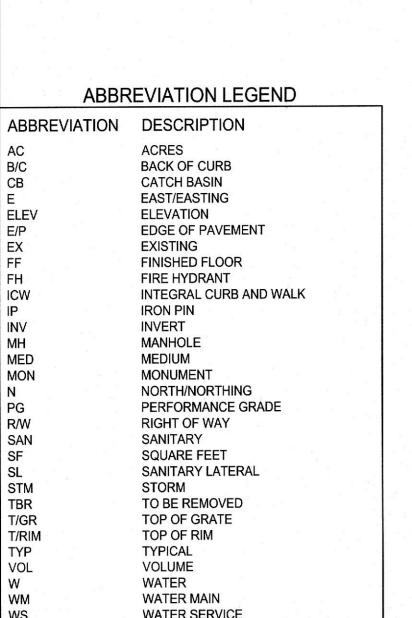
THE FIELDS AT LIBERTY WAY **HYATT HOUSE - REVISED FINAL DEVELOPMENT PLAN**

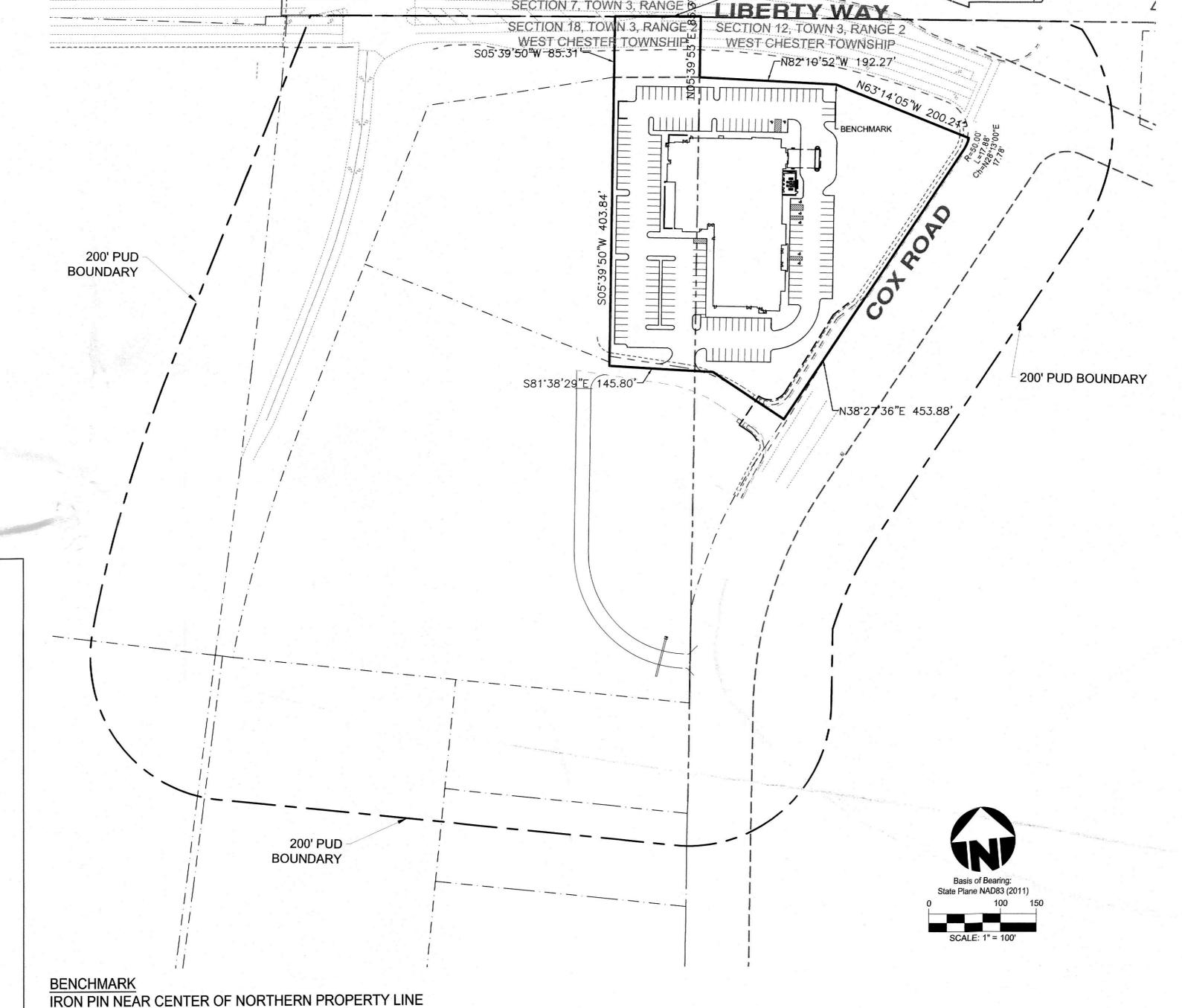


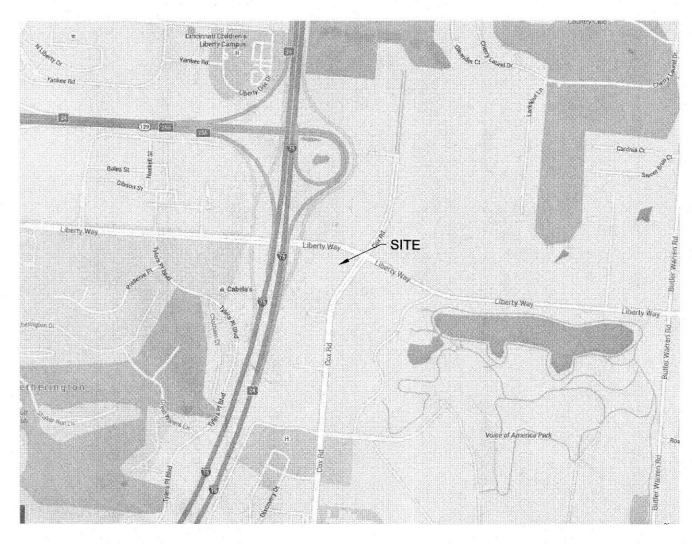
	SYMBOL LEGEND	
EXISTING	PROPOSED	DESCRIPTION
• ⊕		BENCHMARK
(-)(-)(-)		- FENCE
		FLAG POLE
<u> </u>	Ĕ,	HANDICAP SYMBOL
MB	MB	MAILBOX
	<u> </u>	SIGN
× · • • · · ·	X	SURVEY MONUMENTATION
TR	S	TRAFFIC BOX
	9	TRAFFIC SIGNAL POLE
* 0 0 ©	_	LANDSCAPING
		VEGETATION LINE
		CABLE MARKERS/STRUCTURES
UC	——— UC ———	- UNDERGROUND CABLE
$\leftarrow \ \ \forall \ .$	G	ANCHOR
E	E	ELECTRICAL
\mathbb{E}	•	ELECTRICAL MANHOLE
	Ø	LIGHT POLE
——————————————————————————————————————	OHE	- OVERHEAD ELECTRIC
UE	——— UE ———	- UNDERGROUND ELECTRIC
	-	UTILITY POLE
G	G	- GAS LINE
		GAS METER
		GAS VALVE/MARKER
	0	CLEANOUT
	——— SL———	- SANITARY LATERAL
		SANITARY MANHOLE
	s	- SANITARY SEWER
		STORM STRUCTURES
EX_12"_STM	12" STM	STORM SEWER
T		TELEPHONE BOX
	•	TELEPHONE MANHOLE
UT	UT	- UNDERGROUND TELEPHONE
	Q	FIRE HYDRANT
w	W	WATER MAIN
		WATER MANHOLE
		WATER METER
	——— WS ———	- WATER SERVICE
NV V		MATED VALVE

WATER VALVE

N= 503967.8449 E= 1441964.8650

ELEV= 888.25







325 N. LASALLE ST, SUITE 500 CHICAGO, IL 60654

OWNER

HH LIBERTY WAY LLC 1050 CENTRAL AVE **MIDDLETOWN, OH 45044**

ENGINEER / SURVEYOR

BAYER BECKER 6900 TYLERSVILLE ROAD, SUITE A MASON, OHIO 45040 PH: (513)336-6600

GENERAL NOTES

- 1. EXISTING ZONING M-1; A-1; PUD.
- 2. SANITARY SEWER SERVICE TO BE TIED INTO BUTLER COUNTY SYSTEM.
- 3. WATER SERVICE TO BE INSTALLED AND CONNECTED TO BUTLER COUNTY SYSTEM.
- 4. ELECTRIC TO BE SUPPLIED BY DUKE ENERGY ELECTRIC COMPANY 5. EXISTING TOPOGRAPHY FROM BAYER BECKER FIELDWORK AND 2006 OGRIPS GIS
- STORM WATER MANAGEMENT FACILITIES TO BE MAINTAINED BY LOT OWNERS.
- 7. EXISTING USE: VACANT
- 8. ALL PARCELS TO BE DEVELOPED SHALL PROVIDE PARKING TO MEET THE MINIMUM REQUIREMENTS AS ESTABLISHED BY THE WEST CHESTER TOWNSIHP ZONING RESOLUTION.

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	ISSUE DATE	- F		
	10-17-17			
	10-17-17			

DRAWING NO.	DRAWING TITLE	ISSUE DATE	REVISION NO.	REVISION DATE
C1.0	TITLE SHEET	10-17-17	8	10-17-22
C2.0	SITE NOTES	10-17-17	4.	10-17-22
C2.1	SITE DETAILS	10-17-17	4	10-17-22
C3.0	LAYOUT PLAN	10-17-17	9	10-17-22
C3.1	OVERALL PLAN	10-17-17	6	10-17-22
C3.2	EMERGENCY ACCESS ROAD	10-17-17	1	10-17-22
C4.0	UTILITY PLAN	10-17-17	6	10-17-22
C5.0	GRADING PLAN	10-17-17	8	10-17-22
C5.1	EROSION CONTROL NOTES & DETAILS	10-17-17	1	10-17-22
L1.0	PLANTING PLAN	10-17-17	4	10-17-22
L2.0	PLANTING NOTES & DETAILS	10-17-17	4	10-17-22

	Tt.	Item	Revision Description	Date	Drwn: Ch	Ch
		1	FINAL DEVELOPMENT PLAN SUBMITTAL	10-17-17	MJL	9
		2	BUILDING PERMIT	2-2-18	MJL	
		3	SITE REGRADE	09-10-18	MJL	
		4	ISSUED FOR CONSTRUCTION	09-24-18	MJL	
		5	REVISED PER CLIENT COMMENTS	04-17-19	oro	JSI
		9	REVISED PER CLIENT COMMENTS	12-09-19	CJO	1SC
1		7	REVISED PER EMERGENCY ACCESS COMMENTS	09-30-20	DTM	JSE
		8	REVISED FINAL DEVELOPMENT PLAN SUBMITTAL	10-17-22	COO	9 ₁₂
		9		20		5 500 - 1
			a			



THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS.

FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTOR SHALL NOTIFY THE OHIO UTILITY PROTECTION SERVICE (OUPS) AND ALL OTHER AGENCIES WHICH MAY HAVE UNDERGROUND UTILITIES INVOLVED IN THIS PROJECT AND ARE NOT MEMBERS OF OHIO UNDERGROUND PROTECTION, INC.

CONTRACTOR SHALL REMOVE ALL TREES AND CLEAN ALL AREAS AS DETERMINED BY THE ENGINEER OR ARCHITECT TO PERFORM ALL GRADING AND UTILITY WORK IN ACCORDANCE WITH THE DRAWINGS, GENERAL NOTES, AND PROJECT SPECIFICATIONS.

ALL PAVEMENT DIMENSIONS AND NODES ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED. ALL STRIPING DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.

ALL STANDARD PARKING SPACES ARE A MINIMUM OF 9' BY 18'.

PARKING LOT STRIPING SHALL BE FOUR (4) INCHES WIDE HIGHWAY-TYPE STRIPING APPLIED IN ACCORDANCE WITH THE PLAN; COLOR SHALL BE WHITE OR YELLOW TO MATCH ADJOINING

ALL SPOT ELEVATIONS XX.XX ARE TO THE TOP OF FINISHED PAVEMENT/GRADE UNLESS OTHERWISE NOTED. TOP OF CURB SHALL BE PER THE TYPICAL SECTION/DETAIL UNLESS NOTED ON THE LAYOUT PLAN.

PRIOR TO CONSTRUCTION OF THE EMBANKMENTS, THE SITE SHOULD BE STRIPPED OF ALL VEGETATION, TOPSOIL, AND OTHER ORGANIC MATERIAL IN EMBANKMENT AREAS.

EMBANKMENT MATERIAL SHOULD CONSIST OF PLASTIC CLAY MATERIALS, FREE OF ORGANIC MATTER, WHICH CLASSIFY AS CL ACCORDING TO THE UNIFIED SOIL CLASSIFICATION SYSTEM AND SHALL CONTAIN NO STONES WHOSE LARGEST DIMENSION EXCEEDS FOUR (4) INCHES.

BUILDING PAD PREPARATION SHALL BE MADE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S AND ARCHITECT'S RECOMMENDATIONS. BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION.

A MINIMUM OF 6" OF TOPSOIL SHALL BE PLACED ON ALL GRASS AREAS UNLESS SPECIFIED OTHERWISE IN THE LANDSCAPE DRAWINGS.

ALL SITE EXCAVATION AND EMBANKMENT TO BE COMPLETED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND/OR THE PROJECT SPECIFICATIONS. WHEN IN CONFLICT THE MORE STRINGENT REQUIREMENTS SHALL PREVAIL.

ANY AREAS THAT APPEAR AS FUTURE BUILDING OR PARKING LOTS SHALL BE GRADED TO DRAIN TO THE NEAREST SWALE, CATCH BASIN, OR OTHER DRAINAGE FEATURE OR PROVISIONS SHALL BE INSTALLED TO DRAIN THE AREAS TO THE NEAREST DRAINAGE

CONTRACTOR SHALL PERFORM ALL INSPECTIONS AND DOCUMENTATION AS REQUIRED BY THE OHIO E.P.A. FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND FURNISH OWNER'S REPRESENTATIVE WITH WRITTEN REPORTS UNLESS OTHERWISE DIRECTED BY THE OWNER OR OWNERS' REPRESENTATIVE.

CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND UPDATING THE APPLICABLE FORMS, MAPS, LOGS, LOCATIONS OF INSTALLED EROSION CONTROLS, ETC. CONTAINED IN THE SWP3 THROUGHOUT THE PROJECT. UPDATES TO THE SWP3 SHALL BE PROVIDED TO THE OWNER AND THE CIVIL ENGINEER ON A MONTHLY BASIS.

CONTRACTOR SHALL OBTAIN A PERMIT FOR ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH BUTLER COUNTY REQUIREMENTS AND PAY ALL INSPECTION FEES. CONTRACTOR SHALL VERIFY ALL UTILITY AND CONDUIT SIZES AND LOCATIONS WITH THE

CONSTRUCTION ACTIVITIES. ALL UTILITIES TYING INTO BUILDING ARE TO BE STUBBED 5 FT. FROM THE BUILDING FOR

ARCHITECTURAL, MECHANICAL, AND STRUCTURAL DRAWINGS PRIOR TO BEGINNING

CONNECTION BY INTERIOR CONTRACTOR.

CONTRACTOR SHALL VERIFY THAT COORDINATES, IF USED, MATCH PLAN DIMENSIONS. WHEN IN CONFLICT, THE PLAN DIMENSIONS SHALL GOVERN OVER COORDINATES, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

EXISTING EDGE OF PAVEMENT ABUTTING PROPOSED PAVEMENT SHALL BE SAWCUT AND SEALED WITH ITEM 407 TACK COAT PRIOR TO PLACEMENT OF ITEM 301 OR 448.

UNLESS OTHERWISE NOTED, ALL CONSTRUCTION DETAILS SHALL CONFORM WITH THE "STANDARD CONSTRUCTION DRAWINGS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION".

ALL STORM SEWER, SANITARY SEWER, WATER MAIN, WATER SERVICES AND UTILITY CROSSOVERS LOCATED IN THE PUBLIC RIGHT-OF-WAY SHALL BE TOTALLY BACKFILLED WITH CONTROL DENSITY FILL UNDER THE PAVEMENT TO A DISTANCE OF 5 FT BEYOND THE BACK OF CURB FOR PAVEMENT CUT BY TRENCHING OPERATIONS.

ALL TRENCHES WITHIN THE RIGHT-OF-WAY AND 10' UTILITY EASEMENT SHALL BE COMPACTED AND BACKFILLED IN ACCORDANCE WITH ITEM 203 IN THE STATE SPECIFICATIONS FOR TRENCHING OPERATIONS COMPLETED PRIOR TO PLACING PAVEMENT.

ITEMS THAT PERTAIN TO UNDERGROUND UTILITIES SUCH AS WATERMAIN PIPE, SANITARY SEWER PIPE, WATER VALVES AND MANHOLE FRAMES AND COVERS, ETC., WILL REMAIN UNDER H. PROVIDE A 200# TEST PULL LINE IN CONDUIT. SPECIFICATIONS OF THE UTILITY SERVING THE AREA. STORM SEWERS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUTLER COUNTY ENGINEER.

CONTRACTOR AND OWNER SHALL VERIFY AND ACCEPT ALL QUANTITIES PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL VERIFY ALL UTILITY AND CONDUIT SIZES AND LOCATIONS WITH THE ARCHITECTURAL, MECHANICAL, AND STRUCTURAL DRAWINGS PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.

TELEPHONE

CINCINNATI BELL

201 E. FOURTH STREET

MAIL LOCATION 103-1175

STORM SEWERS

ALL WORK AND MATERIALS ARE TO CONFORM TO THE LATEST EDITION OF ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS AND BUTLER COUNTY SPECIFICATIONS.

STORM SEWER PIPES DESIGNATED AS "STM." SHALL MEET THE REQUIREMENTS OF ONE OF

1. NON-REINFORCED CONCRETE PIPE PER ODOT SPECIFICATION 706.01

REINFORCED CONCRETE ELLIPTICAL CULVERT, STORM DRAIN, AND SEWER PIPE PER ODOT SPECIFICATION 706.04

ALUMINIZED CORRUGATED STEEL SPIRAL RIB CONDUITS PER ODOT SPECIFICATION 707.12

5. CORRUGATED POLYETHYLENE SMOOTH LINED PIPE PER ODOT SPECIFICATION 707.33

ALL STORM STRUCTURES ARE ODOT TYPES UNLESS OTHERWISE INDICATED.

D. ALL CATCH BASINS SHALL BE EQUIPPED WITH HEAVY DUTY, BICYCLE SAFE GRATES CAPABLE

ANY EXISTING STORM SEWER CUT IN EXCAVATION WHICH DRAINS AN OFFSITE AREA MUST BE

ALL CATCH BASINS IN THE PAVEMENT OR CURB ARE TO HAVE A MINIMUM OF TWO FOUR (4) INCH PERFORATED UNDERDRAINS EXTENDING TEN (10) LINEAR FEET FROM THE CATCH BASIN

I. ALL JOINTS SHALL BE SOIL SEAL JOINTS UNLESS SPECIFICALLY NOTED ON THE PLANS.

STORM WATER AND EXTRANEOUS FLOWS ARE PROHIBITED FROM ENTERING THE EXISTING SYSTEM DURING CONSTRUCTION. NO OPEN CUT TRENCHES WILL BE ALLOWED TO REMAIN OPEN OVERNIGHT. STORM DRAINS, DIVERSION DITCHES, PUMPS ETC., SHALL BE USED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE SYSTEM AT ALL TIMES.

DEFLECTION TESTING FOR STORM SEWERS AND CULVERTS

REQUIREMENTS ARE MET.

FOLLOWING REQUIREMENTS.

TELEPHONE CONDUITS SHALL BE PVC SCH. 40 PRIVATELY OWNED (PO) CONDUITS, FOR TELEPHONE COMPANY USE, FROM THE PROPOSED BACK BOARD LOCATION TO THE POINT OF CONNECTION BY THE UTILITY PROVIDER. CONDUITS SHALL MEET THE REQUIREMENTS OF TELEPHONE SERVICE PROVIDER.

C. TERMINATE UNDERGROUND CONDUIT AT DESIGNATED LOCATION WITH A MINIMUM COVER OF 24 INCHES AND MAXIMUM COVER OF 36 INCHES.

WRAP THE END OF THE CONDUIT WITH A SUITABLE MATERIAL TO PREVENT CLOGGING UNTIL THE CABLE IS PLACED. TELEPHONE SERVICE PROVIDER WILL MAKE CONNECTION AT THIS

FLAG OR IDENTIFY THE END OF THE CONDUIT IN ORDER TO DESIGNATE THE POINT OF

CONNECTION BETWEEN TELEPHONE SERVICE PROVIDER AND ENTRANCE CONDUIT. POWER OR OTHER FOREIGN CONDUIT MUST BE SEPARATED FROM TELEPHONE CONDUIT BY A

G. CONDUIT MUST BE PLACED AT A MINIMUM DEPTH OF 24" AND A MAXIMUM OF 36".

ALL BENDS MUST BE LONG, SWEEPING BENDS WITH A RADIUS NOT LESS THAN TEN TIMES THE INTERNAL DIAMETER OF CONDUIT. WITH A MAXIMUM OF 180 DEGREES OF BENDS BETWEEN PULLING POINTS. WHEN 180 DEGREES OF BENDS ARE REQUIRED, A PULL BOX WILL BE

K. CONDUIT MUST EXTEND 4" ABOVE FINAL GRADE AT THE CONNECTION TO THE UTILITY POLE.

ELECTRIC SERVICES

A. ELECTRIC SERVICE SHALL MEET THE REQUIREMENTS OF THE UTILITY PROVIDER.

B. ALL ELECTRICAL TRANSFORMERS SHALL BE LOCATED SO THAT THEY DO NOT INTERFERE WITH THE EXISTING MANHOLES OR WATER MAIN APPURTENANCES.

C. ELECTRIC CONDUITS SHALL CONSIST OF PVC SCHEDULE 40 NEMA RATED CONDUITS MEETING

D. ELECTRIC MANHOLES IF NECESSARY TO BE DESIGNED BY AND CONSTRUCTED IN ACCORDANCE WITH DUKE ENERGY REQUIREMENTS.

WATER MAINS

 ALL WATER WORK AND WATER MAIN MATERIALS INCLUDING PIPE, FITTINGS, VALVES, WATER AND SEWER. THE MOST RIGID SPECIFICATIONS SHALL GOVERN IN THE EVENT OF A CONFLICT WITH THE PROJECT SPECIFICATIONS.

B. ALL WATER FACILITIES ON THIS PROJECT ARE TO BE PRIVATE.

C. FIRE DEPARTMENT CONNECTION (STORTZ CONNECTION) SHALL BE WITHIN 50 FT. OF A PUBLIC FIRE HYDRANT OR A FIRE HYDRANT OFF OF THE MAIN BETWEEN THE PUBLIC MAIN AND THE

D. FIRE DEPARTMENT CONNECTION LINE SHALL TIE INTO THE FIRE SUPPRESSION SYSTEM ON THE BUILDING SIDE OF THE PUMP IF A PUMP IS INSTALLED.

E. NO PART OF ANY FIRE HYDRANT SETTING SHALL BE CLOSER THAN FIVE (5) FEET FROM ANY INLET, DRIVEWAY, PARKING LOT, UTILITY POLE, OR GUY WIRE ANCHOR

BACKFILL SHALL BE CLASS A WHEN MAIN IS FIVE (5) FEET OR GREATER FROM EXISTING PUBLIC F. F. CURB. LESS THAN FIVE (5) FEET FROM EXISTING PUBLIC CURB, UNDER CURB OR EXISTING PUBLIC PAVEMENT BACKFILL SHALL BE CONTROLLED DENSITY FILL

G. WATER MAINS SHALL MAINTAIN A MINIMUM COVER OF FOUR (4) FEET.

H. ALL WATER MAIN VALVES SHALL HAVE A MINIMUM DEPTH OF 2.5 FT. AND MAXIMUM DEPTH OF 4.0 FT. FROM PROPOSED GRADE TO THE TOP OF THE VALVE OPERATING NUT.

A MINIMUM CLEAR DISTANCE OF TEN (10) FEET HORIZONTAL OR EIGHTEEN (18) INCHES VERTICAL SHALL BE MAINTAINED BETWEEN SANITARY AND/OR STORM SEWERS AND WATER

SANITARY AND STORM SEWERS THAT CROSS WATER MAINS SHALL BE LOCATED SUCH THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS.

ALL PUBLIC WATER MAINS SHALL BE CLASS 53 DUCTILE IRON AND PROVIDED WITH THRUST BLOCKING AT ALL TEES AND HORIZONTAL AND VERTICAL BENDS WHETHER SHOWN ON THE PLAN VIEW OR NOT. PRIVATE MAINS SHALL ALSO BE PROVIDED WITH THRUST BLOCKING AS DESCRIBED ABOVE. THRUST BLOCKING SHALL MEET THE REQUIREMENTS OF THE GOVERNING

PRIVATE WATER MAINS BEYOND THE METER PIT MAY BE C900 DR18 FOR WORKING PRESSURES LESS THAN 150 PSI. FOR DESIGN PRESSURES GREATER THAN 150 PSI, DUCTILE IRON PRESSURE CLASS 350 OR C900 DR 14 SHALL BE USED.

M. SERVICE PIPING THREE (3) INCHES AND LARGER SHALL BE AWWA C-151, CLASS 53 DUCTILE IRON, MEETING THE REQUIREMENTS OF THE GOVERNING AGENCY.

SERVICE PIPING SMALLER THAN THREE (3) INCHES SHALL BE SEAMLESS COPPER FLEXIBLE WATER TUBING, ASTM B 88, TYPE K, PRESSURE CLASS 250.

FITTINGS SHALL BE COMPRESSION STYLE FOR CTS TUBING, CONSULT GOVERNING AGENCY FOR A LISTING OF ACCEPTABLE MANUFACTURERS AND PRODUCTS.

2. COUPLINGS WITH SET SCREWS OR GRIP RINGS WILL <u>NOT</u> BE ACCEPTABLE.

WATER SERVICE TUBING SHALL BE BEDDED SIX (6) INCHES ABOVE AND BELOW WITH SAND OR OTHER NON-COMPACTIBLE MATERIAL APPROVED BY THE GOVERNING AGENCY.

ALL WATER METER PITS SHALL CONFORM TO THE MATERIALS AND SPECIFICATIONS OF THE GOVERNING AGENCY.

THE FOLLOWING ITEMS ARE TO BE APPROVED BY THE FIRE DEPARTMENT:

INSTALLATION OF ALL UNDERGROUND FIRE SUPPRESSION LINES ARE TO BE INSPECTED BY THE FIRE DEPARTMENT: INSTALLERS ARE REQUIRED TO BE LICENSED BY THE OHIO

WATER SUPPLY AND CONNECTIONS TO THE SUPPLY. FD CONNECTION HOSE CONNECTION THREADS (CAPS ALSO REQUIRED)

TYPE, ARRANGEMENT, LOCATION, IDENTIFICATION, THREADS, PROTECTION OF ALL **HYDRANTS**

HYDROSTATIC TESTING OF UNDERGROUND SYSTEMS; FIRE DEPT. MUST BE CALLED TO WITNESS TESTING; PROVIDE COPY OF CONTRACTOR'S MATERIAL & TEST CERTIFICATE FOR UNDERGROUND SYSTEM. AMOUNT OF PIPE LEAKAGE TO BE ACCEPTABLE TO FIRE

FLUSHING OF UNDERGROUND SYSTEM TO BE WITNESSED BY FIRE DEPT. HYDRANT OPERATING TEST TO BE WITNESSED BY FIRE DEPT. UNDERGROUND PIPING INSTALLATION METHODS AND PROCEDURES.

GAS FACILITIES AND SERVICES

FOR GAS ENGINEERING NOTIFICATION, AGREEMENTS AND OFFICIAL CORRESPONDENCE RELATED TO DUKE ENERGY, ADDRESS TO: DUKE ENERGY

GAS ENGINEERING DEPARTMENT P.O. BOX 960, ROOM 460 ANNEX CINCINNATI, OH 45273-9598

THE GAS MAIN INFORMATION PROVIDED SHOWS THE APPROXIMATE LOCATIONS AND DEPTHS OF COVER AND IS PROVIDED TO COMPLY WITH STATUTORY REGULATIONS. THIS INFORMATION SHOULD BE USED ONLY FOR PLANNING, NOT CONSTRUCTION.

ALL GAS MAIN DEPTHS OF COVER IF NOTED ARE APPROXIMATE DEPTHS OF COVER RECORDED AT THE TIME OF INSTALLATION. ANY RESULTING GRADE CHANGES SINCE THE TIME OF THE MAIN INSTALLATION WILL CAUSE THE EXISTING DEPTHS OF COVER TO BE DIFFERENT. EXTREME CARE MUST BE TAKEN TO ENSURE SAFE EXCAVATION WHEN APPROACHING KNOWN OR SUSPECTED GAS FACILITIES.

GAS SERVICE SHALL MEET THE REQUIREMENTS OF THE UTILITY PROVIDER.

GAS SERVICE SHALL BE POLYETHYLENE PIPE MEETING THE REQUIREMENTS OF ASTM D-2513 AND THE PLASTIC PIPE INSTITUTE PE 2406 FOR MEDIUM DENSITY PIPE.

F. ALL GAS SERVICES WERE INSTALLED AT A MINIMUM OF 1'-6" OF COVER, SEE NOTE C. ABOVE.

G. FOR ADDITIONAL GAS FACILITY RECORD INFORMATION, CALL (513) 287-3636.

H. GAS FACILITIES ARE TO BE KEPT IN SERVICE AT ALL TIMES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO GAS FACILITIES DURING OR AS A RESULT OF THE CONTRACTOR'S CONSTRUCTION. ALL DAMAGE TO GAS FACILITIES REQUIRING ADJUSTMENTS, RELOCATIONS AND/OR REPAIRS WILL BE MADE AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL SHEET AND SHORE ALL EXCAVATIONS AS REQUIRED TO CONTINUOUSLY SUPPORT GAS FACILITIES WITHIN THE ZONE OF INFLUENCE (AS DETERMINED BY THE NATURAL ANGLE OF REPOSE OF THE SOIL).

CROSSING BURIED GAS FACILITIES WITH HEAVY CONSTRUCTION EQUIPMENT MAY CAUSE DAMAGE TO THE GAS FACILITIES. CONTACT THE GAS ENGINEERING DEPARTMENT FOR DETAILS ON HOW TO PROTECT THE GAS FACILITIES FROM DAMAGE.

THE CONTRACTOR SHALL NOT BACKFILL EXPOSED GAS FACILITIES UNTIL THE UTILITY HAS INSPECTED ITS FACILITIES AND PERFORMED ANY MAINTENANCE AND/OR ADJUSTMENTS THAT MAY BE REQUIRED.

M. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING ANY DAMAGE TO EXISTING GAS FACILITIES. THIS INCLUDES PROTECTION OF COATINGS AND WRAPPINGS ON STEEL GAS MAINS. IT ALSO INCLUDES ANY DAMAGE WHICH MAY HAVE OCCURRED TO PLASTIC GAS MAINS, SUCH AS CRIMPS OR GOUGES.

BLASTING OR OTHER CONSTRUCTION PROCEDURES WHICH MAY TRANSMIT LOADS OR VIBRATIONS IN THE VICINITY OF GAS FACILITIES MUST BE APPROVED BY THE GAS ENGINEERING DEPARTMENT. A BLASTING PLAN, IDENTIFYING ALL PERTINENT INFORMATION, MUST BE SUBMITTED IN WRITING BY A BLASTING EXPERT PRIOR TO ANY WORK.

SANITARY SEWERS

HYDRANTS, AND INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF BUTLER COUNTY A. ALL WORK AND MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF BUTLER COUNTY WATER AND SEWER DEPARTMENT. WHEN IN CONFLICT WITH THE PROJECT SPECIFICATIONS,

B. ROOF DRAINS, FOUNDATION DRAINS, AND ALL OTHER CLEAN WATER CONNECTIONS TO THE

NO BUILDING SHALL BE CONNECTED TO A SEWER LATERAL UNTIL THE BUILDING IS UNDER

SANITARY SHALL BE A MINIMUM OF SDR 35 FOR DEPTHS LESS THAN 16 FEET AND SDR 26 FOR

ALL SANITARY SEWER MANHOLES, CASTINGS, PIPE, ETC., SHALL CONFORM WITH CURRENT SPECIFICATIONS OF THE BUTLER COUNTY SANITARY ENGINEER AND THE OHIO ENVIRONMENTAL PROTECTION AGENCY.

SEWER SPECIFICATIONS, USING SECTION 3110 FOR PVC SDR-35 & 26 PIPE; SECTION 3140 FOR ABS OR PVC COMPOSITE PIPE; SECTION 3410 FOR MANHOLES.

WHENEVER A SANITARY SEWER AND WATER MAIN MUST CROSS, THE SEWER SHALL BE AT ABSOLUTELY IMPOSSIBLE TO MAINTAIN THE 18 INCH VERTICAL SEPARATION. THE WATER MAIN

A SEWER PASSING OVER OR UNDER THE WATER MAIN SHALL BE ENCASED OR

THE SEWER CROSSING SHALL BE CONSTRUCTED SO THAT THE SEWER JOINTS WILL BE

WHERE A WATER MAIN PASSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

PROVIDE THE BUTLER COUNTY ENGINEER'S OFFICE WITH A FORTY-EIGHT (48) HOUR NOTICE PRIOR TO THE START OF ANY CONSTRUCTION, INCLUDING SANITARY INSTALLATION BY

BUTLER COUNTY WATER & SEWER DEPARTMENT DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE RELOCATION, REPAIR, OR REPLACEMENT OF ANY OTHER UTILITY INSTALLED WITHIN FIVE FEET OF THE CENTER LINE OF ANY SANITARY SEWER OR WATER MAIN

AS TO PROVIDE A MINIMUM OF 4 FT OF VERTICAL SEPARATION BETWEEN THE PUBLIC SANITARY SEWER AT THE POINT OF CONNECTION AND THE LOWEST BUILDING LEVEL SERVED BY A GRAVITY SEWER CONNECTION. IN ADDITION, SAID BUILDING LEVEL SHALL BE AT LEAST 1 FT ABOVE THE LOWEST POINT OF FREE-OVERFLOW (NON-SEALED MANHOLE COVER) UPSTREAM OF ANY TREATMENT FACILITY OF WASTEWATER PUMPING FACILITY THAT RECEIVES THE DISCHARGE FROM SAID BUILDING. SAID MINIMUM SERVICE LEVELS SHALL BE THE OFFICE OF THE BUTLER COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES.

FLOOR ELEVATION AT THE POINT OF CONNECTION TO SEWER MAIN AND SHALL NOT EXCEED A DEPTH OF 12 FEET BELOW FINISH GRADE AT THE END OF THE LATERAL AT THE RIGHT-OF-WAY UNLESS SPECIFICALLY AUTHORIZED BY THE COUNTY.

M. PRIVATE DRIVEWAYS, PARKING LOTS AND OTHER PAVED AREAS, EARTHEN BERMS, OR STRUCTURES SHOULD NOT BE CONSTRUCTED OVER PRIVATE WATER OR SEWER SERVICE LINES WITHIN THE PUBLIC ROAD RIGHT OF WAY OR WITHIN THE EASEMENT AREAS FOR THE PUBLIC UTILITIES. SHOULD THIS OCCUR, THE PROPERTY OWNER SHALL BE HELD RESPONSIBLE FOR THE PROTECTION AND REPAIR AND FOR PROVIDING ACCESS TO ANY CURB STOPS, METER PITS, MANHOLES, CLEAN-OUTS, ETC. INSTALLED IN CONJUNCTION WITH THESE PRIVATE SERVICE LINES AND FOR ANY DAMAGE OR RESTORATION OF THE PAVED SURFACES OR STRUCTURES THAT MAY RESULT FROM THE FUTURE OPERATION, MAINTENANCE, REPAIR

SANITARY SEWER LATERALS, WHICH SHALL INCLUDE ALL PIPE AND APPURTENANCES FROM THE BUILDING TO THE PUBLIC SEWER MAIN, AND THE CONNECTION TO THE PUBLIC SEWER MAIN SHALL BE CONSIDERED PRIVATE AND THE RESPONSIBILITY OF THE PROPERTY OWNER TO MAINTAIN. THE CONNECTION TO THE SEWER WOULD BE ANY PIPING THAT EXTENDS OUT FROM THE MAIN BARREL OF THE SEWER MAIN.

SANITARY LATERALS SHALL BE EXTENDED TO AT LEAST TEN (10) FEET BEYOND THE PROPERTY/RIGHT-OF-WAY OR TO THE EDGE OF THE EASEMENT, WHICHEVER IS GREATER.

513-887-3066 WATER 130 HIGH STREET 513-887-3066

BUTLER COUNTY WATER AND SEWER HAMILTON, OHIO 45011-2759

SANITARY SEWER BUTLER COUNTY WATER AND SEWER 130 HIGH STREET HAMILTON, OHIO 45011-2759

BUTLER COUNTY ENGINEERS OFFICE

1921 FAIRGROVE AVENUE

HAMILTON, OHIO 45011-1965

CINCINNATI, OHIO 45202 513-867-5744 513-565-7043 **ELECTRIC** DUKE ENERGY 139 E. FOURTH ST. ROOM 467-A P.O. BOX 960 CINCINNATI, OHIO 45202

DUKE ENERGY 139 E. FOURTH ST. ROOM 460-A P.O. BOX 960 CINCINNATI, OHIO 45202

WHEN IN CONFLICT. THE MORE STRINGENT REQUIREMENTS SHALL PREVAIL.

THE FOLLOWING:

2. REINFORCED CONCRETE CIRCULAR PIPE PER ODOT SPECIFICATION 706.02

POLYVINYL CHLORIDE PROFILE WALL PIPE PER ODOT SPECIFICATION 707.43

OF CARRYING AN HS-25 LOADING.

TIED INTO THE STORM SEWER SYSTEM.

UNDERDRAINS SHALL BE PLACED ONE ON EACH SIDE OF THE STORM SEWER AND AS NEAR TO PERPENDICULAR TO THE STORM SEWER AS IS PRACTICAL WITHOUT INTERFERING WITH STORM PIPES SHOWN ON THE PLANS.

AS THE INSTALLATION OF THE STORM SEWER PROGRESSES, EROSION CONTROL MEASURES SHALL BE PLACED AT INLET AND OUTLET OF SEWERS TO CONTROL THE SILT

H. SUMP LINE CONDUITS ARE TO BE SDR 35, ARMCO 2000, OR EQUIVALENT.

15% OF ALL STORM SEWERS SHALL BE TESTED FOR DEFLECTION WITHIN THIRTY DAYS AFTER THEY ARE COMPLETE. BUTLER COUNTY ENGINEER OR HIS DESIGNATED REPRESENTATIVE WILL DETERMINE WHAT 15% SHALL BE TESTED. IF ANY STORM SEWER IN THE ORIGINAL 15% IS FOUND OUT OF COMPLIANCE, DEFLECTION TESTS WILL BE REQUIRED ON 100% OF THE REMAINING STORM SEWER. A VERTICAL RING DEFLECTION GREATER THAN 5% WILL NOT BE ALLOWED. THIS DEFLECTION IS DEFINED AS 5% REDUCTION IN THE VERTICAL BASE OR AVERAGE INSIDE DIAMETER. THE METHOD OF TESTING SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. IF RIGID BALLS OR MANDRELS ARE USED TO TEST PIPE DEFLECTION, NO MECHANICAL PULLING DEVICES SHALL BE USED. THE DEFLECTION TEST MAY BE CONDUCTED WITH A NINE PRONG MANDREL, A BALL OR A CYLINDER OR ANOTHER MANNER ACCEPTABLE TO THE BUTLER COUNTY ENGINEER OR HIS DESIGNATED REPRESENTATIVE. THE TESTING WILL BE ACCOMPLISHED FROM MANHOLE TO MANHOLE OR CATCH BASIN TO CATCH BASIN FOLLOWING THE COMPLETE FLUSHING OF THE LINE. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT REQUIRED TO COMPLETE THE DEFLECTION TESTING. THE DEFLECTION TEST SHALL BE WITNESSED BY THE COUNTY ENGINEER OR HIS DESIGNATED REPRESENTATIVE. ANY SECTION OF PIPE THAT FAILS TO MEET THE AFOREMENTIONED REQUIREMENTS SHALL BE REROUNDED BY A PROCEDURE ACCEPTABLE TO THE COUNTY OR BE EXCAVATED AND EITHER BE RELAYED OR REPLACED, AND RE-TESTED UNTIL THE

TELEPHONE

A. TELEPHONE CONDUITS, WHETHER SHOWN IN THESE PLANS OR NOT, SHALL MEET THE

MINIMUM OF 12" OF EARTH OR 3" OF CONCRETE.

REQUIRED.

J. CONDUIT ENTERING FROM BELOW GRADE POINT MUST EXTEND 4" ABOVE FINISHED FLOOR.

THE REQUIREMENTS OF THE ELECTRIC SERVICE PROVIDER.

THE MORE RIGID REQUIREMENTS SHALL PREVAIL

SANITARY SEWER SYSTEM ARE PROHIBITED.

SANITARY CONNECTIONS TO EXISTING MANHOLES (IF APPLICABLE) MUST BE CORE DRILLED

AND RUBBER GASKET INSTALLED.

DEPTHS GREATER THAN OR EQUAL TO 16 FEET.

G. SANITARY SEWER MATERIALS AND INSTALLATION TO BE AS PER BUTLER COUNTY WATER AND

H. CROSSINGS:

SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES MEASURED BETWEEN THE OUTSIDE PIPE WALLS, BELOW THE BOTTOM OF THE WATER MAIN. IF IT IS SHALL BE RELOCATED OR THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:

CONSTRUCTED OF MATERIALS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS OF CONSTRUCTION FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE WATER

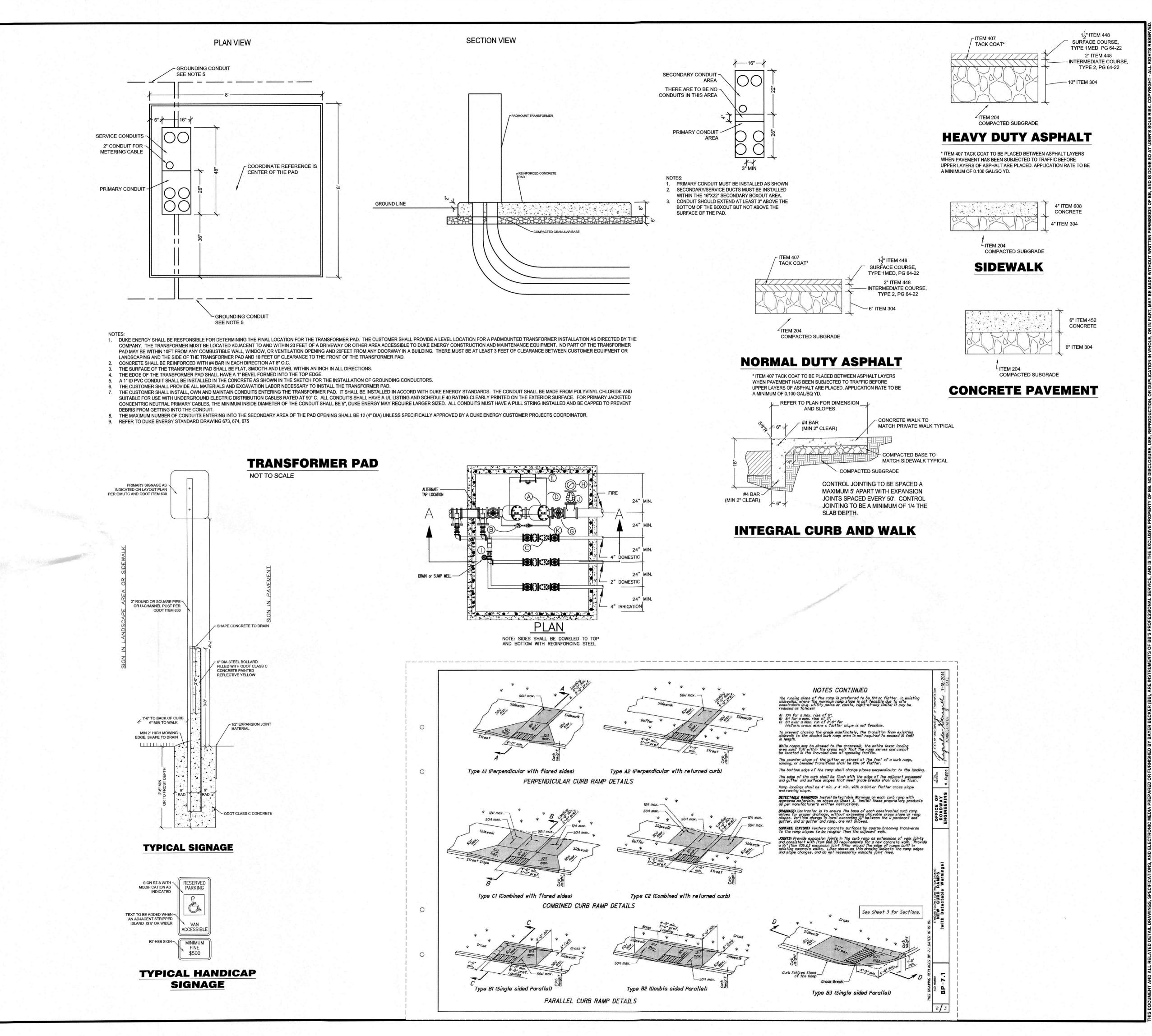
EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS.

CALLING (513) 785-4145.

ALL BUILDINGS TO BE SERVED BY THE PUBLIC SEWER SYSTEM SHALL BE CONSTRUCTED SO RECORDED ON THE "AS-BUILT" PLANS FOR THE DEVELOPMENT WHICH WILL BE KEPT ON FILE IN

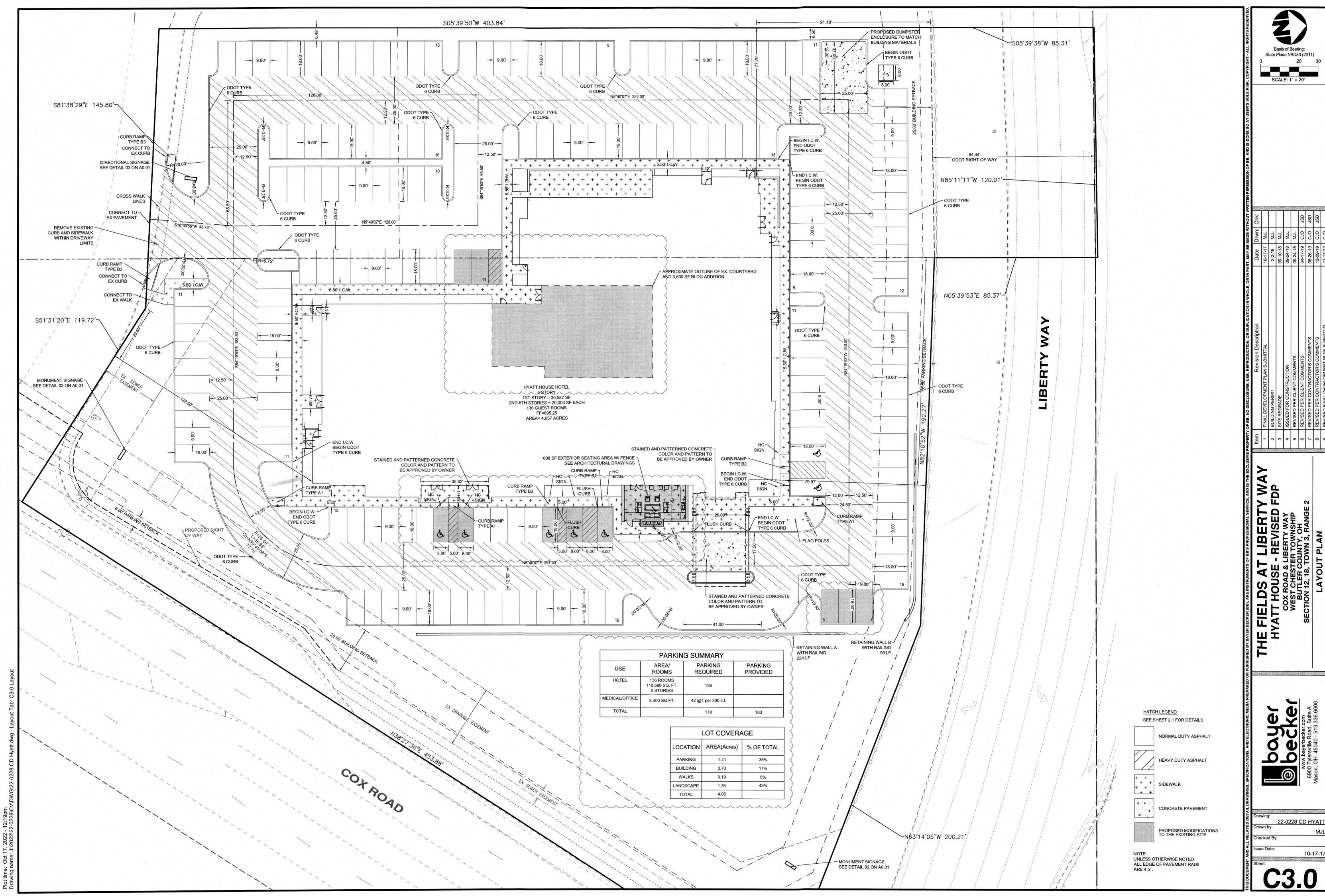
ALL SANITARY SEWER LATERALS SHALL BE AT LEAST 4 FEET BELOW A PROPOSED BASEMENT

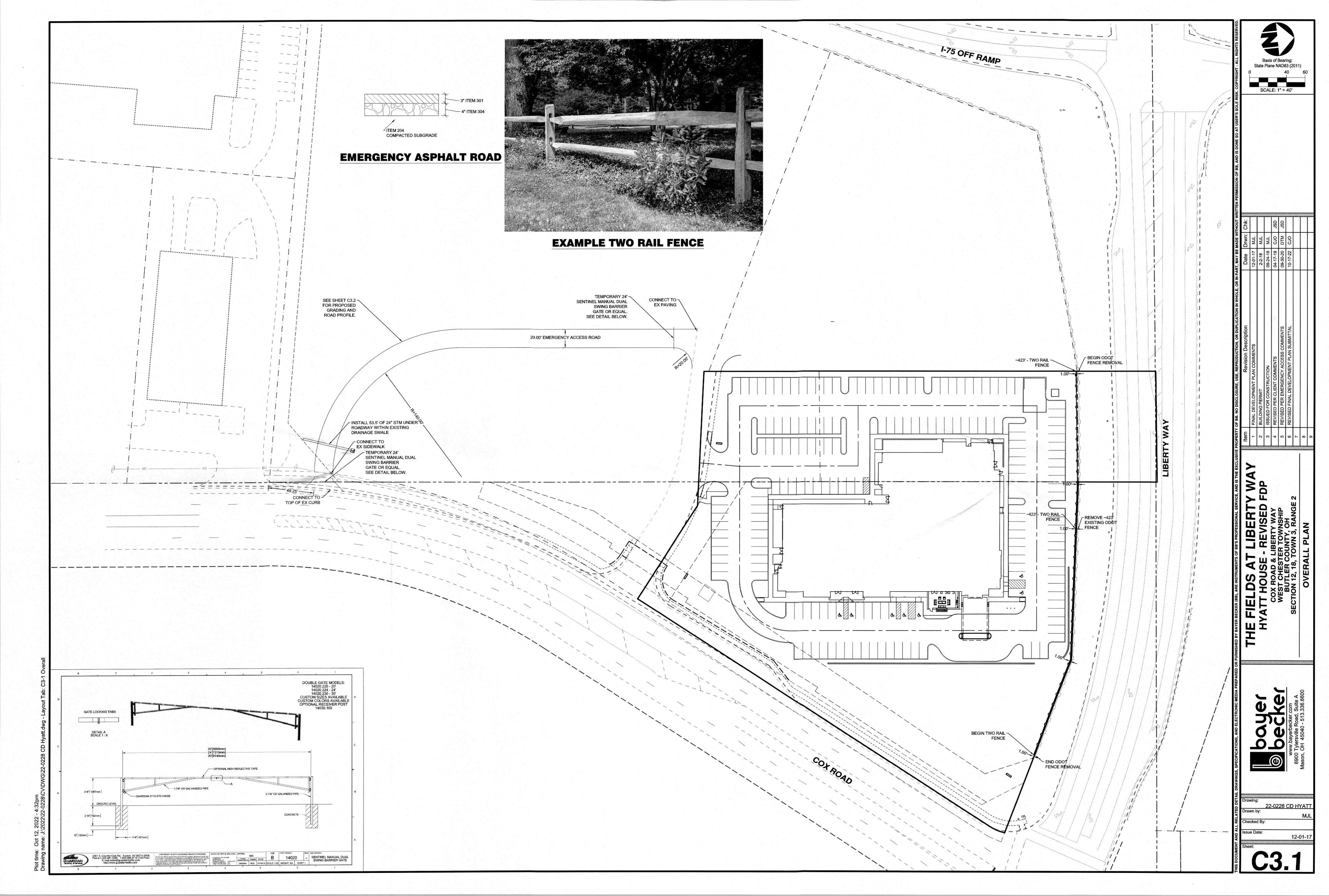
OR REPLACEMENT OF SAID SERVICE LINES AND APPURTENANCES

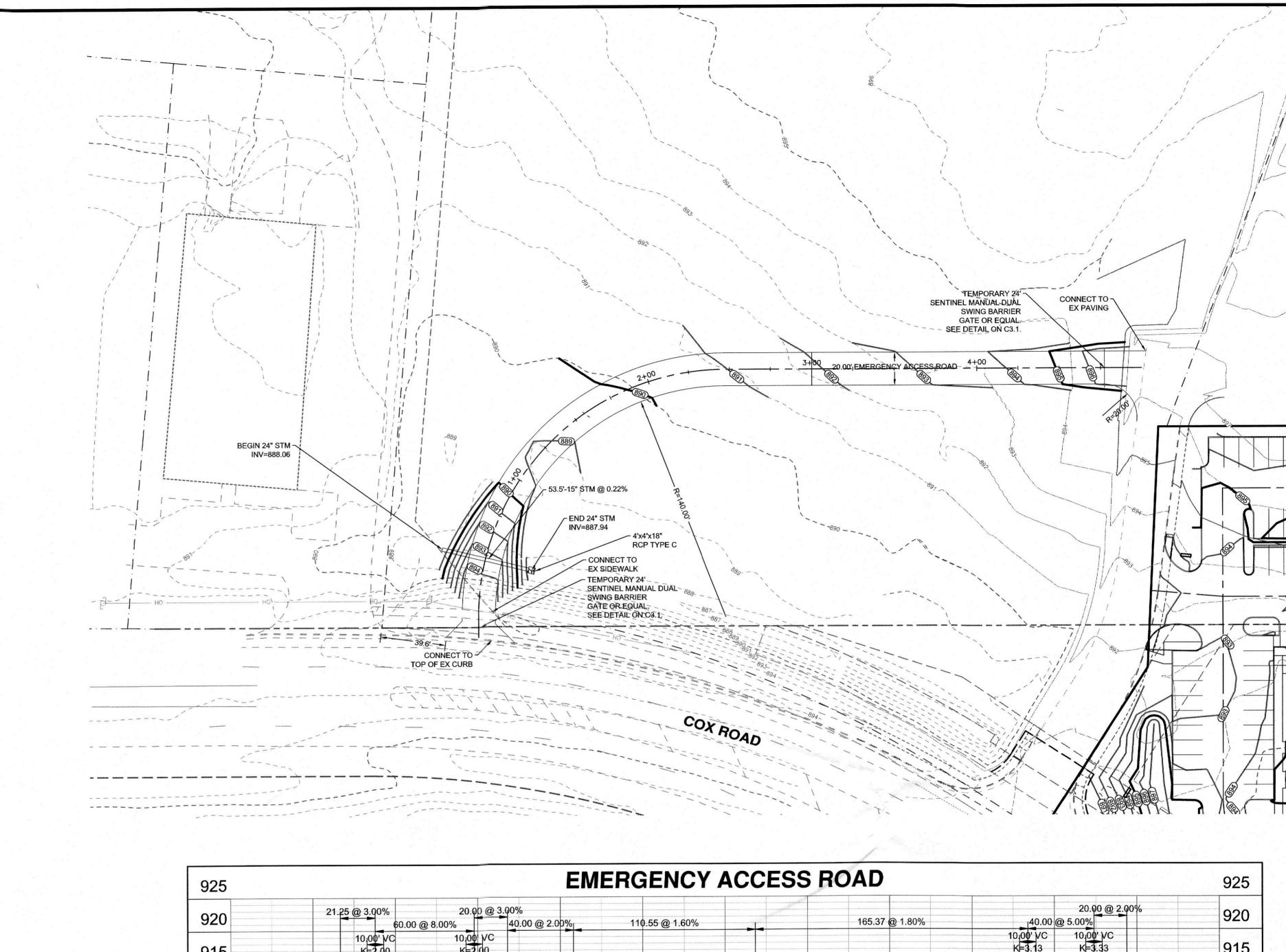


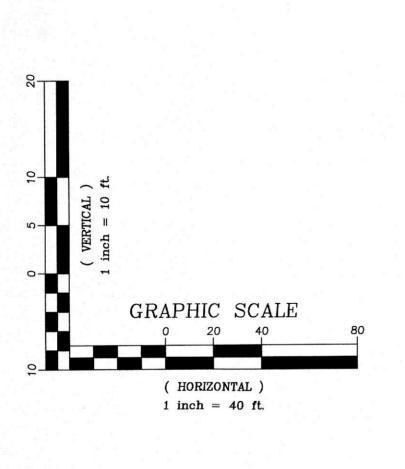
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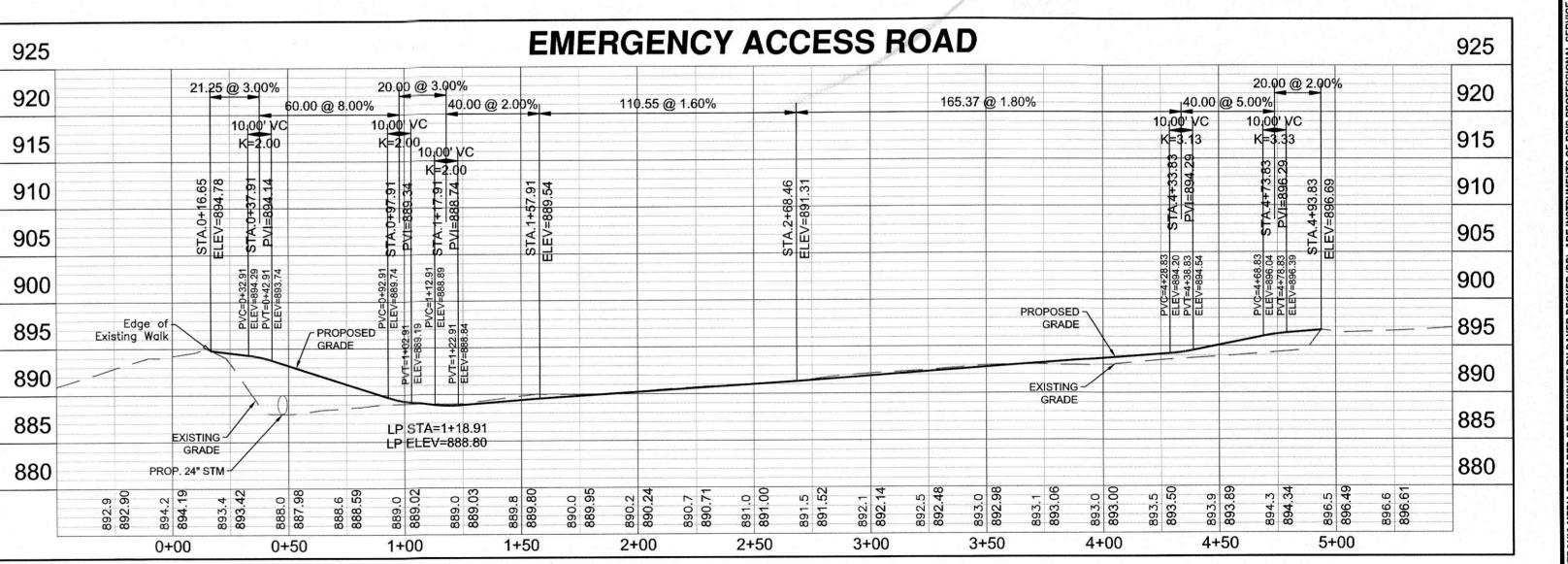
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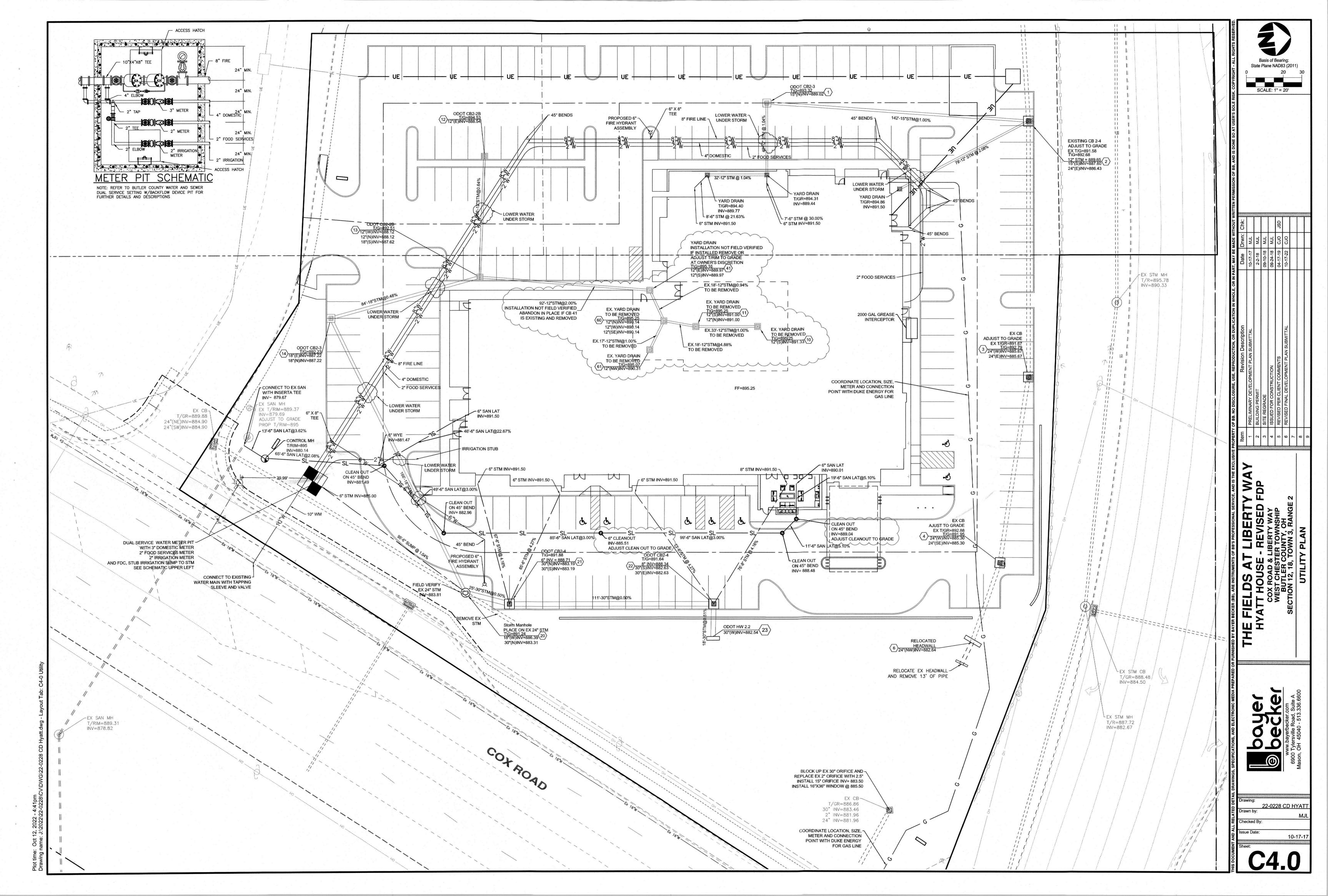


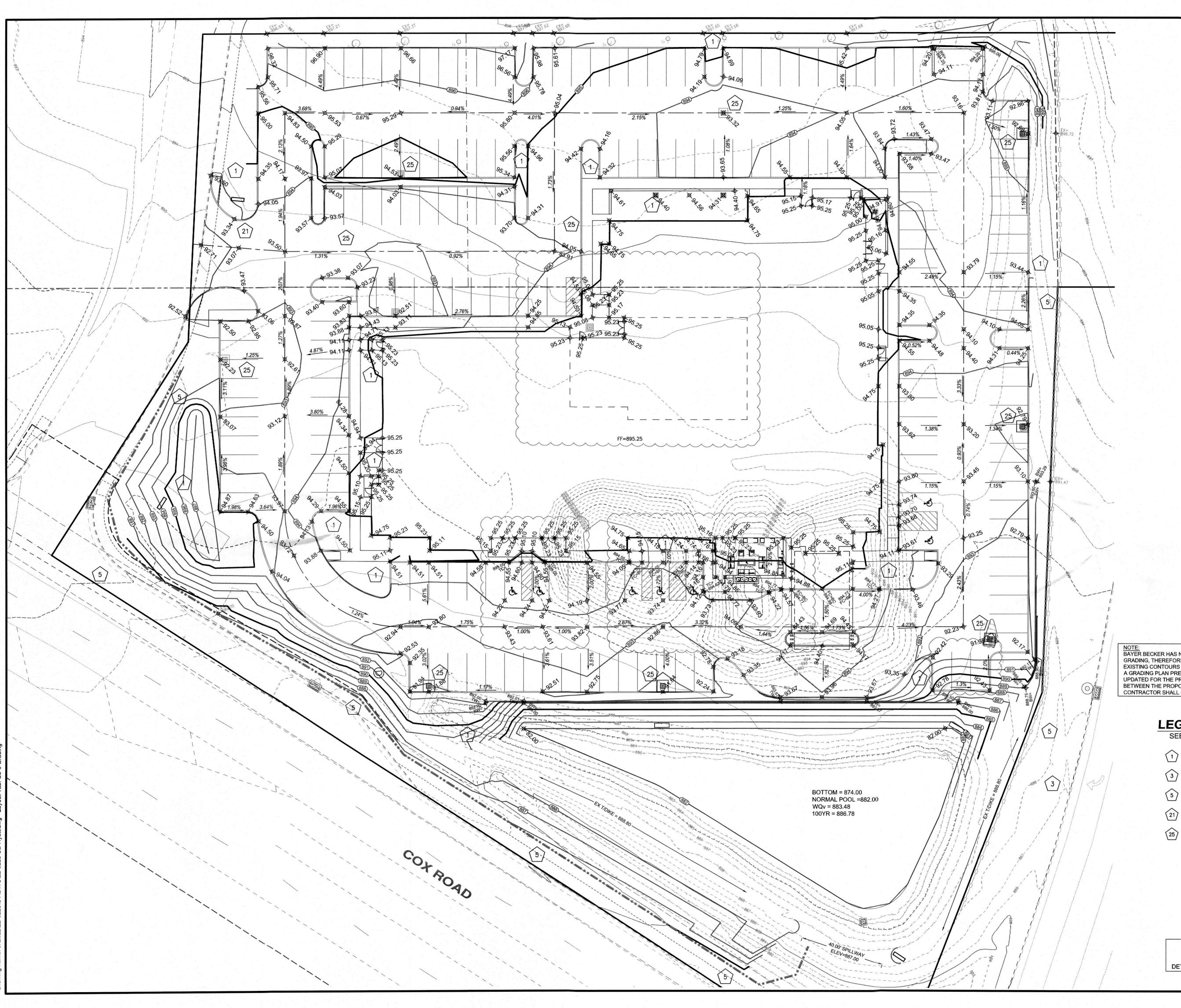






LOCATION OF ALL EXISTING UTILITIES TO BE DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION





UPDATED FOR THE PROPOSED MODIFICATIONS TO THE PLAN. IF CONFLICTS OCCUR
BETWEEN THE PROPOSED ELEVATIONS AND AS-BUILT ELEVATIONS THE
CONTRACTOR SHALL CONTACT BAYER BECKER.

LEGEND

SEE SHEET 2.1 FOR DETAILS

- SEEDING & MULCHING
- PRESERVE EXISTING VEGETATION
- SILT FENCE MINING IN IN ADMINISTRAL THE IN ADMINIST
- CONSTRUCTION ENTRANCE
- DANDY BAG



Know what's below.
Call before you dig.

1-800-362-2764
OHIO UTILITIES PROTECTION SERVICE (OUPS)
LOCATION OF ALL EXISTING UTILITIES TO BE
DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION

CONDITIONS WHERE PRACTICE APPLIES

Permanent seeding should be applied to:

- Areas or portions of construction-sites which can be brought to final grade. Applications of permanent seeding should not be delayed while construction on limited portions of the site
- * Areas on that will be regraded, but will be dormant for a year or more.

PLANNING CONSIDERATIONS

Healthy dense turf will have a dramatic long lasting effect on stormwater quality as well as promoting infiltration and reducing the amount of runoff. To establish quality vegetation, careful preparation of the seedbed, soil, even

- Soil Compaction--Stormwater quality and the amount of runoff both vary significantly with soil compaction. Non-compacted soils improve stormwater by promoting: dense vegetation.
- high infiltration & lower runoff rates. pollutant filtration, deposition & absorption, and beneficial biologic activity in the soil.

Construction activity can cause highly compacted soils but also offers the opportunity to improve soil condition. The best time for improving soil condition is during the establishment of permanent vegetation. It is highly recommended that subsoilers, plows or others implements be specified as part of final seedbed preparation. Use discretion in slip-prone areas.

Minimum Soil Conditions-Vegetation cannot be expected to stabilize soil that is unstable due to its texture, structure, water movement or excessively steep slope. The following minimum soil conditions are needed for the establishment and maintenance of a long-lived vegetation cover. If these conditions cannot be met, see the Standards and Specifications for Resoiling.

Soils must include enough fine-grained material to hold at least a moderate amount of available moisture. The soil must be free from material that is toxic or otherwise harmful to plant growth.

	Perma	anent Seeding			
Seed Mix Seeding Rate No					
Seed MIX	lb./ac.	lb./1,000 ft. ²	Notes:		
W. S. W.	Ge	neral Use			
Creeping Red Fescue Ryegrass Kentucky Bluegrass	20-40 10-20 10-20	1/2-1 1/4-1/2 1/4-1/2			
Tall Fescue	40	1			
Dwarf Fescue	40	1			
	Steep Ban	ks or Cut Slopes			
Tall Fescue	40	1			
Crown Vetch Tall Fescue	10 20	1/4 1/2	Do not seed later than August		
Flat Pea Tall Fescue	20 20	1/2 1/2	Do not seed later than August		
	Road D	itches and Swales	3		
Tall Fescue	40	1			
Dwarf Fescue Kentucky Bluegrass	90 5	2 1/4			
	7	Lawns			
Perennial Ryegrass Kentucky Bluegrass	60 60	1 1/2 1 1/2			
Creeping Red Fescue Kentucky Bluegrass	60 60	1 1/2 1 1/2	For shaded areas		

Mixture	Formula	lb./ac.	lb./1,000 sq. ft.	Time	Mowing
Creeping Red Fescue Ryegrass Kentucky Bluegrass	10-10-10	500	12		Not closer than 3"
Tall Fescue	10-10-10	500	12	Fall, yearly or as needed	Not close than 4"
Dwarf Fescue	10-10-10	500	12		Not closer than 2"
Crown Vetch Fescue	0-20-20	400	10	Spring, yearly following establishment	Do not mov
Flat Pea Fescue	0-20-20	400	10	and every 4-7 yrs. thereafter	Do not mov

SITE PREPARATION

A subsoiler, plow or other implement shall be used to reduce soil compaction and allow maximum infiltration. (Maximizing infiltration will help control both runoff rate and water quality.) Subsoiling should be done when the soil moisture is low enough to allow the soil to crack or fracture. Subsoiling shall not be done on slip-prone areas where soil preparation should be limited to what is necessary for establishing

- The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation
- Resoil shall be applied where needed to establish vegetation.

SEEDBED PREPARATION

Lime--Agricultural group limestone shall be applied to acid soil as recommended by a soil test. In lieu of a bil test, lime shall be applied at the rate of 100 lb./1,000 sq. ft. or 2 tons/ac.

Fertilizer-Fertilizer shall be applied as recommended by a soil test. In lieu of a soil test, fertilizer shall be applied at a rate of 12 lb./1,000 sq. ft. or 500 lb./ac. of 10-10-10- or 12-12-12 analysis.

The lime and fertilizer shall be worked into the soil with a disk harrow, spring-tooth harrow, or other suitable field implement to a depth of 3 in. On sloping land the soil shall be worked on the contour.

ribbons when compressed by hand. For winter seeding, see the following section on dormant seeding.

SEEDING DATES AND SOIL CONDITIONS Seeding should be done March 1 to May 31 or August 1 to September 30. These seeding dates are ideal but, with the use of additional mulch and irrigation, seedings may be made any time throughout the growing season. Tillage/seedbed preparation should be done when the soil is dry enough to crumble and not form

Mulch material shall be applied immediately after seeding. Seedings made during optimum seeding dates and with favorable soil conditions and on very flat areas may not need mulch to achieve adequate stabilization. Dormant seeding shall be mulched.

Straw--If straw is used it shall be unrotted small-grain straw applied at the rate of 2 tons/ac. or 90 lb./1,000 sq. ft. (two to three bales). The mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. or uniform distribution of hand-spread mulch, divide area into approximately 1,000 sq. ft. sections and spread two 45-lb, bales of straw in each section.

Hydroseeders--If wood cellulose fiber is used, it shall be used at 2,000 lb./ac. or 46 lb./1,000 sq. ft.

Other—Other acceptable mulches include mulch mattings applied according to manufacturer's recommendations or wood chips applied at 6 tons/ac.

Straw Mulch Anchoring Methods

Straw mulch shall be anchored immediately to minimize loss by wind or water.

Mechanical--A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped by, generally, be left longer than 6 in.

PERMANENT SEEDING (1)

1. Permanent seeding shall not be considered established for at least 1 full yr. from the time of planting. Seeded areas shall be inspected for failure and vegetation conditions, it may be necessary to irrigate, fertilize, overseed, or reestablish plantings in order to provide permanent vegetation for adequate erosion control.

Maintenance fertilization rates shall be established by soil test recommendations or by using the rates shown in the following table.

1. Seeding shall not be planted from October 1 through November 20. During this period the seeds are likely to germinate but probably will not be able to survive the winter.

The following methods may be used for "Dormant Seeding"

* From October 1 through November 20, prepare the seedbed, add the required amounts of lime and fertilizer, then mulch and anchor. After November 20, and before March 15, broadcast the selected seed mixture. Increase the seeding rates by 50%

From November 20 through March 15, when soil conditions permit, prepare the seedbed, lime and fertilize, apply the selected seed mixture, mulch and anchor. Increase the seeding rates by 50% for this type of seeding.

Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder, or hydro-seeder (slurry may include seed and fertilizer) on a firm, moist seedbed.

Where feasible, except when a cultipacker type seeder is used, the seedbed should be firmed following seeding operations with a cultipacker, roller, or light drag. On sloping land, seeding operations should be on the contour where feasible

Mulch Nettings--Nettings shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of

concentrated runoff and on critical slopes. Asphalt Emulsion-Asphalt shall be applied as recommended by the manufacturer or at

the rate of 160 gal./ac. Synthetic Binders--Synthetic binders such as Acrylic DLR (Agri-Tac), DAC-70, Petroset, Terra Tack or equal may be used at rates recommended by the

* Wood Cellulose Fiber--Wood cellulose fiber binder shall be applied at a net dry weight of 750 lb./ac. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb./100 gal, of wood cellulose fiber.

Permanent seeding shall include irrigation to establish vegetation during dry or hot weather or on adverse site conditions as needed for adequate moisture for seed germination and plant growth

2. Excessive irrigation rates shall be avoided and irrigation monitored to prevent erosion

TEMPORARY SEEDING

Temporary seeding provides erosion control on areas in between construction operations. Grasses which are quick growing are seeded and usually mulched to provide prompt, temporary soil stabilization. It effectively minimizes the area of a construction-site prone to erosion and should be used everywhere the

sequence of construction operations allows vegetation to be established.

CONDITIONS WHERE PRACTICE APPLIES

Temporary seeding should be applied on exposed soil where additional work (grading,etc.) is not scheduled for more than 14 days. Permanent seeding should be applied if the areas will be idle for more than a year. PLANNING CONSIDERATIONS

This practice has the potential to drastically reduce the amount of sediment eroded from a construction-site. Control efficiencies greater than 90% will be achieved with proper applications of temporary seeding. Because practices used to trap sediment are usually much less effective, temporary seeding is to be used even on areas where runoff is treated by sediment trapping practices. Because temporary seeding is highly effective and practical on construction-sites, its liberal use is highly recommended.

Seeding Dates	Species	Lb./1,000 ft. 2	Per Acre
March 1 to August 15	Oats	3	4 bushel
	Tall Fescue Annual Ryegrass	1	40 lb. 40 lb.
	Perennial Ryegrass	1	40 lb.
	Tall Fescue	1	40 lb.
	Annual Ryegrass	1	40 lb.
August 16 to November 1	Rye	3	2 bushel
August 16 to November 1	Tall Fescue	1 1	40 lb.
79	Annual Ryegrass	1	40 lb.
	Wheat	3	2 bushel
	Tall Fescue	1 1	40 lb.
	Annual Ryegrass	1	40 lb.
	Perennial Ryegrass	1	40 lb.
	Tall Fescue	1 1	40 lb.
	Annual Ryegrass	1	40 lb.
November 1 to Spring Seeding	Use mulch only, sodd	ing practices or dormant s	eeding.

Structural erosion- and sediment-control practices such as diversions and sediment trans shall be installed and stabilized with temporary seeding prior to grading the rest of the construction-site.

Temporary seed shall be applied between construction operations on soil that will not be graded or reworked for 14 days or more. These idle areas should be seeded as soon as possible after grading or shall be seeded within 7 days. Several applications of temporary seeing are necessary on typical

The seedbed should be pulverized and loose to ensure the success of establishing vegetation. However, temporary seeding shall not be postponed if ideal seedbed preparation is not possible.

Soil Amendments--Applications of temporary vegetation shall establish adequate stands of vegetation which may require the use of soil amendments. Soil tests should be taken on the site to

Seeding Method-Seed shall be applied uniformly with a cyclone seeder, drill cultipacker seeder, or hydroseeder. When feasible, seed that has been broadcast shall be covered by raking or dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used, the seed and fertilizer will be mixed on-site and the seeding shall be done immediately and without interruption.

MULCHING TEMPORARY SEEDING

Applications of temporary seeding shall include mulch which shall be applied during or immediately after seeding. Seedings made during optimum seeding dates and with favorable soil conditions and on very flat areas may not need mulch to achieve adequate stabilization.

*Straw--If straw is used, it shall be unrotted small-grain straw applied at the rate of 2 tons/ac, or 90 lb./1,000 sq. ft. (two to three bales). The mulch shall be spread uniformly by hand or mechanically so the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000-sq.-ft. sections and spread two

*Hydroseeders-If wood cellulose fiber is used, it shall be used at 2,000 lb/ac. or 46

*Other--Other acceptance mulches include mulch mattings applied according to manufacturer's recommendations or wood chips applied at 6 tons/ac.

Straw mulch shall be anchored immediately to minimize loss by wind or water.

*Mechanical-A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but, generally, be left longer than 6 in.

*Mulch Nettings--Nettings shall be used according to the manufacturer's recommendations Netting may be necessary to hold mulch in place in areas of concentration runoff and on

*Asphalt Emulsion--Asphalt shall be applied as recommended by the manufacturer or at the rate of 160 gal./ac. *Synthetic Binders-Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset,

*Wood-Cellulose Fiber--Wood-cellulose fiber binder shall be applied at a net dry weight of 750 lb./ac. The wood-cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb./100 gal.

Erosion Prevention and Sediment Control Site Inspection Form

SILT FENCE OR MULCH BERM DETAILS (5)

CONSTRUCTION OF A FILTER BARRIER

Source: Installation of Straw and Fabric Filter Barriers for Sediment

DANDY BAG

Installation and Maintenance Guidelines

Installation: The empty Dandy Bag should be placed over the grate as the grate stands on end. If using optional oil absorbents; place absorbent pillow

in pouch, on the bottom (below-grade side) of the unit. Attach absorbent

pillow to tether loop. Tuck the enclosure flap inside to completely enclose

Maintenance: Remove all accumulated sediment and debris from surface and vicinity of unit after each storm event. Remove sediment that has

accumulated within the containment area of the Dandy Bag as needed. If using optional oil absorbents; remove and replace absorbent pillow when near

DANDY BAG

FLAP FOLDS OVER TO ENCLOSE GRATE

warred teach teached teach

IS AN ORANGE

PRESERVE EXISTING VEGETATION

WHEREVER POSSIBLE, PRESERVE EXISTING TREES, SHRUBS, AND

TO PREVENT ROOT DAMAGE, DO NOT GRADE, PLACE SOIL PILES,

PLACE PLASTIC MESH OR SNOW FENCE BARRIERS AROUND TREES

OR PARK VEHICLES NEAR TREES MARKED FOR PRESERVATION.

TO PROTECT THE AREA BELOW THEIR BRANCHES.

OTHER VEGETATION.

WOVEN MONOFILIMENT

DANDY (BAG

LIFTING -

STRAPS

ALLOW EASY MOVEMENT

the grate. Holding the lifting devices (do not rely on lifting devices to

support the entire weight of the grate), place the grate into its frame.

Control, Sherwood and Wyant

2. Excavate a 4" x 4" trench

Introduction: By using some simple Best Management Practices (BMP's) developers and contractors can do their share to protect Clermont County's water resources from the harmful effects of sediment. The topography of the site and the extent of the construction activities will determine which of these practices are applicable to any given site, but the BMP's listed here are applicable to most construction sites. For details on the installation and maintenance of these BMP's, please refer to the approved plans and or the Rainwater and Land Development, Ohio's Standards for Storm Water Management, Land Development and Urban Stream Protection (ODNR, 1996).

Temporary Stabilization is the most effective BMP. All disturbed areas that will lie dormant for 14 days or more must be stabilized within 7 days of the date the area becomes inactive. The goal of temporary stabilization is to provide cover quickly. Areas within 50 feet of a stream must be stabilized within 2 days of reaching final grade. This is accomplished by seeding with fast-growing grasses, then covering with straw mulch. See the Rainwater and Land Development Manual for seasonally adjusted seeding specifications. To minimize your costs of temporary stabilization, leave natural cover in place for as long as possible by only disturbing areas worked within the next 14 days.

Construction Entrances are installed to minimize off-site tracking of sediments. A rough stone access drive underlain with woven geotextile shall be installed at every point where vehicles enter or exit the site. Every individual lot should also have its own drive once construction on the lot begins. Maintenance is performed by top dressing with stone and/or street sweeping.

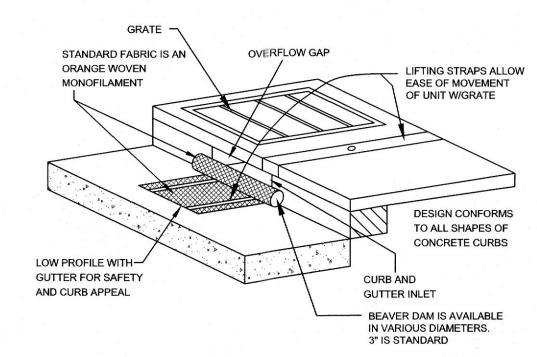
Silt Fence or Mulch Berms are typically used at the perimeter of a disturbed area. They are only for small drainage areas on relatively flat slopes or around small soil storage piles; not suitable where runoff is concentrated in a ditch, pipes or though streams. For large drainage areas where flow is concentrated. collect runoff in diversion berms or channels and pass it through a sediment pond prior to discharging it from the site. Combination barriers constructed of silt fence supported by welded wire fencing, mulch berms supported by rock check dams, or silt fence embedded within rock check dams may be effective within small channels. As with all sediment controls, silt fence or mulch berms must be capable of ponding runoff so that sediment can settle out of suspension. These must be installed within 7 days of first grubbing the area it controls. Whenever practical they should be installed before clearing or grubbing the area it controls.

Inlet Protection must be installed on all yard drains and curb drains when these inlets do not drain to a sediment trap or basin. Even if there is a sediment trap or basin, inlet protection is still recommended, as it will reduce the amount of sediment entering the basin and increase the overall sediment removal efficiency. Best used on roads with little or no traffic. If working properly, inlet protection will cause water to pond. If used on curb inlets, streets will flood temporarily during heavy storms, (overflow should be built-in.) Check with the authority that has jurisdiction over the roads before installing. They may prefer an alternate BMP. Care should be taken when placing inlet protection so that the runoff is not diverted to public roads or other areas where it could cause a hazard.

Permanent Stabilization must occur on areas at final grade within 7 days of reaching final grade. This is usually accomplished by using seed and mulch, but special measures are sometimes required. This is particularly true in drainage ditches or on steep slopes. These measures include the addition of topsoil, erosion control matting, rock riprap or retaining walls. See the Rainwater and Land Development Manual for seasonally adjusted seeding specifications. At all times of the year, the area should be temporarily stabilized until a permanent seeding can be applied. Areas within 50 feet of a stream must be stabilized within 2 days of reaching final grade.

Inspections shall be performed at least once a week and within 24 hours after a storm event greater than 1/2 inch of rainfall within a 24-hour duration using the enclosed Inspection Form. Inspections can be tracked using the enclosed Inspection Log. These shall be maintained throughout the development process and kept on file for three years per OEPA requirements. Erosion prevention and sediment control (EP&SC) measures shall be observed to ensure correct operation. Discharge locations shall be inspected to determine effectiveness of EP&SC measures in preventing significant impacts to the receiving waters. Where practices require repair or maintenance, it must be accomplished within three days of the inspection or as soon as site conditions allow. Repairs to sediment ponds shall be completed within 10 days or as soon as site conditions allow. Most of these BMP's are easy to implement with a little bit of planning and go a long way toward keeping your site clean and organized if they are properly installed and maintained. Please be sure to inform all parties on site how these BMPs affect their operations on the site, particularly those that will be working





The patented Beaver Dam is design for use with curb inlets to detain sediment - laden storm water. The suspended solids are allowed to settle out of the slowed flow prior to entering the Beaver Dam.

INSTALLATION

1. Stand the grate on end

2. Slide the Beaver Dam bag on with the Dam on top of the grate.

Pull the excess down Lav the unit on its side

Carefully tuck the flap in Press the Velcro strips together

To insure proper operation remove silt, sediment, and debris from the surface and the vicinity of the unit with a square point shovel of stiff bristle broom away from environmentally sensitive areas and waterways in a manner satisfactory to the engineer/inspector, Remove fine material from inside Beaver Dam as needed.

7. Install the unit making sure the front edge of the grate is inserted in the frame first, then lower it back into place 8. Press the Velcro dots together that are located under the straps to hold the straps to the surface of the unit.

To inspect inlet, remove Beaver Dam with grate inside, inspect curb inlet/catch basin and replace Beaver Dam into grate from and against curb openings

Ponding is likely if sediment is not removed regularly. The Beaver Dam must never be used where overflow may endanger an exposed slope. The Beaver Dam is not intended for any other use and should not be used for any other purpose.

CONSTRUCTION ENTRANCE

Rainwater and Land Development:

3. Thickness--The stone layer shall be at least 12 in. thick.

6. Culvert--A pipe or culvert shall be constructed under the

Water Bar--A water bar shall be constructed as part of the

paved surfaces.

entrance from being directed out onto paved surfaces.

least 200 lb. and a Mullen Burst Strength of at least 190 lb.

flowing the length of the construction entrance and out onto

as conditions demand. Mud spilled, dropped, washed or

Removal shall be accomplished by scraping or sweeping.

from vehicles and prevent off-site tracking. Vehicles that enter

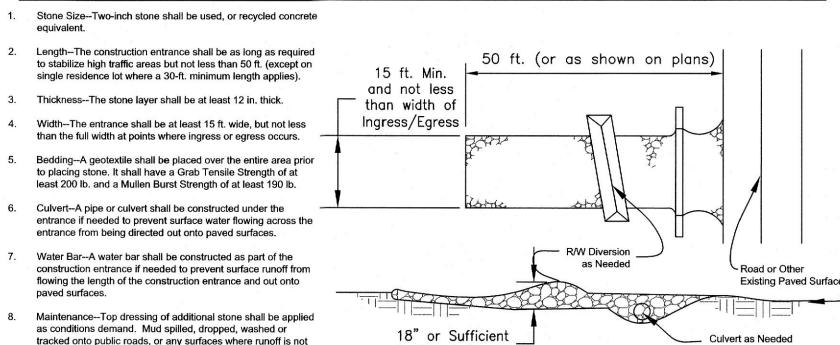
and leave the construction-site shall be restricted from muddy

construction staging area, construction office, and around the

Construction entrances shall not be relied upon to remove mud

10. Contractor shall provide all weather access to and from

Ohio's Standards for Storm water Management Land Development and Urban Stream Protection.



Length--The construction entrance shall be as long as required to stabilize high traffic areas but not less than 50 ft. (except on single residence lot where a 30-ft. minimum length applies). 4. Width--The entrance shall be at least 15 ft. wide, but not less than the full width at points where ingress or egress occurs. 5. Bedding--A geotextile shall be placed over the entire area prior to placing stone. It shall have a Grab Tensile Strength of at entrance if needed to prevent surface water flowing across the construction entrance if needed to prevent surface runoff from Existing Paved Surface > Maintenance--Top dressing of additional stone shall be applied tracked onto public roads, or any surfaces where runoff is not to Divert Runoff checked by sediment controls, shall be removed immediately

Amount of rainfall since last inspection: Overall site conditions: Construction Entrances Is the entrance installed correctly according to the approved plan? YES NO N/A (Check for mud in stones/street, runoff diverted from street, etc..) Action Needed: _

Sediment Basins/Traps:

Are all Basins installed correctly according to the approved plan? YES NO N/A (Check for runoff directed to basin, down slope areas stabilized, riser pipe wrapped with wire fence/filter fabric, emergency overflow, accumulated sediment more than 40% of volume, etc..) Action Needed:

Silt Fence/Mulch Berms:

Are all Silt Fence/Mulch Berm (SF/MB) installed correctly according to the approved plan? YES NO N/A (Check for fabric trenched in, follow contour, turned upslope at ends, silt accumulated, broken stakes, tight fabric, installed in all areas where sediment could leave the site) Action Needed:

Erosion Prevention and Sediment Control Site Inspection Form

Check for runoff ponding, in good shape, silt accumulated, etc..) Action Needed:

Are all Inlet Protections installed correctly according to the approved plan? YES NO N/A

Temporary Stabilization:

Are all disturbed areas that will lie dormant for 21 days or more stabilized with seed/straw or mulch? (stockpiles, hillsides, etc..) YES NO N/A

Are all areas stabilized still in good condition and not eroding? YES NO N/A

Permanent Stabilization:

Have areas that achieved final grade within the last 7 days been stabilized? YES NO N/A Do all storm water outflow areas have riprap or concrete to prevent scouring? YES NO N/A

Are the Stream Crossings installed correctly according to the approved plan? YES NO N/A (Check for stabilized edges, runoff diverted from stream, mud over stones, end of useful life, etc..)

Erosion Prevention and Sediment Control Site Inspection Form

If you answered "no" to any of the above questions, note any corrective action needed above, and note on the Inspection Log when the action was completed.

Inspection Log

The site shall be inspected before and after storm events with 0.5 inches or greater predicted or actual precipitation, and documented on the Construction Site Inspection Form, Incidents of noncompliance must be reported to the Engineer. A log of all inspections, as shown below, shall be kept current.

ate:	Inspector:	Corrective Actions Performed/Date:
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At a		

CONCRETE WASHOUT

.

TYPE "ABOVE GRADE"

WITH STRAW BALES

ACTUAL LAYOUT DETERMINED IN THE FIELD.

TEMPORARY CONCRETE WASHOUT FACILITY.

SHALL BE INSTALLED WITHIN 10 M OF THE

THE CONCRETE WASHOUT SIGN (SEE FIG. 4-15)

CONCRETE WASHOUT

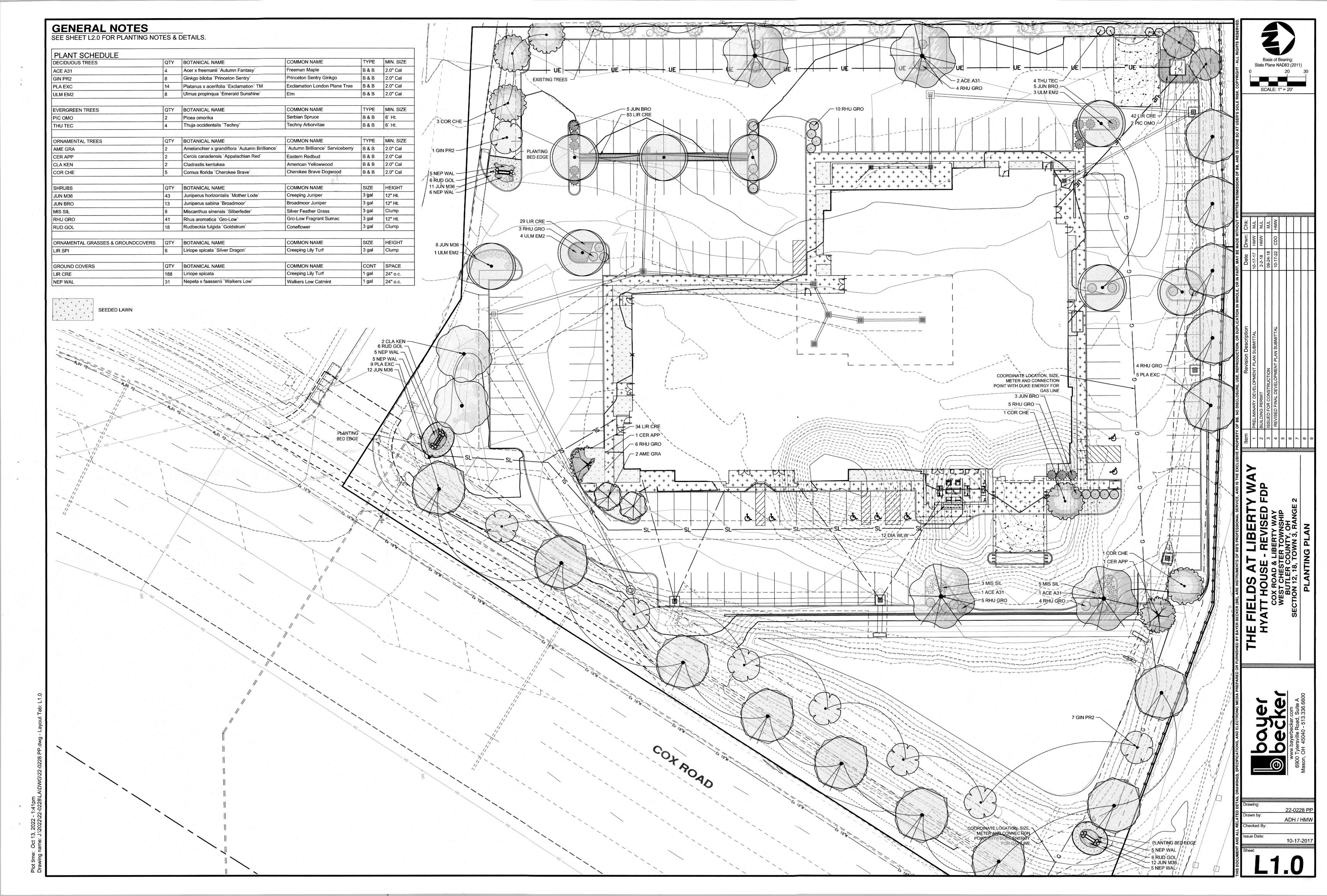
STAPLE DETAIL

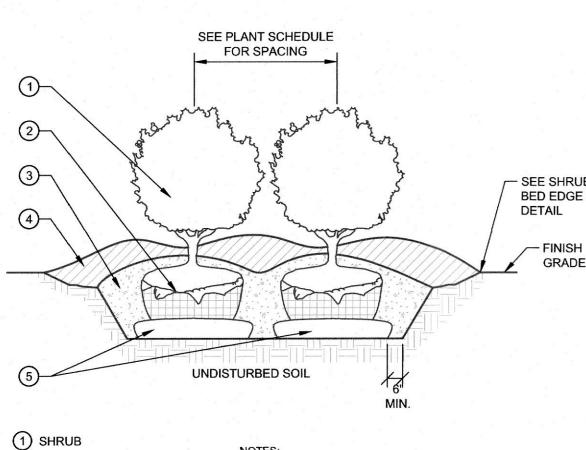
Basis of Bearing:

State Plane NAD83 (2011

SCALE: 1" = 30'







(2) ROOTBALL

(5) TAMPED SETTING BED

(3) AMENDED TOPSOIL (4) MULCH

A. REMOVE BURLAP FROM TOP 1 OF ROOTBALL - TOP OF ROOTBALL TO BE 2-4" ABOVE GRADE AFTER

SETTI EMENT B. SCARIFY BOTTOM AND SIDES OF PLANTING BED TO 4"

TOPSOIL AMENDED PER SOIL TESTING REPORT D. MULCH-SEE TOPSOIL AMENDMENTS & MULCH NOTES,

AND PLANT INSTALLATION NOTES

SHRUB BED PLANTING DETAIL

329113.26-03

(1) CENTRAL LEADER PREVAILING WINDS

(2) 1/2" RUBBER HOSE, REINFORCED, BLACK

(3) ROOTBALL

(4) 4" CORRUGATED PVC TUBING DOUBLE WRAPPED IN FILTER FABRIC SOCK PIPE

(ONLY 5"+ CALIPER TREES) (5) ROOTBALL PIT

(6) EARTHEN SAUCER OF AMENDED TOPSOIL

(7) 36" LONG #5 REBAR STAKE (SEE NOTES) (8) TAMPED SETTTING BED 8" MIN. DEPTH

(9) # 10, GALVANIZED, TWISTED DOUBLE STRAND GUY WIRE

(10) MULCH (SEE NOTES)

(11) 1" x 24" WOOD STAKE TIED TO TREE WITH #9 GALVANIZED WIRE AND BLACK HOSE

REMOVE BURLAP FROM TOP 1 OF ROOTBALL TOP OF ROOTBALL TO BE 2-4" ABOVE GRADE AFTER SETTLEMENT. TREE PIT TO BE TWICE THE WIDTH OF THE

ROOTBALL SCARIFY BOTTOM AND SIDES OF TREE PIT TO 4" MIN. DEPTH.

TOPSOIL AMENDED PER SOIL TESTING REPORT ATTACH GUY WIRE AT 3 OF THE TREE HEIGHT. DRIVE STAKE BELOW GRADE AND WITHIN MULCHED AREAS IF POSSIBLE. WOOD STAKES MAY NOT CONTAIN CHROMATED COPPER ARSENATE (CCA). MULCH-SEE TOPSOIL AMENDMENTS & MULCH

NOTES, AND PLANT INSTALLATION NOTES **EVERGREEN TREE DETAIL**

UNDISTURBED SOIL

(2) LAWN AND ROOT LAYER. SOD MIN. DEPTH AS SHOWN IN DETAIL. (3) AMENDED TOPSOIL. SEE NOTES.

(1) LAWN (SOD OR SEED AS SPECIFIED).

(4) LAWN SURFACE FLUSH WITH OR 1" MAX. BELOW ADJACENT PAVEMENT SURFACE.

(5) CURB. SEE PAVEMENT DETAILS FOR ADDITIONAL INFORMATION...

(6) PAVEMENT. SEE PAVEMENT DETAILS (7) PAVING BASE. SEE PAVEMENT DETAILS

ARCHITECT OR OWNER FOR VERIFICATION. **LAWN AGAINST CURB DETAIL**

A. SEE SODDING AND/OR SEEDING NOTES.

B. IF LAWN AREAS ARE NOT IDENTIFIED ON PLANS

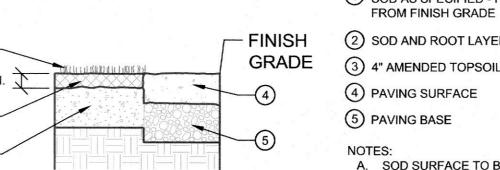
TO BE SEED OR SOD, CONTACT LANDSCAPE

UNDISTURBED SOIL

GRADE

321613.16-11

329343.46-03



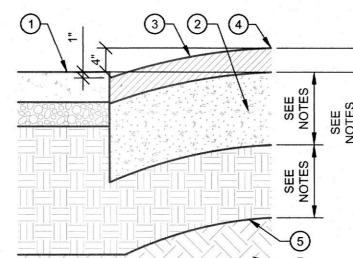
(1) SOD AS SPECIFIED - HOLD DOWN 1 - 1" FROM FINISH GRADE (2) SOD AND ROOT LAYER

(5) PAVING BASE A. SOD SURFACE TO BE INSTALLED

FLUSH WITH ADJACENT PAVING SURFACE.

B. SEE SOD INSTALLATION NOTES FOR INSTALLATION PROCEDURE.

SOD INSTALLATION AT PAVEMENT EDGE 321623-01



NOT TO SCALE

NOT TO SCALE

UNDISTURBED SOIL

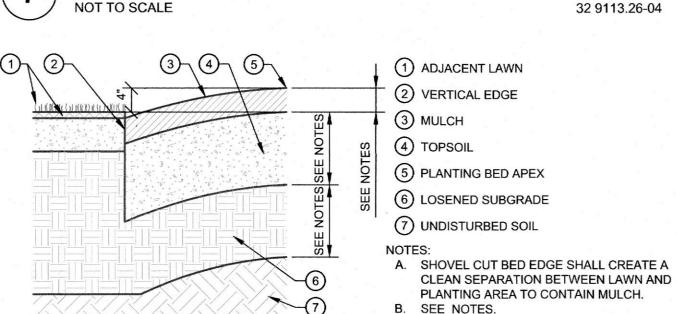
(1) ADJACENT PAVEMENT (WALK OR CURB) (2) TOPSOIL

(3) MULCH (4) PLANTING BED APEX

(5) LOSENED SUBGRADE (6) UNDISTURBED SOIL

A. TOP OF MULCH TO BE BELOW ADJACENT PAVEMENT FOR MULCH CONTAINMENT.

B. SEE NOTES. SHRUB BED EDGE DETAIL AT PAVEMENT



SHRUB BED EDGE DETAIL AGAINST LAWN

32 9113.26-05

GENERAL LANDSCAPE NOTES

A. THE CONTRACTOR SHALL VISIT THE SITE AND COMPLETELY REVIEW THESE DOCUMENTS AND FULLY UNDERSTAND THE NATURE AND SCOPE OF WORK NEEDED TO ACHIEVE THE FINISHED PRODUCT INTENDED BY THE OWNER. IN ADDITION, THE CONTRACTOR SHALL AT ONCE REPORT TO THE LANDSCAPE ARCHITECT, INACCURACIES OR INCONSISTENCIES DISCOVERED, FAILURE TO REASONABLY RECOGNIZE OR NOTIFY THE LANDSCAPE ARCHITECT OF SUCH ITEMS SHALL RELEASE THE LANDSCAPE ARCHITECT AND OWNER OF ALL LIABILITY. ANY DEVIATIONS FROM THESE DOCUMENTS WITHOUT WRITTEN APPROVAL FROM THE LANDSCAPE

ARCHITECT SHALL BE CORRECTED AT THE CONTRACTORS EXPENSE. B. PROTECT ALL EXISTING VEGETATION TO REMAIN WITHIN 20' OF CONSTRUCTION DISTURBANCE AS PER PLANS AND SPECIFICATIONS. INSTALL MINIMUM 4' TALL FENCE 5' OUTSIDE THE DRIP LINE OF TREES TO REMAIN. WATER TREES AND VEGETATION TO REMAIN WITH ONE INCH OF RAIN (RAIN GAUGE OR NOAH LOCAL WEATHER VERIFIED) PER WEEK FOR DURATION OF CONSTRUCTION PROJECT.

C. PRIOR TO CONSTRUCTION. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS. NECESSARY TO COMPLETE THE WORK, LOCATING ALL UNDERGROUND UTILITIES, AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING INSTALLATION. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC., WHICH MAY OCCUR AS A RESULT OF

LANDSCAPE CONSTRUCTION. D. CONTRACTOR MUST CERTIFY THAT ITS SAFETY PROGRAM MEETS REGULATORY REQUIREMENTS AT A MINIMUM CONTRACTOR TO PROVIDE DOCUMENTATION OF THE OSHA RECORD KEEPING SUMMARY

E. LANDSCAPE ARCHITECT MAY OBSERVE TREES AND SHRUBS EITHER AT PLACE OF GROWTH OR SITE BEFORE PLANTING FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, SIZE, AND QUALITY. LANDSCAPE ARCHITECT RETAINS RIGHT TO OBSERVE TREES AND SHRUBS FURTHER FOR SIZE AND CONDITION OF BALLS, ROOT SYSTEMS, INSECTS, INJURIES, AND LATENT DEFECTS AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROGRESS OF WORK, LANDSCAPE CONTRACTOR SHALL REMOVE REJECTED TREES OR SHRUBS IMMEDIATELY FROM PROJECT SITE

F. IF EXISTING ECOLOGY CAUSES ADJUSTMENTS OF LANDSCAPE PLANS TO FIT THE SITE CONDITIONS, A STAKE OUT BY LANDSCAPE CONTRACTOR AND ADJUSTMENTS BY LANDSCAPE ARCHITECT SHALL BE REQUIRED PRIOR TO INSTALLATION.

G. ALL PLANTING AREAS SHOWN ON PLANS SHALL BE TO WITHIN 2" OF FINAL GRADE BEFORE LANDSCAPE CONTRACTOR COMMENCES INSTALLATION. H. LANDSCAPE CONTRACT IS RESPONSIBLE FOR COORDINATING WITH OTHER CONTRACTORS AND/OR LOCATING

PROPOSED SITE UTILITIES, STORM STRUCTURES, EASEMENTS, ETC. ALL PLANT MATERIAL MUST BE INSTALLED ACCORDING TO THE APPROVED LANDSCAPING PLAN BY NO LATER

THAN THE NEXT PLANTING SEASON OR WITHIN 6 MONTHS FROM THE COMPLETION OF ALL SITE CONSTRUCTION J. CONTRACTOR TO VERIFY ALL PLANT QUANTITIES. ANY DISCREPANCY BETWEEN THE PLANTING LIST AND THE PLAN SHALL BE VERIFIED BY THE LANDSCAPE ARCHITECT. ALL SUBSTITUTIONS AND/OR CHANGES SHALL BE REQUESTED IN WRITING TO THE OWNER OR OWNER'S REPRESENTATIVE AND BE APPROVED BY THE LANDSCAPE

ARCHITECT AND THE LOCAL MUNICIPALITY (IF REQUIRED) PRIOR TO INSTALLATION. K. THE CONTRACTOR SHALL PROVIDE QUALITY, SIZE, GENUS, SPECIES, AND VARIETY OF EXTERIOR PLANTS INDICATED, COMPLYING WITH APPLICABLE REQUIREMENTS IN ANSI Z60.1, "AMERICAN STANDARD FOR NURSERY

L. THE CONTRACTOR SHALL FURNISH NURSERY-GROWN TREES AND SHRUBS COMPLYING WITH ANSI Z60.1, WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPLANTING OR ROOT PRUNING. PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK, FREE OF DISEASE, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT.

M. TREES AND SHRUBS OF A LARGER SIZE MAY BE USED, IF ACCEPTABLE TO LANDSCAPE ARCHITECT, WITH A PROPORTIONATE INCREASE IN SIZE OF ROOTS OR BALLS.

N. IF FORMAL ARRANGEMENTS OR CONSECUTIVE ORDER OF TREES OR SHRUBS IS SHOWN, SELECT STOCK FOR UNIFORM HEIGHT AND SPREAD, AND NUMBER LABEL TO ASSURE SYMMETRY IN PLANTING. O. THE CONTRACTOR SHALL LABEL ONE TREE AND ONE SHRUB OF EACH VARIETY AND CALIPER WITH A SECURELY

ATTACHED, WATERPROOF TAG BEARING LEGIBLE DESIGNATION OF BOTH THE BOTANICAL AND COMMON NAME. P. PLANT TAGS SHALL REMAIN ON INSTALLED PLANT MATERIAL UNTIL THE WORK HAS BEEN APPROVED BY LOCAL INSPECTOR AND/OR THE OWNER OR OWNER'S REPRESENTATIVE.

Q. LANDSCAPE CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE FROM ALL PLANT BEDS WITHOUT ADVERSELY AFFECTING SITE DRAINAGE, GRADES BEHIND CURBS FOR AREAS TO RECEIVE MULCH SHALL BE HELD 4 INCHES BELOW TOP OF CURB AND 2 INCHES BELOW TOP OF CURB FOR SOD.

R. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FULLY MAINTAINING, INCLUDING, BUT NOT LIMITED TO WATERING, SPRAYING, MULCHING, FERTILIZING, ETC., ALL PLANTING AREAS AND LAWN UNTIL THE WORK IS ACCEPTED BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

S. CONTRACTOR TO RUN PERCOLATION TESTS TO ASSURE PROPER DRAINAGE IN PLANTING AREAS. T. ADDITIONAL ROCK EXCAVATION AND TOPSOIL MAY BE REQUIRED TO OBTAIN SPECIFIED PLANTING DEPTHS FOR

ROOT COVERAGE BASED ON SITE CONDITIONS U. IF IRRIGATION IS PART OF THE PROJECT, THE LANDSCAPE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL PLANT MATERIAL WITH THE IRRIGATION CONTRACTOR. ACTIVATE IRRIGATION SYSTEM UPON COMPLETION

V. ALL IRRIGATION COMPONENTS SHALL BE OF THE SAME MANUFACTURER & INSTALLED PER MANUFACTURER'S

TOPSOIL, AMENDMENTS & MULCH

A. STRIP TOPSOIL TO ITS FULL DEPTH AT AREAS IMPACTED AND AT ALL AREAS TO BE RE-GRADED AND RESURFACED. STOP TOPSOIL STRIPPING OUTSIDE THE DRIP LINE OF TREES TO REMAIN / DO NOT STRIP AS TO IMPACT THE ROOD LINE OF TREES TO REMAIN.

COORDINATE WITH THE OWNER PRIOR TO ESTABLISHING TOPSOIL STORAGE AREAS. GRADE AND SLOPE STOCKPILES FOR PROPER DRAINAGE AND TO PREVENT EROSION. THE REUSE OF STOCKPILE TOPSOIL WITHIN THE PROJECT SITE MUST BE APPROVED FOR PLACEMENT BY THE LANDSCAPE ARCHITECT C. ALL TOPSOIL SHALL BE SHREDDED, CLEAN, AND UNIFORM IN QUALITY FREE FROM HARD CLODS, STIFF CLAY,

PARTIALLY DISINTEGRATED STONE, LIME, CEMENT, SLAG, OR OTHER UNDESIRABLE MATERIAL. TOPSOIL SHALL CONFORM TO THE FOLLOWING:

- ORGANIC CONTENT - BETWEEN 3% - 10% ORGANIC MATTER - pH - SHALL RANGE BETWEEN 6.0 - 7.5

- SOIL TEXTURE - TOPSOIL SHALL CONSIST OF THE FOLLOWING PERCENTAGES OF SAND, SILT, AND CLAY PASSING THROUGH A 2.00 MM (#10) SIEVE (SAND - 30%-75%, SILT - 15%-70%, CLAY - 10%-30%) TOPSOIL MUST BE APPROVED PRIOR TO PLACEMENT. TOPSOIL TEXT RESULTS SHALL SHOW RECOMMENDATION

FOR SOIL ADDITIVES FOR FERTILIZERS TO CORRECT NUTRIENT DEFICIENCIES AS NECESSARY INORGANIC SOIL AMENDMENTS INCLUDE THE FOLLOWING

· LIME - ASTM C 602, AGRICULTURAL LIMING MATERIAL CONTAINING A MINIMUM OF 80% CALCIUM CARBONATE EQUIVALENT AS FOLLOWS:

a. PROVIDE LIME IN FORM OF GROUND DOLOMITIC LIMESTONE PER ASTM 605, CONTAINING NO LESS THAN 85% OF TOTAL CARBONATES AND SHALL BE GROUND TO SUCH A FINENESS THAT 50% WILL PASS THROUGH A 100 MESH SIEVE AND 90% WILL PASS THROUGH A MESH SIEVE. COARSER MATERIAL WILL BE ACCEPTABLE, PROVIDED THE SPECIFIED RATES OF APPLICATION ARE INCREASED PROPORTIONALLY ON THE BASIS OF QUANTITIES PASSING THE 100 MESH SIEVE.

SULFUR - GRANULAR, BIODEGRADABLE, AND CONTAINING A MINIMUM OF 90% SULFUR, WITH A MINIMUM OF 99% PASSING THROUGH NUMBER 6 SIEVE AND A MAXIMUM OF 10% PASSING THROUGH A NUMBER 40 SIEVE. - AXIS CALCINED DIATOMACEOUS EARTH SOIL AMENDMENT - SEE PREPARATION AND PLANTING NOTES FOR APPLICATION RATES.

ORGANIC MULCH - FREE FROM DELETERIOUS MATERIALS AND SUITABLE AS A TOP DRESSING OF TREES AND SHRUBS, CONSISTING OF ONE DOUBLE SHREDDED HARDWOOD BARK.

PLANTING PREPARATION

A. EXAMINE AREAS TO RECEIVE PLANTS FOR COMPLIANCE WITH REQUIREMENTS AND CONDITIONS AFFECTING INSTALLATION AND PERFORMANCE. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS ARE CORRECTED.

B. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES AND TURF AREAS AND EXISTING PLANTS FROM DAMAGE CAUSED BY PLANTING OPERATIONS.

C. INSTALL EROSION-CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF SOILS AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS. D. APPLY ANTIDESICCANT TO TREES AND SHRUBS USING POWER SPRAY TO PROVIDE ADEQUATE FILM OVER TRUNKS (BEFORE WRAPPING), BRANCHES, STEMS, TWIGS, AND FOLIAGE TO PROTECT DURING HANDLING AND TRANSPORTATION. IF DECIDUOUS TREES OR SHRUBS ARE MOVED IN FULL LEAF, SPRAY ANTIDESICCANT AT NURSERY BEFORE MOVING AND AGAIN TWO (2) WEEKS AFTER PLANTING.

E. WRAP TREES AND SHRUBS WITH BURLAP FABRIC OVER TRUNKS, BRANCHES, STEMS, TWIGS, AND FOLIAGE TO PROTECT FROM WIND AND OTHER DAMAGE DURING DIGGING, HANDLING, AND TRANSPORTATION. . LAY OUT INDIVIDUAL TREE AND SHRUB LOCATIONS AND BED EDGES FOR ALL EXTERIOR PLANTINGS. STAKE LOCATIONS, OUTLINE AREAS, ADJUST LOCATIONS WHEN REQUESTED, AND OBTAIN LANDSCAPE ARCHITECT'S, OWNER'S. OR OWNER REPRESENTATIVE'S WRITTEN ACCEPTANCE OF LAYOUT PRIOR TO PLANTING. TREES SHALL BE SITED IN THE FIELD BY THE LANDSCAPE ARCHITECT WHERE NOTED ON THE PLAN. CONTACT THE LANDSCAPE ARCHITECT WITH ANY DISCREPANCIES OR ISSUES WITH PLACEMENT.

WARRANTY

A. CONTRACTOR SHALL PROVIDE OWNER WITH A MINIMUM ONE YEAR WRITTEN WARRANTY FOR LABOR AND MATERIALS.

B. CONTRACTOR SHALL WARRANT EXTERIOR PLANTS AGAINST DEFECTS, INCLUDING DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM LACK OF ADEQUATE MAINTENANCE, NEGLECT OR ABUSE BY OWNER, OR INCIDENTS THAT ARE BEYOND CONTRACTOR'S CONTROL. C. WARRANTY SHALL INCLUDE SPECIFIC WARRANTY PERIODS FROM DATE OF ACCEPTANCE FOR TREES AND

SHRUBS, GROUND COVERS, AND OTHER EXTERIOR PLANTS WARRANTY SHALL BE LIMITED TO ONE REPLACEMENT OF EACH EXTERIOR PLANT, EXCEPT FOR LOSSES OR REPLACEMENTS DUE TO FAILURE OF CONTRACTOR TO COMPLY WITH REQUIREMENTS.

WARRANTY FOR IRRIGATION SERVICE, PLUMBING, & DRAINAGE SHALL BE GUARANTEED FOR A PERIOD OF 1 YEAR AND WILL INCLUDE START-UP, WINTERIZATION, AND SECOND SEASON START-UP, WARRANTY SHALL INCLUDE ALL LABOR, MATERIAL, TOOLS, AND EQUIPMENT AS NECESSARY TO PROVIDE A FUNCTIONING SYSTEM, FREE FROM DEFECTS AND ADJUSTED PROPERLY FOR APPROPRIATE WATER DELIVERY TO ALL PLANT

TRAFFIC & SAFETY

A. REFER TO BID DOCUMENTS AND COMPLY WITH ALL STATE & LOCAL REQUIREMENTS REGARDING APPROVED WORK TIMES, SCHEDULING OF INSTALLATION, AND ALL OTHER REQUIREMENTS.

PLANT INSTALLATION

A. LOOSEN SUBGRADE OF PLANTING AREAS TO A DEPTH OF TWELVE (12) INCHES. REMOVE STONES LARGER THAN ONE (1 INCH IN ANY DIMENSION, STICKS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND LEGALLY DISPOSE OF THEM OFF OF

THE OWNER'S PROPERTY. APPLY FERTILIZER DIRECTLY TO THE SUBGRADE BEFORE LOOSENING.

C. SPREAD TOPSOIL, APPLY SOIL AMENDMENTS AND FERTILIZER ON SURFACE, AND THOROUGHLY BLEND PLANTING SOIL. APPLY TURFMATRIX SOIL AMENDMENT AT THE FOLLOWING RATES: 2" DEEP BEDS - 450 LBS / 1000 SF; 4" DEEP BEDS - 900 LBS / 1000 SF;

6" DEEP BEDS - 1,300 LBS / 1000 SF; 8" DEEP BEDS - 1,750 LBS / 1000 SF D. DELAY MIXING FERTILIZER WITH PLANTING SOIL IF PLANTING WILL NOT PROCEED WITHIN A FEW DAYS.

MIX LIME WITH DRY SOIL PRIOR TO MIXING FERTILIZER. SPREAD TOPSOIL TO A DEPTH OF (6) SIX INCHES FOR LAWN OR (12) TWELVE INCHES FOR BEDS BUT NOT LESS THAN REQUIRED TO MEET FINISH GRADES AFTER NATURAL SETTLING. DO NOT SPREAD IF PLANTING SOIL IF SUBGRADE IS

FROZEN, MUDDY, OR EXCESSIVELY WET. G. GRADE PLANTING AREAS TO A SMOOTH, UNIFORM, SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSION TO MEET FINISH GRADES.

RESTORE PLANTING AREAS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING FOR PLANTING PITS AND TRENCHES, EXCAVATE CIRCULAR PLANTING PITS WITH SIDES SLOPING INWARD AT A FORTY-FIVE (45) DEGREE ANGLE. EXCAVATIONS WITH VERTICAL SIDES ARE NOT ACCEPTABLE. TRIM PERIMETER OF BOTTOM LEAVING THE CENTER AREA OF THE BOTTOM RAISED 8" TO SUPPORT THE ROOT BALL AND ASSIST WITH DRAINAGE AWAY FROM THE CENTER. DO NOT FURTHER DISTURB THE BASE. ENSURE THAT THE ROOT BALL WILL SIT ON UNDISTURBED BASE SOIL TO PREVENT SETTLING. SCARIFY SIDES OF THE PLANTING PIT SMEARED OR SMOTHERED DURING EXCAVATION.

- EXCAVATE APPROXIMATELY TWO (2) TIMES THE DIAMETER OF THE ROOT BALL FOR BALLED AND BURLAPPED STOCK. - FOR BARE ROOT STOCK, EXCAVATE AT LEAST TWELVE (12) INCHES WIDER THAN THE ROOT SPREAD AND DEEP **ENOUGH TO ACCOMMODATE VERTICAL ROOTS** - IF DRAIN TILE IS SHOWN ON DRAWINGS OR DETAILS, OR REQUIRED UNDER PLANTING AREAS, EXCAVATE TO TOP OF

POROUS BACKFILL OVER TILE. J. SUBSOIL AND TOPSOIL REMOVED FROM EXCAVATION MAY BE USED AS PLANTING SOIL PROVIDED IT IS FREE FROM

ROCKS AND OTHER DELETERIOUS MATERIAL. K. NOTIFY LANDSCAPE ARCHITECT IF UNEXPECTED ROCK OR OBSTRUCTIONS DETRIMENTAL TO TREES OR SHRUBS ARE

ENCOUNTERED IN EXCAVATIONS. NOTIFY LANDSCAPE ARCHITECT IF SUBSOIL CONDITIONS EVIDENCE UNEXPECTED WATER SEEPAGE OR RETENTION IN

TREE OR SHRUB PLANTING PITS.

M. FILL EXCAVATIONS WITH WATER AND ALLOW TO PERCOLATE AWAY BEFORE POSITIONING TREES AND SHRUBS.

N. INSTALL PLANTS - REFER TO TYPICAL PLANTING DETAILS ON THIS SHEET FOR PLANT INSTALLATION. O. IT IS THE CONTRACTOR'S OPTION WHETHER OR NOT TO STAKE A TREE UNDER 5" CALIPER, BUT IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT PLANTS REMAIN IN AN UPRIGHT POSITION UNTIL THE END OF THE WARRANTY PERIOD. AT WHICH POINT ANY STAKES & WIRE ARE TO BE REMOVED BY THE CONTRACTOR

P. ALL DECIDUOUS TREES SHALL BE WRAPPED WITH STANDARD MANUFACTURER'S TREE WRAP TO PREVENT WINTER DAMAGE. TREE WRAP TO BE REMOVED AFTER THE FIRST WINTER BY THE LANDSCAPE CONTRACTOR. Q. LANDSCAPE CONTRACTOR SHALL INSTALL GATOR BAGS, PER MANUFACTURER'S RECOMMENDATION FOR ALL TREES

THAT ARE NOT OTHERWISE IRRIGATED. R. PRIOR TO MULCHING, APPLY PRE-EMERGENT HERBICIDE (PREEN OR EQUIVALENT) PER MANUFACTURER'S RECOMMENDATION.

S. IF NOTED ON PLAN TO USE WEED CONTROL FABRIC, INSTALL WEED CONTROL ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. COMPLETELY COVER AREA TO RECEIVE FABRIC. OVERLAPPING EDGES A MINIMUM OF SIX (6) INCHES, SECURE THE SEAMS WITH GALVANIZED PINS. PINS TO BE 8" -10" APART ALONG EDGES AND 12" MIN. IN CENTER

MULCH BACKFILLED SURFACES OF PLANTING AREAS AND OTHER AREAS AS INDICATED. U. APPLY MULCH ACCORDING TO THE FOLLOWING: - DO NOT PLACE MULCH WITHIN THREE (3) INCHES OF THE TRUNKS OR STEMS OR VOLCANO MULCH. FOR TREES AND SHRUBS IN TURF AREAS - APPLY ORGANIC MULCH RING OF FOUR (4) INCH AVERAGE THICKNESS, WITH THIRTY-SIX (36) INCH RADIUS AROUND TRUNKS OR STEMS

- FOR PLANTS IN BEDS, APPLY ORGANIC MULCH TWO (2) INCH AVERAGE THICKNESS AND EXTENDING TWELVE (12) INCHES BEYOND THE EDGES OF INDIVIDUAL PLANTING PIT OR TRENCH AND OVER THE WHOLE SURFACE OF THE PLANTING AREA, AND FINISH LEVEL WITH ADJACENT FINISH GRADES.

V. THE LANDSCAPE CONTRACTOR SHALL INSTRUCT THE OWNER OR OWNER REPRESENTATIVE ON WATERING NEEDS OF

SEEDING / SOD PREPARATION

B. GRADE SURFACES TO ASSURE DRAINAGE AWAY FROM STRUCTURES AND TO PREVENT PONDING AND POCKETS OF SURFACE DRAINAGE. PROVIDE SUBGRADE FREE FROM IRREGULAR SURFACE CHANGES AND AS FOLLOWS: - ROUGH GRADE SHALL EQUAL PLUS / MINUS TWO TENTHS (0.20) FEET, SUBGRADE TOLERANCE AND SHALL BE FREE OF EXPOSED BOULDERS OR STONE EXCEEDING ONE (1) INCH IN GREATEST DIMENSION. - FILL IN ALL AREAS OF SETTLEMENT TO PROPER GRADE BEFORE SUBSEQUENT PLACEMENT OF TOPSOIL C. PLACE TOPSOIL A MINIMUM OF SIX (6) INCHES AVERAGE DEPTH.

D. GRADE AREA TO A SMOOTH, FREE DRAINING EVEN SURFACE WITH A LOOSE, MODERATELY COURSE TEXTURE. ROLL. SCARIFY, RAKE, AND LEVEL AS NECESSARY TO OBTAIN A TRUE, EVEN LAWN SURFACE AND FILL DEPRESSIONS AS REQUIRED TO DRAIN. SEED BED TO BE APPROXIMATELY ONE HALF (1/2) TO ONE (1) INCH BELOW ALL SIDEWALKS AND CURBS. DO NOT MOVE HEAVY OBJECTS EXCEPT NECESSARY LAWN MAKING EQUIPMENT OVER LAWN AREAS AFTER THE SOIL IS PREPARED UNLESS IT IS LOOSENED AND RE-GRADED. RESTORE PREPARED AREAS TO SPECIFIED CONDITIONS IF ERODED, SETTLED, OR OTHERWISE DISTURBED.

E. APPLY TYPE A / STARTER FERTILIZER TO INDICATED TURF AREAS AT A RATE EQUAL TO ONE (1) POUND OF ACTUAL :NITROGEN PER ONE THOUSAND (1,000) SQUARE FEET OR AS OTHERWISE INDICATED. APPLY FERTILIZERS B MECHANICAL DROP OR ROTARY DISTRIBUTOR, THOROUGHLY AND EVENING INCORPORATED WITH THE SOIL TO A DEPTH OF THREE (3) INCHES BY DICING OR OTHER APPROVED METHOD. FERTILIZE AREAS INACCESSIBLE TO POWER EQUIPMENT WITH HAND TOOLS AN INCORPORATE INTO THE SOIL

F. ACCEPTABLE SEEDING TIMES: SPRING SEED PLANTING - APRIL 1 TO JUNE 1; FALL SEED PLANTING - AUG. 15 TO OCT.

SEED INSTALLATION

A. LANDSCAPE CONTRACTOR SHALL SEED ALL DISTURBED AREAS. THE FINAL GRADE AND TOPSOIL WITHIN +/- .10 FEET WILL BE IN PLACE FOR SEEDING CONTRACTOR.

B. CONTRACTOR SHALL APPLY CELLULOSE FIBER MULCH AT A MINIMUM RATE OF 1500 LBS./ACRE AND FERTILIZERS: BEST 6-20-20 OR BEST 15-15-15 OR APPROVED EQUAL APPLIED AT RATE APPROPRIATE FOR PRODUCT. ORGANIC TACKIFIER SHALL BE APPLIED AT RATE OF 70 LBS./ACRE. HYDROSEED SEED MIX SHALL BE APPLIED AT THE 2,000

C. CONTRACTOR SHALL WATER ALL PLANT AREAS THOROUGHLY TO SATURATE UPPER LAYERS OF SOIL PRIOR TO THE HYDROSEEDING OPERATION. ALLOW THE PLANTING AREA SOIL SURFACE TO DRY OUT FOR ONE DAY ONLY PRIOR TO THE HYDROSEEDING APPLICATION.

D. CONTRACTOR SHALL APPLY THE HYDROSEEDING IN THE FORM OF A SLURRY CONSISTING OF ORGANIC SOIL AMENDMENTS, COMMERCIAL FERTILIZER, AND ANY OTHER CHEMICALS THAT ARE CALLED OUT. WHEN HYDRAULICALLY SPRAYED ONTO THE SOIL, THE MULCH SHALL FORM A BLOTTER-LIKE MATERIAL. SPRAY THE AREA WITH A UNIFORM VISIBLE COAT, USING THE DARK COLOR OF THE CELLULOSE FIBER AS A VISUAL GUIDE. THE SLURRY SHALL BE APPLIED IN A DOWNWARD DRILLING MOTION VIA A FAN STREAM NOZZLE. CONTRACTOR SHALL INSURE THAT ALL OF THE SLURRY COMPONENTS ENTER AND MIX WITH THE SOIL.

E. IF SLURRY COMPONENTS ARE LEFT FOR MORE THAN TWO HOURS IN THE MACHINE, ADD 50% MORE OF THE ORIGINALLY SPECIFIED SEED MIX TO ANY SLURRY MIXTURE WHICH HAS NOT BEEN APPLIED WITHIN THE TWO HOURS AFTER MIXING. ADD 75% MORE OF THE ORIGINAL SEED MIX TO ANY SLURRY MIXTURE WHICH HAS NOT BEEN APPLIED EIGHT (8) HOURS AFTER MIXING. ALL MIXTURES MORE THAN EIGHT (8) HOURS OLD, SHALL BE DISPOSED, OFFSITE, AT THE CONTRACTOR'S EXPENSE.

F. CONTRACTOR SHALL REMOVE ALL SLURRY SPRAYED ONTO HARDSCAPE AREAS INCLUDING CONCRETE WALKS, FENCES, WALLS, BUILDINGS, ETC. AT THE CONTRACTOR'S EXPENSE. G. CONTRACTOR SHALL SAVE ALL SEED AND FERTILIZER TAGS AND FIBER MULCH BAGS FOR THE LANDSCAPE

ARCHITECT TO VERIFY COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS.

IRRIGATION (IF APPLICABLE)

A. FURNISH ALL DESIGN, LABOR, MATERIALS, AND EQUIPMENT FOR THE PROPER INSTALLATION OF AN IRRIGATION SYSTEM TO SERVICE ALL LAWN AND PLANTED AREAS. B. THE CONTRACTOR SHALL PROVIDE LAYOUT AND DESIGN COORDINATION WITH THE LANDSCAPE REQUIREMENTS OF THE

PLANTING TYPES, LOCATIONS AND SHALL INCLUDE WATER SAVING PRODUCTS (LIKE EPA WATERSENSE) AND PRACTICES WHICH DEMONSTRATE THE HIGHEST LEVEL OF PERFORMANCE (WATER SAVING FEATURES). C. SMART CONTROLLERS, HIGH-EFFICIENCY SPRAY NOZZLES, PRESSURE REGULATED HEADS, AND DRIPLINE IN BEDS MUST BE INCORPORATED. INDIVIDUAL SUB-ZONES MUST BE TAILORED TO THE WATERING REQUIREMENTS OF EACH MAJOR PLANT TYPE. UNDER NO CIRCUMSTANCES SHALL ANY TURF AREAS BE WATERED IN COMBINATION WITH PLANT BEDS. SPACING OF ALL SPRINKLER EQUIPMENT SELECTED SHALL NOT EXCEED THE MANUFACTURER'S

RECOMMENDATIONS AS PUBLISHED. "HEAD TO HEAD" COVERAGE IS REQUIRED IN ALL TURF AREAS. IRRIGATION CONTRACTOR SHALL PARTICIPATE IN COORDINATION MEETINGS AS REQUIRED WITH THE OWNER'S

REPRESENTATIVE AND RELATED PARTIES PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE IRRIGATION SYSTEM IS TO BE INSTALLED BY A CONTRACTOR WHO SPECIALIZES IN IRRIGATION DESIGN AND INSTALLATION AND HAS INSTALLED AT LEAST FIVE (5) PROJECTS OF EQUAL OR COMPARATIVE SIZE AND COMPLEXITY IRRIGATION WORK SHALL BE PERFORMED BY A SINGLE FIRM, ACCEPTABLE TO THE OWNER'S REPRESENTATIVE AND LICENSED AS A CONTRACTOR IN THE STATE WHERE THE PROJECT IS TO BE INSTALLED.

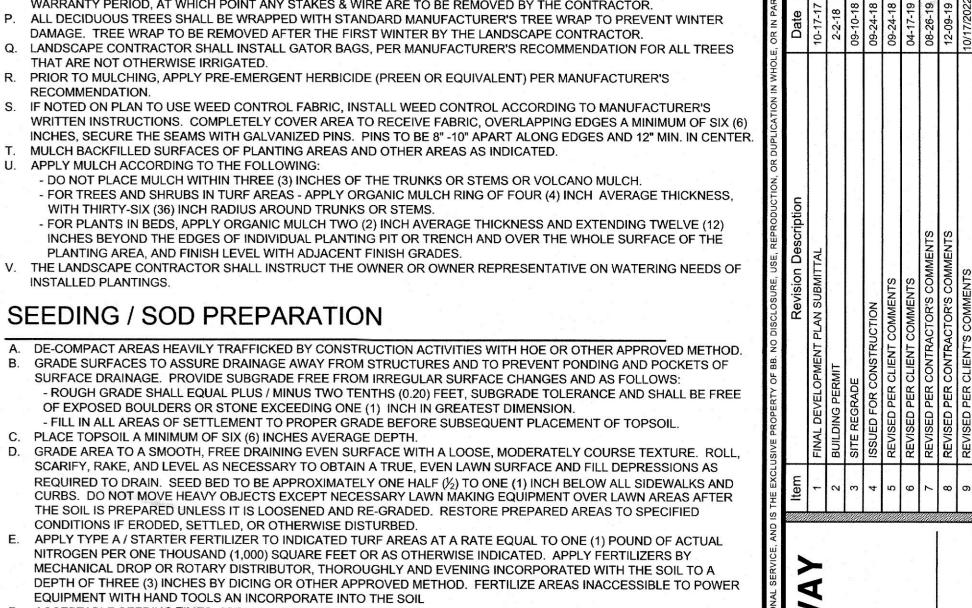
THE SYSTEM SHALL BE DESIGNED BY A CERTIFIED EPA WATERSENSE PARTNER, AS FOUND ON THE EPA WATERSENSE WEBSITE. OR MUST BE A MEMBER OF THE IRRIGATION ASSOCIATION (IA), FAIRFAZ, VA, AND HOLD A CID (CERTIFIED DESIGNER DESIGNER) QUALIFICATION.

G. REFERENCED STANDARDS: AMERICAN SOCIETY FOR TESTING AND MATERIALS, ANNUAL BOOK OF ASTM STANDARDS. LATEST EDITION H. CODES AND STANDARDS: IRRIGATION DESIGN AND INSTALLATION SHALL COMPLY WITH ALL APPLICABLE FEDERAL STATE, AND LOCAL GOVERNING AGENCY REQUIREMENTS AND TO INDUSTRY STANDARDS. NOTIFY LANDSCAPE

ARCHITECT IMMEDIATELY IN WRITING OF ANY DISCREPANCIES, INCONSISTENCIES, OR CONTRADICTORY SUBSTITUTIONS: NO SUBSTITUTIONS FROM THE INITIAL PLAN WILL BE PERMITTED WITHOUT REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE. REQUESTS MUST BE MADE TWO (2) WEEKS IN ADVANCE OF THE PROJECT START DATE. IN THE EVENT THE CONTRACTOR WISHES TO MAKE SUBSTITUTIONS OF MATERIALS, SUFFICIENT DESCRIPTIVE LITERATURE, NEW DESIGN, AND MATERIAL SAMPLES MUST BE FURNISHED TO ESTABLISH THE MATERIAL AS AN EQUAL

DESIGN INTENT AS IT PERTAINS TO WATER CONSERVATION. APPROVAL AND SELECTION OF MATERIALS AND WORK: THE SELECTION OF ALL MATERIALS AND THE EXECUTION OF ALL OPERATIONS REQUIRED UNDER THIS PERFORMANCE SPECIFICATION IS SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE WHO HAS THE RIGHT TO REJECT ANY AND ALL MATERIALS AND ANY AND ALL WORK WHICH, IN THEIR OPINION, DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AT ANY STAGE OF THE OPERATION. REMOVE REJECTED WORK AND MATERIALS FROM PROJECT SITE AND REPLACE PROMPTLY.

SUBSTITUTE. AND THE DESIGN AS FUNCTIONAL. THE PROPOSED MATERIAL SUBSTITUTION MUST MEET THE ORIGINAL



hecked By

10-17-1