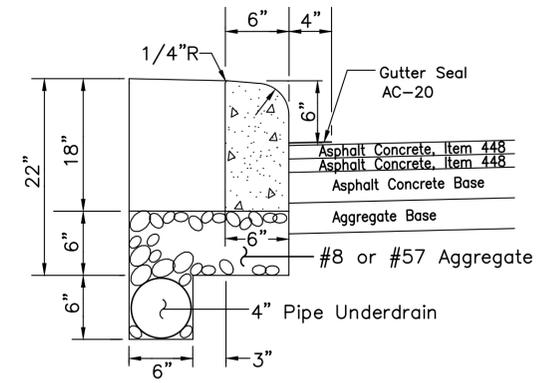


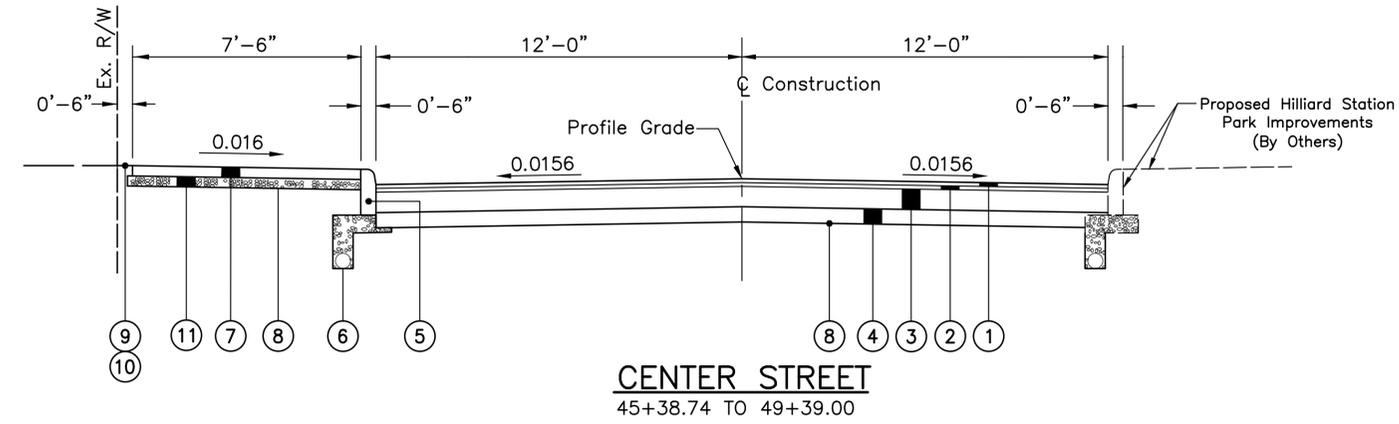


**LEGEND**

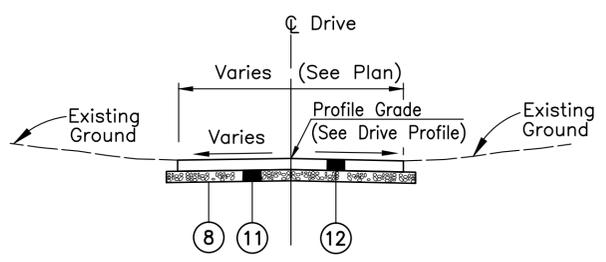
- | ITEM | DESCRIPTION   |
|------|---|
| ①    | 448 ~ 1-1/2" Asphalt Concrete Surface Course, Type 1, PG64-22 (ODOT)      |
| ②    | 448 ~ 1-1/2" Asphalt Concrete Intermediate Course, Type 2, PG64-22 (ODOT) |
| ③    | 301 ~ 4" Asphalt Concrete Base, PG64-22 (ODOT)                            |
| ④    | 304 ~ 6" Aggregate Base   |
| ⑤    | 609 ~ 18" Concrete Curb   |
| ⑥    | 605 ~ 4" Pipe Underdrain  |
| ⑦    | 608 ~ 4" Concrete Walk  |
| ⑧    | 204 ~ Subgrade Compaction   |
| ⑨    | 659 ~ Seeding and Mulching, As Per Plan                                   |
| ⑩    | 653 ~ 4" Topsoil Furnished and Placed, As Per Plan                        |
| ⑪    | SPEC ~ 4" Aggregate Base (#57 Stone)                                      |
| ⑫    | 452 ~ 8" Non-Reinforced Concrete Pavement (Commercial)                    |
| ⑬    | 254 ~ 1-1/2" Pavement Planing   |
| ⑭    | 407 ~ Tack Coat, Bituminous (@ 0.15 Gal/SY)                               |



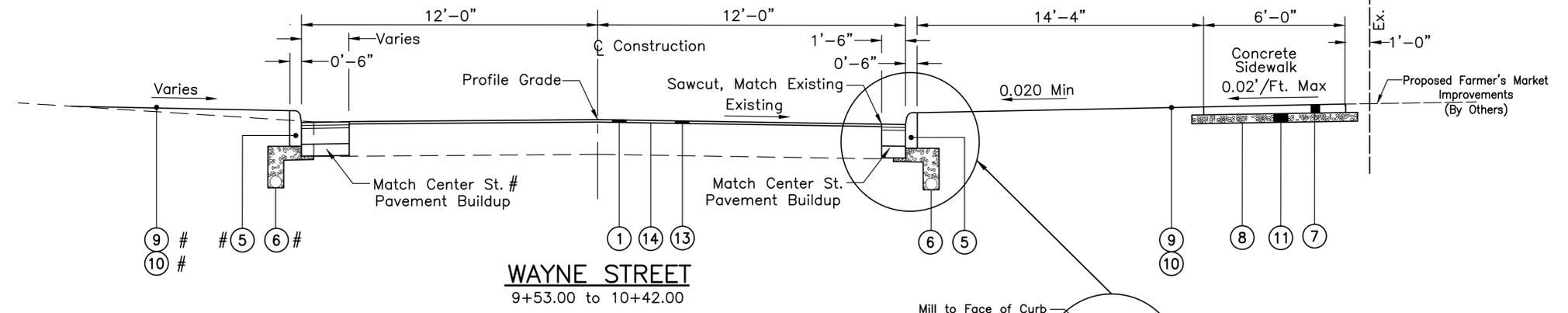
**CURB DETAIL**



**CENTER STREET**  
45+38.74 TO 49+39.00

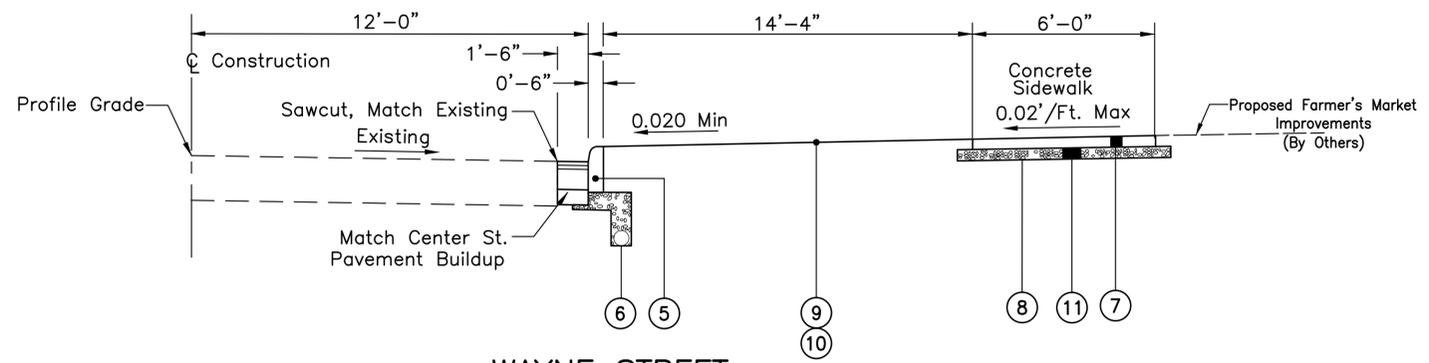


**DRIVEWAY TYPICAL**

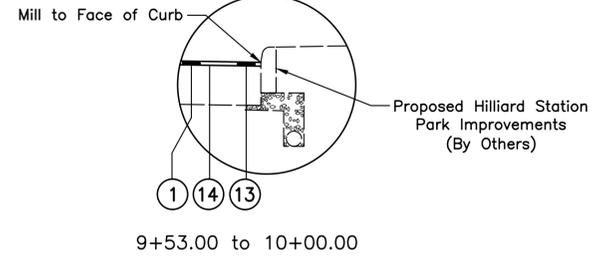


**WAYNE STREET**  
9+53.00 to 10+42.00

# Sta. 10+34.52 - End Curb



**WAYNE STREET**  
10+42.00 to 11+72.22



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REVISIONS	DATE	BY	CHK

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**CITY OF HILLIARD, OHIO**  
**CENTER STREET IMPROVEMENTS**  
PHASE 1, PART 1

JOB NO.	570.017
DESIGNED BY:	BDS
DRAWN BY:	BDS
CHECKED BY:	MEF
APPROVED BY:	
DATE:	8/6/15

<b>TYPICAL SECTIONS</b>	
SHEET NO.	OF
2	26

SCALE:	NONE
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**GENERAL NOTES:**

- THE REGULATIONS AND CONSTRUCTION STANDARDS OF THE CITY OF HILLIARD, TOGETHER WITH THE CURRENT CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE CITY OF COLUMBUS (CMSC) AND THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT) SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE A PART OF THIS PLAN UNLESS OTHERWISE NOTED.
- THE CITY ENGINEER OR HIS AUTHORIZED REPRESENTATIVE WILL MAKE INSPECTION OF THE WORK. THE CITY ENGINEER WILL REQUIRE AT LEAST 48 HOURS WRITTEN NOTICE BEFORE ANY WORK TAKES PLACE. FAILURE TO REQUEST THE NECESSARY INSPECTION MAY RESULT IN THE REJECTION OF THE WORK AND THE PROJECT.
- IT IS THE INTENTION OF THE PLANS TO PROVIDE AND REQUIRE A COMPLETED PROJECT READY FOR OPERATION. ANY WORK ITEMS OMITTED FROM THE PLANS, WHICH ARE CLEARLY NECESSARY FOR COMPLETION OF THE WORK, AND ITS APPURTENANCES SHALL BE CONSIDERED A PART OF SUCH WORK, THOUGH NOT DIRECTLY SPECIFIED OR CALLED FOR IN THE PLANS. THIS INCLUDES, BUT IS NOT LIMITED TO SUCH INCIDENTAL ITEMS AS RELOCATION OF MAILBOXES, SAW CUTTING, AND REMOVAL AND/OR RELOCATION OF SIGNS, SPRINKLERS, OR OTHER MISCELLANEOUS ITEMS.
- ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR WITH THE COST TO BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS RELATED ITEMS.
- NOTE INTENTIONALLY OMITTED.
- THE CONTRACTOR SHALL PROVIDE THE CITY OF HILLIARD, A SURETY, ACCEPTABLE TO THE CITY OF HILLIARD, EQUAL TO 100% OF CONSTRUCTION COSTS. THE SURETY SHALL GUARANTEE THE WORK ONE YEAR AFTER ACCEPTANCE BY THE CITY.
- THE CITY ENGINEER WILL NOT BE RESPONSIBLE FOR MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF CONSTRUCTION THAT ARE NOT SPECIFIED HEREIN. THE CITY ENGINEER WILL NOT BE RESPONSIBLE FOR SAFETY ON THE WORK SITE, OR THE FAILURE BY THE CONTRACTOR TO PERFORM WORK ACCORDING TO PLANS.
- NOTE INTENTIONALLY OMITTED.
- THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970. THE CONTRACTOR SHALL EXERCISE PRECAUTION ALWAYS FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT SHALL ALSO BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTION AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING THE REQUIREMENTS FOR CONFINED SPACES PER 29 CFR 1910.146.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS.
- THE CONTRACTOR SHALL CONFINE HIS ACTIVITIES TO THE PROJECT SITE, EXISTING RIGHT-OF-WAYS, TEMPORARY AND PERMANENT EASEMENTS, AND SHALL NOT ENTER UPON OTHER PROPERTIES WITHOUT WRITTEN PERMISSION OF THE OWNER. IF THE PROPOSED WORK REQUIRES ENTERING EASEMENTS UPON OTHER PROPERTIES, THE CONTRACTOR SHALL NOTIFY THE OWNER(S) IN WRITING NO LESS THAN 72 HOURS IN ADVANCE OF THE COMMENCEMENT OF THE WORK, AND COPY THE CITY ON ALL CORRESPONDENCE. FAILURE TO NOTIFY AFFECTED PROPERTY OWNERS MAY SUBJECT THE CONTRACTOR TO THE PENALTIES ASSOCIATED WITH THE VIOLATION OF HILLIARD CITY CODE, SECTION 541.05, CRIMINAL TRESPASS.
- THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, PROPERTY CORNERS, REFERENCE POINTS, STAKES AND OTHER SURVEY REFERENCE MONUMENTS OR MARKERS. IN CASES OF WILLFUL OR CARELESS DESTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE. RESETTling THE MARKERS SHALL BE PERFORMED BY AN OHIO PROFESSIONAL SURVEYOR AS APPROVED BY THE CITY ENGINEER AT THE CONTRACTOR'S EXPENSE.
- PROPERTY BOUNDARIES, INCLUDING PROPERTY LINES AND ROAD RIGHT-OF-WAY, ARE SHOWN FROM THE BEST INFORMATION AVAILABLE AND ARE NOT NECESSARILY COMPLETE OR CORRECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE FINISHED WORK CONFORM TO THE LINES, GRADES, ELEVATIONS AND DIMENSIONS CALLED FOR ON THE DRAWINGS AND TYPICAL SECTIONS.
- ANY DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT. PURSUANT TO HILLIARD CITY CODE, SECTION 509.08, CONSTRUCTION ACTIVITY IS ONLY PERMITTED BETWEEN THE HOURS OF 7:30 A.M. AND 7:00 P.M., MONDAY - SATURDAY. ANY CONSTRUCTION ACTIVITY BEYOND THESE HOURS REQUIRES A WRITTEN REQUEST TO THE DIRECTOR OF PUBLIC SERVICE MEETING THE REQUIREMENTS OF HILLIARD CITY CODE, SECTION 509.08(B).
- PAVEMENTS SHALL BE CUT IN NEAT, STRAIGHT LINES THE FULL DEPTH OF THE EXISTING PAVEMENT, OR AS REQUIRED BY THE CITY ENGINEER.
- ALL SOIL SUBGRADE SHALL BE PREPARED AND COMPACTED IN ACCORDANCE WITH ITEM 204 TO A DEPTH OF 12 INCHES BELOW THE SUBGRADE SURFACE. SUBGRADE SHALL BE SCARIFIED AND CONTAIN SUFFICIENT MOISTURE TO MEET ITEM 203 COMPACTION REQUIREMENTS.
- THE CONTRACTOR IS NOT PERMITTED TO USE ANY RECLAIMED MATERIALS IN ITEM 304.
- NON-RUBBER Tired VEHICLES SHALL NOT BE MOVED ON OR ACROSS PUBLIC STREETS OR HIGHWAYS WITHOUT THE WRITTEN PERMISSION OF THE CITY ENGINEER.

- TRACKING OR SPILLING MUD, DIRT, OR DEBRIS UPON STREETS, RESIDENTIAL OR COMMERCIAL DRIVES, SIDEWALKS OR BIKE PATHS IS PROHIBITED PER HILLIARD CITY CODE, SECTION 905.12 AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE CONTRACTOR FAILS TO REMOVE SAID MUD, DIRT, DEBRIS, OR SPILLAGE, THE CITY OF HILLIARD RESERVES THE RIGHT TO REMOVE THESE MATERIALS AND CLEAN AFFECTED AREAS, THE COST OF WHICH SHALL BE PAID BY THE CONTRACTOR/DEVELOPER PER HILLIARD CITY CODE, SECTION 905.13.
- DURING CONSTRUCTION THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE AND PROPER SOIL EROSION CONTROL MEASURES FOR PROTECTION OF ALL ADJACENT ROADS AND LANDS, PER COLS ITEM 207.
- THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EQUAL OR BETTER THAN EXISTED BEFORE CONSTRUCTION. DRAINAGE DITCHES OR WATERCOURSES THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO THE GRADES AND CROSS-SECTIONS THAT EXISTED BEFORE CONSTRUCTION.
- THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MAINTAIN AT ALL TIMES SEWER, DRAIN, AND DITCH FLOWS THROUGH EXISTING FACILITIES TO REMAIN IN PLACE AND THROUGH EXISTING FACILITIES TO BE REPLACED UNTIL NEW FACILITIES ARE COMPLETED AND PUT INTO SERVICE. THE CONTRACTOR, TO A CONDITION SATISFACTORY TO THE CITY ENGINEER, SHALL RESTORE THE FLOW OF ALL SEWERS, DRAINS, AND OTHER WATERCOURSES DISTURBED DURING THE PROSECUTION OF THE WORK.
- ANY MODIFICATION OF THE WORK AS SHOWN ON THESE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE HILLIARD CITY ENGINEER.
- THE CONTRACTOR SHALL CALL TOLL FREE, THE OHIO UTILITIES PROTECTION SERVICE (OUPS) AT 1-800-362-2764 SEVENTY-TWO (72) HOURS IN ADVANCE OF THE ANTICIPATED START OF CONSTRUCTION, AND SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO WORK IN THE VICINITY OF THEIR LINES. THE CONTRACTOR SHALL ALSO CALL THE OIL AND GAS PRODUCERS AND SUPPLIERS AT 1-800-925-0988.

UTILITY	OWNER	TELEPHONE
TELEPHONE	AT&T ATTN. ALLEN RIVERA 111 N FOURTH STREET RM. 802 COLUMBUS, OH 43215	(614) 223-8903
ELECTRIC	AMERICAN ELECTRIC POWER ATTN. PAUL PAXTON 850 TECH CENTER DRIVE GAHANNA, OH 43230-6605	(614) 883-6831
ELECTRIC TRANSMISSION	AEP TRANSMISSION LINE ENGINEERING ATTN. BARBARA DUNLAP 700 MORRISON ROAD GAHANNA, OH 43230-6642	(614) 552-1893
GAS	COLUMBIA GAS ATTN. JON ARMSTUTZ 1600 DUBLIN ROAD COLUMBUS, OH 43215	(614) 481-1056
CABLE TELEVISION	TIME WARNER CABLE ATTN. TERRY ALLEN 1266 DUBLIN ROAD P.O. BOX 2553 COLUMBUS, OH 43216-2553	(614) 481-5263
WATER	CITY OF HILLIARD 3800 MUNICIPAL WAY HILLIARD, OH 43026	(614) 876-7361

- ACCESS TO ALL ADJOINING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. AREAS WITH MULTIPLE DRIVES SHALL HAVE AT LEAST HALF OF THE DRIVES OPEN AT ALL TIMES. PROPERTIES WITH A SINGLE ACCESS WILL REQUIRE STAGED CONSTRUCTION; SHORT-TERM FULL CLOSURE OF A SINGLE ACCESS WILL BE PERMITTED WITH THE PROPERTY OWNER AND/OR TENANT'S AGREEMENT. SUCH FULL CLOSURES SHALL BE SCHEDULED AND COORDINATED WITH THE PROPERTY OWNER/TENANT.
- AT ALL UTILITY CROSSINGS THE TRENCH BACKFILL SHALL CONSIST OF COMPACTED GRANULAR MATERIAL, COLS ITEM 912, BETWEEN THE DEEPER AND SHALLOWER PIPE.
- COMPACTED GRANULAR MATERIAL, COLS ITEM 912 SHALL CONSIST OF NATURAL, BROKEN OR CRUSHED STONE, CRUSHED GRAVEL, OR CRUSHED SLAG. SYNTHETIC OR MAN-MADE MATERIALS ARE UNACCEPTABLE.
- BACKFILL FOR TRENCHES UNDER PAVEMENT AND WITHIN THE RIGHT-OF-WAY SHALL BE COMPACTED GRANULAR MATERIAL, COLS ITEM 912, TO THE PAVEMENT SUBGRADE. WHERE TRENCHES CROSS THE PAVEMENT, COLS ITEM 912 SHALL EXTEND THE FULL WIDTH OF THE RIGHT-OF-WAY, AND TO WITHIN 6 INCHES OF FINISHED GRADE WHERE NOT UNDER PAVEMENT.
- BACKFILL FOR TRENCHES PARALLEL TO THE PAVEMENT AND WITHIN THE RIGHT-OF-WAY, WITH THE TOP OF THE TRENCH 3 FEET OR CLOSER TO THE BACK OF CURB OR EDGE OF PAVEMENT OR LOCATED UNDER A PEDESTRIAN PATHWAY, SHALL BE COMPACTED GRANULAR MATERIAL, COLS ITEM 912, TO WITHIN 6 INCHES OF FINISHED GRADE. BACKFILL FOR ALL OTHER TRENCHES WITHIN THE RIGHT-OF-WAY PARALLEL TO THE PAVEMENT, SHALL BE SHALL BE COMPACTED BACKFILL, COLS ITEM 911, EXCEPT THAT COMPACTION SHALL BE TO A MINIMUM 95 PERCENT MAXIMUM DRY DENSITY. PRIOR TO CONSTRUCTION OF THE STREETS, THE CITY ENGINEER MAY REQUIRE SOIL TESTS ON THE BACKFILL. WHERE TEST RESULTS INDICATE THAT THE BACKFILL DOES NOT MEET COMPACTION REQUIREMENTS THE BACKFILL SHALL BE REMOVED, REPLACED, AND RE-TESTED UNTIL MEETING THOSE REQUIREMENTS.
- THE CONTRACTOR SHALL INSTALL STREET LIGHTS AT THE LOCATIONS SHOWN ON THE PLANS, INCLUDING ALL WIRING AND DISCONNECTS AND PROVIDE A COMPLETE OPERATING LIGHTING SYSTEM THAT COMPLIES WITH THE CITY OF HILLIARD SPECIFICATIONS.
- ALL AREAS FOR UNDERGROUND ELECTRIC AND STREET LIGHTING ELECTRIC, TELEPHONE, AND CABLE TV INSTALLATIONS SHALL BE BROUGHT TO FINISHED GRADE, AS SHOWN ON THE GRADING PLAN, PRIOR TO THEIR BEING INSTALLED. ALL FILL REQUIRED SHALL BE COMPACTED IN ACCORDANCE WITH COLS ITEM 203.12, CONDITION 1. THIS WORK SHALL BE PERFORMED AS PART OF THIS PLAN AND THE COST SHALL BE INCLUDED UNDER ITEM 203.
- ALL SEEDING SHALL BE APPLIED AT THE RATE OF 8 POUNDS (LB.) PER 1,000 SQUARE FEET (SF) AND SHALL USE THE FOLLOWING SEED MIXTURE:  
  
40% TITIAN TALL FESCUE  
40% TARHEEL TALL FESCUE  
10% DENIM KENTUCKY BLUEGRASS  
10% RENAISSANCE PERENNIAL RYE GRASS
- COMMERCIAL-GRADE COMPLETE FERTILIZER OF NEUTRAL CHARACTER, CONSISTING OF FAST, AND SLOW RELEASE NITROGEN, 50% DERIVED FROM NATURAL ORGANIC SOURCES OF UREA-FORM, PHOSPHOROUS, AND POTASSIUM AND WITH THE FOLLOWING COMPOSITION SHALL BE APPLIED:  
  
COMPOSITION: 13% NITROGEN, 26% PHOSPHOROUS, AND 12% POTASSIUM BY WEIGHT.  
  
FERTILIZER SHOULD BE APPLIED AT THE RATE OF 6 POUNDS (LB.) PER 1,000 SQUARE FEET (FT.).
- ALL SIGNS, LANDSCAPING, STRUCTURES OR OTHER APPURTENANCES DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER. THE CONTRACTOR SHALL PAY FOR THE COST OF THIS WORK.

- EXISTING UTILITIES SHOWN ON THE PLAN ARE FROM THE BEST AVAILABLE RECORDS AND FIELD INVESTIGATION AND ARE NOT NECESSARILY COMPLETE OR CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN OR NOT.
- THE CONTRACTOR SHALL EXPOSE AND VERIFY THE LOCATION AND ELEVATION OF ANY UTILITIES WITHIN THE LIMITS OF THE PROPOSED CONDUIT PATH, PRIOR TO STARTING ANY EXCAVATION. IN CASE OF CONFLICT, ADJUSTMENTS IN LOCATION AND ELEVATION OF THE PROPOSED UTILITIES MAY BE MADE IF APPROVED PER GENERAL NOTE #24, OR ARRANGEMENTS SHALL BE MADE TO MOVE THE EXISTING UTILITY TO PROVIDE ADEQUATE CLEARANCE.
- ALL WATER LINES MUST BE CONSTRUCTED WITH A MINIMUM OF TEN (10) FEET HORIZONTAL AND ONE & ONE HALF (1.5) FOOT VERTICAL SEPARATION FROM ALL SEWER LINES. ALL NON WATER LINE UTILITIES MUST BE CONSTRUCTED WITH A MINIMUM THREE (3) FEET HORIZONTAL AND ONE (1) FOOT VERTICAL SEPARATION.
- EXISTING DRAIN TILES ENCOUNTERED DURING CONSTRUCTION SHALL BE RECONNECTED OR CONNECTED TO THE STORM SEWER SYSTEM BY THE CONTRACTOR, AS APPROVED BY THE CITY ENGINEER. THE COST OF SAID WORK TO BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS RELATED ITEMS.
- ALL TRENCHES WITHIN PAVEMENT, BERM, AND SHOULDER LIMITS SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS.

M:\570017\_Traffic\DWG\Roadway\PHASE 1\General Notes PHASE 1\PHASE 1.dwg ~General Notes LAST EDITED BY:bsaunders ON 8/26/15

REVISIONS	DATE	BY	CHK

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**CITY OF HILLIARD, OHIO**  
**CENTER STREET IMPROVEMENTS**  
**PHASE 1, PART 1**

JOB NO.	570.017
DESIGNED BY:	BDS
DRAWN BY:	BDS
CHECKED BY:	MEF
APPROVED BY:	_____
DATE:	8/6/15

**GENERAL NOTES**

SCALE:		NONE
SHEET NO.	OF	
3	26	

**SITE SPECIFIC NOTES:**

**STANDARD DRAWINGS:** THE STANDARD DRAWINGS LISTED IN THE CONTRACT DOCUMENTS SHALL BE CONSIDERED A PART OF THESE PLANS.

**MINIMUM PIPE REQUIREMENTS:** THE MINIMUM REQUIREMENTS FOR SEWER PIPE ON THIS PROJECT SHALL BE REINFORCED CONCRETE PIPE 706.02 AND PLASTIC PIPE PER 720.01.

ALL PVC PIPE SHALL BE ASTM D-3035 SDR-21

ALL HDPE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH AASHTO M 294 AND MP7-97, SUCH AS ADS N-12 SMOOTH WALL HDPE OR APPROVED EQUAL. ALL DRAINAGE PIPE SHALL BE HDPE UNLESS OTHERWISE NOTED ON THE PLANS.

ALL R.C.P. SHALL BE CLASS IV ASTM C655 BELL AND SPIGOT PIPE WITH RUBBER GASKET PER ASTM C443.

**PLAN DISCREPANCIES:** DISCREPANCIES BETWEEN PORTIONS OF THE CONTRACT DOCUMENTS, DRAWINGS, AND SPECIFICATIONS ARE NOT INTENDED. STATED DIMENSIONS TAKE PRECEDENCE OVER GRAPHICS. DO NOT SCALE DRAWINGS TO DETERMINE LOCATIONS. THE CONTRACTOR IS TO CLARIFY ANY SUCH DISCREPANCIES WITH THE ENGINEER PRIOR TO COMMENCING WORK.

**TRAFFIC CONTROL:** CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT OF WAY OR ADJOINING PROPERTIES. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED AND MAINTAINED IN CONFORMANCE WITH THE ODOT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

**ACCESSIBILITY:** ALL SIDEWALKS AND CURB RAMPS SHALL BE ADA COMPLIANT. WALKING SURFACE CROSS SLOPES SHALL NOT EXCEED 0.016. WALKS, SIDEWALKS AND PEDESTRIAN WAYS SHALL BE FREE OF GRATING WHENEVER POSSIBLE. FOR GRATINGS LOCATED IN THE SURFACE OF ANY OF THESE AREAS, GRID OPENINGS IN THE GRATINGS SHALL BE LIMITED TO 1/2" IN THE DIRECTION OF TRAFFIC FLOW. ON ACCESSIBLE ROUTES, WHEN THE SLOPE IN THE DIRECTION OF TRAVEL OF ANY WALK EXCEEDS 1V:20H, IT SHALL COMPLY WITH THE PROVISIONS OF A PEDESTRIAN RAMP. PER ADA STANDARDS FOR ACCESSIBLE DESIGN 4.5.2: ON ACCESSIBLE ROUTES, CHANGES IN ELEVATION UP TO 1/4" ARE ALLOWED. CHANGES GREATER THAN 1/4" MUST BE BEVELED NO GREATER THAN 1V:2H AND CHANGES GREATER THAN 1/2" SHALL COMPLY WITH REQUIREMENTS FOR CURB RAMPS.

**UTILITY COORDINATION:** IT SHALL BE THE GENERAL CONTRACTOR AND SITE UTILITY CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL DIVISIONS OF LABOR WITH THE REQUISITE UTILITY. ALL REQUIRED MATERIALS AND LABOR NECESSARY TO PROVIDE SERVICES FOR THE SITE SHALL BE INCLUDED IN THE BID, WHETHER NOTED ON THE PLANS OR NOT. EXACT ROUTING OF THE UTILITIES SHOWN MAY DIFFER FROM WHAT IS PROVIDED ON THE DRAWINGS BASED UPON JURISDICTIONAL REQUIREMENTS.

**TREE PRESERVATION:** ALL TREES, WHETHER SHOWN OR NOT SHOWN ON THE PLANS, ARE TO BE PRESERVED UNLESS APPROVAL TO REMOVE IS GIVEN IN WRITING BY THE CITY ENGINEER OR THEIR REMOVAL HAS BEEN DESIGNATED IN THE DRAWINGS. TREES REMOVED BY EITHER OF THE TWO PRECEDING AUTHORITIES SHALL BE PAID FOR UNDER CMSC ITEM 201, CLEARING AND GRUBBING. THE CONTRACTOR SHALL USE SPECIAL PRECAUTIONS TO AVOID DAMAGE TO ALL OTHER TREES. ALL TREES REMOVED SHALL INCLUDE STUMP REMOVAL TO 6 INCHES BELOW GRADE. ALL WOOD OVER 4-INCH DIAMETER SHALL, AT THE PROPERTY OWNER'S DISCRETION, BE CUT INTO LENGTHS NOT EXCEEDING 16 INCHES AND STACKED ON THE OWNER'S PROPERTY ADJACENT TO THE PERMANENT EASEMENT. THE COST FOR TREE, BRUSH, AND STUMP REMOVAL SHALL BE INCLUDED IN THE PRICE BID FOR CMSC ITEM 201, CLEARING AND GRUBBING. THE CONTRACTOR IS TO WORK WITH STAFF FROM THE PLANNING AND ZONING DEPARTMENT 614-334-2471 ON ALL TREE REMOVALS.

**TREE PRUNING:** BRANCHES OR GROWTH THAT INTERFERE WITH THE FREE CONSTRUCTION OF THE PROJECT MAY BE REMOVED FROM TREES/BUSHES THAT ARE TO BE SAVED BY THE USE OF PRUNING TOOLS WITH PRIOR APPROVAL FROM THE ENGINEER. ALL PRUNING TOOLS USED AND METHODS EMPLOYED SHALL MEET THE APPROVAL OF THE HILLIARD CITY ARBORIST. ALL PRUNING IS TO BE DONE IN COMPLIANCE TO THE HILLIARD TREE MANUAL. THE BRANCHES SHALL BE REMOVED WITH A GOOD CLEAN CUT MADE FLUSH WITH THE PARENT TRUNK OR IF HAVING A GOOD HEALTHY LATERAL BRANCH, THE CUT SHALL BE A GOOD CLEAN SLANTING CUT CLOSE TO AND BEYOND THE HEALTHY BRANCH. ALL PRUNING CUTS SHALL BE PAINTED WITH AN ACCEPTED PRUNING PRESERVATION. THE COST OF ALL WORK AND EXPENSES CONNECTED WITH TREE PRUNING SHALL BE INCLUDED IN THE PRICE BID FOR CMSC ITEM 201, CLEARING AND GRUBBING. NO EXTRA PAYMENT SHALL BE MADE.

TREES DAMAGED OR DESTROYED THAT WERE NOT DESIGNATED FOR REMOVAL OR APPROVED BY THE HILLIARD CITY ARBORIST FOR REMOVAL SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. IF SUITABLE REPLACEMENT CANNOT BE DETERMINED, COMPENSATION BY THE CONTRACTOR FOR UNAUTHORIZED TREE REMOVAL SHALL INCLUDE SUFFICIENT ADDITIONAL LANDSCAPING AS DETERMINED BY THE PLANNING AND ZONING DEPARTMENT.

**ITEM 608 CONCRETE WALK, AS PER PLAN:** THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO CONSTRUCT NEW CURB RAMPS, TRANSITION PANELS AND BRICK BANDING IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEET 15. DURING REMOVAL OF EXISTING WALK ON THE CORNERS OF MAIN ST AND CENTER ST, BRICK BANDING SHALL BE CAREFULLY REMOVED AND STORED FOR REUSE. NOTIFY THE CITY AFTER WALK IS CONSTRUCTED IF THERE ARE UNUSED BRICKS FOR PICKUP.

**ITEM 202 BRICK WALK REMOVED AND STORED FOR PICKUP:** THE CONTRACTOR SHALL REMOVE EXISTING BRICKS AND PLACE THEM IN CONTAINERS FOR PICKUP BY THE CITY. THE OWNER SHALL DESIGNATE LOCATION FOR STORAGE ON SITE.

**EROSION CONTROL:**  
**SEEDING AND MULCHING:** THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS IN CONFORMANCE WITH CMSC ITEM 659 - SEEDING AND MULCHING. THE AREA FOR PAYMENT SHALL BE THE AREA WITHIN THE CONSTRUCTION LIMITS OUTSIDE OF PAVED AREAS AS DEFINED BY THE PLANS.

**SEEDING AND MULCHING (CONT.):** PAYMENT WILL BE MADE UNDER CMSC ITEM 659 - SEEDING AND MULCHING AT THE UNIT PRICE BID PER SQUARE YARD FOR THE QUANTITIES AS DETERMINED FROM THE MEASUREMENTS SPECIFIED ABOVE. PAYMENT FOR WATERING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CMSC ITEM 659 - SEEDING AND MULCHING, NO SEPARATE PAYMENT SHALL BE MADE FOR WATERING. IN CASE AN AREA OUTSIDE THESE LIMITS IS DAMAGED AND IS IN NEED OF GRADING AND SEEDING, IT SHALL BE DONE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL WATER SEEDED AREAS AT A RATE OF 120 GALLONS PER 1,000 SQUARE FEET AS SOON AS THE SEED IS COVERED. THE CONTRACTOR SHALL WATER ALL SEEDED AREAS AT A RATE OF 120 GALLONS PER 1,000 SQUARE FEET EVERY OTHER DAY FOR FOUR WEEKS. WATERING SHALL BE PERFORMED IN THE MORNING BETWEEN 6:00AM AND 10:00AM AND SHALL BE APPLIED BY MEANS OF A HYDRO-SEEDER OR A WATER TANK UNDER PRESSURE WITH A NOZZLE THAT WILL PRODUCE A SPRAY THAT WILL NOT DISLodge THE MULCHING MATERIAL. THE COST FOR WATER SHALL BE INCLUDED IN THE COST FOR ITEM 659 - SEEDING AND MULCHING, AS PER PLAN.

**NOTICE OF INTENT:** IF A NOTICE OF INTENTS IS REQUIRED, THE CONTRACTOR SHALL APPLY FOR THE NOTICE OF INTENT THROUGH THE OHIO ENVIRONMENTAL PROTECTION AGENCY. A COPY OF THE EPA CONFIRMATION LETTER SHALL BE KEPT ON SITE WITH THE SWPPP. A COPY SHALL ALSO BE FORWARDED TO THE CITY ENGINEER UPON RECEIPT FROM THE OHIO EPA.

**MAINTENANCE:** MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER ANY AREA IS SEEDED AND SHALL CONTINUE FOR A MINIMUM FOUR-WEEK ACTIVE GROWING PERIOD FOLLOWING THE COMPLETION OF ALL SEEDING WORK, AND UNTIL FINAL ACCEPTANCE OF THE PROJECT. IN THE EVENT THAT SEEDING OPERATIONS ARE COMPLETED TOO LATE IN THE FALL FOR ADEQUATE GERMINATION AND GROWTH OF GRASS, THEN MAINTENANCE SHALL CONTINUE INTO THE FOLLOWING SPRING.

MAINTENANCE SHALL INCLUDE RESEEDING, MOWING TO MAINTAIN A HEIGHT OF 3 INCHES, WATERING, WEEDING, FERTILIZING AND RESETING AND STRAIGHTENING OF PROTECTIVE BARRIERS. MAINTENANCE SHALL ALSO INCLUDE CHEMICAL TREATMENTS AS REQUIRED FOR FUNGUS AND/OR PEST CONTROL.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN THE SEEDED AREAS. AFTER THE GRASS IN SEEDED AREAS HAS APPEARED, ALL AREAS AND PARTS OF AREAS THAT, IN THE OPINION OF THE CITY, FAIL TO SHOW A UNIFORM STAND OF GRASS FOR ANY REASON WHATSOEVER SHALL BE RESEEDED AND SUCH AREAS AND PARTS OF AREAS SHALL BE RESEEDED REPEATEDLY UNTIL ALL AREAS ARE COVERED WITH A SATISFACTORY GROWTH OF GRASS. THE COST FOR RESEEDING TOGETHER WITH NECESSARY GRADING, FERTILIZING, AND TRIMMING SHALL BE INCLUDED IN THE COST FOR ITEM 659 - SEEDING AND MULCHING, AS PER PLAN.

**TOPSOIL:** THE REQUIREMENTS OF CMSC ITEM 653 SHALL GOVERN THE CONSTRUCTION OF THIS WORK. FOUR INCHES OF TOPSOIL SHALL BE PLACED OVER ALL DISTURBED AREAS THAT ARE TO BE SEEDED AND MULCHED. FINAL GRADES SHALL CONFORM TO THOSE SHOWN ON THE PLANS. TOPSOIL FOUND SUITABLE BY THE PROJECT ENGINEER DURING CLEARING AND GRUBBING SHALL BE SEGREGATED FROM THE OTHER EXCAVATED MATERIAL AND STOCKPILED FOR REUSE. PAYMENT FOR SEGREGATING, STOCKPILING AND REUSE OF STOCKPILED TOPSOIL SHALL BE INCLUDED IN THE AMOUNT BID FOR CMSC ITEM 901. IF STOCKPILED TOPSOIL IS INSUFFICIENT, THE ENGINEER MAY DIRECT THE CONTRACTOR TO IMPORT ADDITIONAL TOPSOIL. IMPORTED TOPSOIL SHALL BE PAID FOR UNDER THE UNIT PRICE BID FOR CMSC ITEM 653, TOPSOIL FURNISHED AND PLACED, AS DIRECTED BY THE ENGINEER.

**DUST CONTROL:** THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR DUST CONTROL.

CMSC 616 - WATER	2.66 MGAL
CMSC 616 - CALCIUM CHLORIDE	0.21 TONS

**TEMPORARY SEDIMENT AND EROSION CONTROL:** THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR EROSION AND SEDIMENTATION CONTROL MEASURES:

CMSC 207 - CONSTRUCTION SEEDING AND MULCHING	100 S.Y.
CMSC 207 - PERIMETER FILTER FABRIC FENCE	400 FT.
CMSC 207 - STABILIZED CONSTRUCTION ENTRANCE	1 EACH
CMSC 207 - CONCRETE WASHOUT AREA	1 EACH

ALL EROSION AND SEDIMENT PRACTICES ARE SUBJECT TO FIELD MODIFICATIONS AT THE DISCRETION OF THE CITY OF HILLIARD AND/OR THE OHIO EPA.

ALL DISTURBED AREAS, WHICH WILL REMAIN UNWORKED FOR 21 DAYS OR MORE, SHALL BE SEEDED WITHIN 7 DAYS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY SEDIMENT CONTROL DEVICES AT THE CONCLUSION OF THE CONSTRUCTION BUT NOT BEFORE GROWTH OF PERMANENT GROUND COVER IS ESTABLISHED. THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE (CONSISTENT WITH SEDIMENT/EROSION CONTROL PRACTICES) OF THE WORK AREA AT ALL TIMES.

**SOIL STOCKPILES:** ALL SOIL STOCKPILES, INCLUDING TRENCH EXCAVATION STOCKPILES SHALL BE PROTECTED FROM EROSION BY PERIMETER CONTROL DEVICES SUCH AS STRAW BALE DIKES OR SILT FENCES. THESE PERIMETER CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT. EXCAVATED MATERIALS SHALL NOT BE STORED ON EXISTING PUBLIC ROADWAY PAVEMENTS. THIS INCLUDES EXCESS OR UNUSABLE EXCAVATED SOIL.

**DISPOSAL OF EXCESS EXCAVATION:** THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS EXCAVATION AT SUCH LOCATION ON THE PROJECT SITE AS APPROVED BY THE CITY OF HILLIARD PROJECT REPRESENTATIVE. FOR DISPOSAL OUTSIDE OF THE LIMITS OF THE PROJECT THE CONTRACTOR SHALL PROVIDE A COPY OF THE SIGNED, WRITTEN AGREEMENT BETWEEN THE CONTRACTOR AND THE OFF-SITE LANDOWNER BEFORE SUCH DISPOSAL OCCURS. THIS WRITTEN AGREEMENT SHALL CLEARLY STATE THE PURPOSE OF THE AGREEMENT AND INDICATE THE LANDOWNER'S PERMISSION FOR SUCH USE.

**STORM SEWER INLET PROTECTION:** ALL STORM SEWER INLETS SHALL BE PROTECTED FROM EXCESSIVE AMOUNTS OF SEDIMENTS USING ADEQUATE FILTERING DEVICES AS APPROVED BY THE CITY OF HILLIARD. THESE DEVICES SHALL BE MAINTAINED UNTIL THE DENUDED AREA HAS BEEN STABILIZED, OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED UNDER CMSC ITEM 207 - STORM SEWER INLET PROTECTION. STRAW OR HAY BALES ARE NOT APPROVED FOR INLET PROTECTION.

**DEWATERING:** SHOULD WATER BE ENCOUNTERED, THE CONTRACTOR SHALL FURNISH AND OPERATE SUITABLE PUMPING EQUIPMENT OF SUCH CAPACITY TO ADEQUATELY DEWATER THE TRENCH PER CMSC ITEM 901.06. THE TRENCH SHALL BE SUFFICIENTLY DEWATERED SO THAT THE PLACEMENT OF BEDDING AND LAYING AND JOINING OF THE PIPE IS MADE ON FIRM, DRY GROUND. THE CONTRACTOR SHALL CONVEY ALL TRENCH WATER TO A NATURAL DRAINAGE CHANNEL OR STORM SEWER WITHOUT CAUSING ANY DAMAGE TO THE PROPERTY BY UTILIZING PROPER EROSION AND SEDIMENT CONTROLS. DIRECT DISCHARGE OF SEDIMENT LADEN WATER TO THE CITY'S SEWER SYSTEM OR A RECEIVING STREAM IS A VIOLATION OF OHIO EPA AND CITY OF HILLIARD REGULATIONS; THE CONTRACTOR WILL BE HELD LIABLE FOR THE VIOLATION AND SUBSEQUENT FINES. THE COST OF ALL DEWATERING WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CMSC ITEM 901.

**SEWERS:**

**EXISTING SYSTEMS:** EXISTING DRAINAGE SYSTEMS (FIELD TILES, ROOF DRAIN OUTLETS, SUMP PUMPS, ETC.) ENCOUNTERED DURING CONSTRUCTION OF THE NEW STORM SEWER OR REMOVAL OF EXISTING STORM SEWERS SHALL BE EXTENDED AS NECESSARY AND BLIND TAPPED TO THE NEW STORM SEWER PER DIVISION OF SEWERAGE AND DRAINAGE STANDARD DRAWING AA-S159 OR CONNECTED TO THE CATCH BASIN AS DIRECTED BY THE ENGINEER. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN CMSC ITEM 901.

IF THE CONTRACTOR ENCOUNTERS A PIPE OR CONNECTION TO THE STORM SEWER THAT IN THE ESTIMATE OF THE ENGINEER MAY BE AN ILLICIT CONNECTION FROM AN ON-SITE SEWAGE DISPOSAL SYSTEM, THE FRANKLIN COUNTY HEALTH DEPARTMENT SHALL BE CONTACTED AT 614-525-3160 TO DETERMINE WHETHER THE PIPE MAY BE RECONNECTED TO THE CITY'S STORM SEWER SYSTEM.

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

**DEFLECTION TESTING:** ALL PLASTIC SEWER MAIN LINES SHALL BE DEFLECTION TESTED AFTER INSTALLATION, IN CONFORMANCE WITH THE REQUIREMENTS OF OEPA GLUMRB 33.85.

**LEAKAGE TESTING:** ALL PLASTIC SEWER MAIN LINES SHALL BE LEAKAGE TESTED AFTER INSTALLATION, IN CONFORMANCE WITH THE REQUIREMENTS OF OEPA GLUMRB 33.93.

**GRADE CHANGES:** IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING SEWER, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN SEWER SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED SEWER WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED SEWER WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED SEWER WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

GRADES AND ELEVATIONS SHOWN ON THE PLANS SHALL NOT BE REVISED UNDER ANY CIRCUMSTANCES WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE ENGINEER. INVERT ELEVATIONS SHALL NOT DEVIATE FROM PLAN ELEVATION BY MORE THAN 0.05 FOOT. FAILING TO MEET THE ABOVE REQUIREMENTS IS CAUSE FOR REJECTION OF THE AFFECTED SECTION OF SEWER.

**STRUCTURE ADJUSTMENT:** THE CONTRACTOR SHALL FIELD VERIFY THE TOP OF CASTING ELEVATION OF ALL NEW STORMWATER STRUCTURES. IF PRECAST STRUCTURES ARE UTILIZED THE TOP 6 INCHES MINIMUM SHALL BE FIELD PLACED EITHER WITH GRADE RINGS OR BRICK AND MORTAR TO ALLOW FOR FIELD ADJUSTMENT. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPLICABLE CMSC ITEM 604.

IF THE ENGINEER DETERMINES THAT AN INLET IS TOO LOW AFTER IT HAS BEEN PLACED AND ROUGH GRADING PERFORMED, THE CONTRACTOR SHALL ADJUST THE INLET AS DIRECTED BY THE ENGINEER AND REGRADE THE AREA ACCORDINGLY. THE COST TO ADJUST THE INLET SHALL BE PAID FOR IN THE UNIT PRICE BID FOR CMSC ITEM SPECIAL - INLET ADJUSTED TO GRADE, AS DIRECTED BY ENGINEER, AND SHALL CONSTITUTE FULL PAYMENT FOR ADJUSTING THE INLET INCLUDING GRADE RINGS, CONCRETE, EXCAVATION, BACKFILL, REGRADING, ETC.

**MANHOLE STEPS:** MANHOLE STEPS SHALL BE REINFORCED POLYPROPYLENE PLASTIC PER DOSD STD. CONSTRUCTION DRAWING AA-S119. PAYMENT FOR MANHOLE STEPS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CMSC ITEM 604, MANHOLE.

**WATER NOTES:**

**WATER MAIN SEPARATION:** THE CONTRACTOR SHALL MAINTAIN EIGHTEEN (18) INCHES VERTICAL AND TEN (10) FEET HORIZONTAL SEPARATION BETWEEN ANY SANITARY OR STORM SEWER PIPING AND ALL PROPOSED WATER MAINS.

**CONTROLLED DENSITY FILL:** WHEN CONTROLLED DENSITY FILL (ITEM 613) IS TO BE USED AS BACKFILL, THE CONTRACTOR SHALL PROVIDE SIZE NO. 57 CRUSHED CARBONATE STONE (CCS) 1 FOOT BELOW TO 1 FOOT ABOVE THE EXISTING WATER LINE.

**GRADE CHECKS:** THE CONTRACTOR SHALL ENSURE THERE IS A SURVEYOR'S LEVEL AND ROD ON THE PROJECT FOR USE IN PERFORMING GRADE CHECKS WHENEVER SEWER LINE STRUCTURES OR PIPE ARE BEING INSTALLED. THE CONTRACTOR SHALL MAKE THIS EQUIPMENT AVAILABLE FOR THE USE OF, AND ASSIST, THE CITY INSPECTOR IN PERFORMING GRADE CHECKS WHEN REQUESTED BY THE INSPECTOR. THE INSPECTOR WILL MAKE ALL REASONABLE ATTEMPTS TO CONFINE REQUESTS FOR ASSISTANCE IN PERFORMING GRADE CHECKS TO A TIME CONVENIENT TO THE CONTRACTOR.

THESE CHECKS WILL BE PERFORMED TO ENSURE THE FOLLOWING:

1. PROPER PLACEMENT OF EACH STRUCTURE.
2. PROPER INSTALLATION OF INITIAL RUNS OF PIPE FROM A STRUCTURE.
3. GRADE, AFTER AN OVERNIGHT OR LONGER SHUTDOWN.
4. GRADE, AT ANY OTHER TIME THE INSPECTOR HAS REASON TO QUESTION GRADE OF INSTALLATION.
5. A GRADE CHECK PERFORMED BY THE CITY INSPECTOR IN NO WAY RELIEVES THE CONTRACTOR FROM THE ULTIMATE RESPONSIBILITY TO ENSURE CONSTRUCTION TO THE PLAN GRADE.

**STATIONING:** ALL STATIONING REFERS TO ROADWAY CENTERLINE STATIONING UNLESS OTHERWISE NOTED ON THE PLANS.

**EXISTING VALVES:** ALL EXISTING VALVES SHALL BE OPERATED BY CITY OF COLUMBUS, DIVISION OF WATER, PERSONNEL ONLY, AS STATED IN CHAPTER 1113 OF THE COLUMBUS CITY CODE.

**BLOCKING:** ALL FITTINGS SHALL BE ADEQUATELY RESTRAINED WITH CONCRETE BLOCKING PER THE CITY OF COLUMBUS STANDARD CONSTRUCTION DRAWINGS. ALL FITTINGS TO BE BACKED MUST BE THOROUGHLY WRAPPED IN A PLASTIC SHEETING PRIOR TO PLACING CONCRETE.

M:\570017\_Traffic\DWG\Roadway\PHASE 1\General Notes\PHASE 1\General Notes PHASE 1.P1.dwg ~GENERAL NOTES 2. LAST EDITED BY:sounders ON 8/26/15

	REVISIONS	DATE	BY	CHK.		<b>CONTACT:</b> 880 KING AVENUE COLUMBUS, OHIO 43212 (614) 299-2999 (614) 299-2992 (Fax) www.EPFERRIS.com	<b>CITY OF HILLIARD, OHIO</b> <h1 style="margin:0;">CENTER STREET IMPROVEMENTS</h1> <b>PHASE 1, PART 1</b>	JOB NO. 570.017 DESIGNED BY: BDS DRAWN BY: BDS CHECKED BY: MEF APPROVED BY: _____ DATE: 8/6/15	<b>GENERAL NOTES</b>	SCALE: NONE <hr/> SHEET NO. 4 OF 26
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**WATER NOTES, CONTINUED:**

**UTILITY TRENCH BACKFILL TESTING:** PRIOR TO CONSTRUCTION OF THE PUBLIC ROADWAY, SOIL DENSITY TESTS SHALL BE MADE ON ALL SANITARY SEWER AND DESIGNATED STORM SEWER TRENCHES WHICH CROSS THE PROPOSED PAVEMENTS OR WHICH LIE SUCH THAT THE PROPOSED PAVEMENTS ARE LOCATED WITHIN ANY PART OF THE INFLUENCE LINE OF SAID TRENCH. WHERE SAID RESULTS INDICATE THAT THE TRENCH BACKFILL DOES NOT MEET THE COMPACTION REQUIREMENTS OF ITEM 912.03 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), ALL BACKFILL MATERIAL SHALL BE REMOVED, REPLACED AND RE-TESTED UNTIL COMPACTION MEETS SAID REQUIREMENTS OF ITEM 912.03.

**FIRE HYDRANT SPECIFICATIONS:** 1. FIRE HYDRANTS SHALL BE POST TYPE, MADE OF CAST IRON, AND SHALL CONFORM IN ALL RESPECTS TO THE "AMERICAN WATER WORKS ASSOCIATION STANDARD FOR DRY-BARREL FIRE HYDRANTS", ANSI/AWWA C502-85, EXCEPT WHERE MODIFIED HEREIN.

2. MAIN VALVE SHALL BE COMPRESSION TYPE OPENING AGAINST THE PRESSURE AND CLOSING WITH THE PRESSURE. MAIN VALVE SEAT SHALL BE MADE OF BRONZE AND SHALL BE DESIGNED TO ALLOW EASY REPLACEMENT IN THE FIELD. THE DESIGN SHALL ELIMINATE THE CONTACT OF DISSIMILAR METALS IN AREAS OF THE HYDRANT THAT ARE SUBJECT TO THE CONTINUOUS PRESENCE OF MOISTURE.

3. ALL INTERNAL WORKING PARTS SHALL BE REMOVABLE FROM THE TOP OF THE HYDRANT, WITH SIMPLE TOOLS, AND WITHOUT DISTURBING THE GROUND LINE JOINT OR THE UPPER SECTION OF THE HYDRANT BARREL.

4. BREAKABLE TRAFFIC FEATURES SHALL BE PROVIDED, AND SHALL INCLUDE A BREAKABLE SAFETY FLANGE ON THE GROUND LINE JOINT, AND A BREAKABLE COUPLING ON THE MAIN VALVE STEM AT THE GROUND LINE JOINT. THE DESIGN SHALL ASSURE THAT ON HEAVY IMPACT, THE UPPER AND LOWER SECTIONS OF THE HYDRANT WILL BREAK APART CLEANLY WITHOUT DAMAGE TO ANY OTHER HYDRANT PARTS. THE GROUND LINE JOINT SHALL BE DESIGNED TO ALLOW THE NOZZLE SECTION OF THE HYDRANT TO BE ROTATED 360 DEGREES.

5. NOZZLES SHALL BE BRONZE AND REPLACEABLE, DESIGNED FOR EASY REMOVAL FROM THE HYDRANT BARREL, IN THE FIELD, WITH SIMPLE TOOLS.

6. MAIN VALVE OPENING SHALL BE 4-1/2 INCHES IN DIAMETER FOR USE IN RESIDENTIAL AREAS AND 5-1/4 INCHES IN DIAMETER FOR USE IN COMMERCIAL AREAS.

7. TWO (2) HOSE NOZZLES, 2-1/2 INCHES INSIDE DIAMETER WITH NATIONAL STANDARD THREADS.

8. ONE (1) PUMPER NOZZLE, 4-1/2 INCHES INSIDE DIAMETER WITH NATIONAL STANDARD THREADS.

9. MAIN VALVE SHALL OPEN COUNTERCLOCKWISE (LEFT).

10. OPERATING NUT SHALL BE PENTAGON SHAPED, MEASURING 1-1/2 INCHES FROM POINT TO OPPOSITE FLAT.

11. BURY SHALL BE FIVE (5) FEET UNLESS OTHERWISE SPECIFIED.

12. DRAINING DEVICES SHALL BE ELIMINATED OR THE DRAIN HOLES PLUGGED.

13. THE SHOE SHALL BE A SIX (6) INCH DIAMETER INLET AND A MECHANICAL JOINT CONNECTION WITH ACCESSORIES.

14. THE COLOR OF THE BARREL AND CAPS SHALL BE ROYAL BLUE, AND THE BONNET WHITE.

15. THE CONTRACTOR/DEVELOPER SHALL SUBMIT DETAILED DRAWINGS AND SPECIFICATIONS FOR THE HYDRANT TO THE SERVICE DIRECTOR FOR APPROVAL, PRIOR TO INSTALLATION.

16. WHERE FOUR (4) OR MORE FIRE HYDRANTS ARE TO BE INSTALLED ON THE PROJECT, OR ANY PHASE OF THE PROJECT, THE CONTRACTOR, DEVELOPER, OR OWNER SHALL FURNISH AND DELIVER TO THE CITY OF HILLIARD, AT NO COST TO THE CITY, ONE (1) COMPLETE FIRE HYDRANT. WHEN FOUR (4) THROUGH TEN (10) FIRE HYDRANTS ARE INSTALLED, AN ADDITIONAL FIRE HYDRANT SHALL BE FURNISHED AND DELIVERED TO THE CITY OF HILLIARD, AT NO COST TO THE CITY, WHEN MORE THAN TEN (10) FIRE HYDRANTS ARE INSTALLED. EACH EXTRA FIRE HYDRANT SHALL BE COMPLETE WITH ACCESSORIES, INCLUDING OPERATING WRENCH, SPECIAL WRENCHES AND TOOLS, AND LUBRICANTS NECESSARY FOR THE OPERATION, MAINTENANCE AND REPAIR OF FIRE HYDRANTS.

17. FIRE HYDRANTS APPROVED FOR USE IN THE CITY OF HILLIARD ARE THE AMERICAN DARLING "MARK 73" OR "B-84-B", THE CLOW "MEDALLION", AND THE MUELLER "CENTURION".

**CITY OF COLUMBUS WATER LINE NOTES**

**GENERAL NOTES:** THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2012 EDITION AND ALL REVISIONS, INCLUDING ALL SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE A PART OF THIS PLAN, UNLESS OTHERWISE NOTED.

ALL WATER MAIN MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS OF THE CITY OF COLUMBUS, DIVISION OF WATER. ALL CITY OF COLUMBUS, DIVISION OF WATER STANDARD DRAWINGS SHALL APPLY TO THE PROJECT, UNLESS OTHERWISE NOTED.

FOR ANY EMERGENCIES INVOLVING THE WATER DISTRIBUTION SYSTEM, PLEASE CONTACT THE DIVISION OF WATER DISTRIBUTION AND MAINTENANCE OFFICE AT 614-645-7788.

ALL BRASS FITTINGS ASSOCIATED WITH WATER WORK, INCLUDING REPAIRS TO THE EXISTING SYSTEM, SHALL CONFORM TO THE REVISED ALLOWABLE LEAD EXTRACTION LIMIT PER THE UPDATED NSF/ANSI 61 STANDARD. THE DIVISION OF WATER'S APPROVED MATERIALS LIST HAS BEEN UPDATED TO REFLECT THIS REQUIREMENT.

IT SHALL BE UNLAWFUL FOR ANY PERSON TO PERFORM ANY WORK ON CITY OF COLUMBUS WATER LINE SYSTEMS WITHOUT FIRST SECURING LICENSE TO ENGAGE IN SUCH WORK, AS INDICATED IN COLUMBUS CITY CODE SECTION 1103.02 AND 1103.06. THIS WORK INCLUDES ANY ATTACHMENTS, ADDITIONS TO OR ALTERATIONS IN ANY CITY SERVICE PIPE OR APPURTENANCES (INCLUDING WATER SERVICE LINES AND TAPS). THIS REQUIREMENT MAY BE MET BY UTILIZATION OF A SUBCONTRACTOR WHO HOLDS A CITY OF COLUMBUS WATER CONTRACTOR LICENSE OR A COMBINED WATER/SEWER CONTRACTOR LICENSE TO PERFORM THIS WORK. UTILIZATION OF A SUBCONTRACTOR MUST MEET THE LICENSING REQUIREMENTS OF CITY OF COLUMBUS BUILDING CODE, IN PARTICULAR SECTION 4114.119 AND 4114.529.

NO PERSON SHALL BEGIN CONSTRUCTION OR INSTALLATION OF A PUBLIC WATER MAIN UNTIL PLANS HAVE BEEN APPROVED BY THE STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA).

THE CONTRACTOR SHALL OBTAIN THE PROPER HYDRANT PERMIT(S), AND PAY ANY APPLICABLE FEES, FOR ANY APPROVED HYDRANT USAGE DEEMED NECESSARY FOR WORK UNDER THIS IMPROVEMENT. PERMITS MAY BE OBTAINED THROUGH THE DIVISION OF WATER PERMIT OFFICE (645-7330). THE CONTRACTOR SHALL ADHERE TO ALL RULES & REGULATIONS GOVERNING SAID PERMIT AND MUST HAVE THE ORIGINAL PERMIT ON SITE ANYTIME IN WHICH THE HYDRANT IS IN USE. THE CONTRACTOR MUST CONTACT NORWICH TOWNSHIP FIRE DEPARTMENT TO OBTAIN A FIRE HYDRANT PERMIT PRIOR TO CONNECTION OF HIS WATER SUPPLY LINES TO ANY FIRE HYDRANT. HOSES SHALL NOT BE CONNECTED TO A FIRE HYDRANT WHILE LEFT UNATTENDED. COST TO BE INCLUDED IN THE VARIOUS BID ITEMS.

ALL WATER MAINS SHALL BE CLEANED AND FLUSHED, AND ANY WATER MAIN 12-INCH AND LARGER MUST BE PROPERLY PIGGED, IN ACCORDANCE WITH SECTION 801.13 OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS.

ALL WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH SECTION 801.14 OF THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, WITH THE FOLLOWING EXCEPTION: 150 PSI OF PRESSURE SHALL BE MAINTAINED FOR AT LEAST TWO HOURS IN ANY TESTED SECTION. THE CITY MAY NOT APPROVE ANY TEST LASTING LESS THAN TWO HOURS REGARDLESS OF THE AMOUNT OF LEAKAGE.

ALL WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH SECTION 801.15 OF THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS. SPECIAL ATTENTION IS DIRECTED TO APPLICABLE SECTIONS OF A.W.W.A. C-651. WHEN THE WATER MAINS ARE READY FOR DISINFECTION, THE CITY OF HILLIARD SHALL SUBMIT A WRITTEN REQUEST FOR CHLORINATION OF THE MAINS THAT NEED DISINFECTED, THREE (3) SETS OF "AS-BUILT" PLANS (FULL SIZE SHEETS ONLY), THE AS-BUILT SURVEY COORDINATES, WATER SERVICE REPORTS AND A PRESSURE TEST TO THE CITY OF COLUMBUS, DIVISION OF WATER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE DISINFECTION OF ALL WATER MAINS CONSTRUCTED UNDER THIS PLAN.

WHERE INDICATED ON THE PLANS, THE EXISTING WATER MAIN SHALL BE ABANDONED; AND ANY EXISTING WATER SERVICES OFF THIS MAIN SHALL BE TRANSFERRED TO THE NEW WATER MAIN. PRIOR TO ABANDONMENT OF THE EXISTING WATER MAIN, THE PROPOSED WATER MAIN SHALL BE PIGGED (IF REQUIRED), TESTED, CHLORINATED AND PUT IN SERVICE AND THEN THE EXISTING WATER SERVICES SHALL BE TRANSFERRED. THE CONTRACTOR SHALL MAINTAIN WATER SERVICES TO ALL PROPERTIES DURING CONSTRUCTION OF THE NEW WATER MAIN AND SHALL NOTIFY ALL CUSTOMERS AFFECTED BY THE TRANSFER OF SERVICES. TO ENSURE THAT ALL EXISTING SERVICES ARE TRANSFERRED TO THE NEW MAIN, NO WATER MAIN SHALL BE ABANDONED UNTIL THE NEW WATER MAIN HAS BEEN PUT IN SERVICE; ALL AFFECTED WATER SERVICES HAVE BEEN TRANSFERRED; AND THE EXISTING WATER MAIN TO BE ABANDONED HAS BEEN SHUT DOWN FOR 24 HOURS. ALL VISIBLE VALVE BOXES, FIRE HYDRANTS AND SERVICE BOXES ON THE WATER MAIN TO BE ABANDONED, WHICH WILL NO LONGER BE IN SERVICE, SHALL BE REMOVED. ALL WATER MAINS TO BE ABANDONED SHALL BE MADE WATER TIGHT. THE REQUIRED SURFACE RESTORATION SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM(S).

ALL WATER METERS ASSOCIATED WITH THIS PROJECT SHALL BE INSTALLED INSIDE THE PROPOSED STRUCTURE UNLESS A METER PIT IS APPROVED BY THE ADMINISTRATOR OF THE DIVISION OF WATER. ALL METER PITS MUST CONFORM TO STANDARD DRAWING L-7103 FOR 5/8" THROUGH 1" METERS OR L-6317 A, B, C, D, & E FOR 1-1/2" OR LARGER METERS.

NO SERVICE CONNECTION PERMITS SHALL BE ISSUED OR CONNECTIONS MADE TO ANY SERVICE TAPS UNTIL WATER MAINS HAVE BEEN DISINFECTED BY THE CITY OF COLUMBUS, DIVISION OF WATER.

WATER SERVICE BOXES SHALL BE PLACED 1' FROM THE EDGE OF THE PROPOSED OR EXISTING SIDEWALK BETWEEN THE SIDEWALK AND THE CURB, OR 2 FEET INSIDE THE RIGHT-OF-WAY OR EASEMENT LINE WHEN NO SIDEWALK IS PRESENT OR PROPOSED. REFER TO STANDARD DRAWING L-9901 FOR ADDITIONAL INFORMATION.

"SURVEY COORDINATES" SHALL INCLUDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO OBTAIN HORIZONTAL AND VERTICAL (NORTHING, EASTING, AND ELEVATION) SURVEY COORDINATES FOR THE WATER MAIN IMPROVEMENTS. THE SURVEY COORDINATES SHALL BE OBTAINED FOR THE COMPLETED WATER MAIN CONSTRUCTION AND SHALL INCLUDE ALL VALVES, TEES, CROSSES, BENDS, DEFLECTIONS, PLUGS, REDUCERS, TAPPING SLEEVES, BLOW OFFS, CHLORINATION TAPS, FIRE HYDRANTS, AIR RELEASES, CURB STOPS, CASING PIPE TERMINI, AND OTHER FITTINGS. ADDITIONAL SURVEY COORDINATES ARE REQUIRED ON THE WATER MAIN EVERY 500' WHERE NO FITTING OR OTHER WATER MAIN STRUCTURE IS BEING INSTALLED WITHIN THAT LENGTH OF THE IMPROVEMENT.

ALL SURVEY COORDINATES SHALL BE REFERENCED TO THE APPLICABLE COUNTY ENGINEER'S MONUMENTS, AND SHALL BE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) WITH THE (NSRS2007) ADJUSTMENT, WITH FURTHER REFERENCE MADE TO THE OHIO STATE PLANE SOUTH COORDINATE SYSTEM, SOUTH ZONE, WITH ELEVATIONS BASED ON NAVD 88 DATUM. ALL COORDINATES (NORTHING, EASTING, ELEVATION) SHALL BE REFERENCED TO THE NEAREST HUNDRETH (N XXXXXX.XX, E XXXXXX.XX, ELEV. XXX.XX). ALL SURVEY COORDINATES SHALL BE ACCURATE TO WITHIN 1.0 FOOT HORIZONTAL AND A TENTH OF A FOOT (0.10) OR LESS VERTICAL.

THE COORDINATES SHALL BE DOCUMENTED TO THE MUNICIPALITY ENGINEER OR DESIGNATED REPRESENTATIVE IN DIGITAL SPREADSHEET FORM AND SHALL INCLUDE THE APPLICABLE ITEM, STATION, NORTHING, EASTING, AND ELEVATION. COORDINATES SHALL BE SUBMITTED TO THE MUNICIPALITY ENGINEER OR DESIGNATED REPRESENTATIVE ON A BI-WEEKLY BASIS. COORDINATES SHALL ALSO BE REQUIRED TO BE SUBMITTED TO THE DIVISION OF WATER AS PART OF THE REQUEST FOR CHLORINATION.

SEE THIS SHEET FOR TABLE.

LUMP SUM PAYMENT IS FULL COMPENSATION FOR ALL WORK INVOLVED IN OBTAINING AND DOCUMENTING THE SURVEY COORDINATES AS DESCRIBED IN THIS SPECIFICATION.

FIRE HYDRANT RELOCATIONS SHALL CONFORM TO APPLICABLE SECTIONS OF ITEM 809 OF THE COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS. WORK SHALL CONSIST OF REMOVING THE EXISTING HYDRANT, INSTALLING NEW 6" PIPE AND FITTING AS REQUIRED TO LOCATE THE FIRE HYDRANT 2 FEET FROM BACK OF PROPOSED CURB OR 8 FEET OFF EDGE OF PAVEMENT, RESETTING HYDRANT AND BLOCKING AS REQUIRED. ALL 6" PIPE SHALL BE INSTALLED AT 4'-0" MINIMUM COVER. HYDRANT EXTENSIONS SHALL BE PROVIDED PER ITEM 810, AS REQUIRED. RELOCATED FIRE HYDRANTS SHALL BE ADJUSTED TO PROPER GRADE AND FACED IN THE PROPER DIRECTION. WHEN A HYDRANT IS RELOCATED FIFTEEN (15) FEET OR MORE FROM THE "TYPICAL HYDRANT SETTING" VALVE LOCATION (SEE L-6409 & L-6637), AN ADDITIONAL VALVE SHALL BE INSTALLED, AND RESTRAINED, WITHIN TWO (2) FEET OF THE RELOCATED HYDRANT. PAYMENT IS TO BE INCLUDED UNDER ITEM 809, FIRE HYDRANT RELOCATED.

RELOCATED FIRE HYDRANTS SHALL BE PUT BACK IN SERVICE AS SOON AS POSSIBLE.

ONLY ONE CONNECTION TO AN EXISTING WATER LINE IS PERMITTED BEFORE DISINFECTION OF A NEW WATER LINE HAS BEEN COMPLETED. ALL OTHER CONNECTIONS MUST BE MADE AFTER THE LINE HAS BEEN DISINFECTED. WHEN A 3-INCH OR LARGER TAP IS TO OCCUR ON A 20-INCH OF LARGER WATER MAIN, THE CONTRACTOR SHALL NOTIFY THE DIVISION OF WATER OPERATIONS CONTROL CENTER AT (614) 645-7168 TWENTY-FOUR (24) HOURS IN ADVANCE OF PERFORMING THE TAP.

ALL WATER LINE VALVE BOXES, SERVICE BOXES, TEST STATIONS, PITOMETER TAP STRUCTURES, METER PIT COVERS, AND OTHER SURFACE UTILITY STRUCTURES WITHIN THE DISTURBED AREA SHALL BE ADJUSTED TO GRADE. ANY OF THESE STRUCTURES WITHIN PAVEMENT, DRIVEWAYS, OR OTHER TRAVELED AREAS, WHETHER EXISTING OR PROPOSED, SHALL BE EQUIPPED WITH A TRAFFIC RATED, HEAVY DUTY VALVE BOX AND/OR COVER IN ACCORDANCE WITH THE STANDARD DRAWINGS. EXISTING WATER SERVICE BOXES TO REMAIN THAT ARE ENCOUNTERED WITHIN THE PROJECT LIMITS SHALL BE CLEANED OUT, CENTERED OVER THE CURB STOP, AND ADJUSTED TO THE PROPOSED GRADE.

**INTERRUPTION OF WATER SERVICE:** THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO ALL AFFECTED PROPERTY OWNERS AT LEAST 24 HOURS, BUT NOT MORE THAN 72 HOURS PRIOR TO ANY TEMPORARY INTERRUPTION OF WATER SERVICE. INTERRUPTION OF WATER SERVICE SHALL BE HELD TO A MINIMUM AND SHALL BE APPROVED BY THE CITY OF HILLIARD.

THE SERVICE INTERRUPTION SHALL LAST NO LONGER THAN FOUR HOURS UNLESS APPROVED IN WRITING BY THE CITY OF COLUMBUS DIVISION OF WATER.

THE CONTRACTOR SHALL COORDINATE HIS WORK SUCH THAT NO WATER CUSTOMER WILL HAVE THEIR SERVICE DISRUPTED MORE THAN TWO (2) TIMES THROUGHOUT THE DURATION OF THIS PROJECT.

THE CITY OF COLUMBUS DIVISION OF WATER SHALL BE NOTIFIED 48 HOURS BEFORE ANY CONNECTION INTO EXISTING WATER LINES OR DISRUPTION OF SERVICE.

THE CITY OF COLUMBUS DIVISION OF WATER ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OF WATER FACILITIES SHOWN ON PLANS. ALL WATER LINE ELEVATION ARE UNKNOWN.

WATER LINES SHALL BE LAID WITH A MINIMUM OF 4'-0" OF COVER. IN CASE OF CONFLICT IN GRADE BETWEEN WATER LINES AND STORM SEWERS, THE WATER LINES SHALL BE LOWERED DURING CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR WATER LINE LOWERING. WATER SERVICE TAPS SHALL NOT BE PLACED ON THE LOWERED SECTION OF THE WATER LINE. WATER SERVICE TAPS SHALL NOT BE PLACED WITHIN 10 FEET OF ANY PERMANENT STRUCTURE (I.E., FIRE HYDRANT, STORM SEWER INLET, ETC.)

EXPPOSED OPEN ENDS OF PIPE MUST BE TEMPORARILY BLOCKED OR CAPPED DURING CONSTRUCTION. PARTICULAR CARE SHALL BE TAKEN TO PROTECT THE PIPE ENDS AT ANY TIME ACTUAL LAYING IS NOT IN PROGRESS.

DURING THE CONSTRUCTION OPERATIONS, WORKMEN SHALL USE CARE TO ASSURE THAT ALL INSTALLED SURFACES OF THE SYSTEM WHICH WILL COME IN CONTACT WITH THE CITY OF COLUMBUS WATER SUPPLY ARE MAINTAINED IN A SANITARY CONDITIONS. EVERY EFFORT MUST BE MADE TO KEEP THE INSIDE OF THE PIPE FITTINGS AND VALVES FREE OF ALL LOOSE FOREIGN MATTER.

ALL VALVE BOXES, SERVICE BOXES, AND FIRE HYDRANTS SHALL BE LOCATED WITHIN THE EASEMENT AREA OR RIGHT OF WAY.

PRIOR TO FINAL ACCEPTANCE, FIRE HYDRANTS SHALL BE INSPECTED AND ACCEPTED BY THE CITY OF HILLIARD.

BACKFILLING OF ALL WATER LINE TRENCHES AND EXCAVATION SHALL BE IN ACCORDANCE WITH ITEM 801 OF THE C.M.S.C. NO GRITS WILL BE PERMITTED IN WATER LINE TRENCH BACKFILL. ALL TRENCHES SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS. PAYMENT SHALL BE INCLUDED WITHIN VARIOUS WATER ITEMS THAT ARE AS SHOWN IN THE ESTIMATE QUANTITIES.

ALL EXCAVATION, BACKFILL BEDDING, FITTINGS, CONCRETE BACKING, REFERENCE MONUMENTS, ETC. AS REQUIRED TO PERFORM THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR WATER LINE ITEMS. NO SEPARATE PAYMENT SHALL BE MADE.

**GRANULAR BACKFILL & BEDDING MATERIAL FOR WATERLINES:** WHERE WATER MAINS OR SERVICES CROSS PROPOSED OR EXISTING STREETS, BACKFILL SHALL BE COMPACTED GRANULAR MATERIAL, ITEM 703.11 WITHIN LIMITS 5' OUTSIDE EDGE OF PAVEMENT OR CURB, EXTENDED FROM THE BOTTOM OF THE TRENCH TO A PLANE 6" BELOW THE SUBGRADE. THE SERVICE MAY BE JACKED ACROSS THE STREET IN LIEU OF OPEN CUT AND THE USE OF GRANULAR BACKFILL.

GRANULAR BACKFILL HAS NOT BEEN ITEMIZED SEPARATELY. THE COST OF ALL BACKFILL SHALL BE INCLUDED WITHIN THE PRICE BID FOR THE WATER LINE PIPE. NO SEPARATE PAYMENT SHALL BE MADE.

**CONCRETE SUPPORTS:** CONCRETE SUPPORTS SHALL BE PROVIDED AT ALL HORIZONTAL AND VERTICAL BENDS, TEES, PLUGS, VALVES, JOINT DEFLECTIONS, FITTINGS AND HYDRANTS AND AS DESIGNATED ON THE PLANS AND/OR AS REQUIRED BY THE GOVERNING SPECIFICATIONS.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR PROVIDING BACKING TO THE EXTENT SUFFICIENT TO GUARANTEE THE OPERATION OF THE PIPE UNDER BOTH THE TEST AND DESIGN PRESSURES. ALL COSTS SHALL BE INCLUDED WITHIN THE PRICE OF THE WATER ITEMS.

THE CONTRACTOR IS REQUIRED TO SUBMIT A SEQUENCE OF CONSTRUCTION TO THE CITY OF COLUMBUS DIVISION OF WATER AT THE PRECONSTRUCTION CONFERENCE. THE DIVISION OF WATER SHALL HAVE THE RIGHT TO APPROVE, REJECT, OR MODIFY THE CONSTRUCTION SEQUENCE TO ENSURE THAT THE INTERRUPTIONS ARE HELD TO A MINIMUM. PLEASE NOTE THAT THE DIVISION OF WATER MAY WAKE UP TO TEN (10) WORKINGS DAYS TO RESPOND TO THE SUBMITTAL.

THE CONTRACTOR SHALL CONTACT THE CITY OF COLUMBUS DIVISION OF WATER PERSONNEL TO SCHEDULE ANY WATER TURN OFFS FOR TIE-INS, AT MINIMUM FIVE (5) WORKING DAYS PRIOR TO NEEDING THE LINES TURNED DOWN. AT LEAST 24 HOURS BUT NOT MORE THAN 72 HOURS IN ADVANCE OF ANY SHUT DOWN, THE CONTRACTOR SHALL NOTIFY ALL THE WATER CUSTOMERS WHOSE WATER IS TO BE TURNED OFF OF THE APPROXIMATE LENGTH OF TIME THAT THEY SHALL BE WITHOUT WATER SERVICE.

**HEAVY DUTY VALVE BOX:** EXISTING OR PROPOSED VALVES LOCATED WITHIN EXISTING OR PROPOSED PAVEMENT, DRIVEWAY OR OTHER TRAVELED AREAS SHALL BE PROVIDED WITH A HEAVY DUTY VALVE BOX IN ACCORDANCE WITH THE STANDARD DRAWINGS.

THE COST OF ALL HEAVY DUTY VALVE BOXES FOR PROPOSED VALVES SHALL BE INCLUDED WITHIN THE COST OF THE PROPOSED VALVE. NO SEPARATE PAYMENT SHALL BE MADE.

DESCRIPTION	STATION	OFFSET	AS-BUILT STATION	AS-BUILT NORTHING	AS-BUILT EASTING	AS-BUILT C/L ELEV.
Center Street						
12"x8" Cut-in Tee	45+82.69	0.33' RT.				
8" 45' Vertical Bend	45+86.67	0.64' RT.				
8" 45' Vertical Bend	45+88.28	0.77' RT.				
8" 45' Vertical Bend	45+92.27	1.09' RT.				
8" 45' Vertical Bend	45+93.89	1.22' RT.				
8" Valve	46+15.00	2.11' RT.				
8" Joint Deflection	46+15.00	2.11' RT.				
8"x6" Anchoring Tee	47+18.27	2.11' RT.				
6" Valve	47+18.27	0.11' RT.				
6" 90' Horizontal Bend	47+18.27	14.50' LT.				
6" Valve	47+19.68	14.50' LT.				
Fire Hydrant, Type A	47+21.74	14.50' LT.				
8" Joint Deflection	47+56.00	2.11' RT.				
2" Curb Stop (No. 4021 Main St)	47+64.57	2.11' RT.				
2" Water Main Tap	47+76.04	2.11' RT.				
2" 45' Horizontal and Vertical Deflection	47+75.70	14.87' LT.				
Connect to Ex. 2" Water Line	47+77.44	16.55' LT.				
1.5" Curb Stop (No. 5344 Center St)	48+83.43	2.11' RT.				
8" Joint Deflection	49+30.00	2.11' RT.				
8" Valve	49+30.00	2.11' RT.				
12"x8" Cut-in Tee	49+54.45	2.11' RT.				

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REVISIONS	DATE	BY	CHK.



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**CITY OF HILLIARD, OHIO**  
**CENTER STREET IMPROVEMENTS**  
**PHASE 1, PART 1**

JOB NO. 570.017  
 DESIGNED BY: BDS  
 DRAWN BY: BDS  
 CHECKED BY: MEF  
 APPROVED BY: \_\_\_\_\_  
 DATE: 8/6/15

**GENERAL NOTES**

SCALE: NONE	
SHEET NO. 5	OF 26

**ITEM 614 – MAINTAINING TRAFFIC, AS PER PLAN**

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF SCD-101.90. WEDGES SHALL BE PROVIDED, IF NEEDED, AND SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 – MAINTAINING TRAFFIC, AS PER PLAN.

TEMPORARY PAVEMENT, IF USED, IS TO BE REMOVED.

ANY NOTED DRIVEWAY ACCESSES SHALL BE MAINTAINED AT ALL TIMES.

THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING BARREL LOCATIONS, AS REQUIRED, DURING THE DURATION OF THE PROJECT TO PROVIDE SUFFICIENT ACCESS TO BUSINESSES OR ACCESS WAYS AS DIRECTED BY THE ENGINEER.

ALL TEMPORARY STORM SEWER CATCHBASINS AND TEMPORARY SANITARY MANHOLE LOWERINGS SHALL BE INCLUDED WITH THIS ITEM.

**CONSTRUCTION SEQUENCE:**

THE FOLLOWING IS A SUGGESTED SEQUENCE OF CONSTRUCTION FOR THIS PROJECT. THE CONTRACTOR MAY, IN LIEU OF THIS METHOD OF OPERATION, SUBMIT IN WRITING, HIS OWN METHOD OF OPERATION TO THE ENGINEER FOR REVIEW AND APPROVAL. HOWEVER, THE CONTRACTOR SHALL PROVIDE AT THE PRE-CONSTRUCTION CONFERENCE A SET OF REPRODUCIBLE PRINTS (SCALE 1" = 40' OR 1" = 20') SHOWING HOW HE PLANS TO MAINTAIN TRAFFIC IN ACCORDANCE WITH THE OMUTCD AND THESE TRAFFIC MAINTENANCE NOTES. THESE PLANS WILL HAVE TO BE REVIEWED AND APPROVED BY THE ENGINEER. THE CONTRACTOR WILL BE ADVISED AS TO THE REVIEW RESULTS IN WRITING WITHIN THIRTY (30) DAYS.

1. CLOSE AND CONSTRUCT CENTER STREET BETWEEN MAIN STREET AND WAYNE STREET TO INTERMEDIATE ASPHALT COURSE. DETOUR TRAFFIC AROUND CLOSURE USING NORWICH ST, WAYNE ST, AND FRANKLIN ST. THE HILLIARD'S STATION PARK PROJECT IS BEING CONSTRUCTED CONCURRENTLY WITH THIS PROJECT. THE CURB ON THE RIGHT SIDE OF CENTER STREET, ADJACENT TO THE PARK IS BEING CONSTRUCTED BY THE PARK CONTRACTOR.
2. TO CONNECT THE PROPOSED WATERLINE TO THE EXISTING MAIN ON MAIN STREET CONTRACTOR MAY CHOOSE BETWEEN TWO OPTIONS. BOTH OPTIONS ARE TO BE PERFORMED AT NIGHT FROM 10PM TO 6AM, MONDAY THRU WEDNESDAY. OPTION ONE: CLOSE SOUTHBOUND MAIN ST, TRAFFIC SHOULD BE DETOURED AROUND WORK ZONE USING FRANKLIN ST, NORWICH ST AND WAYNE ST, CONTRACTOR IS RESPONSIBLE FOR ALL COST IN PROVIDING DETOUR INCLUDING SIGNAGE, BARRICADES AND UPDATING EXISTING CENTER ST DETOUR SIGNAGE. TEMPORARY NO OVERNIGHT PARKING SIGNS SHOULD BE INSTALLED ALONG THE WEST SIDE OF MAIN ST BETWEEN CENTER ST AND NORWICH ST DURING CLOSURE. OPTION 2: CONTRACTOR MAY CHOOSE TO PERFORM WATERLINE CONNECTION WITH USE OF A LEO AND PATROL CAR TO FLAG TRAFFIC FOR A 2 WAY/1 LANE OPERATION. FOR BOTH OPTIONS, 2 LANE TRAFFIC MUST BE RESTORED AT THE END OF EACH WORK DAY. CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS FROM ADJACENT RESTURANTS/BARS DURING CLOSURE.
3. MAINTAIN TRAFFIC ON CENTER STREET WEST OF WAYNE ST AND AND WAYNE STREET DURING CONSTRUCTION OF BUMPOUTS AND WALK AT INTERSECTION. CITY OWNED PARKING LOT ADJACENT TO CENTER STREET MAY BE USED DURING WORKING HOURS TO DETOUR TRAFFIC ON CENTER STREET. CENTER ST SHALL BE OPENED TO TRAFFIC AFTER WORKING HOURS. MAINTAIN 2 WAY, 1 LANE TRAFFIC ON WAYNE ST WITH FLAGGERS TO INSTALL STORM SEWER AND WATERLINE ACROSS WAYNE ST. LANE CLOSURE CANNOT BEGIN BEFORE 9AM AND 2 LANE TRAFFIC MUST BE RESTORED BY 4PM.
4. MILL EXISTING PAVEMENT AT THE INTERSECTION OF WAYNE ST AND CENTER ST. AND PAVE ASPHALT FINISH COURSE THROUGH THE ENTIRE PROJECT AREA.

IF CONSTRUCTION ON THE PROJECT CANNOT BE FULLY COMPLETED BEFORE WINTER SHUTDOWN, THE CONTRACTOR SHALL BRING ANY TRENCHES OR EXCAVATED AREAS BACK TO EXISTING GRADE THROUGH THE USE OF COMPACTED GRANULAR MATERIAL OR TEMPORARY ASPHALT OR CONCRETE PAVEMENT TO ALLOW FOR ONE WAY OPENING OF CENTER STREET TO VEHICULAR TRAFFIC AND OPENING OF SIDEWALKS TO PEDESTRIAN TRAFFIC OVER THE WINTER. ANY GRANULAR MATERIAL USED TO MAINTAIN TRAFFIC SHALL BE MAINTAINED BY THE CONTRACTOR DURING THE WINTER.

CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT DROPOFF DOES NOT EXCEED 12" AT ANY TIME AND SHALL COMPLY WITH SCD MT-101.90.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 – MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

**LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS**

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

MAIN ST/CENTER ST INTERSECTION TO ASSIST DURING INITIAL SET-UP PERIODS OF CLOSURE OR TO PROVIDE TRAFFIC CONTROL DURING WATERLINE CONNECTION AS DESCRIBED IN CONSTRUCTION SEQUENCE NOTE. IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTIONS OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONE.

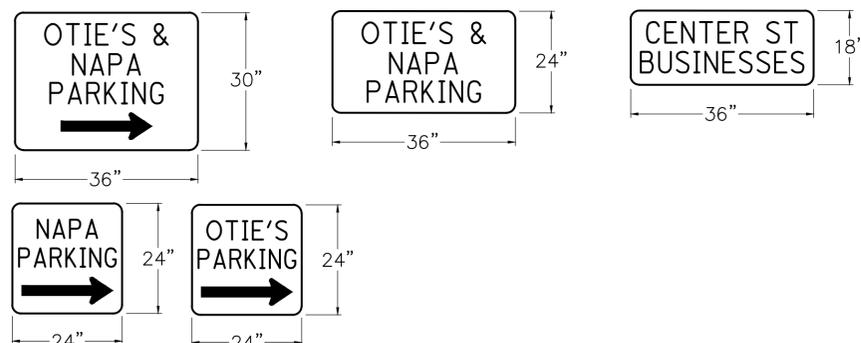
LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORIST FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF THE SHIFT.

ALL COSTS FOR THE LEOS SHALL BE COVERED IN THE LUMP SUM PRICE FOR ITEM 614 – MAINTAINING TRAFFIC, AS PER PLAN.

**BUSINESS ENTRANCE (M4-H15) SIGN**



THE BUSINESS ENTRANCE (M4-H15) SIGN SHOULD BE PROVIDED AT EACH TEMPORARILY RELOCATED COMMERCIAL DRIVEWAY OR HIDDEN DRIVEWAY FOR WHERE THE BUSINESS ENTRANCE IS NOT OBVIOUS TO THE MOTORIST. THE PROJECT ENGINEER SHALL DETERMINE WHETHER OR NOT THE DRIVEWAY IS, OR IS NOT, OBVIOUS AND WHETHER OR NOT A SIGN SHOULD BE PROVIDED. ONLY ONE SIGN PER BUSINESS SHALL BE PERMITTED. THE SIGN SHALL BE SIZED AS SHOWN ABOVE WITH TYPE G OR TYPE H ORANGE RETROREFLECTIVE SHEETING AND BLACK LETTERING.

THE SIGN SHALL BE MOUNTED ON ONE NO. 3 POSTS OR ON TEMPORARY POSTS IN ACCORDANCE WITH SCD MT-105.10 AND IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. THE SIGN SHALL BE CLEARLY VISIBLE AND SHALL CLEARLY IDENTIFY THE LOCATION OF THE DRIVEWAY. THE SIGN SHOULD BE POSITIONED AT 90 DEGREES TO THE DIRECTION OF TRAFFIC. THE SIGN MAY NEED TO BE MOVED FOR EACH PHASE OF THE MAINTENANCE OF TRAFFIC OPERATIONS.

PAYMENT FOR ALL COSTS ASSOCIATED WITH MANUFACTURING, MOUNTING, RELOCATING, AND REMOVING THE SIGN, INCLUDING ALL LABOR, MATERIALS, AND EQUIPMENT SHALL BE INCLUDED IN ITEM 614 – MAINTAINING TRAFFIC, AS PER PLAN

**WORK ZONE PAVEMENT MARKINGS**

THE CONTRACTOR SHALL LAY OUT THE LOCATIONS OF ALL LINES, WORDS, AND SYMBOLS TO ASSURE THEIR PROPER PLACEMENT. THE ENGINEER SHALL APPROVE THE LAYOUT AND PREMARKING LINES BEFORE MARKING OPERATIONS ARE STARTED. DAMAGE RESULTING FROM THE DAILY OPERATION OF THE WORK OUTLINED IN THIS CONTRACT TO PAVEMENT MARKINGS ON ROADWAYS OUTSIDE OF THE DESIGNATED WORK AREA WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. APPLICATION OF MATERIAL UNDER THIS ITEM IS TO BE PLACED WITHIN TEN (10) DAYS OF PAVING.

PAYMENT FOR THIS ITEM SHALL INCLUDE LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK. PAYMENT WILL INCLUDED IN ITEM 614 – MAINTAINING TRAFFIC, AS PER PLAN.

**LOCAL ACCESS**

INGRESS AND EGRESS SHALL BE MAINTAINED TO ALL COMMERCIAL PROPERTIES. DRIVEWAY CLOSURE MAY BE NECESSARY TO ENABLE WORK ON OR IN FRONT OF A DRIVE. THE CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING OWNERS OR BUSINESS OPERATIONS IN WRITING AT LEAST 48 HOURS BUT NOT MORE THAN 72 HOURS PRIOR TO CLOSURE. THE ENGINEER SHALL BE GIVEN A LIST OF THE PERSONS THAT WERE GIVEN NOTICES WITH THE DATE OF NOTICE INCLUDED. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNERS TO ENSURE SCHEDULED LARGE TRUCK DELIVERY VEHICLES HAVE ACCESS.

INDIVIDUAL DRIVE CLOSURES SHALL BE KEPT TO THE MINIMUM TIME NEEDED FOR CONSTRUCTION ACTIVITIES. EVERY EFFORT MUST BE MADE TO ACCOMMODATE THE OWNER'S NEED FOR ACCESS.

**EXISTING TRAFFIC SIGN MAINTENANCE**

SPECIAL CARE SHALL BE TAKEN TO MAINTAIN EXISTING STREET NAME SIGNS AND STOP SIGNS. IF NECESSARY, THE CONTRACTOR SHALL RELOCATE THESE SIGNS OUT OF THE WAY OF CONSTRUCTION, BUT IN CONFORMANCE WITH OMUTCD. ANY DAMAGED SIGN SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.

**PERMANENT TRAFFIC CONTROL**

ALL PERMANENT TRAFFIC CONTROLS NOT IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROLS SHALL BE MAINTAINED THROUGHOUT THE PROJECT BY THE CONTRACTOR. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR MISSING, DAMAGED, AND IMPROPERLY PLACED TRAFFIC CONTROL DEVICES.

**PEDESTRIAN ACCESS**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND SAFE MOVEMENT OF PEDESTRIANS THROUGH, AROUND, AND AWAY FROM THE CONSTRUCTION SITE.

THE SAFETY OF PEDESTRIAN TRAFFIC SHALL BE CONSIDERED AT ALL TIMES IN THE PROVISION OF TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS AND NOTES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LIGHTS, SIGNS, BARRICADES, AND OTHER WARNINGS TO PHYSICALLY SEPARATE THE PEDESTRIAN FROM HAZARDS INCIDENTAL TO THE CONSTRUCTION OPERATIONS. AT ALL TIMES, TEMPORARY WALKWAYS, IF REQUIRED, SHALL BE KEPT FREE OF ANY OBSTRUCTIONS OR HAZZARDS INCLUDING HOLES, DEBRIS AND MUD. THE PEDESTRIAN MAINTENANCE OF TRAFFIC SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

NAPA AND OTIE'S DOORS OPEN DIRECTLY INTO THE PROPOSED WORK AREA. CUSTOMER ACCESS TO THESE BUSINESSES SHALL BE MAINTAINED DURING THEIR TYPICAL OPERATING HOURS. CONTRACTOR SHALL COORDINATE WALK REPLACEMENT IN FRONT OF BUILDINGS WITH THE RESPECTIVE BUSINESS IN ADVANCE TO MINIMIZE THE IMPACT THAT THE PROJECT HAS ON INGRESS AND EGRESS TO THE BUSINESSES. PEDESTRIAN ORIENTED DIRECTIONAL SIGNS SHALL BE PROVIDED TO DIRECT PEDESTRIANS IN AND OUT OF OTIE'S AND NAPA AND SHALL BE COORDINATED WITH THE RESPECTIVE BUSINESS.

PAYMENT FOR THIS ITEM SHALL INCLUDE LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK. PAYMENT WILL INCLUDED IN ITEM 614 – MAINTAINING TRAFFIC, AS PER PLAN.

**MOT SIGNAGE**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE THE NECESSARY AMOUNT OF SIGNS FOR THE DURATION OF THE PROJECT IN REGARD TO THE ENGINEER. THE SIGNS SHALL BE OF A TYPE APPROVED BY THE CITY OF HILLIARD.

SIGNAGE TO ADVISE THE PUBLIC OF THE FUTURE CENTER ST CLOSURE SHALL BE IN PLACE 48 HOURS PRIOR TO THE CLOSURE OF MAIN STREET FOR THE WATERLINE WORK THROUGH THE COMPLETION OF THE WORK. THE SIGNAGE SHALL BE LOCATED IN A HIGHLY VISIBLE LOCATION, YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL AT THE DIRECTION OF THE ENGINEER, RELOCATE THE SIGNAGE TO IMPROVE VISIBILITY OR ACCOMODATE CHANGED CONDITIONS. WHEN NOT IN USE,

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATIONS AND MAINTENANCE OF ALL SIGNS ON THE PROJECT FOR THE DURATION.

ALL LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO PROVIDE SIGNS FOR THE MAINTENANCE OF TRAFFIC FOR THE PROJECT SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 614 – MAINTAINING TRAFFIC, AS PER PLAN.

**ADVANCE WARNING FOR NEW TRAFFIC CONTROL**

TEMPORARY FLAGGING ON STOP SIGNS AND ADVANCE STOP WARNING SIGNS (W3-1-30) SHALL BE INSTALLED ON WAYNE STREET WHEN STOP SIGNS ARE PLACED AND SHALL REMAIN IN PLACE FOR 3 WEEKS. FAILURE TO REMOVE THESE ITEMS SHALL RESULT IN THE CITY REMOVING THEM AND BILLING THE CONTRACTOR FOR ALL COSTS INVOLVED IN THEIR REMOVAL. ALL REMOVED MATERIAL SHALL BE CONSIDERED FORFEITED TO THE CITY. FLAGS AND SIGNS SHALL BE ERRECTED AS SHOWN ON SHEET 17. ADVANCE STOP WARNING SIGNS (W3-1-30) SHALL BE TYPE G OR TYPE H ORANGE RETROREFLECTIVE SHEETING WITH BLACK SYMBOLS. THE FLAGS SHALL BE 18"x18", MADE OF ORANGE VINYL MATERIAL AND SECURELY FASTENED TO THE SIGN OR SIGN SUPPORT. MOUNTING HARDWARE AND POSTS SHALL BE INCIDENTAL TO THIS BID ITEM. COST FOR TEMPORARY FLAGGING AND ADVANCE WARNING SIGN SHALL IN INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 – MAINTAINING TRAFFIC AS PER PLAN.

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REVISIONS	DATE	BY	CHK.
ADDED ADVANCE WARNING SIGNS NOTE & REVISED	8/26/15	BDS	MEF
CONSTR. SEQUENCE & PED. ACCESS NOTES			

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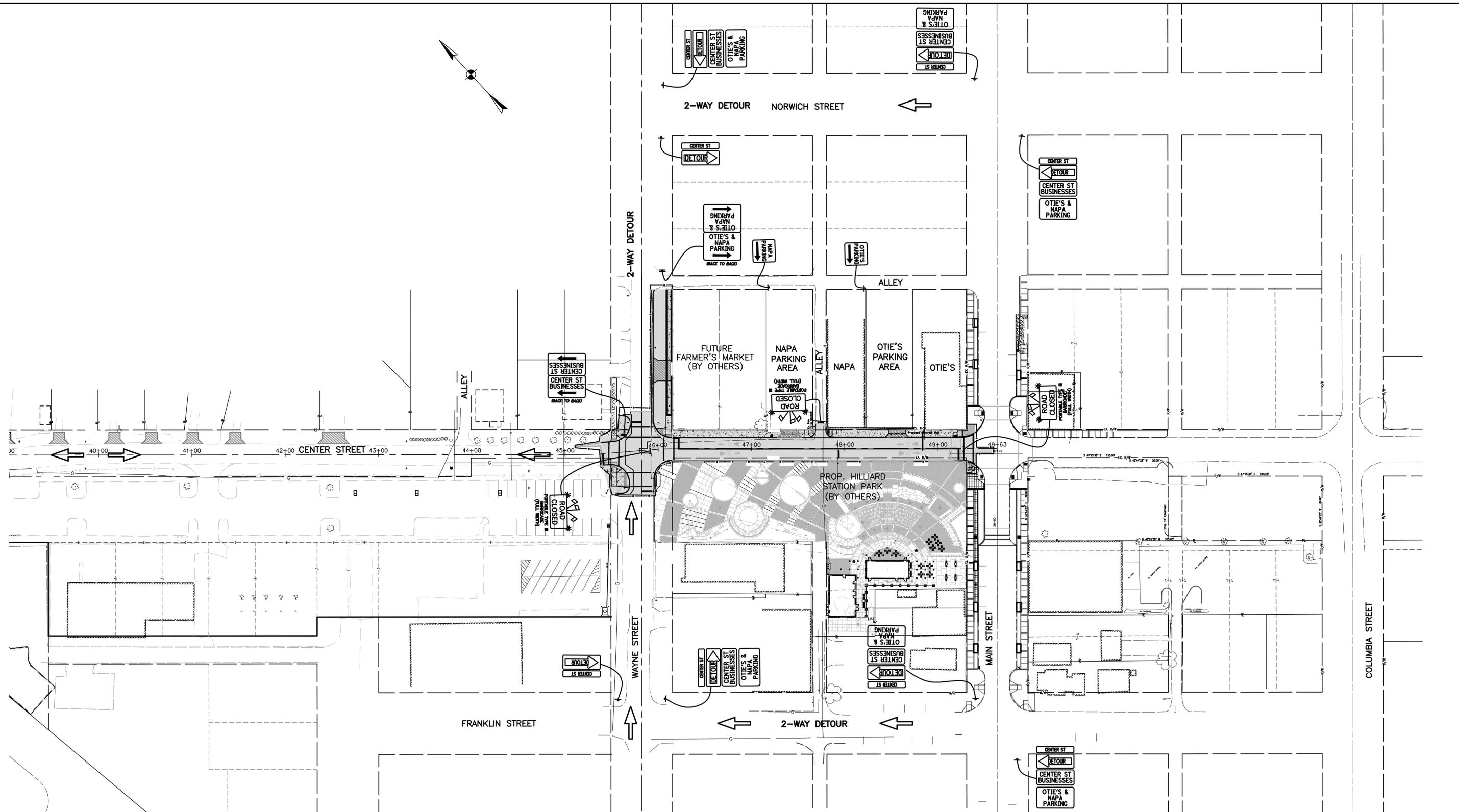
CITY OF HILLIARD, OHIO  
**CENTER STREET IMPROVEMENTS**  
PHASE 1, PART 1

JOB NO.	570.017
DESIGNED BY:	BDS
DRAWN BY:	BDS
CHECKED BY:	MEF
APPROVED BY:	_____
DATE:	8/6/15

**MOT NOTES - GENERAL NOTES**

SCALE: NONE	
SHEET NO.	OF
6	26

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**LEGEND**

PHASE 1, PART 1 WORK LIMITS

← DIRECTION OF TRAVEL

REVISIONS	DATE	BY	CHK.

**E. P. FERRIS**  
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CITY OF HILLIARD, OHIO  
**CENTER STREET IMPROVEMENTS**  
PHASE 1, PART 1

JOB NO.	570.017
DESIGNED BY:	BDS
DRAWN BY:	BDS
CHECKED BY:	MEF
APPROVED BY:	
DATE:	8/6/15

**MOT PLAN - PHASE 1**

SHEET NO.	OF
7	26

SCALE:	1" = 50'
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ITEM	TOTAL	UNIT	DESCRIPTION	SEE SHEET
ROADWAY				
201	LUMP		CLEARING AND GRUBBING	
202	53	SQ YD	CONCRETE BASE REMOVED	
202	455	SQ FT	WALK REMOVED	
202	910	SQ FT	BRICK WALK REMOVED AND STORED FOR PICKUP	4
202	212	FT	CURB REMOVED	
202	1	EACH	MANHOLE REMOVED	
203	690	CU YD	EXCAVATION	
203	138	CU YD	EMBANKMENT	
204	1593	SQ YD	SUBGRADE COMPACTION	
204	3	HR	PROOF ROLLING	
608	2937	SQ FT	CONCRETE WALK (4")	
608	519	SQ FT	CONCRETE WALK (8")	
608	145	SQ FT	CONCRETE WALK, AS PER PLAN	4
608	9	EACH	CURB RAMPS	
608	1	EACH	CURB RAMP, LEISURE PATH	
608	9	EACH	DETECTABLE WARNING, TYPE E	
608	1	EACH	DETECTABLE WARNING, LEISURE PATH, TYPE E	
EROSION CONTROL				
207	100	SQ YD	CONSTRUCTION SEEDING AND MULCHING	
207	450	FT	PERIMETER FILTER FABRIC FENCE	
207	3	EACH	STORM SEWER INLET PROTECTION	
207	1	EACH	STABILIZED CONSTRUCTION ENTRANCE	
207	1	EACH	CONCRETE WASHOUT AREA	
616	2.66	MGAL	WATER	
616	0.21	TON	CALCIUM CHLORIDE	
659	44	CU YD	TOPSOIL, AS PER PLAN	
659	400	SQ YD	SEEDING AND MULCHING, AS PER PLAN	4
DRAINAGE				
604	3	EACH	MANHOLE, TYPE "C"	
604	1	EACH	CURB AND GUTTER INLET	
604	1	EACH	CATCH BASIN, NO. 3A (ODOT)	
604	2	EACH	MANHOLE ADJUSTED TO GRADE	
604	1	EACH	CATCH BASIN ADJUSTED TO GRADE	
605	622	FT	4" PIPE UNDERDRAINS	
901	75	FT	12" PIPE, WITH TYPE I BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL	
901	108	FT	18" PIPE, WITH TYPE I BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL	
PAVEMENT				
252	470	FT	FULL DEPTH PAVEMENT SAWING	
254	224	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
301	124	CU YD	ASPHALT CONCRETE BASE, PG64-22 (ODOT)	
304	190	CU YD	AGGREGATE BASE	
SPEC	58	CU YD	AGGREGATE BASE (#57 STONE)	
407	34	GAL	TACK COAT	
448	48	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (ODOT)	
448	57	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (ODOT)	
452	86	SQ YD	NON-REINFORCED CONCRETE PAVEMENT (8")	
609	622	FT	CURB, STRAIGHT 18"	

ITEM	TOTAL	UNIT	DESCRIPTION	SEE SHEET
SEE SHEET 19 FOR LIGHTING SUMMARY				
WATER				
801	21	FT	6 INCH WATER PIPE AND FITTINGS	
801	372	FT	8 INCH WATER PIPE AND FITTINGS	
802	2	EACH	6 INCH VALVE AND APPURTENANCES	
802	2	EACH	8 INCH VALVE AND APPURTENANCES	
805	20	FT	2 INCH WATER PIPE AND FITTINGS	
805	1	EACH	1.5 INCH WATER SERVICE TAP, TRANSFERRED	
805	1	EACH	2 INCH WATER SERVICE TAP, TRANSFERRED	
807	4	EACH	VALVE BOX ADJUSTED TO GRADE	
807	3	EACH	COLUMBUS STANDARD HEAVY DUTY VALVE BOX	
<del>808</del>	<del>1</del>	<del>EACH</del>	<del>CUT AND PLUG 6 INCH WATER LINE</del>	
809	1	EACH	FIRE HYDRANT, RELOCATED	
810	1	EACH	12" HYDRANT EXTENSION	
SPEC.	LUMP		SURVEY COORDINATES	
TRAFFIC CONTROL				
630	66	FT	GROUND MOUNTED SUPPORT, AS PER PLAN, PER TC-2, BLACK	17
630	2	EACH	STREET NAME SIGN SUPPORT AND ANCHOR (TYPE E), AS PER PLAN, PER TC-1, BLACK	17
630	6	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED, BLACK	
630	2	EACH	STREET NAME SIGN, TYPE E, AS PER PLAN	17
630	34	SQ FT	SIGN, FLAT SHEET, AS PER PLAN	17
630	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	
630	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
630	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
630	8	EACH	REMOVAL OF GROUND MOUNTED SUPPORT AND DISPOSAL	
644	0.06	MILE	CENTERLINE (DOUBLE SOLID)	
644	62	FT	STOP LINE	
644	267	FT	CROSS WALK LINE	
614	LUMP		MAINTAINING TRAFFIC, AS PER PLAN	6
623	LUMP		CONSTRUCTION LAYOUT STAKES	
624	LUMP		MOBILIZATION	

M:\570017\_Traffic\Roadway\PHASE 1\General Summary.dwg --General Summary LAST EDITED BY:saunder ON 8/26/15

REVISIONS	DATE	BY	CHK.
CHANGED SIGN TO POLE MOUNTED	8/26/15	BDS	MEF



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AND  
**ASSOCIATES**  
INC

*Consulting Civil Engineers and Surveyors*

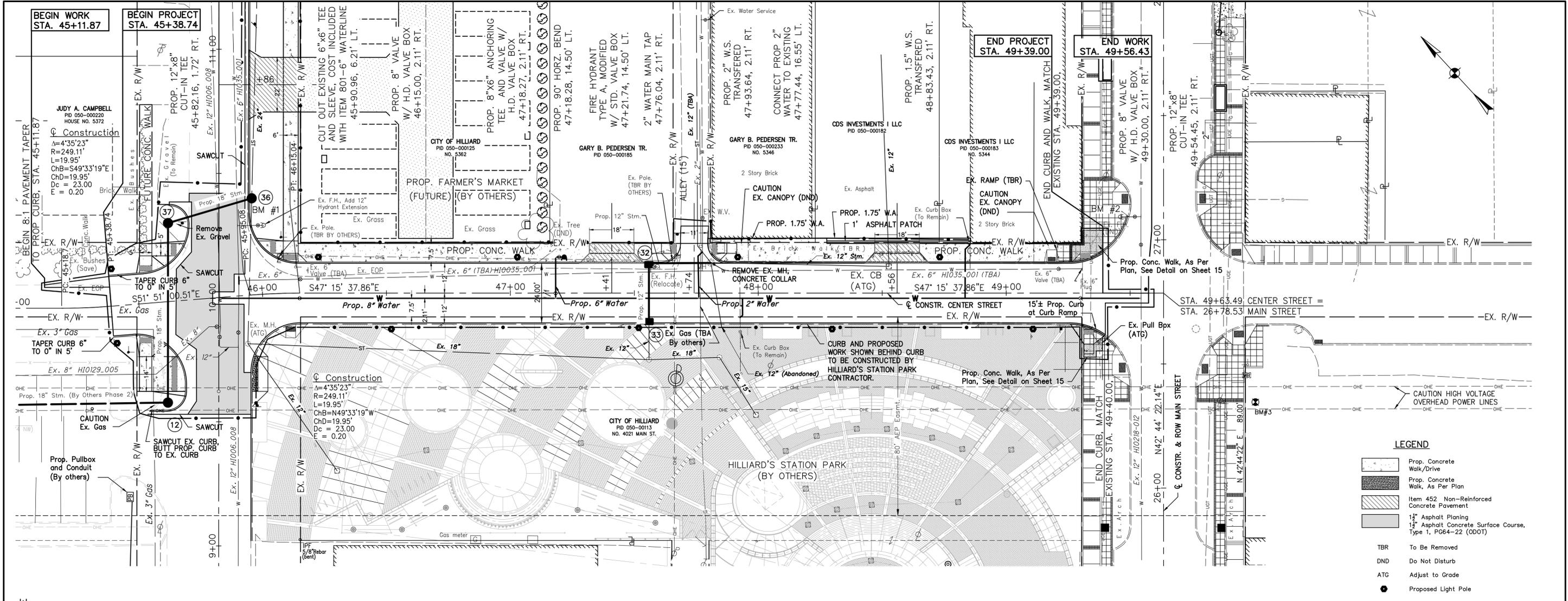
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CITY OF HILLIARD, OHIO  
**CENTER STREET IMPROVEMENTS**  
PHASE 1, PART 1

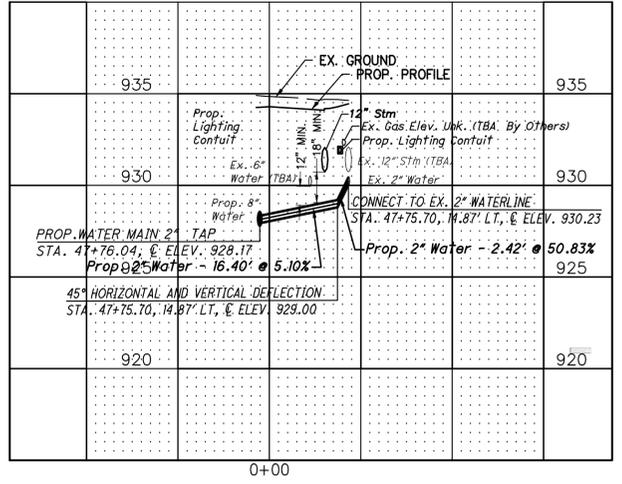
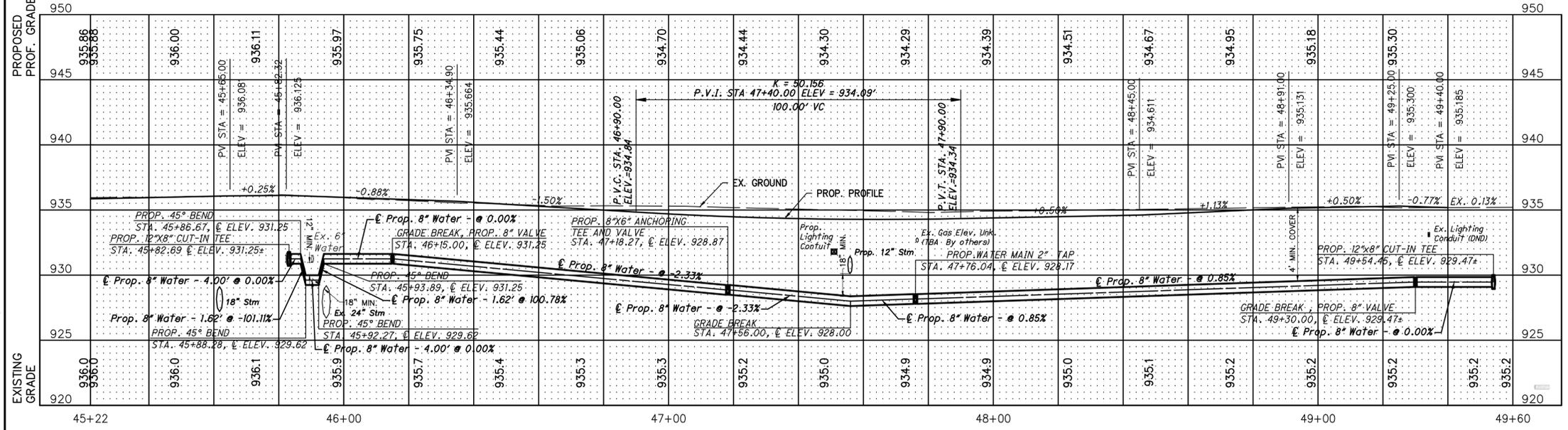
JOB NO.	570.017
DESIGNED BY:	BDS
DRAWN BY:	BDS
CHECKED BY:	MEF
APPROVED BY:	---
DATE:	8/6/15

<b>GENERAL SUMMARY</b>	
SHEET NO. <b>8</b>	OF <b>26</b>

SCALE:	NONE
--------	------



- LEGEND**
- Prop. Concrete Walk/Drive
  - Prop. Concrete Walk, As Per Plan
  - Item 452 Non-Reinforced Concrete Pavement
  - 1" Asphalt Planing
  - 1" Asphalt Concrete Surface Course, Type 1, PG64-22 (ODOT)
  - TBR To Be Removed
  - DND Do Not Disturb
  - ATG Adjust to Grade
  - Proposed Light Pole



NOTE. BACKFILL WATERLINE WITH ITEM 801.11 GRANULAR BACKFILL.



REVISIONS	DATE	BY	CHK.

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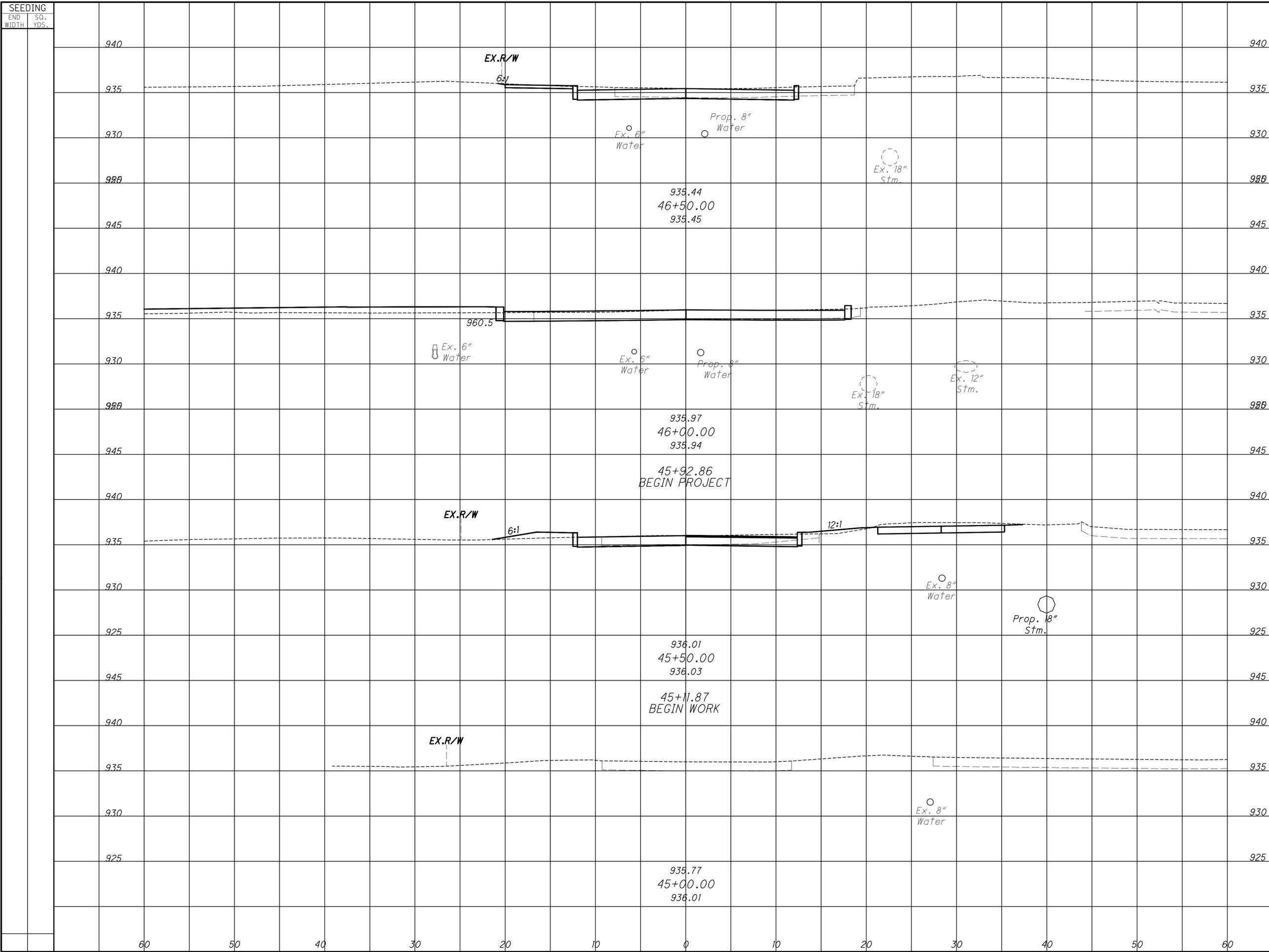
**CITY OF HILLIARD, OHIO**  
**CENTER STREET IMPROVEMENTS**  
**PHASE 1, PART 1**

**JOB NO.** 570.017  
**DESIGNED BY:** BDS  
**DRAWN BY:** BDS  
**CHECKED BY:** MEF  
**APPROVED BY:** \_\_\_\_\_  
**DATE:** 8/6/15

**PLAN AND PROFILE**

<b>SCALE:</b> HORIZ. 1" = 20' VERT. 1" = 5'	<b>SHEET NO.</b> 9	<b>OF</b> 26
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M:\570017\_Trailhead\DWG\Roadway\PHASE 1\Center\_St\_Cross\_sections.dwg 26--Aug--15 3:04 PM

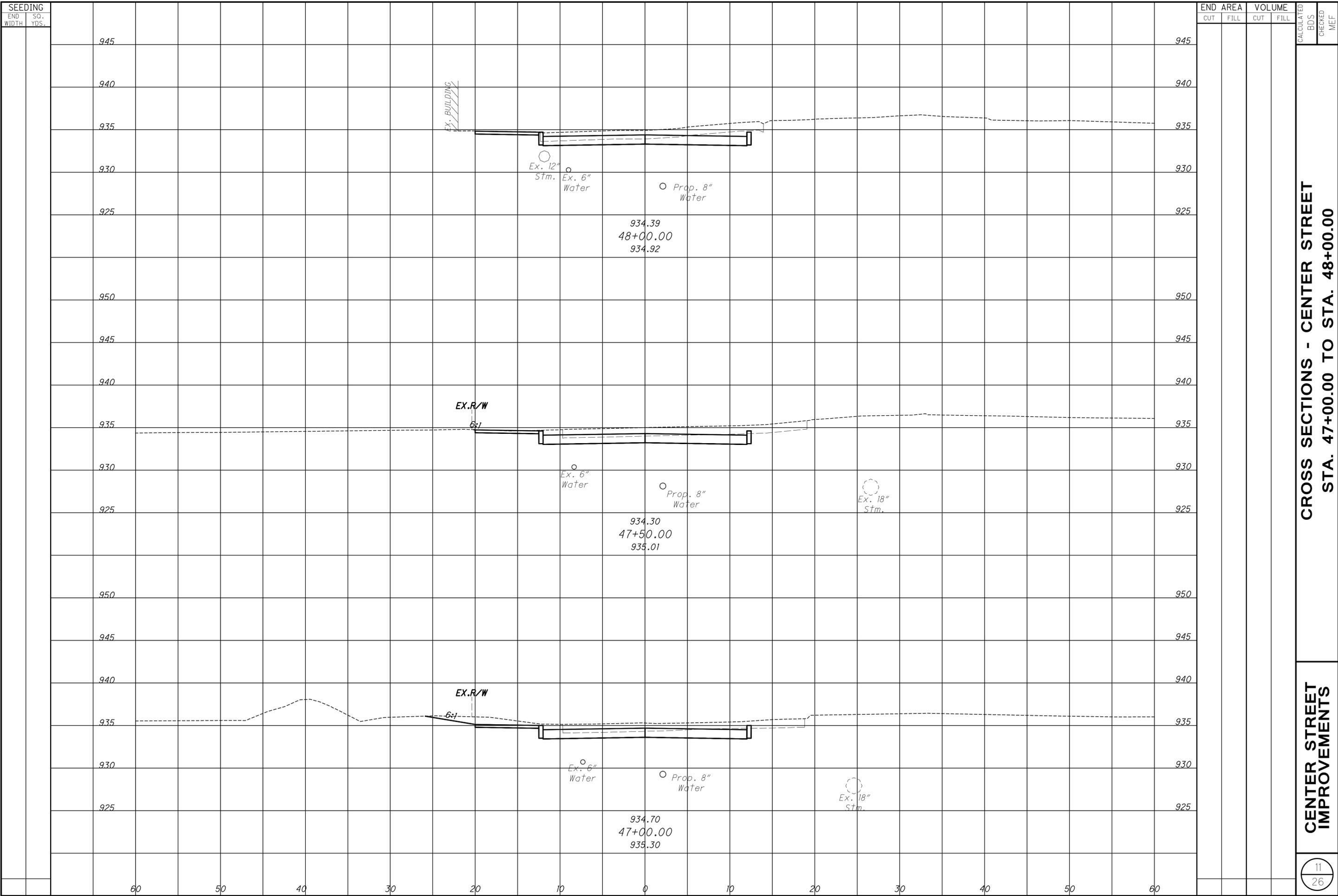


SEEDING		END AREA		VOLUME		CALCULATED BDS	CHECKED MEF
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL		
	940						
	935						
	930						
	925						
	945						
	940						
	935						
	930						
	925						
	945						
	940						
	935						
	930						
	925						
	945						
	940						
	935						
	930						
	925						

**CROSS SECTIONS - CENTER STREET**  
**STA. 45+50.00 TO STA. 46+50.00**  
**CENTER STREET IMPROVEMENTS**

10  
26

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SEEDING	
END WIDTH	SO. YDS.

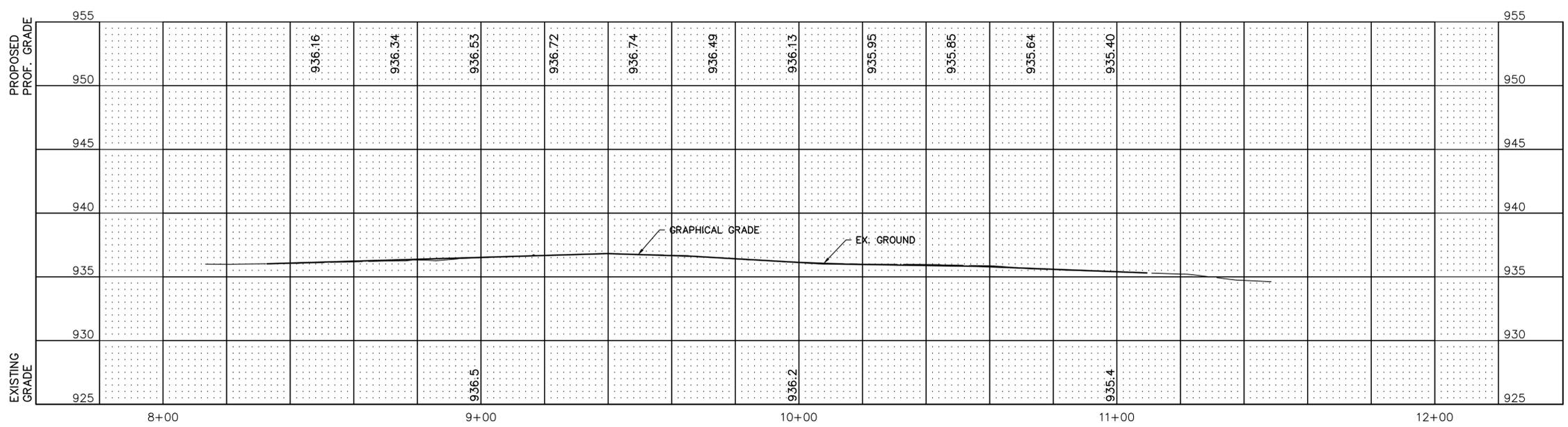
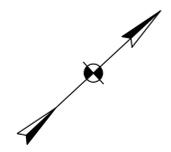
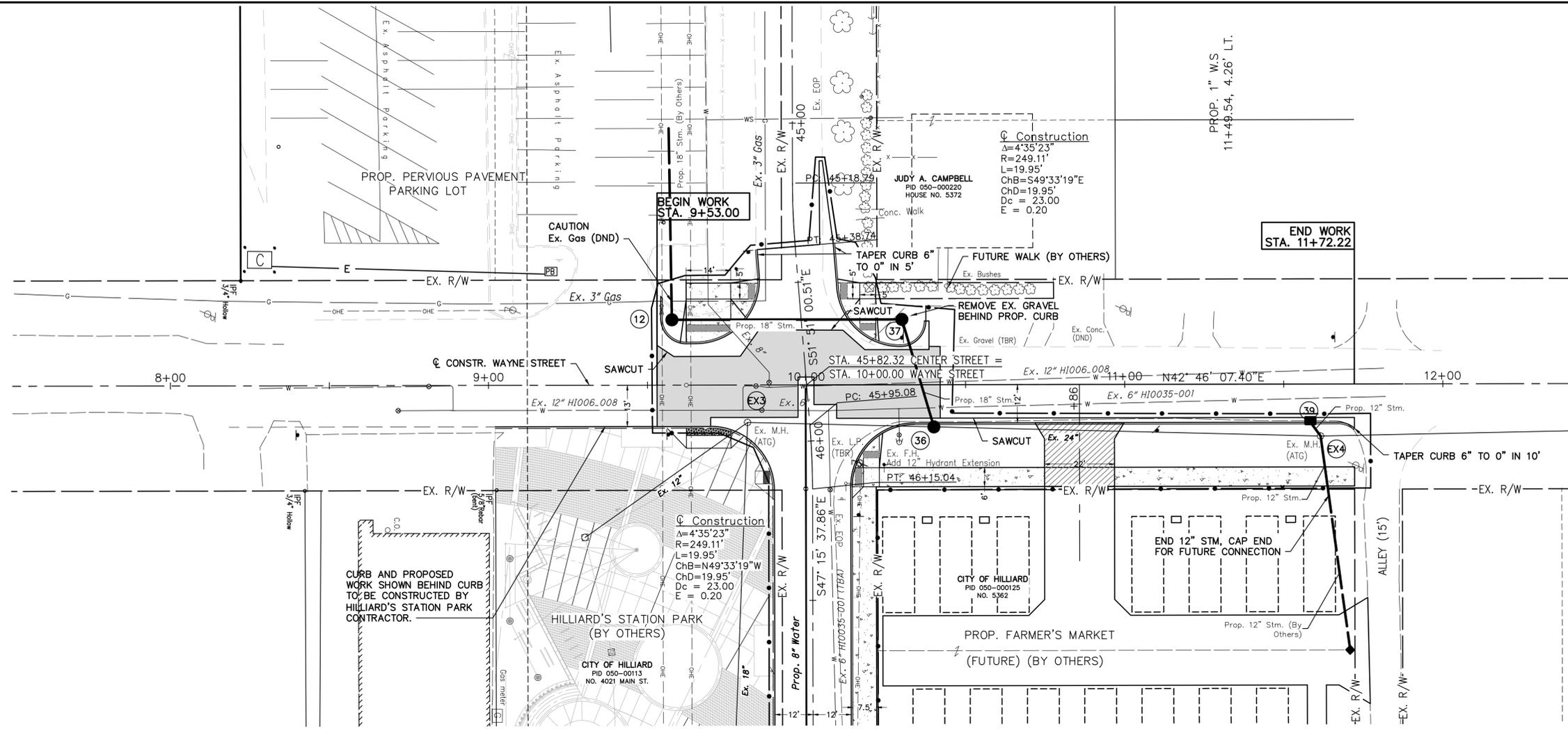
END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL		

BDS	MEF
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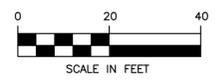
**CROSS SECTIONS - CENTER STREET  
STA. 47+00.00 TO STA. 48+00.00**

**CENTER STREET IMPROVEMENTS**





- LEGEND**
- Prop. Concrete Walk/Drive
  - Item 452 Non-Reinforced Concrete Pavement
  - 12" Asphalt Planning
  - 1 1/2" Asphalt Concrete Surface Course, Type 1, PG64-22 (GDOT)
  - TBR** To Be Removed
  - DND** Do Not Disturb
  - ATG** Adjust to Grade



M:\570017\_Trainhead\DWG\Roadway\Phase 1\Wayne\_SL\_PNP.dwg ~ Wayne Street Plan and Profile Last Edited By Saunders ON 8/26/15

REVISIONS	DATE	BY	CHK.

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CITY OF HILLIARD, OHIO  
**CENTER STREET IMPROVEMENTS**  
PHASE 1, PART 1

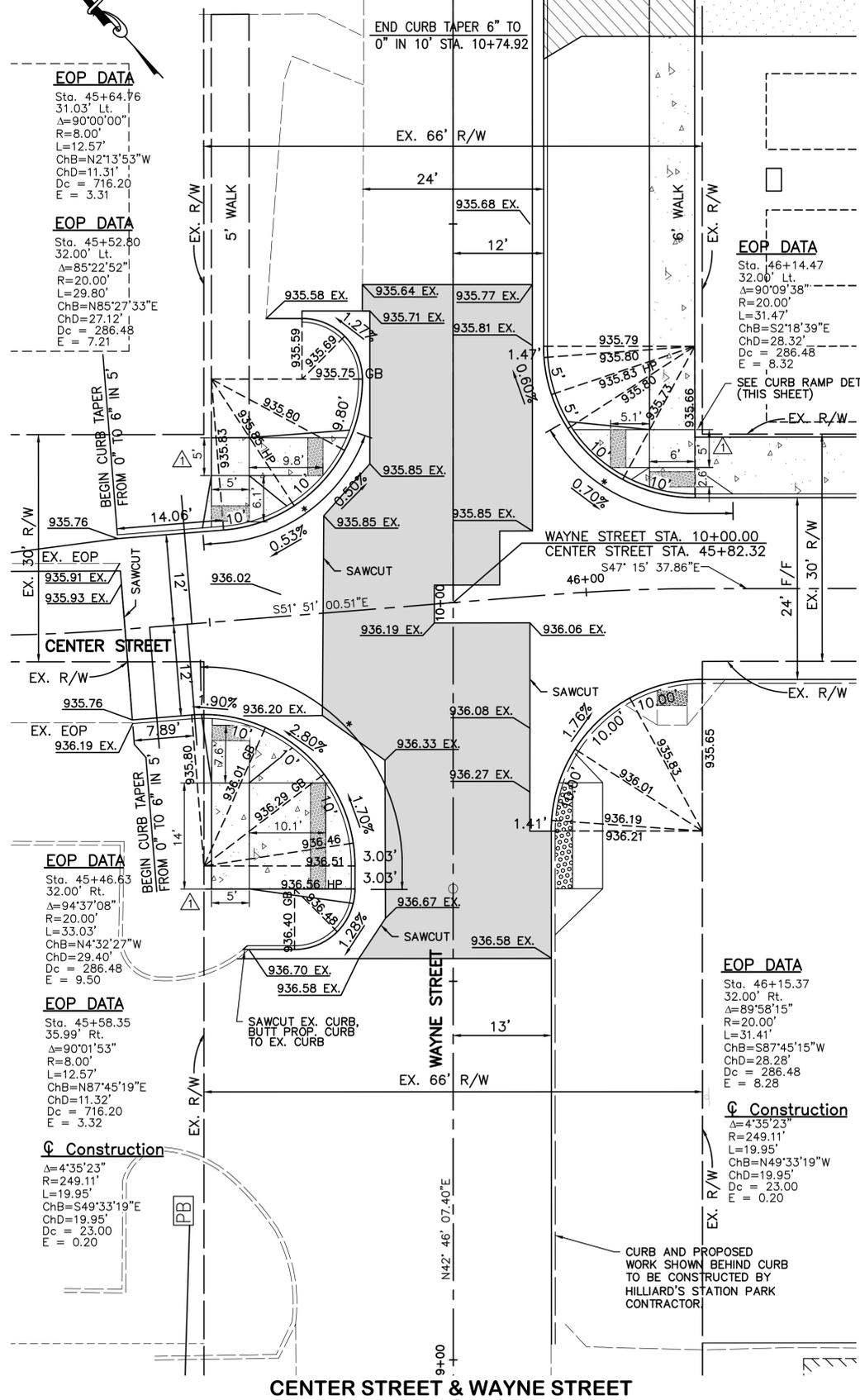
JOB NO.	570.017
DESIGNED BY:	BDS
DRAWN BY:	BDS
CHECKED BY:	MEF
APPROVED BY:	
DATE:	8/6/15

**WAYNE STREET PLAN AND PROFILE**

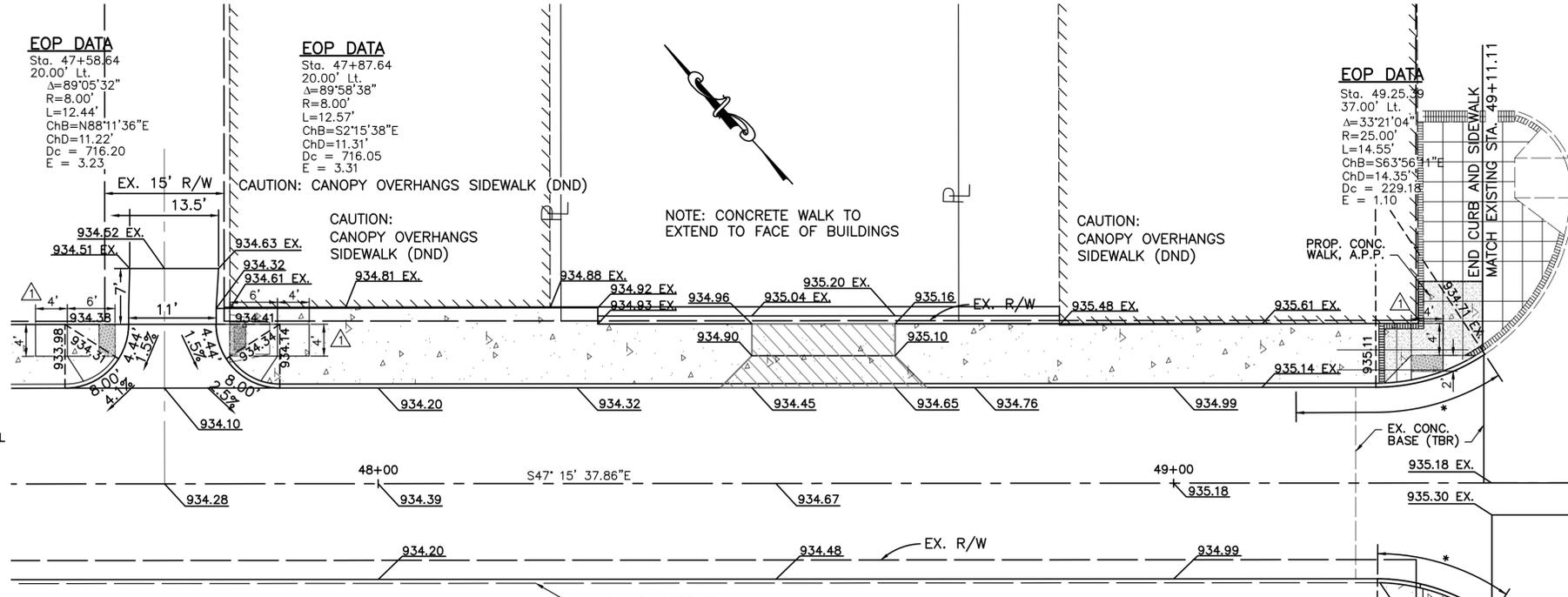
SCALE:	HORIZ. 1" = 20'
	VERT. 1" = 5'
SHEET NO.	OF
13	26

M:\570017\_Traffic\Roadway\Phase 1\Pavement\Detail Plan.dwg ~ Pavement Detail Plan.dwg ON 8/27/15

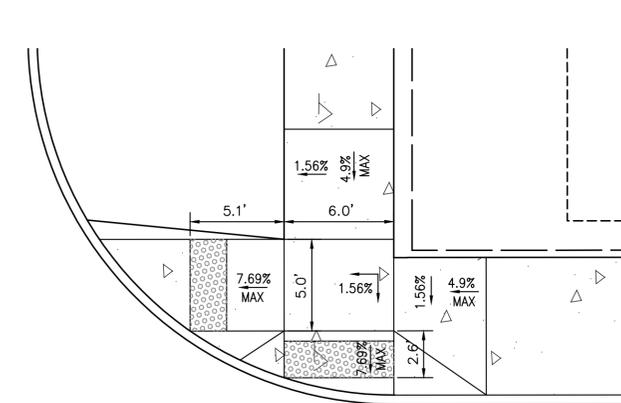
MATCH LINE - STA. 10+70.00 SEE SHEET THIS



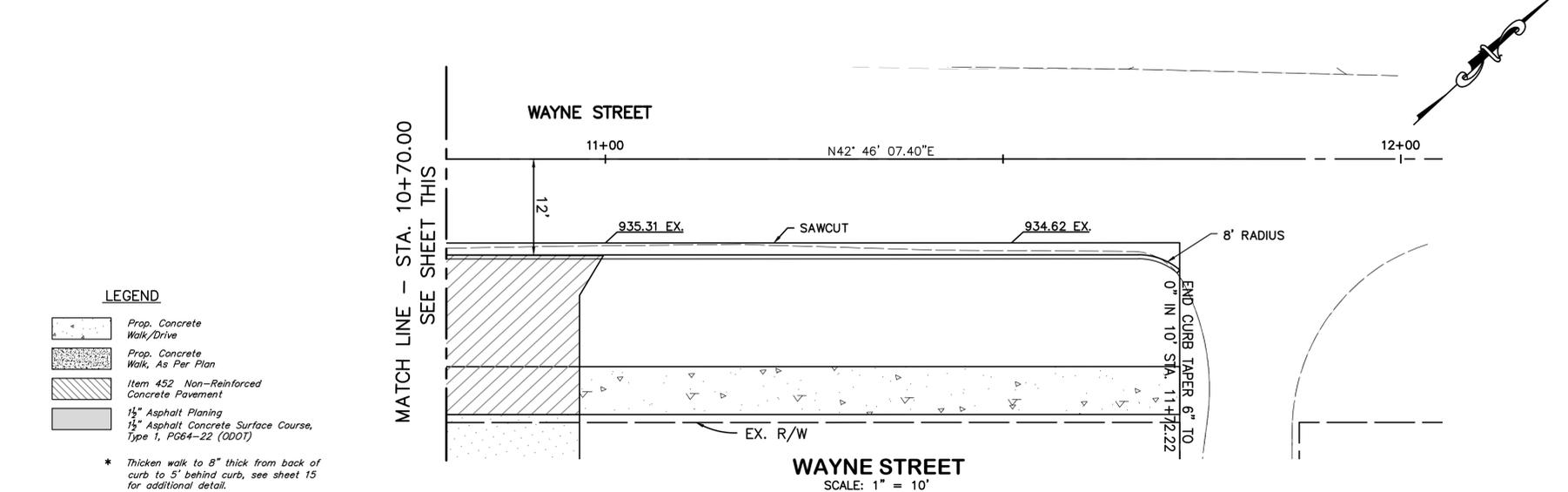
**CENTER STREET & WAYNE STREET**  
SCALE: 1" = 10'



**CENTER STREET & ALLEY**  
SCALE: 1" = 10'



**NORtheast CORNER CURB RAMP DETAIL**  
SCALE: 1" = 5'



**WAYNE STREET**  
SCALE: 1" = 10'

- LEGEND**
- Prop. Concrete Walk/Drive
  - Prop. Concrete Walk, As Per Plan
  - Item 452 Non-Reinforced Concrete Pavement
  - 1 1/2" Asphalt Planing
  - 1 1/2" Asphalt Concrete Surface Course, Type 1, PG64-22 (ODOT)
- \* Thicken walk to 8" thick from back of curb to 5" behind curb, see sheet 15 for additional detail.

REVISIONS	DATE	BY	CHK.
ADDED DIMENSIONS ON CURB RAMPS	8/26/15	BDS	MEF

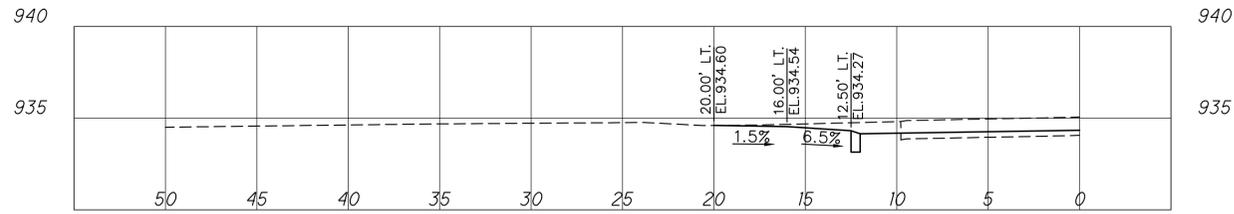
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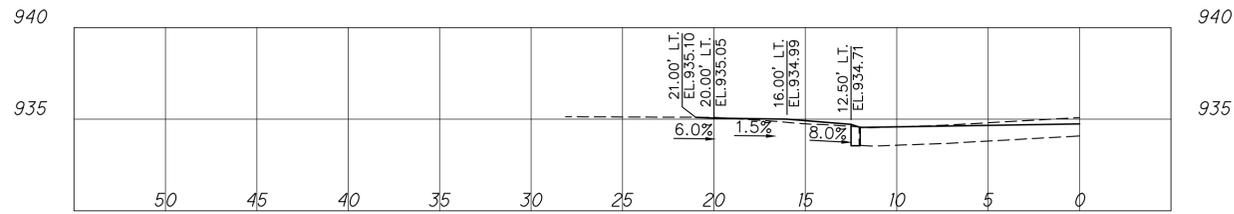
**CITY OF HILLIARD, OHIO**  
**CENTER STREET IMPROVEMENTS**

JOB NO.	570.017
DESIGNED BY:	BDS
DRAWN BY:	BDS
CHECKED BY:	MEF
APPROVED BY:	
DATE:	8/6/15

SCALE: 1" = 10'	
SHEET NO. 14 OF 26	
<b>PAVEMENT DETAIL PLAN</b>	



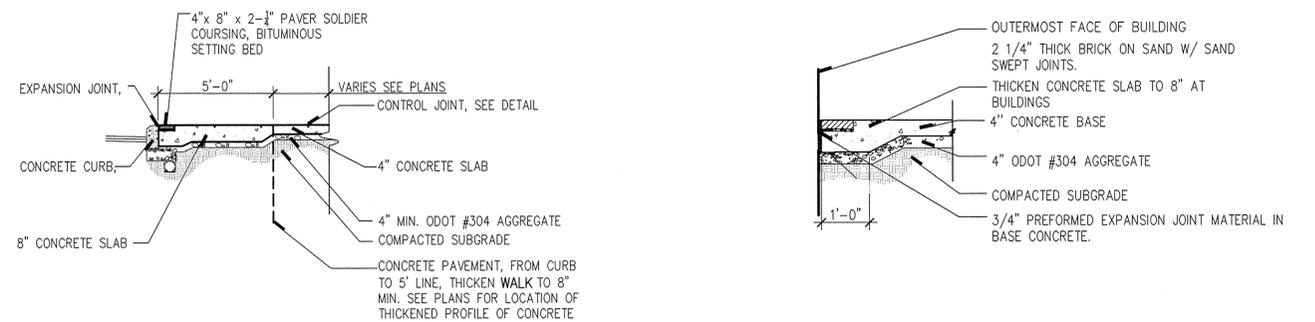
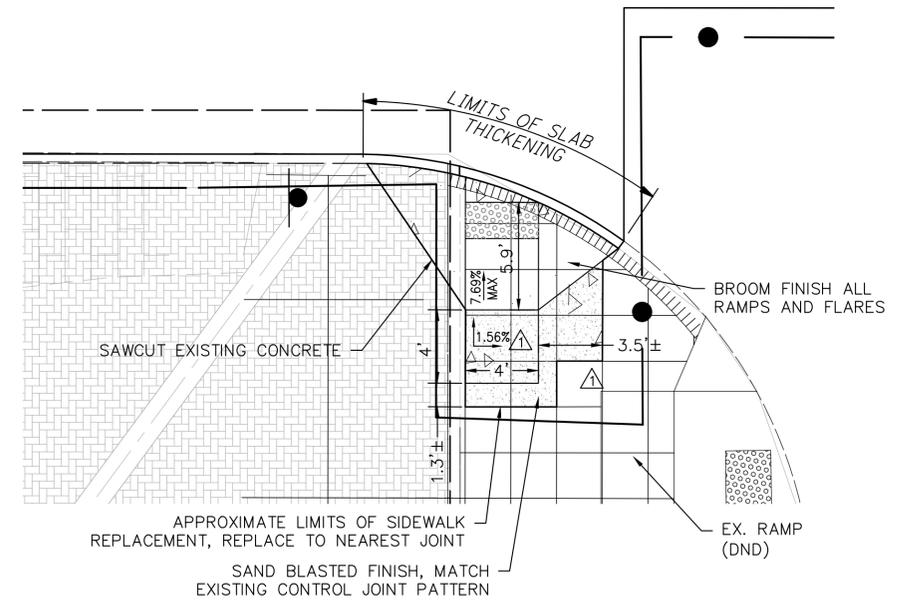
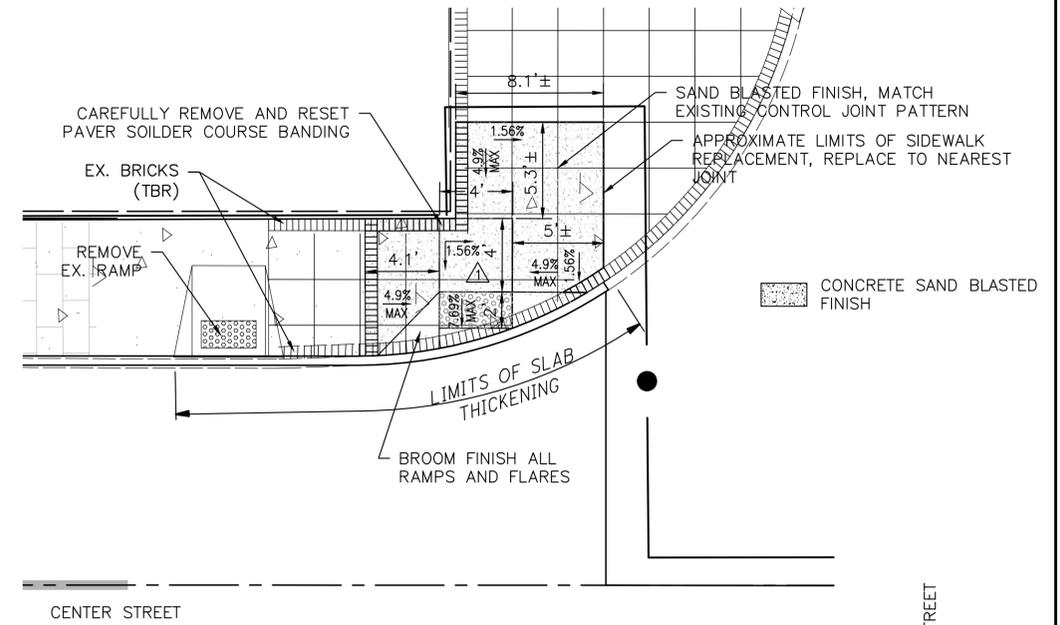
47+40.89 LT.  
(COMMERCIAL)



48+56.00 LT.  
(COMMERCIAL)



10+85.75 RT. (WAYNE STREET)  
(COMMERCIAL)



M:\570017\_Traffic\Roadway\Phase 1\Drive Profiles\LAST EDITED BY\saunders ON 8/27/15

REVISIONS	DATE	BY	CHK.
ADDED DIMENSIONS ON CURB RAMPS	8/26/15	BDS	MEF

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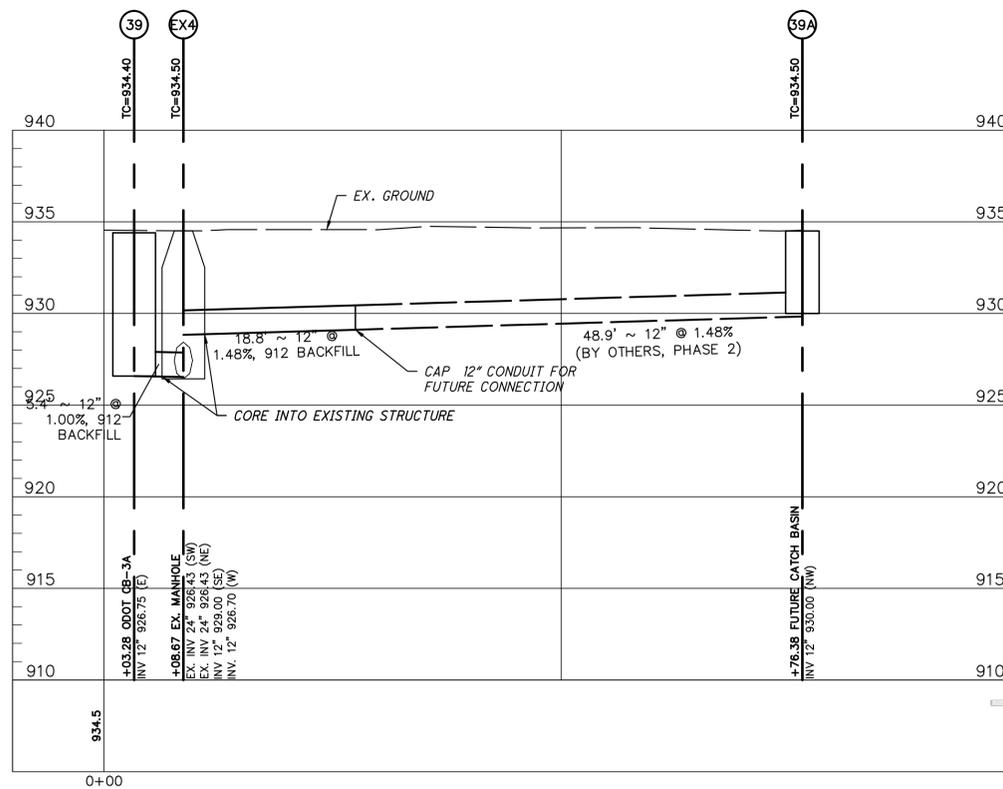
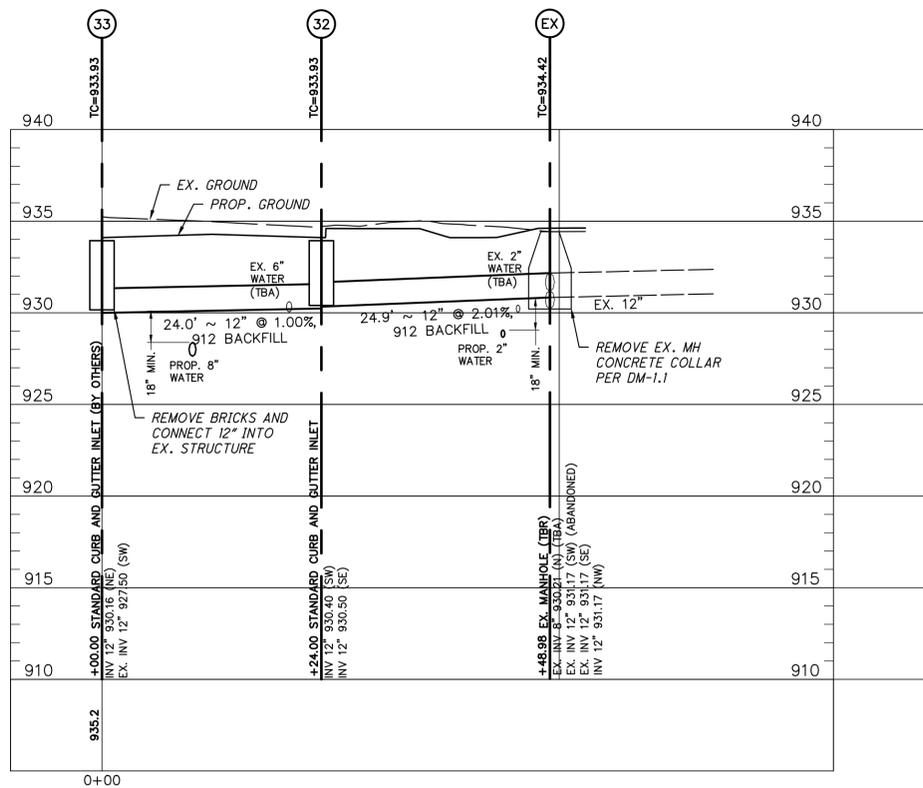
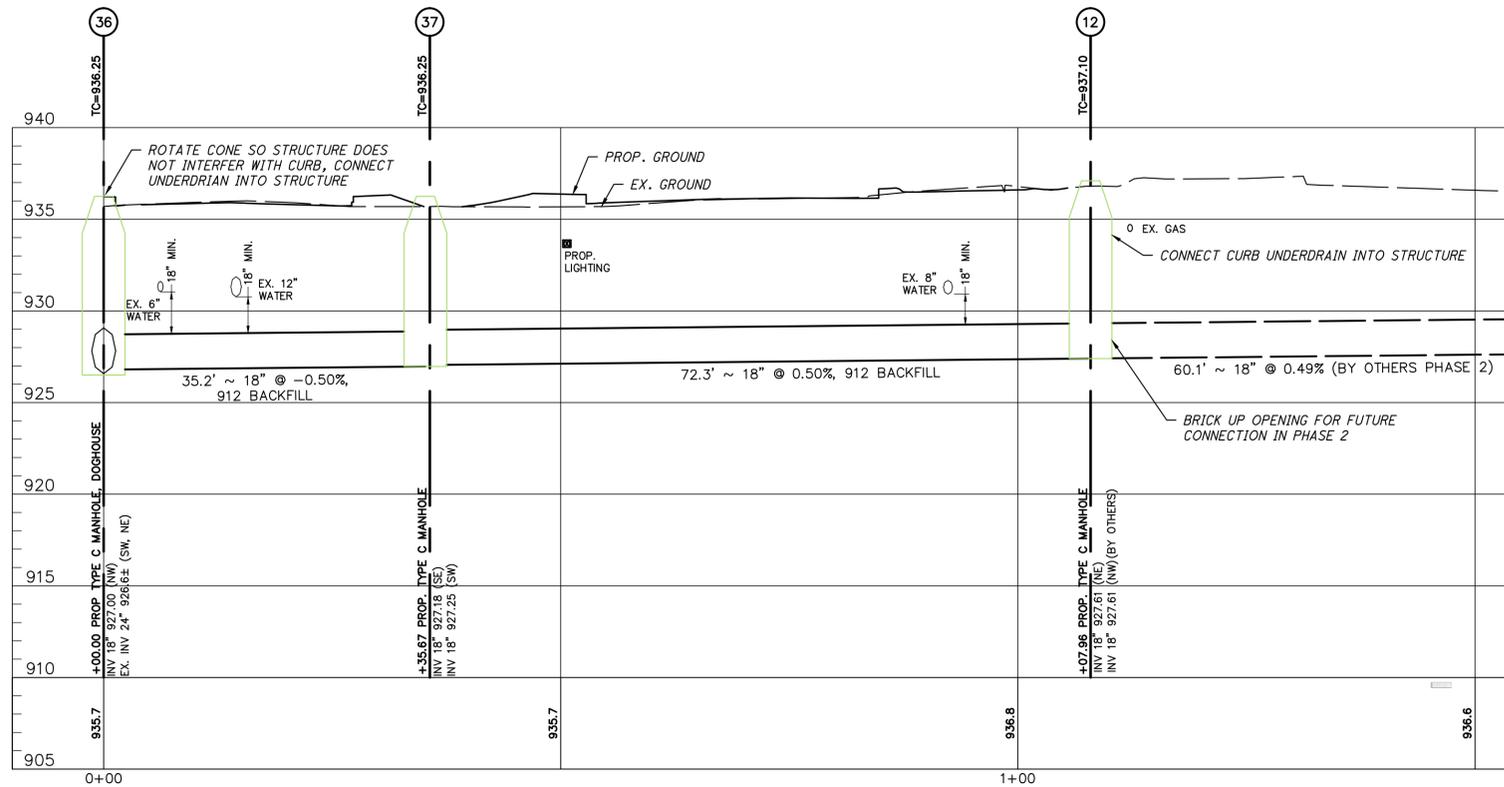
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CITY OF HILLIARD, OHIO  
**CENTER STREET IMPROVEMENTS**  
PHASE 1, PART 1

JOB NO. 570.017  
DESIGNED BY: BDS  
DRAWN BY: BDS  
CHECKED BY: MEF  
APPROVED BY: \_\_\_\_\_  
DATE: 8/6/15

**DRIVE PROFILES AND WALK DETAILS**

SCALE:	
HORIZ. 1"=5'	VERT. 1"=5'
SHEET NO. 15	OF 26



M:\570017\_Traffic\Roadway\PHASE 1\Center\_STM\_PROFILES.dwg --STORM PROFILES LAST EDITED BY:bsaunders ON 8/26/15

REVISIONS	DATE	BY	CHK.



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CITY OF HILLIARD, OHIO  
**CENTER STREET IMPROVEMENTS**  
 PHASE 1, PART 1

JOB NO. 570.017  
 DESIGNED BY: BDS  
 DRAWN BY: BDS  
 CHECKED BY: MEF  
 APPROVED BY: \_\_\_\_\_  
 DATE: 8/6/15

**STORM PROFILES**

SCALE:  
 HORIZ. 1"=10'  
 VERT. 1"=5'  
 SHEET NO. 16 OF 26

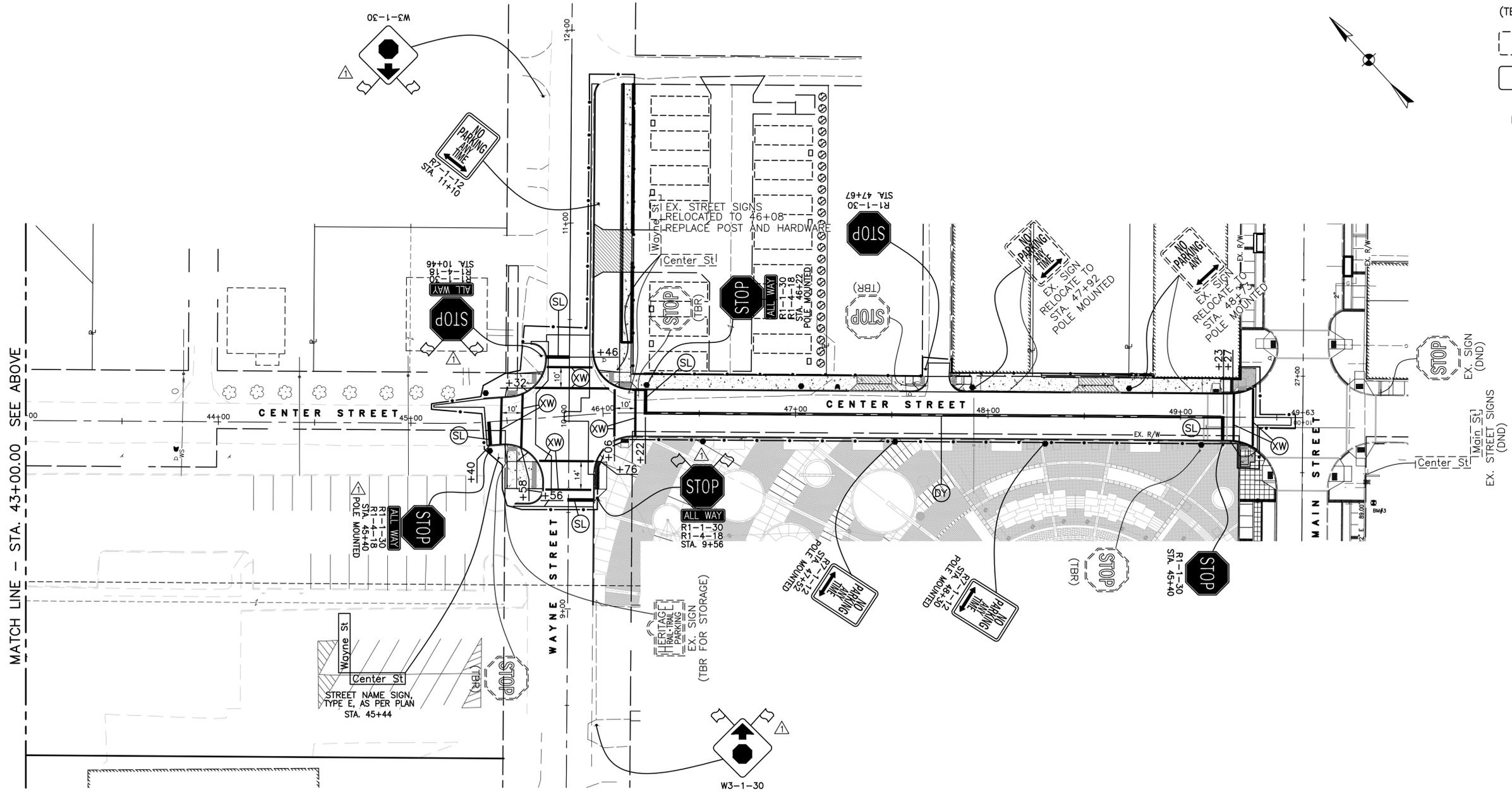
**LEGEND**

- (DL) - DASHED LINE
- (DY) - CENTER LINE, 5" DOUBLE YELLOW
- (SL) - STOP LINE, 20" WHITE
- (WE) - TEMPORARY EDGE LINE, 4" WHITE
- (WY) - YIELD LINE, WHITE
- (XW) - CROSSWALK LINE, 10" WHITE @ 10' SPACING
- (YE) - EDGE LINE, 5" YELLOW
- (YT) - TRANSVERSE LINE, 20" YELLOW
- (DND) - DO NOT DISTURB
- (TBR) - TO BE REMOVED
- [---] - EXISTING SIGN
- [ ] - PROPOSED SIGN

NOTE: SEE HILLIARD SCD TC-1 AND TC-2 FOR ADDITIONAL SIGN DETAILS AND SPECIFICATIONS.

ALL SIGN SUPPORTS AND ATTACHMENT ASSEMBLIES SHALL BE PAINTED BLACK IN ACCORDANCE WITH HILLIARD SCD TC-1 & TC-2.

TEMPORARY FLAGGING ON STOP SIGNS AND (W3-1-30) ADVANCE STOP WARNING SIGNS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC AS PER PLAN.



MATCH LINE - STA. 43+00.00 SEE ABOVE

M:\570017\_TrafficControl\Roadway\Phase 1\TRAFFIC CONTROL\_Plan.dwg --Traffic Control LAST EDITED By:bsaunders ON 8/27/15

REVISIONS	DATE	BY	CHK.
ADDED ADVANCE WARNING SIGNS AND FLAGS	8/26/15	BDS	MEF

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PHASE 1, PART 1

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APPROVED BY:	
DATE:	8/6/15

**TRAFFIC CONTROL**

SCALE: 1" = 30'	
SHEET NO.	OF
17	26

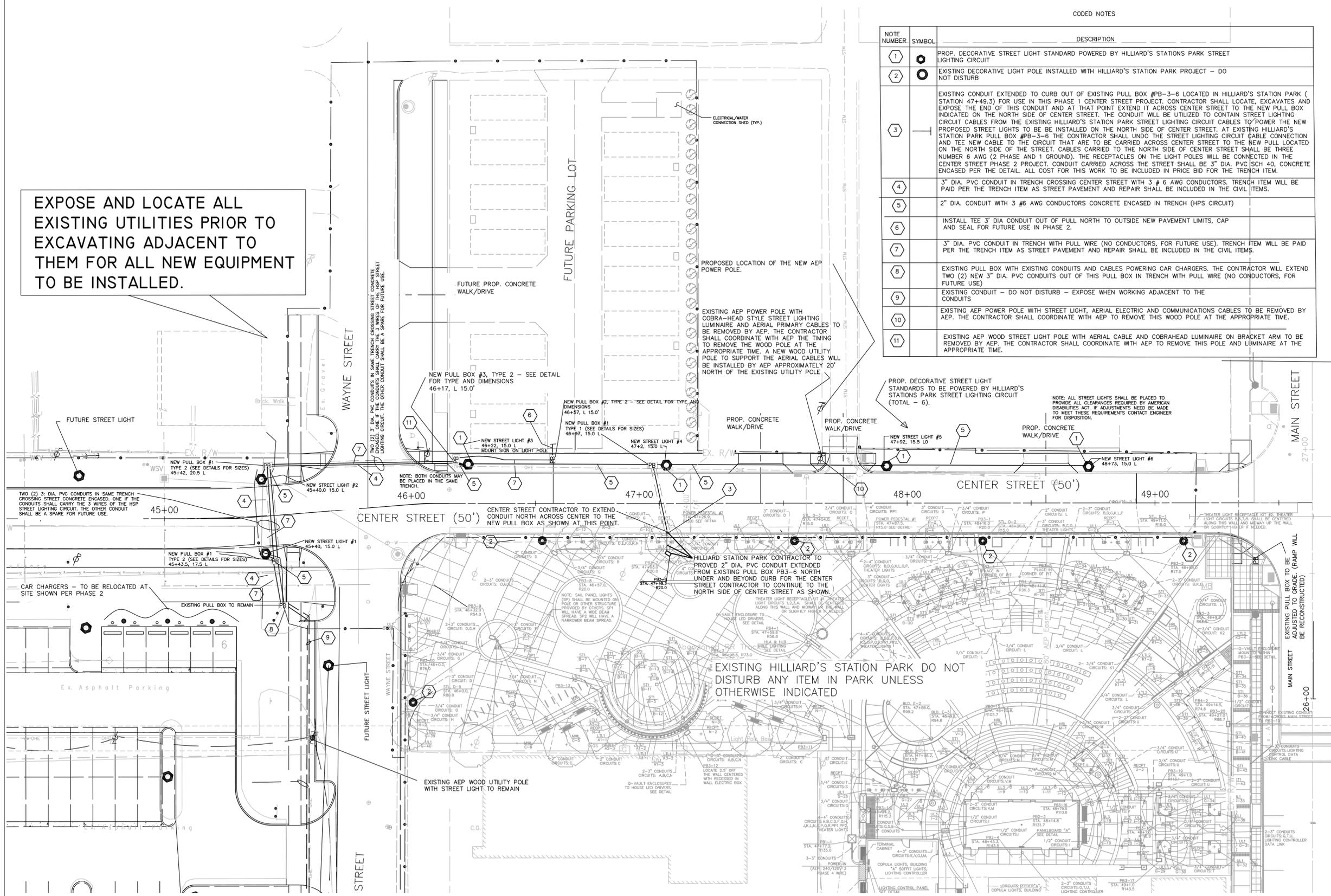
CODED NOTES

NOTE NUMBER	SYMBOL	DESCRIPTION
1	○	PROP. DECORATIVE STREET LIGHT STANDARD POWERED BY HILLIARD'S STATIONS PARK STREET LIGHTING CIRCUIT
2	○	EXISTING DECORATIVE LIGHT POLE INSTALLED WITH HILLIARD'S STATION PARK PROJECT - DO NOT DISTURB
3	—	EXISTING CONDUIT EXTENDED TO CURB OUT OF EXISTING PULL BOX #PB-3-6 LOCATED IN HILLIARD'S STATION PARK (STATION 47+49.3) FOR USE IN THIS PHASE 1 CENTER STREET PROJECT. CONTRACTOR SHALL LOCATE, EXCAVATE AND EXPOSE THE END OF THIS CONDUIT AND AT THAT POINT EXTEND IT ACROSS CENTER STREET TO THE NEW PULL BOX INDICATED ON THE NORTH SIDE OF CENTER STREET. THE CONDUIT WILL BE UTILIZED TO CONTAIN STREET LIGHTING CIRCUIT CABLES FROM THE EXISTING HILLIARD'S STATION PARK STREET LIGHTING CIRCUIT CABLES TO POWER THE NEW PROPOSED STREET LIGHTS TO BE INSTALLED ON THE NORTH SIDE OF CENTER STREET. AT EXISTING HILLIARD'S STATION PARK PULL BOX #PB-3-6 THE CONTRACTOR SHALL UNDO THE STREET LIGHTING CIRCUIT CABLE CONNECTION AND TEE NEW CABLE TO THE CIRCUIT THAT ARE TO BE CARRIED ACROSS CENTER STREET TO THE NEW PULL BOX LOCATED ON THE NORTH SIDE OF THE STREET. CABLES CARRIED TO THE NORTH SIDE OF CENTER STREET SHALL BE THREE NUMBER 6 AWG (2 PHASE AND 1 GROUND). THE RECEPTACLES ON THE LIGHT POLES WILL BE CONNECTED IN THE CENTER STREET PHASE 2 PROJECT. CONDUIT CARRIED ACROSS THE STREET SHALL BE 3" DIA. PVC CONDUIT, CONCRETE ENCASED PER THE DETAIL. ALL COST FOR THIS WORK TO BE INCLUDED IN PRICE BID FOR THE TRENCH ITEM.
4	—	3" DIA. PVC CONDUIT IN TRENCH CROSSING CENTER STREET WITH 3 # 6 AWG CONDUCTORS. TRENCH ITEM WILL BE PAID PER THE TRENCH ITEM AS STREET PAVEMENT AND REPAIR SHALL BE INCLUDED IN THE CIVIL ITEMS.
5	—	2" DIA. CONDUIT WITH 3 # 6 AWG CONDUCTORS CONCRETE ENCASED IN TRENCH (HPS CIRCUIT)
6	—	INSTALL TEE 3" DIA CONDUIT OUT OF PULL NORTH TO OUTSIDE NEW PAVEMENT LIMITS, CAP AND SEAL FOR FUTURE USE IN PHASE 2.
7	—	3" DIA. PVC CONDUIT IN TRENCH WITH PULL WIRE (NO CONDUCTORS, FOR FUTURE USE). TRENCH ITEM WILL BE PAID PER THE TRENCH ITEM AS STREET PAVEMENT AND REPAIR SHALL BE INCLUDED IN THE CIVIL ITEMS.
8	—	EXISTING PULL BOX WITH EXISTING CONDUITS AND CABLES POWERING CAR CHARGERS. THE CONTRACTOR WILL EXTEND TWO (2) NEW 3" DIA. PVC CONDUITS OUT OF THIS PULL BOX IN TRENCH WITH PULL WIRE (NO CONDUCTORS, FOR FUTURE USE)
9	—	EXISTING CONDUIT - DO NOT DISTURB - EXPOSE WHEN WORKING ADJACENT TO THE CONDUITS
10	—	EXISTING AEP POWER POLE WITH STREET LIGHT, AERIAL ELECTRIC AND COMMUNICATIONS CABLES TO BE REMOVED BY AEP. THE CONTRACTOR SHALL COORDINATE WITH AEP TO REMOVE THIS WOOD POLE AT THE APPROPRIATE TIME.
11	—	EXISTING AEP WOOD STREET LIGHT POLE WITH AERIAL CABLE AND COBRAHEAD LUMINAIRE ON BRACKET ARM TO BE REMOVED BY AEP. THE CONTRACTOR SHALL COORDINATE WITH AEP TO REMOVE THIS POLE AND LUMINAIRE AT THE APPROPRIATE TIME.

LEGEND

- CONCRETE ENCASED CONDUIT IN TRENCH. ENCASED TRENCH MAY BE PERFORMED IN SOD, OR PAVEMENT AREAS. (SEE TRENCH IN SIDEWALK OR DRIVEWAY PAVEMENT AREAS DETAILS). SIZE OF CONDUITS GIVEN ON PLANS.
- CONCRETE ENCASED CONDUIT IN STREET TRENCH, ENCASED (DO NOT INCLUDE COST FOR ANY LANDSCAPE, OR ARE PAVEMENT REPAIRS AS THIS WORK WILL BE INCLUDED IN THE CIVIL CONSTRUCTION PLAND ( UNLESS CONTRACTOR DAMAGES PAVEMENTS NOT TO DISTURBED). STANDARD TRENCH TOBE PAID PER THE TRENCH ITEM PROVIDED.
- PB NEW PULL BOX, TYPE AS INDICATED (SEE DETAILS FOR SIZES OF VARIOUS TYPE OF PULL BOXES).
- NEW STREET LIGHT
- EXISTING WOOD UTILITY POLE (AEP) - SEE NOTES ON PLANS AS TO WEATHER IT REMAINS OR IS REMOVED. SOME MAY HAVE A STREET LIGHT. AEP WILL REMOVE THE WOOD POLES.
- CODED NOTE - SEE CHART FOR EXPLANATION OF WORK.

**EXPOSE AND LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATING ADJACENT TO THEM FOR ALL NEW EQUIPMENT TO BE INSTALLED.**



UTILITIES, STRUCTURES AND ELEVATIONS SHOWN ON THE LIGHTING PLANS HAVE BEEN TAKEN FROM THE CIVIL DRAWINGS AND MAY OR MAY NOT BE CORRECT. REFER TO THE LATEST CIVIL PLANS FOR THE LATEST UTILITIES DATA REGARDING THIS INFORMATION. UTILIZE CIVIL DRAWINGS REGARDING ALL EXISTING UTILITIES, STRUCTURES, GRADES, LOCATIONS AND ELEVATIONS.

**UNDERGROUND UTILITIES**  
 TWO WORKING DAYS BEFORE YOU DIG  
 CALL 1-800-362-2764 (TOLL FREE)  
 OHIO UTILITIES PROTECTION SERVICE  
 NON-MEMBERS MUST BE CALLED DIRECTLY



REVISIONS	DATE	BY	CHK.

**Ralph & Curl Engineers**  
 RALPH AND CURL, ENGINEERS  
 840 MICHIGAN AVENUE  
 COLUMBUS, OHIO 43215  
 (614) 265-9100  
 ralphandcurleng.com

**CITY OF HILLIARD, OHIO**  
**CENTER STREET IMPROVEMENT PROJECT**  
**HILLIARD, OHIO**

JOB NO. HSP1200  
 DESIGNED BY: RDC  
 DRAWN BY: RDC  
 CHECKED BY: GW  
 APPROVED BY: GW  
 DATE: 07/25/15

**LIGHTING PLANS**  
 SCALE: 1" = 20'  
 SHEET NO. 18 OF 26

CITY OF HILLIARD, OHIO CENTER STREET IMPROVEMENTS			
ESTIMATE OF QUANTITIES			
ITEM#	DESCRIPTION	UNIT	QUANTITY
625	LIGHT POLE DECORATIVE, POST TOP 14', FIBERGLAS WITH ALL ACCESSORIES PER THE DETAILS, AS PER PLAN	EACH	6
625	LUMINAIRE, DECORATIVE AAL PROVIDENCE, 80 WATT LED, TYPE III, AS PER PLAN	EACH	6
625	LIGHT POLE FOUNDATION 18" SQ. X 5' DEEP, AS PER PLAN (625.10)	EACH	6
625	FUSED CONNECTOR KIT, TYPE II (FUSED), AS PER PLAN (625.18 & 725.15)	EACH	12
625	CABLE SPLICING KIT, TYPE 111 (625.18 & 725.15)	EACH	18
625	TRENCH, 24" DEEP, AS PER PLAN (625.13)	L.F.	400
625	NO. 6 AWG 600 VOLT DISTRIBUTION CABLE (625.17 & 725.02)	L.F.	662
625	NO. 10 AWG POLE AND BRACKET CABLE, (625.17 & 725.02)	L.F.	300
625	CONDUIT, 2" (625.12 & 712.04), CONCRETE ENCASED, AS PER PLAN, (INCLUDES CONDUIT INSTALL IN TRENCHES ACROSS STREETS.)	L.F.	260
625	CONDUIT, 3" (625.12 & 712.04), CONCRETE ENCASED, AS PER PLAN, (INCLUDES CONDUIT INSTALL IN TRENCHES ACROSS STREETS.)	L.F.	316
625	PULL BOX, 17" X 30", TYPE 2, WITH WORD "ELECTRIC", AS PER PLAN	EACH	4
625	PULL BOX, 13" X 24", TYPE 1, WITH WORD "ELECTRIC", AS PER PLAN	EACH	2
625	GROUND ROD, 3/4" DIA. X 10' LENGTH, AS PER PLAN (625.16)	EACH	14
625	ELECTRICAL TEST, AS PER PLAN (625.19)	LUMP	-
SPECIAL	PULL BOX ADJUSTED TO GRADE	LUMP	-
MATERIAL ONLY			
625	MATERIAL ONLY (SPARE), LIGHT POLE DECORATIVE, POST TOP 14', FIBERGLAS WITH ALL ACCESSORIES PER THE DETAILS, AS PER PLAN	EACH	1
625	MATERIAL ONLY (SPARE), LUMINAIRE, DECORATIVE AAL PROVIDENCE, 80 WATT LED, TYPE III, AS PER PLAN	EACH	1
ALTERNATES			
625	CONDUIT, 3" PVC, JACKED OR DRILLED, AS PER PLAN IF AUTHORIZED IN LIEU OF TRENCH (STREET CROSSINGS ONLY)	L.F.	120

ODOT STANDARD DRAWINGS		
HL-10.12	LIGHT POLE DETAILS	1/17/2014
HL-20.11	FOUNDATION AND TRENCH DETAILS	1/16/2015
HL-30.11	PULL BOX DETAILS	1/16/2015
HL-30.21	ROADWAY CONDUIT DETAILS 1	1/17/2014
HL30.22	ROADWAY CONDUIT DETAIL 2	1/17/2014
HL.50.11	GROUNDING DETAILS	1/16/2015
HL 60.11	POLE WIRING 1	1/17/2014
HL-60.12	POLE WIRING 2	1/17/2014

CITY OF HILLIARD STANDARD DRAWINGS  
 SL-1 STREET LIGHTING – GENERAL SPECIFICATIONS

C:\CENTER STREET DRAWINGS\NOTE BORDER DRAWING.dwg — LAST EDITED BY ROBERT CURL ON 7/25/15

REVISIONS	DATE	BY	CHK.

**R&C**  
 Ralph & Curl  
 Engineers

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 COLUMBUS, OHIO 43215  
 (614) 265-9100  
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CITY OF HILLIARD, OHIO  
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**LIGHTING PLANS**  
 ESTIMATED QUANTITIES AND  
 STANDARD DRAWINGS

SCALE:	
SHEET NO.	OF
19	26

# ELECTRICAL NOTES

## 625.03 GENERAL

THE STREET LIGHTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT CITY OF HILLIARD'S SPECIFICATIONS" AND THE 2012 EDITION OF THE OHIO DEPARTMENT OF TRANSPORTATION'S MATERIALS AND CONSTRUCTION SPECIFICATIONS, INCLUDING ALL SUPPLEMENTS THERETO, IN FORCE ON THE DATE OF THE CONTRACT, SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS.

## PERMITS

THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS.

## CODES AND ORDINANCES

THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL LOCAL CODES AND ORDINANCES PERTINENT TO THE PROGRESSION OF THE WORK DESCRIBED WITHIN THE PROJECT PLANS. ANY REQUIRED PERMIT SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR. THE CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.

## CONTRACTOR'S RESPONSIBILITY WITH EXISTING AND NEW UTILITIES

THE CONTRACTOR SHALL PERFORM ANY EXPLORATORY EXCAVATIONS NECESSARY TO LOCATE UNDERGROUND UTILITIES PRIOR TO DIGGING, DRILLING OR PUSHING. WHERE PROJECT WORK IS LOCATED CLOSE TO EXISTING UTILITY LINES, POTENTIAL LOCATION CONFLICTS, EXCAVATIONS SHALL BE ACCOMPLISHED UTILIZING HAND DIGGING OR VACUUM BORING. THE COST OF THE WORK SHALL BE INCLUDED IN CONTRACTOR'S BID PRICE.

WHERE POTENTIAL LOCATION CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO UNCOVER SUCH UTILITIES SUFFICIENTLY IN ADVANCE OF INSTALLING CONDUIT, FOUNDATIONS, OR OTHER LIGHTING EQUIPMENT IN ORDER THAT ENGINEER MAY DETERMINE THE EXACT ELEVATION AND LOCATION TO MAKE ANY NECESSARY ADJUSTMENTS. ALL COST FOR THIS WORK TO BE INCLUDED IN THE VARIOUS ITEMS BID.

WHERE EXCAVATIONS OCCUR ALONGSIDE OF CURBS OR SIDEWALKS, THE CONTRACTOR SHALL SHORE, BRACE OR SUPPORT PIECES IN PLACE SO THAT THEY WILL NOT BECOME DISLODGED OR DAMAGED. ANY DAMAGE CURB OR SIDEWALK SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE.

ALL PROPOSED LIGHT STANDARDS AND OTHER LIGHTING EQUIPMENT LOCATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR IN REGARDS FOR PROPER CLEARANCES IN RELATIONSHIP TO EXISTING OVERHEAD AND UNDERGROUND UTILITIES PRIOR TO DIGGING OF CONCRETE FOUNDATION HOLES OR ANY OTHER EXCAVATION. WHERE CONDUIT IN TRENCH IS TO BE ENCASED IN CONCRETE AND UTILITY LINES CONFLICT IN LOCATION, CONTACT ENGINEER FOR INSTRUCTIONS.

THE CITY OF NEWARK, OPERATIONS DIVISION WILL LOCATE AND MARK ALL UNDERGROUND TRAFFIC CONTROL CABLES. THE DIVISION SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE BEGINNING ANY WORK WITHIN 300 FEET OF SIGNALIZED INTERSECTIONS OR WITHIN ANY AREA IN WHICH THE DIVISION HAS UNDERGROUND CONTROL CABLES. ANY REPAIRS TO TRAFFIC CABLES RESULTING FROM THIS WORK WILL BE DONE BY THE CONTRACTOR.

## SAWING PAVEMENT

WHERE NECESSARY TO DISTURB PAVEMENTS OR DRIVES, THE PAVEMENT SHALL BE SAW CUT IN NEAT, STRAIGHT LINES. THE DEPTH OF THE SAW CUT SHALL BE AT LEAST 2 INCHES. THE COST OF THE SAW CUTTING SHALL BE INCLUDED IN THE CONTRACTOR'S PRICE BID.

## UTILITY CLEARANCE REQUIREMENTS

MAINTAIN A MINIMUM OF 3' HORIZONTAL AND 1' VERTICAL CLEARANCE FROM ALL WATER & SEWER LINES.

## CABLE SPLICING

NO SPLICES SHALL BE MADE IN CIRCUIT CABLES, EXCEPT AT NOTED LOCATIONS. SPLICES CAN BE MADE IN PULL BOXES ONLY WHERE A CIRCUIT BRANCHES OR TEES.

## STAKING - LIGHTING

THE CONTRACTOR SHALL PERFORM THE NECESSARY CONSTRUCTION STAKING AND MAINTENANCE OF STAKING REQUIRED FOR CONSTRUCTION OF THIS PROJECT. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTORS PRICE BID.

## TRENCH, CONDUIT AND PULL BOX LOCATIONS

CONDUIT LOCATION MAY BE DEFLECTED AROUND OBSTACLES OR UTILITIES AS APPROVED BY THE ENGINEER. ANY PULL BOXES INSTALLED ON THE PROJECT SHALL BE LOCATED APPROXIMATELY WHERE SHOWN ON PLANS WITH EXACT LOCATIONS TO BE DETERMINED IN THE FIELD AFTER CONSIDERATION IS GIVEN TO THE LOCATION OF UTILITIES, PAVEMENTS AND GRADES.

THE CENTERLINE OF THE TRENCH OFFSET SHALL BE LOCATED IN ACCORDANCE WITH THE PLAN DETAILS AND SPECIFICATIONS, EXCEPT WHERE APPROVED BY THE ENGINEER WHERE THE LOCATION MAY VARY FROM ITS POSITION SHOWN AS NECESSARY TO AVOID CONFLICT IN LOCATION WITH THE VARIOUS UTILITIES AND SERVICES.

## NO TRENCHES KEPT OPEN

ALL TRENCHES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS.

## CLEAN UP

THIS PROJECT IS LOCATED IN A DOWNTOWN AREA IN WHICH IT IS NECESSARY TO MAINTAIN A CLEAN PROJECT SITE. THE PROJECT CONSTRUCTION SITE SHALL BE MAINTAINED IN A CLEAN HEALTHY STATE AT ALL TIMES. DIRT PILES FROM EXCAVATIONS SHALL BE REMOVED FROM SITE OR PROPERLY PLACED BACK INTO HOLES OR PITS DAILY. AT THE END OF EACH WORK DAY THE PROJECT SITE SHALL HAVE ALL DEBRIS REMOVED, AND SIDEWALKS, CURBS, GUTTERS AND STREET SURFACES BROOM SWEEP. DIRT LAYING ON UNDISTURBED SOD AREAS MAY CAUSE DAMAGE TO THE HEALTH OF GRASS AND IS NOT PERMITTED. THE TRACKING OF MUD, DIRT OR DEBRIS, OR SPILLAGE OF THE SAME, UPON THE CITY STREETS, RESIDENTIAL AND COMMERCIAL DRIVES, SIDEWALKS OR BIKE PATHS ARE PROHIBITED AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. FAILURE TO REMOVE SAID MUD, DIRT OR DEBRIS, OR SPILLAGE MAY RESULT IN THE CITY PROVIDING THAT SERVICE AND THE COST OF THAT SERVICE WITHHELD FROM MONEYS WHICH MAY BECOME DUE TO THE CONTRACTOR. EXCAVATED MATERIALS SHALL NOT BE STORED ON EXISTING ROADWAY PAVEMENT. COST FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS BID ITEMS.

## NATIONAL ELECTRIC CODE

ALL WORK PERFORMED ON THIS PROJECT SHALL BE ACCOMPLISHED IN CONFORMANCE WITH THE NATIONAL ELECTRIC CODE, LATEST EDITION.

## MANUALS AND INSTRUCTIONS

THE CONTRACTOR SHALL FURNISH THE ENGINEER SIX (6) SETS OF OPERATING MANUALS FOR ALL DEVICES BEFORE THE FINAL PAYMENT IS AUTHORIZED. THE MANUALS SHALL BE IDENTICAL AND HARD BOUND. THESE MANUALS SHALL INCLUDE:

- SHOP DRAWINGS (REVIEWED BY ENGINEER)
- DESCRIPTION OF OPERATION OF EACH ELECTRICAL SYSTEM
- LIST INDICATING MANUFACTURE OF ALL ELECTRICAL EQUIPMENT
- MAINTENANCE SCHEDULE RECOMMENDED BY EQUIPMENT MANUFACTURER
- COMPLETE PARTS LIST FOR ALL EQUIPMENT
- SERVICE TELEPHONE NUMBER OF INSTALLING COMPANY
- ANY DEVIATIONS FROM THE DRAWINGS SHALL BE SO INDICATED BY A SEPARATE PAGE INSERTED IN THE MANUAL

THE CONTRACTOR SHALL INSTRUCT A PERSON OR PERSONS, APPROVED BY THE OWNER, IN THE COMPLETE OPERATION OF ALL ELECTRICAL EQUIPMENT AND SYSTEMS AND SUBMIT IN WRITING THAT SUCH HAS BEEN DONE PRIOR TO FINAL ACCEPTANCE. THE LETTER SHALL CONTAIN THE NAME OF SAID PERSON OR PERSONS RECEIVING INSTRUCTIONS. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTORS PRICE BID.

## SHOP DRAWINGS

SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND/OR EQUIPMENT MANUFACTURER AND SUBMITTED FOR THE FOLLOWING ITEMS AND SUCH OTHER ITEMS AS THE ENGINEER MAY DIRECT.

- CONTROL CENTERS - EQUIPMENT AND APPARATUS
- LUMINAIRES AND LIGHT POLES
- WIRING OR CABLES, CONDUIT
- CONNECTORS, CONNECTOR KITS, ETC.
- SPLICE BOXES
- GROUND RODS AND GROUNDING APPARATUS
- SERVICE POLES
- CONCRETE FOUNDATION SHOWING REINFORCING STEEL PLACEMENT AND BASES, ANCHOR BOLTS AND DIMENSIONS AND CONDUITS.
- PAINTS AND COATINGS
- CIRCUIT IDENTIFICATION MATERIALS, MARKINGS AND POST IDENTIFICATION LABELS
- SHOP DRAWINGS (REVIEWED BY ENGINEER)
  - DESCRIPTION OF OPERATION OF EACH ELECTRICAL SYSTEM
  - LIST INDICATING MANUFACTURE OF ALL ELECTRICAL EQUIPMENT
  - MAINTENANCE SCHEDULE RECOMMENDED BY EQUIPMENT MANUFACTURER
  - COMPLETE PARTS LIST FOR ALL EQUIPMENT INCLUDING SERVICE TELEPHONE NUMBER OF INSTALLING COMPANY
  - ANY DEVIATIONS FROM THE DRAWINGS SHALL BE SO INDICATED BY A SEPARATE PAGE INSERTED IN THE MANUAL

THE CONTRACTOR SHALL INSTRUCT A PERSON OR PERSONS, APPROVED BY THE OWNER, IN THE COMPLETE OPERATION OF ALL ELECTRICAL EQUIPMENT AND SYSTEMS AND SUBMIT IN WRITING THAT SUCH HAS BEEN DONE PRIOR TO FINAL ACCEPTANCE. THE LETTER SHALL CONTAIN THE NAME OF SAID PERSON OR PERSONS RECEIVING INSTRUCTIONS.

## CONTRACTOR DATA AND MANUFACTURERS' CERTIFICATION

CERTIFICATION SHALL BE SUPPLIED BY CONTRACTOR WHEN SPECIFIED OR REQUIRED INCLUDING CERTIFIED FIELD TEST REPORTS AND MANUFACTURERS' CERTIFICATIONS. FIELD TEST REPORTS SHALL BE RECORDED, WRITTEN AND CERTIFIED TO THE CITY. FIELD TEST SHALL INCLUDE CABLE, OPERATIONAL AND RESISTANCE TO GROUND TESTS. MANUFACTURERS' CERTIFICATION SHALL INCLUDE FACTORY TEST REPORTS AND TEST REPORTS PERFORMED AND REQUIRED BY INDEPENDENT TESTING LABORATORY FOR LUMINAIRE PHOTOMETRIC ANALYSIS, STRENGTHS AND ALLOWABLE LOADING OF MATERIALS, ELECTRICAL COMPONENT RATINGS, ETC. ALSO, A COPY OF SUPPLIER'S DELIVERY TICKETS FOR EACH LOAD OF CONCRETE, SAND, GRAVEL, ETC. SHALL BE SUPPLIED TO THE ENGINEER.

## MATERIALS

NEW FIRST QUALITY MATERIALS SHALL BE FURNISHED. THEY SHALL COMPLY, WHEN APPLICABLE, WITH THE UNDERWRITERS LABORATORIES (UL) REQUIREMENTS AND MEET THE APPLICABLE MINIMUM REQUIREMENTS OF STANDARDS OF EEL, NEMA, IES, ANSI, IPCEA, AASHO, IEEE, IMSA AND ASTM ORGANIZATIONS. THE MATERIALS SHALL ALSO COMPLY WITH THE NATIONAL ELECTRIC CODE, NATIONAL ELECTRIC SAFETY CODE AND LOCAL CODES FOR THE AREA OF INSTALLATION. ALL ELECTRICAL PARTS, WIRE, SWITCHES AND OTHER ELEMENTS OF THE INSTALLATION SHALL BE OF AMPLE CAPACITY TO CARRY THE REQUIRED CURRENT WITHOUT EXCESSIVE HEATING OR CAUSING AN EXCESSIVE DROP OF POTENTIAL.

MATERIAL AND EQUIPMENT SHALL BE THE STANDARD PRODUCT NAMED HEREIN OF A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURE OF THE PRODUCT AND SHALL ESSENTIALLY DUPLICATE ITEMS THAT HAVE BEEN IN SATISFACTORY USE FOR AT LEAST TWO (2) YEARS PRIOR TO BID OPENING.

EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE AS A MINIMUM THE MANUFACTURER'S NAME, ADDRESS, AND CATALOG OR STYLE NUMBER ON A NAME PLATE SECURELY ATTACHED TO THE ITEM OF EQUIPMENT. NAME PLATES FOR INDIVIDUAL ITEMS OF ELECTRICAL EQUIPMENT SHALL BE AS SPECIFIED IN REFERENCED PUBLICATIONS AND SHALL BE PROVIDED ON EACH ITEM OF EQUIPMENT.

## SUBMITTALS, REVIEW OF MATERIALS, EQUIPMENT DATA AND SHOP DRAWINGS

THE MATERIALS AND EQUIPMENT INSTALLED IN THE WORK SHALL MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND NO MATERIALS OR EQUIPMENT SHALL BE ORDERED UNTIL REVIEWED BY THE ENGINEER.

THE CONTRACTOR SHALL SUBMIT PROOF THAT THE ITEMS FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS CONFORM TO THE SPECIFIED REQUIREMENTS. THE LABEL OF OR LISTING IN THE ELECTRICAL CONSTRUCTION MATERIALS DIRECTORY OF UL OR THE MANUFACTURERS' ITEMS COMPLY WITH APPLICABLE SPECIFICATIONS, STANDARDS OR PUBLICATIONS AND WITH THE MANUFACTURERS' STANDARDS WILL BE ACCEPTABLE EVIDENCE OF SUCH COMPLIANCE.

THE CONTRACTOR SHALL SUBMIT FOR THE ENGINEER'S REVIEW FOUR (3) COMPLETE ITEMIZED COPIES OF THE CATALOG DATA AND/OR SHOP DRAWINGS FOR EVERY ITEM OF EQUIPMENT BUILT OR ASSEMBLED BY THE CONTRACTOR OR FACTORY MANUFACTURED AND ALL COMPONENTS TO BE USED IN THE WORK, INCLUDING SPECIFIC PERFORMANCE DATA, MATERIAL DESCRIPTION, DIMENSIONS, RATING, CAPACITY, MATERIAL GAUGE OR THICKNESS, BRAND NAME, CROSS SECTION OR CONSTRUCTION, JOINING METHODS, CATALOG NUMBER AND GENERAL TYPE. THIS SUBMISSION SHALL BE COMPILED BY THE CONTRACTOR AND REVIEWED BY THE ENGINEER BEFORE ANY OF THE EQUIPMENT IS ORDERED. CERTAIN SHOP DRAWINGS, AS CALLED FOR, SHALL BE PREPARED BY THE CONTRACTOR OR MAY BE PREPARED BY A QUALIFIED REGISTERED ENGINEER EXPERIENCED IN THIS WORK AT THE CONTRACTOR'S EXPENSE. THE REVIEW OF THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR DEVIATIONS FROM DRAWINGS OR SPECIFICATIONS, PROVIDING PROPER CLEARANCE AND FABRICATIONS PROCESS.

WHEN SUBMITTED FOR THE ENGINEER'S REVIEW, SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S CERTIFICATION THAT HE HAS PREPARED OR REVIEWED, CHECKED AND APPROVED THE SHOP DRAWINGS, THAT THEY ARE IN HARMONY WITH THE REQUIREMENTS OF THE PROJECT AND WITH THE PROVISIONS OF THE CONTRACT DOCUMENTS AND THAT HE HAS VERIFIED ALL FIELD MEASUREMENTS AND CONSTRUCTION CRITERIA, MATERIALS, CATALOG NUMBERS AND SIMILAR DATA. CONTRACTOR SHALL ALSO CERTIFY THAT THE WORK REPRESENTED BY THE SHOP DRAWINGS IS RECOMMENDED BY THE CONTRACTOR AND THE CONTRACTOR'S GUARANTY WILL FULLY APPLY.

## CONTRACTOR'S COORDINATION WITH POWER SUPPLYING AGENCY

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL WORK WITH THE POWER UTILITY (AMERICAN ELECTRIC POWER) FOR REMOVAL/RELOCATION OF CIRCUITS, AERIAL AND UNDERGROUND CABLES, THE LOCATION OF THE CONTROL CENTERS, POWER FEEDS, RELOCATION OF POWER SERVICES TO BUILDINGS, STRUCTURES AND ELECTRICAL EQUIPMENT BEING INSTALL PER THIS PROJECT ALONG WITH MEETING THE REQUIREMENT OF NEC, LATEST EDITION. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH AEP'S STANDARDS AND REGULATIONS WHERE APPLICABLE. COST ASSOCIATED WITH MAKING THE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE POWER UTILITY FOR THIS PROJECT IS:

AMERICAN ELECTRIC POWER COMPANY  
850 TECH CENTER DR., GAHANNA, OHIO 43230  
(614) 883-7935  
ATTENTION: JACOB WALDEN

## CONCRETE PROTECTION

CONTRACTOR IS RESPONSIBLE TO PROTECT ALL CONCRETE WORK AGAINST THE COLD WEATHER BY MEANS OF BLANKETS, STRAWS, ETC. NEW CONCRETE SURFACES SUBJECT TO PEDESTRIAN TRAFFIC WITHIN 24 HOURS SHALL BE PROTECTED BY PLYWOOD SHEETING AS DETERMINED BY THE CITY. THE COST SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS RELATED ITEMS.

## EXISTING UNDER DRAINS

EXISTING UNDER DRAINS WHICH ARE TO REMAIN, WHEN ENCOUNTERED IN THE CONSTRUCTION WORK SHALL NOT BE DISTURBED. THE CONTRACTOR, AT THIS EXPENSE, WILL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF EXISTING UNDER DRAINS DAMAGE OR DISPLACEMENT DUE TO THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL ATTEMPT TO TUNNEL UNDER ALL CURBS AND ROOF DRAINS TO AVOID DAMAGE.

## AS BUILT DRAWINGS

THE CONTRACTOR SHALL MAINTAIN A SET PROJECT RECORD DOCUMENTS. THESE DOCUMENTS SHALL INCLUDE REVIEWED SHOP DRAWINGS, CHANGE ORDERS, EQUIPMENT OPERATING INSTRUCTIONS, FIELD TEST RECORDS, AND AS BUILT DRAWINGS. THE AS BUILT DRAWINGS SHALL BE MARKED LEGIBLY IN RED AND MARK THE ACTUAL LOCATIONS OF EQUIPMENT AND CONDUITS CONSTRUCTED. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTORS PRICE BID.

## GROUNDING AND BONDING

GROUNDING IS TO BE PROVIDED ON ALL METAL COMPONENTS, LIGHT POLES, METAL JUNCTION BOX COVERS, METAL CONDUITS, TRANSFORMER NEUTRAL AT SWITBOARD, TRANSFORMER ENCLOSURES, TERMINATORS, LIGHTING ARRESTERS, AND IN GROUND CABLES IN STRUCTURES. GROUND WIRE FOR WOOD POLES SHALL BE TIED TO EQUIPMENT RUN DOWN POLE AND CONNECTED TO GROUND ROD. GROUND WIRE CONNECTED TO ELECTRICAL LIGHT POLE, LUMINAIRES AND OTHER GROUND MOUNTED ELECTRICAL EQUIPMENT SHALL BE INSTALLED PER THE PROJECT PLANS. GROUND WIRE INSTALL ON WOODEN UTILITY POLES SHALL BE PROTECTED BY HALF-ROUND WOOD, PLASTIC, OR FIBER MOLDING FROM GROUND LINE TO A POINT AT LEAST 8 FT. ABOVE THE GROUND WHERE ATTACHED TO A WOODEN POLE. ALL CONNECTIONS SHALL BE MADE WITH SODOR-LESS CONNECTORS OR BY THE EXOTHERMIC WELDING PROCESS USING NO. 2 OR 4 AWG BARE COPPER WIRE AS INDICATED ON THE PLANS.

GROUND RODS SHALL BE 3/4" DIA. X 10'-0" LONG COPPER RODS. USE AS MANY AS REQUIRED SO AS NOT TO EXCEED A RESISTANCE OF 25 OHMS.

GROUND RODS SHALL BE DRIVEN FULL LENGTH IN UNDISTURBED EARTH IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS. THE TOP SHALL BE AT LEAST 12 INCHES BELOW THE SURFACE OF THE EARTH, EXCEPT A NOTED LOCATIONS. THE GROUND CABLE SHALL BE ATTACHED TO THE GROUND ROD BY EXOTHERMIC WELD AND SECURED TO THE POLE WITH STAPLES. THE STAPLES ON THE GROUND WIRE SHALL BE SPACED TWO FEET APART EXCEPT FOR A DISTANCE OF EIGHT FEET ABOVE THE GROUND AND EIGHT FEET DOWN FROM THE TOP OF THE POLE WHERE THEY SHALL BE SIX INCHES APART.

NOT SHOWN, BUT INCLUDE THE GROUNDING OF ALL REBAR LOCATED IN PAVEMENTS, FOUNTAINS AND BUILDING SLABS, ETC. PER NEC, LATEST EDITION.

ALL EQUIPMENT GROUNDS, NEUTRAL WIRES, JUNCTION BOXES, ANCHOR BOLTS, CONDUITS, AND LIGHTING PROTECTIVE EQUIPMENT SHALL BE INTERCONNECTED AND ATTACHED TO A GROUND WIRE AND OR GROUND ROD.

ALL GROUNDING SHALL BE CONTINUOUS AND COMPLY WITH THE PRINCIPLES SET FORTH PER THE NATIONAL ELECTRIC CODE ARTICLE 250, LATEST EDITION.

ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.

(a) PROVIDE AND EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.

(b) WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.

(c) METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME DIAGONAL AS PROVIDED ON HL-30.11.

(d) THE 724.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.

(e) THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.

(f) BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

(g) METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

## WIRE FOR GROUNDING AND BONDING.

(a) USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS: THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

(b) IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

THE COST FOR ALL THE GROUND ROD SHALL BE INCLUDED IN THE PRICE BID FOR THE SPLICE BOXES AND FOUNDATIONS INSTALLED AS NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

## CONDUIT LOCATION AND DEPTH

UNLESS OTHERWISE INDICATED ON PLANS OR DIRECTED BY ENGINEER, INSTALL ALL CONDUITS, DUCTS AND LIGHT POLE FOUNDATIONS AS SHOWN ON THE PROJECT PLANS.

CONDUIT CROSSING STREET INTERSECTIONS SHALL BE INSTALLED AT DEPTHS GREATER THAN CURB SECTION. CONDUIT LOCATIONS SHALL NOT INTERFERE WITH EXISTING CURB DRAINS. LOWER THE INSTALLED CONDUIT BURIAL DEPTH WHERE NECESSARY TO CLEAR CURB DRAINS, TUNNEL UNDER CURBS FOR INSTALLATION OF CONDUIT. DO NOT DAMAGE EXISTING CURBS TO REMAIN. INCLUDE COST OF THIS WORK IN THE VARIOUS UNIT BID PRICES AS NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

EXCAVATIONS ADJACENT TO OR NEAR TREES AND PLANTS SHALL BE PUSHED SO THAT THE ROOTS ARE PRESERVED AND LEFT UNCU.

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REVISIONS	DATE	BY	CHK.



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# CITY OF HILLIARD, OHIO CENTER STREET IMPROVMENT PROJECT HILLIARD, OHIO

JOB NO.	-----
DESIGNED BY:	----
DRAWN BY:	----
CHECKED BY:	----
APPROVED BY:	----
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## LIGHTING PLANS

LIGHTING NOTES I OF 2

SCALE:	
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# ELECTRICAL NOTES

## TOUCH UP OF PAINTED SURFACES

TOUCH UP OF GALVANIZED & PLATED SURFACES SHALL INCLUDE THOROUGHLY ROUGHENING THE ENTIRE SURFACE PER SSPC-SP7 BRUSH OFF BLAST CLEANING OR BY UTILIZING POWER TOOLS FITTED WITH 3M SCOTCH BRITE CLEAN STRIP CUP WHEELS, DISCS, GRINDERS AND SANDERS. SOLVENT CLEAN AND WIRE BRUSH GALVANIZED BOLTS AND APPLY PRETREATMENT OPERATIONS AND COATINGS FOLLOWED BY FINISH COATS DIRECTLY TO THE GALVANIZED SURFACE.

FIELD TOUCH UP COATS MAY BE APPLIED BY BRUSH, ROLLER OR SPRAY METHODS.

ALL PAINTING SHALL BE ACCOMPLISHED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS AND BE APPLIED UTILIZING PROPER PAINTING TECHNIQUES. ALL PAINT COATING SHALL BE APPLIED BY PROFESSION SKILLED PAINTERS WHOM HAVE HAD EXPERIENCE WITH MINIMUM OF FIVE (5) SIMILAR PROJECTS. THE CONTRACTOR SHALL SUBMIT THE QUALIFICATIONS OF THE PROPOSED PAINTING CONTRACTOR TO ENGINEER FOR APPROVAL. CONTRACTORS DESIRING TO APPLY THE FINAL COAT OF PAINT IN THE FIELD SHALL OBTAIN APPROVAL OF THE ENGINEER PRIOR TO SHIPMENT. THE PAINTING OF ALL LIGHT POLES AND LUMINAIRES SHALL BE FACTORY APPLIED, UNLESS OTHERWISE APPROVED.

## PROTECTION OF LIGHTING POLES, LUMINAIRE AND BOLLARD

LIGHT POLES, LUMINAIRES AND OTHER PAINTED ACCESSORIES SHALL BE COMPLETELY WRAPPED AND HAVE ALL SURFACES PROTECTED FROM DAMAGE DURING SHIPMENT TO THE PROJECT SITE. LIGHT POLES SHALL BE SHIPPED ON RACKS WHICH MAINTAIN SEPARATION BETWEEN THE LIGHT POLE AND OTHER OBSTACLES WHICH MAY SCRATCH, MAR OR DAMAGE THE LIGHT POLES PAINTED SURFACES. LUMINAIRES SHALL BE SHIPPED IN PROTECTIVE CONTAINERS. LIGHT POLES AND LUMINAIRES INSTALLED WITH DAMAGED, MARRED OR SCRATCHED PAINTED SURFACES SHALL BE REMOVED AND SHIPPED BACK TO THE FACTORY FOR RESURFACING AND PAINTING. LIGHT POLES WITH VERY MINOR SCRATCHES MAY BE TOUCHED UP IN FIELD. THE PRIME COAT OF PAINT SHALL BE OF A DIFFERENT COLOR SHADE THAN THE FINISH COAT.

## COLOR FOR LIGHT POLES, LUMINAIRES, ACCESSORIES AND HARDWARE

COLOR FOR LIGHT POLES, LUMINAIRES AND ACCESSORIES SHALL BE "BLACK". CONTRACTOR SHALL SUBMIT PAINT COLOR CHIPS FOR APPROVAL PRIOR TO APPLYING ANY PAINT COATINGS. THE COLOR OF THE LUMINAIRE SHALL BE MATCHED TO THE COLOR OF THE LIGHT POLE AND THE LUMINAIRE MANUFACTURER SHALL COORDINATE COLOR WITH THE LIGHT POLE MANUFACTURER.

PAINTING WORK WILL BE INSPECTED BY THE ENGINEER. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF FOUR (4) DAYS IN ADVANCE TO PERFORMING ANY PAINTING WORK SO ENGINEER CAN SCHEDULE AND ARRANGE FOR INSPECTIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE LOCATION AND TIME OF THE WORK AND MAKE THE WORK AVAILABLE FOR INSPECTION.

## 625.19 ELECTRICAL TEST

PERFORM ELECTRICAL TEST PER ODOT ITEM 625.19 TO INCLUDE THE GROUND TEST, CABLE CONTINUITY TEST, AND THE PERFORMANCE TEST. A HIGH VOLTAGE TEST IS EXCLUDED FROM THE REQUIRED TESTING. HE TEST SHALL BE PERFORMED FOR ALL CIRCUIT SEGMENTS OF THE STREET LIGHTING AND RECEPTACLE SYSTEMS INSTALLED PER THIS PROJECT. SUBMIT CERTIFIED TESTING RESULTS REPORT PRIOR TO PROJECT COMPLETION.

## CONDUIT ENCASEMENT

ALL CONDUIT SHALL BE ENCASED IN MINIMUM OF 3" OF CONCRETE. INCLUDE THE COST OF THE ENCASEMENT IN THE VARIOUS ITEMS BID AS NO OTHER COMPENSATION SHALL BE ALLOWED.

## PUNCH LIST

THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE ENGINEER AND REQUEST A FINAL PUNCH OUT INSPECTION OF THE SITE ONCE ALL THE ITEMS AND SPECIFIED WORK ON THE PLANS HAVE BEEN COMPLETED.

## CIRCUIT VOLTAGE

LIGHTING CIRCUIT WILL BE OPERATED AT 240 VOLTS, 2 WIRE WITH GROUND.

## CIRCUIT AND LIGHT POLE IDENTIFICATION MATERIALS

IDENTIFY AND MARK ALL CABLES IN ACCORDANCE WITH ODOT 725.18, PULL WIRE TO BE INSTALLED IN ALL CONDUITS

A PULL WIRE SHALL BE PLACED IN ALL CONDUITS INSTALLED THIS PROJECT. THE CONDUITS INSTALLED FOR FUTURE USE SHALL HAVE A PULL WIRE INSTALLED AND LEFT IN PLACE WITH SLACK TO FACILITATE THE PULLING OF FUTURE INSTALLED WIRE.

## ROOF DRAINS

THE DRAINAGE OF ALL ROOF DRAINS SHALL BE MAINTAINED BY THE CONTRACTOR AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR REQUIRED TO INSTALL CONDUITS AND CABLE-IN-DUCT UNDER ROOF DRAIN LEADERS BY TUNNELING OR TRENCHLESS METHODS. ANY ROOF DRAIN DAMAGED SHALL BE REPAIRED BY THE CONTRACTOR TO EQUAL OR BETTER CONDITION THEN EXISTED UTILIZING APPROVED MATERIALS. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS ITEMS BID AS NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

## PADLOCKS AND KEYS

PADLOCK SHALL BE FURNISHED FOR ALL LIGHTING CONTROL CENTERS. PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, AMERICAN LOCK #1207B- KEY CODE 43737. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM BEING LOCKED.

## EXISTING UNDER DRAINS

EXISTING UNDER DRAINS, WHEN ENCOUNTERED IN THE CONSTRUCTION WORK SHALL NOT BE DISTURBED. THE CONTRACTOR, AT HIS EXPENSE, WILL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF EXISTING UNDER DRAINS DAMAGE OR DISPLACEMENT DUE TO THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL ATTEMPT TO TUNNEL UNDER ALL CURBS AND ROOF DRAINS TO AVOID DAMAGE.

## ITEM SPECIAL - PLASTIC CAUTION TAPE

THE LOCATION OF UNDERGROUND DUCT CABLE OR NONMETALLIC CONDUIT SHALL BE MARKED BY THE USE OF IDENTIFYING TAPE BURIED IN THE TRENCH ABOVE THE LINE. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL, APPROXIMATELY 6" WIDE, COMPOSED OF POLYETHYLENE PLASTIC, HIGHLY RESISTANT TO ALKALIS, ACID OR OTHER CHEMICAL COMPONENTS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE BRIGHT YELLOW WITH IDENTIFYING PRINTING "ELECTRIC" IN BLACK LETTERS, ON ONE SIDE ONLY. TAPES SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERING REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. IDENTIFYING TAPES SHALL BE BURIED IN THE ELECTRIC LINE TRENCH WITH ONE STRIP PLACED APPROXIMATELY DOWN THE CENTERLINE AND LOCATED APPROXIMATELY 8" TO 12" BELOW THE FINAL FINISHED GRADE. THE TAPE SHALL BE PLACED IN THE TRENCH WITH PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINISHED SURFACES. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO INSURE THAT THE TAPE IS NOT PULLED, DISTORTED, OR OTHERWISE MISPLACED IN COMPLETING THE TRENCH BACKFILL. TAPE SHALL BE ALLEN SYSTEM'S, TERRA TAPE, TECTA TAPE OR EQUAL AS APPROVED BY THE ENGINEER. INCLUDE THE COST OF THE PLASTIC CAUTION TAPE IN THE COST OF THE TRENCH AS NO ADDITION COMPENSATION SHALL BE ALLOWED.

## COORDINATION OF WORK WITH VARIOUS UTILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THE REMOVAL AND RELOCATION OF ALL VARIOUS AERIAL AND UNDERGROUND UTILITY COMPANIES WITH LINES/CABLES WITHIN THE PROJECT SITE. THIS INCLUDES, BUT IS NOT LIMITED TO ELECTRIC, TELEPHONE, CABLE, COMMUNICATIONS AND ALL OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING WOOD POLE AFTER ALL CABLES ARE REMOVED..

## SPRINKLER SYSTEMS AND HEADS

THE CONTRACTOR IS RESPONSIBLE TO LOCATE AND PROTECT ALL PIPING, SPRINKLER HEADS, AND LAWN SPRINKLER EQUIPMENT OF ANY TYPE WHICH EXIST IN THE LAWNS OF THE VARIOUS PROPERTIES LOCATED WITHIN THE PROJECT.

THE COURT HOUSE HAS AN EXTENSIVE SPRINKLER SYSTEM INSTALLED AND ITS EXISTING CONTROLLER IS LOCATED IN THE POWER SERVICE CABINET LOCATED ON THE NORTHWEST CORNER OF S. PARK STREET AND THIRD STREET. THE SPRINKLER CONTROLLER WILL BE RELOCATED WITHIN A NEW POWER CABINET. MINIMIZE THE TIME THE CONTROLLER IS OUT OF SERVICE AND IF LAWN BECOMES DAMAGE FROM LACK OF WATER PROVIDE TEMPORARY SPRINKLER CONTROL UNTIL THE RELOCATED CONTROLLER IS OPERATIONAL.

THE CONTRACTOR SHALL PROVIDE COMMUNICATION AND COORDINATION WITH ALL PROPERTY OWNERS HAVING LAWN SPRINKLER SYSTEMS IN TERMS OF OBTAINING IRRIGATION PLANS, HAVING EXISTING SYSTEMS MARKED AND/OR LOCATED. DURING PROSECUTION OF THE WORK ANY DAMAGED OR DESTROYED LAWN SPRINKLER SYSTEM EQUIPMENT OR PIPING SHALL BE RESTORED AND REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY.

REPAIRS SHALL BE ACCOMPLISHED BY USE OF ADAPTERS, FITTINGS AND HEADS THAT ARE COMPATIBLE WITH THE EXISTING SPRINKLER SYSTEM. THE CONTRACTOR SHALL NOTIFY PROPERTY OWNERS AT THE START OF THE PROJECT OF THE EXTENT OF HIS WORK, IDENTIFY SPRINKLER SYSTEMS LOCATED WITHIN THE PROJECT AREA, IDENTIFY SPRINKLER HEADS WHICH ARE IN CONFLICT WITH HIS WORK, AND ARRANGE TO HAVE THE WATER SHUT OFF DURING THE APPROPRIATE TIME PERIOD. SPRINKLER HEADS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. SPRINKLER HEADS ADJUSTED TO GRADE OR RELOCATED DUE TO CONFLICT WITH NEWLY INSTALLED EQUIPMENT BY THE CONTRACTOR SHALL BE PAID FOR PER SUPPLEMENTAL AGREEMENT WITH THE CITY.

## LOCATION OF EXISTING UNDERGROUND CABLES AND CONDUITS

THE CONTRACTOR SHALL VERIFY THE LOCATION OF ELECTRICAL CIRCUITS AND CONDUITS PRIOR TO CONSTRUCTION WHERE TERMINATIONS OR NEW CONNECTIONS ARE TO BE MADE TO THE EXISTING STREET LIGHTING SYSTEM. LOCATIONS OF UNDERGROUND CONDUITS, CABLE ROUTING, SPLICING SHOWN ON DRAWINGS MAY BE SCHEMATIC AS NO RECORD DRAWING OF THE ORIGINAL INSTALLATION COULD BE LOCATED. VERIFICATION SHALL CONSIST OF ACTUAL EXPOSING OF LOCATION, VISUAL OBSERVATION AND THE USE OF CIRCUIT TRACING TRACKERS AND EQUIPMENT.

## ALL COST TO BE INCLUDED IN PAYMENT ITEMS

ALL ITEMS OF WORK CALLED FOR ON THE PLANS, FOR WHICH THERE IS NO SPECIFIC METHOD OF PAYMENT IS PROVIDED, SHALL BE PERFORMED BY THE CONTRACTOR AND THE COST BE INCLUDED IN THE CONTRACTOR PRICE BID. THIS INCLUDES, BUT IS NOT LIMITED TO SUCH INCIDENTAL ITEMS, AS SAW CUTTING, REMOVAL AND RELOCATION OF SIGNS, SPRINKLERS, ROOF AND SUMP DRAINS, HAND DIGGING AROUND UNDERGROUND UTILITIES AND/OR OTHER MISCELLANEOUS ITEMS.

## GROUND RODS

GROUND RODS SHALL BE INSTALLED AT LOCATIONS CALLED OUT IN THE PROJECT PLANS, SPECIFICATIONS AND DETAILS. GROUND RODS SHALL BE COPPER 3/4" DIA. AND 10 FEET IN LENGTH. GROUND RODS SHALL BE TESTED BY THE CONTRACTOR AFTER INSTALLATION FOR RESISTANCE PER ODOT 625 AND ADDITIONAL GROUND RODS SHALL BE INSTALLED WHERE NEEDED TO MEET MAXIMUM OHMS VALUES. A CERTIFIED REPORT LISTING THE RESULTS OF TESTING AT EACH TEST LOCATION SHALL BE SUBMITTED PRIOR TO PROJECT ACCEPTANCE LISTING TESTING METHOD AND TESTED RESULTANT VALUES. PAYMENT SHALL BE MADE FOR EACH GROUND ROD INSTALLED AND ACCEPTED.

## CONNECTION OF NEW CONDUIT TO EXISTING CONDUIT

INCLUDE IN THE PRICE OF THE CONDUIT THE COST FOR LOCATING, EXCAVATING PREPARING THE CONDUIT AND MAKING THE CONNECTION TO THE EXISTING THE NEW CONDUIT EXTENDED ACROSS CENTER STREET AT APPROXIMATELY STATION 47+00.

## 625.22 METHOD OF MEASUREMENT

LIGHT POLE ANCHOR BOLTS WILL BE FURNISHED WITH THE LIGHT POLE AND THE SETTING OF THE ANCHOR BOLTS INCLUDED WITH THE FOUNDATION.

FOUNDATIONS FOR LIGHT POLES INCLUDE EXCAVATION, REINFORCING STEEL, ANCHOR BOLTS, CONDUIT ELLS AND SURFACE RESTORATION NOT INCLUDED ELSEWHERE ARE ALSO INCLUDED WITH THE FOUNDATION.

PULL BOXES INCLUDE THE AGGREGATE FOR BAS, THE PULL BOXES WITH DRAINS.

A GROUND ROD INCLUDES THE ASSOCIATED GROUNDING CONDUCTOR AND CONNECTIONS FROM THE ROD TO THE FIRST POINT OF CONNECTION.

TRENCH WILL BE MEASURED TO THE CENTER OF A LIGHT POLE FOUNDATION, THE CENTER OF A PULL BOX, THE PAYMENT FOR TRENCH INCLUDES ALL EXCAVATION, GRANULAR AND OTHER BACKFILL MATERIAL, COMPACTION, DISPOSAL OF SURPLUS MATERIALS AND RESTORATION TO MATCH SURROUNDING SURFACE INCLUDING ANY SEEDING, SODDING OR OTHER PLANTINGS WHICH WERE DISTURBED AND THE REPLACEMENT OF ANY MINOR ITEMS SUCH AS GUARDRAIL OR FENCE PANELS, AND RETURN TO FORMER POSITION AND MOUNTING OF ITEMS SUCH AS TRASH CONTAINERS, PLANTER BOXES OR PARKING METERS AND SMALL SIGNS WHICH WERE TEMPORARILY MOVED TO FACILITATE THE TRENCHING. THE PAYMENT FOR TRENCH IN PAVED AREAS INCLUDES THE AFOREMENTIONED AND IN ADDITION SAWING AND REMOVAL OF PAVEMENT, ALONG WITH THE REPAVING OVER THE TRENCH. TRENCH IN PAVED AREAS SHALL BE SEPARATED FOR PAYMENT INTO TYPE A FOR PAVEMENTS OR SIDEWALKS LESS THAN 6 INCHES (150 MM) THICK AND TYPE B FOR PAVEMENTS 6 INCHES (150 MM) OR GREATER.

CONDUIT WILL BE MEASURED TO THE PAYMENT FOR CONDUIT INCLUDES COUPLINGS (PLAIN, EXPANSION, AND ALIGNMENT), BENDS, HUBS, BUSHINGS, CONDULETS AND OTHER SUCH APPURTENANCES BUT NOT JUNCTION BOXES AND PULL BOXES. CONDUIT TO BE ENCASED IN CONCRETE OR INSTALLED BY JACKING OR BORING WILL BE PAID SEPARATELY FROM CONDUIT TO BE TRADITIONALLY INSTALLED. CONCRETE AND OTHER MATERIALS FOR ENCASEMENT OR THE JACKING OR BORING ARE INCLUDED WITH SUCH CONDUIT WHERE SPECIFIED.

DISTRIBUTION CABLE WILL BE MEASURED TO THE CENTER OF FOUNDATION, PULL BOX, JUNCTION BOX OR POWER SERVICE, PLUS AN ALLOWANCE OF 5 FEET (1.5 METERS) ON EACH END EXCEPT FOR A POWER SERVICE WHERE THE ALLOWANCE WILL BE 10 FEET (3 METERS) TO ALLOW FOR SLACK AND CONNECTIONS WITH THE SUM MULTIPLIED BY THE NUMBER OF CONDUCTORS REQUIRED.

POLE AND BRACKET CABLE WILL BE MEASURED AS THE LIGHT POLE SUPPORT HEIGHT PLUS THE DESIGNATED ARM LENGTH WITH THE SUM MULTIPLIED BY THE NUMBER OF CONDUCTORS REQUIRED. FOR TWIN ARM POLES THE SUM SHALL BE INCREASED BY THE LENGTH OF THE SECOND ARM PLUS THE LENGTH OF THE FIRST ARM.

THE COST FOR PLASTIC CAUTION TAPE SHALL BE INCLUDED IN THE PRICE BID FIR THE TRENCH.

## 625.23 BASIS OF PAYMENT. THE CITY WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
625	EACH	LUMINAIRE, DECORATIVE, TYPE 3, 120-277 VOLT DRIVER, LED
625	EACH	LIGHT POLE, DECORATIVE, FIBERGLAS WITH ALL ACCESSORIES, AS PER PLAN
625	EACH	LIGHT POLE FOUNDATION
625	EACH	PULL BOX, POLYMER CONCRETE, TYPE 1 AND TYPE 2
625	FOOT	CONDUIT, 3", 2" DIA. OR OTHER
625	FOOT	TRENCH, 24"DEEP
625	FOOT	TRENCH IN PAVED AREA, (TYPE 2)
625	FOOT	CONDUIT JACKED OR DRILLED, HOPE SCH. 80, 3" DIA.
625	EACH	GROUND ROD
625	FOOT	POLE AND BRACKET CABLE, #12 AWG, 600 VOLT
625	FOOT	DISTRIBUTION CABLE,#6 AWG, 600 VOLT
625	EACH	CONNECTIONS, CABLE SPLICING KITS (PULL BOXES), FUSED CONNECTOR KITS, ETC.

## CONTRACTOR DATA AND MANUFACTURERS' CERTIFICATION

CERTIFICATION SHALL BE SUPPLIED BY CONTRACTOR WHEN SPECIFIED OR REQUIRED INCLUDING CERTIFIED FIELD TEST REPORTS AND MANUFACTURERS' CERTIFICATIONS. FIELD TEST REPORTS SHALL BE RECORDED, WRITTEN AND CERTIFIED TO THE VILLAGE. FIELD TEST SHALL INCLUDE CABLE, OPERATIONAL AND RESISTANCE TO GROUND TESTS. MANUFACTURERS' CERTIFICATION SHALL INCLUDE FACTORY TEST REPORTS AND TEST REPORTS PERFORMED AND REQUIRED BY INDEPENDENT TESTING LABORATORY FOR LUMINAIRE PHOTOMETRIC ANALYSIS, STRENGTHS AND ALLOWABLE LOADING OF MATERIALS, ELECTRICAL COMPONENT RATINGS, ETC. ALSO, A COPY OF SUPPLIER'S DELIVERY TICKETS FOR EACH LOAD OF CONCRETE, SAND, GRAVEL, ETC. SHALL BE SUPPLIED TO THE ENGINEER.

## CONTRACTOR'S DRAWINGS

THE CONTRACTOR SHALL PREPARE OR HAVE PREPARED BY A QUALIFIED ENGINEER AND SUBMIT SHOP DRAWINGS AS REQUIRED TO SUPPLEMENT CONTRACT DRAWINGS, MANUFACTURER'S DATA AND DRAWINGS AND CONTRACTOR'S DATA TO DEMONSTRATE COMPLIANCE WITH APPLICABLE CONTRACT REQUIREMENTS. DRAWINGS SHALL BE DIMENSIONED OR SCALED TO SHOW THE RELATIVE ARRANGEMENT AND MOUNTING DETAILS OF THE EQUIPMENT OR EQUIPMENT ASSEMBLIES. ALL SHALL BE AS DESCRIBED IN GENERAL SPECIFICATIONS.

## ITEM 625 - CONDUIT JACKED UNDER PAVEMENT, AS PER PLAN (ALTERNATE)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING CONDUIT OF THE SIZE OR SIZES INDICATED UNDER EXISTING PAVEMENT AND CONTIGUOUS SHOULDERS BY AN APPROVED METHOD SUCH AS "DRILLING" OR "JACKING". THE CONTRACTOR SHALL PLACE THE CONDUIT WITH THE LEAST AMOUNT DISTURBANCE TO THE EXISTING PAVEMENT, SUB BASE, BERM PAVEMENT, OR SHOULDERS OF THE ROADWAY. ALL PUSH PITS OR ANY NECESSARY EXCAVATIONS SHALL BE BACKFILLED AND RESTORED IN ACCORDANCE WITH 625.01. MEASUREMENT OF THE CONDUIT SHALL BE THE ACTUAL AMOUNT OF LINEAL FEET INSTALLED UNDER PAVEMENT AND SHOULDERS, MEASURED IN PLACE, AS ACCEPTED BY THE ENGINEER. THE UNIT PRICE BID FOR ITEM 625 "CONDUIT JACKED UNDER PAVEMENT, AS PER PLAN" SHALL BE FULL COMPENSATION FOR EXCAVATION, DRILLING OR JACKING, BACKFILLING, COMPACTION, RESTORATION, AND ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

## SAWING PAVEMENT:

WHERE NECESSARY TO DISTURB PAVEMENTS OR DRIVES, THE PAVEMENT SHALL BE SAW CUT IN NEAT, STRAIGHT LINES. THE DEPTH OF THE SAW CUT SHALL BE FULL DEPTH OF EXISTING PAVEMENT OR DRIVES. THE COST OF THE SAW CUTTING SHALL BE INCLUDED IN THE PRICE OF THE VARIOUS ITEMS, AS NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

## PAINT CHIP SUBMITTAL:

PRIOR TO ANY PAINTING, THE CONTRACTOR SHALL SUBMIT PAINT SAMPLES TO BOTH THE ENGINEER AND UPPER ARLINGTON OFFICIALS. PAINT SAMPLES SHALL BE REPRESENTATIVE OF THE COLOR, TYPE AND MANUFACTURER THAT WILL BE USED FOR FINISHING THE VARIOUS ITEMS. THE ENGINEER AND UPPER ARLINGTON OFFICIALS SHALL REVIEW THE PAINT SAMPLES PRIOR TO THE COMMENCEMENT OF THE FINISHING PROCESS.

PAINT SAMPLES SHALL BE SUBMITTED FOR ALL PROPOSED LIGHTING ITEMS CALLED FOR IN THIS PLAN SET WHERE A SPECIFIC COLOR HAS BEEN SPECIFIED INCLUDING BUT NOT LIMITED TO LIGHT POLES, LUMINAIRES AND THE LIGHTING CONTROLLER CABINET. ANY COST ASSOCIATED WITH PROVIDING PAINT SAMPLES SHALL BE INCIDENTAL TO THE INDIVIDUAL ITEMS TO BE PAINTED.

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## CITY OF HILLIARD, OHIO CENTER STREET IMPROVMENT PROJECT HILLIARD, OHIO

JOB NO.	-----
DESIGNED BY:	----
DRAWN BY:	----
CHECKED BY:	----
APPROVED BY:	----
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## LIGHTING PLANS LIGHTING NOTES 2 OF 2

SCALE:	
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LIGHT POLE AND LUMINAIRE

1. THE CONTRACTOR WILL FURNISH, ASSEMBLE AND INSTALL THE LIGHT POLES, LUMINAIRES AND MISC. EQUIPMENT. THE CONTRACTOR SHALL ALSO INSTALL ALL LIGHT POLE ACCESSORIES FURNISHED WITH THE LIGHT POLE SHOWN ON THE PLAN DETAILS.
2. ENTIRE LIGHT POLE DESIGN SHALL BE BASED ON 90 MPH WIND FACTOR, WITH WIND GUST FACTOR 1.3.
3. PROVIDE GROUNDING SCREW INSIDE DECORATIVE BASE, EASILY ACCESSIBLE FOR CONDUCTOR AND GROUNDING CABLE.
4. ALL EXPOSED FASTENERS SHALL BE PAINTED BLACK TO MATCH POLE. PROVIDE APPROVED SURFACE PREPARATION TO ALL HARDWARE PRIOR TO APPLICATION OF ALL PAINT COATINGS.
5. LIGHT POLES, AND OTHER MISC. EQUIPMENT SHALL BE COMPLETELY WRAPPED FOR COMPLETE PROTECTION AGAINST FINISH DAMAGE PRIOR TO SHIPMENT. TOUCH-UP PAINT SHALL BE PROVIDED WITH LIGHT POLES. THE CONTRACTOR AT COMPLETION OF PROJECT SHALL CLEAN THE POLES AND LUMINAIRES AND TOUCH-UP ANY DAMAGED EQUIPMENT'S COATINGS. SEVERE DAMAGE OF PAINT COATING WILL REQUIRE THE RETURN OF EQUIPMENT TO FACTORY FOR REPAINTING.
6. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE LIGHT POLE AND LUMINAIRE FOR ENGINEERS REVIEW PRIOR TO ORDERING ANY EQUIPMENT. DRAWINGS SHALL SHOW IN DETAIL ALL EQUIPMENT PROVIDED, COMPLETELY DIMENSIONED AND LIST ALL PART NUMBERS.
7. SUBMIT COMPLETE PHOTOMETRIC DATA FOR LUMINAIRES PROPOSED. TESTING SHALL BE CERTIFIED BY APPROVED TESTING LABORATORY. INCLUDE ISO CANDLE CURVES FROM PHOTO METRIC TEST, UTILIZATION CURVES, ISOLUX LINES OF HORIZONTAL AND FOOT CANDLES FROM A SINGLE UNIT. SUBMIT A DISK TO INCLUDE PHOTOMETRY DATA IES FORMATTED.
8. ALL FASTENERS PROVIDED WITH LIGHT POLES AND LUMINAIRES SHALL BE CONSTRUCTED OF STAINLESS STEEL.
9. THE LIGHT POLE SHALL BE MANUFACTURED BY WHATLEY AND PAINTED BLACK WHERE EXPOSED TO VIEW FROM THE OUTSIDE. LISTING MODEL RF4-DIS-14-AB-BLK-40-40, OR APPROVED EQUAL. ALL POLES SHALL INCLUDE ALL MODIFICATIONS AND REQUIREMENTS OF THE SPECIFICATION LISTED AND INCLUDED IN THIS SET OF PLANS. LUMINAIRE REQUIREMENTS: A TOTAL OF 3 HOUSE SIDE SHIELDS SHALL BE PROVIDED FOR THE STREET LIGHTING LUMINAIRES TO THE CITY TO INSTALL AS NEEDED AFTER PROJECT COMPLETION.

LED STREET LIGHTING LUMINAIRE SPECIFICATIONS

THE HOUSING COMPONENTS SHALL BE DIE-CAST ALUMINUM AND ALL FASTENERS SHALL BE STAINLESS STEEL. THE OPTICAL AND DRIVER COMPARTMENTS SHALL BE SEALED WITH ONE-PIECE, MEMORY RETENTIVE, MOLDED SILICONE GASKETS WITH STAINLESS STEEL LATCHES TO ALLOW TOOL-LESS SERVICE ACCESS TO THE LIGHT ENGINE, DRIVERS AND SURGE SUPPRESSOR. A HIGH TEMPERATURE UV RESISTANT POWER CABLE SHALL DELIVER POWER TO THE OPTICAL CHAMBER HORN THE GEAR COMPARTMENT AND BE SEALED WITH MOLDED SILICONE CORD SEALS. THE OPTICAL SYSTEM SHALL PROVIDE IES TYPES III (3) DISTRIBUTION. COLOR TEMPERATURES SHALL MATCH AS CLOSE TO POSSIBLE HIGH PRESSURE SODIUM, 3000 K. LUMINAIRE LIGHT ENGINES SHALL BE COMPOSED OF A DISTRIBUTED OPTICAL ARRAY OF MODULES ASSEMBLED TOGETHER. EACH MODULE SHALL POSITION THE LEDS IN A CANTED ORIENTATION ALLOWING THE DIODE'S NATURAL MAXIMUM OUTPUT TO BEGIN AT A HIGH PEAK ANGLE. AN OPTICALLY CLEAR INJECTION MOLDED LENS SHALL BE COUPLED TO EVERY DIODE AND LEDS SHALL BE MOUNTED TO AN ANODIZED ALUMINUM DIE-CAST HEAT SINK. A ONE PIECE INJECTION MOLDED SILICONE GASKET SHALL SEAL EACH MODULE FOR PROTECTION FROM THE ENVIRONMENT. AN OPTIONAL HOUSE SIDE SHIELD SHALL BE INTEGRAL TO EACH MODULE. LUMINAIRES FEATURING MICROCORE LIGHT ENGINES SHALL INCLUDE A GLASS LENS. LUMINAIRES CONFIGURED WITH MICROEMITTER SHALL FEATURE PRECISION INJECTION MOLDED, HIGH SECULAR REFLECTORS POSITIONED TO ACHIEVE DIRECTIONAL CONTROL TOWARDS THE TASK SECONDARY REFLECTORS WITH A SECULAR FINISH ARE USED TO REDIRECT LIGHT DOWNWARD. NO FASTENERS ARE TO BE PLACED ON THE REFLECTIVE SURFACE. THE ENTIRE ASSEMBLY FASTENS TO THE HOUSING AS A ONE-PIECE MODULE AND FEATURES WIRING QUICK-CONNECTS FOR EASY INSTALLATION. MICROEMITTERS SHALL BE FIELD REPLACEABLE. LUMINAIRES CONFIGURED WITH MICROEMITTER SHALL BE PROVIDED WITH A TEMPERED GLASS LENS SEALED WITH AN EXTRUDED SILICONE GASKET HELD BY STAINLESS STEEL FASTENERS.

ALL LUMINAIRES SHALL ACCEPT 120 THRU 277 VOLT INPUT WITH INTEGRAL SURGE PROTECTION. LIFESHIELD SHALL BE PROVIDED WITH ALL CONFIGURATIONS FOR ADDED PROTECTION IN EXTREME TEMPERATURE ENVIRONMENTS (-30°C TO 80°C) THE ELECTRICAL ASSEMBLY SHALL BE MOUNTED TO A SERVICEABLE TRAY MOUNTED WITHIN THE DRIVER COMPARTMENT. THE SURGE PROTECTOR SHALL BE UGLY, RECOGNIZED AND HAVE A SURGE CURRENT RATING OF 10,000 AMPS USING THE INDUSTRY STANDARD 8/20USEC WAVE WITH A CLAMPING VOLTAGE AT 320V AND SURGE RATING AT 372J. THE SURGE PROTECTOR CASE SHALL BE A HIGH-TEMPERATURE, FLAME RESISTANT PLASTIC ENCLOSURE. DIMMING IS NOT REQUIRED.

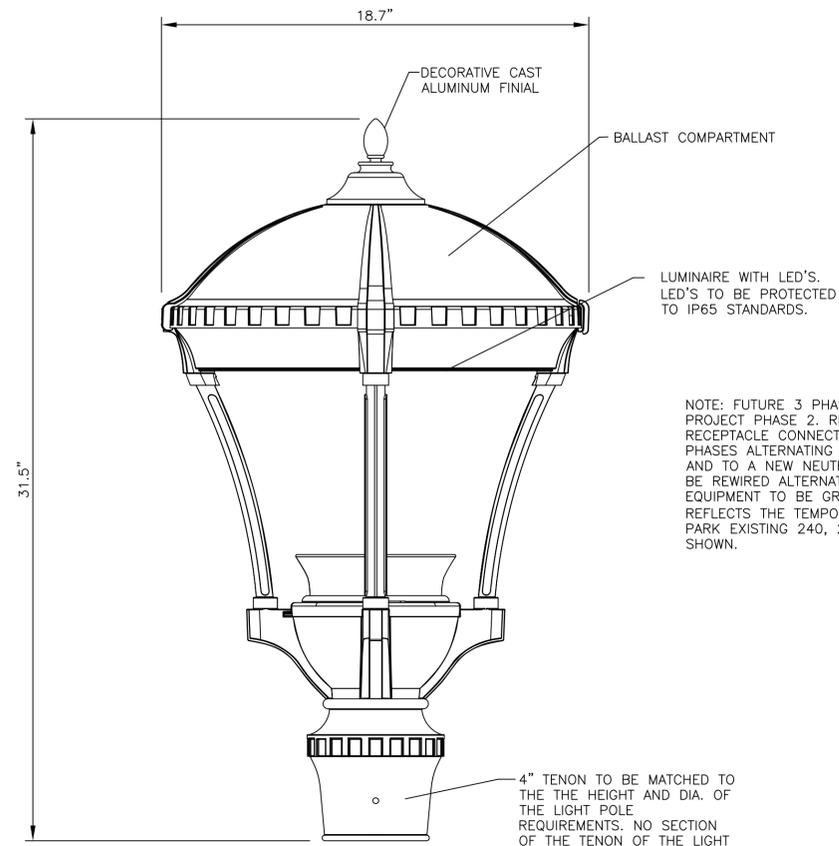
THE MEDIUM (PHOV) PROVIDENCE SHALL BE FACTORY SUPPLIED AS A COMPLETE, PREWIRED ASSEMBLY. TENON TO FIT THE LIGHT POLE AND BE SECURED AND LEVELLED WITH STAINLESS STEEL SET SCREWS.

COLOR TO BE BLACK AND COLOR AND FINISH TO BE MATCHED COLOR COORDINATED WITH THE LIGHT POLE. PROVIDE PAINT COLOR AND FINISH CHIP FOR CITY'S APPROVAL PRIOR TO MANUFACTURING ANY OF THE LUMINAIRES.

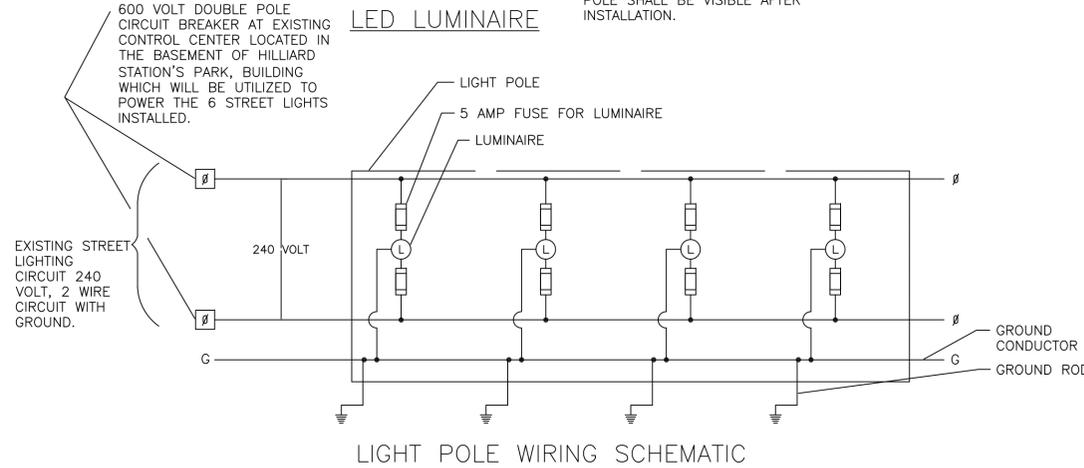
CERTIFICATION  
THE FIXTURE SHALL BE LISTED WITH ETL TO UL 1598 AND CANADIAN CSA STD. C22 2 NO. 250 STANDARDS FOR OUTDOOR: WET LOCATION USE I P 65

WARRANTY  
HOUSING, LEDS DRIVER AND LIFESHIELD SHALL BE WARRANTED FOR FIVE YEARS.

THE LUMINAIRE SHALL BE MANUFACTURED ARCHITECTURAL AREA LIGHTING MODEL "PROV -T2-32LED- 3K-700-TYPE 3 IES DISTRIBUTION- COLOR COORDINATED BLACK TO MATCH LIGHT POLE-POLE MOUNT 4" TENON.

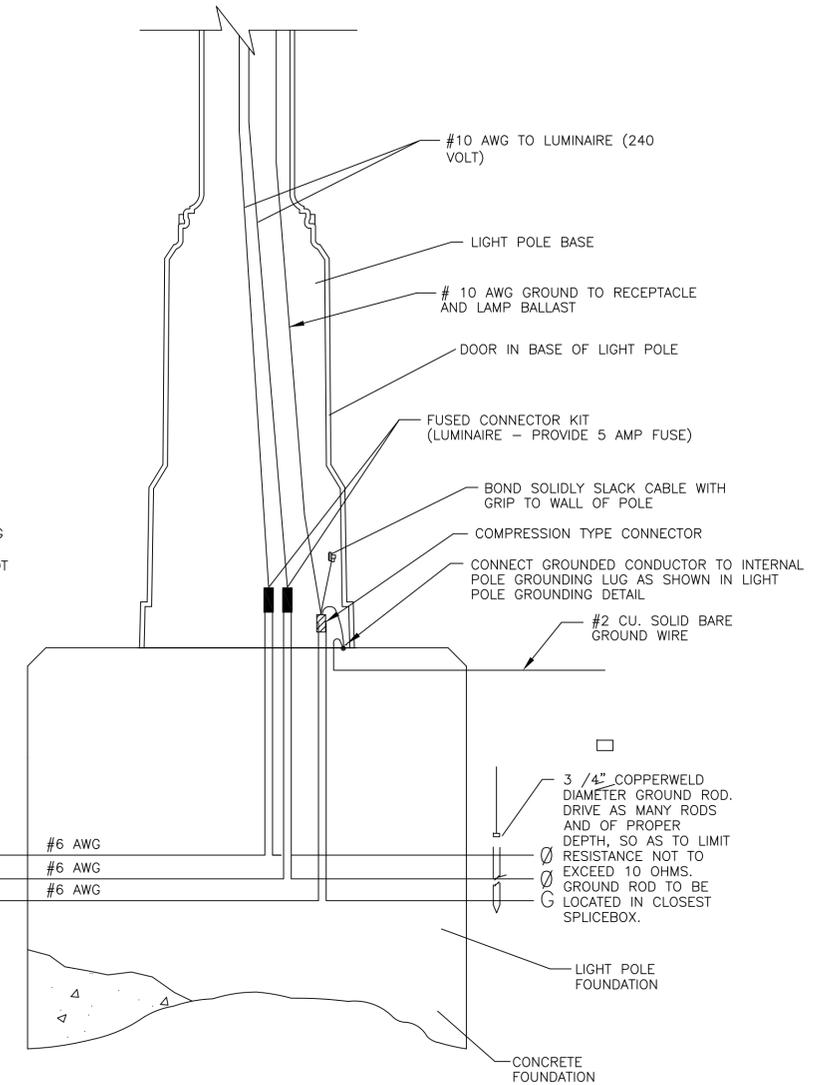


NOTE: FUTURE 3 PHASE POWER CIRCUIT TO BE INSTALLED AT TIME OF PROJECT PHASE 2. RECEPTACLES WILL BE WIRED AT THAT TIME, RECEPTACLE CONNECTIONS WILL BE CONNECTED BETWEEN THE THREE PHASES ALTERNATING CONNECTIONS TO EACH OF THE THREE PHASES AND TO A NEW NEUTRAL CABLE TO BE INSTALLED. LIGHTING WILL THE BE REWIRED ALTERNATING BETWEEN TWO OF THE THREE PHASES. ALL EQUIPMENT TO BE GROUNDED PER NEC. WIRING SHOWN THIS DRAWING REFLECTS THE TEMPORARY CONNECTION TO THE HILLIARD'S STATION PARK EXISTING 240, 2 LEG CIRCUIT AND THE FUTURE REWIRING IS NOT SHOWN.

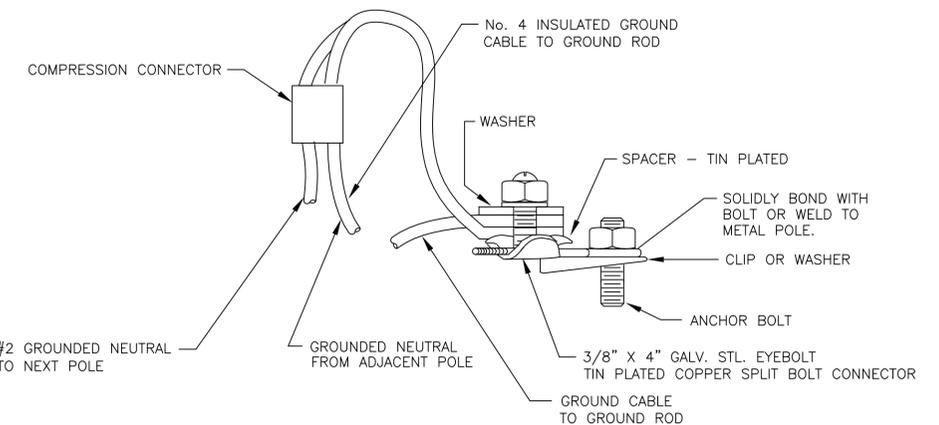


LIGHT POLE AND BOLLARD WIRING SCHEMATIC NOTES:

1. INCLUDE IN PRICE BID FOR INSTALLATION THE LIGHT POLE, A CABLE GRIP INSTALLED IN THE TOP OF THE LIGHT POLE TO SUPPORT THE POLE WIRING CABLES. AN APPROVED CABLE GRID ASSEMBLY SHALL BE FURNISHED FOR EACH LIGHT POLE INSTALLED.
2. INLINE FUSED CONNECTOR KITS, TYPE 2, SHALL BE AS MANUFACTURED BY HOMAC FY SERIES, BOSS KTK-R FUSES. FUSED KITS SHALL HAVE BREAKAWAY FEATURE.
3. INLINE FUSED CONNECTOR KITS, TYPE 3, SHALL BE MANUFACTURED BY HOMAC DY SERIES. INCLUDE BREAKAWAY RECEPTACLE.
4. ALL BALLAST, LIGHT AND BOLLARD POLES, RECEPTACLES AND ELECTRICAL EQUIPMENT SHALL BE SOLIDLY BONDED AND GROUNDED IN COMPLIANCE WITH THE NATIONAL ELECTRIC CODE.
5. LUMINAIRES, AND LIGHT POLES SHALL BE WIRED ACCORDING TO THE LIGHT POLE DETAIL, INCLUDING ALL WIRING AND CONNECTOR KITS AS REQUIRED FOR THE BALLAST AND LIGHT POLE GROUND.



TYPICAL POLE WIRING SCHEMATIC FOR NEW LIGHT STANDARDS



LIGHT POLE GROUNDING DETAIL

3 WIRE, GROUNDED NEUTRAL POLE GROUNDING DETAIL

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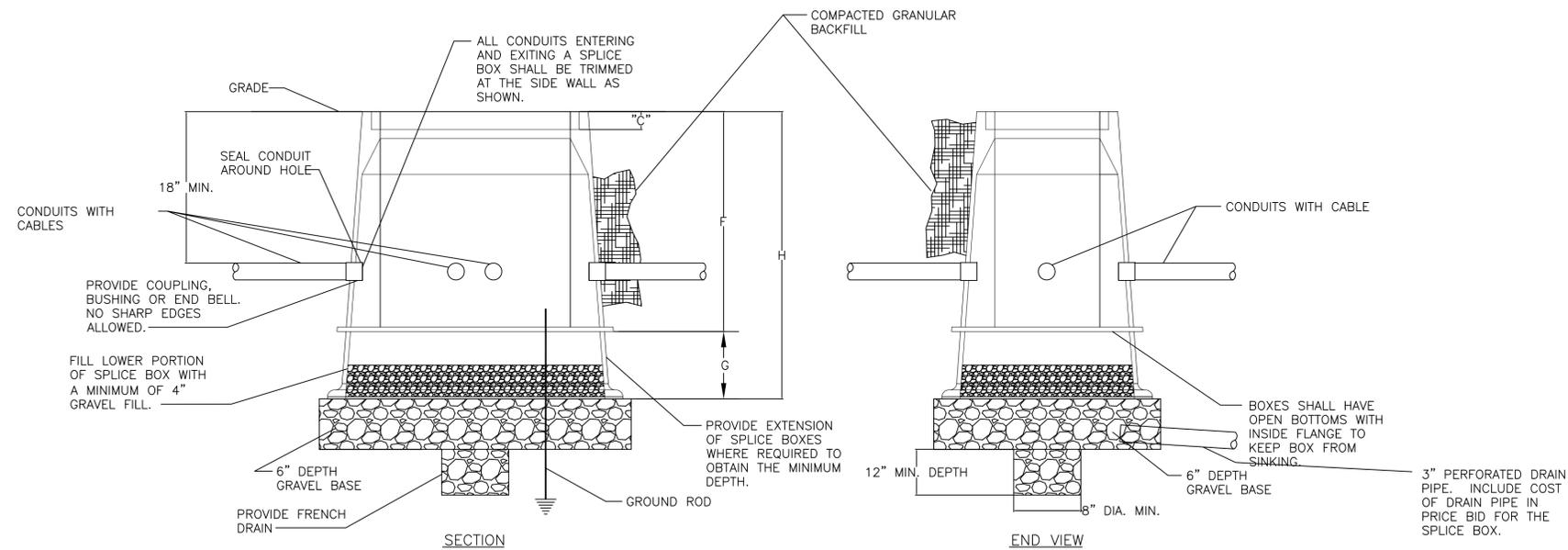
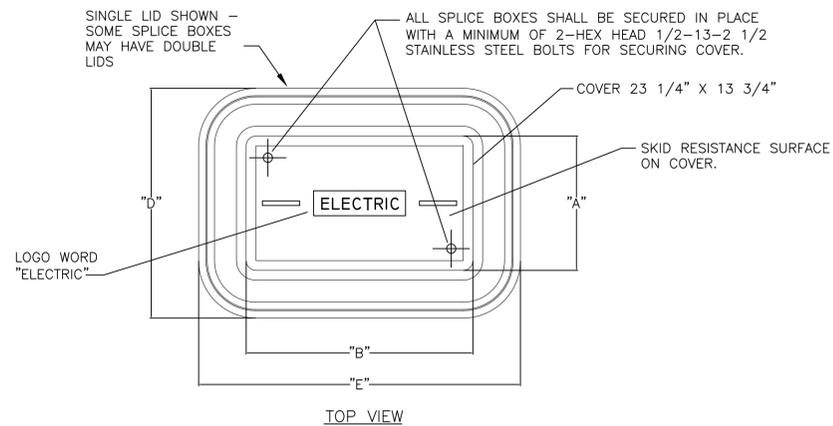
CITY OF HILLIARD, OHIO  
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HILLIARD, OHIO

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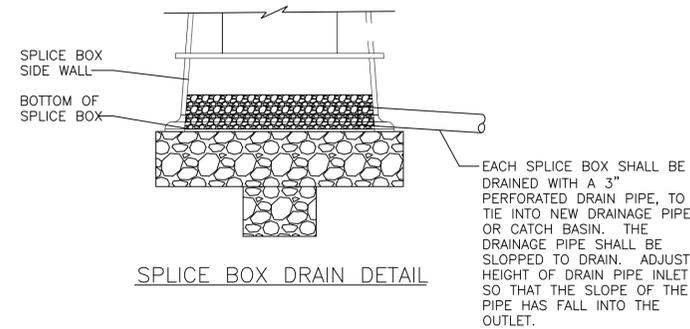
**LIGHTING PLANS**  
**LUMINAIRE AND LIGHT POLE**  
**WIRING DETAIL PROJECT NOTES**

SCALE:

SHEET NO.	OF
23	26



TYPICAL SPLICE BOX INSTALLATION DETAIL



SPLICE BOX DRAIN DETAIL

- STREET LIGHTING SPLICE BOX NOTES:
- ALL PULL BOXES LOCATED WITHIN A DISTANCE OF 15' OF A STORM DRAIN INLET OR ROADWAY UNDERDRAIN SHALL BE SO BE CONSTRUCTED AS TO DRAIN WATER AND MOISTURE AWAY FROM THE PULL BOX TO THE CLOSEST STORM INLET OR ROADWAY UNDERDRAIN. THE DRAIN SHALL BE PLACED OUT OF THE PULL BOX AT SUCH AN ELEVATION SUCH THAT PROPER DRAINAGE WILL BE ACHIEVED. ANY PULL BOXES LOCATED UNDER POWER PEDESTALS OR CONTAINING ANY ELECTRICAL APPARATUS OR EQUIPMENT SUCH AS G-VOLTS, DRIVERS/BALLAST, PIN AND SLEEVE WATER TIGHT RECEPTACLES, ETC. SHALL BE DRAINED.
- SPLICE BOX SHALL BE AS MANUFACTURED BY CDR SYSTEMS OR APPROVED EQUAL BY QUAZITE. CATALOG NUMBERS AS INDICATED IN TABLE, OR APPROVED EQUAL. LIDS PROVIDED SHALL BE EXTRA HEAVY DUTY.
- SPLICE BOXES TO BE CONSTRUCTED OF FIBERGLASS REINFORCED POLYMER CONCRETE WITH CONSISTENT COLOR TO BE CONCRETE GRAY.
- BACKFILL SHALL BE COMPACTED STONE FILL.
- BOXES SHALL BE INSTALLED FLUSH WITH ADJACENT PAVEMENTS OR GRADE. DISTURBED SOD AREAS WILL BE GRADED AND SEEDED. COST IN SOD AREAS FOR GRADING AND SEEDING TO BE INCLUDED IN PRICE BID FOR THE SPLICE BOX. PAVED AREAS SHALL RECEIVE PAVEMENT SURFACE TYPE AS SPECIFIED PER THE ITEMS BID.
- ALL SPLICES AND CONNECTIONS WITHIN THE SPLICE BOXES SHALL DRAINED WITH 3" PVC PERFORATED DRAIN PIPE.
- A GROUND ROD SHALL BE INSTALLED IN EACH SPLICE BOX AND CONNECTED TO THE GROUND CABLE AS INDICATED IN PLANS. GROUND RODS SHALL BE PER ODOT 625.09 AND 725.16.
- ALL SPLICE BOX COVERS SHALL HAVE THE WORD "ELECTRIC".
- THE COST OF THE DRAINS SHALL BE INCLUDED IN THE PRICE BID FOR THE PULL BOX.

SPLICE BOX DATA AND APPROXIMATE DIMENSIONS														
TYPE	MANUFACTURER	CATALOG #	COVER				BOX				EXTENSION G	TOTAL SPLICE BOX HEIGHT H	BOTTOM	LOGO
			A	B	C	LOADING	D	E	F	LOADING				
1	CDR	132436-EHD FLARED WALL	14"	23 1/2"	2"	EXTRA HEAVY DUTY	24"	33 1/2"	24"	HEAVY DUTY	8"	32" MIN.	OPEN	ELECTRIC
2	CDR	173024-EHD -FLARED WALL	17 3/4"	30 3/4"	2"	EXTRA HEAVY DUTY	27 3/4"	40 3/4"	24"	HEAVY DUTY	8"	32" MIN.	OPEN	ELECTRIC
3	CDR	243836-EHD -FLARED WALL	24 1/4"	35 7/8"	3"	EXTRA HEAVY DUTY	30 1/2"	42 1/8"	36"	HEAVY DUTY		36" MIN.	INTEGRAL BOTTOM WITH DRAIN	ELECTRIC
4	QUAZITE	PG3636BB36 PG3636EA12	38"	38"	3"	EXTRA HEAVY DUTY	40 1/4"	40"	36"	HEAVY DUTY	12"	48" MIN.	INTEGRAL BOTTOM WITH DRAIN	ELECTRIC

SPLICE BOX NOTES:

- SPLICE BOXES SHALL BE MANUFACTURED AND SUPPLIED WITH ALL MODIFICATIONS REQUESTED TO THE MODELS LISTED PER THESE PLANS AND SPECIFICATIONS
- ALL SPLICE BOX LIDS SHALL BE EXTRA HEAVY DUTY.

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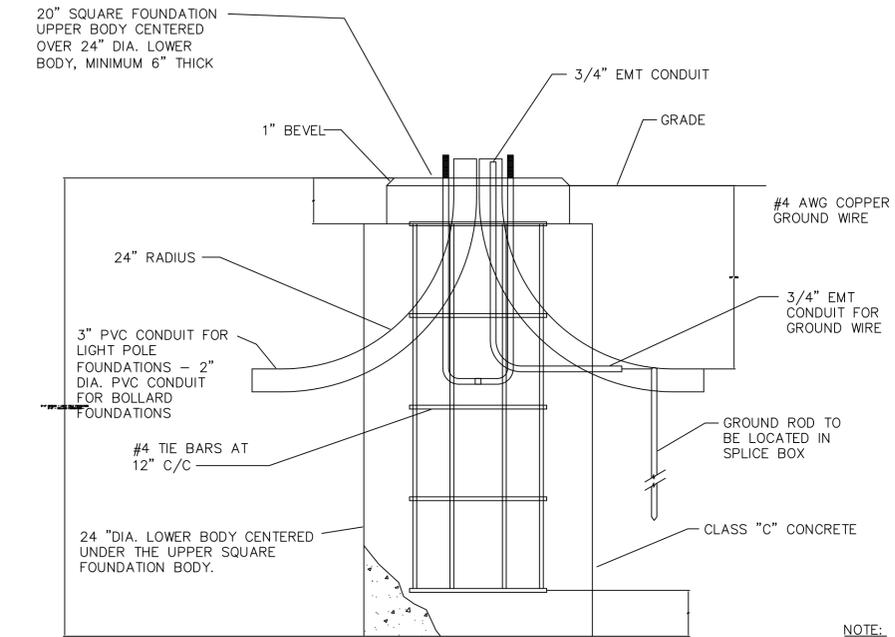
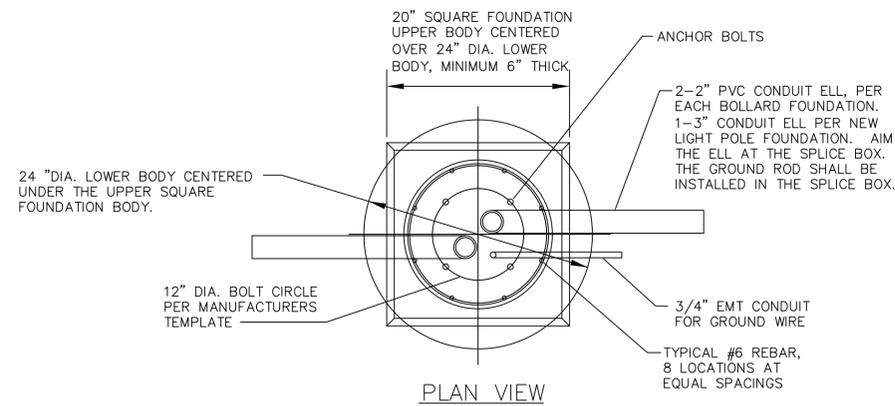
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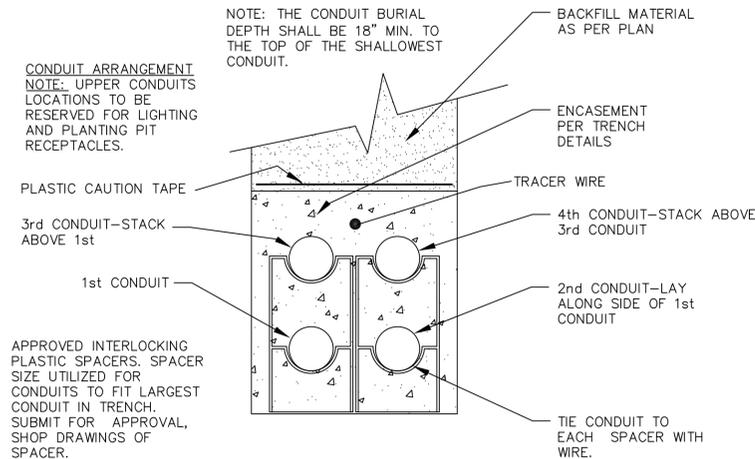
**LIGHTING PLANS**  
**PULL BOX DETAILS**

SCALE:

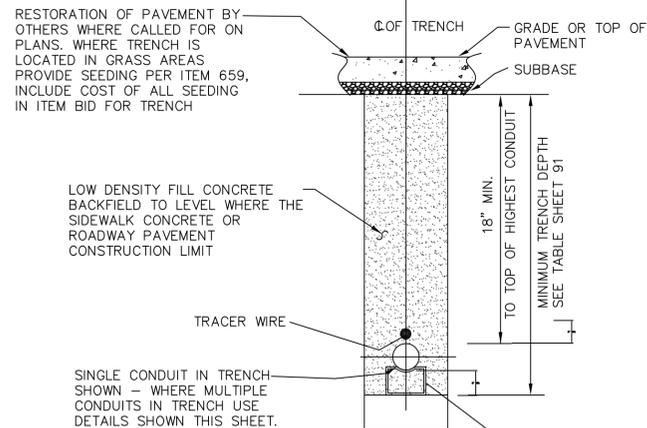
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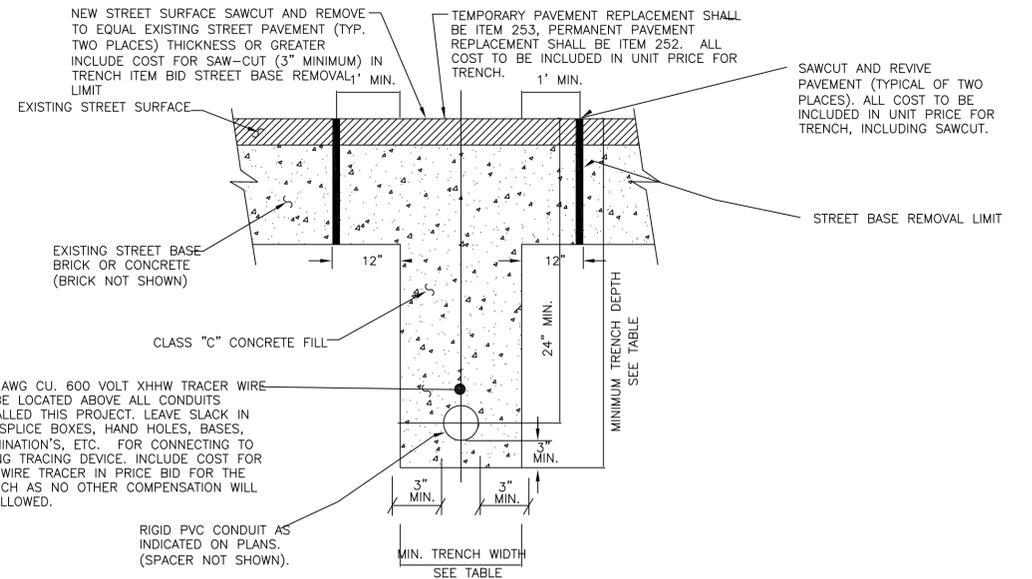
TYPICAL LIGHT POLE AND BOLLARD FOUNDATION  
SCALE: 1"=1'-0"



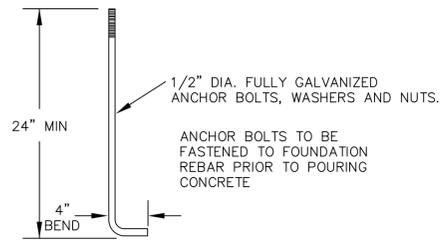
RIGID PVC & METALLIC MULTIPLE  
CONDUIT ARRANGEMENT DETAIL



TRENCH IN SIDEWALK PAVEMENT AREAS  
NO SCALE

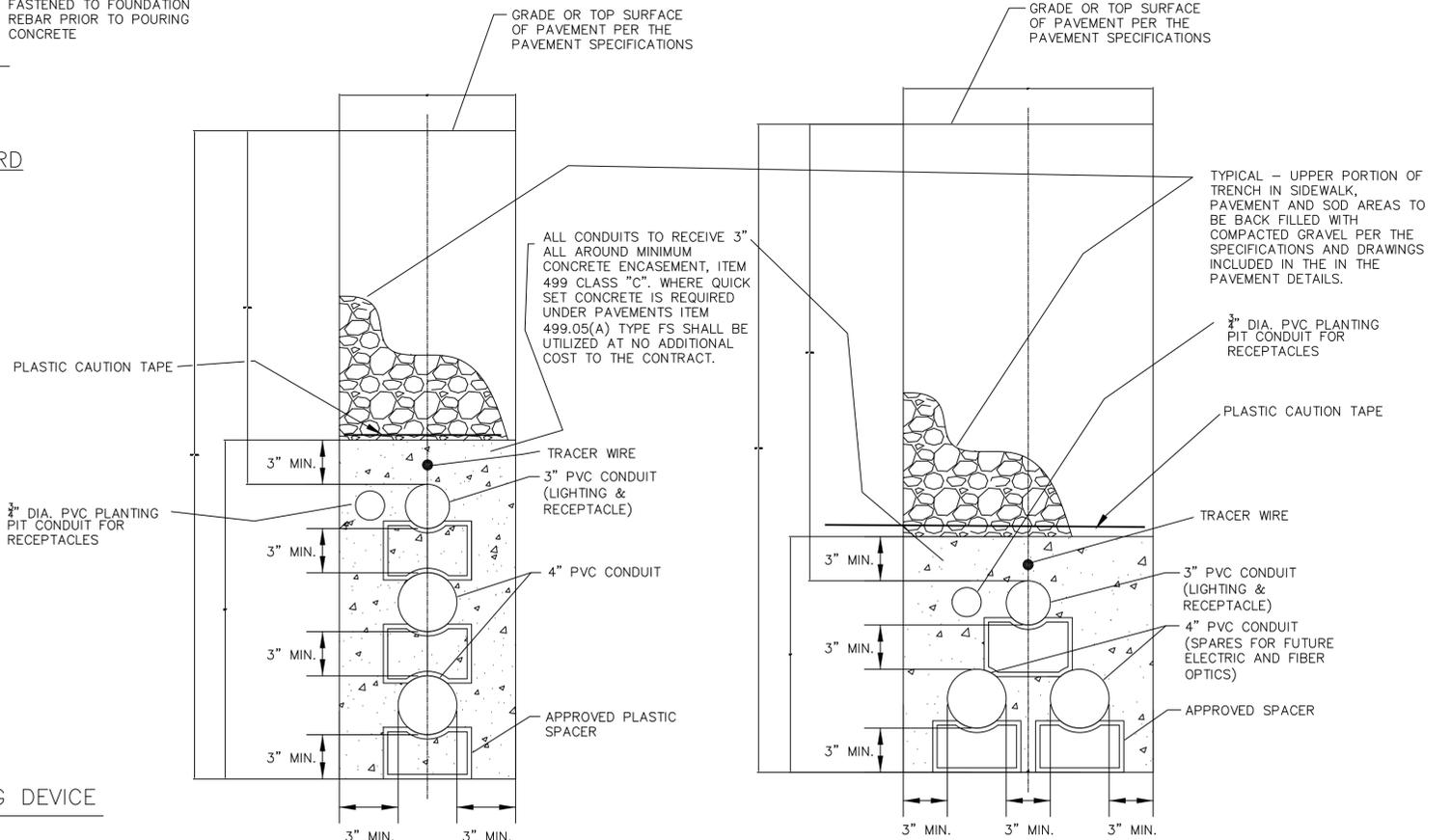


TRENCH IN STREET AREA OR  
DRIVEWAY  
ONLY TO BE UTILIZED WHERE AUTHORIZED BY  
ENGINEER OR SPECIFICALLY DIRECTED BY PLAN  
NOTE.



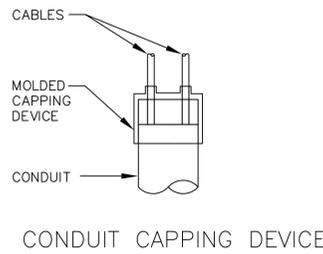
ANCHOR BOLT DETAIL  
(4 REQUIRED PER POST)

NOTE:  
A PULL WIRE SHALL BE  
INSTALLED IN ALL CONDUITS  
AND LEFT IN PLACE IN ALL  
CONDUITS INSTALLED FOR  
FUTURE USAGE.



ALTERNATE 3 WAY MULTIPLE  
CONDUIT ARRANGEMENT IN  
STANDARD TRENCH

3 WAY MULTIPLE  
CONDUIT ARRANGEMENT  
IN STANDARD TRENCH



CONDUIT CAPPING DEVICE

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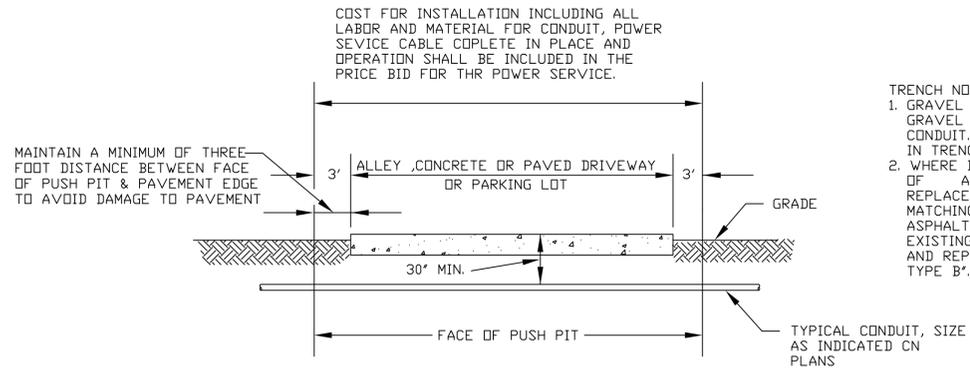
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APPROVED BY:	GW
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**LIGHTING PLANS**  
**LIGHT POLE FOUNDATION AND**  
**CONDUIT INSTALLATION DETAILS**

SCALE:	
SHEET NO.	OF
25	26

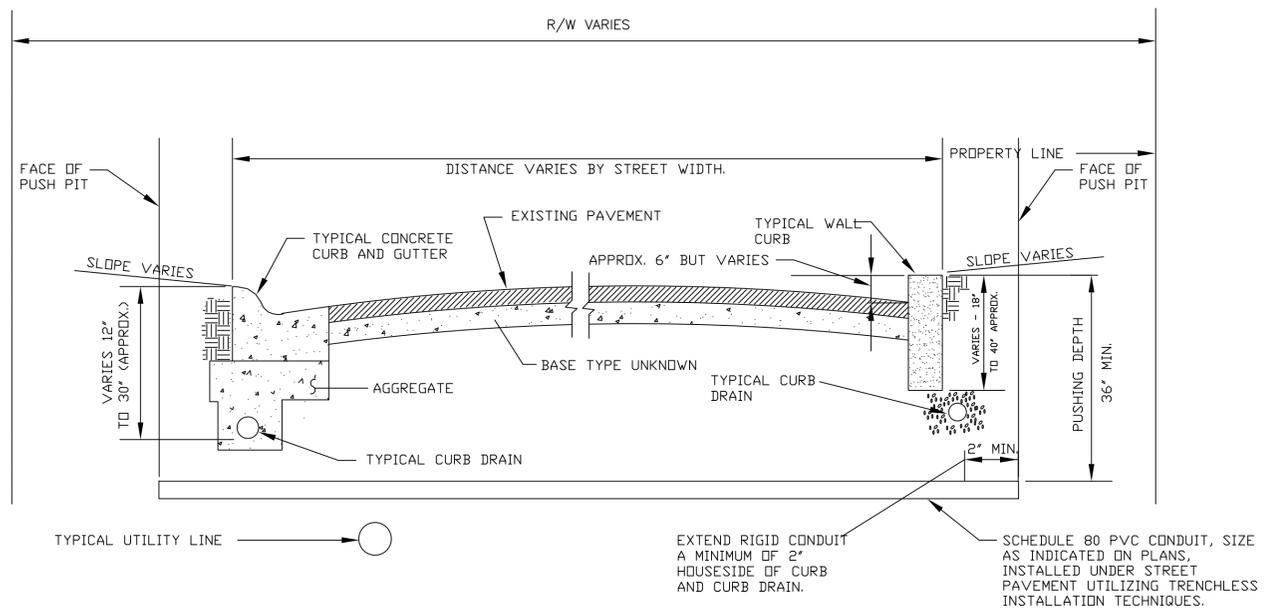


- TRENCH NOTES:**
1. GRAVEL DRIVES SHALL HAVE FULL DEPTH GRAVEL BACKFILL OVER ENCASED CONDUIT. INCLUDE COST OF GRAVEL IN TRENCH PRICE.
  2. WHERE DRIVEWAYS ARE A COMBINATION OF ASPHALT LAYER OVER CONCRETE, REPLACE REMOVED AREA WITH MATCHING SURFACES OF BOTH ASPHALT & CONCRETE TO MEET EXISTING SURFACES. PAVEMENT REMOVAL AND REPAIR TO BE PAID PER TRENCH, TYPE 'B'.

**TRENCHLESS INSTALLATION OF 3" CONDUIT INSTALLED UNDER PAVEMENT NOTES:**

1. CONDUIT TO PASS UNDER CURB DRAIN. EXACT ELEVATION OF CONDUIT MAY BE VARIED TO AVOID THE UTILITIES WHICH EXIST IN STREET AS APPROVED BY ENGINEER.
2. CONTRACTOR TO REPLACE, REPAIR AND REALIGN ANY CURB SECTION OR CURB DRAINS DAMAGED BY CONSTRUCTION AT HIS EXPENSE.
3. COST FOR TRENCHED AND TRENCHLESS INSTALLATION OF CONDUITS, SCHEDULE 80 INSTALLED UNDER PAVEMENTS FROM THE POWER TRANSFORMER TO THE POWER DISTRIBUTION PANEL AND ADJACENT SPLICE BOXES SHALL BE INCLUDED IN THE PRICE BID FOR THE POWER SERVICE.
4. CONTRACTOR SHALL REPAIR ALL DAMAGE TO DRIVEWAY PAVEMENT CAUSED BY PUSH PITS WITH LIKE MATERIALS TO EQUAL OR BETTER CONDITION, THEN EXISTED AT CONTRACTORS EXPENSE.
5. 3" CONDUIT SHALL BE SMOOTH WALL COILABLE HIGH DENSITY POLYETHYLENE (HDPE) SCHEDULE 80. THE CONDUIT SHALL MEET NEMA STANDARDS PUBLICATION NO. TC-7-2000 FOR SMOOTH WALL COILABLE POLYETHYLENE ELECTRICAL PLASTIC CONDUIT. THE CONDUIT SHALL BE MANUFACTURED BY 'ARNCO' PG800 300 N000 UL (3" SCHEDULE 80 UL-LU BED - BLACK - CK - SMOOTH WALL) OR APPROVED EQUAL.

**TRENCHLESS INSTALLATION OF CONDUITS UNDER ALLEYS, PARKING LOTS AND DRIVEWAYS (POWER SERVICE CONDUIT)**



**TRENCHLESS INSTALLATION OF 3" SCHEDULE 80 CONDUIT INSTALLED UNDER PAVEMENT**

TRENCH DIMENSIONS FOR VARIOUS RIGID (PVC & STEEL) CONDUIT ARRANGEMENTS								
NUMBER OF CONDUITS	CONDUIT ARRANGEMENT	LARGEST CONDUIT SIZE	CARLON INTERLOCKING SPACER CATALOG # 6" MINIMUM SEPARATION		OPEN AREA TRENCH DIMENSIONS		STREET TRENCH DIMENSIONS	
			MINIMUM DEPTH	MINIMUM WIDTH	MINIMUM DEPTH	MINIMUM WIDTH	MINIMUM DEPTH	MINIMUM WIDTH
1	NOT APPLICABLE	2"	S288JJ	N/A	28"	6"	31"	6"
		3"	S288LJ	N/A	30"	6"	32"	6"
		4"	S288NJ	N/A	30"	7"	32"	7"
2	PLACE SIDE BY SIDE	2"	S288JJ	S289JJ	32"	10"	37"	10"
		3"	S288LJ	S289LJ	35"	12"	38"	12"
		4"	S288NJ	S289NJ	37"	14"	38"	14"
3	PLACE SIDE BY SIDE WITH ONE CONDUIT VERTICALLY STACKED. LARGEST CONDUITS ON BOTTOM.	2"	S288JJ	S289JJ	32"	10"	37"	10"
		3"	S288LJ	S289LJ	35"	12"	38"	12"
		4"	S288NJ	S289NJ	36"	14"	38"	14"
4	PLACE SIDE BY SIDE WITH TWO CONDUITS VERTICALLY STACKED. LARGEST CONDUITS ON BOTTOM.	2"	S288JJ	S289JJ	33"	10"	37"	10"
		3"	S288LJ	S289LJ	35"	12"	38"	12"
		4"	S288NJ	S289NJ	36"	14"	38"	14"

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**LIGHTING PLANS**  
**TRENCHLESS CONDUIT**  
**INSTALLATION DETAILS**

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26	26