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UTILITY CONTACTS	
ELECTRIC: COMMONWEALTH EDISON CO. 1910 S. BRIGGS RD. JOLIET, IL 60433 (800) 595-6237 CONTACT:	WATER: VILLAGE OF CRESTHILL 2090 OAKLAND AVE, CREST HILL, ILLINOIS 60403 (815)-741-5100 CONTACT: JULIUS HANSEN
GAS: NICOR 1844 FERRY RD NAPERVILLE, IL 60563 (309) 557-8501 CONTACT: LARRY BLACKBURN	TELEPHONE: AT&T 297 S. WEBER RD. ROMEOVILLE, IL 60446 (630) 573-5653 CONTACT: KEITH HEMLICH
SEWER: VILLAGE OF CREST HILL 2090 OAKLAND AVE, CREST HILL ILLINOIS 60403 (815-741-5108) CONTACT: JULIUS HANSEN	

Proposed Improvements for SEASONS AT CREST HILL

SOUTHEAST CORNER OF RENWICK AND WEBER ROAD
CITY OF CREST HILL, IL

STANDARD SYMBOLS

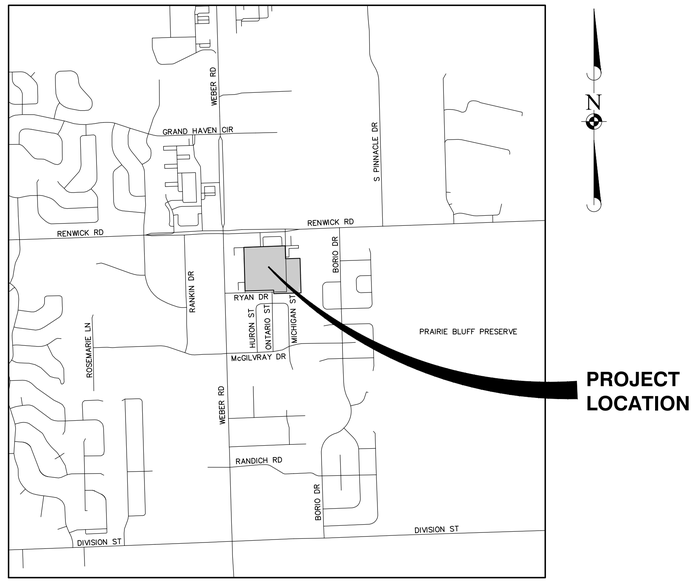
08-01-16

EXISTING		PROPOSED
	STORM SEWER	
	SANITARY SEWER	
	COMBINED SEWER	
FM	FORCEMAIN	FM
	DRAINTILE	
W	WATER MAIN	W
E	ELECTRIC	E
G	GAS	G
T	TELEPHONE	T
OH	OVERHEAD WIRES	OH
	SANITARY MANHOLE	
	STORM MANHOLE	
	CATCH BASIN	
	STORM INLET	
	CLEANOUT	
	HAY BALES	
	RIP RAP	
	VALVE IN VAULT	
	VALVE IN BOX	
	FIRE HYDRANT	
	BUFFALO BOX	
	FLARED END SECTION	
	STREET LIGHT	
	SUMMIT / LOW POINT	S/L
795.20 / 790.25	RIM ELEVATION / INVERT ELEVATION	795.25 / 790.20
	DITCH OR SWALE	
	DIRECTION OF FLOW	
	OVERFLOW RELIEF SWALE	
764	1 FOOT CONTOURS	764
	CURB AND GUTTER	
	DEPRESSED CURB AND GUTTER	
	REVERSE CURB AND GUTTER	
	SIDEWALK	
	DETECTABLE WARNINGS	
	PROPERTY LINE	
	EASEMENT LINE	
	SETBACK LINE	
	MAIL BOX	
	SIGN	
	TRAFFIC SIGNAL	
	POWER POLE	
	GUY WIRE	
	GAS VALVE	
H	HANDHOLE	
E	ELECTRICAL EQUIPMENT	
T	TELEPHONE EQUIPMENT	
	CHAIN-LINK FENCE	
792.8	SPOT ELEVATION	792.8
	BRUSH/TREE LINE	
16"	DECIDUOUS TREE WITH TRUNK DIA. IN INCHES (TBR)	16"
25'	CONIFEROUS TREE WITH HEIGHT IN FEET (TBR)	25'
S	SILT FENCE	S
	RETAINING WALL	
	WETLAND	

ABBREVIATIONS

06-01-16

ADJ	ADJUST	F/L	FLOW LINE	R.O.W.	RIGHT-OF-WAY
AGG.	AGGREGATE	FM	FORCE MAIN	RCP	REINFORCED CONCRETE PIPE
ARCH	ARCHITECT	G	GROUND	REM	REMOVAL
B.A.M.	BITUMINOUS AGGREGATE MIXTURE	G/F	GRADE AT FOUNDATION	REV	REVERSE
B-B	BACK TO BACK	GW	GUY WIRE	RR	RAILROAD
B/C	BACK OF CURB	HDWL	HEADWALL	RT	RIGHT
B/P	BOTTOM OF PIPE	HH	HANDHOLE	SAN	SANITARY
B/W	BACK OF WALK	HWL	HIGH WATER LEVEL	SF	SQUARE FOOT
B-BOX	BUFFALO BOX	HYD	HYDRANT	SHLD.	SHOULDER
BIT.	BITUMINOUS	INL	INLET	SL	STREET LIGHT
BM	BENCHMARK	INV	INVERT	SMH	SANITARY MANHOLE
B.O.	BY OTHERS	IP	IRON PIPE	ST	STORM
C.E.	COMMERCIAL ENTRANCE	LT	LEFT	STA.	STATION
CB	CATCH BASIN	MAX.	MAXIMUM	STD	STANDARD
℄	CENTERLINE	MB	MAILBOX	SW	SIDEWALK
CMP	CORRUGATED METAL PIPE	M/E	MEET EXISTING	SY	SQUARE YARDS
CNTRL	CONTROL	MH	MANHOLE	TBR	TO BE REMOVED
CO	CLEANOUT	MIN.	MINIMUM	T	TELEPHONE
CONC.	CONCRETE	NWL	NORMAL WATER LEVEL	T-A	TYPE A
CY	CUBIC YARD	P.E.	PRIVATE ENTRANCE	T/C	TOP OF CURB
D	DITCH	PC	POINT OF CURVATURE	T/F	TOP OF FOUNDATION
DIA.	DIAMETER	PCC	POINT OF COMPOUND CURVE	T/P	TOP OF PIPE
DIP	DUCTILE IRON PIPE	PGL	PROFILE GRADE LINE	T/W	TOP OF WALK
DWM	DUCTILE IRON WATER MAIN	PI	POINT OF INTERSECTION	T/WALL	TOP OF WALL
DS	DOWNSPOUT	ℙ	PROPERTY LINE	TEMP	TEMPORARY
DT	DRAIN TILE	PP	POWER POLE	TRANS	TRANSFORMER
E	ELECTRIC	PROP.	PROPOSED	V.B.	VALVE BOX
E-E	EDGE TO EDGE	PT	POINT OF TANGENCY	VCP	VITRIFIED CLAY PIPE
ELEV.	ELEVATION	PVC	POLYVINYL CHLORIDE PIPE	V.V.	VALVE VAULT
E/P	EDGE OF PAVEMENT	PVC	POINT OF VERTICAL CURVATURE	WL	WATER LEVEL
EX.	EXISTING	PVI	POINT OF VERTICAL INTERSECTION	WM	WATER MAIN
F.O.	FIELD ENTRANCE	PVT	POINT OF VERTICAL TANGENCY		
F-F	FACE TO FACE	P.	PAVEMENT		
F.F.	FINISHED FLOOR	P.U.D.E.	PUBLIC UTILITY & DRAINAGE EASEMENT		
FES	FLARED END SECTION	R	RADIUS		



LOCATION MAP

N.T.S.

DEVELOPER:
FRED-CREST HILL HC, LLC
789 NORTH WATER STREET, SUITE 500
MILWAUKEE, WISCONSIN 53202
(414) 246-8402

NOTE:

THE BOUNDARY LINES AND TOPOGRAPHY FOR THIS PROJECT ARE BASED ON A FIELD SURVEY COMPLETED BY MANHARD CONSULTING ON SEPTEMBER 23, 2025. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY MANHARD CONSULTING AND THE CLIENT IN WRITING OF ANY DIFFERING CONDITIONS.

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One Overlook Point, Suite 260, Lincolnshire, IL 60069 ph:847.934.5550 fx:847.934.0995 manhard.com
Civil Engineers • Surveyors • Water Resources Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

MANHARD CONSULTING IS NOT RESPONSIBLE FOR THE SAFETY OF ANY PARTY AT OR ON THE CONSTRUCTION SITE. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND ANY OTHER PERSON OR ENTITY PERFORMING WORK OR SERVICES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR THE JOB SITE SAFETY OF PERSONS ENGAGED IN THE WORK OR THE MEANS OR METHODS OF CONSTRUCTION.

INDEX OF SHEETS

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2	EXISTING CONDITIONS AND DEMOLITION PLAN
3	SOIL EROSION AND SEDIMENT CONTROL PLAN
4	SOIL EROSION AND SEDIMENT CONTROL DETAILS
5	SOIL EROSION AND SEDIMENT CONTROL DETAILS
6	SITE DIMENSIONAL AND PAVING PLAN - OVERALL
7	SITE DIMENSIONAL AND PAVING PLAN - NW
8	SITE DIMENSIONAL AND PAVING PLAN - NE
9	SITE DIMENSIONAL AND PAVING PLAN - WEST
10	SITE DIMENSIONAL AND PAVING PLAN - EAST
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43	CONSTRUCTION DETAILS
44	CONSTRUCTION SPECIFICATIONS

BENCHMARKS:

REFERENCE BENCHMARK:
ELEVATIONS AND SITE BENCHMARKS SHOWN HEREON WERE ESTABLISHED UTILIZING A TRIMBLE REAL-TIME KINETIC (RTK) GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) AND THE TRIMBLE VRS NOW NETWORK. THE OBSERVED ELEVATIONS ARE THE BASIS FOR ALL ELEVATIONS SHOWN HEREON AND THIS INFORMATION HAS NOT BEEN DIRECTLY (COMPARED TO ANY OTHER KNOWN OR FIXED BENCHMARK.

SITE BENCHMARK #1:
SOUTHEAST "ARROW" BOLT OF FIRST FIRE HYDRANT (TAG #3-054) WEST OF THE CENTERLINE OF ONTARIO STREET AND NORTH SIDE OF RYAN DRIVE. LOCATED APPROXIMATELY 19 FEET NORTH OF CENTERLINE OF RYAN DRIVE AND 208 FEET WEST OF CENTERLINE OF ONTARIO STREET.

ELEVATION = 647.21

SITE BENCHMARK #2:
NORTHWEST BOLT OF FIRST FIRE HYDRANT (TAG #3-067) WEST OF EXECUTIVE DRIVE ON SOUTH SIDE OF "PRIVATE DRIVE" AT EXISTING ENTRANCE ON NORTH SIDE OF SITE. LOCATED APPROXIMATELY 718 FEET NORTH OF CENTERLINE OF RYAN DRIVE AND 145 FEET WEST OF CENTERLINE OF ONTARIO STREET EXTENDED NORTH.

ELEVATION = 649.73

SITE BENCHMARK #3:
SOUTHWEST "ARROW" BOLT OF THIRD FIRE HYDRANT (TAG #3-057) SOUTH OF WEBER ROAD ON EAST SIDE OF EXECUTIVE DRIVE.
LOCATED APPROXIMATELY 431 FEET NORTH OF CENTERLINE OF RYAN DRIVE AND 19 FEET EAST OF CENTERLINE OF EXECUTIVE DRIVE.

ELEVATION = 649.16

SEAL

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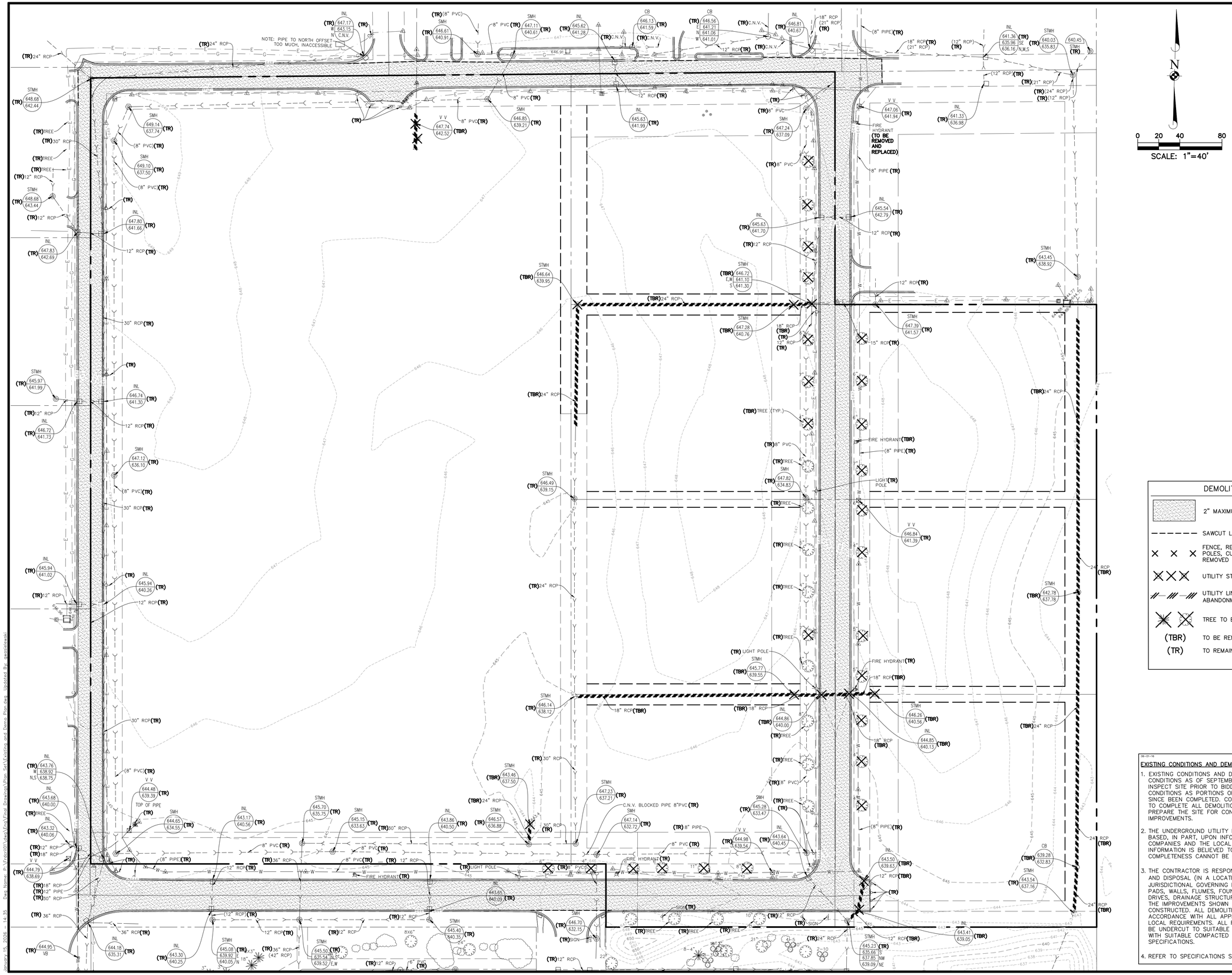
SEASONS AT CREST HILL
CITY OF CREST HILL
TITLE SHEET

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: MH
DATE: 01-14-26
SCALE: NTS

SHEET 1 OF 44
FRD.CRIL01

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January 14, 2026 - 16:26 Dwg Name: P:\Fred\001\Mep\Engr\Plan Drawings\Plan Set\TITLE SHEET.dwg Updated By: dwesterwelt



DEMOLITION LEGEND

- 2" MAXIMUM MILL
- SAWCUT LINE
- FENCE, RETAINING WALL, RAILROAD TIES, POLES, CURB AND GUTTER, ETC. TO BE REMOVED
- UTILITY STRUCTURE TO BE REMOVED
- UTILITY LINE REMOVAL, FILL OR ABANDONMENT (REFER TO SPECIFICATIONS)
- TREE TO BE REMOVED
- (TBR) TO BE REMOVED
- (TR) TO REMAIN

06-01-16

EXISTING CONDITIONS AND DEMOLITION NOTES:

1. EXISTING CONDITIONS AND DEMOLITION PLAN REPRESENT SITE CONDITIONS AS OF SEPTEMBER 23, 2025. CONTRACTOR SHALL INSPECT SITE PRIOR TO BIDDING WORK TO VERIFY ACTUAL FIELD CONDITIONS AS PORTIONS OF THE DEMOLITION WORK MAY HAVE SINCE BEEN COMPLETED. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLETE ALL DEMOLITION WORK AS PER PLANS TO PREPARE THE SITE FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS.
2. THE UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED TO.
3. THE CONTRACTOR IS RESPONSIBLE FOR DEMOLITION, REMOVAL AND DISPOSAL (IN A LOCATION APPROVED BY ALL JURISDICTIONAL GOVERNING ENTITIES) OF ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, ROAD, PARKING LOTS, DRIVES, DRAINAGE STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THESE PLANS CAN BE CONSTRUCTED. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.
4. REFER TO SPECIFICATIONS SHEET FOR DEMOLITION NOTES.

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DRAWN BY | REVISIONS | DATE

SEASONS AT CREST HILL
CITY OF CREST HILL
EXISTING CONDITIONS AND DEMOLITION PLAN

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: GAW
DATE: 01-14-26
SCALE: 1"=40'

SHEET 2 OF 44
FRD.CRIL01

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January 15, 2026 - 14:35 Dwg Name: P:\Projects\Data\Engineering\Plat Drawings\Plan Sets\Existing and Demo Plan.dwg Updated By: dansidewski

SILT FENCE AROUND RECEIVING PIT

CONCRETE WASHOUT

INLET PROTECTION (TYP.)

CONSTRUCTION ENTRANCE

BUILDING A
F.F.=649.15
G.F=648.65

BUILDING B
F.F.=649.15
G.F=648.65

BUILDING C
F.F.=649.15
G.F=648.65

BUILDING D
F.F.=649.15
G.F=648.65

BUILDING E
F.F.=648.80
G.F=648.30

GARAGE

EXECUTIVE DRIVE

SILT FENCE (TYP.)

LIMITS OF DISTURBANCE (TYP.)

CLOSED LID

RETAINING WALL (BY OTHERS)

BUILDING F
F.F.=648.70
G.F=648.20

CLUBHOUSE
F.F.=648.80
G.F=648.30

POOL

BUILDING K
F.F.=647.75
G.F=647.25

BUILDING L
F.F.=647.75
G.F=647.25

INSTALL TREE PROTECTION FENCING AROUND DRIPLINE (TYP.)

BUILDING G
F.F.=648.70
G.F=648.20

INLET PROTECTION (TYP.)

BUILDING I
F.F.=648.00
G.F=647.50

BUILDING J
F.F.=648.00
G.F=647.50

BUILDING M
F.F.=647.25
G.F=646.75

BUILDING N
F.F.=647.25
G.F=646.75

INLET PROTECTION (TYP.)

BUILDING H
F.F.=648.70
G.F=648.20

CONCRETE WASHOUT

CONSTRUCTION ENTRANCE

RYAN DRIVE

SILT FENCE (TYP.)

LIMITS OF DISTURBANCE (TYP.)

SILT FENCE AROUND RECEIVING PIT

APPROXIMATE LOCATION OF TOPSOIL STOCKPILE. FINAL LOCATION TO BE DETERMINED BY CONTRACTOR

N

0 20 40 80

SCALE: 1"=40'

SEE SHEET 4 FOR EROSION CONTROL NOTES

SOIL PROTECTION CHART

STABILIZATION CHART	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PERMANENT SEEDINGS			A						*			
DORMANT SEEDINGS	B										B	
TEMPORARY SEEDINGS			C									
TEMPORARY SEEDINGS	D											
SODDING			E**									
MULCHING	F											

A – KENTUCKY BLUEGRASS 90 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 30 LBS./AC.

B – KENTUCKY BLUEGRASS 135 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 45 LBS./AC. 2 TONS STRAW MULCH PER ACRE

C – SPRING OATS

D – WHEAT OR CEREAL RYE

E – SOD (NURSERY GROWN KENTUCKY BLUEGRASS)

F – STRAW MULCH 2 TONS PER ACRE

* IRRIGATION NEEDED DURING JUNE, JULY AND SEPTEMBER

** IRRIGATION NEEDED FOR 2–3 WEEKS AFTER SODDING

NOTE: THIS CHART IS A GUIDE TO ASSISTS THE CONTRACTOR IN UNDERSTANDING OPTIONS FOR SOIL STABILIZATION. THE LANDSCAPE PLAN SHALL TAKE PRECEDENCE OVER THIS CHART. ANY CONFLICT SHALL BE DISCUSSED WITH THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION.

01-01-16

LEGEND

- S — S — TEMPORARY SILT FENCE (PERIMETER EROSION BARRIER)
- SD — SD — TEMPORARY SILT DIKE
- TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
- TEMPORARY STORM STRUCTURE PROTECTION
- TEMPORARY PERFORATED RISER
- PAVEMENT DRAINAGE FLOW
- SWALE DRAINAGE FLOW
- LIMITS OF DISTURBANCE/CONSTRUCTION

01-01-16

CONSTRUCTION SEQUENCE:

1. INSTALL SILT FENCE AT LOCATIONS AS INDICATED ON THE PLANS.
2. PROVIDE STABILIZED CONSTRUCTION ENTRANCE.
3. CONSTRUCT TEMPORARY DITCHES, SWALES, SEDIMENT TRAPS AND/OR BASINS.
4. STRIP EXISTING TOPSOIL FROM PROPOSED LIMITS OF DISTURBANCE AND STOCKPILE WHERE SHOWN ON PLANS.
5. PROVIDE SILT FENCE AROUND THE BASE OF THE STOCKPILES.
6. CONSTRUCT STORMWATER MANAGEMENT (DETENTION) FACILITIES TO SUB–GRADE AND INSTALL OUTLET PIPES.
7. COMPLETE TOPSOIL PLACEMENT AND PERMANENT SEEDING AND SODDING OF STORMWATER MANAGEMENT FACILITIES.
8. CUT AND FILL SITE TO PLAN SUB–GRADE.
9. CONSTRUCT UNDERGROUND IMPROVEMENTS, i.e. SANITARY SEWER WATERMAIN AND STORM SEWER**, ETC.
10. CONSTRUCT PAVEMENT IMPROVEMENTS PER PLAN.
11. COMPLETE CONSTRUCTION OF SITE WITH PERMANENT STABILIZATION.
12. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

** INSTALL INLET PROTECTION AROUND DRAINAGE STRUCTURES AS CONSTRUCTED.

"THESE EROSION CONTROL PLANS ARE A PORTION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (IEPA) TOTAL REQUIREMENTS FOR A COMPLETE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS REQUIRED BY THE GENERAL NPDES PERMIT NO. ILR10. CLIENT AND/OR CONTRACTOR WILL BE RESPONSIBLE FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE GENERAL NPDES PERMIT AND COMPILATION OF THE COMPLETE SWPPP."

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DATE

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SEASONS AT CREST HILL

CITY OF CREST HILL

SOIL EROSION AND SEDIMENT CONTROL PLAN

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: GAW
DATE: 01-14-26
SCALE: 1"=40'

SHEET 3 OF 44

FRD.CRIL01

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January 14, 2026 - 12:59 Dwg Name: P:\Projects\01\Veg\Eng\Plan Drawings\Plan Set\Soil Erosion and Sediment Control Plan.dwg Updated By: gaw(sdewa)

Street and Parking Lot Sweeping

Purpose: To reduce the amount of pollutants that get washed into the storm drain and ultimately transported and deposited in waterbodies.

Application:
1. Sweeping at points of egress where sediment is tracked from project site onto public or private streets and roads.

Limitations:
1. Sweeping may be ineffective if soil is wet or heavy accumulation of mud.
2. May require repeat Cleanings

Maintenance:
1. Inspect potential sediment tracking ingress and egress points locations daily, and after rain events.
2. Visible sediment observed outside the construction limits shall be swept and removed daily.
3. Use only brooms or sweeper attachments. These tend to spread the dirt rather than remove it.
4. If not mixed with debris or trash, consider incorporating the removed sediment back into the project.
5. Be careful not to sweep up any unknown substance or any object that may be CONTAMINATED.
6. Adjust brooms frequently; maximize efficiency of sweeping operations.
7. After sweeping is finished, properly dispose of sweeper wastes at an approved dumpsite.

Topsoil Salvage & Utilization

Purpose: To provide a method of preserving topsoil for use in establishing vegetation to achieve final site stabilization.

Specifications:

Material

Typically the darker, friable, loamy surface lay of soil found immediately below vegetation

Storage Area
1. Free of stumps, rock, and construction debris.
2. Stockpile covered with vegetation or a tarp.
3. Surrounded by a sediment barrier or sediment filter.
4. Stockpile outside rooting zone of trees to be protected.

Application:

Salvaging and Stockpiling Topsoil
1. Determine depth and suitability of topsoil at site.
2. Prior to stripping topsoil, install any site-specific down slope measures needed to control storm water and sedimentation
3. Remove soil material no deeper than the "Surface Soil".
4. Stockpile outside rooting zone of trees to be protected.

Spreading topsoil
1. Prior to applying topsoil, grade the subsoil and roughen the top three to four inches by disking.
2. Apply topsoil evenly to a depth of a minimum of four inches, then compact slightly to improve contract with the subsoil.
3. Do not apply topsoil when the site is wet, muddy, or frozen.
4. After spreading the topsoil, grade and stabilize the site.

Maintenance:
1. Inspect Daily
2. Check for damage to perimeter barrier; repair immediately.
3. Check for erosion or damage to newly spread topsoil; repair immediately and re-vegetate.

EROSION CONTROL GENERAL NOTES

SELF-MONITORING PROGRAM

A SELF-MONITORING PROGRAM THAT INCLUDES THE FOLLOWING MUST BE IMPLEMENTED AT ALL PERMITTED PROJECT SITES:

1. A TRAINED INDIVIDUAL SHALL PERFORM A WRITTEN EVALUATION OF THE PROJECT SITE A MINIMUM OF ONE (1) TIME PER WEEK AND BY THE END OF THE NEXT BUSINESS DAY FOLLOWING EACH MEASURABLE STORM EVENT.
2. THE EVALUATION MUST ADDRESS THE MAINTENANCE OF EXISTING STORM WATER QUALITY MEASURES, TO ENSURE THEY ARE FUNCTIONING PROPERLY AND IDENTIFY ADDITIONAL MEASURES NECESSARY TO REMAIN IN COMPLIANCE WITH ALL APPLICABLE STATUTES AND RULES.
3. WRITTEN EVALUATION REPORTS MUST INCLUDE:
   A. THE NAME OF INDIVIDUAL PERFORMING THE EVALUATION;
   B. THE DATE OF EVALUATION;
   C. PROBLEMS IDENTIFIED AT THE PROJECT SITE; AND
   D. DETAILS OF CORRECTIVE ACTIONS RECOMMENDED AND COMPLETED.
4. ALL EVALUATION REPORTS FOR THE PROJECT SITE MUST BE MADE AVAILABLE TO THE **CM** OR OTHER DESIGNATED ENTITY WITHIN FORTY-EIGHT (48) HOURS OF A REQUEST.
5. EVALUATION REPORTS MUST BE MAINTAINED FOR A PERIOD OF TWO (2) YEARS FROM DATE OF NOT.
6. ALL EVALUATION REPORTS WILL BE SUBMITTED TO THE OWNER WHEN REQUESTED.

SELF MONITORING PROGRAM

Site:
Date:
Inspected by:
Type of Inspection: ☐ Routine Weekly ☐ Rain Event (0.5" or more)

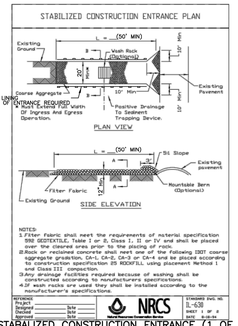
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG
(To be completed by Trained Individual Project Manager)

All approved stormwater pollution prevention practices shall be inspected and maintained as needed to ensure continued performance of their intended function during construction and shall continue until the entire site has been stabilized and all BMPs are removed. Inspections shall be by the end of the next business day following each measurable storm event (0.5" or greater). If there are no measurable storm events within a given week, the site should be monitored at least once in that week. Maintenance and repair shall be conducted in accordance with the approved stormwater pollution prevention (SWPPP) plan. This log shall be kept as a permanent record and must be made available to town stormwater inspectors within forty-eight (48) hours upon request.

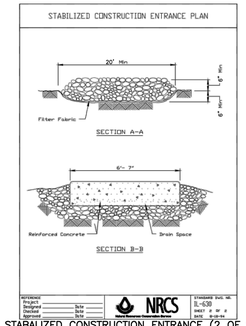
Row	Yes	No	N/A	BMP	Description
1				Perimeter Control	Rock & Fence Intercepter Dikes/Swales installed? Perimeter Filtered Inlet protection provided?
2				Rock Entrance	Rock Entrance installed at site access (wash rack)? Wash Rack Effective? Clean, and dry?
3				Vehicle Entrance	Temporary construction entrance/ramp maintained?
4				Silt Fence	Silt fence (or equivalent) installed properly and being maintained?
5				Inlet Protection	Inlet protection devices installed and being maintained?
6				Inlet Protection	Inlet protection devices installed and being maintained?
7				Temporary Seeding	All areas at least 50ft from inlets have been mulched? Mulch is intact and covering?
8				Erosion Blanket	Are all areas cut that have been mulched for 7 days or more are seeded?
9					Are all areas cut that have been mulched for 7 days or more are seeded? Are all areas at final grade, all disturbed areas have been stabilized through the implementation of permanent soil stabilization practices?
10				Dewatering Bags	Dewatering discharge functioning properly?
11				Dewatering Bags	Dewatering discharge functioning properly? Are all pollution prevention practices installed? Are all pollution prevention practices maintained properly?
12				Check Dams	Check dams are installed properly and being maintained?
13				Staging Area	Construction staging and parking areas are being utilized as indicated on the plans?
14				Soil Stockpiles	Soil stockpiles have been temporarily seeded and have perimeter silt fence?
15				Concrete Washout	Washout Facility has been installed in the proper location and is being maintained?
16				Sanitary Facilities	Sanitary facilities are in good working order and placed in proper locations?
17				Trashing Areas	Bulk trashing areas have proper containment, soil/filter around base of them, in place?
18				Spill Response	Spill response equipment, emergency contact info are accessible for all?
19				Fueling	Fueling and maintenance of equipment occurring according to the approved SWPPP?
20				Containment	Solid waste is properly contained?
21				Hazmat Controls	Hazardous materials, waste or otherwise are properly handled and stored?
22				Corrective Actions	Previously recommended corrective actions have been implemented?
23				Other	
24				Other	

"If not answered, list" at by of the above questions describe any corrective action which must be taken to remedy the problem and when the corrective actions are to be completed" ---

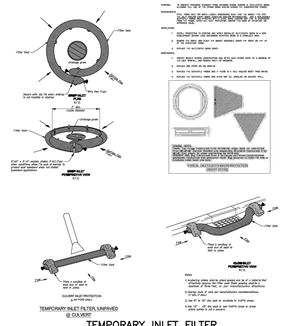
SELF MONITORING PROGRAM

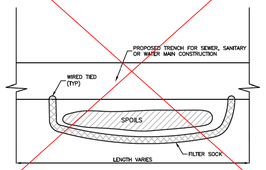


STABILIZED CONSTRUCTION ENTRANCE (1 OF 2)

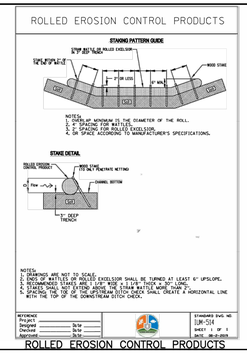


STABILIZED CONSTRUCTION ENTRANCE (2 OF 2)

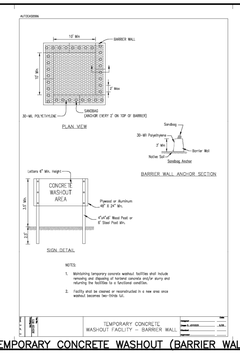

TEMPORARY INLET FILTER (UNPAVED AREA)
Filter Sock
Stake with 2x 4 min. stakes @ 4' o.c. maximum spacing
Filter Sock Flow Line
Min. 6" Overlap
Min. 6" Overlap
ASPHALT PAVEMENT
INLET
TEMPORARY INLET FILTER (PAVED AREA)
TEMPORARY INLET FILTER, UNPAVED @ CULVERT
Flow Line
Flow Line
Flow Line



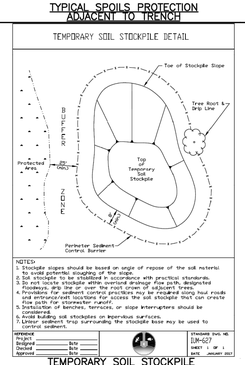
TYPICAL SPOILS PROTECTION ADJACENT TO TRENCH



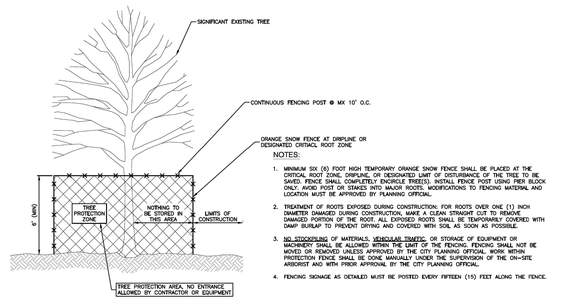
ROLLED EROSION CONTROL PRODUCTS



TEMPORARY CONCRETE WASHOUT (BARRIER WALL)



TEMPORARY SOIL STOCKPILE



TREE TRUNK PROTECTION

CLIENT:
City of CREST HILL Illinois
CITY OF CREST HILL
1610 PLAINFIELD ROAD
CREST HILL, IL 60403

NO.	DATE	NATURE OF REVISION	CHKD.

FILE NAME: W:\CRESTHILL\2022\PLOVI\Plan Plates\Details.dgn

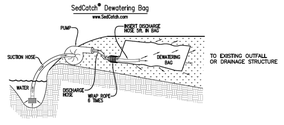
DSGN.
DWN.
CHKD.
SCALE:
PLOT DATE: 11/10/2021
CAD USER: jspearmon
MODEL: Default

TITLE:
CITY OF CREST HILL
EROSION CONTROL DETAILS

PROJ. NO.
DATE: 11/10/2021
SHEET 18 OF 38
DRAWING NO.
ERO-3

THE PURPOSE OF A DEWATERING BAG/TUBE IS TO COLLECT SEDIMENT CONTAINED IN THE DISCHARGED WATER, TO PREVENT THE SCOUR AND EROSION FROM WATER EXITING A PIPE AT HIGH VELOCITY, TO DIFFUSE THE WATER OVER A WIDER AREA TO MINIMIZE EROSION AS THE WATER DRAINS AWAY, AND TO RETAIN OIL CONTAINED WITHIN EFFLUENT.

A SEDCATCH® DEWATERING BAG/TUBE OR APPROVED EQUAL SHOULD BE USED ANYTIME WATER IS PUMPED ON THE SITE.



INSTALLATION AND USE:

1. PLACE SEDCATCH® DEWATERING BAG/TUBE ON THE GROUND OR ON A TRAILER OVER A RELATIVELY LEVEL, STABILIZED AREA.
2. INSERT DISCHARGE PIPE A MINIMUM OF 5FT. INSIDE SEDCATCH® DEWATERING BAG/TUBE AND SECURE WITH A ROPE (INCLUDED) WRAPPED 6 TIMES AROUND THE SNOUT OVER A 6 INCH WIDTH OF THE BAG. TO CLOSE OPEN END OF THE DEWATERING TUBE : OVERLAP THE TUBE 2 FT. FROM THE END, GATHER THE CENTER OF THE DOUBLED-UP PORTION FORMING A BOW TIE. SECURE WITH A ROPE WRAPPED MULTIPLE TIMES.
3. REPLACE SEDCATCH® DEWATERING BAG WHEN HALF FULL OF SEDIMENT OR WHEN THE SEDIMENT HAS REDUCED THE FLOW RATE OF THE PUMP DISCHARGE TO AN IMPRACTICAL AMOUNT, OR, EMPTY SEDCATCH® SEDIMENT TUBE WHEN HALF FULL OF SEDIMENT OR WHEN THE SEDIMENT HAS REDUCED THE FLOW RATE OF THE PUMP DISCHARGE TO AN IMPRACTICAL RATE.

MAINTENANCE AND DISPOSAL:

1. REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT AWAY FROM WATERWAYS OR ENVIRONMENTALLY SENSITIVE AREAS. SLIT OPEN DEWATERING BAG AND REMOVE ACCUMULATED SEDIMENT. DISPOSE OF BAG AT AN APPROPRIATE RECYCLING OR SOLID WASTE FACILITY, OR: OPEN BOTH ENDS OF THE SEDCATCH® DEWATERING TUBE , PICK IT UP IN THE CENTER AND DUMP ACCUMULATED SEDIMENT OUT OF BOTH ENDS. ALLOW TO DRY AND STORE FOR RE-USE, OR, AS DIRECTED BY ENGINEER OR INSPECTOR.

DEWATERING BAG/TUBE

CLIENT:
City of CREST HILL Illinois
CITY OF CREST HILL
1610 PLAINFIELD ROAD
CREST HILL, IL 60403

NO.	DATE	NATURE OF REVISION	CHKD.

FILE NAME: W:\CRESTHILL\2022\PLOVI\Plan Plates\Details.dgn

DSGN.
DWN.
CHKD.
SCALE:
PLOT DATE: 11/10/2021
CAD USER: jspearmon
MODEL: Default

TITLE:
CITY OF CREST HILL
EROSION CONTROL DETAILS

PROJ. NO.
DATE: 11/10/2021
SHEET 19 OF 38
DRAWING NO.
ERO-4

DRAWN BY | REVISIONS | DATE

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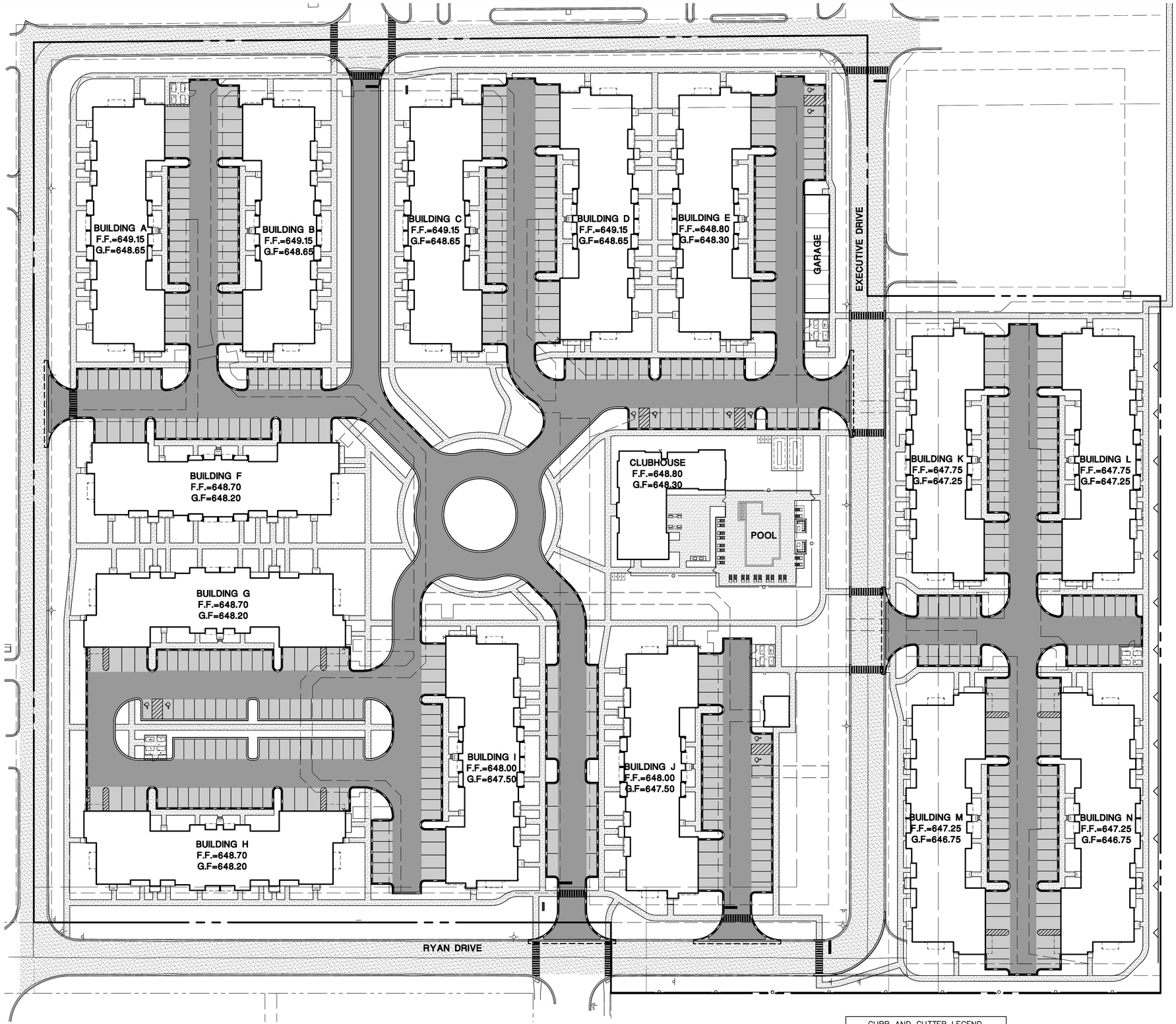
SEASONS AT CREST HILL
CITY OF CREST HILL
SOIL EROSION AND SEDIMENT CONTROL DETAILS

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: OTHERS
DATE: 01-14-26
SCALE: 1"=40'

SHEET
5 OF **44**
FRD.CRIL01

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January 14, 2026 - 18:01 Data Name: P:\Projects\Data\Final Drawings\Plan Set\Soil Erosion and Sediment Control Details.dwg Updated By: dweisbrod



N

0 20 40 80

SCALE: 1"=40'

SITE DATA	
SITE AREA	15.81 ACRES
DEVELOPMENT AREA	15.81 ACRES
OPEN SPACE AREA	4.81 ACRES
IMPERVIOUS AREA	11.00 ACRES
STANDARD PARKING PROVIDED	401 SPACES
HANDICAP PROVIDED	11 SPACES
VAN PARKING PROVIDED	1 SPACE
GARAGE PARKING PROVIDED	120 SPACES
TOTAL PARKING PROVIDED	552 SPACES
PARKING RATIO	2.12 SPACES/UNIT

PAVEMENT MARKING LEGEND

- (A) 6" SOLID WHITE
- (B) LETTERS AND SYMBOLS
- (C) 4" YELLOW DIAGONAL AT 45° SPACED 2' O.C. W/ 4" YELLOW BORDER
- (D) 4" YELLOW LINE

SIGN LEGEND

- (1) R1-1 STOP SIGN
- (2) R7-8 HANDICAP PARKING SIGN
- (3) R7-8AP VAN PARKING ONLY

06-01-16

PAVEMENT LEGEND

STANDARD DUTY PAVEMENT
1 1/2" BITUMINOUS SURFACE COURSE, HOT-MIX ASPHALT, MIX D, N50
2 1/4" BITUMINOUS BINDER COURSE, HOT-MIX ASPHALT, IL-19, N50
8" AGGREGATE BASE COURSE, TYPE B

HEAVY DUTY PAVEMENT
1 1/2" BITUMINOUS SURFACE COURSE, HOT-MIX ASPHALT, MIX D, N50
3" BITUMINOUS BINDER COURSE, HOT-MIX ASPHALT, IL-19, N50
12" AGGREGATE BASE COURSE, TYPE B

CONCRETE PAVEMENT
8" PORTLAND CEMENT CONCRETE PAVEMENT W/ 6 X 6 W1.4 WWF
4" COMPACTED AGGREGATE BASE, TYPE B

CONCRETE SIDEWALK
5" PORTLAND CEMENT CONCRETE
4" COMPACTED AGGREGATE BASE COURSE, TYPE B

OVERLAY BITUMINOUS PAVEMENT
2" MAXIMUM BITUMINOUS SURFACE COURSE

06-01-16

SITE DIMENSIONAL AND PAVING NOTES:

1. ALL DIMENSIONS ARE FACE OF CURB TO FACE OF CURB OR BUILDING FOUNDATION UNLESS NOTED OTHERWISE.
2. ALL PROPOSED CURB AND GUTTER SHALL BE B6.12 UNLESS OTHERWISE NOTED.
3. ALL CURB RADII SHALL BE 3' MEASURED TO FACE OF CURB UNLESS NOTED OTHERWISE.
4. TIE ALL PROPOSED CURB AND GUTTER TO EXISTING CURB AND GUTTER WITH 2-#6 BARS x 18" LONG DOWELED INTO EXISTING CURB.
5. BUILDING DIMENSIONS AND ADJACENT PARKING HAVE BEEN PREPARED BASED UPON ARCHITECTURAL INFORMATION CURRENT AT THE DATE OF THIS DRAWING. SUBSEQUENT ARCHITECTURAL CHANGES MAY EXIST. THEREFORE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. BUILDING DIMENSIONS SHOWN SHOULD NOT BE USED FOR CONSTRUCTION LAYOUT OF BUILDING.
6. IMPROVEMENTS ADJACENT TO BUILDING, IF SHOWN, SUCH AS TRUCK DOCK, RETAINING WALLS, SIDEWALKS, CURBING, FENCES, CANOPIES, RAMPS, HANDICAP ACCESS, PLANTERS, DUMPSTERS, AND TRANSFORMERS ETC. HAVE BEEN SHOWN FOR APPROXIMATE LOCATION ONLY. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS, SPECIFICATIONS AND DETAILS.
7. LOCATION OF PRIVATE SIDEWALKS SHALL BE COORDINATED WITH PROPOSED DOORWAY. CONTRACTOR TO VERIFY ACTUAL BUILDING PLAN LOCATIONS WITH ARCHITECT/DEVELOPER PRIOR TO CONSTRUCTING THE SIDEWALKS.
8. ALL ROADWAY AND PARKING LOT SIGNAGE, STRIPING, SYMBOLS, ETC. SHALL BE IN ACCORDANCE WITH LATEST JURISDICTIONAL GOVERNMENTAL ENTITY DETAILS.
9. SOME EXISTING ITEMS TO BE REMOVED HAVE BEEN DELETED FROM THIS PLAN FOR CLARITY. SEE DEMOLITION PLAN FOR ITEMS DELETED.
10. PROVIDE DEPRESSED CURB AND RAMP AT ALL HANDICAP ACCESSIBLE SIDEWALK AND PATH LOCATIONS PER FEDERAL AND STATE STANDARDS.
11. THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.

DEVELOPER: FRED-GURNEE HC, LLC
ADDRESS: 789 NORTH WATER STREET, SUITE 500
MILWAUKEE, WISCONSIN 53202
PHONE: (414) 246-8402

CURB AND GUTTER LEGEND

- CURB AND GUTTER
- DEPRESSED CURB AND GUTTER
- REVERSE CURB AND GUTTER

CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION OF SIDEWALKS, SIDEWALK SCORING, BENCHES, BIKE RACKS, FLAG POLES, ETC., DIMENSIONS OF VESTIBULE, RAMPS AND TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS

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DRAWN BY:
REVISIONS:
DATE:

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SEASONS AT CREST HILL
CITY OF CREST HILL
SITE DIMENSIONAL AND PAVING PLAN - OVERALL

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: PA
DATE: 01-14-26
SCALE: 1"=40'

SHEET
6 OF 44
FRD.CRIL01

Date Name: P:\Fred01\dgn\Civil\Final Drawings\Plan Set\SITE DIMENSIONAL AND PAVING PLAN.dwg Updated By: dwoodward
January 15, 2026 - 14:13

N: 1794923 E: 1042325.46

CROSS WALK

MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 9

BUILDING A
F.F.=649.15
G.F=648.65

BUILDING B
F.F.=649.15
G.F=648.65

BUILDING C
F.F.=649.15
G.F=648.65

BUILDING D
F.F.=649.15
G.F=648.65

SAN 15' EASEMENTS

WTR 10' EASEMENTS

SAN 10' EASEMENTS

LIGHTPOLE

MONUMENT SIGN

30' SIDE YARD SETBACK

6 SP AT 11=62'

5 SP AT 11=53'

11 SP AT 9=99'

TYP (A)

SCALE: 1"=20'

KEY MAP

SHEET SHEET 6 FOR SITE NOTES AND LEGENDS

SEASONS AT CREST HILL

CITY OF CREST HILL

SITE DIMENSIONAL AND PAVING PLAN - NW

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: PA
DATE: 01-14-26
SCALE: 1"=20'

SHEET 7 OF 44

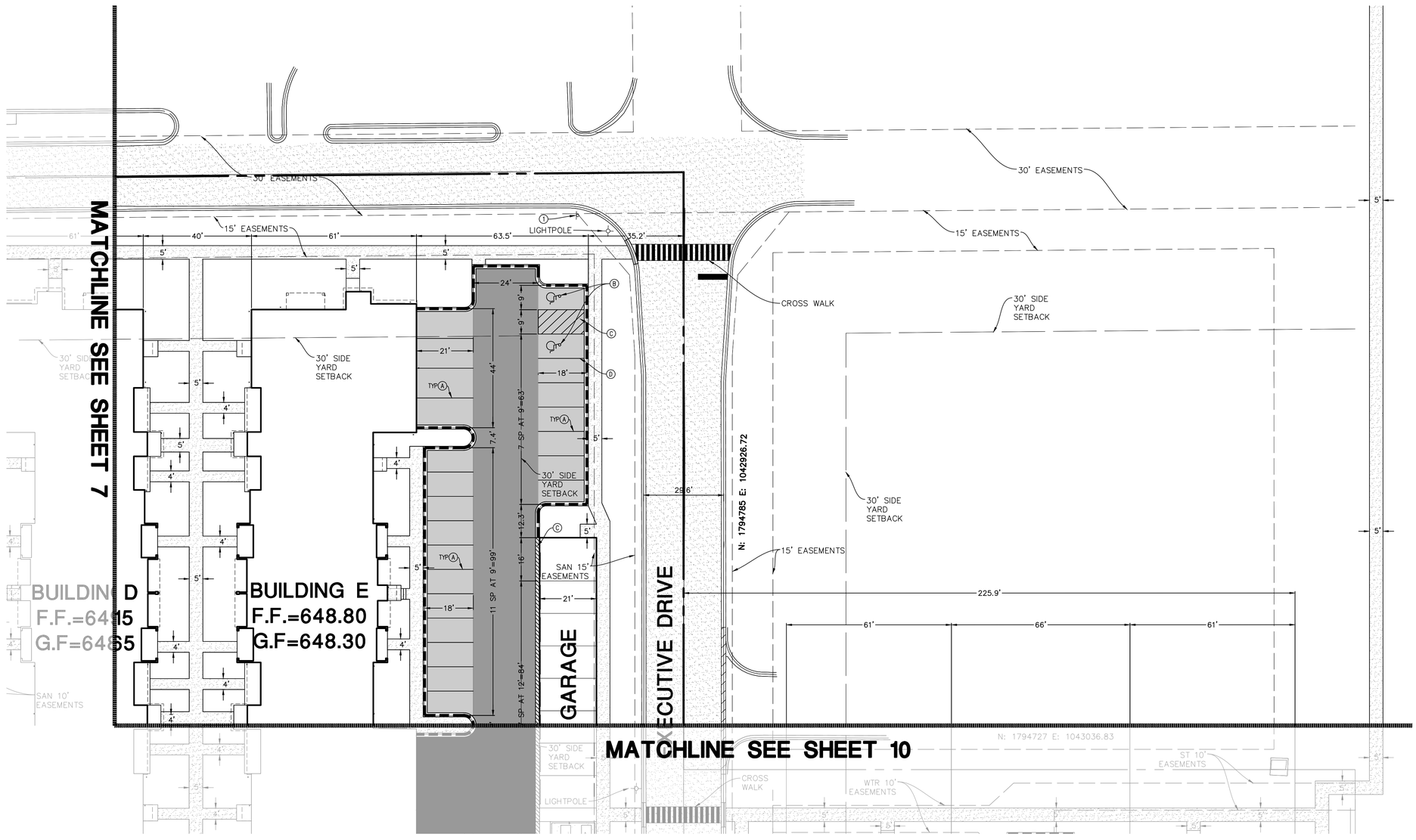
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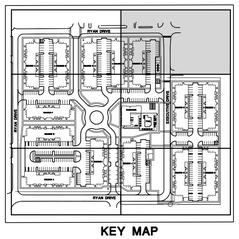
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DRAWN BY | REVISIONS | DATE

January 15, 2026 - 14:13 Dwg Name: P:\Projects\Crest Hill\Final Drawings\Plan Set\SITE DIMENSIONAL AND PAVING PLAN.dwg Updated By: pastafiewski





KEY MAP

N

0 10 20 40

SCALE: 1"=20'

SHEET SHEET 6 FOR SITE NOTES AND LEGENDS

DRAWN BY:

REVISIONS

DATE:

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SEASONS AT CREST HILL

CITY OF CREST HILL

SITE DIMENSIONAL AND PAVING PLAN - NE

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: PA
DATE: 01-14-26
SCALE: 1"=20'

SHEET
8 OF 44
FRD.CRIL01

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January 15, 2026 - 14:13 Data Name: P:\Projects\Civil Drawings\Final Drawings\Plan Set\SITE DIMENSIONAL AND PAVING PLAN.dwg Updated By: dpastelewski

F.F.=649.15
G.F=648.65

F.F.=649.15
G.F=648.65

G.F=648.65

G.F=648

MATCHLINE SEE SHEET 7

SAN 10' EASEMENTS

WTR 10' EASEMENTS

SAN 15' EASEMENTS

WTR 10' EASEMENTS

WTR 10' EASEMENTS

WTR 10' EASEMENTS

SAN 10' EASEMENTS

WTR 10' EASEMENTS

SAN 10' EASEMENTS

24.0000'

25.5000'

5 SP AT 11'=53'

8 SP AT 9'=72'

72.4'

7 SP AT 9'=63'

11 SP AT 9'=99'

8 SP AT 9

CROSS WALK

WHITE VINYL FENCE (SEE LANDSCAPING PLANS FOR DETAILS) (TYP)

SAN 10' EASEMENTS

WTR 10' EASEMENTS

WTR 10' EASEMENTS

WTR 10' EASEMENTS

WTR 10' EASEMENTS

WTR 10' EASEMENTS

WTR 10' EASEMENTS

BUILDING F
F.F.=648.70
G.F=648.20

N: 1794420 E: 1042230.04

200.6'

200.6'

SAN 15' EASEMENTS

LIGHTPOLE

BUILDING G
F.F.=648.70
G.F=648.20

WTR 10' EASEMENTS

WTR 10' EASEMENTS

WTR 10' EASEMENTS

WTR 10' EASEMENTS

11 SP AT 11'=99'

ø62'

244'

95.6'

61'

92'

43.5'

MATCHLINE SEE SHEET 10

MATCHLINE SEE SHEET 11

CLUB
F.F.=
G.F=

T. 25'
ASEMENTS

WTR 10
EASEMENTS

SHEET SHEET 6 FOR SITE NOTES AND LEGENDS

N

0 10 20 40

SCALE: 1"=20'

KEY MAP

DRAWN BY

REVISIONS

DATE

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Construction Managers • Environmental Scientists • Landscape Architects • Planners

SEASONS AT CREST HILL

CITY OF CREST HILL

SITE DIMENSIONAL AND PAVING PLAN - WEST

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: PA
DATE: 01-14-26
SCALE: 1"=20'

SHEET
9 OF 44
FRD.CRIL01

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January 15, 2026 - 14:13 Dwg Name: P:\Projects\Crest Hill\Engineering\Plan Set\SITE DIMENSIONAL AND PAVING PLAN.dwg Updated By: davidedwards

MATCHLINE SEE SHEET 8

MATCHLINE SEE SHEET 9

MATCHLINE SEE SHEET 12

N: 1794727 E: 1043036.83

N: 1794402 E: 1043185.95

G.F=648.30

GARAGE

EXECUTIVE

30' SIDE YARD SETBACK

LIGHTPOLE

CROSS WALK

WTR 10' EASEMENTS

ST 10' EASEMENTS

WTR 15' EASEMENTS

WTR/ST 21' EASEMENTS

SAN/ST/WTR 32' EASEMENTS

CLUBHOUSE
F.F.=648.80
G.F=648.30

POOL

BIKE RACKS

MAILBOXES

SAN 15' EASEMENTS

ST 25' EASEMENTS

BUILDING K
F.F.=647.75
G.F=647.25

BUILDING L
F.F.=647.75
G.F=647.25

RETAINING WALL

WTR 18' EASEMENTS

WTR/SAN/ST 31' EASEMENTS

SAN/ST 10' EASEMENTS

WTR/SAN/ST 31' EASEMENTS

SAN 10' EASEMENTS

WTR 12.4' EASEMENTS

SAN/ST 20' EASEMENTS

8 SP AT 9'=72'

5 SP AT 9'=45'

11 SP AT 9'=99'

6 SP AT 9'=54'

7 SP AT 9'=63'

6 SP AT 9'=54'

5 SP AT 9'=45'

0 10 20 40
SCALE: 1"=20'

KEY MAP

SHEET SHEET 6 FOR SITE NOTES AND LEGENDS

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DRAWN BY

REVISIONS

DATE

SEASONS AT CREST HILL
CITY OF CREST HILL
SITE DIMENSIONAL AND PAVING PLAN - EAST

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: PA
DATE: 01-14-26
SCALE: 1"=20'

SHEET
10 OF 44
FRD.CRIL01

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January 15, 2026 - 14:13 Dan Niemi P:\Projects\Vara\Civil\Final Drawings\Plan Set\SITE DIMENSIONAL AND PAVING PLAN.dwg Updated By: danielewski

MATCHLINE SEE SHEET 9

BUILDING H
F.F.=648.70
G.F=648.20

BUILDING I
F.F.=648.00
G.F=647.50

BUILDI
F.F.=64
G.F=64

MATCHLINE SEE SHEET 12

RYAN DRIVE

8 SP AT 9'=72'
10 SP AT 9'=90'
7 SP AT 9'=63'
11 SP AT 9'=99'
6 SP AT 9'=54'
4 SP AT 20'=80'

SAN 15' EASEMENTS
WTR 10' EASEMENTS
SAN 25' EASEMENTS
30' SIDE YARD SETBACK
SAN/ST 25' EASEMENTS
ST 25' EASEMENTS
MONUMENT SIGN
CROSS WALK
LIGHTPOLE

N: 1794180 E: 1042481.69

SCALE: 1"=20'

KEY MAP

SEASONS AT CREST HILL
CITY OF CREST HILL
SITE DIMENSIONAL AND PAVING PLAN - SW

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: PA
DATE: 01-14-26
SCALE: 1"=20'

SHEET
11 OF 44
FRD.CRIL01

SHEET SHEET 6 FOR SITE NOTES AND LEGENDS

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January 15, 2026 - 14:13 Dwg Name: P:\Fdrdrl01\Data\Civil\Final Drawings\Plan Set\SITE DIMENSIONAL AND PAVING PLAN.dwg Updated By: dwiniarewski

MATCHLINE SEE SHEET 10

MATCHLINE SEE SHEET 11

BUILDING J
F.F.=648.00
G.F=647.50

BUILDING M
F.F.=647.25
G.F=646.75

BUILDING N
F.F.=647.25
G.F=646.75

WTR 10' EASEMENTS

WTR 12.4' EASEMENTS

WTR 15' EASEMENTS

SAN 10' EASEMENTS

SAN 15' EASEMENTS

SAN/ST 20' EASEMENTS

ST 10' EASEMENTS

LIGHTPOLE

30' SIDE YARD SETBACK

CROSS WALK

WHITE VINYL FENCE (SEE LANDSCAPING PLANS FOR DETAILS) (TYP)

15' EASEMENTS

13 SP AT 9'=117'

11 SP AT 9'=99'

N: 17944402 E:

0 10 20 40
SCALE: 1"=20'

KEY MAP

SHEET SHEET 6 FOR SITE NOTES AND LEGENDS

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DRAWN BY:
REVISIONS
DATE:

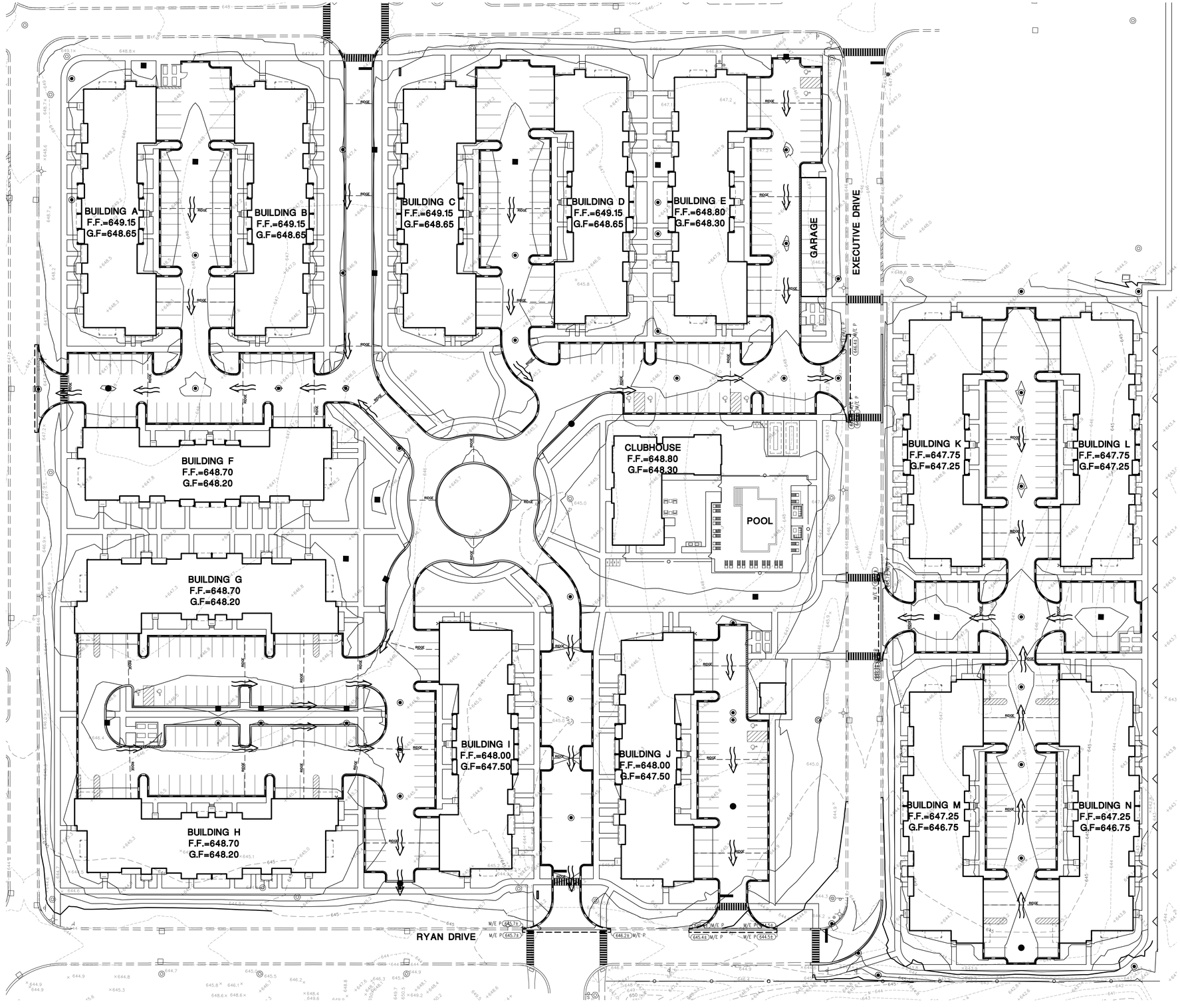
SEASONS AT CREST HILL
CITY OF CREST HILL
SITE DIMENSIONAL AND PAVING PLAN - SE

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: PA
DATE: 01-14-26
SCALE: 1"=20'

SHEET
12 OF 44
FRD.CRIL01

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01-01-16

GRADING PLAN LEGEND

764	PROPOSED 1 FOOT CONTOURS
792.8 G	PROPOSED SPOT ELEVATION
P	PROPOSED PAVEMENT ELEVATION
T/C	PROPOSED TOP OF CURB
T/W	PROPOSED TOP OF WALK
M/E	MEET EXISTING
G	PROPOSED GROUND GRADE OR GROUND AT BASE OF RETAINING WALL
→	PROPOSED DIRECTION OF FLOW
⇉	OVERFLOW RELIEF SWALE

01-01-16

GRADING NOTES:

1. PAVEMENT SLOPES THROUGH HANDICAP ACCESSIBLE PARKING AREAS SHALL BE 2.00% MAXIMUM IN ANY DIRECTION.
2. ALL HANDICAP RAMPS SHALL BE CONSTRUCTED WITH A MAXIMUM CROSS SLOPE OF 2.00% OR LESS.
3. MEET EXISTING GRADE AT PROPERTY LIMITS UNLESS NOTED OTHERWISE.
4. CONTRACTOR SHALL REFER TO THE SOIL EROSION AND SEDIMENT CONTROL PLAN AND DETAILS FOR CONSTRUCTION SCHEDULING AND EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO BEGINNING GRADING OPERATIONS.
5. THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
6. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
7. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITION OR BETTER.
8. ALL UNPAVED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE 6 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
9. EXISTING TOPOGRAPHY SHOWN REPRESENTS SITE CONDITIONS AS PREPARED BY MANHARD CONSULTING ON SEPTEMBER 23, 2025. CONTRACTOR SHALL FIELD CHECK EXISTING ELEVATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
10. TRANSITIONS FROM DEPRESSED CURB TO FULL HEIGHT CURB SHALL BE TAPERED AT 2H:1V UNLESS OTHERWISE NOTED.
11. EXCAVATION, GRADING, AND COMPACTION TO BE COMPLETED IN ACCORDANCE WITH RECOMMENDATIONS OF GEOTECHNICAL REPORT.
12. ELEVATIONS GIVEN FOR STORM SEWER STRUCTURES LOCATED IN CURB LINE ARE PAVEMENT ELEVATIONS.

DRAWN BY | REVISIONS | DATE

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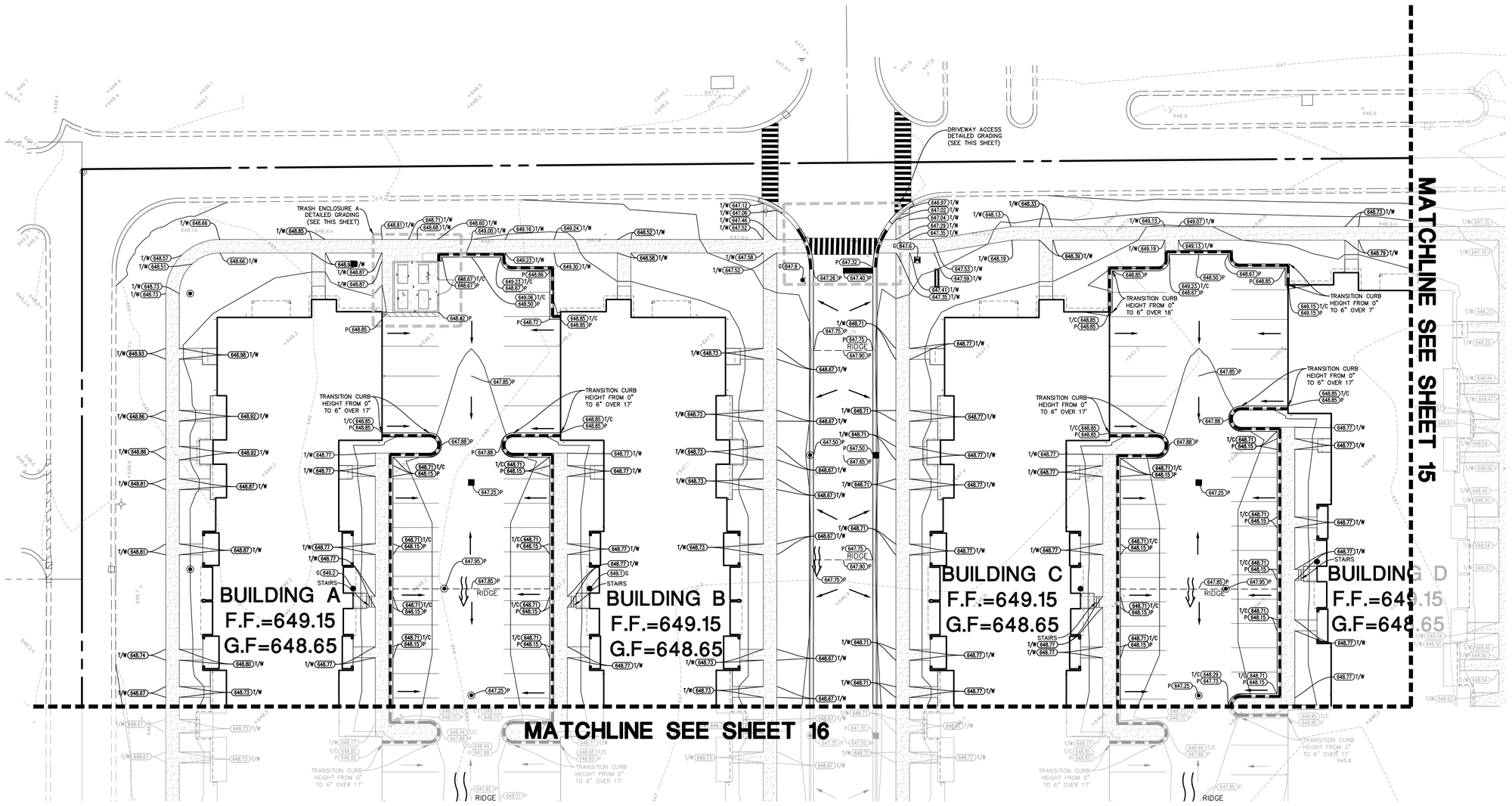
SEASONS AT CREST HILL
CITY OF CREST HILL
GRADING PLAN - OVERALL

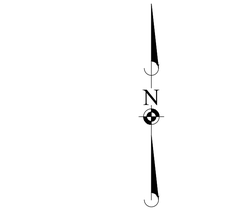
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PROJ. ASSOC.:	MSL
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DATE:	01-14-26
SCALE:	1"=40'

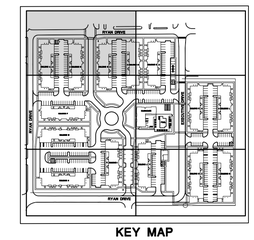
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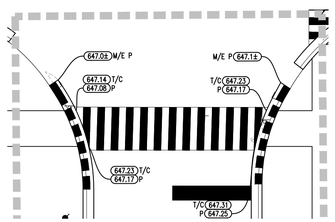
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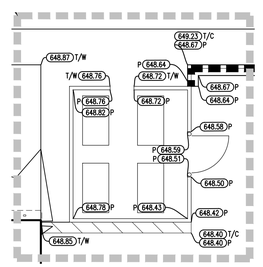








DRIVEWAY ACCESS DETAILED GRADING
SCALE: 1" = 10'



TRASH ENCLOSURE A DETAILED GRADING
SCALE: 1" = 10'

SHEET SHEET 13 FOR GRADING NOTES AND LEGENDS

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DATE

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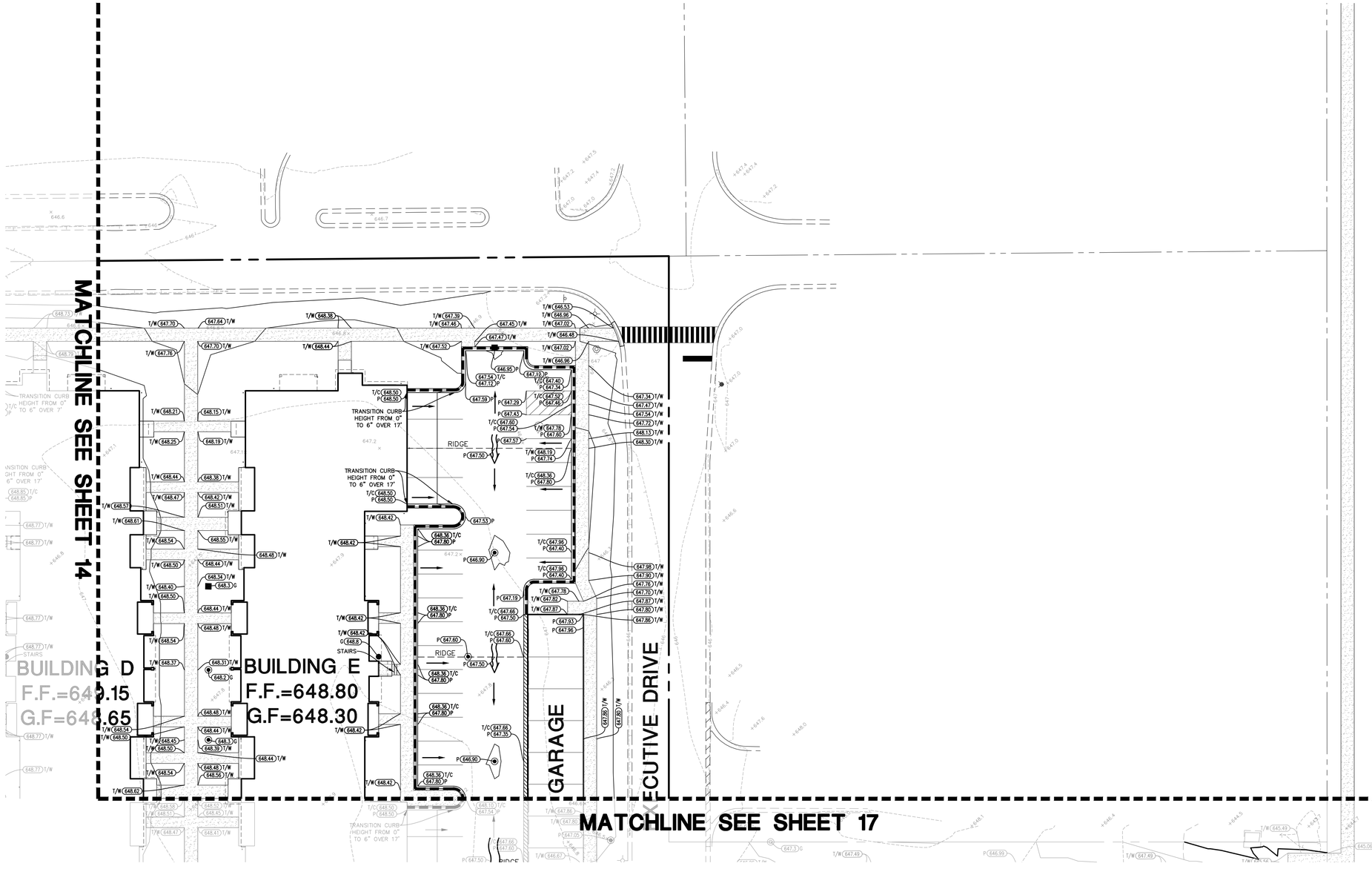
SEASONS AT CREST HILL
CITY OF CREST HILL
GRADING PLAN - NW

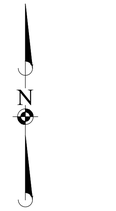
PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: PA
DATE: 01-14-26
SCALE: 1"=20'

SHEET
14 OF 44
FRD.CRIL01

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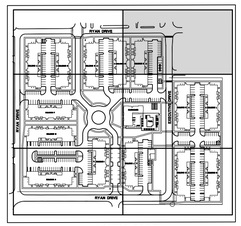
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0 10 20 40

SCALE: 1"=20'



KEY MAP

SHEET SHEET 13 FOR GRADING NOTES AND LEGENDS

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REVISIONS

DATE

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SEASONS AT CREST HILL

CITY OF CREST HILL

GRADING PLAN - NE

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: PA
DATE: 01-14-26
SCALE: 1"=20'

SHEET
15 OF 44
FRD.CRIL01

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January 15, 2026 – 13:55 Dwg Name: P:\Projects\Users\Engr\Final Drawings\Plan Set\GRADING PLAN.dwg Updated By: MJeffreu

MATCHLINE SEE SHEET 14

MATCHLINE SEE SHEET 17

MATCHLINE SEE SHEET 18

BUILDING F
F.F.=648.70
G.F=648.20

BUILDING G
F.F.=648.70
G.F=648.20

DRIVEWAY ACCESS DETAILED GRADING (SEE THIS SHEET)

TRANSITION CURB HEIGHT FROM 0" TO 6" OVER 17'

STAIRS

RIDGE

N

0 10 20 40
SCALE: 1"=20'

KEY MAP

DRIVEWAY ACCESS DETAILED GRADING
SCALE: 1" = 10'

SHEET SHEET 13 FOR GRADING NOTES AND LEGENDS

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DATE

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SEASONS AT CREST HILL
CITY OF CREST HILL
GRADING PLAN - WEST

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: PA
DATE: 01-14-26
SCALE: 1"=20'

SHEET
16 OF 44
FRD.CRIL01

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MATCHLINE SEE SHEET 15

MATCHLINE SEE SHEET 16

MATCHLINE SEE SHEET 19

CLUBHOUSE
F.F.=648.80
G.F=648.30

POOL

BUILDING K
F.F.=647.75
G.F=647.25

BUILDING L
F.F.=647.75
G.F=647.25

DRIVEWAY ACCESS DETAILED GRADING (SEE THIS SHEET)

TRANSITION CURB HEIGHT FROM 0" TO 6" OVER 17'

TRASH ENCLOSURE B DETAILED GRADING (SEE THIS SHEET)

TRASH ENCLOSURE C DETAILED GRADING (SEE THIS SHEET)

TRASH ENCLOSURE D DETAILED GRADING (SEE THIS SHEET)

SEGMENTED BLOCK RETAINING WALL (DESIGN BY OTHERS)

RIDGE

STAIRS

0 10 20 40
SCALE: 1"=20'

KEY MAP

TRASH ENCLOSURE B DETAILED GRADING
SCALE: 1" = 10'

TRASH ENCLOSURE C DETAILED GRADING
SCALE: 1" = 10'

TRASH ENCLOSURE D DETAILED GRADING
SCALE: 1" = 10'

DRIVEWAY ACCESS DETAILED GRADING
SCALE: 1" = 10'

DRIVEWAY ACCESS DETAILED GRADING
SCALE: 1" = 10'

SHEET SHEET 13 FOR GRADING NOTES AND LEGENDS

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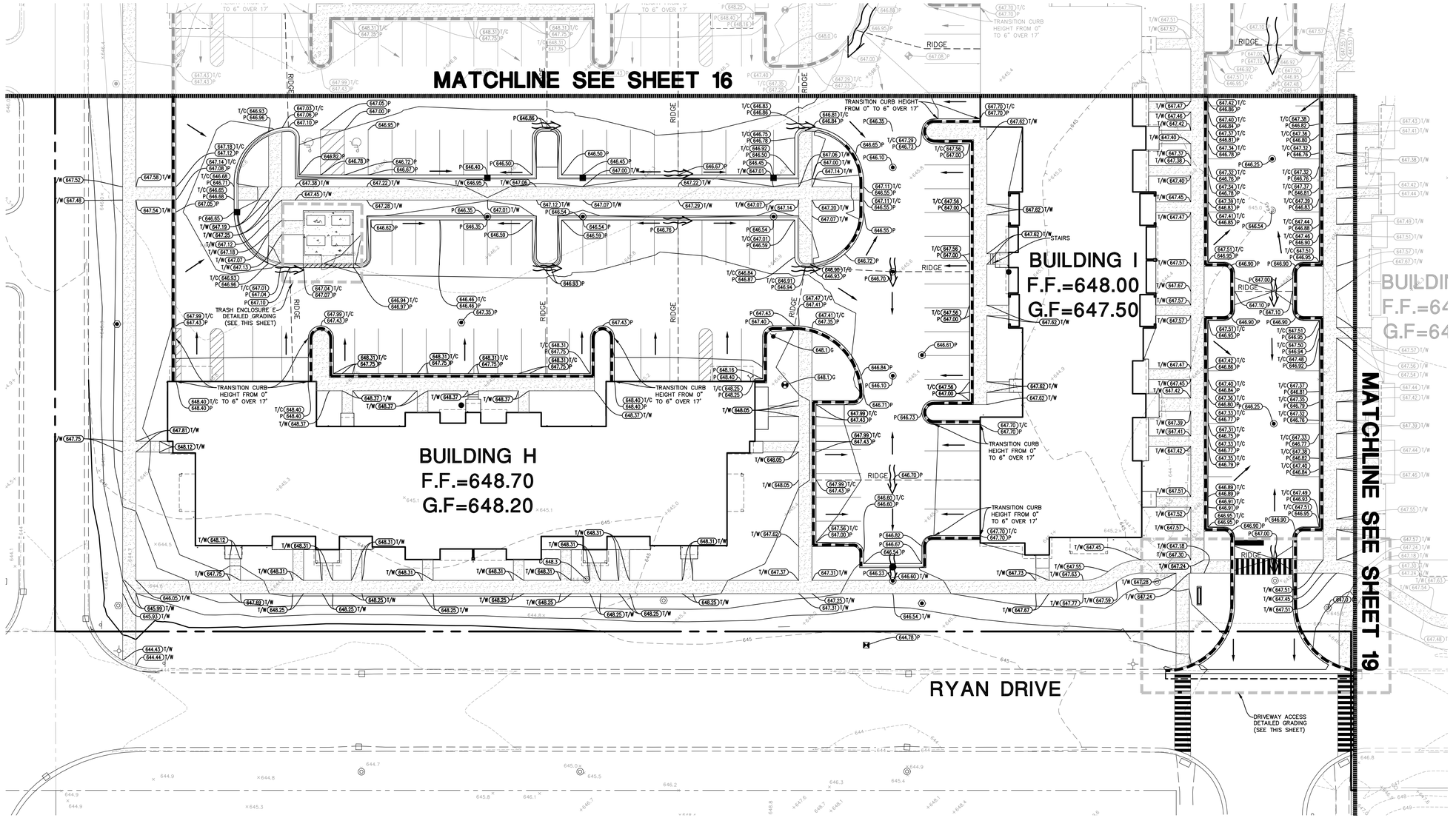
SEASONS AT CREST HILL
CITY OF CREST HILL
GRADING PLAN - EAST

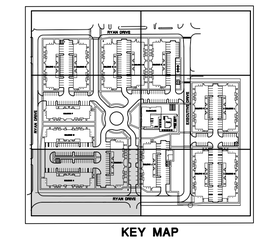
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PROJ. ASSOC.:	MSL
DRAWN BY:	PA
DATE:	01-14-26
SCALE:	1"=20'

SHEET
17 OF 44
FRD.CRIL01

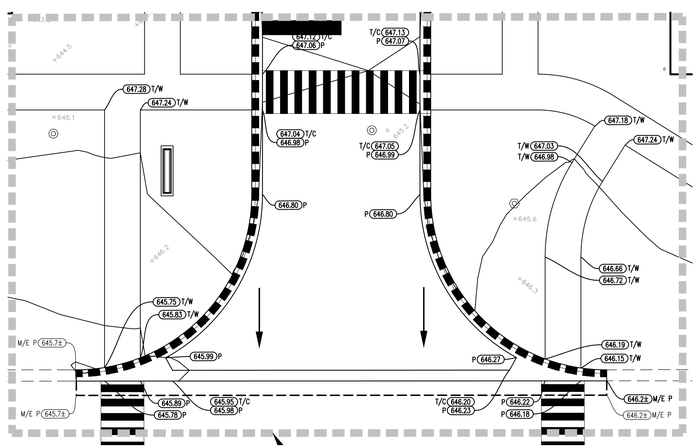
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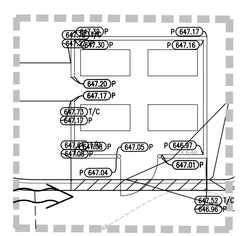




KEY MAP



DRIVEWAY ACCESS DETAILED GRADING
SCALE: 1" = 10'



TRASH ENCLOSURE E DETAILED GRADING
SCALE: 1" = 10'

SHEET SHEET 13 FOR GRADING NOTES AND LEGENDS

SCALE: 1"=20'

SEASONS AT CREST HILL
CITY OF CREST HILL
GRADING PLAN - SW

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: GAW
DATE: 01-14-26
SCALE: 1"=20'

SHEET 18 OF 44
FRD.CRIL01

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MATCHLINE SEE SHEET 17

MATCHLINE SEE SHEET 18

BUILDING J
F.F.=648.00
G.F=647.50

BUILDING M
F.F.=647.25
G.F=646.75

BUILDING N
F.F.=647.25
G.F=646.75

TRANSITION CURB HEIGHT FROM 0" TO 6" OVER 17'

RIDGE

STAIRS

TRASH ENCLOSURE C DETAILED GRADING (SEE THIS SHEET)

TRASH ENCLOSURE D DETAILED GRADING (SEE THIS SHEET)

SEGMENTED BLOCK RETAINING WALL (DESIGN BY OTHERS)

DRIVEWAY ACCESS DETAILED GRADING (SEE THIS SHEET)

EWAY ACCESS
ILED GRADING
THIS SHEET)

N

0 10 20 40
SCALE: 1"=20'

KEY MAP

DRIVEWAY ACCESS DETAILED GRADING
SCALE: 1" = 10'

SHEET SHEET 13 FOR GRADING NOTES AND LEGENDS

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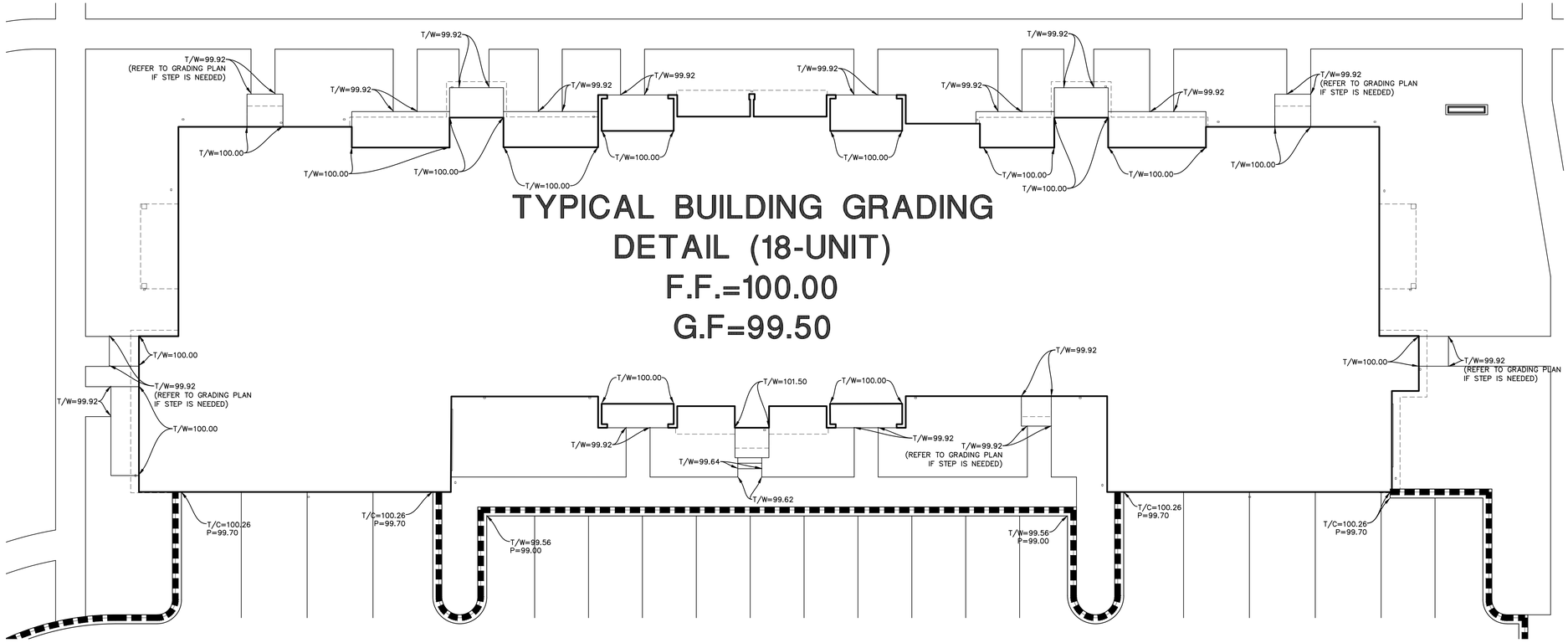
SEASONS AT CREST HILL
CITY OF CREST HILL
GRADING PLAN - SE

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: GAW
DATE: 01-14-26
SCALE: 1"=20'

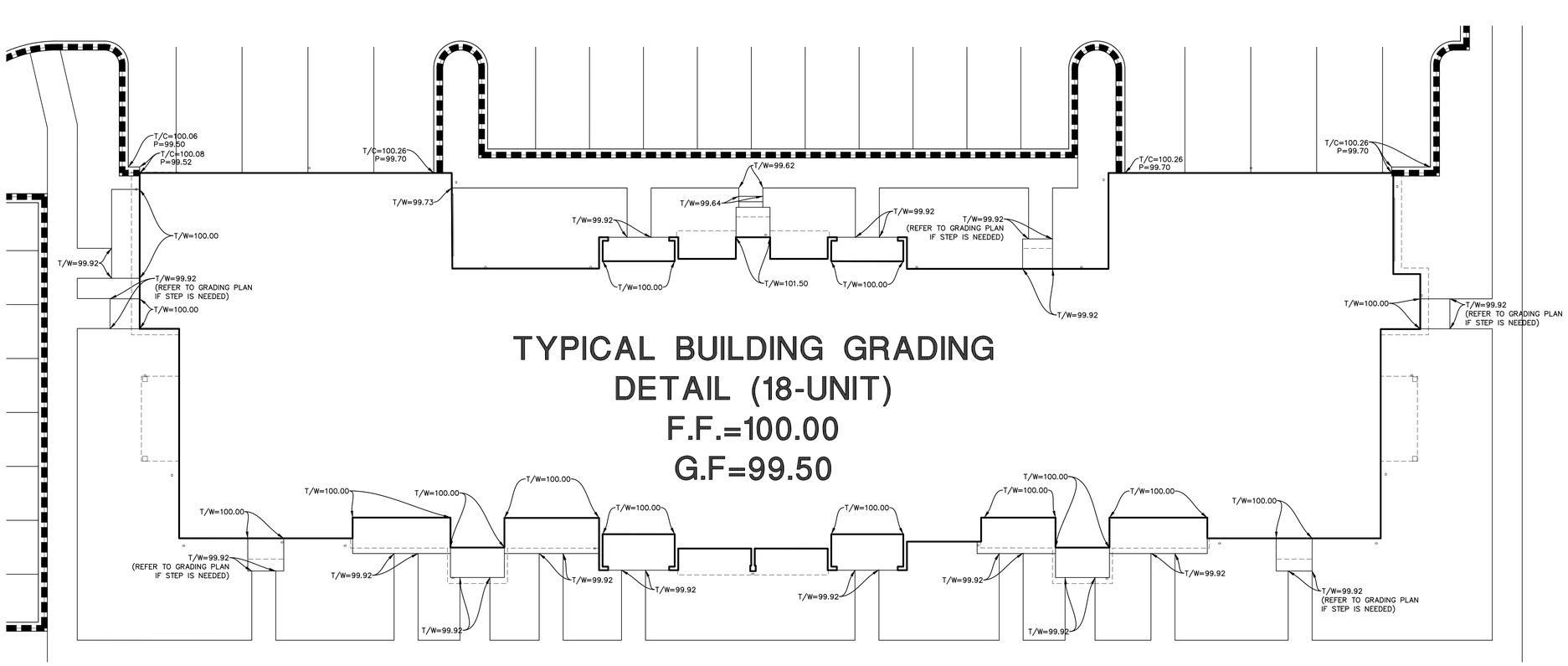
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19 OF 44
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TYPICAL BUILDING GRADING DETAIL (18-UNIT) F.F.=100.00 G.F=99.50



TYPICAL BUILDING GRADING DETAIL (18-UNIT) F.F.=100.00 G.F=99.50

N

0 5 10 20

SCALE: 1"=10'

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SEASONS AT CREST HILL

CITY OF CREST HILL

TYPICAL BUILDING GRADING DETAILS (18-UNIT)

PROJ. MGR.:	JSE
PROJ. ASSOC.:	MSL
DRAWN BY:	GC
DATE:	01-14-26
SCALE:	1"=20'

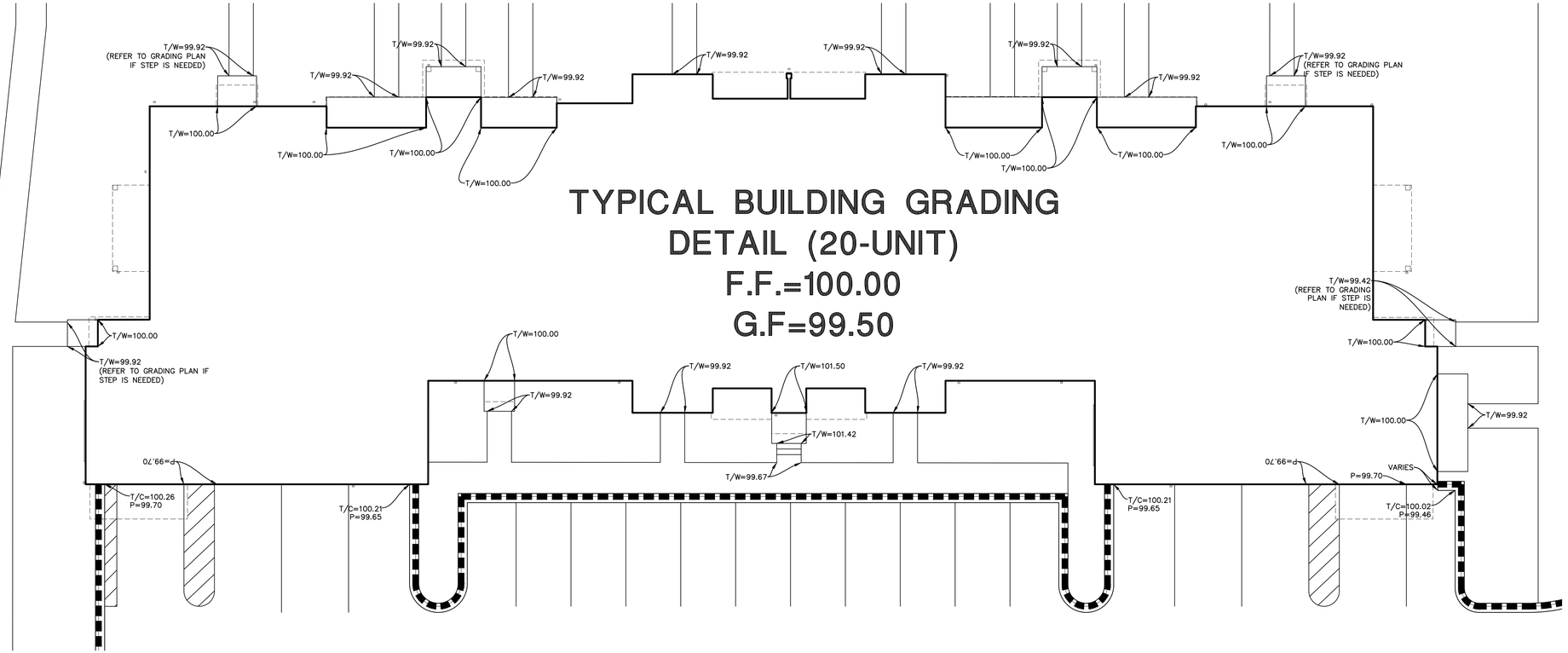
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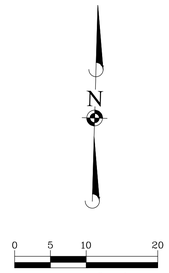
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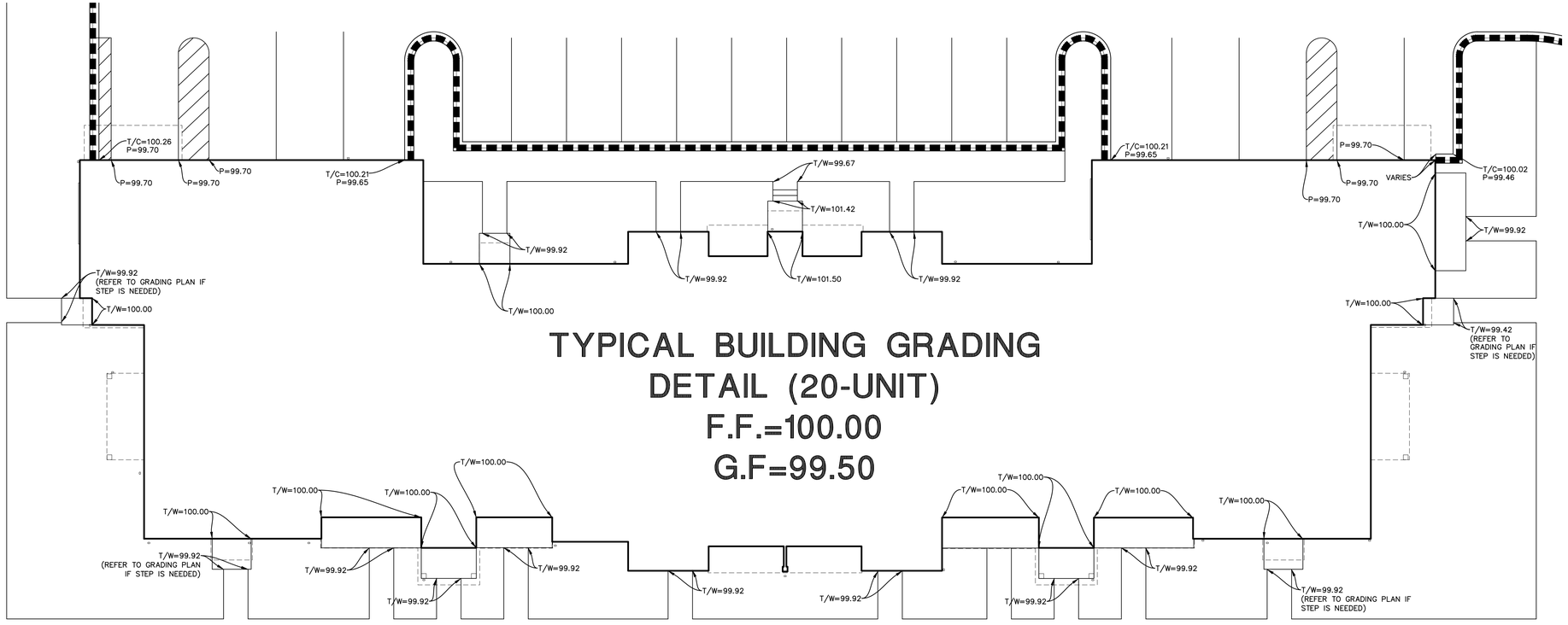
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January 14, 2026 - 8:08 Data Name: P:\Projects\Vlaw\Final Drawings\Plan Set\GRADING DETAILS.dwg Updated By: cwolsiefawski



TYPICAL BUILDING GRADING DETAIL (20-UNIT)
F.F.=100.00
G.F=99.50





TYPICAL BUILDING GRADING DETAIL (20-UNIT)
F.F.=100.00
G.F=99.50

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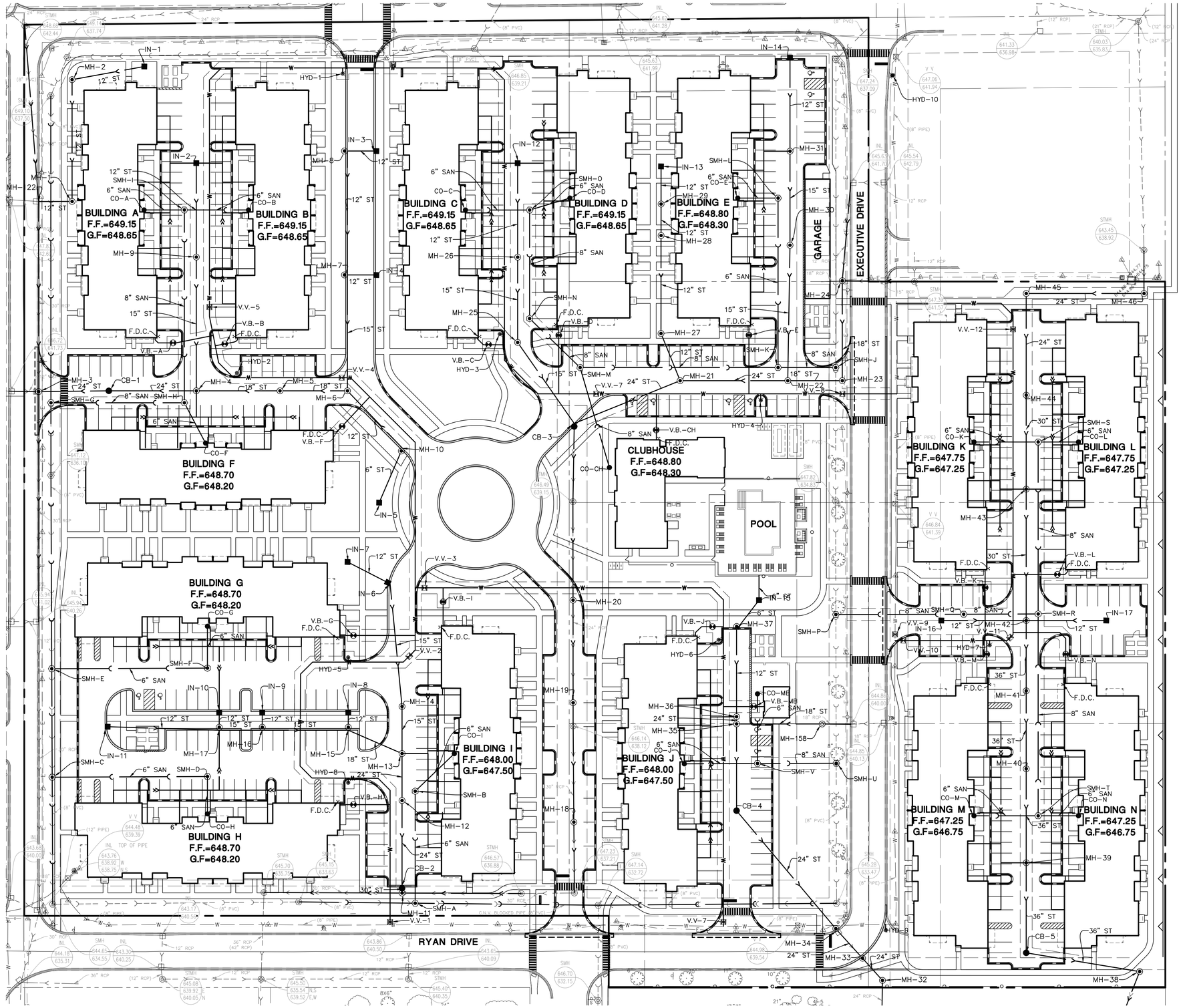
SEASONS AT CREST HILL
CITY OF CREST HILL
TYPICAL BUILDING GRADING DETAILS (20-UNIT)

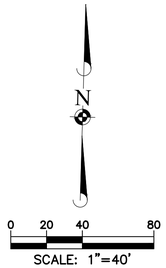
PROJ. MGR.:	JSE
PROJ. ASSOC.:	MSL
DRAWN BY:	GC
DATE:	01-14-26
SCALE:	1"=20'

SHEET
21 OF 44
FRD.CRIL01

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January 14, 2026 - 8:08 Data Name: P:\Projects\Crest\Civil\Final Drawings\Plan Set\GRADING DETAILS.dwg Updated By: dwolsiewski





06-01-22

UTILITY NOTES:

1. ALL UTILITY DIMENSIONS ARE TO CENTER OF PIPE OR CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
2. BUILDING DIMENSIONS AND ADJACENT UTILITY LAYOUT HAVE BEEN PREPARED BASED UPON ARCHITECTURAL INFORMATION CURRENT AT THE DATE OF THIS DRAWING. SUBSEQUENT ARCHITECTURAL CHANGES MAY EXIST. THEREFORE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
4. ROUTING OF GAS, ELECTRIC AND TELEPHONE SERVICES IF SHOWN ARE APPROXIMATE ONLY AND SUBJECT TO CHANGE BASED UPON FINAL REVIEW AND APPROVAL BY RESPECTIVE UTILITY COMPANIES AND OWNER. CONTRACTOR SHALL CONTACT EACH UTILITY COMPANY AND COORDINATE FINAL LOCATIONS FOR ALL UTILITY SERVICES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL EXCAVATE AND VERIFY ALL EXISTING SEWER, WATER MAIN AND DRY UTILITY LOCATIONS, SIZES, CONDITIONS & ELEVATIONS AT PROPOSED POINTS OF CONNECTION AND CROSSINGS PRIOR TO ANY UNDERGROUND CONSTRUCTION AND NOTIFY THE OWNER OF ANY DISCREPANCIES OR CONFLICTS.
6. LIGHTING AND UNDERGROUND CABLE IF SHOWN ON PLANS ARE FOR APPROXIMATE LOCATION ONLY. REFER TO ARCHITECTURAL PLANS FOR SPECIFICATIONS AND DETAILS.
7. THE CONTRACTOR SHALL ADJUST RIM ELEVATIONS OF ALL EXISTING STRUCTURES TO PROPOSED FINISH GRADES.
8. CONTRACTOR TO VERIFY LOCATION, SIZES, AND ELEVATION OF ALL BUILDING SERVICE LOCATIONS WITH ARCHITECTURAL PLANS.
9. AT LOCATIONS WHERE WATER MAIN CROSSES BENEATH OR LESS THAN 18" ABOVE A SEWER, PROVIDE WATER MAIN PROTECTION PER STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION.
10. ELEVATIONS GIVEN FOR STORM SEWER STRUCTURES LOCATED IN CURB LINE ARE PAVEMENT ELEVATIONS.
11. ALL WATER MAIN SHALL BE 5'-6" BELOW FINISHED GRADE TO TOP OF MAINS UNLESS NOTED OTHERWISE.
12. ALL EXISTING UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT ELEVATION OR LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES.
13. THE UNDERGROUND UTILITY INFORMATION AS SHOWN HERE ON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED.
14. ALL SANITARY AND STORM SEWER LENGTHS SHOWN ARE CENTER OF MANHOLE TO CENTER OF MANHOLE OR STORM MANHOLE TO FES.
15. PROVIDE CONCRETE COLLAR FOR ALL DRAINAGE STRUCTURES IN PAVEMENT, NOT ADJACENT TO CURB. SEE CONCRETE COLLAR DETAIL ON DETAIL SHEET.
16. CONTRACTOR SHALL CORE AND BOOT ALL PIPE ENTRANCES TO EXISTING SANITARY MANHOLES.
17. EXTERNAL CHIMNEY SEALS ARE REQUIRED ON PROPOSED AND ADJUSTED EXISTING SANITARY MANHOLES.
18. SOME EXISTING ITEMS TO BE REMOVED HAVE BEEN DELETED FROM THIS PLAN FOR CLARITY. SEE DEMOLITION PLAN FOR ITEMS DELETED.
19. ALL D.I. WATERMAIN PIPE AND D.I. WATERMAIN FITTINGS SHALL BE WRAPPED.

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REVISIONS
DATE

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SEASONS AT CREST HILL
CITY OF CREST HILL
OVERALL UTILITY PLAN

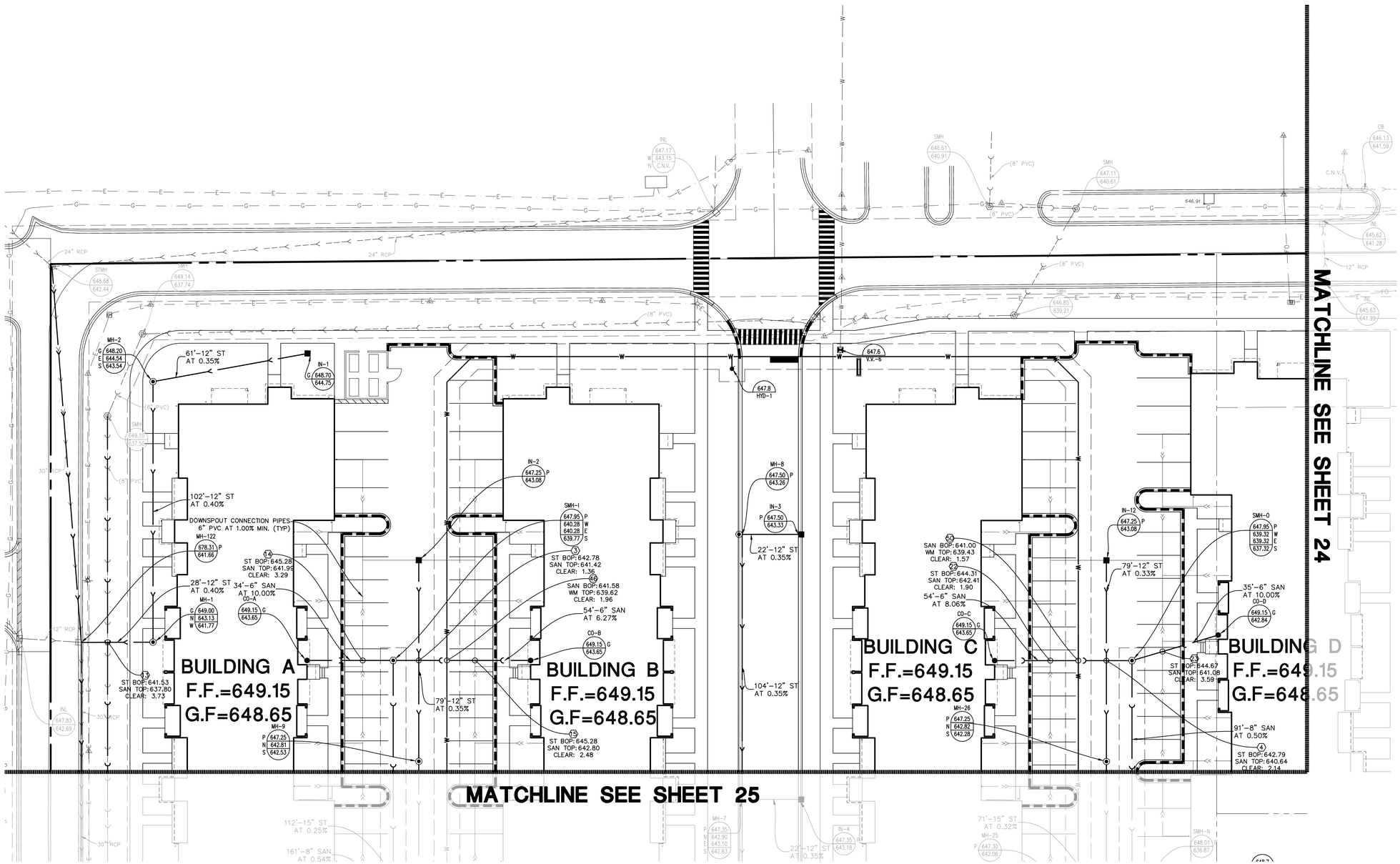
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PROJ. ASSOC.:	MSL
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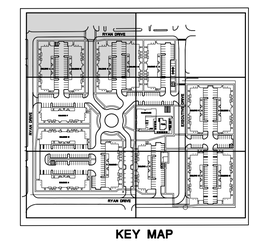
SHEET
22 OF 44
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Data Name: P:\Projects\01\Vaca\Civil\Final Drawings\Final Set\OVERALL UTILITY.dwg Updated By: dpastewski

06-01-14





KEY MAP

N

0 10 20 40

SCALE: 1"=20'

SHEET SHEET 22 FOR UTILITY NOTES

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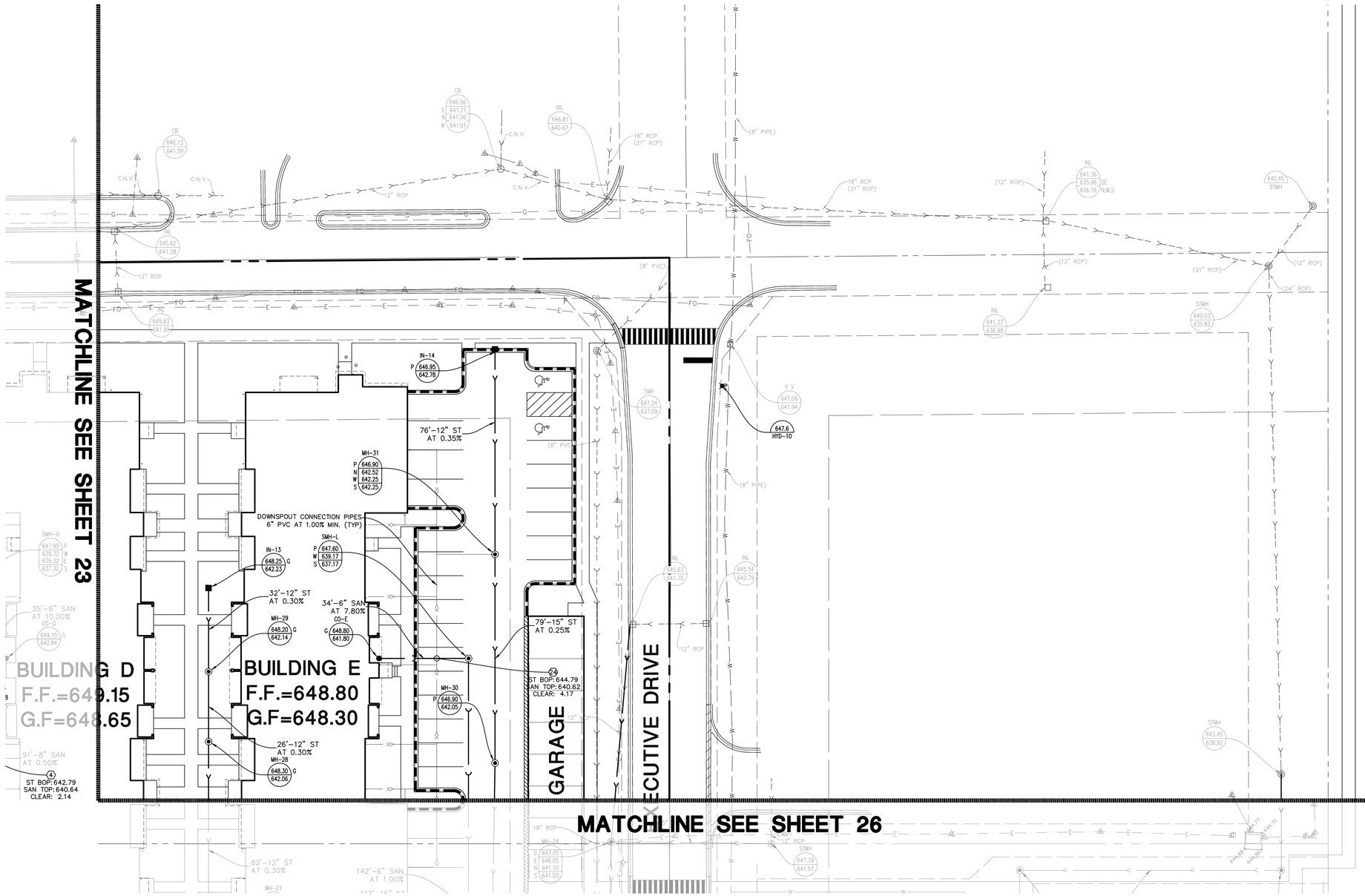
SEASONS AT CREST HILL
CITY OF CREST HILL
UTILITY PLAN - NW

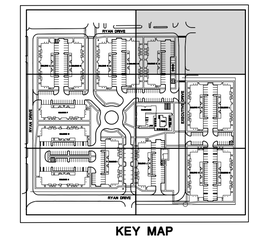
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PROJ. ASSOC.: MSL
DRAWN BY: JG
DATE: 01-14-26
SCALE: 1"=20'

SHEET
23 OF 44
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KEY MAP

N

0 10 20 40

SCALE: 1"=20'

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SEASONS AT CREST HILL
CITY OF CREST HILL
UTILITY PLAN - NE

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
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DATE: 01-14-26
SCALE: 1"=20'

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MATCHLINE SEE SHEET 23

BUILDING A
F.F.=649.15
G.F=648.65

BUILDING B
F.F.=649.15
G.F=648.65

F.F.=649.15
G.F=648.65

112'-15" ST AT 0.25%
161'-8" SAN AT 0.54%
SAN BOF: 639.15
WM TOP: 637.66
CLEAR: 1.50
648.2 V.B.-A
F.D.C.
ST BOF: 642.17
WM TOP: 637.66
CLEAR: 4.51
648.4 V.B.-B
F.D.C.
648.0 V.V.-5
79'-12" ST AT 0.35%
104'-12" ST AT 0.35%
22'-12" ST AT 0.35%
97'-15" ST AT 0.25%
71'-15" ST AT 0.32%
91'-8" SAN AT 0.50%
ST BOF: 642.79
SAN TOP: 640.64
59'-8" SAN AT 0.50%
F.D.C.
648.7 V.B.-D
WM BOF: 642.48
SAN TOP: 637.39
CLEAR: 5.08
WM BOF: 638.98
SAN TOP: 637.37
CLEAR: 1.61
647.1 V.V.-7
96'-24" ST AT 0.16%
MH-4
MH-3
ST BOF: 641.07
SAN TOP: 637.10
CLEAR: 3.97
CB-1
59'-24" ST AT 0.15%
73'-24" ST AT 0.15%
ST BOF: 641.23
SAN TOP: 639.64
CLEAR: 1.59
648.3 HYD-2
MH-5
70'-18" ST AT 0.18%
56'-18" ST AT 0.18%
38'-6" SAN AT 8.85%
647.2 V.V.-4
ST BOF: 642.23
WM TOP: 640.19
CLEAR: 2.04
MH-6
67'-12" ST AT 0.20%
MH-10
83'-15" ST AT 0.32%
ST BOF: 641.70
WM TOP: 639.69
CLEAR: 2.01
SMH-G
SMH-H
112'-8" SAN AT 0.47%
ST BOF: 643.96
SAN TOP: 640.93
CLEAR: 3.03
F.D.C.
648.1 V.B.-F
CO-F
DOWNSPOUT CONNECTION PIPES
6" PVC AT 1.00% MIN. (TYP)
ST BOF: 642.40
WM TOP: 640.40
CLEAR: 2.00
CB-3
ST BOF: 639.65
SAN TOP: 637.45
CLEAR: 2.20
87'-8" SAN AT 0.43%
CO-CH
SMH-M
SMH-N
MH-26
MH-25
MH-7
IN-4
648.5 HYD-3
648.5 V.B.-C
F.D.C.
50'-6" ST AT 0.50%
IN-5
BUILDING F
F.F.=648.70
G.F=648.20
CLUBH
F.F.=6
G.F=6
MATCHLINE SEE SHEET 26
40'-12" ST AT 0.35%
IN-7
IN-6
103'-15" ST AT 0.25%
647.7 V.V.-3
647.7 V.B.-I
MH-20
BUILDING G
F.F.=648.70
G.F=648.20
CO-G
648.0 V.B.-G
F.D.C.
35'-6" SAN AT 9.00%
SMH-E
SMH-F
ST BOF: 644.18
SAN TOP: 642.20
CLEAR: 1.98
130'-6" SAN AT 0.50%
648.0 HYD-5
647.1 V.V.-2
ST BOF: 641.62
WM TOP: 640.13
CLEAR: 1.50
ST BOF: 641.57
WM TOP: 639.58
CLEAR: 1.99
F.D.C.
MATCHLINE SEE SHEET 27
96'-12" ST AT 0.35%
17'-12" ST AT 0.44%
39'-15" ST AT 0.25%
MH-14
MH-13
MH-19
STMH
IN-10
IN-9
IN-11
24" RCP
30" RCP
18" PVC
12" RCP

N

0 10 20 40
SCALE: 1"=20'

KEY MAP

SHEET SHEET 22 FOR UTILITY NOTES

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REVISIONS
DATE

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SEASONS AT CREST HILL
CITY OF CREST HILL
UTILITY PLAN- WEST

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: JG
DATE: 01-14-26
SCALE: 1"=20'

SHEET
25 OF 44
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MATCHLINE SEE SHEET 24

MATCHLINE SEE SHEET 25

MATCHLINE SEE SHEET 28

CLUBHOUSE
F.F.=648.80
G.F=648.30

POOL

BUILDING K
F.F.=647.75
G.F=647.25

BUILDING L
F.F.=647.75
G.F=647.25

GARAGE

EXECUTIVE

82'-12" ST AT 0.30%
142'-6" SAN AT 1.00%
113'-15" ST AT 0.25%
43'-12" ST AT 0.30%
84'-18" ST AT 0.20%
48'-8" SAN AT 0.50%
96'-24" ST AT 0.16%
166'-8" SAN AT 0.50%
90'-24" ST AT 0.16%
46'-18" ST AT 0.20%
21'-6" ST AT 1.79%
31'-6" ST AT 1.00%
107'-8" SAN AT 0.50%
73'-12" ST AT 0.44%
6'-24" ST AT 0.16%
72'-18" ST AT 0.18%
99'-24" ST AT 0.18%
85'-24" ST AT 0.18%
79'-30" ST AT 0.10%
54'-6" SAN AT 1.00%
110'-30" ST AT 0.10%
62'-8" SAN AT 0.50%
71'-12" ST AT 0.44%
59'-36" ST AT 0.08%
34'-6" SAN AT 8.90%
144'-8" SAN AT 0.50%
67'-12" ST AT 0.44%
169'-8" SAN AT 0.50%

DOWNSPOUT CONNECTION PIPES 6" PVC AT 1.00% MIN. (TYP)

F.D.C.

0 10 20 40
SCALE: 1"=20'

KEY MAP

SHEET SHEET 22 FOR UTILITY NOTES

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SEASONS AT CREST HILL
CITY OF CREST HILL
UTILITY PLAN - EAST

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: JC
DATE: 01-14-26
SCALE: 1"=20'

SHEET
26 OF 44
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Data Name: P:\Projects\Crest Hill\Drawings\Civil\Final Drawings\Plan Set\INDIVIDUAL UTILITY.dwg Updated By: dastefanski

MATCHLINE SEE SHEET 25

MATCHLINE SEE SHEET 28

BUILDING H
F.F.=648.70
G.F=648.20

BUILDING I
F.F.=648.00
G.F=647.50

BUILDI
F.F.=64
G.F=64

RYAN DRIVE

96'-12" ST AT 0.35%
17'-12" ST AT 0.44%
36'-15" ST AT 0.25%
17'-12" ST AT 0.44%
72'-15" ST AT 0.25%
49'-18" ST AT 0.20%
39'-15" ST AT 0.25%
39'-24" ST AT 0.17%
71'-24" ST AT 0.17%
7'-30" ST AT 0.17%
130'-6" SAN AT 0.50%
130'-6" SAN AT 0.50%
35'-6" SAN AT 9.00%
31'-6" SAN AT 9.73%
45'-6" SAN AT 13.62%
94'-6" SAN AT 0.58%

ST BOP: 644.18
SAN TOP: 642.20
CLEAR: 1.98

ST BOP: 641.62
WM TOP: 640.13
CLEAR: 1.50

ST BOP: 641.57
WM TOP: 639.58
CLEAR: 1.99

ST BOP: 641.52
WM TOP: 639.43
CLEAR: 2.09

ST BOP: 644.06
SAN TOP: 641.29
CLEAR: 2.77

ST BOP: 644.14
SAN TOP: 638.37
CLEAR: 5.76

ST BOP: 636.13
SAN TOP: 633.85
CLEAR: 2.28

DOWNSPOUT CONNECTION PIPES
6" PVC AT 1.00% MIN. (TYP)

C.N.V. BLOCKED PIPE (8"PVC)

SMH-C 647.18 G 635.01 N 637.01 E 635.01 S
SMH-D 647.35 P 639.66 S 639.66 W
SMH-F 647.52 G 635.40 N 637.40 E 635.40 S
SMH-A 646.31 G 633.28
SMH-B 646.61 P 635.82 NE 633.82 S
CB-2 646.23 P 636.82 N 636.82 S
MH-11 646.60 G 636.81 N 636.36 E 636.36 W
MH-12 646.10 P 639.94 N 639.94 S
MH-13 646.70 P 641.56 N 641.24 W 642.87 E 640.01 S
MH-14 646.10 P 641.66
MH-15 646.54 P 641.61 W 642.21 N 641.34 E
MH-16 646.54 P 641.79 W 642.21 N 641.79 E
MH-17 646.35 P 642.15 W 642.16 N 642.16 S 641.88 E
MH-18 646.25 P 637.60
MH-19 646.25 638.23
IN-8 646.45 P 642.28
IN-9 646.45 P 642.29
IN-10 P 646.40 642.23
IN-11 P 646.65 642.48
CO-H G 648.58 642.70
CO-I G 648.00 642.00
HYD-5 648.0
HYD-8 648.1
V.V.-2 647.1
V.B.-H 648.1
V.V.-1 0.0
F.D.C.

0 10 20 40
SCALE: 1"=20'

KEY MAP

SEASONS AT CREST HILL
CITY OF CREST HILL
UTILITY PLAN- SW

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: JG
DATE: 01-14-26
SCALE: 1"=20'

SHEET
27 OF 44
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SHEET SHEET 22 FOR UTILITY NOTES

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MATCHLINE SEE SHEET 26

MATCHLINE SEE SHEET 27

BUILDING J
F.F.=648.00
G.F=647.50

BUILDING M
F.F.=647.25
G.F=646.75

BUILDING N
F.F.=647.25
G.F=646.75

MH-36 P 646.10 N 641.43 W 641.43 S 639.43
6'-24" ST AT 0.16%
MH-35 P 646.19 639.42
61'-6" SAN AT 8.82%
CO-J G 648.00 641.00
ST BOP: 642.82 SAN TOP: 639.58 CLEAR: 3.24
73'-24" ST AT 0.35%
CB-4 P 646.10 N 639.17 SE 638.73
CO-MB 646.92 P 639.10
646.8 V.B.-MB
72'-18" ST AT 0.18%
MH-158 G 646.05 639.55
ST BOP: 639.56 SAN TOP: 634.77 CLEAR: 4.79
ST BOP: 639.24 SAN TOP: 637.67 CLEAR: 1.57
58'-6" SAN AT 7.73%
SMH-U 645.65 G 633.94
ST BOP: 639.05 SAN TOP: 637.66 CLEAR: 1.39
66'-8" SAN AT 1.00%
SMH-V 646.88 P 635.60 W 634.60 N 634.60 E
131'-24" ST AT 0.35%
ST BOP: 638.12 SAN TOP: 634.09 CLEAR: 4.03
MH-34 643.72 P 638.27
LOWER EXIST. WATER MAIN
ST BOP: 638.04 WM TOP: 636.54 CLEAR: 1.50
28'-24" ST AT 0.35%
27'-24" ST AT 0.35%
MH-32 G 643.70 NW 638.07 S 635.66
107'-8" SAN AT 0.50%
73'-12" ST AT 0.44%
59'-36" ST AT 0.08%
MH-41 P 645.63 637.41
169'-8" SAN AT 0.50%
65'-36" ST AT 0.08%
MH-40 P 645.35 637.36
79'-36" ST AT 0.08%
54'-6" SAN AT 0.50%
CO-M G 647.25 642.50
SAN BOP: 642.37 ST TOP: 641.41 CLEAR: 0.96
MH-39 P 645.35 N 637.30 E 638.80 W 638.80 S 637.30
SMH-T 646.05 P 642.23 W 638.62 E 636.62 N
34'-6" SAN AT 7.80%
CO-N G 647.25 641.25
ST BOP: 640.99 SAN TOP: 640.01 CLEAR: 0.98
SAN BOP: 642.26 ST TOP: 640.66 CLEAR: 1.60
DOWNSPOUT CONNECTION PIPES 6" PVC AT 1.00% MIN. (TYP)
75'-36" ST AT 0.08%
CB-5 P 645.40 637.24
MH-33 643.70 P 638.17
MH-38 G 644.35 637.16
96'-36" ST AT 0.08%

N

0 10 20 40
SCALE: 1"=20'

KEY MAP

SHEET SHEET 22 FOR UTILITY NOTES

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SEASONS AT CREST HILL
CITY OF CREST HILL
UTILITY PLAN - SE

PROJ MGR.: JSE
PROJ ASSOC.: MSL
DRAWN BY: JG
DATE: 01-14-26
SCALE: 1"=20'

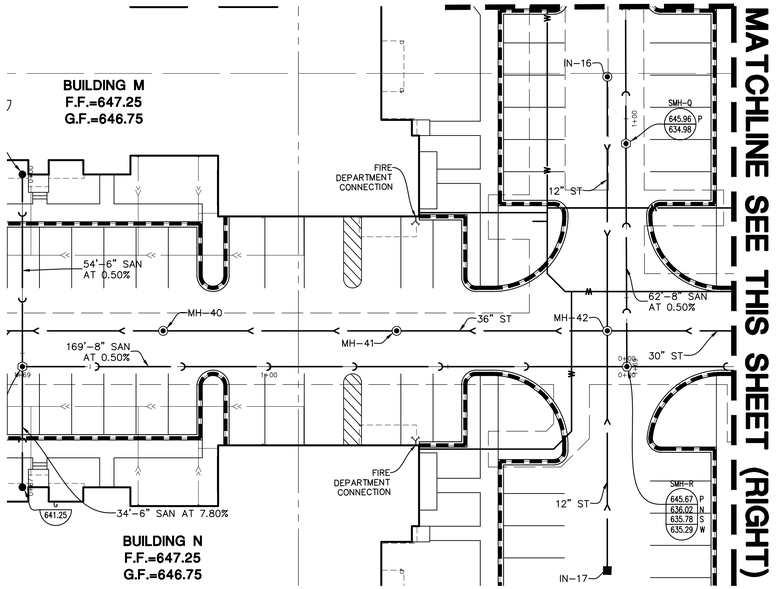
SHEET
28 OF 44
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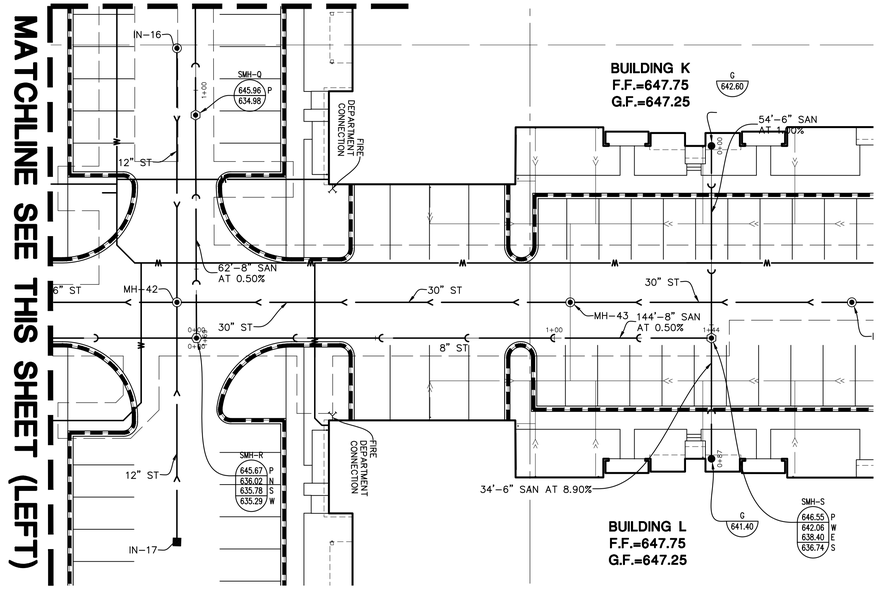
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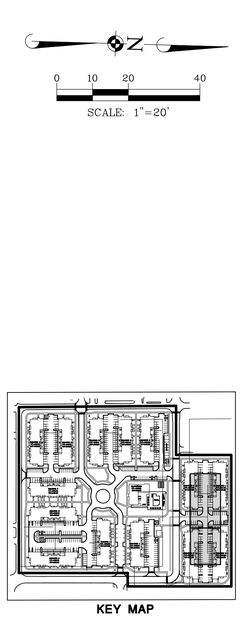
MATCHLINE SEE THIS SHEET (RIGHT)

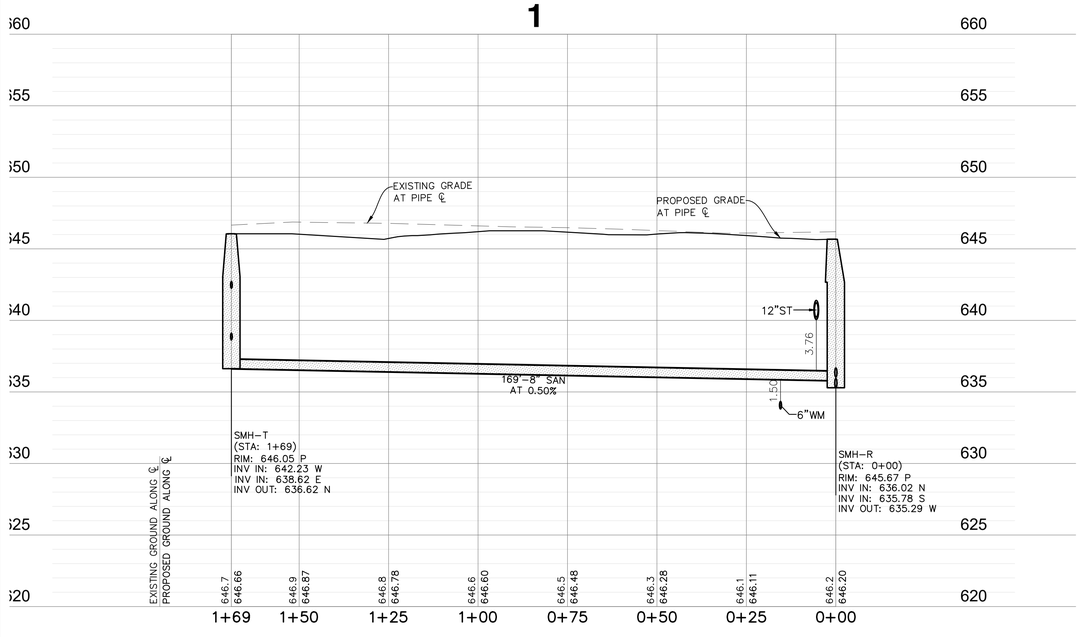


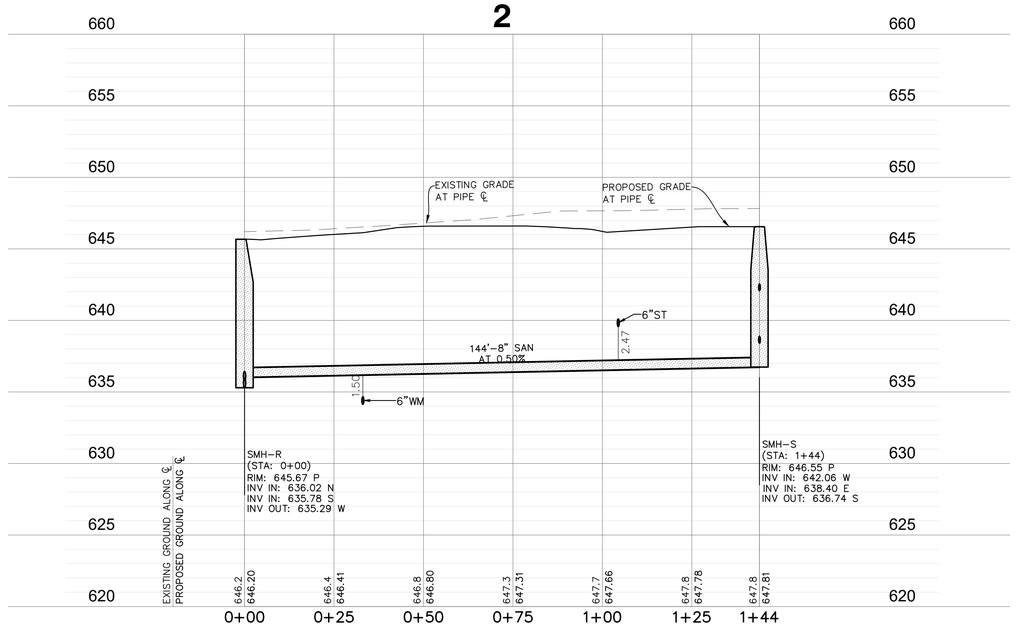
MATCHLINE SEE SHEET 30

MATCHLINE SEE THIS SHEET (LEFT)









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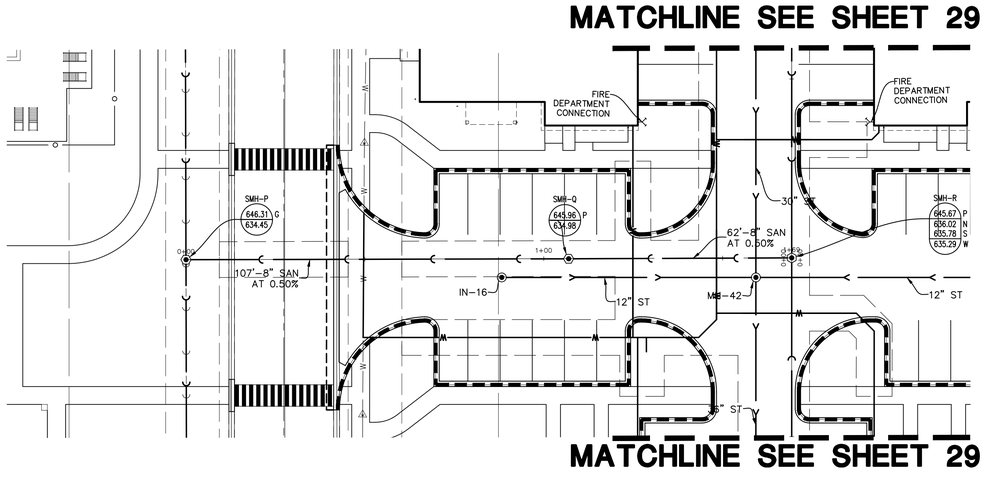
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CITY OF CREST HILL
SANITARY PROFILES 1&2

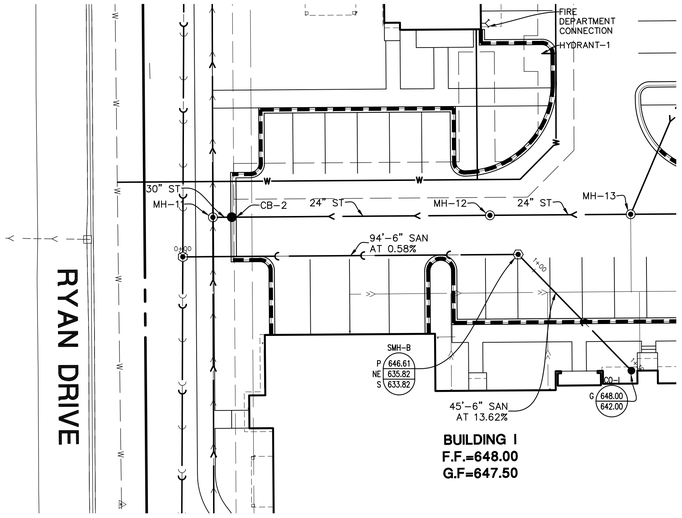
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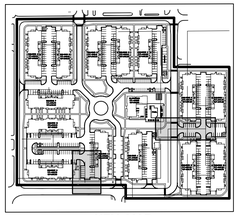
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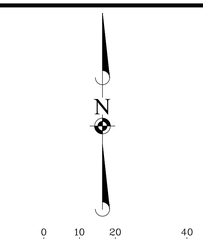
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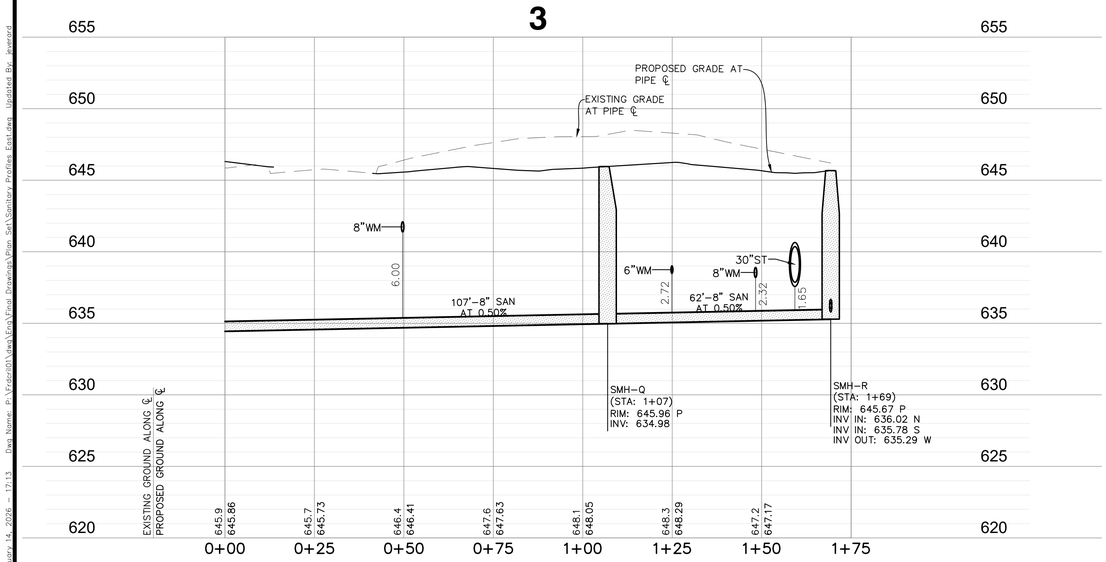
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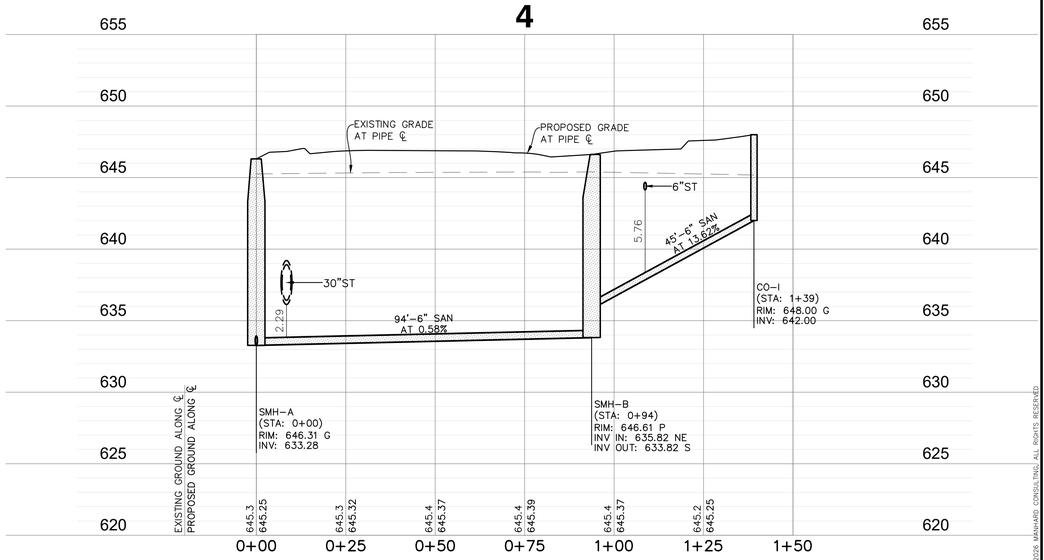












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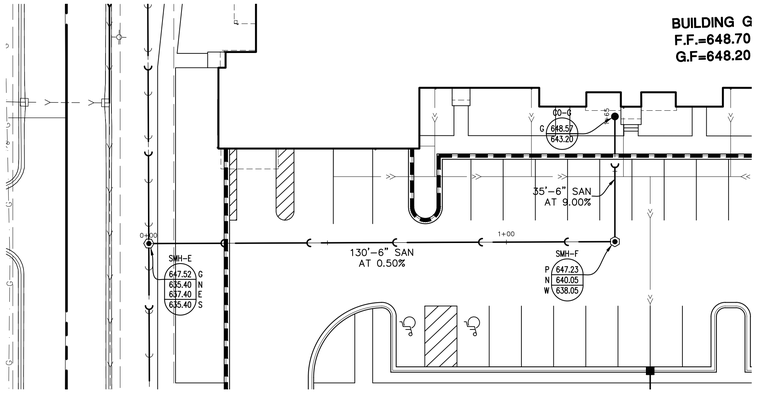
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CITY OF CREST HILL
SANITARY PROFILES 3&4

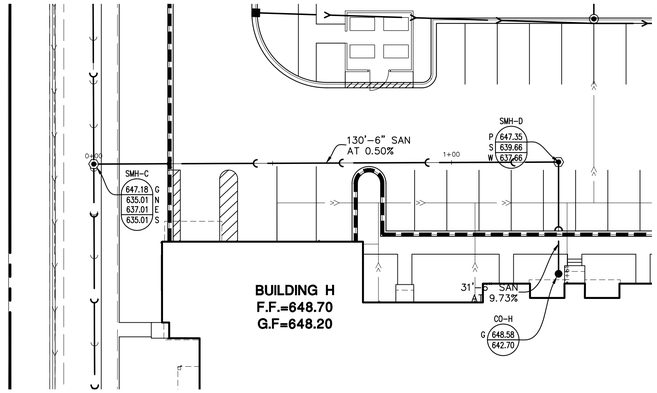
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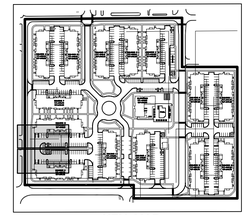
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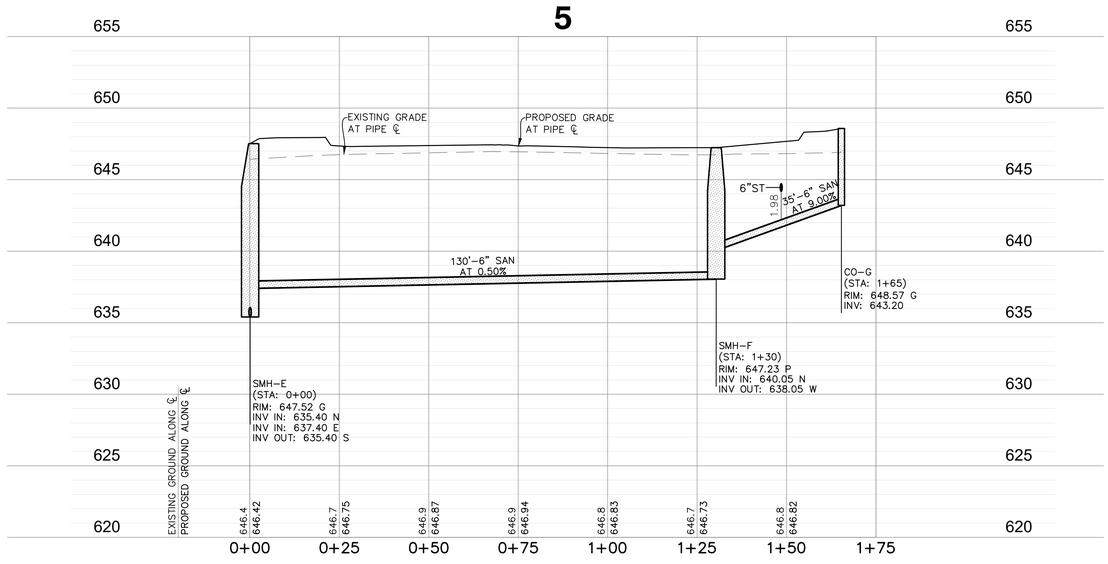


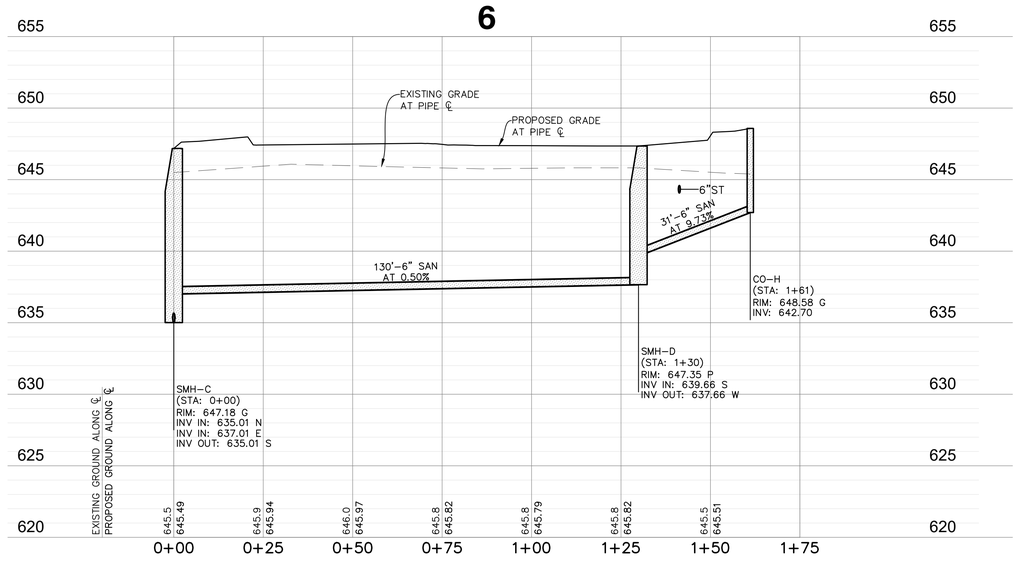






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SEASONS AT CREST HILL
CITY OF CREST HILL
SANITARY PROFILES 5&6

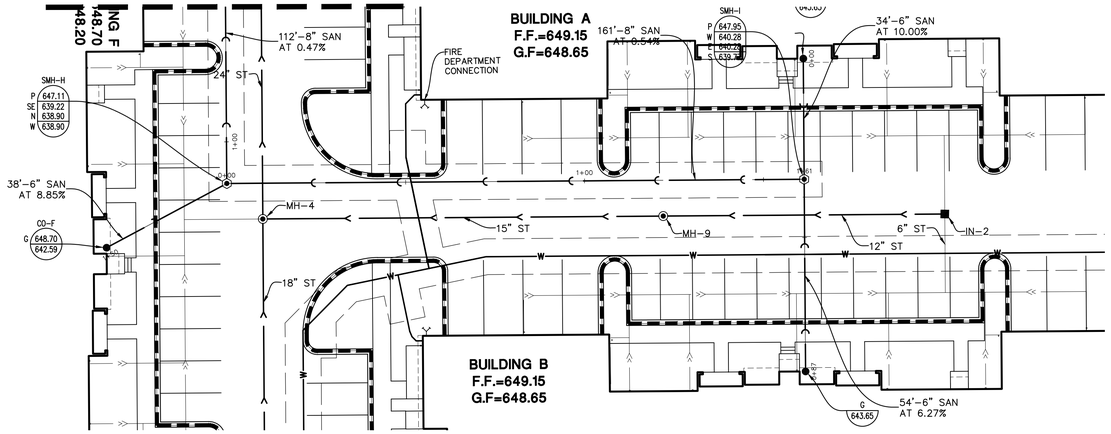
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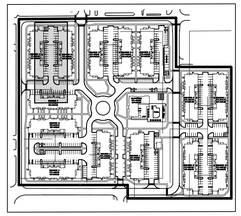
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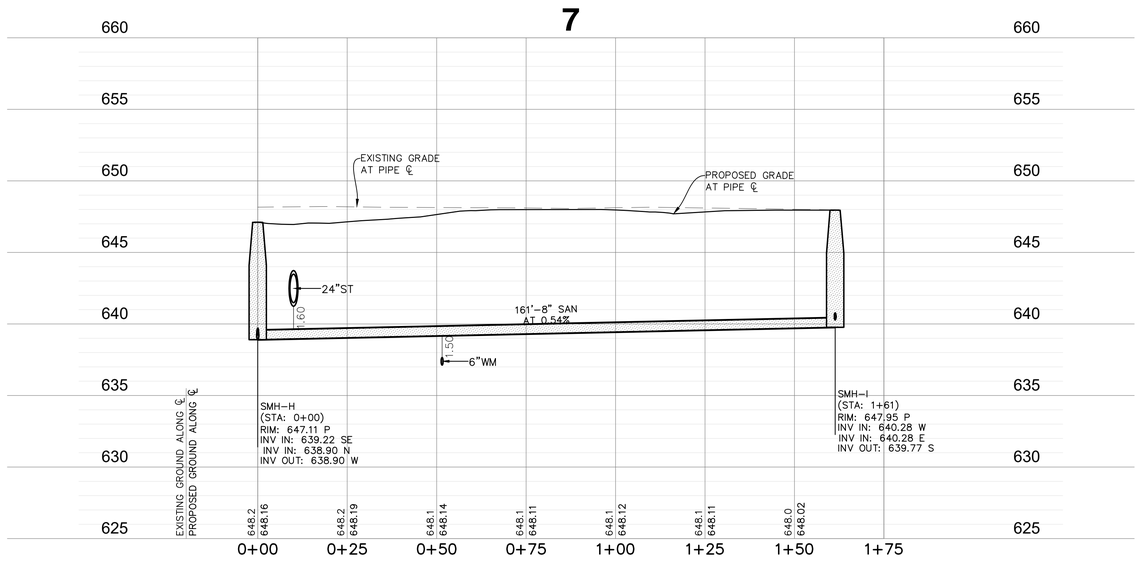
MATCHLINE SEE SHEET 33





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SEASONS AT CREST HILL

CITY OF CREST HILL

SANITARY PROFILES 7

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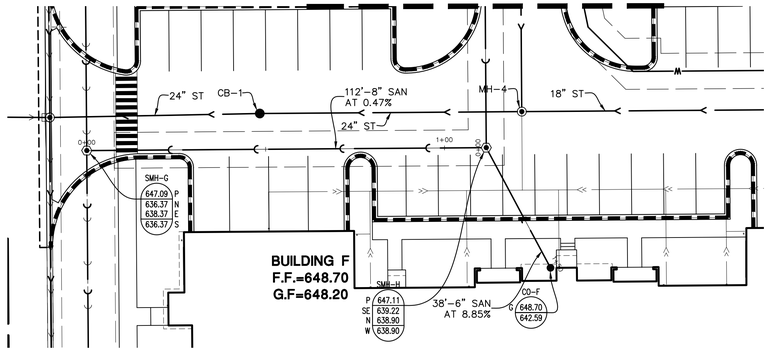
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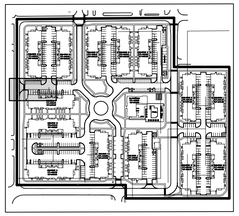
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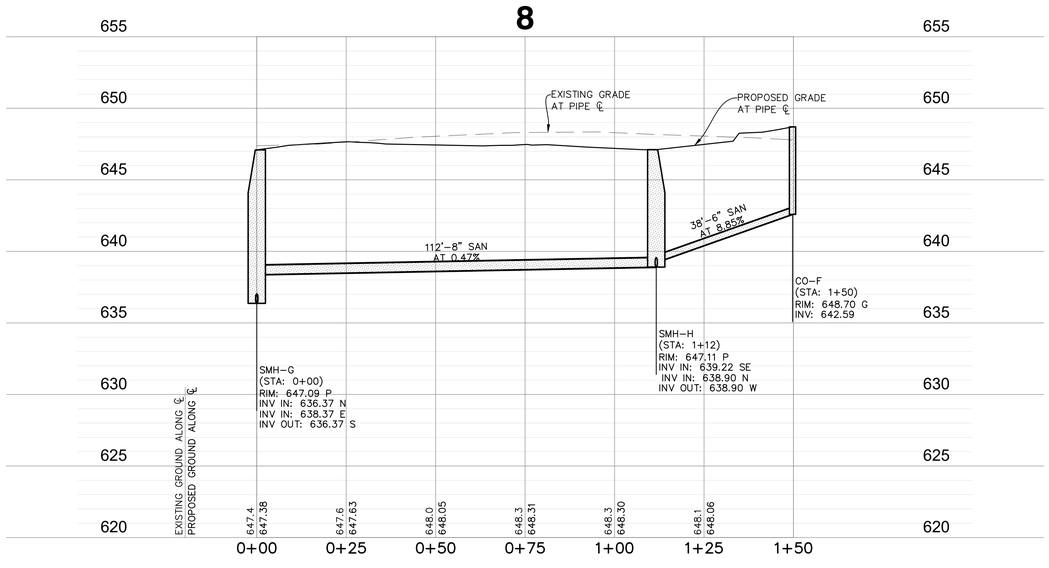
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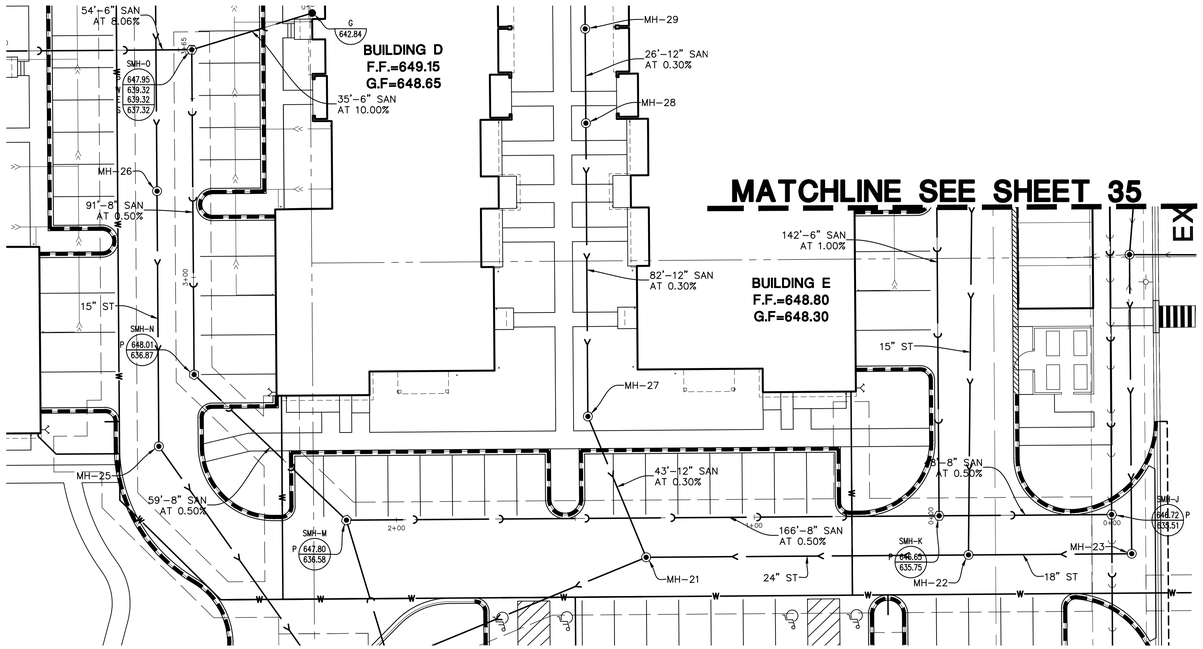
SEASONS AT CREST HILL
CITY OF CREST HILL
SANITARY PROFILES 8

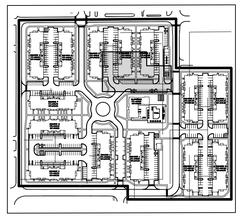
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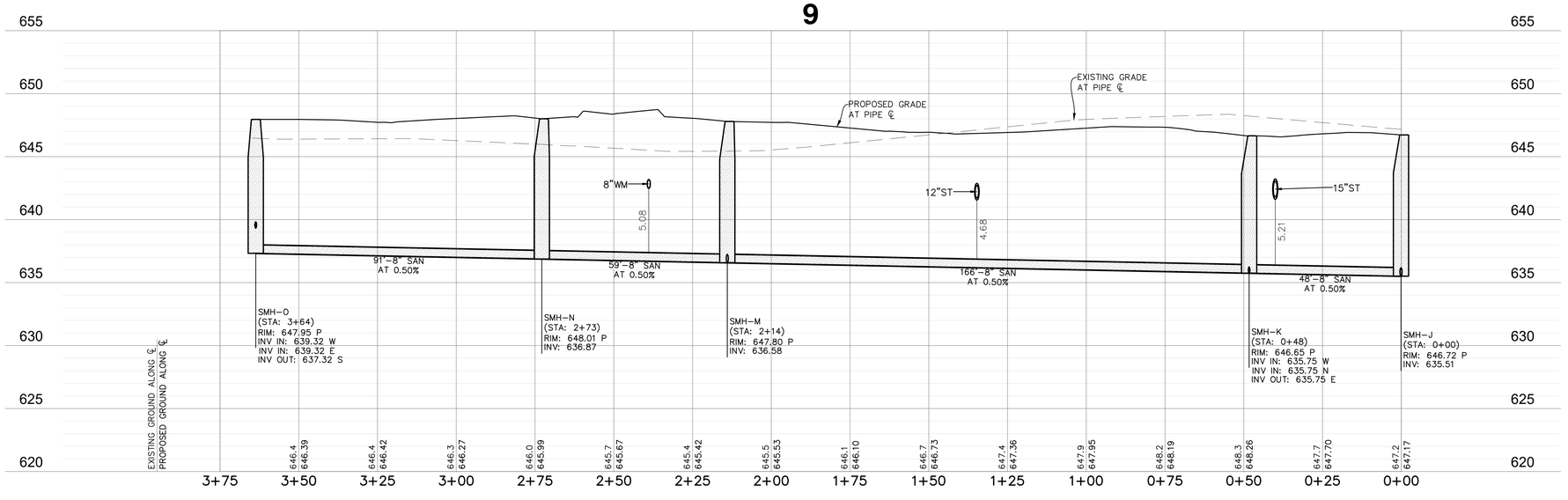
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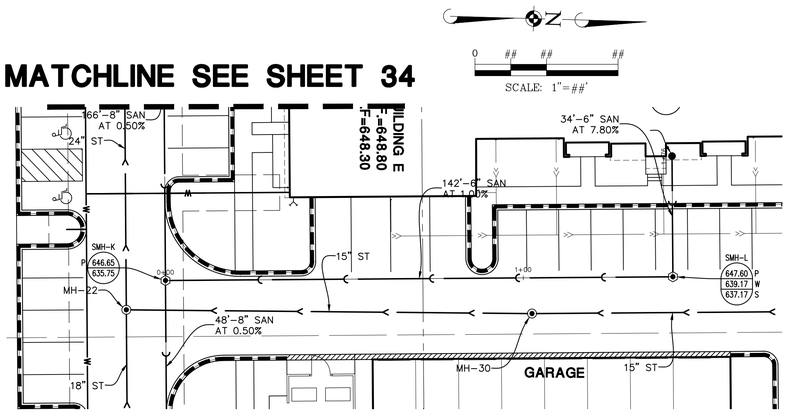
SEASONS AT CREST HILL
CITY OF CREST HILL
SANITARY PROFILES 9

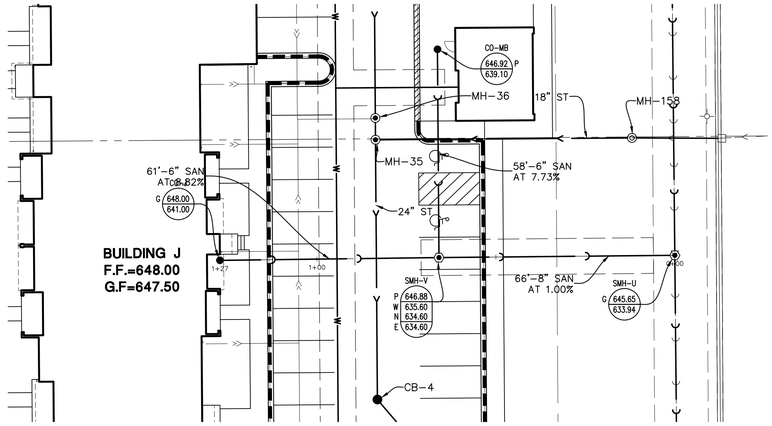
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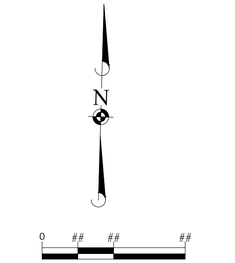
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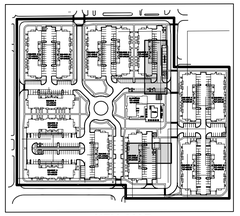
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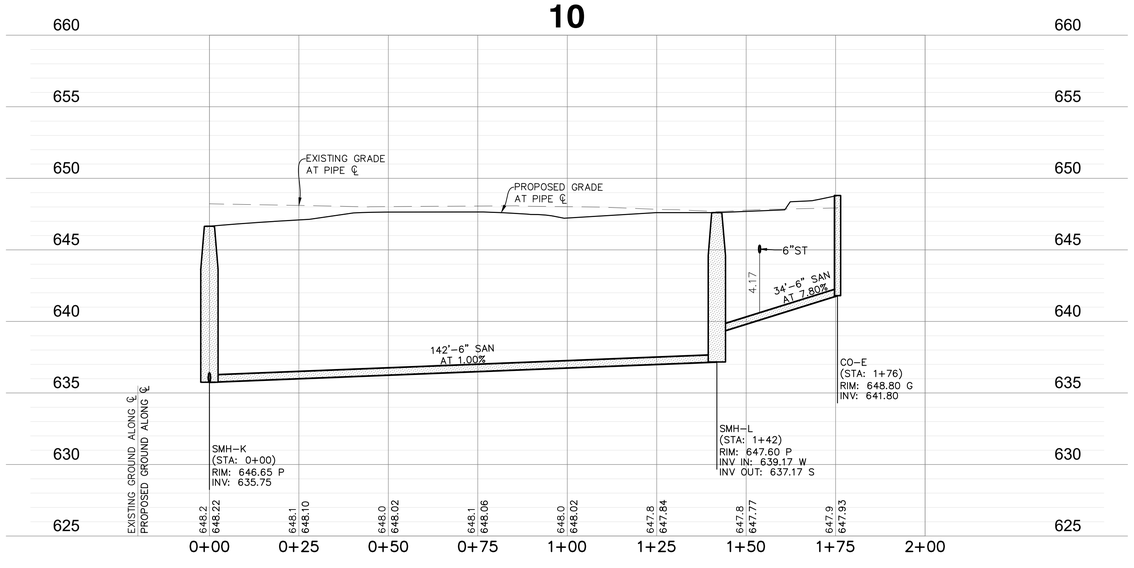
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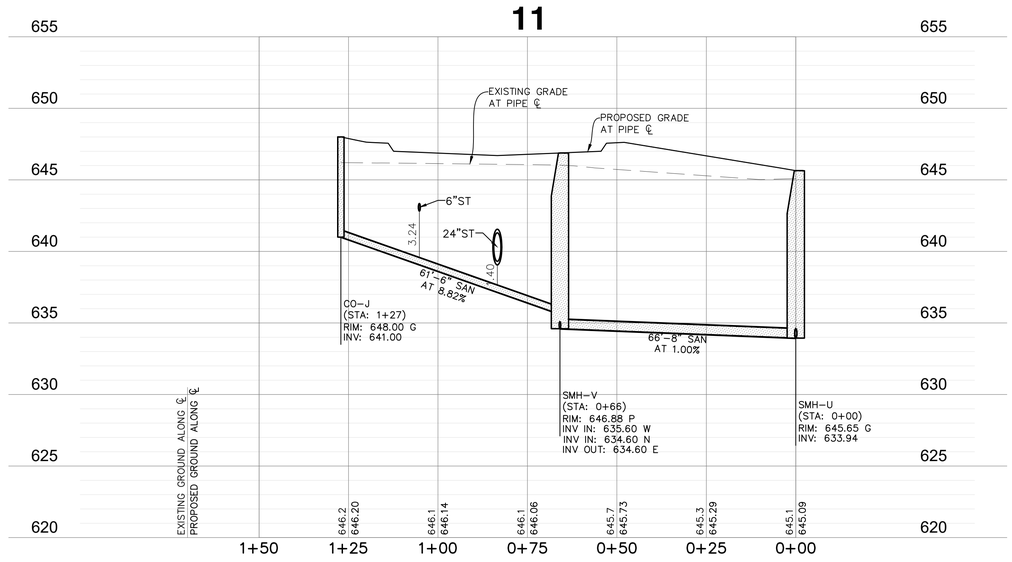












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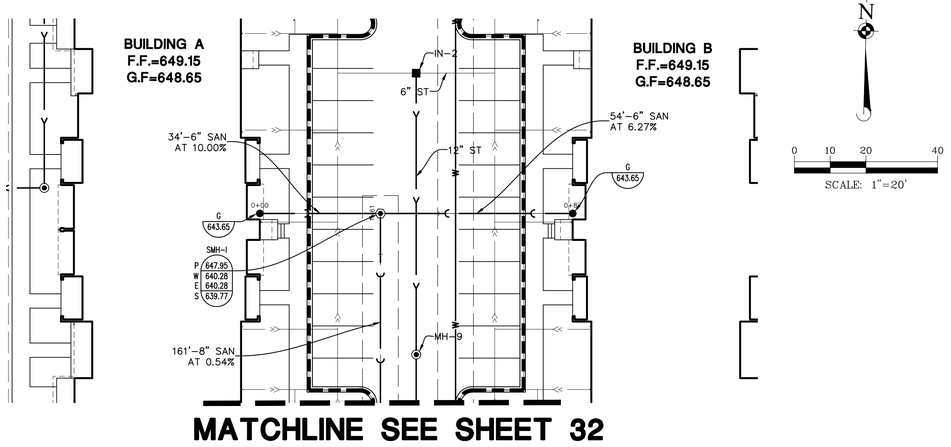
SEASONS AT CREST HILL
CITY OF CREST HILL
SANITARY PROFILES 10&11

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DRAWN BY: GAW
DATE: 01-14-26
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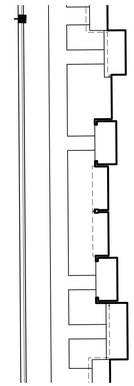
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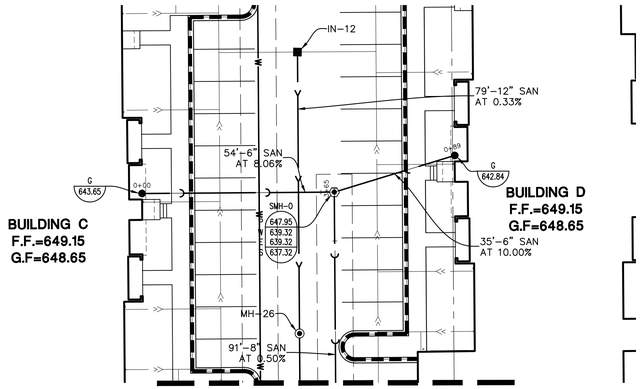
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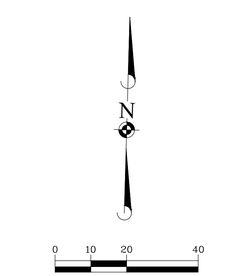


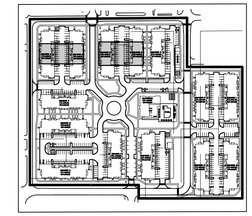
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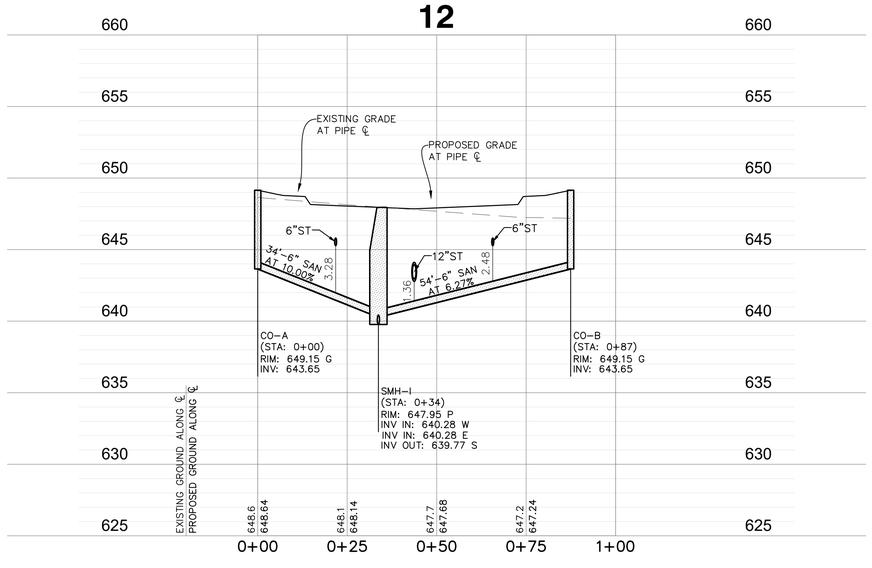


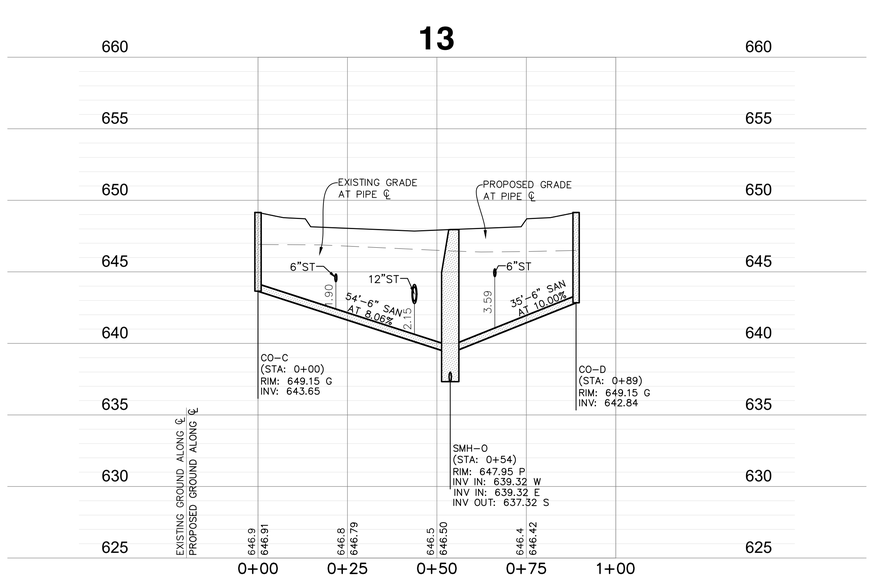
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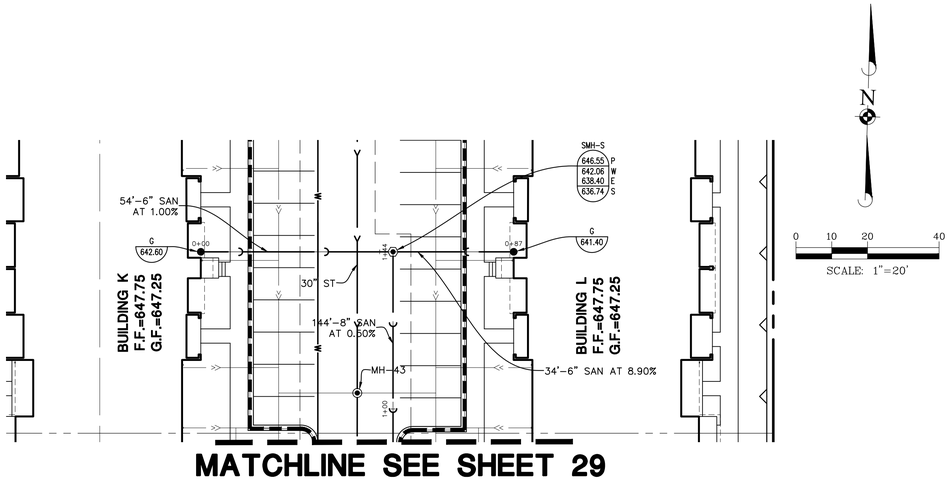
SEASONS AT CREST HILL
CITY OF CREST HILL
SANITARY PROFILES 12&13

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
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DATE: 01-14-26
SCALE: H:1"=20' V:1"=5'

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FRD.CRIL01

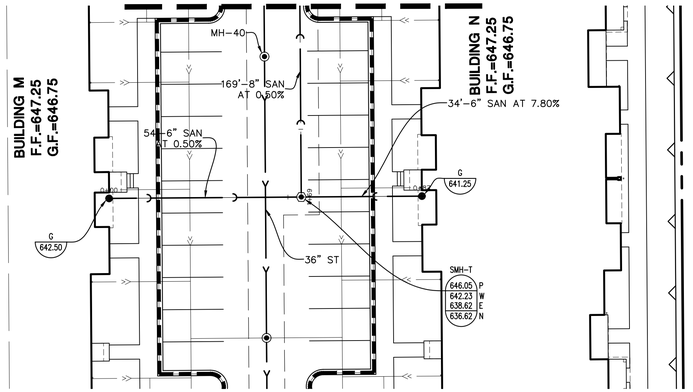
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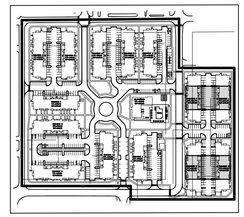
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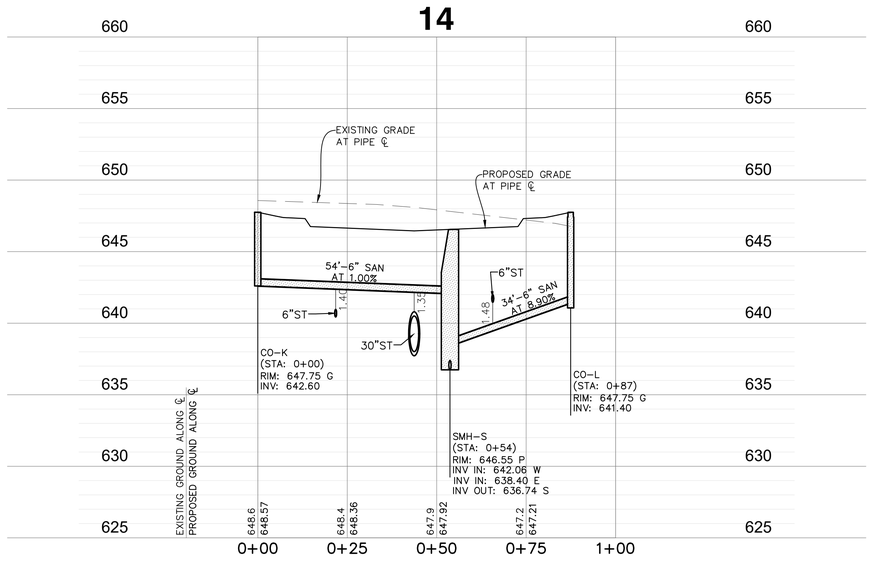
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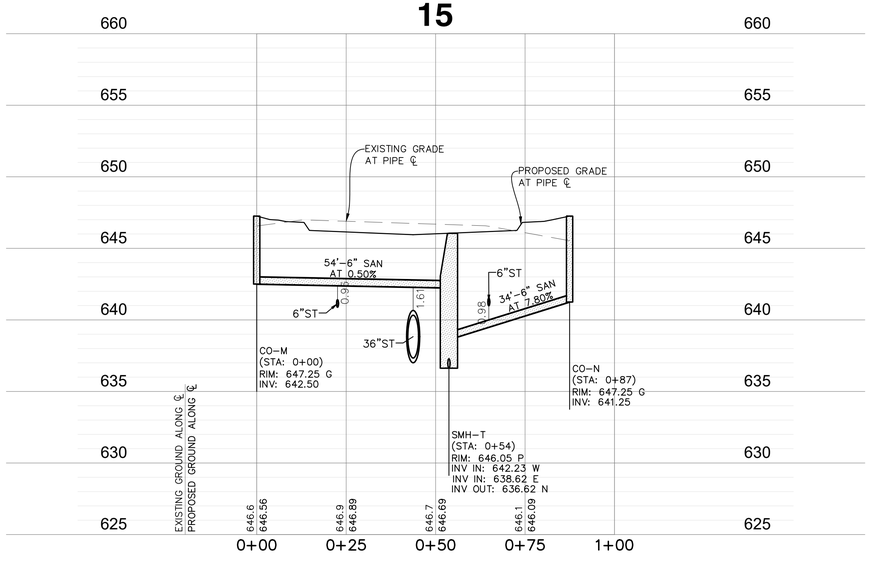
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SEASONS AT CREST HILL

CITY OF CREST HILL

SANITARY PROFILES 14&15

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
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SHEET

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Miscellaneous Water Standards/Notes

1. Water mains shall be a minimum of 8" in diameter, shall include installation of shutoff valves and fire hydrants, and shall be free from dead-end mains, unless authorized by the City.
2. For any water service line repairs, the homeowner is responsible from the lil-box to the house. The City will make repairs from the lil-box to the trunk line.
3. Water mains and fittings shall be ductile cast iron, cement lined, with push on joints class 52 conforming to latest ANSI/ AWWA C151/ A21.51-96, C111, and C104.
4. Fire hydrant leads shall be 6" diameter.
5. All ductile iron water main shall include installation of polyethylene encasement conforming to ANSI/ AWWA C105/ A21.5 and ASTM A674 standards.
6. A building permit is required for all water main/service installations.
7. Any dwelling with a private well providing drinking water that converts to City water must remove any and all well piping that connects to the building drinking water supply. The well may be kept active for purposes of outside irrigation, only if the well meets current Illinois Department of Health guidelines, all well piping is removed from the building, and after inspection and with written permission of the Public Works Department.

Water Main Testing Specifications

Pressure and Leakage Test

1. Testing Procedures
   a. All pressure leakage testing shall be tested against installed pipe, fittings, valves, joints, and fire hydrants up to nozzles.
2. Valve Operations
   a. City of Crest Hill Water Division personnel are the only individuals authorized to operate any water valves for pressurizing or flushing the system.
3. Taps for Testing
   a. Contractor/developer is required to provide a minimum one (1)-inch service taps or size required for adequate flushing in manholes for test gauges, flushing needs, and for disinfection at each end of the pipe test section.
   b. Service tap shall be a direct tap.
   c. Contractor shall schedule an appointment with the City of Crest Hill Water Division for the witnessing/inspection of all taps. A 24-hour notice is required.
   d. Contractor shall remove copper tube with stop assembly from manholes upon completion of testing and chlorination procedures. Corporation stop must be removed and replaced with a stainless steel full circle repair clamp.
4. Air Removal
   a. Before applying the specified test pressure, air shall be expelled completely from the section of piping under test. Air removal will be done in conjunction with the flushing procedures of the water main (see Flushing Requirements.)
5. Allowable Leakage
   a. Testing allowance shall be defined as the maximum quantity of makeup water that is added into a pipeline undergoing the pressure pressure testing, or any valves section thereof, in order to maintain pressure within ±5 psi of the specified test pressure. After the pipeline has been filled with water and the air has been expelled*, No pipeline installation will be accepted if the quantity of makeup water is greater than determined by the following formula:
   b. All visible leaks are to be repaired regardless of the amount of leakage.
   c. Dye or any other form of colorizing the water will not be introduced into the water main for the purpose of locating leaks.

In inch-pound units,

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

Where:

L= testing allowance (makeup water), in gallons per hour
S= length of pipe tested, in feet
D= nominal diameter of the pipe, in inches
P= average test pressure during the hydrostatic test, in pounds per square in (gauge)

These formulas are based on a testing allowance of 10.45 gal/d/in. of nominal diameter of a pressure of 110 psi. Values of testing allowance at various pressures are shown in the table below. When testing against closed metal-seated valves, an additional testing allowance per closed value of 0.0078 gal/hr/in. of nominal value size shall be allowed. When hydrants are in the test section, the test shall be made against the main valve in the hydrant.

ALLOWABLE LEAKAGE PER 1,000 FT OF PIPELINE

Avg Test Pressure (psi)	Allowance per Diameter (in)														
	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	42"	48"	54"
250	0.96	1.43	1.91	2.39	2.87	3.34	3.82	4.30	4.78	5.74	7.17	8.61	10.04	11.48	12.91
225	0.91	1.36	1.81	2.27	2.72	3.17	3.63	4.08	4.53	5.44	6.80	8.16	9.52	10.88	12.24
200	0.86	1.29	1.72	2.15	2.58	3.01	3.44	3.87	4.30	5.16	6.45	7.74	9.03	10.32	11.61
175	0.80	1.20	1.60	2.00	2.40	2.80	3.20	3.60	4.00	4.81	6.01	7.21	8.41	9.61	10.81
150	0.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.44	5.55	6.66	7.77	8.88	9.99
125	0.68	1.01	1.35	1.69	2.03	2.36	2.70	3.04	3.38	4.05	5.07	6.08	7.10	8.11	9.13
100	0.61	0.91	1.21	1.52	1.82	2.12	2.43	2.73	3.03	3.64	4.54	5.45	6.36	7.27	8.18
75	0.53	0.80	1.06	1.33	1.59	1.86	2.12	2.39	2.65	3.18	3.98	4.77	5.57	6.36	7.16
50	0.44	0.65	0.87	1.09	1.31	1.52	1.74	1.96	2.18	2.61	3.26	3.92	4.57	5.22	5.87
25	0.31	0.46	0.62	0.77	0.92	1.08	1.23	1.38	1.54	1.85	2.31	2.77	3.23	3.69	4.16

Testing allowance (makeup water) is the measured quantity of water that must be added into the section being tested to maintain the specified test pressure after the air has been expelled. (Reference: AWWA Standard C600-05)

6. Acceptance of Installation
   a. Acceptance shall be determined as the basis of allowable leakage or the presence of visible leakage by the City of Crest Hill Public Works Department. If any test of and pipe discloses leakage greater than the specified, repairs or replacements shall be accomplished in accordance with the Specifications.

Disinfection of Water Mains

1. Flushing Water Main
   a. Sections of pipe to be disinfected shall first be flushed to remove any solids or contaminated material that may have become lodged in the pipe. Fire hydrants in these sections will be flushed using either the two and a half (2 ½)-inches nozzle or the pumper nozzle to develop a velocity of at least 2.5 feet Tries in the main.
   b. All fire hydrants will be flushed and operated in the section of water main to be tested and disinfected.
   c. City of Crest Hill Water Division personnel are the only individuals authorized to operate any water valves.
   d. All valves that are closed will have a tap with copper tube and ship assembly installed in the vault for the purpose of flushing, and disinfecting the water main to the furthest and point of each sections being tested.
2. Requirement of Chlorine

   Before being placed into service, all new mains and repaired portion of, or extensions to existing mains shall be chlorinated so that the initial chlorine residual is not less than 50 mg/l and that a chlorine residual of not less than 25 mg/l remains in the water after standing 24 hours in the pipe. Mains must be flushed of chlorinated water within 24 hours of disinfection.

   Continuous flushing method using sodium hypershlorite Atone 15@ 12%/12.5 must be used.
3. Point of Application

   The preferred point of application of the chlorinating agent is at the beginning of the pipeline extension or any valved section of it, and through a corporation stop inserted in the pipe.
   a. The contractor will install corporation cocks with a copper tube gooseneck assembly for the purpose of disinfecting and as sample collection point at 1320' intervals, and at each change in direction that has a closed valve. Fire hydrants will be disinfected as part of this procedure.
   b. At a point not to exceed two (2)-feet downstream from the beginning of the new main the water entering the new main will receive a dose of chlorine fed at a constant rate such that the water main will have not less than 25 mg/l free chlorine.
   c. Water from the existing distribution system shall be made to flow at a constant rate into the new main.
   d. The City of Crest Hill Water Division personnel must witness the disinfection process. An appointment with 24-hour prior notice must be scheduled with City of Crest Hill Water Division.
   e. In the process of chlorinating newly laid pipe, all valves, fire hydrants, or other appurtenances shall be operated while the pipe line is filled with the chlorinating agent and under normal operating pressures.

Disinfection of Water Services (Larger Than Two (2)-Inches)

For the purpose of clarifying this section, water service in this section refers to one (1) or more of the following installations that terminate inside of a building under construction.

- The service line being installed is for the purpose of a combination domestic and fire protection use.
- The service line being installed is for the purpose of branching into multiple domestic services inside of a meter room.
- The service line is the section of main being tested from the City of Crest Hill right-of-way valve to a location inside of the building.
- There are no fire hydrants installed on the service line.

1. Meter Rooms/Building Installations
   a. The service line will be disinfected to the inside valve of the meter room prior to any branch service being connected.
   b. The meter room will have a permanent heating system installed and in working condition prior to the disinfection.
   c. One (1) sample point will be provided at the source and one (1) sample point will be provided at the inside valve provided the length of pipe does not exceed 1,000-feet.
   d. The contractor will supply a copper tube gooseneck assembly at each of the sample points and provide methods to divert the flushing water.
   e. The City of Crest Hill in Water Division personnel must witness the disinfection process. An appointment with 24 hours prior notice must be scheduled with City of Crest Hill Water Division.
2. Domestic/Fire Service Mains/Meter Room
   a. The service line will be disinfected up to the inside valve on both the fire branch and the domestic branch.
   b. The Fire Service Main Branch will have a valve of equal size to the riser section installed prior to chlorination.
   c. The building, meter room, or location of the incoming service line will have a permanent heating system installed and in working condition prior to the disinfection.
   d. One (1) sample point will be provided at the source and one (1) sample point will be provided at the inside valve provided the length of pipe does not exceed 1,000-feet and provide a method to divert the flushing water.
   e. The contractor will supply a copper tube goose neck assembly at each of the sample points.
   f. The City of Crest Hill Water Division personnel must witness the disinfection process. An appointment with 24 hours prior notice must be scheduled with City of Crest Hill Water Division.

De-chlorination Requirements

Following chlorination, all treated water shall be thoroughly flushed from the newly laid pipe using the first hydrant(s) and/or all the copper gooseneck assemblies. The flushing shall replace the highly chlorinated water with water that has a chlorine residual of less than 1mg/l or equal to the residual from the supply service.

- The discharging of chlorinated water must be expelled to the surrounding ground surface.
- The contractor/developer must comply with all of the I.E.P.A. Rules, Regulations, and Standards for de-chlorinating water as part of the discharging.
- The contractor/developer is responsible for the equipment and materials to de-chlorinate the water at each point it is discharging.
- The City of Crest Hill Water Division personnel are the only individuals authorized to operate the valves.
- The City of Crest Hill Water Division personnel must witness the de-chlorination procedures when flushing the water mains. An appointment with 24-hour prior notice must be scheduled with City of Crest Hill Water Division.

Sampling and Testing

Sample collection for bacterial testing will start immediately after flushing the disinfection water from the system and prior to any portion of the water main being placed into service. Samples will be collected at all sample points designated by the City of Crest Hill Water Superintendent. Sampling procedures must follow the I.E.P.A. Standards for construction of new water mains.

1. Locations and Spacing
   a. Samples will be collected from the service, along the water main, as required, and at the end of the line.
   b. Samples will be collected from fire hydrants at points not to exceed 1,000-feet of linear water main, or as directed by the City of Crest Hill.
   c. A sample will be collected from the copper goose-neck assembly point that is located no further than five (5)-feet downstream from the beginning of the new water main.
2. Collection Requirements
   a. The contractor is required to collect all samples at the location(s) designated by the City of Crest Hill Water Superintendent.
   b. City of Crest Hill Water Division personnel are the only individuals authorized to operate any water valves and must witness all samples at time of collection. 24-hour prior notice must be scheduled with the City of Crest Hill Water Division.
   c. A chain of custody form will be used to identify sample location, chloride residual, time of collection, etc. All collection samples will be sealed with a tamper proof label.
   d. The contractor is required to take the collected samples to a certified laboratory approved by the City of Crest Hill Water Superintendent.
   e. The City of Crest Hill Water Division has the right to collect quality control samples at the same time contractor collects samples. The charges for the quality control samples will be charged to the contractor.
   f. Samples must be collected on two consecutive days with at least 24-hours of separation between the collection times.
   g. Each sample collected will be tested for quality and must show the absence of coliform organisms.
3. Satisfactory Sample Results

   If all the samples tested meet the Bacteriological Quality Standards and are certified as satisfactory by the testing lab:
   a. The contractor may have the lab email the results directly to the City of Crest Hill Water Division;
   b. The contractor must provide original copies of the certified results to the City of Crest Hill Water Superintendent within seven (7) business days of the date on the test results; and
   c. The contractor must contact the City of Crest Hill Water Division to schedule an appointment to have the water main placed into service within 72 hours of the satisfactory test results being certified and only as approved by the Water Superintendent. All original chain of custody forms must be returned before activation.
4. Unsatisfactory Sample Results

   If any one of the samples tested fails to meet the Bacteriological Quality Standards and is deemed unsatisfactory, then all the samples collected on the same date for the tested section of pipe, will be considered unsatisfactory.
   d. Unsatisfactory samples from the first day of collection will be discarded. A new first day collection must be collected with a new second day to be collected consecutively.
   e. Unsatisfactory samples from the second day of collection will be discarded. First day samples will also be discarded and the contractor must schedule new first and second day samples.

   The contractor will have up to three (3) chances of first day and two (2) chances of second day bacterial testing to obtain satisfactory results on all the samples collected and tested.
   f. Should the contractor fail to obtain satisfactory results after the allotted attempts, the watermain section being tested is to have the original disinfection procedures repeated until satisfactory results are obtained.

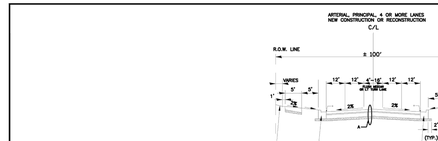
Flow Test

After completion of all water mains and installation of all fire hydrants within a subdivision, a flow test shall be performed at the point in the subdivisions farthest away from the existing City water main. The flow test shall provide information regarding static pressure, residual pressure and flow rate, and the information shall be supplied to the City.

CLIENT: City of Crest Hill, Illinois	CITY OF CREST HILL 1610 PLAINFIELD ROAD CREST HILL, IL 60403	NO.	DATE	NATURE OF REVISION	DSGN.		
					DWN.		
					CHKD.		
					SCALE:		
					PLOT DATE:	11/10/2021	
					CAD USER:	Jspeakman	
					CHKD. MODEL:	DefPlotT	
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TITLE: **CITY OF CREST HILL GENERAL NOTES**

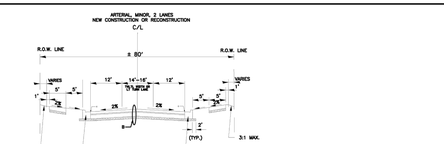
PROJ. NO.
DATE: 11/10/2021
SHEET 3 OF 38
DRAWING NO. **NOT-2**



A 3" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70
2" HOT-MIX ASPHALT BINDER COURSE, IL-19, N70
7" HOT-MIX ASPHALT BASE COURSE
12" AGGREGATE SUBBASE GRANULAR MATERIAL, TYPE B

NOTES:
1. A GEOTECHNICAL REPORT PREPARED BY DEVELOPER'S ENGINEER SHALL BE PREPARED ACCORDING TO IDOT GUIDELINES AND ANY SUBGRADE TREATMENT SHALL BE ACCORDING TO IDOT STANDARD SPECIFICATIONS.
2. HORIZONTAL AND VERTICAL CURVES SHALL BE PER IDOT DESIGN CRITERIA.
3. IN SPECIAL SITUATIONS CONCRETE PAVEMENTS WILL BE REQUIRED OR ALOWED BY THE CITY, IF APPROVED BY THE CITY, CONCRETE PAVEMENT DESIGN WILL BE ACCORDING TO THE CURRENT IDOT DESIGN MANUAL.
4. FOR ANY PROPOSED RAISED MEDIANS IDOT'S DESIGN CRITERIA FOR ARTERIAL, FOUR OR MORE LANES SHALL BE FOLLOWED.
5. MINIMUM PAVEMENT THICKNESS ALLOWED IS 12".
6. ALL CURB AND SIDEWALKS SHALL BE CONSTRUCTED WITH IDOT CLASS "D" CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 14 DAYS. PAVEMENTS SHALL BE FINISHED WITH A MINIMUM OF SIX INCHES OF TOPSOIL.
7.

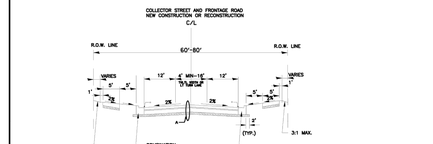
TYPICAL PAVEMENT SECTION (PRINCIPAL ARTERIAL)



A 3" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70
2" HOT-MIX ASPHALT BINDER COURSE, IL-19, N70
12" AGGREGATE SUBBASE GRANULAR MATERIAL, TYPE B

NOTES:
1. A GEOTECHNICAL REPORT PREPARED BY DEVELOPER'S ENGINEER SHALL BE PREPARED ACCORDING TO IDOT GUIDELINES AND ANY SUBGRADE TREATMENT SHALL BE ACCORDING TO IDOT STANDARD SPECIFICATIONS.
2. HORIZONTAL AND VERTICAL CURVES SHALL BE PER IDOT DESIGN CRITERIA.
3. IN SPECIAL SITUATIONS CONCRETE PAVEMENTS WILL BE REQUIRED OR ALOWED BY THE CITY, IF APPROVED BY THE CITY, CONCRETE PAVEMENT DESIGN WILL BE ACCORDING TO THE CURRENT IDOT DESIGN MANUAL.
4. FOR ANY PROPOSED RAISED MEDIANS IDOT'S DESIGN CRITERIA FOR ARTERIAL, FOUR OR MORE LANES SHALL BE FOLLOWED.
5. MINIMUM PAVEMENT THICKNESS ALLOWED IS 12".
6. ALL CURB AND SIDEWALKS SHALL BE CONSTRUCTED WITH IDOT CLASS "D" CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 14 DAYS. PAVEMENTS SHALL BE FINISHED WITH A MINIMUM OF SIX INCHES OF TOPSOIL.
7.

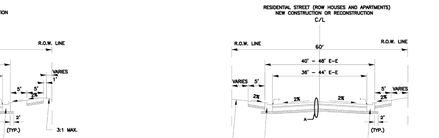
TYPICAL PAVEMENT SECTION (MINOR ARTERIAL)



A 3" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70
5" HOT-MIX ASPHALT BINDER COURSE, IL-19, N70
8" HOT-MIX ASPHALT BASE COURSE
12" AGGREGATE SUBBASE GRANULAR MATERIAL, TYPE B

NOTES:
1. A GEOTECHNICAL REPORT PREPARED BY DEVELOPER'S ENGINEER SHALL BE PREPARED ACCORDING TO IDOT GUIDELINES AND ANY SUBGRADE TREATMENT SHALL BE ACCORDING TO IDOT STANDARD SPECIFICATIONS.
2. HORIZONTAL AND VERTICAL CURVES SHALL BE PER IDOT DESIGN CRITERIA.
3. IN SPECIAL SITUATIONS CONCRETE PAVEMENTS WILL BE REQUIRED OR ALOWED BY THE CITY, IF APPROVED BY THE CITY, CONCRETE PAVEMENT DESIGN WILL BE ACCORDING TO THE CURRENT IDOT DESIGN MANUAL.
4. FOR ANY PROPOSED RAISED MEDIANS IDOT'S DESIGN CRITERIA FOR ARTERIAL, FOUR OR MORE LANES SHALL BE FOLLOWED.
5. MINIMUM PAVEMENT THICKNESS ALLOWED IS 12".
6. ALL CURB AND SIDEWALKS SHALL BE CONSTRUCTED WITH IDOT CLASS "D" CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 14 DAYS. PAVEMENTS SHALL BE FINISHED WITH A MINIMUM OF SIX INCHES OF TOPSOIL.
7.

TYPICAL PAVEMENT SECTION (COLLECTOR)



A 3" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70
5" HOT-MIX ASPHALT BINDER COURSE, IL-19, N70
8" AGGREGATE SUBBASE GRANULAR MATERIAL, TYPE B

NOTES:
1. A GEOTECHNICAL REPORT PREPARED BY DEVELOPER'S ENGINEER SHALL BE PREPARED ACCORDING TO IDOT GUIDELINES AND ANY SUBGRADE TREATMENT SHALL BE ACCORDING TO IDOT STANDARD SPECIFICATIONS.
2. HORIZONTAL AND VERTICAL CURVES SHALL BE PER IDOT DESIGN CRITERIA.
3. IN SPECIAL SITUATIONS CONCRETE PAVEMENTS WILL BE REQUIRED OR ALOWED BY THE CITY, IF APPROVED BY THE CITY, CONCRETE PAVEMENT DESIGN WILL BE ACCORDING TO THE CURRENT IDOT DESIGN MANUAL.
4. FOR ANY PROPOSED RAISED MEDIANS IDOT'S DESIGN CRITERIA FOR ARTERIAL, FOUR OR MORE LANES SHALL BE FOLLOWED.
5. MINIMUM PAVEMENT THICKNESS ALLOWED IS 12".
6. ALL CURB AND SIDEWALKS SHALL BE CONSTRUCTED WITH IDOT CLASS "D" CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 14 DAYS. PAVEMENTS SHALL BE FINISHED WITH A MINIMUM OF SIX INCHES OF TOPSOIL.
7.

TYPICAL PAVEMENT SECTION (RESIDENTIAL)

A 3" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70
5" HOT-MIX ASPHALT BINDER COURSE, IL-19, N70
8" AGGREGATE SUBBASE GRANULAR MATERIAL, TYPE B

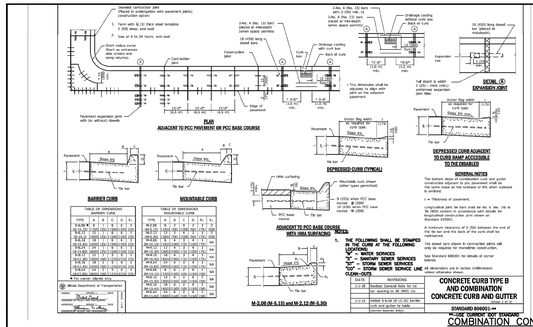
NOTES:
1. A GEOTECHNICAL REPORT PREPARED BY DEVELOPER'S ENGINEER SHALL BE PREPARED ACCORDING TO IDOT GUIDELINES AND ANY SUBGRADE TREATMENT SHALL BE ACCORDING TO IDOT STANDARD SPECIFICATIONS.
2. HORIZONTAL AND VERTICAL CURVES SHALL BE PER IDOT DESIGN CRITERIA.
3. IN SPECIAL SITUATIONS NOT COVERED IN THESE TYPICAL SECTIONS SHALL BE APPROVED BY THE CITY AND DESIGNED PER THE CURRENT IDOT DESIGN MANUAL IF APPROVED.
4. ALL CURB AND SIDEWALKS SHALL BE CONSTRUCTED WITH IDOT CLASS "D" CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 14 DAYS. PAVEMENTS SHALL BE FINISHED WITH A MINIMUM OF SIX INCHES OF TOPSOIL.
5.

TYPICAL PAVEMENT SECTION (RESIDENTIAL, BUILDING ON R.O.W.)

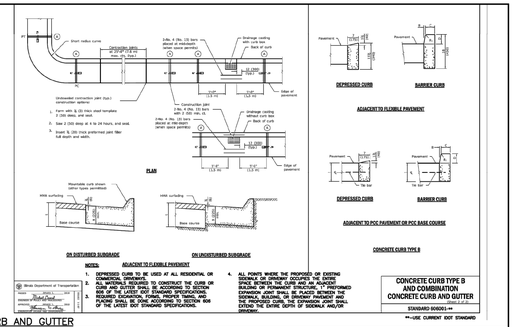
CLIENT: City of Crest Hill, Illinois	CITY OF CREST HILL 1610 PLAINFIELD ROAD CREST HILL, IL 60403	NO.	DATE	NATURE OF REVISION	DSGN.		
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					CAD USER:	Jspeakman	
					CHKD. MODEL:	DefPlotT	
		FILE NAME:	N:\CREST\ILL\2022\F\Civil\Ref\Admin\dtls.dgn				

TITLE: **CITY OF CREST HILL PAVEMENT, CURB AND GUTTER, AND SIDEWALK STANDARD DETAILS**

PROJ. NO.
DATE: 11/10/2021
SHEET 4 OF 38
DRAWING NO. **PVT-1**

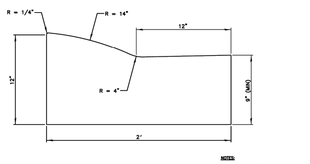


COMBINATION CONCRETE CURB AND GUTTER



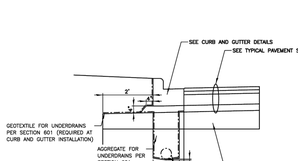
CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER

STANDARD 606001
**-M-USE CURRENT IDOT STANDARD

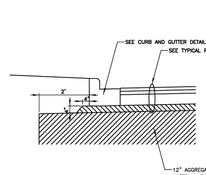


NOTES:
1. THE FOLLOWING SHALL BE STAMPED THE CURB AT THE FOLLOWING LOCATIONS:
"W" – WATER SERVICES
"S" – SANITARY SEWER SERVICES
"SD" – STORM SEWER SERVICES
"SDT" – STORM SEWER SERVICE LINE CLEAN-OUTS
2. TO BE USED ONLY IN AREAS WHERE CURB AND GUTTER IS NOT BEING USED. NOT TO BE USED IN NEW CONSTRUCTION.

COMBINATION CONCRETE CURB AND GUTTER (ROLLED CURB)



CONCRETE CURB AND GUTTER SECTION FOR HMA PAVEMENT WITH UNDERDRAIN FOR ALL MAJOR AND MINOR ARTERIALS

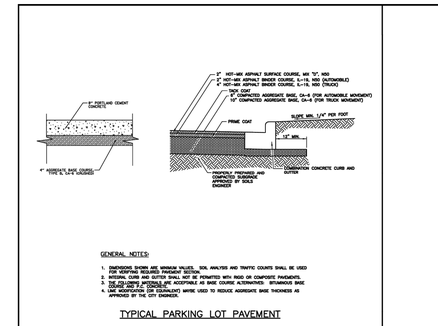


CONCRETE CURB AND GUTTER SECTION FOR HMA PAVEMENT WITHOUT UNDERDRAIN

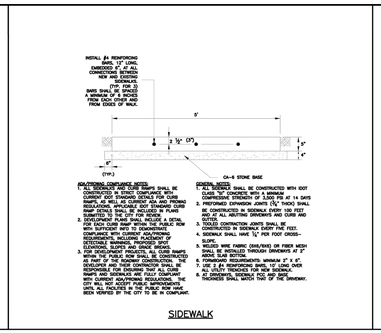
CLIENT: City of Crest Hill, Illinois	CITY OF CREST HILL 1610 PLAINFIELD ROAD CREST HILL, IL 60403	NO.	DATE	NATURE OF REVISION	DSGN.		
					DWN.		
					CHKD.		
					SCALE:		
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					CHKD. MODEL:	DefPlotT	
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TITLE: **CITY OF CREST HILL PAVEMENT, CURB AND GUTTER, AND SIDEWALK STANDARD DETAILS**

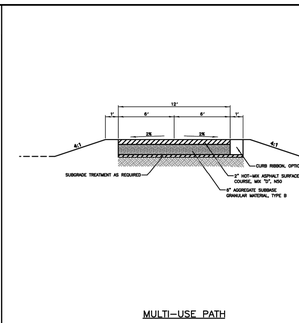
PROJ. NO.
DATE: 11/10/2021
SHEET 5 OF 38
DRAWING NO. **PVT-2**



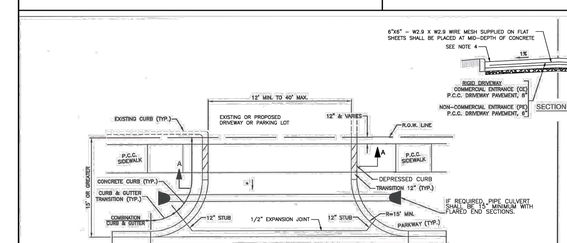
TYPICAL PARKING LOT PAVEMENT

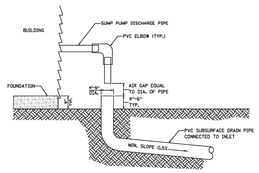


SIDEWALK



MULTI-USE PATH

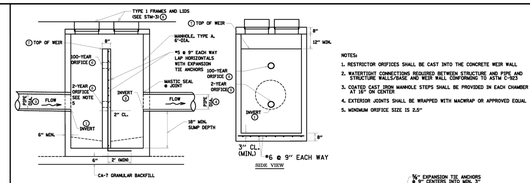

6"x6" - W2.9 X W2.9 WIRE MESH SUPPLIED ON FLAT SHEETS SHALL BE PLACED AT MID-DEPTH OF CONCRETE
SEE NOTE 4
1/2" PREFORMED EXPANSION JOINT FILLER (TYP.)
PCC SIDEWALK, 5"
15'
RIGID DRIVEWAY
COMMERCIAL ENTRANCE (CE)
P.C.C. DRIVEWAY PAVEMENT, 8"
NON-COMMERCIAL ENTRANCE (PE)
P.C.C. DRIVEWAY PAVEMENT, 6"
4" AGGREGATE BASE COURSE, TYPE B
SUB-GRADE COMPACTED TO 93% MODIFIED PROCTOR DENSITY
SECTION AA
EXISTING CURB (TYP.)
12' MIN. TO 40' MAX.
EXISTING OR PROPOSED DRIVEWAY OR PARKING LOT
12' & VARIES
R.O.W. LINE
P.C.C. SIDEWALK
CONCRETE CURB (TYP.)
CURB & GUTTER TRANSITION (TYP.)
DEPRESSED CURB TRANSITION 12' (TYP.)
12' OR GREATER



NOTES:

1. SUMP PUMP CONNECTIONS TO OUTLET AT GRADE OR FOR RESIDENTIAL DEVELOPMENTS WITH AN ON-SITE STORMWATER CONTROL FACILITY, THE SUMP PUMP MAY BE CONNECTED INTO THE STORM SEWER SYSTEM LOCATED OUTSIDE THE PUBLIC RIGHT-OF-WAY, AT A STRUCTURE.
2. SUMP PUMP DISCHARGE SHALL BE DIRECTED AWAY FROM ADJACENT PROPERTIES, AND OUTLET SHALL BE LOCATED A MINIMUM OF 10 FEET FROM PROPERTY LINES. INSTALLATION OF "POP-UPS" ARE NOT RECOMMENDED. THE CITY SHALL ASSUME NO RESPONSIBILITY FOR ANY ISSUES RESULTING FROM THEIR INSTALLATION.
3. INSTALLER/OWNER ASSUMES FULL RESPONSIBILITY AND LIABILITY FOR ANY AND ALL DAMAGE TO UTILITIES OR ADJOINING PROPERTIES.
4. INSTALLATION OF SUMP PUMP DISCHARGE LINES MUST BE INSPECTED BY THE CITY PUBLIC WORKS DEPARTMENT.

SUMP PUMP CONNECTION

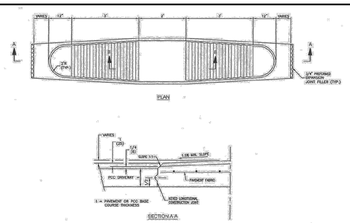


UPSTREAM INVERT ELEV	①	RS*1	RS*2	RS*3	RS*4
DOWNSTREAM INVERT ELEV	②				
UPSTREAM PIPE DIAMETER (IN)	③				
DOWNSTREAM PIPE DIAMETER (IN)	④				
2-YEAR ORIFICE SIZE (IN)	⑤				
2-YEAR ORIFICE ELEV					
100-YEAR ORIFICE SIZE (IN)	⑥				
100-YEAR ORIFICE ELEV					
TOP OF WEIR ELEV	⑦				
STRUCTURE RIM ELEV	⑧				

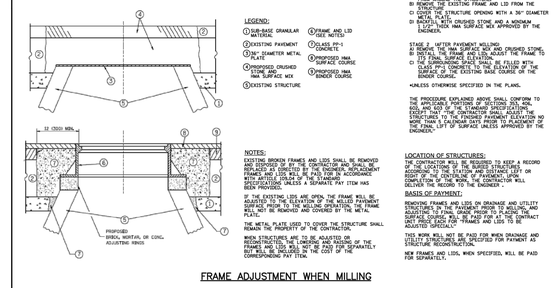
NOTES:

1. RESTRICTOR ORIFICES SHALL BE CAST INTO THE CONCRETE WEIR WALL
2. WATERTIGHT CONNECTIONS REQUIRED BETWEEN STRUCTURE AND PIPE AND STRUCTURE WALLS/BASE AND WEIR WALL CONFORMING TO ASTM C-923
3. COATED CAST IRON MANHOLE STEPS SHALL BE PROVIDED IN EACH CHAMBER AT 16" ON CENTER
4. EXTERIOR JOINTS SHALL BE WRAPPED WITH MACMRAP OR APPROVED EQUAL
5. WINDOWN ORIFICE SIZE IS 2.5"

DETENTION POND RESTRICTOR STRUCTURE



CORRUGATED PCC MEDIAN



NOTES:

EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS SHALL BE SET TO GRADE IN ACCORDANCE WITH ARTICLE 602.06 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO GRADE AND THE LID WILL BE REMOVED. THE SURFACE PATCH TO THE ADJOINING PAVEMENT. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE REMOVAL AND RESETTING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

STAGE I (BEFORE PAVEMENT MILLING)
A) REMOVE A MINIMUM OF 12" OF THE PAVEMENT FROM AROUND THE STRUCTURE.
B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
C) COVER THE STRUCTURE OPENING WITH A 36" DIAMETER METAL PLATE.
D) BACKFILL WITH CRUSHED STONE AND A MINIMUM 1.5" THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

STAGE II (AFTER PAVEMENT MILLING)
A) REMOVE THE METAL PLATE AND CRUSHED STONE, AS BACKFILL THE PCC SURFACE MIX AND ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
B) CLEAN AND PREPARE THE SURFACE TO BE FILLED WITH HMA AND PROVIDE PAINT TO FULL DEPTH OF THE SURFACE OF THE EXISTING BASE COURSE OF THE BINDER COURSE.

*UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO ARTICLE 602.06 OF THE STANDARD SPECIFICATIONS, AS WELL AND SIZE OF THE STANDARD SPECIFICATIONS, EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE FRAMES AND LIDS TO GRADE WITHIN A PERIOD OF NO MORE THAN 2 CALENDAR DATES PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

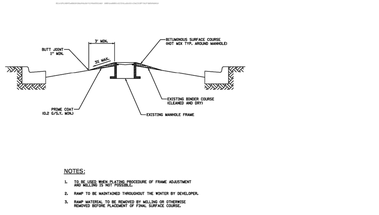
LOCATION OF STRUCTURES:
THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES. THE LOCATIONS SHALL BE GIVEN AS DISTANCES LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

BASIS OF PAYMENT:
REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES WHERE NECESSARY PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE FINAL LIFT OF SURFACE WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR FRAMES AND LIDS TO BE ADJUSTED SPECIALLY.

THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.

NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

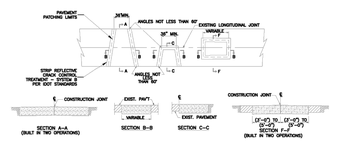
FRAME ADJUSTMENT WHEN MILLING



NOTES:

1. USE IN LIEU INSTALLATION PROCEDURE OF FRAME ADJUSTMENT WHEN MILLING.
2. RAMP TO BE MAINTAINED THROUGHOUT THE WINTER BY DEVELOPER.
3. RAMP NOTICE TO BE ADJUSTED BY MILLING OR OTHERWISE REMOVED BEFORE PLACEMENT OF FINAL SURFACE COURSE.

MANHOLE RAMPING DETAIL



GENERAL NOTES:

1. EXISTING TIE BARS SHALL BE EITHER CUT OR REMOVED. MARGINAL BARS SHALL BE CUT.
2. IN LOCATIONS WHERE BITUMINOUS PATCHES WILL BE OVERLAYED WITH BITUMINOUS SURFACE COURSE, STRIP REFLECTIVE CRACK CONTROL TREATMENT SHALL BE APPLIED TO ALL PAVEMENT JOINTS AND CENTERED ALONG THE RESPECTIVE JOINTS.
3. IN LOCATIONS WHERE THE PAVEMENT PATCH WILL NOT BE OVERLAYED, TWO (2) INCHES OF BITUMINOUS SURFACE COURSE SHALL BE LAID IN THE FINAL LIFT OF THE PATCH.
4. THE DEPTH OF THE BITUMINOUS PAVEMENT PATCH SHALL MATCH THE FULL DEPTH OF THE EXISTING PAVEMENT, BUT SHALL NOT BE LESS THAN THE CITY STANDARD FOR THE RESPECTIVE PAVEMENT SECTION.

HOT-MIX ASPHALT PAVEMENT PATCHING

CLIENT: City of Crest Hill Illinois	CITY OF CREST HILL 1610 PLAINFIELD ROAD CREST HILL, IL 60403			DSGN.	
				DWN.	
				CHKD.	
				SCALE:	
				PLOT DATE:	11/10/2021
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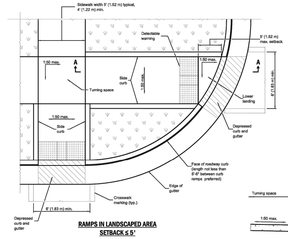
TITLE: CITY OF CREST HILL STORM SEWER SYSTEM DETAILS

PROJ. NO.
DATE: 11/10/2021
SHEET 24 OF 38
DRAWING NO. STM-5

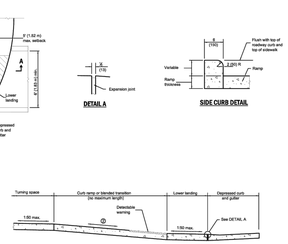
CLIENT: City of Crest Hill Illinois	CITY OF CREST HILL 1610 PLAINFIELD ROAD CREST HILL, IL 60403			DSGN.	
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				CHKD.	
				SCALE:	
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				CAD USER:	Jspeelman
NO.	DATE	NATURE OF REVISION		CHKD.	MODEL: Default
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TITLE: CITY OF CREST HILL PAVEMENT, CURB AND GUTTER, AND SIDEWALK STANDARD DETAILS

PROJ. NO.
DATE: 11/10/2021
SHEET 13 OF 38
DRAWING NO. PVT-10



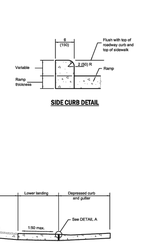
RAMPS IN LANDSCAPED AREA
SETBACK ≤ 5'



SECTION A-A

① The running slope of a curb ramp shall be 1:20 min. and 1:12 max. The running slope of a blended transition shall be 1:20 max.

DETAIL A



SIDE CURB DETAIL

GENERAL NOTES

See KDA notes on page NOT-1.

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp run shall be 5' (1.52 m).

Where 1:50 maximum slope is shown, 1:54 is preferred.

Detectable warnings are shown in their ideal locations but the following placement tolerances are allowed.

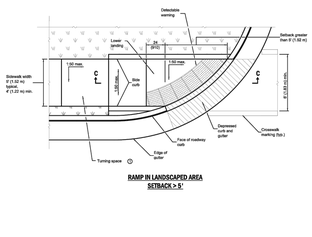
Side Border - Detectable warnings should extend the full width of the walking surface (excluding flared sides) but a border along each side up to 2 in. (50 mm) in width is allowed.

Curb Set-Back - Detectable warnings located at the back of curb should closely align with the curb but a gap up to 8 in. (150 mm) behind the curb is allowed.

See Standard 606001-XX for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

XX - Use current IDOT standard.



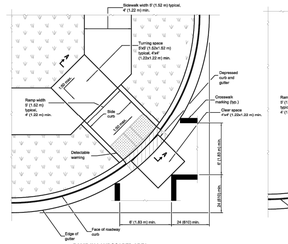
RAMP IN LANDSCAPED AREA
SETBACK > 5'



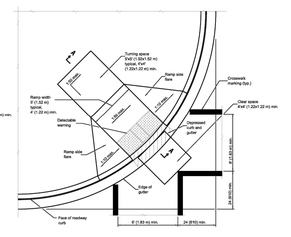
SECTION C-C

① The running slope of a curb ramp shall be 1:20 min. and 1:12 max. The running slope of a blended transition shall be 1:20 max.

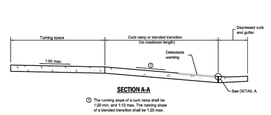
PERPENDICULAR CURB RAMPS FOR SIDEWALKS (424001-XX)



RAMP IN LANDSCAPED AREA



RAMP IN PAVED AREA



SECTION A-A

① The running slope of a curb ramp shall be 1:20 min. and 1:12 max. The running slope of a blended transition shall be 1:20 max.



DETAIL A



SIDE CURB DETAIL

GENERAL NOTES

See KDA notes on page NOT-1.

This Standard shall only be used for curb radii of 20 ft. (6.1 m) or greater.

Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp run shall be 5' (1.52 m).

Where 1:50 maximum slope is shown, 1:54 is preferred.

Detectable warnings are shown in their ideal locations but the following placement tolerances are allowed.

Side Border - Detectable warnings should extend the full width of the walking surface (excluding flared sides) but a border along each side up to 2 in. (50 mm) in width is allowed.

Curb Set-Back - Detectable warnings located at the back of curb should closely align with the curb but a gap up to 8 in. (150 mm) behind the curb is allowed.

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

See Standard 606001-XX for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

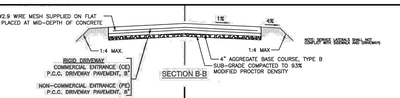
XX - Use current IDOT standard.

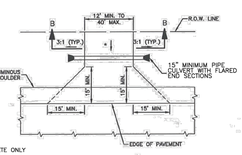
DIAGONAL CURB RAMPS FOR SIDEWALKS (424006-XX)

CLIENT: City of Crest Hill Illinois	CITY OF CREST HILL 1610 PLAINFIELD ROAD CREST HILL, IL 60403			DSGN.	
				DWN.	
				CHKD.	
				SCALE:	
				PLOT DATE:	11/10/2021
				CAD USER:	Jspeelman
NO.	DATE	NATURE OF REVISION		CHKD.	MODEL: Default
FILE NAME: N:\CRESTHILL\2020\Civil\Pavt\pvtdtls.dgn					

TITLE: CITY OF CREST HILL PAVEMENT, CURB AND GUTTER, AND SIDEWALK STANDARD DETAILS

PROJ. NO.
DATE: 11/10/2021
SHEET 9 OF 38
DRAWING NO. PVT-6

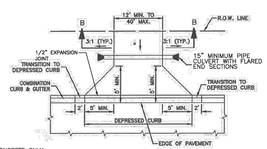




NOTES:

1. PIPE CULVERTS CAN BE PRECAST CONCRETE ONLY
2. DRIVEWAYS SHALL BE IN ACCORDANCE WITH STANDARD 606001 OF THE STANDARD SPECIFICATIONS
3. SECTION LATERALS SHALL NOT CONFLICT WITH SIDEWALK AND DRIVEWAYS

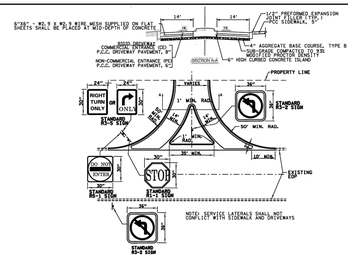
DRIVE DETAIL ADJACENT HMA SHOULDER



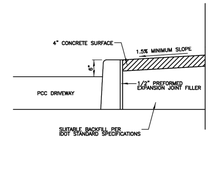
NOTES:

1. PIPE CULVERTS CAN BE PRECAST CONCRETE ONLY
2. DRIVEWAYS SHALL BE IN ACCORDANCE WITH STANDARD 606001 OF THE STANDARD SPECIFICATIONS
3. SECTION LATERALS SHALL NOT CONFLICT WITH SIDEWALK AND DRIVEWAYS

DRIVE DETAIL ADJACENT CURB & GUTTER



RIGHT-IN RIGHT-OUT DRIVEWAY ENTRANCE



BARRIER MEDIAN FOR COMMERCIAL DRIVES

CLIENT: City of Crest Hill Illinois	CITY OF CREST HILL 1610 PLAINFIELD ROAD CREST HILL, IL 60403			DSGN.	
				DWN.	
				CHKD.	
				SCALE:	
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TITLE: CITY OF CREST HILL PAVEMENT, CURB AND GUTTER, AND SIDEWALK STANDARD DETAILS

PROJ. NO.
DATE: 11/10/2021
SHEET 7 OF 38
DRAWING NO. PVT-4

DRAWN BY | REVISIONS | DATE

Manhard CONSULTING
One Overlook Point, Suite 250, Lincolnshire, IL 60069 | p:847.634.0066
Civil Engineers • Surveyors • Water Resource Engineers • Structural Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

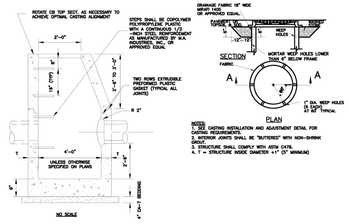
SEASONS AT CREST HILL
CITY OF CREST HILL
CONSTRUCTION DETAILS

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: OTHERS
DATE: 01-14-26
SCALE: N/A

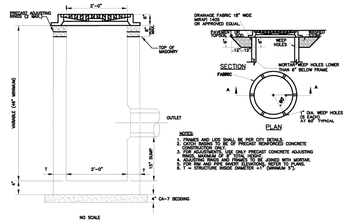
SHEET 39 OF 44
FRD.CRIL01

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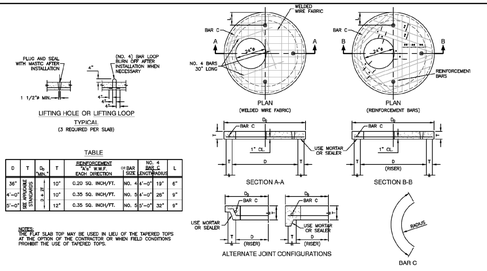
January 14, 2026 - 14:07 Data Name: P:\Projects\Civil\Final Engineering\Plan Set\DETAILS.dwg Updated By: jhorstad



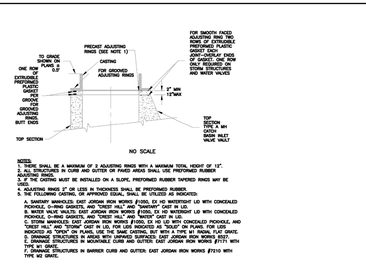
CATCH BASIN, TYPE A



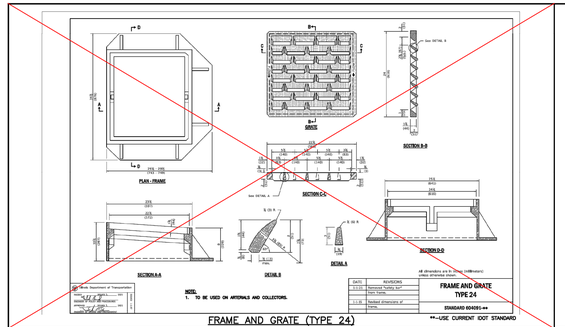
CATCH BASIN, TYPE C



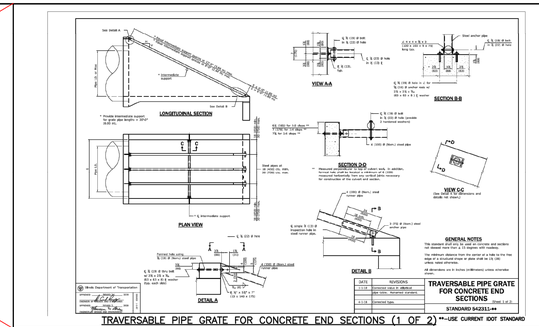
PRECAST REINFORCED FLAT SLAB TOP



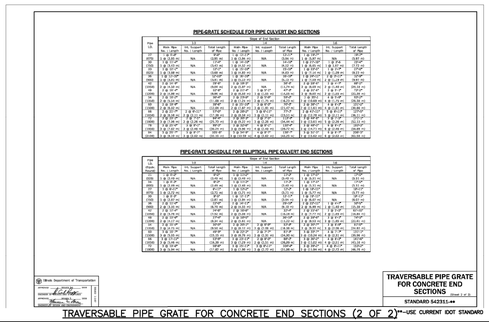
CASTING INSTALLATION AND ADJUSTING



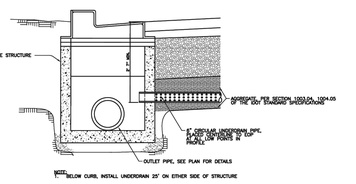
FRAME AND GRATE (TYPE 24)



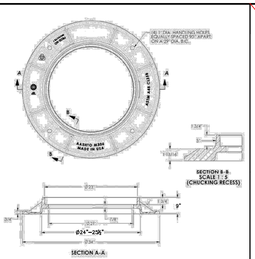
TRAVERSABLE PIPE GRATE FOR CONCRETE END SECTIONS (1 OF 2) **-USE CURRENT IDOT STANDARD



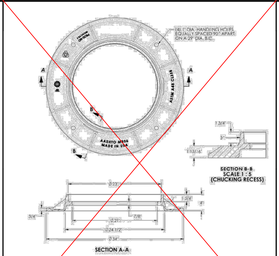
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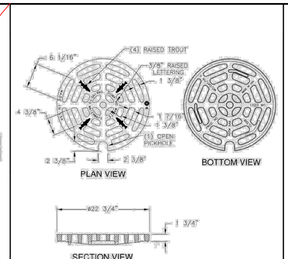
UNDERDRAIN CONNECTION TO STRUCTURE AT LOW POINTS FOR ALL COLLECTOR AND RESIDENTIAL STREETS



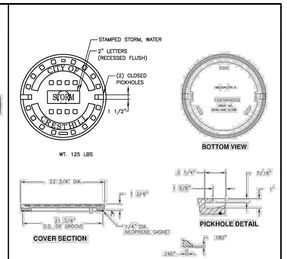
TYPE 1 FRAME



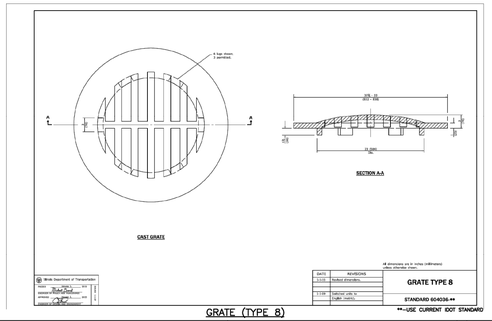
TYPE 1 FRAME (ALTERNATE)



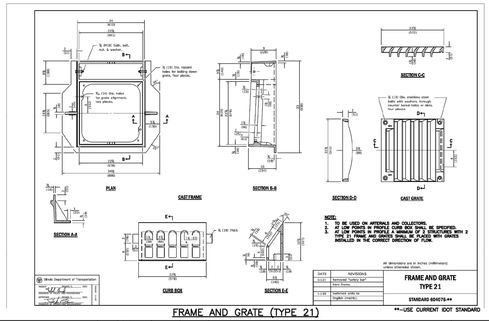
TYPE 1 LID-OPEN LID



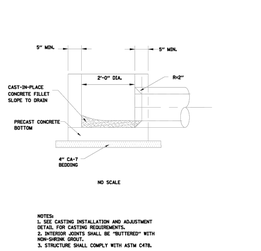
TYPE 1 LID-CLOSED LID



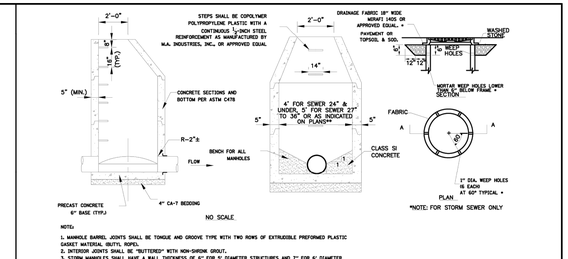
GRATE (TYPE 8)



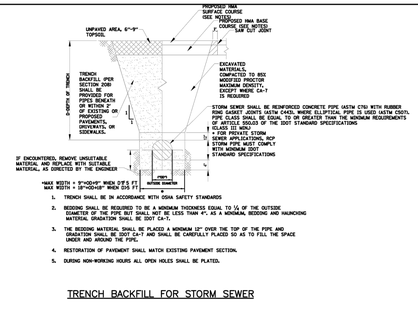
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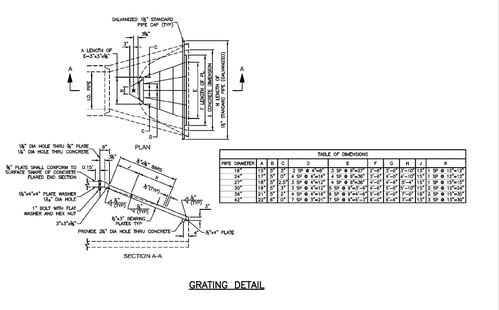
INLET



STORM MANHOLE, TYPE A



TRENCH BACKFILL FOR STORM SEWER



GRATING DETAIL

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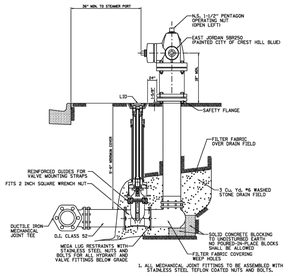
SEASONS AT CREST HILL
CITY OF CREST HILL
CONSTRUCTION DETAILS

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PROJ. ASSOC.: MSL
DRAWN BY: OTHERS
DATE: 01-14-26
SCALE: N/A

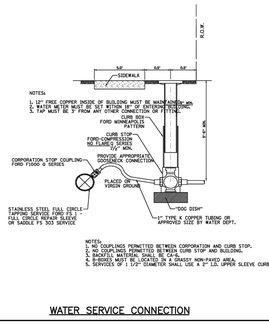
SHEET 40 OF 44
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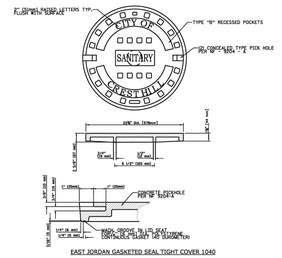
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TYPICAL FIRE HYDRANT

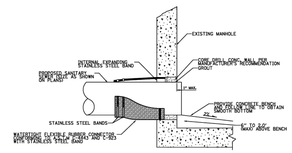


WATER SERVICE CONNECTION

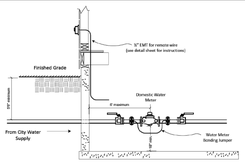


EAST JORDAN GASKETED SEAL TIGHT COVER 1040

SANITARY MANHOLE SELF-SEALING LID



EXTERNAL SANITARY MANHOLE PIPE ENTRY



1. The water connection property owner is responsible for all labor, equipment, material, tools and transportation to complete the work...

2. The water customer, at their expense, must provide all suitable pipe connections. For water meters up to 2", two (2) full port ball valves, one immediately on the inlet side and one on the outlet side for the means of isolated the water meter is required.

3. The meter setting must have an electrical bonding jumper connected on the inlet and outlet sides of the piping. (See NEC requirements for proper cable size)

4. Minimum service size is 1" Type "K" copper tubing.

5. The meter setting must be accessible with a minimum clearances of 18" on all sides and 36" directly in front to allow servicing the meter.

Meter Information

¾" (RFR) meter length- 9", meter spread – 14.5"
1" (RFR) meter length – 10.5", Meter spread 16.5"

WATER METER



Standards for Water Meter Remote Wiring and Conduit Installation

1. This standard covers the work to be undertaken for water meter remote wire and conduit installation. The property owner is responsible for providing all labor, equipment, material, tools and transportation to complete the work as described in this document.

2. All indoor conduit and all associated bends and fittings shall have a minimum inside trade size diameter of ½" and shall be electrical metallic tubing (EMT) type conduit.

3. The remote wire conduit shall be installed from a point, in the same room as the water meter, within 5 feet of the water meter, to a point on the outside wall of the building at a distance between 24" and 42" above finished grade.

4. Where the conduit terminates at the outside wall of the building, the conduit's stall extend through the wall and terminate flush with the finished surface of the outside wall. The outside reader will be installed over the conduit end and sealed against the weather.

5. The conduit shall be installed to a point on the front wall of the building, or within 6 feet of the front wall of the building if placed on the side wall of the building.

6. The point on the outside wall of the building where the conduit terminates shall be accessible at all times. The remote reader location will be determined and approved by the Water Operations Division. The location must be accessible to a meter reader and must not be in a location subject to flooding or damage. It must not be located in an area that creates a hazard for the meter reader due to situations including, but not limited to:

Dogs or other potentially dangerous animals
Bushes or other obstructions
Severe snow accumulations

7. All conduit installations must comply with the NEC requirements.

8. Where the conduit terminates at the outside wall of the building, a clear space of a minimum of 12" x 16" shall be provided on the surface of the wall suitable for mounting the remote readout device or transmitter.

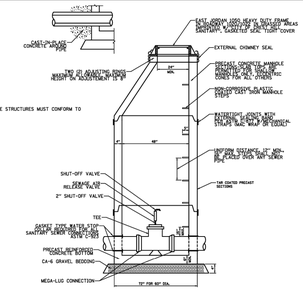
9. The route the conduct takes from the water meter to the termination point on the outside wall must be the shortest, most direct route.

10. Only the remote meter wire shall be permitted to be installed inside the conduit.

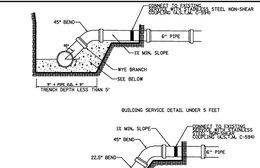
11. All wire installed on the exterior of any building or structure, including wire exiting any water meter vault, shall be protected with a galvanized rigid metal electrical conduit specifically designed for exterior use and the path of the raceway approved by the City.

12. The City shall supply the remote meter wire. The owner shall provide a pull string (Greenlee 438 Poly Fishing Line or equivalent) within the conduct leaving an excess of at least 3 feet of string at both ends. Both ends of the fishing line must be clearly tagged with the words "Water Meter". The fishing line must be a continuous single piece without splices.

WATER METER WIRING AND CONDUIT INSTALLATION



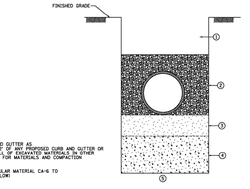
SANITARY SEWER AIR RELEASE MANHOLE



BUILDING SERVICE RISER

CLIENT: City of CREST HILL Illinois — CITY OF CREST HILL, 1610 PLAINFIELD ROAD, CREST HILL, IL 60403				DSGN.			TITLE: CITY OF CREST HILL WATER DISTRIBUTION SYSTEM DETAILS
				DWN.			PROJ. NO.
				CHKD.			DATE: 11/10/2021
				SCALE:			SHEET 28 OF 38
				PLOT DATE:	11/10/2021		DRAWING NO. WTR-2
NO.	DATE	NATURE OF REVISION	CHKD.	CAD USER:	Jgreenhorn		
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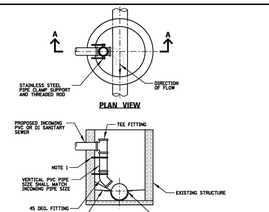
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				CHKD.			DATE: 11/10/2021
				SCALE:			SHEET 29 OF 38
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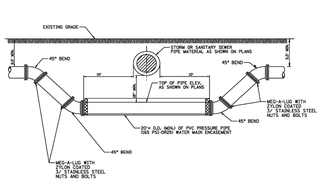
①TRENCH BACKFILL UNDER PAVEMENT, CURB AND GUTTER AS INDICATED ON PAVEMENT CROSS SECTIONS AND UNDER PROPOSED CURB AND GUTTER OR DRIVEWAY APPROACH FOR BUILDING BLANKING AND TRENCH BACKFILL OF UNTREATED MATERIALS IN OTHER LOCATIONS IF APPROVED BY THE PROVISIONS FOR MATERIALS AND COMPACTION REQUIREMENTS.
②FOR SANITARY SEWER PVC, COMPACTED GRANULAR MATERIAL CA-6 TO 12" ABOVE TOP PIPE, ALSO SEE NOTE #1 BELOW
③6" COMPACTED BEDDING, CA-6 GRADATION
④UNSUITABLE MATERIAL TO BE REMOVED WHERE DIRECTED BY THE ENGINEER AND REPLACED WITH SUITABLE AND COMPACTED MATERIAL
⑤TRENCH WIDTH = PIPE O.D. + 12" MINIMUM PIPE O.D. + 18" MAXIMUM

NOTES:
1. PVC PIPE CONFORMING TO THE SDR SPECIFIED IN THE PLANS SHALL BE INSTALLED TO THE LATEST RECOMMENDATIONS OF THE MANUFACTURER. BEDDING MATERIAL COMPACTED AS FOR CLASS II (GRANULAR MATERIAL) FOR BUILDING BLANKING AND TRENCH BACKFILL SHALL BE PLACED TO THE TOP OF PIPE TO PROVIDE THE NECESSARY SUPPORT FOR THE PIPE, SO THAT THE MAXIMUM DEFLECTION DOES NOT EXCEED 5% OF THE PIPE'S ORIGINAL INTERNAL DIAMETER.
2. ALL CA-6 MATERIAL TO BE IDOT APPROVED

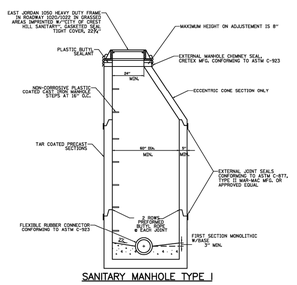
TYPICAL SANITARY SEWER TRENCH



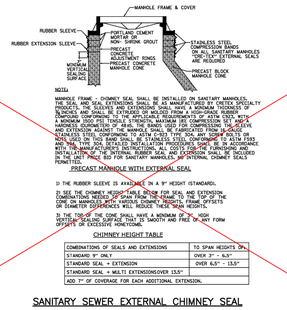
INTERNAL DROP MANHOLE



WATER MAIN LOWERING



SANITARY MANHOLE TYPE I



NOTE:
MANHOLE FRAME - CHIMNEY SEAL SHALL BE INSTALLED ON SANITARY MANHOLES. THE SEAL AND SEAL EXTENSIONS SHALL BE AS MANUFACTURED BY CRETEX SPECIALTY PRODUCTS. THE SEALERS AND EXTENSIONS SHALL HAVE A MINIMUM THICKNESS OF 100 MILS AND SHALL BE FABRICATED FROM A SYNTHETIC ELASTOMERIC COMPOUND COMPLYING TO THE APPLICABLE REQUIREMENTS OF ASTM C923 WITH A MINIMUM 1500 PSI TENSILE STRENGTH, MAXIMUM 25% COMPRESSION SET AND A MINIMUM 300% ELONGATION. THE SEAL SHALL BE FURNISHED WITH A STAINLESS STEEL BAND AND EXTENSION AGAINST THE MANHOLE SHALL BE FABRICATED FROM 16 GAUGE STAINLESS STEEL CONFORMING TO AISI TYPE 304 WITH WORM DRIVE ASSEMBLY RATED TO 200 INCH POUNDS MINIMUM TORQUE. THE SEALS SHALL BE CRETEX CHIMNEY SEAL AND THE TYPE AND DETAILED INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE COST OF FURNISHING AND INSTALLATION OF THE INTERNAL RUBBER SEAL AND EXPANSION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SANITARY MANHOLES. NO INTERNAL CHIMNEY SEALS PERMITTED.

PRECAST MANHOLE WITH EXTERNAL SEAL

① THE RUBBER SLEEVE IS AVAILABLE IN A 9" HEIGHT (STANDARD).

② SEE THE CHIMNEY HEIGHT TABLE BELOW FOR SEAL AND EXTENSION COMBINATIONS FOR SPAN HEIGHTS UP TO 13.5'. THE SPAN HEIGHT OF THE CONE ON MANHOLES WITH ECCENTRIC CHIMNEY HEIGHTS FROM OFFSETS OR DIAMETER DIFFERENCES WILL REDUCE THESE SPAN HEIGHTS.

③ THE TOP OF THE CONE SHALL HAVE A MINIMUM OF 7" HIGH VERTICAL SEALING SURFACE THAT IS SMOOTH AND FREE OF ANY FORM OFFSETS OR EXCESSIVE HONEYCOMB.

CHIMNEY HEIGHT TABLE

COMBINATIONS OF SEALS AND EXTENSIONS	TO SPAN HEIGHTS OF...
STANDARD 9" ONLY	OVER 3'-0" - 6.5'
STANDARD SEAL + EXTENSION	OVER 6.5' - 13.5'
STANDARD SEAL + MULTI EXTENSIONSOVER 13.5'	
ADD 7" OF COVERAGE FOR EACH ADDITIONAL EXTENSION.	

SANITARY SEWER EXTERNAL CHIMNEY SEAL

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				DWN.			PROJ. NO.
				CHKD.			DATE: 11/10/2021
				SCALE:			SHEET 28 OF 38
				PLOT DATE:	11/10/2021		DRAWING NO. SAN-1
NO.	DATE	NATURE OF REVISION	CHKD.	CAD USER:	Jgreenhorn		
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CLIENT: City of CREST HILL Illinois — CITY OF CREST HILL, 1610 PLAINFIELD ROAD, CREST HILL, IL 60403				DSGN.			TITLE: CITY OF CREST HILL WATER DISTRIBUTION SYSTEM DETAILS
				DWN.			PROJ. NO.
				CHKD.			DATE: 11/10/2021
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SEASONS AT CREST HILL
CITY OF CREST HILL
CONSTRUCTION DETAILS

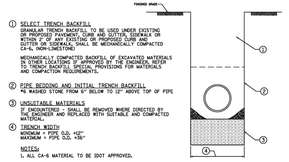
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DATE: 01-14-26
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SHEET 41 OF 44

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① SELECT TRENCH BACKFILL
GRANULAR TRENCH BACKFILL TO BE USED UNDER EXISTING OR PROPOSED PAVEMENT, CURB AND GUTTER, SIDEWALK OR WITHIN 5'-0" OF ANY EXISTING OR PROPOSED CURB AND GUTTER OR SIDEWALK, SHALL BE MECHANICALLY COMPACTED CA-6, (NON-CHAT/STONE)

MECHANICALLY COMPACTED BACKFILL OF EXCAVATED MATERIALS MAY BE USED IN OPEN AREAS WHERE NO PAVEMENT IS PRESENT. SEE TO TRENCH BACKFILL SPECIAL PROVISIONS FOR MATERIALS AND COMPACTION REQUIREMENTS.

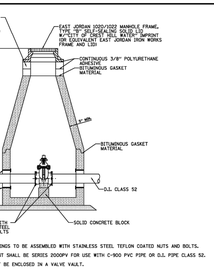
② PIPE BEDDING AND INITIAL TRENCH BACKFILL
#16 WASHED STONE FROM 6" BELOW TO 12" ABOVE TOP OF PIPE

③ UNSUITABLE MATERIALS
IF ENCOUNTERED - SHALL BE REMOVED WHERE DIRECTED BY THE ENGINEER AND REPLACED WITH SUITABLE AND COMPACTED MATERIAL

④ TRENCH WIDTH
MINIMUM = PIPE O.D. +12"
MAXIMUM = PIPE O.D. +30"

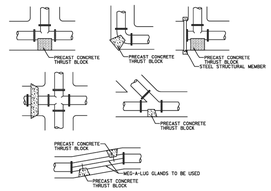
NOTES:
1. ALL CA-6 MATERIAL TO BE IDOT APPROVED.

TYPICAL WATER MAIN TRENCH



1. ALL MECHANICAL JOINT FITTINGS TO BE ASSEMBLED WITH STAINLESS STEEL TEFLON COATED NUTS AND BOLTS.
2. MECHANICAL JOINT RESTRAINT SHALL BE SERIES 2000PV FOR USE WITH C-900 PVC PIPE OR D.I. PIPE CLASS 52.
3. VALVES 4" OR LARGER MUST BE ENCLOSED IN A VALVE VAULT.
4. VALVES LESS THAN 4", OR WHEN DIRECTED BY THE CITY, SHALL USE AN AMERICAN FLOW CONTROL TRENCH ADAPTER.

TYPICAL VALVE VAULT

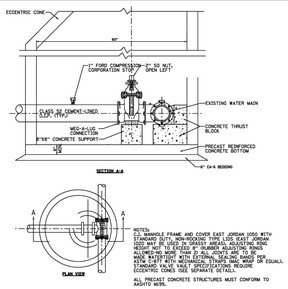


BEARING AREA (SQ. FT.)

PIPE SIZE	TEE/PLUG	90 DEG.	45 DEG.	22½°	11.25°
6	4	2	1	1	1
8	6	4	3	1	1
10	7	5	3	2	1
12	8	6	4	3	2
14	12	9	6	4	3
16	15	12	7	5	3
18	18	15	9	5	4
24	40	30	15	10	5

ALL BLOCKING MUST BEAR ON UNDISTURBED EARTH.
ALL BENDS OR ELBOWS GREATER THAN AND INCLUDING 11.25° SHALL HAVE THRUST BLOCKING. WOOD SHIMS NOT ALLOWED.

THRUST BLOCK DETAIL

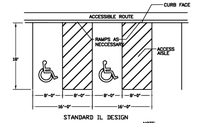


NOTES:
1. MANHOLE FRAME AND COVER EAST JORDAN 1060 WITH STANDARD DUTY, NON-ROCKING TYPE LIDS. EAST JORDAN 1020 MAY BE USED IN GRASSY AREAS). ADJUSTING RING MAY BE USED TO ADJUST TO FINISHED GRADE. ADJUSTING RINGS ALLOWING MORE THAN 8" ALL JOINTS ARE TO BE MADE WATERTIGHT WITH EXTERNAL SEALING BANDS PER ASTM C-923 AND SHALL BE EQUAL TO CORE SEAL OR EQUAL.
2. STANDARD VALVE VAULT SPECIFICATIONS REQUIRE ECCENTRIC CONES USE SEPARATE DETAILS.

ALL PRECAST CONCRETE STRUCTURES MUST CONFORM TO AASHTO M199.

WATER MAIN PRESSURE CONNECTION

CLIENT: City of CREST HILL Illinois — CITY OF CREST HILL, 1610 PLAINFIELD ROAD, CREST HILL, IL 60403				DSGN.			TITLE: CITY OF CREST HILL WATER DISTRIBUTION SYSTEM DETAILS
				DWN.			PROJ. NO.
				CHKD.			DATE: 11/10/2021
				SCALE:			SHEET 29 OF 38
				PLOT DATE:	11/10/2021		DRAWING NO. WTR-1
				CAD USER:	jspearman		
NO.:	DATE:	NATURE OF REVISION		CHKD.	MODEL:	Default	
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STANDARD IL DESIGN

NOTE:
1. A HIGH QUALITY YELLOW PAINT RECOMMENDED BY THE PAINT MANUFACTURER FOR PAVEMENT STRIPING SHALL BE USED.
2. REFER TO THE PLANS FOR THE MINIMUM REQUIRED NUMBER OF HANDICAP STALLS.
3. HANDICAP LOGO SHALL BE INSTALLED USING YELLOW PAINT.



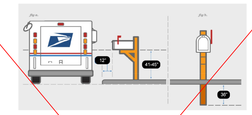
THE ARROW SHOULD BE USED WHERE THERE IS ONLY ONE SPACE. THE ARROW MAY ALSO BE MADE HORIZONTAL FOR ONE DIRECTION. THE SIGN MUST BE SUPPLEMENTED WITH ANOTHER SIGN, STANDARD R7-1101 PLATE GIVING THE AMOUNT OF THE FINE FOR ILLEGALLY PARKING IN THE RESERVED SPACE(S).

THIS PLATE MAY BE MOUNTED DIRECTLY BELOW THE R7-8 SIGN OR COMBINED WITH THAT SIGN ON A SINGLE 12" BY 24" PANEL.

HANDICAP STALL

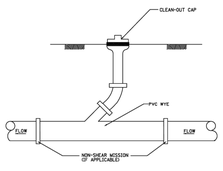
GUIDELINES FOR THE INSTALLATION OF CURBSIDE MAILBOXES

1. THE HEIGHT OF THE MAILBOX MUST BE BETWEEN FORTY-ONE INCHES AND FORTY-FIVE INCHES (41"-45"), FROM THE TOP OF THE STREET TO THE BOTTOM OF THE MAILBOX.
2. HOUSE NUMBERS OF NOT LESS THAN ONE INCH (1") HIGH ARE REQUIRED ON ALL MAILBOXES. NAMES ARE OPTIONAL.
3. THE FACE OF THE MAILBOX SHOULD BE TWELVE INCHES (12") FROM THE BACK OF THE CURB, OR EDGE OF THE PAVEMENT IF NO CURB IS PRESENT.
4. SUPPORT POST SHOULD BE INSTALLED TWENTY-FOUR INCHES (24") BELOW GRADE.
5. ALL POSTS USED TO SUPPORT MAILBOXES MUST BE NEAT AND OF ADEQUATE STRENGTH.
6. MAILBOX SUPPORT STRUCTURES SHOULD BE PAINTED WITH A PRESERVATIVE TO PREVENT RUST OR DECAY.
7. THE CITY OF CREST HILL PROHIBITS THE USE OF BRICKS AND/OR OTHER MASONRY STRUCTURES TO BE USED AS MAILBOX SUPPORTS.



STANDARD MAILBOX GUIDELINES

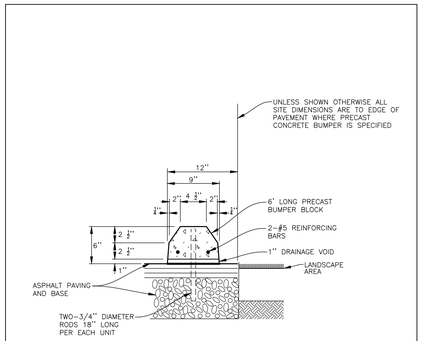
CLIENT: City of CREST HILL Illinois — CITY OF CREST HILL, 1610 PLAINFIELD ROAD, CREST HILL, IL 60403				DSGN.			TITLE: CITY OF CREST HILL MISCELLANEOUS STANDARDS
				DWN.			PROJ. NO.
				CHKD.			DATE: 11/10/2021
				SCALED:			SHEET 38 OF 38
				PLOT DATE:	11/10/2021		DRAWING NO. MSC-1
				CAD USER:	jspearman		
NO.:	DATE:	NATURE OF REVISION		CHKD.	MODEL:	Default	
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NOTE:
1. EXTERIOR CLEAN-OUTS CANNOT BE INSTALLED FURTHER THAN 5 FEET FROM THE BUILDING. THE CONTRACTOR SHALL CONFIRM WITH THE ENGINEER THE INSTALLATION AS SPECIFIED. THE "CLEAN-OUT MAY" BE INSTALLED IN A LOCATION AS DETERMINED BY THE DIRECTOR OF PUBLIC WORKS.
2. CLEANOUT SHALL BE 6" SDR 26 PIPE.

SANITARY SEWER SERVICE CLEANOUT

CLIENT: City of CREST HILL Illinois — CITY OF CREST HILL, 1610 PLAINFIELD ROAD, CREST HILL, IL 60403				DSGN.			TITLE: CITY OF CREST HILL SANITARY SEWER SYSTEM DETAILS
				DWN.			PROJ. NO.
				CHKD.			DATE: 11/10/2021
				SCALE:			SHEET 30 OF 38
				PLOT DATE:	11/10/2021		DRAWING NO. SAN-3
				CAD USER:	jspearman		
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FILE NAME:	N:\CRESTHILL\2023\Civil\Dwf\detailsdgn						



06-01-15
PRECAST CONCRETE WHEEL STOP DETAIL
S-MS-WHEELSTOP

SHOULD A CONFLICT ARISE BETWEEN MANHARD DETAILS AND THE VILLAGE DETAILS, THE VILLAGE DETAILS SHALL TAKE PRECEDENCE.

January 14, 2026 - 14:07 Data Name: P:\Projects\Civil\Final Drawings\Plan Set\DETAILS.dwg Updated By: jhorsford

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Manhard CONSULTING
One Overlook Point, Suite 250, Lincolnshire, IL 60069 p:847.634.5500 f:847.634.0066 manhard.com
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

SEASONS AT CREST HILL
CITY OF CREST HILL
CONSTRUCTION DETAILS

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: OTHERS
DATE: 01-14-26
SCALE: N/A

SHEET
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FRD.CRIL01

STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS, LATEST EDITION.

41-2.01C VERTICAL SEPARATION – WATER MAINS AND SEWERS

(1.) A water main shall be separated from a sewer so that its invert is a minimum of eighteen (18) inches (460mm) above the crown of the drain or sewer whenever water mains cross storm sewers, sanitary sewers or sewer service connections. The vertical separation shall be maintained for that portion of the water main located within ten (10) feet (3.1m) horizontally of any sewer or drain crossed. A length of water main pipe shall be centered over the sewer to be crossed with joints equidistant from the sewer or drain.

(2.) Both the water main and sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, prestressed concrete pipe, or PVC pipe equivalent to water main standards of construction when:

(a) it is impossible to obtain the proper vertical separation as described in (1) above; or

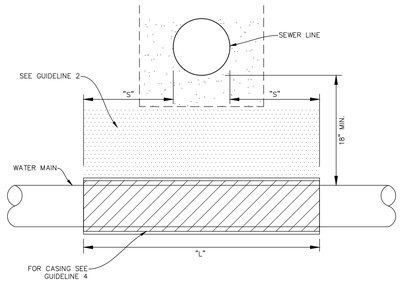
(b) the water main passes under a sewer or drain.

(3.) A vertical separation of eighteen (18) inches (460 mm) between the invert of the sewer or drain and the crown of the water main shall be maintained where a water main crosses under a sewer. Support the sewer or drain lines to prevent settling and breaking the main, as shown on the Plans or as approved by the ENGINEER.

(4.) Construction of water main quality pipe shall extend on each side of the crossing until the perpendicular distance from the water main to the sewer or drain line is at least ten (10) feet (3.1 m) See Standard Drawings No. 19-23.

02-01-19
WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
S-WM-SEP-VERTICAL

WATER MAIN BELOW SEWER LINE WITH 18" MINIMUM VERTICAL SEPERATION.



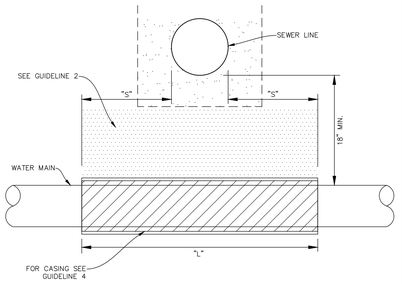
NOTE: "S" = THE LENGTH NECESSARY TO PROVIDE 10 FEET OF SEPARATION AS MEASURED PERPENDICULAR TO THE EXISTING SEWER LINE.

GUIDELINES:

1. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L" FEET.
2. IF SELECT GRANULAR BACKFILL EXISTS, REMOVE WITHIN WIDTH OF SEWER LINE TRENCH AND REPLACE WITH SELECT SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. PROVIDE ADEQUATE SUPPORT FOR SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT.
4. USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF WATER MAIN AND SEAL ENDS OF CASING.

06-01-15
WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
S-WM-SEP-VERTICAL-2

WATER MAIN BELOW SEWER LINE WITH 18" MINIMUM VERTICAL SEPERATION.



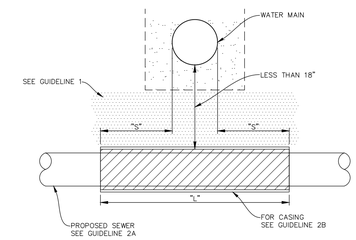
NOTE: "S" = THE LENGTH NECESSARY TO PROVIDE 10 FEET OF SEPARATION AS MEASURED PERPENDICULAR TO THE EXISTING SEWER LINE.

GUIDELINES:

1. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L" FEET.
2. IF SELECT GRANULAR BACKFILL EXISTS, REMOVE WITHIN WIDTH OF SEWER LINE TRENCH AND REPLACE WITH SELECT SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. PROVIDE ADEQUATE SUPPORT FOR SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT.
4. USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF WATER MAIN AND SEAL ENDS OF CASING.

06-01-15
WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
S-WM-SEP-VERTICAL-2

SEWER LINE BELOW WATER MAIN WITH LESS THAN 18" VERTICAL SEPARATION.



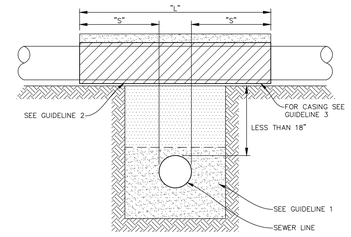
NOTE: "S" = THE LENGTH NECESSARY TO PROVIDE 10 FEET OF SEPARATION AS MEASURED PERPENDICULAR TO THE EXISTING WATER MAIN.

GUIDELINES:

1. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF SEWER AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT FOR "S" FEET ON EACH SIDE OD WATER MAIN.
2. a) CONSTRUCT "L" FEET OF PROPOSED SEWER OF WATER MAIN MATERIAL AND PRESSURE TEST, OR:
   b) USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED SEWER AND SEAL ENDS OF CASING.
3. PROVIDE ADEQUATE SUPPORT FOR EXCAVATING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

06-01-15
WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
S-WM-SEP-VERTICAL-3

WATER MAIN ABOVE SEWER LINE WITH LESS THAN 18" VERTICAL SEPARATION.



NOTE: "S" = THE LENGTH NECESSARY TO PROVIDE 10 FEET OF SEPARATION AS MEASURED PERPENDICULAR TO THE EXISTING SEWER LINE.

GUIDELINES:

1. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L".
2. IF SELECT GRANULAR BACKFILL EXISTS, REMOVE WITHIN WIDTH OF EXISTING SEWER LINE TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED WATER MAIN AND SEAL ENDS OF CASING.
4. POINT LOADS SHALL NOT BE ALLOWED BETWEEN WATER MAIN CASING AND SEWER.

06-01-15
WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
S-WM-SEP-VERTICAL-4

STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS, LATEST EDITION.

41-2.01 PROTECTION OF WATER MAIN AND WATER SERVICE LINES

41-2.01A GENERAL

Water mains and water service lines shall be protected from sanitary sewers, storm sewers, combined sewers, house sewer service connections and drains as follows:

41-2.01B HORIZONTAL SEPARATION – WATER MAINS AND SEWERS

(1.) Water mains shall be located at least ten (10) feet (3.1 m) horizontally from any existing or proposed drain, storm sewer, sanitary sewer, combined sewer or sewer service connection.

(2.) Water mains may be located closer than ten (10) feet (3.1 m) to a sewer line when:

(a) local conditions prevent a lateral separation of ten (10) feet (3.1 m); and

(b) the water main invert is at least eighteen (18) inches (460 mm) above the crown of the sewer; and

(c) the water main is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer.

(3.) When it is impossible to meet (1) or (2) above, both the water main and drain or sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, prestressed concrete pipe, or PVC pipe equivalent to water main standards of construction. The drain or sewer shall be pressure tested to the maximum expected surcharge head before backfilling. See Standard Drawing No. 18.

02-01-19
WATER AND SEWER SEPARATION REQUIREMENTS (HORIZONTAL SEPARATION)
S-WM-SEP-HORIZONTAL

SHOULD A CONFLICT ARISE BETWEEN MANHARD DETAILS AND THE VILLAGE DETAILS, THE VILLAGE DETAILS SHALL TAKE PRECEDENCE.

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Manhard CONSULTING
One Overlook Point, Suite 250, Lincolnshire, IL 60069 p:847.634.0066
Civil Engineers • Water Resource Engineers • Structural Engineers • Surveyors
Construction Managers • Environmental Scientists • Landscape Architects • Planners

DRAWN BY | REVISIONS | DATE

SEASONS AT CREST HILL
CITY OF CREST HILL
CONSTRUCTION DETAILS

PROJ. MGR.: JSE
PROJ. ASSOC.: MSL
DRAWN BY: MANHARD
DATE: 01-14-26
SCALE: N/A

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06-01-16

MANHARD CONSULTING
STANDARD SPECIFICATIONS

GENERAL CONDITIONS

CONTRACTOR acknowledges and agrees that the use and reliance of these Plans and Specifications is sufficient consideration for CONTRACTOR'S covenants stated herein.

DEFINITION OF TERMS

a. "CLIENT" shall mean FRED-Crest Hill HC,LLC. , which is the person or entity with whom Manhard Consulting has contracted with to prepare Civil Engineering PLANS and SPECIFICATIONS.

b. "ENGINEER" shall mean Manhard Consulting, a Civil Engineering consultant on the subject project.

c. "PLANS and SPECIFICATIONS" shall mean the Civil Engineering PLANS and SPECIFICATIONS prepared by the ENGINEER, which may be a part of the contract documents for the subject project.

d. "CONTRACTOR" shall mean any person or entity performing any work described in the PLANS and SPECIFICATIONS.

e. "JURISDICTIONAL GOVERNMENTAL ENTITY" shall mean any municipal, county, state or federal unit of government from whom an approval, permit and/or review is required for any aspect of the subject project.

INTENT OF THE PLANS AND SPECIFICATIONS

The intent of the PLANS and SPECIFICATIONS is to set forth certain requirements of performance, type of equipment and structures, and standards of materials and construction. They may also identify labor and materials, equipment and transportation necessary for the proper execution of the work but are not intended to be infinitely determined so as to include minor items obviously required as part of the work. The PLANS and SPECIFICATIONS require new material and equipment unless otherwise indicated, and to require complete performance of the work in spite of omissions of specific references to any minor component part. It is not intended, however, that materials or work not covered by or properly inferred from any heading, branch, class or trade of the SPECIFICATIONS shall be supplied unless distinctly so noted. Materials or work described in words, which so applied have a well-known technical or trade meaning, shall be held to refer to such recognized standards.

INTERPRETATION OF PLANS AND SPECIFICATIONS

a. The CLIENT and/or CONTRACTOR shall promptly report any errors or ambiguities in the PLANS and SPECIFICATIONS to the ENGINEER. Questions as to meaning of PLANS and SPECIFICATIONS shall be interpreted by the ENGINEER, whose decision shall be final and binding on all parties concerned.

b. The ENGINEER will provide the CLIENT with such information as may be required to show revised or additional details of construction.

c. Should any discrepancies or conflicts on the PLANS or SPECIFICATIONS be discovered either prior to or after award of the contract, the ENGINEER's attention shall be called to the same before the work is begun thereon and the proper corrections made. Neither the CLIENT nor the CONTRACTOR may take advantage of any error or omissions in the PLANS and SPECIFICATIONS. The ENGINEER will provide information when errors or omissions are discovered.

GOVERNING BODIES

All works herein proposed shall be completed in accordance with all requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, and all such pertinent laws, directives, ordinances and the like shall be considered to be a part of these SPECIFICATIONS. If a discrepancy is noted between the PLANS and SPECIFICATIONS and requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, the CLIENT and/or the CONTRACTOR shall immediately notify the ENGINEER in writing.

LOCATION OF UNDERGROUND FACILITIES AND UTILITIES

When the PLANS and SPECIFICATIONS include information pertaining to the location of existing underground facilities and utilities (including but not limited to water mains, sanitary sewers, storm sewers, electric, telephone, gas and cable TV lines), such information represents only the opinion of the ENGINEER as to the approximate location and elevation of such facilities and utilities. At the locations wherein detailed positions of these facilities and utilities become necessary to the new construction, including all points of connection, the CONTRACTOR shall furnish all labor and tools to verify or definitely establish the horizontal location, elevation, size and material (if appropriate) of the facilities and utilities. The CONTRACTOR shall notify the ENGINEER at least 48 hours prior to construction if any discrepancies in existing utility information or conflicts with existing utilities exist. The ENGINEER assumes no responsibility whatever with respect to the sufficiency or accuracy of the information shown on the PLANS and SPECIFICATIONS relative to the location of underground facilities and utilities, nor the manner in which they are removed or adjusted.

It shall be the CONTRACTOR's responsibility prior to construction, to notify all Utility Companies of the intent to begin construction and to verify the actual location of all such facilities and utilities. The CONTRACTOR shall also obtain from the respective Utility Companies the working schedules for removing or adjusting these facilities.

UNSUITABLE SOILS

The PLANS have been prepared by the ENGINEER based on the assumption that all soils on the project are suitable to support the proposed improvements shown. The CLIENT or CONTRACTOR shall immediately notify the ENGINEER if he discovers or encounters an obstruction that prevents the installation of the improvement according to the line and grades shown on the PLANS.

PROTECTION OF TREES

All trees that are not to be removed shall be protected from damage. Trees shall not be removed unless requested to do so in writing by the CLIENT.

NOTIFICATION OF OWNERS OF FACILITIES AND UTILITIES

The CONTRACTOR shall notify all applicable Jurisdictional Governmental Entities or utility companies, i.e., water, sewer, electric, telephone, gas and cable TV prior to beginning any construction so that said entity or company can establish the location and elevation of underground pipes, conduits or cables adjoining or crossing proposed construction.

TRAFFIC CONTROL

The CONTRACTOR shall provide when required by any JURISDICTIONAL GOVERNMENTAL ENTITY, all signs, equipment, and personnel necessary to provide for safe and efficient traffic flow in all areas where the work will interrupt, interfere or cause to change in any form, the conditions of traffic flow that existed prior to the commencement of any portions of the work. The CLIENT may, at his discretion, require the CONTRACTOR to furnish traffic control under these or other circumstances where in his opinion it is necessary for the protection of life and property. Emergency vehicle access shall be maintained at all times. Unless authorized by the CLIENT or CLIENT's construction representative, all existing access points shall be maintained at all times by the CONTRACTOR. The need for traffic control shall be anticipated by the CLIENT.

WORK AREA

The CONTRACTOR, his agents and employees and their employees and all equipment, machinery and vehicles shall confine their work within the boundaries of the project or work area specified by the Client. The CONTRACTOR shall be solely liable for damage caused by him or his agents and employees and their equipment, machinery and vehicles on adjacent property or areas outside designated work areas.

UTILITY POLES

It shall be the responsibility of the CONTRACTOR to arrange for the relocation or bracing of existing utility poles that may be within the working limits of this contract. It is expressly understood that all work and costs connected with the maintenance of these utility poles, their temporary relocations, etc., shall be the responsibility of the CLIENT or the CONTRACTOR.

RESTORATION

It is the intent of these SPECIFICATIONS that clean-up and final restoration shall be performed immediately upon completion of each phase of the work, both inside and outside the Project, or when so directed by the CLIENT so that these areas will be restored as nearly as possible to their original condition or better, and shall include but not be limited to, restoration of maintained lawns and rights-of-way, roadways, driveways, sidewalks, ditches, bushes, hedges, trees, shrubs, fences, mailboxes, sewers, drain tiles, water mains, etc.

CLEANING UP

The CONTRACTOR shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and at the completion of the work he shall remove all his rubbish, tools, scaffolding and surplus materials and shall leave his work "broom clean" or its equivalent, unless more exactly specified.

ROAD CLEANING

The CONTRACTOR shall maintain roadways adjoining the project site free from mud and debris at all times. If mud and/or debris is carried onto the roadways from vehicles entering onto the highway from either the CONTRACTOR's trucks, his employees' vehicles, or his material suppliers, the CONTRACTOR shall immediately remove said mud and/or debris.

SAFETY AND PROTECTION

The CONTRACTOR shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. The CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR's duties and responsibilities for safety and for protection of the work shall continue until such time as all work is completed and the CLIENT has notified CONTRACTOR that the work is acceptable. The duties of the ENGINEER do not include review of the adequacy of either the CONTRACTOR's or the general public's safety in, on, or near the construction site.

HOLD HARMLESS

To the fullest extent permitted by law, any CONTRACTOR; material supplier or other entity by use of these plans and specifications hereby waives any right of contribution and agrees to indemnify, defend, save and hold harmless the CLIENT and ENGINEER and its agents, employees and consultants from and against all manner of claims, causes, causes of action, damages, losses and expenses, including but not limited to, attorneys' fees arising out of, resulting from or in connection with the performance of any work, pursuant to or with respect to these plans and specifications. However, this indemnity shall not be construed to indemnify ENGINEER, its consultants, agents or employees against its own negligence.

Claims, damages, losses and expenses as these words are used in the Agreement shall mean and include, but not be limited to (1) injury or damage occurring by reason of the failure of or use or misuse of any hoist, riggings, blocking, scaffolding or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by any part or entity, including any contractor; (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity; (3) costs for time expended by the indemnified party and its employees, at its usual rates plus costs or travel, long distance telephone and reproduction of documents and (4) consequential damages.

In any and all claims against the CLIENT or ENGINEER or any of their agents or employees and consultants by any party, including any employee of the CONTRACTOR or any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount of type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts or any insurance maintained by CONTRACTOR or any Subcontractor or any other party.

INSURANCE

Any party using or relying on these plans, including any contractor, material supplier, or other entity shall obtain, (prior to commencing any work) general public liability insurance insuring against all damages and claims for any bodily injuries, death or property damage arising out of any work, including the construction work provided for in these plans, and shall name the CLIENT and ENGINEER and its consultants, agents and representatives as additional insureds to the limits of such insurance policies; provided that any party using or relying on these plans having obligations to maintain specific insurance by reason of any agreement with CLIENT or any CONTRACTOR or ENGINEER shall provide evidence and certificates of insurance as required by such contract or agreement. Such insurance must contain a clause stating that the insurance is primary coverage for ENGINEER and ENGINEER's other applicable coverage is considered secondary. Policies shall contain a waiver of subrogation against Manhard and Client. Such insurance shall not limit any liability of any party providing work or services or providing materials.

THIRD PARTY BENEFICIARY

Manhard Consulting, the ENGINEER, is intended to be a third party beneficiary of this willing agreement and requirement.

DETAILED SPECIFICATIONS

I. DEMOLITION

The CONTRACTOR shall coordinate with respective utility companies prior to the removal and/or relocation of utilities. The CONTRACTOR shall coordinate with the utility company concerning portions of work which may be performed by the Utility Company's forces and any fees which are to be paid to the utility company for their services. The CONTRACTOR is responsible for paying for all fees and charges.

Should removal and/or relocation activities damage features indicated to remain, the CONTRACTOR shall provide new materials/structures in accordance with the contract documents. Except for materials designed to be relocated on this plan, all other construction materials shall be new.

Prior to demolition occurring, all erosion control devices are to be installed.

All existing utility lines and conduits located under proposed buildings shall be removed and properly backfilled. All utility lines and conduits located under drives, on-site roads, parking lots or sidewalks shall be filled with a flowable backfill and end plugged. All existing structures shall be removed. All existing utility lines located under landscape areas shall be left in place and plugged at all structures.

The CONTRACTOR is responsible for demolition, removal and disposal (in a location approved by all JURISDICTIONAL GOVERNING ENTITIES) of all structures, pads, walls, flumes, foundations, road, parking lots, drives, drainage structures, utilities, etc., such that the improvements shown on these plans can be constructed. All demolition work shall be in accordance with all applicable federal, state and local requirements. All facilities to be removed shall be undercut to suitable material and brought to grade with suitable compacted fill material per the specifications.

The CONTRACTOR is responsible for obtaining all permits required for demolition and disposal.

Electrical, telephone, cable, water, fiber optic cable and/or gas lines needing to be removed shall be coordinated by the CONTRACTOR with the affected utility company.

CONTRACTOR must protect the public at all times with fencing, barricades, enclosures, and other appropriate best management practices.

Continuous access shall be maintained for surrounding properties at all times during demolition.

All fire access lanes within the project area shall remain in service, clean of debris, and accessible for use by emergency vehicles.

The CONTRACTOR shall coordinate water main work with the Fire Department and the JURISDICTIONAL GOVERNING ENTITY to plan the proposed improvements and to ensure adequate fire protection is available to the facility and site throughout this specific work and through all phases of construction. CONTRACTOR shall be responsible for any required water main shut offs with the JURISDICTIONAL GOVERNING ENTITY during construction. Any costs associated with water main shut offs will be the responsibility of the CONTRACTOR and no extra compensation will be provided.

CONTRACTOR shall maintain all existing parking areas, sidewalks, drives, etc. clear and free from any construction activity and/or material to ensure easy and safe pedestrian and vehicular traffic to and from the site. CONTRACTOR shall coordinate/phase all construction activity within proximity of the building and utility interruptions with the facility manager to minimize disturbance and inconvenience to facility operations.

CONTRACTOR may limit saw-cut and pavement removal to only those areas where it is required as shown on these construction plans, however if any damage is incurred on any of the surrounding pavement, etc. the CONTRACTOR shall be responsible for ITS removal and repair.

Any existing wells encountered shall be exposed and sealed 3' below proposed finish grade by the CONTRACTOR in accordance with Section 920.120 (latest edition) of the Illinois Water Well Construction Code, Department of Public Health, and all applicable local rules and regulations. CONTRACTOR is responsible for obtaining all permits required by JURISDICTIONAL GOVERNMENTAL ENTITIES for abandoning existing wells.

Any existing septic tanks and grease traps encountered shall have all liquids and solids removed and disposed of by a licensed commercial hauler in accordance with JURISDICTIONAL GOVERNING ENTITY regulations, and the tank and grease traps shall then be filled with suitable materials or removed from the site and disposed of by the CONTRACTOR.

Voids left by any item removed under any proposed building, pavement, walk, etc. or within 24" thereof shall be filled and compacted with suitable materials by the CONTRACTOR.

The CONTRACTOR shall be responsible for the disconnection of utility services to the existing buildings prior to demolition of the buildings.

Any material containing asbestos found within existing structures shall be removed from the site and disposed of off-site by the CONTRACTOR in accordance with County, State and Federal regulations.

CONTRACTOR shall develop and implement a daily program of dust control and shall submit and obtain JURISDICTIONAL GOVERNING ENTITY approval of dust control procedures prior to demolition of any structures. Modification of dust control procedures shall be performed by the CONTRACTOR to the satisfaction of the JURISDICTIONAL GOVERNING ENTITY as requested.

The CONTRACTOR shall coordinate all demolition with the JURISDICTIONAL GOVERNING ENTITY and CLIENT to ensure protection and maintenance of sanitary sewer and water utilities as necessary and to provide stormwater conveyance until new facilities are constructed, tested and placed into operation.

The locations of all existing utilities shown on this plan have been determined from the best information available and are given for the convenience of the CONTRACTOR and are not to be interpreted as the exact location, or as the only obstacles that may occur on the site. The ENGINEER assumes no responsibility for their accuracy. Prior to the start of any demolition activity, the CONTRACTOR shall notify the utility companies for location of existing utilities and shall verify existing conditions and proceed with caution around any anticipated features.

The CONTRACTOR is responsible for removing the existing irrigation system in the areas of proposed improvements. The contractor shall cap the existing irrigation system to remain such that the remaining system shall continue to function properly.

The paving lot shall be completed in sections such that it does not interrupt the facility operations. The CONTRACTOR shall coordinate with the construction manager for work to be performed.

II.EARTHWORK

STANDARDS

This work shall be completed in conformance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition except as modified below.

SOIL BORING DATA

Copies of results of soil boring and reports, if such borings were taken by the CLIENT in the vicinity of the proposed construction site, should be made available by the CLIENT to the CONTRACTOR. These borings are presented for whatever purpose the CONTRACTOR chooses to make of them. The ENGINEER makes no representation or warranty regarding the number, location, spacing or depth of borings taken, nor of the accuracy or reliability of the information given in the results thereof.

Further, the ENGINEER does not assume responsibility for the possibility that during construction, the soil and groundwater condition may be different than indicated. Neither does the ENGINEER assume responsibility for variations of soil and groundwater at location between borings. The CONTRACTOR is required to make its own borings, explorations and observations to determine soil and groundwater conditions.

EARTHWORK CALCULATIONS AND CROSS SECTIONS

The CONTRACTOR understands that any earthwork calculations, quantities or cross sections that have been furnished by the ENGINEER are for information only and are provided without any guarantee by the CLIENT or ENGINEER whatsoever as to their sufficiency or accuracy. CONTRACTOR warrants that he has performed his own subsurface investigations as necessary and his own calculations and cross sections to determine site soil conditions and earthwork volumes. The ENGINEER makes no representation or guarantee regarding earthwork quantities or that the earthwork for this project will balance due to the varying field conditions, changing soil types, allowable construction to tolerances and construction methods that are beyond the control of the ENGINEER.

CLEARING, GRUBBING AND TREE REMOVAL

The site shall be cleared, grubbed, and trees and stumps removed where designated on the PLANS. Trees designated to remain shall be protected from damage.

TOPSOIL STRIPPING

Upon completion of demolition, clearing, grubbing and tree removal, all topsoil shall be stripped from under all buildings and pavements areas, and other areas necessary to complete the work. Topsoil stripped shall be placed in stockpiles in locations as designated by the CLIENT.

TOPSOIL RESPREAD

Upon completion of roadway and/or parking lot improvements and installation of underground utilities a minimum of six inches (6") of topsoil shall be respread over all unpaved areas which have been disturbed by earthwork construction, except building pads and other designated areas, which shall be kept free from topsoil.

SEEDING

Upon completion of topsoil respread, the CONTRACTOR shall apply seed and fertilizer to all respread areas in accordance with IDOT standards or as designated on landscape drawings and specifications provided by the CLIENT.

SODDING

Upon completion of topsoil respread, the CONTRACTOR shall install sod to all areas designated on the plans or as designated on the landscape drawings and specifications provided by the CLIENT.

EXCAVATION AND EMBANKMENT

Upon completion of topsoil stripping, all excavation and embankments shall be completed as shown on the PLANS. All suitable excavated materials shall be hauled, placed (moisture conditioned if necessary) and compacted in the embankment areas. The CONTRACTOR shall include all dewatering, temporary ditching and culverts necessary to complete the excavation and embankment.

Specifically included in the scope of Excavation and Embankments is grading and shaping of all cut or fill areas including swales and ditches; handling of sewer spoil, etc., and all work required to provide positive drainage at the end of each working day and upon completion of a section.

The CONTRACTOR shall be responsible for the excavation of all swales and ditches and for the excavation or filling of the roads, building pads and parking lots within the work limits to lines & grades shown on the plans. He shall be responsible for obtaining compaction in accordance with the minimum values listed in the table below for all embankments unless more stringent values are listed in the soils report or are approved by the CLIENT, and to use any method approved by the CLIENT necessary to obtain this compaction (i.e., soil fabric or any undercutting that may be required).

Type Material	Percent Compaction Standard	Pavement & Floor Slabs	Grass Areas
Sandy Soils	Modified Proctor	95%	90%
Clayey Soils	Standard Proctor	95%	90%

The CONTRACTOR shall notify the CLIENT if proper compaction cannot be obtained so that the CLIENT may determine what remedial measures may be needed.

A soils testing firm employed by the CLIENT shall determine which soils are unsuitable. Materials in their natural state being defined as unsuitable that would be suitable material if moisture conditioned, shall be conditioned by the CONTRACTOR and used as suitable embankment material or hauled from the site.

For purposes of definition, unsuitable material shall be as follows unless determined otherwise by the Soils Engineer:

1. Any soil whose optimum moisture content exceeds 25%.
2. Any cohesive soil with an unconfined compressive strength of 1.5 tons per square foot or less.
3. Any soil whose silt content exceeds 60% by weight.
4. Any soil whose maximum density is less than 100 pounds per cubic foot.
5. Any soil containing organic, deleterious, or hazardous material.

Upon completion of excavation and shaping of the water retention areas intended to maintain a permanent pool of water, all silt seams and granular or sandy soils shall be removed to a minimum depth of three feet below the subgrade and replaced with an impermeable clay liner, including adjacent to and under storm sewer inlets and outlets. It is the intent of these PLANS and SPECIFICATIONS that the CONTRACTOR shall prepare the lake bottoms, side slopes, and compaction thereof such that the lakes will maintain the proposed normal water level and that leakage does not exceed ½ inch per week.

Ditches and swales are to be excavated to the lines and grades indicated on the PLANS. All suitable materials excavated from the ditches shall be used in construction of the embankments.

The CONTRACTOR shall notify the CLIENT immediately upon encountering groundwater during excavation. If in the opinion of the CLIENT or the JURISDICTIONAL GOVERNING ENTITY this condition necessitates the installation of perforated drain tile bedded in washed gravel or open storm sewer joints wrapped with fabric, the CONTRACTOR shall install the same.

During excavation and embankment, grades may be adjusted to achieve an overall site earthwork balance. The CONTRACTOR shall cooperate fully with the CLIENT in adjustment of grades, construction methods and placement of material to meet the above goals and shall immediately advise CLIENT if he believes that the earthwork will not balance.

It is the intent of these PLANS that storm waters falling on the site be diverted into sedimentation / lake / detention basins during construction. The CONTRACTOR shall construct and maintain any temporary ditches or swales that are necessary to accomplish this prior to beginning mass excavation.

EROSION CONTROL

Suitable erosion control practices shall be maintained by the CONTRACTOR in accordance with Illinois Urban Manual and all applicable Soil Erosion and Sedimentation Control ordinances and the PLANS.

UNDERCUTTING DURING EARTHWORK

If the subgrade cannot be dried adequately by discing as outlined above for placement of material to planned grades and if the CLIENT determines that the subgrade does not meet the standards set forth above, the CLIENT may require undercutting.

MISCELLANEOUS CONTRACT ITEMS

The following items may be required at the CLIENT's option, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY:

(1) **GEOTEXTILE FABRIC**

Geotextile fabric or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY where proper compaction of embankments over existing soft soils is not possible. Geotextile fabric shall meet the material specifications of and shall be installed in accordance with the above standards.

(2) **EROSION CONTROL BLANKET**

Erosion control blanket or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY for the stabilization of disturbed areas. Erosion control blanket shall meet the material specifications of and shall be installed in accordance with the above standards, the Illinois Urban Manual and/or the details shown on the PLANS.

III.UNDERGROUND IMPROVEMENTS

A. GENERAL

STANDARDS

All underground improvements shall be constructed and tested in accordance with the Standard Specifications for Water and Sewer Construction in Illinois and Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition. In the event of conflicting guidelines, the more restrictive shall govern.

SELECTED GRANULAR BACKFILL

Selected Granular Backfill shall be required for all sewer and water main trenches lying under existing or proposed streets, driveways, parking lots and within 24" thereof, and where noted on PLANS. All material placed in such trenches shall be in accordance with the above standards.

MANHOLES, CATCH BASINS, INLETS & VALVE VAULTS

All Manholes, Catch Basins, Inlets, and Valve Vaults shall be constructed of reinforced precast concrete ring construction with tongue and groove joints in conformance with the latest revision of ASTM designation C-478. All joints between sections and frames (except sanitary manholes, see Section IIIB Manholes, below) shall be sealed with mastic type bituminous jointing compound. CONTRACTOR shall remove all excess mastic on inside of structure and butter joints with mortar. Manholes are to have offset cones except that no cone shall be used on storm manholes 6'-0" deep or less in which case a reinforced concrete flat top section shall be used, and Valve Vaults shall have concentric cones. Only concrete adjustment rings will be permitted where necessary and shall be limited to two adjustment rings totaling not more than 8" in height. All manholes and catch basin steps shall be copolymer polypropylene with continuous ½" steel reinforcement as manufactured by MA Industries, or approved equal.

AUGER/BORING AND CASING

Casing pipe shall be welded steel pipe, installed where shown on the PLANS. The carrier pipe shall be securely blocked and banded and sanitary and storm sewers shall maintain the specified gradient. Upon installing the carrier pipe the ends shall be sealed with hydraulic cement.

AUGER (OPEN BORE)

The CONTRACTOR shall auger (open bore) where noted on PLANS.

HORIZONTAL AND VERTICAL SEPARATION OF WATER AND SEWER MAINS

Horizontal and vertical separation of water and sewer mains shall be in accordance with Standard Specifications for Water and Sewer Construction in Illinois Section 41-2.01A and 41-2.01B and Standard Drawing 18, 19, 20, 21, 22, 23 and 24.

STRUCTURE ADJUSTMENTS

Structures shall be adjusted to the finished grade as shown on PLANS.

B. SANITARY SEWERS AND APPURTENANCES

SANITARY SEWER PIPE

Sanitary sewer pipe including building services, shall conform to the following:

(1) Polyvinyl Chloride (PVC) Sewer Pipe shall conform to ASTM D3034 (4-inch thru 15-inch) or ASTM F679 (18-inch thru 48-inch) minimum SDR 26 with flexible elastomeric seal gasket gasketed joints conforming to ASTM D3212 and F477.

(2) Ductile Iron Sewer Pipe shall conform with ANSI/AWWA C151/A21.51 Class 50, cement lined with push on type joints conforming to ANSI/AWWA C111/A21.11.

(3) Extra Strength Clay Sewer Pipe shall conform with ASTM Specification C700 (glazed) with ASTM D1784 type joints conforming to Clow NO-BEL (ESVCP), with flexible gasket meeting ASTM C425 (MWRD only).

Sanitary sewers shall include bedding and backfilling.

MANHOLES

Manholes shall be constructed in conformance with Section IIIA Manholes, etc. above. The concrete base and bottom section shall be constructed of precast reinforced concrete monolithically cast sections including benches, pipe connection and invert flow lines. Manhole frame and lids shall be Neenah R-1772 or approved equal, with lids imprinted "SANITARY", with recessed pick holes. Manhole joints between adjustment rings and frames and between manhole sections shall be set on preformed plastic gasket consisting of a homogeneous blend of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler to provide a water tight seal. All pipe connection openings shall be precast with resilient rubber watertight pipe sleeves. A 10" elastomeric band (chimney seal) shall be installed extending from the manhole top to the manhole frame as shown on detail. Manholes shall include steps, frame & grate, bedding, and trench backfill.

FOUNDATION, BEDDING AND HAUNCHING

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

TESTING

Sanitary sewers shall be air tested and tested for deflection in accordance with the requirements of Section 31-1.12 "TESTING AND INSPECTION FOR ACCEPTANCE OF SANITARY SEWERS" of the Standard Specifications for Water and Sewer Construction in Illinois or the JURISDICTIONAL GOVERNING ENTITY, whichever is more restrictive. In addition, a televised inspection of the completed sanitary sewers shall be conducted and a copy of the videotape and report furnished to the JURISDICTIONAL GOVERNING ENTITY.

All sanitary manholes are to be tested for water tightness in accordance with ASTM C969 "Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines", or ASTM C1244 "Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test".

SERVICES

A wye branch or "tee" and sanitary service line, properly plugged and sealed shall be constructed as shown on the PLANS. The ends of all services shall be marked with a 4"x4" post extending 36" above grade and painted red. The CONTRACTOR shall keep accurate records of all Wye or Tee locations as measured from the downstream manhole as well as the service lengths and furnish same to CLIENT.

RISERS

Risers shall be constructed in locations as shown on the PLANS and according to the detail.

DROP MANHOLE CONNECTIONS

Drop manhole connections to existing manholes shall be constructed according to the PLANS and the detail.

SANITARY SEWER FORCE MAIN

Sanitary sewer force main shall conform to the following:

(1) Polyvinyl Chloride (PVC) Pressure Pipe conforming to the latest revision of ANSI/AWWA C900, Class 150 with integral bell and flexible elastomeric gasket joints conforming to ASTM F477.

(2) Ductile iron cement lined pipe conforming to the latest revision of ANSI/AWWA C151/A21.51, Thickness Class 50, minimum 150 psi working pressure with "push on" type joints.

Force mains shall have a minimum of five feet six inches (5'-6") of cover and shall include bedding and trench backfill. Poured or monolithic concrete thrust blocks are required to brace all tees, plugs, caps, and bends of 11 1/4 degree deflection or greater.

Upon completion of installation, force mains are to be plugged and pressure tested at 2 times the working pressure or total dynamic head for a period of 10 minutes, with no loss of pressure or as required by the JURISDICTIONAL GOVERNING ENTITY, whichever is more stringent.

TELEVISION INSPECTION

Upon completion of construction a television inspection of the sanitary sewer system shall be performed on all portions of the sewer if required by the JURISDICTIONAL GOVERNING ENTITY. Videotapes and written report of all television inspections shall be provided to the CLIENT. The form of report and type and format of the videotape shall be approved by the JURISDICTIONAL GOVERNING ENTITY.

All sewers and appurtenances shall be cleaned prior to inspection and testing required by this section.

All defects and corrective work required as the result of television inspection shall be performed by the CONTRACTOR without delay. All dips, cracks, leaks, improperly sealed joints and departures from approved grades and alignment shall be repaired by removing and replacing the involved sections of pipe. Upon completion thereof, the sewer shall be retested and such further inspection made as may appear warranted by the CLIENT.

MISCELLANEOUS

All floor drains shall be connected to the sanitary sewer.

C. WATER MAINS AND APPURTENANCES

WATER MAIN PIPE (3" AND LARGER)

Water main pipe shall conform to the following:

(1) Ductile iron pipe shall be per ANSI/AWWA C151/A21.51, Thickness Class 52, minimum 150 psi working pressure, cement lined in accordance with ANSI/AWWA C104/A21.4, with "push on" type joints.(2)

(2) Polyvinyl Chloride Pipe (PVC) conforming to the latest revision of ANSI/AWWA C900 (4-inch thru 12-inch) or ANSI/AWWA C905 (14-inch thru 48-inch) with a pressure rating of 235 psi, SDR 18 in accordance with ASTM D2241. Joints shall be pressure rated in accordance with ASTM D3139 with elastomeric seals in accordance with ASTM F477.

Installation shall be in accordance with ANSI/AWWA C600 (Ductile Iron) or ANSI/AWWA C605 (PVC). All water main shall have mechanical joint cast iron or ductile iron fittings in accordance with ANSI/AWWA C110/A21.10 or compact ductile iron fittings in accordance with ANSI/AWWA C153/A21.53 with 250 psi working pressure.

Poured or monolithic concrete thrust blocks are required to brace all tees, plugs, caps, and bends of 11 1/4 degree deflection or greater. Minimum cover for all water mains, including services, shall be 5'-6" from the finished grade. Water main shall include bedding and backfilling.

WATER VALVES

All valves shall be resilient wedge gate valves conforming to the latest revision of ANSI/AWWA C515, with a rated working pressure of 200 psi in accordance with JURISDICTIONAL GOVERNING ENTITY requirements, except that butterfly valves conforming to ANSI/AWWA C504 shall be constructed on all water mains 16" diameter and larger. Valves shall be non-rising stem and shall close by turning clockwise.

VALVE VAULTS

Valve vaults shall be constructed in conformance with Section IIIA Manholes, etc. above. Frame and lids shall be as approved by the JURISDICTIONAL GOVERNING ENTITY and shall be imprinted "WATER".

VALVE BOXES

Valve boxes shall be constructed in conformance with the standard detail. Valve boxes shall be cast iron extension screw type having lids imprinted with the letters "WATER".

FIRE HYDRANTS

Fire Hydrants shall be per JURISDICTIONAL GOVERNING ENTITY requirements. All fire hydrants shall be located as shown on the PLANS and shall be painted in a manner acceptable to the JURISDICTIONAL GOVERNING ENTITY after installation and shall be adjusted to final grade.

TAP, STOPS AND BOX

The CONTRACTOR shall determine from the JURISDICTIONAL GOVERNING ENTITY as to the exact style, type, and manufacture of corporation stops, ground key stops and services boxes preferred by the JURISDICTIONAL GOVERNING ENTITY and shall furnish same.

SMALL WATER SERVICES (2" DIAMETER OR LESS)

Water services shall be type K copper size as shown on PLANS, and constructed where shown on the PLANS. The ends of all services shall be marked with a 4"x4" post extending 36" above grade and painted blue. The CONTRACTOR shall keep accurate records of tap locations and service box locations, as well as the service lengths and furnish same to CLIENT. Water services shall include bedding and backfilling.

DISINFECTION

Disinfections shall meet all of the requirements of the State of Illinois, Environmental Protection Agency, Public Water Supplies Division. The safe quality of the water supply shall be demonstrated by bacteriological analysis of samples collected at sampling taps on at least two consecutive days following disinfection of the mains and copies of the said report submitted to the JURISDICTIONAL GOVERNING ENTITY and the CLIENT.

PRESSURE TEST

Allowable leakage, test pressure and duration shall be as per the requirements of the JURISDICTIONAL GOVERNING ENTITY.

PRESSURE CONNECTION TO EXISTING WATER MAIN

The CONTRACTOR shall maintain system pressure on existing water main at all times. Existing water main shall be located and material excavated, and valve basin slab and main supports installed. The existing water main shall be cleaned and the exterior disinfected prior to installing the tapping tee (material to conform to AWWA C110). The tapping valve shall be installed (valve to conform to AWWA C500) and the pressure tap completed in accordance with the detail on the plans. Valve shall be constructed in conformance with the detail. Payment for pressure connection to existing water main shall include disinfection, tapping valve and tee, valve vault, frame and lid, bedding, and trench backfill.

DRY CONNECTION TO EXISTING WATER MAIN

A dry connection to existing water main shall include a connection to an existing water main stub where shown on the PLANS. The CONTRACTOR shall obtain approval of the JURISDICTIONAL GOVERNING ENTITY to shut down any main, including submittal of a schedule of the time of shut off and the time the line will be returned to service. All mains shut down that are opened to atmosphere must be disinfected prior to returning main into service.

POLYETHYLENE ENCASEMENT (FOR DUCTILE IRON WATER MAIN ONLY)

The CLIENT, or JURISDICTIONAL GOVERNING ENTITY may request that portions of the water main be enclosed in a polyethylene encasement in accordance with ANSI/AWWA C105/A21.5 should soil conditions so warrant its use.

FOUNDATION, BEDDING AND HAUNCHING

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

TRACER WIRE

If the distance between valves when installing PVC pipe exceeds 1,000', tracer wire stations will be required for current induction. Tracer wire stations in grass areas will be Rhino TriView Flex Tracing Wire Stations or approved equal. In paved areas, they will be Valvco Tracer Wire Access Box for H20 loading or approved equal.

For open cut construction, using PVC pipe, a continuous, insulated, 12 gauge copper wire suitable for direct burial shall be taped on top of all piping to provide for locating following construction. This wire shall be securely terminated inside every valve vault on stainless steel hardware with an exposed lead of at least 12". A mechanically secure and soldered connection shall be provided for all wire splices. Where construction is by directional drilling or similar trenchless technology the tracer wire shall be 3/16" 7x19 PVC coated stainless steel aircraft cable with minimum breaking strength of 3,700 lbs (Lexco, Chicago, IL). Or Trace-Safe water blocking tracerwire RT series 19 gauge conductor (RT 1802W water, RT 1803W sewer).

Before final approval of any water main, there will be a monitored tracer wire continuity test in order to confirm proper installation of any tracer wire.

D. STORM SEWERS AND APPURTENANCES

STORM SEWER PIPE

Storm sewer pipe shall conform to the following:

(1) Reinforced concrete pipe minimum Class IV in conformance with the latest revision of ASTM designation C76 with C443 flexible gasket joints, except that bituminous mastic joints may be used in grass areas.

(2) Polyvinyl Chloride (PVC) Pipe: ASTM D3034 (4-inch thru 15-inch) or ASTM F679 (18-inch thru 36-inch), rated SDR 35, continually marked with manufacturer's name, pipe size, cell classification, SDR rating. Joints shall be flexible elastomeric seals conforming to ASTM D3212.

(3) Ductile Iron Pipe (DIP) shall conform to ANSI/AWWA C151/21.5, Class 50 cement lined with push on type joints conforming to ANSI/AWWA C111/A21.11.

(4) Spiral Rib Metal Pipe Type 1R: 18-inch diameter and greater. Pipe ends shall be re-corrugated and installed with semi-corrugated Hugger type brands and "O" ring gaskets. (Only permitted with Municipality approval and/or when specifically indicated on PLANS).

(5) High Density Polyethylene Pipe (HDPE) Smooth Interior, AASHTO Designation M252 and M294, maximum diameter of 48 inches. Pipe joints and fittings shall be watertight gasketed joints. No band seals will be allowed. (Only permitted in landscape areas with Municipality Approval and/or when specifically indicated on PLANS).

(6) Polypropylene (PP) Pipe shall have a smooth interior