made to the RCP sewer, a rubber connector with stainless steel clamp shall be used. The connector shall be the sole element relied on to assure a flexible watertight seal of the pipe.		All Ribbed PVC Pipe shall conform to ASTM Designation sewer pipes 8 inch through 48 inch in diameter. All 8 in 18 inch pipe supplied under this contract shall have uniform pipe stiffness of 60 psi. All pipe 21 inch and have a minimum uniform pipe stiffness of 46 psi. Th cell classification shall be 12454-B as defined by ASTM
	The rubber for the connector shall comply with ASTM C 923 and shall be resistant to ozone, weather elements, chemicals including acids and alkalis and oils.		c. <u>Polyvinyl/Chloride Corrugated Pipe (PVCC)</u> All corrugated PVC pipe shall conform to ASTM F 949 pipes 6 inches through 18 inches. Minimum cell cl
	The stainless steel elements of the connector shall be totally non- magnetic Series 305 stainless steel. The stainless steel clamp shall be capable of sustaining applied torque in excess of eighty (80) inch-pounds. It shall be the responsibility of the Contractor to submit details of the		shall be 12454-B or 12454-C as defined by ASTM D 1 pipe shall have a minimum pipe stiffness of 50 psi in a with testing under ASTM D 2412.

	3.03	Desig	n/Construction Approval for Development					
n provided by		A.	Requirements for Construction Permits			4.	If the surety on any bond furnished to the City supervision, liquidation, rehabilitation action pursu;	becomes a party to a ant to I.C. 27-9 et. seq.
nitary sewers			It shall be the responsibility of the Owner/Contra Construction Permit for the construction or modification sewer lift station from the Indiana Department of Env (IDEM) when required.	actor to obtain a valid of any sanitary sewer or vironmental Management			required that, within thirty days thereafter, a substit provided, both of which must be acceptable to the a substitute bond within the stated time fram- revocation or suspension of the project approval	terminated, it shall be ute bond and surety be City. Failure to obtain e shall be cause for until such time that the
			A copy of this permit shall be filed with the Director.			E Car	bond is furnished to the City Engineer.	
		В.	Technical Review Committee			E. <u>Cor</u>	istruction inspection	
			The Owner/Contractor shall submit design drawings for the City Technical Review Committee. For each proje shall request a presentation hearing before the Tech through the City Planning Department. During this me	r review and approval of ect the Owner/Contractor nical Review Committee		con sew <u>if re</u>	struction activities pertaining to the installation of any s rer system, the Owner/Contractor shall execute an Agr quired by DPW, which will provide that:	sanitary sewer or storm reement with the DPW,
			recommend approval of the project or request for drawings and specifications shall be resubmitted to the for final approval.	nal revisions. Revised City Engineer and DPW		1.	The DPW may contract for construction inspection materials and workmanship meets the requirem plans and specifications.	ו service to insure that ients of the approved
t to notify the will conduct		C.	<u>Final Plan Approval</u>			2.	The contracted engineer (DPW representative) v submitting and certifying air pressure or infiltration	will be responsible for test results for all pipe
rough Friday fully exposed			The City Engineer and DPW shall issue final appro clearing the Technical Review Committee.	val for all projects after			and deflection test results for all flexible and semi-r	igid pipe.
		D.	Posting of Bond			3.	The Owner/Contractor will reimburse the DPW services which shall be determined at the time	for the cost of such e of execution of the
hotos for City			1. The DPW and City Engineer may, as a prerec	uisite to the issuance of			Agreement, and verified by the Owner or his rep construction.	resentative throughout
entry upon or nd any other ection of the er discharges			project approval, require the posting of a per company licensed by the State of Indiana to pr bond shall be equal to 100% of the contrac established by the City to provide surety for the the improvements required by the Construction the City of Franklin who can enforce the obligation	rormance bond from a ovide such surety. Such t amount or an amount satisfactory completion of Permit, and shall name ons thereunder.		4.	Upon completion of construction, the contra- representative) shall execute and file with the Completion and Compliance certifying to Owner/Contractor as to the compliance of such requirements of the approved construction plans orders.	cted engineer (DPW DPW a Certificate of the DPW and the construction with the and approved change
y is benefitted heir premises nsibility of the changes or			 The DPW and City Engineer may as a prerequisanitary sewer, storm sewer, or lift station rimaintenance bond in an amount not to exceed amount or, subject to the approval by the City maintenance, for a period of three years from the DPW. Said bond shall name the City of France. 	uisite to acceptance of a equire the posting of a % of the contract / Engineer, provision for he date of acceptance by hklin who can enforce the		5.	No action with regard to the acceptance of the const the improvement bond pursuant to this section s Owner/Contractor has reimbursed the DPW in services.	struction and release of hall be taken until the full for the inspection
irements may is shown that			obligations thereunder.			All o the	construction of sanitary sewers and storm sewers inter City shall be observed and certified pursuant to the Ag	ended for dedication to reement.
			3. In instances where the DPW and City Engine pursuant to this section, the City may, as an alt	er have required a bond ernative to the posting of		The	Owner/Contractor shall furnish the DPW with the	ree (3) copies of the
			such bond, accept other appropriate secu conditioned irrevocable letter of credit which me	urity such as properly ets the same objective as		арр	roved construction plans at the time the Agreement is e	executed.
			the bonds described in this section, subject to department or agency whose interests are protect requirement.	o approval of any other cted by the same bonding		г. <u>кес</u>	juirements for Project Acceptance and Dedication	
1-6	CITY C)F FRAN	KLIN - STANDARD SPECIFICATIONS	1-7	CITY (DF FRANKLIN -	STANDARD SPECIFICATIONS	1-8
ctions not ement with			Joints for plastic pipe shall be elastomeric gash with ASTM Designation D 3212. Gaskets used in conform to ASTM Designation F 477. The p provide "Home Marks" on the uncoupled end of e	tet joints in accordance the push-on joints shall pipe manufacturer shall ach piece of pipe			(1) inch apart, painted around the pipe at the prope checking of the correct setting depth of the pipe in t	r location to allow field he bell or coupling.
WA C 151, rough 12".			Fittings shall be manufactured of PVC housing 12454-B or 12454-C as defined by ASTM d 1784.	a Cell Classification of			requirements for ASTM Specification D 3139, Join Pipe Using Flexible Elastomeric Seals. The joint si to provide for the thermal expansion and contracti total temperature change of seventy-five degrees	nt for Plastic Pressure hall be designed so as on experienced with a s fahrenheit (75 F) in
a 40 mil			Only smooth exterior pipe shall be used at manho	le connections.			each joint of pipe. Details of the joint design and accordance with joint manufacturers standard pract	assembly shall be in tice.
ecified and			4. <u>High Density Polyethylene Pipe (HDPE)</u>				Lubricant shall be non-toxic and shall not support	the growth of bacteria
II be either gaskets in			All High Density Polyethylene Pipe shall be man meeting the requirements of Type III, Class C, Ca defined in ASTM D 1248, Standard Specific	ufactured from materials tegory 5, Grade P34, as ations for Polyethylene			and shall have no deteriorating effects on the gas lubricant containers shall be labeled with the manuf	sket or the pipe. The acturer's name.
			Plastics molding and extrusion materials.				Gaskets shall meet all applicable requirements of A	SA Standard A 21.11.
meet the ipe greater equirement pipe shall			Pipe and fittings shall be made from high molec polyethylene material meeting the requirements class PE 334433C. All HDPE shall have a minir psi when measured in complete accordance wi Ring Stiffness Constant (RSC) classification valu and spigot shall comply with the minimum value o	ular weight high density of ASTM D 3350, cell num pipe stiffness of 46 th ASTM D 2412. The ie for pipe between bell f 36 lbs/ft.			Gasket dimensions shall be in accordance wit standard design dimensions and tolerances. The g such size and shape as to provide an adequa against the spigot and socket after assembly to under all combinations of joint and gasket tolerance trademark, size, mold number, gasket manufactur manufacture shall be molded in the rubber on the b	h the manufacturer's asket shall be made of ite compressive force effect a positive seal es. The trade name or er's mark, and year of ack of the gaskets.
diameters nimum cell			recommendations for this particular application.	vith the manufacturer's			Gaskets shall be vulcanized natural or vulcanized	synthetic rubber. No
ard Method			The joints shall be manufactured with bell and with a rubber gasket to form a positive seal we trench. The rubber gasket material and manuf	spigot end construction vhen assembled in the acture shall conform to			areas, foreign material, and visible defects.	all be integrally molded hall be free of porous
y Parallel - be stiffness			ASIM F 4/7.	all and anight type shall		2.	Ductile Iron	
<u>VC)</u>			be used. No saddle connections shall be permitte	en and spigot type snan ed.			All provisions of Section 5.02(B)(2) for Ductile sanitary sewers shall be the minimum criter	Iron pipe for gravity ria for material and
ch through			5. <u>Composite Wail/Truss Pipe</u>	requirements of ASTM			specifications of Ductile Iron Force Main.	not required
arger shall			Designation 2680 and ASTM D 1788 for a minin 12454B or 12454C or ASTM D 1788 for all classi	num cell classification of	5.04	Building S		
D 1784.			material shall be Portland Cement, Perlite Cond material exhibiting the same degree of performance	crete or other inert filler	5.04	Building ser	rvices shall be SDR 35 PVC pipe conforming to ASTM	/ D 3034. Joints shall
for sewer assification			All pipe shall be tested in accordance with the S for External Loading Properties of Plastic Pipe by ASTM Designation 2412. Pipe stiffness shall be	tandard Method of Test / Parallel-Plate Loading, a minimum of 200 psi.	5.05	conform to	ASTM F 477.	ULIL. CASKELS SIIdl
accordance			ASTM F 477.			A. <u>Gen</u>	eral	
			Only manufactured fittings shall be used.			Loca	ation of manholes shall be as required in Section 4.02(I	D)(1).
1-23	CITY OI	F FRANK	LIN - STANDARD SPECIFICATIONS	1-24	CITY O	DF FRANKLIN - S	STANDARD SPECIFICATIONS	1-26

4. Inlet and outlet pipe elevations; 5. Finished grade and foundation elevations; 6. Special construction required due to unfavorable soil conditions; 7. Design pump capacity, rated horsepower, total dynamic head, manufacturer and model number; 8. Sump capacity and cycle time; Also, the Owner's Engineer shall submit a copy of the head discharge 9. curve and the complete design calculations for the lift station and force main; and 10. Fence and access drive detail. F. <u>Record Drawings</u> Sanitary sewer plans submitted as record ("as-built") drawings shall have all laterals shown on the plan view with their locations properly scaled. Lateral measurements shall be indicated by their distance from the downstream manhole in the form of stationing. Lateral stationing shall begin at 0+00 at each downstream manhole. All sheets shall have the phrase "as-built" or "record drawing" boldly printed on them with the date, and shall be stamped and signed DA by a professional engineer registered in the State of Indiana. 4.06 Sanitary Sewers Crossing Drainage Ways Sanitary sewers shall be constructed of ductile iron pipe or shall be encased in a minimum of 6" of concrete wherever the sanitary sewer crosses under a naturally occurring drainage way (i.e., creeks, rivers, streams, etc.). Wherever applicable, the sanitary sewer crossing the drainage way shall be pressure tested to assure 100% water tightness prior to backfilling. **SECTION 5** MATERIALS 5.01 <u>General</u> This section provides a description of the materials acceptable for the construction of sanitary sewer facilities and storm sewers. Use of other materials which are not specified herein shall only be permitted with the written approval by the DPW and City Engineer. 5.02 Gravity Sanitary Sewer A. <u>General</u> CITY OF FRANKLIN - STANDARD SPECIFICATIONS 1-21 2 B. <u>Types of Manholes</u> Manholes shall be either monolithic (cast-in-place) or precast. If monolithic manholes are to be used, the Contractor shall submit drawings showing all reinforcement, dimensions, and connections for DPW approval. All drawings shall be certified by a registered Professional Engineer. C. <u>PreCast Manholes</u> Manholes shall be constructed in accordance with the ASTM Specifications for "Precast Reinforced Concrete Manhole Risers and Tops", Designation C 478. The minimum wall thickness shall be five (5) inches for manholes four (4) feet in diameter. When the depth of the manhole exceeds twelve (12) feet, then the depth in excess of twelve (12) feet shall be reinforced with two cages of Ζ reinforcement the same as required for reinforced concrete sewer pipe of same diameter as the riser of the manhole per ASTM Specification Designation C 76 Ζ for Class III Pipe. The precast tops shall be of the eccentric cone type. Precast ADDITIO flat covers shall be not less than eight (8) inches thick and reinforced with two layers of steel with a minimum area of 0.39 square inches per linear foot in both directions in each layer. Precast flat bottoms of manholes shall also be reinforced the same as specified herein for precast flat top. Hoisting lugs or hooks shall be cast in place for handling and setting of the rings. Openings of ()proper sizes and suitable design shall be cast in place for receiving the sewer TION and/or drop pipes and connections. Adjusting riser rings shall be provided as approved by the DPW. All manhole joints shall be tongue and groove and they shall be sealed with an O-ring and joint sealer conforming to Federal Specifications SS-S-00210 and \mathbf{X} similar to "Kent-Seal No. 2" as manufactured by the Hamilton Kent Manufacturing Co., of Kent, Ohio; "RAM-NEK" as manufactured by the K.T. Snyder Co. of 4 ш Houston, Texas, or equal. Cracked or damaged barrel joints shall be rejected. CIFIC CRE D. <u>Manhole Steps</u> The steps provided shall be manufactured of reinforced plastic and shall be twelve (12) inches wide and one (1) inch square. E. <u>Manhole Bases</u> Ш S Δ D Z Manhole bases shall be of cast-in-place monolithic concrete or precast concrete. Where sewer lines pass through or enter manholes, the invert channels shall be S smooth and semi-circular in cross section and may be formed directly in the concrete of the manhole base, may be half tile laid in the concrete, or may be 00 constructed by laying the sewer lines continuously through the manhole and break-hardened and neatly trimming the edges. Changes of direction of flow within the manholes shall be made with a smooth curve with as long as a radius as possible. The floor of the manhole outside the channels shall be smooth and \searrow slope toward the channel not less than one (1) inch per foot. No mortar or concrete shall be placed in water, and no water shall be allowed to flow over or against the concrete before it has set for a period of time deemed CITY OF FRANKLIN - STANDARD SPECIFICATIONS 1-27 No. * PE11011806

C0.3

Dand A Mut

	ient by the DPW to prevent damage to the structure. The invert channe gh manholes should be made to conform in shape and slope to that of the	; 	G. <u>Sev</u>	ver Pipe to Manhole Connection
sewe slope F. <u>Adju</u> s	r. All invert channels are to have a properly mortared apron on either side d to prevent solids deposition. sting Rings	,	To or app flex	connect a sanitary sewer to a 2, flexible connector, cast-in- proved equal shall be used. ible boot KOR-N-SEAL or app
Whe eleva preca	e one (1) solid riser or barrel section cannot be used, final adjustments ir tion of the frame and cover shall only be accomplished by the use o ast concrete adjusting rings conforming to ASTM C 478.	ו f	lf t cor Fle	he flexible boot connection crete manhole base and se xible connectors shall conform
Ring	s shall be of a nominal thickness of not less than four (4) inches and no	t	The	e cast-in-place inflatable gaske
more adjus	than twelve (12) inches total of adjusting rings shall be allowed to tment of the manhole frame and cover to required elevation.	r	All The wat	connections shall provide for a connector shall be the so rertight seal of the pipe to the r
			The res ani	e rubber for the connector s istant to ozone, weather ele mal and vegetable fats, oils ar
			The Ser sus res the rem	e stainless steel elements o ries 305 stainless steel. T taining applied torque in exc ponsibility of the Contractor t DPW for approval. Connection noval and replacement with an
			Н. <u>Са</u>	stings
			Sta 187 con indi	ndard manholes shall have a 75-3 by East Jordan Iron Wo npliance with ASTM A 48, C cating "City of Franklin Sanita
			Wh frar app pro	ere watertight castings are not
			I. <u>Fra</u>	me Chimney Seal
			An rub the sea Pro	internal or external rubber sea ber seal extension, to cover a seal itself, shall be used wh I and seal extensions sha ducts, or equal.
			The the	e sleeves shall be extruded fro applicable requirements of A sleeve and extension against
Perm requir metho State	anent paved surfaces shall be restored in accordance with the following ements, unless otherwise set forth by the City Engineer, in all cases, the ods and materials of restoration shall meet the requirements of the Indiana Highway Department, as applicable.			The binder course(s) sha Type A, Size No. 9 as d Highway Specifications. smooth wheel rollers. Ge less than 10 tons gross
1.	Class "B" Concrete Pavement			allow other specialized r vibratory action. The Cit
	Existing local streets, roads, alleys, driveways and parking areas consisting of concrete pavement shall be restored according to the following requirements.			only if Contractor request the specific equipment to
	Areas subjected to excavation or damage by the Contractor are to be replaced as a whole. Sidewalks to be replaced in complete sections, streets and driveways as complete sections or replaced with sections that coincide with the original pattern, and to the DPW's and/or City Engineer's			existing pavement, but n thickness.
	Prior to placing concrete, the existing edges are to be saw-cut in a neat straight manner. sub-base compacted, wetted down and edges swept			Surface Type A, (Size No Indiana State Highway S described above for bi existing pavement, but no
	clean. The use of flexible joint material is required as needed. All chunks		0	
	of existing material larger than three by three (3 x 3) inches are to be		3.	Adjustments of Shoulders
	of existing material larger than three by three (3 x 3) inches are to be removed. Class "B" concrete pavement shall consist of a cast in place, layer of Class A concrete with one (1) layer of woven wire fabric (6 x 6 - W1.4 x W1.4) meeting ASTM Designation 497. The concrete layer shall be six (6) inches thick. All rigid concrete pavement work and materials shall meet the latest specifications of the Indiana State Highway Department.		3.	Adjustments of Shoulders The shoulders of the re resurfacing with all mat asphalt, etc.) necessary. one (1) foot to one and except in unusual cases driveways shall be prime beight of the resurfaced s
2.	of existing material larger than three by three (3 x 3) inches are to be removed. Class "B" concrete pavement shall consist of a cast in place, layer of Class A concrete with one (1) layer of woven wire fabric (6 x 6 - W1.4 x W1.4) meeting ASTM Designation 497. The concrete layer shall be six (6) inches thick. All rigid concrete pavement work and materials shall meet the latest specifications of the Indiana State Highway Department. <u>Class "C" Asphalt Pavement</u>	8.03	3. Restoratio	Adjustments of Shoulders The shoulders of the re resurfacing with all mat asphalt, etc.) necessary. one (1) foot to one and except in unusual cases driveways shall be prime height of the resurfaced s
2.	 of existing material larger than three by three (3 x 3) inches are to be removed. Class "B" concrete pavement shall consist of a cast in place, layer of Class A concrete with one (1) layer of woven wire fabric (6 x 6 - W1.4 x W1.4) meeting ASTM Designation 497. The concrete layer shall be six (6) inches thick. All rigid concrete pavement work and materials shall meet the latest specifications of the Indiana State Highway Department. <u>Class "C" Asphalt Pavement</u> Existing local streets and roads consisting of asphalt paving shall be restored with binder and surface of the thickness specified and as follows: 	8.03	Restoration	Adjustments of Shoulders The shoulders of the re resurfacing with all mat asphalt, etc.) necessary. one (1) foot to one and except in unusual cases driveways shall be prime height of the resurfaced s
2.	of existing material larger than three by three (3 x 3) inches are to be removed. Class "B" concrete pavement shall consist of a cast in place, layer of Class A concrete with one (1) layer of woven wire fabric (6 x 6 - W1.4 x W1.4) meeting ASTM Designation 497. The concrete layer shall be six (6) inches thick. All rigid concrete pavement work and materials shall meet the latest specifications of the Indiana State Highway Department. Class "C" Asphalt Pavement Existing local streets and roads consisting of asphalt paving shall be restored with binder and surface of the thickness specified and as follows: Areas subject to Class C asphalt pavement replacement shall have the existing edges (those created by cutting prior to excavation) re-cut in a neat straight manner as to remove irregularities and damaged areas. Manholes, service line trenches and existing valve areas are to be boxed out in a neat manner. All cuts shall be parallel or perpendicular to the trench. Curved or diagonal cuts shall not be allowed. All chunks of existing material larger than three by three (3 x 3) inches are to be removed.	8.03	All ground destroyed following s crushed s removed f	Adjustments of Shoulders The shoulders of the re- resurfacing with all mat asphalt, etc.) necessary. one (1) foot to one and except in unusual cases driveways shall be prime height of the resurfaced s on of Ground Surfaces surfaces in public Rights of V by the Contractor's operations specifications. All surplus mate tone, etc., not to be used in rom the site and disposed of in

CITY OF FRANKLIN - STANDARD SPECIFICATIONS

CITY OF FRANKLIN - STANDARD SPECIFICATIONS

tions			Fiber Bonded Fully Bituminous Coated Corrugat	ed 908.08		
a manhole, either a flexible boot KOR-N-SEAL 1			Corrugated Aluminum Alloy Culvert Pipe and	500.00		
-place Dura-Seal gasket, "A"-lock gasket or an			Pipe-Arches	908.04		
Connections to an existing manhole shall be a			Reinforced Concrete Pipe	907.02		
proved equal.				ASTM C 76 ASTM C 50	8.01	<u>Gener</u>
			Acrylonitrile-Butadiene-Styrene (ABS)			
is used, it shall be placed in the reinforced			Composite Sewer Piping	907.15		Resto
ecured to the pipe by a stainless steel clamp.			Acrylonitrile-Butadiene-Styrene (ABS)			remov
m to ASTM C 923.			Sewer Pipe and Fittings	907.16		of nev
			Type PSM SDR-35 PVC Sewer Pipe	907.19		paving
tet shall conform to ASTM C 923.			Rubber Gaskets	906.04		
			Precast Reinforced Concrete Box Sections	907.05	8.02	<u>Resto</u>
a watertight seal between the pipe and mannole.	14004		High Density Polyethylene Pipe (HDPE)	AASHIO		
sole element relied upon to assure a flexible	M294					Α.
mannole.			Polynimy Chlorida Ring (RVC)	ASTM F / 14 & ASTM F 894		
shall comply with ACTM C 000 and shall be	204		Polyvinyi Chioride Pipe (PVC)	AASHTO M		
ements, chemicals, including acids and alkalis,	304			ASTM F679		
	5.07	Stor	n Manholes			
of the connector shall be totally non-magnetic	0101	<u></u>				
The stainless steel clamp shall be capable of		Storn	n manholes shall be in accordance with Section 5.0	05 (C), (D), (E) and (F), Castings		
cess of eighty (80) inch-pounds. It shall be the		shall	be R-1972CVIT by Neenah Foundry, 1875-3 I	ov East Jordan Iron Works, or		
to submit details of the proposed connection to		appro	oved equal. Where more than five castings are i	required, each shall have 2 inch		
ions not approved by the DPW shall be subject to		high	letters indicating "City of Franklin Storm Sewer".			
n approved adapter.		•				
	5.06	<u>Storr</u>	n Inlets and Catch Basins			
		Α.	General			
a R-1772 CVH frame and lid by Neenah Foundry,						
lorks, or approved equal. Material shall be in			All standard inlets shall be constructed of reinfo	orced precast concrete sections.		В.
CL 35B. Each lid shall have 2 inch high letters			Joints between sewer pipe and inlet walls shall b	e sealed with non-shrink grout.		
ary Sewer".		_				
		В.	Materials			
required, the manholes shall have a R-1916F						
hdry, 1045 HD by East Jordan Iron Works, or shall be anchored to through the riser rings (if			1. <u>Inlets/Basins</u>			
th four (4) galvanized rods			Precast concrete inlets shall be constru	icted in accordance with ASTM		
in four (1) galvallizou fouo.			Standard C 478 Adjustment to final	grade of inlet casting shall be		C
			accomplished by utilizing precast conc	rete adjusting rings Adjusting		0
			rings when required should be sized to	adjust to final grade by using a		
eal shall be installed on all sanitary manholes. A			maximum of three (3) adjusting rings.	diusting rings shall be limited to		
any additional heights of chimney not covered by			less than one (1) foot of inlet depth.			
hen required. The internal and external rubber						
nall be as manufactured by Cretex Specialty			All inlet joints, along with the adjusting	rings and top casting are to be		
			sealed with 1/2 inch extrudable gasket	(Kent Seal, or equal) to produce		
			soil-tight joint.	· · · · ·		
om a high grade rubber compound conforming to						
ASTM C 923. The bands used for compressing			Precast box inlets shall be constructed	ed in accordance with Indiana		
st the manhole shall be fabricated from 16 gauge			Department of Transportation (IDOT) Sta	ndard Specifications.		D.

CITY OF FRANKLIN - STANDARD SPECIFICATIONS

1-31

all consist of compacted Hot Asphaltic Concrete, defined by the latest edition of the Indiana State Compaction shall be accomplished with suitable enerally, conventional self-propelled rollers of not weight shall be used. The City Engineer may rollers for narrow trenches or lighter rollers with ity Engineer shall consider alternate equipment ts same in writing and includes technical data on be considered.

1-29

ess of binder courses required shall match the not less than one (1) course, two (2) inches in

Il consist of compacted Hot Asphaltic Concrete o. 11 or 12)' as defined by the latest edition of the Specifications and placed in the same manner as inder. The surface thickness shall match the ot less than one (1) inch.

s Necessitated by Resurfacing

oad shall be adjusted to the elevation of the terials (i.e., earth, sod, gravel, crushed stone, The transition may be made within a distance of one-half (1 & 1/2) feet from the edge of paving where a greater distance is required. Existing ed and wedged from a featheredge to the final street paving.

Way and easements that have been damaged or ions shall be restored in accordance with the terial, rock, trees, shrubs, concrete pipe, asphalt, the Contractor's restoration operations shall be in an acceptable manner.

SECTION 8

RESTORATION OF SURFACES

ration of surfaces within the public right-of-way and easements shall include the val of the existing surface, the disposal of the surplus material and the construction ew surfaces and adjusting all new and existing structures for proper grade prior to ng as indicated on the plans and/or as specified in these Specifications.

oration of Paved Surfaces

Restoration

After all excavations within the limits of paved surfaces have been properly backfilled and compacted, the paved surfaces shall be restored to a condition as good as or better than existed prior to the beginning of the work, in accordance with the following specifications.

Paved Surfaces: Streets, alleys, sidewalks, driveways, curbs and gutters, not constructed or maintained by the State Highway Department, but paved with asphalt, concrete, cinders, crushed stone, waterbound macadam, oil-bound macadam, or heterogenous paving materials, which are wholly or partially removed, damaged, or disturbed by the Contractor's operations, shall be restored with like or better materials, acceptable to the City Engineer and DPW, to a condition as good as or better than existed prior to the beginning of the work, so that movement of traffic, both vehicular and pedestrian, through the restored way shall be as free, safe and unimpeded as before.

Temporary Surface

Temporary trench surfaces shall be installed and maintained in accordance with these specifications. This temporary surface shall be maintained by the Contractor until the permanent pavement is placed. Before placing permanent pavement, all or parts of the temporary surface shall be removed, as necessary, and hauled from the site of the work.

Temporary Pavement Replacement

Trench surfaces of highly traveled streets and roads may be, at the direction of DPW, required to receive a temporary pavement replacement of cold mixed bituminous pavement. This temporary pavement shall be surface mixture Class A or B prepared and placed in accordance with Section 406 - Cold Mixed Bituminous Pavement of the latest edition of the Indiana State Highway Department Specifications. Prime and tack coats shall not be required. All temporary pavement shall be maintained by the Contractor to proper grade so as not to impede the safe flow of traffic until the permanent pavement replacement is made.

Permanent Paving

CITY OF FRANKLIN - STANDARD SPECIFICATIONS

1-77



No.



N:\2024\240463\Drawings\ACAD\LD\S04\Sheet Drawings\240463_C1.0 EXCON PLAN.dwg 11/7/2024



N:\2024\240463\Drawings\ACAD\LD\S04\Sheet Drawings\240463_C1.1 DEMO PLAN.dwg 11/7/2024



N:\2024\240463\Drawings\ACAD\LD\S04\Sheet Drawings\240463_C2.0 SITE PLAN.dwg 11/7/2024