

CHARTER TOWNSHIP OF YPSILANTI BOARD OF TRUSTEES

Supervisor

BRENDA L. STUMBO

Clerk

HEATHER JARRELL ROE

Treasurer

STAN ELDRIDGE

Trustees

JOHN P. NEWMAN II

GLORIA PETERSON

DEBBIE SWANSON

JIMMIE WILSON, JR.

April 19, 2022

**Work Session – 5:00 pm
Regular Meeting – 7:00 p.m.**

**Ypsilanti Township Civic Center
7200 S. Huron River Drive
Ypsilanti, MI 48197**

DEPARTMENTAL REPORTS

Supervisor
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**Charter Township of Ypsilanti
Hydro Station**

**7200 S. Huron River Drive
Ypsilanti, MI 48197
Phone: (734) 544.3690
Fax: (734) 544.3626**

www.ytown.org

Date: April 1, 2022
To: Clerk's Office
CC: Brenda Stumbo, Supervisor
From: Michael Saranen, Operation Manager
Subject: Department Report (activities in March 2022)

Activities:

Ford Lake Dam (Hydro Station)

General Operation Summary:

The Hydro Station continues to operate safely and continues to get routine safety inspections and preventive maintenance. Covid-19 has not impacted operations. Operators had 7 after hour call-ins for the month.

Average precipitation for the month of is around"2.43, this year it was about 1.94".

Regulatory:

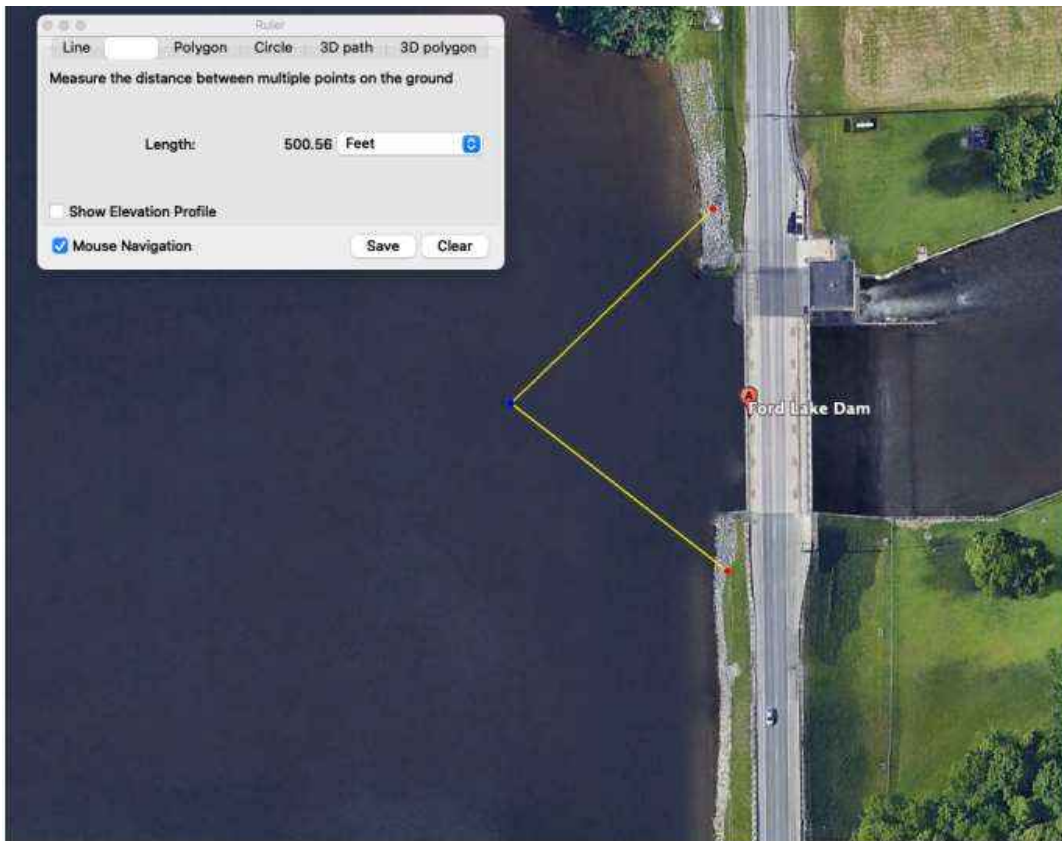
For 2021-

- Reprint STID, **Started- completion due 12/22**
- update DSSMP, planned by 12/22
- DSSMR, **Complete, Filed with FERC**
- Owners Dam Safety Program Review – Started
- EAP annual update and test-
- EAP Training-
- Part 12 Inspection- next inspection 2025
- WQ Report – **Equipment in for service**
- Nuisance Plant Plan Report –
- Wildlife Plan Report –
- Historical Activity Report –
- Gate Certification –
- Security Review –
- FERC Security Inspection- **Postponed (COVID)**
- FERC Annual Dam Safety Inspection – Scheduled in July
- Annual DEQ Lake Operation Monitoring Report-
- Spillway Assessment Action Plan- **Filed**
- Public Safety Plan- Update due by 12/22

Projects:

Concrete Repairs- in planning phase, putting together bid documents to address spalling concrete on crest of the concrete spillway. Construction is planned for 2022. Field inspection was conducted on 5/6/21, an assessment report was provided by Barr. Report outlines areas that need repairs within 5 to 10 years.

Buoy Lines- Staff have reviewed the current buoy layout. A new buoy lines near the Hydro Station are in the works. This will add more safety to boater and recreationists on the lake and river.



New buoy line layout for the lake near the dam

Sluice Stress Analysis- in planning phase, the FERC has requested a detail study of the spillway gates. This is common industry request from FERC as they continuously look at safety involving dams. We are currently working with engineering to develop a procedure to complete this task. This task should be completed by 2024.

Powerhouse Service Power Upgrades- the high voltage cable from the house transformer to the transfer switch needs to be replaced due to inadequate sizing for the load.

Operation Summary

2022	March	YTD	5 Year Ave.
Precipitation total (inches) ¹	1.94	5.07	42.0
Days Online	31.0	89.0	359.2
Generation MWH (estimated)	1,582.705	3,469.640	11,040.8.5
Generation MWH lost (estimated)*	0	53.119	564.3

After Hour Call In

Water levels	7	19	43
Mechanical/Electrical	0	0	5
Other	0	0	2
Totals	7	19	50

Recent History	2017	2018	2019	2020	2021
Precipitation total (inches)	40.8	42.2	45.4	41.4	40.0
Days Online	362.0	364.2	350.6	359.7	360.0
Generation MWH (estimated)	10,744.9	10,635.0	12,576.7	10,722.7	10,524.5
Generation MWH lost (estimated)*	269.6	552.9	1,005.8	570.2	423.2

After Hour Call In

Water levels	31	26	30	69	33
Mechanical/Electrical	4	5	3	4	9
Other	2	3	0	2	0
Totals	37	34	33	75	42

¹ Preliminary totals from NOAA for Detroit

*losses related to scheduled & unscheduled maintenance and water quality discharges.

Gate Spilling Summary:

Releasing water from the sluice gates is primary done to maintain lake level when flow exceeds the powerhouse. At certain times, we can use the gates to help keep the lake mixing to maintain oxygen levels (effectiveness depends on a number of factors) at the bottom of the lake.

The water quality monitoring begins on June 1st and will end on September 30th; operators monitor the water quality conditions and take readings as outline in the WQ Plan. The dam releases water from the bottom gates to maintain run of river and/or help with water quality in Ford Lake. The Federal License requires we pass water with a minimum of 5mg/l of dissolved oxygen all the time. Therefore, spilling from the bottom gates in the summer for improving the lake is not always possible.

Sluice Gate Usage Summary:

Current Year 2022	Current Year Days Spilled	Current Year Lost KWh*	Current Year Lost KW\$*	Prior Yr. Lost KW\$*
January	19	0	0	0
February	9.8	0	0	0
March	21.6	0	0	0
April			0	0
May			0	\$ 5,852
June			0	\$ 6,624
July			0	\$ 6,147
August			0	\$ 3,067
September			0	0
October			0	0
November			0	0
December			0	0
<hr/>				
Totals	50.4	0	\$ 0	\$ 15,838

*estimated losses from diverting water away from generators for the **purpose improving WQ.**

Sargent Charles Dam

This dam continues to get routine safety inspections and appropriate maintenance.

CHARTER TOWNSHIP OF YPSILANTI FIRE DEPARTMENT

222 South Ford Boulevard, Ypsilanti, MI 48198



MONTHLY REPORT FOR MARCH, 2022

Fire Department staffing levels are as follows:

1 Fire Chief	3 Shift Captains	18 Fire Fighters
1 Fire Marshal	3 Shift Lieutenants	1 Clerk III/Staff Support

All fire department response personnel are licensed as Emergency Medical Technicians by the State of Michigan Public Health. During the month, the fire department responded to requests **518** for assistance. Of those requests, **316** were medical emergency service calls, with the remaining **202** incidents classified as non-medical and/or fire related.

Department activities for the month of March 2022:

- 1) Smoke Alarms
 - a) 1707 Knowles
 - b) 8883 Trillium Drive
 - c) 281 Oregon Street
 - d) 231 Kirk Street
 - e) 232 Kirk Street

- 2) Fire fighters received training in the following areas:
 - a) TRT Training
 - b) Hazmat Training

The Fire Marshal had these activities / events for the month of March 2022:

1. Fire Investigations: 5
2. Building Inspections: 9
3. Plan Reviews: 4
4. Hood / Fire Suppression Inspections: 2
5. Meetings: 4
6. Fire Alarm Inspections: 4
7. Occupant Load Certificates: 1
8. Burn Permit: 1

The Fire Chief attended these meetings / events for the month of March 2022:

1. WAMAA
2. Fuel Reports
3. Ypsilanti Township Board Meeting
4. Letter of Agreement for the Fire Marshall Position
5. Temporary appointment of Fire Marshall Wallgren & Lieutenant White
6. Meeting, RE: Station 3 parking lot concrete project
7. Discussing and implementing a process for the 495 Fire withholding with the OCS Department
8. Inspection: Fowling Warehouse
9. Inspection: 850 S. Hewitt
10. Parking Occupancy at Men Like Us on Michigan Avenue
11. IT room renovations at Station 1
12. Generator repair at Station 3
13. Meeting with Terry Martin, re: Opticom
14. Contact EMPCO to cancel Promotional Testing

There was 0 injuries and 0 deaths reported this month for civilians.

There was 0 injuries and 0 deaths reported this month for fire fighters.

This month the total fire loss, including vehicle fires, is estimated at **\$130,500.00**. All occurred at the following locations:

DATE OF LOSS	ADDRESS		ESTIMATED LOSS	
1) 3/06/2022	49259 Paloma	\$	0.00	(mutual aid-Van Buren)
2) 3/06/2022	626 Lynne	\$	0.00	(structure fire)
3) 3/10/2022	1550 Clark E	\$	0.00	(cooking fire)
4) 3/14/2022	855 Green	\$	0.00	(cooking fire)
5) 3/14/2022	704 Airport Blvd	\$	0.00	(mutual aid-Pittsfield)
6) 3/15/2022	502 Hayes Ave	\$	5,500.00	(vehicle fire)
7) 3/16/2022	480 Berkley Street	\$	125,000.00	(structure fire)
8) 3/21/2022	1649 S. Harris	\$	0.00	(cooking fire)
9) 3/21/2022	48255 Bayshore	\$	0.00	(mutual aid-Van Buren)
10) 3/24/2022	854 S. Woody	\$	0.00	(mutual aid-City of Ypsi)
11) 3/25/2022	10165 Talladay	\$	0.00	(mutual aid-Augusta)

Respectfully submitted,

Maria Batianis
Charter Township of Ypsilanti Fire Department

Attachment: Image Trend Incident Type Report (Summary): 03/01/2022 – 03/31/2022

Incident Type Report (Summary)

Basic Incident Type Code And Description (FD1.21)	Total Incidents	Total Incidents Percent of Incidents	Total Property Loss	Total Content Loss	Total Loss	Total Loss Percent of Total
Incident Type Category (FD1.21): 1 - Fire						
100 - Fire, other	2	0.39%				
111 - Building fire	5	0.97%	100000.00	25000.00	125000.00	95.79%
113 - Cooking fire, confined to container	3	0.58%	0.00	0.00	0.00	0.00%
131 - Passenger vehicle fire	1	0.19%	5000.00	500.00	5500.00	4.21%
Total: 11		Total: 2.12%	Total: 105000.00	Total: 25500.00	Total: 130500.00	Total: 100.00%
Incident Type Category (FD1.21): 3 - Rescue & Emergency Medical Service Incident						
300 - Rescue, EMS incident, other	27	5.21%				
311 - Medical assist, assist EMS crew	46	8.88%				
320 - Emergency medical service, other	42	8.11%				
321 - EMS call, excluding vehicle accident with injury	168	32.43%				
322 - Motor vehicle accident with injuries	7	1.35%				
323 - Motor vehicle/pedestrian accident (MV Ped)	1	0.19%				
324 - Motor vehicle accident with no injuries.	23	4.44%				
331 - Lock-in (if lock out , use 511)	1	0.19%				
352 - Extrication of victim(s) from vehicle	1	0.19%				
Total: 316		Total: 61.00%	Total: 0.00	Total: 0.00	Total: 0.00	Total: 0.00%
Incident Type Category (FD1.21): 4 - Hazardous Condition (No Fire)						
400 - Hazardous condition, other	1	0.19%				
412 - Gas leak (natural gas or LPG)	1	0.19%				
424 - Carbon monoxide incident	2	0.39%				
440 - Electrical wiring/equipment problem, other	1	0.19%				
441 - Heat from short circuit (wiring), defective/worn	1	0.19%				
444 - Power line down	2	0.39%				
445 - Arcing, shorted electrical equipment	1	0.19%				
463 - Vehicle accident, general cleanup	1	0.19%				
Total: 10		Total: 1.93%	Total: 0.00	Total: 0.00	Total: 0.00	Total: 0.00%
Incident Type Category (FD1.21): 5 - Service Call						
500 - Service call, other	5	0.97%				
512 - Ring or jewelry removal	1	0.19%				
531 - Smoke or odor removal	3	0.58%				
550 - Public service assistance, other	1	0.19%				
551 - Assist police or other governmental agency	1	0.19%				
552 - Police matter	2	0.39%				
553 - Public service	1	0.19%				
554 - Assist invalid	5	0.97%				
561 - Unauthorized burning	3	0.58%				
Total: 22		Total: 4.25%	Total: 0.00	Total: 0.00	Total: 0.00	Total: 0.00%
Incident Type Category (FD1.21): 6 - Good Intent Call						
600 - Good intent call, other	10	1.93%				
611 - Dispatched and cancelled en route	98	18.92%				
622 - No incident found on arrival at dispatch address	8	1.54%				
651 - Smoke scare, odor of smoke	4	0.77%				
652 - Steam, vapor, fog or dust thought to be smoke	1	0.19%				
Total: 121		Total: 23.36%	Total: 0.00	Total: 0.00	Total: 0.00	Total: 0.00%
Incident Type Category (FD1.21): 7 - False Alarm & False Call						

Basic Incident Type Code And Description (FD1.21)	Total Incidents	Total Incidents Percent of Incidents	Total Property Loss	Total Content Loss	Total Loss	Total Loss Percent of Total
700 - False alarm or false call, other	12	2.32%				
711 - Municipal alarm system, malicious false alarm	1	0.19%				
715 - Local alarm system, malicious false alarm	3	0.58%				
730 - System malfunction, other	4	0.77%				
733 - Smoke detector activation due to malfunction	6	1.16%				
735 - Alarm system sounded due to malfunction	4	0.77%				
736 - CO detector activation due to malfunction	2	0.39%				
743 - Smoke detector activation, no fire - unintentional	2	0.39%				
745 - Alarm system activation, no fire - unintentional	3	0.58%				
746 - Carbon monoxide detector activation, no CO	1	0.19%				
	Total: 38	Total: 7.34%	Total: 0.00	Total: 0.00	Total: 0.00	Total: 0.00%
	Total: 518	Total: 100.00%	Total: 105000.00	Total: 25500.00	Total: 130500.00	Total: 100.00%

CHARTER TOWNSHIP OF YPSILANTI

OFFICE OF COMMUNITY STANDARDS

Building Safety • Planning & Zoning • Ordinance Enforcement • Police Services

To: Board of Trustees

From: Jason Iacoangeli, Planning Director
Dave Bellers, Chief Building Official
Belinda Kingsley, Community Compliance Director
Tom Greenwood, Executive Coordinator

Re: **OFFICE OF COMMUNITY STANDARDS ACTIVITY REPORT
March 2022**

Date: 4/11/2022

Enclosed are reports for the following areas of activity within the Office of Community Standards for the period March 1, 2022 thru March 31, 2022. During this time period staff members completed a total of 294 **field inspections**.

1. PLANNING & DEVELOPMENT DEPARTMENT PROJECTS
2. ACTIVE LAWSUITS & OTHER MISCELLANEOUS PROJECTS
3. BUILDING DEPARTMENT PERMITS ISSUED
4. BUILDING CERTIFICATES OF OCCUPANCY ISSUED
5. NEW RENTAL HOUSING CERTIFICATIONS
6. NEW VACANT STRUCTURE CERTIFICATIONS
7. NEW OTHER ORDINANCE CERTIFICATIONS
8. NEW CODE ENFORCEMENT CASES

CHARTER TOWNSHIP OF YPSILANTI

OFFICE OF COMMUNITY STANDARDS

Building Safety • Planning & Zoning • Ordinance Enforcement

April 11, 2022

Re: Planning Division (OCS) March 2022 activity summary

Please be advised of the following activities related to the Planning Department for March, 2022.

Zoning verification letters issued	2
Building and zoning permit applications reviewed	41
Business registration applications reviewed	7 (some applications still pending)

Zoning Board of Appeals—At the March 2, 2022 meeting the ZBA considered the following projects:

APPLICANT: Phantom Fireworks – Richard Tapper

LOCATION: 2243 Ellsworth Rd, Ypsilanti MI 48198

PARCEL: K-11-18-100-003

REQUEST: To consider the request for a temporary use permit to allow for the storage, display, and sale of State of Michigan approved fireworks within the existing Roundtree Shopping Center.

MOTION: Ms. El-Assadi MOVED to approve the temporary use permit application to rent the storage display and sale of State of Michigan approved fireworks from June 22, 2022, through July 4, 2022, from the hours of 10 am to 10 pm within a 40 x 40-foot display tent and an 8 x 40 storage container to be located within the existing Roundtree shopping center parking lot 2243 Ellsworth Road, parcel K-11-18-100-003 with the following conditions.

- All necessary building and or trade permits shall be obtained from the Office of Community Standards prior to occupancy of the tent.
- The applicant shall post and make available to the public, Township Municipal Code Section 42-210 “Fireworks” outlining when fireworks may be discharged within Ypsilanti Township.

APPLICANT: Phantom Fireworks – Richard Tapper

LOCATION: 3020 Washtenaw Ave, Ypsilanti, MI 48198

PARCEL: K-11-06-325-031

REQUEST: To consider the request for a temporary use permit to allow for the storage, display, and sale of State of Michigan approved fireworks within the existing shopping center located at 3020 Washtenaw Ave.

MOTION: Ms. El-Assadi MOVED to approve the temporary use permit application for the storage display and sale of State of Michigan approved fireworks from June 22, 2022, through July 4, 2022 hours of operation 10 am to 10 pm within a 40 x 40-foot display tent and an 8 x 40 storage container to be located within the former Farmer Jacks parking lot located at 3020 Washtenaw Avenue, parcel K-11-06-325-031 with the following conditions.

- All necessary building and or trade permits shall be obtained from the Office of Community Standards prior to occupancy of the tent.
- The applicant shall post and make available to the public, Township Municipal Code Section 42-210 “Fireworks” outlining when fireworks may be discharged within Ypsilanti Township.

APPLICANT: LynxDx, Inc. – Steven Riggs

LOCATION: 2515 Ellsworth Rd, Ypsilanti MI 48198

PARCEL: K-11-18-100-013

REQUEST: To consider the request for a temporary use permit to allow for a temporary outdoor Covid-19 Testing Drive-Thru Clinic located at 2515 Ellsworth Rd.

MOTION: Mr. Wilson MOVED to approve the temporary use permit applications permitting the operation of a COVID-19 drive through testing facility located at 2515 Ellsworth Road, parcel K-11-18-100-013, for a period of six months with the following conditions are necessary building and or trade permits shall be obtained from the Office of Community Standards. The MOTION was SECONDED by Ms. El-Assadi and PASSED by unanimous consent.

Planning Commission—At the March 22, 2022 meeting the Commission considered the following project:

RANGE USA -STAGE II - PLANNED DEVELOPMENT – 660 JAMES L. HART PARKWAY – K-11-17-361-021 TO CONSIDER REQUEST TO AMEND THE PLANNED DEVELOPMENT STAGE II APPROVAL ALONG WITH ASSOCIATED DEVELOPMENT AGREEMENT TO PROVIDE FOR AN INDOOR GUN RANGE (INDOOR RECREATION), CLASSROOM, AND RETAIL SALES

Motion to approve passed 5-1.

**CHARTER TOWNSHIP OF YPSILANTI
MARCH 2022
ACTIVE LAWSUITS**

Date: April 11, 2022

Staff and legal counsel are actively engaged in working to resolve the following authorized lawsuits in Washtenaw County Circuit Court:

0	Dir	Address	Defendant	Nature of Case	Status	Updated Notes	Date Last Reviewed	Next Court Date	Case No.:
1005		Emerick	GV, LLC (Robert Hull) Gault Village Shopping Center	Public Nuisance	AUTHORIZED AND FILED	Court hearing for costs and sanctions. YCUA shut off water to the site. Tax appeal settled.	3/23/22	5/20/2022 @ 9:00 Evid. Hrg.	16-437-CZ
2355		Wiard	D&G Auto Salvage & Randy Clark	Public Nuisance	AUTHORIZED AND FILED	On hold for WCHD septic approval. Denny rec email from County.	3/23/22	4/21/2022 @ 10:00	17-96-CZ
924-940		Minion	Circular Investments LLC (Issa)	Zoning/Woodland Protection/Soil Erosion	AUTHORIZED AND FILED	Site plan rejected by Planning - does not combine	3/23/22	6/10/22 @1:30	17-809-CZ

						parcels, only shows a parking lot.			
1405		Ecorse	Elks Club	Public Nuisance	AUTHORIZED AND FILED	Order entered - members only use to prep meals for fundraising.	3/23/22		18-1259-CZ
1503		E. Michigan	Malek& Jenias Mohammed-KH Hamami	Public Nuisance	AUTHORIZED AND FILED	Application and plan filed - schedule meeting to determine timeline to complete project.	3/23/22	4/21/22 @ 9:00	
2545		Coolidge	Donna Cole	Public Nuisance	AUTHORIZED AND FILED	Pending demo completion. In COA.	3/23/22	COA Arguments: 5/3/22 @ 10:00 in Detroit	18-1312-CZ
670		Onandaga	Greater Faith Church	Public Nuisance	Authorized, not filed	Fire suppression completed. Pending zoning & building code compliance.	3/23/22		

1474		Ecorse	Ypsi Motown Properties - Township Plaza	Public Nuisance	AUTHORIZED AND FILED	Schedule meeting to determine timeline to complete project.	3/23/22	5/26/22 @ 9:00 a.m.	
2830	E	Michigan Avenue	Nanak Real Estate, LLC	Zoning	AUTHORIZED AND FILED	Trial adjourned. Working on settlement.	3/23/22	6/2/2022 @1:30	
6214		Tuttle Hill	Estate of Willie C. Dunson, Jr. Deceased	Public Nuisance	AUTHORIZED AND ESTATE FILED	Lawsuit filed against estate for former owner. Property sold repairs started.	3/23/22	4/28/2022 @ 10:00	
3775		Golfside	Issa	Fire	AUTHORIZED AND FILED	18 months from order 7/28/2020 to get new C-of-O for rebuild, or demo the garage (1/28/22). New owner wants to split property.	3/23/22		

399		Elder	Dabney	Public Nuisance	AUTHORIZED AND FILED	Latest clean up of property on 10/8/21. Need to file lien against the property for costs.	3/23/22		
6480		Rawsonville	Remus Sulea	tractor trailer storage/zoning	AUTHORIZED AND FILED	4/27/2021 pre-app meeting for site development. WCWR did not pass perk test.	3/23/22		
1433		Harry	Shauntel Garland	fire damaged house	AUTHORIZED AND FILED	House being repaired under permit. Dismiss case when exterior and garage are complete?	3/23/22	5/11/22 @ 1:30	
568		Onandaga	Massey	Public Nuisance	AUTHORIZED AND FILED	Pending hearing; adjourned. Permit issued, six months to perform work	3/23/22	4/22/22 @ 10:00	

						(exp 2/20/22).			
		Paint Creek Plaza	Paint Creek South LLC	Public Nuisance	AUTHORIZED AND FILED	PO submitting a landscape plan for PC review.	3/23/22	6/1/2022 @ 1:30 - Status Conference	
281		Ohio	Estate of Michael Belcher	Public Nuisance	AUTHORIZED AND FILED ESTATE	Denny met with Andy Eggan 2/9/22. In tax foreclosure, owner (Cooper) is going to pay taxes.	3/23/22		
1448		Nash	Bruce Cooper Trust	Public Nuisance	AUTHORIZED AND FILED ESTATE	Denny met with Andy Eggan 2/9/22. In tax foreclosure. Needs demo, in rough shape.	3/23/22		

885		Parkwood	Lee Roy Payne Estate	Public Nuisance	AUTHORIZED AND FILED ESTATE	Denny met with Andy Eggan 2/9/22. In tax foreclosure. Needs demo, in rough shape.	3/23/22		
9607		Harbour Cove	Joseph Amador	Public Nuisance	AUTHORIZED AND FILED	PO in jail - Contempt service in jail. Request code inspection at hearing. 60 days to rehab unit after release May 9. Review July 28.	3/23/22	7/28/22 at 9:00	
7941		Lakecrest	Joseph Amador	Public Nuisance	AUTHORIZED AND FILED	PO in jail - Contempt service in jail.	3/23/22	7/28/22 @ 9:00	
1175		Nash	Jones / Bank of NY Melon	Fire	AUTHORIZED AND FILED	Foreclosure sale rescheduled for March.	3/23/22	5/12/22 @ 10:00	

2835		Coolidge Ave	Jason Bombrisk	Junkyard Licensing	AUTHORIZED	No business to be conducted on-site. Meeting on 11/17/21 at 10:30 - cancelled. Denny will send letter regarding current use.	3/23/22		
1093		Desoto	Mario/Virginia/Jami Williams & Liberty Mutual	Blight/Fire Repair	AUTHORIZED AND FILED	Sold to Habitat for Humanity 10/29/21. Vacant inspection 11/4/21, no change since sale. Bellers contacted HFH will start rehab in Spring.	3/23/22		
835		George Pl	Kathleen Cerda	Property Maintenance - Rental	AUTHORIZED	New windows installed in front. Ongoing progress,	3/23/22		

						slow. Parking lot and sidewalks in the spring.			
8950/9070		Charlotte Ct	Oaks of Ypsilanti, LLC and Oaks of Golden Pond, LLC	Blight	AUTHORIZED AND FILED	Order to be entered - repair gates, move dumpsters in enclosure, daily maintenance inspections. Same ongoing problems continue. Denny sent letter to Fink, waiting for response.	3/23/22		
276		Devonshire Rd	Jason Mortimer	Public Nuisance	AUTHORIZED AND FILED	Cannot be occupied. Sold to Peter Jordan. Tom inspect on 9/1/22.	3/23/22		
1106	E	Michigan Avenue	Tri-County Cremations / Burrell Vault / Oneil Swanson	Public Nuisance	AUTHORIZED AND FILED	Received structural engineer report.	3/23/22	4/7/22 @ 10:00 a.m.	

						Waiting for submission of plan.			
109		Johnson	Estate of Keith Lynn	Public Nuisance	AUTHORIZED AND FILED	New owner, unsure of future use. Dismissal filed	3/23/22		
8084		Creek Bend	Bobby Beach Jr.	Public Nuisance Padlock	AUTHORIZED AND FILED	Criminal charges dismissed. Order entered - no rentals permitted. Four times a year twp can inspect for unauthorized rental.	3/23/22		
189		Outer Lane Dr	Robert & Lynn Landrum	Public Nuisance	AUTHORIZED AND FILED	Clearing exterior blight w/ a dumpster on-site. Plan to sell the home to Michael Lee.	3/23/22	4/20/22 @ 1:30	

2381		Parkwood	Dhillon Property Mgmt and Oliver and Co.	Woodland, SESC and Zoning	AUTHORIZED AND FILED	Defendants served. Added Defendant Exterior Mgmt Services. Tree estimate from CWA. SESC permit issued.	3/23/22	4/20/2022 @ 9:00	
7402		Red Bird	Patricia Ware	Public Nuisance	AUTHORIZED AND FILED	Vacant house - Lawsuit filed - served owners and mortgage company. No estate opened. New owners want to sell.	3/23/22	5/11/ 22 @ 1:30 p.m.	
885		DeSoto	Della Ryan, Clarence Patterson, Bank of New York Mellon	Public Nuisance	AUTHORIZED AND FILED	Vacant house - Bank foreclosed.	3/23/22	5/11/22 @ 1:30 p.m.	
1221		Desoto	Larry Smith	Public Nuisance	AUTHORIZED AND FILED	Blighted house - needs demo. Tax foreclosure 2/18/22. Redemption	3/23/22	4/15/22 @ 9:00 a.m.	

						until 3/31/22, per county. Order entered to repair or demo within 10 days.			
276		Kansas	Cecil Meador	Public Nuisance	AUTHORIZED AND FILED	Hearing 3/11/22 - Evid Hrg 4/7/22	3/23/22	4/7/22 @ 1:30	
1635		Parkwood	Borenstein	Padlock	AUTHORIZED AND FILED	Order entered - one year padlock. Order and eviction posted on the door. PO plans to sell property. Review hearing 3/3/22.	3/23/22	4/13/2022 @1:30	
626		Lynne	Matthew Smith	Padlock	AUTHORIZED AND FILED	Filed and served. Requesting padlock for one year. Fire on 3/6/22.	3/23/22	4/13/22 @ 1:30 p.m.	

559		Kennedy	Linda Yeager	Padlock	FILED	Filed and served.	3/23/22	4/21/22 @ 10:00 a.m.	
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March 2022 Permits Building Department

Permit Type	Category	Date Issued	Permit Number	Address Display String	Construction Value	Amount Paid Total
Building	Building	03/01/2022	PB22-0155	5252 MERRITT RD	\$10,200.00	\$205.00
Building	Res New Roof	03/04/2022	PB22-0098	530 ROSEDALE RD	\$11,960.00	\$165.00
Building	Res Alter/Repair	03/07/2022	PB22-0168	772 DORSET AVE	\$5,000.00	\$95.00
Building	Res Alter/Repair	03/07/2022	PB22-0158	1104 PARKWOOD AVE	\$30,000.00	\$370.00
Building	Com Alter/Repair	03/08/2022	PB21-1317	2502 E MICHIGAN AVE	\$63,000.00	\$1,020.00
Building	Res New Roof	03/10/2022	PB22-0173	846 HOLMES RD	\$9,975.00	\$145.00
Building	Res Alter/Repair	03/10/2022	PB22-0145	305 EDISON AVE	\$3,775.00	\$110.00
Building	Res New Roof	03/10/2022	PB22-0176	1483 GROVE RD	\$10,000.00	\$145.00
Building	Res Windows	03/15/2022	PB22-0187	9615 BAYVIEW DR 303	\$1,800.00	\$75.00
Building	Com Sign	03/16/2022	PB22-0044	389 AIRPORT INDUSTRIAL	\$1.00	\$275.00
Building	Com Temp Tent	03/16/2022	PB22-0066	2515 ELLSWORTH RD	\$30,000.00	\$395.00
Building	Building	03/17/2022	PB22-0197	1740 CLIFFS 201 A LNDG	\$12,050.00	\$175.00
Building	Res Alter/Repair	03/18/2022	PB22-0185	5950 BIG PINE DR	\$7,200.00	\$150.00
Building	Res Windows	03/22/2022	PB22-0214	1952 BURNS AVE	\$6,716.00	\$115.00
Building	Res Windows	03/22/2022	PB22-0213	6204 BOYNE DR	\$3,427.00	\$85.00
Building	Res Windows	03/22/2022	PB22-0212	2506 BURNS AVE	\$12,999.00	\$175.00
Building	Res Windows	03/22/2022	PB22-0211	2404 MIDVALE ST	\$2,500.00	\$75.00
Building	Res Windows	03/22/2022	PB22-0210	25 GREENSIDE ST	\$3,968.00	\$85.00
Building	Res New Roof	03/23/2022	PB22-0196	2202 HARMON ST	\$14,046.00	\$195.00
Building	Com Sign	03/24/2022	PB22-0193	2387 ELLSWORTH RD	\$3,500.00	\$190.00
Building	Res Alter/Repair	03/24/2022	PB22-0207	670 WHARTON ST	\$46,689.00	\$540.00
Building	Res Windows	03/24/2022	PB21-1246	7164 COPPER CREEK CT	\$2,900.00	\$75.00
Building	Res Windows	03/24/2022	PB22-0208	7199 SPY GLASS LN	\$3,600.00	\$110.00
Building	Res Windows	03/24/2022	PB21-1236	7070 HITCHINGHAM RD	\$11,862.00	\$165.00
Building	Res Windows	03/24/2022	PB22-0226	545 VILLA DR	\$1,125.00	\$90.00
Building	Com Temp Tent	03/24/2022	PB22-0051	2299 ELLSWORTH	\$1.00	\$75.00
Building	Com Temp Tent	03/24/2022	PB22-0049	3020 WASHTENAW RD	\$1.00	\$75.00
Building	Res Sunroom	03/25/2022	PB22-0216	5469 MICHAEL DR	\$75,938.00	\$845.00
Building	Res Windows	03/29/2022	PB21-1241	7362 RED BIRD DR	\$6,782.00	\$115.00

Building	Res Solar Panel	03/31/2022	PB22-0232	7487 STREAMWOOD DR	\$81,299.00	\$890.00
Deferred Rev - Crystal	Deferred Revenue	03/25/2022	PDR21-0034	10109 SWAN LAKE CIR	\$0.00	\$600.00
Deferred Rev - Crystal	Deferred Revenue	03/22/2022	PDR21-0033	10098 SWAN LAKE CIR	\$0.00	\$600.00
Deferred Rev - Crystal	Deferred Revenue	03/22/2022	PDR21-0035	10110 SWAN LAKE CIR	\$0.00	\$600.00
Deferred Rev - Crystal	Deferred Revenue	03/22/2022	PDR21-0027	10073 SWAN LAKE CIR	\$0.00	\$600.00
Deferred Rev - Crystal	Deferred Revenue	03/22/2022	PDR21-0026	10061 SWAN LAKE CIR	\$0.00	\$600.00
Electrical	Electrical	03/22/2022	PE22-0125	6716 MAPLELAWN DR	\$0.00	\$75.00
Electrical	Electrical	03/22/2022	PE22-0126	9437 MAPLELAWN CT	\$0.00	\$75.00
Electrical	Electrical	03/18/2022	PE22-0120	8839 LILLY DR	\$0.00	\$81.00
Electrical	Electrical	03/21/2022	PE22-0122	6800 APPLE HILL DR	\$0.00	\$75.00
Electrical	Electrical	03/21/2022	PE22-0123	520 BAGLEY AVE	\$0.00	\$75.00
Electrical	Electrical	03/21/2022	PE22-0124	6246 OAKHURST DR	\$0.00	\$114.00
Electrical	Electrical	03/15/2022	PE22-0117	7893 LAKE CREST DR	\$0.00	\$75.00
Electrical	Electrical	03/15/2022	PE22-0118	1814 SMITH ST	\$0.00	\$75.00
Electrical	Electrical	03/15/2022	PE22-0115	7190 SPY GLASS LN	\$0.00	\$75.00
Electrical	Electrical	03/15/2022	PE22-0116	2017 HARDING AVE	\$0.00	\$75.00
Electrical	Electrical	03/11/2022	PE22-0113	1930 TYLER RD	\$0.00	\$120.00
Electrical	Electrical	03/11/2022	PE22-0029	389 AIRPORT INDUSTRIAL	\$0.00	\$75.00
Electrical	Electrical	03/10/2022	PE22-0110	58 OREGON ST	\$0.00	\$90.00
Electrical	Electrical	03/10/2022	PE22-0114	7262 SPY GLASS LN	\$0.00	\$75.00
Electrical	Electrical	03/10/2022	PE22-0108	5421 PINEVIEW DR	\$0.00	\$100.00
Electrical	Electrical	03/08/2022	PE22-0112	5764 PRINCETON PL	\$0.00	\$85.00
Electrical	Electrical	03/08/2022	PE22-0111	408 CAMPBELL AVE	\$0.00	\$237.00
Electrical	Electrical	03/07/2022	PE22-0109	530 EUGENE ST	\$0.00	\$239.00
Electrical	Electrical	03/01/2022	PE22-0106	8850 TRILLIUM DR	\$0.00	\$75.00
Electrical	Electrical	03/02/2022	PE22-0107	6214 TUTTLE HILL RD	\$0.00	\$90.00
Electrical	Electrical	03/03/2022	PE22-0073	5505 SCOTT CT	\$0.00	\$60.25
Electrical	Electrical	03/25/2022	PE22-0130	1239 LEXINGTON PKWY	\$0.00	\$90.00
Electrical	Electrical	03/24/2022	PE22-0121	1637 HOLMES	\$0.00	\$90.00
Electrical	Electrical	03/28/2022	PE22-0132	6388 ENCHANTED DR	\$0.00	\$75.00
Electrical	Electrical	03/28/2022	PE22-0135	6451 MEADOWLARK LN	\$0.00	\$75.00
Electrical	Electrical	03/28/2022	PE22-0136	1242 SHIRLEY DR	\$0.00	\$94.00
Electrical	Electrical	03/24/2022	PE22-0129	7585 CARLTON DR	\$0.00	\$101.00
Electrical	Electrical	03/23/2022	PE22-0128	7246 ROYAL TROON DR	\$0.00	\$75.00

Electrical	Electrical	03/31/2022	PE22-0131	7487 STREAMWOOD DR	\$0.00	\$166.00
Electrical	Electrical	03/29/2022	PE22-0137	309 GLENWOOD AVE	\$0.00	\$75.00
Electrical	Electrical	03/29/2022	PE22-0134	640 CALDER AVE	\$0.00	\$75.00
Electrical	Electrical	03/31/2022	PE22-0139	5803 PINEVIEW DR	\$0.00	\$90.00
Fire Alarm	Fire Detection System	03/24/2022	PFA21-0006	185 AIRPORT INDUSTRIAL	\$0.00	\$540.00
Fire Alarm	Fire Detection System	03/18/2022	PFA21-0005	315 AIRPORT INDUSTRIAL	\$0.00	\$550.00
Fire Suppression	Fire Suppression	03/16/2022	PFS22-0001	1476 SEAVER DR	\$0.00	\$1,086.25
Mechanical	Mechanical	03/16/2022	PM22-0196	2260 HARDING AVE	\$0.00	\$85.00
Mechanical	Mechanical	03/16/2022	PM22-0197	8007 THORNHILL DR	\$0.00	\$135.00
Mechanical	Mechanical	03/16/2022	PM22-0198	400 E CLARK RD	\$0.00	\$105.00
Mechanical	Mechanical	03/16/2022	PM22-0199	2169 WASHTENAW RD	\$0.00	\$560.00
Mechanical	Mechanical	03/15/2022	PM21-1055	8611 SPINNAKER WAY	\$0.00	\$75.00
Mechanical	Mechanical	03/17/2022	PM22-0200	6250 LAKE DR 319	\$0.00	\$75.00
Mechanical	Mechanical	03/17/2022	PM22-0201	5851 S IVANHOE AVE	\$0.00	\$135.00
Mechanical	Mechanical	03/14/2022	PM22-0193	1392 ANDREA ST	\$0.00	\$75.00
Mechanical	Mechanical	03/14/2022	PM22-0190	7664 E SUMMERDALE CIR	\$0.00	\$118.00
Mechanical	Mechanical	03/14/2022	PM22-0189	7634 CARLTON DR	\$0.00	\$75.00
Mechanical	Mechanical	03/14/2022	PM22-0188	9539 LAKESIDE DR	\$0.00	\$135.00
Mechanical	Mechanical	03/14/2022	PM22-0191	1446 BUD AVE	\$0.00	\$75.00
Mechanical	Mechanical	03/15/2022	PM22-0192	6716 MAPLELAWN DR	\$0.00	\$225.00
Mechanical	Mechanical	03/15/2022	PM22-0187	9437 MAPLELAWN CT	\$0.00	\$238.00
Mechanical	Mechanical	03/18/2022	PM22-0202	111 JEROME AVE	\$0.00	\$165.00
Mechanical	Mechanical	03/21/2022	PM22-0195	5599 MICHAEL DR	\$0.00	\$175.00
Mechanical	Mechanical	03/21/2022	PM22-0204	612 GREENLAWN ST	\$0.00	\$75.00
Mechanical	Mech/Refrigeration	03/23/2022	PM22-0207	1156 MAPLE ST	\$0.00	\$120.00
Mechanical	Mechanical	03/01/2022	PM22-0164	213 N MANSFIELD ST	\$0.00	\$75.00
Mechanical	Mechanical	03/01/2022	PM22-0163	8850 TRILLIUM DR	\$0.00	\$115.00
Mechanical	Mechanical	03/02/2022	PM22-0157	7981 MALLARD WAY	\$0.00	\$105.00
Mechanical	Mechanical	03/02/2022	PM22-0158	15 HILLCREST BLVD	\$0.00	\$105.00
Mechanical	Mechanical	03/02/2022	PM22-0156	1412 ECORSE RD	\$0.00	\$75.00
Mechanical	Mechanical	03/02/2022	PM22-0165	446 BERGEN AVE	\$0.00	\$75.00
Mechanical	Mechanical	03/02/2022	PM22-0166	7836 BAY TREE DR	\$0.00	\$90.00
Mechanical	Mechanical	03/02/2022	PM22-0167	9080 COLONY PARK DR	\$0.00	\$118.00
Mechanical	Mechanical	03/01/2022	PM22-0162	1330 ELLIS RD	\$0.00	\$75.00

Mechanical	Mechanical	03/01/2022	PM22-0161	7159 WARWICK DR	\$0.00	\$98.00
Mechanical	Mechanical	03/07/2022	PM22-0175	58 OREGON ST	\$0.00	\$165.00
Mechanical	Mechanical	03/07/2022	PM22-0174	1310 HOLMES RD 4	\$0.00	\$75.00
Mechanical	Mechanical	03/07/2022	PM22-0172	1276 HOLMES RD 6	\$0.00	\$75.00
Mechanical	Mechanical	03/07/2022	PM22-0173	1318 HOLMES RD 6	\$0.00	\$75.00
Mechanical	Mechanical	03/07/2022	PM22-0170	314 N CLUBVIEW DR	\$0.00	\$105.00
Mechanical	Mechanical	03/07/2022	PM22-0171	6098 COLONY PARK DR	\$0.00	\$75.00
Mechanical	Mechanical	03/04/2022	PM22-0168	1239 LEXINGTON PKWY	\$0.00	\$135.00
Mechanical	Mechanical	03/04/2022	PM22-0169	1918 MARY CATHERINE S	\$0.00	\$75.00
Mechanical	Mechanical	03/02/2022	PM22-0160	5421 PINEVIEW DR	\$0.00	\$120.00
Mechanical	Mechanical	03/08/2022	PM16-0826	1308 N HURON RIVER DR	\$0.00	\$50.00
Mechanical	Mechanical	03/08/2022	PM22-0176	7259 RICHMOND DR	\$0.00	\$85.00
Mechanical	Mechanical	03/08/2022	PM22-0076	6934 POPLAR DR	\$0.00	\$115.00
Mechanical	Mechanical	03/09/2022	PM22-0177	735 LAMAY AVE	\$0.00	\$75.00
Mechanical	Mechanical	03/10/2022	PM22-0180	5598 CARY DR	\$0.00	\$128.00
Mechanical	Mechanical	03/10/2022	PM22-0179	1722 MEADOW WOODS E	\$0.00	\$110.00
Mechanical	Mech/Refrigeration	03/10/2022	PM22-0182	363 OREGON ST	\$0.00	\$275.00
Mechanical	Mech/Refrigeration	03/10/2022	PM22-0181	1181 HULL AVE	\$0.00	\$275.00
Mechanical	Mechanical	03/10/2022	PM22-0184	7262 SPY GLASS LN	\$0.00	\$75.00
Mechanical	Mechanical	03/10/2022	PM22-0183	151 FAIRHILLS DR	\$0.00	\$105.00
Mechanical	Mechanical	03/11/2022	PM22-0185	1797 WASHTENAW RD	\$0.00	\$150.00
Mechanical	Mechanical	03/25/2022	PM22-0212	7512 BERMUDA DUNES D	\$0.00	\$115.00
Mechanical	Mechanical	03/24/2022	PM22-0194	9971 JOAN CIR 173	\$0.00	\$75.00
Mechanical	Mechanical	03/24/2022	PM22-0211	6246 OAKHURST DR	\$0.00	\$95.00
Mechanical	Mech/Refrigeration	03/24/2022	PM22-0210	760 NASH AVE	\$0.00	\$135.00
Mechanical	Mech/Refrigeration	03/23/2022	PM22-0209	306 N CLUBVIEW DR	\$0.00	\$100.00
Mechanical	Mechanical	03/23/2022	PM22-0206	479 BOSTON ST	\$0.00	\$88.00
Mechanical	Mechanical	03/21/2022	PM22-0205	1396 DELAWARE AVE	\$0.00	\$135.00
Mechanical	Mechanical	03/23/2022	PM22-0132	6648 E SUMMERDALE CIR	\$0.00	\$98.00
Mechanical	Mechanical	03/22/2022	PM22-0203	5693 HUNTINGTON CT	\$0.00	\$143.00
Mechanical	Mech/Refrigeration	03/22/2022	PM22-0178	9714 WHITE TAIL DR	\$0.00	\$215.00
Mechanical	Mechanical	03/23/2022	PM22-0208	9422 MAPLELAWN CT	\$0.00	\$75.00
Mechanical	Mechanical	03/28/2022	PM22-0222	2830 WASHTENAW RD	\$0.00	\$385.00
Mechanical	Mechanical	03/25/2022	PM22-0217	121 DEVONSHIRE RD	\$0.00	\$90.00

Mechanical	Mechanical	03/28/2022	PM22-0221	9733 WHITE TAIL DR	\$0.00	\$245.00
Mechanical	Mechanical	03/28/2022	PM22-0220	9715 WHITE TAIL DR	\$0.00	\$258.00
Mechanical	Mechanical	03/28/2022	PM22-0218	9431 MAPLELAWN CT	\$0.00	\$258.00
Mechanical	Mechanical	03/28/2022	PM22-0219	9434 MAPLELAWN CT	\$0.00	\$258.00
Mechanical	Mechanical	03/28/2022	PM22-0216	7208 PAMELA DR	\$0.00	\$115.00
Mechanical	Mechanical	03/28/2022	PM22-0215	8026 EDEN CT	\$0.00	\$115.00
Mechanical	Mechanical	03/28/2022	PM22-0214	7293 MAPLELAWN DR	\$0.00	\$115.00
Mechanical	Mechanical	03/28/2022	PM22-0223	1242 SHIRLEY DR	\$0.00	\$110.00
Mechanical	Mechanical	03/29/2022	PM22-0224	2271 PACKARD RD	\$0.00	\$75.00
Mechanical	Mechanical	03/30/2022	PM22-0225	8839 LILLY DR	\$0.00	\$75.00
Mechanical	Mechanical	03/31/2022	PM22-0231	937 N TERRACE LN	\$0.00	\$135.00
Mechanical	Mechanical	03/31/2022	PM22-0233	1238 RUSSELL LAUNDRY	\$0.00	\$75.00
Mechanical	Mechanical	03/31/2022	PM22-0234	131 RUSSELL CT	\$0.00	\$75.00
Mechanical	Mechanical	03/31/2022	PM22-0235	195 RUSSELL BLVD	\$0.00	\$75.00
Mechanical	Mechanical	03/31/2022	PM22-0236	150 RUSSELL BLVD	\$0.00	\$75.00
Mechanical	Mechanical	03/29/2022	PM22-0226	1299 HUNTER AVE	\$0.00	\$75.00
Mechanical	Mechanical	03/31/2022	PM22-0242	1315 W MICHIGAN AVE	\$0.00	\$115.00
Plumbing	Plumbing	03/31/2022	PP22-0113	601 BAGLEY AVE	\$0.00	\$75.00
Plumbing	Plumbing	03/30/2022	PP22-0139	649 DUBIE AVE	\$0.00	\$75.00
Plumbing	Plumbing	03/31/2022	PP22-0142	6156 S MIAMI ST	\$0.00	\$75.00
Plumbing	Plumbing	03/29/2022	PP22-0134	2005 MERRILL AVE 5	\$0.00	\$75.00
Plumbing	Plumbing	03/29/2022	PP22-0135	2005 MERRILL AVE 9	\$0.00	\$75.00
Plumbing	Plumbing	03/29/2022	PP22-0133	2005 MERRILL AVE 1	\$0.00	\$77.00
Plumbing	Plumbing	03/29/2022	PP22-0136	2025 MERRILL AVE 2	\$0.00	\$75.00
Plumbing	Plumbing	03/29/2022	PP22-0137	2025 MERRILL AVE 6	\$0.00	\$75.00
Plumbing	Plumbing	03/29/2022	PP22-0138	2025 MERRILL AVE 10	\$0.00	\$75.00
Plumbing	Plumbing	03/29/2022	PP22-0132	1175 HAWTHORNE AVE	\$0.00	\$75.00
Plumbing	Plumbing	03/25/2022	PP22-0128	2997 WASHTENAW RD	\$0.00	\$90.00
Plumbing	Plumbing	03/29/2022	PP22-0129	72 JEROME AVE	\$0.00	\$75.00
Plumbing	Plumbing	03/28/2022	PP22-0127	1200 JOE HALL DR	\$0.00	\$105.00
Plumbing	Plumbing	03/28/2022	PP22-0131	1242 SHIRLEY DR	\$0.00	\$83.00
Plumbing	Plumbing	03/28/2022	PP22-0130	6265 BOYNE DR	\$0.00	\$75.00
Plumbing	Plumbing	03/28/2022	PP22-0114	1436 LEVONA ST	\$0.00	\$75.00
Plumbing	Plumbing	03/28/2022	PP22-0082	9168 PARKLAND DR	\$0.00	\$75.00

Plumbing	Plumbing	03/28/2022	PP22-0081	7243 OAKRIDGE DR	\$0.00	\$75.00
Plumbing	Plumbing	03/28/2022	PP22-0080	8980 PARKLAND DR	\$0.00	\$75.00
Plumbing	Plumbing	03/28/2022	PP22-0125	8839 LILLY DR	\$0.00	\$83.00
Plumbing	Plumbing	03/23/2022	PP22-0123	306 N CLUBVIEW DR	\$0.00	\$75.00
Plumbing	Plumbing	03/24/2022	PP22-0124	1014 PARKWOOD AVE	\$0.00	\$75.00
Plumbing	Plumbing	03/24/2022	PP22-0117	9971 JOAN CIR 173	\$0.00	\$75.00
Plumbing	Plumbing	03/24/2022	PP22-0126	865 CLIFFS DR 202B	\$0.00	\$90.00
Plumbing	Plumbing	03/11/2022	PP22-0111	520 BAGLEY AVE	\$0.00	\$134.00
Plumbing	Plumbing	03/11/2022	PP22-0112	1123 LEXINGTON PKWY	\$0.00	\$75.00
Plumbing	Plumbing	03/10/2022	PP22-0110	238 S CLUBVIEW DR	\$0.00	\$75.00
Plumbing	Plumbing	03/10/2022	PP22-0108	1181 HULL AVE	\$0.00	\$188.00
Plumbing	Plumbing	03/09/2022	PP22-0109	1330 ELLIS RD	\$0.00	\$127.00
Plumbing	Plumbing	03/08/2022	PP22-0107	7632 DOVER DR	\$0.00	\$145.00
Plumbing	Plumbing	03/04/2022	PP22-0104	117 EDISON AVE	\$0.00	\$129.00
Plumbing	Plumbing	03/04/2022	PP22-0106	361 N HEWITT RD	\$0.00	\$75.00
Plumbing	Plumbing	03/04/2022	PP22-0105	771 WOOD CREEK CT	\$0.00	\$75.00
Plumbing	Plumbing	03/01/2022	PP22-0067	6081 CHERRYWOOD DR	\$0.00	\$75.00
Plumbing	Plumbing	03/02/2022	PP22-0102	4805 MUNGER RD	\$0.00	\$75.00
Plumbing	Plumbing	03/22/2022	PP22-0120	3000 WILLIAM AVE	\$0.00	\$95.00
Plumbing	Plumbing	03/21/2022	PP22-0121	2150 BURNS AVE	\$0.00	\$75.00
Plumbing	Plumbing	03/15/2022	PP22-0115	3127 SOUTHLAWN ST	\$0.00	\$308.00
Plumbing	Plumbing	03/15/2022	PP22-0079	1319 DUNCAN AVE	\$0.00	\$75.00
Plumbing	Plumbing	03/15/2022	PP22-0118	6246 OAKHURST DR	\$0.00	\$152.00
Plumbing	Plumbing	03/15/2022	PP22-0103	5849 BIG PINE DR	\$0.00	\$75.00
Plumbing	Plumbing	03/18/2022	PP22-0116	5950 BIG PINE DR	\$0.00	\$75.00
Res - Basement finish	Res - Basement finish	03/07/2022	PB22-0160	1242 SHIRLEY DR	\$18,000.00	\$250.00
Res - Basement finish	Res - Basement finish	03/24/2022	PB22-0199	7585 CARLTON DR	\$35,000.00	\$435.00
Res - Deck	Res Deck	03/24/2022	PB22-0221	5949 HUNTINGTON DR	\$0.00	\$100.00
Res - Deck	Res Deck	03/28/2022	PB22-0227	7401 GREENFIELD ST	\$12,973.00	\$200.00
Res - Deck	Res Deck	03/30/2022	PB22-0224	5469 MICHAEL DR	\$0.00	\$0.00
Res - Deck	Res Deck	03/31/2022	PB22-0233	8861 CREEKWAY DR	\$9,000.00	\$160.00
Res - Deck	Res Deck	03/31/2022	PB22-0239	9427 WHITE TAIL DR	\$11,000.00	\$180.00
Res - Deck	Res Deck	03/09/2022	PB22-0131	7291 WELLINGTON LN	\$39,000.00	\$460.00
Res - Egress Window	Res - Egress Window	03/09/2022	PB22-0162	7675 TUTTLE HILL RD	\$4,395.00	\$120.00

Res - New Constructic	Res - New Constructic	03/18/2022	PB22-0181	9419 MAPLELAWN CT	\$265,792.00	\$2,988.50
Res - New Constructic	Res - New Constructic	03/18/2022	PB22-0171	9531 BEMIS RD	\$402,468.00	\$4,495.50
Res - New Constructic	Res - New Constructic	03/22/2022	PB22-0201	10061 SWAN LAKE CIR	\$158,860.00	\$1,811.50
Res - New Constructic	Res - New Constructic	03/22/2022	PB22-0202	10073 SWAN LAKE CIR	\$174,902.00	\$1,987.50
Res - New Constructic	Res - New Constructic	03/22/2022	PB22-0203	10110 SWAN LAKE CIR	\$158,860.00	\$1,811.50
Res - New Constructic	Res - New Constructic	03/22/2022	PB22-0204	10098 SWAN LAKE CIR	\$174,902.00	\$1,987.50
Res - New Constructic	Res - New Constructic	03/25/2022	PB22-0205	10109 SWAN LAKE CIR	\$158,860.00	\$1,811.50
Res - Roof	Res - Roof	03/25/2022	PB22-0229	7465 MEADOW LN	\$13,949.00	\$185.00
Res - Roof	Res - Roof	03/28/2022	PB22-0237	6915 HITCHINGHAM RD	\$12,500.00	\$175.00
Res - Roof	Res - Roof	03/29/2022	PB22-0217	7874 BUNTON RD	\$20,940.00	\$270.00
Res - Roof	Res - Roof	03/23/2022	PB22-0218	7981 E MEADOWVIEW CT	\$9,900.00	\$145.00
Res - Roof	Res - Roof	03/23/2022	PB22-0220	7526 CARLTON DR	\$9,010.00	\$145.00
Res - Roof	Res - Roof	03/24/2022	PB22-0223	801 CAMPBELL AVE - BLD	\$30,000.00	\$345.00
Res - Roof	Res - Roof	03/24/2022	PB22-0222	162 OHIO ST	\$7,800.00	\$125.00
Res - Roof	Res - Roof	03/29/2022	PB22-0240	7942 FAIRCREST DR	\$0.00	\$175.00
Res - Roof	Res - Roof	03/29/2022	PB22-0236	7968 RAINTREE DR	\$14,163.00	\$195.00
Res - Roof	Res - Roof	03/31/2022	PB22-0244	1294 HULL AVE	\$15,235.00	\$205.00
Res - Roof	Res - Roof	03/31/2022	PB22-0186	7733 BERWICK DR	\$5,500.00	\$105.00
Res - Roof	Res - Roof	03/30/2022	PB22-0241	2257 COLONY WAY	\$7,604.00	\$140.00
Res - Roof	Res - Roof	03/23/2022	PB22-0219	914 E CLARK RD	\$25,642.00	\$305.00
Res - Roof	Res - Roof	03/18/2022	PB22-0198	8120 LAKE CREST DR	\$10,725.00	\$155.00
Res - Roof	Res - Roof	03/21/2022	PB22-0209	5944 PARVIEW DR	\$16,950.00	\$215.00
Res - Roof	Res - Roof	03/17/2022	PB22-0192	8104 LAKE CREST DR	\$22,252.00	\$275.00
Res - Roof	Res - Roof	03/17/2022	PB22-0189	1275 HIGHLAND CT	\$6,399.00	\$115.00
Res - Roof	Res - Roof	03/17/2022	PB22-0191	1068 E FOREST AVE	\$4,981.00	\$95.00
Res - Roof	Res - Roof	03/17/2022	PB22-0190	6134 S IVANHOE AVE	\$7,524.00	\$125.00
Res - Roof	Res - Roof	03/14/2022	PB22-0184	5441 NEW MEADOW DR	\$20,523.00	\$255.00
Res - Roof	Res - Roof	03/14/2022	PB22-0178	530 N IVANHOE AVE	\$0.00	\$275.00
Res - Roof	Res - Roof	03/08/2022	PB22-0169	562 BROOKSIDE ST	\$12,510.00	\$175.00
Res - Roof	Res - Roof	03/10/2022	PB22-0177	7250 SPY GLASS LN	\$9,779.00	\$145.00
Res - Roof	Res - Roof	03/11/2022	PB22-0179	1688 RUSSELL ST	\$5,400.00	\$120.00
Res - Roof	Res - Roof	03/11/2022	PB22-0180	8794 AMARANTH LN	\$0.00	\$220.00
Res - Roof	Res - Roof	03/10/2022	PB22-0170	1181 HULL AVE	\$7,387.00	\$125.00
Res - Roof	Res - Roof	03/10/2022	PB22-0174	7487 STREAMWOOD DR	\$11,300.00	\$165.00

Res - Roof	Res - Roof	03/07/2022	PB22-0165	7110 FIELDING ST	\$10,350.00	\$155.00
Res - Roof	Res - Roof	03/04/2022	PB22-0137	505 HOLMES RD	\$9,735.00	\$145.00
Res - Windows	Res - Windows	03/03/2022	PB22-0159	5194 BRECKENRIDGE DR	\$4,265.00	\$95.00
Res - Windows	Res - Windows	03/03/2022	PB22-0156	1349 HAWTHORNE AVE	\$6,160.00	\$115.00
Res - Windows	Res - Windows	03/10/2022	PB22-0175	5654 HUNTINGTON CT	\$3,932.00	\$85.00
Res - Windows	Res - Windows	03/14/2022	PB22-0182	5466 SCOTT CT	\$0.00	\$135.00
Res - Windows	Res - Windows	03/14/2022	PB22-0183	7949 STONY CREEK RD	\$0.00	\$185.00
Res - Windows	Res - Windows	03/16/2022	PB22-0161	2916 ROUNDTREE BLVD	\$0.00	\$95.00
Res - Windows	Res - Windows	03/16/2022	PB22-0163	1045 ROWLEY CT	\$0.00	\$125.00
Res - Windows	Res - Windows	03/25/2022	PB22-0166	24 EDISON AVE	\$8,813.00	\$135.00
Res - Windows	Res - Windows	03/28/2022	PB22-0230	1410 W MICHIGAN AVE	\$5,429.00	\$105.00
Res - Windows	Res - Windows	03/28/2022	PB22-0206	8886 TRILLIUM DR	\$14,700.00	\$195.00
Res - Windows	Res - Windows	03/28/2022	PB22-0234	1495 ELLIS RD	\$19,783.00	\$245.00
Sign	Com Sign	03/24/2022	PS22-0006	1637 HOLMES	\$0.00	\$170.00
Sign	Com Sign	03/21/2022	PS22-0001	2562 E MICHIGAN AVE	\$0.00	\$140.00
Zoning	Zoning - Fence	03/21/2022	PZP22-0018	6765 HITCHINGHAM RD	\$0.00	\$50.00
Zoning	Zoning - Fence	03/18/2022	PZP22-0016	956 HOLMES RD	\$0.00	\$50.00
Zoning	Zoning - Fence	03/18/2022	PZP22-0009	7434 LOCHMOOR DR	\$0.00	\$50.00
Zoning	Zoning - Fence	03/15/2022	PZP22-0017	5607 CARY DR	\$0.00	\$50.00
Zoning	Zoning - Fence	03/10/2022	PZP22-0011	6320 OAKBROOK DR	\$0.00	\$50.00
Zoning	Zoning - Fence	03/03/2022	PZP22-0012	7354 ROYAL TROON DR	\$0.00	\$50.00
Zoning	Zoning - Shed	03/03/2022	PZP22-0014	7295 STREAMWOOD DR	\$0.00	\$50.00
Zoning	Zoning - Fence	03/07/2022	PZP21-0123	9520 NATURE VIEW LN	\$0.00	\$50.00
Zoning	Zoning - Fence	03/28/2022	PZP22-0013	2810 SOUTHLAWN ST	\$0.00	\$50.00
Zoning	Zoning - Fence	03/28/2022	PZP22-0019	1320 WARNER ST	\$0.00	\$50.00
					\$2,487,466.00	\$55,671.00

March 2022 Certificates of Occupancy

C O Number	Address Display String	Status	Date Temp Issued	Date Finaled
OF22-0010	251 S WALLACE BLVD	ISSUED (FINAL)		03/16/2022
OF22-0011	7262 SPY GLASS LN	ISSUED (FINAL)		03/16/2022
OT22-0010	9607 WHITE TAIL DR	ISSUED (TEMP)	03/02/2022	
OT22-0011	1950 HOLMES RD	ISSUED (TEMP)	02/28/2022	
OT22-0012	10281 SWAN LAKE CIR	ISSUED (TEMP)	03/23/2022	
OT22-0013	6709 MAPLELAWN DR	READY TO ISSUE		
OT22-0014	6715 MAPLELAWN DR	ISSUED (TEMP)	03/23/2022	
OT22-0015	6721 MAPLELAWN DR	ISSUED (TEMP)	03/31/2022	
OT22-0016	6704 MAPLELAWN DR	HOLD (PREREQ)		
OT22-0017	9660 WHITE TAIL DR	HOLD (PREREQ)		
OT22-0018	9643 WHITE TAIL DR	HOLD (PREREQ)		
OT22-0019	3050 WASHTENAW RD	ISSUED (TEMP)	03/29/2022	

RENTAL HOUSING CERTIFICATES ISSUED

2022 MARCH

Cert Type	Cert Number	Date Issued	Address Display String
Multi-Family Rental Inspection	CMFR-20-1337	03/29/2022	1428 VILLAGE LN BLDG 8
Rental 24	CSFR-21-0897	03/29/2022	1033 HAWTHORNE AVE
Rental 24	CSFR-22-0402	03/29/2022	1493 E CHATEAU VERT ST APT H
Rental 24	CSFR-21-1342	03/30/2022	255 KIRK ST
Rental 24	CSFR-21-1280	03/31/2022	1371 GATTEGNO ST
Rental 24	CSFR-21-0879	03/03/2022	37 OHIO ST
Rental 24	CSFR-21-1216	03/07/2022	6237 MAPLEHURST DR
Rental 24	CSFR-21-1300	03/07/2022	50 CAMPBELL AVE
Rental 24	CSFR-21-0350	03/07/2022	1061 HULL AVE
Rental 24	CSFR-19-1352	03/08/2022	1148 SHARE AVE
Rental 24	CSFR-21-0593	03/09/2022	1179 SHARE AVE
Rental 24	CSFR-19-0364	03/10/2022	1644 PARKWOOD AVE
Rental 24	CSFR-21-1299	03/14/2022	1051 DESOTO AVE
Rental 24	CSFR-21-1331	03/14/2022	2326 SUNNYGLEN AVE
Rental 24	CSFR-21-0665	03/15/2022	590 KANSAS AVE
Rental 24	CSFR-21-1153	03/15/2022	1453 WINGATE BLVD
Rental 24	CSFR-21-1223	03/15/2022	1484 GAIL CT
Rental 24	CSFR-21-0924	03/16/2022	570 KANSAS AVE
Rental 24	CSFR-21-1413	03/16/2022	1957 CHEVROLET AVE
Rental 24	CSFR-22-0304	03/16/2022	78 DEVONSHIRE RD
Rental 24	CSFR-21-1246	03/16/2022	760 EUGENE ST
Rental 24	CSFR-21-1272	03/16/2022	998 E FOREST AVE
Rental 24	CSFR-21-0534	03/17/2022	1391 HARRY ST
Rental 24	CSFR-21-1212	03/17/2022	2842 ROUNDTREE BLVD
Rental 24	CSFR-21-1217	03/17/2022	1563 WINGATE BLVD
Rental 24	CSFR-19-1531	03/18/2022	1459 E CHATEAU VERT E ST
Rental 24	CSFR-21-0225	03/18/2022	1442 DESOTO AVE
Rental 24	CSFR-21-1202	03/18/2022	1230 CANDLEWOOD LN
Rental 24	CSFR-21-1374	03/18/2022	9595 ENDICOTT LN
Rental 24	CSFR-21-1435	03/21/2022	1267 HULL AVE
Rental 24	CSFR-21-0406	03/22/2022	1970 E MICHIGAN AVE
Rental 24	CSFR-21-1092	03/22/2022	1495 ANDREA ST
Rental 24	CSFR-21-1229	03/22/2022	1345 RAMBLING RD
Rental 24	CSFR-21-1343	03/22/2022	1627 FOLEY AVE
Rental 24	CSFR-21-1156	03/23/2022	7875 BRIARBROOK DR
Rental 24	CSFR-21-1206	03/23/2022	1650 BAILEY ST
Rental 24	CSFR-21-1209	03/23/2022	602 GILL ST
Rental 24	CSFR-21-1241	03/23/2022	729 LAMAY AVE
Rental 24	CSFR-21-1242	03/23/2022	2088 WOODALE AVE
Rental 24	CSFR-21-1243	03/23/2022	222 KIRK ST
Rental 24	CSFR-21-1384	03/23/2022	753 CLUBHOUSE DR
Rental 24	CSFR-21-0180	03/24/2022	456 HAYES ST
Rental 24	CSFR-21-1220	03/25/2022	7920 HITCHINGHAM RD

Rental 24

CSFR-21-1208

03/28/2022

969 PARKWOOD AVE



VACANT STRUCTURE APPLICATIONS

2022 MARCH

Cert Type	Cert Number	Date Applied	Address Display String
Vacant Commercial Building	CVC-22-0001	03/03/2022	1601 E MICHIGAN AVE
Vacant Residential	CVR-22-0013	03/01/2022	1510 MELVIN ST
Vacant Residential	CVR-22-0014	03/04/2022	9817 WOODLAND CT
Vacant Residential	CVR-22-0015	03/04/2022	9699 HARBOUR COVE CT
Vacant Residential	CVR-22-0016	03/21/2022	7402 RED BIRD DR
Vacant Residential	CVR-22-0017	03/28/2022	1022 COLEMAN ST
Vacant Residential	CVR-22-0018	03/30/2022	1336 DESOTO AVE

NEW CODE ENFORCEMENT CASES

2022 MARCH

Enforcement Num	Category	Date Filed	Subdivision	Address Display String
EN22-0365	Rental - Unregistered	03/01/2022	THURSTON AREA	96 DEVONSHIRE RD
EN22-0366	Parking	03/01/2022	WEST WILLOW	1081 STUDEBAKER AVE
EN22-0367	Parking	03/01/2022	WEST WILLOW	773 DORSET AVE
EN22-0368	Blight	03/01/2022	WEST WILLOW	1098 STUDEBAKER AVE
EN22-0369	Blight	03/01/2022	WEST WILLOW	1343 JEFF ST
EN22-0370	Solid Waste	03/01/2022	OAKLAWN/HAWTHORNE AREA	563 KANSAS AVE
EN22-0371	Solid Waste	03/01/2022	SUGARBROOK AREA	1361 HARRY ST
EN22-0372	Pre-Permit Inspection	03/01/2022	THURSTON AREA	1635 PARKWOOD AVE
EN22-0373	Property Maintenance - N	03/01/2022	WEST WILLOW	1054 NASH AVE
EN22-0374	Blight	03/01/2022	WEST WILLOW	562 EUGENE ST
EN22-0375	Rental - Unregistered	03/01/2022	WEST WILLOW	578 EUGENE ST
EN22-0376	Solid Waste	03/01/2022	WEST WILLOW	1427 GLENGROVE AVE
EN22-0377	Property Maintenance	03/01/2022	WEST WILLOW	1028 WOODGLEN AVE
EN22-0378	Property Maintenance	03/01/2022	SUGARBROOK AREA	1649 S HARRIS RD
EN22-0379	Solid Waste	03/02/2022	HEWITT ROAD AREA	218 VALLEY DR
EN22-0380	Parking	03/02/2022	WEST WILLOW	554 EUGENE ST
EN22-0381	Vacant Property/Building	03/02/2022	SOUTH DISTRICT	6117 STONY CREEK RD
EN22-0382	Blight	03/02/2022	SUGARBROOK AREA	1471 ANDREA ST
EN22-0383	Blight	03/02/2022	WEST WILLOW	1659 S PASADENA ST
EN22-0384	Blight	03/02/2022	WEST WILLOW	508 DESOTO AVE
EN22-0385	Blight	03/02/2022	APPLERIDGE AREA	2755 PEACHCREST ST
EN22-0386	Parking	03/02/2022	GAULT VILLAGE AREA	1168 EVELYN AVE
EN22-0387	Blight	03/02/2022	OAKLAWN/HAWTHORNE AREA	540 MONTREAL AVE
EN22-0388	Blight	03/03/2022	GAULT VILLAGE AREA	1323 SHIRLEY DR
EN22-0389	Parking	03/03/2022	OAKLAWN/HAWTHORNE AREA	541 GREENLAWN ST
EN22-0390	Solid Waste	03/03/2022	OAKLAWN/HAWTHORNE AREA	600 KANSAS AVE
EN22-0391	Blight	03/03/2022	SOUTH DISTRICT	7866 LAKE CREST DR
EN22-0392	Parking	03/03/2022	WEST WILLOW	654 NASH AVE
EN22-0393	Blight	03/03/2022	SOUTH DISTRICT	8525 CRESCENT LN

EN22-0394	Parking	03/03/2022	WEST WILLOW	672 NASH AVE
EN22-0395	Property Maintenance	03/03/2022	THURSTON AREA	1635 PARKWOOD AVE
EN22-0396	Parking	03/03/2022	WEST WILLOW	554 NASH AVE
EN22-0397	Blight	03/03/2022	SUGARBROOK AREA	1385 ANDREA ST
EN22-0398	Blight	03/03/2022		2500 HOLMES RD
EN22-0399	Assist General	03/04/2022	SOUTH DISTRICT	7200 S Huron River-Inspectors DR
EN22-0400	Solid Waste	03/04/2022	HEWITT ROAD AREA	1968 BURNS AVE
EN22-0401	Solid Waste	03/04/2022	APPLERIDGE AREA	2815 WOODRUFF LN
EN22-0402	Solid Waste	03/04/2022	SOUTH DISTRICT	5635 NEW MEADOW DR
EN22-0403	Multiple	03/04/2022	HEWITT ROAD AREA	2443 DRAPER AVE
EN22-0404	Solid Waste	03/04/2022	SOUTH DISTRICT	7099 STREAMWOOD DR
EN22-0404	Property Maintenance - N	03/04/2022	WEST WILLOW	777 DODGE CT
EN22-0405	Property Maintenance	03/04/2022	SUGARBROOK AREA	1457 HARRY ST
EN22-0406	Parking	03/04/2022	GAULT VILLAGE AREA	1174 EVELYN AVE
EN22-0407	Collection Box	03/04/2022		2850 WASHTENAW RD
EN22-0408	Multiple	03/04/2022	SOUTH DISTRICT	7200 S Huron River-Inspectors DR
EN22-0409	Property Maintenance	03/04/2022		1712 TIMBER RDG
EN22-0410	Parking	03/04/2022	WEST WILLOW	640 EUGENE ST
EN22-0411	Solid Waste	03/04/2022	LAKEVIEW AREA	1715 SMITH ST
EN22-0412	Blight	03/04/2022	LAY GARDENS AREA	1392 HOLMES RD
EN22-0413	Solid Waste	03/04/2022	LAY GARDENS AREA	798 N FORD BLVD
EN22-0414	Solid Waste	03/07/2022	WEST WILLOW	1026 LORI ST
EN22-0415	Blight	03/07/2022	HOLMES ROAD AREA	1230 CANDLEWOOD LN
EN22-0416	Property Maintenance	03/07/2022		346 BEDFORD DR
EN22-0417	Parking	03/07/2022	SOUTH DISTRICT	7893 LAKE CREST DR
EN22-0418	Blight	03/07/2022	GAULT VILLAGE AREA	1252 HULL AVE
EN22-0419	Blight	03/07/2022	LAY GARDENS AREA	626 LYNNE AVE
EN22-0420	Parking	03/07/2022	WEST WILLOW	1364 DESOTO AVE
EN22-0421	Solid Waste	03/07/2022	SUGARBROOK AREA	1701 FOLEY AVE
EN22-0422	Blight	03/07/2022	SOUTH DISTRICT	10675 MARTZ RD
EN22-0423	Parking	03/08/2022	SOUTH DISTRICT	9664 HEREFORD DR
EN22-0424	Parking	03/08/2022	SOUTH DISTRICT	9558 HEREFORD DR
EN22-0425	Solid Waste	03/08/2022	HOLMES ROAD AREA	1472 E CLARK RD
EN22-0426	Solid Waste	03/08/2022	HEWITT ROAD AREA	141 N CLUBVIEW DR

EN22-0427	Solid Waste	03/08/2022	SOUTH DISTRICT	7319 SPY GLASS LN
EN22-0428	Solid Waste	03/08/2022	HOLMES ROAD AREA	1360 E CLARK RD
EN22-0429	Solid Waste	03/08/2022	SOUTH DISTRICT	7148 HOMESTEAD RD
EN22-0430	Blight	03/08/2022	LAKEVIEW AREA	2041 MCCARTNEY AVE
EN22-0431	Solid Waste	03/08/2022	THURSTON AREA	273 KANSAS AVE
EN22-0432	Zoning	03/08/2022		1075 EMERICK ST
EN22-0433	Blight	03/08/2022	SUGARBROOK AREA	1640 FOLEY AVE
EN22-0434	Solid Waste	03/08/2022	LAY GARDENS AREA	1386 E FOREST AVE
EN22-0435	Blight	03/08/2022	SOUTH DISTRICT	8525 CRESCENT LN
EN22-0436	Blight	03/08/2022	OAKLAWN/HAWTHORNE AREA	660 GILL ST
EN22-0437	Blight	03/08/2022	OAKLAWN/HAWTHORNE AREA	533 KANSAS AVE
EN22-0438	Rental - Unregistered	03/09/2022	SOUTH DISTRICT	9516 WELLINGTON CT
EN22-0439	Blight	03/09/2022	THURSTON AREA	410 OREGON ST
EN22-0440	Assist Attorney	03/09/2022	WEST WILLOW	1028 STUDEBAKER AVE
EN22-0441	Solid Waste	03/09/2022	GAULT VILLAGE AREA	1215 SHARE AVE
EN22-0442	Property Maintenance	03/09/2022	LAY GARDENS AREA	109 JOHNSON ST
EN22-0443	Multiple	03/10/2022	HOLMES ROAD AREA	1311 CANDLEWOOD LN
EN22-0444	Parking	03/10/2022	SOUTH DISTRICT	7722 OXFORD CT
EN22-0445	Blight	03/10/2022	WEST WILLOW	1094 NASH AVE
EN22-0446	Solid Waste	03/10/2022	OAKLAWN/HAWTHORNE AREA	590 KENNEDY AVE
EN22-0447	Parking	03/10/2022	WEST WILLOW	1405 DESOTO AVE
EN22-0448	Solid Waste	03/11/2022	THURSTON AREA	348 OHIO ST
EN22-0449	Multiple	03/11/2022	LAY GARDENS AREA	553 LYNNE AVE
EN22-0450	Zoning	03/11/2022	SOUTH DISTRICT	7006 REGENT DR
EN22-0451	Blight	03/11/2022	LAY GARDENS AREA	630 LYNNE AVE
EN22-0452	Parking	03/14/2022	SOUTH DISTRICT	9664 HEREFORD DR
EN22-0453	Blight	03/14/2022	SOUTH DISTRICT	6920 WHITTAKER RD
EN22-0454	Property Maintenance - N	03/14/2022	LAY GARDENS AREA	580 HOLLIS AVE
EN22-0455	Solid Waste	03/14/2022	SOUTH DISTRICT	7287 COLCHESTER LN
EN22-0456	Property Maintenance	03/14/2022	SOUTH DISTRICT	2064 WHITTAKER BLDG F
EN22-0457	Solid Waste	03/14/2022	WEST WILLOW	1834 TYLER RD
EN22-0458	Solid Waste	03/14/2022	WEST WILLOW	1355 DESOTO AVE
EN22-0459	Solid Waste	03/15/2022	HOLMES ROAD AREA	1321 WENDELL AVE
EN22-0460	Blight	03/15/2022	OAKLAWN/HAWTHORNE AREA	576 MONTREAL AVE

EN22-0461	Parking	03/15/2022	HOLMES ROAD AREA	1188 FALL RIVER RD
EN22-0462	Multiple	03/15/2022	APPLERIDGE AREA	2714 PEACHCREST ST
EN22-0463	Multiple	03/15/2022	APPLERIDGE AREA	2841 APPLERIDGE ST
EN22-0464	Parking	03/15/2022	APPLERIDGE AREA	2880 APPLERIDGE ST
EN22-0465	Multiple	03/15/2022	HEWITT ROAD AREA	80 EDISON AVE
EN22-0466	Solid Waste	03/15/2022	WEST WILLOW	530 EUGENE ST
EN22-0467	Rental - Unregistered	03/15/2022	HOLMES ROAD AREA	1251 LEXINGTON PKWY
EN22-0468	Property Maintenance - N	03/15/2022	LAY GARDENS AREA	2304 HOLMES RD
EN22-0469	Multiple	03/15/2022	HOLMES ROAD AREA	1251 LEXINGTON PKWY
EN22-0470	Solid Waste	03/15/2022	WEST WILLOW	578 EUGENE ST
EN22-0471	Solid Waste	03/15/2022	WEST WILLOW	586 EUGENE ST
EN22-0472	Rental - Unregistered	03/15/2022	SUGARBROOK AREA	1848 HEATHERRIDGE ST
EN22-0473	Solid Waste	03/16/2022	HEWITT ROAD AREA	339 N HEWITT RD
EN22-0474	Property Maintenance	03/16/2022	GAULT VILLAGE AREA	1074 RUTH AVE
EN22-0475	Vacant Property/Building	03/16/2022	GAULT VILLAGE AREA	1110 RUTH AVE
EN22-0476	Rental - Unregistered	03/16/2022	THURSTON AREA	1656 PARKWOOD AVE
EN22-0477	Solid Waste	03/16/2022	WEST WILLOW	740 CALDER AVE
EN22-0478	Blight	03/16/2022	HOLMES ROAD AREA	1251 CANDLEWOOD LN
EN22-0479	Blight	03/16/2022	SOUTH DISTRICT	7920 HITCHINGHAM RD
EN22-0480	Parking	03/17/2022	OAKLAWN/HAWTHORNE AREA	520 KENNEDY AVE
EN22-0481	Multiple	03/17/2022	SOUTH DISTRICT	7200 S Huron River-Inspectors DR
EN22-0482	Solid Waste	03/17/2022	WEST WILLOW	689 CAYUGA AVE
EN22-0483	Liquor Inspection	03/17/2022		2433 E MICHIGAN AVE
EN22-0484	Liquor Inspection	03/17/2022		1507 HOLMES RD
EN22-0485	Liquor Inspection	03/17/2022		2375 GROVE RD
EN22-0486	Parking	03/17/2022	SOUTH DISTRICT	7921 CREEK BEND DR
EN22-0487	Liquor Inspection	03/17/2022		2190 W MICHIGAN AVE
EN22-0488	Liquor Inspection	03/17/2022		5970 BRIDGE RD
EN22-0489	Liquor Inspection	03/17/2022		1645 HOLMES
EN22-0490	Liquor Inspection	03/17/2022		9035 TEXTILE RD
EN22-0491	Liquor Inspection	03/17/2022		3150 W MICHIGAN AVE
EN22-0492	Multiple	03/17/2022	SOUTH DISTRICT	6238 EAGLE TRACE DR
EN22-0493	Liquor Inspection	03/17/2022		1521 HOLMES RD
EN22-0494	Liquor Inspection	03/17/2022		1100 SHARE AVE

EN22-0495	Liquor Inspection	03/17/2022		233 S FORD BLVD
EN22-0496	Liquor Inspection	03/17/2022	APPLERIDGE AREA	1278 RIDGE RD
EN22-0497	Liquor Inspection	03/17/2022		2190 RAWSONVILLE RD
EN22-0498	Liquor Inspection	03/17/2022		1767 S HURON ST
EN22-0499	Liquor Inspection	03/17/2022		2200 ELLSWORTH
EN22-0500	Liquor Inspection	03/17/2022		3344 GROVE RD
EN22-0501	Liquor Inspection	03/17/2022	LAY GARDENS AREA	1395 E MICHIGAN AVE
EN22-0502	Liquor Inspection	03/17/2022		4 N HEWITT RD
EN22-0503	Liquor Inspection	03/17/2022		2985 WASHTENAW RD
EN22-0504	Liquor Inspection	03/17/2022		10131 TEXTILE RD
EN22-0505	Liquor Inspection	03/17/2022		2151 WASHTENAW RD
EN22-0506	Liquor Inspection	03/17/2022	SOUTH DISTRICT	6040 RAWSONVILLE RD
EN22-0507	Liquor Inspection	03/17/2022		1415 E MICHIGAN AVE
EN22-0508	Liquor Inspection	03/17/2022		528 E CLARK RD
EN22-0509	Liquor Inspection	03/17/2022		1011 E MICHIGAN AVE
EN22-0510	Liquor Inspection	03/17/2022	SOUTH DISTRICT	5408 WHITTAKER RD
EN22-0511	Liquor Inspection	03/17/2022	SOUTH DISTRICT	2010 WHITTAKER (KROGER) RD
EN22-0512	Liquor Inspection	03/17/2022		1424 ECORSE RD
EN22-0513	Liquor Inspection	03/17/2022		2065 GOLFSIDE RD
EN22-0514	Liquor Inspection	03/17/2022	OAKLAWN/HAWTHORNE AREA	1166 ECORSE RD
EN22-0515	Liquor Inspection	03/17/2022		1771 E MICHIGAN AVE
EN22-0516	Blight	03/17/2022	HOLMES ROAD AREA	1252 PAGEANT AVE
EN22-0517	Property Maintenance - N	03/17/2022	SOUTH DISTRICT	7351 HOMESTEAD RD
EN22-0518	Solid Waste	03/17/2022	SUGARBROOK AREA	1405 GATTEGNO ST
EN22-0519	Solid Waste	03/17/2022	OAKLAWN/HAWTHORNE AREA	901 MAPLEWOOD AVE
EN22-0520	Solid Waste	03/17/2022	SUGARBROOK AREA	1610 CONWAY ST
EN22-0521	Solid Waste	03/17/2022	THURSTON AREA	212 DEVONSHIRE RD
EN22-0522	Zoning	03/18/2022	WEST WILLOW	693 NASH AVE
EN22-0523	Solid Waste	03/18/2022	HEWITT ROAD AREA	305 N HEWITT RD
EN22-0524	Multiple	03/18/2022	LAY GARDENS AREA	798 N FORD BLVD
EN22-0525	Parking	03/18/2022	GAULT VILLAGE AREA	1197 LESTER AVE
EN22-0526	Multiple	03/18/2022	WEST WILLOW	769 CALDER AVE
EN22-0527	Blight	03/18/2022	WEST WILLOW	790 EUGENE ST
EN22-0528	Blight - Fire	03/18/2022	WESTLAWN AREA	480 BERKLEY ST

EN22-0529	Parking	03/18/2022	WEST WILLOW	1062 NASH AVE
EN22-0530	Parking	03/18/2022	OAKLAWN/HAWTHORNE AREA	542 GREENLAWN ST
EN22-0531	Multiple	03/21/2022	WEST WILLOW	554 NASH AVE
EN22-0532	Parking	03/21/2022	WEST WILLOW	600 NASH AVE
EN22-0533	Blight	03/21/2022	WEST WILLOW	1342 JEFF ST
EN22-0534	Blight	03/21/2022	THURSTON AREA	1635 PARKWOOD AVE
EN22-0535	Multiple	03/21/2022	LAY GARDENS AREA	950 HOLMES
EN22-0536	Multiple	03/21/2022	LAY GARDENS AREA	940 HOLMES
EN22-0537	Blight	03/21/2022	WEST WILLOW	1452 JEFF ST
EN22-0538	Blight	03/21/2022	WEST WILLOW	587 EUGENE ST
EN22-0539	Multiple	03/21/2022	BUD/BLOSSOM AREA	1446 BUD AVE
EN22-0540	Blight	03/21/2022	HEWITT ROAD AREA	2436 BURNS AVE
EN22-0541	Parking	03/21/2022	OAKLAWN/HAWTHORNE AREA	570 KANSAS AVE
EN22-0542	Blight	03/21/2022	WEST WILLOW	594 EUGENE ST
EN22-0543	Solid Waste	03/21/2022	HEWITT ROAD AREA	105 VALLEY DR
EN22-0544	Solid Waste	03/21/2022	WEST WILLOW	1185 DESOTO AVE
EN22-0545	Parking	03/21/2022	GAULT VILLAGE AREA	1192 S HARRIS RD
EN22-0546	Solid Waste	03/21/2022	WEST WILLOW	2162 CHEVROLET AVE
EN22-0547	Multiple	03/21/2022	LAY GARDENS AREA	859 LAMAY AVE
EN22-0548	Blight	03/21/2022	HOLMES ROAD AREA	1398 HUNTER AVE
EN22-0549	Rental - Unregistered	03/22/2022	SOUTH DISTRICT	6663 LAKEWAY ST
EN22-0550	Solid Waste	03/22/2022		2375 PARKWOOD AVE
EN22-0551	Blight	03/22/2022		115 HOLMES RD
EN22-0552	Vacant Property/Building	03/22/2022	WEST WILLOW	1148 DESOTO AVE
EN22-0554	Solid Waste	03/22/2022	GAULT VILLAGE AREA	1049 EVELYN AVE
EN22-0555	Solid Waste	03/22/2022	GAULT VILLAGE AREA	1186 EVELYN AVE
EN22-0556	Blight	03/22/2022	WEST WILLOW	2375 SUNNYGLEN AVE
EN22-0557	Solid Waste	03/22/2022	WEST WILLOW	2382 SUNNYGLEN AVE
EN22-0558	Property Maintenance - N	03/22/2022	SOUTH DISTRICT	7343 HOMESTEAD RD
EN22-0559	Multiple	03/22/2022	LAY GARDENS AREA	922 HOLMES RD
EN22-0560	Vacant Property/Building	03/22/2022	WEST WILLOW	2342 SUNNYGLEN AVE
EN22-0561	Solid Waste	03/22/2022	HOLMES ROAD AREA	1434 WENDELL AVE
EN22-0562	Parking	03/23/2022	WEST WILLOW	2345 PINERIDGE CT
EN22-0563	Solid Waste	03/23/2022	GAULT VILLAGE AREA	1191 HULL AVE

EN22-0564	Solid Waste	03/23/2022	WEST WILLOW	790 NASH AVE
EN22-0565	Blight	03/23/2022	THURSTON AREA	247 S HARRIS RD
EN22-0566	Multiple	03/23/2022	WEST WILLOW	1979 TYLER RD
EN22-0567	Property Maintenance	03/24/2022	SOUTH DISTRICT	7626 HENLEY DR
EN22-0568	Solid Waste	03/24/2022	WEST WILLOW	1969 CHEVROLET AVE
EN22-0569	Solid Waste	03/24/2022	APPLERIDGE AREA	2840 WOODRUFF LN
EN22-0570	Solid Waste	03/24/2022	WEST WILLOW	815 DESOTO AVE
EN22-0571	Solid Waste	03/24/2022	APPLERIDGE AREA	2791 WOODRUFF LN
EN22-0572	Blight	03/24/2022	THURSTON AREA	405 DEVONSHIRE RD
EN22-0573	Blight	03/24/2022	WEST WILLOW	1420 JEFF ST
EN22-0574	Multiple	03/24/2022	STEVENS PARK AREA	396 ELDER ST
EN22-0575	Multiple	03/25/2022	LAY GARDENS AREA	1032 E FOREST AVE
EN22-0576	Stop Work Order	03/25/2022		2997 WASHTENAW RD
EN22-0577	Property Maintenance	03/25/2022	SOUTH DISTRICT	5880 WHITTAKER
EN22-0578	Property Maintenance	03/25/2022	CHESTNUT LAKE APARTMENTS	1450 CHESTNUT DR LEASING OF
EN22-0579	Solid Waste	03/25/2022	WEST WILLOW	610 NASH AVE
EN22-0580	Blight	03/25/2022	WEST WILLOW	676 OSWEGO AVE
EN22-0581	Blight	03/25/2022	LAY GARDENS AREA	65 WIARD RD
EN22-0582	Blight	03/28/2022	SOUTH DISTRICT	6010 WHITTAKER RD
EN22-0583	Property Maintenance	03/28/2022		172 RUSSELL CT
EN22-0584	Solid Waste	03/28/2022	OAKLAWN/HAWTHORNE AREA	509 EMERICK ST
EN22-0585	Rental - Unregistered	03/28/2022	HOLMES ROAD AREA	1402 WENDELL AVE
EN22-0586	Solid Waste	03/28/2022	HOLMES ROAD AREA	1124 RAMBLING RD
EN22-0587	Solid Waste	03/28/2022	GAULT VILLAGE AREA	1247 EVELYN AVE
EN22-0588	Blight	03/28/2022	SUGARBROOK AREA	1420 GATTEGNO ST
EN22-0589	Parking	03/29/2022	OAKLAWN/HAWTHORNE AREA	568 GLENWOOD AVE
EN22-0590	Vacant Property/Building	03/29/2022	GAULT VILLAGE AREA	1205 GEORGINA DR
EN22-0591	Vacant Property/Building	03/29/2022	GAULT VILLAGE AREA	1061 RUTH AVE
EN22-0592	Assist Attorney	03/29/2022	SOUTH DISTRICT	8084 CREEK BEND DR
EN22-0593	Parking	03/29/2022	HOLMES ROAD AREA	1220 PAGEANT AVE
EN22-0594	Blight	03/29/2022	WEST WILLOW	1216 WOODGLEN AVE
EN22-0595	Property Maintenance	03/29/2022		172 RUSSELL BLVD
EN22-0596	Zoning	03/29/2022	OAKLAWN/HAWTHORNE AREA	540 KENNEDY AVE
EN22-0597	Blight	03/29/2022	OAKLAWN/HAWTHORNE AREA	539 KENNEDY AVE

EN22-0598	Solid Waste	03/29/2022	OAKLAWN/HAWTHORNE AREA	807 TYLER RD
EN22-0599	Multiple	03/30/2022	GAULT VILLAGE AREA	1361 JAY AVE
EN22-0600	Blight	03/30/2022	GAULT VILLAGE AREA	1380 JAY AVE
EN22-0601	Solid Waste	03/30/2022	SOUTH DISTRICT	7300 WARWICK DR
EN22-0602	Assist General	03/30/2022	GAULT VILLAGE AREA	1370 JEFFERY ST
EN22-0603	Blight	03/31/2022	LAY GARDENS AREA	736 CAMPBELL AVE
EN22-0604	Blight	03/31/2022	THURSTON AREA	1645 PARKWOOD AVE
EN22-0605	Blight	03/31/2022	THURSTON AREA	375 OREGON ST
EN22-0606	Blight	03/31/2022	THURSTON AREA	1655 PARKWOOD AVE
EN22-0607	Blight	03/31/2022	THURSTON AREA	285 OREGON ST
EN22-0608	Blight	03/31/2022	HEWITT ROAD AREA	2276 MCKINLEY AVE
EN22-0609	Blight	03/31/2022	SOUTH DISTRICT	7761 TUTTLE HILL RD
EN22-0610	Zoning	03/31/2022		2997 WASHTENAW RD
EN22-0611	Property Maintenance	03/31/2022	SOUTH DISTRICT	6748 LAKEWAY ST



WASHTENAW COUNTY OFFICE OF THE SHERIFF



JERRY L. CLAYTON
SHERIFF

2201 Hogback Road ♦ Ann Arbor, Michigan 48105-9732 ♦ OFFICE (734) 971-8400 ♦ FAX (734) 973-4624 ♦ EMAIL sheriffinfo@ewashtenaw.org

MARK A. PTASZEK
UNDERSHERIFF

To: Brenda Stumbo, Ypsilanti Township Supervisor
From: Shane Peltier, Police Services Lieutenant
Cc: Ypsilanti Township Board
Keith Flores, WCSO Police Services Commander
Nancy Hansen, WCSO Police Services Captain
Date: April 7, 2022
Re: March 2022 Police Services Monthly Report

SUMMARY:

During the month of March 2022, there were 3,743 calls for service in Ypsilanti Township, a 20% increase in calls for service as compared to March 2021.

OPERATIONS

During March 2022, Patrol Operations responded to calls for service, conducted traffic enforcement, and completed criminal investigations in support of our citizen's quality of life.

The month of March showed an increase in home invasions of 125% (9 compared to 4 in 2021). In many of these incidents a domestic relationship and unauthorized entry were common. The best prevention methods for a typical residential home invasion are to keep all windows and doors locked (including vehicles in the driveway), including deadbolts, while away from home. External lighting and visual deterrents such as "Beware of Dog" or alarm signage also discourages criminals.

The month of March showed an increase in breaking and entering's of 50% (3 compared to 2 in 2021). In the month of March 2022, we saw 0 robberies. In the month of March 2021, we saw 2 robberies.

In March 2022 there were 8 reported UDAA's. This is a 20% decrease from March 2021 where there were 10 reported UDAA's. Many of these vehicle thefts occurred by the suspect gaining entry to an unlocked vehicle. Citizens are reminded to lock all vehicle doors and keep ignition keys in separate and secure areas to prevent such thefts. Valuables, if left in a vehicle, should be placed in a concealed location. The following website provides further information regarding the reduction of potential for theft of your vehicle, common vehicles targeted, and further information.

<https://www.nhtsa.gov/road-safety/vehicle-theft-prevention>

YOUTH INITIATIVE

The Sheriff's Office continues to partner with courts, probation, and social services to ensure that there is accountability beyond Sheriff's Office contact with the offenders that are consistently involved in crimes. From a year-to-year perspective, comparing 2022 to 2021, our juvenile offenses and complaints are down 39.2% (from 51 to 31) and our runaway complaints are up 100% (from 10 to 20).



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MARK A. PTASZEK
UNDERSHERIFF

COMMUNITY ACTION TEAM

The purpose of the Community Action Team (CAT) is to respond to situations involving or with a nexus of drugs, guns, or violence. The team focuses on the timely assessment and response to tips they receive from our community and community problems identified through crime pattern analysis.

CAT collaboration with the Michigan Department of Corrections in reference to parole compliance contributes to effective monitoring and management of parolees who live in our community. Timely and efficient response to tips regarding parolee misconduct combined with regular unannounced home visits are expected by the parolees that reside in Ypsilanti Township and surrounding areas.

For any violent crime tips related to guns, gang activity or violence in general please call 734-661-9034.

WASHTENAW ALERT (EVERBRIDGE)

As a reminder for residents they can sign up for “Up-to-the-minute updates” from the Washtenaw County Sheriff’s Office by email or cell phone at www.washtenaw.org/alerts

HOUSE WATCH

If you plan on being gone for a period of time sign your house up for house checks. The house watch form can be found at: <https://www.washtenaw.org/1743/House-Watch>

NEW FACES

The Sheriff’s Office is hiring! We continue to hire highly qualified, motivated, and diverse people that are committed to pursuing our mission: Creating public safety, providing quality service, and building strong and sustainable communities.

If you are interested in joining us in serving your community in Police Services, Corrections, Communications, Emergency Services or Community Corrections please check us out at: <https://www.washtenaw.org/1124/Sheriff>

We have rewarding career opportunities available for those seeking a profession with a greater purpose.

*Public Safety – Quality Service – Strong Communities
Serving Washtenaw County since 1823*

March 2022 Ypsilanti Twp. Call Report (WD)

City:Ypsilanti Twp-YPT



Search Criteria: (This report counts for offenses but excludes UCR status of 'Unfounded'.)

Month:	March
Year:	2022
City:	Ypsilanti Twp-YPT

March 2022 Ypsilanti Twp. Call Report (WD)

City:Ypsilanti Twp-YPT

CLASS	Description	Mar/2022	Mar/2021	% CHG	YTD 2022	YTD 2021	% CHG	ADULT		JUV		Total	
								Mar/2022	YTD	Mar/2021	YTD	Mar	YTD
09001	MURDER/NONNEGLIGENT MANSLAUGHTER (VOLUNTARY)	1	1	0%	1	1	0%	1	1	1	1	2	2
10001	KIDNAPPING/ABDUCTION	0	1	-100%	3	3	0%	0	0	0	0	0	0
10002	PARENTAL KIDNAPPING	1	0	0%	1	0	0%	0	0	0	0	0	0
11001	SEXUAL PENETRATION PENIS/VAGINA -CSC 1ST DEGREE	0	2	-100%	6	6	0%	0	1	0	0	0	1
11002	SEXUAL PENETRATION PENIS/VAGINA -CSC 3RD DEGREE	1	1	0%	1	1	0%	0	0	0	0	0	0
11003	SEXUAL PENETRATION ORAL/ANAL -CSC 1ST DEGREE	0	0	0%	1	0	0%	0	0	0	0	0	0
11005	SEXUAL PENETRATION OBJECT -CSC 1ST DEGREE	1	0	0%	1	0	0%	0	0	0	0	0	0
11007	SEXUAL CONTACT FORCIBLE -CSC 2ND DEGREE	0	2	-100%	6	3	100%	0	0	0	0	0	0
11008	SEXUAL CONTACT FORCIBLE -CSC 4TH DEGREE	0	1	-100%	4	2	100%	0	1	0	0	0	1
12000	ROBBERY	0	1	-100%	8	6	33.33%	0	4	0	0	0	4
12001	ROBBERY	0	1	-100%	1	1	0%	0	1	0	0	0	1
13001	NONAGGRAVATED ASSAULT	46	46	0%	123	124	-0.80%	18	47	0	3	18	50
13002	AGGRAVATED/FELONIOUS ASSAULT	24	26	-7.69%	73	78	-6.41%	10	35	3	3	13	38
13003	INTIMIDATION/STALKING	6	7	-14.2%	25	11	127.2%	1	4	0	0	1	4
20000	ARSON	0	0	0%	2	1	100%	0	0	0	0	0	0
22001	BURGLARY -FORCED ENTRY	9	5	80%	20	26	-23.0%	1	2	0	0	1	2
22002	BURGLARY -ENTRY WITHOUT FORCE (Intent to Commit)	3	1	200%	7	4	75%	0	0	0	0	0	0
23003	LARCENY -THEFT FROM BUILDING	13	9	44.44%	31	31	0%	0	1	0	0	0	1
23004	LARCENY -THEFT FROM COIN-OPERATED MACHINE/DEVICE	0	0	0%	1	0	0%	0	0	0	0	0	0
23005	LARCENY -THEFT FROM MOTOR VEHICLE	19	9	111.1%	52	44	18.18%	0	0	0	0	0	0
23006	LARCENY -THEFT OF MOTOR VEHICLE PARTS/ACCESSORIES	4	3	33.33%	7	8	-12.5%	0	0	0	0	0	0
23007	LARCENY -OTHER	4	9	-55.5%	15	21	-28.5%	0	0	0	0	0	0

March 2022 Ypsilanti Twp. Call Report (WD)

City:Ypsilanti Twp-YPT

CLASS	Description	Mar/2022	Mar/2021	% CHG	YTD 2022	YTD 2021	% CHG	ADULT		JUV		Total	
								Mar/2022	YTD	Mar/2021	YTD	Mar	YTD
24001	MOTOR VEHICLE THEFT	10	13	-23.0%	35	47	-25.5%	0	6	0	2	0	8
24002	MOTOR VEHICLE, AS STOLEN PROPERTY	3	1	200%	9	7	28.57%	2	5	0	2	2	7
25000	FORGERY/COUNTERFEITING	3	0	0%	10	1	900%	0	0	0	0	0	0
26001	FRAUD -FALSE PRETENSE/SWINDLE/CONFIDENCE GAME	9	8	12.5%	20	24	-16.6%	1	1	0	0	1	1
26002	FRAUD -CREDIT CARD/AUTOMATIC TELLER MACHINE	8	5	60%	15	14	7.142%	0	1	0	0	0	1
26005	FRAUD -WIRE FRAUD	2	1	100%	3	8	-62.5%	0	0	0	0	0	0
26007	FRAUD - IDENTITY THEFT	9	7	28.57%	21	23	-8.69%	0	0	0	0	0	0
27000	EMBEZZLEMENT	0	1	-100%	4	2	100%	0	1	0	0	0	1
28000	STOLEN PROPERTY	2	3	-33.3%	7	9	-22.2%	2	3	0	1	2	4
29000	DAMAGE TO PROPERTY	22	31	-29.0%	74	74	0%	2	7	0	1	2	8
30002	RETAIL FRAUD -THEFT	3	5	-40%	16	24	-33.3%	0	0	0	0	0	0
30003	RETAIL FRAUD -REFUND/EXCHANGE	0	0	0%	0	1	-100%	0	0	0	0	0	0
35001	VIOLATION OF CONTROLLED SUBSTANCE ACT	21	8	162.5%	41	20	105%	4	10	0	0	4	10
35002	NARCOTIC EQUIPMENT VIOLATIONS	5	3	66.66%	9	5	80%	0	1	0	0	0	1
37000	OBSCENITY	0	0	0%	2	0	0%	0	0	0	0	0	0
52001	WEAPONS OFFENSE- CONCEALED	7	4	75%	18	11	63.63%	5	10	1	2	6	12
52003	WEAPONS OFFENSE -OTHER	2	6	-66.6%	7	13	-46.1%	0	1	0	0	0	1
72000	ANIMAL CRUELTY	4	0	0%	4	5	-20%	0	0	0	0	0	0
Group A Totals		242	221	9.502%	684	659	3.793%	47	143	5	15	52	158
22003	BURGLARY - UNLAWFUL ENTRY (NO INTENT)	0	1	-100%	1	1	0%	0	0	0	0	0	0
26006	FRAUD -BAD CHECKS	1	0	0%	3	0	0%	0	0	0	0	0	0
36004	SEX OFFENSE -OTHER	0	0	0%	1	0	0%	0	0	0	0	0	0
38001	FAMILY -ABUSE/NEGLECT NONVIOLENT	2	0	0%	6	7	-14.2%	0	0	0	0	0	0
41002	LIQUOR VIOLATIONS -OTHER	0	1	-100%	0	5	-100%	0	0	0	0	0	0
48000	OBSTRUCTING POLICE	10	24	-58.3%	37	52	-28.8%	2	7	0	0	2	7
50000	OBSTRUCTING JUSTICE	15	23	-34.7%	62	41	51.21%	7	21	0	0	7	21
53001	DISORDERLY CONDUCT	0	3	-100%	1	7	-85.7%	0	0	0	0	0	0

March 2022 Ypsilanti Twp. Call Report (WD)

City:Ypsilanti Twp-YPT

CLASS	Description	Mar/2022	Mar/2021	% CHG	YTD 2022	YTD 2021	% CHG	ADULT		JUV		Total	
								Mar/2022	YTD	Mar/2021	YTD	Mar	YTD
53002	PUBLIC PEACE -OTHER	3	1	200%	3	1	200%	0	1	0	0	0	1
54001	HIT and RUN MOTOR VEHICLE ACCIDENT	1	0	0%	3	2	50%	0	1	0	0	0	1
54002	OPERATING UNDER THE INFLUENCE OF LIQUOR OR DRUGS	35	13	169.2%	77	43	79.06%	26	58	0	0	26	58
55000	HEALTH AND SAFETY	1	0	0%	4	2	100%	0	1	0	0	0	1
57001	TRESPASS	2	2	0%	3	5	-40%	0	0	0	0	0	0
58000	SMUGGLING	1	3	-66.6%	3	5	-40%	0	0	0	0	0	0
61000	TAX/REVENUE	1	0	0%	1	0	0%	0	0	0	0	0	0
63000	VAGRANCY	0	1	-100%	0	1	-100%	0	0	0	0	0	0
70000	JUVENILE RUNAWAY	6	4	50%	20	10	100%	0	0	0	0	0	0
73000	MISCELLANEOUS CRIMINAL OFFENSE	0	2	-100%	7	7	0%	0	0	0	0	0	0
Group B Totals		78	78	0%	232	189	22.75%	35	89	0	0	35	89
2800	JUVENILE OFFENSES AND COMPLAINTS	15	25	-40%	31	51	-39.2%	0	0	0	0	0	0
2900	TRAFFIC OFFENSES	19	29	-34.4%	40	64	-37.5%	2	4	0	0	2	4
3000	WARRANTS	36	32	12.5%	125	81	54.32%	20	69	0	1	20	70
3100	TRAFFIC CRASHES	113	71	59.15%	340	254	33.85%	1	1	0	0	1	1
3200	SICK / INJURY COMPLAINT	156	144	8.333%	502	485	3.505%	0	0	0	0	0	0
3300	MISCELLANEOUS COMPLAINTS	716	743	-3.63%	1965	2128	-7.65%	0	0	0	0	0	0
3500	NON - CRIMINAL COMPLAINTS	924	806	14.64%	2491	2411	3.318%	0	0	0	1	0	1
3700	MISCELLANEOUS TRAFFIC COMPLAINTS	1317	822	60.21%	3679	1953	88.37%	0	0	0	0	0	0
3800	ANIMAL COMPLAINTS	70	62	12.90%	164	148	10.81%	0	0	0	0	0	0
3900	ALARMS	116	124	-6.45%	388	309	25.56%	0	0	0	0	0	0
Group C Totals		3482	2858	21.83%	9725	7884	23.35%	23	74	0	2	23	76
4000	HAZARDOUS TRAFFIC CITATIONS / WARNINGS	2	0	0%	3	1	200%	0	0	0	0	0	0
4200	PARKING CITATIONS	2	0	0%	3	2	50%	0	0	0	0	0	0
4300	LICENSE / TITLE / REGISTRATION CITATIONS	1	1	0%	1	2	-50%	0	0	0	0	0	0
4500	MISCELLANEOUS A THROUGH UUUU	23	14	64.28%	65	50	30%	0	0	0	0	0	0
Group D Totals		28	15	86.66%	72	55	30.90%	0	0	0	0	0	0
5000	FIRE CLASSIFICATIONS	0	0	0%	0	1	-100%	0	0	0	0	0	0

March 2022 Ypsilanti Twp. Call Report (WD)

City:Ypsilanti Twp-YPT

CLASS	Description	Mar/2022	Mar/2021	% CHG	YTD 2022	YTD 2021	% CHG	ADULT		JUV		Total	
								Mar/2022	YTD	Mar/2021	YTD	Mar	YTD
5100	18A STATE CODE FIRE CLASSIFICATIONS	0	1	-100%	0	2	-100%	0	0	0	0	0	0
Group E Totals		0	1	-100%	0	3	-100%	0	0	0	0	0	0
6000	MISCELLANEOUS ACTIVITIES (6000)	46	19	142.1%	112	71	57.74%	0	0	0	0	0	0
6100	MISCELLANEOUS ACTIVITIES (6100)	99	120	-17.5%	254	311	-18.3%	0	0	0	0	0	0
6300	CANINE ACTIVITIES	8	1	700%	15	10	50%	0	0	0	0	0	0
6500	CRIME PREVENTION ACTIVITIES	7	5	40%	15	13	15.38%	0	0	0	0	0	0
6600	COURT / WARRANT ACTIVITIES	0	0	0%	0	2	-100%	0	0	0	0	0	0
6700	INVESTIGATIVE ACTIVITIES	29	29	0%	100	82	21.95%	0	0	0	0	0	0
Group F Totals		189	174	8.620%	496	489	1.431%	0	0	0	0	0	0
City : Ypsilanti Twp Totals		4019	3347	20.07%	11209	9279	20.79%	105	306	5	17	110	323



YPSILANTI TOWNSHIP MONTHLY POLICE SERVICES DATA

March 2022

JERRY L. CLAYTON
SHERIFF

Incidents	Month 2022	Month 2021	% Change	YTD 2022	YTD 2021	% Change
Traffic Stops	1119	642	74%	3223	1569	105%
Citations	407	231	76%	1324	674	96%
Drunk Driving (OWI)	14	10	40%	41	35	17%
Drugged Driving (OUID)	20	3	567%	33	8	313%
Calls for Service Total	3743	3124	20%	10534	8703	21%
Calls for Service <i>(Traffic stops and non-response medicals removed)</i>	2235	2138	5%	6106	6064	1%
Robberies	0	2	-	9	7	29%
Assaultive Crimes	72	79	-9%	213	211	1%
Home Invasions	9	4	125%	22	24	-8%
Breaking and Entering's	3	2	50%	5	6	-17%
Larcenies	40	30	33%	105	104	1%
Vehicle Thefts	8	10	-20%	31	50	-38%
Traffic Crashes	95	53	79%	289	190	52%
Medical Assists	51	60	-15%	144	167	-14%
Animal Complaints <i>(ACO Response)</i>	20	25	-20%	46	59	-22%
In/Out of Area Time	Month <i>(minutes)</i>	YTD <i>(minutes)</i>	+ = Positive Change - = Negative Change			
Into Area Time	1576	3706				
Out of Area Time	2607	6987				
Investigative Ops (DB)	35355	108400				
Secondary Road Patrol	989	6664				
County Wide	529	2025				
	Hours Accum.	Hours Used	Balance			
Banked Hours	1236	TBD	1491.25			



Out of Area Time

For: 03/01/2022 thru 03/31/2022



Patrol Area	Reporting Area	Username	Location	Activity Category	Incident Number	Comments	Start Time	Duration in Minutes	Start Date
YPSILANTI TWP	MACARTHUR BLVD CONTRACT	WDPHILLIPSA	MACARTHUR BLVD	BACKUP DISPATCHED CALLS	220015859	UTL, cleared with 630 looking for s1 on stabbing.	21:35:00	30	3/2/2022
YPSILANTI TWP	ANN ARBOR TWP	WDSOYRING	FRANK LLOYD WRIGHT DR	BACKUP DISPATCHED CALLS	220016265	ASSIST SECURE DEATH SCENE FOR DEPUTY BLAND WHILE HE ATTENDED COURT (TRIAL) - AUTH PER SGT. HOUK	13:00:00	165	3/4/2022
YPSILANTI TWP	PITTSFIELD TOWNSHIP	WDRUSSELLT	W MICHIGAN AVE	BACKUP DISPATCHED CALLS	220016306	PER 627 / SHOOTING / SUSPECT BELIEVED TO BE INSIDE RESIDENCE / PITTSFIELD REQUEST COUNTY HELP / SHOOTER GOA	14:50:00	45	3/4/2022
YPSILANTI TWP	PITTSFIELD TOWNSHIP	WDBETTSI	W MICHIGAN AVE	BACKUP DISPATCHED CALLS	220016306	SHOOTING OCCURED S1 STILL POSS ON SCENE IN RESIDENCE ASSIST WITH PERIMETER OK PER SGT HOUK	15:05:00	20	3/4/2022
YPSILANTI TWP	YPSILANTI CITY	WDSOYRING	N PROSPECT ST/HOLMES RD	TRAFFIC STOP	220016530	RAN RED LIGHT	11:20:00	10	3/5/2022
YPSILANTI TWP	YPSILANTI CITY	WDSOYRING	UPON PROSPECT ST and AT/NEAR H	CITATIONS	220016530	RAN RED SIGNAL	11:25:00	0	3/5/2022
YPSILANTI TWP	YPSILANTI CITY	WDVANDUSSENK	FIRST AVE	BACKUP DISPATCHED CALLS	220016596	BACK UP ON FOOT PURSUIT / APPROVED PER SGT HOUK	17:50:00	25	3/5/2022
YPSILANTI TWP	YPSILANTI CITY	WDSOYRING	FIRST AVE	BACKUP DISPATCHED CALLS	220016598	ASSIST YPD FIGHTING WITH SUBJECT WITH A GUN - SCENE SECURITY - SGT. HOUK APPROVAL	17:55:00	15	3/5/2022
YPSILANTI TWP	MACARTHUR BLVD CONTRACT	WDSHANKLANDC	MACARTHUR BLVD	BACKUP DISPATCHED CALLS	220016712	PER 622 SGT CRATSENBURG FOR DV	04:45:00	65	3/6/2022
YPSILANTI TWP	MACARTHUR BLVD CONTRACT	WDRIEBOLDTR	MACARTHUR BLVD	BACKUP DISPATCHED CALLS	220016712	DISP- ASSISTED DEPUTY HOWARD / APPROVED BY SGT, CRATSENBURG (622) / S1 ARRESTED FOR INTERFERING WITH PHONE / HOWARD WAS THE ONLY DEPUTY WORKING FOR SUPERIOR TWP.	04:50:00	20	3/6/2022
YPSILANTI TWP	YPSILANTI CITY	WDVANDUSSENK	S HAMILTON ST/HARRIET ST	BACKUP DISPATCHED CALLS	220016927	BACK UP UNITS ON FOOT PURSUIT APPROVED PER SGT CRATS	00:15:00	10	3/7/2022
YPSILANTI TWP	YPSILANTI CITY	WDLEWISN	MADISON ST	BACKUP DISPATCHED CALLS	220017019	ASSIST CITY WITH SHOTS FIRED, SGT. BEEVER	12:50:00	20	3/7/2022
YPSILANTI TWP	SUPERIOR TWP	WDLEWISN	WIARD BLVD	BACKUP DISPATCHED CALLS	220017100	BACK UP ON FAMILY TROUBLE, KNIFE MENTIONED, PER SGT. BEEVER	18:10:00	5	3/7/2022
YPSILANTI TWP	YPSILANTI CITY	WDLEWISN	WASHTENAW AVE/CORNELL RD	TRAFFIC STOP	220017346	UNAVOIDABLE STOP, RAN RED LIGHT IN FRONT OF ME	16:15:00	5	3/8/2022
YPSILANTI TWP	COUNTY OWNED PROPERTY	WDVANDUSSENK	HOGBACK RD	BACKUP DISPATCHED CALLS	220017678	ASSISTED WITH OFFICER DOWN AT THE JAIL	17:05:00	35	3/9/2022
YPSILANTI TWP	COUNTY OWNED PROPERTY	WDHILOBUKT	HOGBACK RD	BACKUP DISPATCHED CALLS	220017678	ASSIST WITH CORRECTIONS OFFICER DOWN PER SGT. HOUK	17:08:00	82	3/9/2022
YPSILANTI TWP	COUNTY OWNED PROPERTY	WDBLANDC	HOGBACK RD	BACKUP DISPATCHED CALLS	220017678	Emergency Tones / officer down in jail / assisted w/ blocking traffic to hospital.	17:10:00	45	3/9/2022
YPSILANTI TWP	COUNTY WIDE	WDSOYRING	HOGBACK RD	BACKUP DISPATCHED CALLS	220017678	ASSIST WITH BLOCKING / DIRECTING TRAFFIC FOR TRANSPORT OF INJURED CORRECTIONS OFFICER	17:10:00	50	3/9/2022
YPSILANTI TWP	ANN ARBOR CITY	WDVANDUSSENK	S STATE ST/E LIBERTY ST	BACKUP DISPATCHED CALLS	220018026	ASSIST WITH DISORDERLY / APPROVED PER SGT CRATS	02:10:00	15	3/11/2022
YPSILANTI TWP	SUPERIOR TWP	WDPHILLIPSA	GREENWAY DR	BACKUP DISPATCHED CALLS	220018092	FA IN PROGRESS, CLEARED WITH SGT.MONTY	10:25:00	35	3/11/2022
YPSILANTI TWP	YPSILANTI CITY	WDWEBBB	FACTORY/GROVE	TRAFFIC STOP	220018310	OBSERVED SPEEDING CAR 80/35 E/B OWI ARREST/SW/ BLOOD DRAW ST JOES/ TOT WCJ/LOG PROP	00:55:00	155	3/12/2022
YPSILANTI TWP	YPSILANTI CITY	WDWEBBB	UPON MICHIGAN and AT/NEAR ECO	CITATIONS			02:24:00	0	3/12/2022
YPSILANTI TWP	MACARTHUR BLVD CONTRACT	WDWOOLLAMJS	MACARTHUR BLVD	BACKUP DISPATCHED CALLS	220018551	ASSIST DEPUTY SEXTON WITH DISORDERLY (SGT. PENNINGTON)	04:35:00	15	3/13/2022
YPSILANTI TWP	MACARTHUR BLVD CONTRACT	WDVANBYNENJ	MACARTHUR BLVD	BACKUP DISPATCHED CALLS	220018551	ASSIST 767 FOR DISORDERLY PER SGT. PENNINGTON	04:40:00	20	3/13/2022
YPSILANTI TWP	SUPERIOR TWP	WDCAMPAGIORNIM	HEATHER DR	BACKUP DISPATCHED CALLS	220018557	GOA/UTL, SGT.MONTGOMERY, ARMED FA SUSPECT THAT FLED THE SCENE	08:00:00	20	3/13/2022
YPSILANTI TWP	SUPERIOR TWP	WDPHILLIPSA	HEATHER DR	BACKUP DISPATCHED CALLS	220018557	f/a just occurred, cleared with sgt. monty	08:00:00	20	3/13/2022
YPSILANTI TWP	SUPERIOR TWP	WDRAABT	HEATHER RIDGE	BACKUP DISPATCHED CALLS		OK PER SGT MONTGOMERY, COVER FOR SUP UNITS	08:00:00	25	3/13/2022
YPSILANTI TWP	SUPERIOR TWP	WDYONOJ	HEATHER DR	BACKUP DISPATCHED CALLS	220018557	b/u sut depts for FA per sgt montgomery	08:00:00	20	3/13/2022
YPSILANTI TWP	MACARTHUR BLVD CONTRACT	WDWOOLLAMJS	STAMFORD CT	BACKUP DISPATCHED CALLS	220018903	ASSIST DEPUTY SEXTON WITH DISORDERLY (SGT. PENNINGTON)	04:45:00	15	3/14/2022
YPSILANTI TWP	YPSILANTI CITY	WDBELLASE	PERRY ST	BACKUP DISPATCHED CALLS	220019145	NO SHOOTING, JUST HIGH INTOX ASSIST CITY PER SGT CRATSENBURG	22:30:00	10	3/14/2022
YPSILANTI TWP	YPSILANTI CITY	WDVANDUSSENK	PERRY ST	BACKUP DISPATCHED CALLS	220019145	ASSIST ON POSSIBLE SHOOTING / APPROVED PER SGT CRATSENBURG	22:30:00	10	3/14/2022
YPSILANTI TWP	YPSILANTI CITY	WDMACES	PERRY ST	BACKUP DISPATCHED CALLS	220019145	REPORTED SHOOTING IN YPSI CITY, UNFOUNDED, APPROVED PER SGT CRATSENBURG	22:35:00	10	3/14/2022
YPSILANTI TWP	YPSILANTI CITY	WDYONOJ	N HAMILTON ST/W MICHIGAN AVE	TRAFFIC STOP	220019775	Is - wrong way driver in ypsi city	20:30:00	10	3/16/2022
YPSILANTI TWP	MACARTHUR BLVD CONTRACT	WDGOMBOSJ	STAMFORD CT	BACKUP DISPATCHED CALLS	220019873	BACK TROWBRIDGE ON DV IN PROGRESS PER SGT PENNINGTON	04:01:00	59	3/17/2022



Out of Area Time

For: 03/01/2022 thru 03/31/2022



YPSILANTI TWP	MACARTHUR BLVD CONTRACT	WDCAMPAGIORNIM	MACARTHUR BLVD	BACKUP DISPATCHED CALLS	220020001	ASSIST OJC WITH SUICIDAL SUBJECT. SGT.MONTGOMERY	15:05:00	80	3/17/2022
YPSILANTI TWP	SUPERIOR TWP	WDVANBYNENJ	FORD RD	BACKUP DISPATCHED CALLS	220020219	ASSIST 761 PER SGT PENNINGTON - DISORDERLY SUBJECT, ONE TOOK OFF RUNNING	01:15:00	45	3/18/2022
YPSILANTI TWP	YPSILANTI CITY	WDBETTSI	E MICHIGAN AVE/N PARK ST	TRAFFIC STOP	220020225	UNAVOIDABLE - NO HEADLIGHTS	01:55:00	25	3/18/2022
YPSILANTI TWP	YPSILANTI CITY	WDBETTSI	UPON MICHIGAN and AT/NEAR PROS	CITATIONS	220020225	NO LIC	02:14:00	0	3/18/2022
YPSILANTI TWP	MACARTHUR BLVD CONTRACT	WDGOMBOSJ	MACARTHUR BLVD	BACKUP DISPATCHED CALLS	220020227	BACK TRIWOBRIGE ON IN PROGRESS DOMESTIC PER SGT PENNINGTON	04:01:00	29	3/18/2022
YPSILANTI TWP	SUPERIOR TWP	WDKORONAM	SHEFFIELD DR	BACKUP DISPATCHED CALLS	220020510	ASSIST SUPERIOR CAR WITH BOL AREA / PERIMETER FOR ATTEMPTED UDAA / SHOTS FIRED			
YPSILANTI TWP	SUPERIOR TWP	WDKORONAM	SHEFFIELD DR	BACKUP DISPATCHED CALLS	220020510	OK PER SGT CRATSENBURG	01:55:00	126	3/19/2022
YPSILANTI TWP	SUPERIOR TWP	WDMACES	SHEFFIELD DR	BACKUP DISPATCHED CALLS	220020510	FELONY ASSAULT, REPORTED SHOOTING, ASSISTED W/ BOL OF AREA PER 622	01:55:00	20	3/19/2022
YPSILANTI TWP	SUPERIOR TWP	WDZEHELD	SHEFFIELD DR	BACKUP DISPATCHED CALLS	220020510	ASSIST W/ PERIMETER FOR CANINE TRACK - SGT CRATS APPROVED	01:55:00	105	3/19/2022
YPSILANTI TWP	SUPERIOR TWP	WDBELLASE	SHEFFIELD DR	BACKUP DISPATCHED CALLS	220020510	ASSIST SUT UNITS WITH AREA SEARCH / K9 PERIMETER PER SGT. CRATSENBURG	02:00:00	105	3/19/2022
YPSILANTI TWP	YPSILANTI CITY	WDBETTSI	MAUS AVE/EMERICK ST	TRAFFIC STOP	220020598	STOP SIGN	13:35:00	0	3/19/2022
YPSILANTI TWP	YPSILANTI CITY	WDBETTSI	UPON MAUS and AT/NEAR EMMERIC	CITATIONS	220020598	INSURANCE	13:41:00	0	3/19/2022
YPSILANTI TWP	MACARTHUR BLVD CONTRACT	WDRUSSELLT	STAMFORD CT	BACKUP DISPATCHED CALLS	220020819	PER 626 / FIGHT WITH SHOTS FIRED / REPORTED THAT SOMEONE WAS SHOT / INVESTIGATION	15:00:00	35	3/20/2022
YPSILANTI TWP	SUPERIOR TWP	WDDUONGJ	STAMFORD CT	BACKUP DISPATCHED CALLS	220020819	ASSIST SHOTS FIRED / ASSIST IN LOCATING S1 / ASSIST IN INTERVIEWING / PER SGT ARTS	15:00:00	35	3/20/2022
YPSILANTI TWP	SUPERIOR TWP	WDROBERTSG	STAMFORD CT	BACKUP DISPATCHED CALLS	220020819	AST ON SHOTS HEARD CALL - APV PER SGT ARTS ONLY 2 SUPERIOR UNITS	15:00:00	35	3/20/2022
YPSILANTI TWP	YPSILANTI CITY	WDSOYRING	E MICHIGAN AVE/N GROVE ST	TRAFFIC STOP	220020867	HAZ OPS MOTORCYCLE APPROX. 80 MPH PASSING VEHICLES ON THE SHOULDER	17:35:00	10	3/20/2022
YPSILANTI TWP	SUPERIOR TWP	WDHANKLANDC	RIDGE RD	BACKUP DISPATCHED CALLS	220020886	SUSPECT WITH A KNIFE SGT ARTS APPROVED	18:15:00	15	3/20/2022
YPSILANTI TWP	SUPERIOR TWP	WDBELLASE	RIDGE RD	BACKUP DISPATCHED CALLS	220020886	ASSIST SUT DEPUTIES W/ FIGHT PER SGT. ARTS	18:20:00	10	3/20/2022
YPSILANTI TWP	SUPERIOR TWP	WDMACES	RIDGE RD	BACKUP DISPATCHED CALLS	220020886	REPORTED DV W/ KNIFE, BACKED SUP TWP DEPS, APPROVED BY HOUK	18:20:00	20	3/20/2022
YPSILANTI TWP	SUPERIOR TWP	WDRUSSELLT	RIDGE RD	BACKUP DISPATCHED CALLS	220020886	PER 626 / ACTIVE FIGHT / ONE SUBJECT ARMED WITH A KNIFE / 1 IN CUSTODY	18:20:00	20	3/20/2022
YPSILANTI TWP	YPSILANTI CITY	WDMACES	E FOREST AVE/RICE ST	BACKUP DISPATCHED CALLS	220020930	BACK UP YPD W/ OFC FIGHTING W/ SUBJECT, APPROVED BY CRATSENBURG	21:10:00	10	3/20/2022
YPSILANTI TWP	YPSILANTI CITY	WDRUSSELLT	E FOREST AVE/RICE ST	BACKUP DISPATCHED CALLS	220020930	PER 622 / FOOT PURSUIT FROM TRAFFIC STOP / 1 IN CUSTODY	21:10:00	15	3/20/2022
YPSILANTI TWP	YPSILANTI CITY	WDZEHELD	E FOREST AVE/RICE ST	BACKUP DISPATCHED CALLS	220020930	ASSIST YPD WITH A FLEEING SUSPECT - SGT CRATS APPROVED	21:10:00	10	3/20/2022
YPSILANTI TWP	YPSILANTI CITY	WDBELLASE	N HAMILTON ST/W MICHIGAN AVE	TRAFFIC STOP	220020941	WRONG WAY ON A ONE WAY / VW	21:30:00	15	3/20/2022
YPSILANTI TWP	MACARTHUR BLVD CONTRACT	WDWOOLLAMJSJ	MACARTHUR BLVD	BACKUP DISPATCHED CALLS	220021288	ASSIST DEPUTY TROWBRIDGE W/ WARRANT PICKUP (SGT. PENNINGTON)	05:45:00	15	3/22/2022
YPSILANTI TWP	SUPERIOR TWP	WDHALLR	RIDGE RD/SCARLET OAK DR	BACKUP TRAFFIC STOP	220021555	PROVIDED SPANISH TRANSLATION PER SGT. PENNINGTON	22:00:00	5	3/22/2022
YPSILANTI TWP	YPSILANTI CITY	WDBELLASE	WASHTENAW AVE/CORNELL RD	TRAFFIC STOP	220021815	RAN RED LIGHT / VW	19:40:00	5	3/23/2022
YPSILANTI TWP	YPSILANTI CITY	WDBELLASE	S HAMILTON ST	BACKUP DISPATCHED CALLS	220022115	ASSIST YPSI CITY W/ SHOOTING PER SGT HOUK	18:40:00	40	3/24/2022
YPSILANTI TWP	YPSILANTI CITY	WDMIZERK	S HAMILTON ST	BACKUP DISPATCHED CALLS	220022115	DJSP: ASSIST YPD SHOOTING - OK PER SGT ARTS	18:40:00	50	3/24/2022
YPSILANTI TWP	YPSILANTI CITY	WDRUSSELLT	S HAMILTON ST	BACKUP DISPATCHED CALLS	220022115	PER SGT HOUK / YPD REQUEST ASSISTANCE REFERENCE SHOOTING / FIRST AID TO VICTIM / SUSPECT VEHICLE LOCATED / 2 IN CUSTODY / TRANSPORT TO YPD	18:40:00	60	3/24/2022
YPSILANTI TWP	YPSILANTI CITY	WDSOYRING	S HAMILTON ST	BACKUP DISPATCHED CALLS	220022115	AOD - first on scene for shooting - YPD deputies were on a FA call, assist collect suspect info, provide aid, locate evidence, secure scene, - Sgt. Arts approval	18:40:00	70	3/24/2022
YPSILANTI TWP	YPSILANTI CITY	WDGARLICKK	S HAMILTON ST	BACKUP DISPATCHED CALLS	220022115	Sgt Arts assisted Dep Betts with a felony stop on suspect vehicle in YPD shooting,	18:44:00	76	3/24/2022
YPSILANTI TWP	YPSILANTI CITY	WDWEBBB	SPRING ST/CHIDESTER ST	TRAFFIC STOP	220022200	OBSERVED LISTED VEHICLE PULL INTO TRAFFIC NOT YIELDING TO ANOTHER CAR	00:30:00	10	3/25/2022
YPSILANTI TWP	YPSILANTI CITY	WDWEBBB	UPON HURON and AT/NEAR SPRING	CITATIONS	220022200		00:37:00	0	3/25/2022
YPSILANTI TWP	YORK TWP	WDWEBBB	STONY CREEK RD/SANFORD RD	TRAFFIC STOP	220022417	OBSERVED A SPEEDING CAR 68/45 W/B IN YORK TWP WHILE GOING INTO WORK,	18:00:00	10	3/25/2022
YPSILANTI TWP	YORK TWP	WDWEBBB	UPON STONY CREEK and AT/NEAR S	CITATIONS	220022417		18:00:00	0	3/25/2022



Out of Area Time

For: 03/01/2022 thru 03/31/2022



YPSILANTI TWP	SUPERIOR TWP	WDPHILLIPSA	MACARTHUR BLVD/N HARRIS RD	BACK-UP TRAFFIC STOP	220022699	OCCUPIED UDAA, OCCUPIED 3X/ CLEARED WITH SGT.MONTY	17:05:00	50	3/26/2022
YPSILANTI TWP	SUPERIOR TWP	WDTRASKOSR	MACARTHUR BLVD/N HARRIS RD	BACK-UP TRAFFIC STOP	220022699	ASSISTED DEPUTY SILLER WITH FELONY STOP OF UDAA / APPROVED SGT MONTGOMERY	17:10:00	10	3/26/2022
YPSILANTI TWP	SUPERIOR TWP	WDRAABT	MACARTHUR BLVD/N HARRIS RD	BACK-UP TRAFFIC STOP	220022699	ASSIST 769 WITH UDAA, OK PER SGT MONTGOMERY	17:15:00	5	3/26/2022
YPSILANTI TWP	SUPERIOR TWP	WDVANBYNENJ	DEVON ST/NOTTINGHAM DR	BACK-UP TRAFFIC STOP	220022794	ASSIST 712 PER SGT HOUK WITH VANBUREN BOL	22:30:00	60	3/26/2022
YPSILANTI TWP	SUPERIOR TWP	WDWEBBB	DEVON ST/NOTTINGHAM DR	BACK-UP TRAFFIC STOP	220022794	ASSIST SUPERIOR TWP DEPUTIES ON FA MOTOR VEHICLE OCCURED IN VAN BUREN TWP/VEHICLE STOP/ OK BY SGT HOUK	22:40:00	30	3/26/2022
YPSILANTI TWP	YPSILANTI CITY	WDBELLASE	GROVE RD/SOUTH ST	TRAFFIC STOP	220023638	UNREADABLE TEMP PLATE / VW	22:00:00	10	3/29/2022
YPSILANTI TWP	YPSILANTI CITY	WDRAABT	MAUS AVE/S PROSPECT ST	TRAFFIC STOP	220023710	SPEED, BRAKE LIGHT	10:00:00	5	3/30/2022
YPSILANTI TWP	YPSILANTI CITY	WDHALLR	N HURON ST	BACKUP DISPATCHED CALLS	220023970	BACK UP YPD WITH POSSIBLE FIGHT APPROVED BY SERGEANT PENNINGTON	02:05:00	5	3/31/2022
YPSILANTI TWP	YPSILANTI CITY	WDVANBYNENJ	N HURON ST	BACKUP DISPATCHED CALLS	220023970	ASSIST YPSI CITY UNIT FOR DISORDERLY AT POWELLS PER SGT PENNINGTON	02:05:00	15	3/31/2022
YPSILANTI TWP	ANN ARBOR TWP	WDBETTSI	VIA SACRA DR	BACKUP DISPATCHED CALLS	220023979	ALARM W/ OPEN DOOR HELP CLEAR BLDG OK PER SGT PENNINGTON	04:20:00	20	3/31/2022
YPSILANTI TWP	ANN ARBOR TWP	WDROYJ	VIA SACRA DR	BACKUP DISPATCHED CALLS	220023979	back superior unit per Sgt Pennington re only one available	04:30:00	20	3/31/2022
YPSILANTI TWP	SUPERIOR TWP	WDRAABT	E CLARK RD/DEVON ST	BACK-UP TRAFFIC STOP	220024052	ASSIST 765 DUE TO UNCOOPERATIVE DRIVER OK PER SGT MONTGOMERY	09:00:00	15	3/31/2022
YPSILANTI TWP	PITTSFIELD TOWNSHIP	WDVANBYNENJ	GLENCOE HILLS DR	BACKUP DISPATCHED CALLS	220024301	ASSIST PITTSFIELD WITH SEARCH PER SGT PENNINGTON	02:45:00	75	4/1/2022
YPSILANTI TWP	PITTSFIELD TOWNSHIP	WDHALLR	GLENCOE HILLS DR	BACKUP DISPATCHED CALLS	220024301	BACK UP PITTSFIELD WITH FLEEING CSC SUSPECT/ APPROVED BY SERGEANT PENNINGTON	02:50:00	45	4/1/2022
YPSILANTI TWP	PITTSFIELD TOWNSHIP	WDWOOLLAMSJ	GLENCOE HILLS DR	BACKUP DISPATCHED CALLS	220024301	ASSIST WITH CSC SUSPECT FLEEING (SGT. PENNINGTON)	02:50:00	50	4/1/2022
						Sum:		2,607	



Into Area Time

For: 03/01/2022 thru 03/31/2022



Patrol Area	Reporting Area	Username	Location	Activity Category	Incident Number	Comments	Start Time	Duration in Minutes	Start Date
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDTROWBRIDGEM	RIDGE RD/MOTT RD	BACK-UP TRAFFIC STOP	220015605	BACKUP OTHER UNIT ON STOP SGT CRATS APPROVAL	23:05:00	10	3/1/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDKHATTARR	E MICHIGAN AVE/RIDGE RD	BACK-UP TRAFFIC STOP	220016074	BU YONO...ARRIVED BY SGT ARTS...YONO CALLING FOR ADDITIONAL UNITS WE WERE CLOSEST.	17:10:00	5	3/3/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDBLANDC	FARMINGTON HILLS	COURT		47th district court / 19-06827 / Sgt. Houk.	13:00:00	165	3/4/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSIRIANNJU	E CLARK RD/N FORD BLVD	BACKUP DISPATCHED CALLS	220016301	DROVE UP ON CRASH AS CALLER ON PHONE WITH DISPATCH / STOOD BY UNTIL YPT ARRIVED	14:35:00	10	3/4/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDGOMBOSJ	OUTER LN	BACKUP DISPATCHED CALLS	220016432	BACK YPT ON HOMICIDE PER SGT CRATSENBURG	21:35:00	90	3/4/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDBETTSI	OUTER LN	BACKUP DISPATCHED CALLS	220016432	HOMICIDE - OK PER SGT CRATS	21:40:00	20	3/4/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSILLERB	OUTER LN	BACKUP DISPATCHED CALLS	220016432	DISP ASSISTING YPSI TWP DEPUTIES / APPROVED BY SGT CRATSENBURG	21:40:00	95	3/4/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSIRIANNJU	OUTER LN	BACKUP DISPATCHED CALLS	220016432	ASSIST YPT WITH HOMICIDE / APPROVED BY SGT. CRATSENBURG	21:40:00	65	3/4/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDBETTSI	S PASADENA AVE/LAKEVIEW AVE	DISPATCHED CALLS	220016435	ANIMAL COMP - ALREADY IN AREA - SGT CRATS	22:00:00	15	3/4/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSIRIANNJU	DOROTHY ST	DISPATCHED CALLS	220016445	YPT UNITS TIED UP ON HOMICIDE 22-16432 / APPROVED BY SGT. CRATSENBURG	22:45:00	30	3/4/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSILLERB	E MICHIGAN AVE/N HARRIS RD	DISPATCHED CALLS	220016448	DISP. CRASH REPORT FILED / COVERING YPSI TWP FOR UNITS ON SCENE AT HOMICIDE / APPROVED BY SGT CRATSENBURG	23:15:00	40	3/4/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSILLERB	N HARRIS RD	DISPATCHED CALLS	220016454	DISP. ATTEMPTED WELFARE CHECK FOR SUBJECT / NO ANSWER AT DOOR / APPROVED BY SGT CRATSENBURG TO COVER YPSI TWP FOR UNITS ON SCENE AT HOMICIDE	23:55:00	25	3/4/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDTROWBRIDGEM	HOLMES RD	DISPATCHED CALLS	220016471	DISPATCHED RUN BECAUSE YPSI UNITS NOT AVAILABLE DUE TO SHOOTING SGT CRATS APPROVAL	04:15:00	10	3/5/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDTROWBRIDGEM	STEVENS DR	BACKUP DISPATCHED CALLS	220016472	BACKUP YPSI UNIT ON RUN DUE TO NOT HAVING ANY OTHER UNIT AVAILABLE SGT CRATS APPROVAL	04:25:00	10	3/5/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDDUONGJ	S HARRIS RD	BACKUP DISPATCHED CALLS	220016923	ASSIST TOWNSHIP UNITS IN SHOOTING / JUVENILE SHOT IN THE LEG AND ANOTHER GRAZED / PER SGT CRATSENBURG	22:55:00	50	3/6/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDGOMBOSJ	S HARRIS RD	BACKUP DISPATCHED CALLS	220016923	BACK YPT UNITS ON SHOOTING PER SGT CRATSENBURG	23:00:00	25	3/6/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDGOMBOSJ	US12/ECORSE RD	TRAFFIC STOP	220016926	UNAVOIDABLE STOP - RAN RED LIGHT	23:25:00	10	3/6/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDGOMBOSJ	UPON ECORSE and AT/NEAR FORD	CITATIONS		RAN RED LIGHT	23:35:00	5	3/6/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDTROWBRIDGEM	HARVEY PL	BACKUP DISPATCHED CALLS	220017193	BACKUP YPSI UNITS ON FA SGT CRATS APPROVAL REFERENCE: 22-17193	01:45:00	135	3/8/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDBETTSI	DORSET AVE	BACKUP DISPATCHED CALLS	220017436	SHOOTING - OK PER SGT PENNINGTON	21:15:00	20	3/8/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDDUONGJ	WOODGLEN AVE	DISPATCHED CALLS	220017680	ASSIST TOWNSHIP W/ CALLS / UNITS TIED UP WITH 22-17678 A&B ON OFFICER / PER SGT HOUK	17:35:00	15	3/9/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSIRIANNJU	ECORSE RD	DISPATCHED CALLS	220017683	HANDLE FOR YPT UNITS / ALL TIED UP ON 22-17678 / CORRECTIONS OFFICER ASSAULTED / APPROVED BY SGT. CRATSENBURG	17:35:00	25	3/9/2022
SALEM TWP	YPSILANTI TWP	WDWIONJ	HUMMINGBIRD DR	DISPATCHED CALLS	220017679	report written - approved Houk - help with pending calls while units were on Jail assault	17:36:00	21	3/9/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDVANDUSSENK	HEATHERRIDGE ST	BACKUP DISPATCHED CALLS	220018205	BU ON POSSIBLE SHOOTING / APPROVED PER SGT MONTGOMERY	18:15:00	25	3/11/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSIMMST	APPLERIDGE ST/WOODRUFF LN	DISPATCHED CALLS	220019268	STOLEN VEHICLE / SGT. ARTS	11:35:00	120	3/15/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDBETTSI	DELAWARE AVE	BACKUP DISPATCHED CALLS	220020184	MULT. PERSON FIGHT IN PROG - OK PER SGT PENNINGTON	22:35:00	40	3/17/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDTROWBRIDGEM	N HEWITT RD/WASHTENAW AVE	BACKUP DISPATCHED CALLS	220020212	ASSIST YPSI DEP ON RUN FOR ROAD BLOCKAGE BECAUSE OTHER UNITS WERE ON OTHER CALLS SGT PENNINGTON APPROVAL	00:30:00	15	3/18/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDBETTSI	LYNN CT/MCCARTHY ST	BACKUP DISPATCHED CALLS	220020673	REC UDA AWIM SUSPECT VEH - SGT CRATSENBURG	20:25:00	105	3/19/2022
YORK TWP	YPSILANTI TWP	WDTRIPPB	LYNN CT/MCCARTHY ST	BACKUP DISPATCHED CALLS	220020673	ASSIST IN BLOCKING OFF GROVE, STOPPED S1 DAD, PERIMETER ON HOUSE DURING SEARCH PER SGT CRATSENBURG	20:30:00	90	3/19/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDFARMERH	MICHIGAN /JUNE	BACKUP DISPATCHED CALLS		ASSIST YPSI TWP CAR W/ FEMALE SEARCH/SGT ARTS APPROVED 22-20799	13:44:00	26	3/20/2022



Into Area Time

For: 03/01/2022 thru 03/31/2022



ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSILLERB	N FORD BLVD / CLARK RD	BACK-UP TRAFFIC STOP		DISP- ASSISTED DEPUTY WOOLLAMS ON TRAFFIC STOP / TWO OCCUPANTS OF VEHICLE ARRESTED ON WARRANTS / YPSI TWP DEPUTIES TIED UP AT THE TIME / APPROVED BY SGT PENNINGTON	23:45:00	75	3/22/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDTROWBRIDGEM	N FORD BLVD/HOLMES RD	BACK-UP TRAFFIC STOP	220021584	BACKUP OTHER UNIT ON STOP WITH 2 SUBJECTS THAT HAD WARRANTS SGT PENNINGTON APPROVAL	00:01:00	59	3/23/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDTROWBRIDGEM	N HARRIS RD/E FOREST AVE	BACK-UP TRAFFIC STOP	220021594	BACKUP OTHER UNIT ON STOP WITH DISORDERLY SUBJECT SGT PENNINGTON APPROVAL	01:00:00	15	3/23/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSIMMST	E CLARK RD/WIARD BLVD	TRAFFIC STOP	220021660	RFS DISOBEY STOP SIGN	09:45:00	5	3/23/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSIMMST	E CLARK RD/RIDGE RD	TRAFFIC STOP	220021661	RFS DRIVER DID NOT YIELD TO TRAFFIC STOP ON CLARK RD	09:50:00	5	3/23/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDDUONGJ	INTERNATIONAL DR	BACKUP DISPATCHED CALLS	220023019	ASSIST YPD UNITS / OTHER UNITS TIED UP / POSS DV IN PROGRESS / PER SGT KRINGS	20:50:00	55	3/27/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDSILLERB	INTERNATIONAL DR	DISPATCHED CALLS	220023019	DISP- ASSIST TO YPSI TWP DEPUTIES / SCENE SECURITY / APPROVED BY SGT KRINGS	20:50:00	20	3/27/2022
ANN ARBOR-SUPERIOR TWP COLLABORATION	YPSILANTI TWP	WDTROWBRIDGEM	W MICHIGAN AVE	BACKUP DISPATCHED CALLS	220023666	BACKUP YPSI UNITS ON PURSUIT SGT, RUSH APPROVAL	04:00:00	25	3/30/2022
							Sum:	1,576	

**WORK SESSION AGENDA
CHARTER TOWNSHIP OF YPSILANTI
TUESDAY, APRIL 19, 2022**

5:00pm

1. REBRANDING PRESENTATION.....M3 GROUP
2. AGENDA REVIEWSUPERVISOR STUMBO
3. OTHER DISCUSSION BOARD MEMBERS

Supervisor
BRENDA L. STUMBO
Clerk
HEATHER JARRELL ROE
Treasurer
STAN ELDRIDGE
Trustees
JOHN P. NEWMAN
GLORIA PETERSON
DEBBIE SWANSON
JIMMIE WILSON JR.



**Residential Services
Department**

7200 S. Huron River Drive
Ypsilanti, MI 48197

ytown.org

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Mike Hoffmeister, Residential Services Director
Heather Jarrell Roe, Township Clerk
John Hines, Recreation Director
Travis McDugald, Information Systems Manager

Date: March 29, 2022

RE: **Work Session Presentation for the Rebranding of Ypsilanti Township**

The Board of Trustees previously approved an agreement to work with the M3 Group at the September 21, 2021 Board of Trustees meeting to assist in rebranding the Township. Since then, Township staff have been working hard to make this a reality. The M3 process included in depth community research, community engagement, discussion boards, competitive analysis and creative briefs to assist in developing a new brand. This brand is not just a logo, but also a deliverable style guide, a new tagline and new mission and vision statements.

The staff project team includes Mike Hoffmeister, Heather Jarrell Roe, John Hines and Travis McDugald. Staff and the M3 Group are excited to present to the Board of Trustees our work and logo options for the rebranding of the Township.

Mike Hoffmeister
Residential Services Director
mhoffmeister@ytown.org
734-544-3515

brand **FORWARD**

THE M3 DIFFERENCE



Ypsilanti Township Rebrand Presentation

Agenda



- M3 Group Introductions
- Our Process
- Tagline & Logo Presentation
- Next Steps
- Questions

Introductions



M3 Group is a full-service branding, marketing, public relations and advertising agency headquartered in the heart of downtown Lansing. Formed in 2002, the agency has grown to three offices and 24 employees. Focused on integrating disciplines to provide clients the most effective strategy possible, M3 Group thrives on fully understanding the challenge, developing a strategy to meet the need and implementing the tactics necessary to show results.

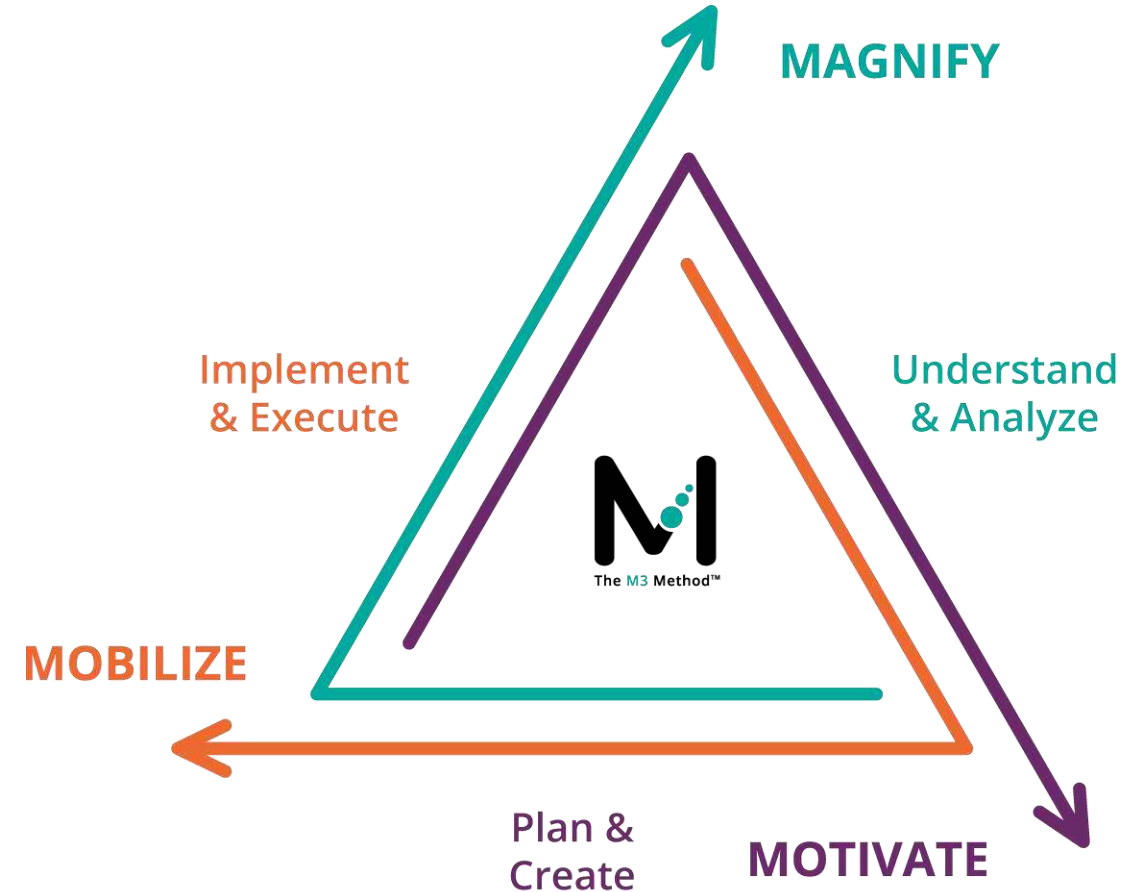
Your Team:

- Sean Hickey, Chief Marketing Strategist
- Melissa DeMott, Client Strategist
- Penny Spehar, Senior Content Strategist
- Kathryn Aspin, Creative Visionary

Our Process



- We use our trademarked M3 Method that delivers exceptional results when followed fully. This system brings the power of understanding, strategy development and implementation to every client.
- Magnify
- Motivate
- Mobilize

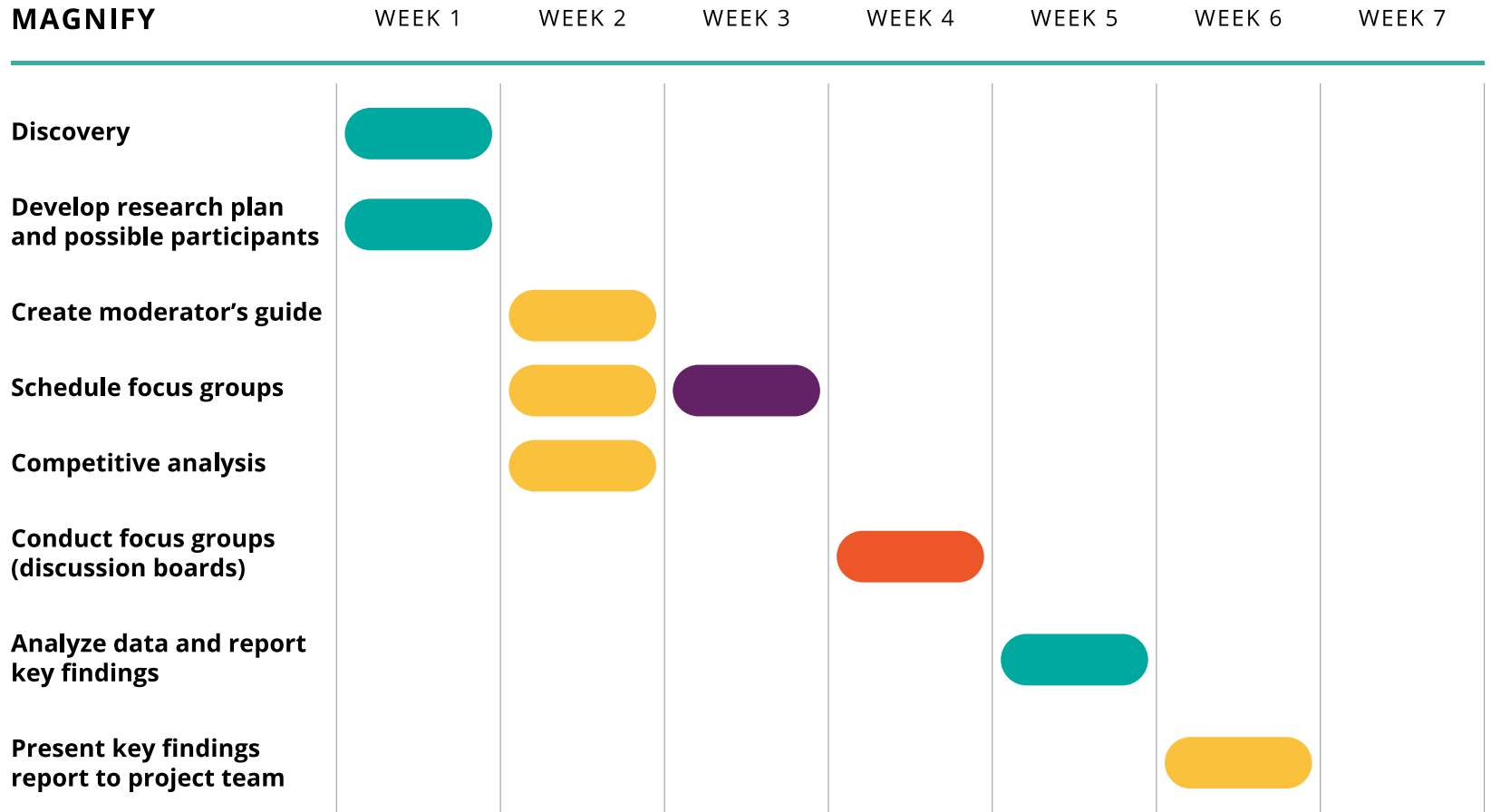




PROJECT SCHEDULE

Our phased approach gives us an opportunity to discover everything we need to know about you and the competitive landscape through our initial **Magnify phase**.

MAGNIFY



What that looked like for Ypsilanti Township



Primary Research — Interviews (Delivered)

- Discussion Boards
 - Monday, Nov. 8, through Friday, Nov. 12, 2021.
 - Engaged business and nonprofit/faith leaders as well as employees and residents from and around the township.
 - Depth Interviews
 - Conducted eight depth interviews.
 - Participants included trustees, leadership and key staff.
 - The participants were asked similar questions as the discussion board participants, but the interview setting allowed the participants to expand on their replies in greater detail.

Secondary Research — Competitive Analysis (Delivered)

- Researched Ypsilanti Township and its surrounding communities and their branding, web and social properties, and demographics. We used this information as a point of comparison to identify Ypsilanti Township's strengths and weaknesses relative to each competitor and drive message development.
 - Pittsfield
 - Superior
 - Van Buren
 - York

What that looked like for Ypsilanti Township



Brand Messaging (Delivered)

- Brand descriptors — What Ypsilanti Township is or is not.
- Key differentiators — The main points that set Ypsilanti Township apart from its competitors.
- Unique Value Proposition — The one thing that sets the organization apart from all other competitors.
- Audience segmentation.
- URL recommendation.
- Tagline development.
- Update mission and vision statements.

Creative Brief (Delivered)

- Used by the M3 Group team and approved of by the Ypsilanti Township rebranding team.
- Connects findings from the competitive analysis, research and brand messaging into one reference document used to inform the creative approach and delivery of new logos, taglines and seal.

What that looked like for Ypsilanti Township



Implementation Strategy (Delivered)

- A plan to document, manage and prioritize all the internal, external and administrative aspects, as well as costs, that go into rolling out a new brand.
- Guidance on protecting your investment.
 - Use of the logos and taglines contribute to a municipality's unique character and the outside world's perception of that municipality, as well as licensing opportunities that could lead to revenue from their use. Now, because the township invested significant resources into its new logo and tagline, it should take steps to protect its investment by trademarking and copyrighting them.

Style Guide (In process)

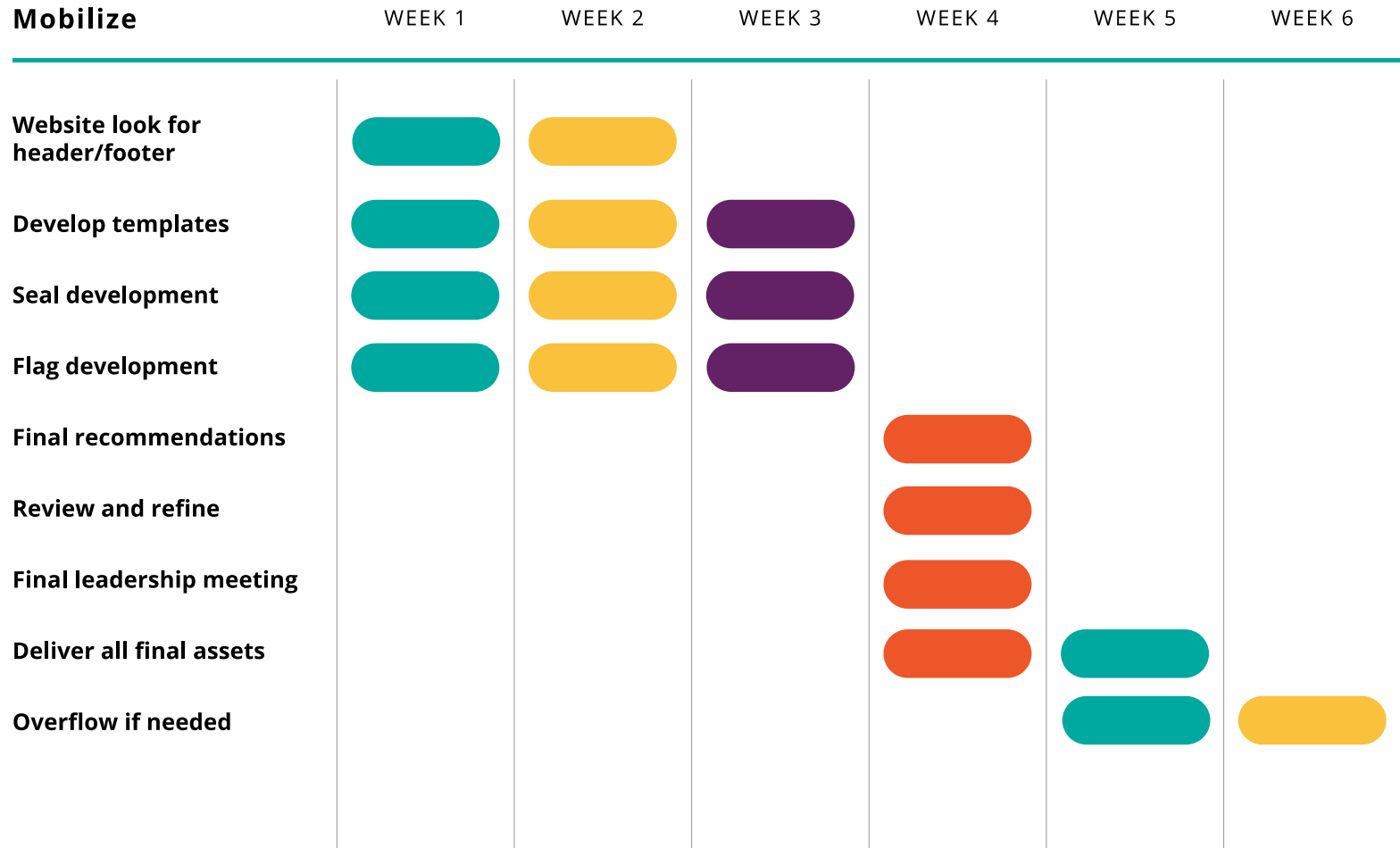
- An instruction manual on how the new brand should be communicated. It contains the standards required to represent your brand correctly, both internally and externally.



PROJECT SCHEDULE

Finally, we continue our approach and enact our **Mobilize phase** through the monthly execution of deliverables, allowing for amazing KPIs and return on investment.

Mobilize



Tagline & Logo

Tagline: Discover Your Roots



Discover Your Roots

- Active voice
- History put Ypsilanti Township on the map, but now discover our trails, lake, community and the future.
- It's a nice balance between the past and the future.

Desired Outcomes

What do you want the audience to THINK about the key message/product?

Ypsilanti Township is a place where they belong.

What do you want the audience to FEEL about the key message/product?

Pride in their community.

What do you want the audience to DO with the key message/product?

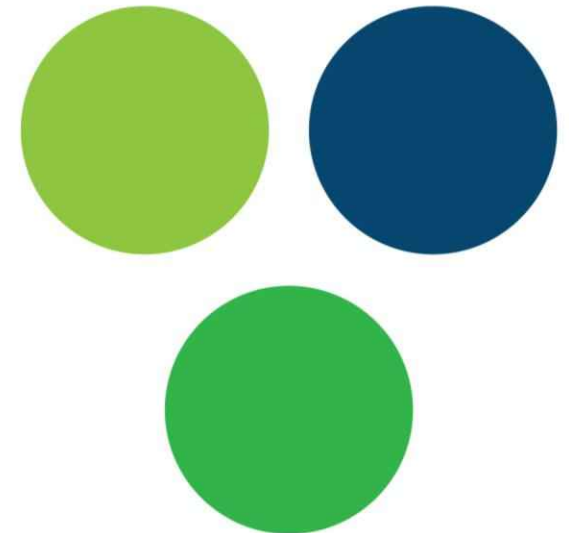
We want residents to be inspired to get out to explore and connect with their community more actively. We want potential residents and businesses to consider Ypsilanti Township as a new place to live or start/grow a business.

Logo Option 1



Rationale:

The beauty and bounty of the natural world around us has long been a touchstone of Ypsilanti Township's attractive offerings. This logo plays into the township's embrace of its alliance with nature. The blues and the greens in the color palette reflect that sense of harmony with the environment while also presenting a feeling of trust and confidence. The logo mark gives a subtle nod to the letter Y, and the image itself tying the township and nature into a unified and welcoming visual plays seamlessly into the tagline "Discover Your Roots."







YPSILANTI
TOWNSHIP



YPSILANTI
TOWNSHIP
• Discover your Roots •



YPSILANTI
TOWNSHIP



YPSILANTI
TOWNSHIP
• Discover your Roots •



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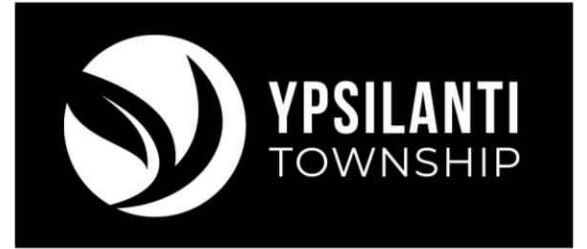
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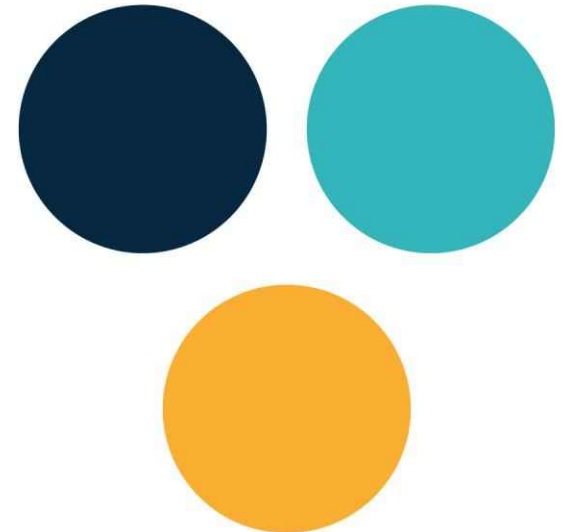


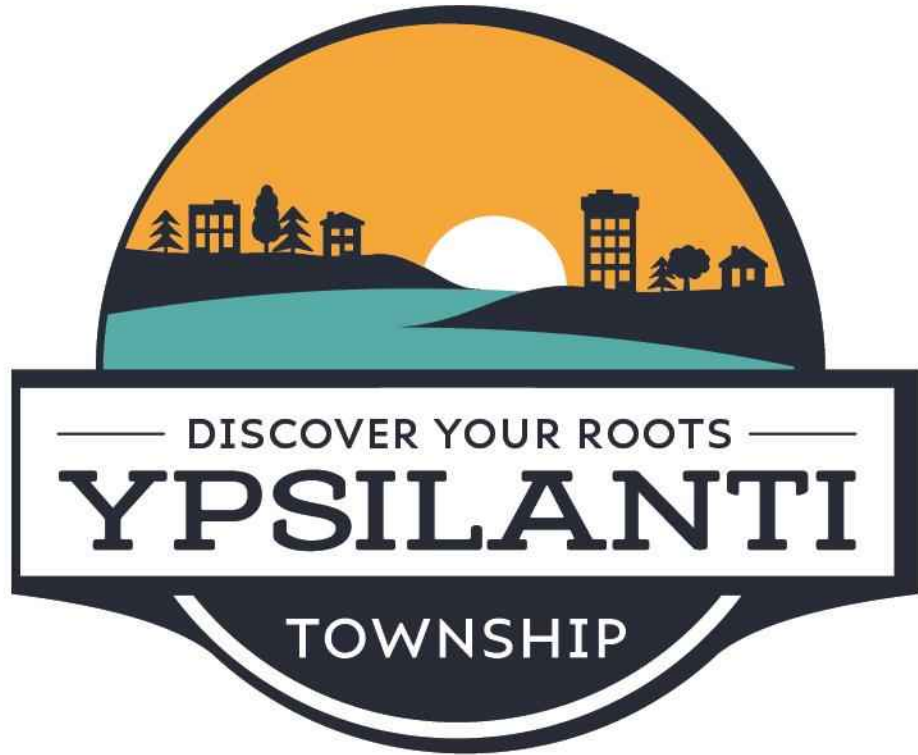
Logo Option 2



Rationale:

Ypsilanti Township residents are as familiar as they are as fond of Ford Lake. So it's fitting that its calm waters serve as the focal and centerpiece of this logo option. The vast recreational opportunities Ford Lake provides serve as a primary link between township residents and nature, as depicted in the background of the image. The palette for this option draws upon colors used previously but places a greater emphasis on the warm orange more than other options, which provide a soothing and relaxing balance. The warm-and-cool color combination show that the township is rooted, trusted and welcoming.







**YPSILANTI
TOWNSHIP**



**YPSILANTI
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**YPSILANTI
TOWNSHIP**
DISCOVER YOUR ROOTS



**YPSILANTI
TOWNSHIP**
DISCOVER YOUR ROOTS



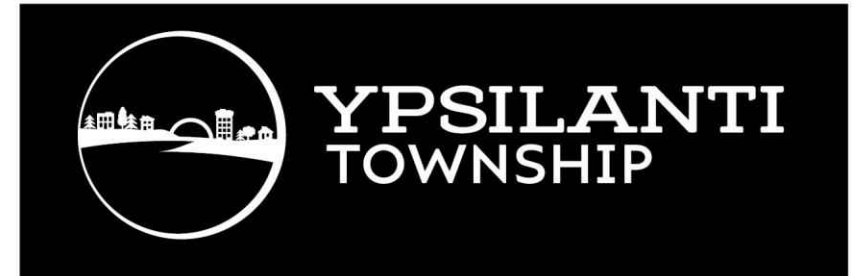
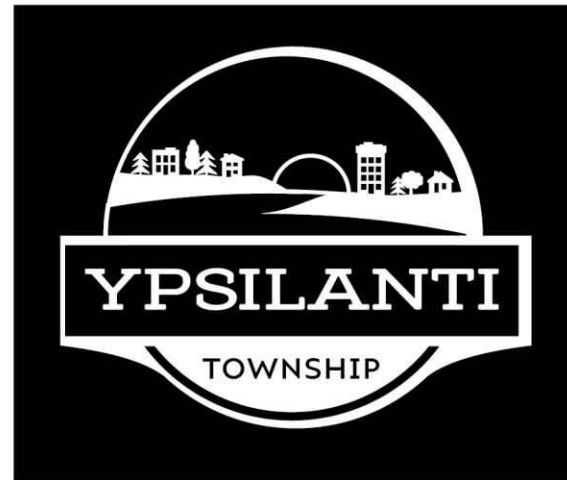
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TOWNSHIP



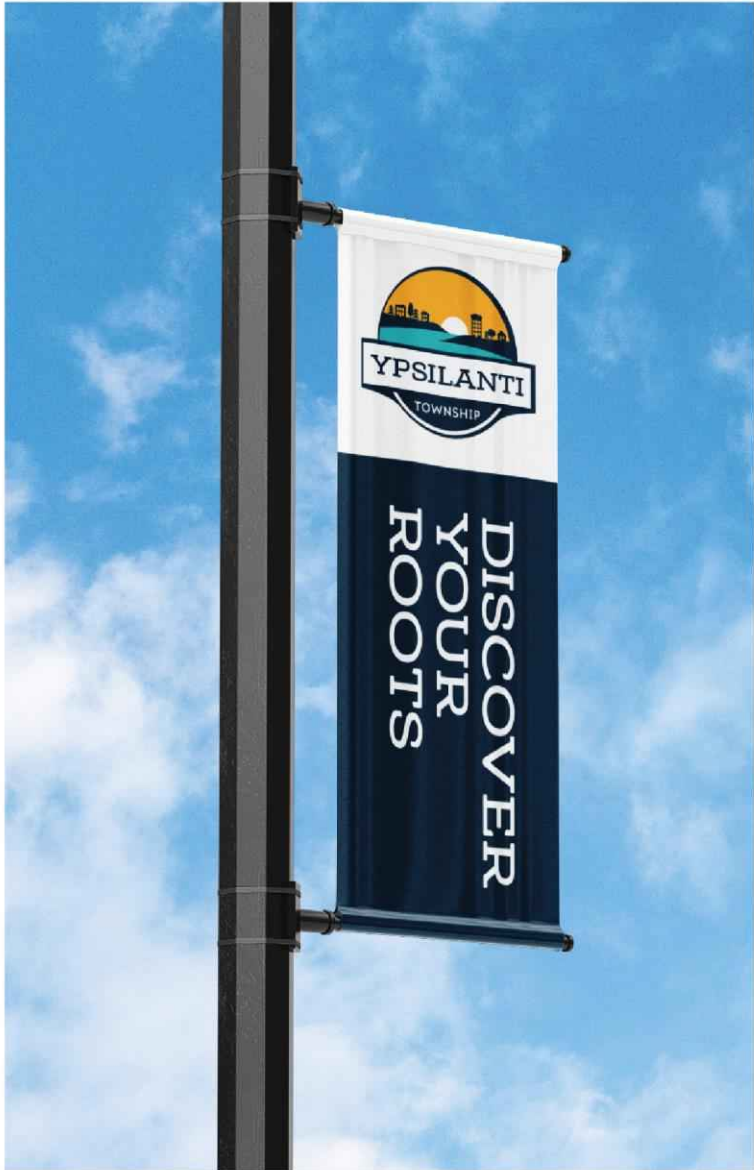
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Logo Options



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YPSILANTI
TOWNSHIP



Questions?



REVIEW AGENDA

- A. SUPERVISOR STUMBO WILL REVIEW BOARD MEETING AGENDA

OTHER DISCUSSION

- A. BOARD MEMBERS HAVE THE OPPORTUNITY TO DISCUSS ANY OTHER PERTINENT ISSUES



Charter Township of Ypsilanti

7200 S. HURON RIVER DRIVE • YPSILANTI, MI 48197

SUPERVISOR BRENDA STUMBO • CLERK HEATHER JARRELL ROE • TREASURER STAN ELDRIDGE
TRUSTEES: JOHN P. NEWMAN II • GLORIA PETERSON • DEBBIE SWANSON • JIMMIE WILSON, JR.

REGULAR MEETING AGENDA

TUESDAY, APRIL 19, 2022

7:00 P.M.

1. CALL TO ORDER
2. PLEDGE OF ALLEGIANCE AND INVOCATION
3. PUBLIC COMMENTS
 - THREE MINUTES PER PERSON
 - ALL COMMENTS MUST BE ADDRESSED TO THE CHAIR
 - PUBLIC COMMENTS ARE ALSO WELCOME AS THE BOARD ADDRESSES EACH AGENDA ITEM
4. CONSENT AGENDA
 - A. MINUTES OF THE APRIL 5, 2022 WORK SESSION AND REGULAR MEETING
 - B. STATEMENTS AND CHECKS
 1. STATEMENTS AND CHECKS FOR APRIL 19, 2022 IN THE AMOUNT OF \$1,166,825.34
 2. CLARITY HEALTHCARE DEDUCTIBLE ACH FOR MARCH 2022 IN THE AMOUNT OF \$71,282.35
 3. CLARITY HEALTHCARE ADMIN FEE FOR MARCH 2022 IN THE AMOUNT OF \$1,308.69
 - C. TREASURER'S REPORT MARCH 2022
5. ATTORNEY REPORT
 - A. GENERAL LEGAL UPDATE

OLD BUSINESS

1. 2ND READING OF RESOLUTION 2022-04, PROPOSED ORDINANCE 20252-499 TO AMEND THE TOWNSHIP FIREWORK ORDINANCE (FIRST READING HELD AT THE MARCH 22, 2022 REGULAR MEETING)

NEW BUSINESS

1. REQUEST TO APPROVE THE STAGE II FINAL SITE PLAN, DETAILED ENGINEERING AND DEVELOPMENT AGREEMENT FOR RANGE USA, LOCATED AT 660 JAMES L. HART PARKWAY
2. REQUEST TO AUTHORIZE CIRCUIT COURT LITIGATION TO ABATE A PUBLIC NUISANCE LOCATED AT 6050 S. IVANHOE BUDGETED IN LINE ITEM #101-729-801-023
3. REQUEST TO APPROVE THE MASTER AGREEMENT FOR MUNICIPAL STREET LIGHTING WITH DTE FOR THE INSTALLATION OF TWENTY FOUR (24) STREETLIGHTS FOR HURON STREET IN THE AMOUNT OF \$140,654.16 BUDGETED IN LINE ITEM #213-901-986-009 CONTINGENT UPON APPROVAL OF THE BUDGET AMENDMENT
4. BUDGET AMENDMENT #6

AUTHORIZATIONS AND BIDS

1. REQUEST TO SEEK SEALED BIDS FOR THE REPLACEMENT OF THE ROOF AT FIRE STATION #4 LOCATED AT 8879 TEXTILE RD.
2. REQUEST TO SEEK BIDS FOR ASPHALT REPLACEMENT FOR THE PARKING LOT AT FIRE STATION #3 LOCATED AT 20 S. HEWITT
3. REQUEST TO SEEK SEALED BIDS FOR TWO FIRE PUMP ENGINES

OTHER BUSINESS

BOARD MEMBER UPDATES

PUBLIC COMMENTS

CONSENT AGENDA

**CHARTER TOWNSHIP OF YPSILANTI
MINUTES OF THE APRIL 5, 2022 WORK SESSION**

Supervisor Stumbo called the meeting to order at approximately 5:07pm in the Ypsilanti Township Civic Center Board Room, 7200 S. Huron River Drive, Ypsilanti Township.

Members Present: Supervisor Brenda Stumbo, Clerk Jarrell Roe and Treasurer Stan Eldridge
Trustees: John Newman II, Gloria Peterson, and Debbie Swanson and Jimmy Wilson Jr.

Members Absent: None.

Legal Counsel: Wm. Douglas Winters

PUBLIC COMMENTS

There were no public comments given.

AGENDA

1. AAATA PRESENTATION.....MATT CARPENTER, AAATA

Ryan Hunter, Ypsilanti Township Representative for the AAATA board introduced fellow AAATA board members present Kathleen Mosaic, and Eric Mahler, as well as CEO Matt Carpenter. Mr. Hunter insured the board that he is committed to the community and representing the needs of Ypsilanti Township accordingly. He continues to state that this is the beginning of discussion, and not an end, and wants to hear from the board members, and residents.

Matt Carpenter, AAATA CEO is introduced by Mr. Hunter and begins the proposed millage presentation. Mr. Carpenter begins by explaining that the purpos of the presentation is to provide and introduction the the Ypsilanti Township Board of

CHARTER TOWNSHIP OF YPSILANTI
MINUTES OF THE MARCH 15, 2022 WORK SESSION
PAGE 2

Trustees, as well as seek feedback and advice. He continues to say that this is an important public involvement period and expresses interest in hearing from the board members, as well as residents. Mr. Carpenter expresses his value of the Township residents and board.

Starting into the presentation, Mr. Carpenter explains that they have heard from the community that there is a significant need for seniors, persons with disabilities, low incomes, workers and students. The ride is looking to deliver these services and leverage more outside steady state and federal funds to do so, but will still require a local property tax in order to do everything. Mr. Carpenter begins to then explain the 25 year long range plan, as well as the millage proposal. The explanation included that public engagement occurred to form the long range plan, including a meeting with the township Board of Trustees back in October.

Supervisor Stumbo briefly asks Mr. Carpenter if he could recall the feedback that was given from the board back in October. Mr. Carpenter explained that at that time, our board expressed great concern for the millage rate and tax burden to residents. Mr. Carpenter continues to explain that AAATA has heard from many community members that public transit investments are important. Mr. Carpenter goes into further detail about the millage proposal and services that would be covered.

Trustee Swanson asks about the number of people surveyed and interviewed, and if they were able to narrow down what municipality the respondents resided in.

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PAGE 3

Trustee Swanson also asked about the duration of the plan and if any changes were needed to be made to routes, how they would determine those outcomes.

Mr. Carpenter explained that ridership is one of the factors that they look at, and that if routes needed to be cut back, the decision to do so wouldn't be made lightly. AAATA performed a phone survey of residents, with about 600 respondent's total, only 120-125 from the township.

Treasurer Eldridge begins his comments by saying that everyone on this Township board is pro public transit, and does not want that message to be lost or to get misinterpreted. The concern is the residents and their current tax burden that varies across the township, depending on what school district you live in. Treasurer Eldridge asked if Mr. Carpenter could speak to a recent MLive article about the decrease in ridership from AAATA, and if that was the case, how we could ask for a millage increase. Treasurer Eldridge also asks if Ypsilanti Township would see any infrastructure placed within our jurisdiction, considering that this is a long range plan.

Mr. Carpenter explained that they are seeing ridership slowly returning as people are getting back to work, and that AAATA works hard to gain their business. He goes on to explain that there would not be plans for infrastructure within the township at this point.

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Treasurer Eldridge asks about the AAATA Board make up and if the other municipalities who have their own separate millage rates in addition to the collaborative one, would be lowering their millage rates as a result of this increase.

Mr. Carpenter explains that it is a 10 person board, and that the township had one representative. He did not expect the other municipalities to change their individual levies.

Treasurer Eldridge concludes his comments with discussion about the possibility of a Regional Transit Authority coming to the area and how that would impact this decision, as well as urging the AAATA board to go out in the November election, instead of August.

Clerk Jarrell Roe begins her comments by stating that this would be more than tripling the township tax payer's millage rate. The current millage is 0.7 and would go to 2.38 as proposed, while at the same time, our township has continued to see routes cut. Clerk Jarrell Roe describes being in a meeting last fall with Supervisor Stumbo and AAATA representatives and deeply urging them to keep a route going that serviced the community center and ran by a senior living facility, as well as most recently, the Harris to Ford Blvd route being cut. Clerk Jarrell Roe goes on to say that it is unfortunate but no surprise that these areas where the routes have been cut, are our highest taxed residents and also fall within the opportunity index as areas that need more access to opportunity. She concludes by saying that the proposed rate is an undue burden to our residents and this rate is not the answer.

**CHARTER TOWNSHIP OF YPSILANTI
MINUTES OF THE MARCH 15, 2022 WORK SESSION
PAGE 5**

Trustee Wilson asks about the proposed millage including an increase in staffing, while services are seemingly down and how that works.

Mr. Carpenter explained that they uncovered a structural deficit in 2017 and now for several years they have been operating without sufficient revenue. Part of the way they have navigated this is by consolidating staffing. They are now concerned about burn out of staff and having road supervisors readily available to come help with something if needed.

Trustee Wilson concluded by urging the AAATA Board and leadership to do further community engagement.

Trustee Swanson discusses her concern over equity and that there are real people that will be impacted behind this decision. She explains that we have to get it right for the people in our community and it is very concerning to think of the increase in cost on families who are working so hard to make ends meet. She expresses concern that AAATA has not connected on the right level with people in the community who are counting on us to get this right.

Trustee Newman asks about the election and what AAATA expects the outcome to be, and identifies that Ann Arbors size in votes could tune out our communities concerns and needs.

CHARTER TOWNSHIP OF YPSILANTI
MINUTES OF THE MARCH 15, 2022 WORK SESSION
PAGE 6

Supervisor Stumbo begins by explaining the history of the partnership with AAATA, and the partnership that it was centered around. She goes on to explain that this is now the fourth time that AAATA representative have come before us, with the same ask, and have heard clearly each time that this is not the right time for this large of an increase. She explains that this increase, based on a 600 person survey, is a 350% increase. Supervisor Stumbo explains that the intent of the partnership was to have trust, and provide service to our residents, workers, children and seniors and all of the ideas in the long range plan sound great but, when you actually implement them, the cost will have dire effects on people. Supervisor Stumbo references an agreement that the Ypsilanti Township Board and AAATA signed upon the beginning of their relationship, and that the agreement requires that we work to maintain good relationships, to the extent that if disputes arise out of the agreement, including but not limited to matters concerning expansion, reduction and negotiations, and that is not and has not happened. She explains that we have all expressed concern and yet, they continue to move forward. Supervisor Stumbo asks why all the other communities received 6 hour presentations for public comment and feedback, and yet our township received half of that at three hours. She explains that it's just another way that our community is not being heard or respected. She concludes by saying that she hopes AAATA will honor the agreement that has been in place and would see the undue burden that they are thinking of placing on the residents.

Resident Kristin Howard expresses her concerns with the service area and millage rate proposal.

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MINUTES OF THE MARCH 15, 2022 WORK SESSION
PAGE 7**

Resident Monica Williams expresses her concerns with the millage proposal and urges the AAATA Board to go back to the drawing board for better solutions.

2. REBRANDING PRESENTATION.....M3 GROUP

The Rebranding Discussion will move to a later meeting.

3. AGENDA REVIEWSUPERVISOR STUMBO

4. OTHER DISCUSSION BOARD MEMBERS

AGENDA REVIEW.....SUPERVISOR STUMBO

CONSENT AGENDA

ATTORNEY REPORT

Attorney Winters stated he would give the attorney report during the regular meeting.

NEW BUSINESS

1. RESOLUTION 2022-05, TO CHANGE A PLATTED LOT BOUNDARY LINE IN WASHTENAW CLUBVIEW SUBDIVISION LOT 6, DIVIDING THE ORIGINAL INTO TWO AS A RESULT OF A LOT SPLIT

Brian Mc Cleary, Deputy Assessor explained the process for the land division.

2. REQUEST AUTHORIZATION TO PURCHASE A MASSEY FERGUSON TRACTOR FROM DIUBLE EQUIPMENT IN THE AMOUNT OF \$31,346.00 BUDGETED IN LINE ITEM #101-

**CHARTER TOWNSHIP OF YPSILANTI
MINUTES OF THE MARCH 15, 2022 WORK SESSION
PAGE 8**

770-977-000 CONTINGENT UPON APPROVAL OF THE BUDGET AMENDMENT

Mike Hoffmeister discussed the need for the new tractor, the old one is beyond repair. Trustee Peterson asks if this is coming from a local vendor. Mr. Hoffmeister explains that it is coming locally from Ann Arbor.

**3. REQUEST TO APPROVE ADDENDUM #2 TO THE AGREEMENT WITH
COMMUNITY PUBLISHING AND MARKETING FOR THE TOWNSHIP BROCHURE IN
THE AMOUNT
OF \$16,595.00 BUDGET IN LINE ITEMS #226-528-900-000, #230-754-880-000 AND
#101-267-900-000**

John Hines explains the request for this addendum is due to the increased cost in paper products and that the vendor has been really great to work with and that the magazine is a great service to our residents. Supervisor Stumbo adds that the cost of paper products has increased greatly, and we will likely see an increase for the cost of the elections and ballots as well.

**4. REQUEST TO APPROVE AGREEMENT WITH THE WASHTENAW COUNTY ROAD
COMMISSION FOR THE 2022 LOCAL ROAD PROGRAM IN THE AMOUNT OF
\$64,085.08 BUDGETED IN LINE ITEM #101-446-982-000 CONTINGENT UPON
APPROVAL OF THE BUDGET AMENDMENT**

Supervisor Stumbo explains the road agreement and that there is an additional agreement that has been sent to the ARPA Committee for discussion.

**5. REQUEST TO FORMALLY APPROVE A TERMS OF ENGAGEMENT LETTER WITH
THE LAW FIRM OF KERR, RUSSELL AND WEBER , PLC BUDGETED IN LINE ITEM
#101-729-801-024**

Supervisor Stumbo explains the need to retain James Tamm, a zoning attorney for a pending federal court case.

**6. REQUEST TO APPOINT GAGE ADAMS TO THE PLANNING COMMISSION FOR A
TERM ENDING DECEMBER 31, 2023**

**CHARTER TOWNSHIP OF YPSILANTI
MINUTES OF THE MARCH 15, 2022 WORK SESSION
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Supervisor Stumbo explains that Gage Adams will be replacing Sally Richie who has resigned from the Planning Commission after many years of service. Gage lives in the same neighborhood that Sally does, so the representation from that area is still present on the board.

7. BUDGET AMENDMENT

Other Business

There is no other business.

Board Member Updates

The Work Session meeting was adjourned at approximately 6:56pm.

Respectfully Submitted,

**Heather Jarrell Roe, Clerk
Charter Township of Ypsilanti**

**CHARTER TOWNSHIP OF YPSILANTI
MINUTES OF THE APRIL 5, 2022 REGULAR BOARD MEETING**

Supervisor Stumbo called the meeting to order at approximately 7:05PM in the Ypsilanti Township Civic Center Board Room, 7200 S. Huron River Drive, Ypsilanti Township. The Pledge of Allegiance was recited followed by a moment of silent prayer.

Members Present: Supervisor Brenda Stumbo, Clerk Heather Jarrell Roe, and Treasurer Stan Eldridge
Trustees: Gloria Peterson, John Newman II, Debbie Swanson and Jimmie Wilson Jr.

Members Absent: None

Legal Counsel: Wm. Douglas Winters

2. PUBLIC COMMENTS

Three public comments were given.

3. CONSENT AGENDA

A. MINUTES OF THE MARCH 15, 2022 WORK SESSION AND REGULAR MEETING

B. STATEMENTS AND CHECKS

1. STATEMENTS AND CHECKS FOR APRIL 5, 2022 IN THE AMOUNT OF \$2,187,664.58

A motion was made by Clerk Jarrell Roe and supported by Treasurer Eldridge to approve the consent agenda.

The motion passed unanimously.

ATTORNEY REPORT

A. GENERAL LEGAL UPDATE

Attorney Winters discussed the Township's efforts towards neighborhood stabilization over the years and his concern that things may be worsening again.

NEW BUSINESS

1. RESOLUTION 2022-05, TO CHANGE A PLATTED LOT BOUNDARY LINE IN WASHTENAW CLUBVIEW SUBDIVISION LOT 6, DIVIDING THE ORIGINAL INTO TWO AS A RESULT OF A LOT SPLIT

Clerk Jarrell Roe read the resolution into the record.

A motion was made by Clerk Jarrell Roe and seconded by Trustee Wilson to approve the Resolution 2022-05, to change a platted lot boundary line in

**CHARTER TOWNSHIP OF YPSILANTI
MINUTES OF THE APRIL 5, 2022 REGULAR BOARD MEETING
PAGE 2**

Washtenaw Clubview Subdivision Lot 6, dividing the original into two as a result of a lot split (see attached).

Supervisor Stumbo detailed the changes.

Motion carried unanimously.

2. REQUEST AUTHORIZATION TO PURCHASE A MASSEY FERGUSON TRACTOR FROM DIUBLE EQUIPMENT IN THE AMOUNT OF \$31,346.00 BUDGETED IN LINE ITEM #101-770-977-000 CONTINGENT UPON APPROVAL OF THE BUDGET AMENDMENT

A motion was made by Trustee Peterson and seconded by Treasurer Eldridge to authorize the purchase of a Massey Ferguson Tractor from Diuble Equipment in the amount of \$31,346.00 budgeted in line item #101-770-977-000 contingent upon approval of the budget amendment.

The motion carried unanimously.

3. REQUEST TO APPROVE ADDENDUM #2 TO THE AGREEMENT WITH COMMUNITY PUBLISHING AND MARKETING FOR THE TOWNSHIP BROCHURE IN THE AMOUNT OF \$16,595.00 BUDGETED IN LINE ITEMS #226-528-900-000, #230-754-880-000 AND 101-267-900-000

A motion was made by Trustee Wilson and seconded by Clerk Jarrell Roe to approve addendum #2 to the agreement with Community Publishing and Marketing for the township brochure in the amount of \$16,595.00 budgeted in line items #226-528-900-000, #230-754-880-000 and 101-267-900-000 (see attached).

Supervisor Stumbo stated that this addendum was in response to the increase in the price of paper.

The motion carried unanimously.

4. REQUEST TO APPROVE THE AGREEMENT WITH THE WASHTENAW COUNTY ROAD COMMISSION FOR THE 2022 LOCAL ROAD IMPROVEMENT PROGRAM IN THE AMOUNT OF \$64,085.08 BUDGETED IN LINE ITEM #101-446-982-000 CONTINGENT UPON APPROVAL OF THE BUDGET AMENDMENT

A motion was made by Treasurer Eldridge and seconded by Clerk Jarrell Roe to approve the agreement with the Washtenaw County Road Commission for the 2022 Local Road Improvement Program in the amount of \$64,085.08 budgeted in line item #101-446-982-000 contingent upon approval of the budget amendment (see attached).

Supervisor Stumbo stated the three full time officials met with the WCRC and asked them to look at township roads and give them pavement ratings. Supervisor

**CHARTER TOWNSHIP OF YPSILANTI
MINUTES OF THE APRIL 5, 2022 REGULAR BOARD MEETING
PAGE 3**

Stumbo added that going door to door showed various infrastructure improvements that were needed in the township.

The motion carried unanimously.

5. REQUEST TO FORMALLY APPROVE A TERMS OF ENGAGEMENT LETTER WITH LAW FIRM OF KERR, RUSSELL AND WEBER, PLC BUDGETED IN LINE ITEM #101-729-801-024

A motion was made by Clerk Jarrell Roe and seconded by Treasurer Eldridge to formally approve a terms of engagement letter with the law firm of Kerr, Russell and Weber, PLC budgeted in line item #101-729-801-024.

Attorney Winters stated that this was for a lawsuit that had been filed against Secretary of State Jocelyn Benson and Township Clerk Heather Jarrell Roe stating that thirty days to gather petitions for a referendum on a zoning ordinance and meet the threshold requirement is not enough time. He added that the language on the petitions is also in question but that is a separate issue from this lawsuit.

Monica Ross-Williams, resident, commented on the township's right to zone its own community.

Supervisor Stumbo commented on the effort that was put into approving the master plan and that marijuana was zoned in an industrial district that is near Rawsonville Rd. and that the petition language was incorrect because the zoning ordinance does not allow marijuana within five feet of a residence.

The motion carried unanimously.

6. REQUEST TO APPOINT GAGE SMITH TO THE PLANNING COMMISSION FOR A TERM ENDING DECEMBER 31, 2023

A motion was made by Trustee Wilson and seconded by Treasurer Eldridge to appoint Gage Smith to the Planning Commission for a term ending December 31, 2023.

Supervisor Stumbo stated that Sally Ritchie had recently retired from the Planning Commission after 20 years of service. She added that Gage Smith has been on the Zoning Board of Appeals and is a recent graduate of EMU.

The motion carried unanimously.

7. BUDGET AMENDMENT #5

A motion was made Clerk Jarrell Roe and seconded by Trustee Peterson to approve budget amendment #3 (see attached).

The motion carried unanimously.

**CHARTER TOWNSHIP OF YPSILANTI
MINUTES OF THE APRIL 5, 2022 REGULAR BOARD MEETING
PAGE 4**

OTHER BUSINESS

There was no other business discussed.

BOARD MEMBER UPDATES

Clerk Jarrell Roe stated that the ARPA committee is working on a webpage and is still evaluating dates for public meetings. She added that the ARPA committee has had two presentations, one from a community group represented by Alyshia Dyer and Alex Thomas and another from Washtenaw County Administrator Greg Dill and Teresa Gillotti to discuss opportunities to partner with the county in their new human services partnership.

Supervisor Stumbo spoke about meeting the with the OCS Dept. and West Willow Neighborhood leadership in regard to the neighborhoods concern with inoperable vehicles and unkempt homes. She added they were looking to send out a mailer to residents to let them know about township ordinances in regard to these issues.

Supervisor Stumbo added that litter in the township is very bad right now and there are two groups who have been working to clean some of it up.

Supervisor Stumbo updated that DTE is now tree trimming in the township and that this will help prevent power outages.

Supervisor Stumbo said that the three fulltime officials had a meeting with the sheriff's department in regard to license plate readers and that the sheriff's department will be holding a community meeting about this issue.

Supervisor Stumbo stated that a letter was received from Alyshia Dyer and that had been forwarded to the business owner and they're going to respond to the questions asked.

A motion was made by Treasurer Eldridge and supported by Clerk Jarrell Roe to Adjourn.

Motion carried unanimously.

The meeting was adjourned at approximately 7:49pm.

Respectfully Submitted,

**Brenda L. Stumbo, Supervisor
Charter Township of Ypsilanti**

**Heather Jarrell Roe, Clerk
Charter Township of Ypsilanti**

CHARTER TOWNSHIP OF YPSILANTI

Resolution No. 2022-05

RESOLUTION REGARDING THE DIVISION OF A PLATTED LOT

Resolution authorizing the division of platted lots in Washtenaw Club View Subdivision

WHEREAS, the owner of a Lot 6, of Washtenaw Club View Subdivision has made a request to split a lot as previously approved and recorded; and

WHEREAS, Township ordinance no. 2000-243, Article IX, Section 11.01 states that "Upon the filing of a petition, by the owner or owners of all interest therein, with the Township Board, the platted lots, outlot, or parcels of land in existing recorded plats may be partitioned or divided upon resolution of the Township Board into not more than four (4) parts, each of which shall, in regard to width, depth and area, conform to the terms and provisions of the Charter Township of Ypsilanti Zoning Ordinance, as amended; and

WHEREAS, the Township Planning Department has reviewed the division and confirmed that the resulting parcels meet the minimum requirements for lot size and road frontage as set forth by Section 2000 of the Township Zoning Ordinance.

THEREFORE, BE IT RESOLVED, that the revised property descriptions are approved as follows:

LEGAL DESCRIPTIONS:

PARCEL 1:

2600 VERNA ST

THE PORTION OF LOT 6 WASHTENAW CLUB VIEW SUBDIVISION THAT IS SOUTH OF THE NORTH 118' OF LOT 6 WASHTENAW CLUB VIEW SUBDIVISION

PARCEL 2:

2581 PACKARD RD

THE N 118' OF LOT 6 WASHTENAW CLUB VIEW SUBDIVISION

I, Heather Jarrell Roe, Clerk of the Charter Township of Ypsilanti, County of Washtenaw, State of Michigan hereby certify the above resolution is a true and exact copy of Resolution No. 2022-05, approved by the Charter Township of Ypsilanti, Board of Trustees assembled at a Regular Meeting held on April 5, 2022.



Heather Jarrell Roe, Clerk
Charter Township of Ypsilanti

**Community Publishing & Marketing
2021 Ypsilanti Lifestyle Magazine
Prepared for the Ypsilanti Township**

2021 Ypsilanti Lifestyle Magazine

Strategy

This marketing plan is to produce (create, design, layout, print, bind and mail) 3 full size full color 32 page + 4 page cover magazines each year that showcases all of Ypsilanti to its community residences. It is our mission and distinct honor to work hand and hand with the Ypsilanti Township and its Residential Services Department, to collaborate and formulate a production and marketing strategy that facilitates the entire production process for the 2021 Ypsilanti Lifestyle Magazine.

Specs:

- 15,500 magazines (approximately 15,000 mailing to residences of Ypsilanti Township per Township's mailing list and/or specifications) with postage being paid by Township. The balance will be carton packed and delivered to the township.
- 32 page + 4 page cover
- Text: 60# c2s gloss and/or matte text
- Cover: 80# c2s Satin Cover with Satin/Matte finish
- 4 color process throughout
- 8.5 x 11 trim (8.75 x 11.25 including 1/8" bleed all 4 sides)
- Saddle stitch along the 11 dimensions (vertical pub)
- CPM will print this project with a company of its choosing (parent company Printwell)
- Entire creation, design, layout will be a collaboration with Ypsilanti Township and CPM
- There will be no advertising in the publication at this time, however, CPM may be able to provide in the future and work out an appropriate deal with Township
- CPM will utilize photos/artwork provided by the Township for the magazine.
- CPM will produce a Digital Version of the magazine that will be accessible for both Android and Apple devices as well as on the Township's and CPM's website.
- The Ypsilanti Township will own all information and graphics/artwork within the 2021 Magazine (this is a Ypsilanti Township project/magazine and all content within the publication, the other material/graphics/information/text/etc. are township property and will not be used in any other context/publication/marketing material without written permission from the Ypsilanti Township).
- Final layout will be approved by the Ypsilanti Township.

Though both parties should do their very best to work out any difficulties and/or problems together, either party may opt out of the agreement with a minimum advance notice of 90 days prior to each scheduled mail date of the subsequent edition.

Total amount due per edition (3 editions per year, 2 in 2021): \$10,452.50/ edition, (\$31,357.50 per year). This will be a three-year agreement from February 2, 2021 – December 2023 (all of 2021, 2022, & 2023)

***Addendum – December/January issue 3 for 2021/22 will have 13pt 1 sided magnets (6" x 6" 4/c 1 side) affixed onto either page 3 or page 5 within the publication, detailing recycling information provided by township. The additional charge for the magnets (and affixing them within publication) will be approximately \$9,547.50, thus totaling \$20,000 for the December issue.

1. ****Addendum #2 (proposed February 8, 2022, and finalized February 18, 2022) – Due to the tumultuous supply chain issues within our respective industry, there is a huge paper allocation shortage and thus, a paper increase for the next 3 issues for 2022 year (Spring/Summer, Fall and Winter). Due to the volatility and significant increase, we would like to only amend the 2022 year's pricing and hold off next year to determine whether a portion of the increase can go down for the 2023 year... obviously too early to determine now, but gives us flexibility to take advantage of any cost decrease in future years. ** per email on February 16, 2022, between Mike Hoffmeister and Mark Fisher, we have agreed to: *Honor the next magazine at the original price in the bid, amend the remaining magazines for this calendar year and then re-evaluate from there.*

Moving forward, the 2022 pricing will be:

\$10,452.50 – Spring/Summer edition

\$13,500 – Fall edition

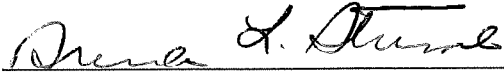
\$24,000 – Winter edition (which will include magnet pricing, to the exact specifications as 2021 addendum from the December/ January issue)

We will invoice approximately 30 days prior to each publication in order to assure prompt payment upon publication mailing/shipping, as well as provide postage cost to customer from database information provided from customer, within 10 days of mailing for separate postage paid directly to USPS by Ypsilanti Township, in order to use township's postage permit indicia.

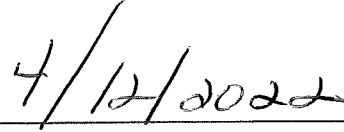
Community Publishing & Marketing
2021/22 Ypsilanti Lifestyle Magazine
Prepared for the Ypsilanti Township

2021/22 Ypsilanti Lifestyle Magazine/ Amendment

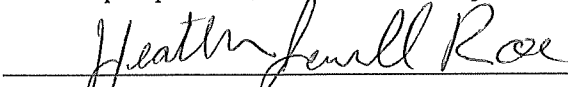
Signatures:




Township Supervisor, Brenda Stumbo, Ypsilanti Township



Date



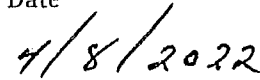
Township Clerk, Heather Jarrell Roe, Ypsilanti Township



Date



Director of Publishing Mark A. Fisher, Community Publishing & Marketing



Date

2022 YPSILANTI TOWNSHIP AGREEMENT

THIS AGREEMENT, made and entered into this ____ day of _____, 2022, by and between the Township Board of Ypsilanti Township, Washtenaw County, parties of the first part and the Board of Washtenaw County Road Commissioners, parties of the second part.

WHEREAS, the parties of the first part desire that certain improvements be made upon the local roads in the Township of Ypsilanti, and

WHEREAS, proper authority is provided to the parties of the agreement under the provisions in Act 51 of Public Acts of 1951 as amended,

IT IS NOW THEREFORE AGREED, the parties of the second part will accomplish the improvements as specified herein, all in accordance with the standards of the parties of the second part.

1. **Dust Control (497-11-108):**

Work to include placement of three (3) solid applications of contract brine on all certified local gravel/limestone roads within the township. Estimated 59,580 gallons @ \$0.199 per gallon.
Estimated cost of contract brine: \$ 11,856.42

2. **Additional Street Sweeping Services:**

Work to include one (1) additional street sweepings on curbed local roads in Ypsilanti Township. 2022 Local Road Sweeping in Ypsilanti Township (one round) = 174.63 curb miles @ \$98.00 per curb mile = \$17,113.74 per round.
Estimated cost: \$ 17,113.74

3. **Merritt Road, Munger Road to Stony Creek Road:**

Work to include cracksealing.
Estimated project cost: \$ 13,600.00

4. **Section 2, Various Local Roads:**

Work to include cracksealing. Roads to include:
Emerson Avenue, Holmes Road to end of road
Outer Lane Drive, Holmes Road to end of road
Pasadena Avenue, Holmes Road to end of road
Wiard Road, Michigan Avenue to Holmes Road
Centennial Avenue, Clark Road to Holmes Road
Estimated project cost: \$ 13,600.00

5. **N. River Street, Clark Road to end of certification 0.12 miles southerly:**

Work to include ditching, culvert replacement, milling the existing pavement, the placement of 2.5" HMA resurfacing, aggregate shoulders, and associated project restoration.
Estimated project cost: \$ 51,300.00

6. **Township-wide Limestone Resurfacing:**

Work to include the application of 1,000 tons of 23a limestone with associated dust control on various local roads within the township. Locations to be determined by the Township Supervisor and District Foreman.
Estimated project cost \$ 20,700.00

AGREEMENT SUMMARY

2022 LOCAL ROAD PROGRAM


Dust Control	\$ 11,856.42
Additional Street Sweeping Services	\$ 17,113.74
Merritt Road, Munger Road to Stony Creek Road	\$ 13,600.00
Section 2, Various Local Roads	\$ 13,600.00
N. River Street, Clark Road southerly 0.12 miles	\$ 51,300.00
Township-wide Limestone Resurfacing	\$ 20,700.00
Subtotal	\$ 128,170.16

Less WCRC 2022 Local Matching Funds \$ 64,085.08

ESTIMATED AMOUNT TO BE PAID BY YPSILANTI TOWNSHIP
UNDER THIS AGREEMENT DURING 2022: \$ 64,085.08

FOR YPSILANTI TOWNSHIP:

Brenda L. Stumbo, Supervisor



Heather Jarrell Roe, Clerk April 7, 2022

FOR WASHTENAW COUNTY ROAD COMMISSION:

Barbara Ryan Fuller, Chair

Sheryl Soderholm Siddall, Managing Director

**CHARTER TOWNSHIP OF YPSILANTI
2022 BUDGET AMENDMENT #5**

April 5, 2022

AMOUNTS ROUNDED UP TO THE NEAREST DOLLAR

101 - GENERAL OPERATIONS FUND	Total Increase	\$95,431.00
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Request to increase budget for the purchase of a Massey Ferguson tractor for Parks and Grounds. This will be funded by an appropriation of prior year fund balance.

Revenues:	Prior Year Fund Balance	101-000-699.999	\$31,346.00
		Net Revenues	\$31,346.00
Expenditures:	Equipment	101-770-977.000	\$31,346.00
		Net Expenditures	\$31,346.00

Request to increase budget for road improvements as stated in Agreement #1 with Washtenaw County Road Commission to include dust control, sweeping, crack sealing, and resurfacing on roads . This will be funded by an appropriation of prior year fund balance.

Revenues:	Prior Year Fund Balance	101-000-699.999	\$64,085.00
		Net Revenues	\$64,085.00
Expenditures:	Highway & ST-Road Construction	101-446-982.000	\$64,085.00
		Net Expenditures	\$64,085.00

213 - BIKE, SIDEWALK, REC, ROADS FUND (BSRII)	Total Increase	\$2,760.00
--	-----------------------	-------------------

Request to increase budget for the Sugarbrook Park improvement project and funds received from Washtenaw County. This will be funded by an increase to the revenue line for County grants.

Revenues:	County Grant	213-000-581.000	\$2,760.00
		Net Revenues	\$2,760.00
Expenditures:	CAP OUTLAY/SUGARBROOK	213-901-974.034	\$2,760.00
		Net Expenditures	\$2,760.00

Motion to Amend the 2022 Budget (#5)

Move to increase the General Fund budget by \$95,431 to \$10,244,323 and approve the department line item changes as outlined.

Move to increase the Bike, Sidewalk, Rec, Roads (BSRII) Fund budget by \$2,760 to \$2,575,274 and approve the department line item changes as outlined.

Supervisor
BRENDA L. STUMBO
Clerk
HEATHER JARRELL ROE
Treasurer
STAN ELDRIDGE
Trustees
JOHN P. NEWMAN II
GLORIA PETERSON
DEBBIE SWANSON
JIMMIE WILSON JR.



**Accounting
Department**

7200 S. Huron River Drive
Ypsilanti, MI 48197
Phone: (734) 484-3702
Fax: (734) 484-5154

Charter Township of Ypsilanti

STATEMENTS AND CHECKS

APRIL 19, 2022 BOARD MEETING

ACCOUNTS PAYABLE CHECKS -	\$	787,837.33
HAND CHECKS -	\$	373,142.75
CREDIT CARD PURCHASES-	\$	<u>5,845.26</u>
GRAND TOTAL -	\$	1,166,825.34

Clarity Health Care Deductible –

ACH EFT -	\$71,282.35 (MARCH)
ADMIN FEE -	\$1,308.69 (MARCH)

Check Date Check Vendor Name *HAND CHECKS* Amount

Bank AP AP

04/04/2022	190368	CLEAR RATE COMMUNICATIONS, INC	854.59
04/04/2022	190369	COMCAST CABLE	102.86
04/04/2022	190370	COMCAST CABLE	136.28
04/04/2022	190371	UNITED STATES POST OFFICE	270.00
04/04/2022	190372	WASTE MANAGEMENT	64.38
04/04/2022	190373	WASTE MANAGEMENT	149.26
04/05/2022	190374	JACK DEMMER FORD INC	27,629.38
04/06/2022	190375	GRIFFIN PEST SOLUTIONS	124.00
04/06/2022	190376	WASHTENAW COUNTY TREASURER#	5,052.00
04/11/2022	190377	U.S. POSTAL SERVICE*	5,000.00
04/13/2022	190378	COMCAST CABLE	38.56
04/13/2022	190379	COMCAST CABLE	8,552.42
04/13/2022	190380	DIUBLE EQUIPMENT INC.	31,346.00
04/13/2022	190381	DTE ENERGY	77,465.17
04/13/2022	190382	GRANITE TELECOMMUNICATIONS	384.58
04/13/2022	190383	VERIZON WIRELESS	551.96
04/13/2022	190384	VERIZON WIRELESS	2,759.93
04/13/2022	190385	WASTE MANAGEMENT	68.51
04/13/2022	190386	WASTE MANAGEMENT	735.40
04/13/2022	190387	WASTE MANAGEMENT	141.21
04/13/2022	190388	WEX BANK	2,407.26
04/13/2022	190389	MICHIGAN MUNICIPAL LEAGUE	209,309.00

AP TOTALS:

Total of 22 Checks:	373,142.75
Less 0 Void Checks:	0.00
Total of 22 Disbursements:	373,142.75

User: mharris

CHECK NUMBERS 190390 - 190478

DB: Ypsilanti-Twp

Check Date	Check	Vendor Name	Amount
Bank AP AP			
04/19/2022	190390	14-B DISTRICT COURT	350.00
04/19/2022	190391	AAATA	120.23
04/19/2022	190392	ADVANCE PRINT & GRAPHICS	566.08
04/19/2022	190393	ADVANCED COMMUNICATIONS & DATA	281.15
04/19/2022	190394	ALLEGRA PRINTING AND IMAGING	1,301.90
04/19/2022	190395	AMAZON CAPITAL SERVICES	283.26
04/19/2022	190396	AMAZON CAPITAL SERVICES	2,796.60
04/19/2022	190397	ANGELA KOJIRO	52.07
04/19/2022	190398	ANN ARBOR CLEANING SUPPLY	354.92
04/19/2022	190399	ANN ARBOR WELDING SUPPLY CO	275.35
04/19/2022	190400	ATCHINSON FORD	1,849.19
04/19/2022	190401	AUTO VALUE YPSILANTI	197.11
04/19/2022	190402	BARR ENGINEERING COMPANY	15,303.83
04/19/2022	190403	BRANDON DRAKE	2,494.10
04/19/2022	190404	BRIDGESTONE GOLF INC	1,564.47
04/19/2022	190405	CARLISLE/WORTMAN ASSOCIATES	455.00
04/19/2022	190406	CITY OF YPSILANTI	569.40
04/19/2022	190407	CLEVELAND GOLF SRIXON	36.50
04/19/2022	190408	CNA SURETY DIRECT BILL	55.00
04/19/2022	190409	COLMAN-WOLF SANITARY SUPPLY CO	274.61
04/19/2022	190410	COMERICA BANK	25.98
04/19/2022	190411	CRAWFORD DOOR SALES	225.00
04/19/2022	190412	CSI EMERGENCY APPARATUS, LLC	15,564.50
04/19/2022	190413	DANIEL KIMBALL	1,767.00
04/19/2022	190414	DMC TECHNOLOGY GROUP	195.00
04/19/2022	190415	DYNAMIC BRANDS	139.12
04/19/2022	190416	EMERGENT HEALTH PARTNERS	7,208.56
04/19/2022	190417	ERATAINMENT LLC	150.00
04/19/2022	190418	GMIS INTERNATIONAL HEADQUARTERS	200.00
04/19/2022	190419	GOOSE BUSTERS OF MICHIGAN, LLC	455.00
04/19/2022	190420	GRAINGER	194.57
04/19/2022	190421	GRIFFIN PEST SOLUTIONS	61.00
04/19/2022	190422	HEIKKINEN PRODUCTIONS	254.00
04/19/2022	190423	HOME DEPOT	826.82
04/19/2022	190424	IMAGE TREND	386.25
04/19/2022	190425	INTEGRITY BUSINESS SOLUTIONS LLC	874.75
04/19/2022	190426	KELLY DOE	250.00
04/19/2022	190427	LOWER HURON SUPPLY	78.10
04/19/2022	190428	MCLAIN AND WINTERS	137,090.06
04/19/2022	190429	MENARDS, INC.	3.49
04/19/2022	190430	MICHIGAN LINEN SERVICE, INC.	1,084.05
04/19/2022	190431	MLIVE MEDIA GROUP	290.00
04/19/2022	190432	MR. BUBBLES AUTO SPA	140.00
04/19/2022	190433	NEXTCARE URGENT CARE MICHIGAN	512.00
04/19/2022	190434	OFFICE EXPRESS	197.72
04/19/2022	190435	ORCHARD, HILTZ & MCCLIMENT INC	4,788.00
04/19/2022	190436	PARKWAY SERVICES, INC.	130.00
04/19/2022	190437	PAUL JOHNSON	13,117.00
04/19/2022	190438	PETER POWER	720.00
04/19/2022	190439	POWER HOME SOLAR LLC	105.75
04/19/2022	190440	POWER HOME SOLAR LLC	450.00
04/19/2022	190441	PREFERRED TONER SOLUTIONS	84.95
04/19/2022	190442	RANDAZZO MECH HEAT & COOL LLC	38.25
04/19/2022	190443	RANDAZZO MECH HEAT & COOL LLC	81.00
04/19/2022	190444	RHETT REYES	2,760.24
04/19/2022	190445	SAM'S CLUB DIRECT	233.64
04/19/2022	190446	SHRADER TIRE & OIL	841.91
04/19/2022	190447	SOUTHERN COMPUTER WAREHOUSE	1,742.48
04/19/2022	190448	SPARTAN DISTRIBUTORS	3,899.22
04/19/2022	190449	STANTEC	415.61
04/19/2022	190450	STATE OF MICHIGAN	30.00
04/19/2022	190451	STATE OF MICHIGAN	10.00
04/19/2022	190452	STATE OF MICHIGAN - MDOT	34,600.00
04/19/2022	190453	STERICYCLE INC	233.04
04/19/2022	190454	SUPERIOR GROUNDCOVER	11,670.00
04/19/2022	190455	TAYLOR MADE GOLF COMPANY	325.08
04/19/2022	190456	TEAM GOLF	453.11
04/19/2022	190457	ULINE	229.66
04/19/2022	190458	UNIFIRST CORPORATION	179.13
04/19/2022	190459	VELOCITY EHS	1,030.00
04/19/2022	190460	VIRGIL MINGAS	450.00
04/19/2022	190461	WASHTENAW COMMUNITY COLLEGE#	586.82
04/19/2022	190462	WASHTENAW COUNTY BAR ASSOC.	100.00
04/19/2022	190463	WASHTENAW COUNTY CLERK/REGISTRAR	10.00
04/19/2022	190464	WASHTENAW COUNTY DEPARTMENT	272.00
04/19/2022	190465	WASHTENAW COUNTY LEGAL NEWS	140.00
04/19/2022	190466	WASHTENAW COUNTY ROAD COMMISSION	1,645.86
04/19/2022	190467	WASHTENAW COUNTY TREASURER	9,210.00

User: mharris

CHECK NUMBERS 190390 - 190478

DB: Ypsilanti-Twp

Check Date	Check	Vendor Name	Amount
04/19/2022	190468	WASHTENAW COUNTY TREASURER	4,870.07
04/19/2022	190469	WASHTENAW COUNTY TREASURER#	482,725.95
04/19/2022	190470	WASHTENAW INTERMEDIATE	948.67
04/19/2022	190471	WOLVERINE CRANE	181.90
04/19/2022	190472	WONDERLAND TIRE COMPANY	2,330.76
04/19/2022	190473	YAMAHA GOLF CARS PLUS	2,984.25
04/19/2022	190474	YPSILANTI ACE HARDWARE	208.55
04/19/2022	190475	YPSILANTI COMMUNITY SCHOOLS - WR	287.19
04/19/2022	190476	YPSILANTI COMMUNITY SCHOOLS - YP	2,535.82
04/19/2022	190477	YPSILANTI DISTRICT LIBRARY	2,500.72
04/19/2022	190478	ZERO FRICTION	326.96

AP TOTALS:

Total of 89 Checks:

787,837.33

Less 0 Void Checks:

0.00

Total of 89 Disbursements:

787,837.33

Check Date	Check	Vendor Name	Description	Amount
Bank CARDS COMERICA COMMERICAL CARD				
04/19/2022	78(E)	COMERICA BANK	1/2 CHARGE FOR ARBITRATION WITH TPOAM PE TRAINING FOR ANGELA KOJIRO	100.00
			OPERATING SUPPLIES AND FOOD AND BEVERAGE	349.00
			OPERATING SUPPLIES AND FOOD AND BEVERAGE	314.89
			OPERATING SUPPLIES AND FOOD AND BEVERAGE	730.26
			OPERATING SUPPLIES AND FOOD AND BEVERAGE	228.38
			OPERATING SUPPLIES	29.90
			OPERATING SUPPLIES AND FOOD AND BEVERAGE	173.41
			BACKGROUND FOR PEDDLER PERMIT	10.00
			BACKGROUND FOR PEDDLER PERMIT	10.00
			ANNUAL ENGINE MAINT AND REPLACMENT PROP YEARLY MEMBERSHIP TO MLIVE	1,155.86
			PASSPORT POSTAGE FOR WEEK OF FEB28, 2022	100.00
			PASSPORT POSTAGE WEEK OF 2-14-22	45.50
			PASSPORT POSTAGE WEEK OF 2-14-22	80.65
			PASSPORT POSTAGE WEEK OF 2-21-22	26.85
			LODGING FOR MPARKS CONFERENCE	252.74
			FOF2 RENEWAL	30.00
			AUTO GLASS REPLACEMENT 2016 FORD EXPEDIT	450.00
			TOWNSHIP MEMBERSHIP TO MI GOLF COURSE SU	150.00
			SSL CERTIFICATE RENEWALS	69.90
			MINUTE TRANSCRIPTION	99.99
			AUTO DETAILING- INTERIOR	250.00
			FAXSTATION	392.99
			MONTHLY SUBSCRIPTION FEES FOR TLO SERVIC	75.00
			TRELLO ANNUAL SUBSCRIPTION	719.94
				<u>5,845.26</u>

CARDS TOTALS:

Total of 1 Checks:	5,845.26
Less 0 Void Checks:	0.00
Total of 1 Disbursements:	<u>5,845.26</u>

**OFFICE OF THE TREASURER
STAN ELDRIDGE**



**MONTHLY TREASURER'S REPORT
MARCH 1, 2022 THROUGH MARCH 31, 2022**

<u>Account Name</u>	<u>Beginning Balance</u>	<u>Cash Receipts</u>	<u>Cash Disbursements</u>	<u>Ending Balance</u>
101 - General Fund	6,450,763.14	1,932,933.65	2,509,579.72	5,874,117.07
101 - Payroll	170,311.75	711,106.15	678,690.70	202,727.20
101 - Willow Run Escrow	145,387.84	2.35	0.00	145,390.19
206 - Fire Department	1,128,998.02	21,352.50	423,112.99	727,237.53
208 - Parks Fund	25,846.33	1.29	462.37	25,385.25
213 - Roads/Bike Path/Rec/General Fund	837,472.20	8,508.94	16,974.20	829,006.94
216 - Fire Pension & OPEB Millage Fund	12,298.44	14,804.36	0.00	27,102.80
217 - Fire Special Millage Capital Fund	831,373.19	5,534.07	4,522.99	832,384.27
226 - Environmental Services	640,440.35	14,566.51	450,285.91	204,720.95
230 - Recreation	30,308.56	34,641.68	52,970.95	11,979.29
236 - 14-B District Court	109,441.82	220,059.10	236,120.41	93,380.51
244 - Economic Development	70,460.30	3.59	0.00	70,463.89
249 - Building Department Fund	1,545,524.15	74,535.67	84,672.59	1,535,387.23
250 - LDFA Tax	19,995.87	1.02	0.00	19,996.89
252 - Hydro Station Fund	937,494.29	49,394.91	38,881.46	948,007.74
266 - Law Enforcement Fund	5,388,944.26	37,226.28	575,844.26	4,850,326.28
282 - Cares Act Fund	4,624,868.86	3,029.84	90,330.45	4,537,568.25
287 - Nuisance Abatement Fund	51,008.29	1,951.20	471.56	52,487.93
398 - LDFA 2006 Bonds	2,087.78	0.10	0.00	2,087.88
584 - Green Oaks Golf Course	223,305.20	33,793.79	37,475.07	219,623.92
597 - Compost Site	853,503.85	6,410.70	66,306.31	793,608.24
661 - Motor Pool	413,036.38	42.83	4,731.18	408,348.03
702 - General Tax Collection	92,585.60	38,016.20	0.00	130,601.80
703 - Current Tax Collections	24,560,479.64	68,050.33	70,499.88	24,558,030.09
707 - Bonds & Escrow/GreenTop	1,569,864.20	69,670.82	40,116.89	1,599,418.13
708 - Fire Withholding Bonds	132,490.73	2.06	0.00	132,492.79
GRAND TOTAL	50,868,291.04	3,345,639.94	5,382,049.89	48,831,881.09

ATTORNEY REPORT

GENERAL LEGAL UPDATE

OLD BUSINESS

CHARTER TOWNSHIP OF YPSILANTI

RESOLUTION 2022-04

Amending the Charter Township Code of Ordinances to Amend Section 42-210(b) Entitled “Prohibition on Use of Consumer Fireworks”

Whereas, on ***February 15, 2022*** Ypsilanti Township Supervisor Brenda L. Stumbo sent a Memorandum addressed to the “***Charter Township of Ypsilanti Board of Trustees***” dated ***February 9, 2022*** (a copy of which is attached hereto and incorporated by reference) wherein she requested the Township Board to amend the Township’s “***Fireworks Ordinance***” so as to allow individuals in the Township to discharge fireworks within the Township on ***June 19*** also known as the “***Juneteenth Holiday***,” and

Whereas, Juneteenth is a Federal Holiday which recognizes and celebrates ***June 19, 1866*** which is the first day that African Americans in Texas first learned of the “***Emancipation Proclamation***” which was more than two years from when it was initially issued by President Abraham Lincoln; and

Whereas, the Ypsilanti Township Board of Trustees is in agreement with the recommendation of the Ypsilanti Township Supervisor Brenda L.

Stumbo that the Township's Fireworks Ordinance be amended so as to allow a person to "...**ignite, discharge or use consumer fireworks within the Township on Juneteenth of each year**" commencing on **June 19, 2022**; and

Whereas, proposed Ordinance 2022-04 adds a new section (6) to Section 42-210(b) so as to allow persons in the Township to "**ignite, discharge or use consumer fireworks within the Township on June 19 after 11:00 a.m. until 1:00 a.m. on June 20,**"

Now Therefore, Be It Resolved that the Charter Township of Ypsilanti Board of Trustees hereby adopts and incorporates by reference the attached Ordinance No. 2022-04 which Ordinance amends Section 42-210(b) of Charter Township of Ypsilanti's Code of Ordinances entitled "**Fireworks**" so as to allow persons in the Township to "**ignite, discharge or use consumer fireworks within the Township on June 19 after 11:00 a.m. until 1:00 a.m. on June 20.**"

ORDINANCE NO. 2022-499

*An Ordinance Amending the Charter Township of Ypsilanti's Code of Ordinances Entitled "**Fireworks**" and specifically Section 42-210(b) so as to Permit Persons to Ignite, Discharge or Use Consumer Fireworks within the Charter Township of Ypsilanti on June 19 of Each Year Commencing on June 19, 2022 After 11:00 a.m. Until 1:00 a.m. on June 20*

The Charter Township of Ypsilanti hereby **Ordains** that Section 42-210(b) of the Charter Township of Ypsilanti Code of Ordinances entitled "**Fireworks**" is amended as follows:

AMEND paragraph (b) entitled "**Prohibition on Use of Consumer Fireworks**" so as to allow a person to "**ignite, discharge or use consumer fireworks within the Township on Juneteenth of each year commencing on June 19, 2022.**"

ADD new paragraph (6) to section (b) entitled "**June 19 After 11:00 a.m. Until 1:00 a.m. on June 20.**"

Severability

Should any section, subsection, sentence or clause of this ordinance be declared by the Courts to be invalid, the same shall not affect the validity of the ordinance as a whole or any part thereof, other than the part that is invalidated.

Effective Date

This Ordinance shall be effective upon publication of a newspaper of general circulation as provided by law.

I, Heather Jarrell Roe, Clerk of the Charter Township of Ypsilanti, County of Washtenaw, State of Michigan hereby certify approval of the first reading of Proposed Ordinance No. 2022-499 by the Charter Township of Ypsilanti Board of Trustees assembled at a regular meeting held on March 15, 2022. The second reading is scheduled to be heard on April 19, 2022.



Heather Jarrell Roe, Clerk
Charter Township of Ypsilanti

NEW BUSINESS

PLANNED DEVELOPMENT AGREEMENT

Range USA

This Development Agreement (**“Agreement”**) is entered into as of the 19 day of April, 2022, by and between CAT Ypsilanti, an Ohio limited liability company, whose address is 3805 Edwards Road, Suite 390, Cincinnati, Ohio 45209 (**“Developer”**) and the Charter Township of Ypsilanti, a Michigan Municipal Corporation, whose address is 7200 S. Huron River Drive, Ypsilanti, Michigan 48197-7099 (the **“Township”**).

RECITALS

A. **WHEREAS**, Developer desires to develop certain real property consisting of approximately 2.7 acres (Tax ID # K-11-17-361-021) located on the north side of James L. Hart Parkway, west of Huron/Whittaker Street, which real property is described on Exhibit A attached hereto and made a part hereof (the **“Property”**), as a non-residential planned development district consisting of an automobile dealership to be known as Range USA (the **“Commercial Site”**) and;

B. **WHEREAS**, Developer desires to develop the Commercial site pursuant to Article XIX of the Township’s Zoning Ordinance as a PD Planned Development District and;

C. **WHEREAS**, Developer desires to build all necessary infrastructure such as but not limited to water mains, sanitary sewers, storm sewers, drainage facilities, roads, sidewalks, curbs & gutters, without the necessity of special assessments by the Township, and;

D. **WHEREAS**, Developer desires to install lot grading and soil erosion and sedimentation control improvements as set forth on the approved Engineering Plan and to provide drainage for storm water from the project site so that storm water complies with an approved Washtenaw County Water Resources Commission permit, and as set forth under the Soil Erosion Control Ordinance #102 and;

E. **WHEREAS**, on January 11th 2022, the Township’s Planning Commission held a public hearing and reviewed Developer’s application for a planned development district and Stage I Site Plan for the Commercial Site, and voted unanimously, to recommend Stage I Site Plan Approval and Planned Development Stage I Approval with conditions. The Planning Commission’s recommended approval and conditions were forwarded to the Township Board for consideration and;

F. **WHEREAS**, on March 1, 2022, the Township Board reviewed and approved Developer’s application for a planned development district Stage I Preliminary Site Plan for the Commercial Site and;

G. **WHEREAS**, on March 22, 2022 the Township’s Planning Commission recommended Stage II Final Site Plan Planned Development approval with conditions to the Township Board and;

H. **WHEREAS**, on April 19, 2022 the Township Board reviewed and approved Developer’s application for a planned development district Stage II Final Site Plan for the Commercial Site and;

I. **WHEREAS**, upon approval of the Final Site Plan, this Planned Development Agreement may be amended and;

J. **WHEREAS**, Section 617 of the Township’s Zoning Ordinance requires the execution of a Planned Development Agreement in connection with the approval of the PD Planned Development District and the Commercial Site Plan for the Commercial Site, which Agreement shall be binding upon the Township, the Developer and the Owner/s of the Property, their successors, heirs and assigns.

NOW, THEREFORE, in consideration of the mutual covenants of the parties described in this Agreement, and with the express understanding that this Agreement contains important and essential terms which are incorporated by reference as part of the final approval of the Developer’s Commercial Site Plan, the parties agree as follows:

ARTICLE 1.
GENERAL TERMS

1.1 Developer and the Township acknowledge and represent that the foregoing recitals are true, accurate and binding on the respective parties, their successors, heirs and assigns.

1.2 The Township acknowledges and represents that the Property has been rezoned PD Planned Development District for the development of the Commercial Site, and for purposes of recordation shall be referred to as Planned Development No. 26.

1.3 The Final Site Plan for the Commercial Site, which is attached hereto as Exhibit B and incorporated herein by reference (the “Final Site Plan”), has been approved in accordance with the authority granted to and vested in the Township pursuant to Act. No. 110, Public Acts of 2006, and Act No. 33, Public Acts of 2008, as amended, relating to municipal planning and in accordance with Ordinance No. , the Zoning Ordinance of Ypsilanti Township, enacted 2022, as amended.

1.4 The terms, provisions and conditions of this Agreement shall be deemed to be of benefit to the Property described on Exhibit A and shall be incorporated by the appropriate executed instruments into the title of said Property and shall be deemed a restrictive covenant which shall run with the land and shall not be modified unless otherwise agreed to in writing by the Township, the Developer and/or owner/s of the Property and/or their successors, heirs and assigns.

ARTICLE 2.
PROVISIONS REGARDING DEVELOPMENT OF THE
COMMERCIAL SITE

The Township and Developer hereby agree as follows:

2.1 The only permitted principal uses within the Commercial Site shall be for the sale of firearms, ammunition, and related goods, and the offering of shooting range services, including, without limitations, classes and events, and, customary accessory buildings and uses thereto. Any prior use restrictions imposed by the Township concerning the use of the Property are hereby revoked and of no further force and effect. This Development Agreement shall supersede all prior Township agreements concerning the use of the Property.

2.2 Prior to the issuance of building permits the Developer shall prepare and submit to the Township copies of the “detailed plans and specifications” prepared by a Registered Professional Engineer for the construction and/or installation of, as applicable, on-site paving, sidewalks, water mains, sanitary sewers, storm sewers, detention systems and mass grading, with the understanding that no work on said improvement shall commence until said plans and specifications have been approved by the Township Engineer, which approval may be given in phases. Developer shall provide all other information to the Township, its engineers and consultants as shall be reasonably required and/or requested.

2.3 Developer shall prepare the appropriate calculations for the runoff and detention and shall submit an itemized tabulation of piping and costs of construction.

In the event Developer and/or the Owners of the Property at any time fail to maintain or preserve the detention basin areas (or fail to cause the proper maintenance of the detention basin areas), the inlet and outlet areas, etc., in accordance with this Agreement, the Township may serve written notice upon the Developer and/or the Owner/s of the Property, setting forth the deficiencies in which Developer and/or the Owner/s of the Property have failed to maintain and/or preserve the detention basin areas, inlet and outlet areas, etc., in accordance with this Agreement. Said written notice shall include a demand that deficiencies of maintenance and/or preservation be cured within thirty (30) days of the date of said notice. If the deficiencies set forth in the original notice, or any subsequent notice thereto, are not cured within such thirty (30) day period or any extension thereof, the Township in order to prevent the detention basin areas, inlet and outlet areas, etc. from becoming a nuisance, may enter upon the detention basin areas, inlet and outlet areas, etc., and perform the required maintenance and/or preservation to cure the deficiencies. The Township’s cost to perform any such maintenance and/or preservation, together with a ten (10) percent surcharge for administrative costs shall constitute a lien on said Property and placed on the next Township roll as a special assessment and collected in the same manner as general Property taxes.

2.4 The parties acknowledge that the Final Site Plan identifies the width and size of the lot, the approved setbacks therein, and the proposed location of the building area within the lot. No exterior wall of a principal building shall be erected or placed other than within the approved confines of the building area. The parties acknowledge and agree that the approved building areas were selected inter alia to accomplish the preservation of the Property's natural resources and topographic features, including, but not limited to, existing trees. In the event of a conflict between this Agreement and the Nonresidential Site Plan attached hereto and any other Township ordinance, rule or regulation as it pertains to the width and size of the lot, setbacks within or the location of the building area, this Agreement, with the attachments identified herein, shall control.

2.5 The Final Site Plan reviewed and approved by the Township pursuant to Article XIX of the Ypsilanti Township Zoning Ordinance for the development of said Property shall be governed by the Township ordinances as they exist on the date of the signing of this Agreement and shall not be affected by any subsequent enactments or amendments to Township ordinances, rules and regulations as it pertains to the development of the Property in accordance with the approved final site plan.

2.6 The Commercial Site shall be developed with public sanitary sewers as approved by the Ypsilanti Community Utilities Authority and the Michigan Department of Environmental Quality, subject to all applicable laws and regulations. The Commercial Site shall also be developed with public water mains as approved by the Ypsilanti Community Utilities Authority and the Michigan Department of Public Health, subject to all applicable laws and regulations. All standard connections, inspections, costs and fees imposed by the Township, including, but not limited to, engineering inspections, shall be paid by the Developer and/or Owner of the Property.

2.7 Developer shall furnish to the Township a performance bond, cash or irrevocable Bank Letter of Credit, suitable to the Township attorney, which has been determined by the Township Engineer, to pay for the site improvements including, but not limited to, water mains, sanitary sewers, Washtenaw County Drain Commission storm sewers, sidewalks, footpaths, street lights, retention ponds and any other site improvements required by the Township.

2.8 Developer shall post a completion bond with the Township or other governmental a bond to the Township in an amount which has been reasonably determined by the Township Engineer to cover the cost of completing site improvements which the developer constructing, including underground and site improvements such as, but not limited to public and private utilities, parking lot lights, curb replacements, landscaping, street paving, and any other site improvements required by the Township prior to issuance of a Certificate of Occupancy. The completion bond shall be cash, standby letter of credit, or other bond which meets the satisfaction of the Township attorney. The Developer may satisfy the foregoing surety or escrow requirement in all or in part by the posting of such surety or escrows for such improvements with other governmental entities (e.g. the WCRC, the WCWRC, YCUA, etc.) and to the extent any of the foregoing governmental entities hold performance guaranties for any such improvements. Developer shall be deemed to have satisfied its performance guaranty obligations for such improvements under this Agreement. Developer shall deliver to the Township Treasurer's office copies of all such surety or escrow agreements with other

governmental entities. The surety amount required by the Township may be reduced incrementally as improvements are accepted and approved and the Township agrees that, at the developer's request and upon approval from the appropriate inspecting agency, sureties held by the Township will be released to developer for completed portions of the project. The Township will use its good faith commercially reasonable efforts to release such funds to the developer within thirty (30) days from the Township's receipt of a written request for payment from the developer, and in any event, such funds shall be released by the Township to the developer within forty-five (45) days from the Township's receipt of a written request for payment from the developer.

2.9 Developer shall dedicate all necessary easements to the Charter Township of Ypsilanti or appropriate body such as YCUA or WCWRC for the construction and maintenance of public improvements, including, but not limited to, sanitary sewer, storm sewer and water main improvements.

2.10 The Developer and/or Owner shall take all reasonable measures requested by the Township to resolve any dust created by trucks traveling to and from the construction site which measures shall include installing brine on the roads when requested by the Township, as well as deploying a water truck on site when dust conditions create a nuisance during the site development stage of construction, the expense of which shall be borne exclusively by the Developer. The Developer furthermore agrees to direct all truck traffic onto paved roads whenever possible.

2.11 Developer shall furnish a "project engineer's certificate", indicating that the water, sanitary sewer, storm sewer, and the storm water detention/retention facilities have been constructed in accordance with the Township "Engineering Design Specifications for Site Improvements", adopted by YCUA and the Township. Developer shall furnish "as built" engineering plans (3 copies, microfilmed), reviewed and approved by the Township's Engineer, showing all site improvements installed per Township specifications. All inspections for water and sewer (sanitary and storm) installations are to be performed by Township and YCUA engineering inspectors, with applicable fees. (See Section 2.9).

2.13 Developer shall furnish a "project engineer's certificate", indicating that all soil erosion and sedimentation measures have been complied with, according to local Ordinance #102 and part 91 of Act 451 of the Public Acts of 1994.

2.14 Developer shall provide for the installation of all improvements pursuant to this Agreement and in accordance with the approved plans prior to the issuance of a Certificate of Occupancy. If all of the improvements are not completed by the time the Certificate of Occupancy is requested, the Community Development Coordinator, or his designee, may accept cash or an irrevocable Letter of Credit from the Developer for the remaining unfinished improvements, if it is determined that public health and safety standards have been met. The Developer shall repair all defects in said public improvements to the Township Engineer's satisfaction, which develop within one (1) year from the date of acceptance thereof by the Township.

2.15 Developer shall install all electric, telephone and other communication systems underground in accordance with the requirements of the applicable utility company.

2.16 Developer shall deposit, prior to issuance of a building permit, a landscape tree planting escrow account with the Township in the form of a check payable to the Charter Township of Ypsilanti which shall then be remitted to the Township Treasurer. Developer agrees that all trees planted shall be in accordance with acceptable horticultural practices and in accordance with all Township standards and specifications. The trees shall be planted in accordance with the approved landscape plan and in accordance with the final site plan. All trees planted by the proprietor shall be guaranteed for one (1) year after planting. Said escrow monies shall be returned to the Developer/owner of the Property, less 10% to cover inspection costs by the Township, one (1) year after the date of acceptance by the Township.

2.17 Developer shall pay to YCUA an inspection deposit for the engineering inspections of all underground installations and paving, in an amount to be determined by the Township Engineer, at least 48 hours prior to the start of underground construction.

2.18 Developer shall place all mechanical systems including, but not limited to, make up air, heating, air conditioning, etc., on the roofs of all principal and accessory buildings in such a manner so they are visually screened from James L. Hart Parkway, Huron Street, and 1-94.

2.19 Developer shall provide fire water lines and hydrants on site and have them fully operational before combustible materials are assembled on site.

2.20 Developer shall install vertical signs on the designated fire lane in the rear of said site which shall state “No Parking - Fire Lane”, and install vertical signs stating “No Parking — Fire Lane” at a maximum spacing of 150’ from the drop off area and the service drive.

2.21 Developer shall remove all discarded building materials and rubbish from the Commercial Site at least once each month during construction of the site improvements and within one month after completion or abandonment of construction. No burning of discarded construction material shall be allowed on site.

2.22 Developer shall install adequate lighting in all parking lots on said site, which installation shall be in accordance with the approved final site plan. Furthermore, said Developer and owner/s of said Property, their successors, heirs and assigns, hereby agree to participate and be included in a special assessment district for the purpose of installing, improving, and maintaining a lighting system for lighting improvements to the Huron Street/Whittaker Road corridor. Said Developer and owner/s of the Property, their successors, heirs and assigns, agree that the cost of said lighting improvements shall be defrayed by a special assessment against the Property especially benefited by the lighting improvement. Said Developer and/or the owner/s of said Property, their successors, heirs and assigns, knowingly and voluntarily waive all rights to file an objection to the creation of a special assessment district for the purpose of installing, improving and maintaining a street lighting system on the Huron Street/Whittaker Road corridor whether said assessment district is created by a resolution of the Charter Township Board of Trustees or if submitted to the Township Board by more than 50%

of the record owners of said land in the special assessment district pursuant to Act 188 of the Public Acts of 1954, as amended by Public Act 1974, No. 143, as amended.

2.24 Developer shall install two (2) All-Purpose Level 3 EV Charging Stations per the conditions of Final Site Plan approval.

2.25 Developer shall use Michigan native plant species when possible and eco-friendly landscape products as a part of the developments landscaping and regular landscape maintenance.

2.26 Developer shall cause its tenant to maintain the following security features at the Property:

- (A) 31 high resolution IP cameras.
- (B) 5 Audio (Glass Break) Sensors
- (C) 7 Vibration Detectors (Door and HVAC Duct Protection)
- (D) 6 Door Contacts
- (E) 18 Motion Detectors
- (F) Concrete bollards at the entry doors
- (G) DETEX 5 point locking system on the exterior doors
- (H) Metal hurricane shutter at front entrance
- (I) Security fence around ventilation equipment.

Developer shall have the right to improve and update any security provisions at the Property.

2.27 Developer shall install interior and exterior camera systems and recordings shall be held for 45 days and be made available to law enforcement on request.

2.28 Tenant shall not release a firearm to a prospective purchaser without a "Proceed" response from the Bureau of Alcohol, Tobacco, Fire, and Explosives (BATFE).

ARTICLE 3.
MISCELLANEOUS PROVISIONS

3.1 This Agreement may not be modified, replaced, amended or terminated without the prior written consent of the parties to this Agreement. Until the rights and responsibilities under this Agreement are transferred to the Owner/s of the Property, the Developer and the Township shall be entitled to modify, replace, amend or terminate this Agreement, without requiring the consent of any other person or entity whatsoever, regardless of whether such person has any interest in the Property, including Owner/s of the Property, mortgagees, and others. Once the rights and responsibilities under this Agreement are transferred to the owner/s of the Property, the only parties entitled to modify, replace amend or terminate this Agreement shall be the owner/s of the Property and the Township.

3.2 This Agreement shall be governed by and be construed in accordance with the laws of the State of Michigan.

3.3 This Agreement has been approved by the Developer and the owner/s of the Property and Township, through action of the Township Board at a duly scheduled meeting.

3.4 This Agreement may be executed in multiple counterparts, each of which shall be deemed an original and all of which shall constitute one Agreement. The signature of any party to any counterpart shall be deemed to be a signature to, and may be appended to, any other counterpart.

3.5 This Agreement shall be binding on, and shall inure to the benefit of the parties and their respective successors, heirs and assigns.

The Charter Township of Ypsilanti hereby agrees:

4.1 The Township shall accept all easements for public utilities.

4.2 In consideration of the above undertakings to approve Range USA, the Township shall provide timely and reasonable Township inspections as may be required during construction.

4.3 The Township will record this Agreement with the Washtenaw County Register of Deeds.

Remainder of Page Intentionally Blank. Signatures to Follow.

IN WITNESS WHEREOF, the parties have executed this Agreement as the year and date set forth above. This Agreement is not intended to create contractual right for third parties. It may be enforced, amended or rescinded only by the parties or their successors in interest. The obligation of the Developer contained herein shall be binding on successors and assigns in ownership the Commercial Site known as Range USA., described in Exhibit A.

DEVELOPER:

CAT Ypsilanti, LLC,
An Ohio limited liability company

Name: Douglas Compton
Title: Authorized Manager

TOWNSHIP:

Charter Township of Ypsilanti

Name: _____
Title: _____

Michigan Acknowledgment to be Inserted

EXHIBIT "A"
LEGAL DESCRIPTION
RANGE USA

K-11-17-361-021

Land situated in the Township of Ypsilanti, Washtenaw County, Michigan described as:

That part of Lot 3, HURON CENTER COMMERCIAL & INDUSTRIAL PARK, described as: Beginning at the Northwest corner of Lot 3 of HURON CENTER COMMERCIAL & INDUSTRIAL PARK, as recorded in Liber 26 of Plats, Pages 66, 67 and 68, Washtenaw County Records; thence North 71 degrees 06 minutes 30 seconds East 317.97 feet along the North line of said Lot 3 and the South line of I-94 Freeway; thence South 02 degrees 57 minutes 43 seconds East 506.14 feet; thence 193.83 feet along the arc of a 770.00 foot radius non-tangential circular curve to the left, chord bearing South 79 degrees 49 minutes 35 seconds West 193.32 feet along the South line of said Lot 3 and the North line of James L. Hart Parkway (recorded as Commerce Parkway) (86 feet wide); thence North 17 degrees 23 minutes 05 seconds West 457.56 feet along the West line of said Lot 3 to the point of beginning.

11260205.1

EXHIBIT "B"
FINAL SITE PLAN



OFFICE OF COMMUNITY STANDARDS

Building Safety • Planning & Zoning • Ordinance Enforcement • Police Services

To: Heather Jarrell Roe, Township Clerk
Ypsilanti Township Board of Trustees

From: Jason Iacoangeli AICP, Planning Director

Re: **Planned Development Stage II – Range USA – 660 James L. Hart Parkway.**

Date: April 12, 2022

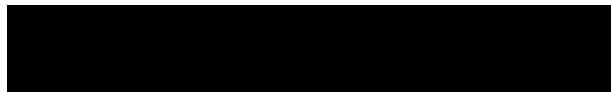
Project Summary:

On January 11, 2022 the Planning Commission approved a Stage I Preliminary Site Plan for Range USA an indoor shooting range to be located at 660 James L. Hart Parkway. As a part of the Stage I approval a public hearing was held that evening to receive comments from the public on the proposed project. At this meeting the Planning Commission also recommended Planned Development Stage I approval by the Township Board of Trustees. On the evening of Tuesday, March 1 the Township Board of Trustees approved the Stage I Planned Development Plan for the development.

Pursuant to the Planned Development Ordinance the Stage II Final Site Plan and Detailed Engineering Plan was brought before the Planning Commission on March 22, 2022. The Planning Commission determined that the Stage II Final Site plan was in conformance with the Stage I Preliminary Site Plan. The Planning Commission made a recommendation that the Township Board of Trustees approve the Stage II Final Site Plan and Detailed Engineering. The Stage II Final Site Plan and Detailed Engineering approval will be included in the final development agreement as an exhibit.

Project Review:

The current parcel is currently zoned Planned Development and is a part of the Bank Supplies (formally Burning Bush) Planned Development. In the case of this commercial zoning the prior underlying zoning is what establishes the allowable land uses. In this case B-3 General Business was the underlying zoning. Indoor Recreation Facilities and retail uses are a permitted uses in the B-3 Zoning District.



The indoor gun range will be a total of 15,000 square feet. The interior space is broken down so that 11,130 square feet of the building is used for the twenty (20) shooting lanes. 3,085 is used for the retail sales floor, and 785 square feet is used for classroom space. Approximately 74% of the building square footage is dedicated to the shooting lanes. The new indoor gun range will be developed on an existing parking lot next to Bank Supplies. The development will actually reduce the amount of impervious surface as some of the site will be opened back up to green space in order to allow for additional landscaping. The packet includes the Final Directors report including all of the final review letters.

The applicant has submitted a Final Planned Development Agreement that will that includes the additional language that no firearms will leave the Range USA store or be transferred until a full and complete background check has been received by Range USA from the Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATFE). Further, the developer has agreed to include all of the physical security measures for the building in the Development Agreement and agrees to maintain all of the security features in good working order for the life of the building. The developer reserves the right in the agreement to make updates to the security systems as newer and better security measures become available. Finally, the development agreement includes the conditions that the developer will install two (2) EV charging stations, and use Michigan native planting and eco-friendly landscape materials and products.

Recommendation:

The Planning Commission has recommended that the Township Board approve the Final Site Plan and Detailed Engineering as a part of the Stage II Planned Development Approval. The Final Planned Development Agreement has been reviewed by the Townships legal counsel and is deemed to be in good order. It would be the recommendation of the Planning Department that the Board take action to approve the Stage II Final Site Plan and Detailed Engineering for Range USA as it meets the requirements of the Zoning Ordinance and the Township Engineering Design Standards. Further, that the Development Agreement be approved to reflect the agreements made between the Township and the Developer as a part of the Stage II Planned Development.

If you have any questions or concerns please feel free to contact my office.

Jason Iacoangeli

Jason Iacoangeli, AICP
Planning Director
Charter Township of Ypsilanti

Planning Director's Report

Project Name:

Location:

Date:

- | | |
|--|---|
| <input type="checkbox"/> Full Preliminary Site Plan Review #
<input type="checkbox"/> Sketch Preliminary Site Plan Review #
<input type="checkbox"/> Administrative Preliminary Site Plan Review #
<input type="checkbox"/> Detailed Engineering/Final Site Plan Review #
<input type="checkbox"/> Special Use Permit
<input type="checkbox"/> Public Hearing | <input type="checkbox"/> Rezoning
<input type="checkbox"/> Tentative Preliminary Plat
<input type="checkbox"/> Final Preliminary Plat
<input type="checkbox"/> Final Plat Process
<input type="checkbox"/> Planned Development Stage I
<input type="checkbox"/> Planned Development Stage II |
|--|---|

Contact / Reviewer	Consultants, Departments, & Agencies	Approved	Approved with Conditions	Denied	N/A	See email/letter attached or comments below
Jason Iacoangeli, Planning Director	Township Planning Department					
Carlisle/Wortman Associates	Planning Consultant					
OHM / Stantec	Engineering Consultant					
Dan Kimball, Fire Marshal	Township Fire Department					
Dave Bellers, Building Official	Township Building Department					
Brian McCleery, Deputy Assessor	Township Assessing Department					
Scott Westover, Engineering Manager	Ypsilanti Community Utilities Authority					
Gary Streight, Project Manager	Washtenaw County Road Commission					
Theresa Marsik, Stormwater Engineer	Washtenaw County Water Resources Commission					
James Drury, Permit Agent	Michigan Department of Transportation					

Planning Director's Recommended Action:



April 12, 2022

Mr. Jason Iacoangeli
Township Planning Director
Charter Township of Ypsilanti
7200 S. Huron River Drive
Ypsilanti, MI 48197

RE: Range USA (Formerly Shoot Point Blank)
660 James L. Hart Parkway
Detailed Engineering Review #3

Dear Mr. Iacoangeli,

We have completed the third detailed engineering review of the plans dated January 11, 2022, with a latest revision date of March 30, 2022, and stamped received by OHM Advisors on April 4, 2022.

A brief description of the project has been provided below, followed by our comments and a list of anticipated required permits and approvals.

At this time, the plans are recommended for approval, contingent on the comments provided in Section B being addressed prior to a preconstruction being scheduled.

PROJECT AND SITE DESCRIPTION

The applicant is proposing a new 15,019 square foot building to use as a gun sales shop and shooting range at 660 James L Hart Parkway. Roughly two-thirds of the parking lot is proposed for removal, with the majority of the lot being replaced in kind or as the new building footprint. The applicant will maintain two points of access on-site, located at the main entrance off of James L Hart, and a southwest connection to the western neighboring parcel. The existing northwest neighbor connection is proposed for removal.

The applicant is proposing to extend an 8-inch watermain from the neighboring west parcel and connect to the existing 8-inch main extension located at the north side of James L Hart. Sanitary service is proposed to connect into the existing 10-inch main running parallel along the north side of James L Hart. The existing storm system on the south side of the site and the existing detention basin are to remain along with existing catch basins as part of the drainage district.

A. DETAILED ENGINEERING PLAN COMMENTS

Site Utilities

1. The applicant shall include a quantities list for proposed water main, sanitary sewer, and storm sewer on the cover sheet of the plan set. While the applicant has addressed the comment, the applicant shall ensure the sanitary sewer quantity listed in the quantity table matches the quantity shown within the plan and profile views. The applicant has sufficiently addressed the comment.
2. The applicant shall ensure that all pertinent information related to utilities (i.e. size, length, elevations and slope) are consistent within the plan view, profile view, and calculation tables as several discrepancies currently appear to be present. The applicant has sufficiently addressed the comment.



3. The applicant shall ensure the proposed grade is shown on all profile views to verify the minimum depth requirement is met. Additionally, the applicant shall also delineate the special backfill areas located within the profile views. **The applicant has sufficiently addressed the comment.**
4. The applicant shall revise the volume detention size requirement calculations to reflect the information required within worksheet 9 of the WCWRC Worksheets. The applicant has sufficiently addressed the comment; however, we request that the W-13 Worksheets be provided on the final construction plan set. **The applicant has sufficiently addressed the comment.**
5. The applicant shall ensure that the initial time of concentration of 15 minutes is consistent throughout the provided conveyance calculations. The applicant shall revise the conveyance table accordingly. **The applicant has sufficiently addressed the comment.**
6. The applicant shall revise the C-value listed for drainage area D9 on the plan view on Sheet C5.3 as there appears to be a discrepancy with the storm sewer summary table. **The applicant has sufficiently addressed the comment.**
7. It appears there may be a potential conflict with the proposed Autumn Gold Maidenhair Tree located at the east corner of the proposed building with both the proposed water main and sanitary sewer. The applicant shall revise accordingly. **The applicant has sufficiently addressed the comment.**
8. The applicant shall revise the proposed sanitary sewer to meet the minimum allowed sewer size of 10-inches per the Ypsilanti Township Standards. **The comment may be omitted.**
9. The proposed fire hydrant spacing is deferred to the Ypsilanti Township Fire Marshall for approval. The applicant shall clarify how the proposed water main will be connected to the existing main on the neighboring property. The applicant shall note per the Ypsilanti Township Standards, valves shall be located so that no more than 2 hydrants may be out of service at once, and it currently appears that 3 hydrants would be out of service along the east/west water main line. The applicant shall review and revise accordingly. **The applicant has sufficiently addressed the comment.**
10. Per the Ypsilanti Township standards, the applicant shall ensure that all storm sewer pipes have a cover of at least 2.5-feet over the pipe and it currently appears this requirement is not met on lines D9 to D8, EX2 to D4, and D3 to D2. **The applicant has sufficiently addressed the comment.**
11. The applicant shall provide a profile view of the connection to the existing structure (storm line EX2 to D4). **The applicant has sufficiently addressed the comment.**
12. The applicant has revised the basin sizing calculations to include infiltration. The applicant shall provide the geotechnical report justifying the new infiltration rate that has been included with the current submittal.
13. Typically, outlet control structure orifices do not begin at a calculated starting elevation of a detention basin. The applicant shall review and revise the outlet control structure accordingly or revise the infiltration storage volume calculations accordingly.

Paving and Grading

14. The applicant shall include all pavement, sidewalk, and curb and gutter details within the plan set. It currently appears there is no detail for the depressed curb and gutter called out on sheet C3.0. **The applicant has sufficiently addressed the comment.**



15. The applicant shall provide the spot elevations at all four corners of proposed barrier-free parking space, access aisle, ramps, and level landings, as well as at 50-foot intervals along all sidewalks to ensure ADA compliance. The applicant shall note that the cross slope shall not exceed 2%. The applicant has addressed the comment, but it appears that there are three ramps shown at the maximum 8.33% running slope. We recommend lowering this slope to ensure ADA compliance is met during construction. The applicant has sufficiently addressed the comment.

General

16. The applicant shall ensure that all notes on page C-1.0 call out the Township of Ypsilanti as several notes seem to state an alternative municipality. The applicant has sufficiently addressed the comment.
17. The applicant shall ensure that the scale is correct on all plan sheets as it currently appears there is no scale on Sheet C3.0. The applicant has sufficiently addressed the comment.
18. The applicant shall include a copy of all existing and proposed easement sketches and legal descriptions to this office. The applicant shall note that all proposed easements will need to be reviewed by this office prior to construction commencing. The applicant has sufficiently addressed the comment.
19. The applicant shall provide an engineer's estimate of probable cost for the project in order to schedule a pre-construction meeting. The applicant has sufficiently addressed the comment.

4. REQUIRED PERMITS & APPROVALS

The following outside agency reviews and permits will be required for the project. Copies of any correspondence between the applicant and the review agencies, as well as the permit or waiver, shall be sent to both the Township and OHM Advisors (email: elliott.smith@ohm-advisors.com).

- ▶ **Ypsilanti Community Utilities Authority (YCUA):** will require review and approval for the proposed water main, water connection, and sanitary connection.
- ▶ **Ypsilanti Township Fire Department:** Review and approval is required.
- ▶ **Michigan Department of Environment, Great Lakes & Energy (EGLE):** An EGLE Act 399 permit will be required for construction of all public water main improvements.
- ▶ **Ypsilanti Township Office of Community Standards:** A Soil Erosion and Sedimentation Control permit shall be secured from the Ypsilanti Township Office of Community Standards.
- ▶ The Township's Planner will inspect the landscaping for this site.
- ▶ If dewatering should be needed, the contractor/applicant shall be responsible for obtaining necessary approvals from the Township and the Township Engineer, permission from all impacted adjacent properties and/or permits from MDOT, WCWRC's Office, or the WCRC.
- ▶ Record plans shall be provided to the Township Engineer following the completion of construction.

Should you have any questions regarding this matter, please contact this office at (734) 466-4580.

Sincerely,
OHM Advisors

Matthew D. Parks, P.E.

Elliot R. Smith, P.E.

MDP/ERS/ams

cc: Amy Steffens, Township Planning and Development Coordinator



Fletcher Reyher, Township Staff Planner
Doug Winters, Township Attorney
File

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CHARTER TOWNSHIP OF YPSILANTI

BUILDING DEPARTMENT

7200 S. Huron River Drive, Ypsilanti, MI 48197

March 11, 2022

Jason Iacoangeli, Planning Director
Charter Township of Ypsilanti
7200 S. Huron River Drive
Ypsilanti, MI 48197

RE: Detailed Engineering Review #2
Project Name: Range USA
Project Location: 660 James L. Hart Parkway Ypsilanti, MI 48197
Plan Date: 10/19/2021
Revised Plan Date: 2/24/2022
Project Job Number: 168921002
Applicable Codes: IFC 2018
Engineer: Kimley - Horn of Michigan, Inc.
Engineer Address: 39111 Six Mile Road Livonia, MI 48152

Status of Review

Status of review: Approved as Submitted

Page C3.1 was reviewed.

Site Coverage – Hydrants

Comments: Meets IFC 2018.

Site Coverage - Access

Comments: Meets IFC 2018.

Sincerely,



Dan Kimball
Charter Township of Ypsilanti Building Department
CFPS, CFI II, CFPE, BPR



YPSILANTI COMMUNITY UTILITIES AUTHORITY

2777 STATE ROAD
YPSILANTI, MICHIGAN 48198-9112
TELEPHONE: 734-484-4600
WEBSITE: www.ycua.org

March 11, 2022

VIA ELECTRONIC MAIL

Mr. Jason Iacoangeli, Planning Director
Office of Community Standards
CHARTER TOWNSHIP OF YPSILANTI
7200 S. Huron River Drive
Ypsilanti, MI 48197

Re: Detailed Engineering Review #2
Shoot Point Blank
Charter Township of Ypsilanti (Plan Date: 02-24-2022)

Dear Mr. Iacoangeli:

In response to the electronic mail message from your office dated February 25, 2022, we have reviewed the referenced plans with regards to water supply and wastewater system design. The plans are acceptable to the Authority pending resolution of the following comments.

1. It is understood that the Applicant and the Applicant's designers are in the process of evaluating what size domestic water meter is needed. Note that the connection fees recently paid by the Applicant included the cost for a 1" domestic water meter.
2. It should be anticipated that the existing hydrant at the west end of the proposed water main will need to be relocated and that a concrete thrust block will need to be removed in order to accommodate the completion of the water main loop.

The plans are acceptable to be submitted for and Act 399 Water Supply construction permit. Preparation of the Permit Application for review and signature by the Authority is the responsibility of the Applicant or the Applicant's design engineer. It is our understanding that the Michigan Department of Environment, Great Lakes, and Energy is still accepting plans electronically for the permitting process.

Connection fees were received from the Applicant on February 16, 2022. **The construction phase escrow deposit, Authority administration fee, and record plan guarantee,** must be paid to the Authority by the Applicant, with a receipt delivered to the Township, before either the building or soil and grading permit is issued. The construction phase escrow deposit and associated fees and deposits and the entity responsible for maintaining those accounts will be determined during the Detailed Engineering phase of the project in conjunction with your office and the Township Engineer. Should there be any questions please contact this office.

Mr. Jason Iacoangeli
CHARTER TOWNSHIP OF YPSILANTI
March 11, 2022
Page 2

Sincerely,



SDW Digital Signature

SCOTT D. WESTOVER, P.E., Engineering Manager
Ypsilanti Community Utilities Authority

cc: Mr. Luke Blackburn, Mr. Mike Shaffer, File, YCUA
Ms. Belinda Kingsley, Charter Township of Ypsilanti
Mr. Eric Copeland, Mr. Dan Kimball, Township Fire Department
Mr. Matt Parks, P.E., Mr. Elliot Smith, Township Engineer
Mr. Brad Copp, Applicant
Mr. Joe Mayer, Applicant's design engineer

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Joe,

I have reviewed the submitted site plan for the proposed facility at 660 James L. Hart. Looking at your site plan it appears to me the existing drive approach will be used and only proposed work within the James L. Hart right of way is a watermain connection installation. The WCRC will need the following to continue with the permit process

- A technical memo describing the expected traffic generated by the proposed facility
- Submit a Utility Permit Application with the associated fee and deposit.

Once we have received the permit application and traffic memo we will proceed with review of the plans previously submitted. If you have any questions feel free to contact me.

Gary Streight, P.E.

Project Manager



Washtenaw County Road Commission
555 N. Zeeb Road, Ann Arbor, Michigan

Direct: (734) 327-6692 | Main: (734) 761-1500

wcroads.org | [Follow us on Facebook](#)



EVAN N. PRATT, P.E.

WATER RESOURCES COMMISSIONER
705 North Zeeb Road
P.O. Box 8645
Ann Arbor, MI 48107-8645

email: drains@washtenaw.org
<https://www.washtenaw.org/drains>

HARRY SHEEHAN
Chief Deputy Water Resources Commissioner

SCOTT A. MILLER, P.E.
Deputy Water Resources Commissioner

Telephone 734.222.6860
Fax 734.222.6803

February 11, 2022

Mr. Joseph Mayer, P.E.
Kimley-Horn
4201 Winfield Road, Suite 600
Warrenville, IL 60555

RE: Shoot Point Blank
660 James L. Hart Parkway
Ypsilanti Township, Michigan
WCWRC Project No. 8308

Dear Mr. Mayer:

This office has reviewed the site plans for the above-referenced project to be located in Ypsilanti Township. These plans have a job number of 168921002, a date of January 11, 2022, and were received on January 13, 2022. As a result of our review, we would like to offer the following comments:

1. Due to scheduling conflicts, the infiltration testing was not observed by WCWRC personnel. Based on the infiltration testing report, the test pits were relocated from the approved locations within the existing basin due to standing water. The test pits were performed east of the existing basin and extended to depths of 7-1/2 feet below the existing grade, or to approximately Elevation 745.5 feet.
 - a. The bottom of basin elevation is noted in the plans as Elevation 742.20 feet. The test pits did not extend deep enough to verify the soils at the bottom of the basin.
 - b. The plans reference a "normal water level" for the basin at Elevation 744.75 feet. Aerial photos of the site show water in the basin, and the infiltration testing report also notes that the basin is holding water. Infiltration credit is not available below an existing water level. Additional exploration within the basin must be performed to determine if infiltratable soils are present within the basin footprint below a near-surface layer of impermeable soils. If infiltratable soils are present, some modification of the basin will be necessary for it to function as an infiltration basin.
2. Additional information about the basin outlet should be provided. Specifically, does the outlet structure have any outlet orifices and, if so, at what elevation are they?

3. Based on available site information, portions of the site are covered by hydrologic soil types A, B, and D. The soil types and the areas that they cover should be presented on the grading plan. The curve numbers and runoff coefficients used on Worksheet W1 should be revised to reflect the proposed impervious and pervious areas that are underlain by hydrologic soil groups A, B, and D.
4. The curve number used on Worksheet W3 corresponds to hydrologic group A soils, rather than a weighted average based on those portions of the drainage area that are underlain by group A, B, and D soils. This directly affects the required infiltration volume determined on Worksheet W9 and should be corrected.
5. The Time of Concentration calculated on Worksheet W8 is incorrect. The slope, S , used in the calculations should be in percentage, not decimal form. The detention volume determined on Worksheet W10 should be revised following this correction.
6. A long-term storm water maintenance plan, including budget and responsible party, should be designed and included with the plan set.
7. If infiltration is available in the basin, inspection of the infiltration basin following storms of 1 inch or more should be included in the long-term maintenance plan.
8. A note should be added to indicate that no chemicals are allowed in stormwater features or buffer zones with the following exception: invasive species may be treated with chemicals by a certified applicator.
9. No initial review fee was submitted. Please see the attached invoice for the current fees and remit these fees upon receipt. As requested, the invoice is being submitted directly to Compton Addy.

At your convenience, please send us a complete set of revised plans and the additional information requested above so that we may continue our review. If you have any questions, please contact our office.

Sincerely,



Theresa M. Marsik, P.E.
Stormwater Engineer
(approval\Shoot Point Blank rev1)

cc: Brad Copp, Compton Addy
Jason Iacoangeli, Ypsilanti Township Planning Director
Belinda Kingsley, Ypsilanti Township Planning & Zoning Coordinator
Doug Winters, McLain and Winters

GENERAL NOTES

- 1. EXISTING SITE TOPOGRAPHY, UTILITIES, RIGHT-OF-WAY AND HORIZONTAL CONTROL SHOWN ON THE DRAWINGS WERE OBTAINED FROM A DRAWING PREPARED BY: MIDWESTERN CONSULTING, LLC 3815 PLAZA DRIVE ANN ARBOR, MI 48108 (734) 995-0200 CONTACT: PATRICK L. HASTINGS... 2. COPIES OF THE SURVEY ARE AVAILABLE FROM THE ENGINEER... 3. THE CONTRACTOR SHALL PHOTOGRAPH THE WORK AREA PRIOR TO CONSTRUCTION... 4. EXCEPT WHERE MODIFIED BY THE CONTRACT DOCUMENTS, ALL PROPOSED WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS WHICH ARE HEREBY MADE A PART HEREOF: A. 'STANDARD SPECIFICATIONS FOR CONSTRUCTION...' B. 'MICHIGAN ADMINISTRATIVE CODE...' C. REGULATIONS, STANDARDS AND GENERAL REQUIREMENTS SET FORTH BY YPSILANTI TOWNSHIP... D. THE NATIONAL ELECTRIC CODE... E. ALL APPLICABLE PROVISIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT... 5. STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, AND RECURRING SPECIAL PROVISIONS... 6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL ITEMS REQUIRED FOR CONSTRUCTION OF THE PROJECT... 7. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A SET OF 'APPROVED' ENGINEERING PLANS WITH THE LATEST REVISION DATE ON THE JOB SITE... 8. THE CONTRACTOR SHALL SUBSCRIBE TO ALL GOVERNING REGULATIONS AND SHALL OBTAIN ALL NECESSARY PUBLIC AGENCY PERMITS PRIOR TO STARTING WORK... 9. THE ENGINEER AND OWNER ARE NOT RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES... 10. CONSTRUCTION MATERIALS AND/OR EQUIPMENT MAY NOT BE STORED IN THE RIGHT-OF-WAY... 11. EASEMENTS FOR THE EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE... 12. OWNER SHALL OBTAIN EASEMENTS AND APPROVAL OF PERMITS NECESSARY TO FACILITATE CONSTRUCTION OF THE PROPOSED UTILITIES... 13. THE CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES UNTIL THEY ARE NO LONGER NEEDED... 14. NOTIFICATION OF COMMENCING CONSTRUCTION: 14.1. THE CONTRACTOR SHALL NOTIFY AFFECTED GOVERNMENTAL AGENCIES IN WRITING AT LEAST THREE FULL WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION... 14.2. FAILURE OF THE CONTRACTOR TO ALLOW PROPER NOTIFICATION TIME WHICH RESULTS IN THE TESTING COMPANIES TO BE UNABLE TO VISIT THE SITE AND PERFORM TESTING WILL CAUSE THE CONTRACTOR TO SUSPEND THE OPERATION... 15. ALL CONTRACTORS SHALL KEEP ACCESS AVAILABLE AT ALL TIMES FOR ALL EMERGENCY TRAFFIC... 16. ALL EXISTING SIGNS, LIGHT STANDARDS, AND UTILITY POLES THAT INTERFERE WITH CONSTRUCTION OPERATIONS... 17. ALL TREES TO BE SAVED SHALL BE IDENTIFIED PRIOR TO THE CONSTRUCTION BY THE LANDSCAPE ARCHITECT AND SHALL BE PROTECTED PER MDT SECTION 201.05... 18. LIMB PRUNING SHALL BE PERFORMED UNDER THE SUPERVISION OF AN APPROVED LANDSCAPE ARCHITECT... 19. ALL EXISTING PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAWCUT ALONG LIMITS OF PROPOSED REMOVAL BEFORE COMMENCEMENT OF PAVEMENT REMOVAL... 20. ALL EXISTING UTILITIES OR IMPROVEMENTS, INCLUDING WALKS, CURBS, PAVEMENT, AND PARKWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE PROMPTLY RESTORED TO THEIR RESPECTIVE ORIGINAL CONDITION... 21. REMOVAL OF SPECIFIED ITEMS, INCLUDING BUT NOT LIMITED TO, PAVEMENT, SIDEWALK, CURB, CURB AND GUTTER, CULVERTS, ETC., SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR AT THE CONTRACTOR'S OWN EXPENSE... 22. THE CONTRACTOR SHALL COLLECT AND REMOVE ALL CONSTRUCTION DEBRIS, EXCESS MATERIALS, TRASH, OIL AND GREASE RESIDUE, MACHINERY, TOOLS, AND OTHER MISCELLANEOUS ITEMS WHICH WERE NOT PRESENT PRIOR TO PROJECT COMMENCEMENT... 23. NO UNDERGROUND WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE COVERED UNTIL IT HAS BEEN APPROVED BY YPSILANTI TOWNSHIP... 24. WHERE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, EXISTING DRAINAGE STRUCTURES AND PIPE SHALL BE CLEANED AND PATCHED AS NECESSARY TO ASSURE INTEGRITY... 25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE UTILITY COMPANIES LOCATE THEIR FACILITIES IN THE FIELD PRIOR TO CONSTRUCTION... 26. THE GENERAL CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES TO PROVIDE CABLE TV, PHONE, ELECTRIC, GAS AND IRRIGATION SERVICES... 27. CONTRACTOR IS TO VERIFY ALL EXISTING STRUCTURES AND FACILITIES AT ALL PROPOSED UTILITY CONNECTION LOCATIONS... 28. ANY FIELD TILES ENCOUNTERED SHALL BE INSPECTED BY THE ENGINEER...

- 29. ALL FRAMES AND LIDS FOR STORM AND SANITARY SEWERS, VALVE VAULT COVERS, FIRE HYDRANTS, AND 8-BORES ARE TO BE ADJUSTED TO MEET FINISHED GRADE... 30. HYDRANTS SHALL NOT BE FLUSHED DIRECTLY ONTO THE ROAD SUBGRADE... 31. TRENCH BACKFILL WILL BE REQUIRED TO THE FULL DEPTH ABOVE SEWERS AND WATERMAIN WITHIN TWO (2) FEET HORIZONTAL OF PROPOSED OR EXISTING PAVEMENT... 32. ALL UTILITIES INSTALLED WITHIN THE MDOT RIGHT-OF-WAY SHALL BE BACKFILLED WITH FLOWABLE FILL... 33. IF SOFT, SPONGY, OR OTHER UNSUITABLE SOILS WITH UNCONFINED COMPRESSIVE STRENGTH LESS THAN 0.5 TSF ARE ENCOUNTERED... 34. THE TRENCHES FOR PIPE INSTALLATION SHALL BE KEPT DRY AT ALL TIMES DURING PIPE PLACEMENT... 35. AFTER THE STORM SEWER SYSTEM HAS BEEN CONSTRUCTED, THE CONTRACTOR SHALL PLACE PROPER INLET PROTECTION EROSION CONTROL AT LOCATIONS INDICATED BY THE ENGINEER... 36. AT THE CLOSE OF EACH WORKING DAY AND AT THE CONCLUSION OF CONSTRUCTION OPERATIONS... 37. EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH DEQ REGULATIONS AND MDOT STANDARDS... 38. THE CONTRACTOR SHALL CONFORM TO ALL EROSION CONTROL REQUIREMENTS AS SET FORTH BY THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY... 39. THE PAVEMENT SHALL BE KEPT FREE OF MUD AND DEBRIS AT ALL TIMES... 40. ALL DISTURBED AREAS OF THE RIGHT-OF-WAY SHALL BE FULLY RESTORED TO PRE-CONSTRUCTION CONDITIONS... 41. ALL PROPOSED GRADES SHOWN ON PLANS ARE FINISHED SURFACE ELEVATIONS... 42. ALL TESTING SHALL BE THE RESPONSIBILITY AND EXPENSE OF THE CONTRACTOR... 43. PROVIDE SMOOTH VERTICAL CURVES THROUGH HIGH AND LOW POINTS INDICATED BY SPOT ELEVATIONS... 44. WHEN REQUIRED, THE CONTRACTOR SHALL NOTIFY THE OWNER WHEN RECORD DRAWINGS CAN BE PREPARED... 45. BEFORE ACCEPTANCE, ALL WORK SHALL BE INSPECTED BY YPSILANTI TOWNSHIP... 2. EARTHWORK NOTES 1. GENERAL 1.1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE SOIL AND GROUNDWATER CONDITIONS AT THE SITE... 1.2. ANY QUANTITIES IN THE BID PROPOSAL ARE INTENDED AS A GUIDE FOR THE CONTRACTOR'S USE... 1.3. THE CONTRACTOR WILL NOTE THAT THE ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS ARE FINISHED GRADE AND THAT PAVEMENT THICKNESS, TOPSOIL, ETC., MUST BE ACCOUNTED FOR... 1.4. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND PREVENT STORMWATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS... 1.5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES... 1.6. PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES, THE CONTRACTOR SHALL ERCT A CONSTRUCTION FENCE... 2. TOPSOIL EXCAVATION INCLUDES: 2.1. EXCAVATION OF TOPSOIL AND OTHER STRUCTURALLY UNSUITABLE MATERIALS WITHIN THOSE AREAS THAT WILL REQUIRE EARTH EXCAVATION OR COMPACTED EARTH FILL MATERIAL... 2.2. PLACEMENT OF EXCAVATED MATERIAL IN OWNER-DESIGNATED AREAS FOR FUTURE USE WITHIN AREAS TO BE LANDSCAPED... 2.3. TOPSOIL STOCKPILED FOR RESPAED SHALL BE FREE OF CLAY AND SHALL NOT CONTAIN ANY OF THE TRANSITIONAL MATERIAL BETWEEN THE TOPSOIL AND CLAY... 2.4. TOPSOIL RESPAED SHALL INCLUDE HAULING AND SPREADING THREE (3) INCHES OF TOPSOIL DIRECTLY OVER AREAS TO BE LANDSCAPED... 3. EARTH EXCAVATION INCLUDES: 3.1. EXCAVATION OF SUBSURFACE MATERIALS WHICH ARE SUITABLE FOR USE AS STRUCTURAL FILL... 3.2. PLACEMENT OF SUITABLE MATERIALS SHALL BE WITHIN THOSE AREAS REQUIRING STRUCTURAL FILL... 3.3. STRUCTURAL FILL MATERIAL SHALL BE PLACED WITHIN THOSE PORTIONS OF THE SITE NOT REQUIRING STRUCTURAL FILL... 3.4. COMPACTON OF SUITABLE MATERIALS SHALL BE TO AT LEAST 93% OF THE MODIFIED PROCTOR... 4. UNSUITABLE MATERIAL: UNSUITABLE MATERIALS SHALL BE CONSIDERED MATERIAL THAT IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION... 5. MISCELLANEOUS: THE CONTRACTOR SHALL: 5.1. SPREAD AND COMPACT UNIFORMLY TO THE DEGREE SPECIFIED ALL EXCESS TRENCH SPOIL AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS... 5.2. SCARIFY, DISC, AERATE, AND COMPACT TO THE DEGREE SPECIFIED, THE UPPER TWELVE (12) INCHES OF THE SUITABLE SUBGRADE MATERIAL... 5.3. PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTENT... 5.4. BACKFILL THE CURB AND GUTTER AFTER ITS CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE MATERIAL... 5.5. SPREAD AND FINAL ACCEPTANCE 6.1. THE CONTRACTOR SHALL PROVIDE AS A MINIMUM A FULLY LOADED SIX-WHEEL TANDEM AXLE TRUCK FOR PROOF ROLLING THE PAVEMENT SUBGRADE PRIOR TO THE PLACEMENT OF THE CURB AND GUTTER... 6.2. ANY UNSUITABLE AREA ENCOUNTERED AS A RESULT OF PROOF ROLLING SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL OR OTHERWISE CORRECTED AND APPROVED BY THE ENGINEER.

PAVING NOTES

- 1. PAVING WORK INCLUDES FINAL SUBGRADE SHAPING, PREPARATION, AND COMPACTION... 1.2. COMPACTION REQUIREMENTS (REFERENCE ASTM D-1557 (MODIFIED PROCTOR))... 1.3. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE PROPER BARRICADING WARNING DEVICES... 2. SUBGRADE PREPARATION 2.1. EARTHWORK FOR PROPOSED PAVEMENT SUBGRADE SHALL BE FINISHED TO WITHIN 0.1 FOOT, PLUS OR MINUS, OF THE ELEVATION... 2.2. SCARIFY, DISC, AND AERATE... 2.3. REMOVE AND REPLACE WITH GRANULAR MATERIAL... 2.4. USE OF GEOTEXTILE FABRIC... 2.5. MAXIMUM DEFLECTION ALLOWED IN ISOLATED AREAS... 2.6. PRIOR TO THE CONSTRUCTION OF THE CURB AND GUTTER... 2.7. CURBS SHALL BE DEPRESSED AND MEET THE SLOPE REQUIREMENTS OF THE MICHIGAN BUILDING CODE... 2.8. CURBS SHALL BE BACKFILLED AFTER THEIR CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE... 2.9. CONCRETE CURB SIDEWALK SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS... 2.10. CONCRETE CURING AND PROTECTION SHALL BE PER MDOT STANDARDS... 2.11. THE COST OF AGGREGATE BASE OR SUBBASE UNDER CONCRETE WORK SHALL BE INCLUDED IN THE COST OF THE RESPECTIVE CONCRETE ITEM... 3. FLEXIBLE PAVEMENT 3.1. THE PAVEMENT MATERIALS FOR BITUMINOUS STREETS, PARKING LOTS, AND DRIVE AISLES SHALL BE AS DETAILED ON THE PLANS... 3.2. ALL TRAFFIC SHALL BE KEPT OFF THE COMPLETED AGGREGATE BASE UNTIL THE LEVELING COURSE IS LAID... 3.3. PRIOR TO PLACEMENT OF THE SURFACE COURSE... 3.4. SEAMS IN BINDER, AND SURFACE COURSE SHALL BE STAGGERED A MINIMUM OF 6 INCHES... 3.5. TESTING AND FINAL ACCEPTANCE 3.6. THE CONTRACTOR SHALL FOLLOW THE QUALITY CONTROL TESTING PROGRAM FOR CONCRETE AND PAVEMENT MATERIALS ESTABLISHED BY THE ENGINEER... 3.7. PRIOR TO PLACEMENT OF THE BITUMINOUS CONCRETE SURFACE COURSE... 3.8. WHEN REQUIRED BY YPSILANTI TOWNSHIP... 3.9. FINAL ACCEPTANCE OF THE TOTAL PAVEMENT INSTALLATION SHALL BE SUBJECT TO THE TESTING AND CHECKING REQUIREMENTS CITED ABOVE...

SIGNAGE AND PAVEMENT MARKING NOTES

- 1. ALL SIGNING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARDS... 2. SIGNS: SIGNS SHALL BE CONSTRUCTED OF 0.090-INCH THICK FLAT ALUMINUM PANELS... 3. POSTS: SIGN POSTS SHALL BE A HEAVY-DUTY STEEL 'J' SHAPED CHANNEL WELDING 3.0 POUNDS/FOOT... 4. SIGNS AND POSTS SHALL BE INSTALLED IN ACCORDANCE WITH MDOT STANDARDS... 5. PAVEMENT MARKINGS: ALL PAVEMENT MARKINGS IN THE PUBLIC RIGHT-OF-WAY... 6. PAVEMENT MARKINGS ON BIKE PATHS, PARKING LOT STALLS, AND SIMILAR 'LOW-WEAR' APPLICATIONS... 7. COLOR, WIDTH, STYLE, AND SIZE OF ALL MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND LOCAL CODE... 8. THERMOPLASTIC MARKINGS SHALL BE INSTALLED WHEN THE PAVEMENT TEMPERATURE IS 50 DEGREES FAHRENHEIT AND RISING...

SANITARY SEWER NOTES

- 1. ALL SANITARY SEWER STANDARDS AND SPECIFICATIONS SHALL BE IN ACCORDANCE WITH THE YPSILANTI COMMUNITY UTILITY AUTHORITY (YCUA) REQUIREMENTS... 2. CONTRACTOR TO PROVIDE PROPER NOTIFICATION TO YCUA PRIOR TO STARTING CONSTRUCTION AND REQUEST FOR INSPECTIONS...

WATERMAIN NOTES

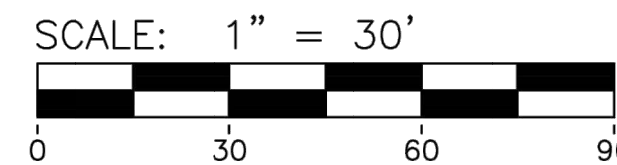
- 1. ALL WATERMAIN STANDARDS AND SPECIFICATIONS SHALL BE IN ACCORDANCE WITH THE YPSILANTI COMMUNITY UTILITY AUTHORITY (YCUA) REQUIREMENTS... 2. CONTRACTOR TO PROVIDE PROPER NOTIFICATION TO YCUA PRIOR TO STARTING CONSTRUCTION AND REQUEST FOR INSPECTIONS...

STORM SEWER NOTES

- 1. STORM SEWER PIPE: ALL STORM SEWER PIPE MATERIAL, SIZE AND TYPE SHALL BE INSTALLED AS INDICATED ON THE UTILITY PLAN... 2. BAND-SEAL OR SIMILAR COUPLING SHALL BE USED WHEN JOINING SEWER PIPES OF DISSIMILAR MATERIALS... 3. ALL FOOTING DRAIN DISCHARGE PIPES AND DOWN SPOUTS SHALL DISCHARGE TO THE STORM SEWER SYSTEM... 4. CONSTRUCTION: ALL STORM SEWERS ARE TO BE CONSTRUCTED USING A LASER INSTRUMENT TO MAINTAIN LINE AND GRADE... 5. COVER: THE CONTRACTOR SHALL MAINTAIN AT LEAST TWO (2) FEET OF COVER OVER THE TOP OF SHALLOW PIPES... 6. STRUCTURES: MANHOLE, CATCH BASIN, AND INLET BOTTOMS SHALL BE PRECAST CONCRETE... 7. A CONCRETE BENCH TO DIRECT FLOWS SHALL BE CONSTRUCTED IN THE BOTTOM OF ALL INLETS AND MANHOLES... 8. THE FRAME, GATE, AND/OR CLOSED LID SHALL BE CAST IRON OF THE STYLE SHOWN ON THE PLANS... 9. CLEANING: THE STORM SEWER SYSTEM SHALL BE THOROUGHLY CLEANED PRIOR TO FINAL INSPECTION AND TESTING... 10. THE STORM SEWER SHALL BE TELEVIEWED IF REQUIRED BY YPSILANTI TOWNSHIP... 11. MANHOLES, CATCH BASINS, INLETS, FRAMES, GRATES, AND OTHER STRUCTURES SHALL BE CONSTRUCTED OF THE TYPE, STYLE, AND SIZE AS SET FORTH WITH THE ORDINANCES AND STANDARDS OF THE TOWNSHIP... 12. ALL PVC PIPES CONNECTED TO REINFORCED CONCRETE PIPE SHALL BE CORED AND BOOTED PER YPSILANTI TOWNSHIP TOWNSHIP REQUIREMENTS... PIPE SIZE CODE PIPE MATERIAL 12"-60" RCP REINFORCED CONCRETE PIPE (ASTM C76); SEE MDOT SPECS FOR PIPE CLASS 3'-12" PVC POLYVINYL CHLORIDE PLASTIC PIPE SDR-26 (ASTM D3034 AND D2241) 3'-48" HDPE HIGH DENSITY POLYETHYLENE PIPE 3'-48" DIP DUCTILE IRON PIPE, CLASS 52 (ANSI 21.51 AND AWMA C151)

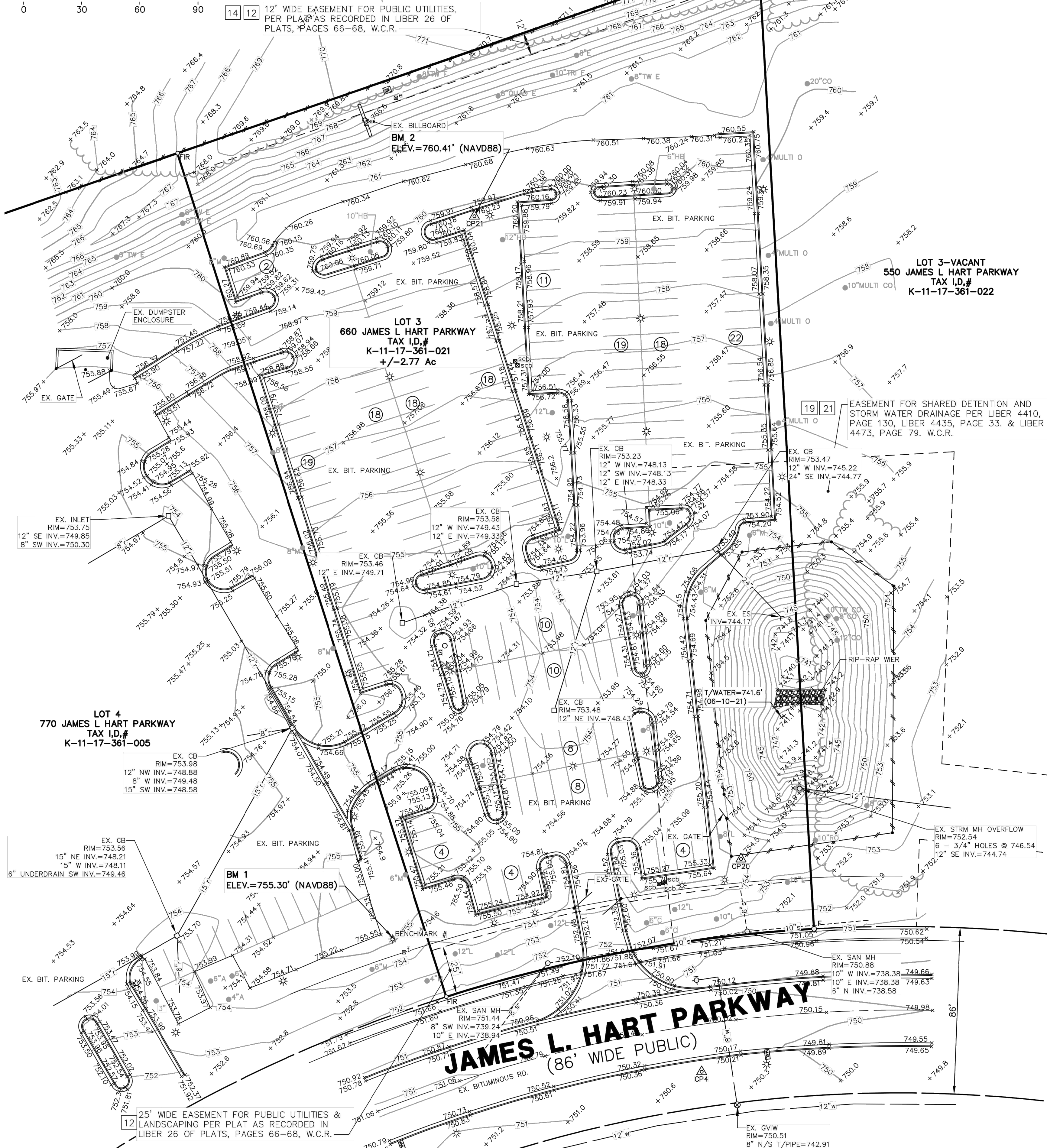
Drawing name: K:\GIS_LDEV\168921002_ShootPlan\Bldg_Ypsilanti\Map2_Design\CADD\PlanSheet\C1.0 - GENERAL NOTES.dwg C1.0 Mar 30, 2022 6:39pm by: Brett.Hickey This document, together with the concepts and designs presented herein, is an instrument of service, intended only for the specific purpose and client for which it was prepared. Re-use of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Kimley-Horn of Michigan, Inc. 3911 5th Mile Road, Lansing, MI 48906-7208 WWW.KIMLEY-HORN.COM SCALE: AS NOTED DESIGNED BY: JPM DRAWN BY: BMH CHECKED BY: JMM GENERAL NOTES RANGE USA ORIGINAL ISSUE: 10/19/2021 KHA PROJECT NO. 168921002 SHEET NUMBER C1.0



12' WIDE EASEMENT FOR PUBLIC UTILITIES, PER PLATS AS RECORDED IN LIBER 26 OF PLATS, PAGES 66-68, W.C.R.

I-94 FREEWAY



LEGEND

- 838 EXIST. CONTOUR
- *836.2 EXIST. SPOT ELEVATION
- ⊠ ELEC. TRANSFORMER
- ⊛ EXIST. LIGHT POLE
- t EXIST. TELEPHONE LINE
- e EXIST. ELECTRIC LINE
- g EXIST. GAS LINE
- w EXIST. WATER MAIN
- ⊕ EXIST. HYDRANT
- ⊖ EXIST. GATE VALVE IN BOX
- ⊖ EXIST. GATE VALVE IN WELL
- r EXIST. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- EXIST. SANITARY SEWER
- ⊠ MAILBOX
- ⊠ TELEPHONE RISER
- ⊠ ELECTRIC METER
- ⊠ SPRINKLER CONTROL BOX
- ⊠ POST
- ⊠ FENCE
- ⊠ SINGLE TREE
- ☁ TREE OR BRUSH LIMIT
- F FOUND IRON PIPE
- F IR FOUND IRON ROD
- △ CONTROL PT.
- Ⓟ PARKING SPACE COUNT
- Ⓜ EXCEPTION #

TREE LEGEND

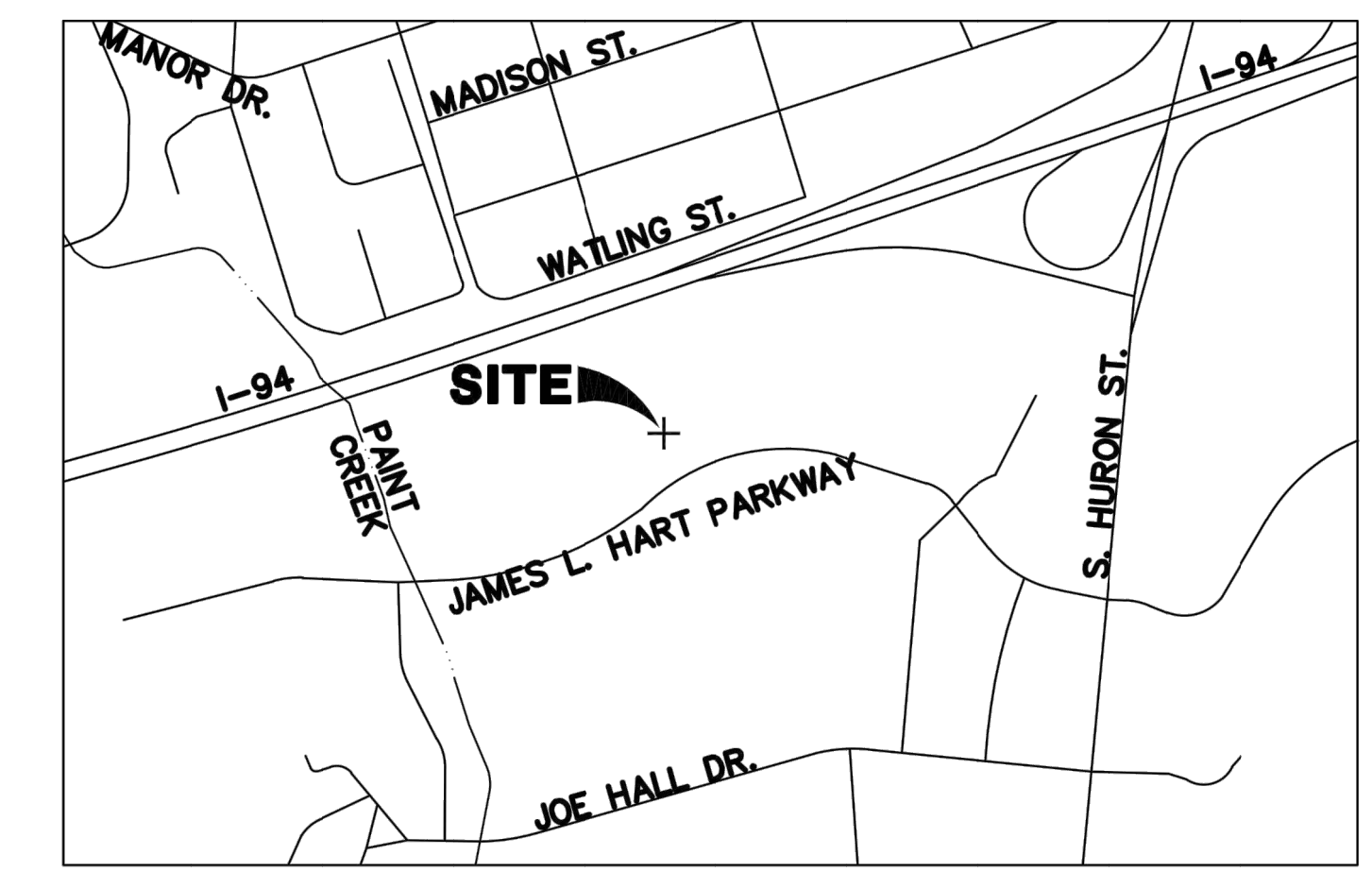
- CO COTTONWOOD
- E ELM
- HB HACKBERRY
- L LOCUST
- M MAPLE
- O OAK
- RO RUSSIAN OLIVE

BENCHMARK

- BM 1- TOP OF THE NORTH SIDE OF A CONCRETE LIGHT POLE BASE LOCATED +/-81' NORTH OF THE CENTERLINE OF JAMES L. HART PARKWAY; +/-107' WEST OF THE ENTRANCE TO LOT #3; +/-41.5' NORTH-NORTHWEST OF THE SOUTHWEST CORNER OF LOT #3;
ELEVATION = 755.30' (NAVD88 DATUM)
- BM 2- TOP OF THE IRON ROD "CP 21" LOCATED AT THE NORTH END OF THE ISLAND IN THE CENTER OF THE PARKING LOT. BEING 80' SOUTH OF THE I-94 ROW FENCE, 150' WEST OF THE EAST PROP. LINE AND 8' WEST OF A LIGHT POLE.
ELEVATION = 760.41' (NAVD88 DATUM)

NOTES

- 1) THIS SURVEY WAS PREPARED USING NEAR NORTH TITLE GROUP, TITLE COMMITMENT No. MI2127521 WITH AN EFFECTIVE DATE OF MARCH 28, 2021.
- 2) THE LEGAL DESCRIPTION DESCRIBES THE SAME PROPERTY AS INSURED IN THE TITLE COMMITMENT AND ANY EXCEPTIONS HAVE BEEN NOTED HEREIN.
- 3) BEARINGS ARE BASED ON HURON CENTER COMMERCIAL & INDUSTRIAL PARK, AS RECORDED IN LIBER 26 OF PLATS, PAGES 66-68.
- 4) SAID DESCRIBED PROPERTY IS NOT LOCATED WITHIN A 100-YEAR FLOOD PLAIN ZONE PER FLOOD INSURANCE RATE MAP NO. 26161C0426E WITH AN EFFECTIVE DATE OF APRIL 3, 2012, IN WASHTENAW COUNTY, STATE OF MICHIGAN, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.
- 5) THERE IS NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.
- 6) THERE IS NO OBSERVED EVIDENCE OF THIS BEING USED AS A SOLID WASTE DUMP, SURBER OR SANITARY LANDFILL.
- 7) THERE IS NO OBSERVED EVIDENCE INDICATING ANY CEMETERIES ARE LOCATED ON THE PARCEL HEREIN DESCRIBED.
- 8) THERE IS NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES, OR EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
- 9) THE PARCEL HEREIN DESCRIBED HAS 175 REGULAR STRIPPED PARKING SPACES AND 0 HANDICAP SPACES.
- 10) SITE ADDRESS: 660 JAMES L. HART PARKWAY, YPSILANTI, MI



VICINITY MAP

NOT TO SCALE

LEGAL DESCRIPTION

LEGAL DESCRIPTION OF A PARCEL OF LAND LOCATED IN FRENCH CLAIM #680, TOWN 3 SOUTH, RANGE 7 EAST, YPSILANTI TOWNSHIP, WASHTENAW COUNTY, MICHIGAN

That part of Lot 3, HURON CENTER COMMERCIAL & INDUSTRIAL PARK, described as:

BEGINNING at the Northwest corner of Lot 3 of HURON CENTER COMMERCIAL & INDUSTRIAL PARK, as recorded in Liber 26 of Plats, Pages 66, 67 and 68, Washtenaw County Records;

thence North 71 degrees 06 minutes 30 seconds East 317.97 feet along the North line of said Lot 3 and the South line of I-94 Freeway;

thence South 02 degrees 57 minutes 43 seconds East 506.14 feet;

thence 193.83 feet along the arc of a 770.00 foot radius non-tangential circular curve to the left, chord bearing South 79 degrees 49 minutes 35 seconds West 193.32 feet along the South line of said Lot 3 and the North line of James L. Hart Parkway (recorded as Commerce Parkway) (86 feet wide);

thence North 17 degrees 23 minutes 05 seconds West 457.56 feet along the West line of said Lot 3 to the POINT OF BEGINNING.

SUBJECT TO:

11. Any limitation on access to and from the land across the limited access right of the way I-94 abutting the property. **BLANKET IN NATURE**
12. Right(s) of Way and/or Easement(s) and other rights, if any, as delineated or as offered for dedication on the map of said plat: Huron Center Commercial & Industrial Park, as recorded in Liber 26 of Plats, Pages 66-68, Washtenaw County Records. **PLOTTED**
13. Covenants, conditions and restrictions set forth in the document recorded in Liber 1807, Page 472. Reassigned per Liber 5136, Page 994. Washtenaw County Records. **BLANKET IN NATURE**
14. Right(s) of Way and/or Easement(s) and rights incidental thereto in favor of The Detroit Edison Company as set forth in Liber 1858, Page 274. Washtenaw County Records. **PLOTTED**
15. Building and use restrictions as set forth in the document recorded in Liber 2343, Page 990. Reassigned per Liber 5136, Page 993 and modified per Liber 5149, Page 841. Washtenaw County Records. **BLANKET IN NATURE**
16. Covenants, conditions and restrictions set forth in the document recorded in Liber 3336, Page 602. Washtenaw County Records. **BLANKET IN NATURE**
17. Covenants, conditions and restrictions set forth in the document recorded in Liber 3715, Page 287 and amended per Liber 5412, Page 399. **BLANKET IN NATURE**
18. Covenants, conditions and restrictions set forth in the document recorded in Liber 3822, Page 161. Washtenaw County Records. **BLANKET IN NATURE**
19. Right(s) of Way and/or Easement(s) and rights incidental thereto in favor of Ypsilanti Community Utilities Authority, a Michigan municipal corporation, as set forth in Liber 4410, Page 130. Washtenaw County Records. **PLOTTED**
20. Covenants, conditions and restrictions set forth in the document recorded in Liber 4410, Page 130. Washtenaw County Records. **BLANKET IN NATURE**
21. Right(s) of Way and/or Easement(s) and rights incidental thereto as set forth in Liber 4435, Page 33 and amended per Liber 4473, Page 79. **PLOTTED**

SURVEYORS CERTIFICATE

To: CA Property Acquisitions, LLC, BankSupplies Holdings, LLC, a Michigan limited liability company, and Near North Title Group;

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 5, 6(a), 7(a), 7(b)(1), 7(c), 8, 9, 11(a), 11(b), 13, 14, 16, and 17 of Table A thereof. The fieldwork was completed on June 11, 2021

MIDWESTERN CONSULTING, LLC

By: Patrick L. Hastings, P.S. No. 27377

Date: 11/30/2021



770 JAMES L. HART PARKWAY

ALTA/NSPS LAND TITLE SURVEY OF A PARCEL OF LAND LOCATED IN THE NORTHEAST 1/4 OF SECTION 17, T3S, R7E, YPSILANTI TOWNSHIP, WASHTENAW COUNTY, MICHIGAN

1

JOB No. 21151
REVISIONS:
ADDED BENCHMARK
ADDED ADD'L TOPO

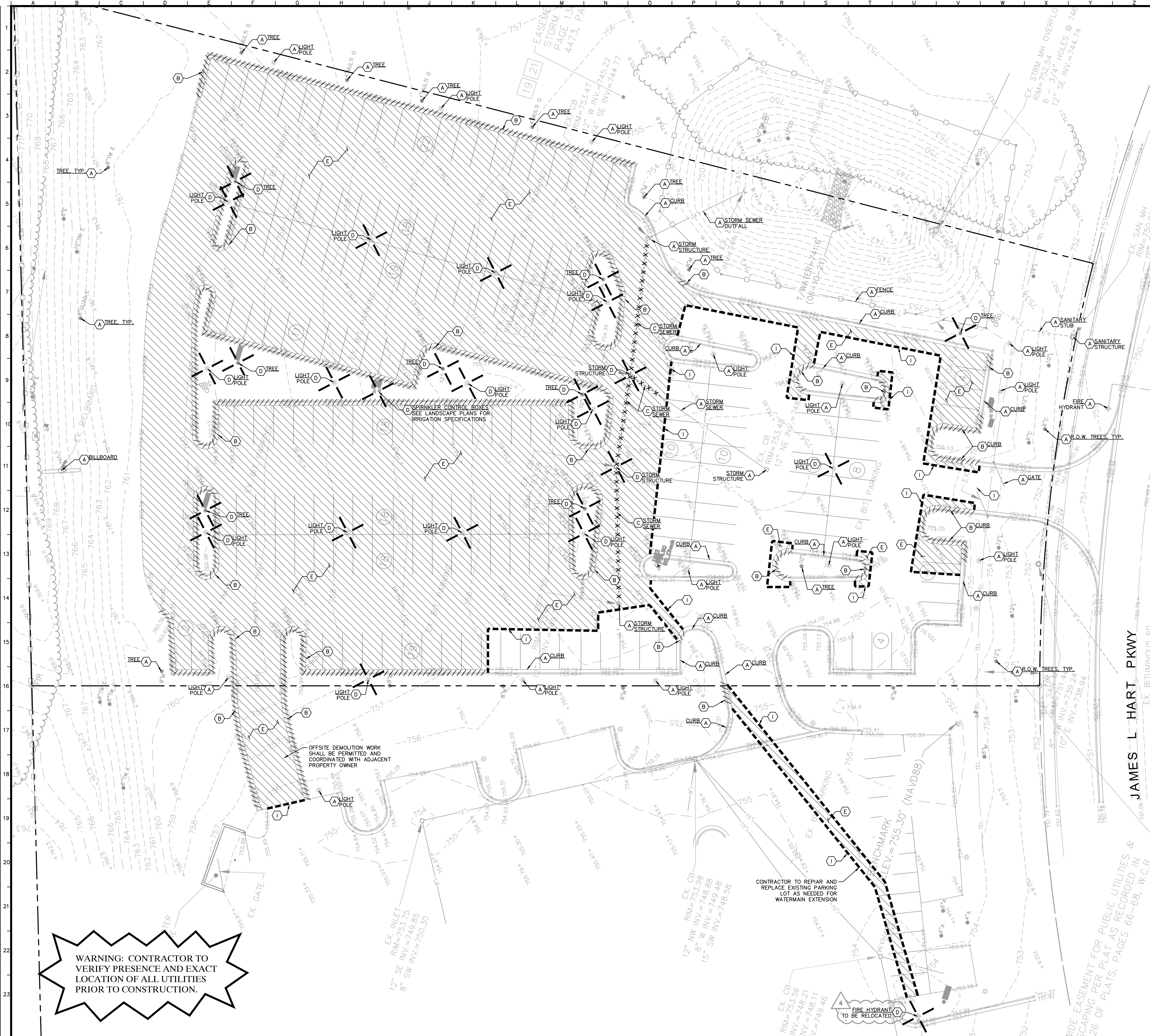
DATE: 06-15-2021
SHEET 1 OF 1
REV. DATE: 11/23/21
CADD: PK
ENG: 11/30/21
PK: ph
TECH: mb
21151-ALT6.dwg
PBL/045

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Drawing name: K:\GIS_DEVELOPMENT\168921002_Sheet\168921002_Sheet\168921002 - DEMOLITION PLAN.dwg C2.0 Mar 30, 2022 6:39pm By: Brent Hickey
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GRAPHIC SCALE IN FEET
 0 10 20 40

DEMOLITION NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF THE EXISTING STRUCTURES, RELATED UTILITIES, PAVING, AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED.
- CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
- THE GENERAL CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT. CONTRACTOR SHALL NOT DEMOLISH ANYTHING OUTSIDE THE OWNERS LEASE/PROPERTY LINE UNLESS SPECIFICALLY MENTIONED ON THIS SHEET.
- 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 UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.
- IF DEMOLITION OR CONSTRUCTION ON SITE WILL INTERFERE WITH THE ADJACENT PROPERTY OWNER'S TRAFFIC FLOW, THE CONTRACTOR SHALL COORDINATE WITH ADJACENT PROPERTY OWNER, TO MINIMIZE THE IMPACT ON TRAFFIC FLOW. TEMPORARY RE-ROUTING OF TRAFFIC IS TO BE ACCOMPLISHED BY USING IDOT APPROVED TRAFFIC BARRICADES, BARRELS, AND/OR CONES. TEMPORARY SIGNAGE AND FLAGMEN MAY BE ALSO NECESSARY.
- QUANTITIES DEPICTED ON THIS SHEET SHALL SERVE AS A GUIDE ONLY. CONTRACTOR TO VERIFY ALL DEMOLITION QUANTITIES.
- REFER TO GEOTECHNICAL REPORT PROVIDED BY OTHERS FOR ALL SUBSURFACE INFORMATION.
- CONTRACTOR SHALL BEGIN CONSTRUCTION OF ANY LIGHT POLE BASES FOR RELOCATED LIGHT FIXTURES AND RELOCATION OF ELECTRICAL SYSTEM AS SOON AS DEMOLITION BEGINS. CONTRACTOR SHALL BE AWARE THAT INTERRUPTION OF POWER TO ANY LIGHT POLES OR SIGNS SHALL NOT EXCEED 24 HOURS.
- EROSION CONTROL MUST BE ESTABLISHED PRIOR TO ANY WORK ON SITE INCLUDING DEMOLITION.
- THE EXTENT OF SITE DEMOLITION WORK IS AS SHOWN ON THE CONTRACT DOCUMENTS AND AS SPECIFIED HEREIN.
- CONTRACTOR MUST RECEIVE APPROVAL FROM CIVIL ENGINEER AND GEOTECHNICAL ENGINEER FOR THE MATERIAL TYPE AND USE IF CONTRACTOR DESIRES TO REUSE DEMOLISHED SITE PAVEMENT AS STRUCTURAL FILL.
- EXISTING UTILITIES, WHICH DO NOT SERVICE STRUCTURES BEING DEMOLISHED, ARE TO BE KEPT IN SERVICE AND PROTECTED AGAINST DAMAGE DURING DEMOLITION OPERATIONS. CONTRACTOR SHALL ARRANGE FOR SHUT-OFF OF UTILITIES SERVING STRUCTURES TO BE DEMOLISHED. CONTRACTOR IS RESPONSIBLE FOR TURNING OFF, DISCONNECTING, AND SEALING INDICATED UTILITIES BEFORE STARTING DEMOLITION OPERATIONS. EXISTING UTILITIES TO BE ABANDONED ARE TO BE CAPPED AT BOTH ENDS AND FILLED WITH FA-1 OR APPROVED EQUAL. ALL UNDERGROUND UTILITIES TO BE REMOVED ARE TO BE BACKFILLED WITH ENGINEERED FILL OR SELECT EXCAVATED MATERIAL, AS APPROVED BY THE GEOTECHNICAL ENGINEER, TO 95% OF MODIFIED PROCTOR DENSITY WITHIN PAVED AREAS AND TO 90% OF MODIFIED PROCTOR DENSITY FOR GREEN SPACE AREAS, IN ACCORDANCE WITH THE EARTHWORK SPECIFICATIONS. ALL PRIVATE UTILITIES (ELECTRIC, CABLE, TELEPHONE, FIBER OPTIC, GAS) SHALL BE REMOVED AND RELOCATED PER THE UTILITY OWNER AND THE LOCAL MUNICIPALITY'S REQUIREMENTS.
- UNDERGROUND UTILITIES SHOWN ARE BASED ON ATLASSES AND AVAILABLE INFORMATION PRESENTED AT THE TIME OF SURVEY. CONTRACTOR SHOULD CALL "MISSDIG" (1-800-482-7171) TO COORDINATE FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES BEFORE ORDERING MATERIALS OR COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY. CONTRACTOR SHALL LOCATE AND PROTECT EXISTING UNDERGROUND AND OVERHEAD UTILITIES DURING CONSTRUCTION. UTILITY PROTECTION SHALL BE COORDINATED WITH THE RESPECTIVE UTILITY OWNER AND AS DIRECTED BY THE GOVERNING MUNICIPALITY. DAMAGED CABLES/CONDUITS SHALL BE REPLACED IMMEDIATELY. ALL EXISTING STRUCTURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PROCESS. ALL DAMAGED STRUCTURES SHALL BE REPLACED IN-KIND AND THEIR REPLACEMENT COST SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. PROPER NOTIFICATION TO THE OWNERS OF THE EXISTING UTILITIES SHALL BE MADE AT LEAST 48 HOURS BEFORE CONSTRUCTION COMMENCES.
- USE WATER SPRINKLING, TEMPORARY ENCLOSURES, AND OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT RISING AND SCATTERING IN THE AIR TO THE LOWEST LEVEL. COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION. SEE EROSION CONTROL SHEETS FOR FURTHER EROSION CONTROL REQUIREMENTS.
- COMPLETELY FILL BELOW-GRADE AREAS AND VOIDS RESULTING FROM DEMOLITION OF STRUCTURES TO THE FINAL LINES AND GRADES SHOWN ON THE CONTRACT DOCUMENTS. BACKFILL MATERIAL SHALL BE IDOT APPROVED CRUSHED LIMESTONE OR APPROVED EQUAL. USE SATISFACTORY SOIL MATERIALS CONSISTING OF STONE, GRAVEL AND SAND, FREE FROM DEBRIS, TRASH, FROZEN MATERIALS, ROOTS AND OTHER ORGANIC MATTER. PRIOR TO PLACEMENT OF FILL MATERIALS, ENSURE THAT AREAS TO BE FILLED ARE FREE OF STANDING WATER, FROST, FROZEN MATERIAL, TRASH AND DEBRIS. PLACE FILL MATERIALS IN HORIZONTAL LAYERS NOT EXCEEDING 9" IN LOOSE DEPTH. COMPACT EACH LAYER AT OPTIMUM MOISTURE CONTENT OF FILL MATERIAL TO 95% OF MODIFIED PROCTOR DENSITY UNLESS SUBSEQUENT EXCAVATION FOR NEW WORK IS REQUIRED.

DEMOLITION LEGEND

(A)	ITEM TO REMAIN, PROTECT DURING CONSTRUCTION
(B)	CURB REMOVAL
(C)	X · X · UTILITY REMOVAL
(D)	ITEM TO BE REMOVED
(E)	FULL-DEPTH ASPHALT PAVEMENT REMOVAL
(F)	CONCRETE REMOVAL (NOT USED)
(G)	BUILDING REMOVAL (NOT USED)
(H)	ASPHALT 1.5" MILL (NOT USED)
(I)	SAWCUT LINE
(J)	FENCE REMOVAL (NOT USED)

WARNING: CONTRACTOR TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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COMPTONADDY
 COMMERCIAL REAL ESTATE

DEMOLITION PLAN

RANGE USA
 660 JAMES L. HART PARKWAY
 YPSILANTI TOWNSHIP, MI

ORIGINAL ISSUE: 10/19/2021
 KHA PROJECT NO. 168921002
 SHEET NUMBER C2.0

SCALE: AS NOTED	DESIGNED BY: JPM	DATE:
DRAWN BY: BMH	DATE:	
CHECKED BY: JMM	DATE:	

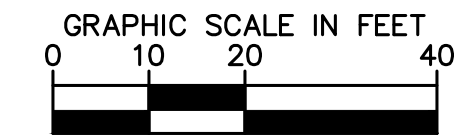
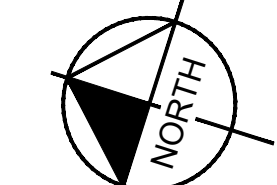
NO.	REVISIONS	DATE	BY
1	TOWNSHIP COMMENTS	11/29/21	JMM
2	TOWNSHIP COMMENTS	01/11/22	JMM
3	WCWRC/TOWNSHIP REVIEW COMMENTS	02/24/22	JMM
4	WCWRC/TOWNSHIP REVIEW COMMENTS	03/30/22	JMM

Drawing name: K:\GIS_DEVELOPMENT\168921002_SitePlan.dwg C3.0 Mar 30, 2022 6:39pm By: Brett.Hickey
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PIN: K-11-17-361-022
 ZONING: I-1
 EXISTING USE: VACANT

PROPOSED BUILDING
 15,019± SF
 FFE = 756.50
 PIN: K-11-17-361-021
 ZONING: PD
 PROPOSED USE: GUN SALES &
 SHOOTING RANGE

PIN: K-11-17-361-005
 ZONING: PD
 EXISTING USE: RETAIL



GENERAL NOTES

1. ALL DIMENSIONS REFER TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
2. BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
3. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS.
4. RADI ADJACENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 3- FEET, TYPICAL.
5. REFER TO ARCHITECTURAL PLANS FOR MONUMENT SIGN DETAILS. SEE MEP PLANS FOR SITE ELECTRICAL DRAWINGS.
6. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.

KEY NOTES

- 1 6-INCH CONCRETE CURB AND GUTTER, TYP. (SEE DETAILS, SHEET C7.0)
- 2 DEPRESSED CURB AND GUTTER
- 3 CONCRETE SIDEWALK, TYP. (SEE DETAILS, SHEET C7.0)
- 4 ACCESSIBLE PAVEMENT MARKINGS, TYP. (SEE DETAILS, SHEET C7.0)
- 5 ACCESSIBLE PARKING SIGN, TYP. (MUTCD R7-8, SEE DETAILS, SHEET C7.0)
- 6 4" WIDE PAINTED SOLID LINE, TYP.
- 7 CONNECT TO EXISTING PAVEMENT, SIDEWALK, CURB, TYP.
- 8 TRASH ENCLOSURE (SEE ARCHITECTURAL PLANS FOR DETAILS)
- 9 TRANSFORMER PAD (FOR REFERENCE ONLY)
- 10 ACCESSIBLE RAMP (SEE DETAILS, SHEET C7.0)
- 11 COMPOSITE WOOD FENCE (SEE ARCHITECTURAL PLAN FOR DETAILS)
- 12 EXISTING LIGHT POLE (SEE PHOTOMETRIC PLAN)
- 13 4" WIDE PAINTED SOLID LINE AT 45-DEGREES, 2' O.C., TYP.

PAVING AND CURB LEGEND

- HEAVY DUTY ASPHALT PAVEMENT (SEE CONSTRUCTION DETAILS, SHEET C7.0)
- STANDARD DUTY ASPHALT PAVEMENT (SEE CONSTRUCTION DETAILS, SHEET C7.0)
- HEAVY DUTY CONCRETE PAVEMENT (SEE CONSTRUCTION DETAILS, SHEET C7.0)
- CONCRETE SIDEWALK (SEE CONSTRUCTION DETAILS, SHEET C7.0)
- STANDARD PITCH CONCRETE CURB AND GUTTER
- REVERSE PITCH CONCRETE CURB AND GUTTER
- CONCRETE DEPRESSED CURB AND GUTTER

SITE DATA TABLE

PARCEL NUMBER: K-11-17-361-021
SITE ADDRESS: 660 JAMES L HART PKWY, YPSILANTI, MI 48197
PARCEL AREA: 2.766 ACRES
ZONING: PLANNED DEVELOPMENT (PD), BURNING BUSH PLANNED DEVELOPMENT
PROPOSED USE: GUN SALES AND SHOOTING RANGE
PARKING SPACES REQUIRED
COMMERCIAL RECREATION: 2 SPACES PER 1 SHOOTING LANE = 40 SPACES
20 LANES PROPOSED (2 SPACES x 20 LANES)
CLASSROOM USE: 1 SPACE FOR EACH 250 SF OF USABLE FLOOR SPACE = 3 SPACES
- 785 SF OF CLASSROOM SPACE (785 x 1 SPACE / 250 SF)
RETAIL SALES: 1 SPACE FOR EACH 250 SF OF USABLE FLOOR SPACE = 12 SPACES
- 3,085 SF OF RETAIL SPACE (3,085 x 1 SPACE / 250 SF)
TOTAL PARKING SPACES REQUIRED = 55 SPACES
TOTAL PARKING SPACES PROVIDED: = 99 SPACES
ACCESSIBLE PARKING SPACES REQUIRED: = 4 SPACES
ACCESSIBLE PARKING SPACES PROVIDED: = 4 SPACES

FEMA NOTE

PER FLOOD INSURANCE RATE MAP PANEL NO. 26161C0426E, DATED 04/03/2012, THE SITE IS LOCATED IN ZONE 'X', AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

NO.	REVISIONS	DATE	BY
4	WCWRC/TOWNSHIP REVIEW COMMENTS	03/30/22	JMM
3	WCWRC/TOWNSHIP REVIEW COMMENTS	02/24/22	JMM
2	TOWNSHIP COMMENTS	01/11/22	JMM
1	TOWNSHIP COMMENTS	11/29/21	JMM

SCALE:	AS NOTED
DESIGNED BY:	JPH
DRAWN BY:	BMH
CHECKED BY:	JMM

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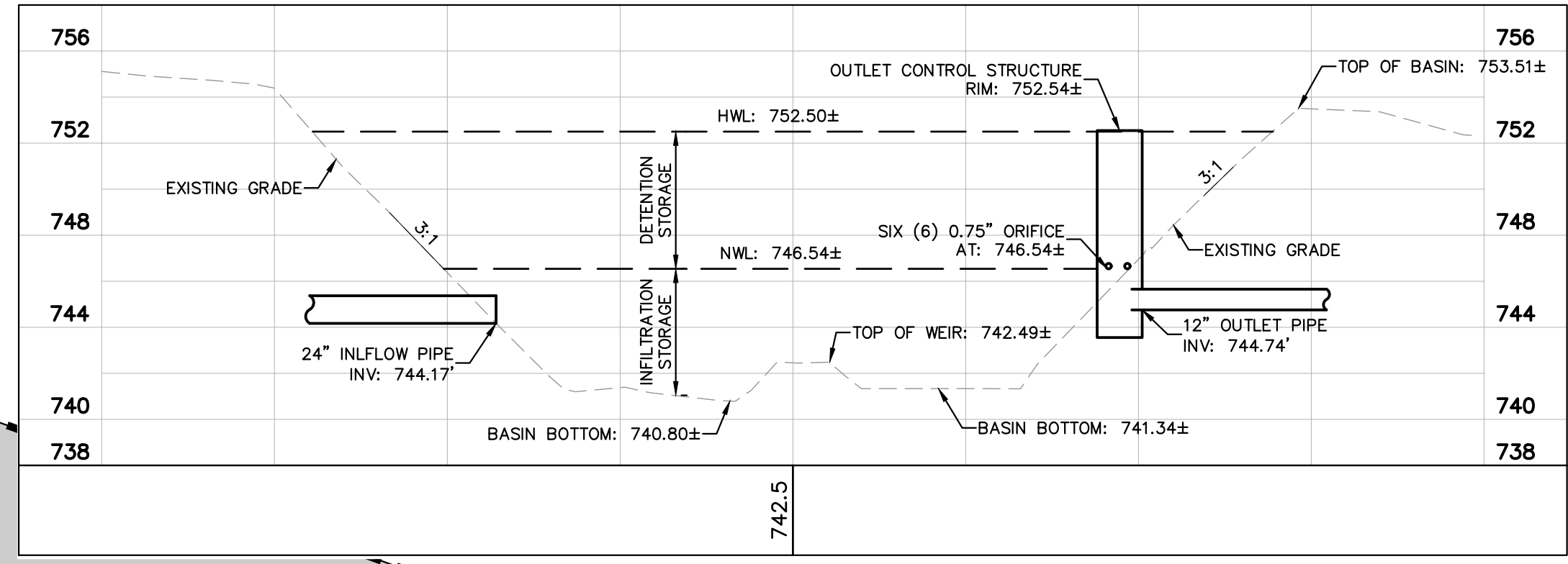
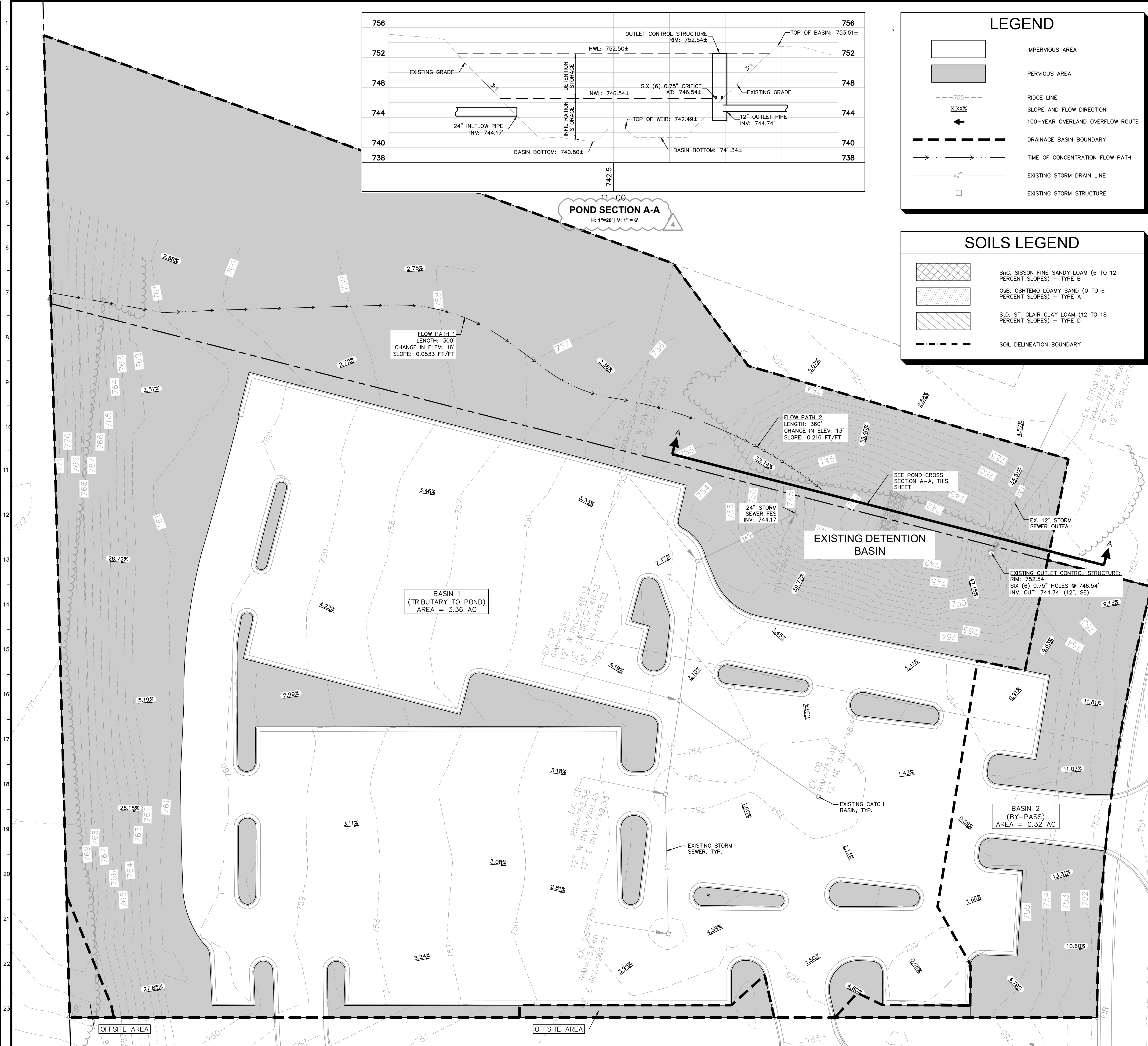
COMPTONADDY COMMERCIAL REAL ESTATE
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SITE PLAN

RANGE USA
660 JAMES L. HART PARKWAY YPSILANTI TOWNSHIP, MI

ORIGINAL ISSUE: 10/19/2021
KHA PROJECT NO. 168921002
SHEET NUMBER C3.0

Drawing name: K:\GIS\DEV\168921002_ShootPlan\Bentley\Map2 Design\CAD\Drawings\C5.1 - EXISTING DRAINAGE PLAN.dwg CS:1 Mar 30, 2022 6:39pm by Brett Hickey
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LEGEND

- IMPERVIOUS AREA
- PERVIOUS AREA
- RIDGE LINE
- SLOPE AND FLOW DIRECTION
- 100-YEAR OVERLAND OVERFLOW ROUTE
- DRAINAGE BASIN BOUNDARY
- TIME OF CONCENTRATION FLOW PATH
- EXISTING STORM DRAIN LINE
- EXISTING STORM STRUCTURE

SOILS LEGEND

- Snc, SISSON FINE SANDY LOAM (6 TO 12 PERCENT SLOPES) - TYPE B
- OsB, OSHTIMO LOAMY SAND (0 TO 6 PERCENT SLOPES) - TYPE A
- Sld, ST. CLAIR CLAY LOAM (12 TO 18 PERCENT SLOPES) - TYPE D
- SOIL DELINEATION BOUNDARY

DRAINAGE CALCULATIONS

EXISTING DRAINAGE CALCULATIONS:

BASIN 1 - TRIBUTARY TO POND:	3.32 AC
EX. IMPERVIOUS AREA:	1.61 AC
EX. PERVIOUS AREA:	1.71 AC

SOIL TYPE(S) (PER NRCS):

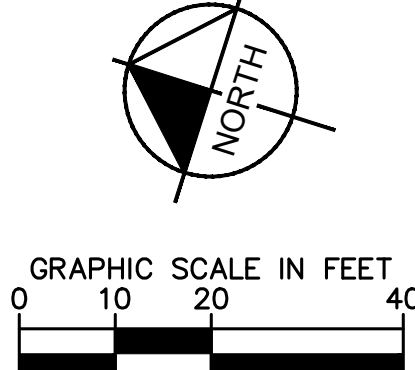
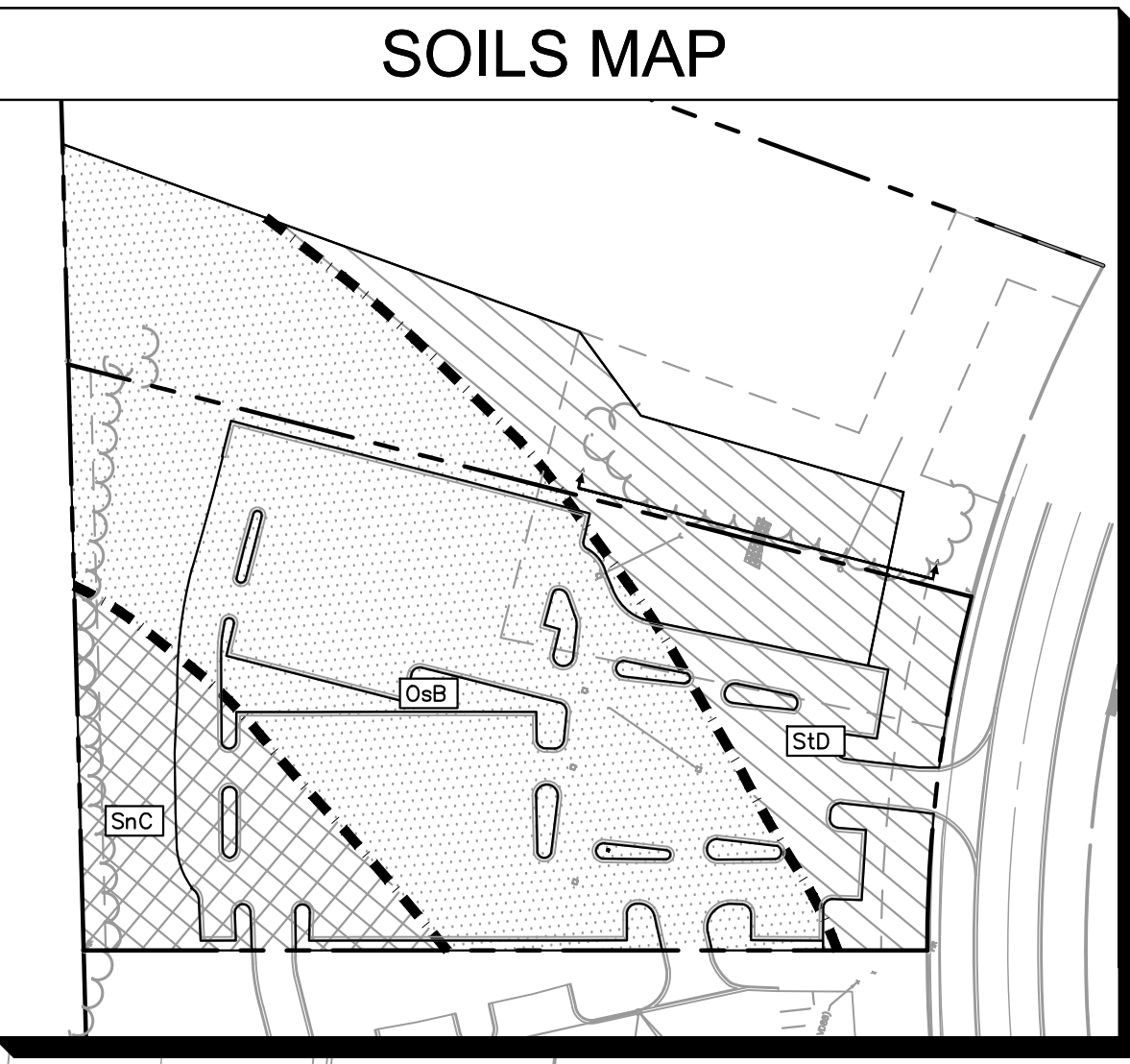
- OsB (64%), OSHTIMO LOAMY SAND, 0-6% SLOPES, HYDRAULIC SOIL RATING, A
- Snc (13%), SISSON FINE SANDY LOAM, 6-12% SLOPES, HYDRAULIC SOIL RATING, B
- Sld (21%), ST. CLAIR CLAY LOAM, 12-18% SLOPES, HYDRAULIC SOIL RATING, D

EXISTING DETENTION BASIN STATISTICS (ASSUMED):

BOTTOM OF BASIN:	741.00
NORMAL WATER LEVEL:	746.54
HIGH WATER LEVEL:	752.50

EXISTING VOLUME PROVIDED (PER TOPOGRAPHIC SURVEY):

CONTOUR ELEV	CONTOUR AREA (SF)	INCREMENTAL VOLUME (CU-FT)	CUMULATIVE STORAGE (CU-FT)
741.00	166	-	-
741.50	977	258	258
742.00	1,269	560	818
742.50	1,622	721	1,539
743.00	1,891	899	2,438
743.50	2,298	1,069	3,507
744.00	2,604	1,225	4,731
744.50	2,925	1,381	6,113
745.00	3,259	1,545	7,658
745.50	3,609	1,716	9,374
746.00	3,972	1,895	11,269
746.54	4,350	2,080	13,349 (INFILTRATION)
746.54	4,350	-	-
747.00	4,743	2,273	2,273
747.50	5,150	2,473	4,745
748.00	5,579	2,682	7,427
748.50	6,033	2,903	10,329
749.00	6,512	3,136	13,464
749.50	7,024	3,384	16,848
750.00	7,527	3,638	20,485
750.50	8,047	3,893	24,377
751.00	8,586	4,158	28,535
751.50	9,141	4,432	32,966
752.00	9,715	4,714	37,679
752.50	10,305	5,005	42,683 (DETENTION)



SCALE: AS NOTED	DESIGNED BY: JPM	DRAWN BY: BMH	CHECKED BY: JMM	NO.	DATE	REVISIONS	
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				EXISTING DRAINAGE PLAN			
RANGE USA 660 JAMES L. HART PARKWAY YPSILANTI TOWNSHIP, MI				ORIGINAL ISSUE: 10/19/2021 KHA PROJECT NO. 168921002 SHEET NUMBER C5.1			

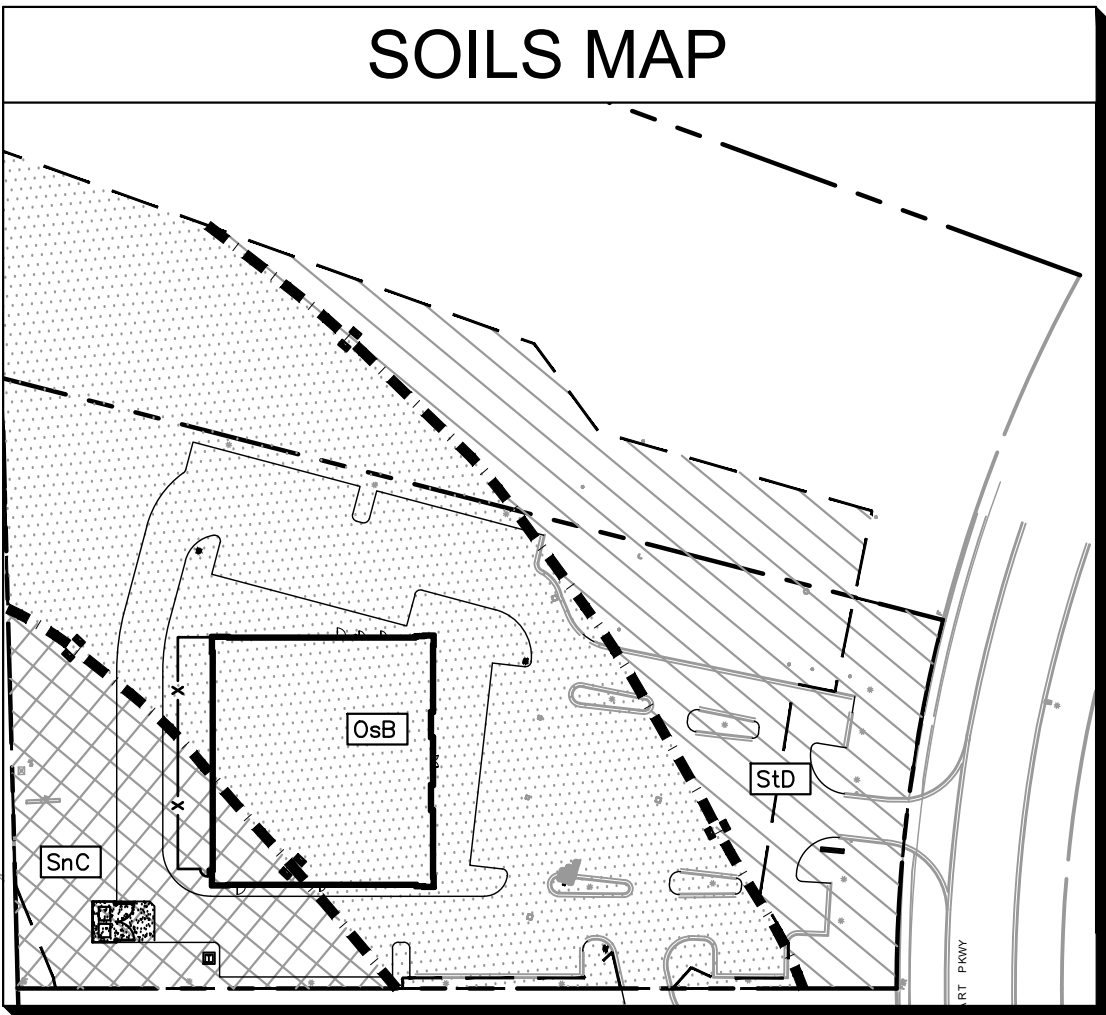
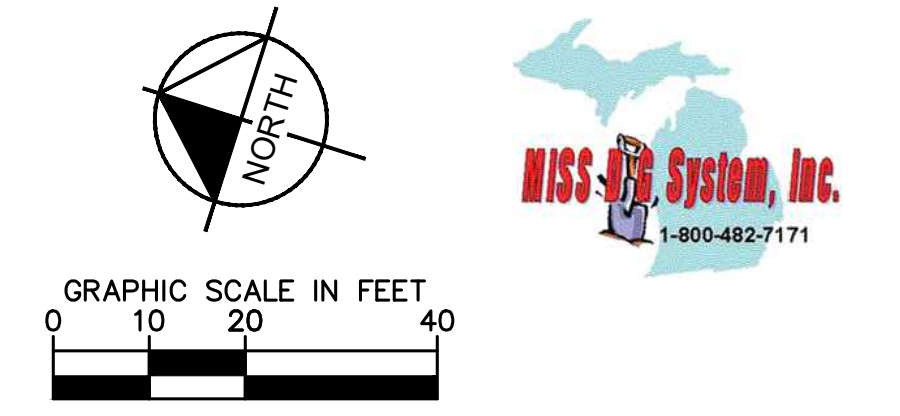
Drawing name: K:\GIS_LIVE\168921002_ShootPlan\Bentley\MapSheets\C5.2 - PROPOSED DRAINAGE PLAN.dwg C5.2 Mar 30, 2022 6:39pm by: Brett.Hickey
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DRAINAGE AREA SUMMARY

Basin ID	Tributary Area (AC)	Pervious Area (AC)	Impervious Area (AC)	SnC, B, Soil Area (AC)	OsB, A, Soil Area (AC)	StD, D, Soil Area (AC)
BASIN 1 (POND TRIB)	3.32	1.75	1.57	0.49	2.14	0.69
		Pervious Area (AC)		0.26	0.92	0.57
		Impervious Area (AC)		0.23	1.22	0.12
BASIN 2 (BY-PASS)	0.32	0.21	0.11	0.01	0.02	0.29

SOILS LEGEND

	SnC, SISSON FINE SANDY LOAM (6 TO 12 PERCENT SLOPES) - TYPE B
	OsB, OSHEMTO LOAMY SAND (0 TO 6 PERCENT SLOPES) - TYPE A
	StD, ST. CLAIR CLAY LOAM (12 TO 18 PERCENT SLOPES) - TYPE D
	SOIL DELINEATION BOUNDARY



PROPOSED DRAINAGE SUMMARY

EXISTING DRAINAGE CALCULATIONS:

TRIBUTARY TO POND:	3.36 AC
EX. IMPERVIOUS AREA:	1.61 AC
EX. PERVIOUS AREA:	1.75 AC

SOIL TYPE(S) (PER NRCS)

- OsB (64%), OSHEMTO LOAMY SAND, 0-6% SLOPES, HYDRAULIC SOIL RATING, A
- SnC (15%), SISSON FINE SANDY LOAM, 6-12% SLOPES, HYDRAULIC SOIL RATING, B
- StD (21%), ST. CLAIR CLAY LOAM, 12-18% SLOPES, HYDRAULIC SOIL RATING, D

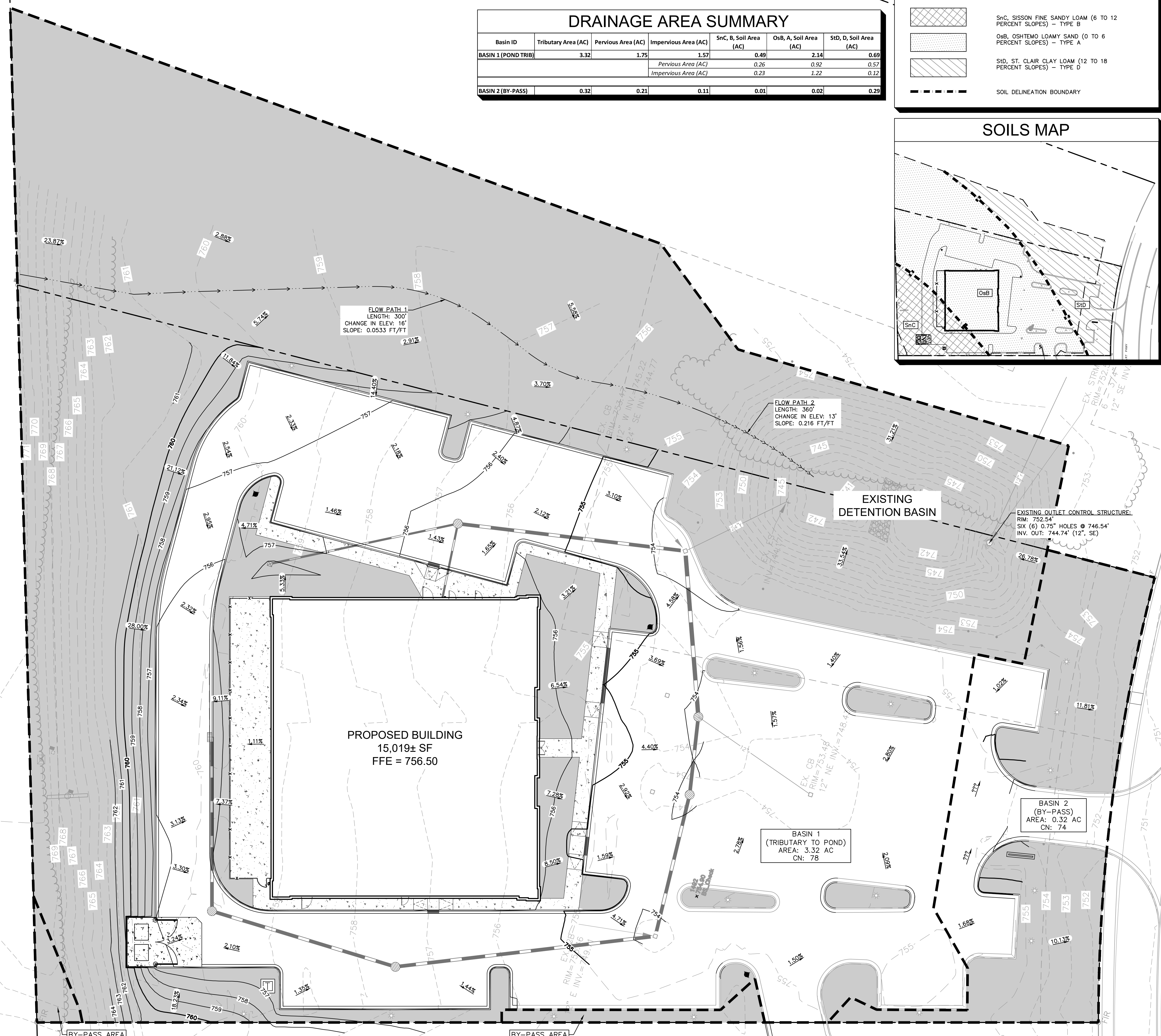
EXISTING DETENTION BASIN STATISTICS (ASSUMED):

BOTTOM OF BASIN:	741.00
NORMAL WATER LEVEL:	746.54
HIGH WATER LEVEL:	752.50

SEE SHEET C5.1 FOR EXISTING STAGE STORAGE CALCULATIONS

PROPOSED DRAINAGE CALCULATIONS/SUMMARY:
(SEE SHEETS C5.4 & C5.5 FOR DETAILED WCWRC WORKSHEET CALCULATIONS)

FIRST FLUSH VOLUME (VF):	7,432 FT ³
TOTAL BANKFULL VOLUME (BFV):	12,472 FT ³
INFILTRATION REQUIRED:	12,472 FT ³ (GREATER OF VF OR BFV)
INFILTRATION PROVIDED:	14,008 FT ³ > 12,472 FT ³
13,349 FT ³ (SURFACE STORAGE)	
659 FT ³ (INFILTRATION DURING STORM)	
100-YEAR DETENTION STORAGE (V100):	34,342 FT ³
REQUIRED DETENTION STORAGE:	20,334 FT ³ (V100 - INFILTRATION PROVIDED)
DETENTION STORAGE PROVIDED:	42,683 FT ³ > 20,334 FT ³



MAINTENANCE PLAN

The proposed Range USA development will have maintenance responsibilities for the stormwater management facility and infrastructure. The following tables identify maintenance activities that must occur in order for the BMPs to remain effective:

Yearly Maintenance Budget: \$10,000
Contact for Parties/Persons Responsible for the Maintenance Activities:
 Company: Range USA
 Name: Kevin Allee
 TEL: (513) 766-3756

Design Criteria, Routine Actions	Maintenance Activity	Measurement Frequency	Responsible Party
Storm Sewer/Structure Inspection Inspection of all storm drain sewers, structures, manholes, and basins	<ul style="list-style-type: none"> Remove sediment, trash, and debris to ensure structures function properly Remove any obstructions Repair structure or replace, if structural integrity is unsalvageable 	Annually in October	Range USA
Stormwater Management Basin Inspection of stormwater management basin	<ul style="list-style-type: none"> Remove litter and other debris Check water levels, dredge as required Inspect health of vegetative cover Inspect for eroded areas Inspect sediment accumulation in forebay Reseeding or replanting of damaged cover No chemicals allowed in stormwater features or buffer zones with the following exception: Invasive species may be treated with chemicals by a certified applicator. 	<ul style="list-style-type: none"> Daily Quarterly Quarterly Quarterly Annually Daily 	Range USA
Outlet/Inlet Structures Inspection of all outlet and inlet structures	<ul style="list-style-type: none"> Remove obstructions Repair any separation of joints, cracks, breaks, or deterioration Remove obstructions downstream of outlet 	<ul style="list-style-type: none"> Quarterly Quarterly Quarterly 	Range USA
Vegetated Areas Inspection of all vegetation	<ul style="list-style-type: none"> In native areas, supplement alternative native vegetation if over 50% of surface is not established In turf areas, supplement alternative native vegetation if over 25% of surface is not established 	<ul style="list-style-type: none"> Annually Annually 	Range USA

It is recommended that annual reports are completed one year after construction is completed, with subsequent reports due each year within the same month of the initial report. If there are any deficiencies found during the inspection, these should be addressed.

DRAINAGE LEGEND

	IMPERVIOUS AREA
	PERVIOUS AREA
	PROPOSED CONTOUR
	EXISTING CONTOUR
	RIDGE LINE
	SLOPE AND FLOW DIRECTION
	100-YEAR OVERLAND OVERFLOW ROUTE
	PROPOSED STORM SEWER LINE
	PROPOSED STORM STRUCTURES
	EXISTING STORM DRAIN LINE
	EXISTING STORM STRUCTURE

SCALE:	AS NOTED
DESIGNED BY:	JPM
DRAWN BY:	BMH
CHECKED BY:	JMM
NO.	1
REVISIONS	DATE
4	WCWRC/TOWNSHIP REVIEW COMMENTS 03/30/22 JMM
3	WCWRC/TOWNSHIP REVIEW COMMENTS 02/24/22 JMM
2	TOWNSHIP COMMENTS 01/11/22 JMM
1	TOWNSHIP COMMENTS 11/29/21 JMM
	DATE

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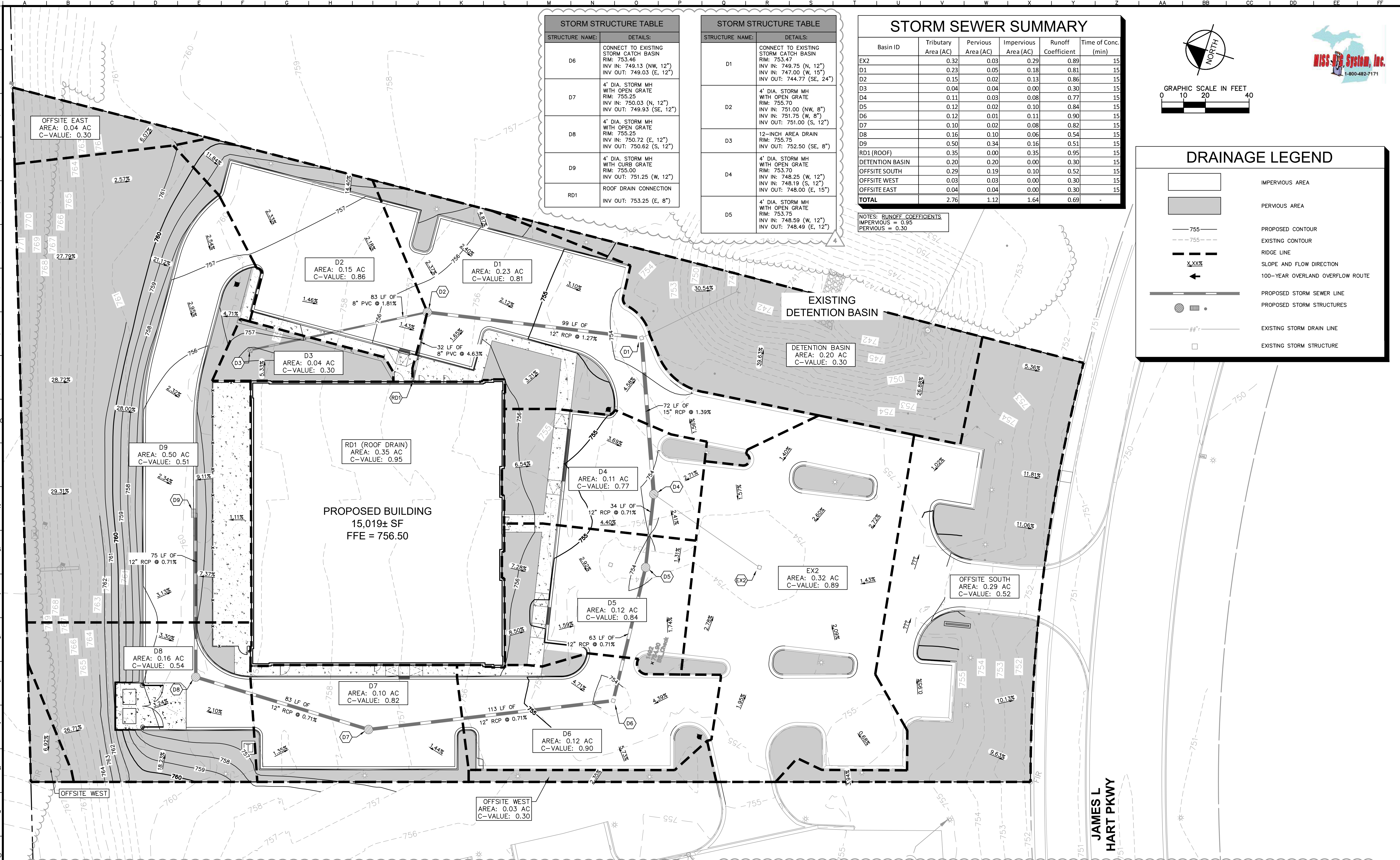
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PROPOSED DRAINAGE & MAINTENANCE PLAN

RANGE USA
 660 JAMES L. HART PARKWAY
 YPSILANTI TOWNSHIP, MI

ORIGINAL ISSUE: 10/19/2021
 KHA PROJECT NO. 168921002
 SHEET NUMBER **C5.2**

Drawing name: K:\GIS\DEV\168921002_SheetPlan\168921002_SheetPlan.dwg
 Date: 03/30/2022 6:39pm
 Designer: JPH
 Checker: JMM
 Title: STORM SEWER PLAN
 Project: 168921002
 Client: KIMLEY-HORN AND ASSOCIATES, INC.
 Scale: AS NOTED
 Drawing: BMM
 Checked: JMM
 Date: 03/30/2022



STORM STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:
D6	CONNECT TO EXISTING STORM CATCH BASIN RIM: 753.46 INV IN: 749.13 (NW, 12") INV OUT: 749.03 (E, 12")
D7	4' DIA. STORM MH WITH OPEN GRATE RIM: 755.25 INV IN: 750.03 (N, 12") INV OUT: 749.93 (SE, 12")
D8	4' DIA. STORM MH WITH OPEN GRATE RIM: 755.25 INV IN: 750.72 (E, 12") INV OUT: 750.62 (S, 12")
D9	4' DIA. STORM MH WITH CURB GRATE RIM: 755.00 INV IN: 751.25 (W, 12") INV OUT: 751.25 (W, 12")
RD1	ROOF DRAIN CONNECTION INV OUT: 753.25 (E, 8")

STORM STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:
D1	CONNECT TO EXISTING STORM CATCH BASIN RIM: 753.47 INV IN: 749.75 (N, 12") INV OUT: 747.00 (E, 15")
D2	4' DIA. STORM MH WITH OPEN GRATE RIM: 755.70 INV IN: 751.00 (NW, 8") INV OUT: 751.00 (S, 12")
D3	12-INCH AREA DRAIN RIM: 755.75 INV OUT: 752.50 (SE, 8")
D4	4' DIA. STORM MH WITH OPEN GRATE RIM: 755.70 INV IN: 748.25 (W, 12") INV OUT: 748.00 (E, 15")
D5	4' DIA. STORM MH WITH OPEN GRATE RIM: 753.75 INV IN: 748.59 (W, 12") INV OUT: 748.49 (E, 12")

STORM SEWER SUMMARY

Basin ID	Tributary Area (AC)	Pervious Area (AC)	Impervious Area (AC)	Runoff Coefficient	Time of Conc. (min)
EX2	0.32	0.03	0.29	0.89	15
D1	0.23	0.05	0.18	0.81	15
D2	0.15	0.02	0.13	0.86	15
D3	0.04	0.04	0.00	0.30	15
D4	0.11	0.03	0.08	0.77	15
D5	0.12	0.02	0.10	0.84	15
D6	0.12	0.01	0.11	0.90	15
D7	0.10	0.02	0.08	0.82	15
D8	0.16	0.10	0.06	0.54	15
D9	0.50	0.34	0.16	0.51	15
RD1 (ROOF)	0.35	0.00	0.35	0.95	15
DETENTION BASIN	0.20	0.20	0.00	0.30	15
OFFSITE SOUTH	0.29	0.19	0.10	0.52	15
OFFSITE WEST	0.03	0.03	0.00	0.30	15
OFFSITE EAST	0.04	0.04	0.00	0.30	15
TOTAL	2.76	1.12	1.64	0.69	

NORTH

GRAPHIC SCALE IN FEET

0 10 20 40

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DRAINAGE LEGEND

	IMPERVIOUS AREA
	PERVIOUS AREA
	PROPOSED CONTOUR
	EXISTING CONTOUR
	RIDGE LINE
X	SLOPE AND FLOW DIRECTION
←	100-YEAR OVERLAND OVERFLOW ROUTE
	PROPOSED STORM SEWER LINE
	PROPOSED STORM STRUCTURES
#	EXISTING STORM DRAIN LINE
□	EXISTING STORM STRUCTURE

10-YEAR STORM SEWER CALCULATIONS

Line	ToLine	Line ID	LineLength (ft)	InletTime (min)	TimeConc (min)	AdmFlow (cfs)	TotalFlow (cfs)	CapacFull (cfs)	Veloc (ft/s)	PipeSize (in)	PipeSlope (%)	Inv ElevDn (ft)	Inv ElevUp (ft)	HGLDn (ft)	HGLUp (ft)	Grnd/RimDnGrnd/RimUp (ft)	
1	Outfall	D1 TO EX1	48.60	15	24.80	0.82	5.84	27.23	1.91	24.00	1.23	744.17	744.77	746.54	746.56	746.31	753.47
2		D2 TO D1	98.75	15	24.20	0.56	1.69	4.01	4.34	12.00	1.27	749.75	751.00	750.20	751.55	753.47	755.70
3		RD1 TO D2	32.39	15	15.00	1.45	1.45	2.82	6.37	8.00	4.63	751.75	753.25	752.09	753.82	755.70	756.50
4		D3 TO D2	82.78	15	15.00	0.05	0.05	1.76	0.84	8.00	1.81	751.00	752.50	751.55	752.60	755.70	755.75
5		D4 TO D1	71.71	15	18.00	0.37	4.08	7.63	5.56	15.00	1.39	747.00	748.00	747.65	748.82	753.47	753.70
6		D5 TO D4	33.73	15	17.80	0.44	2.59	3.00	4.30	12.00	0.71	748.25	748.49	748.97	749.21	753.70	753.75
7		D6 TO D5	62.78	15	17.40	0.47	2.19	2.98	4.07	12.00	0.70	748.59	749.03	749.25	749.66	753.75	753.46
8		D7 TO D6	112.78	15	16.60	0.36	1.78	3.00	3.27	12.00	0.71	749.13	749.93	749.92	750.50	753.46	755.25
9		D8 TO D7	82.64	15	15.90	0.38	1.46	3.01	3.71	12.00	0.71	750.03	750.62	750.52	751.13	755.25	755.25
10		D9 TO D8	75.00	15	15.00	1.12	1.12	2.99	3.42	12.00	0.71	750.72	751.25	751.14	751.69	755.25	755.00
11		EX2 TO D4	58.86	15	15.00	1.25	1.25	2.27	2.67	12.00	0.41	748.19	748.43	748.82	748.96	753.70	753.48

*** Flow calculations determined by using WCVRC Intensity Formulas from Table 7 of Section IV, Part E of the WCVRC Rules and Guidelines Procedures for Stormwater Management Systems

100-YEAR STORM SEWER CALCULATIONS

Line	ToLine	Line ID	LineLength (ft)	InletTime (min)	TimeConc (min)	AdmFlow (cfs)	TotalFlow (cfs)	CapacFull (cfs)	Veloc (ft/s)	PipeSize (in)	PipeSlope (%)	Inv ElevDn (ft)	Inv ElevUp (ft)	HGLDn (ft)	HGLUp (ft)	Grnd/RimDnGrnd/RimUp (ft)	
1	Outfall	D1 TO EX1	48.60	15	21.20	1.28	9.88	27.23	3.21	24.00	1.23	744.17	744.77	746.54	746.60	746.31	753.47
2		D2 TO D1	98.75	15	20.80	0.89	2.84	4.01	5.11	12.00	1.27	749.75	751.00	750.37	751.72	753.47	755.70
3		RD1 TO D2	32.39	15	15.00	2.29	2.29	2.82	7.81	8.00	4.63	751.75	753.25	752.21	753.89	755.70	756.50
4		D3 TO D2	82.78	15	15.00	0.08	0.08	1.76	0.97	8.00	1.81	751.00	752.50	751.72	752.63	755.70	755.75
5		D4 TO D1	71.71	15	16.90	0.58	6.58	7.63	6.53	15.00	1.39	747.00	748.00	747.90	749.03	753.47	753.70
6		D5 TO D4	33.73	15	16.80	0.69	4.16	3.00	5.30	12.00	0.71	748.25	748.49	749.25	749.71	753.70	753.75
7		D6 TO D5	62.78	15	16.50	0.74	3.52	2.98	4.48	12.00	0.70	748.59	749.03	749.78	750.39	753.75	753.46
8		D7 TO D6	112.78	15	16.00	0.56	2.84	3.00	3.61	12.00	0.71	749.13	749.93	750.69	751.41	753.46	755.25
9		D8 TO D7	82.64	15	15.60	0.59	2.31	3.01	2.95	12.00	0.71	750.03	750.62	751.50	751.85	755.25	755.25
10		D9 TO D8	75.00	15	15.00	1.75	1.75	2.99	2.30	12.00	0.71	750.72	751.25	751.98	752.14	755.25	755.00
11		EX2 TO D4	58.86	15	15.00	1.96	1.96	2.27	2.91	12.00	0.41	748.19	748.43	749.03	749.20	753.70	753.48

*** Flow calculations determined by using WCVRC Intensity Formulas from Table 7 of Section IV, Part E of the WCVRC Rules and Guidelines Procedures for Stormwater Management Systems

SCALE: AS NOTED

DESIGNED BY: JPH

DRAWN BY: BMM

CHECKED BY: JMM

DATE

REVISIONS

No.	DATE	BY	REVISIONS
1	11/29/21	JMM	TOWNSHIP COMMENTS
2	01/11/22	JMM	TOWNSHIP COMMENTS
3	02/24/22	JMM	WCWRC/TOWNSHIP REVIEW COMMENTS
4	03/30/22	JMM	WCWRC/TOWNSHIP REVIEW COMMENTS

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COMPTONADDY
COMMERCIAL REAL ESTATE

STORM SEWER PLAN

RANGE USA

660 JAMES L. HART PARKWAY
YPSILANTI TOWNSHIP, MI

ORIGINAL ISSUE:
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Section IV Computational Requirements For Stormwater Management Systems



Part E. STANDARD METHOD RUNOFF VOLUME WORK SHEETS

W1 Determining Post-Development Cover Types, Areas, Curve Numbers, and Runoff Coefficients

Total Site Area = 3.32 ac
Total Site Area Excluding "Self-Crediting" BMPs = 3.25 ac

Table with 6 columns: Cover Type, Soil Type, Area (ft²), Area (ac), Runoff Coefficient (c), (C) (Area)

Total - Σ(C)(Area) = 2.08
Area Total - Σac or Σsf = 3.32 AC
Weighted C - Σ(C)(Area)Σac or Σsf = 0.83

Table with 6 columns: Pervious Cover Type, Soil Type, Area (ft²), Area (ac), Curve Number, (CN) (Area)

Total - Σ(CN)(Area) = 97.4
Area Total - Σac or Σsf = 1.75
Weighted CN - Σ(CN)(Area)Σac or Σsf = 55.6

Table with 6 columns: Impervious Cover Type, Soil Type, Area (ft²), Area (ac), Curve Number, (CN) (Area)

Total - Σ(CN)(Area) = 153.9
Area Total - Σac or Σsf = 1.57
Weighted CN - Σ(CN)(Area)Σac or Σsf = 98

Use this area for the remainder of the runoff calculations
Required for first flush runoff calculations
Required for bankfull and 100-year runoff calculations

W2 Standard Method Runoff Volume Calculations

First Flush Runoff Calculations (Vff)

Vff = (1 - (1/12)) * (43560 ft² / 1 ac) * AC
Vff = (1 - (1/12)) * (43560 ft² / 1 ac) * (3.25) * (0.83)
Vff = 7.432 ft³

A = Total Site Areas (ac) excluding "Self-Crediting" BMPs from Worksheet 1
C = Weighted Runoff Coefficient from Worksheet 1

W3 Standard Method Runoff Volume Calculations

Pre-development Bankfull Runoff Calculations (Vbf,pre)

A. 2 year/24 hour storm event P = 2.35in
B. The pre-development land cover will be Good Cover Woods or Meadow. Determine the associated soil hydrologic group for the entire site and choose the curve number. CN = 44
C. S = 1000 / CN - 10
D. Q = ((P-0.25)²) / (P+0.85)
E. Total Site Area (sf) excluding "Self-Crediting" BMPs Area = 141,576 sf
F. Vbf,pre = Q(1/12)Area

W4 Standard Method Runoff Volume Calculations

Pervious Cover Post-Development Bankfull Runoff Calculations (Vbf,post)

A. 2 year/24 hour storm event P = 2.35in
B. Pervious Cover CN From Worksheet 1 CN = 55.6
C. S = 1000 / CN - 10
D. Q = ((P-0.25)²) / (P+0.85)
E. Pervious Cover Area from Worksheet 1 Area = 76,225 sf
F. Vbf,post = Q(1/12)Area

Section IV Computational Requirements For Stormwater Management Systems



W5 Standard Method Runoff Volume Calculations

Impervious Cover Post-Development Bankfull Runoff Calculations (Vbf,post)

A. 2 year/24 hour storm event P = 2.35in
B. Impervious Cover CN From Worksheet 1 CN = 98
C. S = 1000 / CN - 10
D. Q = ((P-0.25)²) / (P+0.85)
E. Impervious Cover Area from Worksheet 1 Area = 68,440 sf
F. Vbf,post = Q(1/12)Area

W6 Standard Method Runoff Volume Calculations

Pervious Cover Post-Development 100-year Storm Runoff Calculations (V100,post)

A. 100-year Storm Event P = 5.11in
B. Pervious Cover CN From Worksheet 1 CN = 55.6
C. S = 1000 / CN - 10
D. Q100,post = ((P-0.25)²) / (P+0.85)
E. Pervious Cover Area from Worksheet 1 Area = 76,225 sf
F. V100,post = Q(1/12)Area

W7 Standard Method Runoff Volume Calculations

Impervious Cover Post-Development 100-year Storm Runoff Calculations (V100,post)

A. 100-year Storm Event P = 5.11in
B. Impervious Cover CN From Worksheet 1 CN = 98
C. S = 1000 / CN - 10
D. Q100,post = ((P-0.25)²) / (P+0.85)
E. Impervious Cover Area from Worksheet 1 Area = 68,440 sf
F. V100,post = Q(1/12)Area

W8 Standard Method Runoff Volume Calculations

Determine Time of Concentration for Applicable Flow Types (Tc,hrs)

Table with columns: Flow Type, K, Change in Elevation, Length (L), Slope (S), S^0.4, V=K*S^0.4, Tc=L/(V*3600)

* Sheet flow cannot exceed 300 feet. Anything beyond this is considered waterway.

Total Time of Concentration (Tc,hrs) = 0.078

Section IV Computational Requirements For Stormwater Management Systems



W5 Standard Method Runoff Volume Calculations

Impervious Cover Post-Development Bankfull Runoff Calculations (Vbf,post)

A. 2 year/24 hour storm event P = 2.35in
B. Impervious Cover CN From Worksheet 1 CN = 98
C. S = 1000 / CN - 10
D. Q = ((P-0.25)²) / (P+0.85)
E. Impervious Cover Area from Worksheet 1 Area = 68,440 sf
F. Vbf,post = Q(1/12)Area

W6 Standard Method Runoff Volume Calculations

Pervious Cover Post-Development 100-year Storm Runoff Calculations (V100,post)

A. 100-year Storm Event P = 5.11in
B. Pervious Cover CN From Worksheet 1 CN = 55.6
C. S = 1000 / CN - 10
D. Q100,post = ((P-0.25)²) / (P+0.85)
E. Pervious Cover Area from Worksheet 1 Area = 76,225 sf
F. V100,post = Q(1/12)Area

W7 Standard Method Runoff Volume Calculations

Impervious Cover Post-Development 100-year Storm Runoff Calculations (V100,post)

A. 100-year Storm Event P = 5.11in
B. Impervious Cover CN From Worksheet 1 CN = 98
C. S = 1000 / CN - 10
D. Q100,post = ((P-0.25)²) / (P+0.85)
E. Impervious Cover Area from Worksheet 1 Area = 68,440 sf
F. V100,post = Q(1/12)Area

W8 Standard Method Runoff Volume Calculations

Determine Time of Concentration for Applicable Flow Types (Tc,hrs)

Table with columns: Flow Type, K, Change in Elevation, Length (L), Slope (S), S^0.4, V=K*S^0.4, Tc=L/(V*3600)

* Sheet flow cannot exceed 300 feet. Anything beyond this is considered waterway.

Total Time of Concentration (Tc,hrs) = 0.078

Drawing name: K:\GIS\DEV\168921002_Sheet\Plan\Blk\W1\W1.dwg, C5.4 - WCWRC SW WORKSHEETS.dwg, C5.4 - Mar 30, 2022 6:38pm

Table with columns: No., REVIEW COMMENTS, DATE, REVISIONS

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RANGE USA logo and address: 660 JAMES L. HART PARKWAY YPSILANTI TOWNSHIP, MI

ORIGINAL ISSUE: 10/19/2021, KHA PROJECT NO. 168921002, SHEET NUMBER C5.4

Section IV Computational Requirements For Stormwater Management Systems



Section IV Computational Requirements For Stormwater Management Systems



Section IV Computational Requirements For Stormwater Management Systems

Section IV Computational Requirements For Stormwater Management Systems



W9 Standard Method Runoff Volume Calculations

Runoff Summary & Onsite Infiltration Requirement

A. Runoff Summary from Previous Worksheets	
First Flush Volume (V _f)	7,432 ft ³
Pre-Development Bankfull Runoff Volume (V _{sp})	35.4 ft ³
Pervious Cover Post-Development Bankfull Volume (V _{sp-post})	381 ft ³
Impervious Cover Post-Development Bankfull Volume (V _{sp-imp})	12,091 ft ³
Total BF Volume (V_{sp-post})	12,472 ft³
Pervious Cover Post-Development 100-year Volume (V _{100-per-100})	6,797 ft ³
Impervious Cover Post-Development 100-year Volume (V _{100-imp-100})	27,832 ft ³
Total 100-year Volume (V₁₀₀)	34,629 ft³

B. Determine Onsite Infiltration Requirement	
Subtract the Pre-Development Bankfull from the Post-Development Bankfull volume	
Total Post-Development Bankfull Volume (V _{sp-post})	12,472 ft ³
Pre-Development Bankfull Runoff Volume (V _{sp})	35.4 ft ³
Bankfull Volume Difference	12,437 ft ³
Compare the Bankfull Volume Difference with the First Flush Volume. The greater of the two is the Onsite Infiltration Requirement.	
Onsite Infiltration Requirement (V _{in})	12,437 ft ³

W10 Standard Method Runoff Volume Calculations

Detention/Retention Requirement

Detention	
A. $Q_p = 238.6 C_c^{0.82}$	$Q_p = 238.6 (0.073)^{0.82}$
Peak of the Unit Hydrograph	$Q_p = 1.933 \text{ cfs/ft}^2$
B. Total Site Area (ac) excluding "Self-Crediting" BMPs	Area = 3.25 ac
C. $Q_{100} = Q_{100-per} + Q_{100-imp}$	$Q_{100} = 1.07 + 4.88$
Note: $Q_{100-per}$ and $Q_{100-imp}$ from W6 and W7, respectively	$Q_{100} = 5.95 \text{ in}$
D. Peak Flow (PF) = $\frac{P \left(\frac{cfs}{ft^2} \right) Q_{100}(in) Area(ac)}{640}$	$PF = \frac{5.95(3.25)}{640}$
	$PF = 58.39 \text{ cfs}$
E. $\Delta = PF \text{ (cfs)} - 0.15 \text{ Area(ac)}$	$\Delta = (58.39) - 0.15(3.25)$
	$\Delta = 57.91 \text{ cfs}$
F. $V_{det} = \frac{\Delta \text{ (cfs)}}{PF \text{ (cfs)}} V_{100} \text{ (ft}^3\text{)}$	$V_{det} = \frac{57.91}{58.39} (34,629)$
	$V_{det} = 34,342 \text{ ft}^3$

Retention	
A. $V_{ret} = 2(V_{100})$	$V_{ret} = 2(34,629)$
	$V_{ret} = 69,258 \text{ ft}^3$

Note: Projects/sites where the required infiltration volume cannot be achieved must increase the required detention volume by up to an additional 20%.

W11 Standard Method Runoff Volume Calculations

Determine Applicable BMPs and Associated Volume Credits

Proposed BMP*	Area (ft ²)	Storage Volume ¹ (ft ³) Surface ¹ Scal	Avg. Design Infiltration Rate (in/hr)	Infiltration Volume During Storm ² (ft ³)	Total Volume Reduction ³ (ft ³)
Pervious Pavement w/Infiltration Bed					
Infiltration Basin	2,420 (avg.)	13,349	N/A	7.94	659
Subsurface Infiltration Bed					
Infiltration Trench					
Bioretention Systems					
Rain Gardens					
Dry Well					
Bioswale					
Vegetated Filter Strip					
Green Roof					

Total Volume Reduction Credit by Proposed Structural BMPs (ft³) = 14,008
 Runoff Volume Infiltration Requirement (V_{in}) from Worksheet 9 = 12,473
 Runoff Volume Credit (ft³) = 1,535

* Complete checklist from Section VI for each Structural BMP type
¹ Storage volume as defined in individual BMP write-ups
² Approximated as the average design infiltration rate over 6 hours multiplied by the BMP area: Infiltration Rate x 6 hours x BMP Area x Unit Conversions = Infiltration Volume (ft³)
³ Total Volume Reduction Credit is the sum of the Storage Volume and the Infiltration Volume During Storm

SURFACE STORAGE:

Elevation	Pool Area	Volume	Storage
741.00	0.00	0.00	0.00
741.00	0.00	0.00	0.00
741.00	0.00	0.00	0.00
742.00	1.000	0.00	0.00
742.00	1.000	0.00	0.00
743.00	1.001	0.00	0.00
743.00	2.001	1.000	3.001
744.00	2.004	1.000	4.004
744.00	2.005	1.001	4.005
745.00	3.000	1.000	11.000
745.00	3.002	1.000	11.002
746.00	4.000	2.000	13.000

Infiltration Volume:
 Bed Bottom Area x Infiltration Rate x Infiltration Period x (1' / 12")
 166 x 7.94 in/hr x 6 hrs x (1' / 12") = 659 cu-ft

W13 Summary

Site Summary of Infiltration & Detention

A. Stormwater Management Summary

Minimum Onsite Infiltration Requirement, V _{in}	12,473 ft ³
Designed/Provided Infiltration Volume	14,008 ft ³
% Minimum Required Infiltration Provided	100+ %
Total Calculated Detention Volume, V _{det}	34,342 ft ³
Net Required Detention Volume (V _{det} - Designed/Provided Infiltration Volume)	20,334 ft ³

B. Detention Volume Increase for sites where the required infiltration volume cannot be achieved

% Required Infiltration NOT provided (100% - % Minimum Required Infiltration Provided)	_____ %
Net % Penalty (20% x % Required Infiltration NOT Provided)	_____ %
Total Required Detention Volume, including penalty [(100% + Net % Penalty) x Net Required Detention Volume]	_____ ft ³

Drawing name: K:\GIS\DEV\168921002_ShootPlan\BentL\Yesident\W13\2 Design\CAD\Drawings\C5.5 - WCWRC SW WORKSHEETS.dwg, C5.5 Mar 30, 2022 6:30pm by Brett.Hickey
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Section IV Computational Requirements For Stormwater Management Systems

Acceptable Curve Numbers and Runoff Coefficients for Stormwater Calculations

Cover Description	Curve Numbers for Hydrologic Soil Group			
	A	B	C	D
Cover Type and Hydrologic Condition				
Fully developed urban areas (vegetation established)				
Open space (lawns, parks, golf course, cemeteries, etc.):				
Poor condition (grass cover <50%)	68	79	86	89
Fair conditions (grass cover 50% to 75%)	49	69	79	84
Good condition (grass cover >75%)	39	61	74	80
Impervious areas:				
Paved parking lots, roofs, driveways, etc. (excluding right-of-ways)	98	98	98	98
Streets and Roads:				
Paved; curbs and storm sewers (excluding right-of-way)	98	98	98	98
Paved; open ditches (including right-of-way)	83	89	92	93
Gravel (including right-of-way)	76	85	89	91
Pasture, grassland or range - continuous forage for grazing:				
Poor	68	79	86	89
Fair	49	69	79	84
Good	39	61	74	80
Meadow** - continuous grass, protected from grazing and generally mowed for hay:				
Brush - brush-weed-grass mixture with brush the major element				
Poor	48	67	77	83
Fair	35	56	70	77
Good	30	48	65	73
Woods - grass combination (orchard or tree farm):				
Poor	57	73	82	86
Fair	43	65	76	82
Good**	32	58	72	79
Woods:				
Poor	45	66	77	83
Fair	36	60	73	79
Good	30	55	70	77
Farmsteads- buildings, lanes, driveways and surrounding lots:				
Wetlands:				
No standing water that contributes to runoff	78	78	78	78
With standing water	98	98	98	98

** Use Woods (good) or Meadow when estimating the pre-development bankfull runoff

Type of Surface	Runoff Coefficient		
Water Surfaces	1.00		
Roofs	0.95		
Asphalt or concrete pavements	0.95		
Gravel, brick or macadam surfaces	0.85		
Semi-pervious: lawns, parks, playgrounds	Slope <4%	Slope 4-8%	Slope >8%
Hydrologic Soil Group A	0.15	0.20	0.25
Hydrologic Soil Group B	0.25	0.30	0.35
Hydrologic Soil Group C	0.30	0.35	0.40
Hydrologic Soil Group D	0.45	0.50	0.55

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2	TOWNSHIP COMMENTS	01/11/22	JMM
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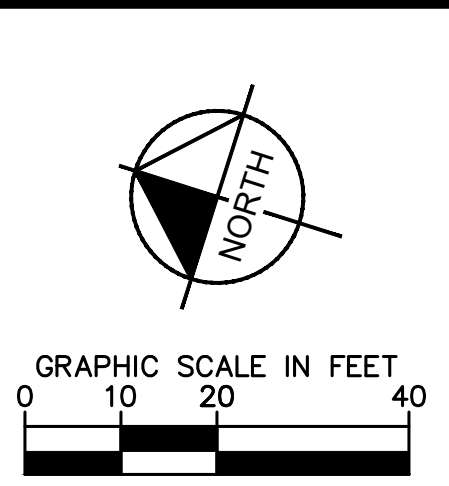
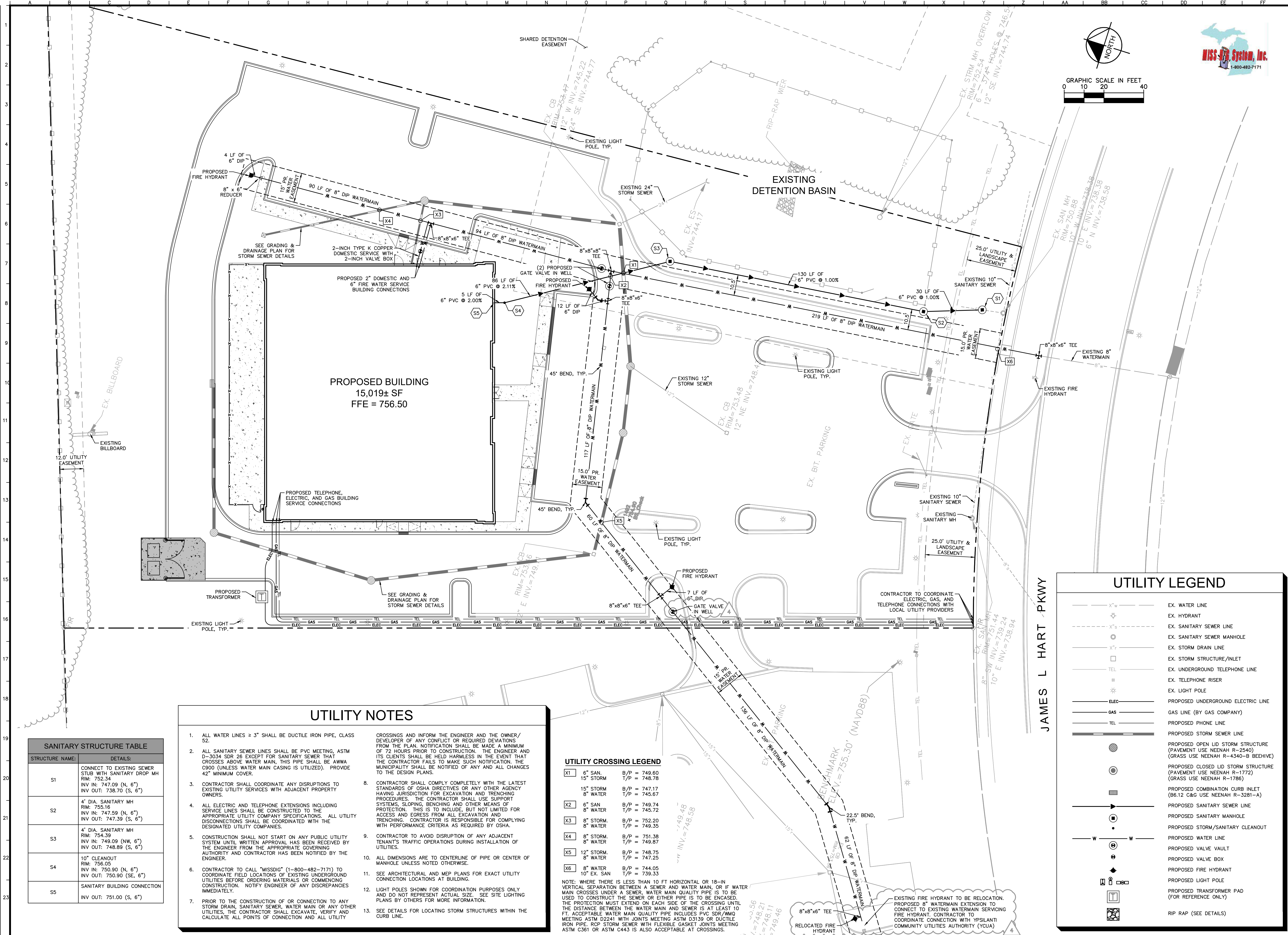
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WCWRC STORMWATER WORKSHEETS

RANGE USA
 660 JAMES L. HART PARKWAY
 YPSILANTI TOWNSHIP, MI

ORIGINAL ISSUE: 10/19/2021
 KHA PROJECT NO. 168921002
 SHEET NUMBER **C5.5**

Drawing name: K:\GIS\DEV\168921002_Sheet\Plan\168921002_UTILITY PLAN.dwg C6.0 Mar 30, 2022 6:39pm by: Brent Hickey
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UTILITY PLAN

RANGE USA
660 JAMES L. HART PARKWAY
YPSILANTI TOWNSHIP, MI

ORIGINAL ISSUE:
10/19/2021
KHA PROJECT NO.
168921002

SHEET NUMBER
C6.0

STRUCTURE NAME:	DETAILS:
S1	CONNECT TO EXISTING SEWER STUB WITH SANITARY DROP MH RIM: 752.34 INV IN: 747.09 (N, 6") INV OUT: 738.70 (S, 6")
S2	4" DIA. SANITARY MH RIM: 755.16 INV IN: 747.59 (N, 6") INV OUT: 747.39 (S, 6")
S3	4" DIA. SANITARY MH RIM: 754.39 INV IN: 749.09 (NW, 6") INV OUT: 748.89 (S, 6")
S4	10" CLEANOUT RIM: 756.06 INV IN: 750.90 (N, 6") INV OUT: 750.90 (SE, 6")
S5	SANITARY BUILDING CONNECTION INV OUT: 751.00 (S, 6")

- ### UTILITY NOTES
- ALL WATER LINES ≥ 3" SHALL BE DUCTILE IRON PIPE, CLASS 52.
 - ALL SANITARY SEWER LINES SHALL BE PVC MEETING, ASTM D-3034 SDR 26 EXCEPT FOR SANITARY SEWER THAT CROSSES ABOVE WATER MAIN, THIS PIPE SHALL BE AWWA C900 (UNLESS WATER MAIN CASING IS UTILIZED). PROVIDE 42" MINIMUM COVER.
 - CONTRACTOR SHALL COORDINATE ANY DISRUPTIONS TO EXISTING UTILITY SERVICES WITH ADJACENT PROPERTY OWNERS.
 - ALL ELECTRIC AND TELEPHONE EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES.
 - CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED BY THE ENGINEER FROM THE APPROPRIATE GOVERNING AUTHORITY AND CONTRACTOR HAS BEEN NOTIFIED BY THE ENGINEER.
 - CONTRACTOR TO CALL "MISSDIG" (1-800-482-7171) TO COORDINATE FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES BEFORE ORDERING MATERIALS OR COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
 - PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OTHER UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE ENGINEER AND THE OWNER/DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION. THE MUNICIPALITY SHALL BE NOTIFIED OF ANY AND ALL CHANGES TO THE DESIGN PLANS.
 - CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS REQUIRED BY OSHA.
 - CONTRACTOR TO AVOID DISRUPTION OF ANY ADJACENT TENANT'S TRAFFIC OPERATIONS DURING INSTALLATION OF UTILITIES.
 - ALL DIMENSIONS ARE TO CENTERLINE OF PIPE OR CENTER OF MANHOLE UNLESS NOTED OTHERWISE.
 - SEE ARCHITECTURAL AND MEP PLANS FOR EXACT UTILITY CONNECTION LOCATIONS AT BUILDING.
 - LIGHT POLES SHOWN FOR COORDINATION PURPOSES ONLY AND DO NOT REPRESENT ACTUAL SIZE. SEE SITE LIGHTING PLANS BY OTHERS FOR MORE INFORMATION.
 - SEE DETAILS FOR LOCATING STORM STRUCTURES WITHIN THE CURB LINE.

UTILITY CROSSING LEGEND

X1	6" SAN. 15" STORM	B/P = 749.60 T/P = 748.78
X2	6" SAN. 8" WATER	B/P = 749.74 T/P = 745.67
X3	8" STORM. 8" WATER	B/P = 752.20 T/P = 749.35
X4	8" STORM. 8" WATER	B/P = 751.38 T/P = 749.87
X5	12" STORM. 8" WATER	B/P = 748.75 T/P = 747.25
X6	8" WATER 10" EX. SAN.	B/P = 744.05 T/P = 739.33

NOTE: WHERE THERE IS LESS THAN 10 FT HORIZONTAL OR 18-IN VERTICAL SEPARATION BETWEEN A SEWER AND WATER MAIN, OR IF WATER MAIN CROSSES UNDER A SEWER, WATER MAIN QUALITY PIPE IS TO BE USED TO CONSTRUCT THE SEWER OR EITHER PIPE IS TO BE ENCASED. THE PROTECTION MUST EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE DISTANCE BETWEEN THE WATER MAIN AND SEWER IS AT LEAST 10 FT. ACCEPTABLE WATER MAIN QUALITY PIPE INCLUDES PVC SDR/AMQ MEETING ASTM D2241 WITH JOINTS MEETING ASTM D3139 OR DUCTILE IRON PIPE. RCP STORM SEWER WITH FLEXIBLE GASKET JOINTS MEETING ASTM C361 OR ASTM C443 IS ALSO ACCEPTABLE AT CROSSINGS.

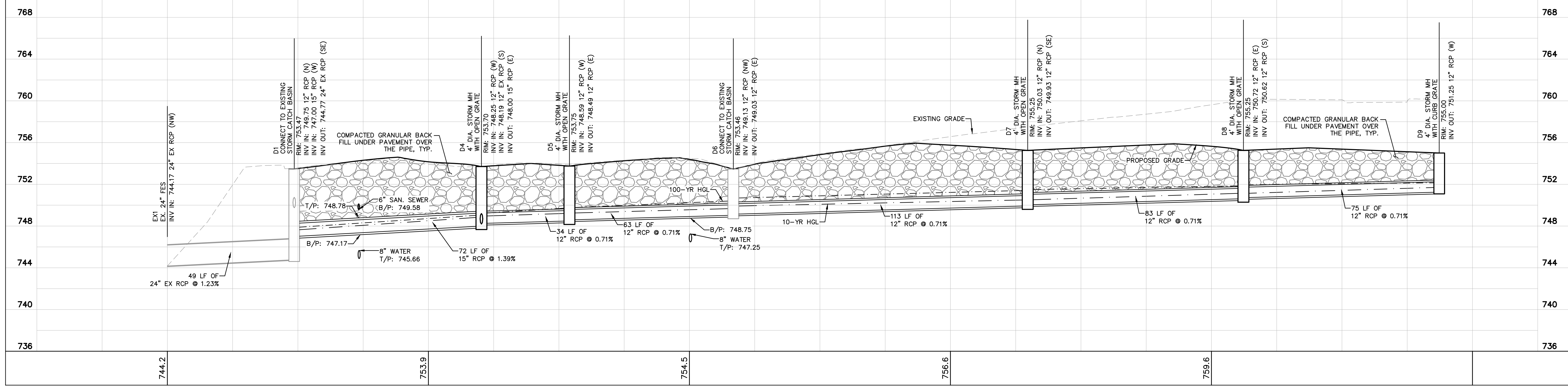
UTILITY LEGEND

	EX. WATER LINE
	EX. HYDRANT
	EX. SANITARY SEWER LINE
	EX. SANITARY SEWER MANHOLE
	EX. STORM DRAIN LINE
	EX. STORM STRUCTURE/INLET
	EX. UNDERGROUND TELEPHONE LINE
	EX. TELEPHONE RISER
	EX. LIGHT POLE
	PROPOSED UNDERGROUND ELECTRIC LINE
	GAS LINE (BY GAS COMPANY)
	PROPOSED PHONE LINE
	PROPOSED STORM SEWER LINE
	PROPOSED OPEN LID STORM STRUCTURE (PAYMENT USE NEENAH R-2540) (GRASS USE NEENAH R-4340-B BEEHIVE)
	PROPOSED CLOSED LID STORM STRUCTURE (PAYMENT USE NEENAH R-1772) (GRASS USE NEENAH R-1786)
	PROPOSED COMBINATION CURB INLET (86.12 C&G USE NEENAH R-3281-A)
	PROPOSED SANITARY SEWER LINE
	PROPOSED SANITARY MANHOLE
	PROPOSED STORM/SANITARY CLEANOUT
	PROPOSED WATER LINE
	PROPOSED VALVE VAULT
	PROPOSED VALVE BOX
	PROPOSED FIRE HYDRANT
	PROPOSED LIGHT POLE
	PROPOSED TRANSFORMER PAD (FOR REFERENCE ONLY)
	RIP RAP (SEE DETAILS)

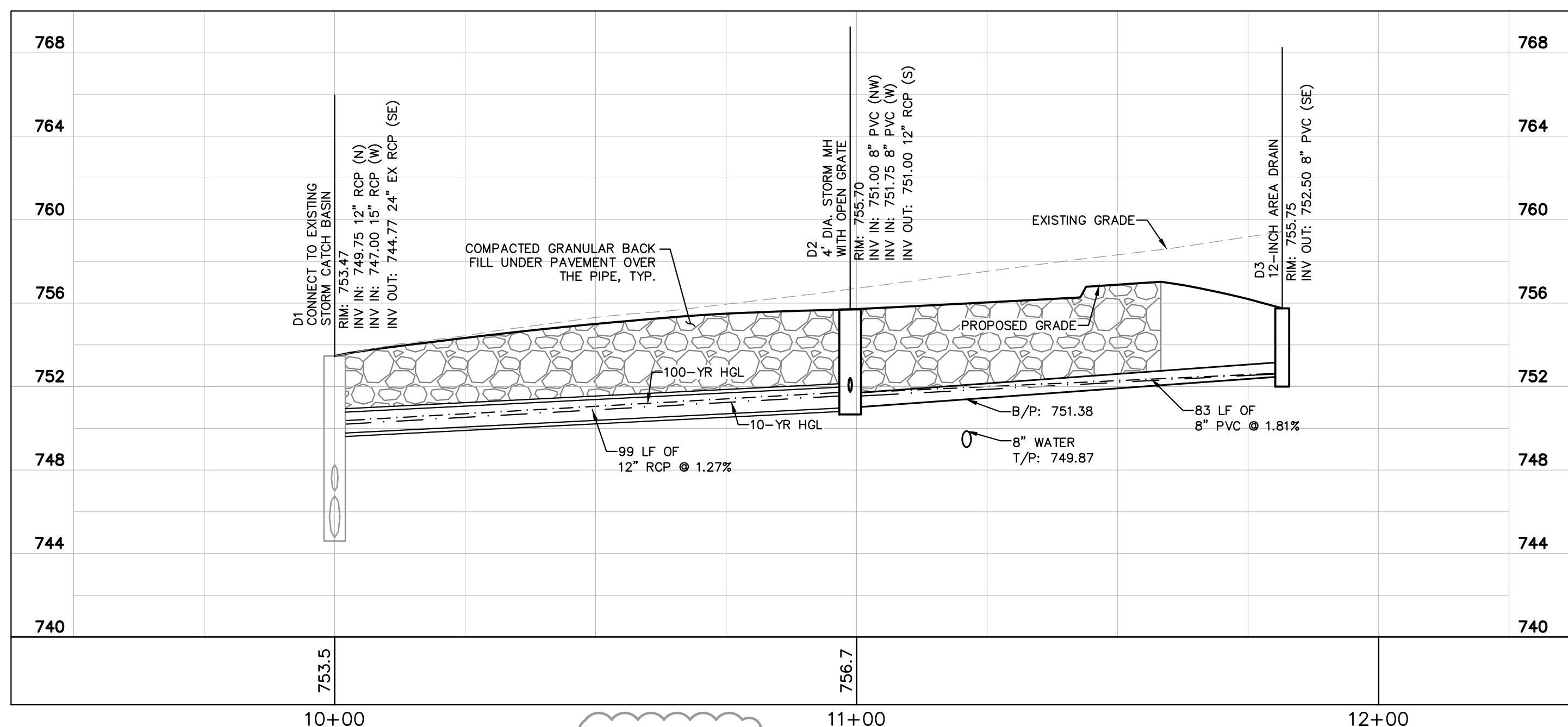
CONTRACTOR TO COORDINATE ELECTRIC, GAS, AND TELEPHONE CONNECTIONS WITH LOCAL UTILITY PROVIDERS

JAMES L HART PKWY

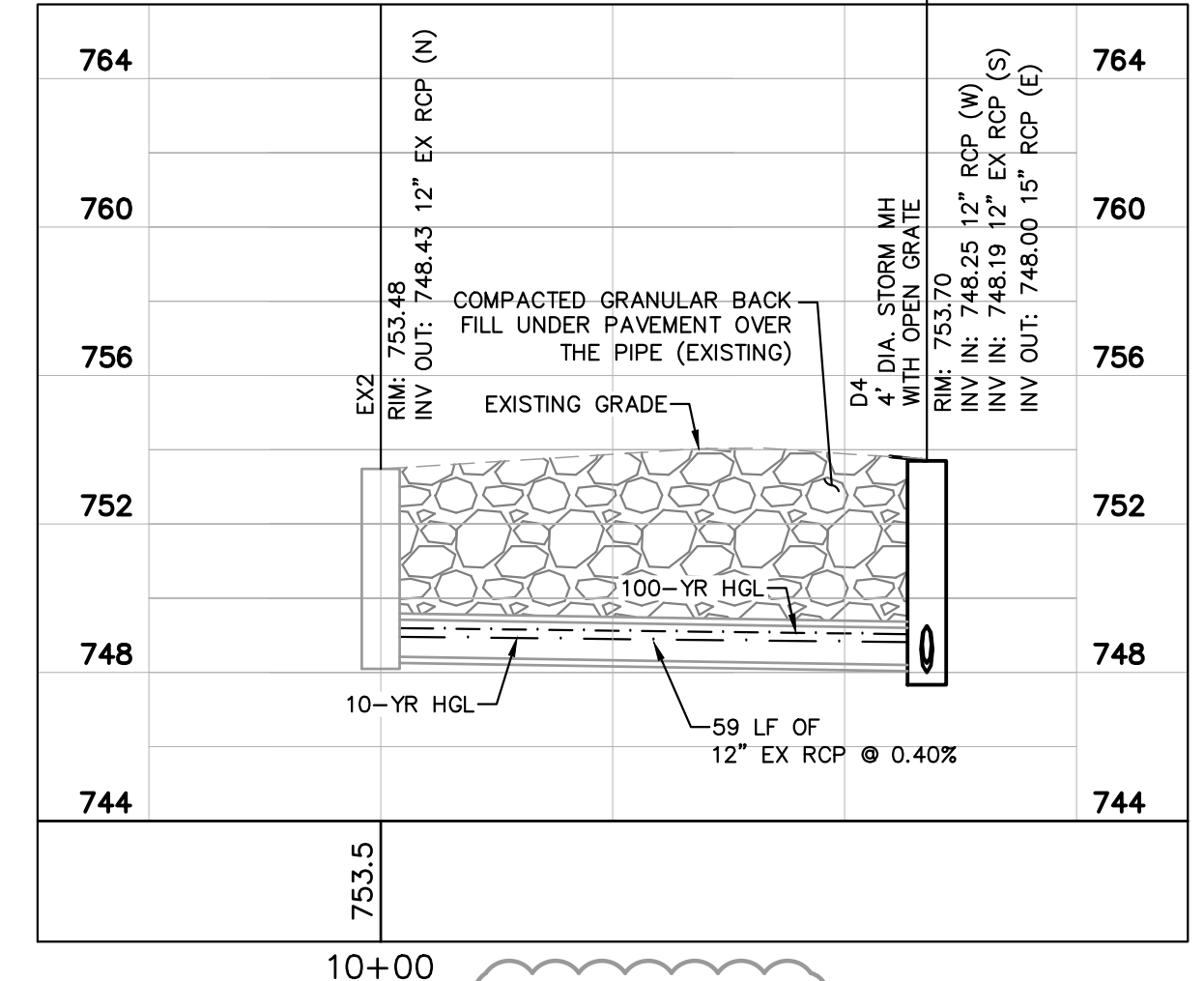
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STORM LINE A
H: 1" = 20' | V: 1" = 5'



STORM LINE B
H: 1" = 20' | V: 1" = 5'



STORM LINE C
H: 1" = 20' | V: 1" = 5'

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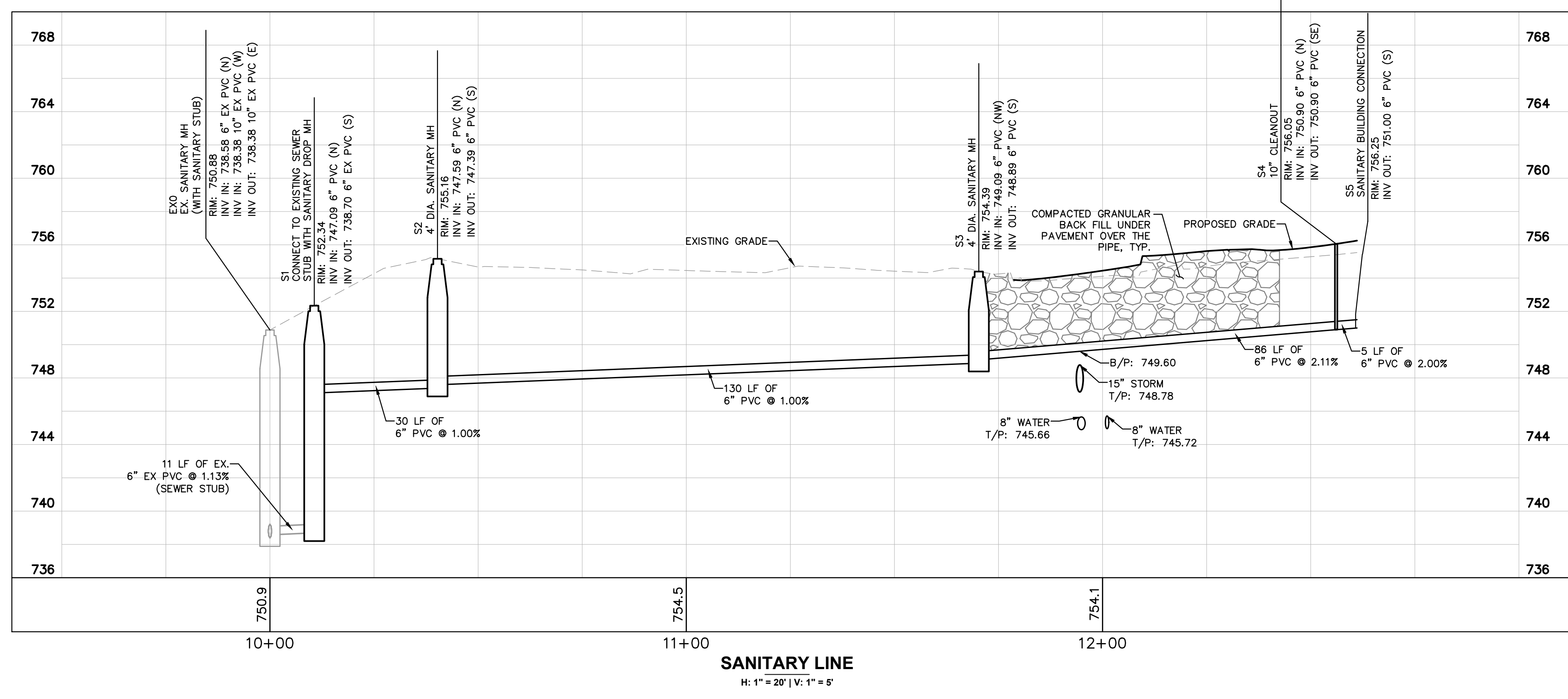
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SCALE: AS NOTED
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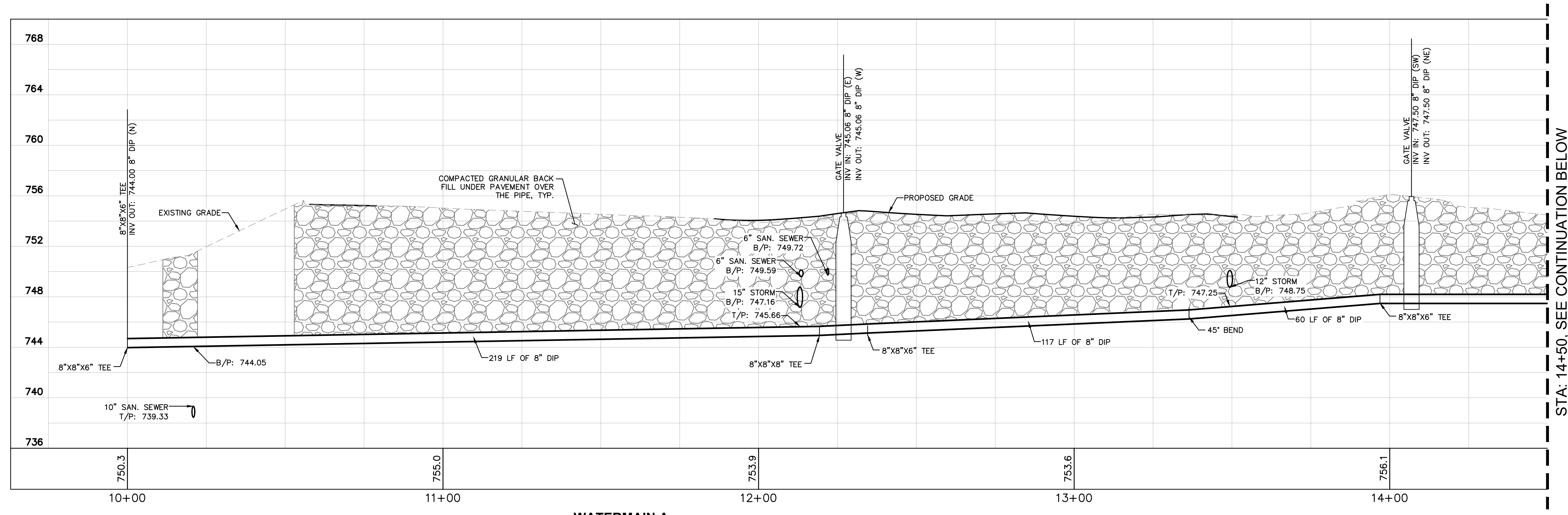


SANITARY PROFILES

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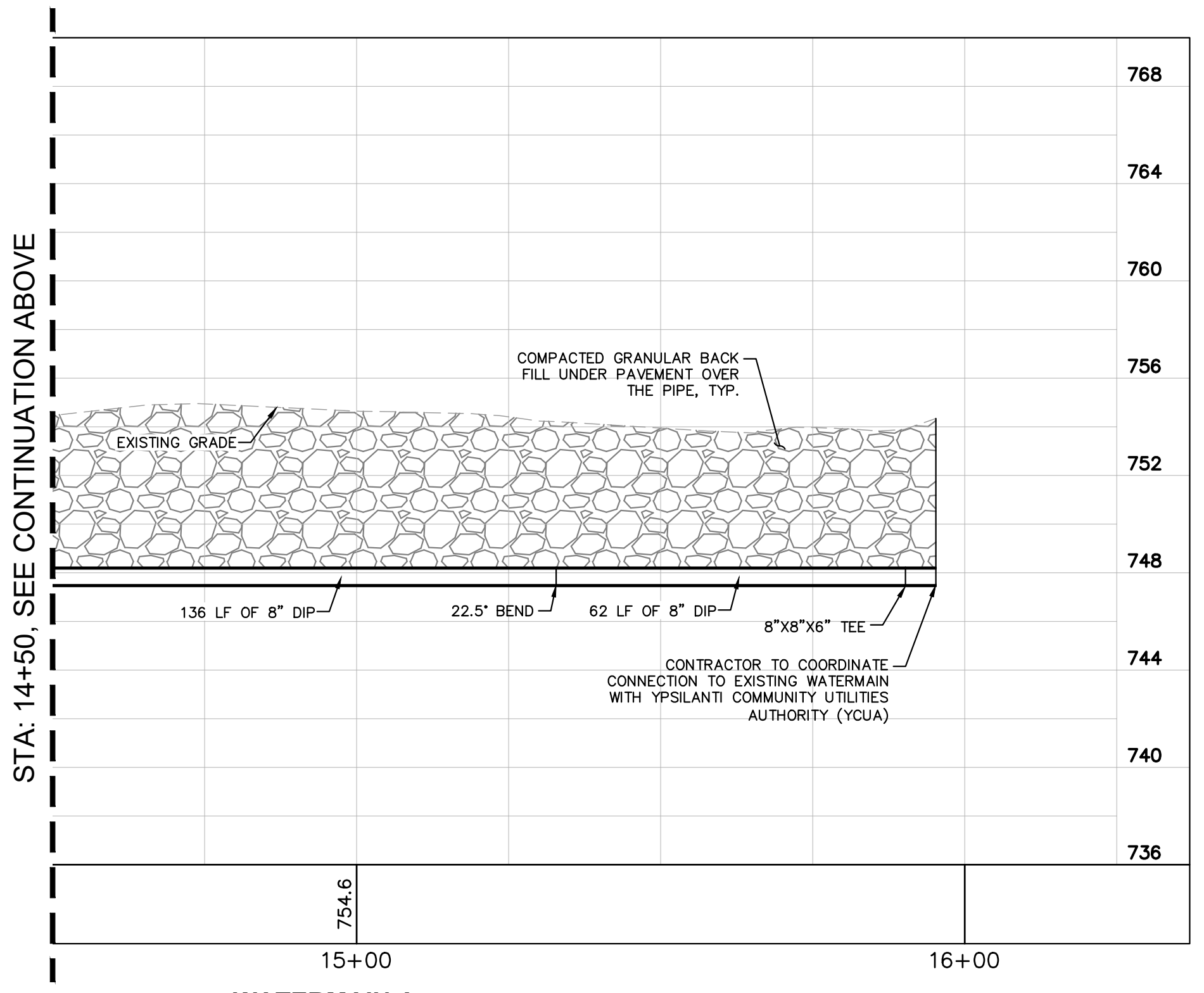
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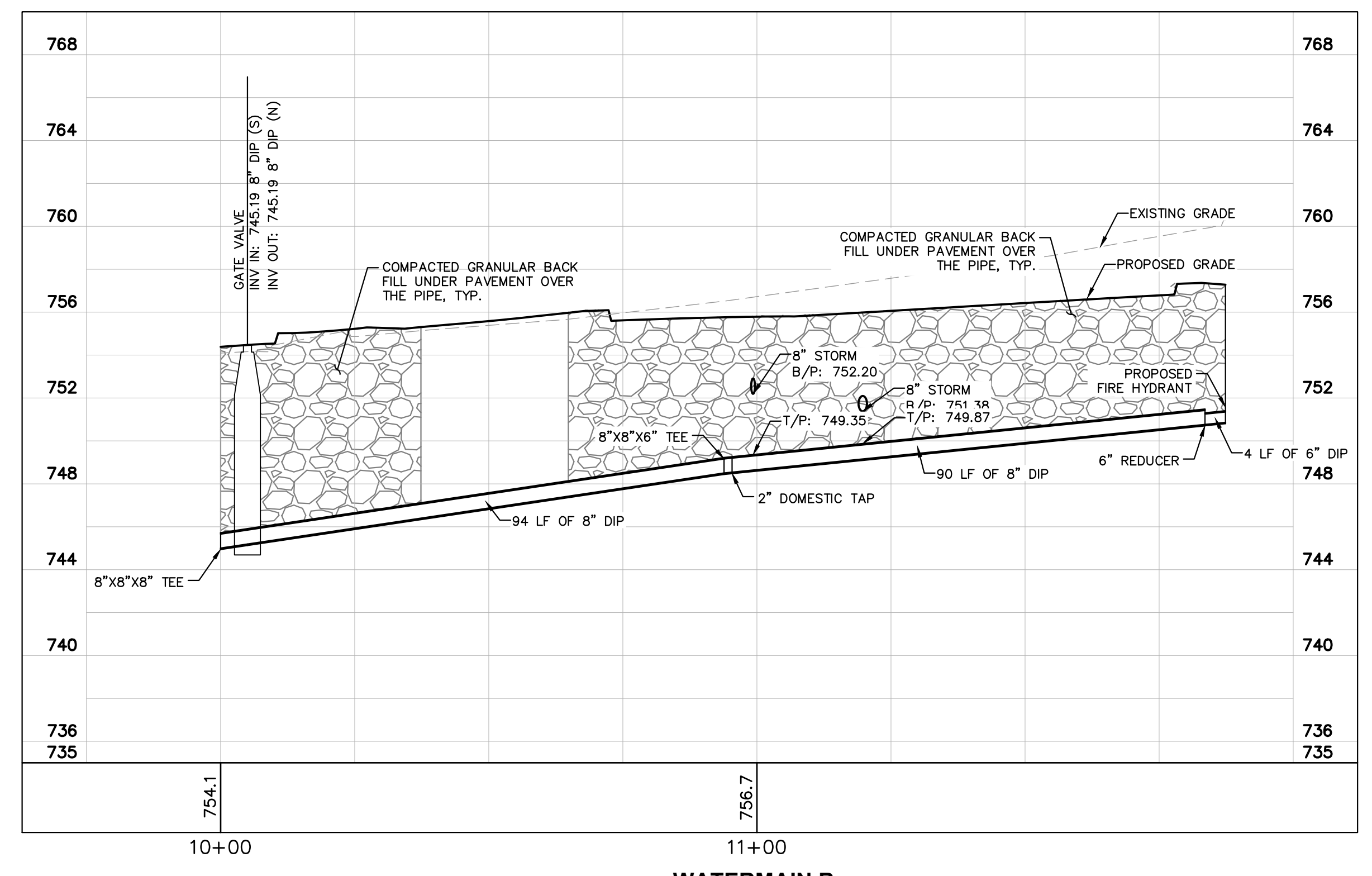
WATERMAIN A
H: 1" = 20' | V: 1" = 5'

STA: 14+50, SEE CONTINUATION BELOW



WATERMAIN A
H: 1" = 20' | V: 1" = 5'

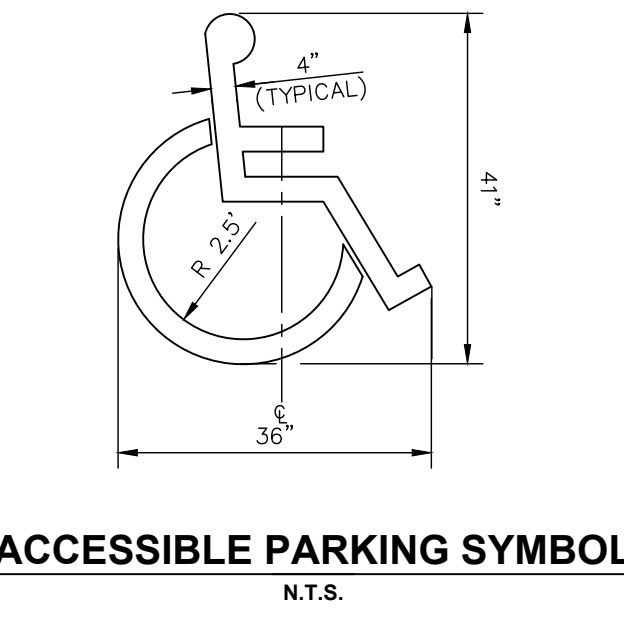
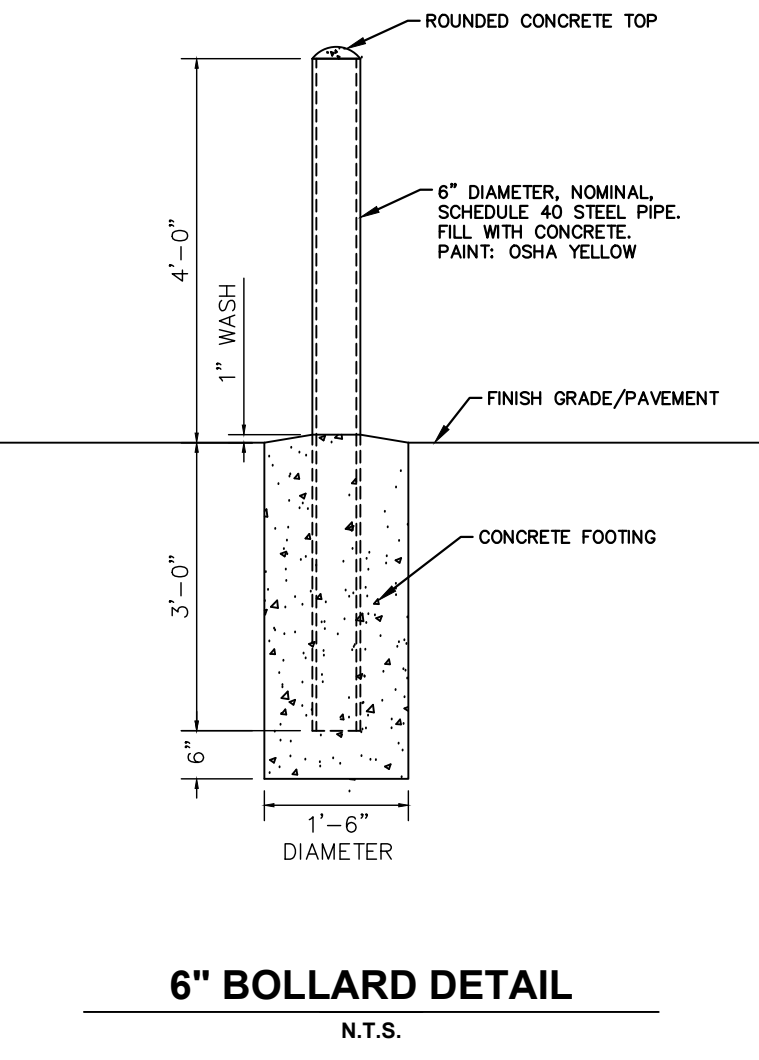
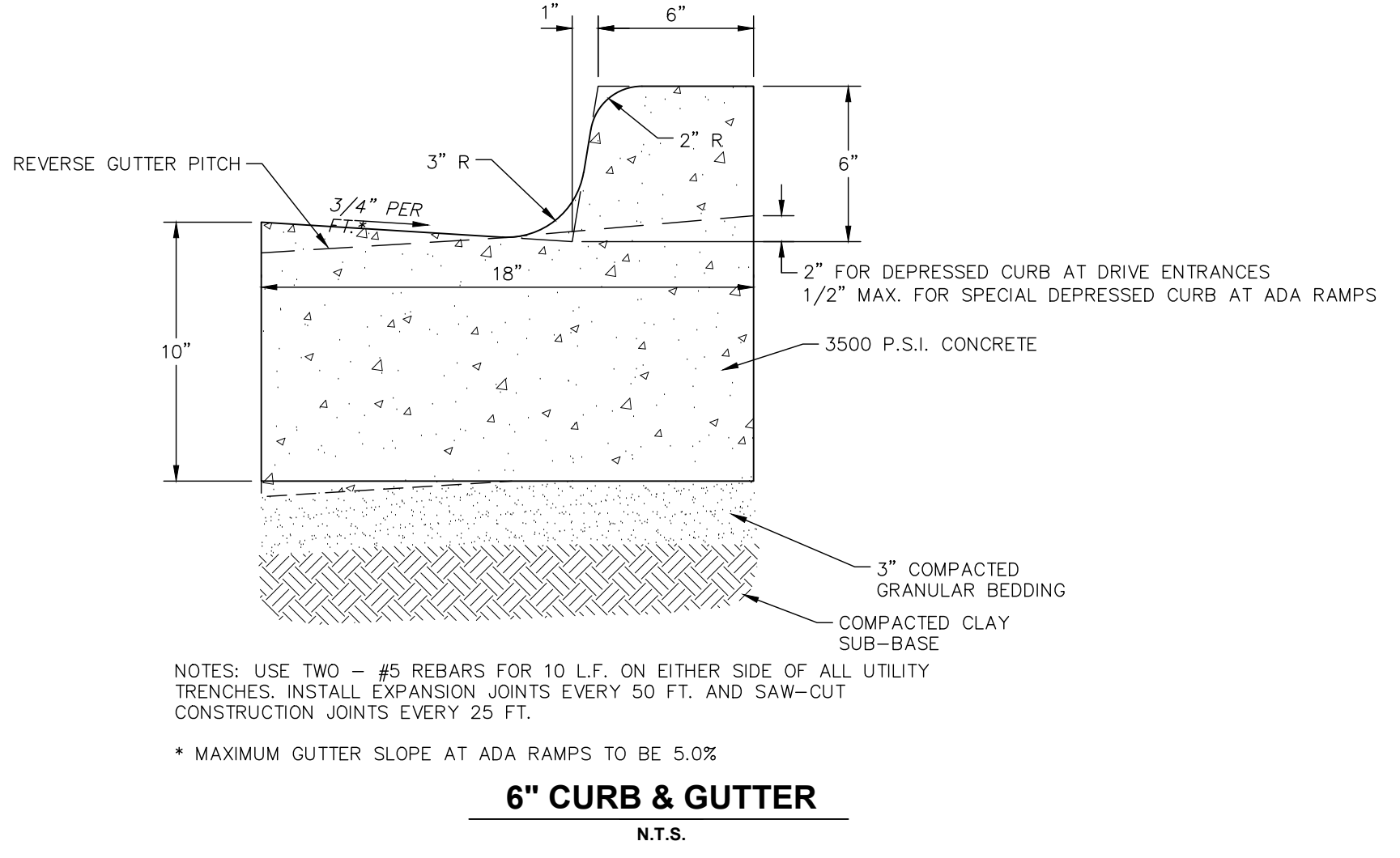
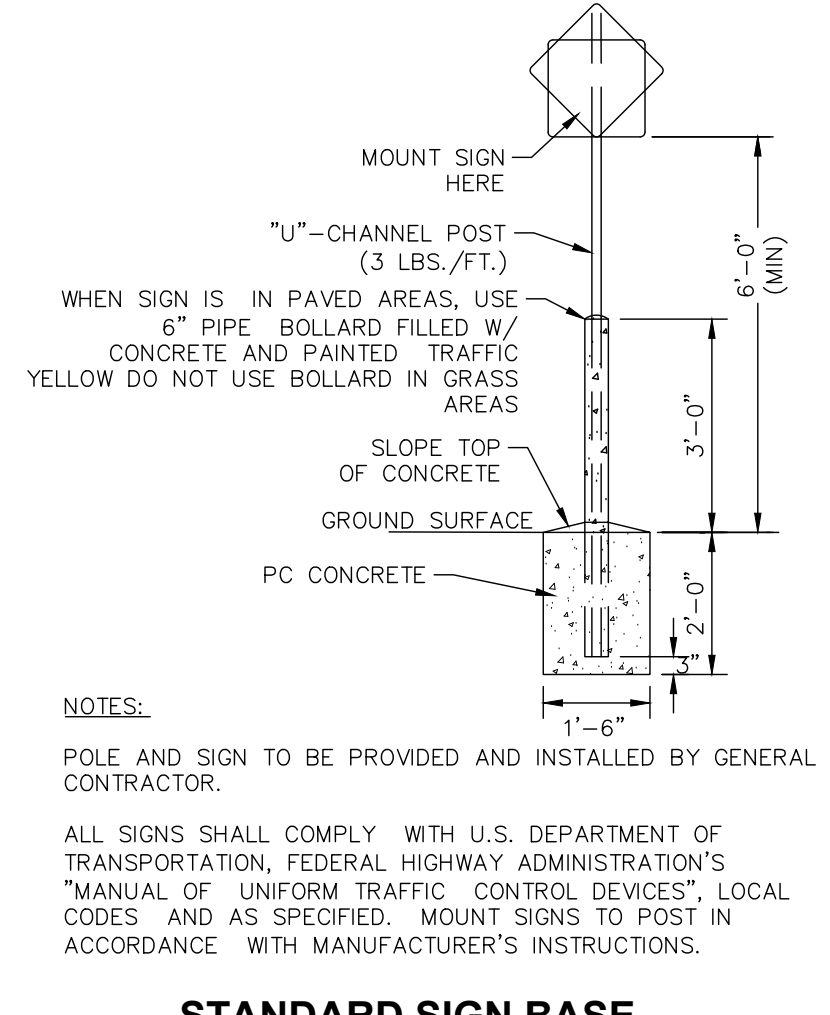
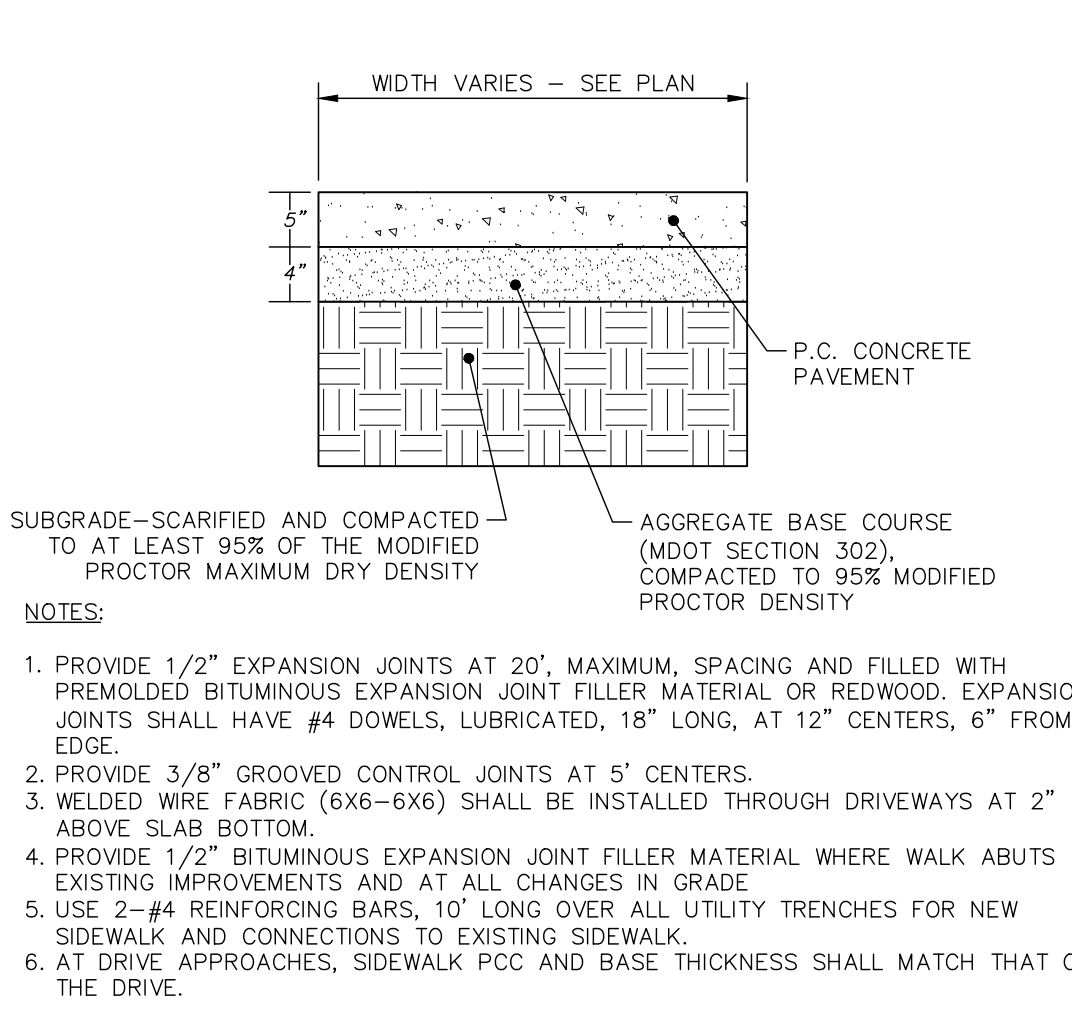
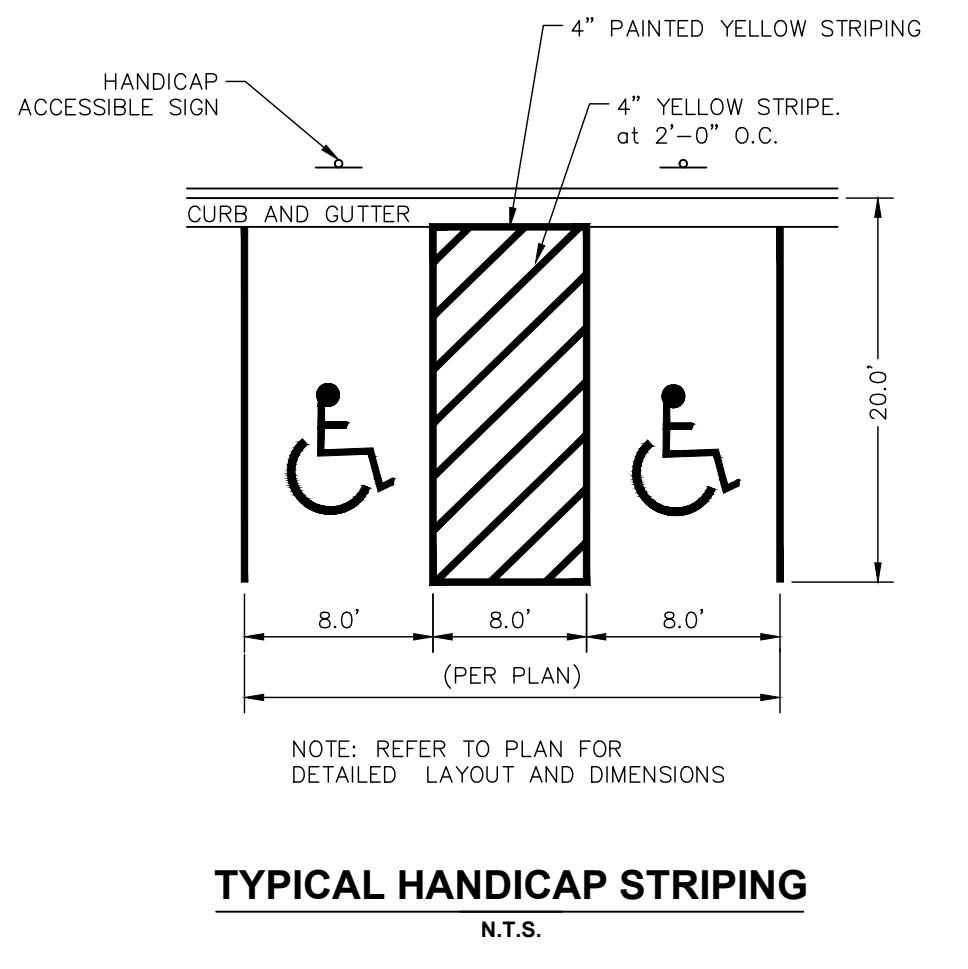
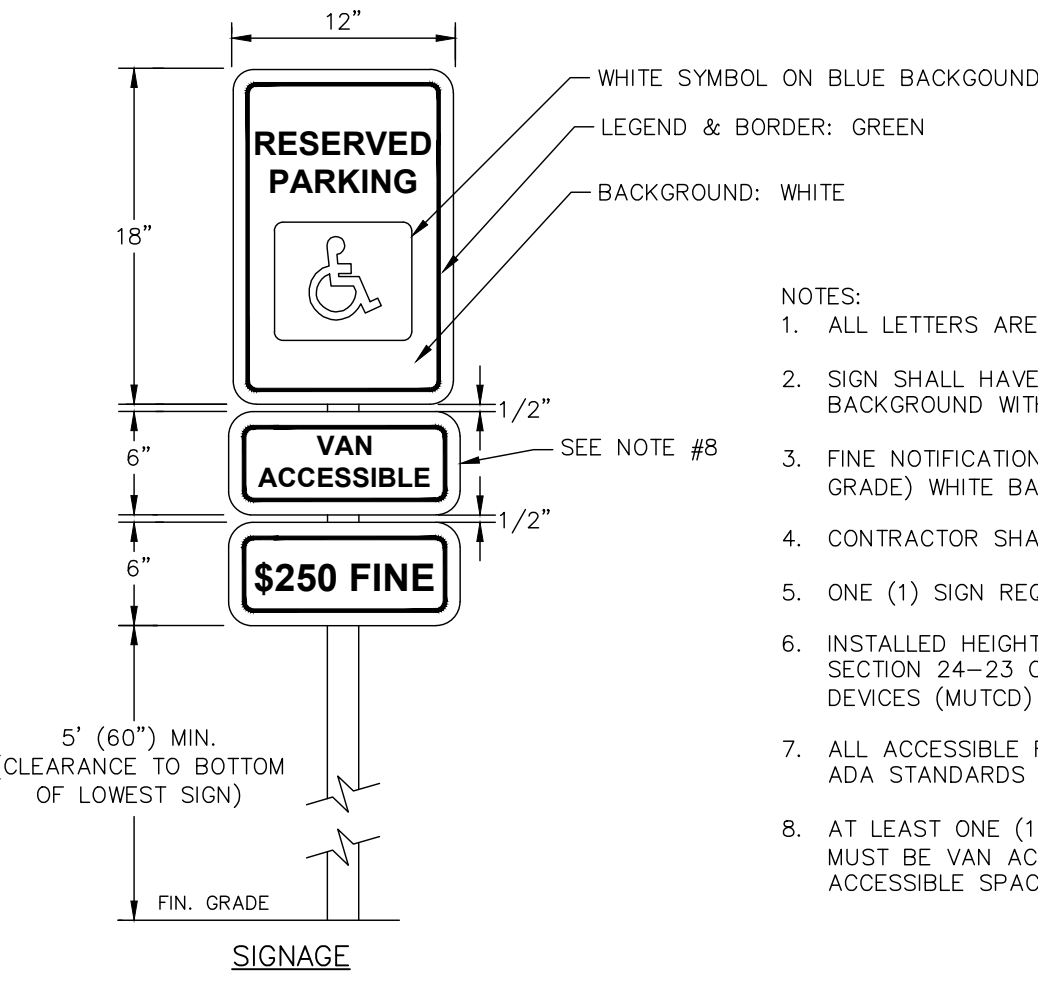
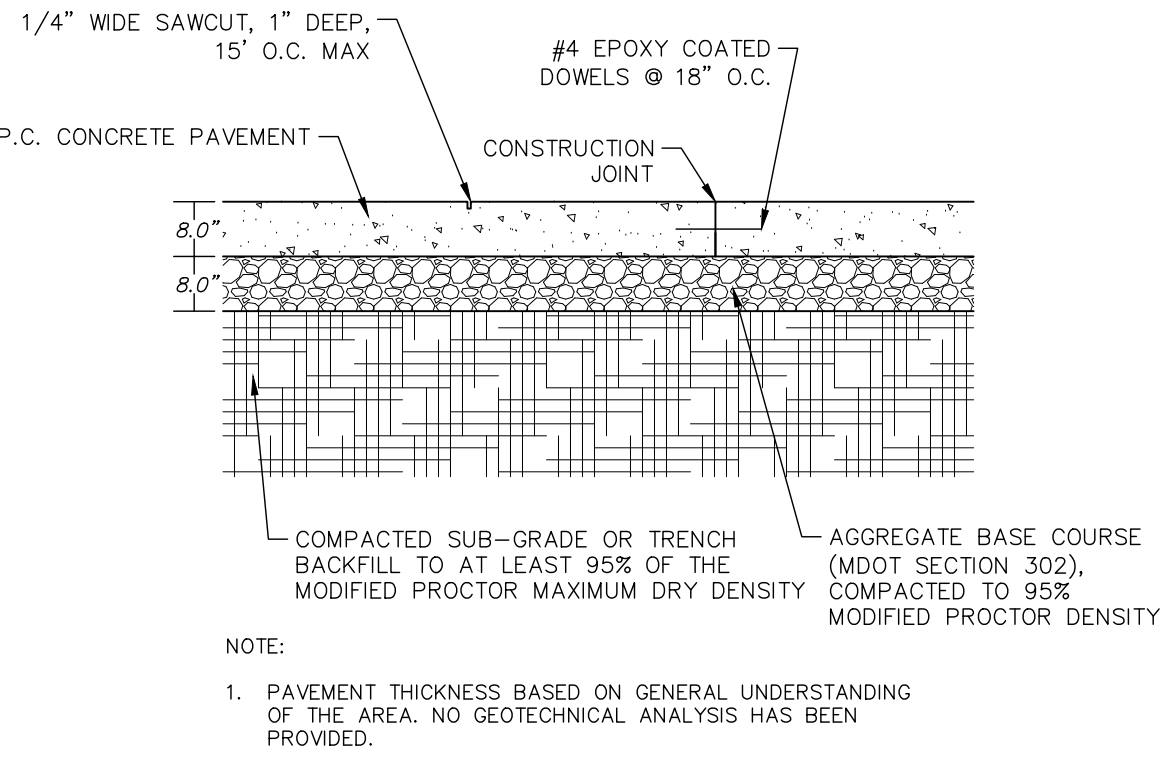
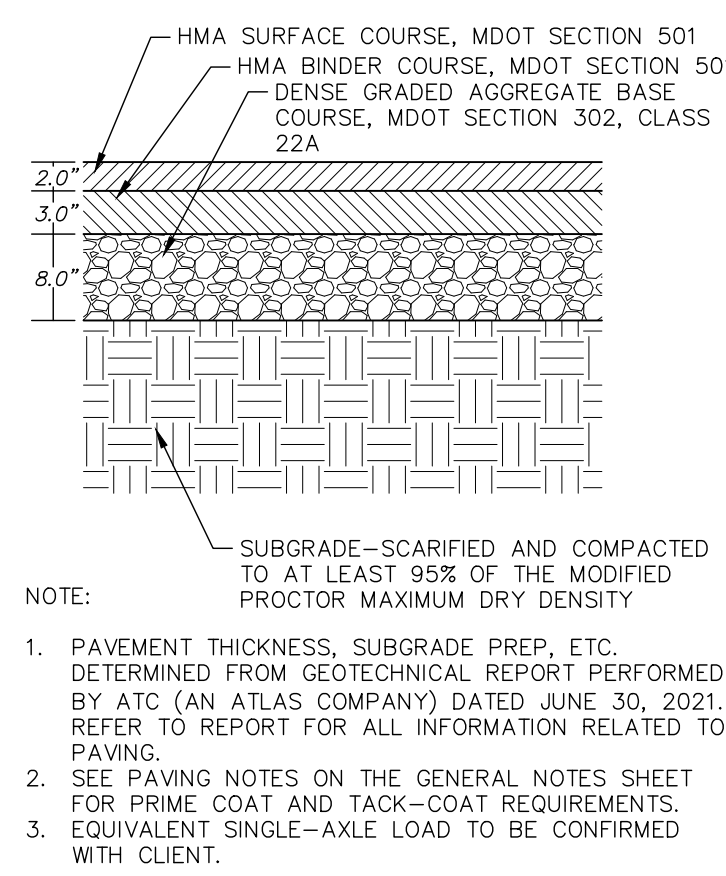
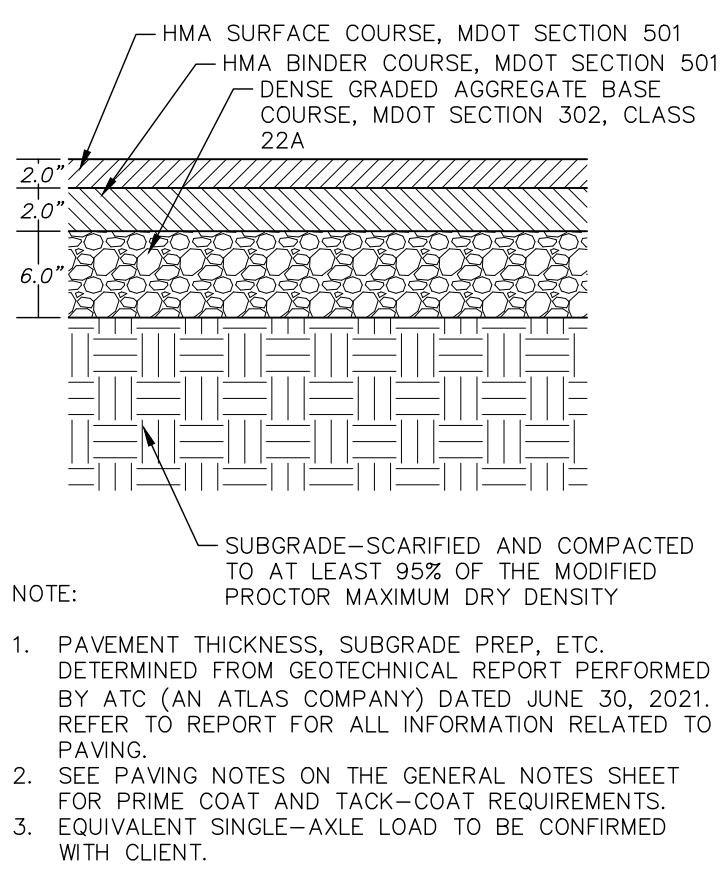
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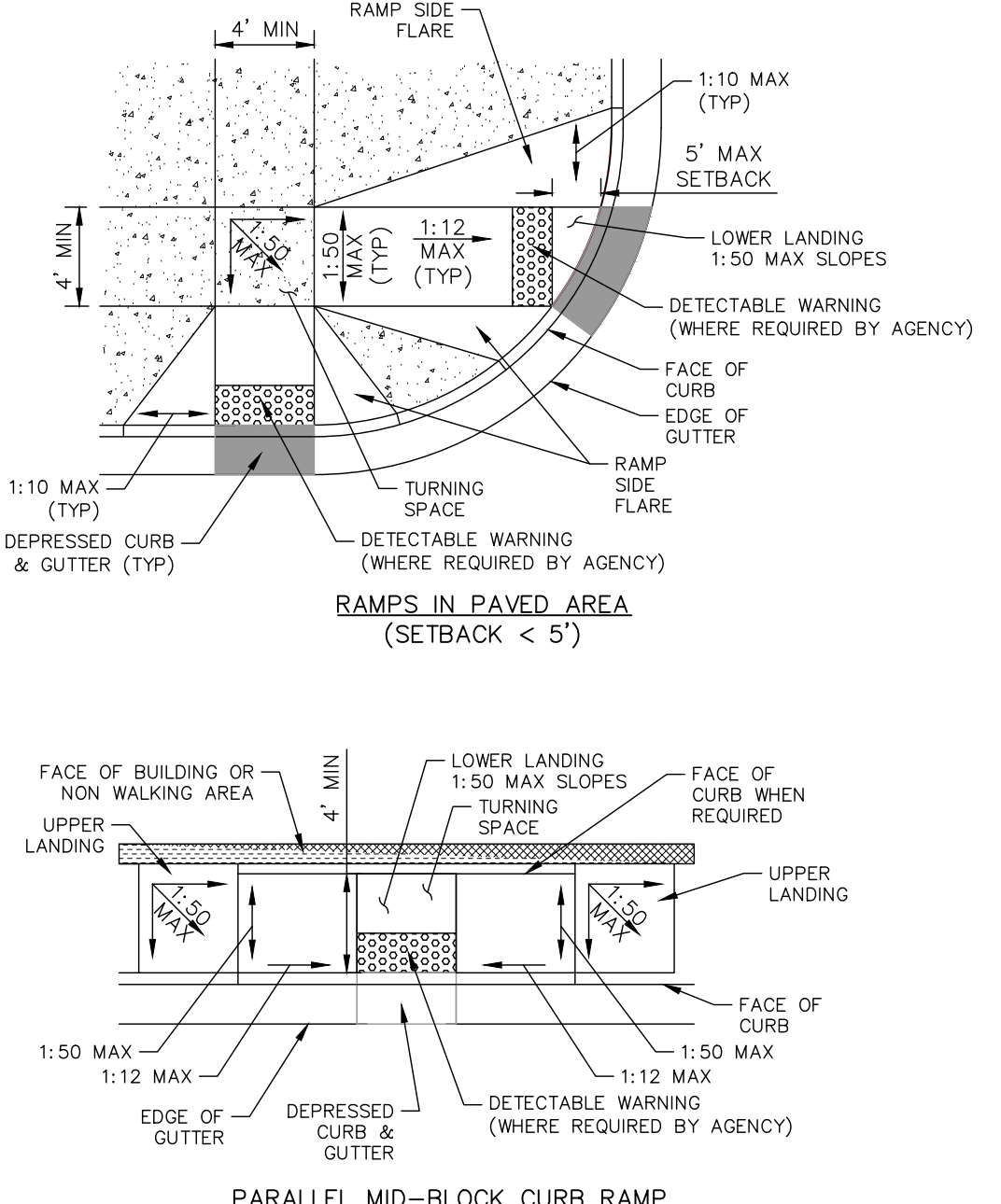
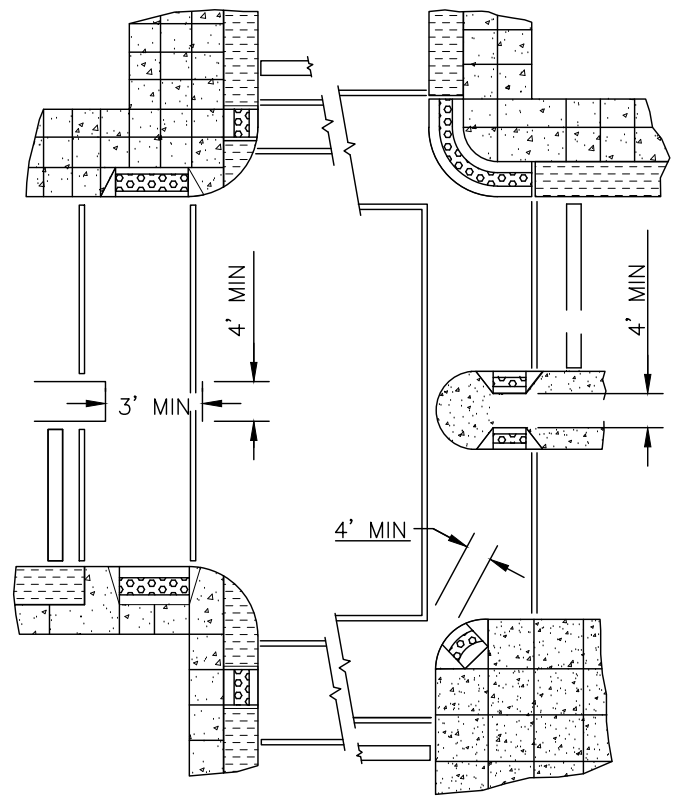
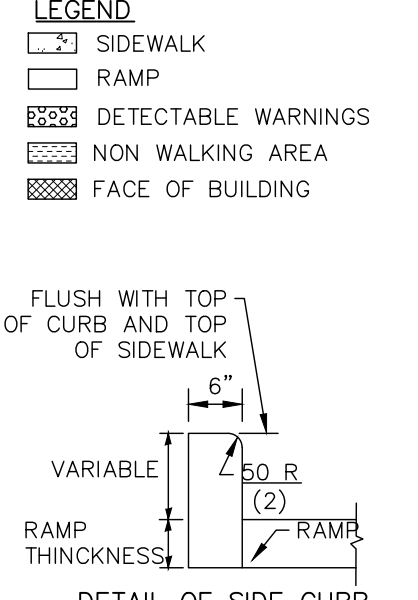
WATERMAIN B
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WATERMAIN PROFILES																								
RANGE USA 660 JAMES L. HART PARKWAY YPSILANTI TOWNSHIP, MI																								
ORIGINAL ISSUE: 10/19/2021 KHA PROJECT NO. 168921002 SHEET NUMBER C6.3																								
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- GENERAL NOTES:**
- THE MAXIMUM SLOPE OF THE SIDE FLARE FOR TYPE B RAMPS SHALL BE 1:10; HOWEVER, IF THE WIDTH OF THE LANDING AREA BETWEEN THE TOP OF THE RAMP AND AN OBSTRUCTION IS LESS THAN 1.2m (4'-0") THEN THE MAXIMUM SLOPE SHALL BE 1:12.
 - ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
 - ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.
 - RAMP DETAILS TO BE COORDINATED PER VILLAGE REQUIREMENTS.
 - DETECTABLE WARNINGS SHALL CONSIST OF TRUNCATED DOMES WHICH CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.
 - CONTRACTOR TO SELECT ADA DETECTABLE WARNING PERMEABLE PAVERS OR CONCRETE WITH ADA DETECTABLE WARNING DOMES FOR RAMPS.



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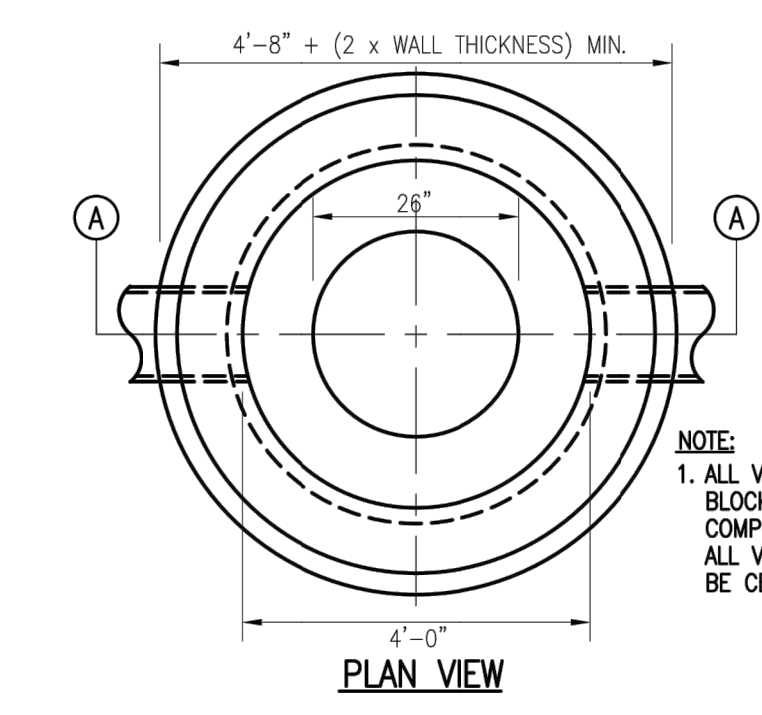
SITE CONSTRUCTION DETAILS

RANGE USA
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ORIGINAL ISSUE: 10/19/2021
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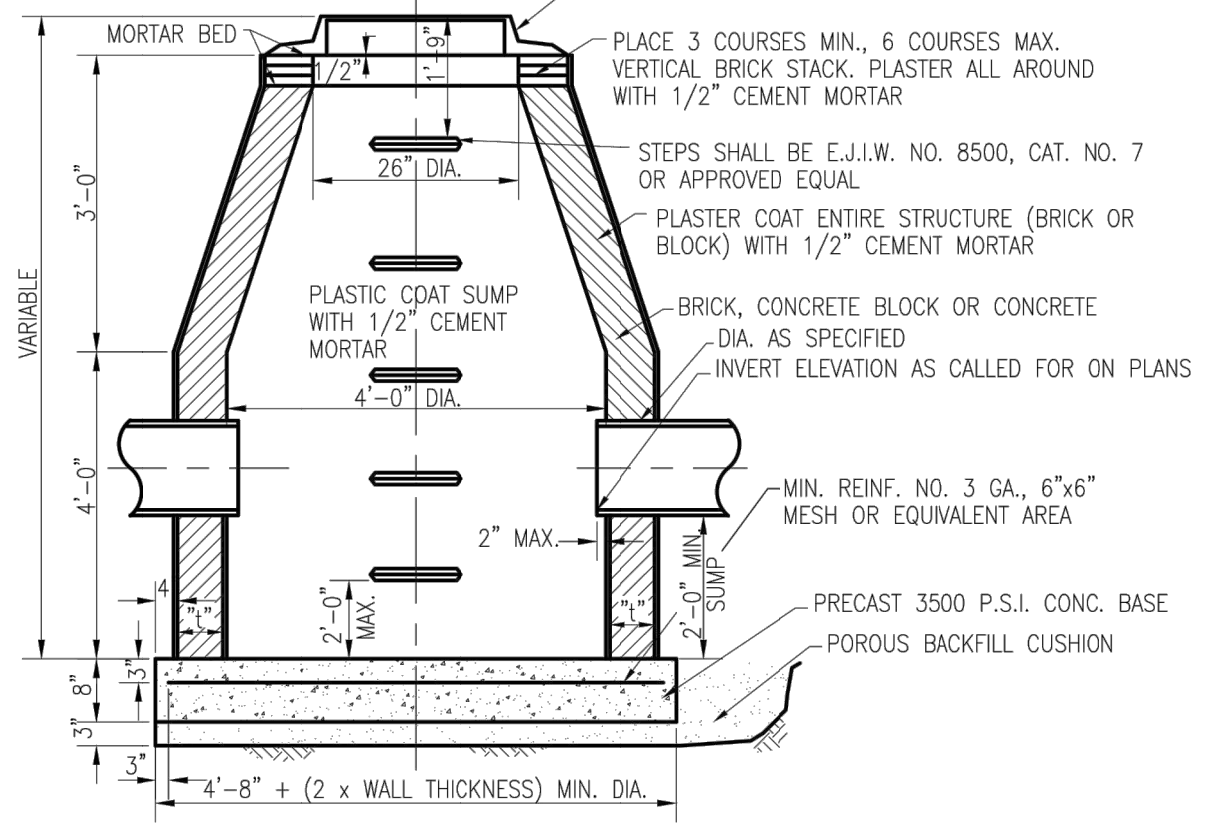
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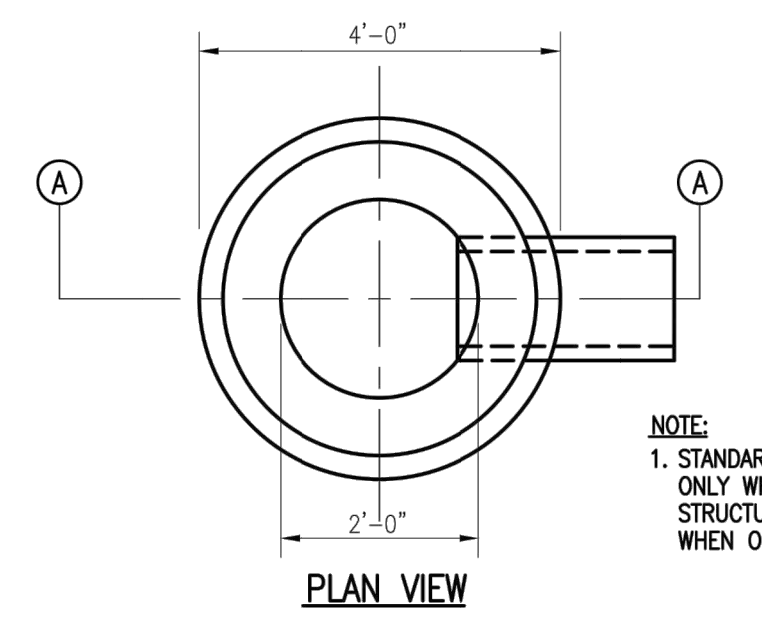


PLAN VIEW

NOTE:
 1. ALL VERTICAL HOLES IN CONCRETE BLOCK STRUCTURE WALL SHALL BE COMPLETELY FILLED WITH MORTAR. ALL VERTICAL WALL JOINTS SHALL BE CEMENT POINTED.

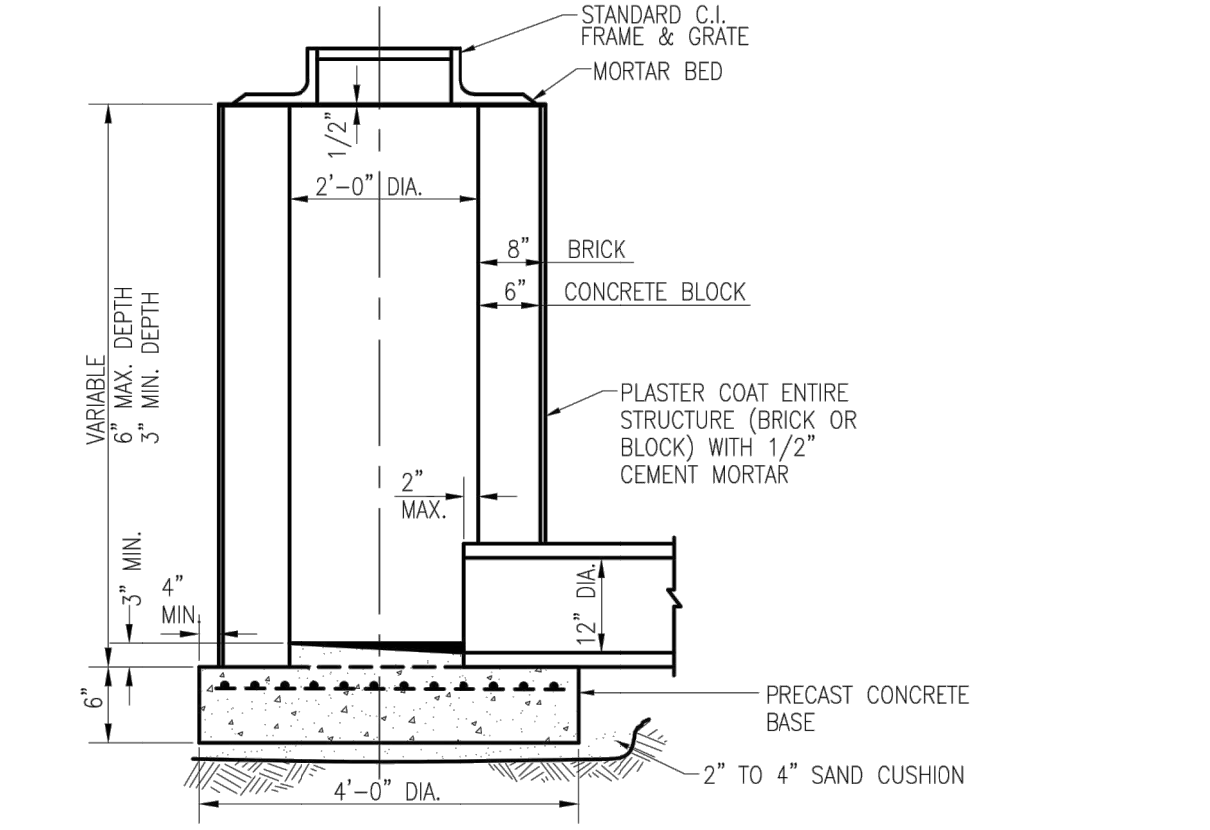


SECTION A-A CATCH BASIN "A"

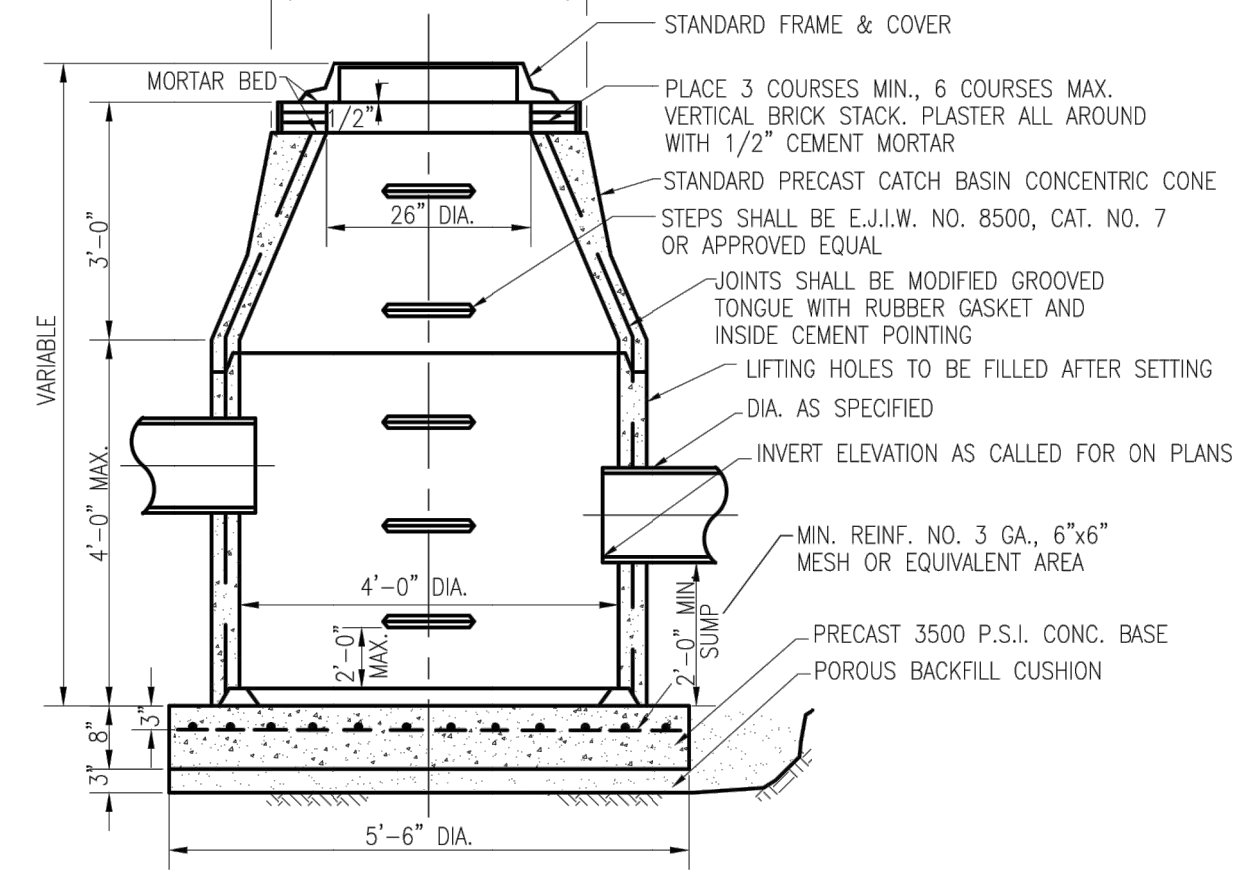


PLAN VIEW

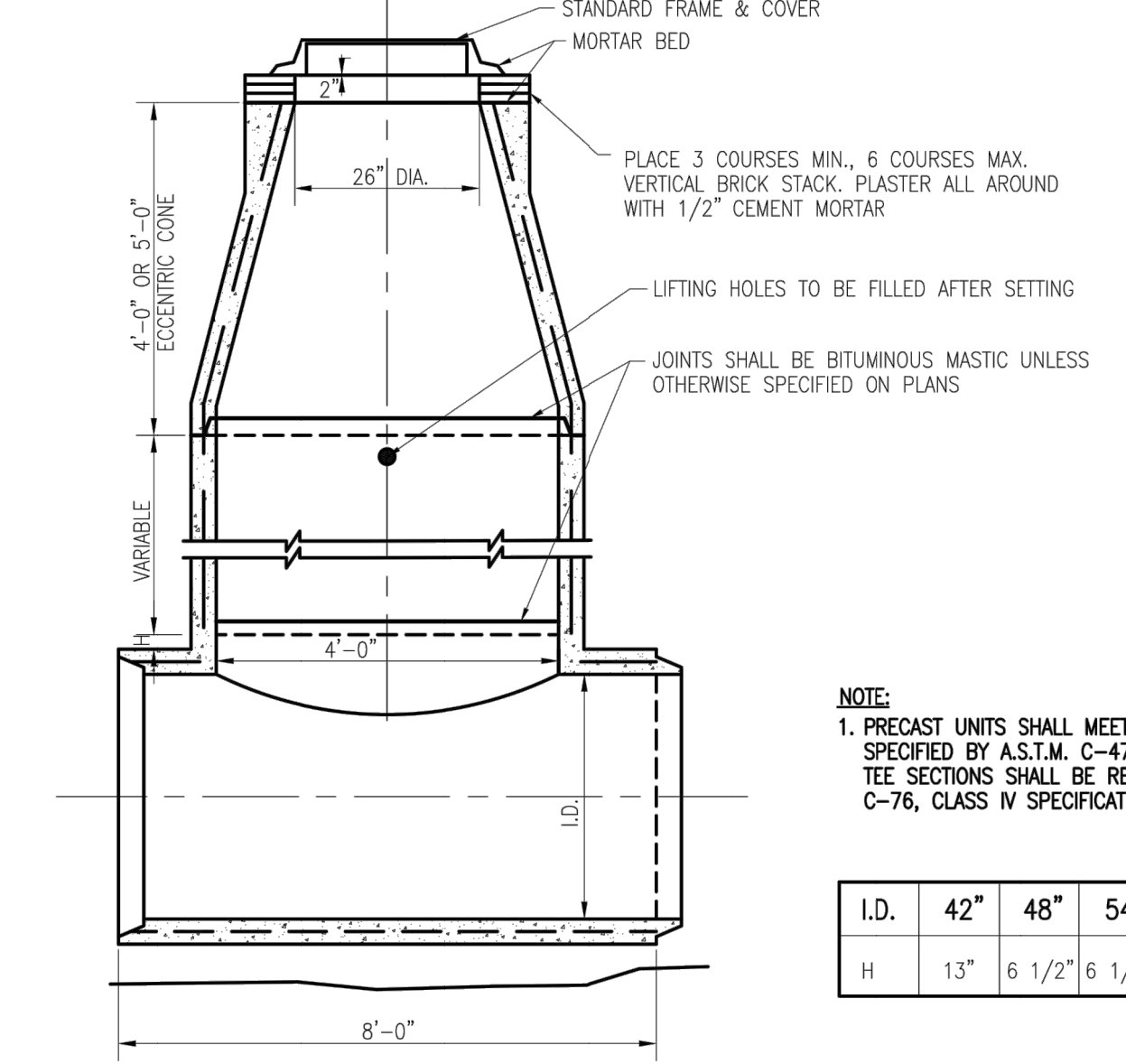
NOTE:
 1. STANDARD INLET WILL BE USED ONLY WHEN OUTLETING TO A STRUCTURE HAVING A SUMP OR WHEN OUTLETING TO A DITCH



SECTION A-A STANDARD INLET



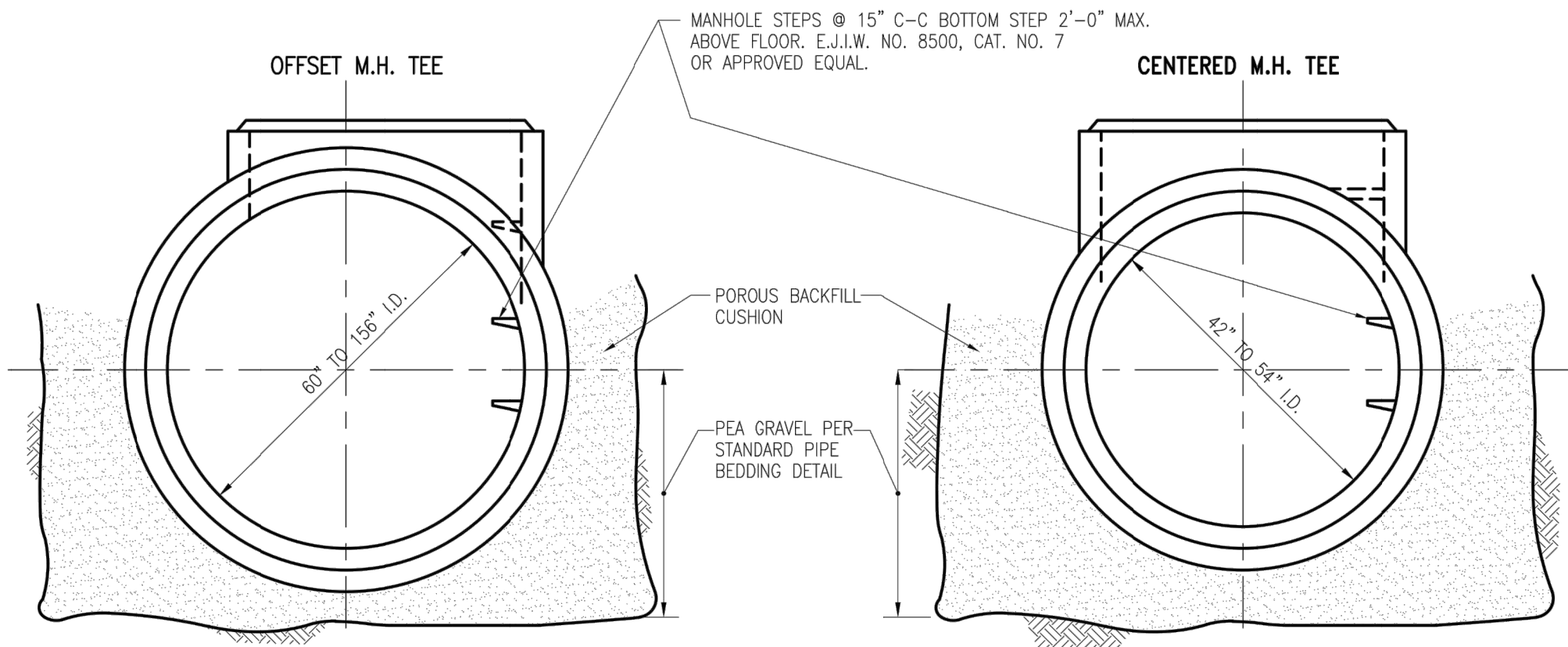
CROSS-SECTION CATCH BASIN "B"



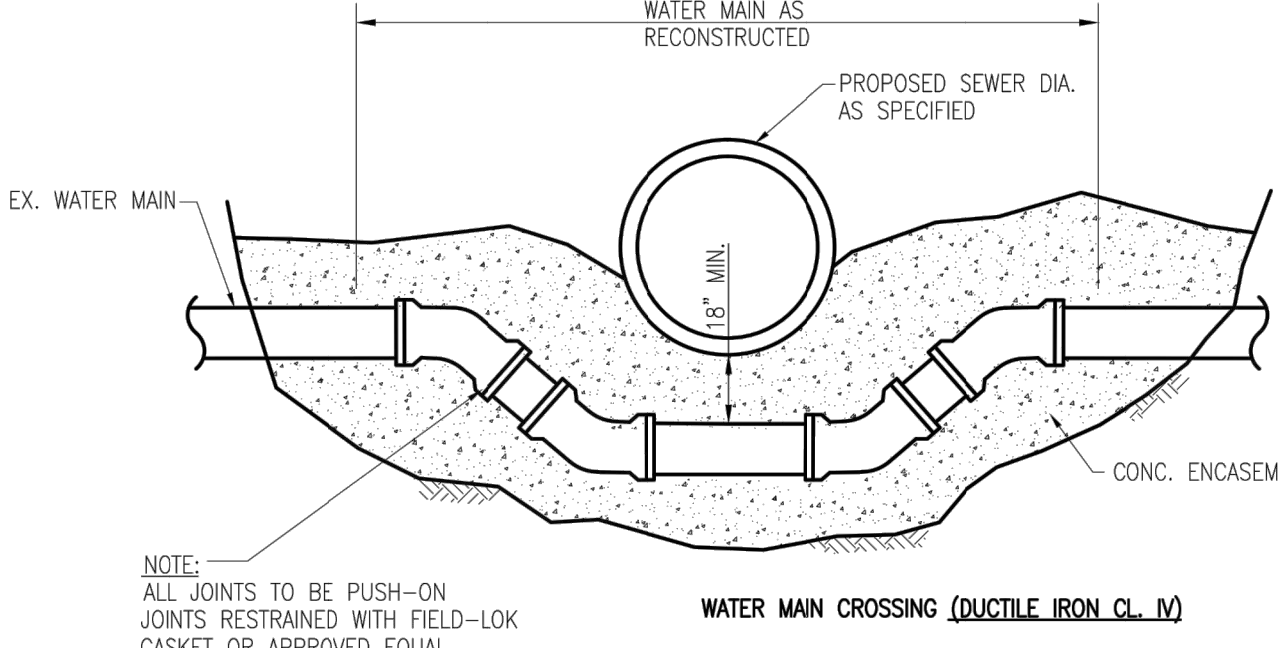
SECTION A-A CATCH BASIN "B"

NOTE:
 1. PRECAST UNITS SHALL MEET THE REQUIREMENTS SPECIFIED BY A.S.T.M. C-478-68. ALL MANHOLE TEE SECTIONS SHALL BE REINFORCED TO A.S.T.M. C-76, CLASS IV SPECIFICATIONS

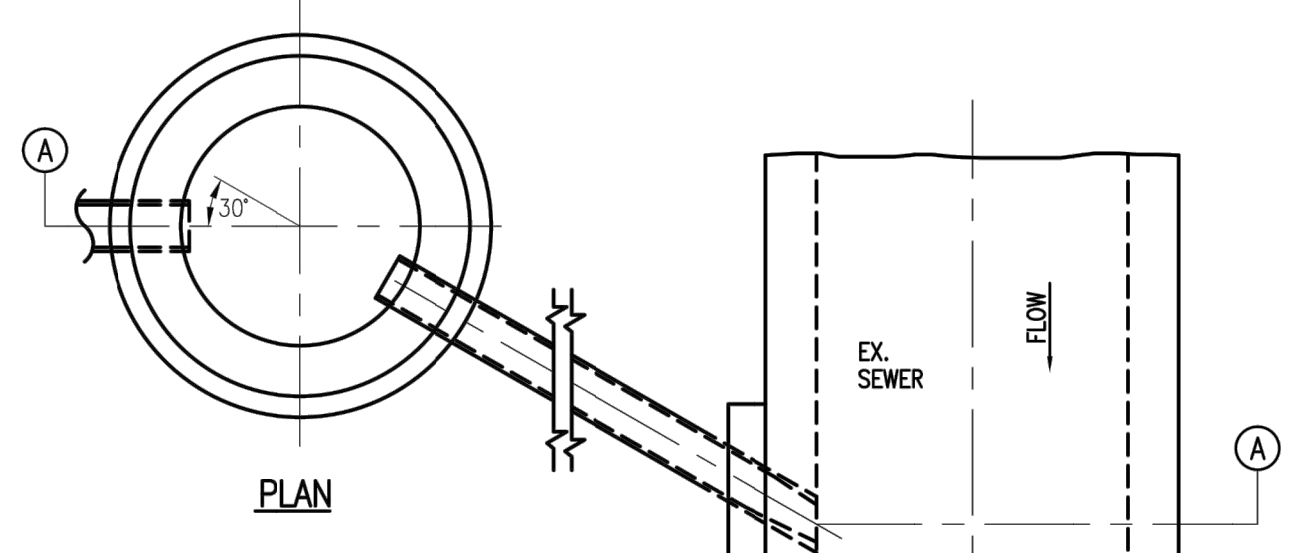
H DIMENSION	
I.D.	42" 48" 54" 60" 66" 72" 78" 84" OVER 84"
H	13" 6 1/2" 6 1/2" 1" 1 3/4" 2 1/2" 4" 6" 7"



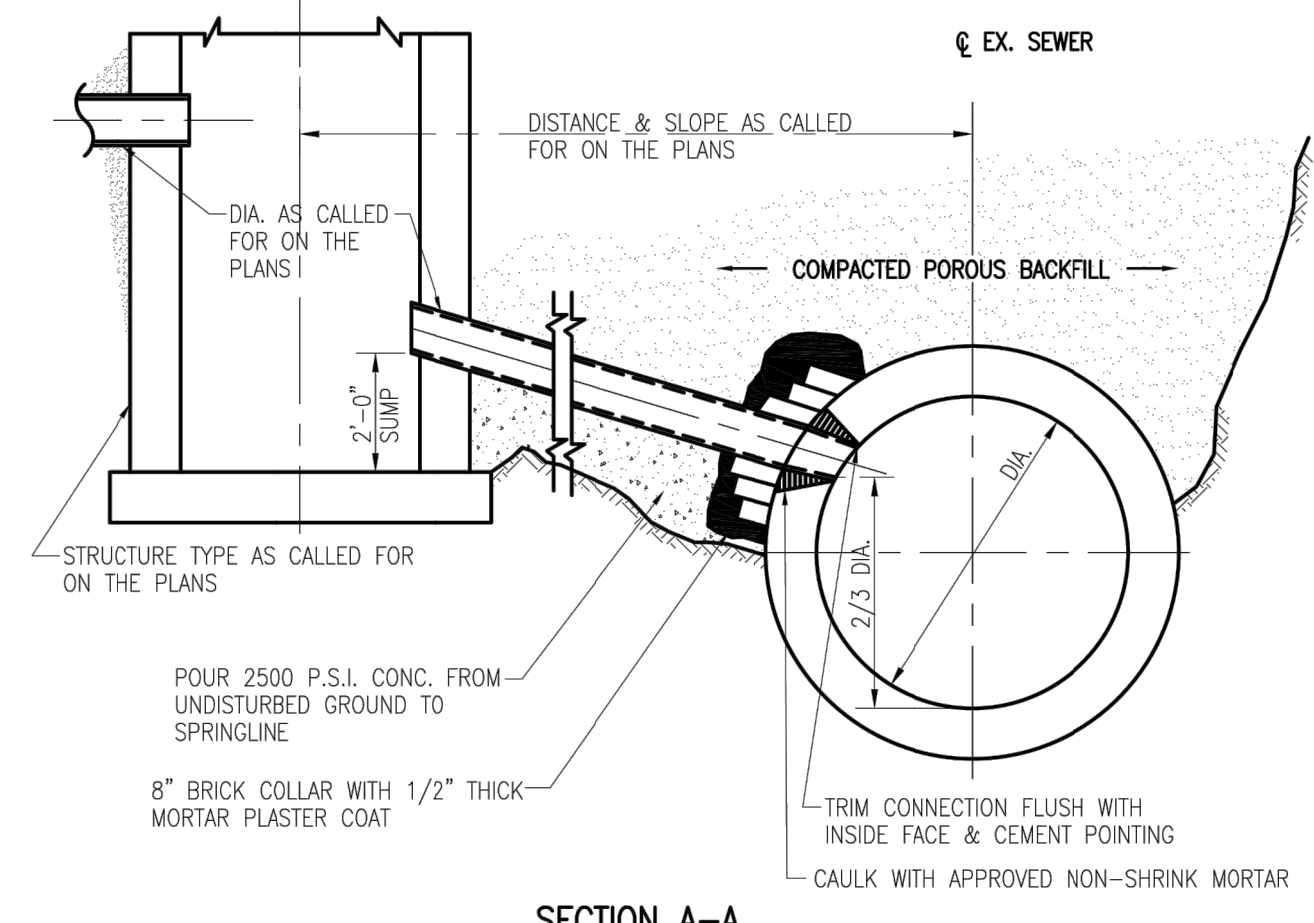
PRECAST MANHOLE "T"



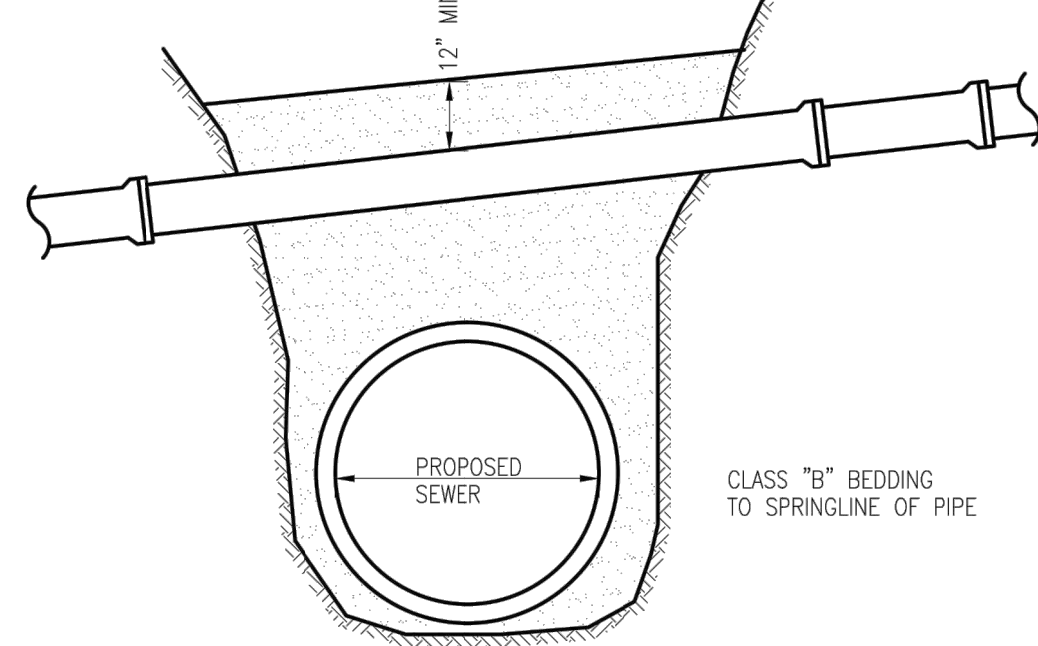
WATER MAIN CROSSING



PLAN

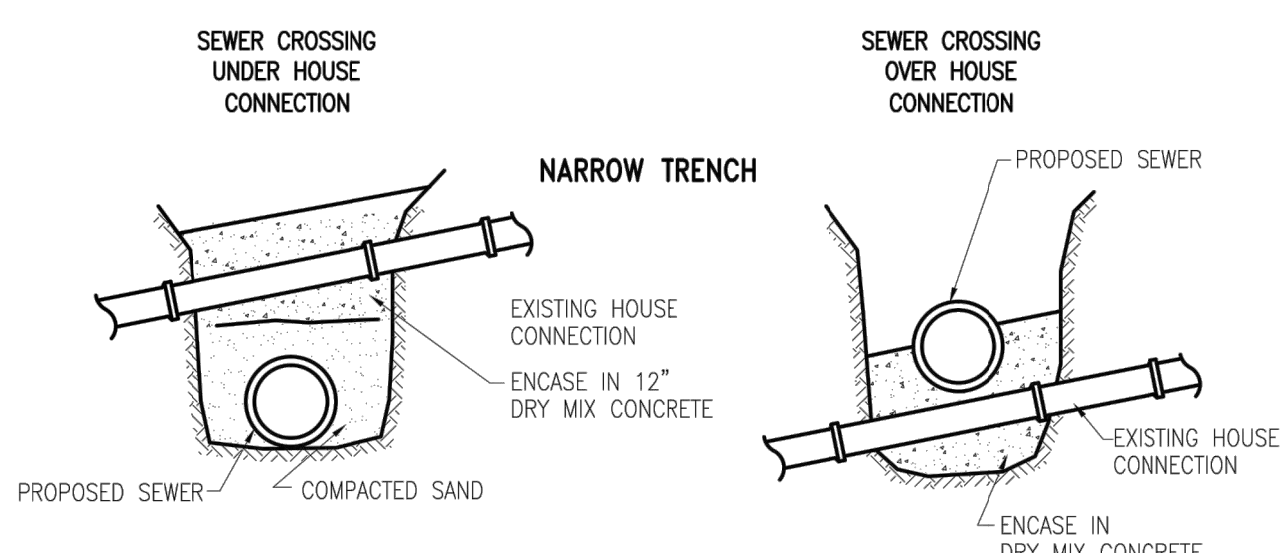


SECTION A-A TYPICAL CONNECTIONS TO EXISTING SEWERS



HOUSE CONNECTION CROSSING

NOTE:
 1. M.D.O.T. GRANULAR MATERIAL CLASS II PLACED IN 6" LAYERS AND COMPACTED TO A MINIMUM OF SIX OF ITS MAXIMUM UNIT WEIGHT TO A HEIGHT OF 12" ABOVE THE TOP OF THE SEWER LEAD.



CROSSING DETAILS

NOTE:
 1. WHEN UNSTABLE GROUND CONDITIONS ARE ENCOUNTERED STONE, SLAG OR DRY MIX CONCRETE SHALL BE USED TO BACKFILL THE TRENCH TO A HEIGHT 12" ABOVE THE TOP OF THE SEWER LEAD.



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DATE	CAUSE	BY	SECTION	TOWN	RANGE	COUNTY	CITY/TOWNSHIP	SCALE	VERT. DATA	HORIZ. DATA	JOB #

YPSILANTI TOWNSHIP / Y.C.U.A.
 STANDARD STORM SEWER DETAILS

SHEET OF #

NO.	REVISIONS	DATE	BY
1	TOWNSHIP COMMENTS	11/29/21	JMM
2	TOWNSHIP COMMENTS	01/11/22	JMM
3	WCWRC/TOWNSHIP REVIEW COMMENTS	02/24/22	JMM
4	WCWRC/TOWNSHIP REVIEW COMMENTS	03/30/22	JMM

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 ANN ARBOR, MI 48106-7208
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SCALE: AS NOTED
 DESIGNED BY: JPM
 DRAWN BY: BMH
 CHECKED BY: JMM



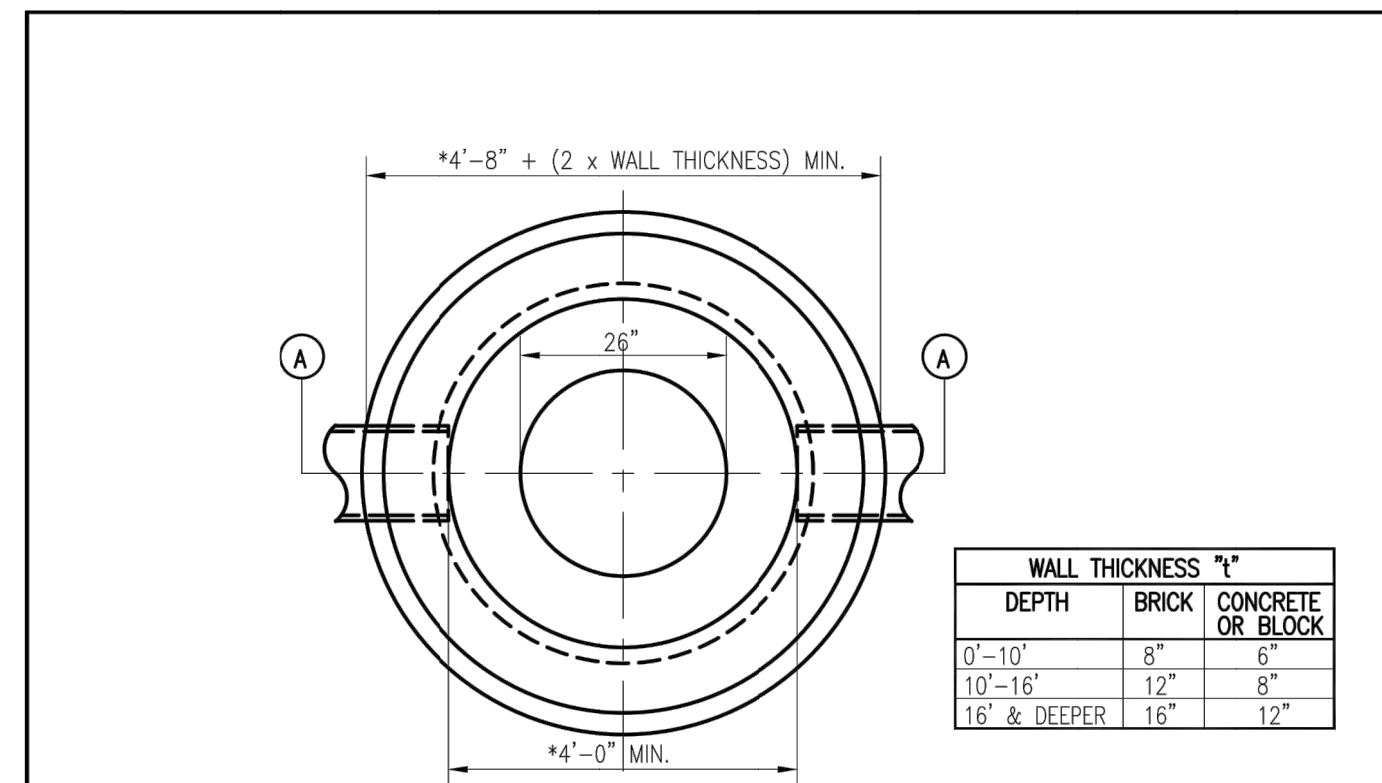
YPSILANTI TOWNSHIP
 TOWNSHIP
 STORM DETAILS

RANGE USA
 660 JAMES L. HART PARKWAY
 YPSILANTI TOWNSHIP, MI

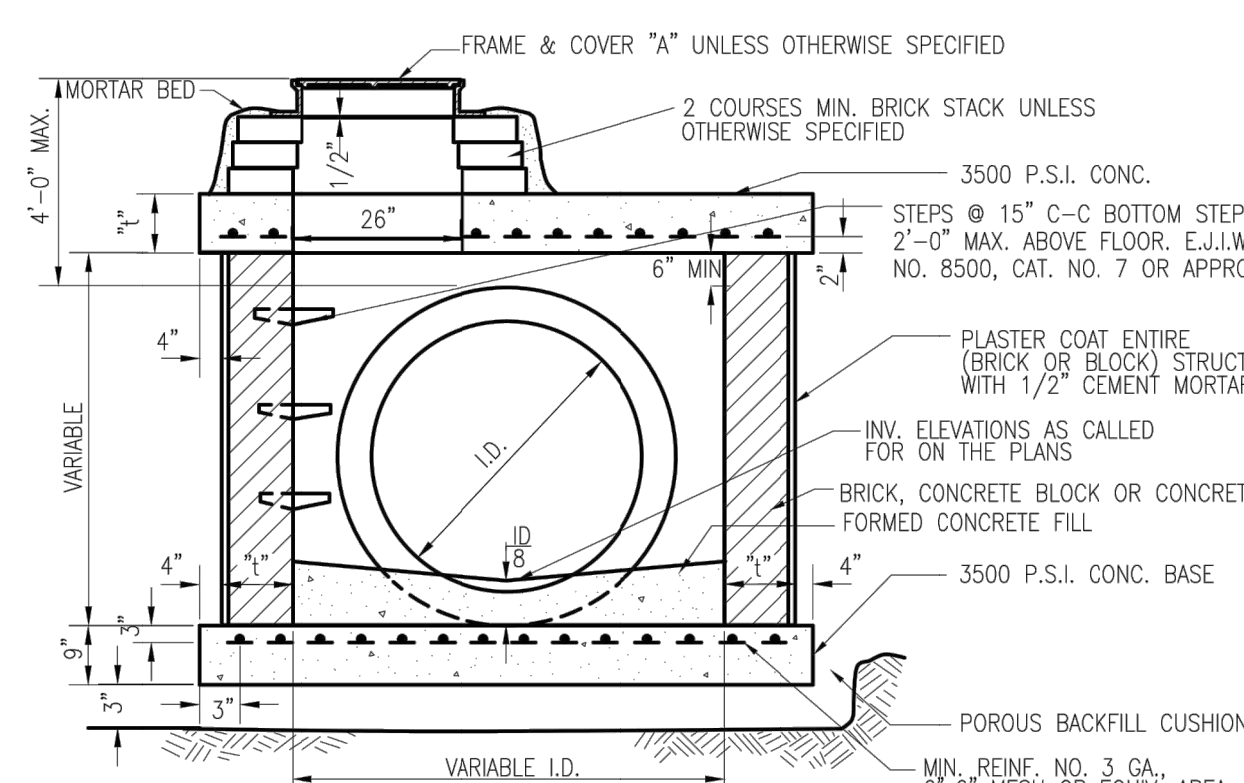
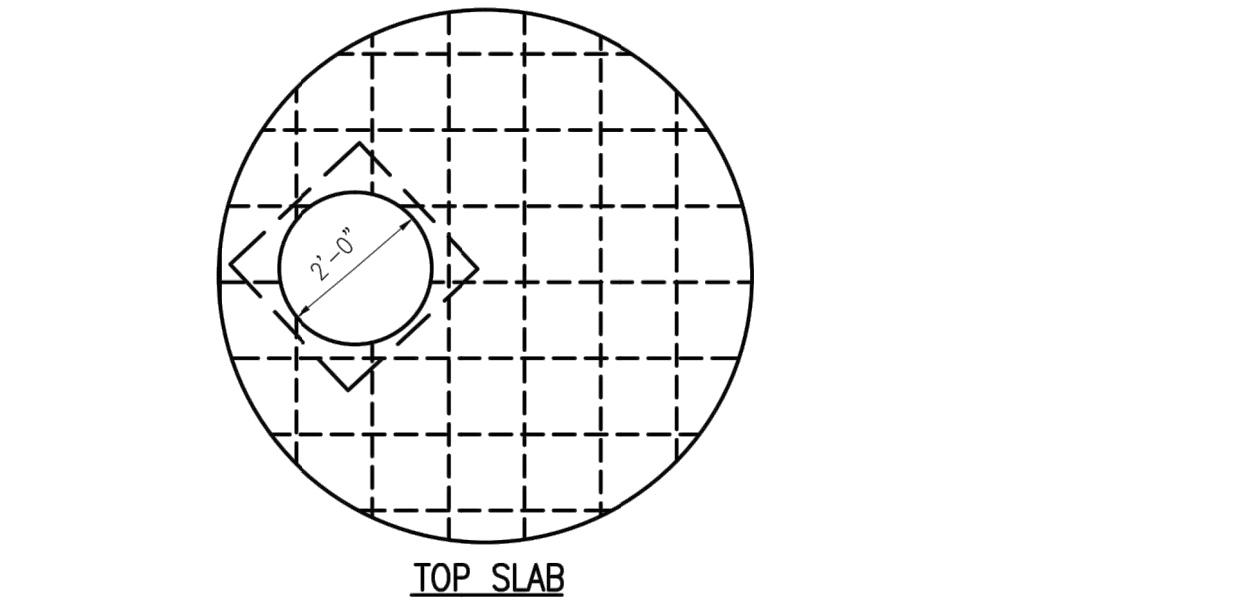
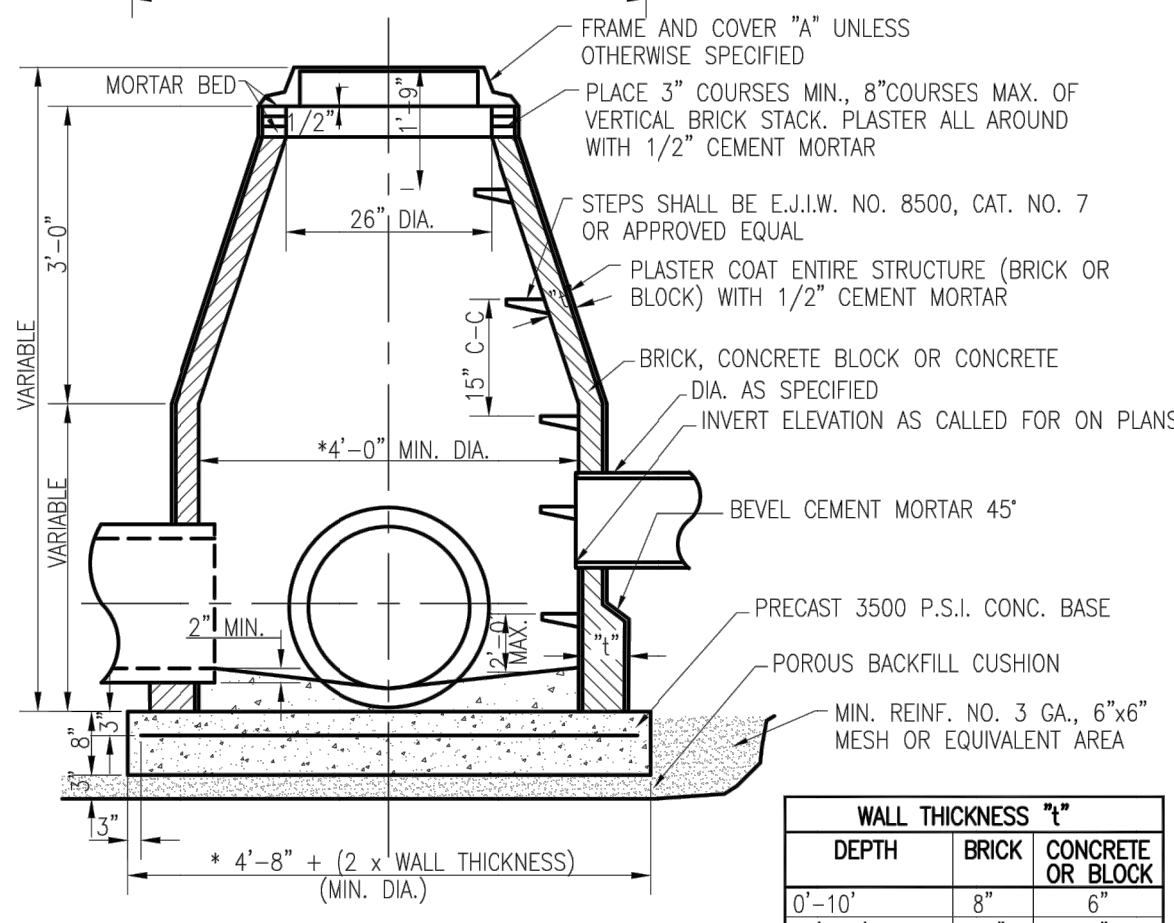
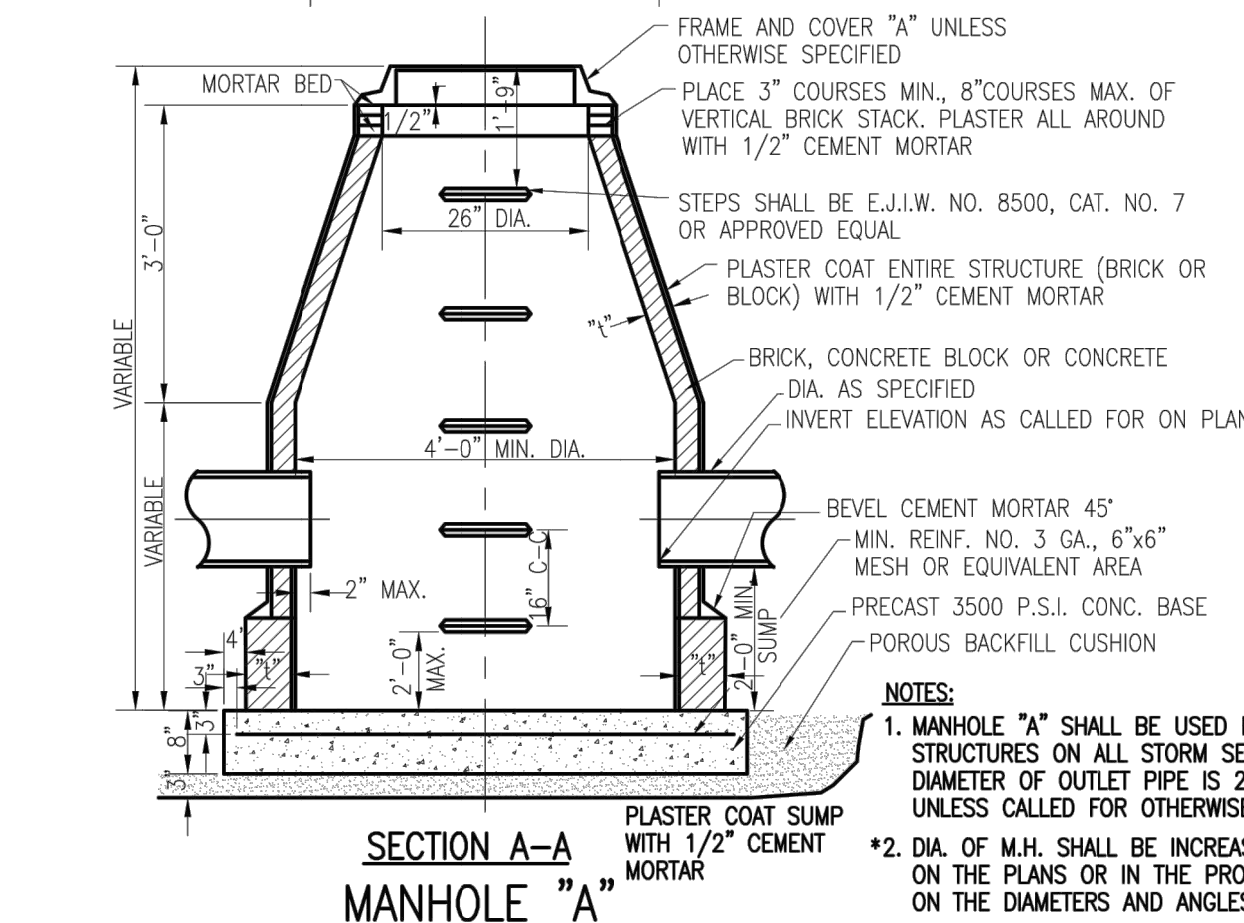
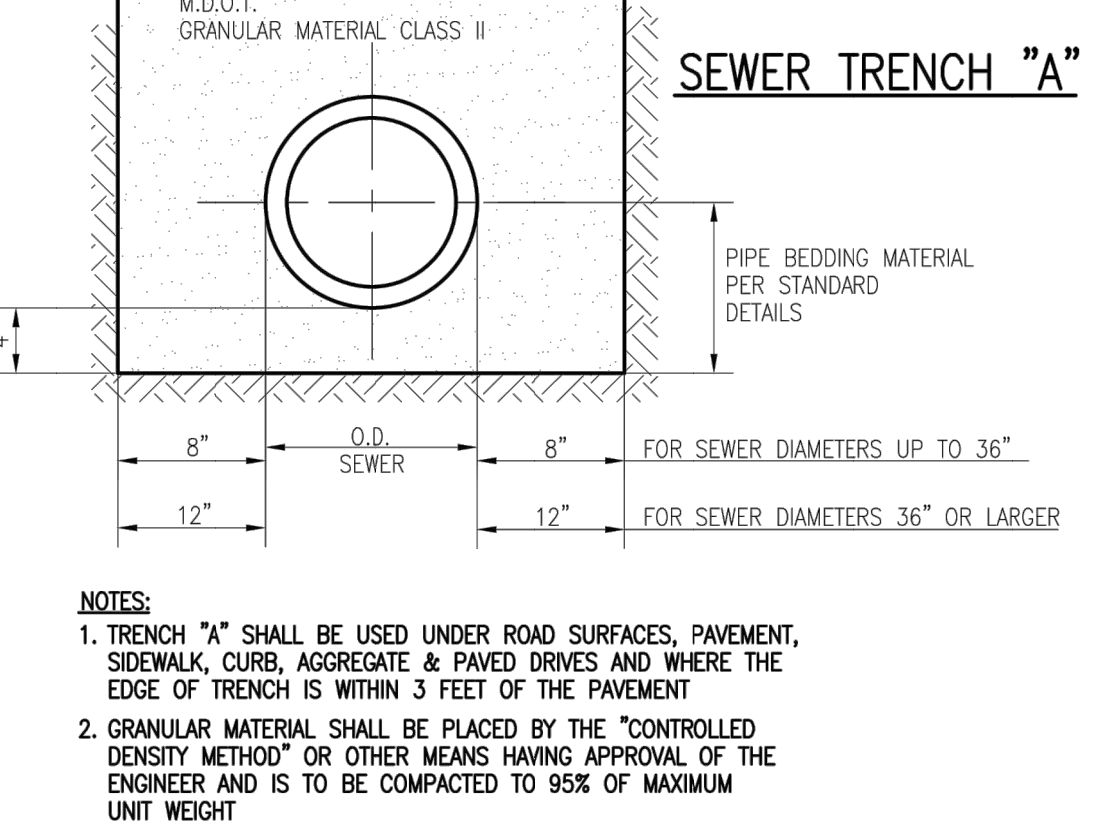
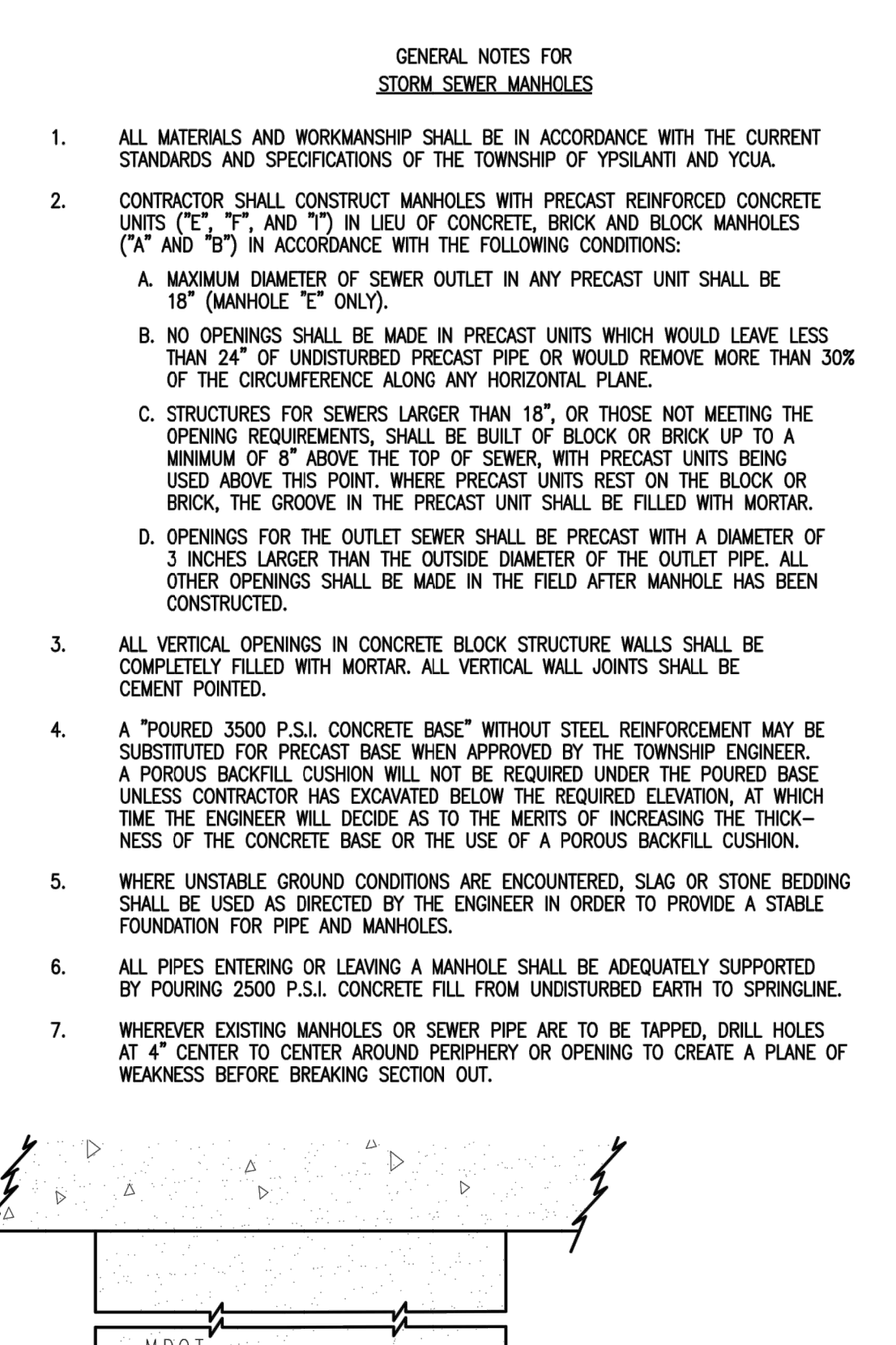
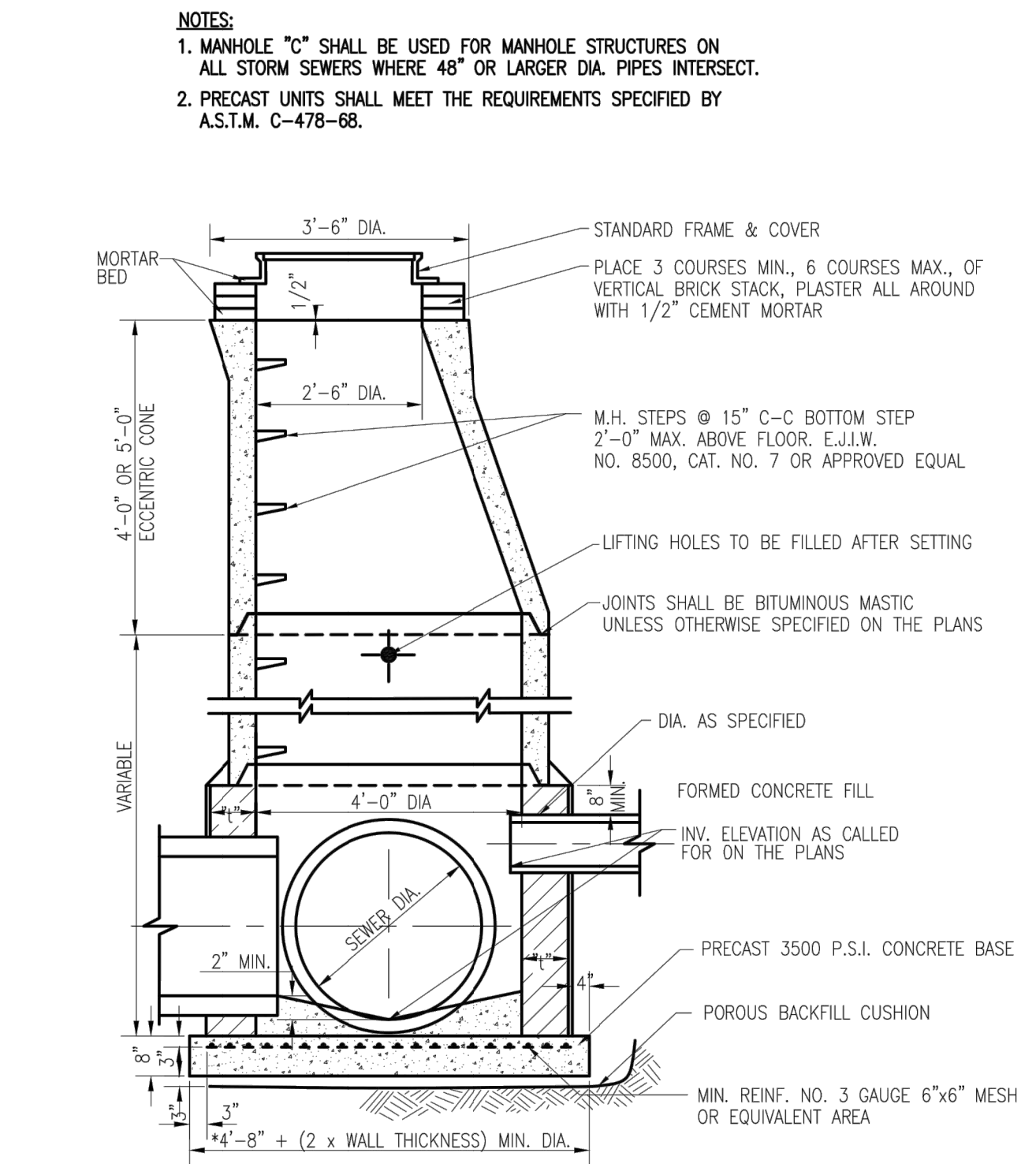
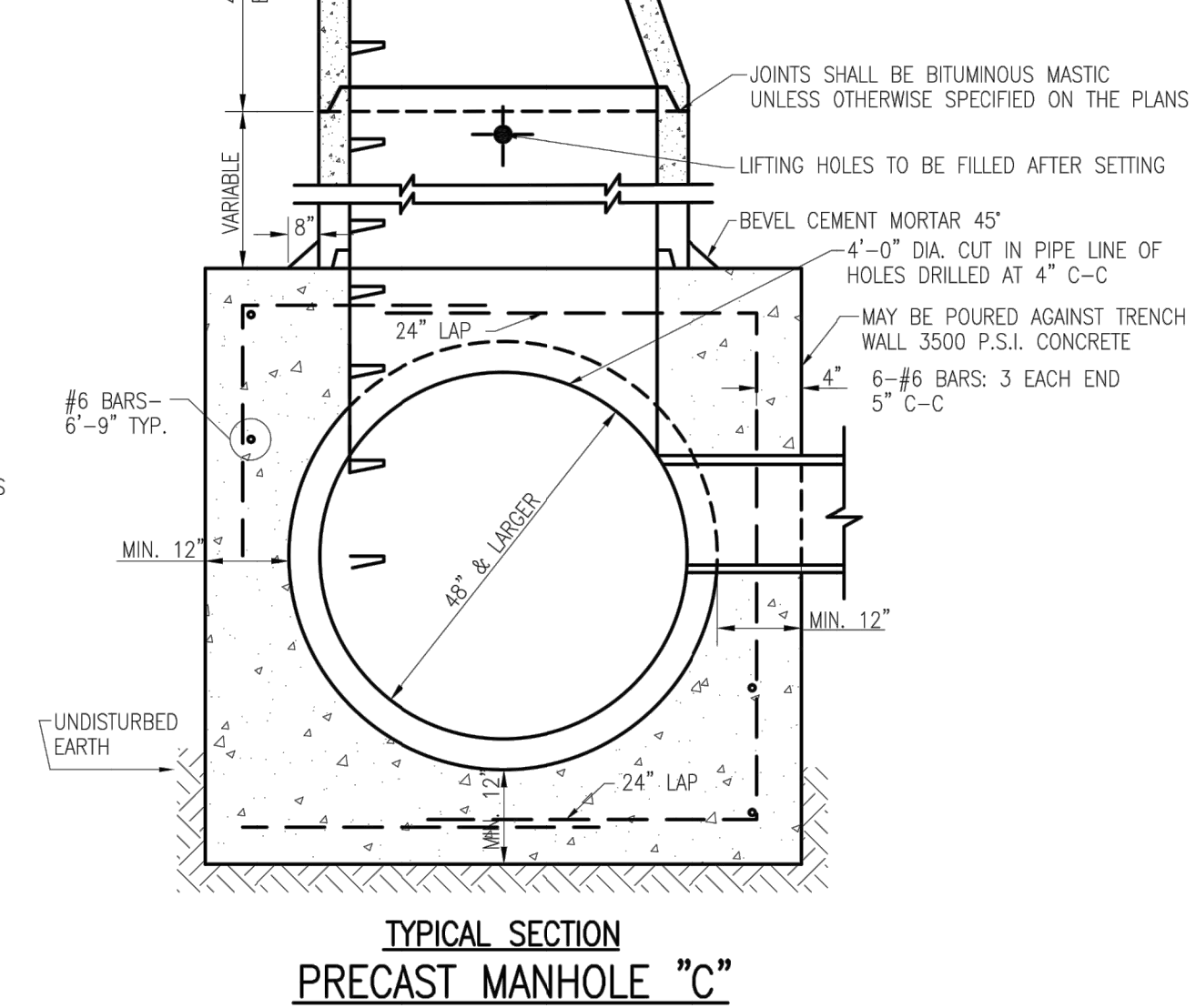
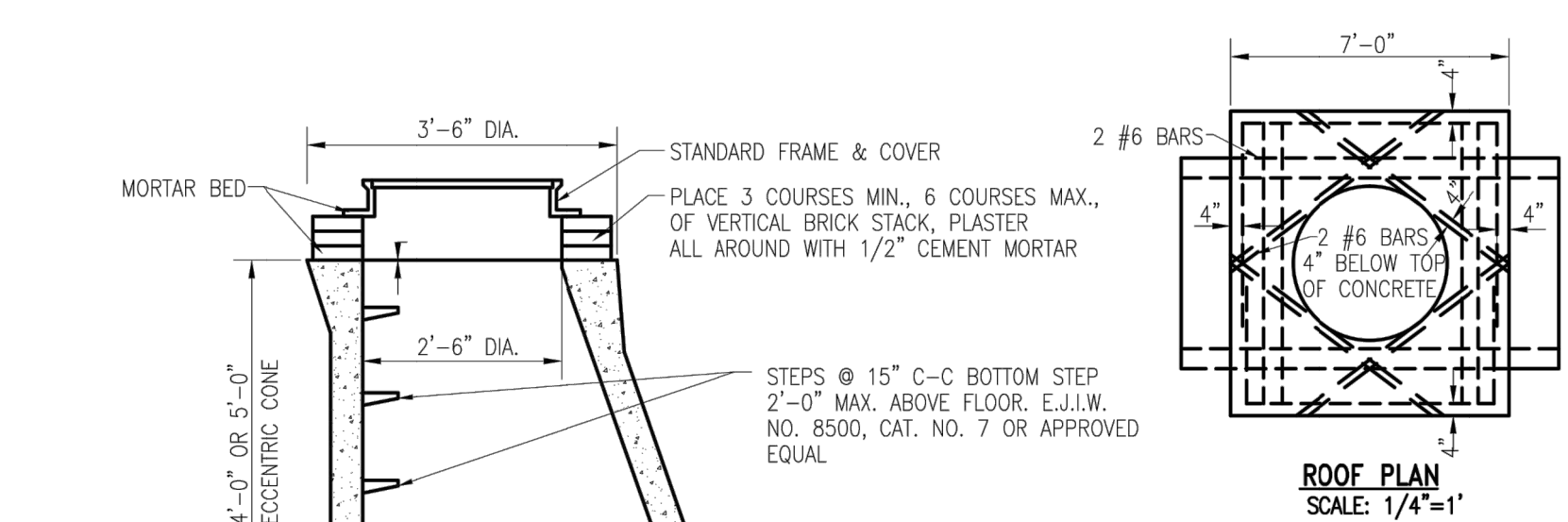
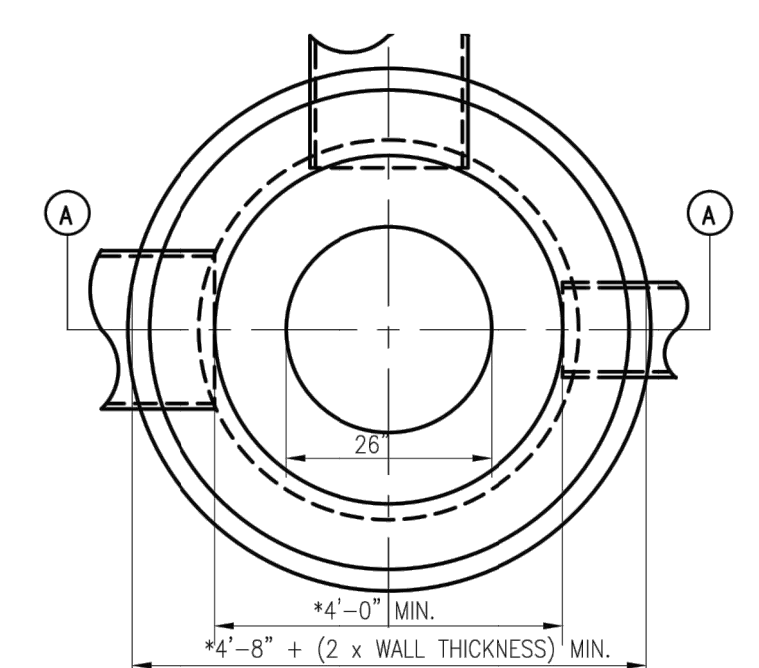
ORIGINAL ISSUE:
 10/19/2021
 KHA PROJECT NO.
 168921002
 SHEET NUMBER

C8.0

Drawing name: K:\CHS_LDEV\168921002_Shoop\Plan\Bent_Ypsilanti\168921002 - CONSTRUCTION DETAILS.dwg ST-2 Mar 30, 2022 6:39pm by Brett Hickey
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WALL THICKNESS "t"		
DEPTH	BRICK	CONCRETE OR BLOCK
0'-10"	8"	6"
10'-16"	12"	8"
16' & DEEPER	16"	12"



OUTLET I.D.	M.H. D	TOP SLAB "t"	WALLS "t"	REINFORCING STEEL (SLAB)
24" OR LESS	4'-0"	9"	8"	3/4" @ 9" EACH WAY
30"	4'-0"	9"	8"	3/4" @ 9" EACH WAY
36"	4'-0"	9"	12"	3/4" @ 9" EACH WAY
42"	4'-0"	10"	12"	3/4" @ 9" EACH WAY
48"	4'-0"	11"	12"	7/8" @ 9" EACH WAY
54"	4'-0"	11"	12"	7/8" @ 9" EACH WAY

M.H. D	TOP SLAB "t"	WALLS "t"	REINFORCING STEEL (SLAB)
7'-0"	12"	12"	7/8" @ 9" EACH WAY
8'-0"	12"	12"	1" @ 9" EACH WAY

NOTES:
 1. MANHOLE "B" SHALL BE USED FOR MANHOLE STRUCTURES ON ALL STORM SEWERS WHERE THE DIAMETER OF OUTLET PIPE IS 24" OR SMALLER, UNLESS CALLED FOR OTHERWISE ON THE PLANS.
 *2. DIA. OF M.H. SHALL BE INCREASED AS SHOWN ON THE PLANS OR IN THE PROPOSAL, DEPENDING ON THE DIAMETERS AND ANGLES OF THE SEWERS.

NOTES:
 1. MANHOLE "C" SHALL BE USED FOR MANHOLE STRUCTURES ON ALL STORM SEWERS WHERE 48" OR LARGER DIA. PIPES INTERSECT.
 2. PRECAST UNITS SHALL MEET THE REQUIREMENTS SPECIFIED BY A.S.T.M. C-478-68.

NOTES:
 1. THIS MANHOLE SHALL BE USED ONLY WHEN MEETING CONDITIONS STATED IN THE "GENERAL MANHOLE NOTES", ITEM NO. 2A
 2. PRECAST UNITS SHALL MEET THE REQUIREMENTS SPECIFIED BY A.S.T.M. C-478-68.

NOTES:
 1. THIS MANHOLE SHALL BE USED ONLY WHEN MEETING CONDITIONS STATED IN THE "GENERAL MANHOLE NOTES", ITEM NO. 2A
 2. PRECAST UNITS SHALL MEET THE REQUIREMENTS SPECIFIED BY A.S.T.M. C-478-68.

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 2. PRECAST UNITS SHALL MEET THE REQUIREMENTS SPECIFIED BY A.S.T.M. C-478-68.

GENERAL NOTES FOR STORM SEWER MANHOLES

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE TOWNSHIP OF YPSILANTI AND YCUA.
- CONTRACTOR SHALL CONSTRUCT MANHOLES WITH PRECAST REINFORCED CONCRETE UNITS ("A" AND "B") IN ACCORDANCE WITH THE FOLLOWING CONDITIONS:
 - MAXIMUM DIAMETER OF SEWER OUTLET IN ANY PRECAST UNIT SHALL BE 18" (MANHOLE "E" ONLY).
 - NO OPENINGS SHALL BE MADE IN PRECAST UNITS WHICH WOULD LEAVE LESS THAN 24" OF UNDISTURBED PRECAST PIPE OR WOULD REMOVE MORE THAN 30% OF THE CIRCUMFERENCE ALONG ANY HORIZONTAL PLANE.
 - STRUCTURES FOR SEWERS LARGER THAN 18", OR THOSE NOT MEETING THE OPENING REQUIREMENTS, SHALL BE BUILT OF BLOCK OR BRICK UP TO A MINIMUM OF 8" ABOVE THE TOP OF SEWER, WITH PRECAST UNITS BEING USED ABOVE THIS POINT, WHERE PRECAST UNITS REST ON THE BLOCK OR BRICK, THE GROOVE IN THE PRECAST UNIT SHALL BE FILLED WITH MORTAR.
 - OPENINGS FOR THE OUTLET SEWER SHALL BE PRECAST WITH A DIAMETER OF 3 INCHES LARGER THAN THE OUTSIDE DIAMETER OF THE OUTLET PIPE. ALL OTHER OPENINGS SHALL BE MADE IN THE FIELD AFTER MANHOLE HAS BEEN CONSTRUCTED.
- ALL VERTICAL OPENINGS IN CONCRETE BLOCK STRUCTURE WALLS SHALL BE COMPLETELY FILLED WITH MORTAR. ALL VERTICAL WALL JOINTS SHALL BE CEMENT POINTED.
- A "POURED 3500 P.S.I. CONCRETE BASE" WITHOUT STEEL REINFORCEMENT MAY BE SUBSTITUTED FOR PRECAST BASE WHEN APPROVED BY THE TOWNSHIP ENGINEER. A POROUS BACKFILL CUSHION WILL NOT BE REQUIRED UNDER THE POURED BASE UNLESS CONTRACTOR HAS EXCAVATED BELOW THE REQUIRED ELEVATION, AT WHICH TIME THE ENGINEER WILL DECIDE AS TO THE MERITS OF INCREASING THE THICKNESS OF THE CONCRETE BASE OR THE USE OF A POROUS BACKFILL CUSHION.
- WHERE UNSTABLE GROUND CONDITIONS ARE ENCOUNTERED, SLAG OR STONE BEDDING SHALL BE USED AS DIRECTED BY THE ENGINEER IN ORDER TO PROVIDE A STABLE FOUNDATION FOR PIPE AND MANHOLES.
- ALL PIPES ENTERING OR LEAVING A MANHOLE SHALL BE ADEQUATELY SUPPORTED BY POURING 2500 P.S.I. CONCRETE FILL FROM UNDISTURBED EARTH TO SPRINGLINE.
- WHEREVER EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, DRILL HOLES AT 4" CENTER TO CENTER AROUND PERIPHERY OR OPENING TO CREATE A PLANE OF WEAKNESS BEFORE BREAKING SECTION OUT.

NOTES:
 1. TRENCH "A" SHALL BE USED UNDER ROAD SURFACES, PAVEMENT, SIDEWALK, CURB, AGGREGATE & PAVED DRIVES AND WHERE THE EDGE OF TRENCH IS WITHIN 3 FEET OF THE PAVEMENT
 2. GRANULAR MATERIAL SHALL BE PLACED BY THE "CONTROLLED DENSITY METHOD" OR OTHER MEANS HAVING APPROVAL OF THE ENGINEER AND IS TO BE COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT

NOTES:
 1. SUITABLE EXCAVATED BACKFILL MATERIAL SHALL BE PLACED IN ONE FOOT LAYERS AND COMPACTED BY MECHANICAL TAMPING OR OTHER EFFECTIVE MEANS HAVING APPROVAL OF THE ENGINEER, TO A DENSITY EQUIVALENT TO THE UNDISTURBED ADJACENT SOIL.
 2. TRENCH "B" SHALL BE USED UNDER CONDITIONS OTHER THAN SPECIFIED FOR TRENCH "A"



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SCALE	HORIZONTAL	VERTICAL	JOB #	CITY/TOWNSHIP	COUNTY	RANGE	SECTION	PROJURIS	DATE

SCALE	DESIGNED BY: JPH	DRAWN BY: BMH	CHECKED BY: JMM	NO.	REVISIONS	DATE

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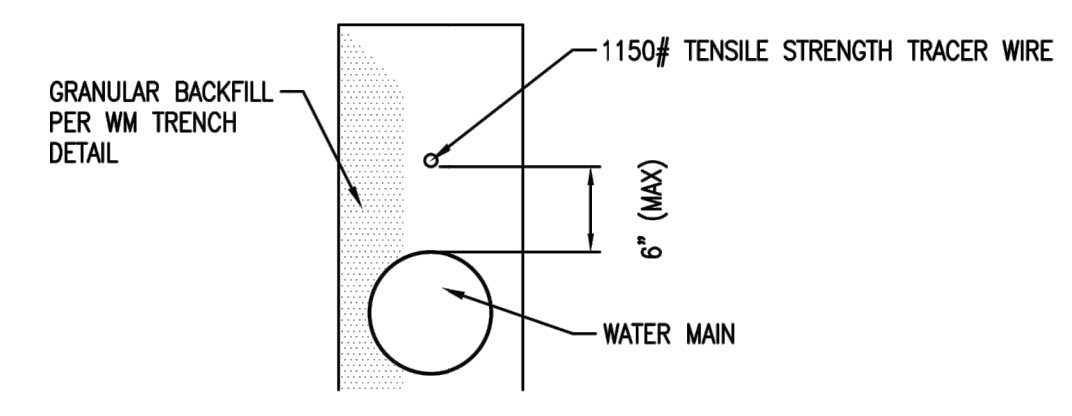
YPSILANTI TOWNSHIP
TOWNSHIP
STORM DETAILS

RANGE USA
 660 JAMES L. HART PARKWAY
 YPSILANTI TOWNSHIP, MI

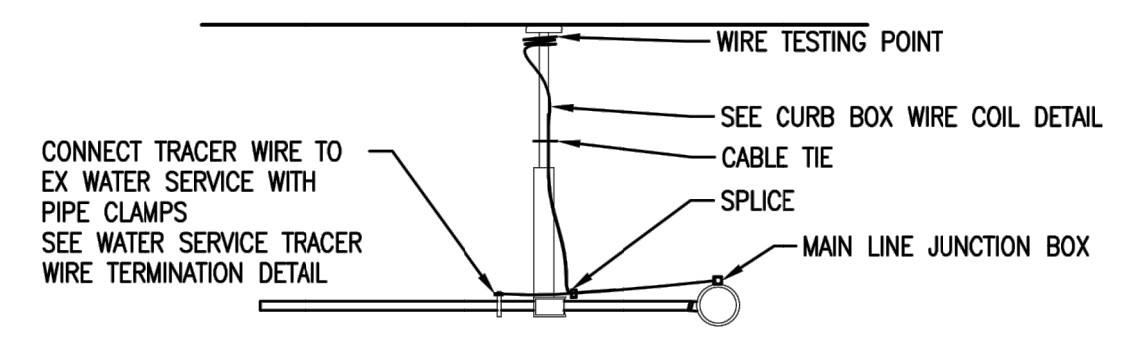
ORIGINAL ISSUE:
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 KHA PROJECT NO.
 168921002
 SHEET NUMBER
C8.1

Drawing name: K:\GIS_DEVA\168921002_ShoofPond\Bionk_Ypsilanti\MA2 Design\CAD\PlanSheets\C7.0 - CONSTRUCTION DETAILS.dwg W-1 Mar 30, 2022 6:39pm by Brett Hickey
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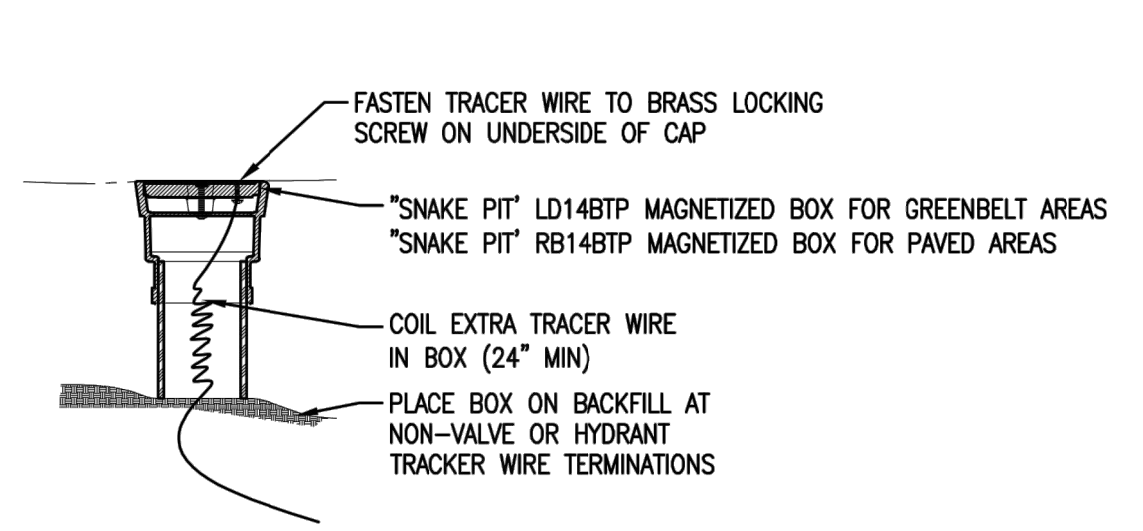
TRACER WIRE SHALL BE INCLUDED WITH ALL PVC WATER MAIN INSTALLATIONS



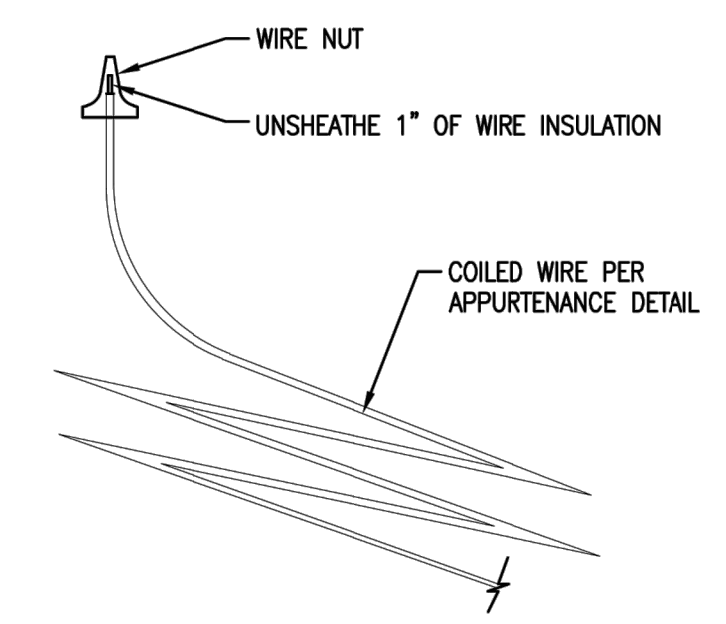
OPEN CUT MAIN LINE TRENCH
N.T.S.



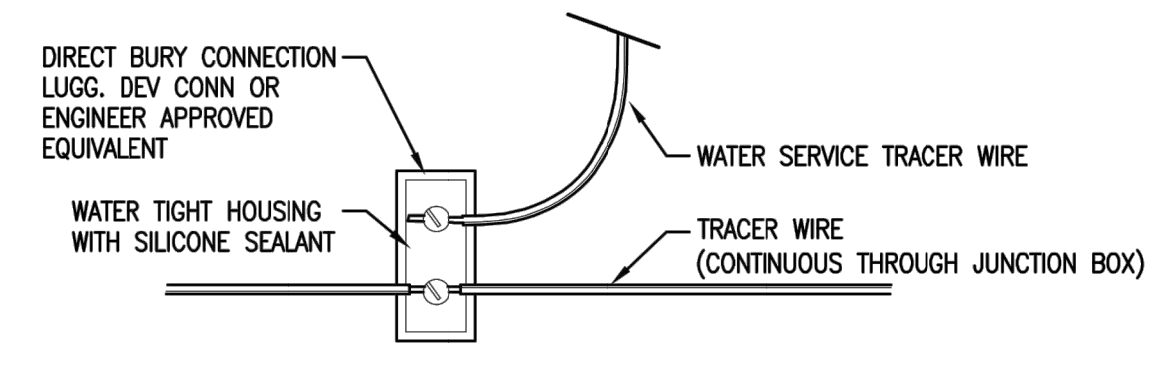
CURB STOP CONNECTION
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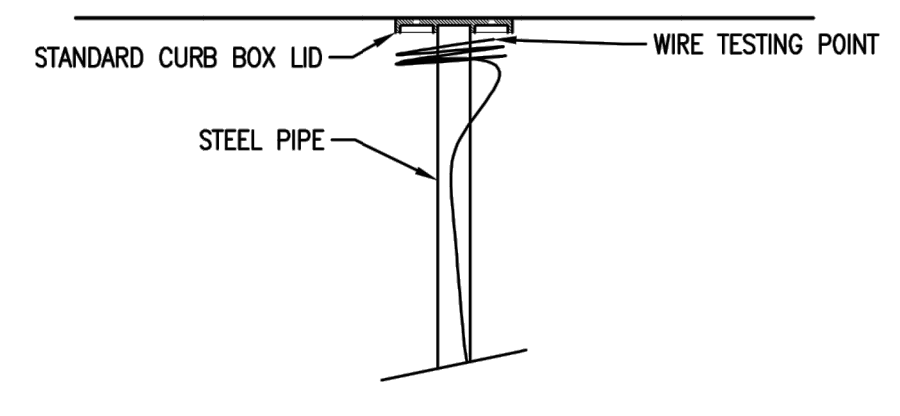
TRACER WIRE TEST POINT
N.T.S.



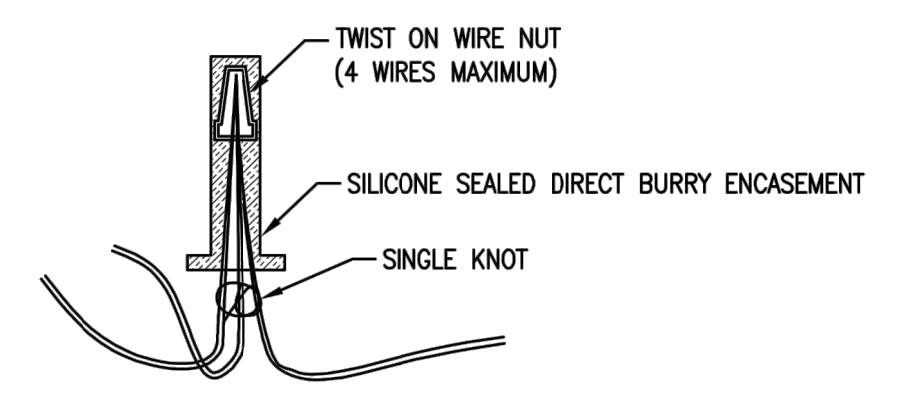
WIRE TESTING POINT
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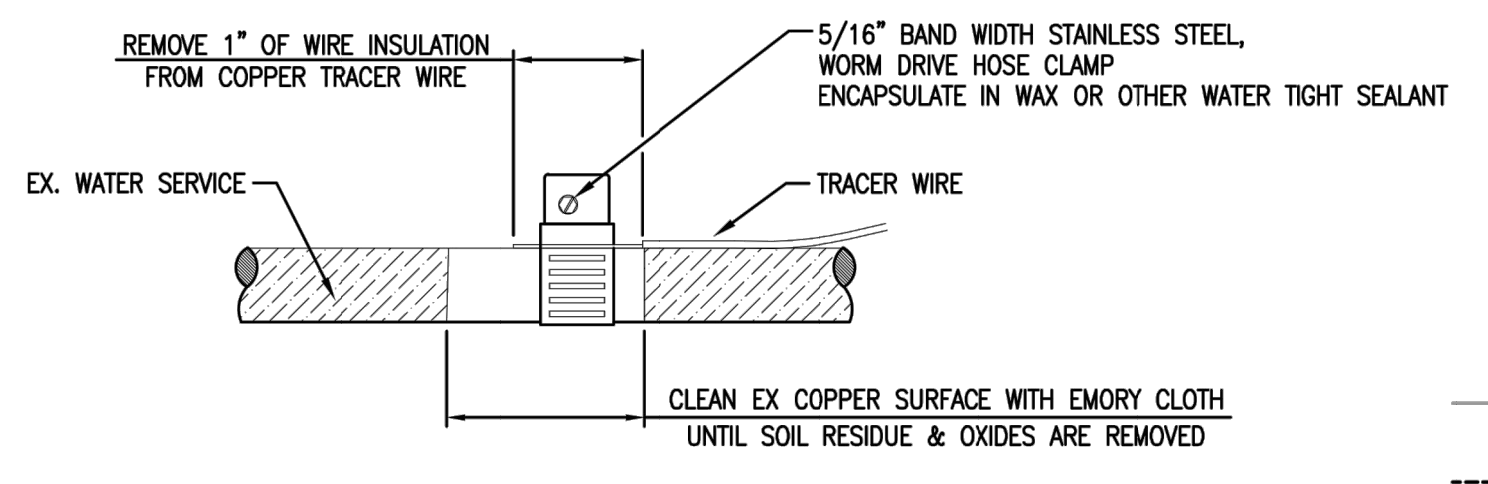
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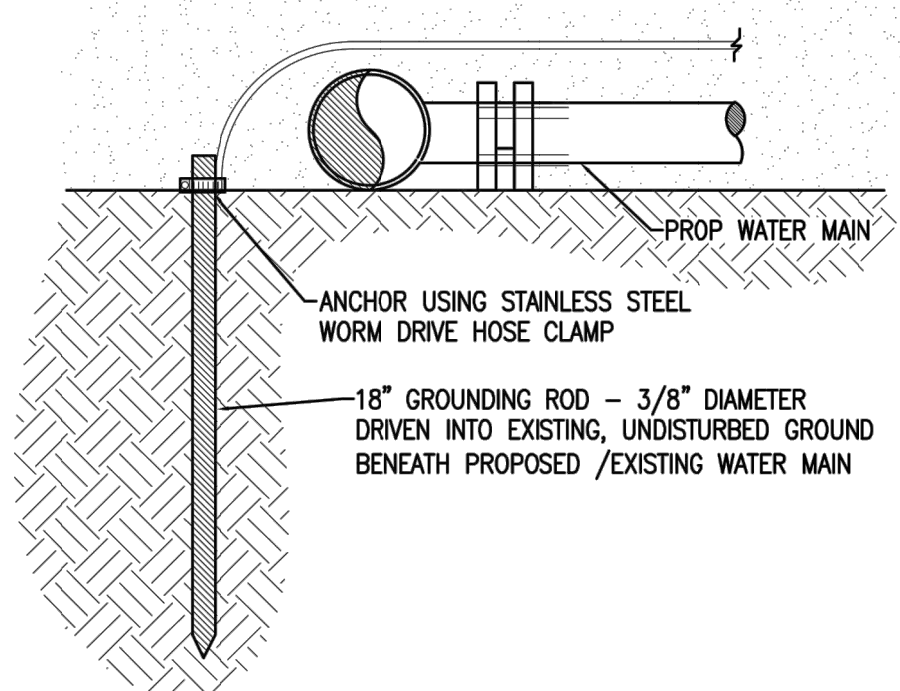
CURB BOX WIRE COIL
N.T.S.



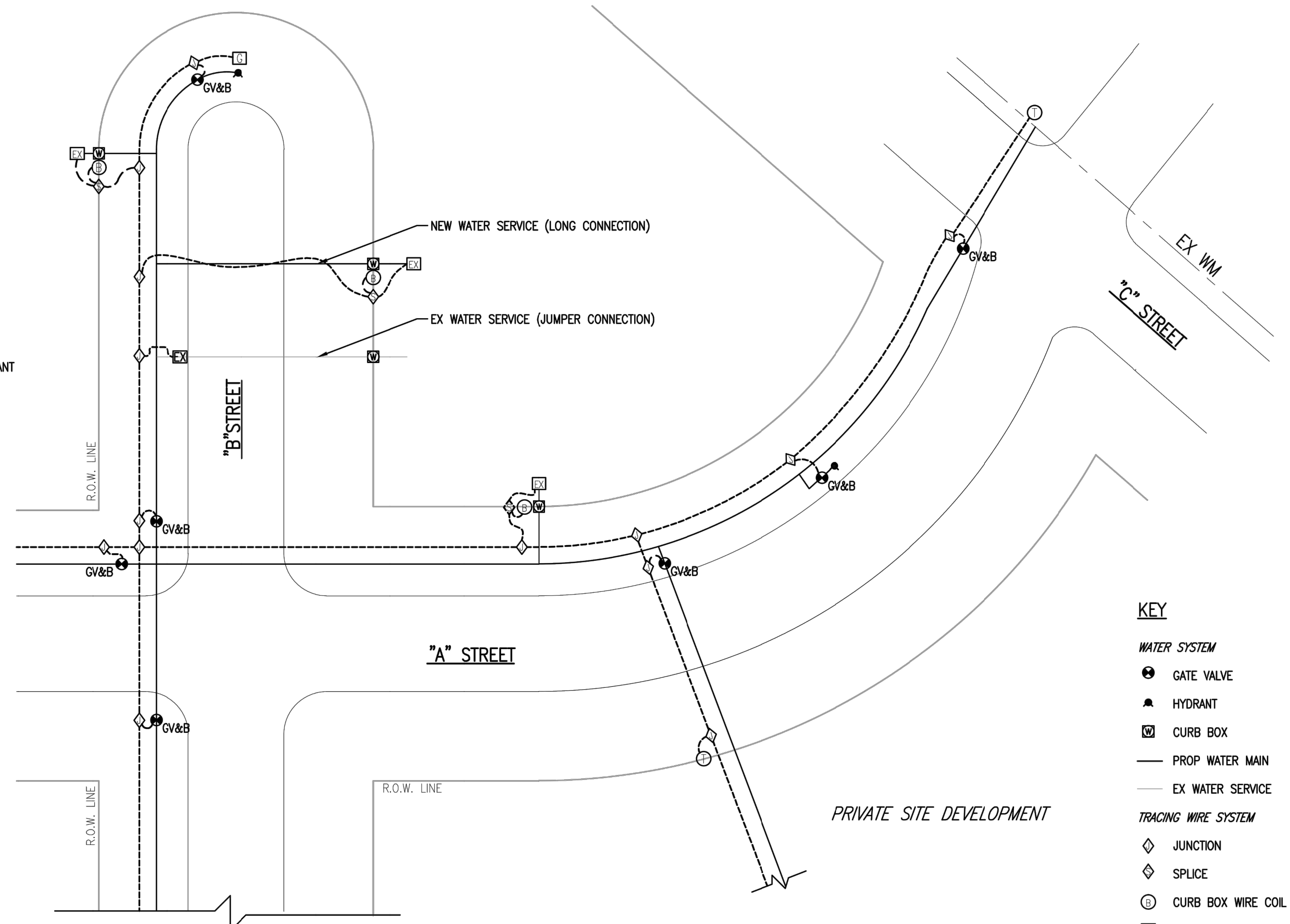
SPLICE CONNECTOR
N.T.S.



WATER SERVICE TERMINATION
N.T.S.



GROUNDING ROD TERMINATION
N.T.S.



- KEY**
- WATER SYSTEM
 - GATE VALVE
 - ▲ HYDRANT
 - CURB BOX
 - PROP WATER MAIN
 - EX WATER SERVICE
 - TRACING WIRE SYSTEM
 - ◇ JUNCTION
 - ◇ SPLICE
 - ◇ CURB BOX WIRE COIL
 - WATER SERVICE TERMINATION
 - TEST POINT
 - GROUNDING ROD TERMINATION
 - TRACING WIRE

TRACER WIRE SYSTEM SCHEMATIC



REVISIONS

STANDARD WATER MAIN DETAILS

YPSILANTI COMMUNITY UTILITIES AUTHORITY 2777 STATE ROAD YPSILANTI, MICHIGAN 48198-9112 (734) 484-4800 ENVIRONMENTAL LEADERS FAX: (734) 544-7221 WWW.YCUA.ORG		
DATE	SCALE	SHEET
07/24/18	NO SCALE	

NO.	REVISIONS	DATE	BY
1	TOWNSHIP COMMENTS	11/29/21	JMM
2	TOWNSHIP COMMENTS	01/11/22	JMM
3	WCWRC/TOWNSHIP REVIEW COMMENTS	02/24/22	JMM
4	WCWRC/TOWNSHIP REVIEW COMMENTS	03/30/22	JMM

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 DRAWN BY: BMH
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COMPTON ADDY
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YPSILANTI TOWNSHIP WATERMAIN DETAILS

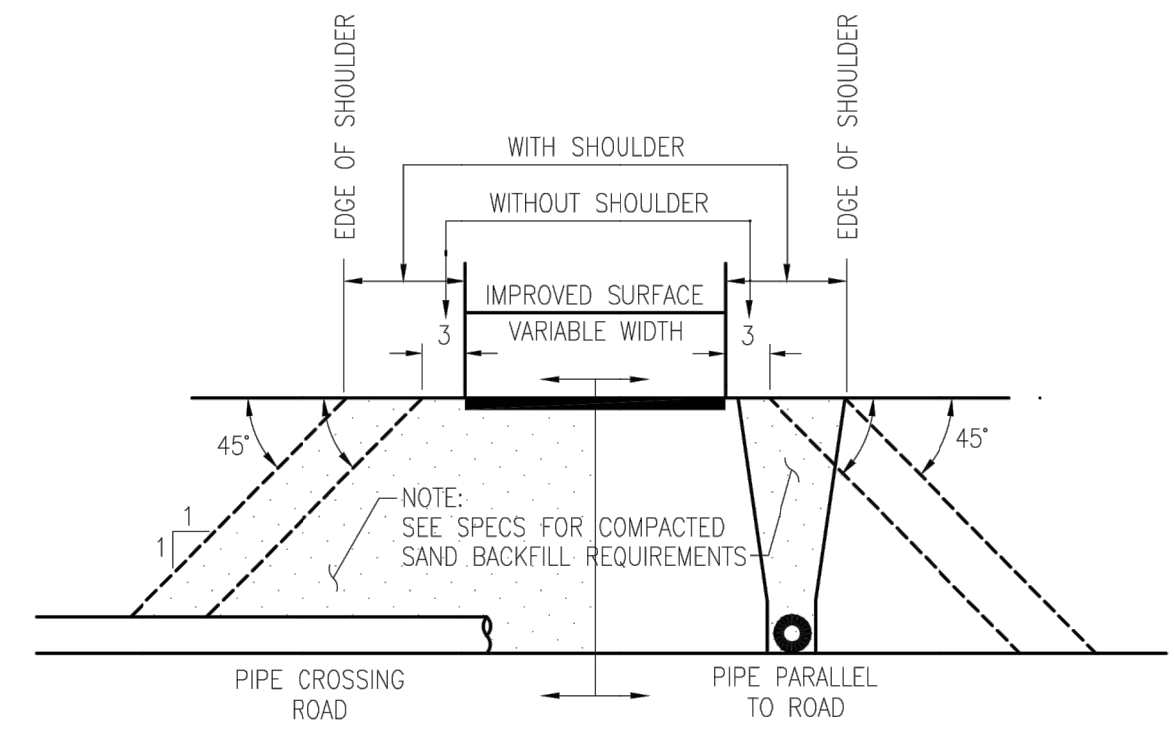
RANGE USA
 660 JAMES L. HART PARKWAY
 YPSILANTI TOWNSHIP, MI

ORIGINAL ISSUE: 10/19/2021
 KHA PROJECT NO. 168921002
 SHEET NUMBER

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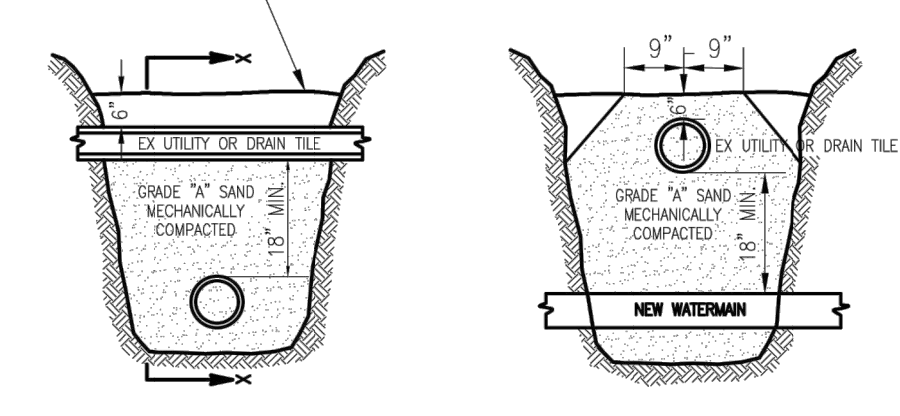
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 Author: Brett Hickey
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TRACER WIRE DETAILS

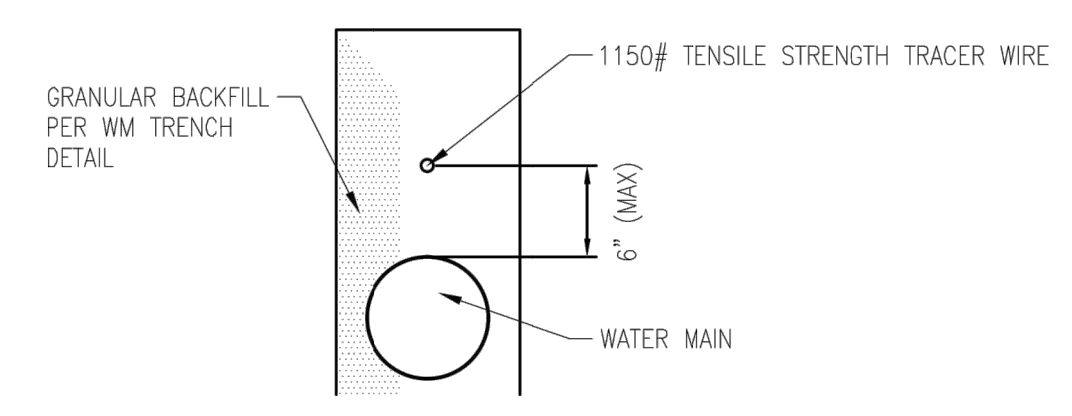


BACKFILL IN THE AREA OF STREETS, ALLEYS, SIDEWALKS, DRIVES & PARKING LOTS
NOT TO SCALE

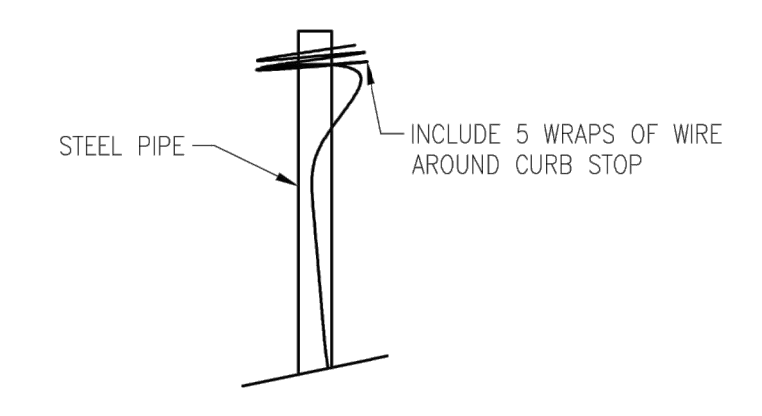
NOTE: WHERE CONCRETE ENCASEMENT IS SPECIFIED FOR NEW UTILITY A 6" MINIMUM LAYER OF MECHANICALLY COMPACTED SAND SHALL BE MAINTAINED BETWEEN EX. UTILITY & TOP OF CONCRETE ENCASEMENT



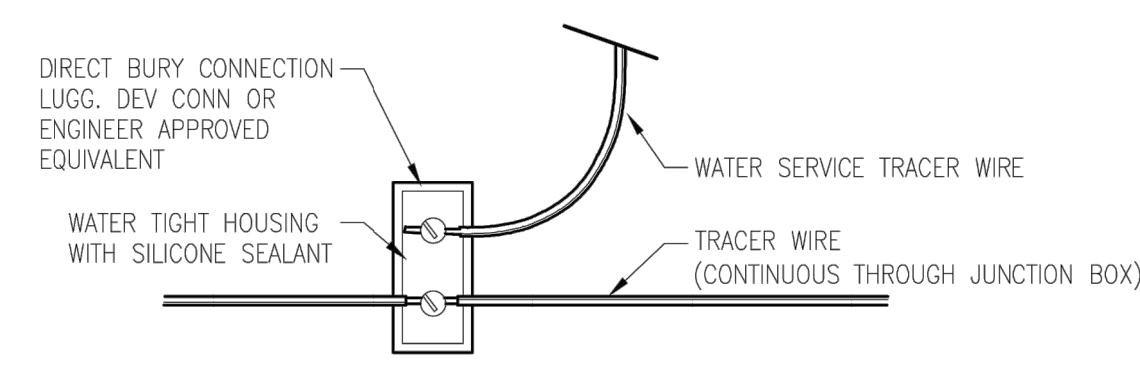
STANDARD PIPE SUPPORT
NOT TO SCALE



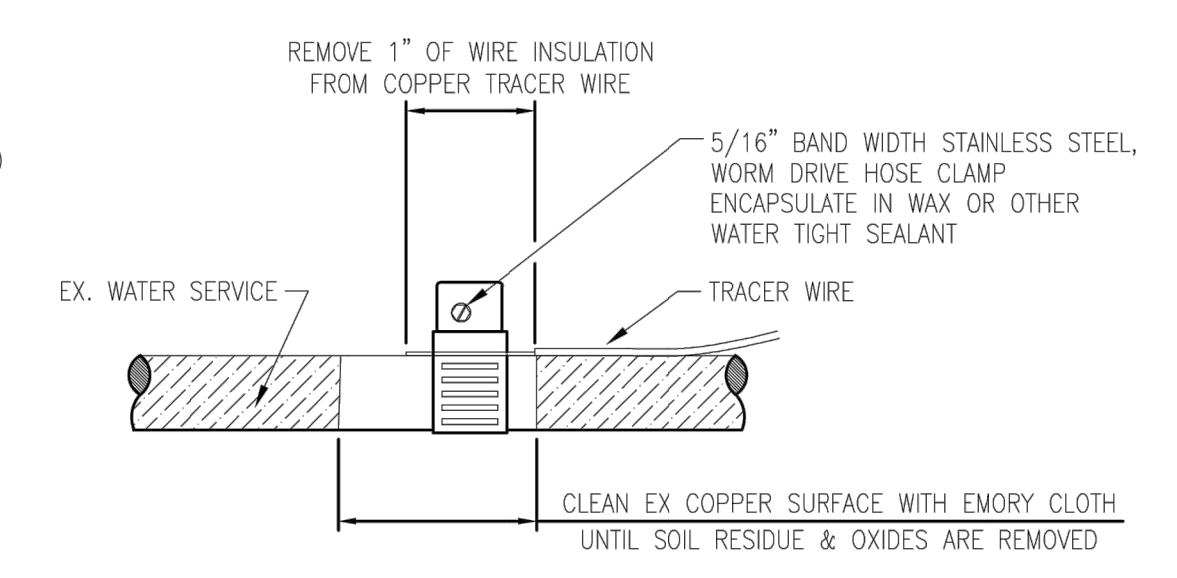
OPEN CUT MAIN LINE TRENCH
NOT TO SCALE



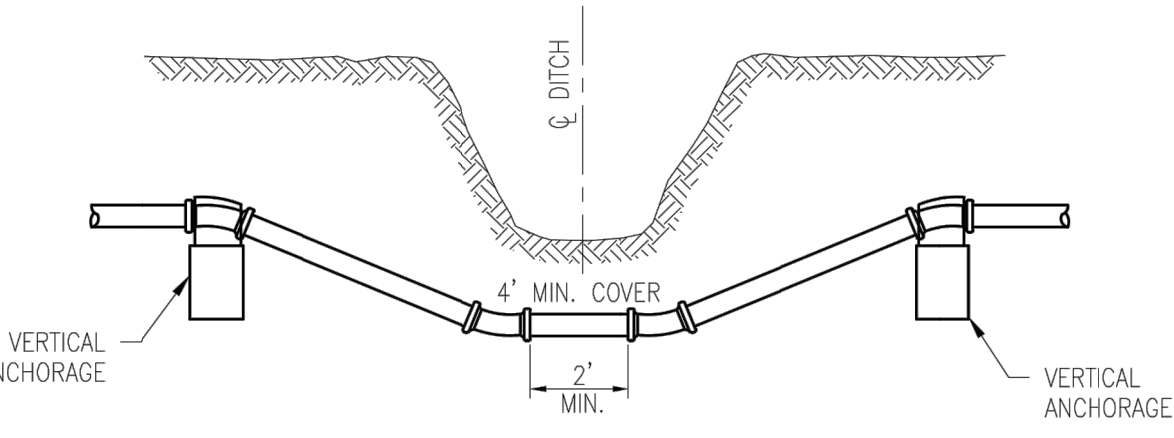
CURB BOX WIRE COIL
NOT TO SCALE



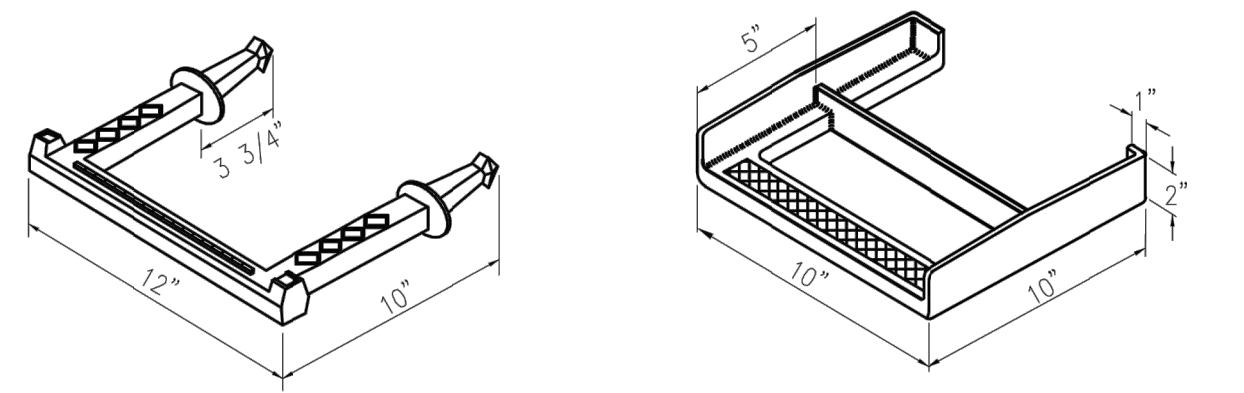
MAIN LINE JUNCTION BOX
NOT TO SCALE



WATER SERVICE TERMINATION
NOT TO SCALE



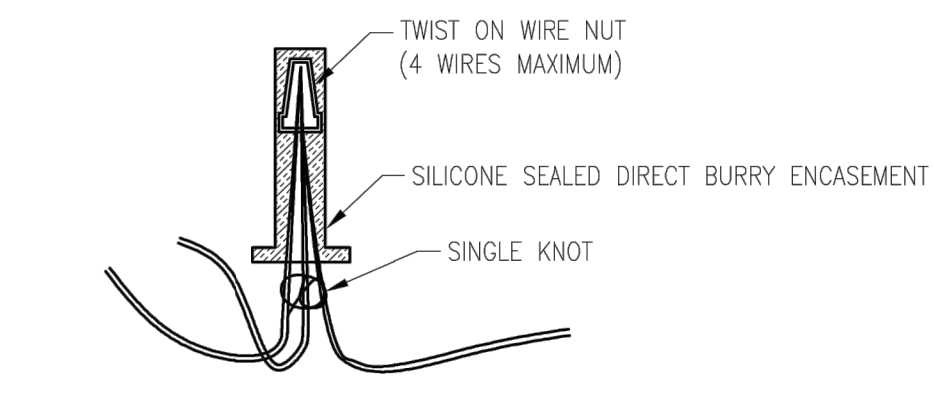
STANDARD DITCH CROSSING
NOT TO SCALE



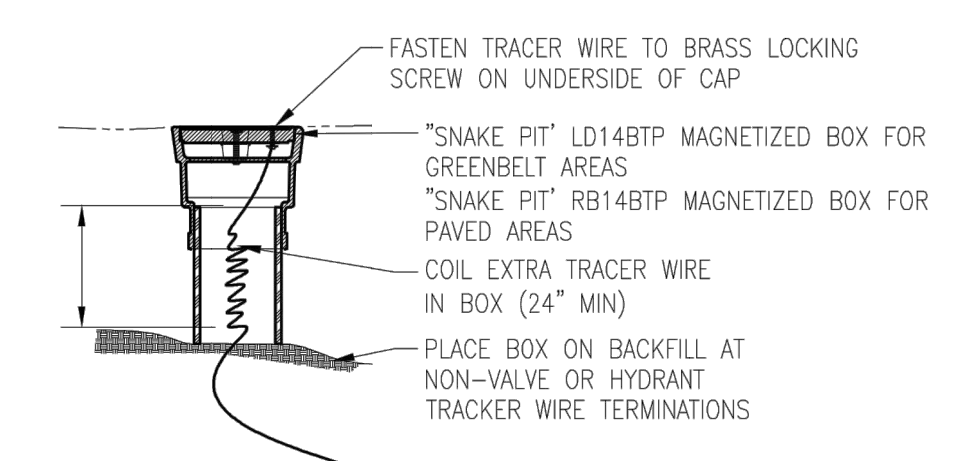
MANHOLE STEP
M.A. PSI-375
USE AS REQUIRED

STANDARD MANHOLE STEP
EJ 8500
USE AS REQUIRED

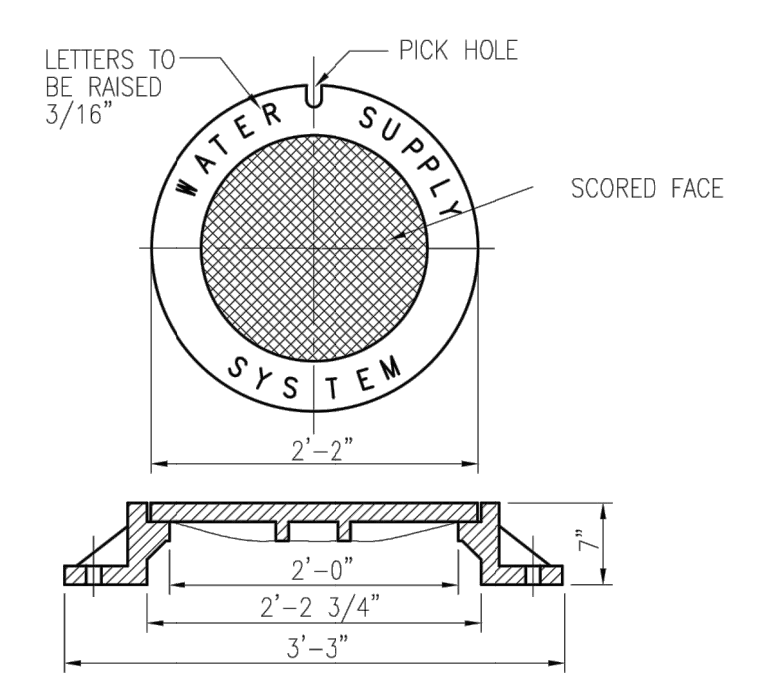
INSTALLED IN ECCENTRIC WELLS ONLY. CONCENTRIC WELLS WILL NOT BE INSTALLED WITH STEPS.



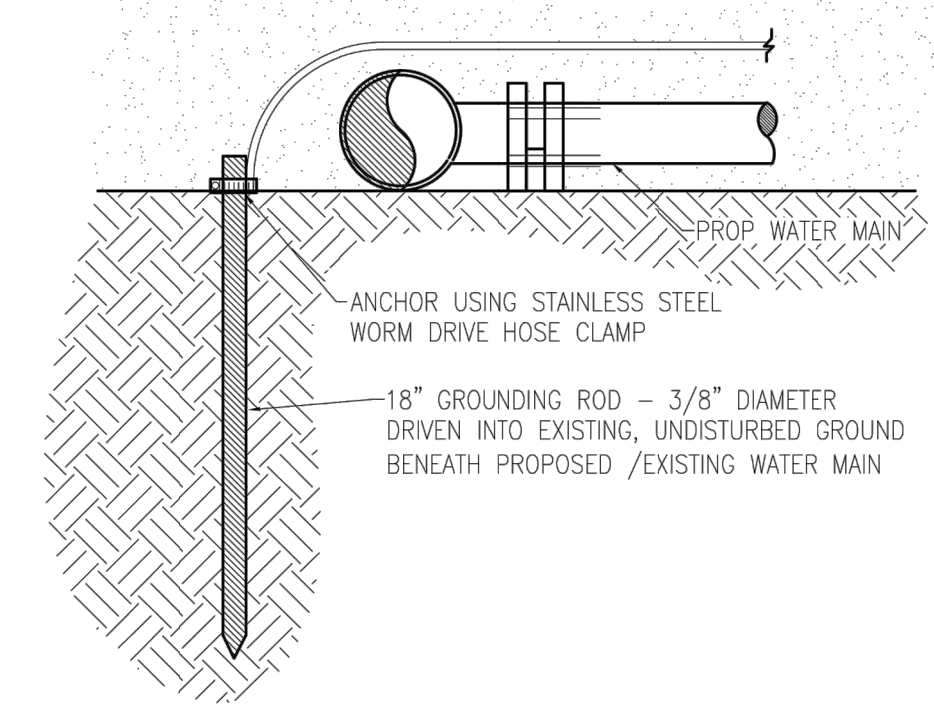
SPLICE CONNECTOR
NOT TO SCALE



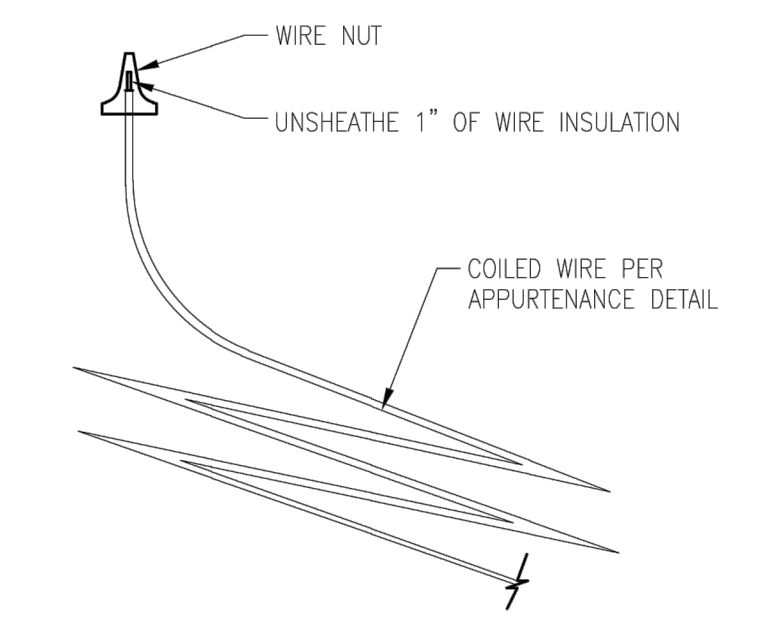
TRACER WIRE TEST POINT
NOT TO SCALE



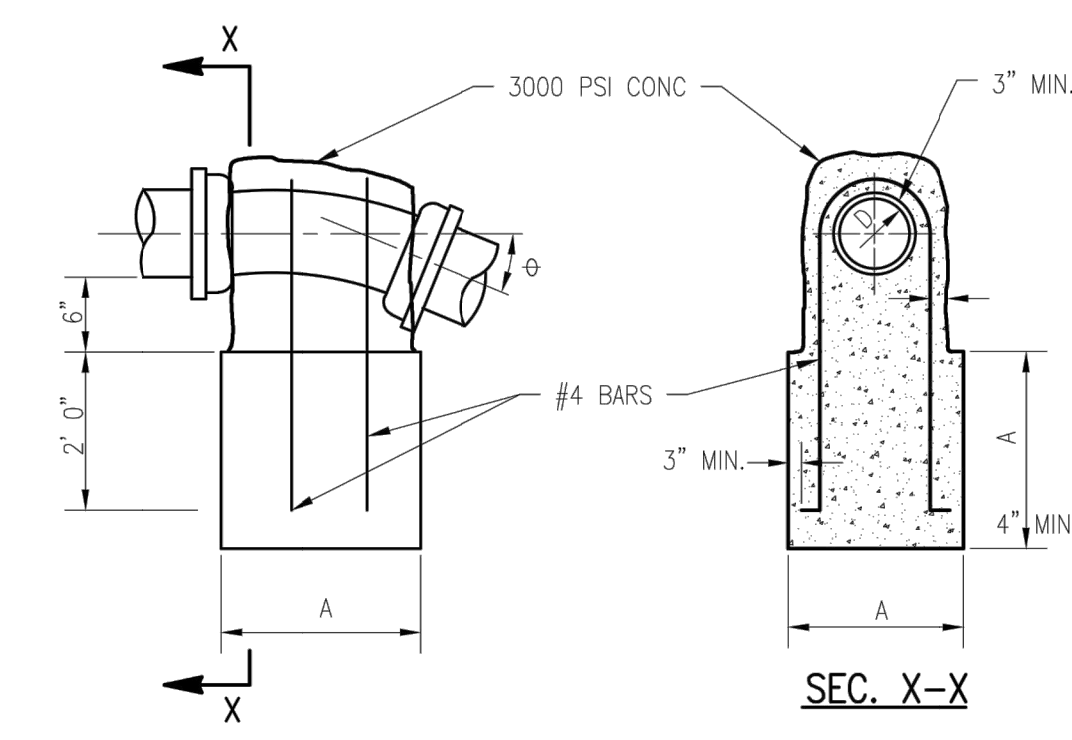
STANDARD FRAME & COVER
EJ #1040
USE AS REQUIRED



GROUNDING ROD TERMINATION
NOT TO SCALE



WIRE TESTING POINT
NOT TO SCALE



DETAIL OF VERTICAL ANCHORAGE
NOT TO SCALE

PIPE RESTRAINT SCHEDULE

THE FOLLOWING TABLE IS A JOINT RESTRAINT SCHEDULE (DIPRA) FOR GROUND-BURIED DUCTILE IRON OR PVC PIPE. LENGTHS OF PIPE RESTRAINT ARE GIVEN IN FEET.

PIPE DIAMETER	TEES, 90° PLUGS	45° BENDS	22 1/2° BENDS	REDUCERS
6"	40	25	25	30
8"	55	25	25	30
12"	80	35	25	55
16"	100	40	25	60
24"	135	56	25	65

BASED UPON
 INTERNAL PRESSURE: 180
 PIPE DEPTH: 5
 BEDDING CLASS: TYPE 4
 SOIL TYPE: GOOD SAND
 SAFETY FACTOR: 2

- IF PIPE DIAMETER IS NOT LISTED IN THIS TABLE; THE NEXT LARGEST PIPE SHALL BE USED. THIS TABLE IS BASED ON A TEST PRESSURE OF 180 PSI (OPERATING PRESSURE PLUS WATER HAMMER).
- FOR OTHER TEST PRESSURES, ALL VALUES TO BE INCREASED OR DECREASED PROPORTIONALLY. THE VALUES PROVIDED OF RESTRAINT LENGTH ARE IN EACH DIRECTION FROM THE POINT OF DEFLECTION OR TERMINATION EXCEPT FOR TEES, AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE STEM.
- IF THE RODS ARE USED, USE FOUR RODS MINIMUM AND ADD 1/8 INCH TO BAR DIAMETER AS CORROSION ALLOWANCE. SIZE REDUCTION IS BASED UPON THE PIPE DIAMETER SHOWN IN THIS TABLE.
- MANUFACTURER'S RESTRAINT SCHEDULE AND SPECIFIC SITE CONDITIONS MAY MODIFY THE ABOVE SCHEDULE. ANY ALTERNATIVE SCHEDULE SHALL BE SUBMITTED TO YCUA FOR APPROVAL.



REVISIONS

STANDARD WATER MAIN DETAILS

YPSILANTI COMMUNITY UTILITIES AUTHORITY
 2777 STATE ROAD
 YPSILANTI, MICHIGAN 48198-9112
 (734) 484-4800
 FAX: (734) 544-7221
 WWW.YCUA.ORG

DATE: 09/25/19
 SCALE: NO SCALE
 SHEET: []

SCALE: AS NOTED	DESIGNED BY: JPM	DRAWN BY: BMH	CHECKED BY: JMM
<p>Kimley-Horn of Michigan, Inc. 39111 SIX MILE ROAD ANN ARBOR, MI 48106-7208 WWW.KIMLEY-HORN.COM</p> <p>COMPTONADDY COMMERCIAL REAL ESTATE</p> <p>YPSILANTI TOWNSHIP WATERMAIN DETAILS</p> <p>RANGE USA 660 JAMES L. HART PARKWAY YPSILANTI TOWNSHIP, MI</p>			
4	WCWRC/TOWNSHIP REVIEW COMMENTS	03/30/22	JMM
3	WCWRC/TOWNSHIP REVIEW COMMENTS	02/24/22	JMM
2	TOWNSHIP COMMENTS	01/11/22	JMM
1	TOWNSHIP COMMENTS	11/29/21	JMM
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ORIGINAL ISSUE: 10/19/2021
 KHA PROJECT NO. 168921002
 SHEET NUMBER **C8.3**

DIA. OF WATER MAIN		THRUST BLOCK	
D	B	A	C
6"	2'-0"	18"	2'-0"
8"	2'-6"	2'-0"	2'-0"
12"	3'-6"	3'-0"	2'-0"
16"	4'-6"	4'-0"	2'-0"
20"	5'-6"	4'-0"	2'-0"
24"	6'-6"	4'-0"	2'-0"

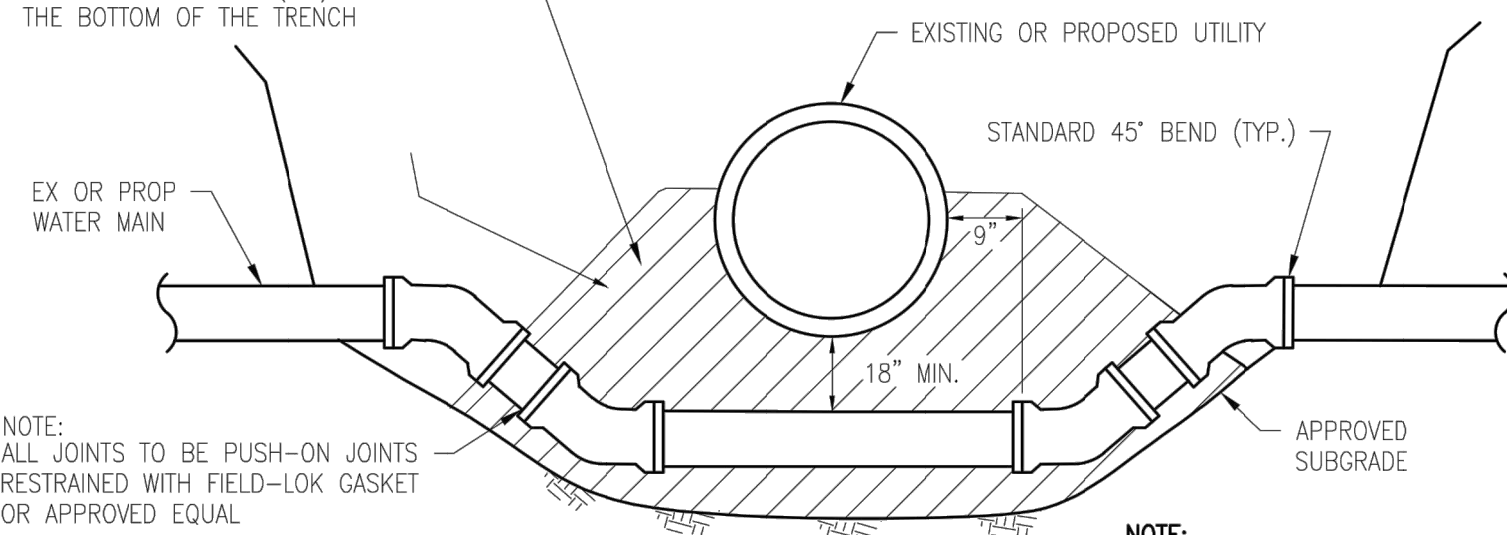
THRUST BLOCK AT PLUG OR HYDRANT SHOE
NOT TO SCALE

DIA. OF TEE		THRUST BLOCK	
D	B	A	C
6"	2'-0"	18"	2'-0"
8"	2'-6"	2'-0"	2'-0"
12"	3'-6"	3'-0"	2'-0"
16"	4'-6"	4'-0"	2'-0"
20"	5'-6"	4'-0"	2'-0"
24"	6'-6"	4'-0"	2'-0"

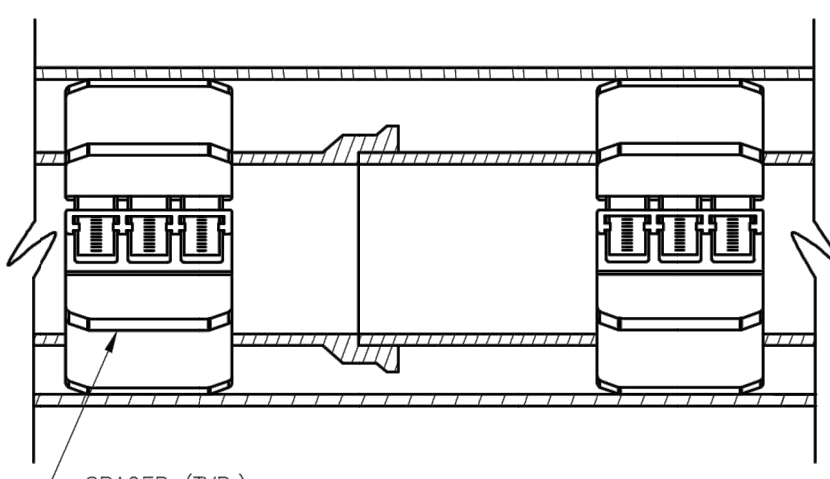
THRUST BLOCK AT TAPPING SLEEVE TEE
NOT TO SCALE

NOTE:
CONCRETE THRUST BLOCKS WILL NOT BE PERMITTED EXCEPT BEHIND HYDRANT SHOES AND TAPPING SLEEVES. USE OF CONCRETE THRUST BLOCKS IN OTHER LOCATIONS WILL NOT BE PERMITTED WITHOUT THE WRITTEN APPROVAL OF YCUA. ALL OTHER VERTICAL AND HORIZONTAL BENDS SHALL BE RESTRAINED WITH FIELD-LOK GASKETS OR APPROVED MECHANICAL JOINTS.

COMPACTED SAND SHALL EXTEND FOR 9" EACH SIDE OF EXISTING PIPE, AT 6" ABOVE EXISTING PIPE & SHALL SLOPE OUT AT A 1:1 (45°) SLOPE TO THE BOTTOM OF THE TRENCH

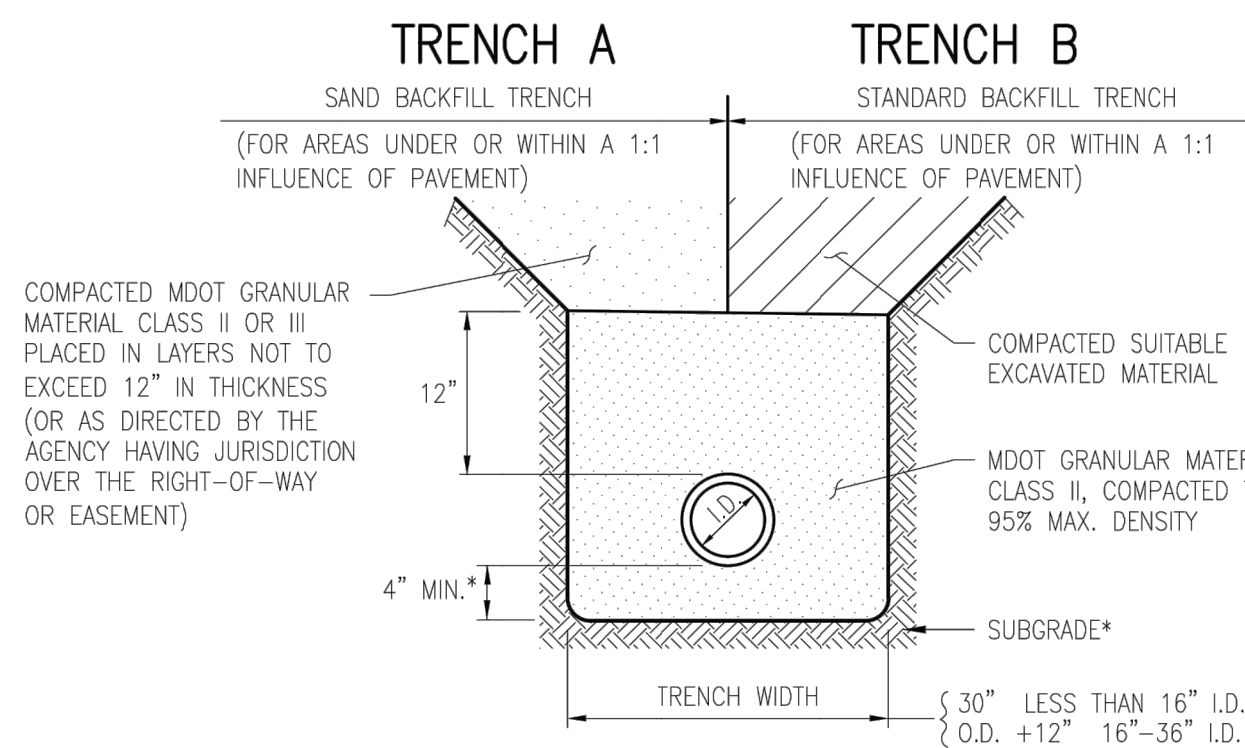


WATER MAIN LOWERING
NOT TO SCALE



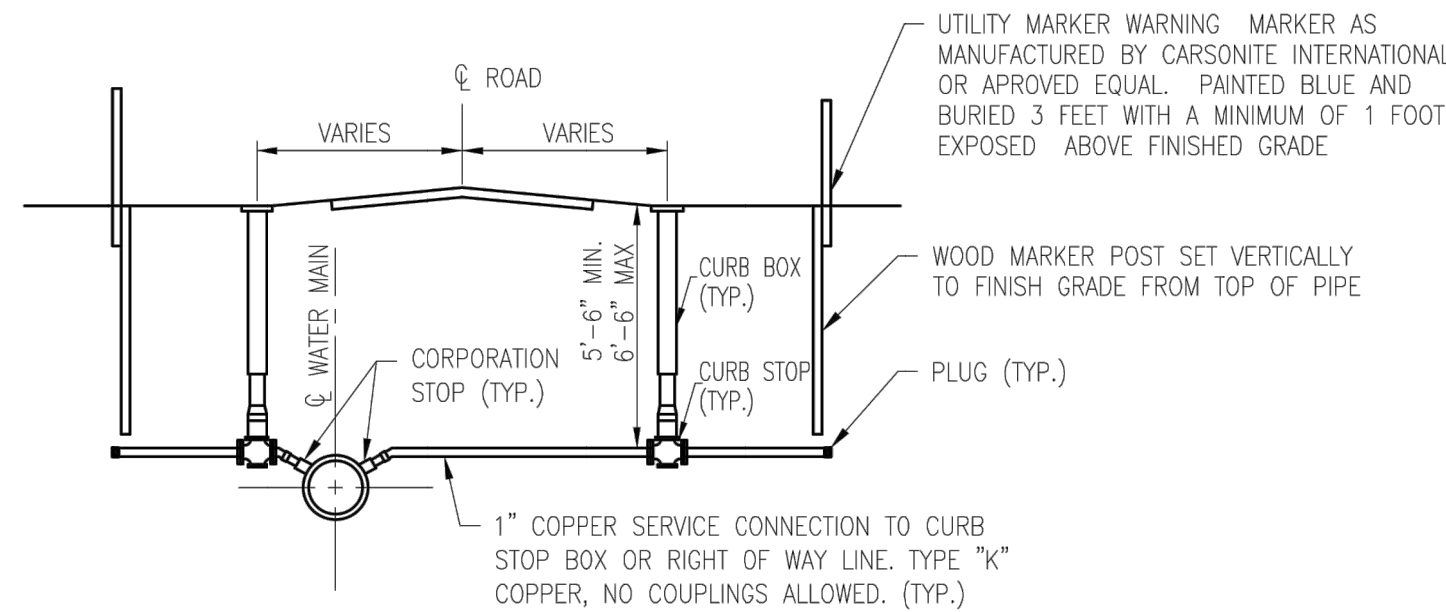
STANDARD CASING SECTION
NOT TO SCALE

- NOTES:
- SPACERS FOR PLACEMENT IN THE ANNULAR SPACE BETWEEN THE CARRIER PIPE AND A CASING PIPE SHALL BE RANGER II AS MANUFACTURED BY PSI OR APPROVED EQUAL.
 - END SEALS SHALL BE MODEL C RUBBER SEAL WITH STAINLESS STEEL BANDS AS MANUFACTURED BY PSI OR APPROVED EQUAL.

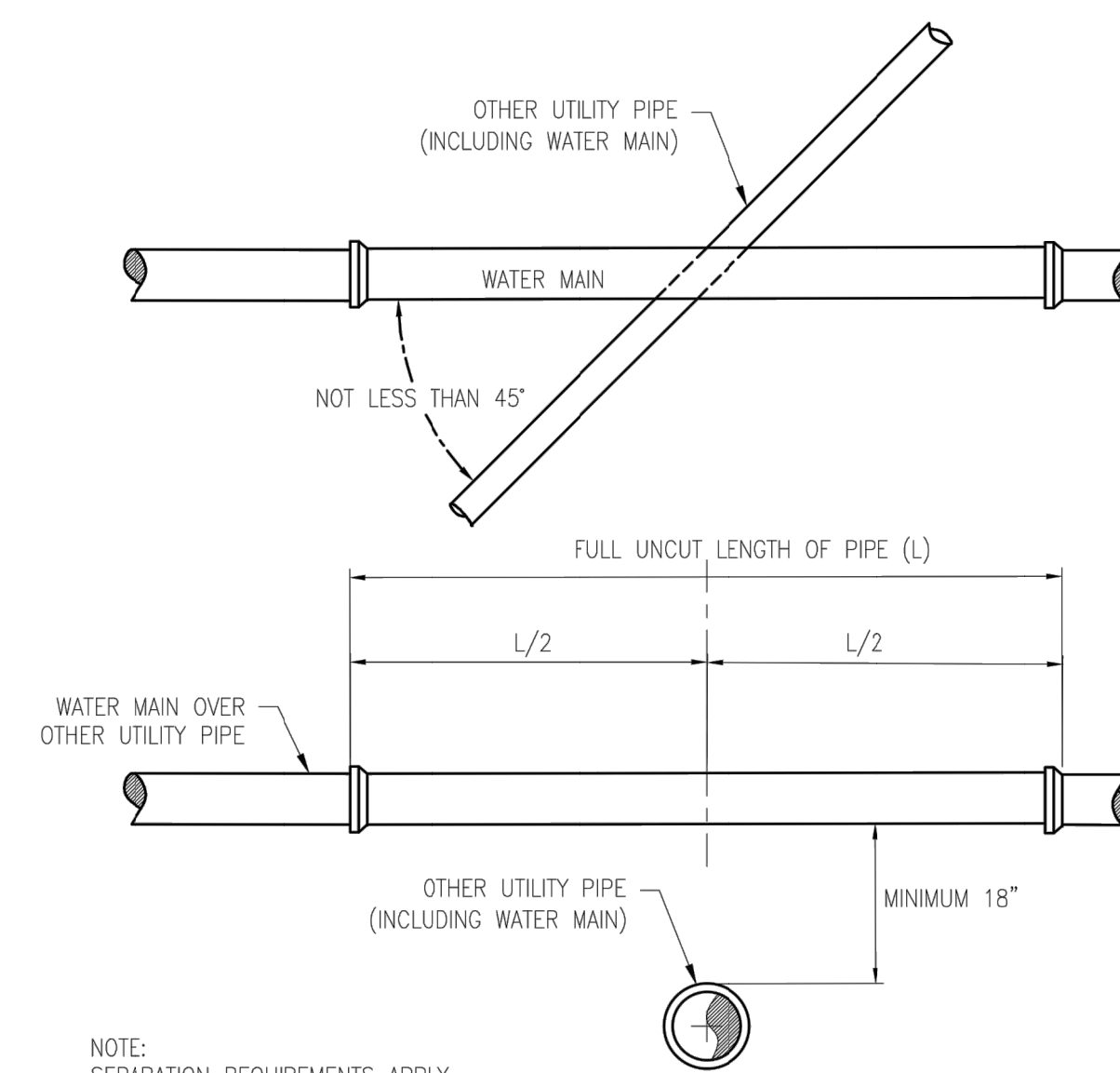


BEDDING AND TRENCH BACKFILL DETAIL FOR WATER MAIN
NOT TO SCALE

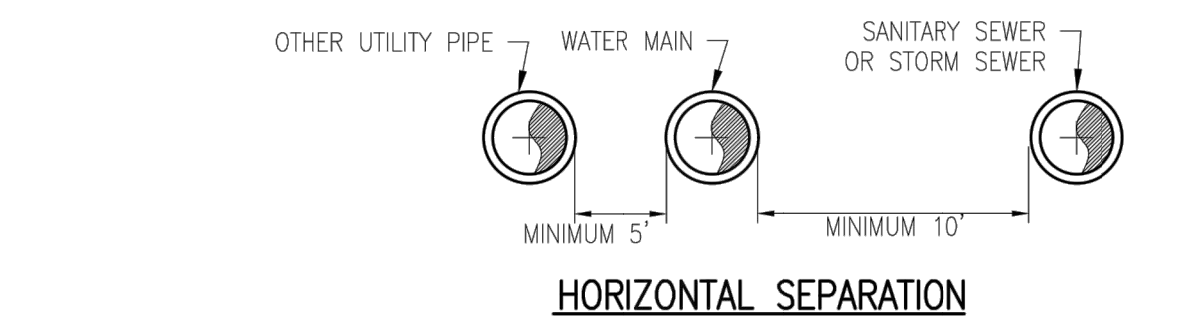
NOTE: IF THE EXISTING SUBGRADE MATERIAL MEETS THE REQUIREMENTS FOR MDOT GRANULAR MATERIAL CLASS II (MINIMUM 4" THICK), THEN THE WATER MAIN MAY BE LAID DIRECTLY ON THE COMPACTED EXISTING SUBGRADE MATERIAL.



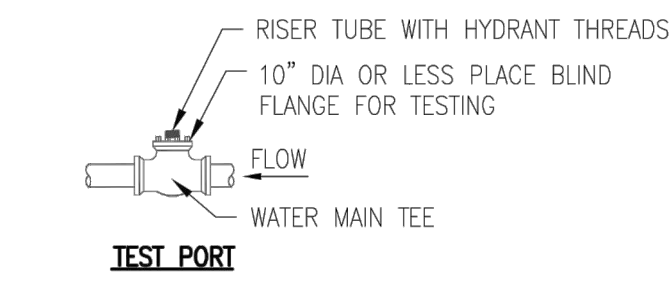
TYPICAL WATER SERVICE
NOT TO SCALE



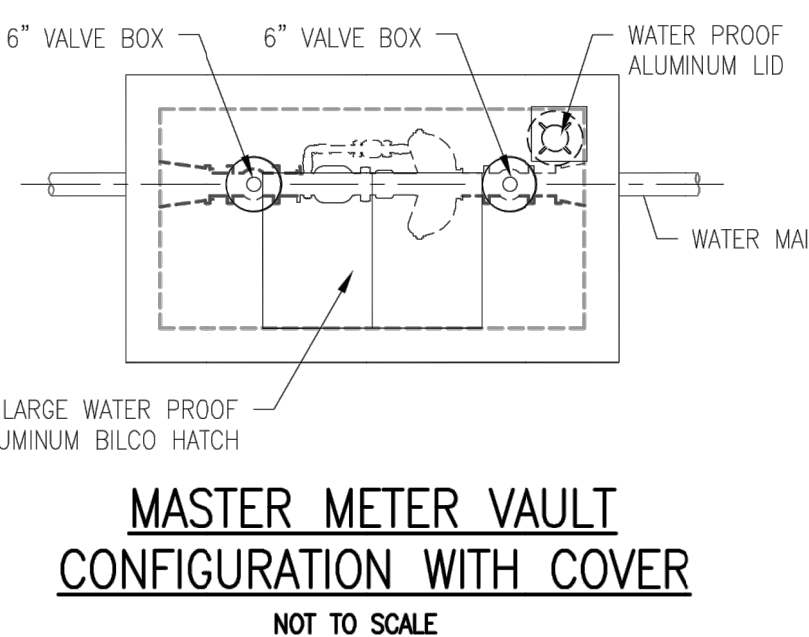
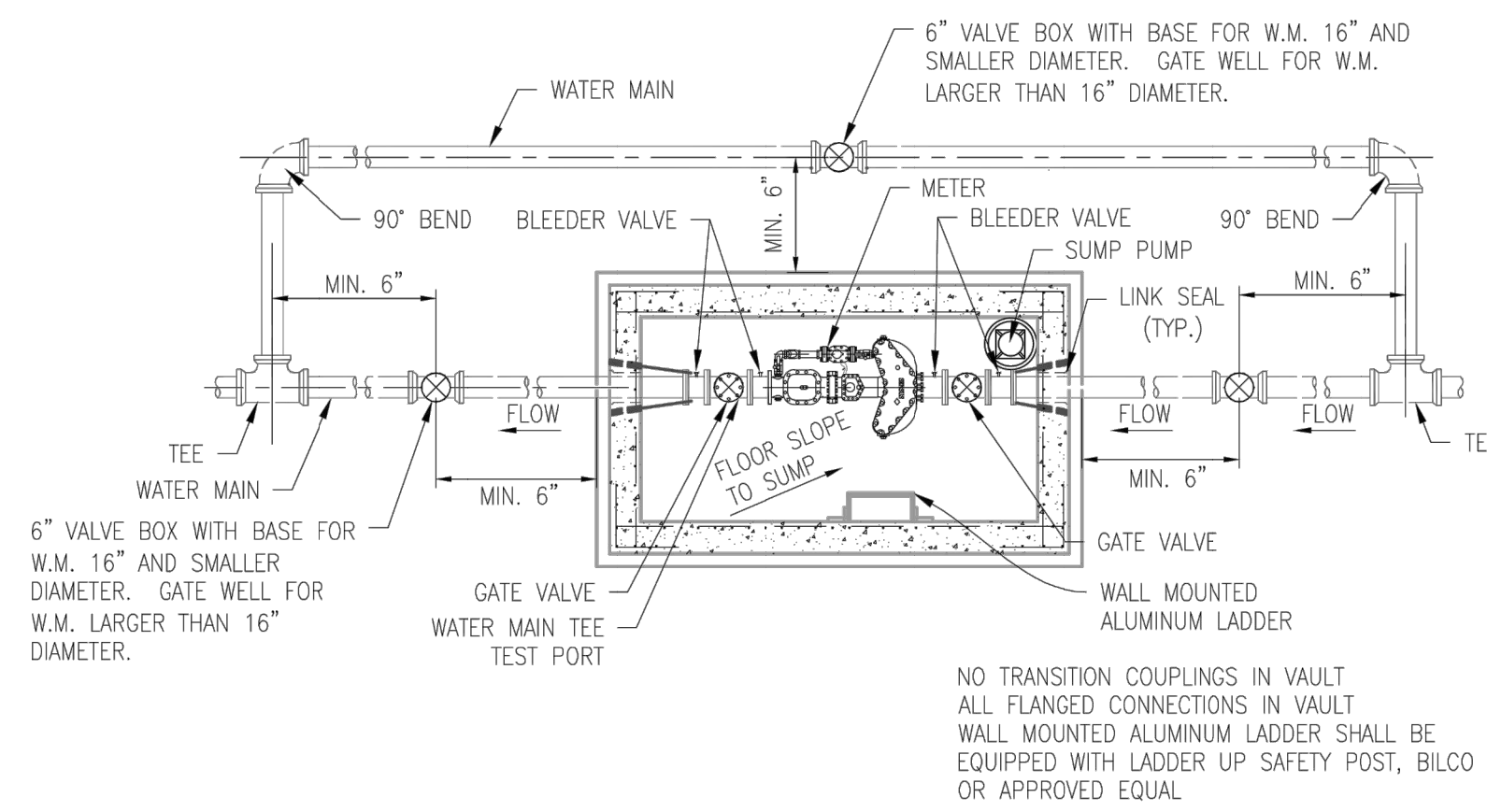
VERTICAL SEPARATION
NOT TO SCALE



WATER MAIN CROSSING OTHER UTILITIES
NOT TO SCALE



PIPE DIA	TEST PORT SIZE
6"	6"
8"	8"
10"	10"
12"	10"
16"	10"



MASTER METER VAULT CONFIGURATION (WITHOUT COVER)
NOT TO SCALE

- NOTES:
- WHERE POSSIBLE THE METER VAULT SHALL BE LOCATED AWAY FROM TRAFFIC AREAS, ROADS, PARKING LOTS, ETC.
 - THE ACCESS HATCH SHALL BE SIZED LARGE ENOUGH TO ACCOMMODATE REMOVAL OF THE LARGEST METER OR THE LARGEST APPURTENANCE FOR MAINTENANCE PURPOSES. THE HATCH SHALL BE MANUFACTURED BY THE BILCO COMPANY. METER VAULT HATCH SHALL BE WATER TIGHT.
 - THE METER VAULT FLOOR SHALL BE SLOPED TO THE SUMP.
 - ELECTRICAL SERVICE SHALL BE SUPPLIED TO THE VAULT.

SPACER END VIEW
NOT TO SCALE



REVISIONS

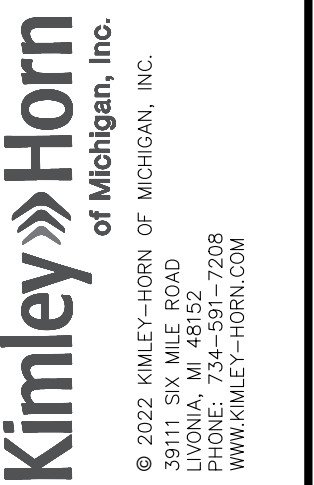
STANDARD WATER MAIN DETAILS

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RANGE USA
660 JAMES L. HART PARKWAY
YPSILANTI TOWNSHIP, MI

YPSILANTI TOWNSHIP WATERMAIN DETAILS

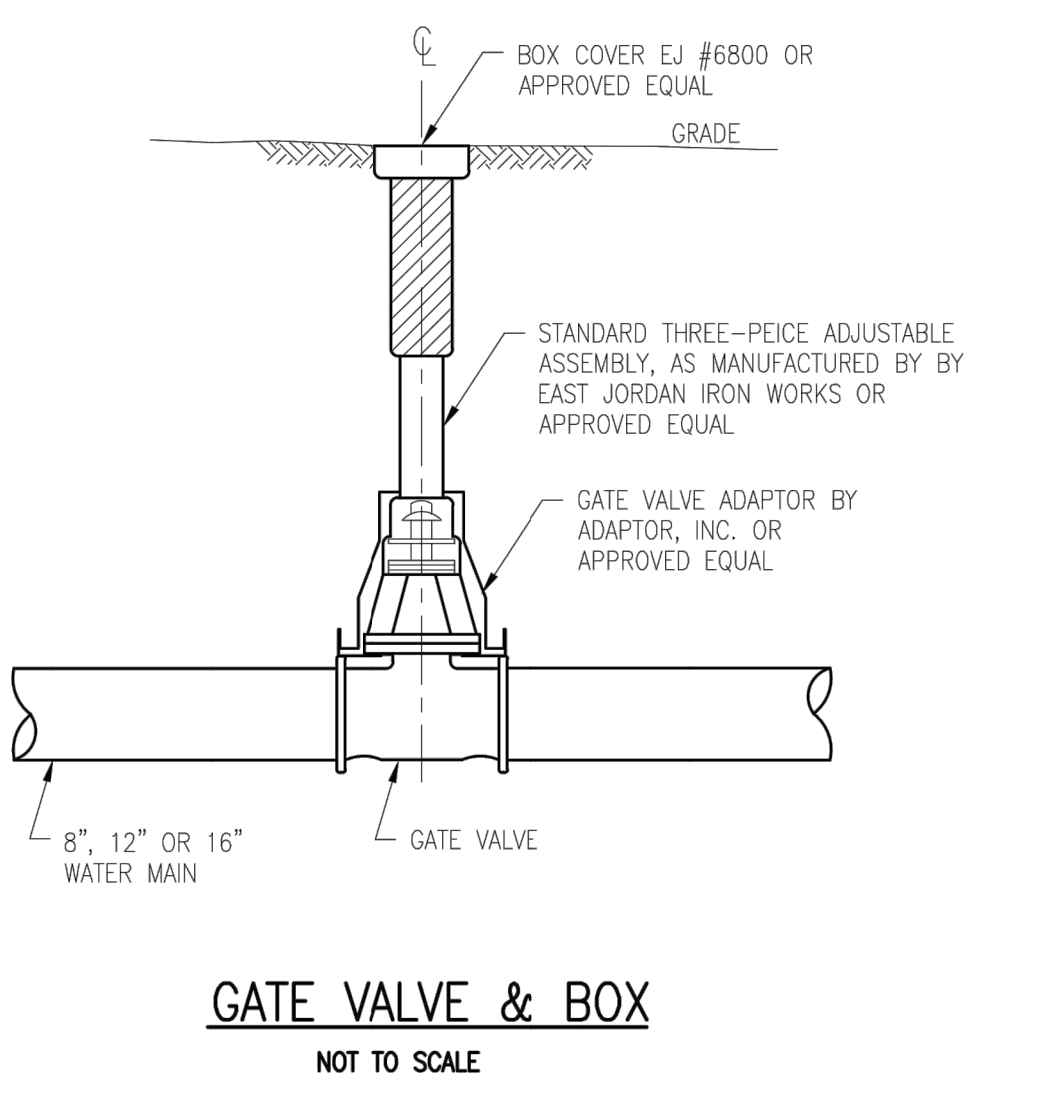
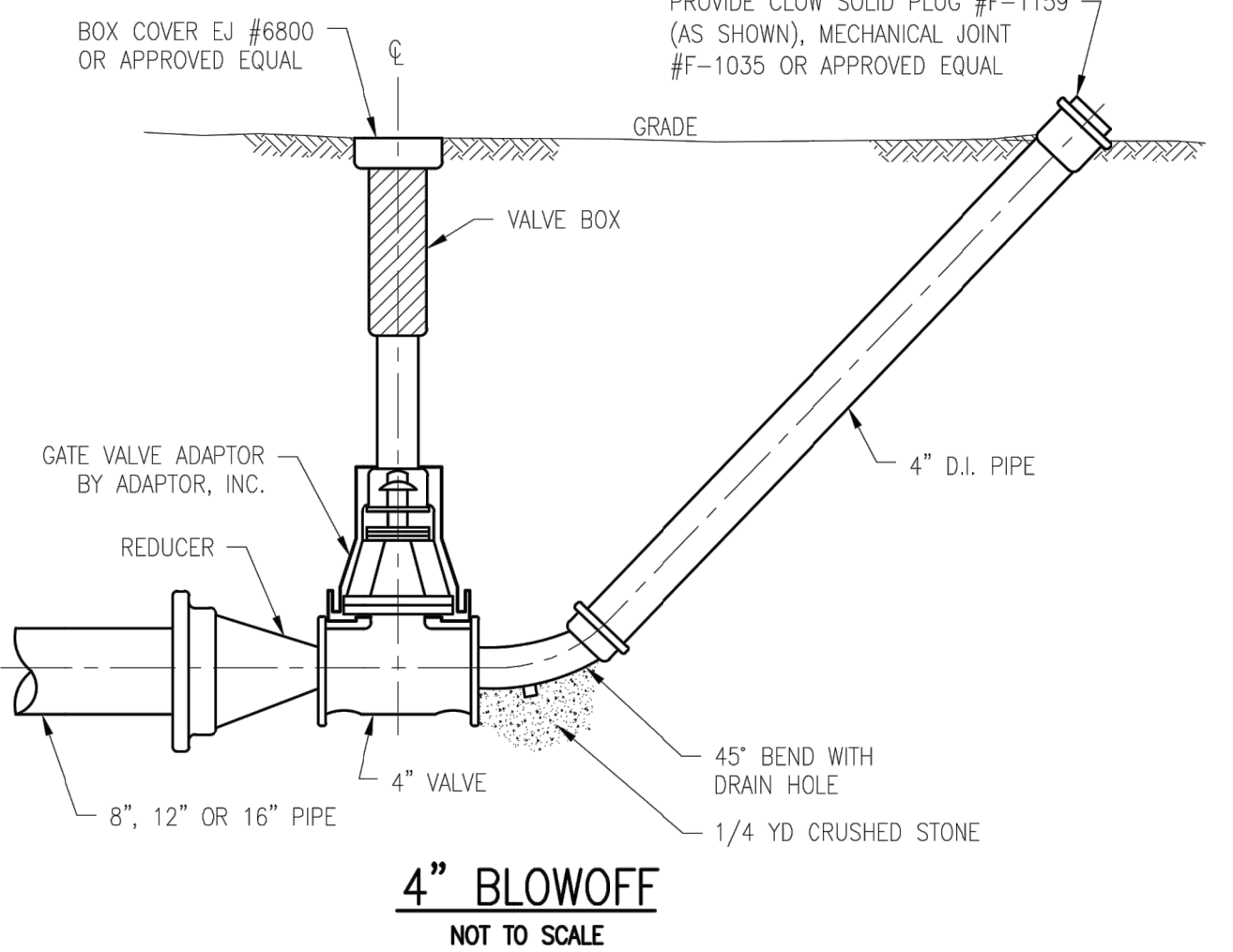
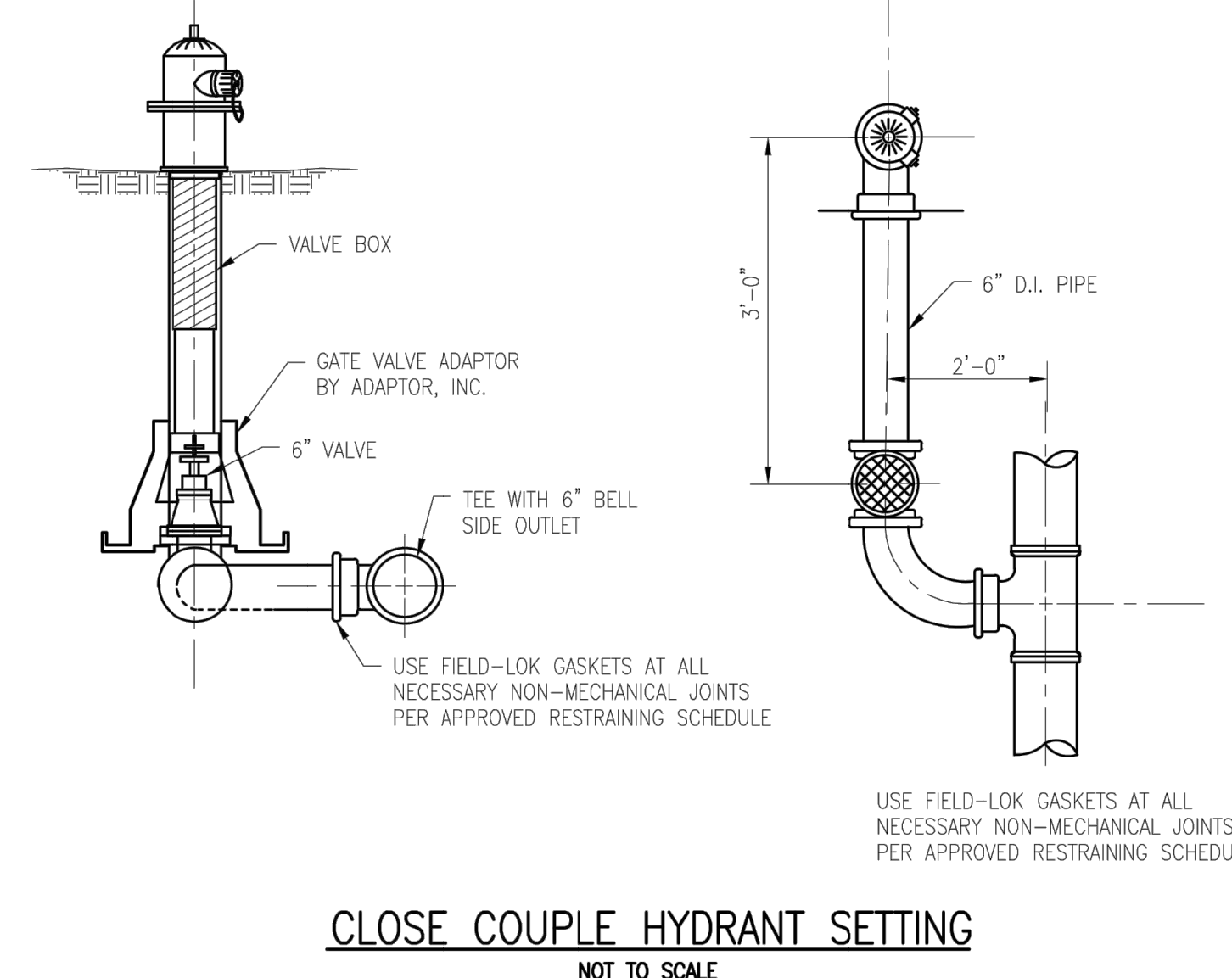
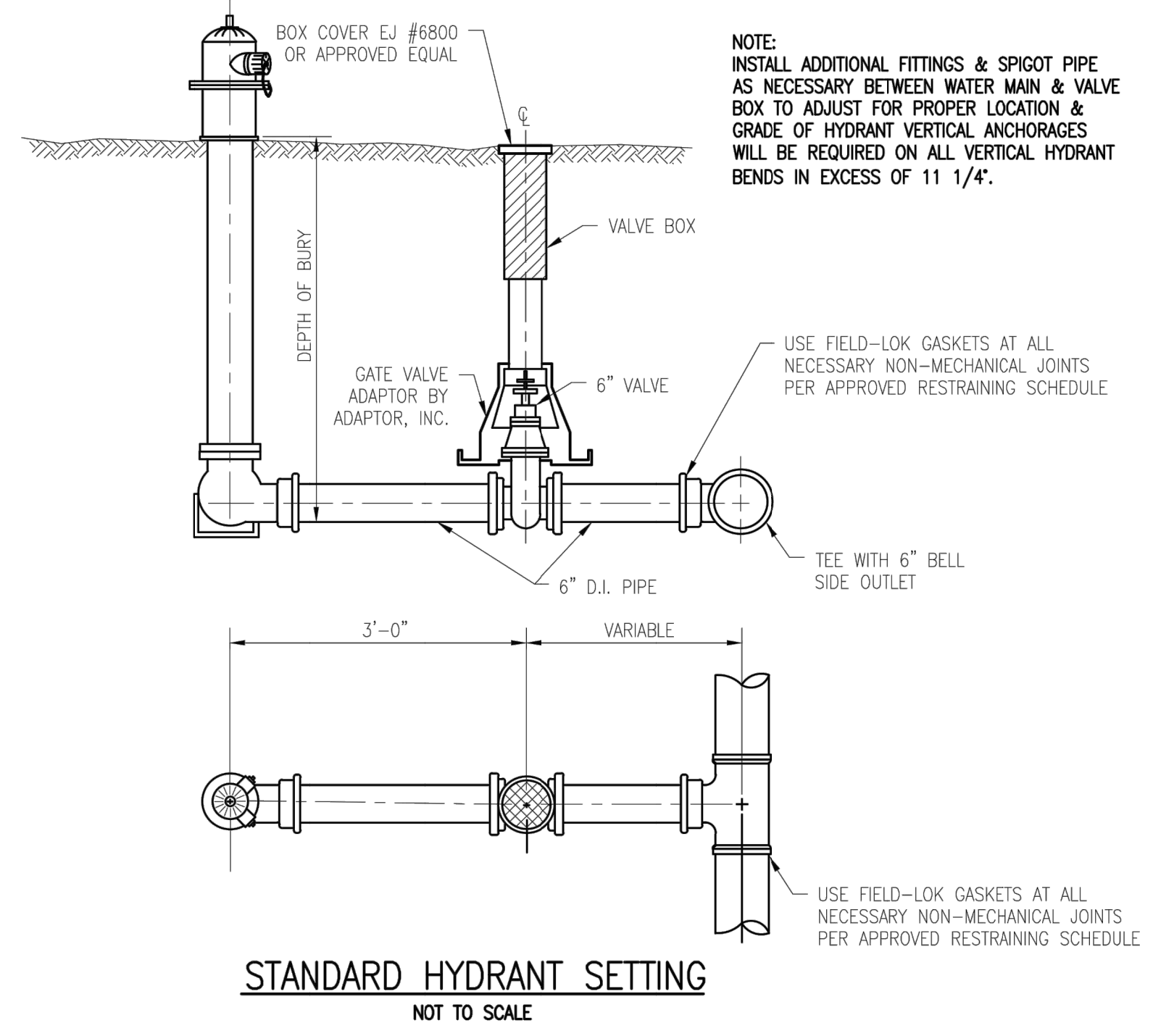
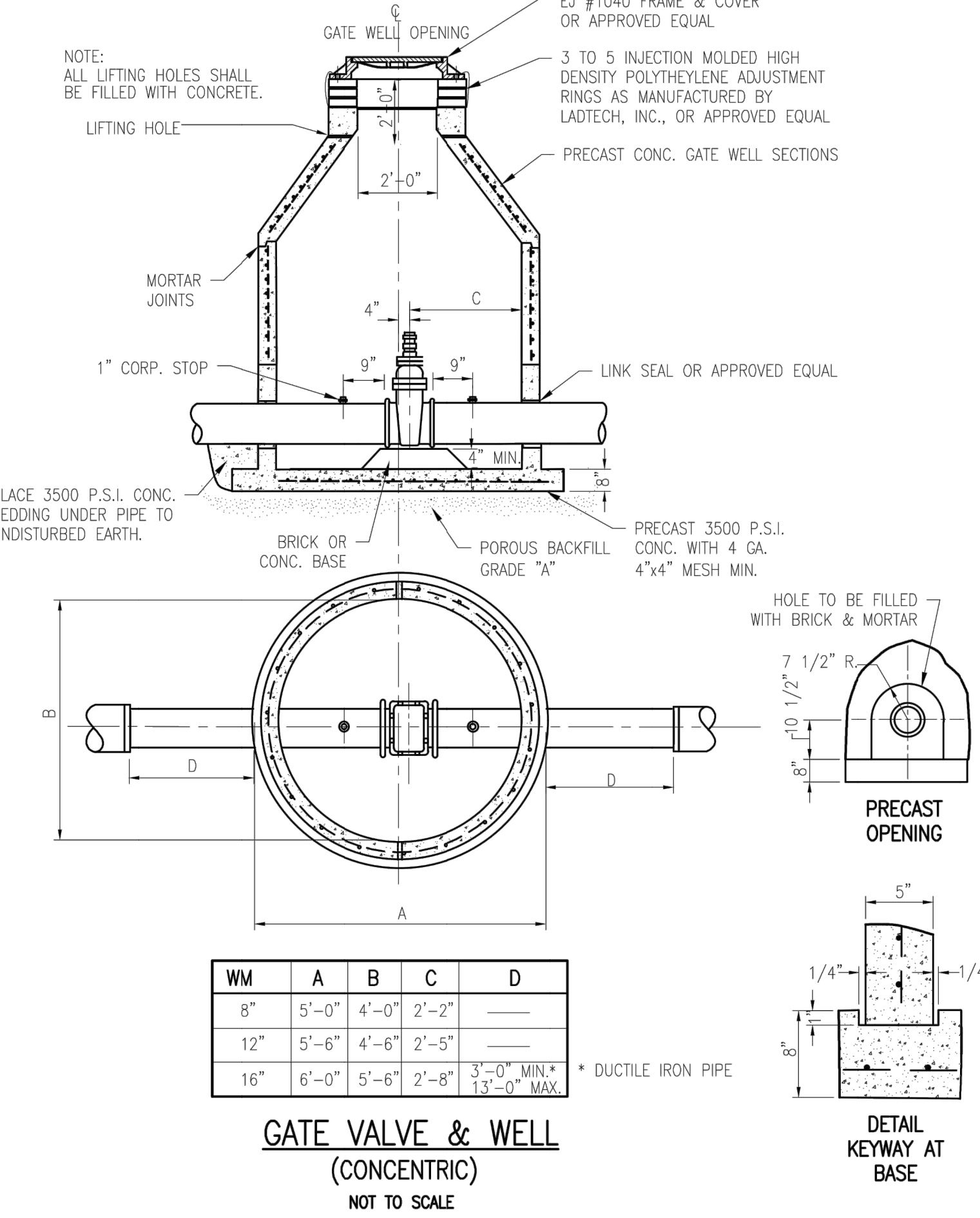
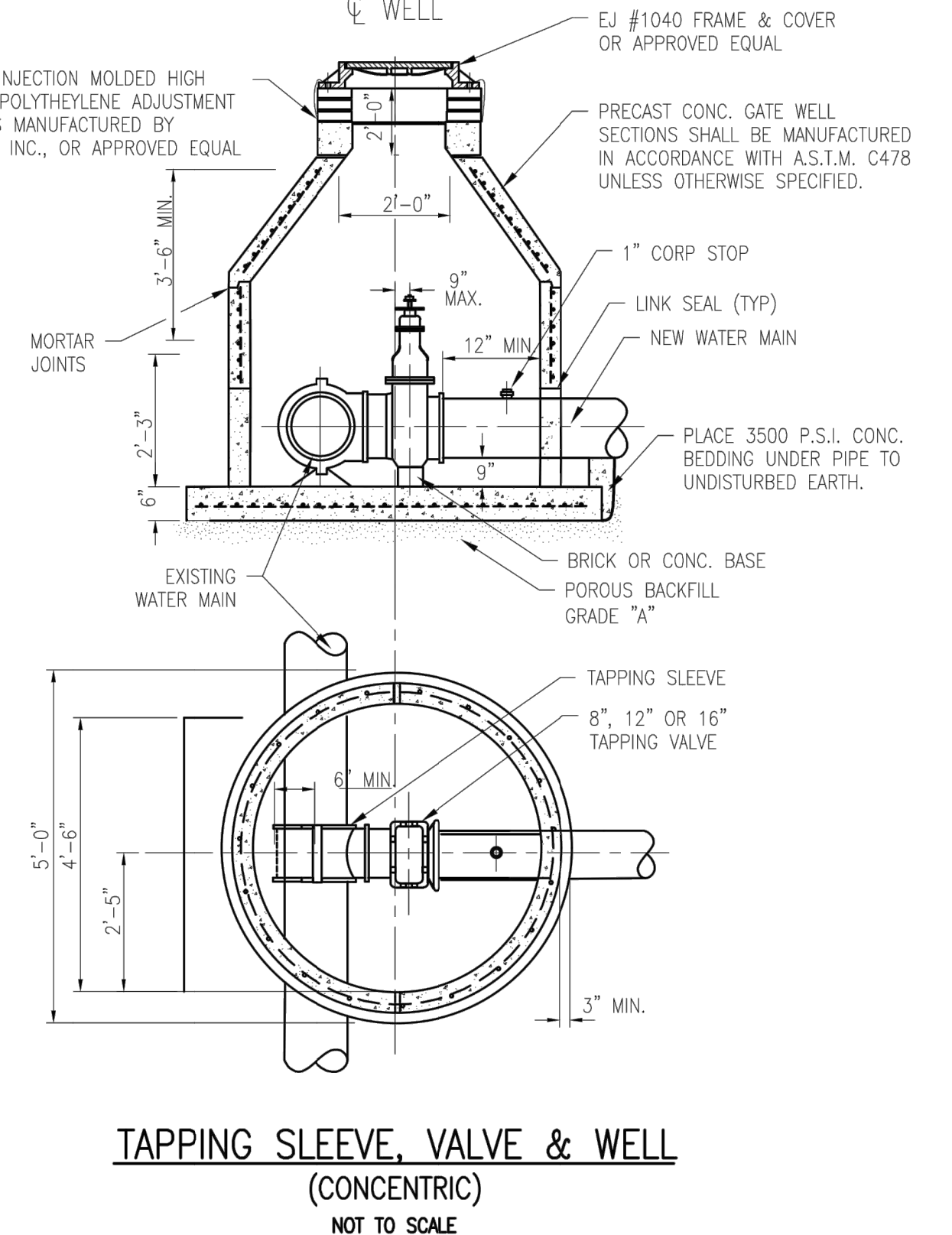
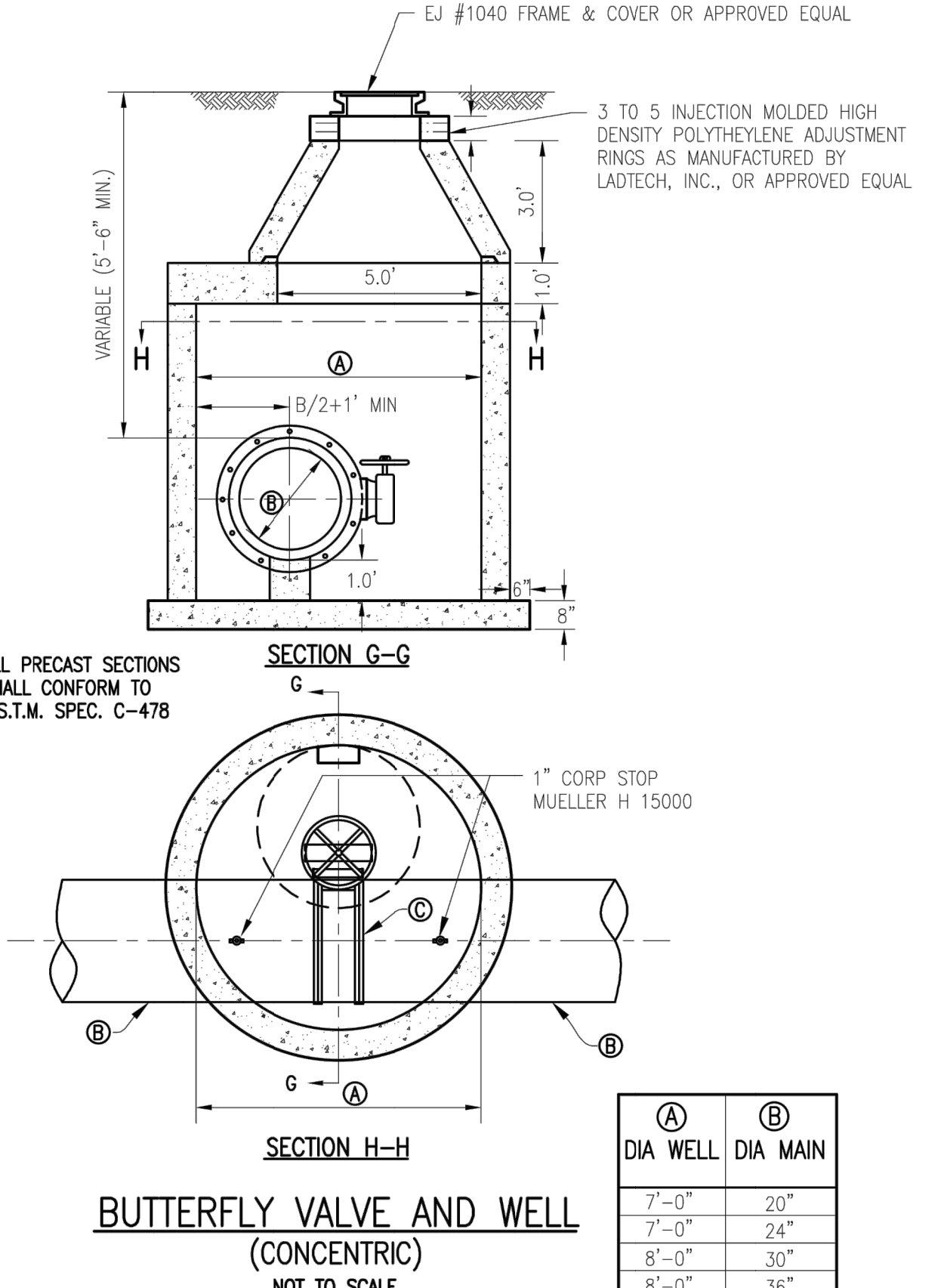
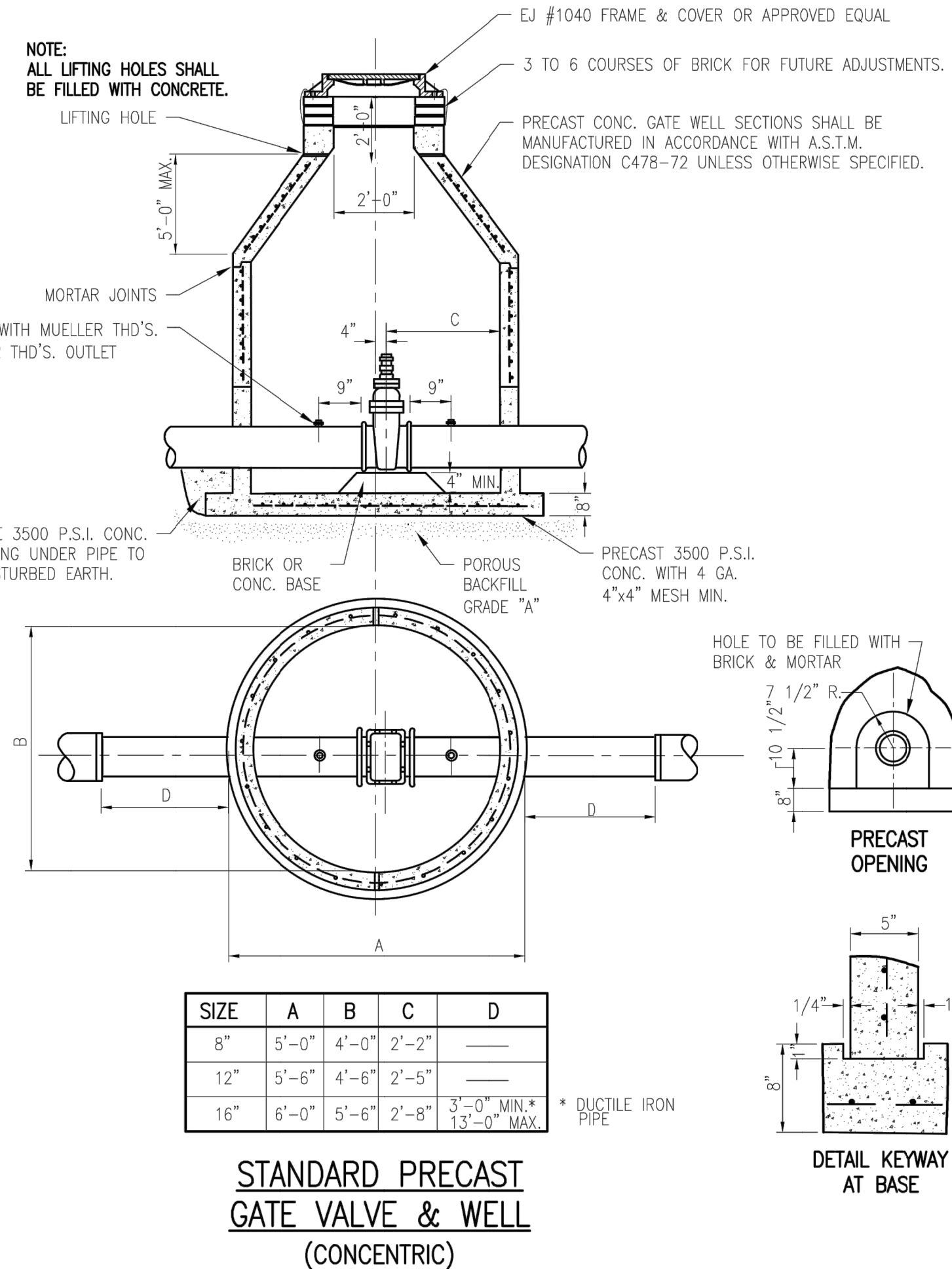


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DESIGNED BY: JPM
DRAWN BY: BMH
CHECKED BY: JMM

NO.	REVISIONS	DATE	BY
1	TOWNSHIP COMMENTS	11/29/21	JMM
2	TOWNSHIP COMMENTS	01/11/22	JMM
3	WCWRC/TOWNSHIP REVIEW COMMENTS	02/24/22	JMM
4	WCWRC/TOWNSHIP REVIEW COMMENTS	03/30/22	JMM

ORIGINAL ISSUE:
10/19/2021
KHA PROJECT NO.
168921002
SHEET NUMBER
C8.4

Drawing name: K:\GIS\DEV\168921002_Shoof\Plan\Bent\Ypsilanti\MA2 Design\CAD\Ypsilanti\Sheets\C7.0 - CONSTRUCTION DETAILS.dwg W-4 Mar 30, 2022 6:39pm by Brett Hickey
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YCUA
 ENVIRONMENTAL LEADERS

DATE: 09/25/19
 SCALE: NO SCALE
 SHEET:

NO.	REVISIONS	DATE	BY
1	TOWNSHIP COMMENTS	11/29/21	JMM
2	TOWNSHIP COMMENTS	01/11/22	JMM
3	WCWRC/TOWNSHIP REVIEW COMMENTS	02/24/22	JMM
4	WCWRC/TOWNSHIP REVIEW COMMENTS	03/30/22	JMM

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 WWW.KIMLEY-HORN.COM

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COMPTONADDY
 COMMERCIAL REAL ESTATE

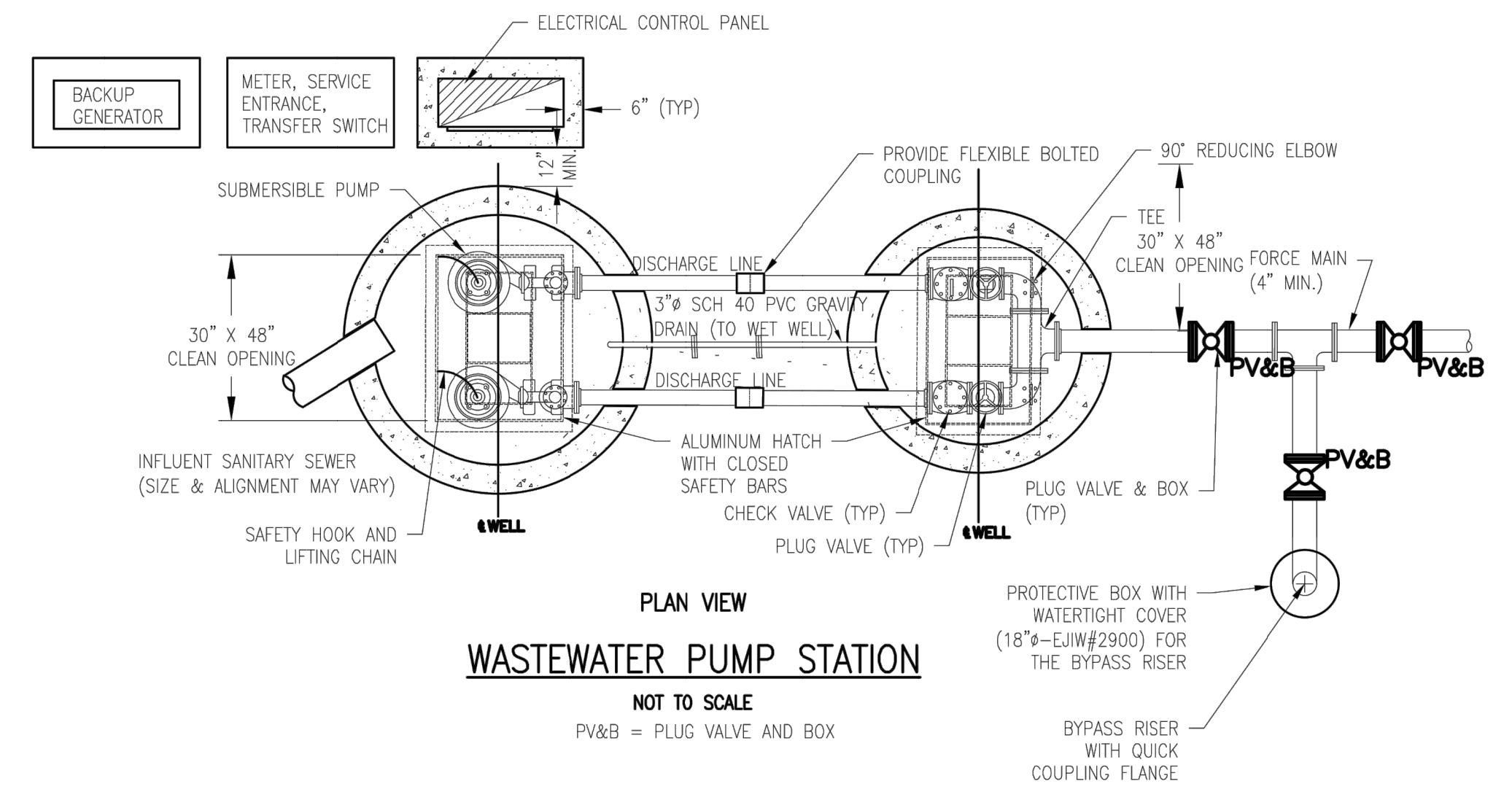
YPSILANTI TOWNSHIP WATERMAIN DETAILS

RANGE USA
 660 JAMES L. HART PARKWAY
 YPSILANTI TOWNSHIP, MI

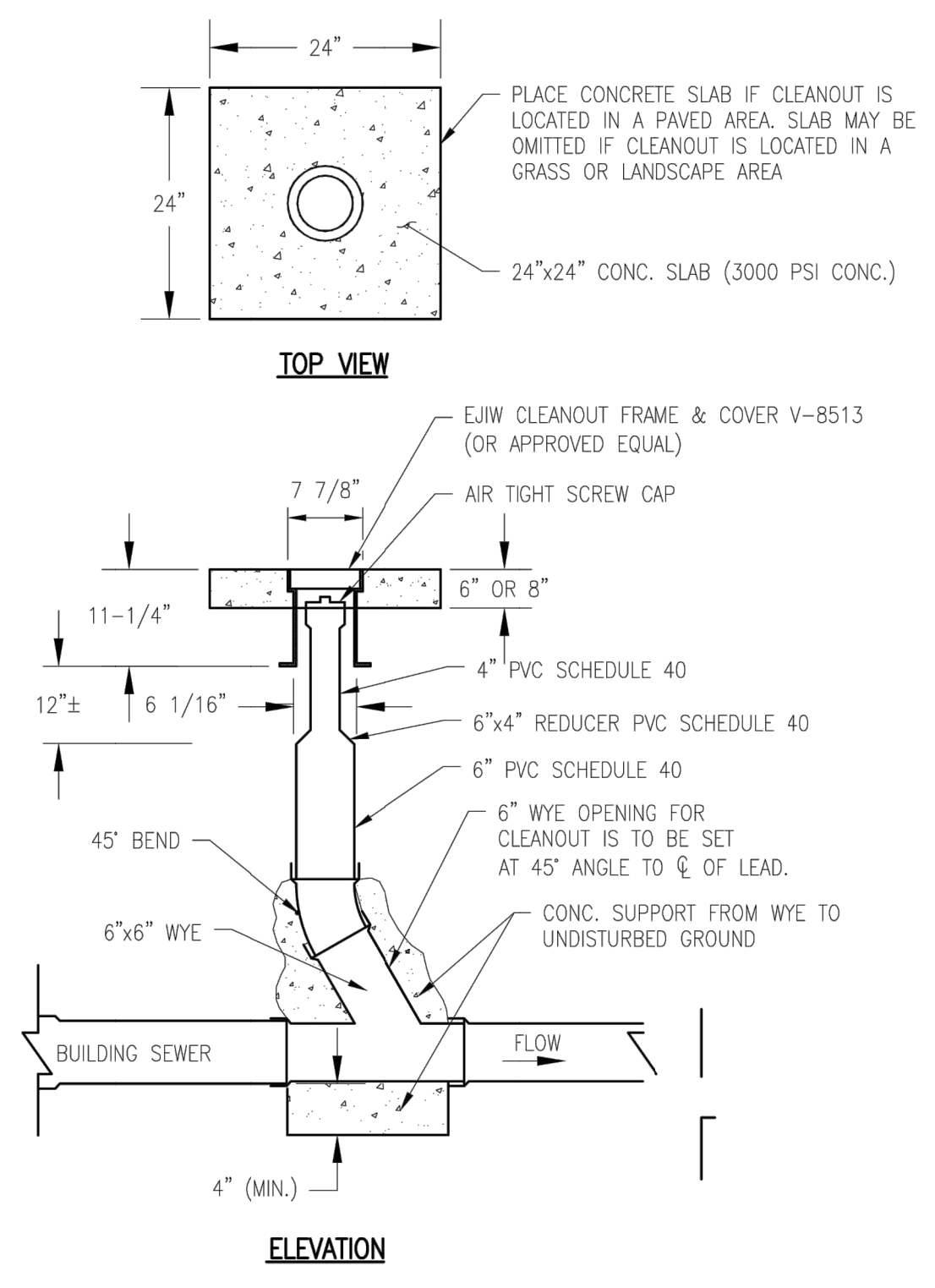
ORIGINAL ISSUE: 10/19/2021
 KHA PROJECT NO. 168921002
 SHEET NUMBER

C8.5

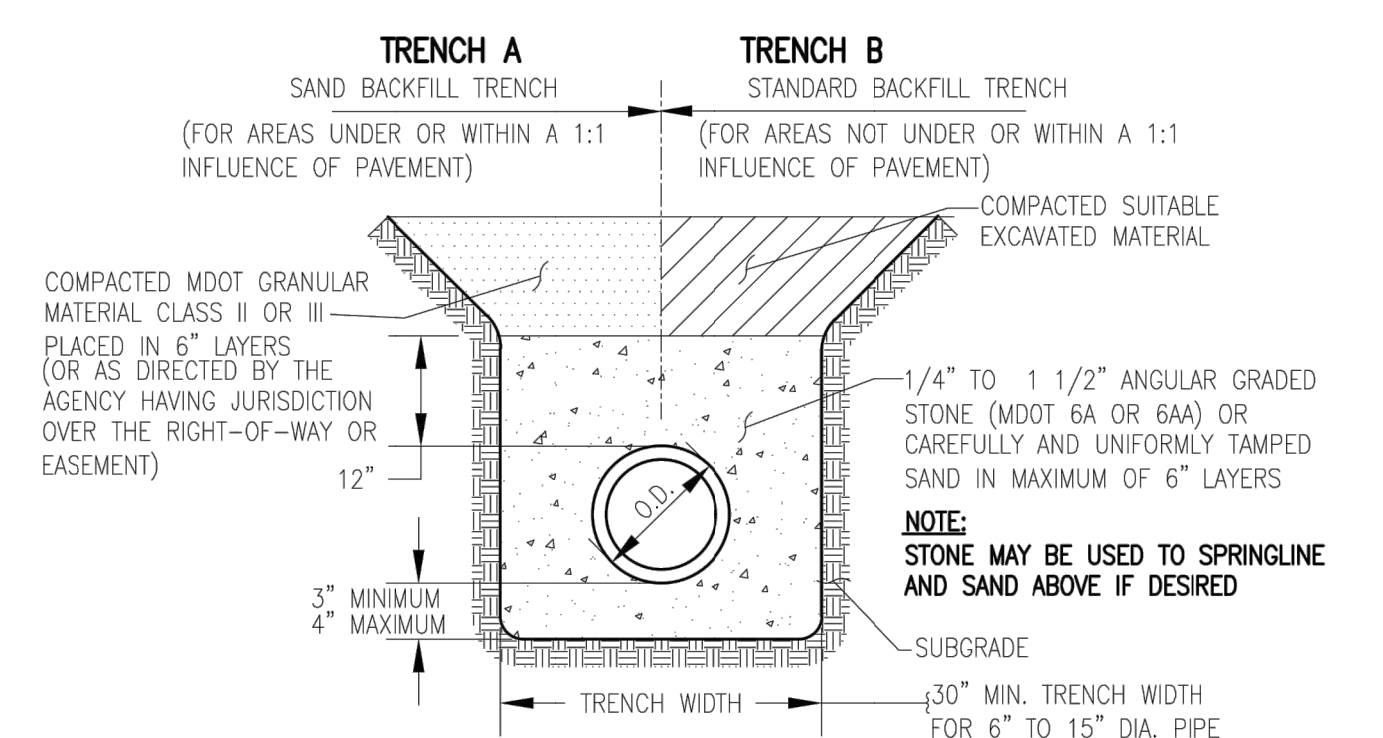
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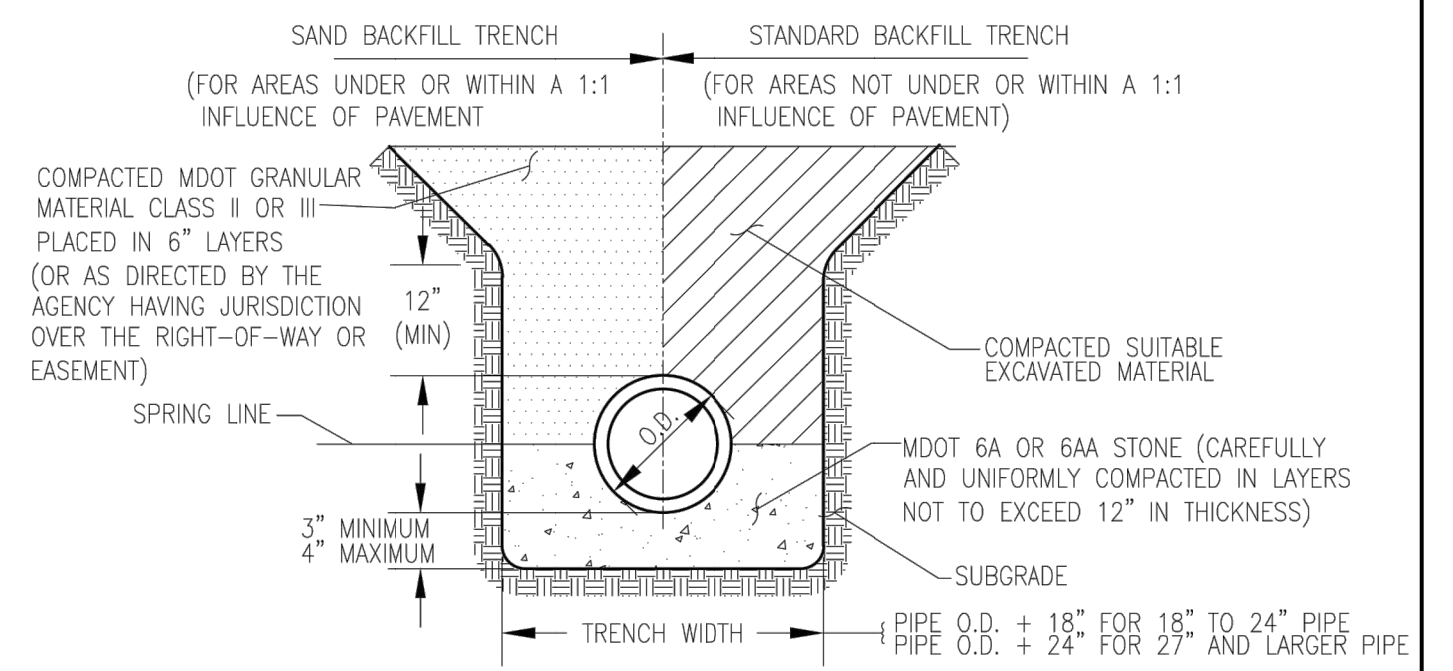
PLAN VIEW
WASTEWATER PUMP STATION
NOT TO SCALE
PV&B = PLUG VALVE AND BOX



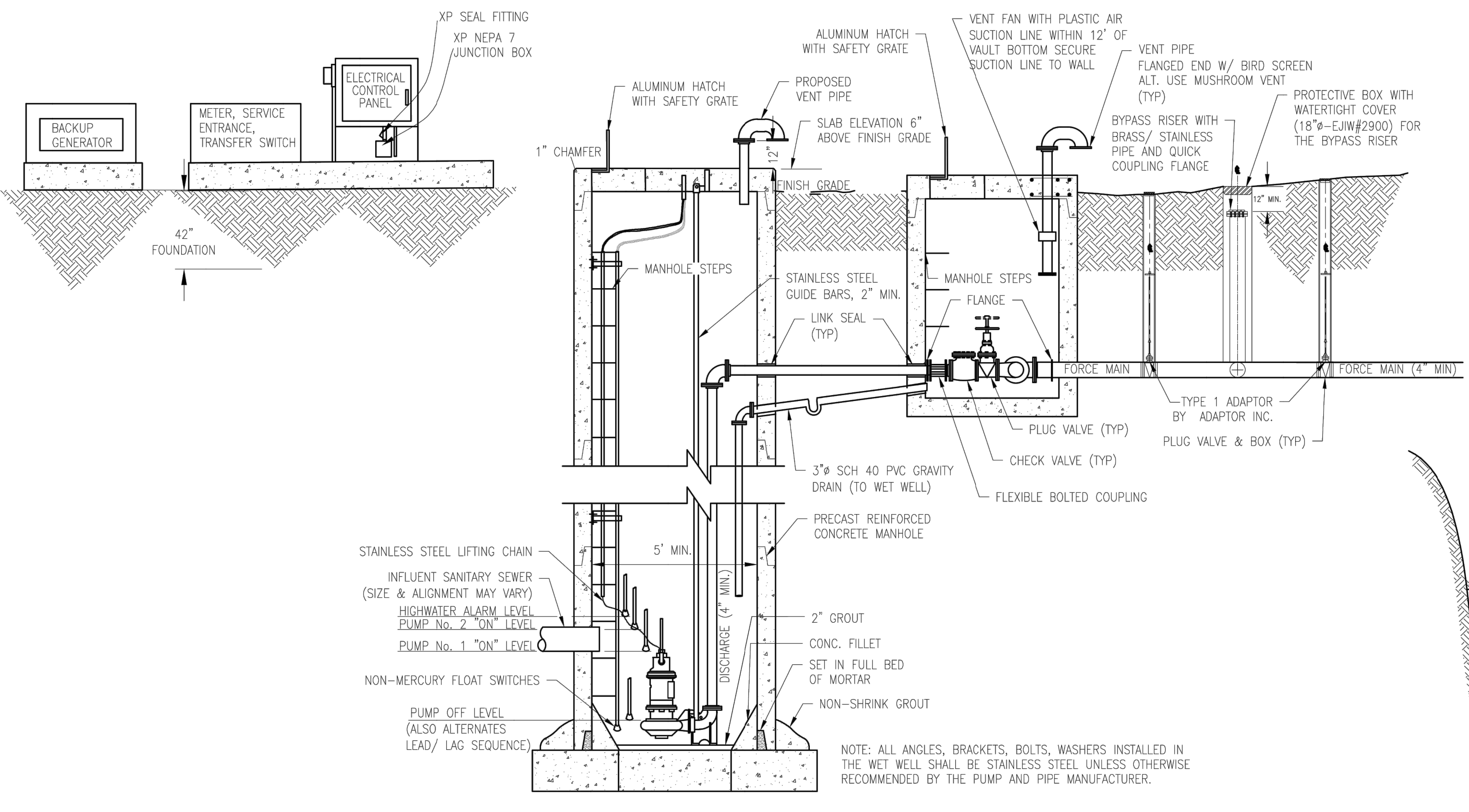
ELEVATION
SANITARY SEWER CLEANOUT
NOT TO SCALE



FLEXIBLE PIPE (8\"/>

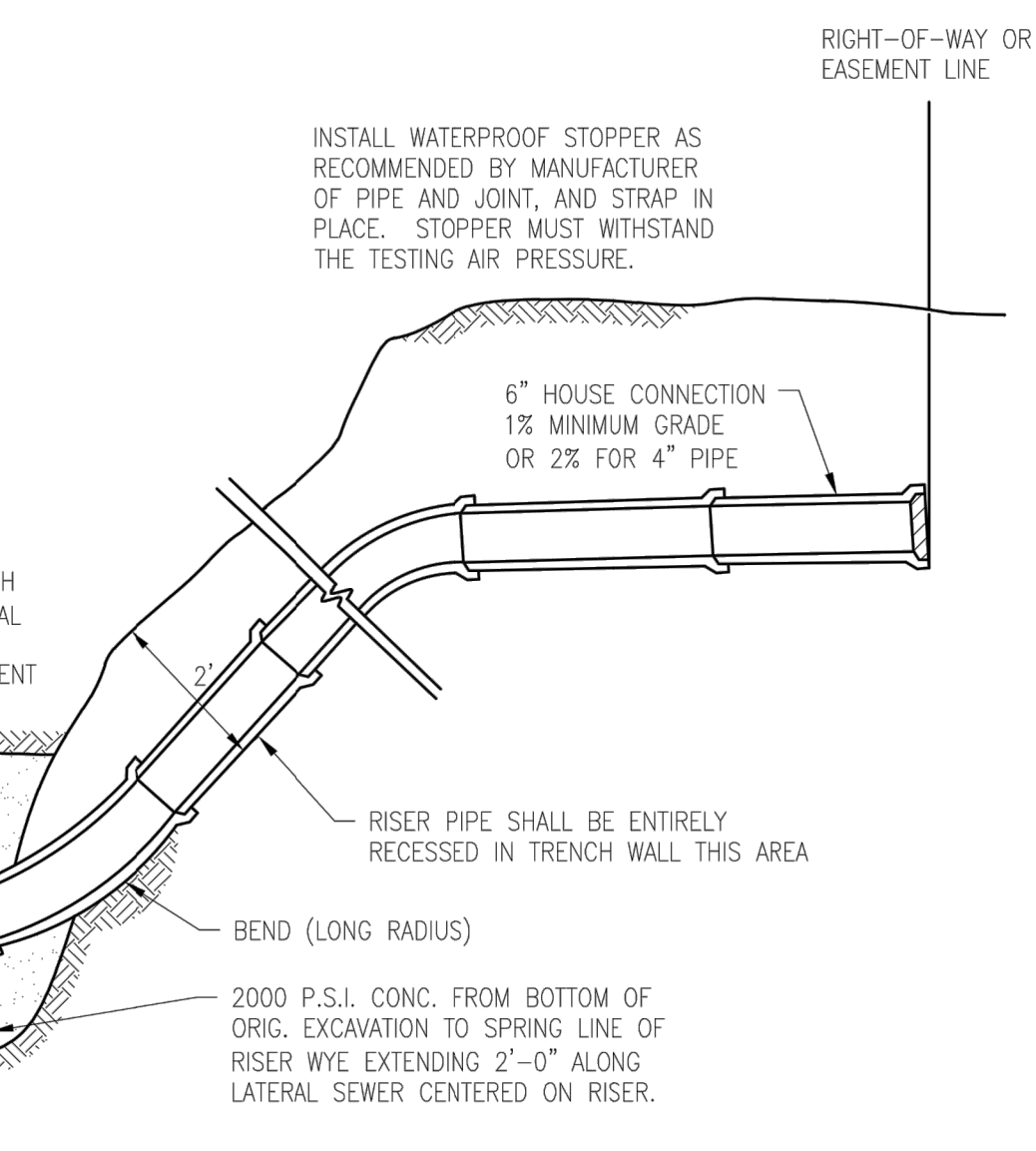


RIGID PIPE (18\"/>

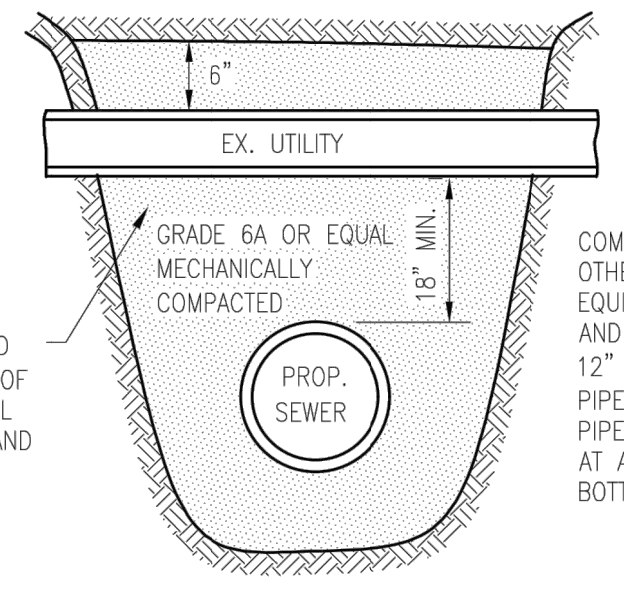


PROFILE VIEW
WASTEWATER PUMP STATION
NOT TO SCALE

DETAILS ARE FOR LAYOUT AND GENERALITIES ONLY. THE SPECIFIC COMPONENTS AND EXACT DETAILS MUST BE IDENTIFIED OR CREATED ON A CASE BY CASE BASIS THROUGH A DETAILED SUBMITTAL REVIEW PROCESS.



BUILDING SEWER
NOT TO SCALE



STANDARD PIPE SUPPORT
SANITARY OR STORM
NOT TO SCALE



REVISIONS

STANDARD SANITARY SEWER DETAILS

YPSILANTI COMMUNITY UTILITIES AUTHORITY 2777 STATE ROAD YPSILANTI, MICHIGAN 48198-9112 (734) 484-4800 FAX: (734) 544-7221 WWW.YCUA.ORG		
DATE	SCALE	SHEET
10/25/19	NO SCALE	

NO.	REVISIONS	DATE	BY
1	TOWNSHIP COMMENTS	11/29/21	JMM
2	TOWNSHIP COMMENTS	01/11/22	JMM
3	WCWRC/TOWNSHIP REVIEW COMMENTS	02/24/22	JMM
4	WCWRC/TOWNSHIP REVIEW COMMENTS	03/30/22	JMM

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 CHECKED BY: JMM



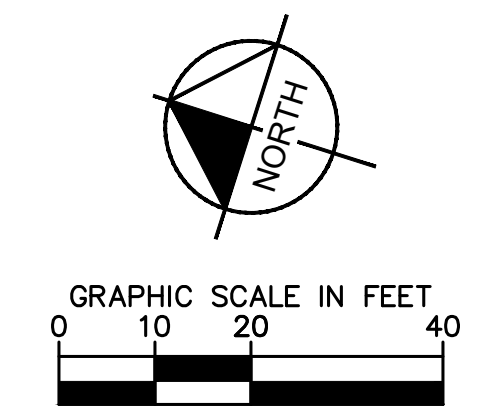
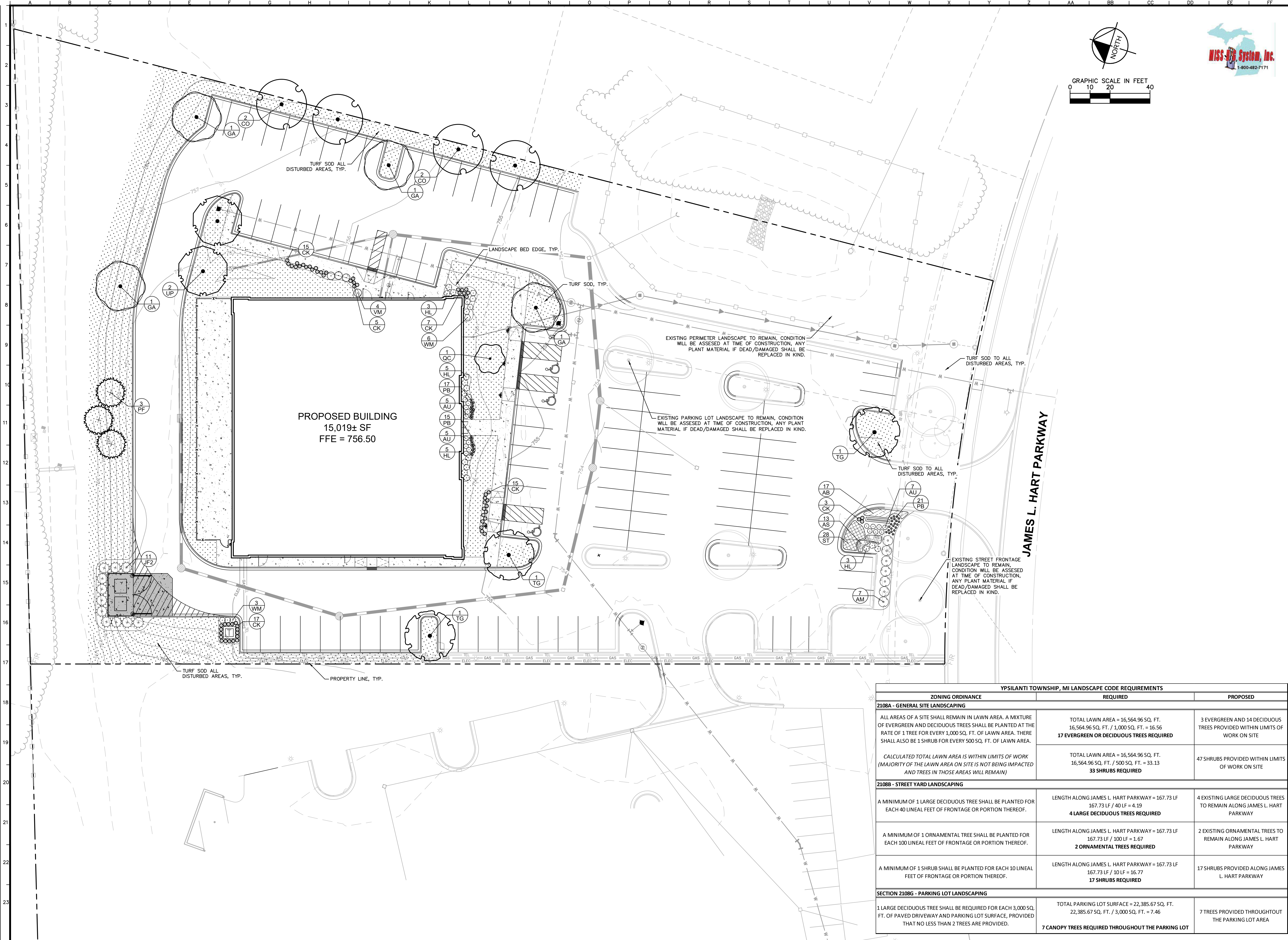
YPSILANTI TOWNSHIP SANITARY DETAILS

RANGE USA
 660 JAMES L. HART PARKWAY
 YPSILANTI TOWNSHIP, MI

ORIGINAL ISSUE:
 10/19/2021
 KHA PROJECT NO.
 168921002
 SHEET NUMBER

C8.6

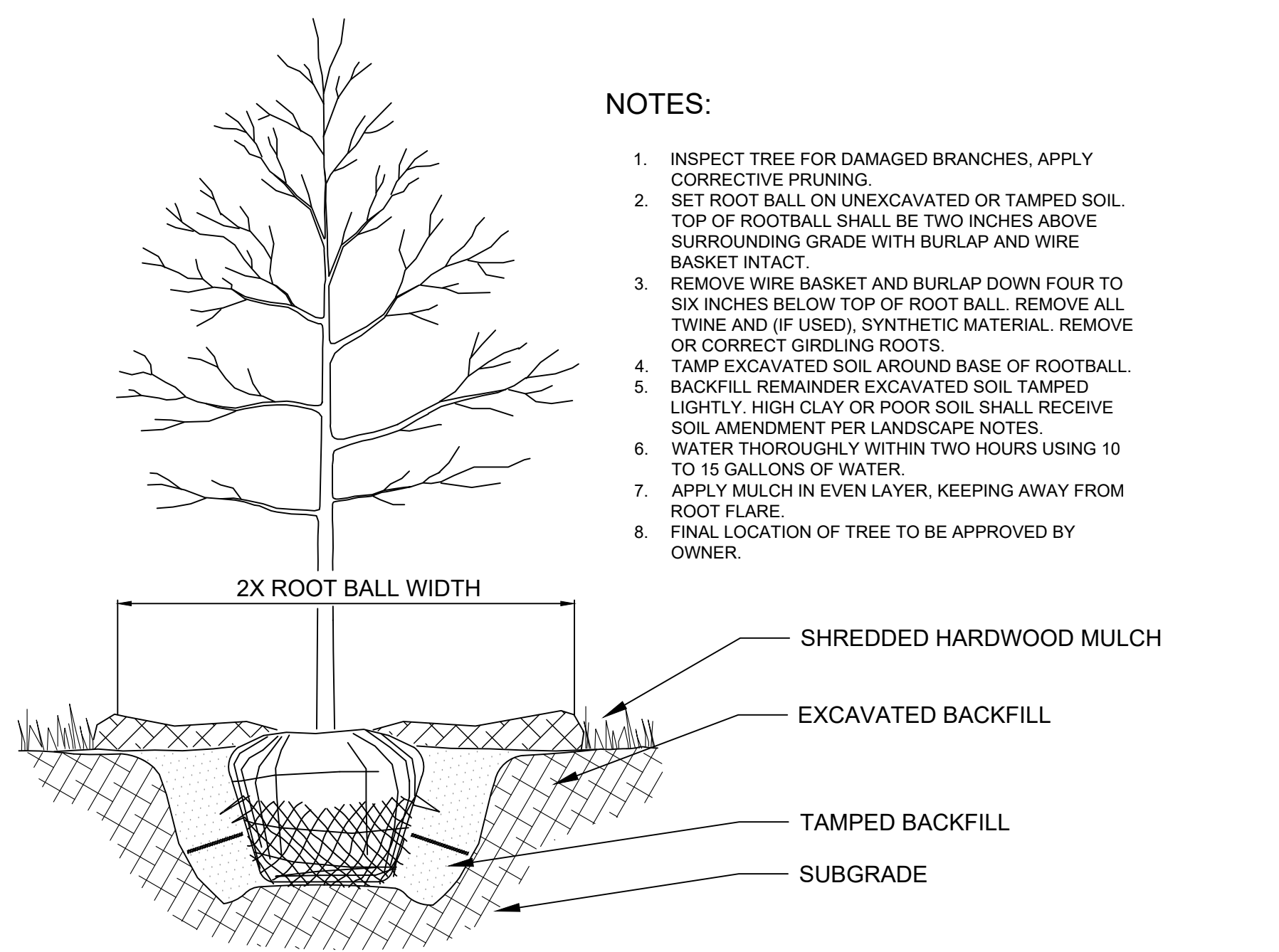
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YPSILANTI TOWNSHIP, MI LANDSCAPE CODE REQUIREMENTS		
ZONING ORDINANCE	REQUIRED	PROPOSED
2108A - GENERAL SITE LANDSCAPING		
ALL AREAS OF A SITE SHALL REMAIN IN LAWN AREA. A MIXTURE OF EVERGREEN AND DECIDUOUS TREES SHALL BE PLANTED AT THE RATE OF 1 TREE FOR EVERY 1,000 SQ. FT. OF LAWN AREA. THERE SHALL ALSO BE 1 SHRUB FOR EVERY 500 SQ. FT. OF LAWN AREA.	TOTAL LAWN AREA = 16,564.96 SQ. FT. 16,564.96 SQ. FT. / 1,000 SQ. FT. = 16.56 17 EVERGREEN OR DECIDUOUS TREES REQUIRED	3 EVERGREEN AND 14 DECIDUOUS TREES PROVIDED WITHIN LIMITS OF WORK ON SITE
(MAJORITY OF THE LAWN AREA ON SITE IS NOT BEING IMPACTED AND TREES IN THOSE AREAS WILL REMAIN)	TOTAL LAWN AREA = 16,564.96 SQ. FT. 16,564.96 SQ. FT. / 500 SQ. FT. = 33.13 33 SHRUBS REQUIRED	47 SHRUBS PROVIDED WITHIN LIMITS OF WORK ON SITE
2108B - STREET YARD LANDSCAPING		
A MINIMUM OF 1 LARGE DECIDUOUS TREE SHALL BE PLANTED FOR EACH 40 LINEAL FEET OF FRONTAGE OR PORTION THEREOF.	LENGTH ALONG JAMES L. HART PARKWAY = 167.73 LF 167.73 LF / 40 LF = 4.19 4 LARGE DECIDUOUS TREES REQUIRED	4 EXISTING LARGE DECIDUOUS TREES TO REMAIN ALONG JAMES L. HART PARKWAY
A MINIMUM OF 1 ORNAMENTAL TREE SHALL BE PLANTED FOR EACH 100 LINEAL FEET OF FRONTAGE OR PORTION THEREOF.	LENGTH ALONG JAMES L. HART PARKWAY = 167.73 LF 167.73 LF / 100 LF = 1.67 2 ORNAMENTAL TREES REQUIRED	2 EXISTING ORNAMENTAL TREES TO REMAIN ALONG JAMES L. HART PARKWAY
A MINIMUM OF 1 SHRUB SHALL BE PLANTED FOR EACH 10 LINEAL FEET OF FRONTAGE OR PORTION THEREOF.	LENGTH ALONG JAMES L. HART PARKWAY = 167.73 LF 167.73 LF / 10 LF = 16.77 17 SHRUBS REQUIRED	17 SHRUBS PROVIDED ALONG JAMES L. HART PARKWAY
SECTION 2108G - PARKING LOT LANDSCAPING		
1 LARGE DECIDUOUS TREE SHALL BE REQUIRED FOR EACH 3,000 SQ. FT. OF PAVED DRIVEWAY AND PARKING LOT SURFACE, PROVIDED THAT NO LESS THAN 2 TREES ARE PROVIDED.	TOTAL PARKING LOT SURFACE = 22,385.67 SQ. FT. 22,385.67 SQ. FT. / 3,000 SQ. FT. = 7.46 7 CANOPY TREES REQUIRED THROUGHOUT THE PARKING LOT	7 TREES PROVIDED THROUGHOUT THE PARKING LOT AREA

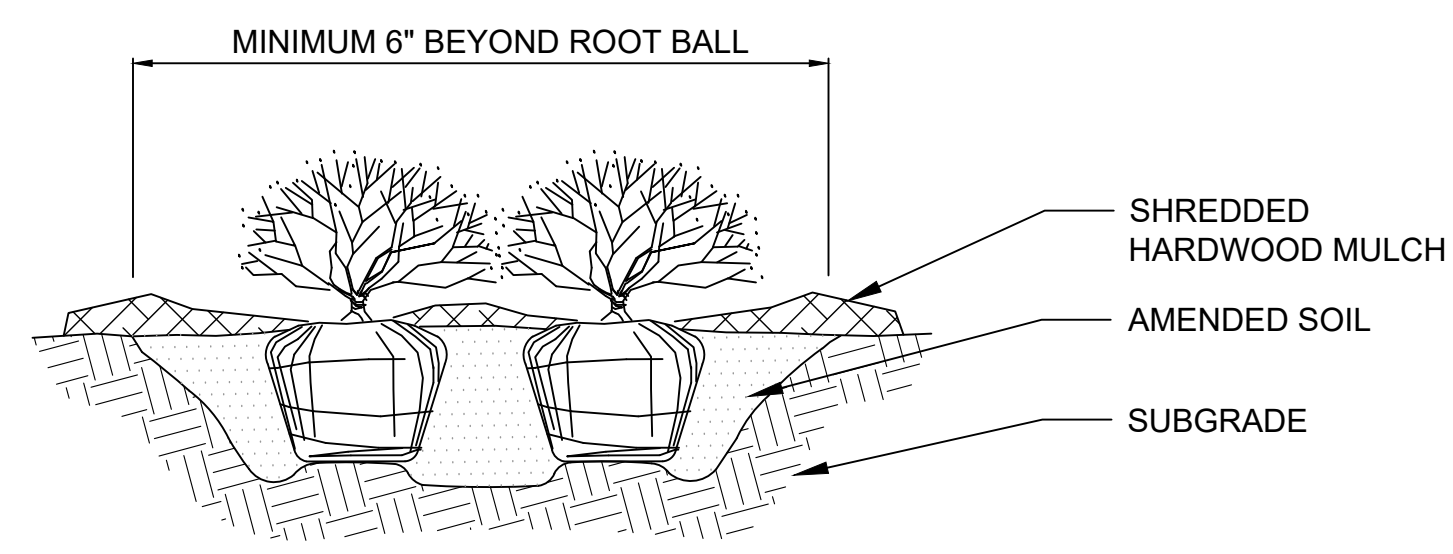
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DRAWN BY: BMH		
3911 SIX MILE ROAD ANN ARBOR, MI 48107-2208 WWW.KIMLEY-HORN.COM		
LANDSCAPE PLAN		
RANGE USA 660 JAMES L. HART PARKWAY YPSILANTI TOWNSHIP, MI		
ORIGINAL ISSUE: 10/19/2021 KHA PROJECT NO. 168921002		
SHEET NUMBER L1.0		
4 WCMRC/TOWNSHIP REVIEW COMMENTS 03/30/22 JMM 3 WCMRC/TOWNSHIP REVIEW COMMENTS 02/24/22 JMM 2 TOWNSHIP COMMENTS 01/11/22 JMM 1 TOWNSHIP COMMENTS 11/29/21 JMM REVISIONS	DATE	BY

Drawing name: K:\CHS_LDEV\168921002_Sheet\Plan\168921002_Landscape\168921002_Landscape Plan.dwg Mar 30, 2022 6:39pm by: Brett Heisey
 This document, together with the concepts and designs presented herein, is an instrument of service, as an instrument of service, intended only for the specific purpose and client for which it was prepared. Reuse of this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



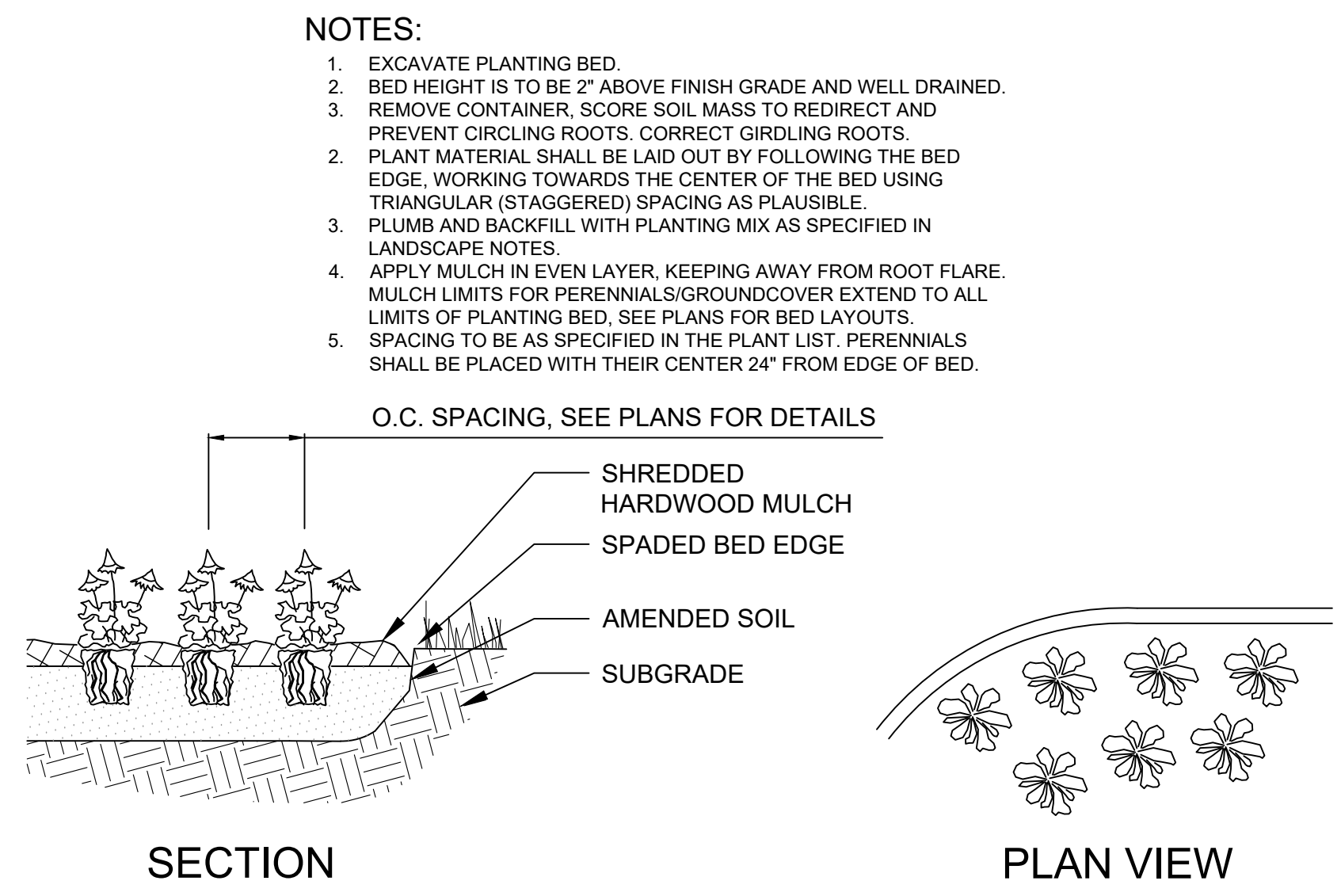
- NOTES:**
- INSPECT TREE FOR DAMAGED BRANCHES, APPLY CORRECTIVE PRUNING.
 - SET ROOT BALL ON UNEXCAVATED OR TAMPED SOIL. TOP OF ROOTBALL SHALL BE TWO INCHES ABOVE SURROUNDING GRADE WITH BURLAP AND WIRE BASKET INTACT.
 - REMOVE WIRE BASKET AND BURLAP DOWN FOUR TO SIX INCHES BELOW TOP OF ROOT BALL. REMOVE ALL TWINE AND (IF USED), SYNTHETIC MATERIAL. REMOVE OR CORRECT GIRDLING ROOTS.
 - TAMP EXCAVATED SOIL AROUND BASE OF ROOTBALL.
 - BACKFILL REMAINDER EXCAVATED SOIL, TAMPED LIGHTLY. HIGH CLAY OR POOR SOIL SHALL RECEIVE SOIL AMENDMENT PER LANDSCAPE NOTES.
 - WATER THOROUGHLY WITHIN TWO HOURS USING 10 TO 15 GALLONS OF WATER.
 - APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE.
 - FINAL LOCATION OF TREE TO BE APPROVED BY OWNER.

1 TREE PLANTING NTS



- NOTES:**
- APPLY CORRECTIVE PRUNING.
 - SET ROOT BALL OR CONTAINER ON UNEXCAVATED OR TAMPED SOIL. TOP OF ROOTBALL (CONTAINERS) SHALL BE ONE INCH ABOVE SURROUNDING GRADE. FOR LARGER SHRUBS WITHIN PLANTING BED DIG A DEEPER PIT ONLY FOR THOSE SHRUBS.
 - REMOVE BURLAP FROM TOP HALF THE LENGTH OF ROOTBALL. TWINE AND (IF USED) SYNTHETIC MATERIAL SHALL BE REMOVED FROM PLANTING BED. FOR CONTAINER GROWN SHRUBS, REMOVE CONTAINER AND LOOSEN ROOTS PRIOR TO INSTALLATION.
 - REMOVE OR CORRECT GIRDLING ROOTS.
 - PLUMB AND BACKFILL WITH AMENDED SOIL PER LANDSCAPE NOTES. WATER THOROUGHLY WITHIN TWO HOURS.
 - APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE. MULCH LIMITS FOR SHRUBS EXTEND TO ALL LIMITS OF PLANTING BED, SEE PLANS FOR BED LAYOUTS.

2 SHRUB PLANTING NTS



- NOTES:**
- EXCAVATE PLANTING BED.
 - BED HEIGHT IS TO BE 2" ABOVE FINISH GRADE AND WELL DRAINED.
 - REMOVE CONTAINER, SCORE SOIL MASS TO REDIRECT AND PREVENT CIRCLING ROOTS. CORRECT GIRDLING ROOTS.
 - PLANT MATERIAL SHALL BE LAID OUT BY FOLLOWING THE BED EDGE, WORKING TOWARDS THE CENTER OF THE BED USING TRIANGULAR (STAGGERED) SPACING AS PLAUSIBLE.
 - PLUMB AND BACKFILL WITH PLANTING MIX AS SPECIFIED IN LANDSCAPE NOTES.
 - APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE. MULCH LIMITS FOR PERENNIALS/GROUNDCOVER EXTEND TO ALL LIMITS OF PLANTING BED, SEE PLANS FOR BED LAYOUTS.
 - SPACING TO BE AS SPECIFIED IN THE PLANT LIST. PERENNIALS SHALL BE PLACED WITH THEIR CENTER 24" FROM EDGE OF BED.

3 PERENNIAL PLANTING NTS

LANDSCAPE NOTES

- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING MATERIALS AND PLANTS SHOWN ON THE LANDSCAPE PLAN. THE CONTRACTOR IS RESPONSIBLE FOR THE COST TO REPAIR UTILITIES, ADJACENT LANDSCAPE, PUBLIC AND PRIVATE PROPERTY THAT IS DAMAGED BY THE CONTRACTOR OR THEIR SUBCONTRACTOR'S OPERATIONS DURING INSTALLATION OR DURING THE SPECIFIED MAINTENANCE PERIOD. CALL FOR UTILITY LOCATIONS PRIOR TO ANY EXCAVATION.
- THE CONTRACTOR SHALL REPORT ANY DISCREPANCY IN PLAN VS. FIELD CONDITIONS IMMEDIATELY TO THE LANDSCAPE ARCHITECT, PRIOR TO CONTINUING WITH THAT PORTION OF WORK.
- NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY OF THEIR TRENCHES OR EXCAVATIONS THAT SETTLE.
- ALL PLANTS TO BE SPECIMEN GRADE, WELL BRANCHED, HEALTHY, FULL, PRE-INOCULATED AND FERTILIZED. PLANTS SHALL BE FREE FROM DISEASE, PESTS, WOUNDS, AND SCARS. PLANTS SHALL BE FREE FROM NOTICEABLE GAPS, HOLES, OR DEFORMITIES. PLANTS SHALL BE FREE FROM BROKEN OR DEAD BRANCHES. TRUNKS WILL BE WRAPPED IF NECESSARY TO PREVENT SUN SCALD AND INSECT DAMAGE. THE LANDSCAPE CONTRACTOR SHALL REMOVE THE WRAP AT THE PROPER TIME AS PART OF THIS CONTRACT.
- THE OWNER'S REPRESENTATIVE MAY REJECT ANY PLANT MATERIALS THAT ARE DISEASED, DEFORMED, OR OTHERWISE NOT EXHIBITING SUPERIOR QUALITY.
- ALL NURSERY STOCK SHALL BE GUARANTEED, BY THE CONTRACTOR, FOR ONE YEAR FROM DATE OF FINAL INSPECTION. THE GUARANTEE BEGINS ON THE DATE OF THE LANDSCAPE ARCHITECT'S OR OWNERS WRITTEN ACCEPTANCE OF THE INITIAL PLANTING. REPLACEMENT PLANT MATERIAL SHALL HAVE A ONE YEAR GUARANTEE COMMENCING UPON PLANTING.
- PLANTS TO MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2014 OR MOST CURRENT VERSION) REQUIREMENTS FOR SIZE AND TYPE SPECIFIED.
- PRUNE PLANTS AS NECESSARY - PER STANDARD NURSERY PRACTICE AND TO CORRECT POOR BRANCHING OF EXISTING AND PROPOSED TREES.
- TOPSOIL SHALL BE PROVIDED AND GRADED BY THE GENERAL CONTRACTOR UP TO 6 INCHES BELOW FINISHED GRADE IN TURF AREAS AND 18 INCHES IN PLANTING AREAS.
- PLANTING AREA TOPSOIL SHALL BE AMENDED WITH 25% SPHAGNUM PEATMOSS, 5% HUMUS AND 70% PULVERIZED SOIL FOR ALL NON TURF SEED MIX AREAS, SHRUB, ORNAMENTAL GRASS, PERENNIAL AND ANNUAL BEDS.
- SEED/SOD LIMIT LINES ARE APPROXIMATE. CONTRACTOR SHALL SEED/SOD ALL AREAS WHICH ARE DISTURBED BY GRADING WITH THE SPECIFIED SEED/SOD MIXES.
- EDGING TO BE A SPADED EDGE UNLESS INDICATED OTHERWISE ON THE PLANS. SPADED EDGE TO PROVIDE V-SHAPED DEPTH AND WIDTH TO CREATE SEPARATION BETWEEN MULCH AND GRASS. A SPADED BED EDGE SHALL SEPARATE MULCH BEDS FROM TURF OR SEEDED AREAS. A SPADED EDGE IS NOT REQUIRED ALONG CURBED EDGES.
- CONTRACTOR SHALL INSTALL SHREDDED HARDWOOD MULCH AT A 3" DEPTH TO ALL TREES, SHRUB, PERENNIAL, AND GROUNDCOVER AREAS. TREES PLACED IN AREA COVERED BY TURF SHALL RECEIVE A 4 FT WIDE MAXIMUM TREE RING WITH 3" DEPTH SHREDDED HARDWOOD MULCH.
- INSTALLATION OF TREES WITHIN PARKWAYS SHALL BE COORDINATED IN THE FIELD WITH LOCATIONS OF UNDERGROUND UTILITIES. TREES SHALL NOT BE LOCATED CLOSER THAN 5' FROM UNDERGROUND UTILITY LINES AND NO CLOSER THAN 10' FROM UTILITY STRUCTURES.
- DO NOT DISTURB THE EXISTING PAVING, LIGHTING, OR LANDSCAPING THAT EXISTS ADJACENT TO THE SITE UNLESS OTHERWISE NOTED ON PLAN.
- ALL DISTURBED AREAS TO BE SODDED OR SEEDED, UNLESS OTHERWISE NOTED. SOD/SEED SHALL BE LOCAL HARDY TURF GRASS MIX UNLESS, OTHERWISE NOTED.
- PLANT QUANTITIES SHOWN ARE FOR THE CONVENIENCE OF THE OWNER AND JURISDICTIONAL REVIEW AGENCIES. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES AS DRAWN.

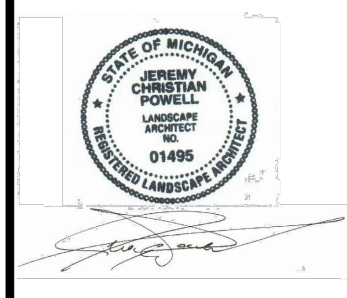
LANDSCAPE AND IRRIGATION NOTES FROM OWNER

- THE CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE, AUTOMATED UNDERGROUND IRRIGATION SYSTEM ON A DESIGN/BUILD BASIS. SYSTEM SHALL PROVIDE 100% COVERAGE IN ALL GRASSED OR LANDSCAPED AREAS ONSITE.
- AN IRRIGATION PLAN MUST BE PROVIDED TO THE OWNER FOR APPROVAL.
- IRRIGATION SYSTEM SHALL INCLUDE A MASTER SHUT-OFF VALVE, A BACKFLOW DEVICE, A PRESSURE REGULATOR, A TIME CLOCK-BASED CONTROLLER, AND A MOISTURE OR RAIN SENSOR. THE IRRIGATION SYSTEM MUST ALSO BE PLACED ON A SEPARATE METER FROM THE DOMESTIC SERVICE.
- LANDSCAPE CONTROLS SHALL BE SET TO RUN AT OPTIMAL TIMES OF THE DAY TO MINIMIZE EVAPORATION LOSS AND BUSINESS DISRUPTION. BROADCAST SYSTEMS SHOULD NOT BE SET TO RUN DURING TENANT'S NORMAL BUSINESS HOURS.
- COVER DRIP IRRIGATION SYSTEMS TO BE PROVIDED IN ALL BED AREAS AND SHALL BE COVERED WITH A MINIMUM OF 3" OF ROCK OR MULCH. DRIP LINES SHALL BE PINNED DOWN EVERY 3'.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ALL PLANTS AND AREAS RECEIVING SOD OR SEED UNTIL THE IRRIGATION SYSTEM IS OPERABLE.
- PROVIDE A MINIMUM OF 12" OF AMENDED TOPSOIL TO ALL PLANTING AREAS. AMENDMENT TO INCLUDE COMPOST AND NUTRIENTS PER SOILS REPORT.
- NO BARK MULCH, STRAW OR OTHER FLAMMABLE BED FILL IS PERMITTED.

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	OTHER
	CO	4	CELTIS OCCIDENTALIS / COMMON HACKBERRY	B & B	2" CAL. MIN	40-60 FT. MATURE HEIGHT
	GA	4	GINKGO BILOBA 'AUTUMN GOLD' TM / AUTUMN GOLD MAIDENHAIR TREE	B & B	2" CAL. MIN	50 FT. MATURE HEIGHT
	QC	1	QUERCUS ROBUR X ALBA 'CRIMSCHMIDT' TM / CRIMSON SPIRE OAK	B & B	2" CAL. MIN	40 FT. MATURE HEIGHT
	TG	3	TILIA CORDATA 'GREENSPIRE' / GREENSPIRE LITTLELEAF LINDEN	B & B	2" CAL. MIN	40 FT. MATURE HEIGHT
	UP	2	ULMUS AMERICANA 'PRINCETON' / PRINCETON AMERICAN ELM	B & B	2" CAL. MIN	65 FT. MATURE HEIGHT
EVERGREEN TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	OTHER
	PF	3	PINUS FLEXILIS 'VANDERWOLF'S PYRAMID' / VANDERWOLF'S PYRAMID LIMBER PINE	B & B	6 FT. HEIGHT MIN.	40 FT. MATURE HEIGHT
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING	SIZE
	AM	7	ARONIA MELANOCARPA 'MORTON' TM / IROQUOIS BEAUTY BLACK CHOKEBERRY	-	SEE PLAN	24" HT MIN
	AU	17	ARONIA MELANOCARPA 'UCONNAM166' / LOW SCAPE HEDGER CHOKEBERRY	-	SEE PLAN	6" HT MIN
	HL	16	HYDRANGEA PANICULATA 'LITTLE LIME' / LITTLE LIME HYDRANGEA	-	SEE PLAN	18" HT MIN
	VM	4	VIBURNUM DENTATUM 'BLUE MUFFIN' / SOUTHERN ARROWWOOD	-	SEE PLAN	36" HT MIN
	WM	9	WEIGELA FLORIDA 'MINUET' / MINUET WEIGELA	-	SEE PLAN	18" HT MIN
EVERGREEN SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING	SIZE
	JF2	11	JUNIPERUS CHINENSIS 'FAIRVIEW' / FAIRVIEW JUNIPER	-	SEE PLAN	5' HT MIN.
GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING	SIZE
	CK	62	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / KARL FOERSTER FEATHER REED GRASS	1 GAL	24" OC	
	PB	53	PENNISETUM ALOPECUROIDES 'BURGUNDY BUNNY' / BURGUNDY BUNNY DWARF FOUNTAIN GRASS	1 GAL	12" OC	
GRASSES AND PERENNIALS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING	SIZE
	AB	17	AMSONIA X 'BLUE ICE' / BLUE ICE BLUESTAR	1 GAL	24" OC	
	AS	13	ALLIUM X 'SUMMER BEAUTY' / SUMMER BEAUTY ORNAMENTAL ONION	1 GAL	24" OC	
	ST	28	SPOROBOLUS HETEROLEPIS 'TARA' / TARA PRAIRIE DROPSEED	1 GAL	24" OC	
GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING	SIZE
			TURF SOD			

NO.	REVISIONS	DATE	BY
4	WCMRC/TOWNSHIP REVIEW COMMENTS	03/30/22	JMM
3	WCMRC/TOWNSHIP REVIEW COMMENTS	02/24/22	JMM
2	TOWNSHIP COMMENTS	01/11/22	JMM
1	TOWNSHIP COMMENTS	11/29/21	JMM



LANDSCAPE NOTES AND DETAILS

RANGE USA
 660 JAMES L. HART PARKWAY
 YPSILANTI TOWNSHIP, MI

ORIGINAL ISSUE: 10/19/2021
 KHA PROJECT NO. 168921002
 SHEET NUMBER

L2.0

CHARTER TOWNSHIP OF YPSILANTI

OFFICE OF COMMUNITY STANDARDS

Building Safety • Planning & Zoning • Ordinance Enforcement • Police Services

To: Heather Jarrell Roe, Clerk
From: Belinda Kingsley, Community Compliance Director
Re: **Request to authorize Circuit Court litigation to abate a public nuisance located at 6050 S Ivanhoe Ave in the amount of \$10,000 from account 101-729-801.023.**
Copy: McLain & Winters, Township Attorneys
Date: April 11, 2022

The Office of Community Standards (OCS) has investigated a public nuisance at the following location for which authorization to engage in circuit court is now requested.

6050 S. Ivanhoe Ave.

The residential property located at 6050 S. Ivanhoe Ave, in The Pines subdivision, on the south side of Textile, is abandoned and neglected. A Notice of Violation-Condemnation was issued to the property owner of record and JP Morgan Chase Bank on November 17, 2021.

A Vacant Property Registration application was submitted by JP Morgan Chase Bank on two occasions in 2021, and it is clear from the title documents that the property is in the control of JP Morgan Chase Bank. For the last five months, both OCS and legal counsel have attempted to work with JP Morgan to bring this property into compliance with the Township's Property Maintenance and Building Codes or, in the alternative, proceed with the demolition of this property. To date, other than requesting a list of demolition contractors in the area, that was provided on February 28, 2022, there has been no action on the part of JP Morgan.

This property cannot remain in its current condition since it constitutes both an attractive and public nuisance, and continues to have a negative impact upon the adjacent property owners and the neighborhood in general. At this point the property has been abandoned and neglected to such an extent that it may very well have to be demolished. It is our goal to have JP Morgan take action to either preserve this residential structure or demolish it. With no further options available, authorization to engage in Circuit Court litigation is requested.

Thank you for your consideration and your continued support for our public nuisance abatement efforts.

CHARTER TOWNSHIP OF YPSILANTI



Supervisor
BRENDA L. STUMBO
Clerk
HEATHER JARRELL ROE
Treasurer
STAN ELDRIDGE
Trustees
JOHN P. NEWMAN
GLORIA PETERSON
DEBBIE SWANSON
JIMMIE WILSON JR.



**Residential Services
Department**

7200 S. Huron River Drive
Ypsilanti, MI 48197

ytown.org

MEMORANDUM

To: Charter Township of Ypsilanti Board of Trustees

From: Mike Hoffmeister, Residential Services Director

CC: Javonna Neel, Accounting Director

Date: April 13, 2022

RE: Request Authorization to approve the Master Agreement for Municipal Street Lighting with DTE Electric Company for \$140,654.16 budgeted in line #213-901-986.009

The Residential Services Department is requesting authorization to approve the Master Agreement for Municipal Street Lighting with DTE Electric Company for \$140,654.16 budgeted in line #213-901-986.009.

At the February 1, 2022 regular Board Meeting, the Board of Trustees approved to award and proceed with construction of a new multi-use trail along Huron Street between S. Huron River Drive and James L. Hart. This agreement will allow us to install streetlights along that same stretch in order to provide a safe corridor for both non-vehicular and vehicular traffic. This agreement permits DTE to install twenty-four (24) streetlights every 300', staggered on both the east and west sides of the Huron Street.

This agreement is also contingent upon a budget amendment.

Mike Hoffmeister
Residential Services Director
mhoffmeister@ytown.org
734-544-3515



March 22, 2022

Charter Township of Ypsilanti
7200 S. Huron River Dr.
Ypsilanti, MI 48197

Re: DTE Street Lighting: Huron St from James L Hart to S. Huron River

Attached is the Master Agreement for the streetlighting installations along Huron St from James L Hart to S. Huron River Dr. A detailed description of the project is outlined in the agreements. Please print **TWO** copies. Please sign **BOTH** copies in the designated areas. A check in the amount of **\$140,654.16** is also required at this time. Please return **BOTH** signed agreements (as well as check made payable to **DTE Energy**) to the following address:

DTE Energy
8001 Haggerty Rd.
Belleville, MI 48111
140 WWSC-Brandon Faron

Please call if you have questions, 734-397-4017.

Sincerely,

Brandon R. Faron

Brandon R. Faron
Account Manager
Community Lighting

MASTER AGREEMENT FOR MUNICIPAL STREET LIGHTING

This Master Agreement For Municipal Street Lighting ("Master Agreement") is made between DTE Electric Company ("Company") and the Charter Township of Ypsilanti ("Customer") (collectively referred to as the "Parties") as of March 22, 2022.

RECITALS

A. Customer may, from time to time, request Company to furnish, install, operate and/or maintain street lighting equipment for Customer.

B. Company may provide such services, subject to the terms of this Master Agreement.

Therefore, in consideration of the foregoing, Company and Customer hereby agree as follows:

AGREEMENT

1. Master Agreement. This Master Agreement sets forth the basic terms and conditions under which Company may furnish, install, operate and/or maintain street lighting equipment for Customer. Upon the Parties' agreement as to the terms of a specific street lighting transaction, the Parties shall execute and deliver a Purchase Agreement in the form of the attached Exhibit A (a "Purchase Agreement"). In the event of an inconsistency between this Agreement and any Purchase Agreement, the terms of the Purchase Agreement shall control.

2. Rules Governing Installation of Equipment and Electric Service. Installation of street light facilities and the extension of electric service to serve those facilities are subject to the provisions of Company's Rate Book for Electric Service (the "Tariff"), Rule C 6.1, Extension of Service (or any other successor provision), as amended and approved by the Michigan Public Service Commission ("MPSC") from time to time.

3. Contribution in Aid of Construction. In connection with each Purchase Agreement and in accordance with the applicable Orders of the MPSC, Customer shall pay to Company a contribution in aid of construction ("CIAC") for the cost of installing Equipment (as defined in the applicable Purchase Agreement) and recovery of costs associated with the removal of existing equipment, if any. The amount of the CIAC (the "CIAC Amount") shall be an amount equal to the total construction cost (including all labor, materials and overhead charges), less an amount less than or equal to three (3) years' revenue expected from such Equipment, and less an amount equal to the Post Charge revenue if selected by Customer. The CIAC Amount will be as set forth on the applicable Purchase Agreement. The CIAC Amount does not include charges for any additional cost or expense for unforeseen underground objects, or unusual conditions encountered in the construction and installation of Equipment. If Company encounters any such unforeseen or unusual conditions, which would increase the CIAC Amount, it will suspend the construction and installation of Equipment and give notice of such conditions to the Customer. The Customer will either pay additional costs or modify the work to be performed. If the work is modified, the CIAC Amount will be adjusted to account for such modification. Upon any such

suspension and/or subsequent modification of the work, the schedule for completion of the work shall also be appropriately modified.

4. Payment of CIAC Amount. Customer shall pay the CIAC Amount to Company as set forth in the applicable Purchase Agreement. Failure to pay the CIAC Amount when due shall relieve Company of its obligations to perform the work required herein until the CIAC Amount is paid, at which point the schedule for completion of the work shall be appropriately modified.

5. Post Charge. For newly installed underground-fed lighting systems of greater than five (5) lights, Customer has the option to select a Post Charge, in lieu of paying all or some of the up-front CIAC Amount, pursuant to the terms of the Purchase Agreement. The Post Charge is a monthly rate, calculated based on the portion of the CIAC Amount that is not paid up front (rounded up to the nearest \$1,000.00 increment).

6. Modifications. Subject to written permission of the respective municipality, after installation of the Equipment, any cost for additional modifications, relocations or removals will be the responsibility of the requesting party.

7. Maintenance, Replacement and Removal of Equipment. In accordance with the applicable Orders of the MPSC, under the Street Lighting Rate (as defined below), Company shall provide the necessary maintenance of the Equipment, including such replacement material and equipment as may be necessary. Customer may not remove any Equipment without the prior written consent of Company. To the extent that Customer or any other local government authority requires Company to obtain any permits in order to perform any maintenance, repair, replacement or restoration of Equipment under this Master Agreement, Company shall not be responsible for any delay or interruption of service due to such permitting requirements. Customer acknowledges that compliance with such permitting requirements may result in additional charges to Customer (including, without limitation, trip charges associated with demobilizing and remobilizing personnel and materials to the worksite in connection with the pendency of required permit applications).

8. Street Lighting Service Rate.

a. Upon the installation of the Equipment, the Company will provide street lighting service to Customer under Option 1 of the Municipal Street Lighting Rate set forth in the Tariff, as approved by the MPSC from time to time (the "Street Lighting Rate"), the terms of which are incorporated herein by reference.

b. The provision of street lighting service is also governed by rules for electric service established in MPSC Case Number U-6400. The Street Lighting Rate is subject to change from time to time by orders issued by the MPSC.

9. Contract Term. This initial term of this Master Agreement shall commence upon date of installation and terminate on the later of (a) five (5) years from the date hereof or (b) the date on which the final Purchase Agreement entered into under this Master Agreement is terminated. If the optional Post Charge is selected, the initial term of this Master Agreement shall be the later of (a) ten (10) years from the date hereof or (b) the date on which the final Purchase Agreement entered into under this Master Agreement is terminated. Upon expiration of the initial

term, this Master Agreement shall continue on a month-to-month basis until terminated by mutual written consent of the parties or by either party with thirty (30) calendar days' prior written notice to the other party. Upon termination of this Master Agreement for any reason, before or after the expiration of the initial term, Company shall have the right to disconnect the Equipment and/or remove any Company-owned equipment and a portion of the Equipment corresponding to the extent to which Customer has not paid in full for the Equipment; provided, however, that Company shall not withdraw service, and Customer shall not substitute another source of service, without at least twelve (12) months' written notice to the other party

10. Customer Obligations upon Termination. In the event that this Master Agreement is terminated before the end of the initial term by Company due to an Event of Default or by Customer for convenience, Customer will promptly pay Company which shall include all of the following:

- a. If applicable, the un-recouped portion of the Company Capital Investment pro-rated for the remainder of the initial three-year period;
- b. If applicable, the aggregate total of remaining Post Charge payments that would have come due over the remainder of the applicable period ten (10) years for Post Charge.
- c. The aggregate total of remaining Luminaire Charge payments that would have been charged over the remainder of the applicable initial contract term;
- d. Any Company costs and expenses associated with disconnecting and de-energizing the Equipment from Company power supply sources; and
- e. The cost incurred by the Company to remove Company's Lighting System and restoration of impacted property as commercially reasonable as possible to its original condition.

11. Design Responsibility for Street Light Installation. Company installs municipal street lighting installations following Illuminating Engineering Society of North America ("IESNA") recommended practices. If the Customer submits its own street lighting design for the street light installation or if the street lighting installation requested by Customer does not meet the IESNA recommended practices, Customer acknowledges Company is not responsible for any compliance or noncompliance with IESNA standards or any issues arising therefrom.

12. New Subdivisions. Company agrees to install street lights in new subdivisions when subdivision occupancy reaches a minimum of 80%, pursuant to a Purchase Agreement. If Customer wishes to have installation occur prior to 80% occupancy pursuant to a Purchase Agreement, then Customer acknowledges that Customer will be financially responsible for all damages (knockdowns, etc.) and requests for modifications (movements due to modified curb cuts from original design, etc.), and that the CIAC Amount and schedule for completion of the work shall be appropriately modified.

13. Force Majeure. The obligation of Company to perform this Master Agreement shall be suspended or excused to the extent such performance is prevented or delayed because of acts beyond Company's reasonable control, including without limitation acts of God, fires, adverse

weather conditions (including severe storms and blizzards), malicious mischief, strikes and other labor disturbances, compliance with any directives of any government authority, including but not limited to obtaining permits, and force majeure events affecting suppliers or subcontractors.

14. Subcontractors. Company may sub-contract, in whole or in part, any of its obligations under this Master Agreement.

15. Waiver; Limitation of Liability. To the maximum extent allowed by law, Customer hereby waives, releases and fully discharges Company from and against any and all claims, causes of action, rights, liabilities or damages whatsoever, including attorney's fees, arising out of the installation of the Equipment and/or any replacement Equipment, including claims for bodily injury or death and property damage, unless such matter is caused by or arises as a result of the sole negligence of Company and/or its subcontractors. Company shall not be liable under this Master Agreement for any special, incidental or consequential damages, including loss of business or profits, whether based upon breach of warranty, breach of contract, negligence, strict liability, tort or any other legal theory, and whether or not Company has been advised of the possibility of such damages. In no event will Company's liability to Customer for any and all claims related to or arising out of this Master Agreement exceed the CIAC Amount set forth in the Purchase Order to which the claim relates.

16. Notices. All notices required by this Master Agreement shall be in writing. Such notices shall be sent to Company at **DTE Electric Company, Community Lighting Group, 8001 Haggerty Rd, Belleville, MI 48111** and to Customer at the address set forth on the applicable Purchase Agreement. Notice shall be deemed given hereunder upon personal delivery to the addresses set forth above or, if properly addressed, on the date sent by certified mail, return receipt requested, or the date such notice is placed in the custody of a nationally recognized overnight delivery service. A party may change its address for notices by giving notice of such change of address in the manner set forth herein.

17. Representations and Warranties. Company and Customer each represent and warrant that: (a) it has full corporate or public, as applicable, power and authority to execute and deliver this Master Agreement and to carry out the actions required of it by this Master Agreement; (b) the execution and delivery of this Master Agreement and the transactions contemplated hereby have been duly and validly authorized by all necessary corporate or public, as applicable, action required on the part of such party; and (c) this Master Agreement constitutes a legal, valid, and binding agreement of such party.

18. Miscellaneous.

a. This Master Agreement is the entire agreement of the parties concerning the subject matter hereof and supersedes all prior agreements and understandings. Any amendment or modification to this Master Agreement must be in writing and signed by both parties.

b. Customer may not assign its rights or obligations under this Master Agreement without the prior written consent of Company. This Master Agreement shall be binding

upon and shall inure to the benefit of the parties' respective successors and permitted assigns. This Master Agreement is made solely for the benefit of Company, Customer and their respective successors and permitted assigns and no other party shall have any rights to enforce or rely upon this Master Agreement.

c. A waiver of any provision of this Master Agreement must be made in writing and signed by the party against whom the waiver is enforced. Failure of any party to strictly enforce the terms of this Master Agreement shall not be deemed a waiver of such party's rights hereunder.

d. The section headings contained in this Master Agreement are for convenience only and shall not affect the meaning or interpretation thereof.

e. This Master Agreement shall be construed in accordance with the laws of the State of Michigan, without regard to any conflicts of law principles. The parties agree that any action with respect to this Master Agreement shall be brought in the courts of the State of Michigan and each party hereby submits itself to the exclusive jurisdiction of such courts.

f. This Master Agreement may be executed in one or more counterparts, each of which shall be deemed an original but all of which together will constitute one and the same instrument.

g. The invalidity of any provision of this Master Agreement shall not invalidate the remaining provisions of the Master Agreement.

Company and Customer have executed this Master Agreement as of the date first written above.

Company:

DTE Electric Company

By: _____

Name: _____

Title: _____

Date: _____

Customer:

Charter Township of Ypsilanti

By: _____

Name: _____

Title: _____

Date: _____



Exhibit A to Master Agreement


Purchase Agreement

This Purchase Agreement (this "Agreement") is dated as of March 22, 2022 between DTE Electric Company ("Company") and the Charter Township of Ypsilanti ("Customer").

This Agreement is a "Purchase Agreement" as referenced in the Master Agreement for Municipal Street Lighting dated March 8, 2022 (the "Master Agreement") between Company and Customer. All of the terms of the Master Agreement are incorporated herein by reference. In the event of an inconsistency between this Agreement and the Master Agreement, the terms of this Agreement shall control.

Customer requests Company to furnish, install, operate and maintain street lighting equipment as set forth below:

1. DTE Work Order Number:	64703574	
	If this is a conversion or replacement, indicate the Work Order Number for current installed equipment: N/A	
2. Location where Equipment will be installed:	[Huron St-James L Hart to S. Huron River Dr], as more fully described on the map attached hereto as <u>Attachment 1</u> .	
3. Total number of lights to be installed:	24	
4. Description of Equipment to be installed (the " <u>Equipment</u> "):	Install twenty-four (24) 28'6", black, steel posts on frangible transformer base and twenty-four (24) 136w LED with black housing.	
5. Estimated Total Annual Lamp Charges	\$7,931.52	
6. Estimated Total Annual Post Charges if selected	\$0.00	
7. Computation of Contribution in aid of Construction (" <u>CIAC Amount</u> ")	Total estimated construction cost, including labor, materials, and overhead:	\$164,448.72
	Revenue credit:	\$23,794.56
	CIAC Amount (cost minus revenue)	\$140,654.16
	Credit for Post Charge, if selected	\$0.00
8. Payment of CIAC Amount:	Due promptly upon execution of this Agreement \$140,654.16	
9. Term of Agreement	<p>5 years. Upon expiration of the initial term, this Agreement shall continue on a month-to-month basis until terminated by mutual written consent of the parties or by either party with thirty (30) days prior written notice to the other party.</p> <p>If Post Charge "box" is checked the Customer agrees to following term:</p> <p>10 years. Upon expiration of the initial term, this Agreement shall continue on a month-to-month basis until terminated by mutual written consent of the parties or by either party with thirty (30) days prior written notice to the other party.</p>	

<p>10. Does the requested Customer lighting design meet IESNA recommended practices?</p>	<p>(Check One) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p> <p>If "No", Customer must sign below and acknowledge that the lighting design does not meet IESNA recommended practices</p> <p>_____ </p>
<p>11. Customer Address for Notices:</p>	<p>Charter Township of Ypsilanti 7200 S. Huron River Dr. Ypsilanti, MI 48197</p>

12. Special Order Material Terms:

All or a portion of the Equipment consists of special order material: (check one) YES NO

If "Yes" is checked, Customer and Company agree to the following additional terms.

A. Customer acknowledges that all or a portion of the Equipment is special order materials ("SOM") and not Company's standard stock. Customer will purchase and stock replacement SOM and spare parts as provided in Section B below. When replacement equipment or spare parts are installed from Customer's inventory, Company will credit Customer in the amount of the then-current material cost of Company standard street lighting equipment in lieu of which the SOM is being used.

B. Customer will maintain an inventory of at least 0 posts and 0 luminaires and any other materials agreed to by Company and Customer, and will replenish the stock by ordering materials no later than thirty (30) calendar days after the materials are drawn from inventory. Costs of initial inventory are included in this Agreement. If Customer fails to maintain the required inventory, Company, after 30 days' notice to Customer, may (but is not required to) order replacement SOM and Customer will reimburse Company for its costs (including the labor costs associated with Company's management of the supply chain for the SOM) no later than thirty (30) calendar days after receipt of Company's invoice for such costs. Customer's acknowledges that failure to maintain required inventory could result in extended outages due to SOM lead times.

C. The inventory will be stored at N/A. Access to Customer's inventory site must be provided between the hours of 9:00 am to 4:00 pm, Monday through Friday with the exceptions of federal Holidays. If Company is unable to access the site during such hours for any reason, Company (i) shall be relieved from any obligation or commitment to complete the work as scheduled, and (ii) may, at its option, procure the inventory itself and have Customer to reimburse Company's costs for doing so. Customer shall name an authorized representative to contact regarding inventory: levels, access, usage, transactions, and provide the following contact information to Company:

Name: N/A Title: N/A

Phone Number: N/A Email: N/A

Customer will immediately notify Company of any changes in the Authorized Customer Representative. Customer must comply with SOM manufacturer's recommended inventory storage guidelines and practices. Damaged SOM will not be installed by Company.

D. In the event that SOM is damaged by a third party, Company may (but is not required to) pursue a damage claim against such third party for all of Company's costs incurred because of the claim, including all labor and replacement materials. Company will notify Customer as to whether Company will pursue such claim within a reasonable time of the SOM being damaged.

E. In the event that SOM becomes obsolete, discontinued, or incompatible with Company's infrastructure, Customer shall select new alternate SOM that is compatible with Company's then-existing infrastructure. If Customer does not select compatible alternate SOM, Company reserves the right to select compatible SOM that is, in its reasonable judgment, substantially similar, or replace the SOM with standard materials, in either case being entitled to reimbursement from Customer for Company's costs in providing such transition of supply (including internal overhead and labor costs).

F. Should Customer experience, in Company's reasonable judgment, excessive LED equipment failures that are not supported by LED manufacturer warranties, Company will replace the LED equipment with other Company supported Solid State or High Intensity Discharge luminaires at Company's discretion. The full cost to complete these replacements to standard street lighting equipment will be the responsibility of Customer.

Company and Customer have executed this Purchase Agreement as of the date first written above.

Company:

DTE Electric Company

By: _____

Name: _____

Title: _____

Date: _____

Customer:

Charter Township of Ypsilanti

By: _____

Name: _____

Title: _____

Date: _____

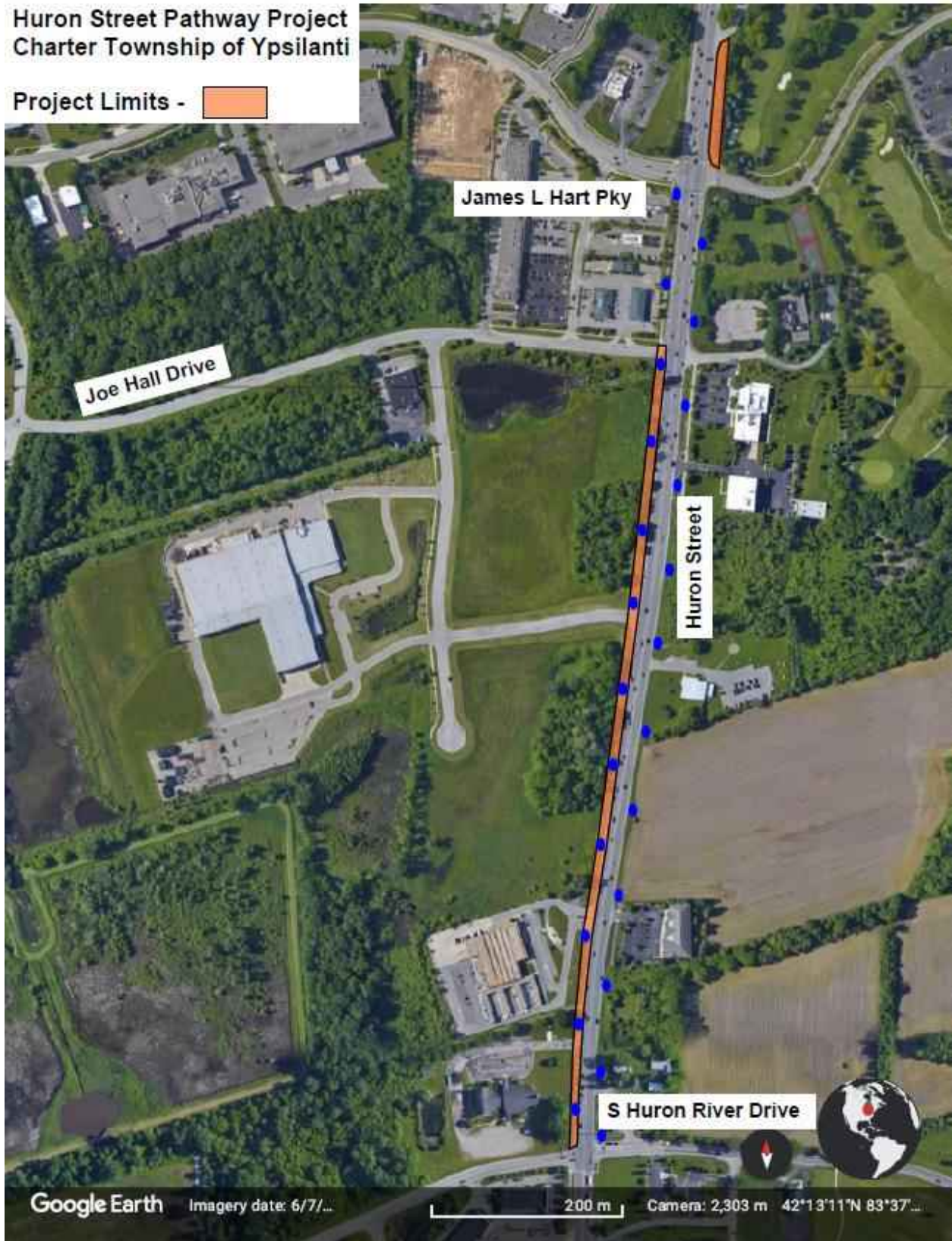


Attachment 1 to Purchase Agreement

Map of Location

Huron Street Pathway Project
Charter Township of Ypsilanti

Project Limits - 



**CHARTER TOWNSHIP OF YPSILANTI
2022 BUDGET AMENDMENT #6**

April 19, 2022

AMOUNTS ROUNDED UP TO THE NEAREST DOLLAR

213 - BIKE, SIDEWALK, REC, ROADS FUND (BSRII)	Total Increase	<u><u>\$48,966.00</u></u>
--	-----------------------	----------------------------------

Request to increase the budget for DTE to install 24 streetlights on Huron Street. The total DTE agreement is for \$140,654.16. The budget for 2022 currently has \$91,689 budgeted for streetlights. This will be an additional amount to bring the budget to the total project. This will be funded by an appropriation of prior year fund balance.

Revenues:	Prior Year Fund Balance	213-000-699.999	\$48,966.00
		Net Revenues	<u><u>\$48,966.00</u></u>
Expenditures:	Capital - Pathway Huron #1	213-901-986.009	\$48,966.00
		Net Expenditures	<u><u>\$48,966.00</u></u>

Motion to Amend the 2022 Budget (#6)

Move to increase the Bike, Sidewalk, Rec, Roads (BSRII) Fund budget by \$48,966 to \$2,624,240 and approve the department line item changes as outlined.

AUTHORIZATIONS AND BIDS

Office (734)
544-4225



MEMORANDUM

To: Charter Township of Ypsilanti Trustees

From: Fire Chief Eric Copeland

Date: April 12, 2022

Subject: Authorization to seek sealed bids for replacement of the roof at 8879 Textile Road (Station #4) budgeted in line item: #206-901-976-005 for **CAPITAL OUTLAY – FIRE STATION – FY 2022.**

In service to the Township, I am requesting for the April 19, 2022 Township Board regular meeting to present the following item(s) for consideration.

- 1) Authorization to seek sealed bids for roof replacement at our fire station located at 8879 Textile Road. Funding for the Textile roof replacement project approved in the FY 2022 for line 217 Fire Special Millage Capital Fund budget additionally outlined in the 2022 Capital Improvement Plan for Station #4.

Attached is the bid packet containing the YT Contract Provision Checklist, Textile roof project specifications, 2015 edition of Michigan Building Code and YT requirements pertinent to the project.

Thank you,

Fire Chief Eric Copeland



Office (734) 544-4225
Fire Chief (734) 544-4110
Fire Marshal (734) 544-4107
Fax (734) 544-4195

FIRE DEPARTMENT
222 SOUTH FORD BOULEVARD
YPSILANTI, MICHIGAN 48198-6067

Fire Station #4 roof removal and replacement CHECKLIST & SPECIFICATIONS

The Charter Township of Ypsilanti requirements for this project are as follows:

ADHERENCE TO CONTRACT PROVISION CHECKLIST:

- **Prevailing Wage Provision** (If Applicable).
- **Bonds:** (If project/bid is over \$25,000.00)
- **Performance Bond:** (If required usually equal to amount of the bid)
- **Maintenance & Guarantee Bond:** (If required)
- **Bid Bond or Surety Bond:** (If required usually 5% of bid)
- **Insurance Certificates:** Workers Compensation - \$500,000 limit each accident. General Liability – (combined single limit of \$1,000,000.00 each occurrence for bodily injury & property damage) must include 60 day written notice for change of coverage cancellation or non-renewable coverage
- **Protective Policy:** (combined single limit of \$1,000,000.00 each occurrence for bodily injury & property damage) Must Name **“The Charter Township of Ypsilanti and it’s past, present, and future elected Officials, Appointed Commissions and Boards, Agents and Employees shall be named as “Additional named Insured” (unless otherwise approved by the Township Attorney) on the General Liability Policy with respect to the services provided under this Contract”**.
- **Automobile Liability:** covers owned, hired and non-owned vehicles with personal protection insurance and property protection. Includes residual liability insurance with a combined single limit of \$1,000,000.00 each accident for bodily injury and property damage.
- **Builder’s Risk:** (Required if over \$25,000.00)
- **Umbrella Policy/Excess Coverage:** (Optional)
- **Correct Coverage Amounts – Township Named as “Additional Named Insured”**

- 1) Pre-bid meeting TBD. (Optional)
- 2) 2 copies of bid

The Charter Township of Ypsilanti general requirements for this project are as follows:

- PERMITS: The Contractor shall furnish and pay for all permits and inspections required for his work.
- CODES: All work performed shall comply with all applicable codes and ordinances including all Building Codes, Mechanical Codes, Plumbing Codes, Electrical Codes and Fire Codes. If required by the local codes the building systems affected by this work shall be compliant to current code unless grandfathered under the code.
- DIMENSIONS/SIZING: All contractors are responsible for determining the appropriate dimensions and/or sizing of all material components. It is required that the contractor have a licensed professional engineer verify the roof dimensions and special features.
- CONTRACTOR to provide a detailed listing of materials and verify specifications of the roofing shingles (20yr).

PRICING SHALL INCLUDE:

- Performance and Payment Bond costs
- Prevailing Wage Labor Standards
- Costs of all Permits and required inspections
- Costs of all Engineering and Architectural drawings and seals if required
- All applicable taxes. Include all special taxes subject to assessed locally on contract work such as a “Business Tax” or “Contractor tax” for the privilege of doing business in the City, County or other Government jurisdiction.

PROPOSAL DELIVERY:

- Two copies of the bid in a sealed envelope delivered to the Clerk’s office and marked “Roof Bid” :

Charter Township of Ypsilanti Clerk’s Office
Attention: Lisa Stanfield
7200 South Huron River Drive
Ypsilanti, MI 48197

- Electronic Submission on MITN website
- Please direct any questions to Fire Chief Eric Copeland (734) 368-6769, email at ecopeland@ytown.org or Lieutenant Scott Gehringer (734) 544-4111, email at sgehringer@ytown.org .

Bids are due on or before 12:00 PM on the Due Date TBD.

The Michigan Building Code requirements and specifications for this project are as follows:

- 1) Tear off existing shingles.
- 2) Any damaged sheeting or 1x6 fascia found after tear off would be an additional charge.
- 3) Protect gutters, downspouts, siding and shrubbery.
- 4) Properly dispose of all waste.
- 5) All workmanship to be performed according to the Michigan Building Code 2015 requirements.
- 6) Furnish and install proper ventilation per the Michigan Building Code 2015 requirements.
- 7) Furnish and install a synthetic underlayment on all roof surfaces with the exception of locations that receive ice and water shield.
- 8) Furnish and install ice and water shield minimum 4 feet above soffit and/or unheated surfaces.
- 9) Furnish and install new drip edge and sidewall flashing.
- 10) Furnish and install new boots around all plumbing stacks.
- 11) Furnish and install a roof system using an architectural (20 yr. minimum) shingle.
- 12) Clean around building and leave area as found or better.

The Charter Township of Ypsilanti requirements for this project are as follows:

- 1) Liability insurance acknowledgement including the Township in amount of \$1,000,000.
- 2) Performance bond for contract amount.
- 3) Bid bond of 5%
- 4) Pre-bid meeting TBD.
- 5) 2 to 3 copies of bid submitted by 12:00 PM on Due Date.
- 6) Unit plywood/underlayment replacement escrow tabulated in 500 square footage increments.
- 7) Prevailing wage requirements apply to this project.

For any questions about the specifications, please contact Fire Chief Eric Copeland (734) 368-6769, email at ecopeland@ytown.org or Lieutenant Scott Gehringer (734) 544-4111, email at sgehringer@ytown.org.

CONTRACT PROVISION CHECKLIST

PREVAILING WAGE PROVISION (ORDINANCE NO. 69)
(IF APPLICABLE) _____

LIVING WAGE ORDINANCE (IF APPLICABLE) _____

BONDS: (IF PROJECT IS OVER \$25,000.00)

PERFORMANCE-LABOR-MATERIAL BOND-(IF REQUIRED) _____
GUARANTEES COMPANY WILL DO THE JOB CORRECTLY.
AMOUNT EQUAL TO THE AMOUNT OF THE CONTRACT
SOMETIMES CALLED LABOR & MATERIALS BOND

MAINTENANCE –GUARANTEE BOND-(IF REQUIRED) _____
AMOUNT EQUAL TO THE AMOUNT OF THE CONTRACT

PAYMENT BOND (IF REQUIRED)-GUARANTEES CONTRACTOR _____
WILL PAY SUBCONTRACTORS AND SUPPLIERS.
AMOUNT EQUAL TO THE AMOUNT OF THE CONTRACT

BID BOND (IF REQUIRED)-GUARANTEES PRICE OF PROJECT. _____
USUALLY 5% OF THEIR BID. SOMETIMES CALLED A
“SURETY BOND”.

INSURANCE CERTIFICATES:

WORKERS COMPENSATION – (\$1,000,000.00 LIMIT _____
EACH ACCIDENT)

GENERAL LIABILITY-(COMBINED SINGLE LIMIT OF _____
\$1,000,000.00 EACH OCCURRENCE FOR BODILY INJURY
& PROPERTY DAMAGE) MUST INCLUDE 60 DAY
WRITTEN NOTICE FOR CHANGE OF COVERAGE ,
CANCELLATION, OR NON-RENEWAL OF COVERAGE.
MUST NAME “THE CHARTER TOWNSHIP OF YPSILANTI
AND ITS PAST, PRESENT, AND FUTURE ELECTED
OFFICIALS SHALL BE NAMED AS “ADDITIONAL NAMED
INSURED” ON THE GENERAL LIABILITY POLICY WITH
RESPECT TO THE SERVICES PROVIDED UNDER THIS
CONTRACT” – Occurrence basis

OWNER’S PROTECTIVE POLICY-(COMBINED SINGLE LIMIT _____
OF \$1,000,000.00 EACH OCCURRENCE FOR BODILY INJURY
& PROPERTY DAMAGE)

AUTOMOBILE LIABILITY-COVERS OWNED, HIRED AND
NON-OWNED VEHICLES WITH PERSONAL PROTECTION
INSURANCE AND PROPERTY PROTECTION. INCLUDES
RESIDUAL LIABILITY INSURANCE WITH A COMBINED
SINGLE LIMIT OF \$1,000,000.00 EACH ACCIDENT FOR
BODILY INJURY AND PROPERTY DAMAGE.

BUILDER'S RISK-

UMBRELLA POLICY/EXCESS COVERAGE-OPTION.
MAY BE USED TO COVER EVERYTHING.



Office (734) 544-4225
Fire Chief (734) 544-4110
Fire Marshal (734) 544-4107
Fax (734) 544-4195

FIRE DEPARTMENT
222 SOUTH FORD BOULEVARD
YPSILANTI, MICHIGAN 48198-6067

MEMORANDUM

To: Charter Township of Ypsilanti Trustees

From: Ypsilanti Township Fire Chief Eric Copeland

Date: April 13, 2022

Subject: Authorization for OHM to accept bids for an approved proposal to provide detailed engineering services for replacement of the asphalt parking lot at Fire Station #3 located at 20 S. Hewitt, budgeted in **FY 2021 line item: #217-970-000-971-008 Capital Outlay/Property Improvement.**

This project was delayed in 2021 due to COVID-19 circumstances, and I would request to move it forward pending Attorney Winters review and approval of the revised OHM Contract Proposal book(s) currently being reviewed by his offices.

Thank you,

Fire Chief Eric Copeland
Ypsilanti Township Fire Department

ERC

BRENDA L. STUMBO
Clerk
HEATHER JARRELL ROE
Treasurer
STAN ELDRIDGE
Trustees
JOHN P. NEWMAN II
GLORIA PETERSON
DEBBIE SWANSON
JIMMIE WILSON, JR.



Charter Township of Ypsilanti
Supervisor

Clerk's Office

7200 S. Huron River
Drive
Ypsilanti, MI 48197
Phone: (734) 484-4700
Fax: (734) 484-5156

MEMORANDUM

To: Eric Copeland, Fire Chief

From: Heather Jarrell Roe, Clerk *HJR*

Date: March 3, 2021

Subject: ***Request to Accept the Proposal from OHM to Provide Professional Engineering Design Services for Parking Lot Improvements at the Hewitt Rd. Fire Station***

At the regular meeting held on March 2, 2021 the Charter Township of Ypsilanti Board of Trustees approved the proposal from OHM to provide professional engineering services for parking lot improvements at the Hewitt Rd. Fire Station in a not to exceed amount of \$12,100.00 budgeted in line item #217-970-000-971-008.

Attached is a signed copy of the proposal. Please return a fully executed copy to my office.

Should you have any questions, please contact my office.

Irs

cc: Javonna Neel, Accounting Director
Brenda Stumbo, Supervisor
File



February 24, 2021

Mr. Eric Copeland
Ypsilanti Township Fire Chief
222 S. Ford Blvd
Ypsilanti, MI 48198

RE: Proposal for Hewitt Fire Station
Professional Engineering Design Services

Dear Mr. Copeland:

Thank you for the opportunity to submit this proposal to provide Professional Engineering Design Services for the reconstruction of the Hewitt Fire Station parking lot and a portion of the existing drive lane. The existing parking lot and drive lane are at the end of their respective service lives and due to the deteriorating nature, this proposed project will reconstruct failing subbase, remove deteriorated pavement, and place new concrete pavement.

As it relates to previous work done within the 222 S Ford Blvd parking lot project, our team is familiar with fire stations and type of work required. During the previous project, OHM met with the Fire Department and considered making improvements in a "log style" format and working with the contractor selected at the Ford Blvd Station. This did not proceed but OHM kept notes from those discussions and plans to meet to review requests made as part of that effort. The preceding project required extensive concrete reconstruction/rehabilitation on the old lot and driveways. That project was closed out in 2019 and yielded a fantastic product. We understand your expectations for the Hewitt Station and are excited to continue the momentum and success from the Ford Blvd Station into this project.

This proposal provides key personnel and project manager contact information as well as project understanding, deliverables, schedule, and fee estimation.

PROJECT UNDERSTANDING

The proposed project consists of reconstruction of the Hewitt Fire Station parking lot/entrance and drive lane located at 20 S. Hewitt Road. The proposed design will include minor expansion of the parking lot/entrance area (alongside Hewitt Road), include expansion of the existing drive lane on the west side of the fire station, and assess the existing concrete slab along the southside of the station for possible removal and replacement.

The total work will include approximately 1,100 square yards of pavement removal, investigative subbase repair, and 1,400 square yards of concrete placement.

The parking lot/entrance and drive lane design will comply with the current Ypsilanti Township engineering standards for construction including, applicable sections of the Americans with Disabilities Act (ADA) where applicable, the National Asphalt Pavement Association (NAPA) Standards, and local Ordinances.

The construction effort will stay on Ypsilanti Township property and no easements are anticipated for this project.



We offer the following scope of services for the completion of the design of this project.

SCOPE

Task 1 – Utility Coordination

OHM Advisors will notify applicable utility agencies, as a representative of the Charter Township of Ypsilanti, with regards to the proposed project. We will request information regarding the existing utilities within the project limits from all necessary utility companies to be incorporated into the construction drawings. OHM will coordinate with the Ypsilanti Fire Department to schedule and hold a utility meeting, if necessary, to resolve any conflicts. If conflicts require relocations of existing utilities, OHM Advisors will coordinate with the Charter Township of Ypsilanti, Ypsilanti Township Fire Department, and the utility company involved.

Task 2 – Geotechnical Investigation

OHM Advisors will coordinate, conduct, and provide geotechnical information for this project using internal resources. It is assumed that we will perform up to four (4) Cores on the existing pavement surfaces. OHM will provide a cross-section on existing subsurface conditions and apply that information for the design. Core information will also be included in the bid package.

Task 3 – Preliminary Engineering Drawing Design

OHM will inspect the site to note existing limits, structures, and deficiencies in this phase. The data gathered in Task 1 and Task 2, along with the site inspection, will facilitate creating a set of design drawings and aerial maps. These drawings and maps will be developed to show the parking lot layout and proposed work. Preliminary design will be completed at this time.

OHM Advisors will develop preliminary plans, specifications, and an engineer's opinion of cost in conformance with the Charter Township of Ypsilanti Engineering Standards and design specifications. The plans will include a cover sheet, detail sheet, note sheet, legend sheet, removal sheets, typical cross sections, plan, and profile sheets. Geometrics will be preliminary and will be used for preparing the preliminary opinion of cost. Two sets of the Preliminary Plan Package will be submitted to the Ypsilanti Township Fire Department for review. OHM will meet with the Fire Department representatives to discuss preliminary plan comments and design items.

Task 4 – Specifications and Final Bid Package Assembly

In order to develop the necessary specifications and will pertain to specific items such as special instructions to bidders (Township requirements), supplemental and technical specifications, and a method of payment for the contractor to follow.

After a virtual meeting with the Township Fire Department, OHM Advisors will further develop plans and special provisions integrating the comments received by all parties. OHM will prepare detailed construction plans at a 1" = 40' scale on 22" x 34" sheets, as well as updating the engineer's opinion of cost and streamlining the specifications.

The bid package will require the necessary bonding, prevailing wage information, and insurance requirements as well as a bid form that will allow the Township to compare bids on an "apples to apples" basis. After completion of the design, the Township will be provided with two hard copies of the package for review along with an updated final engineer's opinion of probable cost. Final adjustments to the package will then be made based on the Township's comments prior to advertising and bidding. A list of permits will also be included in the bid package and all applicable permit applications will also be applied for as part of this task.



Task 5 – Bidding Assistance

The final bid package will be provided to the Township to be posted on the Michigan Inter-governmental Trade Network (MITN). OHM will assist with the bid process and conduct a bid opening. OHM can also hold an onsite pre-bid conference with potential bidders, if requested by the Township. OHM will address any questions and/or any Requests for Information (RFIs) received by the bidding contractors during the bid phase. OHM will hold a bid opening at the Township on the date specified in the bid documents. Bids will be received, read aloud, collected, tabulated, and reviewed. A letter of recommendation will be provided to the Township based on price, references, and other criteria outlined in the bid documents.

DELIVERABLES

Task	Deliverable
Task 3	Preliminary Engineering Drawings
Task 4	Final Bidding Package (Reviewed by Township Attorney)
Task 5	Recommendation of Award Letter

KEY PERSONNEL

This project team has been specifically selected to best meet the technical aspects of the design and facilitate coordination with the Township. Below is a list of key personnel and their role on this project.

Project Team Members	Role on Project	Specific Duties
Matthew Parks, PE	Project Manager	Management & Public Liaison
Elliot Smith	Lead Design Engineer	Concepts, Design Development, ADA Issues, & QA/QC

ASSUMPTIONS/CLARIFICATIONS

- ▶ The design will be limited to the parking lot/entrance, drive lane, and hard surface around the limits of the Hewitt Fire Station. This design will not incorporate any improvements to Hewitt Road, Draper Road, or sidewalk pathway.
- ▶ Any additional tasks outside of the above scope of services can be conducted at an hourly rate or as negotiated between the Township and OHM Advisors. Additional work will not be conducted prior to Township written authorization.
- ▶ No construction phase services are included in the proposal. The Township can inspect and administer this project with their staff or OHM can submit a proposal under separate cover for consideration upon request. In general, projects like this require approximately 13-15% of the overall construction cost to administer construction services. This can change based on the level of service provided.
- ▶ Any meetings in addition to the meetings outlined in the above scope are not included in the scope of services but can be attended upon request. Time spent for these meetings will be charged on an hourly basis.

SCHEDULE

As we submit this proposal, the world is still in the midst of the Covid-19 health crises and we believe there is an increased risk for potential schedule impacts. The Scope of Services includes a schedule that is based on operating in a normal environment. The OHM Advisors team is adjusting our workflow logistics and our design teams are working remotely in a very effective manner. However, be aware that schedule impacts from elements such as



field services delays, permitting agencies, utility companies, and key staff illness that OHM Advisors does not have control over are more likely in the current environment. We will communicate proactively, clearly identify project issues as they arise and work with Township staff to develop a plan to deal with the issues.

OHM Advisors intends to start work within three weeks of approval of the proposal. Final plans should be complete within four months. OHM Advisors should be notified immediately of any deadline changes to satisfy the Township's needs, as significant changes in the final project schedule could affect total cost.

FEE

OHM Advisors will invoice the Charter Township of Ypsilanti for the above stated services on an hourly not-to-exceed basis, in accordance with our 2021 Rate Schedule. Invoices will be sent monthly as work is performed.

Design Tasks	Design Fee
Task 1: Utility Coordination	\$900.00
Task 2: Geotechnical Investigation	\$2,000.00
Task 3: Prelim Engineering Drawing Design	\$3,000.00
Task 4: Specification and Final Bid Package Assembly	\$3,000.00
<u>Task 5: Bidding Assistance</u>	<u>\$3,200.00</u>
Total	\$12,100.00

The total fee is estimated to be \$12,100.00. Additional services can be provided on an hourly basis, as requested.



ACCEPTANCE

If this proposal is acceptable to you, a signature on the enclosed copy of this letter and initials on the contract terms and conditions will serve as our authorization to proceed.

Thank you for giving us the opportunity to present this proposal to you. We look forward to working with you throughout this project.

OHM ADVISORS
CONSULTANT

Ypsilanti Township
CLIENT

(Signature)

Brenda L. Stumbo

Matthew D. Parks, P.E.

(Name)

Ms. Brenda Stumbo

Principal in Charge

(Title)

Township Supervisor

(Date)

March 3, 2021

(Signature)

Heather Jarrell Roe

(Name)

Ms. Heather Jarrell Roe

(Title)

Township Clerk

(Date)

March 3, 2021



MEMORANDUM

To: Charter Township of Ypsilanti Trustees

From: Fire Chief Eric Copeland

Date: April 13, 2022

Subject: Authorization to seek bids for the purchase of two new Fire Pumper Engine built according to specifications outlined in the attached packet(s): 1 – 2023 Spartan Legend Series Engine packet, and 2 – 2023 Spartan Metro Star Series Engine packet budgeted in line item: #217-901-000-979-000 for **CAPITAL OUTLAY – FIRE APPARATUS – FY 2022**.

In service to the Township, I am requesting for the April 19, 2022 Township Board work session meeting to present the following item(s) for consideration.

- Authorization to seek sealed bids for the purchase of two Fire Engine according to specs and timelines outlined in the attached packets #1 – 2023 Spartan Legend Series Engine, and #2 – 2023 Spartan Metro Star Series (stock) Engine presented by Spartan Representative Matt Holzhei and supported by the YTFD Truck Committee members.

*Note: Timeline for truck deliveries (+365days) will extend into FY 2023 and possibly 2024 budgets.

Thank you,

Fire Chief Eric Copeland



CSI Emergency Apparatus, LLC
 2332 Dupont Street
 Grayling, MI 49738
 www.csiea.com

Phone: 989-348-2877
 Fax: 989-348-8233

Ypsilanti Twp Fire Dept

Apparatus Proposal Pre-Payment Discount Offering

LEGEND SERIES PUMPER

CSI Emergency Apparatus has provided the following pre-payment options for your consideration. In order for the prepayment amounts below to be valid, the prepayment amount needs to be decided at the time of purchase.

Payment Discount Type	Prepayment Amount	Discount	Balance Due on Delivery
100% Prepayment at time of contract	\$ 677,137.00	\$ 14,670.00	\$ -
80% Prepayment at time of contract	\$ 541,709.60	\$ 11,736.00	\$ 123,691.40
50% Prepayment at time of contract	\$ 338,568.50	\$ 7,335.00	\$ 331,233.50

The above Balance Due on Delivery values do not include any change orders or additions that may be applied to the project during production. All change orders or additions to the project will be provided to the purchasing authority in writing for approval before they are completed.

If you would like to see other prepayment options, please don't hesitate to ask, we would be happy to provide those

Performance bond included: deduct to omit: \$ (2,334.00)

Proudly Representing:





CSI Emergency Apparatus, LLC
 2332 Dupont Street
 Grayling, MI 49738
 www.csiea.com

Phone: 989-348-2877
 Fax: 989-348-8233

Ypsilanti Twp Fire Dept

Apparatus Proposal Pre-Payment Discount Offering

STAR SERIES PUMPER

CSI Emergency Apparatus has provided the following pre-payment options for your consideration. In order for the prepayment amounts below to be valid, the prepayment amount needs to be decided at the time of purchase.

Payment Discount Type	Prepayment Amount	Discount	Balance Due on Delivery
100% Prepayment at time of contract	\$ 784,122.00	\$ 21,072.00	\$ -
80% Prepayment at time of contract	\$ 627,297.60	\$ 16,857.00	\$ 139,967.40
50% Prepayment at time of contract	\$ 392,061.00	\$ 10,536.00	\$ 381,525.00

The above Balance Due on Delivery values do not include any change orders or additions that may be applied to the project during production. All change orders or additions to the project will be provided to the purchasing authority in writing for approval before they are completed.

If you would like to see other prepayment options, please don't hesitate to ask, we would be happy to provide those

Performance bond included: Deduct to omit \$ 2,724.00

Proudly Representing:





CSI Emergency Apparatus, LLC
2332 Dupont Street
Grayling, MI 94738
Phone: 989-348-2877

April 13, 2022

Ypsilanti Twp Fire Dept
222 South Ford Blvd.
Ypsilanti, MI 48198

Ladies and Gentlemen:

CSI Emergency Apparatus is pleased to offer you, upon an order being placed by you, the below proposed Spartan Emergency Response Fire Apparatus. The apparatus and equipment as presented in our proposal includes no State, Federal, or local taxes.

The bid price per our proposal is as follows:

One (1) Spartan Legend Series Pumper	\$	677,137.00
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The Apparatus and Equipment shall be ready for final inspection at the Spartan Emergency Response factory located in Brandon South Dakota, within **365** days after the effective date. Any delays by the customer in providing additional desired specifications, change approvals, required inspection schedules, or other required information for the Apparatus and Equipment may result in an extension of the above referenced delivery days by the amount of time Spartan Emergency Response requires, in its sole but reasonable discretion, to provide the Apparatus and Equipment following the customers request and or delay.

Delays in delivery by strikes, war or international conflict, failures to obtain chassis, materials, or any other causes beyond our control shall not be held against CSI Emergency Apparatus as your authorized Spartan dealer.

Payment Structure for apparatus as proposed:

* We have bid the apparatus with COD terms, payment do at the time of delivery. See following page for pre-payment discount options.

The bid price is good until April 29, 2022. Extensions may be granted upon request.

Sincerely,

Matthew Holzhei
General Manager
CSI Emergency Apparatus



CSI Emergency Apparatus, LLC
2332 Dupont Street
Grayling, MI 94738
Phone: 989-348-2877

April 13, 2022

Ypsilanti Twp Fire Dept
222 South Ford Blvd.
Ypsilanti, MI 48198

Ladies and Gentlemen:

CSI Emergency Apparatus is pleased to offer you, upon an order being placed by you, the below proposed Spartan Emergency Response Fire Apparatus. The apparatus and equipment as presented in our proposal includes no State, Federal, or local taxes.

The bid price per our proposal is as follows:

One (1) Spartan Star Series Pumper	\$	784,122.00
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The Apparatus and Equipment shall be ready for final inspection at the Spartan Emergency Response factory located in Brandon South Dakota, within **440** days after the effective date. Any delays by the customer in providing additional desired specifications, change approvals, required inspection schedules, or other required information for the Apparatus and Equipment may result in an extension of the above referenced delivery days by the amount of time Spartan Emergency Response requires, in its sole but reasonable discretion, to provide the Apparatus and Equipment following the customers request and or delay.

Delays in delivery by strikes, war or international conflict, failures to obtain chassis, materials, or any other causes beyond our control shall not be held against CSI Emergency Apparatus as your authorized Spartan dealer.

Payment Structure for apparatus as proposed:

* We have bid the apparatus with COD terms, payment do at the time of delivery. See following page for pre-payment discount options.

The bid price is good until April 29, 2022. Extensions may be granted upon request.

Sincerely,

Matthew Holzhei
General Manager
CSI Emergency Apparatus

CSI Emergency Apparatus, LLC
2332 Dupont Street
Grayling, MI 49738
www.csiea.com



Phone: 989-348-2877
Fax: 989-348-8233

April 13, 2022

Ypsilanti Twp Fire Dept
222 South Ford Blvd.
Ypsilanti, MI 48198

Ladies and Gentlemen

CSI Emergency Apparatus, LLC is pleased to offer a multiple fire apparatus discount for the following apparatus

- ◆ One (1) Spartan Star Series Side Mount Pumper
- ◆ One (1) Spartan Legend Series Side Mount Pumper

Multiple Spartan Pumper Discount: Deduct \$15,000

This discount offer is valid with a contract award of the same date for the proposed apparatus on April 13, 2022. This discount is a total for the two rig purchase

The discount is in addition to any prepayment discounts if the prepayment option is chosen

All terms and conditions enclosed with this proposal and the specifications provided in the bid package shall be in effect upon signing of a formal contractual agreement.

This discount offer is valid only for the terms of the two proposed apparatus and will expire on April 29, 2022

If you have any questions, please don't hesitate to call. We appreciate your business, thank you!

Sincerely,

A handwritten signature in black ink that reads "Matt R Holzhei". The signature is written in a cursive, slightly slanted style and is followed by a horizontal line.

Matthew Holzhei
General Manager



Ypsilanti Twp Fire Department
Spartan Legend Series
Pumper Specification

Proudly Represented By:



CSI Emergency Apparatus

North Location

**2332 Dupont Street
Grayling, Michigan 49738**

South Location

**1650 Callaghan
Greenville, MI 48838**

Proposal Specification Date: 4-13-2022



Ypsilanti Twp Fire Department SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

APPARATUS BRAND

The apparatus proposed shall be a Spartan Emergency Response brand of Spartan Fire, LLC.

INTENT OF SPECIFICATIONS

Spartan Fire, LLC and CSI Emergency Apparatus, LLC submit the following detailed proposal for your consideration.

This detailed proposal supersedes the published specifications and will be the specifications in which the apparatus will be designed and manufactured to, if awarded the contract.

Any mutually agreed changes made during a pre-construction meeting or build process, will become part of the contract and the build specification. Based on these processes any costs and or credits will be applied to the final invoice.

Spartan Fire is a U.S. based provider of fire apparatus. Spartan designs and manufactures fire and rescue apparatus which utilize the approach of complete product integration including the apparatus body and pump house structures. Engineering, assembly and testing all take place at Spartan Fire facilities.

Each apparatus is quality control inspected with full documentation at each step of the manufacturing process.

The apparatus must meet all NFPA, DOT, ICC, AE, SAE, UL, TRA, FMVSS and local state Motor Vehicle Requirements.

It is required that the apparatus be manufactured to current NFPA edition standards, all NFPA equipment (LOOSE EQUIPMENT) not specified in the specifications will not be provided by the contractor.

QUALITY AND WORKMANSHIP

The design of the Apparatus shall embody the latest approved automotive engineering practices.

The workmanship must be of the highest quality in its respective field. Special consideration will be given to the following points: Accessibility of the various units, which require periodic maintenance, ease of operation (including both pumping and driving) and symmetrical proportions.

Construction shall be rugged and ample safety factors shall be provided to carry loads as specified and to meet both on and off road requirements and to speed conditions as set forth under "Performance tests and requirements".

Welding shall be employed in the assembly of the apparatus in a manner that will not prevent the ready removal of any component part for service or repair, with apparatus bodies of bolt together design not being acceptable.





Ypsilanti Twp Fire Department

SPARATN LEGEND SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

All steel welding shall follow American Welding Society requirements for AWS D1.1:2012 Structural Welding Code for welding steel structural assemblies. All aluminum welding shall follow American Welding Society requirements for AWS D1.2/D1.2M:2003 Structural Welding Code for any type of structure made from aluminum structural alloys. All sheet metal welding shall follow American Welding Society AWS D9.1M/D9.1:2006 Structural Welding code for Arc/Braze requirements of non-structural materials. All pressure pipe welding shall follow American Society of Mechanical Engineers ASME IX/ASME B31:2010 requirements to the qualification of procedures in welding and brazing, in accordance with the ASME Boiler and Pressure Vessel Code and the ASME B31 Code for Pressure Piping. Flux core arc welding to use alloy rods, type 7000, American Welding Society AWS standards A5.20-E70T1.

DELIVERY WITH APPARATUS ORIENTATION

The number of calendar days from the date the bid is awarded to the delivery of the completed unit is provided on our proposal page.

CSI Emergency Apparatus shall provide apparatus orientation at the time of delivery. The factory trained representative must understand the operation of all system on the apparatus, have a general knowledge of the maintenance requirements for the apparatus and its components, and understands fire ground applications to provide operational instruction and how it relates to the apparatus delivered.

If deemed necessary by the Fire Department, CSI Emergency Apparatus will provide a SECOND scheduled session at a later date. This option will remain available to the Fire Department for up to 90 days from the original delivery date.

To ensure proper break-in of all components while still under warranty, the apparatus shall be delivered under its own power.

PERFORMANCE TESTS AND REQUIREMENTS

A road test shall be conducted with the apparatus fully loaded to its estimated in-service weight and shall be capable of the following performance while on dry paved roads that are in good condition and for a continuous run of ten (10) miles or more, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts and rear axles shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus. The successful bidder shall furnish a Weight Certificate showing weights on front axle, rear axles and total weight for the completed apparatus at time of delivery.

- The apparatus shall be capable of accelerating to 35 MPH (55 km/hr) from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed RPM of the engine.
- The apparatus, fully loaded, shall be capable of obtaining a minimum top speed of 50 MPH (80 km/hr) on a level dry concrete highway with the engine not exceeding its governed RPM (fully loaded).





Ypsilanti Twp Fire Department

SPARTAN LEGEND SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

- The service brakes shall be capable of stopping a fully loaded vehicle in 35ft (10.7 m) at 20 mph (32.2 km/hr) on a level concrete highway. The air brake system shall conform to Federal Motor Vehicle Safety Standards (FMVSS) 121.
- The apparatus, when fully loaded, shall have not less than 25 percent or more than 50 percent of the weight on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle.
- From a steady pace of 15 mph, the vehicle will accelerate to a true speed of 35 mph within 15 seconds. This will be accomplished without moving gear selector.
- The apparatus will be able to maintain a speed of at least 20 mph on any grade up to and including 6 percent.
- The contractor shall have the Underwriter's Laboratories, LLC conduct the tests of the apparatus as in accordance with standard practices required by the Underwriter Laboratories, LLC (Guide for the Certification of Fire Department Pumper latest edition). A copy of all tests shall accompany the Apparatus. (For apparatus sold within Canadian ULC S515 latest revision shall prevail).
- The contractor shall furnish copies of the Pump Manufacturer's Certification of hydrostatic test, the Engine Manufacturer current certified brake horsepower curve, and the Manufacturer's record of pumper construction details when delivered.
- All fluid levels and applicable pressures will be brought to proper levels and noted prior to final delivery.

INFORMATION REQUIRED

The manufacturer shall supply at time of delivery, a complete operation and maintenance manual covering the completed apparatus as delivered.

A Fire Apparatus Safety Guide published by Fire Apparatus Manufacturer's Association shall be provided with the apparatus upon delivery. This manual includes essential safety information for fire fighters, fire chiefs, apparatus mechanics, and fire department safety officers. The guide is applicable to municipal, wildland, and airport firefighting apparatus manufactured on either custom or commercial chassis.

A permanent plate shall be mounted in the driver's compartment to specify the quantity and type of the following fluids used in the vehicle: Engine oil, engine coolant, and chassis transmission fluid, pump transmission lubrication fluid, pump primer fluid (if used) and drive axle lubrication fluid.

The manufacture shall supply the final certification of GVWR and GAWR on a nameplate affixed to the vehicle.





Ypsilanti Twp Fire Department SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

A permanent plate in the driver's compartment shall be installed, specifying the seating capacity of the enclosed cab.

Signs that state "OCCUPANTS MUST BE SEATED AND BELTED WHEN APPARATUS IS IN MOTION" shall be provided and will be visible from each seated position. An accident prevention sign shall be located at the rear step area of the apparatus. It shall warn all personnel that standing on the step while apparatus is in motion shall be prohibited.

A nameplate indicating the chassis transmission shift selector position to be used when pumping shall be provided in the driving compartment and located so that it can be easily read from the driver's position.

LIABILITY

Spartan Fire LLC, shall defend any and all suits and assume all liability for the use of any patented device or article forming part of the apparatus or any appliance provided under the contract.

GENERAL CONSTRUCTION

The apparatus shall be designed with due consideration to distribution of load between the front and rear axles, so that all specified equipment, including filled water tank, a full complement of personnel and fire hose will be carried without injury to the apparatus. Weight balance and distribution shall be in accordance with the recommendations of the (NFPA) 1901, Standard for Automotive Fire Apparatus, documentation.

The apparatus shall be designed so that all recommended daily maintenance checks can be performed easily by the operator without the need for hand tools. Apparatus components that interfere with repair or removal of other major components must be attached with fasteners (cap, screws, nuts, etc.) so that the components can be removed and installed with normal hand tools. These components must not be welded or otherwise permanently secured into place.

The GAWR and GVWR of the chassis shall be adequate to carry the fully equipped apparatus including all tanks filled, the specified hose load, unequipped personnel weight, ground ladders and a miscellaneous equipment allowance per NFPA criteria. It shall be the responsibility of the purchaser to provide the contractor with the weight of equipment to be carried if it is in excess of the allowance as set forth by NFPA.

The unequipped personnel weight shall be calculated at 250 lbs. per person times the maximum number of persons to ride on the apparatus.

The height of the fully loaded vehicle's center of gravity shall not exceed the chassis maximum limit.

The front to rear weight distribution of the fully loaded vehicle shall be within the limits of the chassis. The front axle loads shall not be less than the minimum axle loads specified by Spartan Chassis, under full loads and all other loading conditions.





Ypsilanti Twp Fire Department

SPARTAN LEGEND SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

The difference in weight on the end of each axle, from side to side, when the vehicle is fully loaded and equipped shall not exceed 7 percent.

The apparatus shall be so designed that the various parts are readily accessible for lubrication, inspection, adjustment and repair.

Where special tools are manufactured or designed to provide routine service on any component of the apparatus built or supplied by the contractor, such tools shall be provided with the apparatus.

BID/PROPOSAL DRAWING

A drawing is included in our proposal illustrating, but not limited to, the overall dimensions, wheelbase, and overall length of the proposed apparatus.

PRE-CONSTRUCTION DRAWINGS

After the award of the bid, Spartan shall provide detailed colored engineering drawings including, but not limited to, the overall dimensions, wheelbase, and overall length of the proposed apparatus for use at the pre-construction conference.

The drawings shall include, but shall not be limited to the right, left, top, front and rear views of the apparatus.

PERFORMANCE BOND

A 100% Performance Bond shall be supplied by Spartan Fire, LLC within thirty days (30) of bid award. The signatures of both buyer and bidder on the contract shall construe awarding of the bid.

SINGLE SOURCE MANUFACTURER

Spartan Fire, LLC is defined as a single source apparatus manufacturer.

Spartan designs and manufactures our products utilizing an approach that includes complete product integration, including the apparatus Chassis, Chassis Cab, Pump Module and Body Module being constructed, assembled, and tested on company facilities.

Warranties qualified to the Chassis, Pump Module and Body Module design construction (excluding vendor component warranties such as engine, axles, transmission, and pumps, etc.) will be from Spartan Fire, LLC.





Ypsilanti Twp Fire Department SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

FINITE ELEMENT ANALYSIS AND TESTING

Finite Element Analysis has been utilized in evaluating and engineering the critical areas of the Spartan Fire, LLC apparatus body and pump module.

Prototype bodies were subjected to rigorous testing over varied terrains simulating different environmental conditions.

The purpose of such complex engineering methods of analysis is to ensure the longevity of the design by analyzing stress levels throughout the body and pump module incorporating the structural supports wherever necessary.

There has been a minimum of three (3) different load cases (per DOT, FHWA, and TTMA recommended practice) applied and analyzed to properly display the different areas and levels of stresses that will be present under the various operating conditions of the apparatus. This is in addition to the static stress analysis. The analysis has included the weight of the structure plus an estimate of all the components that exist on a fully loaded apparatus (i.e., tank, water, hose load, equipment in compartments, etc.).

Analysis has also been conducted on the mounting system for the apparatus body and pump module.

SUPPLIED INFORMATION & EXTRAS

There shall be two (2) hard copies of apparatus manuals with all manufactured apparatus.

The manuals shall include, but not be limited to: all component warranties, users' manuals and information for supplied products, apparatus engineering information including drawings and build prints, and whatever other pertinent information Spartan can supply to its customer regarding the said apparatus.

Included in the delivery of the unit, Spartan will also include spare hardware and extra fasteners, paint for touch-up, information regarding washing and care procedures, as well as other recommendations for care and upkeep of the general apparatus.

Spartan will also supply a manufacturer's record of apparatus construction providing the end user the information as specified by NFPA for the type of apparatus delivered.

ELECTRICAL SCHEMATICS

The apparatus manufacturer shall supply one (1) set(s) as-built wiring schematics, to include all line voltage schematics with each apparatus.





Ypsilanti Twp Fire Department

SPARTAN LEGEND SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

WARNING AND INFORMATION LABELS

All warning and informational labels (non-vendor specific) shall be provided in compliance with (NFPA) 1901, Standard for Automotive Fire Apparatus, and installed in the appropriate locations to alert the operator of potential hazards and operating instructions.

ONLINE CUSTOMER INTERACTION

Spartan shall provide the capability for online access through the Spartan website.

The fire department shall be able to view digital photos of their apparatus in the specified phases of construction.

The following phases will be captured and displayed:

1. Chassis when available at manufacturing facility
2. Body – Prior to Paint
3. Body – Painted
4. Pump and Plumbing
5. Assembly – 80% Complete

GENERAL WARRANTY

Purchaser shall receive a General Two (2) Years or 36,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0002. The warranty certificate is incorporated by reference into this proposal and available upon request.

PLUMBING WARRANTY

Purchaser shall receive a Plumbing and Piping (Stainless Steel) Ten (10) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0800. The warranty certificate is incorporated by reference into this proposal and available upon request.

PUMP CERTIFICATION AND TESTING

The apparatus upon completion will be tested and certified by Underwriters Laboratories, LLC. The certification tests will follow the guide lines outlined in (NFPA) 1901, Standard for Automotive Fire Apparatus.

There shall be multiple tests performed by Spartan Fire, LLC and Underwriter's Laboratories, LLC when the apparatus has been completed. Spartan Fire, LLC shall provide the completed Test Certificate(s) to the purchaser at time of delivery.





Ypsilanti Twp Fire Department

SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

A test plate shall be provided at the pump operator's panel that gives the rated discharges and pressures together with the speed of the engine as determined by the certification test for each unit, the position of the parallel/series pump as used, and the governed speed of the engine as stated by the engine manufacturer on a certified brake horsepower curve. The plate shall be completely stamped with all information at the factory and attached to the vehicle prior to shipping.

LOW-VOLTAGE ELECTRICAL SYSTEM PERFORMANCE TESTING

The apparatus low-voltage electrical system will be tested and certified. Tests shall be performed when the air temperature is between 0 degrees Fahrenheit and 110 degrees Fahrenheit (-18 degrees Celsius and 43 degrees Celsius). The three tests defined in NFPA shall be performed in the order in which they appear. Before each test, the batteries shall be fully charged until the voltage stabilizes at the voltage regulator set point and the lowest charge current is maintained for 10 minutes. Failure of any of these tests shall require a repeat of the sequence.

PRE-CONSTRUCTION CONFERENCE AT SPARTAN

CSI Emergency Apparatus shall provide, before manufacturing, a pre-construction conference at Spartan's manufacturing facility for up to Four (4) individuals from the Fire Department.

Factory direct engineering team members along with the factory contract administrator shall attend the meeting in person. During this conference, the Fire Department shall be provided with a live interactive view of the engineer's computer on a large screen monitor to witness the changes or adjustments made during the meeting in real time as they are discussed.

CSI has included all transportation, lodging, and meal expenses for the inspection trip. Lodging calculated as single occupancy (four travelers, four rooms).

Travel shall be via Commercial air.

This meeting shall take place within 45 days from the date of contract award.

This meeting generally requires three full weekdays to complete depending on flight schedules.





Ypsilanti Twp Fire Department

SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

FINAL INSPECTION CONFERENCE

CSI Emergency Apparatus shall provide, after manufacturing but before delivery, a final completion inspection conference at the apparatus manufacturing facility for up to four (4) individuals from the Fire Department to inspect the apparatus after construction.

During this inspection, the Fire Department shall have unrestricted access to the fire apparatus while accompanied by CSI, day or evening allowing for testing and inspection in all lighting conditions. The Fire Department shall also have the option to pump the apparatus from draft during this inspection.

CSI has included all transportation, lodging, and meal expenses for the inspection trip. Lodging calculated as single occupancy (four travelers, four rooms).

Travel shall be via Commercial air.

This meeting will be scheduled based on the apparatus production schedule.

This meeting generally requires two full weekdays to complete depending on flight schedules.





Ypsilanti Twp Fire Department SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE REV GROUP

Proposal Date: 4-13-2022

MODEL

The chassis shall be a Metro Star model. The cab and chassis shall include design considerations for multiple emergency vehicle applications, rapid transit and maneuverability. The chassis shall be manufactured for heavy duty service with the strength and capacity to support a fully laden apparatus, one hundred (100) percent of the time.

MODEL YEAR

The chassis shall have a vehicle identification number that reflects a 2023 model year.

COUNTRY OF SERVICE

The chassis shall be put in service in the country of United States of America (USA).

The chassis will meet applicable U.S.A. federal motor vehicle safety standards per CFR Title 49 Chapter V Part 571 as clarified in the incomplete vehicle book per CFR Title 49 Chapter V Part 568 Section 4 which accompanies each chassis. The chassis manufacturer is not responsible for compliance to state, regional, or local regulations. Dealers should identify those regulations and order any necessary optional equipment from the chassis manufacturer or their OEM needed to be in compliance with those regulations.

CAB AND CHASSIS LABELING LANGUAGE

The cab and chassis shall include the applicable caution, warning, and safety notice labels with text to be written in English. All applicable caution, warning, and safety notice labels shall be Innovative Controls brand. Where applicable to the location within the specific layout and label package of the cab and chassis, the labels shall include decorative chrome bezels. Designs shall include bezels that fit individual labels or packaged configurations of labels in certain common locations.

The following labels shall be Innovative Controls brand, each including a decorative chrome bezel (where applicable):

- Shoreline
- Aerial Stowed
- Aerial Breakers 2
- Air Conditioner
- Cab Tilt Plate
- Air Compressor Breaker
- Battery Conditioner Breaker
- Helmet Caution
- Horn Tag
- Q2B Tag
- Load Center Plate
- Not a Step Label





Ypsilanti Twp Fire Department

SPARATN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

- Occupancy Tag
- Do Not Move
- Occupants Must Be Seated
- Do Not Stand
- Danger Do Not Weld
- Danger--Untrained Operator
- DEF Fill Access (Including Additional 2907 Optional Labels)
- Battery Direct
- Kneeling
- IFS Air Fault
- Engine Brake
- Retarder
- LR 100 Amp Node
- 300 Amp EPU
- 100 Amp Front O/R Node
- 100 Amp T/T Node
- 100 Amp RR O/R Node
- 10 Amp EPU
- Master Power
- 12 Volt Power
- Aerial Hours
- Pump In Drive
- Windshield Washer Fluid

VEHICLE ANGLE OF APPROACH PACKAGE

The angle of approach of the apparatus shall be a minimum of 8.00 degrees.

NFPA1901 Angle of Approach definition:

“To determine the angle of approach, place a thin steel strip against the front of the tires where they touch the ground or stretch a tight string from one front tire to the other at the front where they touch the ground. Determine the lowest point (component or equipment) on the vehicle forward of the front tire that would make the smallest angle of approach. Hang a plumb bob from the lowest point and mark the point on the ground where the point of the plumb bob touches. Measure the vertical distance from the ground to the point where the plumb bob was hung (distance *V*). Measure the horizontal distance from the plumb bob point to the steel strip or string running from front tire to front tire (distance *H*). Divide the vertical distance by the horizontal distance. The ratio of *V/H* is the tangent of the angle of approach. If the ratio is known, the angle of approach can be determined from a table of trigonometric functions of angles or from a math calculator. The standard requires a minimum angle of approach of 8.00 degrees: since the tangent of 8.00 degrees is 0.1405, if *V* divided by *H* is 0.1405 or larger, the angle of approach is 8.00 degrees or greater.”





Ypsilanti Twp Fire Department SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

AXLE CONFIGURATION

The chassis shall feature a 4 x 2 axle configuration consisting of a single rear drive axle with a single front steer axle.

GROSS AXLE WEIGHT RATINGS FRONT

The front gross axle weight rating (GAWR) of the chassis shall be 21,500 pounds.

This front gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

GROSS AXLE WEIGHT RATINGS REAR

The rear gross axle weight rating (GAWR) of the chassis shall be 31,500 pounds.

This rear gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

CAB STYLE

The cab shall be a custom, fully enclosed, LFD model with a 10.00 inch raised roof over the driver, officer, and crew area, designed and built specifically for use as an emergency response vehicle by a company specializing in cab and chassis design for all emergency response applications. The cab shall be designed for heavy-duty service utilizing superior strength and capacity for the application of protecting the occupants of the vehicle. This style of cab shall offer up to ten (10) seating positions.

The cab shall incorporate a fully enclosed design with side wall roof supports, allowing for a spacious cab area with no partition between the front and rear sections of the cab. To provide a superior finish by reducing welds that fatigue cab metal; the roof, the rear wall and side wall panels shall be assembled using a combination of welds and proven industrial adhesives designed specifically for aluminum fabrication for construction.

The cab shall be constructed using multiple aluminum extrusions in conjunction with aluminum plate, which shall provide proven strength and the truest, flattest body surfaces ensuring less expensive paint repairs if needed. All aluminum welding shall be completed to the American Welding Society and ANSI D1.2-96 requirements for structural welding of aluminum.

All interior and exterior seams shall be sealed for optimum noise reduction and to provide the most favorable efficiency for heating and cooling retention.





Ypsilanti Twp Fire Department

SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE REV GROUP

Proposal Date: 4-13-2022

The cab shall be constructed of 5052-H32 corrosion resistant aluminum plate. The cab shall incorporate tongue and groove fitted 6061-T6 0.13 & 0.19 inch thick aluminum extrusions for extreme duty situations. A single formed, one (1) piece extrusion shall be used for the "A" pillar, adding strength and rigidity to the cab as well as additional roll-over protection. The cab side walls and lower roof skin shall be 0.13 inch thick; the rear wall and raised roof skins shall be 0.09 inch thick; the front cab structure shall be 0.19 inch thick.

The exterior width of the cab shall be 94.00 inches wide with a minimum interior width of 88.00 inches. The overall cab length shall be 144.60 inches with 67.50 inches from the centerline of the front of the axle to the back of the cab.

The cab interior shall be designed to afford the maximum usable interior space and attention to ergonomics with hip and legroom while seated which exceeds industry standards. The crew cab floor shall be flat across the entire walking area for ease of movement inside the cab.

The cab shall offer an interior height of 57.50 inches from the front floor to the headliner and a rear floor to headliner height of 65.00 inches in the raised roof area, at a minimum. The cab shall offer an interior measurement at the floor level from the rear of the engine tunnel to the rear wall of the cab of 65.38 inches. All interior measurements shall include the area within the interior trimmed surfaces and not to any unfinished surface.

The cab shall include a driver and officer area with two (2) cab doors large enough for personnel in full firefighting gear. The front doors shall offer a clear opening of 40.25 inches wide X 53.50 inches high, from the cab floor to the top of the door opening. The cab shall also include a crew area with up to two (2) cab doors, also large enough for personnel in full firefighting gear. The rear doors shall offer a clear opening of 32.25 inches wide X 61.00 inches high, from the cab floor to the top of the door opening.

The cab shall incorporate a progressive two (2) step configuration from the ground to the cab floor at each door opening. The progressive steps are vertically staggered and extend the full width of each step well allowing personnel in full firefighting gear to enter and exit the cab easily and safely.

The first step for the driver and officer area shall measure approximately 11.50 inches deep X 31.13 inches wide. The intermediate step shall measure approximately 8.50 inches deep X 32.50 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 11.00 inches.

The first step for the crew area shall measure approximately 11.50 inches deep X 20.44 inches wide. The intermediate step shall measure approximately 10.25 inches deep X 22.75 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 12.80 inches.





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OCCUPANT PROTECTION

The vehicle shall include the Advanced Protection System™ (APS) which shall secure belted occupants and increase the survivable space within the cab. The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

The system components shall include:

- Driver steering wheel airbag
- Driver dual knee air bags (patent pending) with energy management mounting (patent pending) and officer knee airbag.
- Driver and officer large side curtain airbags
- APS advanced seat belt system - retractor pre-tensioners tighten the seat belts around the occupants, securing the occupants in seats and load limiters play out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries
- Heavy truck Restraints Control Module (RCM) - receives inputs from the outboard sensors, selectively deploys APS systems, and records sensory inputs immediately before and during a detected qualifying event
- Integrated outboard crash sensors mounted at the perimeter of the vehicle - detects a qualifying front or side impact event and monitors and communicates vehicle status and real time diagnostics of all critical subsystems to the RCM
- Fault-indicating Supplemental Restraint System (SRS) light on the driver's instrument panel

Frontal impact protection shall be provided by the outboard sensors and the RCM. In a qualifying front impact event the outboard sensors provide inputs to the RCM. The RCM activates the steering wheel airbag, driver side dual knee airbags (patent pending), officer side knee airbag, and advanced seat belts for each occupant in the cab.

Rollover, side impact, and ejection mitigation shall be provided by the outboard sensors and the RCM. In qualifying rollover or side impact events the outboard sensors provide inputs to the RCM. The RCM activates the side curtain airbags and advanced seat belts for each occupant in the cab. The RCM measures roll angle, lateral acceleration, and roll rate to determine if a rollover event or side impact event is imminent or occurring.





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In the event of a qualifying offset or other non-frontal impact, the RCM shall determine and intelligently deploy the front impact protection system, the side impact protection system, or both front and side impact protection systems based on the inputs received from the outboard crash sensors.

CAB FRONT FASCIA

The front cab fascia shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate which shall be an integral part of the cab.

The cab fascia will encompass the entire front of the aluminum cab structure from the bottom of the windshield to the bottom of the cab and shall be the "Classic" design.

The front cab fascia shall include two (2) molded plastic modules on each side accommodating a total of up to four (4) Hi/Low beam headlights and two (2) turn signal lights or up to four (4) warning lights. A chrome plated molded plastic bezel shall be provided on each side around each set of four lamps.

FRONT GRILLE

The front fascia shall include a box style, 304 stainless steel front grille 44.45 inches wide X 33.50 inches high X 1.50 inches deep. The grille shall include a minimum free air intake of 732.00 square inches. The upper portion of the grille shall be hinged to provide service access behind the grille.

CAB UNDERCOAT

There shall be a rubberized undercoating applied to the underside of the cab that provides abrasion protection, sound deadening and corrosion protection.

CAB SIDE DRIP RAIL

There shall be a drip rail along the top radius of each cab side. The drip rails shall help prevent water from the cab roof running down the cab side.





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CAB PAINT EXTERIOR

The cab shall be painted prior to the installation of glass accessories and all other cab trim to ensure complete paint coverage and the maximum in corrosion protection of all metal surfaces.

All metal surfaces on the entire cab shall be ground by disc to remove any surface oxidation or surface debris which may hinder the paint adhesion. Once the surface is machine ground a high quality acid etching of base primer shall be applied. Upon the application of body fillers and their preparation, the cab shall be primed with a coating designed for corrosion resistance and surface paint adhesion. The maximum thickness of the primer coat shall be 2.00 mils.

The entire cab shall then be coated with an intermediate solid or epoxy surfacing agent that is designed to fill any minor surface defects, provide an adhesive bond between the primer and the paint and improve the color and gloss retention of the color. The finish to this procedure shall be a sanding of the cab with 360 grit paper followed by sealing the seams with SEM brand seam sealer.

The cab shall then be painted the specific color designated by the customer with an acrylic urethane type system designed to retain color and resist acid rain and most atmospheric chemicals found on the fire ground or emergency scene. The paint shall have a minimum thickness of 2.00 mils, followed by a clear top coat not to exceed 2.00 mils. The entire cab shall then be baked at 180 degrees for one (1) hour to speed the curing process of the coatings.

CAB PAINT MANUFACTURER

The cab shall be painted with Sikkens paint.

CAB PAINT PRIMARY/LOWER COLOR

The primary/lower paint color shall be:

CAB PAINT SECONDARY/UPPER COLOR

The secondary/upper paint color shall be:

CAB PAINT EXTERIOR BREAKLINE

The upper and lower paint shall meet at a breakline on the cab which shall be located approximately 1.00 inch below the door windows on each side of the cab. The breakline shall curve down at the front cab corners to approximately 5.00 inches below the windshields on the front of the cab.

CAB PAINT PINSTRIPE

A 0.50 inch wide gold reflective tape with black borders shall be applied on the break line between the two different colored surfaces.





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CAB PAINT WARRANTY

Purchaser shall receive a Paint and Finish (Exterior Clear coated) Ten (10) Years limited warranty in accordance with, and subject to, warranty certificate RFW0710. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

CAB PAINT INTERIOR

The visible interior cab structure surfaces shall be painted with a multi-tone silver gray texture finish.

CAB ENTRY DOORS

The cab shall include four (4) entry doors, two (2) front doors and two (2) crew doors designed for ease of entering and egress when outfitted with an SCBA. The doors shall be constructed of extruded aluminum with a nominal thickness of 0.13 inch. The exterior skins shall be constructed of 0.13 inch aluminum plate.

The doors shall include a double rolled style automotive rubber seal around the perimeter of each door frame and door edge which ensures a weather tight fit.

All door hinges shall be hidden within flush mounted cab doors for a pleasing smooth appearance and perfect fit along each side of the cab. Each door hinge shall be piano style with a 0.38 inch pin and shall be constructed of stainless steel.

CAB ENTRY DOOR TYPE

All cab entry doors shall be full length in design to fully enclose the lower cab steps. Entry doors shall include Pollak mechanical plunger style switches for electrical component activation.

CAB INSULATION

The cab ceiling and walls shall include a nonwoven polyester fiber insulation. The insulation shall act as a barrier absorbing noise as well as assisting in sustaining the desired climate within the cab interior.

LH EXTERIOR REAR COMPARTMENT

The cab shall offer an exterior compartment on the left side of the cab behind the rear door. The compartment opening shall be 10.00 inches wide X 31.19 inches high. The compartment size shall be 11.34 inches wide X 31.19 inches high X 21.19 inches deep. The compartment shall have a 10.63 inch wide, 32.00 inch high and 1.50 inch thick hinged box pan style flush mount door with a bright aluminum tread plate inner panel and a bent D-ring slam latch. There shall be a switch to activate a light inside the compartment and the open compartment warning light in the cab in the event the door is left ajar.





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LEFT HAND EXTERIOR REAR COMPARTMENT LIGHTING

There shall be one (1) SoundOff Signal brand LED strip light installed to illuminate the exterior rear compartment on the left side of the cab. The strip light shall be 10.00 inches long and shall include three (3) bright white Gen3 LEDs.

LH EXTERIOR COMPARTMENT INTERIOR FINISH

The interior of the left hand exterior compartment shall have a multi-tone silver gray texture finish.

RH EXTERIOR REAR COMPARTMENT

The cab shall offer an exterior compartment on the right side of the cab behind the rear door. The compartment opening shall be 10.00 inches wide X 31.19 inches high. The compartment size shall be 11.34 inches wide X 31.19 inches high X 21.19 inches deep. The compartment shall have a 10.63 inch wide, 32.00 inch high and 1.50 inch thick hinged box pan style flush mount door with a bright aluminum tread plate inner panel and a bent D-ring slam latch. There shall be a switch to activate a light inside the compartment and the open compartment warning light in the cab in the event the door is left ajar.

RIGHT HAND EXTERIOR REAR COMPARTMENT LIGHTING

There shall be one (1) SoundOff Signal brand LED strip light installed to illuminate the exterior rear compartment on the right side of the cab. The strip light shall be 10.00 inches long and shall include three (3) bright white Gen3 LEDs.

RH EXTERIOR COMPARTMENT INTERIOR FINISH

The interior of the right hand exterior compartment shall have a multi-tone silver gray texture finish.

CAB STRUCTURAL WARRANTY

Purchaser shall receive a Cab Structure (Aluminum) Ten (10) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0602. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.





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CAB TEST INFORMATION

The cab shall have successfully completed the preload side impact, static roof load application and frontal impact without encroachment to the occupant survival space when tested in accordance with Section 4 of SAE J2420 COE Frontal Strength Evaluation Dynamic Loading Heavy Trucks, Section 5 of SAE J2422 Cab Roof Strength Evaluation Quasi –Static Loading Heavy Trucks and ECE R29 Uniform Provisions Concerning the Approval of Vehicles with regard to the Protection of the Occupants of the Cab of a Commercial Vehicles Annex 3 Paragraph 5.

The above tests have been witnessed by and attested to by an independent third party. The test results were recorded using cameras, high speed imagers, accelerometers and strain gauges. Documentation of the testing shall be provided upon request.

ELECTRICAL SYSTEM

The chassis shall include a single starting electrical system which shall include a 12 volt direct current multiplexing system, suppressed per SAE J551. The wiring shall be appropriate gauge cross link with 311 degree Fahrenheit insulation. All SAE wires in the chassis shall be color coded and shall include the circuit number and function where possible. The wiring shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom. All nodes and sealed Deutsch connectors shall be waterproof.

MULTIPLEX DISPLAY

The multiplex electrical system shall include a Weldon Vista IV display which shall be located on the left side of the dash in the switch panel. The Vista IV shall feature a full color LCD display screen which includes a message bar displaying the time of day and important messages requiring acknowledgement by the user which shall all be displayed on the top of the screen in the order they are received. There shall be eight (8) push button virtual controls, four (4) on each side of the display for the on-board diagnostics. The display screen shall be video ready for back-up cameras, thermal cameras, and DVD.

The Vista IV display shall offer varying fonts and background colors. The display shall be fully programmable to the needs of the customer and shall offer virtually infinite flexibility for screen configuration options.

LOAD MANAGEMENT SYSTEM

The apparatus load management shall be performed by the included multiplex system. The multiplex system shall also feature the priority of sequences and shall shed electrical loads based on the priority list specifically programmed.





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DATA RECORDING SYSTEM

The chassis shall have a Weldon Vehicle Data Recorder (VDR) system installed. The system shall be designed to meet NFPA 1901 and shall be integrated with the Weldon Multiplex electrical system. The following information shall be recorded:

- Vehicle Speed
- Acceleration
- Deceleration
- Engine Speed
- Engine Throttle Position
- ABS Event
- Seat Occupied Status
- Seat Belt Status
- Master Optical Warning Device Switch Position
- Time
- Date

Each portion of the data shall be recorded at the specified intervals and stored for the specified length of time to meet NFPA 1901 guidelines and shall be retrievable by connecting a laptop computer to the VDR system. The laptop connection shall be a panel mounted female type B USB connection point, remotely mounted in the left side foot well.

ACCESSORY POWER

The electrical distribution panel shall include two (2) power studs. The studs shall be size #10 and each of the power studs shall be circuit protected with a fuse of the specified amperage. One (1) power stud shall be capable of carrying up to a 40 amp battery direct load. One (1) power stud shall be capable of carrying up to a 15 amp ignition switched load. The two (2) power studs shall share one (1) #10 ground stud.

An OEM body connections bracket shall be installed on the chassis near the left hand battery box. The bracket shall include one (1) set each of 200 amp master power switched and 300 amp battery direct fused power and ground studs.

AUXILIARY ACCESSORY POWER

An auxiliary set of power and ground studs shall be provided and installed behind the electrical center cover with a 40 amp breaker. The studs shall be 0.38 inch diameter and capable of carrying up to a 40 amp load switched with the master power switch.





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ADDITIONAL ACCESSORY POWER

An additional ten (10) position blade type fuse panel shall be installed behind the officer’s seat. The fuse panel shall be protected by a 40 amp fuse. The panel shall be capable of carrying up to a maximum 40 amp battery direct load.

EXTERIOR ELECTRICAL TERMINAL COATING

All terminals exposed to the elements will be sprayed with a high visibility protective rubberized coating to prevent corrosion.

ELECTRICAL SYSTEM WARRANTY

Purchaser shall receive an Electrical System Two (2) Years or 36,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0202. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

ENGINE

The chassis engine shall be a Cummins L9 engine. The L9 engine shall be an in-line six (6) cylinder, four cycle diesel powered engine. The engine shall offer a rating of 450 horse power at 2100 RPM and shall be governed at 2200 RPM. The torque rating shall feature 1250 foot pounds of torque at 1200 RPM with 543 cubic inches (8.9 liters) of displacement.

The L9 engine shall feature a VGT™ Turbocharger, a high pressure common rail fuel system, fully integrated electronic controls with an electronic governor, and shall be EPA certified to meet the 2021 emissions standards using cooled exhaust gas recirculation and selective catalytic reduction technology.

The engine shall include an engine mounted combination full flow/by-pass oil filter with replaceable spin on cartridge for use with the engine lubrication system. The engine shall include Citgo brand Citgard 500, or equivalent SAE 15W40 CK-4 low ash engine oil which shall be utilized for proper engine lubrication.

A wiring harness shall be supplied ending at the back of the cab. The harness shall include a connector which shall allow an optional harness for the pump panel. The included circuits shall be provided for a tachometer, oil pressure, engine temperature, hand throttle, high idle and a PSG system. A circuit for J1939 data link shall also be provided at the back of the cab.

CAB ENGINE TUNNEL

The cab interior shall include an integrated engine tunnel constructed of 5052-H32 Marine Grade, 0.19 of an inch thick aluminum. The tunnel shall be a maximum of 41.50 inches wide X 25.50 inches high.





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DIESEL PARTICULATE FILTER CONTROLS

There shall be two (2) controls for the diesel particulate filter. One (1) control shall be for regeneration and one (1) control shall be for regeneration inhibit. Each switch shall include a guard.

ENGINE PROGRAMMING HIGH IDLE SPEED

The engine high idle control shall maintain the engine idle at approximately 1000 RPM when engaged.

ENGINE HIGH IDLE CONTROL

The vehicle shall be equipped with a virtual Vista button and an automatic high-idle speed control. It shall be pre-set so when activated, it will operate the engine at the appropriate RPM to increase alternator output. This device shall operate only when the engine is running and the transmission is in neutral with the parking brake set. The device shall disengage when the operator depresses the brake pedal, or the transmission is placed in gear, and shall be available to manually or automatically re-engage when the brake is released, or when the transmission is placed in neutral. There shall be an indicator on the Vista display and control screen for the high idle speed control.

ENGINE PROGRAMMING ROAD SPEED GOVERNOR

The engine shall include programming which will govern the top speed of the vehicle.

AUXILIARY ENGINE BRAKE

A compression brake, for the six (6) cylinder engine shall be provided. A cutout relay shall be installed to disable the compression brake when in pump mode or when an ABS event occurs. The engine compression brake shall activate upon 0% accelerator when in operation mode and actuate the vehicle's brake lights.

The engine shall utilize a variable geometry turbo (VGT) as an integrated auxiliary engine brake to offer a variable rate of exhaust flow, which when activated in conjunction with the compression brake shall enhance the engine's compression braking capabilities.

AUXILIARY ENGINE BRAKE CONTROL

An engine compression brake control device shall be included. The electronic control device shall monitor various conditions and shall activate the engine brake only if all of the following conditions are simultaneously detected:

- A valid gear ratio is detected.
- The driver has requested or enabled engine compression brake operation.
- The throttle is at a minimum engine speed position.
- The electronic controller is not presently attempting to execute an electronically controlled final drive gear shift.





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The compression brake shall be controlled via an off/low/medium/high virtual button on the Vista display and control screen. The multiplex system shall remember and default to the last engine brake control setting when the vehicle is shut off and re-started.

ELECTRONIC ENGINE OIL LEVEL INDICATOR

The engine oil shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal. The warning shall activate in a low oil situation upon turning on the master battery and ignition switches without the engine running.

FLUID FILLS

The front of the chassis shall accommodate fluid fill for the engine oil through the grille. This area shall also accommodate a check for the engine oil. The transmission, power steering, and coolant fluid fills and checks shall be under the cab. The windshield washer fill shall be accessible through the front left side mid step.

ENGINE DRAIN PLUG

The engine shall include an original equipment manufacturer installed oil drain plug.

ENGINE WARRANTY

The Cummins engine shall be warranted for a period of five (5) years or 100,000 miles, whichever occurs first.

REMOTE THROTTLE HARNESS

An apparatus interface wiring harness for the engine shall be supplied with the chassis. The harness shall include a connector for connection to the chassis harness which shall terminate in the left frame rail behind the cab for reconnection by the apparatus builder. The harness shall contain connectors for a FRC pressure governor and a multiplexed gauge. Separate circuits shall be included for pump controls, "Pump Engaged" and "OK to Pump" indicator lights, open compartment ground, start signal, park brake ground, ignition signal, master power, customer ignition, air horn solenoid switch, high idle switch and high idle indication light. The harness shall contain interlocks that will prevent shifting to road or pump mode unless the transmission output speed translates to less than 1 mph and the transmission is in neutral. The shift to pump mode shall also require the park brake be set. The harness shall be designed for a side mount pump panel.





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An apparatus interface wiring harness shall also be included which shall be wired to the cab harness interface connectors and shall incorporate circuits with relays to control pump functions. This harness shall control the inputs for the transmission lock up circuits, governor/hand throttle controls and dash display which shall incorporate “Pump Engaged” and “OK to Pump” indicator lights. The harness shall contain circuits for the apparatus builder to wire in a pump switch.

ENGINE PROGRAMMING REMOTE THROTTLE

The engine ECM (Electronic Control Module) discreet wire remote throttle circuit shall be turned off for use with a J1939 based pump controller or when the discreet wire remote throttle controls are not required.

ENGINE PROGRAMMING IDLE SPEED

The engine low idle speed will be programmed at 700 rpm.

ENGINE AIR INTAKE

The engine air intake system shall include an ember separator. This ember separator shall be designed to protect the downstream air filter from embers using a combination of unique flat and crimped metal screens packaged in a heavy duty galvanized steel frame. This multilayered screen shall trap embers and allow them to burn out before passing through the pack.

The engine air intake system shall also include an air cleaner mounted above the radiator. This air cleaner shall utilize a replaceable dry type filter element designed to prevent dust and debris from being ingested into the engine. A service cover shall be provided on the housing, reducing the chance of contaminating the air intake system during air filter service.

The air intake system shall include a restriction indicator light in the warning light cluster on the instrument panel, which shall activate when the air cleaner element requires replacement.

ENGINE FAN DRIVE

The engine cooling system fan shall incorporate a thermostatically controlled, Horton fully variable type fan drive with SmartClutch J-1939 CAN controller.

The variable speed fan clutch only engages at the amount needed for proper cooling to facilitate improved vehicle performance, cab heating in cold climates, and fuel economy. The fan clutch design shall be fail-safe so that if the clutch drive fails the fan shall engage to prevent engine overheating due to the fan clutch failure. The fan speed shall include a J-1939 CAN clutch controller to receive signal from the engine control module to activate at variable rates of speed. Variable speeds shall be set through thermostatic and engine speed signals to run as efficiently and quietly as required to maintain temperature.





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EMERGENCY RESPONSE

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ENGINE COOLING SYSTEM

There shall be a heavy-duty aluminum cooling system designed to meet the demands of the emergency response industry. The cooling system shall have the capacity to keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the requirements specified by the engine and transmission manufacturer and all EPA requirements. The complete cooling system shall be mounted to isolate the entire system from vibration or stress. The individual cores of the cooling system shall be mounted in a manner to allow expansion and contraction at various rates without inducing stress into the adjoining cores.

The cooling system shall be comprised of a charge air cooler to radiator serial flow package that provides the maximum cooling capacity for the specified engine as well as serviceability. The main components shall include a surge tank, a charge air cooler bolted to the front of the radiator, recirculation shields, a shroud, a fan, and required tubing.

The radiator shall be a down-flow design constructed with aluminum cores, plastic end tanks, and a steel frame. The radiator shall be equipped with a drain cock to drain the coolant for serviceability.

The cooling system shall include a one piece injected molded polymer fan with a three (3) piece fiberglass fan shroud.

The cooling system shall be equipped with a surge tank that is capable of removing entrained air from the system. The surge tank shall be equipped with a low coolant probe and rearward oriented sight glass to observe coolant in the system. A cold fill and observation line shall be included within the frame mounted translucent recovery bottle to monitor the level of the coolant. The surge tank shall have a dual seal cap that meets the engine manufacturer's pressure requirements and allows for expansion and recovery of coolant into a separate integral expansion chamber.

All radiator tubes shall be formed from aluminized steel tubing. Recirculation shields shall be installed where required to prevent heated air from reentering the cooling package and affecting performance.

The charge air cooler shall be a cross-flow design constructed completely of aluminum with cast tanks. All charge air cooler tubes shall be formed from aluminized steel tubing and installed with silicone hump hoses and stainless steel "constant torque" style clamps meeting the engine manufacturer's requirements.

The radiator and charge air cooler shall be removable through the bottom of the chassis.

ENGINE COOLING SYSTEM PROTECTION

The engine cooling system shall include a recirculation shield designed to act as a light duty skid plate below the radiator to provide additional protection for the engine cooling system from light impacts, stones, and road debris. The skid plate shall be painted to match the frame components.





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EMERGENCY RESPONSE REV GROUP

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ENGINE COOLANT

The cooling package shall include Extended Life Coolant (ELC). The use of ELC provides longer intervals between coolant changes over standard coolants providing improved performance. The coolant shall contain a 50/50 mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34 degrees Fahrenheit.

Proposals offering supplemental coolant additives (SCA) shall not be considered, as this is part of the extended life coolant makeup.

ENGINE COOLANT FILTER

An engine coolant filter with a shut-off valve for the inlet and outlet shall be installed on the chassis. The location of the filter shall allow for easy maintenance.

Proposals offering engines equipped with coolant filters shall be supplied with standard non-chemical type particulate filters.

ELECTRONIC COOLANT LEVEL INDICATOR

The instrument panel shall feature a low engine coolant indicator light which shall be located in the center of the instrument panel. An audible tone alarm shall also be provided to warn of a low coolant incident.

ENGINE PUMP HEAT EXCHANGER

A single bundle type coolant to water heat exchanger shall be installed between the engine and the radiator. The heat exchanger shall be designed to prohibit water from the pump from coming in contact with the engine coolant. This shall allow the use of water from the discharge side of the pump to assist in cooling the engine.

COOLANT HOSES

The cooling systems hose shall be formed silicone hose and formed aluminized steel tubing and include stainless steel constant torque band clamps.

ENGINE COOLANT OVERFLOW BOTTLE

A remote engine coolant overflow expansion bottle shall be provided in the case of over filling the coolant system. The overflow bottle shall capture the expansion fluid or overflow rather than allow the fluid to drain on the ground.





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ENGINE EXHAUST SYSTEM

The exhaust system shall include an end-in end-out horizontally mounted single module after treatment device, and downpipe from the charge air cooled turbo. The single module shall include four temperature sensors, diesel particulate filter (DPF), urea dosing module (UL2), and a selective catalytic reduction (SCR) catalyst to meet current EPA standards. The selective catalytic reduction catalyst utilizes a diesel exhaust fluid solution consisting of urea and purified water to convert NOx into nitrogen, water, and trace amounts of carbon dioxide. The solution shall be mixed and injected into the system through the DPF and SCR.

The system shall utilize 0.07 inch thick stainless steel exhaust tubing between the engine turbo and the DPF. Zero leak clamps seal all system joints between the turbo and DPF.

The single module after treatment through the end of the tailpipe shall be connected with zero leak clamps. The discharge shall terminate horizontally on the right side of the vehicle ahead of the rear tires.

The exhaust system after treatment module shall be mounted below the frame in the outboard position.

DIESEL EXHAUST FLUID TANK

The exhaust system shall include a molded cross linked polyethylene tank for Diesel Exhaust Fluid (DEF). The tank shall have a capacity of six (6) usable gallons and shall be mounted on the left hand side of the chassis frame behind the batteries below the frame.

The DEF tank shall be designed with capacity for expansion in case of fluid freezing. Engine coolant, which shall be thermostatically controlled, shall be run through lines in the tank to help prevent the DEF from freezing and to provide a means of thawing the fluid if it should become frozen.

The tank fill tube shall be routed under the rear of the cab with the fill neck and splash guard accessible in the top rear step.

ENGINE EXHAUST ACCESSORIES

An exhaust temperature mitigation device shall be shipped loose for installation by the body manufacturer on the vehicle. The temperature mitigation device shall lower the temperature of the exhaust by combining ambient air with the exhaust gasses at the exhaust outlet.

The tail pipe shall have a drop in it to allow additional clearance from the body.





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ENGINE EXHAUST WRAP

The exhaust tubing between the engine turbo and the diesel particulate filter (DPF) shall be wrapped with a thermal cover in order to retain the necessary heat for DPF regeneration. The exhaust wrap shall also help protect surrounding components from radiant heat which can be transferred from the exhaust.

The exhaust flex joint shall not include the thermal exhaust wrap.

EMISSIONS SYSTEMS WARRANTY

Purchaser shall receive a Regulated Emissions Systems Five (5) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0140. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

TRANSMISSION

The drive train shall include an Allison model EVS 3000 torque converting, automatic transmission which shall include electronic controls. The transmission shall feature two (2) 10-bolt PTO pads located on the converter housing.

The transmission shall include two (2) internal oil filters and Castrol TranSynd™ synthetic TES 295 transmission fluid which shall be utilized in the lubrication of the EVS transmission. An electronic oil level sensor shall be included with the readout located in the shift selector.

The transmission gear ratios shall be:

- 1st 3.49:1
- 2nd 1.86:1
- 3rd 1.41:1
- 4th 1.00:1
- 5th 0.75:1
- 6th 0.65:1 (if applicable)
- Rev 5.03:1

TRANSMISSION MODE PROGRAMMING

The transmission, upon start-up, will automatically select a four (4) speed operation. The fifth speed over drive shall be available with the activation of the mode button on the shifting pad.





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TRANSMISSION FEATURE PROGRAMMING

The Allison Gen V/VI-E transmission EVS group package number 127 shall contain the 198 vocational package in consideration of the duty of this apparatus as a pumper. This package shall incorporate an automatic neutral with selector override. This feature commands the transmission to neutral when the park brake is applied, regardless of drive range requested on the shift selector. This requires re-selecting drive range to shift out of neutral for the override.

This package shall be coupled with the use of a split shaft PTO and incorporate pumping circuits. These circuits shall be used allowing the vehicle to operate in the fourth range lockup while operating the pump mode due to the 1 to 1 ratio through the transmission, therefore the output speed of the engine is the input speed to the pump. The pump output can be easily calculated by using this input speed and the drive ratio of the pump itself to rate the gallons of water the pump can provide.

A transmission interface connector shall be provided in the cab. This package shall contain the following input/output circuits to the transmission control module. The Gen V/VI-E transmission shall include prognostic diagnostic capabilities. These capabilities shall include the monitoring of the fluid life, filter change indication, and transmission clutch maintenance.

<u>Function ID</u>	<u>Description</u>	<u>Wire assignment</u>
Inputs		
C	PTO Request	142
J	Fire Truck Pump Mode (4th Lockup)	122 / 123
Outputs		
C	Range Indicator	145 (4th)
G	PTO Enable Output	130
	Signal Return	103

TRANSMISSION SHIFT SELECTOR

An Allison pressure sensitive range selector touch pad shall be provided and located to the right of the driver within clear view and easy reach. The shift selector shall have a graphical Vacuum Florescent Display (VFD) capable of displaying two lines of text. The shift selector shall provide mode indication and a prognostic indicator (wrench symbol) on the digital display. The prognostics monitor various operating parameters and shall alert you when a specific maintenance function is required.

ELECTRONIC TRANSMISSION OIL LEVEL INDICATOR

The transmission fluid shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal.





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EMERGENCY RESPONSE

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TRANSMISSION PRE-SELECT WITH AUXILIARY BRAKE

When the auxiliary brake is engaged, the transmission shall automatically shift to second gear to decrease the rate of speed assisting the secondary braking system and slowing the vehicle.

TRANSMISSION COOLING SYSTEM

The transmission shall include a water to oil cooler system located in the cooling loop between the radiator and the engine. The transmission cooling system shall meet all transmission manufacturer requirements. The transmission cooling system shall feature continuous flow of engine bypass water to maintain uninterrupted transmission cooling.

TRANSMISSION DRAIN PLUG

The transmission shall include an original equipment manufacturer installed magnetic transmission fluid drain plug.

TRANSMISSION WARRANTY

The Allison EVS series transmission shall be warranted for a period of five (5) years with unlimited mileage. Parts and labor shall be included in the warranty.

PTO LOCATION

The transmission shall have two (2) power take off (PTO) mounting locations, one (1) in the 8:00 o'clock position and one (1) in the 4:00 o'clock position.

DRIVELINE

All drivelines shall be heavy duty metal tube and equipped with MSI 1710 series universal joints. The shafts shall be dynamically balanced prior to installation to alleviate future vibration. In areas of the driveline where a slip shaft is required, the splined slip joint shall be coated with Glide Coat[®]. The drivelines shall include Meritor brand u-joints with thrust washers.

FUEL FILTER/WATER SEPARATOR

The fuel system shall have a Fleetguard FS20121 fuel filter/water separator as a primary filter. The fuel filter shall have a drain valve.

A water in fuel sensor shall be provided and wired to an instrument panel lamp and audible alarm to indicate when water is present in the fuel/water separator.

A secondary fuel filter shall be included as approved by the engine manufacturer.





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SPARATN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

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FUEL LINES

The fuel system supply and return lines installed from the fuel tank to the engine shall be reinforced nylon tubing rated for diesel fuel. The fuel lines shall be brown in color and connected with brass fittings.

FUEL SHUTOFF VALVE

There shall be two (2) fuel shutoff valves which shall be installed, one (1) in the fuel draw line at the primary fuel filter and one (1) in the fuel outlet line at the primary fuel filter to allow the fuel filters to be changed without loss of fuel to the fuel pump.

A third fuel shutoff valve shall be installed in the fuel draw line, near the fuel tank to allow maintenance to be performed with minimal loss of fuel.

ELECTRIC FUEL PRIMER

Integral to the engine assembly is an electric lift pump that serves the purpose of pre-filter fuel priming.

FUEL TANK

The fuel tank shall have a capacity of fifty (50) gallons and shall measure 35.00 inches in width X 15.00 inches in height X 24.00 inches in length.

The baffled tank shall have a vent port to facilitate venting to the top of the fill neck for rapid filling without "blow-back" and a roll over ball check vent for temperature related fuel expansion and draw.

The tank is designed with dual draw tubes and sender flanges. The tank shall have 2.00 inch NPT fill ports for right or left hand fill. A 0.50 inch NPT drain plug shall be centered in the bottom of the tank.

The fuel tank shall be mounted below the frame, behind the rear axle. Two (2) three-piece strap hanger assemblies with "U" straps bolted midway on the fuel tank front and rear shall be utilized to allow the tank to be easily lowered and removed for service purposes. Rubber isolating pads shall be provided between the tank and the upper tank mounting brackets. Strap mounting studs through the rail, hidden behind the body shall not be acceptable.





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EMERGENCY RESPONSE REV GROUP

Proposal Date: 4-13-2022

FUEL TANK MATERIAL AND FINISH

The fuel tank shall be constructed of 12 gauge aluminized steel. The exterior of the tank shall be powder coated black and then painted to match the frame components.

All powder coatings, primers and paint shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 Method B, results to be 5B minimum. The pencil hardness test per ASTM D3363 shall have a final post-cured pencil hardness of H-2H. The direct impact resistance test per ASTM D2794, results to be 5B minimum.

Any proposals offering painted fuel tanks with variations from the above process shall not be accepted. The film thickness of vendor supplied parts shall also be sufficient to meet the performance standards as stated above.

FUEL TANK STRAP MATERIAL

The fuel tank straps shall be constructed of #304 stainless steel. The fuel tank straps shall be powder coated black and then painted to match the frame components if possible.

FUEL TANK FILL PORT

The fuel tank fill ports shall be offset with the left fill port located in the rearward position and the right fill port located in the middle position on the fuel tank.

A 1.25 inch diameter hole shall be provided in the left and right frame rails for vent hose routing provisions. The holes shall be located adjacent to the fuel tank and 5.13 inches up from the bottom of each rail.

FUEL TANK SERVICEABILITY PROVISIONS

The chassis fuel lines shall have additional length provided so the tank can be easily lowered and removed for service purposes. The additional 8.00 feet of length shall be located above the fuel tank and shall be coiled and secured. The fuel line fittings shall be pointed towards the right side (curbside) of the chassis.

FUEL TANK DRAIN PLUG

A 0.5 inch NPT magnetic drain plug shall be centered in the bottom of the fuel tank.





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EMERGENCY RESPONSE

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FRONT AXLE

The front axle shall include an independent front suspension (IFS) offering superior ride and improved handling.

The suspension shall utilize fully independent double wishbone arms with carrier and kingpin for optimized scrub radius. Air springs are tuned for ride and help reduce suspension weight. The IFS reduces turn radius with improved wheel cut over beam axles. The hydraulic damper shall feature rebound control to ensure the maximum load stability and superior driver comfort. The IFS system shall improve handling and offer better braking because of improved ground to tire ratio. This design shall allow for independent adjustment of the vehicle's alignment settings. The IFS shall include an auxiliary transverse leaf spring.

Proposals offering independent front axles comprised of torsion bar style suspensions shall not be considered.

FRONT AXLE WARRANTY

The front axle shall be warranted by Tuthill for three (3) years or 150,000 miles, which ever comes first. Details of the Tuthill warranty are provided on the PDF document attached to this option.

FRONT WHEEL BEARING LUBRICATION

The front axle wheel bearings shall be lubricated with oil. The oil level can be visually checked via clear inspection windows in the front axle hubs.

FRONT SHOCK ABSORBERS

Two (2) Koni shock absorbers shall be provided and installed as part of the front suspension system. Each shock shall deliver improved road handling and durability.

FRONT SUSPENSION

The chassis shall include an independent front suspension (IFS) system. The known advantages of IFS systems can be improved handling and better braking due to the increase in tire surface to ground contact area. The suspension travel of the IFS shall be approximately 6.50 inches, providing 3.00 inches bounce and 3.50 inches rebound of the suspension. The IFS front axle shall be rated between 21,000 and 24,000 pounds.





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EMERGENCY RESPONSE Proposal Date: 4-13-2022

STEERING COLUMN/ WHEEL

The cab shall include a Douglas Autotech steering column which shall include a seven (7) position tilt, a 2.25 inch telescopic adjustment, and an 18.00 inch, four (4) spoke steering wheel located at the driver’s position. The steering wheel shall be covered with black polyurethane foam padding.

The steering column shall contain a horn button, self-canceling turn signal switch, four-way hazard switch and headlamp dimmer switch.

ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR

The power steering fluid shall be monitored electronically and shall send a signal to activate an audible alarm and visual warning in the instrument panel when fluid level falls below normal.

POWER STEERING PUMP

The hydraulic power steering pump shall be a Vickers V20F and shall be gear driven from the engine. The pump shall be a fixed displacement vane type. The power steering system shall include an oil to air passive cooler.

FRONT AXLE CRAMP ANGLE

The chassis shall have a front axle cramp angle of 48-degrees to the left and right.

POWER STEERING GEAR

The power steering gear shall be a TRW model TAS 85/RCS 85.

CHASSIS ALIGNMENT

The chassis frame rails shall be measured to insure the length is correct and cross checked to make sure they run parallel and are square to each other. The front and rear axles shall be laser aligned. The front tires and wheels shall be aligned and toe-in set on the front tires by the chassis manufacturer.

REAR AXLE

The rear axle shall be a Meritor model RS-30-185 single drive axle. The axle shall include precision forged, single reduction differential gearing, and shall have a fire service rated capacity of 33,000 pounds.

The axle shall be built of superior construction and quality components to provide the rugged dependability needed to stand up to the fire industry’s demands. The axle shall include rectangular shaped, hot-formed housing with a standard wall thickness of 0.56 of an inch for extra strength and rigidity and a rigid differential case for high axle strength and reduced maintenance.





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The axle shall have heavy-duty Hypoid gearing for longer life, greater strength and quieter operation. Industry-standard wheel ends for compatibility with both disc and drum brakes, and unitized oil seal technology to keep lubricant in and help prevent contaminant damage will be used.

REAR AXLE DIFFERENTIAL LUBRICATION

The rear axle differential shall be lubricated with oil.

REAR AXLE WARRANTY

The rear axle shall be warranted by Meritor for five (5) years with unlimited miles under the general service application. Details of the Meritor warranty are provided on the PDF document attached to this option.

WHEEL HUB PAINT

Each of the wheel hubs shall be coated with gloss black paint.

REAR WHEEL BEARING LUBRICATION

The rear axle wheel bearings shall be lubricated with oil.

VEHICLE TOP SPEED

The top speed of the vehicle shall be approximately 68 MPH +/-2 MPH at governed engine RPM.

REAR SUSPENSION

The single rear axle shall feature a Reyco 79KB vari-rate, self-leveling captive slipper type conventional multi-leaf spring suspension, with 57.50 inch X 3.00 inch springs. One (1) adjustable and one (1) fixed torque rod shall be provided.

The rear suspension capacity shall be rated from 21,000 to 31,500 pounds.

TIRE INTERMITTENT SERVICE RATING

The chassis shall be rated using Intermittent Service ratings provided to the emergency vehicle market by the tire manufacturers as the basis for determining the maximum vehicle load and speed.





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FRONT TIRE

The front tires shall be Michelin 425/65R-22.5 20PR "L" tubeless radial XZY3 mixed service tread.

The front tire stamped load capacity shall be 22,800 pounds per axle with a nominal speed rating of 65 miles per hour when properly inflated to 120 pounds per square inch.

The Michelin Intermittent Service Rating maximum load capacity shall be 24,396 pounds per axle with a maximum speed of 65 miles per hour when properly inflated to 120 pounds per square inch.

The Michelin Intermittent Service Rating maximum speed capacity shall be 22,800 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch.

The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

REAR TIRE

The rear tires shall be Michelin® 315/80R-22.5 20PR "L" tubeless radial XZUS 2 regional tread.

The rear tire stamped load capacity shall be 33,080 pounds per axle with a nominal speed rating of 65 miles per hour when properly inflated to 130 pounds per square inch.

The Michelin Intermittent Service Rating maximum load capacity shall be 35,396 pounds per axle with a maximum speed of 65 miles per hour when properly inflated to 130 pounds per square inch.

The Michelin Intermittent Service Rating maximum speed capacity shall be 33,080 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 130 pounds per square inch.

The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

REAR AXLE RATIO

The rear axle ratio shall be 5.13:1.





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EMERGENCY RESPONSE

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TIRE PRESSURE INDICATOR

There shall be electronic chrome LED valve caps shipped loose for installation by the OEM which shall illuminate with a red LED when tire pressure drops 8psi provided. The valve caps are self-calibrating and set to the pressure of the tire upon installation.

FRONT WHEEL

The front wheels shall be Alcoa hub piloted, 22.50 inch X 12.25 inch aluminum wheels. The wheels shall feature Alcoa's Dura-Black® finish technology as an integral part of the wheel surface. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.

REAR WHEEL

The outer rear wheels shall be Alcoa hub piloted, 22.50 inch X 9.00 inch aluminum wheels with Alcoa's Dura-Black® finish technology as an integral part of the wheel surface. The inner rear wheels shall be Alcoa hub piloted, 22.50 inch X 9.00 inch aluminum wheels with Alcoa's Dura-Black® finish technology as an integral part of the wheel surface. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.

BALANCE WHEELS AND TIRES

All of the wheels and tires, including any spare wheels and tire assemblies, shall be dynamically balanced.

BRAKE SYSTEM

A rapid build-up air brake system shall be provided. The air brakes shall include, at a minimum, a two (2) air tank, three (3) reservoir system with a total of 4152 cubic inch of air capacity. A floor mounted treadle valve shall be mounted inside the cab for graduated control of applying and releasing the brakes. An inversion valve shall be installed to provide a service brake application in the unlikely event of primary air supply loss. All air reservoirs provided on the chassis shall be labeled for identification.

The rear axle spring brakes shall automatically apply in any situation when the air pressure falls below 25 PSI and shall include a mechanical means for releasing the spring brakes when necessary. An audible alarm shall designate when the system air pressure is below 60 PSI.

A four (4) sensor, four (4) modulator Anti-lock Braking System (ABS) shall be installed on the front and rear axles in order to prevent the brakes from locking or skidding while braking during hard stops or on icy or wet surfaces. This in turn shall allow the driver to maintain steering control under heavy braking and in most instances, shorten the braking distance. The electronic monitoring system shall incorporate diagonal circuitry which shall monitor wheel speed during braking through a sensor and tone ring on each wheel. A dash mounted ABS lamp shall be provided to notify the driver of a system malfunction.





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The ABS system shall automatically disengage the auxiliary braking system device when required. The speedometer screen shall be capable of reporting all active defaults using PID/SID and FMI standards.

Additional safety shall be accommodated through Automatic Traction Control (ATC) which shall be installed on the single rear axle. The ATC system shall apply the ABS when the drive wheels loose traction. The system shall scale the electronic engine throttle back to prevent wheel spin while accelerating on ice or wet surfaces.

A virtual style switch shall be provided and properly labeled “mud/snow”. When the switch is pressed once, the system shall allow a momentary wheel slip to obtain traction under extreme mud and snow conditions. During this condition the ATC light shall blink continuously notifying the driver of activation. Pressing the switch again shall deactivate the mud/snow feature.

The Electronic Stability Control (ESC) unit is a functional extension of the electronic braking system. It is able to detect any skidding of the vehicle about its vertical axis as well as any rollover tendency. The control unit comprises an angular-speed sensor that measures the vehicle’s motion about the vertical axis, caused, for instance, by cornering or by skidding on a slippery road surface. An acceleration sensor measures the vehicle’s lateral acceleration. The Controller Area Network (CAN) bus provides information on the steering angle. On the basis of lateral acceleration and steering angle, an integrated microcontroller calculates a theoretical angular speed for the stable vehicle condition.

FRONT BRAKES

The front brakes shall be Knorr/Bremse SN7 disc brakes with 17.00 inch vented rotors.

REAR BRAKES

The rear brakes shall be Meritor 16.50 inch X 8.63 inch S-cam drum type. The brakes shall feature a cast iron shoe.

PARK BRAKE

Upon application of the push-pull valve in the cab, the rear brakes will engage via mechanical spring force. This is accomplished by dual chamber rear brakes, satisfying the FMVSS parking brake requirements.

PARK BRAKE CONTROL

A Meritor-Wabco manual hand control push-pull style valve shall operate the parking brake.

The parking brake actuation valve shall be mounted to the left side of the engine tunnel integrated into the transmission shift pod console within easy access of the driver.





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REAR BRAKE SLACK ADJUSTERS

Haldex rear brake automatic slack adjusters shall be installed on the axle.

AIR DRYER

The brake system shall include a Wabco System Saver 1200 air dryer with an integral heater with a Metri-Pack sealed connector. The air dryer incorporates an internal turbo cutoff valve that closes the path between the air compressor and air dryer purge valve during the compressor "unload" cycle. The turbo cutoff valve allows purging of moisture and contaminants without the loss of turbo boost pressure. The air dryer shall be mounted behind the battery box on the left hand side.

FRONT BRAKE CHAMBERS

The front brakes shall be provided with type 24 brake chambers as supplied with the independent front suspension axle.

REAR BRAKE CHAMBERS

The rear axle shall include TSE 30/36 brake chambers which shall convert the energy of compressed air into mechanical force and motion. This shall actuate the brake camshaft, which in turn shall operate the foundational brake mechanism forcing the brake shoes against the brake drum. The TSE Type 36 brake chamber has a 36.00 square inch effective area.

AIR COMPRESSOR

The air compressor provided for the engine shall be a Wabco® SS318 single cylinder pass-through drive type compressor which shall be capable of producing 18.7 CFM at 1200 engine RPMs. The air compressor shall feature a higher delivery efficiency translating to more air delivery per horsepower absorbed. The compressor shall include an aluminum cylinder head which shall improve cooling, reduce weight and decrease carbon formation. Superior piston and bore finishing technology shall reduce oil consumption and significantly increasing the system component life.

AIR GOVERNOR

An air governor shall be provided to control the cut-in and cut-out pressures of the engine mounted air compressor. The governor shall be calibrated to meet FMVSS requirements. The air governor shall be located on the air dryer bracket.

MOISTURE EJECTORS

Manual cable actuated drain valves shall be installed on all reservoirs of the air supply system. The actuation pull cables shall be coiled and tied at each drain valve. The supplied cables when extended shall be sufficient in length to allow each drain to be activated from the side of the apparatus.





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AIR SUPPLY LINES

The air system on the chassis shall be plumbed with color coded reinforced nylon tubing air lines. The primary (rear) brake line shall be green, the secondary (front) brake line red, the parking brake line orange and the auxiliary (outlet) will be blue.

Push to connect type fittings shall be used on the nylon tubing. All drop hoses shall include fiber reinforced neoprene covered hoses.

AIR INLET CONNECTION

An air connection for the shoreline air inlet shall be supplied.

AIR INLET LOCATION

The air inlet shall be installed in the left hand side lower front step in the forward position.

AIR OUTLET CONNECTION

A quick release air outlet female connector shall be installed in the left upper cab step towards the front of the cab for the use of auxiliary air tools. The air outlet connector shall be compatible with a Milton 787, Parker Hannifin B13 or Meyers 54-410 connector.

PLUMBING AIR OUTLET CONNECTION

The cab mounted air outlet connection shall be plumbed to the chassis auxiliary air system reservoir.

AIR OUTLET SHUTOFF VALVE

The air outlet shall include a 1/4 turn valve which shall terminate the air supply between the outlet connection and the tank.

AIR INLET/ OUTLET FITTING TYPE

The air connector supplied shall be a 0.25 inch size Tru-Flate Interchange style manual connection which is compatible with Milton 'T' style, Myers 0.25 inch Automotive style and Parker 0.25 inch 10 Series connectors.

AUXILIARY AIR CONNECTION

An auxiliary air line shall be plumbed off the auxiliary air tank and routed inside the cab terminating under the driver dash area. A temporary mounted brass single port tee shall be supplied for the OEM usage, such as pump shift operator valves. If used for a pump shift control it shall be provided and installed by the OEM.





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REAR AIR TANK MOUNTING

If a combination of wheel base, air tank quantity, or other requirements necessitate the location of one or more air tanks to be mounted rear of the fuel tank, these tank(s) will be mounted perpendicular to frame.

FRAME

The frame shall consist of double rails running parallel to each other with cross members forming a ladder style frame. The frame rails shall be formed in the shape of a "C" channel, with the outer rail measuring 10.25 inches high X 3.50 inches deep upper and lower flanges X 0.38 inches thick with an inner channel of 9.44 inches high X 3.13 inches deep and 0.38 inches thick. Each rail shall be constructed of 110,000 psi minimum yield high strength low alloy steel. Each double rail section shall be rated by a Resistance Bending Moment (RBM) minimum of 3,213,100 inch pounds and have a minimum section modulus of 29.21 cubic inches. The frame shall measure 35.00 inches in width.

Proposals calculating the frame strength using the "box method" shall not be considered.

Proposals including heat treated rails shall not be considered. Heat treating frame rails produces rails that are not uniform in their mechanical properties throughout the length of the rail. Rails made of high strength, low alloy steel are already at the required yield strength prior to forming the rail.

A minimum of seven (7) fully gusseted 0.25 inch thick cross members shall be installed. The inclusion of the body mounting, or bumper mounting shall not be considered as a cross member. The cross members shall be attached using zinc coated grade 8 fasteners. The bolt heads shall be flanged type, held in place by distorted thread flanged lock nuts. Each cross member shall be mounted to the frame rails utilizing a minimum of 0.25 inch thick gusset reinforcement plates at all corners balancing the area of force throughout the entire frame.

Any proposals not including additional reinforcement for each cross member shall not be considered.

All relief areas shall be cut in with a minimum 2.00 inch radius at intersection points with the edges ground to a smooth finish to prevent a stress concentration point.

REAR TOW DEVICE

Two (2) heavy duty painted tow eyes shall be installed extending rearward from the frame at the rear of the chassis. The tow eyes shall be fabricated from 0.75 inch thick #1020 ASTM-36 hot rolled steel. The inside diameter of the tow eye shall be 2.00 inches and shall have a chamfered edge. The tow eyes shall be bolted one (1) on each side to the outside of the chassis frame with grade 8 bolts. The tow eyes shall be painted to match the chassis frame.





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EMERGENCY RESPONSE

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FRAME PAINT

The frame rails shall be hot dip galvanized prior to assembly and attachment of any components. The components that shall be galvanized shall include:

- Main frame “C” channel or channels

The frame parts which are not galvanized shall be powder coated prior to any attachment of components. Parts which shall be powder coated shall include but are not limited to:

- Steering gear bracket
- Front splayed rails and fish plates
- Bumper extensions
- Cross members
- Cross member gussets
- Fuel tank mounting brackets
- Fuel tank straps (unless material/finish is specified in 3130 subcat)
- Air tanks (unless color coded tanks are specified in 3205 subcat)
- Air tank mounting brackets
- Exhaust mounting brackets
- Air cleaner skid plate
- Radiator skid plate
- Battery supports, battery trays and battery covers

Other non-galvanized under carriage components which are received from the suppliers with coatings already applied shall include but are not limited to:

- Suspension components
- Front and rear axles

All powder coatings, primers and paint used on the non-galvanized components shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 shall not have a fail of more than ten (10) squares. The pencil hardness test per ASTM D3363 shall have a final post-cured pencil hardness of H-2H. The direct impact resistance test per ASTM D2794 shall have an impact resistance of 120.00 inches per pound at 2 mils.

FRAME PAINT - MISCELLANEOUS

There shall be an RTV type sealant applied to the seams between the frame rail and the frame liner(s) to help prevent water intrusion between the frame rails. The sealant shall be applied to all seams along the length of the frame and at the top, front, and rear ends of the liner(s). The sealant shall be applied after the frame rails have been assembled and painted.





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EMERGENCY RESPONSE REV GROUP

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FRAME ASSEMBLY STRUCTURAL

Purchaser shall receive a Frame Assembly Structural Twenty (20) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0304. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

FRAME RAIL CORROSION

Purchaser shall receive a Frame Rail Corrosion (Zinc Plate and Powder Coat) Twenty Five (25) Years or 150,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0316. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

FRAME COMPONENTS CORROSION

Purchaser shall receive a Frame Components Corrosion (Powder Coat) Three (3) Years or 48,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0313. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

FRONT BUMPER

The chassis shall be equipped with a severe duty front bumper constructed from structural steel channel. The bumper material shall be 0.38 thick ASTM A36 steel which shall measure 12.00 inches high with a 3.05 inch flange and shall be 99.00 inches wide with angled front corners.

The bumper shall be primed and painted as specified.

FRONT BUMPER EXTENSION LENGTH

The front bumper shall be extended approximately 18.00 inches ahead of the cab.

FRONT BUMPER PAINT

The front bumper shall be painted the same as the lower cab color. The front bumper trim shall feature a black spray on bedliner coating.

FRONT BUMPER TRIM

A stainless steel trim angle, painted to the customer's specifications, shall be installed on the top corner of the bumper across the front and on the top corner of the bumper tails. The trim angle shall measure 1.10 inches wide on the horizontal flange and 1.60 inches tall on the vertical flange. The trim shall be affixed to the bumper, below the apron without holes and fasteners.





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EMERGENCY RESPONSE REV GROUP

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FRONT BUMPER APRON

The 18.00 inch extended front bumper shall include an apron constructed of 0.19 inch thick embossed aluminum tread plate.

The apron shall be installed between the bumper and the front face of the cab affixed using stainless steel bolts attaching the apron to the top bumper flange.

FRONT BUMPER DISCHARGE

The bumper apron shall include a 2.00 inch diameter plumbed line intended for use as a discharge trash line. The discharge line shall be routed through the right side bumper apron down the right hand rail to the area rear of the front axle, ahead of the battery box. The discharge shall terminate vertically through the right side apron position with a, 2.00 inch NPT (national pipe thread) x 2.00 inch NST (national standard thread) SST (stainless steel thread), Chicksan swivel to accommodate deployment of hose in different directions. The bumper apron shall feature an aluminum diamond plate Chicksan guard with two (2) rubber bump stops to prevent the Chicksan from contacting the cab. The smooth side of the guard shall feature a DA finish.

The discharge shall pipe shall be a, 2.00 inch stainless steel schedule 10 tube. The discharge shall include a Victaulic groove for connecting to the pump on the end of the tube.

The apparatus manufacturer shall plumb the discharge pipe to the pump and shall provide all valves as required.

FRONT BUMPER COMPARTMENT CENTER

The front bumper shall include a compartment in the bumper apron located in the center between the frame rails which may be used as a hose well. The compartment shall be constructed of 0.13 inch 5052-H32 grade aluminum and shall include drain holes in the bottom corners to allow excess moisture to escape. The compartment shall include a cover constructed of 0.19 inch thick bright embossed aluminum tread plate.

FRONT BUMPER COMPARTMENT COVER HARDWARE

The front bumper compartment cover(s) shall include gas cylinder stays which shall hold the cover open. Each cover shall be held in the closed position via a D-ring style latch.





Ypsilanti Twp Fire Department SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

MECHANICAL SIREN

The front bumper shall include an electro mechanical Federal Q2B™ siren, which shall be streamlined, chrome-plated and shall produce 123 decibels of sound at 10.00 feet. The Q2B™ siren produces a distinctive warning sound that is recognizable at long distances. A unique clutch design provides a longer coast down sound while reducing the amp draw to 100 amps. The siren shall measure 10.50 inches wide X 10.00 inches high X 14.00 inches deep. The siren shall include mounting hardware designed to recess or flush mount.

MECHANICAL SIREN LOCATION

The siren shall be recess mounted on the left side of the front fascia of the bumper approximately in the center of the flat surface between the bumper radius and the frame rail.

MECHANICAL SIREN ACCESSORIES

The front of the siren shall include (2) stainless steel flat bars approximately 1.00 inch wide by 19.00 inches long. Each bar shall be placed vertically on the right and left side of the siren face wrapping around towards the back of the siren into the bumper extension offering protection to the Q2B siren.

AIR HORN

The chassis shall include two (2) Hadley brand E-Tone air horns which shall measure 24.00 inches long with a 6.00 inch round flare. The air horns shall be trumpet style with a chrome finish on the exterior and a painted finish deep inside the trumpet.

AIR HORN LOCATION

The air horns shall be recess mounted in the front bumper face on the right side of the bumper in the inboard and outboard positions relative to the right hand frame rail.

AIR HORN RESERVOIR

One (1) air reservoir, with a 1200 cubic inch capacity, shall be installed on the chassis to act as a supply tank for operating air horns. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.

ELECTRONIC SIREN SPEAKER

There shall be one (1) Whelen Engineering Inc. model SA314A, 100 watt speakers provided. The speaker shall measure 6.40 inches tall X 6.17 inches wide X 3.14 inches deep. The speaker shall have a natural cast aluminum finish and shall be installed using a polished custom Spartan grille.





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EMERGENCY RESPONSE

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ELECTRONIC SIREN SPEAKER LOCATION

The electronic siren speaker shall be located on the front bumper face in the center position between the frame rails.

FRONT BUMPER TOW HOOKS

Two (2) heavy duty tow hooks, painted to match the frame components, shall be installed in the rearward position out of the approach angle area, bolted directly to the side of each chassis frame rail with grade 8 bolts.

CAB TILT SYSTEM

The entire cab shall be capable of tilting approximately 45-degrees to allow for easy maintenance of the engine and transmission. The cab tilt pump assembly shall be located on the right side of the chassis above the battery box.

The electric-over-hydraulic lift system shall include an ignition interlock and red cab lock down indicator lamp on the tilt control which shall illuminate when holding the "Down" button to indicate safe road operation.

It shall be necessary to activate the master battery switch and set the parking brake in order to tilt the cab. As a third precaution the ignition switch must be turned off to complete the cab tilt interlock safety circuit.

Two (2) spring-loaded hydraulic hold down hooks located outboard of the frame shall be installed to hold the cab securely to the frame. Once the hold-down hooks are set in place, it shall take the application of pressure from the hydraulic cab tilt lift pump to release the hooks.

Two (2) cab tilt cylinders shall be provided with velocity fuses in each cylinder port. The cab tilt pivots shall be 1.90 inch ball and be anchored to frame brackets with 1.25 inch diameter studs.

A steel safety channel assembly, painted safety yellow shall be installed on the right side cab lift cylinder to prevent accidental cab lowering. The safety channel assembly shall fall over the lift cylinder when the cab is in the fully tilted position. A cable release system shall also be provided to retract the safety channel assembly from the lift cylinder to allow the lowering of the cab.

CAB TILT LIMIT SWITCH

A cab tilt limit switch shall be installed. The switch will effectively limit the travel of the cab when being tilted. The limit adjustment of the switch shall be preset by the chassis manufacturer to prevent damage to the cab or any bumper mounted option mounted in the cab tilt arc. Further adjustment to the limit by the apparatus manufacturer shall be available to accommodate additional equipment.





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CAB TILT CONTROL RECEPTACLE

The cab tilt control cable shall include a receptacle which shall be temporarily located on the right hand chassis rail rear of the cab to provide a place to plug in the cab tilt remote control pendant. The tilt pump shall include 8.00 feet of cable with a six (6) pin Deutsch receptacle with a cap.

The remote control pendant shall include 20.00 feet of cable with a mating Deutsch connector. The remote control pendant shall be shipped loose with the chassis.

CAB TILT LOCK DOWN INDICATOR

The cab dash shall include a message located within the dual air pressure gauge which shall alert the driver when the cab is unlocked and ajar. The alert message shall cease to be displayed when the cab is in the fully lowered position and the hold down hooks are secured and locked to the cab mounts.

In addition to the alert message an audible alarm shall sound when the cab is unlocked and ajar with the parking brake released.

CAB WINDSHIELD

The cab windshield shall have a surface area of 2825.00 square inches and be of a two (2) piece wraparound design for maximum visibility.

The glass utilized for the windshield shall include standard automotive tint. The left and right windshield shall be fully interchangeable thereby minimizing stocking and replacement costs.

Each windshield shall be installed using black self locking window rubber.





Ypsilanti Twp Fire Department SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE REV GROUP

Proposal Date: 4-13-2022

GLASS FRONT DOOR

The front cab doors shall include a window which is 27.00 inches in width X 26.00 inches in height. These windows shall have the capability to roll down completely into the door housing. This shall be accomplished using electric actuation. The left and right front door windows shall be controlled using a switch on each respective side inner door panel. The driver's door shall include a switch for each powered door window in the cab.

There shall be an irregular shaped fixed window which shall measure 2.50 inches wide at the top, 8.00 inches wide at the bottom X 26.00 inches in height, more commonly known as "cozy glass" ahead of the front door roll down windows.

The windows shall be mounted within the frame of the front doors trimmed with a black anodized ring on the exterior.

Each front door window shall include patent pending heated glass technology to reduce fogging with a switch on the dash.

GLASS TINT FRONT DOOR

The windows located in the left and right front doors shall have a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.

GLASS REAR DOOR RH

The rear right hand side crew door shall include a window which is 27.00 inches in width X 26.00 inches in height. The window shall be a powered type and shall be controlled by a switch on the door panel ledge and on the driver's control panel.

GLASS TINT REAR DOOR RIGHT HAND

The window located in the right hand side rear window shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

GLASS REAR DOOR LH

The rear left hand side crew door shall include a window which is 27.00 inches in width X 26.00 inches in height. The window shall be a powered type and shall be controlled by a switch on the door panel ledge and on the driver's control panel.





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GLASS TINT REAR DOOR LEFT HAND

The window located in the left hand side rear door shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

GLASS SIDE MID RH

The cab shall include a window on the right side behind the front and ahead of the crew door which shall measure 16.00 inches wide X 26.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a green automotive tint unless otherwise noted.

GLASS TINT SIDE MID RIGHT HAND

The window located on the right hand side of the cab between the front and rear doors shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

GLASS SIDE MID LH

The cab shall include a window on the left side behind the front door and ahead of the crew door and above the wheel well which shall measure 16.00 inches wide X 26.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a green automotive tint unless otherwise noted.

GLASS TINT SIDE MID LEFT HAND

The window located on the left hand side of the cab between the front and rear doors shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.





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EMERGENCY RESPONSE

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CLIMATE CONTROL

A ceiling mounted combination defroster and cabin heating and air conditioning system shall be located above the engine tunnel area. The system covers and plenums shall be of severe duty design made of aluminum which shall be coated with a customer specified interior paint. The design of the system's covers shall provide quick access to washable air intake filters as well as easy access to other serviceable items.

Six (6) adjustable louvers shall provide comfort for the front seat occupants and ten (10) adjustable louvers shall provide comfort for the rear crew occupants. The plenum shall be shortened to terminate in the mid crew area on cabs with 10.00 inch raised roofs and greater. This shortened plenum shall allow for the customer to utilize the upper rear center wall for compartmentation, equipment, or apparatus operations.

Separate front and rear blower motors shall be of brushless design and shall be controlled independently. It shall be capable of reducing the interior cabin air temperature from 122° F (+/- 3° F) to 80° F in thirty minutes with 50% relative humidity and full solar load as described in SAE J2646.

The system shall also provide heater pull up performance which meets or exceeds the performance requirements of SAE J1612 as well as defrost performance that meets or exceeds the performance requirements of SAE J381.

A gravity drain system shall be provided that is capable of evacuating condensate from the vehicle while on a slope of up to a 13% grade in any direction.

The air conditioning system plumbing shall be a mixture of custom bent zinc coated steel fittings and Aeroquip flexible hose with Aeroquip EZ-Clip fittings.

The overhead heater/defroster plumbing shall include an electronic flow control valve that re-directs hot coolant away from the evaporator, via a bypass loop, as the temperature control is moved toward the cold position.

Any component which needs to be accessed to perform system troubleshooting shall be accessible by one person using basic hand tools. Regularly serviced items shall be replaceable by one person using basic hand tools.

*****The chassis manufacturer recommends that the overall climate system performance be based off third-party testing in accordance with the Society of Automotive Engineering standards as a complete system.***

Individual component level BTU ratings is not an accurate indicator of the performance capability of the completed system. System individual component BTU ratings:

- Air conditioning evaporator total BTU/HR: 82,000





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- Air conditioning condenser total BTU/HR: 59,000
- Heater coil total BTU/HR: 98,000

Performance data specified is based on testing performed by an independent third-party test facility using a medium four-door 10" raised roof cab equipped with an ISL engine.

CLIMATE CONTROL DRAIN

The climate control system shall include a gravity drain for water management. The gravity drain shall remove condensation from the air conditioning system without additional mechanical assistance.

CLIMATE CONTROL ACTIVATION

The heating, defrosting and air conditioning controls shall be in the center dash center switch panel, in a position which is easily accessible to the driver. The climate control shall be activated by a rotary switch.

HVAC OVERHEAD COVER PAINT

The overhead HVAC cover shall be painted with a multi-tone silver gray texture finish.

AUXILIARY CLIMATE CONTROL FRONT UNDERSEAT

Two (2) 13,500 BTU heaters shall be provided and installed in the face of the seat riser storage area for the left and right front seats, one (1) each side. The heater fan controls shall be individual switches located in the rocker switch area of the dash.

The auxiliary heater system hoses shall be silicone with stainless steel constant torque clamps approved for use with silicone hose. All defrost/heating systems shall be plumbed with one (1) seasonal shut-off valve at the front corner on the right side of the cab. The cab must be tilted to access the shut-off valve.

A/C CONDENSER LOCATION

A roof mounted A/C condenser shall be installed centered on the cab forward of the raised roof against the slope rise.





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EMERGENCY RESPONSE

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A/C COMPRESSOR

The air-conditioning compressor shall be a belt driven, engine mounted compressor. The compressor shall be compatible with R134-a refrigerant.

***The chassis manufacturer recommends that the overall climate system performance be based off third-party testing in accordance with the Society of Automotive Engineering standards as a complete system.*

Individual component level ratings are not an accurate indicator of the performance capability of the completed system.

Refrigerant Compressor displacement: 19.1 cubic inches per revolution.

CAB CIRCULATION FANS FRONT

The cab shall include two (2) all metal 6.00 inch air circulation fans installed in the outer front cab corners. Each fan shall be controlled by an individual toggle switch on each fan. The fans can be used to help defog the windshield or to increase air circulation for passenger comfort.

UNDER CAB INSULATION

The underside of the cab tunnel surrounding the engine shall be lined with multi-layer insulation, engineered for application inside diesel engine compartments.

The insulation shall act as a noise barrier, absorbing noise thus keeping the decibel level in the cab well within NFPA recommendations. As an additional benefit, the insulation shall assist in sustaining the desired temperature within the cab interior.

The engine tunnel insulation shall measure approximately 0.30 inch thick including a multi-layer foil faced glass cloth and polyester fiber layer. The foil surface acts as protection against heat, moisture and other contaminants. The insulation shall meet or exceed FMVSS 302 flammability test.

The insulation shall be cut precisely to fit each section and sealed for additional heat and sound deflection. The insulation shall be held in place by acrylic pressure sensitive adhesive.

INTERIOR TRIM FLOOR

The floor of the cab shall be covered with a multi-layer mat consisting of 0.25 inch thick sound absorbing closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The covering shall be held in place by a pressure sensitive adhesive and aluminum trim molding. All exposed seams shall be sealed with silicone caulk matching the color of the floor mat to reduce the chance of moisture and debris retention.





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INTERIOR TRIM

The cab interior shall include trim on the front ceiling, rear crew ceiling, and the cab walls. It shall be easily removable to assist in maintenance. The trim shall be constructed of insulated vinyl over a hard board backing.

REAR WALL INTERIOR TRIM

The rear wall of the cab shall be trimmed with aluminum sheet metal coated with a customer specified interior paint or protective coating.

HEADER TRIM

The cab interior shall feature header trim over the driver and officer dash constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum.

TRIM CENTER DASH

The main center dash area shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate. There shall be four (4) holes located on the top of the dash near each outer edge of the electrical access cover for ventilation. The center dash electrical access cover shall include a gas cylinder stay which shall hold the cover open during maintenance.

TRIM LH DASH

The left hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate for a perfect fit around the instrument panel. For increased occupant protection the extreme duty left hand dash utilizes patent pending break away technology to reduce rigidity in the event of a frontal crash. The left hand dash shall offer lower vertical surface area to the left and right of the steering column to accommodate control panels.

TRIM RH DASH

The right hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate and shall include a glove compartment with a hinged door and a Mobile Data Terminal (MDT) provision. The glove compartment size will measure 14.00 inches wide X 6.38 inches high X 5.88 inches deep. The MDT provision shall be provided above the glove compartment.

ENGINE TUNNEL TRIM

The cab engine tunnel shall be covered with a multi-layer mat consisting of 0.25 inch closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The mat shall be held in place by pressure sensitive adhesive. The engine tunnel mat shall be trimmed with anodized aluminum stair nosing trim for an aesthetically pleasing appearance.





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POWER POINT DASH MOUNT

The cab shall include one (1) 12 volt cigarette lighter type receptacles in the switch panel to provide a power source for 12 volt electrical equipment. The cab shall also include two (2) Blue Sea dual universal serial bus (USB) charging receptacles in the cab dash switch panel to provide a power source for USB chargeable electrical equipment. The USB ports shall be capable of a 5 Volt-2.1 amp total output. The receptacles shall be wired battery direct.

STEP TRIM

Each cab entry door shall include a three step entry. The first step closest to the ground shall be constructed of polished 5032 H32 aluminum Grip Strut® grating with angled outer corners. The step shall feature a splash guard to reduce water and debris from splashing in to the step. The splash guard shall have an opening on the outer edge to allow debris and water to flow through rather than becoming trapped within the stepping surface. The lower step shall be mounted to a frame which is integral with the construction of the cab for rigidity and strength. The middle step shall be integral with the cab construction and shall be trimmed with a Flex-Tred® adhesive grit surface material.

STEP TRIM KICKPLATE

The cab steps shall include a kick plate in the rise of each step. The risers shall be trimmed in 3003-H22 bright aluminum tread-plate which is 0.07 inch thick.

UNDER CAB ACCESS DOOR

The cab shall include an aluminum access door in the left crew step riser painted to match the cab interior paint with a push and turn latch. The under cab access door shall provide access to the diesel exhaust fluid fill.

INTERIOR DOOR TRIM

The interior trim on the doors of the cab shall consist of an aluminum panel constructed of Marine Grade 5052-H32 0.13 of an inch thick aluminum plate. The door panels shall include a painted finish.

DOOR TRIM CUSTOMER NAMEPLATE

The interior door trim on the front doors shall include a customer nameplate which states the vehicle was custom built for their Department.





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CAB DOOR TRIM REFLECTIVE

The interior of each door shall include high visibility reflective tape. A white reflective tape shall be provided vertically along the rear outer edge of the door. The lowest portion of each door skin shall include a reflective tape chevron with red and white stripes and a Spartan logo. The chevron tape shall measure 6.00 inches in height.

INTERIOR GRAB HANDLE "A" PILLAR

There shall be two (2) rubber covered 11.00 inch grab handles installed inside the cab, one on each "A" post at the left and right door openings. The left handle shall be located 7.88 inches above the bottom of the door window opening and the right handle shall be located 2.88 inches above the bottom of the door window opening. The handles shall assist personnel in entering and exiting the cab.

INTERIOR GRAB HANDLE FRONT DOOR

Each front door shall include one (1) ergonomically contoured 9.00 inch cast aluminum handle mounted horizontally on the interior door panels. The handles shall feature a textured black powder coat finish to assist personnel entering and exiting the cab.

INTERIOR GRAB HANDLE REAR DOOR

A black powder coated cast aluminum assist handle shall be provided on the inside of each rear crew door. A 30.00 inch long handle shall extend horizontally the width of the window just above the window sill. The handle shall assist personnel in exiting and entering the cab.

INTERIOR SOFT TRIM COLOR

The cab interior soft trim surfaces shall be gray in color.

INTERIOR TRIM SUNVISOR

The header shall include two (2) sun visors, one each side forward of the driver and officer seating positions above the windshield. Each sun visor shall be constructed of Masonite and covered with padded vinyl trim.

INTERIOR FLOOR MAT COLOR

The cab interior floor mat shall be gray in color.

CAB PAINT INTERIOR DOOR TRIM

The inner door panel surfaces shall be painted with multi-tone silver gray texture finish.





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HEADER TRIM INTERIOR PAINT

The metal surfaces in the header area shall be coated with multi-tone silver gray texture finish.

TRIM CENTER DASH INTERIOR PAINT

The entire center dash shall be coated with multi-tone silver gray texture finish. Any accessory pods attached to the dash shall also be painted this color.

TRIM LH DASH INTERIOR PAINT

The left hand dash shall be painted with a multi-tone silver gray texture finish.

TRIM RIGHT HAND DASH INTERIOR PAINT

The right hand dash shall be painted with multi-tone silver gray texture finish.

REAR WALL INTERIOR PAINT

The rear wall of the cab shall be trimmed with aluminum sheet metal coated with a multi-tone silver gray texture finish.

DASH PANEL GROUP

The main center dash area shall include three (3) removable panels located one (1) to the right of the driver position, one (1) in the center of the dash and one (1) to the left of the officer position. The center panel shall be within comfortable reach of both the driver and officer.

SWITCHES CENTER PANEL

The center dash panel shall include six (6) switch positions in the upper left portion of the panel.

A rocker switch with a blank legend installed directly above shall be provided for any position without a switch and legend designated by a specific option. The non-specified switches shall be two-position, black switches with a green indicator light. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.





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SWITCHES LEFT PANEL

The left dash panel shall include three (3) switches. There shall be two (2) across the top of the panel with one (1) below. One (1) of the top row of switches shall be rocker type and the left one (1) shall be the windshield wiper/washer control switch. The lower switch shall be a rocker type switch.

A rocker switch with a blank legend installed directly above shall be provided for any position not designated by a specific option. The non-designated switches shall be two-position, black switches with a green indicator light. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.

SWITCHES RIGHT PANEL

The right dash panel shall include three (3) rocker switch positions in a single row configuration.

A rocker switch with a blank legend installed directly above shall be provided for any position without a switch and legend designated by a specific option. The non-specified switches shall be two-position, black switches with a green indicator light. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.

SEAT BELT WARNING

A Weldon seat belt warning system, integrated with the Vehicle Data Recorder system, shall be installed for each seat within the cab. The system shall provide a visual warning indicator in the Vista display and control screen(s).

The warning system shall activate when any seat is occupied with a minimum of 60 pounds, the corresponding seat belt remains unfastened, and the park brake is released. The warning system shall also activate when any seat is occupied, the corresponding seat belt was fastened in an incorrect sequence, and the park brake is released. Once activated, the visual indicators and applicable audible alarm shall remain active until all occupied seats have the seat belts fastened.

SEAT MATERIAL

The Bostrom Firefighter seats shall include a covering of extra high strength, wear resistant fabric made of durable low seam Durawear Plus™ ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids. Durawear Plus™ meets or exceeds specification of the common trade name Imperial 1800. The material meets FMVSS 302 flammability requirements.

If applicable, Theatre style seats located in the cab shall be high strength, wear resistant fabric made of durable ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids. Common trade names for this material are Imperial 1200 and Durawear.





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SEAT COLOR

All seats supplied with the chassis shall be gray in color. All seats shall include red seat belts.

SEAT BACK LOGO

The seat back shall include the “Spartan” logo. The logo shall be centered on the standard headrest of the seat back and on the left side of a split headrest.

SEAT DRIVER

The driver's seat shall be an H.O. Bostrom 500 Series Firefighter Sierra model seat with air suspension. The four-way seat shall feature a 3.00 inches vertical travel air suspension and manual fore and aft adjustment with 5.00 inches of travel. The suspension control shall be located on the seat below the left front corner of the bottom cushion. The seat shall also feature integral springs to isolate shock.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.

This model of seat shall have successfully completed the static load tests set forth by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208.

The materials used in construction of the seat shall also have successfully completed testing with regard to the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which dictates the allowable burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK DRIVER

The driver’s seat shall include a standard seat back incorporating the all belts to seat feature (ABTS) as described above. The seat back shall recline up to 19-degrees.

SEAT MOUNTING DRIVER

The driver’s seat shall be installed in an ergonomic position in relation to the cab dash.





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OCCUPANT PROTECTION DRIVER

The driver’s position shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

The driver’s seating area APS shall include:

- Advanced seat belt system - retractor pre-tensioner tightens the seat belt around the driver, securing the occupant in the seat and the load limiter plays out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.
- Large side curtain airbag - protects the driver’s head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to the driver in a qualifying event by covering the window and the upper portion of the door.
- Dual knee airbags (patent pending) with energy management mounting (patent pending) - protects the driver's lower body from dangerous surface contact injuries, acceleration injuries, and from intrusion as well as locks the lower body in place so the upper body shall be shall be slowed by the load limiting seat belt.
- Steering wheel airbag - protects the driver’s head, neck, and upper torso from contact injuries, acceleration injuries, and contact points with intrusive surfaces as a result of a collision.

SEAT OFFICER

The officer's seat shall be an H.O. Bostrom 500 Series Sierra model seat. The seat shall feature two-way manual adjustment and shall include a tapered and padded seat cushion. The seat shall also feature integral springs to isolate shock.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt, automatic retractor and buckle as an integral part of the seat assembly. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.

The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 35.00.

This model of seat shall have successfully completed the static load tests by FMVSS 207, 209, 210 and 302 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. The model of seats shall also have successfully completed the flammability of materials used in the





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occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK OFFICER

The officer's seat back shall include an IMMI brand SmartDock® Gen 2 hands-free self contained breathing apparatus (SCBA) holder. The hands-free holder shall meet NFPA 1901-03 9G dynamic requirements for cylinder restraint systems for use in crew compartments of emergency response vehicles. The bracket shall accommodate and secure most types of self-contained breathing apparatus cylinders.

The hands-free holder shall consist of a back plate, bottom cradle, non-marring top claws, and claw height adjustment knob. The height adjustment knob shall allow for easy adjustment of the claws to the SCBA. The hands-free holder's claws shall lock from inertial forces to prevent the SCBA from becoming a projectile in the event of a crash to meet the NFPA 1901-03 standard for SCBA retention. The SCBA holder shall offer single-motion insertion into the claws and hands-free release when the SCBA fitted seat occupant rises.

The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.

SEAT MOUNTING OFFICER

The officer's seat shall offer a special mounting position which is 2.00 inches rearward of the standard location offering increased leg room for the occupant.

OCCUPANT PROTECTION OFFICER

The officer's position shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

The officer's seating area APS shall include:

- Advanced seat belt system - retractor pre-tensioner tightens the seat belt around the officer, securing the occupant in the seat and the load limiter plays out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.
- Large side curtain airbag - protects the officer's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to the officer in a qualifying event by covering the window and the upper portion of the door.





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- Knee airbags - protects the officer's lower body from dangerous surface contact injuries, acceleration injuries, and from contact points with intrusive surfaces as a result of a collision as well as locks the lower body in place so the upper body shall be slowed by the load limiting seat belt.

SEAT BELT ORIENTATION CREW

The crew position seat belts shall follow the standard orientation which extends from the outboard shoulder extending to the inboard hip.

SEAT REAR FACING OUTER LOCATION

The crew area shall include two (2) rear facing crew seats, which include one (1) located directly behind the left side front seat and one (1) located directly behind the right side front seat.

SEAT CREW REAR FACING OUTER

The crew area shall include a seat in the rear facing outboard position which shall be a H.O. Bostrom 500 Series Firefighter model seat. The seat shall feature a tapered and padded seat, and cushion. The seat and cushion shall be spring load hinged and compact in design for additional room. The seat shall include a "Fold and Hold" feature so that the cushion shall remain in the seated position and simply touched to flip up.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall be 35.00 inches.

This model of seat shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.





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SEAT BACK REAR FACING OUTER

The crew area seat backs shall include an IMMI brand SmartDock® Gen 2 hands-free self contained breathing apparatus (SCBA) holder. The hands-free holder shall meet NFPA 1901-03 9G dynamic requirements for cylinder restraint systems for use in crew compartments of emergency response vehicles. The bracket shall accommodate and secure most types of self-contained breathing apparatus cylinders.

The hands-free holder shall consist of a back plate, bottom cradle, non-marring top claws, and claw height adjustment knob. The height adjustment knob shall allow for easy adjustment of the claws to the SCBA. The hands-free holder's claws shall lock from inertial forces to prevent the SCBA from becoming a projectile in the event of a crash to meet the NFPA 1901-03 standard for SCBA retention. The SCBA holder shall offer single-motion insertion into the claws and hands-free release when the SCBA fitted seat occupant rises.

The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.

SEAT MOUNTING REAR FACING OUTER

The rear facing outer seats shall offer special mounting positions which shall be 2.00 inches towards the rear wall offering additional space between the front seats and the outer rear facing seats.

SEAT FRAME FORWARD FACING

The forward facing center seating positions shall include a full width seat frame located and installed at the rear wall. The seat frame shall span the available space on the rear wall. The seat frame shall be 12.38 inches high X 22.00 inches deep. The seat frame shall be constructed of Marine Grade 5052-H32 0.19 inch thick aluminum plate. The seat box shall be painted with the same color as the remaining interior.

SEAT FRAME FORWARD FACING STORAGE ACCESS

There shall be one (1) access point to the storage area centered on the front of the seat frame. This access point shall be covered by a hinged door to allow access for storage in the seat box.

SEAT FRAME EXTERIOR REAR COMPARTMENT ACCESS

The seat frame shall be open to the exterior rear compartment on both the right hand side and the left hand side. This shall allow interior access to the left and right exterior rear compartments.

CAB FRONT UNDERSEAT STORAGE ACCESS

The left and right under seat storage areas shall have a vented aluminum hinged door with non-locking latch.





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SEAT COMPARTMENT DOOR FINISH

All underseat storage compartment access doors shall have a multi-tone silver gray texture finish.

WINDSHIELD WIPER SYSTEM

The cab shall include a triple arm linkage wiper system which shall clear the windshield of water, ice and debris. There shall be two (2) windshield wipers; each shall be affixed to a radial arm. The wiper motor shall be activated by an intermittent wiper control located within easy reach of the driver's position. The windshield wipers shall be interlocked with the park brake allowing activation only when the park brake is released.

ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR

The windshield washer fluid level shall be monitored electronically. When the washer fluid level becomes low the yellow "Check Message Center" indicator light on the instrument panel shall illuminate and the message center in the dual air pressure gauge shall display a "Check Washer Fluid Level" message.

CAB DOOR HARDWARE

The cab entry doors shall be equipped with exterior pull handles, suitable for use while wearing firefighter gloves. The handles shall be made of aluminum with a chrome plated finish.

The interior exit door handles shall be flush paddle type with a black finish, which are incorporated into the upper door panel.

All cab entry doors shall include locks which are keyed alike. The door locks shall be designed to prevent accidental lockout.

The exterior pull handles shall include a scuff plate behind the handle constructed of polished stainless steel to help protect the cab finish.

DOOR LOCKS

Each cab entry door shall include a manually operated door lock. Each door lock may be actuated from the inside of the cab by means of a red knob located on the paddle handle of the respective door or by using a TriMark key from the exterior. The door locks are designed to prevent accidental lock out.

DOOR LOCK LH REAR CAB COMPARTMENT

The left hand side rear compartment shall feature a manual door lock.





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DOOR LOCK RH REAR CAB COMPARTMENT

The right hand side rear compartment shall feature a manual door lock.

GRAB HANDLES

The cab shall include one (1) 18.00 inch knurled, anti-slip, one-piece exterior assist handle behind each cab door. The grab handle shall be made of SAE 304 stainless steel and be 1.25 inch diameter to enable non-slip assistance with a gloved hand.

REARVIEW MIRRORS

Ramco model CRM-310-1350-PCHR bus style mirrors shall be provided. The mirror heads shall be injection molded chrome plated ABS plastic and shall measure 9.75 inches wide X 13.50 inches high. The mirrors shall be mounted one (1) on each the driver and officer doors of the cab with polished die-cast aluminum arms.

The mirrors shall feature an upper heated remote controlled flat glass and a lower heated remote controlled convex glass. The mirror control switches shall be located within easy reach of the driver. The mirrors shall be manufactured using the finest quality non-glare glass and shall feature a rigid mounting thereby reducing vibration. The mirrors shall be corrosion free under all weather conditions.

REARVIEW MIRROR HEAT SWITCH

The heat for the rearview mirrors shall be controlled through a rocker switch on the dash in the switch panel.

EXTERIOR TRIM REAR CORNER

There shall be mirror finish stainless steel scuff plates on the outside corners at the back of the cab. The stainless steel plate shall be affixed to the cab using two sided adhesive tape.

CAB FENDER

Full width wheel well liners shall be installed on the extruded cab to limit road splash and enable easier cleaning. Each two-piece liner shall consist of an inner liner 16.00 inches wide made of vacuum formed ABS composite and an outer fenderette 5.00 inches wide made of SAE 304 polished stainless steel.

MUD FLAPS FRONT

The front wheel wells shall have mud flaps installed on them.





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CAB EXTERIOR FRONT & SIDE EMBLEMS

The cab shall include three (3) Spartan emblems. There shall be one (1) installed on the front air intake grille and one (1) emblem on each of the cab sides. The cab shall also include one (1) Advanced Protection System shield emblem on each front door.

IGNITION

A master battery system with a keyless start ignition system shall be provided. Each system shall be controlled by a one-quarter turn Cole Hersee switch, both of which shall be mounted to the left of the steering wheel on the dash. A chrome push type starter button shall be provided adjacent to the master battery and ignition switches.

Each switch shall illuminate a green LED indicator light on the dash when the respective switch is placed in the "ON" position.

The starter button shall only operate when both the master battery and ignition switches are in the "ON" position.

BATTERY

The single start electrical system shall include six (6) Harris BCI 31 925 CCA batteries with a 210 minute reserve capacity and 4/0 welding type dual path starter cables per SAE J541.

BATTERY TRAY

The batteries shall be installed within two (2) stainless steel battery trays located on the left side and right side of the chassis, securely bolted to the frame rails. The battery trays shall be coated with the same material as the frame.

The battery trays shall include drain holes in the bottom for sufficient drainage of water. A durable, non-conducting, interlocking mat made by Dri-Dek shall be installed in the bottom of the trays to allow for air flow and help prevent moisture build up. The batteries shall be held in place by non-conducting phenolic resin hold down boards.

BATTERY BOX COVER

Each battery box shall include a stainless steel cover which protects the top of the batteries. Each cover shall include flush latches which shall keep the cover secure as well as a black powder coated handle for convenience when opening.





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BATTERY CABLE

The starting system shall include cables which shall be protected by 275 degree F. minimum high temperature flame retardant loom, sealed at the ends with heat shrink and sealant.

BATTERY JUMPER STUD

The starting system shall include battery jumper studs. These studs shall be located in the forward most portion of the driver's side lower step, 8.00 inches apart. The studs shall allow the vehicle to be jump started, charged, or the cab to be raised in an emergency in the event of battery failure.

ALTERNATOR

The charging system shall include a 320 amp Leece-Neville 12 volt alternator. The alternator shall include a self-exciting integral regulator.

STARTER MOTOR

The single start electrical system shall include a Delco brand starter motor.

BATTERY CONDITIONER

A Kussmaul Auto Charge 40 LPC battery conditioner shall be supplied. The battery conditioner shall provide a 40 amp output for the chassis batteries and a 15 amp output circuit for accessory loads. The battery conditioner shall be mounted in the cab in the LH rear facing outer seating position.

BATTERY CONDITIONER DISPLAY

A Kussmaul battery conditioner display shall be supplied. The battery conditioner display shall be mounted in the cab, viewable through the cab mid side window behind the left front door.

AUXILIARY AIR COMPRESSOR

A Kussmaul Auto Pump 120V air compressor shall be supplied. The air compressor shall be installed behind the officer's seat. The air compressor shall be plumbed to the air brake system to maintain air pressure.

ELECTRICAL INLET LOCATION

An electrical inlet shall be installed on the left hand side of cab over the wheel well.





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ELECTRICAL INLET

A Kussmaul 20 amp super auto-eject electrical receptacle shall be supplied. It shall automatically eject the plug when the starter button is depressed.

A single item or an addition of multiple items must not exceed the rating of the electric inlet that it's connected to.

Amp Draw Reference List:

- Kussmaul 40 LPC Charger - 5 Amps*
- Kussmaul 40/20 Charger - 8.5 Amps*
- Kussmaul 80 LPC Charger - 13 Amps*
- Kussmaul EV-40 - 6.2 Amps*
- Blue Sea P12 7532 - 7.5 Amps*
- Iota DLS-45/IQ4 - 11 Amps*
- 1000W Engine Heater - 8.33 Amps*
- 1500W Engine Heater - 12.5 Amps*
- 120V Air Compressor - 4.2 Amps*
- 120V Dometic HVAC - 15 Amps*

ELECTRICAL INLET CONNECTION

The electrical inlet shall be connected to the battery conditioner and the air pump.

ELECTRICAL INLET COLOR

The electrical inlet connection shall include a red cover.

HEADLIGHTS

The cab front shall include four (4) rectangular LED headlamps with separate high and low beams mounted in bright chrome bezels. Each lamp shall include a heating system that de-ices the headlight.

HEADLIGHT LOCATION

The headlights shall be located on the front fascia of the cab directly below the front warning lights.

FRONT TURN SIGNALS

The front fascia shall include two (2) Whelen model 600 4.00 inches X 6.00 inches programmable amber LED turn signals which shall be installed in an outboard position within the front fascia chrome bezel.





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SIDE TURN/MARKER LIGHTS

The sides of the cab shall include two (2) Whelen OS LED side marker lights which shall be provided just behind the front cab radius corners.

MARKER AND ICC LIGHTS

In accordance with FMVSS, there shall be five (5) marker lamps on the front of the vehicle designating identification and clearance. There shall be five (5) face mounted lights integrated into the scene light.

HEADLIGHT AND MARKER LIGHT ACTIVATION

The headlights and marker lights shall be controlled via a virtual button on the Vista display. The headlights and daytime running lights shall turn off when the park brake is engaged. There shall be a virtual dimmer control on the Vista display to adjust the brightness of the dash lights. The headlamps shall be equipped with the "Daytime Running" light feature, which shall illuminate the headlights to 100% brilliance when the ignition switch is in the "On" position and the parking brake is released.

LIGHTBAR SWITCH

The light bar shall be controlled by a virtual button on the Vista display and control screen. This button shall be clearly labeled for identification.

INTERIOR OVERHEAD LIGHTS

The cab shall include a LED dome lamp located over each door. The lights shall include push switches on each lamp to activate both the clear and red portions of the light individually.

INTERIOR OVERHEAD LIGHTS ACTIVATION

The clear portion of each lamp shall be activated by opening the respective door and via the multiplex display.

LIGHTBAR PROVISION

There shall be one (1) light bar installed on the cab roof. The light bar shall be provided and installed by the chassis manufacturer. The light bar installation shall include a lowered mounting that shall place the light bar just above the junction box and wiring to a control switch on the cab dash.





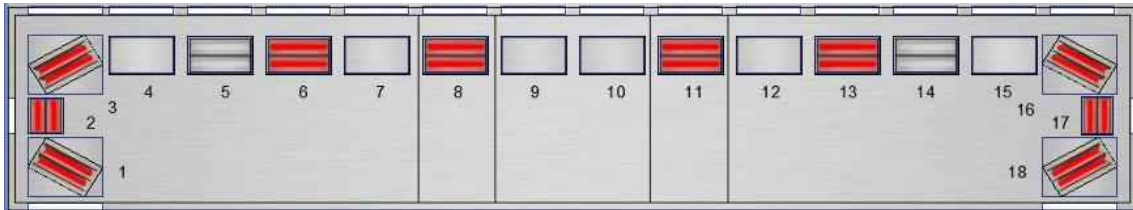
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CAB FRONT LIGHTBAR MODEL

The cab shall be provided with one (1) Whelen model F4N72 light bar. The light bar shall be 72.00 inches in length and feature eighteen (18) customizable pods.

See the light bar layout for specific details.



FRONT SCENE LIGHTS

The front of the cab shall include one (1) HiViz model FireTech FT-B-72-ML-W LED scene light installed on the brow of the cab. The light shall feature (5) five integrated marker lights.

The housing shall be powder coated white.

FRONT SCENE LIGHT LOCATION

There shall be one (1) scene light mounted center on the front brow of the cab.

FRONT SCENE LIGHTS ACTIVATION

The front scene lighting shall be activated by a virtual button on the Vista display and control screen.

SIDE SCENE LIGHTS

The side of the cab shall include two (2) Firetech model FT-GESM Guardian Elite LED scene lights, one (1) each side which shall be surface mounted with a chrome bezel.

SIDE SCENE LIGHT LOCATION

The scene lighting located on the left and right sides of the cab shall be mounted rearward of the cab “B” pillar in the 10.00 inch raised roof portion of the cab between the front and rear crew doors.

SIDE SCENE ACTIVATION

The scene lights shall be activated by two (2) virtual buttons on the Vista display and control screen(s), one (1) for each light, and by opening the respective side cab doors.





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GROUND LIGHTS

Each door shall include a Tecniq T44 LED ground light mounted to the underside of the cab step below each door. The lights shall include a polycarbonate lens, a housing which is vibration welded and LEDs which shall be shock mounted for extended life.

GROUND LIGHTS

The ground lighting shall be activated when the parking brake is set, by the opening of the door on the respective cab side, and when the truck is placed into reverse.

UNDER BUMPER LIGHTS

There shall be two (2) 4.00 inch round LED NFPA compliant ground lights mounted under the bumper. The lights shall include a polycarbonate lens, a housing which is vibration welded, and LEDs which shall be shock mounted for extended life. The under bumper ground lighting shall activate with the ground lights.

LOWER CAB STEP LIGHTS

The middle step located at each door shall include a Tecniq T44 LED light which shall activate with the opening of the respective door. The lights shall include a polycarbonate lens, a housing which is vibration welded and LEDs which shall be shock mounted for extended life.

INTERMEDIATE STEP LIGHTS

The intermediate step well area at the front doors shall include a TecNiq D06 LED light within a chrome housing. The front egress step lights shall provide visibility to the step well area for the first step exiting the vehicle. The Egress step lights shall activate with entry step lighting.

ENGINE COMPARTMENT LIGHT

There shall be a LED NFPA compliant light mounted under the engine tunnel for area work lighting on the engine. The light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life. The light shall activate automatically when the cab is tilted.





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DO NOT MOVE APPARATUS LIGHT

The front headliner of the cab shall include a flashing red TecNiq K50 LED light clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound while the light is activated.

The flashing red light shall be located centered left to right for greatest visibility.

The light and alarm shall be interlocked for activation when either a cab door is not firmly closed, or an apparatus compartment door is not closed, and the parking brake is released.

MASTER WARNING SWITCH

A master switch shall be included, as a virtual button on the Vista display and control screen which shall be labeled "E Master" for identification. The button shall feature control over all devices wired through it. Any warning device switches left in the "ON" position when the master switch is activated shall automatically power up.

HEADLIGHT FLASHER

An alternating high beam headlight flashing system shall be installed into the high beam headlight circuit which shall allow the high beams to flash alternately from left to right.

Deliberate operator selection of high beams will override the flashing function until low beams are again selected. Per NFPA, these clear flashing lights will also be disabled "On Scene" when the park brake is applied.

HEADLIGHT FLASHER SWITCH

The flashing headlights shall be activated through a virtual button on the Vista display and control screen.

INBOARD FRONT WARNING LIGHTS

The cab front fascia shall include two (2) Whelen C6 SurfaceMax™ series Super LED front warning lights in the left and right inboard positions. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the front fascia of the cab within a chrome bezel.

INBOARD FRONT WARNING LIGHTS COLOR

The warning lights mounted on the cab front fascia in the inboard positions shall be red with a clear lens.





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FRONT WARNING SWITCH

The front warning lights shall be controlled through a virtual control on the Vista display and control screen. This switch shall be clearly labeled for identification.

INTERSECTION WARNING LIGHTS

The chassis shall include two (2) Whelen C6 SurfaceMax series Super LED intersection warning lights, one (1) each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted within a chrome bezel.

INTERSECTION WARNING LIGHTS COLOR

The intersection lights shall be red with a clear lens.

INTERSECTION WARNING LIGHTS LOCATION

The intersection lights shall be mounted on the side of the bumper in the rearward position.

SIDE WARNING LIGHTS

The cab sides shall include two (2) Whelen C6 SurfaceMax series Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn. The lights shall be mounted to the sides of the cab within a chrome bezel.

SIDE WARNING LIGHTS COLOR

The warning lights located on the side of the cab shall be red.

SIDE WARNING LIGHTS LOCATION

The warning lights on the side of the cab shall be mounted over the front wheel well directly over the center of the front axle.

SIDE AND INTERSECTION WARNING SWITCH

The side warning lights shall be controlled through a virtual button on the Vista display and control screen. This button shall be clearly labeled for identification.





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TANK LEVEL LIGHTS

There shall be two (2) FRC MaxVision surface mount water level light strips.

The light strips shall feature four (4) colors of LED lights to indicate the fluid level of a tank. The colors from top to bottom shall be green, blue, amber, and red.

TANK LEVEL LIGHTS ACTIVATION

The tank level lights shall be pre-wired and coiled at rear of the cab for connection to the apparatus by the body builder.

TANK LEVEL LIGHTS LOCATION

There shall be water level lights mounted on each side behind the rear cab doors at the rear edge of the cab.

ROTO-RAYS WARNING LIGHT

A Roto-Rays® warning light shall be provided on the cab. The Roto-Rays light shall consist of three (3) round chrome heads, each equipped with an LED light. The LED lights shall be two (2) red and one (1) clear in color. The Roto-Rays light shall be installed on the top center of the cab front fascia using a custom bracket.

When activated, the entire light head assembly shall rotate at 200 RPM.

ROTO-RAYS WARNING LIGHT SWITCH

The Roto-Rays® front warning light(s) shall be separately controlled through a virtual button on the Vista display and control screen. When the parking brake is engaged the light shall stop rotating.

INTERIOR DOOR OPEN WARNING LIGHTS

The interior of each door shall include one (1) red Whelen 500 Series TIR6™ Super-LED® warning light located on the door panel. Each light shall activate with a flashing pattern when the door is in the open position to serve as a warning to oncoming traffic.

SIREN CONTROL HEAD

A Federal PA4000 electronic siren control head shall be provided and flush mounted in the switch panel with a location specific to the customer's needs. The siren shall feature 200-watt output, wail, radio broadcast, public address, yelp, priority tones and a noise cancelling microphone.





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STEERING WHEEL HORN BUTTON SELECTOR SWITCH

A rocker switch shall be installed in the switch panel between the driver and officer to allow control of either the electric horn or the air horn from the steering wheel horn button. The electric horn shall sound by default when the selector switch is in either position to meet FMCSA requirements.

AIR HORN AUXILIARY ACTIVATION

The air horn activation shall be accomplished by a momentary rocker switch on the switch panel.

MECHANICAL SIREN BRAKE/AUXILIARY ACTIVATION

The mechanical siren shall be actuated by one (1) momentary rocker switch in the switch panel on the dash. Two (2) red momentary siren brake rocker switches shall be provided in the switch panel on the dash.

MECHANICAL SIREN INTERLOCK

The siren shall only be active when master warning switch is on to prevent accidental engagement.

BACK-UP ALARM

An ECCO model 575 backup alarm shall be installed at the rear of the chassis with an output level of 107 dB. The alarm shall automatically activate when the transmission is placed in reverse.

INSTRUMENTATION

An ergonomically designed instrument panel shall be provided. Each gauge shall be backlit with LED lamps. Stepper motor movements shall drive all gauges. The instrumentation system shall be multiplexed and shall receive ABS, engine, and transmission information over the J1939 data bus to reduce redundant sensors and wiring.

A twenty eight (28) icon lightbar message center with integral LCD odometer/trip odometer shall be included. The odometer shall display up to 999,999.9 miles. The trip odometer shall display 9,999.9 miles. The LCD message center screen shall be capable of custom configuration by the users for displaying certain vehicle status and diagnostic functions.

The instrument panel shall contain the following gauges:

One (1) three-movement gauge displaying vehicle speed, fuel level, and Diesel Exhaust Fluid (DEF) level. The primary scale on the speedometer shall read from 0 to 100 MPH, and the secondary scale on the speedometer shall read from 0 to 160 KM/H. The scale on the fuel and DEF level gauges shall read from empty to full as a fraction of full tank capacity. Red indicator lights in the gauge and an audible alarm shall indicate low fuel or low DEF at 1/8th tank level.





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One (1) three-movement gauge displaying engine RPM, and primary and secondary air system pressures shall be included. The scale on the tachometer shall read from 0 to 3000 RPM. The scale on the air pressure gauges shall read from 0 to 150 pounds per square inch (PSI) with a red line zone indicating critical levels of air pressure. Red indicator lights in the gauge and an audible alarm shall indicate low air pressure.

One (1) four-movement gauge displaying engine oil pressure, coolant temperature, voltmeter, and transmission temperature shall be included. The scale on the engine oil pressure gauge shall read from 0 to 100 pounds PSI with a red line zone indicating critical levels of oil pressure. A red indicator light in the gauge and audible alarm shall indicate low engine oil pressure. The scale on the coolant temperature gauge shall read from 100 to 250 degrees Fahrenheit (°F) with a red line zone indicating critical coolant temperatures. A red indicator light in the gauge and audible alarm shall indicate high coolant temperature. The scale on the voltmeter shall read from 9 to 18 volts with a red line zone indicating critical levels of battery voltage. A red indicator light in the gauge and an audible alarm shall indicate high or low system voltage. The low voltage alarm shall indicate when the system voltage has dropped below 11.8 volts for more than 120 seconds in accordance with the requirements of NFPA 1901. The scale on the transmission temperature gauge shall read from 100 to 300 degrees °F with a red line zone indicating critical temperatures. A red indicator light in the gauge and an audible alarm shall indicate a high transmission temperature.

The light bar portion of the message center shall include twenty-eight (28) LED backlit indicators. The lightbar shall be split with fourteen (14) indicators on each side of the LCD message screen. The lightbar shall contain the following indicators and produce the following audible alarms when supplied in conjunction with applicable configurations:

RED INDICATORS

- Stop Engine - indicates critical engine fault
- Air Filter Restricted - indicates excessive engine air intake restriction
- Park Brake - indicates parking brake is set
- Seat Belt - indicates a seat is occupied and corresponding seat belt remains unfastened
- Low Coolant - indicates critically low engine coolant
- Cab Tilt Lock - indicates the cab tilt system locks are not engaged.

AMBER INDICATORS

- Malfunction Indicator Lamp (MIL) - indicates an engine emission control system fault
- Check Engine - indicates engine fault
- Check Transmission - indicates transmission fault
- Anti-Lock Brake System (ABS) - indicates anti-lock brake system fault
- High exhaust system temperature – indicates elevated exhaust temperatures
- Water in Fuel - indicates presence of water in fuel filter
- Wait to Start - indicates active engine air preheat cycle
- Windshield Washer Fluid – indicates washer fluid is low
- DPF restriction - indicates a restriction of the diesel particulate filter





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Regen Inhibit-indicates regeneration of the DPF has been inhibited by the operator
Range Inhibit - indicates a transmission operation is prevented and requested shift request may not occur.
SRS - indicates a problem in the supplemental restraint system
Check Message - indicates a vehicle status or diagnostic message on the LCD display requiring attention.

GREEN INDICATORS

Left and Right turn signal indicators
ATC - indicates low wheel traction for automatic traction control equipped vehicles, also indicates mud/snow mode is active for ATC system
High Idle - indicates engine high idle is active.
Cruise Control - indicates cruise control is enabled
OK to Pump - indicates the pump is engaged and conditions have been met for pump operations
Pump Engaged - indicates the pump transmission is currently in pump gear
Auxiliary Brake - indicates secondary braking device is active

BLUE INDICATORS

High Beam indicator

AUDIBLE ALARMS

Air Filter Restriction
Cab Tilt Lock
Check Engine
Check Transmission
Open Door/Compartment
High Coolant Temperature
High or Low System Voltage
High Transmission Temperature
Low Air Pressure
Low Coolant Level
Low DEF Level
Low Engine Oil Pressure
Low Fuel
Seatbelt Indicator
Stop Engine
Water in Fuel
Extended Left/Right Turn Signal On
ABS System Fault

BACKLIGHTING COLOR

The instrumentation gauges and the switch panel legends shall be backlit using red LED backlighting.





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SPARTAN LEGEND SERIES PUMPER SPECIFICATION

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RADIO

A Jensen brand radio with weather band, AM/FM stereo receiver, rear RCA input pigtail connector, satellite radio capability, and a covered front auxiliary mini stereo input with iPod ready front and rear USB inputs shall be installed in a customer specified location.

RADIO LOCATION

The radio shall be installed in the left hand overhead position above the driver.

AM/FM ANTENNA

A small antenna shall be located on the left hand side of the cab roof for AM/FM and weather band reception.

RADIO SPEAKERS

There shall be two (2) speakers installed in the front portion of the cab recessed overhead and two (2) speakers installed on the upper rear wall of the cab. The speakers shall be provided for connection to the sound system.

CAMERA REAR

One (1) Audiovox Voyager heavy duty rearview camera with a teardrop shaped chrome plated housing shall be shipped loose for OEM installation in the body to afford the driver a clear view to the rear of the vehicle. The rear camera display shall activate when the vehicle's transmission is placed in reverse.

CAMERA DISPLAY

The camera system shall be wired to a single Weldon Vista display located on the driver's side dash. The camera system display can be activated through the Vista display panel.

CAMERA SPEAKER

The rear camera shall be wired to speaker(s) in the cab and shall audible to the driver and officer. There shall be a virtual button provided on the Vista display and control panel to deactivate the speaker(s).

CAB EXTERIOR PROTECTION

The cab face shall have a removable plastic film installed over the painted surfaces to protect the paint finish during transport to the body manufacturer.





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EMERGENCY RESPONSE

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FIRE EXTINGUISHER

A 2.50 pound D.O.T approved fire extinguisher with BC rating shall be shipped loose with the cab.

ROAD SAFETY KIT

The cab and chassis shall include one (1) emergency road safety triangle kit.

DOOR KEYS

The cab and chassis shall include a total of four (4) door keys for the manual door locks.

DIAGNOSTIC SOFTWARE OCCUPANT PROTECTION

Diagnostic software for the Spartan Advanced Protection System shall be available for free download from the Spartan Chassis website to Spartan authorized OEMs, dealers and service centers, as well as the vehicle owner.

The software has been validated to be compatible with the following RP1210 interface adapters:

- Dearborn Group DPA4 Plus
- Noregon Systems JPRO® DLA+
- Cummins INLINE5
- Cummins INLINE6
- NexIQ™ USB-Link™

The software and adapter utilize the SAE J1939-13 heavy duty nine (9) pin connector which is located below the driver's side dash to the left of the steering column.

WARRANTY

Purchaser shall receive a Custom Chassis Two (2) Years or 36,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0102. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

CHASSIS OPERATION MANUAL

The chassis operation manual shall be contained in an on board USB digital storage device. The chassis operation manual shall be accessible through a USB port provided in the OBD diagnostic panel.





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EMERGENCY RESPONSE

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ENGINE AND TRANSMISSION OPERATION MANUALS

The following manuals specific to the engine and transmission models ordered will be included with the chassis in the ship loose items:

- (1) Hard copy of the Engine Operation and Maintenance manual with digital copy
- (1) Digital copy of the Transmission Operator's manual
- (1) Digital copy of the Engine Owner's manual

CAB/CHASSIS AS BUILT WIRING DIAGRAMS

The cab and chassis wiring schematics and option wiring diagrams shall be contained in an on board USB digital storage device. The cab and chassis wiring schematics and option wiring diagrams shall be accessible through a USB port provided in the OBD diagnostic panel.

AS BUILT AIR PLUMBING DIAGRAM

The cab and chassis shall include one (1) digital copy of the as built air plumbing system and option air plumbing diagrams.

AS BUILT FUEL PLUMBING DIAGRAM

The cab and chassis shall include one (1) digital copy of the as built fuel system plumbing diagram.

CUSTOMER INSPECTION

There shall be a customer inspection of the chassis at Spartan Chassis in Charlotte, Michigan. The customer, the dealer, or the OEM shall be responsible for all travel costs and arrangements.

The date of the chassis inspection shall be determined based on the requested chassis completion date, OEM production schedules, the chassis off-line date, and the chassis completion date.

The inspection must be coordinated between the OEM/Dealer representative and Andy Torrence the Spartan Chassis FT Auditor/Inspection Coordinator. Andy can be contacted by phone at 517-543-6400 extension 3148, on his cell at 517-231-0959, or by email to andy.torrence@spartanchassis.com.





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MUD FLAPS

Heavy-duty rubber mud flaps shall be installed behind the rear wheels. The mud flaps shall be black rubber type and be bolted in place.

CAB TILT PENDANT CONTROL

There shall be a cab tilt pendant control provided and installed on the right side of the apparatus. The pendant shall be located directly behind the lower auxiliary pump access panel, accessible through a small, hinged door secured with a push button style latch. A label shall be provided that states "CAB TILT".

There shall also be a cab tilt instruction plate located as close as possible to the control pendant for ease of operation.

AIR TANK DRAIN LINES (extended)

There shall be manual pull air tank drain lines provided with the apparatus. The air drain lines shall be extended to the outer edge of the apparatus to facilitate draining moisture from the chassis air tanks to a single location for all drains and shall be actuated by a key ring. A label shall be affixed indicating "Air Tank Drain".

HEAT EXCHANGER

A supplementary heat exchanger cooling system shall be provided with the chassis and shall be complete to the discharge side of the fire pump through the engine compartment, without intermixing, for absorption of excess heat. The heat exchanger shall be adequate in size to maintain the temperature of the coolant in the pump drive engine not in excess of the engine manufacturer's temperature rating under all pumping conditions.

Appropriate drains shall be provided to allow draining the heat exchanger to prevent damage from freezing. A manual shut-off valve shall be supplied at the pump operator's position.

FUEL FILL DOOR

There shall be an aluminum fuel fill assembly located on the apparatus body accessing the chassis supplied fuel tank. The assembly shall be located in the area that best suits efficient fuel filling with the space appropriated.

The fuel fill assembly will have a brushed aluminum door. There shall be a drain in the fuel fill assembly to allow overflow to drain on the back side of the apparatus body. The fuel fill cap shall be removable, manufactured of plastic materials, green in color and equipped with a tether.

The fuel fill cap shall be labeled "DIESEL FUEL". The stainless steel fuel fill neck shall have a 3/8" inside diameter vent line installed from the top of the fuel tank to the fill tube.





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SPARTAN LEGEND SERIES PUMPER SPECIFICATION

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SIDE MOUNT PUMP CONTROL MODULE

The pump control module shall be a self-supported structure mounted independently from the body and chassis cab. The pump module frame shall be constructed entirely of 6061-T6 aluminum extrusions and 5052-H32 aluminum plate. The pump module design shall allow normal frame deflection through isolation mounts without imposing stress on the pump module structure or side running boards. The pump module support shall bolt directly to the chassis frame web.

MODULE MOUNTING

The entire pump module assembly shall be mounted so that it “floats” above the chassis frame rails with vibration isolators. The body substructure shall be mounted above the frame to allow independent flexing to occur between the body and the chassis. The assembly shall be mounted to the chassis frame rails with steel reinforced mounting brackets. The brackets shall be mounted to the side of the chassis frame flanges.

There shall be no welding to the chassis frame rail sides, web or flanges, or drilling of holes in the top or bottom frame flanges between axles. All body to chassis connections shall be bolted so that in the event of an accident, the body shall be easily removable from the chassis for repair or replacement.

Due to the constant vibration and twisting action that occurs in chassis frame rails and suspension, the torsion mounting system is required to minimize the possibility of premature body structural failures.

PUMP COMPARTMENT WORK LIGHT

One (1) 24.00 inch (61.00 cm) model #RX-1516-5050-61CM LED tube light shall be installed inside the pump compartment module to illuminate the plumbing and piping components.

The light shall be activated by waterproof toggle switch installed inside the pump compartment.

PUMP MODULE PANELS

The panels shall be an integral part of the pump module structure.

The driver’s side panels shall consist of a removable lower panel fastened with mechanical fasteners, a hinged operator’s panel and a fixed diamond plate panel above the operator’s panel.

The officer’s side panels shall consist of a fixed upper diamond plate panel and a lower full height removable access panel to provide ease of entrance for service and maintenance. The panel shall be attached to the module frame utilizing mechanical latching devices.





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OPERATOR'S GAUGE PANEL

The operator gauge panel shall be located on the upper portion of the left (drivers) side main pump module. The gauge panel shall be hinged along the bottom edge and shall allow access to the components behind the panel. Cable hold-open straps shall be mounted on the gauge panel and module structure to prevent the panel from being completely detached from the pump module.

PUMP PANEL & OPERATOR'S PANEL FINISH

The pump module panels, and the operator's panel shall be brushed stainless steel finish.

SIDE MOUNT PUMP PANEL LIGHTING

Illumination shall be provided for viewing controls, switches, gauges and instructional labels necessary for proper operation of the apparatus and equipment installed.

The left side pump panels shall be illuminated with up to three (3) 9.00 inch (22.80 cm) model #RX-15T-5050-21CM LED tube lights installed within two (2) individual embossed aluminum diamond plate side shields.

The right side pump panel shall be illuminated by one (1) Grote model #60571 LED light.

PUMP PANEL SWITCHING

There shall be a switch located on the operator's pump panel to turn all but one (1) of the pump panel lights on or off.

The remaining light above the operator's panel shall illuminate when the pump is engaged, and it is "OK TO PUMP".

VALVE CONTROL - T-HANDLE PULL ASSEMBLY

Unless specified otherwise, the discharge valves shall be controlled from an Innovative Controls side mount valve control assembly. The ergonomically designed handle shall be chrome-plated with recessed areas for name plate and color code. A .75 inch (19.5 mm) diameter hardcoat anodized aluminum control rod and housing shall, together with a stainless spring steel locking mechanism, eliminate valve drift. Teflon impregnated bronze bushings in both ends of the rod housing shall minimize rod deflection, never need lubrication, and ensure consistent long-term operation. The control assembly shall include a decorative chrome-plated panel-mounting bezel. The valve operating mechanism will indicate the position of the valve at all times.





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RUNNING BOARDS

Running boards shall be installed on each side of the pump compartment module. The running boards shall be constructed of .125 inch embossed aluminum diamond plate. Each shall be a minimum of approximately 12.00 inches deep by the width of the module.

The running boards shall have a 1.25 inch upward bend on the inside edge to act as a kick plate.

The aluminum diamond plate shall meet recommendations for slip resistant surfaces at the time of proposal.

The running boards shall be attached to a frame mounted outrigger support structure. Each running board to have a 3.00 inch downward bend on the outboard face with a 1.00 inch underside return for superior strength.

APPARATUS PLUMBING LABELING

Innovative Controls verbiage tag bezels shall be installed. The bezel assemblies will be used to identify apparatus components. These tags shall be designed and manufactured to withstand the specified apparatus service environment and shall be backed by a warranty equal to that of the exterior paint and finish. The verbiage tag bezel assemblies shall include a chrome-plated panel-mount bezel with durable easy-to-read UV resistant polycarbonate inserts featuring the specified verbiage and color coding. These UV resistant polycarbonate verbiage and color inserts shall be subsurface screen printed to eliminate the possibility of wear and protect the inks from fading. Both the insert labels and bezel shall be backed with 3M permanent adhesive, which meets UL969 and NFPA standards.

PRESSURE GOVERNOR AND MONITORING DISPLAY

Fire Research "InControl 400" Series pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 5.50 inches high by 10.50 inches wide by 2.00 inches deep. The control knob shall be 2.00 inches in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1.75 inches from the front of the control module. Inputs for monitored information shall be from a J1939 data bus or independent sensors. Outputs for engine control shall be on the J1939 data bus or engine specific wiring.

The following continuous displays shall be provided:

1. Pump discharge; shown with four daylight bright LED digits more than 1/2" high
2. Pump Intake; shown with four daylight bright LED digits more than 1/2" high
3. Pressure / RPM setting; shown on a dot matrix message display
4. Pressure and RPM operating mode LEDs
5. Throttle ready LED
6. Engine RPM; shown with four daylight bright LED digits more than 1/2" high
7. Check engine and stop engine warning LEDs





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8. Oil pressure; shown on a dual color (green/red) LED bar graph display
9. Engine coolant temperature; shown on a dual color (green/red) LED bar graph display
10. Transmission Temperature: shown on a dual color (green/red) LED bar graph display
11. Battery voltage; shown on a dual color (green/red) LED bar graph display.

The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and nighttime operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

12. High Battery Voltage
13. Low Battery Voltage (Engine Off)
14. Low Battery Voltage (Engine Running)
15. High Transmission Temperature
16. Low Engine Oil Pressure
17. High Engine Coolant Temperature
18. Out of Water (visual alarm only)
19. No Engine Response (visual alarm only).

The program features shall be accessed via push buttons and a control knob located on the front of the control panel. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.

The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

PRESSURE RELIEF VALVE

A Task Force Tips model #A18XX pressure relief valve shall be provided. The valve shall have an easy to read adjustment range from 90 to 300 PSI with 90, 125, 150, 200, 250 and 300 PSI adjustment settings and an "OFF" position. Pressure adjustments shall be made utilizing a 1/4" hex key, 9/16" socket or 14mm socket.





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For corrosion resistance the cast aluminum valve shall be a hardcoat anodized with a powder coat interior and exterior finish. The valve shall meet (NFPA) 1901, Standard for Automotive Fire Apparatus, requirements for pump inlet relief valves. The unit shall be covered by a five year warranty. The valve shall be preset at 125 PSI (860 kPa) suction inlet pressure. The valve shall be installed inside the pump compartment where it will be easily accessible for future adjustment. The excess water shall be plumbed to the atmosphere via the unloader pipe and shall dump on the opposite side of the pump operator.

For normal pumping operations, the relief valve shall not be capped and there shall be a placard stating "DO NOT CAP" installed.

UL TEST PORTS

One (1) set of UL testing ports with plugs shall be provided on the pump panel for testing of the vacuum and pump pressures.

WATER TANK LEVEL GAUGE

A Fire Research TankVision model WLA300-A00 tank indicator kit shall be installed on the operator's panel.

The kit shall include an electronic indicator module, a pressure sensor, and a 20' sensor cable. The indicator shall show the volume of water in the tank on nine (9) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of aluminum, and have a distinctive blue label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a datalink to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall place on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

AIR HORN BUTTON

There shall be an air horn activation red push button installed on the pump operator's gauge panel. The air horn button shall be of weather resistance type and labeled "AIR HORN".

COMPARTMENT HEATER

A 30,000 BTU auxiliary heater shall be provided and installed inside the pump compartment. The heater shall be connected to the engine cooling system with gated valves located inside the engine compartment. A toggle switch and green LED indicator light shall be provided on the operator's pump control panel.

The switch shall be of a weather resistant type and be clearly labeled for ease of identification.





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HEAT PAN

There shall be a heat pan enclosure installed under the apparatus fire pump.

The heat pan assembly shall be fabricated of .188 inch aluminum. The top portion shall be bolted in place. The enclosure shall have two slide out trays; one on each side of the apparatus for ease of service and maintenance. The bottom trays shall be held in the place with mechanical style latch devices.

PUMP COMPARTMENT TOP OVERLAY

The top of the pump compartment shall be overlaid with .125 inch embossed aluminum diamond plate.

MIDSHIP PUMP

There shall be a Waterous 1500 GPM single stage pump, model CXS with the following specifications provided and installed with the apparatus.

PUMP CASING

Two-piece; vertically split high-tensile close-grained gray iron.

IMPELLER

Bronze impeller specifically designed for the fire service, Double hub bed to eliminate axial thrust, and accurately balanced for vibration-free running.

WEAR RINGS

Replaceable bronze wear rings to increase pump life and keep maintenance costs at a minimum.

IMPELLER SHAFT

Stainless steel, heat treated, precisely ground to size, and polished under shaft seal. Supported by oil-lubricated ball bearings.

BEARINGS

All bearings are oil or grease lubricated, ball-type, located outside the pump casting to accurately align and support the impeller shaft assembly. Bearings are deep groove type designed to carry both radial and axial thrust.





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CERTIFICATION

The pump will perform and meet the following tests:

- 100% rated capacity @ 150 PSI
- 100% rated capacity @ 165 PSI
- 70% rated capacity @ 200 PSI
- 50% rated capacity @ 250 PSI

PUMP WARRANTY

Waterous Company shall provide a limited manufacturer's pump warranty to be free from defects, under normal use and service, for a period of seven (7) years from the date placed into service.

PUMP SEALS

The pump shall be equipped with maintenance free mechanical shaft seals that shall not require manual adjustment. The seal size, type, component materials, and housing configuration shall be specifically designed for the pump application and rated operating parameters as specified.

AIR PRIMER SYSTEM

The priming system shall be a Trident Emergency Products compressed air powered high efficiency, multi-stage, venturi based Air Prime System.

All wetted metallic parts of the priming system are to be of brass and stainless steel construction. A single panel mounted control will activate the priming pump and open the priming valve to the pump.

The primer shall be mounted above the pump impeller so that the priming line will automatically drain back to the pump. The primer shall also automatically drain when the panel control actuator is not in operation. The inlet side of the primer shall include a brass 'wye' type strainer with removable stainless steel fine mesh strainer to prevent entry of debris into the primer body.

The system shall employ an 80 PSI (5.5 bar) pressure protection valve, located on the chassis auxiliary air tank.

The primer shall be covered by a five (5) year parts warranty.

6.0" STEAMER INLETS

Two (2) 6.0 inch (150.00 mm) steamer inlets will be provided, one (1) on the left side and one (1) on the right side.

No caps shall be provided by the manufacturer.





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PUMP COOLING LINE

There shall be a .375 inch line run from the pump to the water tank to assist in keeping the pump water from overheating. A manual 1/4 turn .25 inch on/off valve with a rectangular handle shall be supplied on the operator's panel.

PUMP ANODES

Two (2) pump anodes shall be installed in plumping system of the apparatus, to prevent damage from galvanic corrosion within the pump system. There shall be one (1) anode on the intake side and one (1) on the discharge side.

MASTER PUMP DRAIN

The pump shall be equipped with a Master Pump drain to allow draining of the lower pump cavities, volute and selected water carrying lines and accessories. The drain shall have an all brass body with a stainless steel return spring.

The drain valve control shall be panel mounted and identified as MASTER DRAIN.

DRAIN VALVES

An Innovative Controls 3/4" quarter turn drain valve shall be included on each discharge, gated intake, and steamer valve (if applicable). A side stem, long stroke chrome plated lift handle shall be provided on the drain valve to facilitate use with a gloved hand. The drain valve shall have an ergonomically designed handle with a recessed verbiage tag area easily read by the operator before opening.

The drain valve shall be connected to the valve with a flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus.

VALVES

All valves shall be of a heavy duty design capable of bi-directional flow and incorporate a self-locking ball feature and full flow optimizing characteristics that reduce the operational force required for actuation.

The valves shall be Akron 8000 series.

The valves shall be of a self-adjusting dual seat design requiring no lubrication or regular maintenance. The valve shall meet or exceed NFPA standard requirements.





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PLUMBING

All plumbing and piping shall be of 304 stainless steel or flexible type piping. All inlet and outlet plumbing 3.00 inch (77 mm) and smaller shall be plumbed with either stainless steel piping or synthetic reinforced rubber hose blended with high tensile strength cord for maximum performance in tight bend applications.

Secondary plumbing such as small diameter drain lines shall be stainless steel, brass or hose. Where chassis and module flexing or vibration may damage or loosen piping or where a coupling is required for servicing, the piping shall be equipped with Victaulic or rubber type couplings.

All lines shall drain through the master drain valve or shall be equipped with individual drain valves. All individual drain lines for discharges shall be extended to the point where they shall drain below the chassis frame rails. All water carrying drain lines shall be of flexible polypropylene type tubing.

MANIFOLDS

Plumbing manifold bodies shall be ductile cast iron or stainless steel. The suction inlets shall include removable die cast zinc screens designed to provide cathodic protection for the pump, therefore reducing deterioration within the pump.

TANK FILL

One (1) 2.00 inch (50 mm) pump to tank fill line shall be installed from the pump directly to the booster tank.

TANK TO PUMP

One (1) 3.00 inch (77 mm) valve shall be installed between the water tank and the pump with flow recommendations as set forth by (NFPA) 1901, Standard for Automotive Fire Apparatus, and shall be tested to those standards when the pump is being certified.

TANK TO PUMP CHECK VALVE

There shall be a tank to pump check valve, conforming to NFPA standard requirements to prevent water from back flowing at an excessive rate if the pump is being supplied from a pressurized source.

The check valve shall be mounted as an integral part of the pump suction extension. A hole up to .25 inch (6.35 mm) is allowable in the check valve to release steam or other pressure buildup so that the void between the valve and check valve may drain of water that could be subject to freezing.

2.5" LEFT SIDE INLET

There shall be one (1) 2.50 inch (65 mm) gated suction inlet with .75 inch (19 mm) bleeder installed on the left side of the apparatus, rearward of the steamer.





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INTAKE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.

INTAKE TERMINATION

The termination shall include the following components:

One (1) 2.50 inch (65 mm) NST swivel female straight adapter with screen

One (1) 2.50 inch (65 mm) self-venting plug, secured by a chain

2.5" LEFT SIDE DISCHARGE

There shall be one (1) 2.50 inch (65 mm) gated discharge installed on the left side of the apparatus in the forward position.

2.5" SIDE DISCHARGE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.

DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.50 inch (65 mm) Male NST adapter

One (1) 2.50 inch (65 mm) NST female swivel by male with 30 degree polished elbow

One (1) 2.50 inch (65 mm) female self-venting cap, secured by a chain

2.5" RIGHT SIDE DISCHARGE

There shall be one (1) 2.50 inch (65 mm) gated discharge installed on the right side of the apparatus in the forward position.

2.5" SIDE DISCHARGE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.





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DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.50 inch (65 mm) Male NST adapter

One (1) 2.50 inch (65 mm) NST female swivel by male with 30 degree polished elbow

One (1) 2.50 inch (65 mm) female self-venting cap, secured by a chain

3.0" RIGHT SIDE DISCHARGE

There shall be one (1) gated 3.00 inch (77 mm) discharge installed on the right side of the apparatus.

3.0" SIDE DISCHARGE PLUMBING

The plumbing shall consist of 3.00 inch (77 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.

DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 3.00 inch (77 mm) NST Straight adapter

One (1) 3.00 inch (77 mm) NST female by 4.00 inch (100 mm) Storz with 30 degree elbow

One (1) 4.00 inch (100 mm) Storz cap, secured by a chain

2.5" RIGHT REAR DISCHARGE

There shall be one (1) 2.50 inch (65 mm) discharge located on the right side at the rear of the vehicle.

REAR DISCHARGE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.





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DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.50 inch (65 mm) Male NST adapter

One (1) 2.50 inch (65 mm) NST female swivel by male with 30 degree polished elbow

One (1) 2.50 inch (65 mm) female self-venting cap, secured by a chain

3.0" DECK GUN DISCHARGE

There shall be a 3.00 inch (77 mm) deck gun discharge provided.

DECK GUN PIPING

The deluge waterway shall be plumbed with 3.00 inch (77 mm) piping that terminates in the center location at the top of the pump compartment module.

The plumbing shall be drained with an auto-drain located at the lowest point of the waterway plumbing if required.

EXTEND-A-GUN

There will be a Task Force Tips 18.00 inch (457 mm) manual Extenda-Gun installed on the deluge pipe.

If the Extenda-Gun is not properly stowed and the parking brake is released, it shall activate the hazard light in the cab to alert the crew.

CROSSLAYS

Two (2) crosslays hose beds shall be located in the upper portion of the pump compartment, toward the front. The crosslay area shall span the entire width of the pump compartment module. Slotted aluminum flooring shall be provided for the hose bed area for drainage.

CROSSLAY CAPACITY

The two (2) crosslays shall each have capacity for 200 feet of 1.75 inch (45 mm) double jacket fire hose.

DISCHARGE PLUMBING

The plumbing shall consist of 2.00 inch (50 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.





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DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.00 inch (50 mm) NPT x 1.50 inch (38 mm) NST polished stainless steel chiksan swivel

The use of a swivel shall allow hose payout to either side of the pump compartment.

FOAM CAPABLE

The two (2) discharges shall be foam capable.

2.5" CROSSLAY DISCHARGE

One (1) additional crosslay hose bed shall be provided.

The crosslay shall have capacity for 200 feet of 2.50 inch (65 mm) double jacket fire hose.

DISCHARGE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.

DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.5" NPT x 2.5" NST polished stainless steel chiksan swivel

The use of a swivel shall allow hose payout to either side of the pump compartment.

CROSSLAY COVER

The crosslay hose bed area shall have a .188 inch (4.76 mm) embossed aluminum diamond plate cover installed. The cover shall be installed to provide a solid surface over all bays. The cover shall be attached with a full length piano style hinge. When opened, the diamond plate cover shall rest upon rubber bumpers, or an equivalent protective type stop to eliminate marring or scratching of other apparatus body work.

CROSSLAY COVER SECURED

The hinged crosslay cover shall be secured with two (2) mechanical latches.

If the crosslay cover is not properly secured and the parking brake is released, it shall activate the hazard light in the cab to alert the crew.





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CROSSLAY SIDE COVERS

The crosslay hose bed area shall have a vinyl cover installed at each end of the crosslay area.

The covers shall be secured with Velcro on three (3) sides. A nylon grab strap shall be provided on the bottom each side cover to provide easy access.

CROSSLAY COVER COLOR

The crosslay hose bed covers shall be red in color.

LED CROSSLAY HOSE BED LIGHT

There shall be one (1) 6.00 inch (152 mm) LED Unity deck flood light model #AG-S-P46WLC with clear LED wide flood lamp provided, located on the pump compartment to the driver's side, to illuminate the crosslay hose bed.

The light shall have a heavy duty chrome finish and rotate 360 degrees horizontally and 180 degrees vertically. The lamp shall be 12V with 2,730 candle power 50,000 hours of lamp life.

CROSSLAY LIGHT ACTIVATION

The crosslay light shall be activated when the park brake is set.

FRONT BUMPER DISCHARGE

One (1) 1.50 inch (38 mm) front bumper discharge outlet shall be provided.

FRONT BUMPER DISCHARGE PLUMBING

The front bumper discharge plumbing shall consist of 2.00 inch (50 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.

Auto-drain(s) shall be installed in the discharge piping at the lowest point of the plumbed system.

FRONT BUMPER DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.00 inch (50 mm) NPT x 1.50 inch (38 mm) NST polished chiksan swivel.

The use of a swivel shall allow hose payout to either side of the apparatus.

The front bumper discharge shall be mounted on top of the gravel shield of the front bumper extension. The discharge shall be placed to the right of the hose well.





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FOAM CAPABLE

The discharge shall be foam capable.

BOOSTER HOSE REEL

There shall be one (1) Hannay electric rewind booster reel with automatic brake installed on the apparatus. The reel shall have a capacity of 200 foot (60 m) of 800 psi (55 BAR) booster hose.

There shall be a manual rewind device provided. A manual crank shall be mounted adjacent to booster reel.

REEL FINISH

The hose reel specified shall be steel and painted the standard silver utilized by Hannay.

HOSE REEL VALVE

The reel shall be plumbed to the pump with a 1.00 inch (25.40 mm) quarter turn Akron 8810 ball valve and 1.00 inch (25.40 mm) high pressure hose and couplings.

The valve shall be controlled from the operator's panel.

REWIND ACTIVATION

An electric rewind switch shall be mounted directly to the booster reel. The switch shall have a weather resistant rubber cover and label denoting its function.

The switch shall be labeled "HOSE REEL".

HOSE REEL LOCATION

The hose reel shall be centered on the floor of the Rear Center, B-1 compartment with black poly spacers to allow for drainage.

HOSE REEL BLOW OUT

There shall be an air "blowout" system installed for reel drainage. The air blow out system shall be connected to the chassis air brake system. There shall be a check valve provided between the chassis system and the reel blow out system. There shall be a manual control valve provided on the pump operator's panel for the air blow out system.





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EMERGENCY RESPONSE

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BOOSTER REEL GAUGE

A discharge gauge shall be included for the booster reel, the discharge gauges shall be specified in the specification.

BOOSTER HOSE

The booster hose shall be provided and installed by the Dealership prior to the apparatus being placed into service.

HOSE ROLLER GUIDES

There shall be two (2) Hannay stainless steel hose roller guides, model # FH-3, provided and installed, one (1) on each side, to protect the apparatus and allow ease of deployment.

DISCHARGE GAUGES

An (Innovative Controls) TC 3010xxxx Series nominal 2.50 inch gauge shall be supplied for reading the pressure of each discharge greater than 1.50 inches (38 mm) in diameter, unless otherwise specified.

A KEM-X socket saver diaphragm, located in the stem, eliminates freeze-up by preventing water from entering and/or clogging the gauge internals while containing a low temperature instrument oil that fills and protects the socket and the bourdon tube.

The molded glass-filled Nylon 66 case will not corrode and includes a scratch-resistant molded polycarbonate lens with O-ring seal. The gauge shall withstand pressures up to 100psi over gauge range with operation from -40° F to +160°F.

GAUGE SCALE

Each gauge shall be marked for reading a discharge pressure of 0-400 PSI.

GAUGE FACE COLOR

Each gauge shall have black markings on a white face.

FOAMPRO 1600

There shall be a fully automatic electronic direct injection foam proportioning system furnished and installed on the apparatus. The system shall be capable of Class A foam concentrate. The proportioning operation shall be based on an accurate direct measurement of water flows with no water flow restriction. The foam system shall be installed in accordance with the manufacturer's recommendations. The foam system shall have a 12 volt, 1/3 horsepower electric positive displacement foam concentrate pump with a rated capacity of .01 to 1.7 GPM with operating pressures up to 400 psi.





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The system shall be manufactured by the Fire Research Corporation and be model FoamPro 1600.

The system shall be equipped with a control module. It shall be installed on the pump operators panel and enable the pump operator to perform the following functions:

- Activate the foam system
- Change foam concentrate proportioning rates from .1% to 1%
- Flash a "low concentrate" warning light when the foam concentrate tank runs low. In two (2) minutes if foam concentrate is not added to tank, the foam concentrate pump shall be deactivated.

FOAM SYSTEM TESTING

The apparatus foam system shall be tested, and the Foam Flow meter shall be certified by the manufacturer prior to delivery.

FOAM TANK

There shall be an external 20 gallon (76 liter) poly foam tank provided and installed with non-corrosive piping to the foam system. The tank shall be located in the dunnage area directly above the water tank.

A label shall be affixed to the foam tank fill indicating: "WARNING" Class A foam tank fill, do not mix brands or types of foam.

SYSTEM PLUMBED TO 1 TANK

The system shall be supplied by a single foam tank.

SINGLE 1" TANK DRAIN

There shall be a 1.00 inch quarter turn drain valve installed for drainage of the foam tank. The valve shall be installed in the pump house with a drain line extended to the side running board.

FOAM TANK LEVEL GAUGE

Fire Research TankVision Pro model WLA360-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, a 20' sensor cable and a tank vent. The indicator shall show the volume of Class A foam concentrate in the tank on nine (9) easy to see super bright RGB LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of Polycarbonate/Nylon material, and have a distinctive green label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display tank volume, adjustable brightness control levels and a datalink to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.





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The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the foam tank near the bottom. No probe shall be placed on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

VIBRA-TORQUE™ BODY MOUNTING SYSTEM

The entire body module assembly shall be mounted to the chassis frame rails exclusively with Vibra-Torq™ torsion isolator assemblies to reduce the vibration and stress providing an extremely durable body mount.

The body substructure shall be mounted above the frame to allow independent flexing to occur between the body and the chassis. Two (2) assemblies shall be mounted to the chassis frame rails with steel, gusseted mounting brackets. Each bracket shall be painted for corrosion resistance. Each body mount bracket shall be mounted to the side chassis frame flange with two 5/8"-UNC Grade 5 HHCS.

The rear assemblies shall have a two-part rubber vibration isolator. Certain assemblies shall also incorporate a torsion spring. Helical coil springs shall be incorporated into specific mounts in tandem with the rubber isolators to minimize the stress absorbed by the body caused from chassis frame rail flexing.

There shall be no welding to the chassis frame rail sides, web or flanges, or drilling of holes in the top or bottom frame flanges between axles. All body to chassis connections shall be bolted so that in the event of an accident, the body shall be easily removable from the truck chassis for repair or replacement.

Because of the constant vibration and twisting action that occurs in chassis frame rails and suspension, the torsion mounting system is required to minimize the possibility of premature body structural failure. The Vibra-Torque™ body mounting system shall have a lifetime warranty.

COMPARTMENT VENTILATION

To allow for proper air circulation and flow, each compartment shall have a venting route. The venting locations shall be determined by "best-fit" locations for each body style configuration. The vents will be a chrome louvered and mounted appropriately on the compartment interior walls.





Ypsilanti Twp Fire Department SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE REV GROUP

Proposal Date: 4-13-2022

COMPARTMENTATION

The following compartments shall be supplied on the apparatus:

Compartment "L1"

There shall be one (1) full height compartment ahead of the rear wheels on the left side of the apparatus with interior dimensions of the following:

The upper portion shall be approximately 37.75 inches (958.85 mm) wide by 39.00 inches (990.60 mm) high by 12.50 inches (317.50 mm) deep.

The lower portion shall be approximately 37.75 inches (958.85 mm) wide by 33.00 inches (838.20 mm) high by 26.00 inches (660.40 mm) deep.

Compartment "L2"

There shall be one (1) compartment over the rear wheels on the left side of the apparatus with interior dimensions of the following:

The upper portion shall be approximately 68.00 inches (1727.20 mm) wide by 39.00 inches (990.60 mm) high by 12.50 inches (317.50 mm) deep.

The lower portion shall be approximately 68.00 inches (1727.20 mm) wide by 8.00 inches (203.20 mm) high by 26.00 inches (660.40 mm) deep.

Compartment "L3"

There shall be one (1) full height compartment behind the rear wheels on the left side of the apparatus with interior dimensions of the following:

The upper portion shall be approximately 46.75 inches (1187.45 mm) wide by 39.00 inches (990.60 mm) high by 12.50 inches (317.50 mm) deep.

The lower portion shall be approximately 46.75 inches (1187.45 mm) wide by 33.00 inches (838.20 mm) high by 26.00 inches (660.40 mm) deep.

Compartment "R1"

There shall be one (1) full height compartment ahead of the rear wheels on the right side of the apparatus with interior dimensions of the following:

The upper portion shall be approximately 37.75 inches (958.85 mm) wide by 39.00 inches (990.60 mm) high by 12.50 inches (317.50 mm) deep.





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The lower portion shall be approximately 37.75 inches (958.85 mm) wide by 33.00 inches (838.20 mm) high by 26.00 inches (660.40 mm) deep.

Compartment "R2"

There shall be one (1) compartment over the rear wheels on the right side of the apparatus with interior dimensions of the following:

The upper portion shall be approximately 68.00 inches (1727.20 mm) wide by 39.00 inches (990.60 mm) high by 12.50 inches (317.50 mm) deep.

The lower portion shall be approximately 68.00 inches (1727.20 mm) wide by 8.00 inches (203.20 mm) high by 26.00 inches (660.40 mm) deep.

Compartment "R3"

There shall be one (1) full height compartment behind the rear wheels on the right side of the apparatus with interior dimensions of the following:

The upper portion shall be approximately 46.75 inches (1187.45 mm) wide by 39.00 inches (990.60 mm) high by 12.50 inches (317.50 mm) deep.

The lower portion shall be approximately 46.75 inches (1187.45 mm) wide by 33.00 inches (838.20 mm) high by 26.00 inches (660.40 mm) deep.

FORMED BODY DESIGN CONSTRUCTION

The apparatus body shall be a formed sheet metal design, which serves as the compartment enclosures and supporting substructure of the body. The substructure and enclosures shall work in unison to provide maximum storage that supports and protect the contents contained within.

BODY CONSTRUCTION

The body substructure and compartments shall utilize a combination of huck bolting and welding methods.

The huck bolt systems utilized in either body or substructure shall be .3125 inch (7.94 mm) or .375 inch (9.53 mm) diameter stainless steel fasteners for maximum shear and tension strength. Other system of fasteners that do not consist of stainless steel shall NOT be acceptable.

In combination with the huck bolt system, strictly monitored welding procedures shall be instituted. To ensure maximum joint strength, any welding zones shall be welded together utilizing American Welding Standard (AWS), Certified welding procedures.





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Due to the engineered combination of specifically chosen materials, no dissimilar metals shall be used in the body and its supporting substructure without being separated by a sufficient corrosion and electrolysis inhibitor. This shall consist of isolation pads and structural adhesives.

ECK® ANTI-CORROSION PROCESS

Absolutely no dissimilar metals shall be used in the body and its supporting substructure without being separated by Eck®, which prevents corrosion by providing a barrier between dissimilar metals, sealing out moisture and absorbing energy created by a dissimilar metal reaction.

BODY STRUCTURE

The supporting tank and compartment substructure shall be manufactured from corrosion resistant 3CR12 stainless steel material or equivalent. The supporting material shall be engineered from 7 gauge stainless steel material to provide both high strength and corrosion resistance for longevity of the apparatus body. The use of black carbon steel materials that have been painted or coated to try to prevent corrosion shall not be acceptable.

BODY COMPARTMENTS

The formed sheet metal compartments shall utilize a 0.125 inch (3.18 mm) thick 5052-H32 aluminum alloy to provide maximum strength and durability. Each compartment sheet and enclosure shall be fabricated in a manor to provide proper sheet alignment and weld location application. The body shall consist of multiple pre-engineered compartment assemblies that shall be combined to create a series of body combinations. In the event of body damage, these assemblies shall allow for easier disassembly and assembly through the use of common tools and materials.

COMPARTMENT TOPS AND EXTERIOR HOSE BED WALL

The exterior compartment tops and outer hose bed walls shall consist of .125 inch (3.18 mm) embossed aluminum diamond plate material to provide both strength and pleasing appearance. The hose bed walls shall be embossed aluminum diamond plate to the outward face while incorporating an additional smooth aluminum interior wall sheet to form the hose bed area. The use of interior and exterior hose bed wall sheets shall provide an enclosed section for strength integrity, wire routing, etc. Single hose bed wall sheet construction shall NOT be acceptable.

COMPARTMENT FLOORS

The body compartments shall be enclosed with aluminum sheet metal as specified above. The compartment floors shall have a 1.00 inch (25.40 mm) lip downward at the door opening side of the compartment. This lip shall integrate with a structural member on the bottom edge and form a “sweep-out” compartment. This design shall also allow for a structural flush fitting door frame and a complete door/weather seal.





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EMERGENCY RESPONSE Proposal Date: 4-13-2022

COMPARTMENT LOAD CAPACITY

Each compartment shall have a minimum of one additional structural compartment floor support hat section centered on the underside of the compartment floor. This additional member shall be integral with compartment assemblies of each area. Each compartment must be designed, and analyzed to carry a working load of:

- Full depth side compartment: 500 pounds (226.80 kg) per compartment
- Half depth side compartment: 375 pounds (170.10 kg) per compartment
- Rear center compartment: 500 pounds (226.80 kg)

FINITE ELEMENT ANALYSIS

The proposed body design must have completed a review and analysis by an external engineering consultant. At a minimum, the consultant must have conducted a computer modeled finite element analysis of the proposed design. The analysis is to include real world working load scenarios. Analysis to cover both static and dynamic situations must be completed. The purpose of the finite element analysis is to ensure proper design of the apparatus body, and that it is capable of carrying the typical fire apparatus loads and those specified by NFPA for equipment. Strain Gauge testing must also have been completed.

STRUCTURAL BODY WARRANTY

A structural Aluminum body warranty shall be provided by the apparatus manufacturer for products of its manufacture to be free from defects in material and workmanship, under normal use and service, for a period of ten (10) years.

PAINT WARRANTY

A Prorated Paint Warranty shall be provided by the apparatus manufacturer for products of its manufacture to be free from defects in material and workmanship, under normal use and service, for a period of ten (10) years.

REAR COMPARTMENT

The following compartment shall be supplied on the apparatus:

Compartment "B1":

There shall be one (1) compartment installed at the rear of the apparatus with a R·O·M Series IV roll up door.

The interior dimensions of this compartment shall be approximately 41.50 inches (1054.10 mm) wide by 39.50 inches (1003.30 mm) high by 33.25 inches (844.55 mm) deep.





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DOOR OPEN INDICATOR

The rear compartment roll up door shall have an integral door open indicator magnet in the lift bar. If the bar is not properly closed and the parking brake is released, it shall activate the hazard light in the cab to alert the crew.

ROLL-UP DOOR PROTECTOR

There shall be a protective cover installed under the rear compartment door roll to protect the door in the rolled up position.

ROLL-UP DOOR PROTECTOR FINISHING

The cover shall be fabricated of smooth aluminum and of Natural finish.

HINGED DOOR CONSTRUCTION

All doors shall be a minimum of 2.00 inch (50.80 mm) thick with a return flange on the interior of the door to provide a mounting surface for the attachment of a door liner. Each door will have a weep hole to prevent interior moisture build up.

All door hinges shall be polished 14 gauge 304 stainless steel with a .25 inch (6.35 mm) diameter stainless steel pin. The hinges shall be mounted to provide easy door adjustment in the future without removing the door liner. The vertically hinged doors shall each have a stainless steel spring loaded door holder. The horizontally top hinged doors shall have a gas charged shock to hold the door in the up position.

Door handles shall be polished stainless steel D-ring style that are spring loaded and bidirectional. They shall be mounted on the doors of compartments with a single door or on the primary door of a compartment with vertical double doors. The latches shall attach to the door assembly without any fasteners penetrating the door skin material, with a rubber gasket provided between the D-ring handle and the door skin. The door latch assembly must be completely enclosed by the door assembly and inner door pan, to prevent damage from shifting equipment carried in the compartment.

The door latches to open the secondary door of a compartment with vertical double doors shall be "lever" style, located on the backside of the door. Once the primary door is opened, the handle shall be easily visible. Full height secondary doors will have the latch at the bottom of the door with all others door heights having the latch at the top of the door.

All hinged doors shall be a "flush" style to provide a flat appearance of the body side. The body shall form a 2.00 inch (50.80 mm) deep frame on all four sides to receive the door, preventing any door overlap. A clip on rubber gasket shall be mounted on the door frame, providing a tight seal to prevent moisture and debris from entering the compartment.

Lap type doors which utilize an outer lip to provide a weather seal, shall not be acceptable.





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HINGED DOOR MATERIAL

All horizontal and vertical side compartment doors shall be fabricated of 5052 aluminum.

SIDE COMPARTMENT DOOR LINER MATERIAL

The side compartment doors interior liners shall be fabricated of 5052 smooth aluminum and shall be dual-action sanded finish.

DOOR OPEN INDICATOR

Each hinged door shall have an integral door open indicator. If the door is not properly closed and the parking brake is released, it shall activate the hazard light in the cab to alert the crew.

COMPARTMENT LIGHTING

One (1) LED Tube light model #RX-15T16-5050, shall be installed in each body compartment. The tube light shall be centered vertically along the forward side of the door framing and shall be maximum length available to fit the opening.

The light in each compartment shall be on a separate circuit, turning on only those lights that have open compartment doors.

HOSE STORAGE

A hose bed shall be provided that meets the minimum NFPA storage requirements. The hose bed shall have slotted .25 inch (6.35 mm) aluminum flooring installed to allow drainage through the tank cavity to the ground below.

The aluminum flooring shall be manufactured in discrete sections to allow for easy removal and outstanding stability. The area shall be free of sharp edges to protect the hose when loaded or distributed.

HOSE BED WALL FINISH NATURAL

The apparatus hose bed interior side walls shall be of a Natural unpainted metal finish.





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HOSE BED DIVIDER WITH HAND CUTOUT

There shall be a full height adjustable hose bed divider provided and installed in the hose bed area of the apparatus body.

The divider shall be fabricated of .25 inch (6.35 mm) thick aluminum plate with a double sided reinforcement and attached to the adjustable slide rails. The rear of the divider shall have a radius to provide a smooth corner and a hand cut out to aid in access to the hose bed area. Hose payout shall be unobstructed by the divider.

There shall be a total of one (1) provided and installed in the hose bed.

HOSE LOAD

The hose bed shall accommodate the following hose loads:

BAY 1:

-300 feet of 2.50 inch hose

BAY 2:

-300 feet of 2.50 inch hose

BAY 3:

-300 feet of 2.50 inch hose

BAY 4:

-1250 feet of 4.00 inch hose

HOSE BED RISER

A 10.00 inch (254.00 mm) hose bed riser made from the same material as the body shall be provided in order to increase the hose bed capacity.

CATWALKS

Catwalks shall be provided over the top of the compartments. The catwalks shall be manufactured with .125 inch (3.18 mm) embossed aluminum diamond plate material.

The outboard edge shall be bent downward at a 90 degree angle and over the compartments on both sides.





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HOSE BED COVER

There shall be a double door cover provided and installed on the apparatus for the hose bed.

The covers shall be fabricated of .125 inches (3.18 mm) embossed aluminum diamond plate material with full length two-piece stainless steel piano hinges.

Each cover shall be capable of being opened independently.

Each cover shall be reinforced and be capable of supporting 400 pounds (170 kg) while standing on the cover.

The covers shall be full length of the hose bed storage area, from rear of the apparatus to the bulkhead wall.

There shall be a mechanical hold open device to hold each cover in the open position.

To aid in opening and closing the covers, there shall be two (2) grab handles, one (1) for each cover, installed at the rear on the top surface of the cover.

The hose bed covers shall be wired to the hazard light in chassis cab. Coil spring type limit switches installed at the door hinges. If the door is not properly closed with the parking brake released, it shall activate the "hazard light" in the cab to alert the crew.

FIXED CENTER DIVIDER

A fixed divider shall be installed in the hose bed to support the covers when they are closed. The construction style of the divider may be similar to adjustable divider(s) if specified.

REAR HOSE BED COVER

The cover that extends down over the rear of the hose bed shall be supplied and installed by the Dealership prior to the apparatus being placed into service.

HOSE BED COVER LIGHTING

Four (4) LED Tube lights model #RX-15T16-5050 shall be installed to the underside of each hose bed cover. Each light shall be maximum length available for the length of the hose bed covers.

The lights shall be on a separate circuit and activate only when the covers are opened.





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LED HOSE BED FLOOD LIGHT

There shall be one (1) 6.00 inch (152 mm) LED Unity deck flood light model #AG-S-P46WLC with clear LED wide flood lamp provided, located on the upper rear hose bed wall of the apparatus on the left side, to illuminate the hose bed.

The light shall be mounted on an angled cast bracket and have a heavy duty chrome finish and rotate 360 degrees horizontally and 180 degrees vertically. The lamp shall be 12V with 2,730 candle power 50,000 hours of lamp life.

HOSE BED LIGHT ACTIVATION

The hose bed light(s) shall be activated when the park brake is set.

DUNNAGE AREA

A vertical bulkhead shall be installed at the front of the hose bed area, just behind the water tank fill tower, forming a storage area that is separated from the hose bed. The rear face of the bulkhead shall serve as a mounting surface for the hose bed dividers, resulting in the ability to move any hose bed divider across the entire width of the hose bed.

POLYPRENE TANK

The booster tank shall be constructed of .50 inch (12.70 mm), .75 inch (19.05 mm), and 1.00 inch (25.40 mm) thick polypropylene sheet stock which is a non-corrosive stress relieved thermoplastic. It shall be designed to be completely independent of the body and compartments. All joints and seams are extrusion welded and/or contain the "Bent Edge" and tested for maximum strength and integrity. The top of the booster tank is fitted with lifting eyes designed with a 3 to 1 safety factor to facilitate tank removal.

COVER

The tank cover shall be constructed of .75 inch (19.05 mm) thick Polypropylene and shall be recessed. A minimum of two lifting dowels shall be drilled and tapped .50 inch (12.70 mm) x 2.00 inch (50.80 mm) to accommodate the lifting eyes.

BAFFLES

The swash partitions are manufactured of .50 inch (12.70 mm) Polypropylene. All partitions are equipped with vent and air holes to permit movement of air and water between compartments to provide to provide maximum water flow. All swash partitions interlock and are welded to one another as well as to the walls of the tank.





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MOUNTING

The tank shall rest on the sub-frame cross members with an unsupported area not to exceed 530 square inches (.34 square meters) on tanks up to 40.00 inches (1016.00 mm) in height. On tanks over 40.00 inches (1016.00 mm) in height, an unsupported area of not more than 400 square inches (.26 square meters) must be maintained.

All tanks shall be isolated from those cross members with a minimum of 2.00 inch (50.80 mm) x .25 inch (6.35 mm) hard rubber strips that are 60 durometer in hardness. The tank shall sit cradle mounted in the under body sub-frame and shall be completely removable without disturbing the body side panels.

TANK WARRANTY

A lifetime tank warranty shall be provided by the tank manufacturer, Pro Poly.

TANK CAPACITY

The tank shall be 1000 gallons (3785 liters) in capacity.

FILL TOWER

The fill opening shall be approximately 13.00 inches (330.20 mm) x 12.00 inches (304.80 mm).

The tower will have a .25 inch (6.40 mm) thick removable Polypropylene screen and a Polypropylene hinged type cover that will open if the tank is filled at an excess rate. There shall be a removable .25 inch (6.40 mm) thick Polypropylene screen to prevent debris from falling into the tank.

The fill tower shall have a 6.00 inch (150.00 mm) overflow that will discharge underneath the tank, behind the rear axle(s), avoiding the chassis fuel tank and suspension components where applicable. The overflow shall terminate above the tank water level when filled to the rated capacity.

LADDER STORAGE

The ground ladders and up to three (3) pike poles shall be stored within a compartment installed on the right side of the apparatus beside the booster tank, with ladders lying on their side.

All items shall be stored in their own independent section to allow one item to be removed without disturbing another.

The compartment and door shall be fabricated of .125 inch (3.18 mm) smooth aluminum.

The door shall be vertically hinged on the inboard edge (left side) and provided with two push button style latches and a chrome handle centered between the push button latches. The door shall have retro-reflective striping in a chevron pattern.





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If the door is not properly closed and the parking brake is released, it shall activate the hazard light in the cab to alert the crew.

GROUND LADDERS

The following ground ladders shall be provided by the manufacturer:

- One (1) Duo-Safety 24 foot (7 m) two (2) section aluminum extension ladder, model 900A.
- One (1) Duo-Safety 14 foot (4 m) aluminum roof ladder with folding hooks, model 775A.
- One (1) Duo-Safety 10 foot (3 m) aluminum attic ladder, model 585A.

PIKE POLES

All NFPA required pike poles will be supplied and installed by the Fire Department before the truck is placed into service.

BODY OVERLAYS – FRONT/REAR

The entire front face of the apparatus body shall have aluminum diamond plate overlays installed. The entire rear face of the apparatus body shall have raw aluminum overlays installed for the installation of chevron striping.

All overlay materials shall be coated with 3M adhesive sealant on the back portion to provide an insulating barrier between dissimilar metals.

WHEEL WELL ROLL-OUT DRAWER

There shall be a roll-out drawer installed in the compartment located above the rear wheel on the left side of the body in the L-2 compartment. The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a lock-in, lock-out front drawer release system (FDR).

The drawer shall be approximately 25.00 inch (635.00 mm) deep by 59.00 inch (1498.60 mm) wide and have a 300.00 pound (136.08 kg) capacity.

ROLL-OUT DRAWER/AIR BOTTLE STORAGE TRAY

There shall be a roll-out drawer installed on the right side of the apparatus body, in the rearward lower portion of the compartment directly above the rear wheels in the R-2 compartment. The drawer shall be approximately 25.00 inch (635.00 mm) deep by 28.00 inch (711.20 mm) wide and have a 300.00 pound (136.08 kg) capacity.

There shall also be a four (4) place air bottle storage tray, provided directly forward of the roll-out drawer in the lower portion of the same compartment. Each individual storage compartment shall incorporate a 1.00 inch nylon safety loop to prevent the bottles from sliding forward when stored.





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OVERWHEEL SHELVING

One (1) shelf 64.00 inch (1625.60 mm) wide x 12.50 inch (317.50 mm) deep x 2.00 inch (50.80 mm) high shall be provided in the wheel well compartment as part of the assembly.

The shelf shall be .19 inch (4.76 mm) smooth aluminum with a formed 2.00 inch (50.80 mm) lip on the front and back. The side mounting brackets shall be integral with the shelving to form the sides.

COMPARTMENT UNISTRUT

Vertically mounted Unistrut shall be installed in ALL compartments of the apparatus body to accommodate mounting shelves, trays, and other miscellaneous equipment items as specified.

COMPARTMENT UNISTRUT

Two (2) horizontally mounted Unistrut tracks shall be provided on the back wall in each over wheel compartment.

SHELVING

The shelving shall be made out of .190 inch (4.83 mm) smooth aluminum sheet material with a formed 2.00 inch (50.80 mm) lip on the front and back.

The side mounting brackets shall be provided for vertical adjustment.

The following shelving shall be provided:

UPPER HALF DEPTH SHELVING

A full width x half depth shelf shall be provided and installed in the upper compartment(s) specified.

There shall be a total quantity of six (6) provided.

SHELF DEPTH MODIFICATION

The shelf specified above shall be reduced in depth by 1.00 inch (25.40 mm) for installation of wall mount tool boards.

FULL DEPTH SHELVING

A full width x full depth shelf shall be provided and installed in the compartment(s) as specified.

There shall be a total quantity of four (4) provided.





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ROLL OUT TRAY(S)

FLOOR MOUNT ROLL-OUT TRAY(S)

A full width floor mount slide out tray shall be secured to an Austin Hardware ball bearing "heavy duty" slide assembly. The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a lock-in, lock-out front drawer release system (FDR).

The tray shall have a 300# capacity and 100% extension.

The roll-out system shall be bolted to the compartment floor for rigid and sturdy mounting to the compartment floor.

There shall be a total quantity of two (2) provided.

REAR COMPARTMENT TRAY

One (1) floor mount roll-out tray shall be located in the B-1 compartment.

TOOL BOARDS – DEALER PROVIDED

The tool boards shall be provided and installed by the Dealership prior to the apparatus being placed into service.

WHEEL WELL PANELS

The body panel area around the wheel well on each side of the body shall be painted the same color as the rest of the body

SIDE RUB RAILS

The bottom edge of the body compartments shall be protected with rub rails to absorb minor damage while protecting the body. The rear rub rails shall be full length to the end of the tailboard.

The rub rails shall be fabricated of brightly anodized aluminum channel. The rub rails shall be bolted in place with stainless steel bolts and shall be spaced away from the body with .50 inch (12.70 mm) nylon spacers to help prevent the collection of water and debris. Each rub rail section shall be easily removable and replaced should it become damaged.





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EMERGENCY RESPONSE

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REAR RUB RAILS

The rearward edge of the rear step shall be trimmed with rub rails to absorb minor damage while protecting the body.

The rub rails shall be fabricated of brightly anodized aluminum channel. The rub rails shall be bolted in place with stainless steel bolts and shall be spaced away from the body with .50 inch (12.70 mm) nylon spacers to help prevent the collection of water and debris. Each rub rail section shall be easily removable and replaced should it become damaged.

RUB RAIL RETRO-REFLECTIVE STRIPING

One inch retro-reflective Diamond Grade striping shall be applied to the length of each rub rail section making the perimeter of the apparatus more readily visible.

STRIPE COLOR

The reflective striping shall be red in color.

DOOR SILL TRIM PLATES

Brushed stainless steel door sill plates shall be installed at the bottom of each body compartment door opening.

VERTICAL OVERLAY TRIM PLATES

Full height brushed stainless steel vertical overlay trim plates shall be installed on the back outer rear corners of the body compartment.

FENDERETTES

Two (2) polished aluminum fenderettes shall be provided and installed on body rear wheel well openings, one (1) each side. Rubber welting shall be provided between the body and the crown to seal the seam and restrict moisture from entering. A dielectric barrier shall be provided between the fender crown fasteners (screws) and the fender sheet metal to resist deterioration.

REAR TAILBOARD

The rear tailboard shall be fabricated of the same materials as used in the apparatus body. The tailboard shall be an independent assembly fastened to the rear body structural framing to provide body protection and a solid rear stepping platform.

The rear of the apparatus body shall be vertical in design - otherwise known as a 'flat-back'. On the rear body surface, a sign shall be attached that states: "DO NOT RIDE ON REAR STEP, DEATH OR SERIOUS INJURY MAY RESULT."





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SPARTAN LEGEND SERIES PUMPER SPECIFICATION

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The rear tailboard and body shall be constructed such that the angle of departure shall be no less than 8 degrees at the rear of the apparatus when fully loaded (Per NFPA 1901, current edition).

REAR TAILBOARD STEP

The rear tailboard shall be approximately 13.50 inches (342.90 mm) deep and shall incorporate a .125 inch (3.18 mm) embossed aluminum diamond plate overlay.

The stepping area shall span the width of the apparatus, overlapping the perimeter of the structural tailboard framework.

INTERMEDIATE REAR STEP

One (1) upper rear fixed intermediate step approximately 8.00 inches (203.20 mm) deep shall be provided above the rear compartment to be used as a stepping area when loading or deploying hose.

The step shall be fabricated of embossed aluminum diamond plate material and mounted on the flat back of the apparatus with gusset-type mounting.

The step shall be approximately 39.00 inches (990.60 mm) wide.

INTERMEDIATE STEP LIGHTING

One (1) light shall be installed to illuminate the stepping areas as provided. The light shall be a LED Tube light model #RX-15T16-5050-21CM with an aluminum mounting bezel.

The light shall be directed towards and positioned above the stepping surfaces.

STEP LIGHT ACTIVATION

The step lights shall be activated when the park brake is set.

FOLDING STEP

CPI illuminated folding step(s) shall be installed on the body as directed by the department or required per NFPA. The top of the stepping surface shall have a knurled finish and an LED light that illuminates the stepping surface. An additional light shall be provided on the step mounting bracket to illuminate the area under the step.

The following steps shall be installed:

ILLUMINATED FOLDING STEPS

Four (4) illuminated folding steps shall be installed on the left front vertical face of the body.





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STEP LIGHT ACTIVATION

The step lights shall be activated when the park brake is set.

10" HANDRAILS

One (1) 1.25-inch diameter handrail constructed of knurled #3 polished stainless steel tubing with 10.00 inches of grip surface and shall be installed in a best-fit location above the forward step(s) to assist in climbing the steps in accordance with (NFPA) 1901, Standard for Automotive Fire Apparatus. There shall be a minimum of 2.00 inches of clearance between the bracket and the body.

ILLUMINATED FOLDING STEPS

Four (4) illuminated folding steps shall be installed on the right front vertical face of the body.

STEP LIGHT ACTIVATION

The step lights shall be activated when the park brake is set.

10" HANDRAILS

One (1) 1.25-inch diameter handrail constructed of knurled #3 polished stainless steel tubing with 10.00 inches of grip surface and shall be installed in a best-fit location above the forward step(s) to assist in climbing the steps in accordance with (NFPA) 1901, Standard for Automotive Fire Apparatus. There shall be a minimum of 2.00 inches of clearance between the bracket and the body.

ILLUMINATED FOLDING STEPS

Three (3) illuminated folding steps shall be installed on the left rear vertical face of the body.

STEP LIGHT ACTIVATION

The step lights shall be activated when the park brake is set.

10" HANDRAILS

One (1) 1.25-inch diameter handrail constructed of knurled #3 polished stainless steel tubing with 10.00 inches of grip surface and shall be installed in a best-fit location above the rear step(s) to assist in climbing the steps in accordance with (NFPA) 1901, Standard for Automotive Fire Apparatus. There shall be a minimum of 2.00 inches of clearance between the bracket and the body.





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36" HANDRAILS

Three (3) 1.25-inch diameter handrail constructed of bright-anodized knurled extruded aluminum with 36.00 inches of grip surface shall be provided. One (1) shall be mounted on each side of the rear center compartment area of the rear of the apparatus and one (1) shall be mounted just below the bottom of the hose bed.

REAR TOW EYES

There shall be two (2) rear tow eyes installed on the rear sub frame support structure, one each side. The location of the tow eyes shall be below the rear center compartment. The tow eyes shall be manufactured of 1.00 inch plate steel that is bolted to the chassis frame rail with a minimum of 6 grade 8 bolts.

PAINT SPECIFICATIONS

All bright metal fittings, if unavailable in stainless steel, shall be heavily chrome plated.

Critical body and sub-frame area which cannot be primed after assembly shall be pre-painted.

All welded metal surfaces shall be ground to a smooth surface prior to a degreasing and high pressure, high temperature phosphatizing process. The entire surface shall be sprayed with a non-chromate sealing compound to prevent formulation of stains or flash rust on previously phosphatized parts.

The paint applied to the apparatus shall be Akzo Nobel, Sikkens brand, LVBT650 basecoat, applied throughout a multi-step process including at least two coats of each color and clear coat finish.

The coating shall be an infra-red, baked air dried. The coatings shall provide full gloss finished suitable for application by high-pressure airless or conventional low pressure air atomizing spray.

The coatings shall not contain lead, cadmium or arsenic. The polyisocyanate component shall consist of only aliphatic isocyanates, with no portion being aromatic isocyanates in character. The solvents used in all components and products shall not contain ethylene glycol mono-ethyl ethers or their acetates (commercially recognized as cello solves), nor shall they contain any chlorinated hydrocarbons. The products shall have no adverse effects on the health or nor present any unusual hazard to personnel when used according to manufacturer's recommendations for handling and proper protective safety equipment, and for its intended use.

The coating system, as supplied and recommended for application, shall meet all applicable federal, state and local laws and regulations now in force or at any time during the courses of the bid.

The manufacturer shall supply (upon request) for each product and component of the system, a properly complete OSHA "Safety Data Sheet".

The following documents of the issue in effect on the date of the invitation to quote form a part of this document to the extent specified herein:





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Federal Standards: Number 141A and 141B paint, varnish, lacquer and related material: methods of inspection, sampling, and testing.

Military Standard: MIL-C 83486B Coating, Urethane, Aliphatic Isocyanates, for Aerospace applications.

Industry Methods and Standards: ASTM Method of Analysis (American Society for testing and Materials). BMS 10-72A (Boeing Material Specifications).

The entire exterior body structure (excluding roll-up doors) shall receive the primer coats and the finish coats. The apparatus body will be painted in a down draft type paint booth to reduce dust, dirt or impurities in the finish paint. The painted surfaces shall have a finish with no runs, sags, craters, pinholes or other defects. The coating will meet the following test performance properties as a minimum standard.

The apparatus shall be painted AkzoNobel, Sikkens brand {"code # MUST SPECIFY"}.

SUPERLINER COMPARTMENT FINISH

The compartment interiors shall be coated with Superliner.

COMPARTMENT FINISH COLOR

The Superliner Color shall be Medium Gray.

LOW-VOLTAGE ELECTRICAL SYSTEM

The apparatus shall be equipped with a Weldon Logic Controlled, Low-Voltage (12v) Electrical System compliant with the latest revision of the NFPA 1901 guideline.

The system shall be capable of performing total load management, load management sequencing, and load shedding via continuous monitoring of the low-voltage electrical system. In addition, the system shall be capable of switching loads (like operating as an emergency warning lamp flasher) eliminating the dependency on many archaic electrical components such as conventional flasher modules. The system shall also incorporate provisions for future expansion or modification.

The low-voltage electrical system shall be designed to distribute the placement of electrical system hardware throughout the apparatus thereby enabling a smaller, optimized wire harness. The programmable, logic controlled system shall eliminate redundant electrical hardware such as harnesses, circuit boards, relays, circuit breakers, and separate electrical or interlock subsystems and associated electronics for controlling various electrical loads and inputs.





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As-built electrical system drawings and a vehicle-specific reference of I/O shall be furnished in the delivery manuals. These drawings shall show the electrical system broken down into separate functions, or small groups of related functions. Drawings shall depict circuit numbers, electrical components and connectors from beginning to end. A single drawing for all electrical circuits installed by the apparatus builder shall not be accepted.

MULTI-PLEXED ELECTRICAL WARRANTY

A four (4) year limited (V-MUX) multiplex system warranty, of Weldon Technologies, Inc., shall be provided by the apparatus manufacturer, for parts and labor, while under normal use and service, against mechanical, electrical and physical defects from the date of installation.

The warranty shall exclude: sensors, shunt interface modules, serial or USB kits, transceivers, cameras, GPS, and electrical display screens, which shall be limited to a period of one (1) time a year repair for parts and labor from the date of installation. Please see the official warranty document in the appendix (attached) for specific details.

LED PERIMETER LIGHTS

There shall be four (4) LED TecNiq model T44 series, 4.00 inch round, 8 diode LED lights installed on the apparatus. One (1) under each side at the front of the body and one (1) each side under the rear tailboard. The lights shall be positioned to provide illumination to the immediate ground area around the unit.

PERIMETER LIGHTS ACTIVATION

The underbody perimeter lights shall be activated with activation of the chassis ground lights.

LED DOT LIGHTING

There shall be seven (7) lights located on the rear of the vehicle. Three (3) of the lights shall be mounted on the upper rear face of the body just below the hose bed area in a cluster for use as identification lamps. Two (2) lights shall be located outboard on the upper rear, one each side and two (2) lights on the upper vertical area of Zones B & D facing the side, for use as clearance lamps.

The lights shall be TecNiq brand S17 series LED red markers

DOT ADDITIONAL MARKER LIGHTS

There shall be two (2) amber LED intermediate marker lights/intermediate turn signals installed in the rub rail, forward of the rear wheel well, one (1) each side.

The lights shall be TecNiq brand S17 series LED amber markers/turn.





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INTERMEDIATE MARKER LIGHTS

The intermediate marker light will flash when the appropriate turn signal is activated.

UPPER LIGHTING PACKAGE

The following NFPA lighting package, manufactured by Whelen, shall be supplied and installed in the upper areas of the vehicle.

UPPER ZONE C:

There shall be two (2) Whelen model L31H*FN beacons with 360 degree LED lights, provided and installed on the apparatus.

One (1) each side on the rear upper outboard corners of the apparatus.

REAR WARNING LIGHTS COLOR

The upper warning lights mounted at the rear shall be red with red lenses.

UPPER REAR WARNING LIGHT SWITCH E-MASTER/VISTA

The upper rear warning lights shall be controlled through the master warning switch and a secondary rear warning switch located on the Vista display control screen. The switches shall be clearly labeled for ease of identification.

LOWER LED WARNING LIGHTING

The following NFPA lighting package, manufactured by Whelen, shall be supplied and installed in the lower areas of the vehicle.

LOWER ZONE A:

There shall be two (2) Whelen model C6 SurfaceMax Super LED lights with chrome bezels provided and installed on the front face of the apparatus chassis as specified.

FRONT WARNING LIGHTS FLASH

The lower front lights shall feature multiple flash patterns including steady burn.

FRONT WARNING LIGHTS COLOR

The lower front warning lights mounted on the cab front positions shall be red with red lenses.





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EMERGENCY RESPONSE Proposal Date: 4-13-2022

LOWER FRONT WARNING LIGHT SWITCH E-MASTER/VISTA

The lower front warning lights shall be controlled through the master warning switch and a secondary front warning switch located on the Vista display control screen. The switches shall be clearly labeled for ease of identification.

LOWER ZONE B&D:

There shall be four (4) Whelen model C6 SurfaceMax series Super-LED lights with chrome bezels, two (2) each side, provided and installed with the apparatus.

SIDE WARNING LIGHTS FLASH

The lower side lights shall feature multiple flash patterns including steady burn.

SIDE WARNING LIGHTS COLOR

The lower side warning lights mounted on the side positions shall be red with red lenses.

SIDE WARNING LIGHTS LOCATION

The warning lights on the side of the apparatus shall be mounted at the forward side chassis location and at the rear tailboard location.

AUXILIARY WARNING LIGHTS LOWER ZONE B&D

There shall be two (2) auxiliary Whelen 500 series LED flashing lights with chrome bezels provided on the lower side portion of the pump house module, one (1) each side.

SIDE WARNING LIGHTS FLASH

The lower front lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors.

SIDE WARNING LIGHTS COLOR

The lower side warning lights mounted on the side positions shall be red with red lenses.

LOWER ZONES B&D CAST ALUMINUM LIGHT HOUSING

A cast aluminum angled light housing shall be used for the rearmost warning light in zones B&D to ensure the light is mounted as far rearward as possible.





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LOWER SIDE WARNING LIGHT SWITCH E-MASTER/VISTA

The lower side warning lights shall be controlled through the master warning switch and a secondary side warning switch located on the Vista display control screen. The switches shall be clearly labeled for ease of identification.

LOWER ZONE C:

There shall be two (2) Whelen model C6 SurfaceMax series Super-LED lights with chrome bezels, one (1) each side, on provided and installed on the rear of the body.

REAR WARNING LIGHTS FLASH

The lower rear lights shall feature multiple flash patterns including steady burn.

REAR WARNING LIGHTS COLOR

The lower rear warning lights mounted at the rear shall be red with red lenses.

LOWER REAR WARNING LIGHT SWITCH E-MASTER/VISTA

The lower rear warning lights shall be controlled through the master warning switch and a secondary rear warning switch located on the Vista display control screen. The switches shall be clearly labeled for ease of identification.

LED REAR TAILLIGHT ASSEMBLY

There shall be Whelen model C6 SurfaceMax series Super-LED rear taillight assemblies provided and installed with the apparatus, one (1) each side at the rear

The following shall be installed in the order as specified from top to bottom:

- One (1) #C6BTT LED red brake/taillight
- One (1) #C6T LED amber turn signal light populated in the shape of an arrow
- One (1) #C6BU LED clear backup light

MOUNTING FLANGES

There shall be individual chrome bezels provided for each light of the taillight assembly.

REAR TAILLIGHTS COLOR

The taillights mounted at the rear shall have colored lenses to match the color of the optics.





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BACKUP LIGHTS

The backup lights shall illuminate when the apparatus is placed in reverse.

REAR TRAFFIC ADVISOR

One (1) Whelen model #TAL65 36.00 inch long directional lightbar with six (6) 500 series LED light heads shall be installed on the rear of the apparatus.

The lightbar shall be installed below the intermediate step for protection and above the rear center compartment area to be readily visible by approaching traffic.

CONTROLLER LOCATION

The rear direction light bar controller shall be installed on the dash, center location.

REAR VIEW CAMERA SYSTEM

The chassis provided camera shall be surface mounted on the center rear of the apparatus body for maximum viewing capability. A protective shroud shall be installed over the system to protect against damage.

SIDE SCENE LIGHTING

There shall be four (4) scene lights installed on the body sides, two (2) on each side.

One (1) located at the front and one (1) located at the rear corner of the body sidewalls.

The scene lights shall be Whelen model C9SL series 12 volt scene lights with chrome bezels. The lights shall draw 6.0 amps and generate 6,500 lumens.

SIDE SCENE LIGHT ACTIVATION

The side scene lights shall be activated by two (2) switches on the vista display, one (1) labeled for each side of the body.

The switches shall be labeled as follows:

Left Scene

Right Scene





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REAR SCENE LIGHTING

There shall be two (2) scene lights installed at the rear body panels, one (1) on each side.

The scene lights shall be Whelen model #M9LZC 12 volt scene lights with chrome bezels. The lights shall offer LED directional lighting from 2 to 40-degrees with internal and external optics.

The lights shall draw 6.0 amps and generate 6,500 lumens.

REAR SCENE LIGHT ACTIVATION

The rear scene lights shall be activated by one (1) switch on the rocker switch panel.

The switch shall be labeled as follows:

Rear Scene

FRONT SCENE LIGHT ACTIVATION

The front scene light shall be activated by a switch on the operator's pump panel.

The switch shall be labeled as follows:

Front Scene

3M REFLECTIVE STRIPING

There shall be a 6.00 inch (152.40 mm) high, 3M inch reflective stripe with a 1.00 inch (25.40 mm) accent stripe applied to the outside perimeter of the chassis and apparatus.

STRIPE PATTERN

The reflective striping shall be applied around the perimeter of the front of the apparatus in a straight line. In addition, when the stripe reaches the front area of the body, the stripe shall jog in a 'Z' shape pattern, then continuing around the rear of the apparatus at a slightly higher level.

STRIPE COLOR

The reflective striping shall be black in color.





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REAR RETRO-REFLECTIVE CHEVRON STRIPING

A minimum of 50 percent of the rear-facing vertical surface, visible from the rear of the apparatus, shall be equipped with Diamond Grade, retro-reflective striping in a chevron pattern, sloping downward and away from the centerline of the vehicle at an angle of 45-degrees.

The stripe shall be 6.00 inch (152.40 mm) wide alternating in colors.

RETRO-REFLECTIVE CHEVRON STRIPING

Diamond Grade retro-reflective chevron striping shall be applied to the front bumper.

CHEVRON COLORS

The retro-reflective chevron striping shall be red and fluorescent yellow-green in color.

IMITATION GOLD LETTERING

Imitation Gold lettering with black shadowing and edging shall be provided and installed the apparatus body as directed by the Fire Department. A maximum total of sixty (60) letters up to 6.00 inches (152.4 mm) high shall be provided.

LICENSE PLATE BRACKET

Provisions for mounting a license plate shall be installed on the apparatus in conjunction with Whelen OS illumination to meet DOT requirements.

LICENSE PLATE BRACKET LOCATION

The above specified license plate bracket shall be installed at the back of the apparatus on the right side. The bracket shall be mounted to meet all applicable DOT standards.

WHEEL CHOCKS

One (1) set of NFPA compliant Ziamatic folding wheel chocks model # SAC-44-E shall be supplied with the apparatus.

WHEEL CHOCK MOUNTING BRACKETS

One (1) set of Ziamatic folding wheel chock underbody horizontal mounts, model # SQCH-44-H, shall be installed on the apparatus under the body in front of the rear wheels on the left side.





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EMERGENCY RESPONSE Proposal Date: 4-13-2022

DEALER SUPPLIED ITEMS

The following items shall be provided by CSI.

COMPARTMENT DRAIN TILES

CSI shall provide and install black plastic (Turtle Tiles) on all compartment floors, shelving and trays.

CAB INERIOR EMS COMPARTMENT

There shall be one (1) storage compartment installed on the rear wall of the chassis cab. The compartment size shall be (*discussed at the chassis inspection*). The compartment shall be open to the front. The compartment shall be constructed of .125 inch smooth aluminum with a natural aluminum interior finish. A D&S Custom brand cargo netting, black in color, shall be provided and installed over the compartment opening to retain stored items during travel. The cargo net enclosure shall be positively secured along the lower edge and buckled at the top with seat belt style fasteners allowing the netting to drop to the floor out of the way for cabinet access. The compartment shall include two (2) 27" LED strip lights installed vertically, one at each side of the front opening. The lights shall be wired to come on automatically when the chassis parking brake is set. The exterior of the compartment shall be coated with a finish color matched best as possible to the chassis cab interior color. Vertically mounted Unistrut shall be installed in the rear wall equipment compartment to accommodate the installation of shelves, trays, and or other miscellaneous equipment. Two (2) full width x full depth shelves shall be provided and installed in the compartment.

COMPARTMENT ORGINAZIATION

CSI Emergency Apparatus has included the following to be located at preconstruction meeting
Six (6) tool boards to be 3/16" DA aluminum finish
Four (4) aluminum adjustable shelves
Three (3) floor mounted roll out trays

ELECTRIC HOSE BED LIFT CYLINDERS

CSI Emergency Apparatus shall install electric hose be actuators to be installed in the forward portion of the hose bed cover. The control panel will be located at the left rear of the body

SPEEDLAY COVERS

CSI shall provide and install D & S speedlay end covers on each speedlay assembly. The covers shall be black in color.





Ypsilanti Twp Fire Department SPARTAN LEGEND SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

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LOOSE EQUIPMENT/EQUIPMENT INSTALLATION

CSI Emergency Apparatus has included \$35,000.00 as discussed, in our proposal for the customer to use for adjustments during productions and additional equipment. Any unused balance will be credited back at the time of final invoice. The customer can request to have CSI hold remaining funds in an account for up to 90 days after delivery for additional items needed as the department prepares the apparatus for service.





Ypsilanti Twp Fire Department
Spartan Star Series
Pumper Specification

Proudly Represented By:



CSI Emergency Apparatus

North Location

**2332 Dupont Street
Grayling, Michigan 49738**

South Location

**1650 Callaghan
Greenville, MI 48838**

Proposal Specification Date: 4-13-2022



Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

APPARATUS BRAND

The apparatus proposed shall be a Spartan Emergency Response brand of Spartan Fire, LLC.

INTENT OF SPECIFICATIONS

Spartan Fire, LLC and CSI Emergency Apparatus, LLC submit the following detailed proposal for your consideration.

This detailed proposal supersedes the published specifications and will be the specifications in which the apparatus will be designed and manufactured to, if awarded the contract.

Any mutually agreed changes made during a pre-construction meeting or build process, will become part of the contract and the build specification. Based on these processes any costs and or credits will be applied to the final invoice.

Spartan Fire is a U.S. based provider of fire apparatus. Spartan designs and manufactures fire and rescue apparatus which utilize the approach of complete product integration including the apparatus body and pump house structures. Engineering, assembly and testing all take place at Spartan Fire facilities.

Each apparatus is quality control inspected with full documentation at each step of the manufacturing process.

The apparatus must meet all NFPA, DOT, ICC, AE, SAE, UL, TRA, FMVSS and local state Motor Vehicle Requirements.

It is required that the apparatus be manufactured to current NFPA edition standards, all NFPA equipment (LOOSE EQUIPMENT) not specified in the specifications will not be provided by the contractor.

QUALITY AND WORKMANSHIP

The design of the Apparatus shall embody the latest approved automotive engineering practices.

The workmanship must be of the highest quality in its respective field. Special consideration will be given to the following points: Accessibility of the various units, which require periodic maintenance, ease of operation (including both pumping and driving) and symmetrical proportions.

Construction shall be rugged and ample safety factors shall be provided to carry loads as specified and to meet both on and off road requirements and to speed conditions as set forth under "Performance tests and requirements".

Welding shall be employed in the assembly of the apparatus in a manner that will not prevent the ready removal of any component part for service or repair, with apparatus bodies of bolt together design not being acceptable.





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All steel welding shall follow American Welding Society requirements for AWS D1.1:2012 Structural Welding Code for welding steel structural assemblies. All aluminum welding shall follow American Welding Society requirements for AWS D1.2/D1.2M:2003 Structural Welding Code for any type of structure made from aluminum structural alloys. All sheet metal welding shall follow American Welding Society AWS D9.1M/D9.1:2006 Structural Welding code for Arc/Braze requirements of non-structural materials. All pressure pipe welding shall follow American Society of Mechanical Engineers ASME IX/ASME B31:2010 requirements to the qualification of procedures in welding and brazing, in accordance with the ASME Boiler and Pressure Vessel Code and the ASME B31 Code for Pressure Piping. Flux core arc welding to use alloy rods, type 7000, American Welding Society AWS standards A5.20-E70T1.

DELIVERY WITH APPARATUS ORIENTATION

The number of calendar days from the date the bid is awarded to the delivery of the completed unit is provided on our proposal page.

CSI Emergency Apparatus shall provide apparatus orientation at the time of delivery. The factory trained representative must understand the operation of all system on the apparatus, have a general knowledge of the maintenance requirements for the apparatus and its components, and understands fire ground applications to provide operational instruction and how it relates to the apparatus delivered.

If deemed necessary by the Fire Department, CSI Emergency Apparatus will provide a SECOND scheduled session at a later date. This option will remain available to the Fire Department for up to 90 days from the original delivery date.

To ensure proper break-in of all components while still under warranty, the apparatus shall be delivered under its own power.

PERFORMANCE TESTS AND REQUIREMENTS

A road test shall be conducted with the apparatus fully loaded to its estimated in-service weight and shall be capable of the following performance while on dry paved roads that are in good condition and for a continuous run of ten (10) miles or more, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts and rear axles shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus. The successful bidder shall furnish a Weight Certificate showing weights on front axle, rear axles and total weight for the completed apparatus at time of delivery.

- The apparatus shall be capable of accelerating to 35 MPH (55 km/hr) from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed RPM of the engine.
- The apparatus, fully loaded, shall be capable of obtaining a minimum top speed of 50 MPH (80 km/hr) on a level dry concrete highway with the engine not exceeding its governed RPM (fully loaded).





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- The service brakes shall be capable of stopping a fully loaded vehicle in 35ft (10.7 m) at 20 mph (32.2 km/hr) on a level concrete highway. The air brake system shall conform to Federal Motor Vehicle Safety Standards (FMVSS) 121.
- The apparatus, when fully loaded, shall have not less than 25 percent or more than 50 percent of the weight on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle.
- From a steady pace of 15 mph, the vehicle will accelerate to a true speed of 35 mph within 15 seconds. This will be accomplished without moving gear selector.
- The apparatus will be able to maintain a speed of at least 20 mph on any grade up to and including 6 percent.
- The contractor shall have the Underwriter's Laboratories, LLC conduct the tests of the apparatus as in accordance with standard practices required by the Underwriter Laboratories, LLC (Guide for the Certification of Fire Department Pumper latest edition). A copy of all tests shall accompany the Apparatus. (For apparatus sold within Canadian ULC S515 latest revision shall prevail).
- The contractor shall furnish copies of the Pump Manufacturer's Certification of hydrostatic test, the Engine Manufacturer current certified brake horsepower curve, and the Manufacturer's record of pumper construction details when delivered.
- All fluid levels and applicable pressures will be brought to proper levels and noted prior to final delivery.

INFORMATION REQUIRED

The manufacturer shall supply at time of delivery, a complete operation and maintenance manual covering the completed apparatus as delivered.

A Fire Apparatus Safety Guide published by Fire Apparatus Manufacturer's Association shall be provided with the apparatus upon delivery. This manual includes essential safety information for fire fighters, fire chiefs, apparatus mechanics, and fire department safety officers. The guide is applicable to municipal, wildland, and airport firefighting apparatus manufactured on either custom or commercial chassis.

A permanent plate shall be mounted in the driver's compartment to specify the quantity and type of the following fluids used in the vehicle: Engine oil, engine coolant, and chassis transmission fluid, pump transmission lubrication fluid, pump primer fluid (if used) and drive axle lubrication fluid.

The manufacture shall supply the final certification of GVWR and GAWR on a nameplate affixed to the vehicle.





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A permanent plate in the driver's compartment shall be installed, specifying the seating capacity of the enclosed cab.

Signs that state "OCCUPANTS MUST BE SEATED AND BELTED WHEN APPARATUS IS IN MOTION" shall be provided and will be visible from each seated position. An accident prevention sign shall be located at the rear step area of the apparatus. It shall warn all personnel that standing on the step while apparatus is in motion shall be prohibited.

A nameplate indicating the chassis transmission shift selector position to be used when pumping shall be provided in the driving compartment and located so that it can be easily read from the driver's position.

LIABILITY

Spartan Fire LLC, shall defend any and all suits and assume all liability for the use of any patented device or article forming part of the apparatus or any appliance provided under the contract.

GENERAL CONSTRUCTION

The apparatus shall be designed with due consideration to distribution of load between the front and rear axles, so that all specified equipment, including filled water tank, a full complement of personnel and fire hose will be carried without injury to the apparatus. Weight balance and distribution shall be in accordance with the recommendations of the (NFPA) 1901, Standard for Automotive Fire Apparatus, documentation.

The apparatus shall be designed so that all recommended daily maintenance checks can be performed easily by the operator without the need for hand tools. Apparatus components that interfere with repair or removal of other major components must be attached with fasteners (cap, screws, nuts, etc.) so that the components can be removed and installed with normal hand tools. These components must not be welded or otherwise permanently secured into place.

The GAWR and GVWR of the chassis shall be adequate to carry the fully equipped apparatus including all tanks filled, the specified hose load, unequipped personnel weight, ground ladders and a miscellaneous equipment allowance per NFPA criteria. It shall be the responsibility of the purchaser to provide the contractor with the weight of equipment to be carried if it is in excess of the allowance as set forth by NFPA.

The unequipped personnel weight shall be calculated at 250 lbs. per person times the maximum number of persons to ride on the apparatus.

The height of the fully loaded vehicle's center of gravity shall not exceed the chassis maximum limit.

The front to rear weight distribution of the fully loaded vehicle shall be within the limits of the chassis. The front axle loads shall not be less than the minimum axle loads specified by Spartan Chassis, under full loads and all other loading conditions.





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The difference in weight on the end of each axle, from side to side, when the vehicle is fully loaded and equipped shall not exceed 7 percent.

The apparatus shall be so designed that the various parts are readily accessible for lubrication, inspection, adjustment and repair.

Where special tools are manufactured or designed to provide routine service on any component of the apparatus built or supplied by the contractor, such tools shall be provided with the apparatus.

BID/PROPOSAL DRAWING

A drawing is included in our proposal illustrating, but not limited to, the overall dimensions, wheelbase, and overall length of the proposed apparatus.

PRE-CONSTRUCTION DRAWINGS

After the award of the bid, Spartan shall provide detailed colored engineering drawings including, but not limited to, the overall dimensions, wheelbase, and overall length of the proposed apparatus for use at the pre-construction conference.

The drawings shall include, but shall not be limited to the right, left, top, front and rear views of the apparatus.

In addition, a detailed engineering drawing of the pump operator's panel shall be provided prior to manufacturing for fire department approval.

PERFORMANCE BOND

A 100% Performance Bond shall be supplied by Spartan Fire, LLC within thirty days (30) of bid award. The signatures of both buyer and bidder on the contract shall construe awarding of the bid.

SINGLE SOURCE MANUFACTURER

Spartan Fire, LLC is defined as a single source apparatus manufacturer.

Spartan designs and manufactures our products utilizing an approach that includes complete product integration, including the apparatus Chassis, Chassis Cab, Pump Module and Body Module being constructed, assembled, and tested on company facilities.

Warranties qualified to the Chassis, Pump Module and Body Module design construction (excluding vendor component warranties such as engine, axles, transmission, and pumps, etc.) will be from Spartan Fire, LLC.





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EMERGENCY RESPONSE REV GROUP

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FINITE ELEMENT ANALYSIS AND TESTING

Finite Element Analysis has been utilized in evaluating and engineering the critical areas of the Spartan Fire, LLC apparatus body and pump module.

Prototype bodies were subjected to rigorous testing over varied terrains simulating different environmental conditions.

The purpose of such complex engineering methods of analysis is to ensure the longevity of the design by analyzing stress levels throughout the body and pump module incorporating the structural supports wherever necessary.

There has been a minimum of three (3) different load cases (per DOT, FHWA, and TTMA recommended practice) applied and analyzed to properly display the different areas and levels of stresses that will be present under the various operating conditions of the apparatus. This is in addition to the static stress analysis. The analysis has included the weight of the structure plus an estimate of all the components that exist on a fully loaded apparatus (i.e., tank, water, hose load, equipment in compartments, etc.).

Analysis has also been conducted on the mounting system for the apparatus body and pump module.

SUPPLIED INFORMATION & EXTRAS

There shall be two (2) hard copies of apparatus manuals with all manufactured apparatus.

The manuals shall include, but not be limited to: all component warranties, users' manuals and information for supplied products, apparatus engineering information including drawings and build prints, and whatever other pertinent information Spartan can supply to its customer regarding the said apparatus.

Included in the delivery of the unit, Spartan will also include spare hardware and extra fasteners, paint for touch-up, information regarding washing and care procedures, as well as other recommendations for care and upkeep of the general apparatus.

Spartan will also supply a manufacturer's record of apparatus construction providing the end user the information as specified by NFPA for the type of apparatus delivered.

ELECTRICAL SCHEMATICS

The apparatus manufacturer shall supply one (1) set(s) as-built wiring schematics, to include all line voltage schematics with each apparatus.





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WARNING AND INFORMATION LABELS

All warning and informational labels (non-vendor specific) shall be provided in compliance with (NFPA) 1901, Standard for Automotive Fire Apparatus, and installed in the appropriate locations to alert the operator of potential hazards and operating instructions.

ONLINE CUSTOMER INTERACTION

Spartan shall provide the capability for online access through the Spartan website.

The fire department shall be able to view digital photos of their apparatus in the specified phases of construction.

The following phases will be captured and displayed:

1. Chassis when available at manufacturing facility
2. Body – Prior to Paint
3. Body – Painted
4. Pump and Plumbing
5. Assembly – 80% Complete

GENERAL WARRANTY

Purchaser shall receive a General Two (2) Years or 36,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0002. The warranty certificate is incorporated by reference into this proposal and available upon request.

PLUMBING WARRANTY

Purchaser shall receive a Plumbing and Piping (Stainless Steel) Ten (10) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0800. The warranty certificate is incorporated by reference into this proposal and available upon request.

PUMP CERTIFICATION AND TESTING

The apparatus upon completion will be tested and certified by Underwriters Laboratories, LLC. The certification tests will follow the guide lines outlined in (NFPA) 1901, Standard for Automotive Fire Apparatus.

There shall be multiple tests performed by Spartan Fire, LLC and Underwriter's Laboratories, LLC when the apparatus has been completed. Spartan Fire, LLC shall provide the completed Test Certificate(s) to the purchaser at time of delivery.





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A test plate shall be provided at the pump operator's panel that gives the rated discharges and pressures together with the speed of the engine as determined by the certification test for each unit, the position of the parallel/series pump as used, and the governed speed of the engine as stated by the engine manufacturer on a certified brake horsepower curve. The plate shall be completely stamped with all information at the factory and attached to the vehicle prior to shipping.

LOW-VOLTAGE ELECTRICAL SYSTEM PERFORMANCE TESTING

The apparatus low-voltage electrical system will be tested and certified. Tests shall be performed when the air temperature is between 0 degrees Fahrenheit and 110 degrees Fahrenheit (-18 degrees Celsius and 43 degrees Celsius). The three tests defined in NFPA shall be performed in the order in which they appear. Before each test, the batteries shall be fully charged until the voltage stabilizes at the voltage regulator set point and the lowest charge current is maintained for 10 minutes. Failure of any of these tests shall require a repeat of the sequence.

PRE-CONSTRUCTION CONFERENCE AT SPARTAN

CSI Emergency Apparatus shall provide, before manufacturing, a pre-construction conference at Spartan's manufacturing facility for up to Four (4) individuals from the Fire Department.

Factory direct engineering team members along with the factory contract administrator shall attend the meeting in person. During this conference, the Fire Department shall be provided with a live interactive view of the engineer's computer on a large screen monitor to witness the changes or adjustments made during the meeting in real time as they are discussed.

CSI has included all transportation, lodging, and meal expenses for the inspection trip. Lodging calculated as single occupancy (four travelers, four rooms).

Travel shall be via Commercial air.

This meeting shall take place within 45 days from the date of contract award.

This meeting generally requires three full weekdays to complete depending on flight schedules.





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REV GROUP

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FINAL INSPECTION CONFERENCE

CSI Emergency Apparatus shall provide, after manufacturing but before delivery, a final completion inspection conference at the apparatus manufacturing facility for up to four (4) individuals from the Fire Department to inspect the apparatus after construction.

During this inspection, the Fire Department shall have unrestricted access to the fire apparatus while accompanied by CSI, day or evening allowing for testing and inspection in all lighting conditions. The Fire Department shall also have the option to pump the apparatus from draft during this inspection.

CSI has included all transportation, lodging, and meal expenses for the inspection trip. Lodging calculated as single occupancy (four travelers, four rooms).

Travel shall be via Commercial air.

This meeting will be scheduled based on the apparatus production schedule.

This meeting generally requires two full weekdays to complete depending on flight schedules.





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MODEL

The chassis shall be a Metro Star model. The cab and chassis shall include design considerations for multiple emergency vehicle applications, rapid transit and maneuverability. The chassis shall be manufactured for heavy duty service with the strength and capacity to support a fully laden apparatus, one hundred (100) percent of the time.

MODEL YEAR

The chassis shall have a vehicle identification number that reflects a 2023 model year.

COUNTRY OF SERVICE

The chassis shall be put in service in the country of United States of America (USA).

The chassis will meet applicable U.S.A. federal motor vehicle safety standards per CFR Title 49 Chapter V Part 571 as clarified in the incomplete vehicle book per CFR Title 49 Chapter V Part 568 Section 4 which accompanies each chassis. The chassis manufacturer is not responsible for compliance to state, regional, or local regulations. Dealers should identify those regulations and order any necessary optional equipment from the chassis manufacturer or their OEM needed to be in compliance with those regulations.

CAB AND CHASSIS LABELING LANGUAGE

The cab and chassis shall include the applicable caution, warning, and safety notice labels with text to be written in English. All applicable caution, warning, and safety notice labels shall be Innovative Controls brand. Where applicable to the location within the specific layout and label package of the cab and chassis, the labels shall include decorative chrome bezels. Designs shall include bezels that fit individual labels or packaged configurations of labels in certain common locations.

The following labels shall be Innovative Controls brand, each including a decorative chrome bezel (where applicable):

- Shoreline
- Aerial Stowed
- Aerial Breakers 2
- Air Conditioner
- Cab Tilt Plate
- Air Compressor Breaker
- Battery Conditioner Breaker
- Helmet Caution
- Horn Tag
- Q2B Tag
- Load Center Plate
- Not a Step Label





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- Occupancy Tag
- Do Not Move
- Occupants Must Be Seated
- Do Not Stand
- Danger Do Not Weld
- Danger--Untrained Operator
- DEF Fill Access (Including Additional 2907 Optional Labels)
- Battery Direct
- Kneeling
- IFS Air Fault
- Engine Brake
- Retarder
- LR 100 Amp Node
- 300 Amp EPU
- 100 Amp Front O/R Node
- 100 Amp T/T Node
- 100 Amp RR O/R Node
- 10 Amp EPU
- Master Power
- 12 Volt Power
- Aerial Hours
- Pump In Drive
- Windshield Washer Fluid

VEHICLE ANGLE OF APPROACH PACKAGE

The angle of approach of the apparatus shall be a minimum of 8.00 degrees.

NFPA1901 Angle of Approach definition:

“To determine the angle of approach, place a thin steel strip against the front of the tires where they touch the ground or stretch a tight string from one front tire to the other at the front where they touch the ground. Determine the lowest point (component or equipment) on the vehicle forward of the front tire that would make the smallest angle of approach. Hang a plumb bob from the lowest point and mark the point on the ground where the point of the plumb bob touches. Measure the vertical distance from the ground to the point where the plumb bob was hung (distance V). Measure the horizontal distance from the plumb bob point to the steel strip or string running from front tire to front tire (distance H). Divide the vertical distance by the horizontal distance. The ratio of V/H is the tangent of the angle of approach. If the ratio is known, the angle of approach can be determined from a table of trigonometric functions of angles or from a math calculator. The standard requires a minimum angle of approach of 8.00 degrees: since the tangent of 8.00 degrees is 0.1405, if V divided by H is 0.1405 or larger, the angle of approach is 8.00 degrees or greater.”





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AXLE CONFIGURATION

The chassis shall feature a 4 x 2 axle configuration consisting of a single rear drive axle with a single front steer axle.

GROSS AXLE WEIGHT RATINGS FRONT

The front gross axle weight rating (GAWR) of the chassis shall be 21,500 pounds.

This front gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

GROSS AXLE WEIGHT RATINGS REAR

The rear gross axle weight rating (GAWR) of the chassis shall be 31,500 pounds.

This rear gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

CAB STYLE

The cab shall be a custom, fully enclosed, LFD model with a 10.00 inch raised roof over the driver, officer, and crew area, designed and built specifically for use as an emergency response vehicle by a company specializing in cab and chassis design for all emergency response applications. The cab shall be designed for heavy-duty service utilizing superior strength and capacity for the application of protecting the occupants of the vehicle. This style of cab shall offer up to ten (10) seating positions.

The cab shall incorporate a fully enclosed design with side wall roof supports, allowing for a spacious cab area with no partition between the front and rear sections of the cab. To provide a superior finish by reducing welds that fatigue cab metal; the roof, the rear wall and side wall panels shall be assembled using a combination of welds and proven industrial adhesives designed specifically for aluminum fabrication for construction.

The cab shall be constructed using multiple aluminum extrusions in conjunction with aluminum plate, which shall provide proven strength and the truest, flattest body surfaces ensuring less expensive paint repairs if needed. All aluminum welding shall be completed to the American Welding Society and ANSI D1.2-96 requirements for structural welding of aluminum.

All interior and exterior seams shall be sealed for optimum noise reduction and to provide the most favorable efficiency for heating and cooling retention.





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The cab shall be constructed of 5052-H32 corrosion resistant aluminum plate. The cab shall incorporate tongue and groove fitted 6061-T6 0.13 & 0.19 inch thick aluminum extrusions for extreme duty situations. A single formed, one (1) piece extrusion shall be used for the "A" pillar, adding strength and rigidity to the cab as well as additional roll-over protection. The cab side walls and lower roof skin shall be 0.13 inch thick; the rear wall and raised roof skins shall be 0.09 inch thick; the front cab structure shall be 0.19 inch thick.

The exterior width of the cab shall be 94.00 inches wide with a minimum interior width of 88.00 inches. The overall cab length shall be 144.60 inches with 67.50 inches from the centerline of the front of the axle to the back of the cab.

The cab interior shall be designed to afford the maximum usable interior space and attention to ergonomics with hip and legroom while seated which exceeds industry standards. The crew cab floor shall be flat across the entire walking area for ease of movement inside the cab.

The cab shall offer an interior height of 57.50 inches from the front floor to the headliner and a rear floor to headliner height of 65.00 inches in the raised roof area, at a minimum. The cab shall offer an interior measurement at the floor level from the rear of the engine tunnel to the rear wall of the cab of 65.38 inches. All interior measurements shall include the area within the interior trimmed surfaces and not to any unfinished surface.

The cab shall include a driver and officer area with two (2) cab doors large enough for personnel in full firefighting gear. The front doors shall offer a clear opening of 40.25 inches wide X 53.50 inches high, from the cab floor to the top of the door opening. The cab shall also include a crew area with up to two (2) cab doors, also large enough for personnel in full firefighting gear. The rear doors shall offer a clear opening of 32.25 inches wide X 61.00 inches high, from the cab floor to the top of the door opening.

The cab shall incorporate a progressive two (2) step configuration from the ground to the cab floor at each door opening. The progressive steps are vertically staggered and extend the full width of each step well allowing personnel in full firefighting gear to enter and exit the cab easily and safely.

The first step for the driver and officer area shall measure approximately 11.50 inches deep X 31.13 inches wide. The intermediate step shall measure approximately 8.50 inches deep X 32.50 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 11.00 inches.

The first step for the crew area shall measure approximately 11.50 inches deep X 20.44 inches wide. The intermediate step shall measure approximately 10.25 inches deep X 22.75 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 12.80 inches.





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OCCUPANT PROTECTION

The vehicle shall include the Advanced Protection System™ (APS) which shall secure belted occupants and increase the survivable space within the cab. The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

The system components shall include:

- Driver steering wheel airbag
- Driver dual knee air bags (patent pending) with energy management mounting (patent pending) and officer knee airbag.
- Driver and officer large side curtain airbags
- APS advanced seat belt system - retractor pre-tensioners tighten the seat belts around the occupants, securing the occupants in seats and load limiters play out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries
- Heavy truck Restraints Control Module (RCM) - receives inputs from the outboard sensors, selectively deploys APS systems, and records sensory inputs immediately before and during a detected qualifying event
- Integrated outboard crash sensors mounted at the perimeter of the vehicle - detects a qualifying front or side impact event and monitors and communicates vehicle status and real time diagnostics of all critical subsystems to the RCM
- Fault-indicating Supplemental Restraint System (SRS) light on the driver's instrument panel

Frontal impact protection shall be provided by the outboard sensors and the RCM. In a qualifying front impact event the outboard sensors provide inputs to the RCM. The RCM activates the steering wheel airbag, driver side dual knee airbags (patent pending), officer side knee airbag, and advanced seat belts for each occupant in the cab.

Rollover, side impact, and ejection mitigation shall be provided by the outboard sensors and the RCM. In qualifying rollover or side impact events the outboard sensors provide inputs to the RCM. The RCM activates the side curtain airbags and advanced seat belts for each occupant in the cab. The RCM measures roll angle, lateral acceleration, and roll rate to determine if a rollover event or side impact event is imminent or occurring.





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In the event of a qualifying offset or other non-frontal impact, the RCM shall determine and intelligently deploy the front impact protection system, the side impact protection system, or both front and side impact protection systems based on the inputs received from the outboard crash sensors.

CAB FRONT FASCIA

The front cab fascia shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate which shall be an integral part of the cab.

The cab fascia will encompass the entire front of the aluminum cab structure from the bottom of the windshield to the bottom of the cab and shall be the "Classic" design.

The front cab fascia shall include two (2) molded plastic modules on each side accommodating a total of up to four (4) Hi/Low beam headlights and two (2) turn signal lights or up to four (4) warning lights. A chrome plated molded plastic bezel shall be provided on each side around each set of four lamps.

FRONT GRILLE

The front fascia shall include a box style, 304 stainless steel front grille 44.45 inches wide X 33.50 inches high X 1.50 inches deep. The grille shall include a minimum free air intake of 732.00 square inches. The upper portion of the grille shall be hinged to provide service access behind the grille.

CAB UNDERCOAT

There shall be a rubberized undercoating applied to the underside of the cab that provides abrasion protection, sound deadening and corrosion protection.

CAB SIDE DRIP RAIL

There shall be a drip rail along the top radius of each cab side. The drip rails shall help prevent water from the cab roof running down the cab side.





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CAB PAINT EXTERIOR

The cab shall be painted prior to the installation of glass accessories and all other cab trim to ensure complete paint coverage and the maximum in corrosion protection of all metal surfaces.

All metal surfaces on the entire cab shall be ground by disc to remove any surface oxidation or surface debris which may hinder the paint adhesion. Once the surface is machine ground a high quality acid etching of base primer shall be applied. Upon the application of body fillers and their preparation, the cab shall be primed with a coating designed for corrosion resistance and surface paint adhesion. The maximum thickness of the primer coat shall be 2.00 mils.

The entire cab shall then be coated with an intermediate solid or epoxy surfacing agent that is designed to fill any minor surface defects, provide an adhesive bond between the primer and the paint and improve the color and gloss retention of the color. The finish to this procedure shall be a sanding of the cab with 360 grit paper followed by sealing the seams with SEM brand seam sealer.

The cab shall then be painted the specific color designated by the customer with an acrylic urethane type system designed to retain color and resist acid rain and most atmospheric chemicals found on the fire ground or emergency scene. The paint shall have a minimum thickness of 2.00 mils, followed by a clear top coat not to exceed 2.00 mils. The entire cab shall then be baked at 180 degrees for one (1) hour to speed the curing process of the coatings.

CAB PAINT MANUFACTURER

The cab shall be painted with Sikkens paint.

CAB PAINT PRIMARY/LOWER COLOR

The primary/lower paint color shall be:

CAB PAINT SECONDARY/UPPER COLOR

The secondary/upper paint color shall be:

CAB PAINT EXTERIOR BREAKLINE

The upper and lower paint shall meet at a breakline on the cab which shall be located approximately 1.00 inch below the door windows on each side of the cab. The breakline shall curve down at the front cab corners to approximately 5.00 inches below the windshields on the front of the cab.

CAB PAINT PINSTRIPE

A 0.50 inch wide gold reflective tape with black borders shall be applied on the break line between the two different colored surfaces.





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CAB PAINT WARRANTY

Purchaser shall receive a Paint and Finish (Exterior Clear coated) Ten (10) Years limited warranty in accordance with, and subject to, warranty certificate RFW0710. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

CAB PAINT INTERIOR

The visible interior cab structure surfaces shall be painted with a multi-tone silver gray texture finish.

CAB ENTRY DOORS

The cab shall include four (4) entry doors, two (2) front doors and two (2) crew doors designed for ease of entering and egress when outfitted with an SCBA. The doors shall be constructed of extruded aluminum with a nominal thickness of 0.13 inch. The exterior skins shall be constructed of 0.13 inch aluminum plate.

The doors shall include a double rolled style automotive rubber seal around the perimeter of each door frame and door edge which ensures a weather tight fit.

All door hinges shall be hidden within flush mounted cab doors for a pleasing smooth appearance and perfect fit along each side of the cab. Each door hinge shall be piano style with a 0.38 inch pin and shall be constructed of stainless steel.

CAB ENTRY DOOR TYPE

All cab entry doors shall be full length in design to fully enclose the lower cab steps. Entry doors shall include Pollak mechanical plunger style switches for electrical component activation.

CAB INSULATION

The cab ceiling and walls shall include a nonwoven polyester fiber insulation. The insulation shall act as a barrier absorbing noise as well as assisting in sustaining the desired climate within the cab interior.

LH EXTERIOR REAR COMPARTMENT

The cab shall offer an exterior compartment on the left side of the cab behind the rear door. The compartment opening shall be 10.00 inches wide X 31.19 inches high. The compartment size shall be 11.34 inches wide X 31.19 inches high X 21.19 inches deep. The compartment shall have a 10.63 inch wide, 32.00 inch high and 1.50 inch thick hinged box pan style flush mount door with a bright aluminum tread plate inner panel and a bent D-ring slam latch. There shall be a switch to activate a light inside the compartment and the open compartment warning light in the cab in the event the door is left ajar.





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LEFT HAND EXTERIOR REAR COMPARTMENT LIGHTING

There shall be one (1) SoundOff Signal brand LED strip light installed to illuminate the exterior rear compartment on the left side of the cab. The strip light shall be 10.00 inches long and shall include three (3) bright white Gen3 LEDs.

LH EXTERIOR COMPARTMENT INTERIOR FINISH

The interior of the left hand exterior compartment shall have a multi-tone silver gray texture finish.

RH EXTERIOR REAR COMPARTMENT

The cab shall offer an exterior compartment on the right side of the cab behind the rear door. The compartment opening shall be 10.00 inches wide X 31.19 inches high. The compartment size shall be 11.34 inches wide X 31.19 inches high X 21.19 inches deep. The compartment shall have a 10.63 inch wide, 32.00 inch high and 1.50 inch thick hinged box pan style flush mount door with a bright aluminum tread plate inner panel and a bent D-ring slam latch. There shall be a switch to activate a light inside the compartment and the open compartment warning light in the cab in the event the door is left ajar.

RIGHT HAND EXTERIOR REAR COMPARTMENT LIGHTING

There shall be one (1) SoundOff Signal brand LED strip light installed to illuminate the exterior rear compartment on the right side of the cab. The strip light shall be 10.00 inches long and shall include three (3) bright white Gen3 LEDs.

RH EXTERIOR COMPARTMENT INTERIOR FINISH

The interior of the right hand exterior compartment shall have a multi-tone silver gray texture finish.

CAB STRUCTURAL WARRANTY

Purchaser shall receive a Cab Structure (Aluminum) Ten (10) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0602. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.





Ypsilanti Twp Fire Department

SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

CAB TEST INFORMATION

The cab shall have successfully completed the preload side impact, static roof load application and frontal impact without encroachment to the occupant survival space when tested in accordance with Section 4 of SAE J2420 COE Frontal Strength Evaluation Dynamic Loading Heavy Trucks, Section 5 of SAE J2422 Cab Roof Strength Evaluation Quasi –Static Loading Heavy Trucks and ECE R29 Uniform Provisions Concerning the Approval of Vehicles with regard to the Protection of the Occupants of the Cab of a Commercial Vehicles Annex 3 Paragraph 5.

The above tests have been witnessed by and attested to by an independent third party. The test results were recorded using cameras, high speed imagers, accelerometers and strain gauges. Documentation of the testing shall be provided upon request.

ELECTRICAL SYSTEM

The chassis shall include a single starting electrical system which shall include a 12 volt direct current multiplexing system, suppressed per SAE J551. The wiring shall be appropriate gauge cross link with 311 degree Fahrenheit insulation. All SAE wires in the chassis shall be color coded and shall include the circuit number and function where possible. The wiring shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom. All nodes and sealed Deutsch connectors shall be waterproof.

MULTIPLEX DISPLAY

The multiplex electrical system shall include a Weldon Vista IV display which shall be located on the left side of the dash in the switch panel. The Vista IV shall feature a full color LCD display screen which includes a message bar displaying the time of day and important messages requiring acknowledgement by the user which shall all be displayed on the top of the screen in the order they are received. There shall be eight (8) push button virtual controls, four (4) on each side of the display for the on-board diagnostics. The display screen shall be video ready for back-up cameras, thermal cameras, and DVD.

The Vista IV display shall offer varying fonts and background colors. The display shall be fully programmable to the needs of the customer and shall offer virtually infinite flexibility for screen configuration options.

LOAD MANAGEMENT SYSTEM

The apparatus load management shall be performed by the included multiplex system. The multiplex system shall also feature the priority of sequences and shall shed electrical loads based on the priority list specifically programmed.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE Proposal Date: 4-13-2022

DATA RECORDING SYSTEM

The chassis shall have a Weldon Vehicle Data Recorder (VDR) system installed. The system shall be designed to meet NFPA 1901 and shall be integrated with the Weldon Multiplex electrical system. The following information shall be recorded:

- Vehicle Speed
- Acceleration
- Deceleration
- Engine Speed
- Engine Throttle Position
- ABS Event
- Seat Occupied Status
- Seat Belt Status
- Master Optical Warning Device Switch Position
- Time
- Date

Each portion of the data shall be recorded at the specified intervals and stored for the specified length of time to meet NFPA 1901 guidelines and shall be retrievable by connecting a laptop computer to the VDR system. The laptop connection shall be a panel mounted female type B USB connection point, remotely mounted in the left side foot well.

ACCESSORY POWER

The electrical distribution panel shall include two (2) power studs. The studs shall be size #10 and each of the power studs shall be circuit protected with a fuse of the specified amperage. One (1) power stud shall be capable of carrying up to a 40 amp battery direct load. One (1) power stud shall be capable of carrying up to a 15 amp ignition switched load. The two (2) power studs shall share one (1) #10 ground stud.

An OEM body connections bracket shall be installed on the chassis near the left hand battery box. The bracket shall include one (1) set each of 200 amp master power switched and 300 amp battery direct fused power and ground studs.

AUXILIARY ACCESSORY POWER

An auxiliary set of power and ground studs shall be provided and installed behind the electrical center cover with a 40 amp breaker. The studs shall be 0.38 inch diameter and capable of carrying up to a 40 amp load switched with the master power switch.





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

ADDITIONAL ACCESSORY POWER

An additional ten (10) position blade type fuse panel shall be installed behind the officer's seat. The fuse panel shall be protected by a 40 amp fuse. The panel shall be capable of carrying up to a maximum 40 amp battery direct load.

EXTERIOR ELECTRICAL TERMINAL COATING

All terminals exposed to the elements will be sprayed with a high visibility protective rubberized coating to prevent corrosion.

ELECTRICAL SYSTEM WARRANTY

Purchaser shall receive an Electrical System Two (2) Years or 36,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0202. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

ENGINE

The chassis engine shall be a Cummins L9 engine. The L9 engine shall be an in-line six (6) cylinder, four cycle diesel powered engine. The engine shall offer a rating of 450 horse power at 2100 RPM and shall be governed at 2200 RPM. The torque rating shall feature 1250 foot pounds of torque at 1200 RPM with 543 cubic inches (8.9 liters) of displacement.

The L9 engine shall feature a VGT™ Turbocharger, a high pressure common rail fuel system, fully integrated electronic controls with an electronic governor, and shall be EPA certified to meet the 2021 emissions standards using cooled exhaust gas recirculation and selective catalytic reduction technology.

The engine shall include an engine mounted combination full flow/by-pass oil filter with replaceable spin on cartridge for use with the engine lubrication system. The engine shall include Citgo brand Citgard 500, or equivalent SAE 15W40 CK-4 low ash engine oil which shall be utilized for proper engine lubrication.

A wiring harness shall be supplied ending at the back of the cab. The harness shall include a connector which shall allow an optional harness for the pump panel. The included circuits shall be provided for a tachometer, oil pressure, engine temperature, hand throttle, high idle and a PSG system. A circuit for J1939 data link shall also be provided at the back of the cab.

CAB ENGINE TUNNEL

The cab interior shall include an integrated engine tunnel constructed of 5052-H32 Marine Grade, 0.19 of an inch thick aluminum. The tunnel shall be a maximum of 41.50 inches wide X 25.50 inches high.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

DIESEL PARTICULATE FILTER CONTROLS

There shall be two (2) controls for the diesel particulate filter. One (1) control shall be for regeneration and one (1) control shall be for regeneration inhibit. Each switch shall include a guard.

ENGINE PROGRAMMING HIGH IDLE SPEED

The engine high idle control shall maintain the engine idle at approximately 1000 RPM when engaged.

ENGINE HIGH IDLE CONTROL

The vehicle shall be equipped with a virtual Vista button and an automatic high-idle speed control. It shall be pre-set so when activated, it will operate the engine at the appropriate RPM to increase alternator output. This device shall operate only when the engine is running and the transmission is in neutral with the parking brake set. The device shall disengage when the operator depresses the brake pedal, or the transmission is placed in gear, and shall be available to manually or automatically re-engage when the brake is released, or when the transmission is placed in neutral. There shall be an indicator on the Vista display and control screen for the high idle speed control.

ENGINE PROGRAMMING ROAD SPEED GOVERNOR

The engine shall include programming which will govern the top speed of the vehicle.

AUXILIARY ENGINE BRAKE

A compression brake, for the six (6) cylinder engine shall be provided. A cutout relay shall be installed to disable the compression brake when in pump mode or when an ABS event occurs. The engine compression brake shall activate upon 0% accelerator when in operation mode and actuate the vehicle's brake lights.

The engine shall utilize a variable geometry turbo (VGT) as an integrated auxiliary engine brake to offer a variable rate of exhaust flow, which when activated in conjunction with the compression brake shall enhance the engine's compression braking capabilities.

AUXILIARY ENGINE BRAKE CONTROL

An engine compression brake control device shall be included. The electronic control device shall monitor various conditions and shall activate the engine brake only if all of the following conditions are simultaneously detected:

- A valid gear ratio is detected.
- The driver has requested or enabled engine compression brake operation.
- The throttle is at a minimum engine speed position.
- The electronic controller is not presently attempting to execute an electronically controlled final drive gear shift.





Ypsilanti Twp Fire Department

SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

The compression brake shall be controlled via an off/low/medium/high virtual button on the Vista display and control screen. The multiplex system shall remember and default to the last engine brake control setting when the vehicle is shut off and re-started.

ELECTRONIC ENGINE OIL LEVEL INDICATOR

The engine oil shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal. The warning shall activate in a low oil situation upon turning on the master battery and ignition switches without the engine running.

FLUID FILLS

The front of the chassis shall accommodate fluid fill for the engine oil through the grille. This area shall also accommodate a check for the engine oil. The transmission, power steering, and coolant fluid fills and checks shall be under the cab. The windshield washer fill shall be accessible through the front left side mid step.

ENGINE DRAIN PLUG

The engine shall include an original equipment manufacturer installed oil drain plug.

ENGINE WARRANTY

The Cummins engine shall be warranted for a period of five (5) years or 100,000 miles, whichever occurs first.

REMOTE THROTTLE HARNESS

An apparatus interface wiring harness for the engine shall be supplied with the chassis. The harness shall include a connector for connection to the chassis harness which shall terminate in the left frame rail behind the cab for reconnection by the apparatus builder. The harness shall contain connectors for a FRC pressure governor and a multiplexed gauge. Separate circuits shall be included for pump controls, "Pump Engaged" and "OK to Pump" indicator lights, open compartment ground, start signal, park brake ground, ignition signal, master power, customer ignition, air horn solenoid switch, high idle switch and high idle indication light. The harness shall contain interlocks that will prevent shifting to road or pump mode unless the transmission output speed translates to less than 1 mph and the transmission is in neutral. The shift to pump mode shall also require the park brake be set. The harness shall be designed for a side mount pump panel.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

An apparatus interface wiring harness shall also be included which shall be wired to the cab harness interface connectors and shall incorporate circuits with relays to control pump functions. This harness shall control the inputs for the transmission lock up circuits, governor/hand throttle controls and dash display which shall incorporate “Pump Engaged” and “OK to Pump” indicator lights. The harness shall contain circuits for the apparatus builder to wire in a pump switch.

ENGINE PROGRAMMING REMOTE THROTTLE

The engine ECM (Electronic Control Module) discreet wire remote throttle circuit shall be turned off for use with a J1939 based pump controller or when the discreet wire remote throttle controls are not required.

ENGINE PROGRAMMING IDLE SPEED

The engine low idle speed will be programmed at 700 rpm.

ENGINE AIR INTAKE

The engine air intake system shall include an ember separator. This ember separator shall be designed to protect the downstream air filter from embers using a combination of unique flat and crimped metal screens packaged in a heavy duty galvanized steel frame. This multilayered screen shall trap embers and allow them to burn out before passing through the pack.

The engine air intake system shall also include an air cleaner mounted above the radiator. This air cleaner shall utilize a replaceable dry type filter element designed to prevent dust and debris from being ingested into the engine. A service cover shall be provided on the housing, reducing the chance of contaminating the air intake system during air filter service.

The air intake system shall include a restriction indicator light in the warning light cluster on the instrument panel, which shall activate when the air cleaner element requires replacement.

ENGINE FAN DRIVE

The engine cooling system fan shall incorporate a thermostatically controlled, Horton fully variable type fan drive with SmartClutch J-1939 CAN controller.

The variable speed fan clutch only engages at the amount needed for proper cooling to facilitate improved vehicle performance, cab heating in cold climates, and fuel economy. The fan clutch design shall be fail-safe so that if the clutch drive fails the fan shall engage to prevent engine overheating due to the fan clutch failure. The fan speed shall include a J-1939 CAN clutch controller to receive signal from the engine control module to activate at variable rates of speed. Variable speeds shall be set through thermostatic and engine speed signals to run as efficiently and quietly as required to maintain temperature.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE Proposal Date: 4-13-2022

ENGINE COOLING SYSTEM

There shall be a heavy-duty aluminum cooling system designed to meet the demands of the emergency response industry. The cooling system shall have the capacity to keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the requirements specified by the engine and transmission manufacturer and all EPA requirements. The complete cooling system shall be mounted to isolate the entire system from vibration or stress. The individual cores of the cooling system shall be mounted in a manner to allow expansion and contraction at various rates without inducing stress into the adjoining cores.

The cooling system shall be comprised of a charge air cooler to radiator serial flow package that provides the maximum cooling capacity for the specified engine as well as serviceability. The main components shall include a surge tank, a charge air cooler bolted to the front of the radiator, recirculation shields, a shroud, a fan, and required tubing.

The radiator shall be a down-flow design constructed with aluminum cores, plastic end tanks, and a steel frame. The radiator shall be equipped with a drain cock to drain the coolant for serviceability.

The cooling system shall include a one piece injected molded polymer fan with a three (3) piece fiberglass fan shroud.

The cooling system shall be equipped with a surge tank that is capable of removing entrained air from the system. The surge tank shall be equipped with a low coolant probe and rearward oriented sight glass to observe coolant in the system. A cold fill and observation line shall be included within the frame mounted translucent recovery bottle to monitor the level of the coolant. The surge tank shall have a dual seal cap that meets the engine manufacturer's pressure requirements and allows for expansion and recovery of coolant into a separate integral expansion chamber.

All radiator tubes shall be formed from aluminized steel tubing. Recirculation shields shall be installed where required to prevent heated air from reentering the cooling package and affecting performance.

The charge air cooler shall be a cross-flow design constructed completely of aluminum with cast tanks. All charge air cooler tubes shall be formed from aluminized steel tubing and installed with silicone hump hoses and stainless steel "constant torque" style clamps meeting the engine manufacturer's requirements.

The radiator and charge air cooler shall be removable through the bottom of the chassis.

ENGINE COOLING SYSTEM PROTECTION

The engine cooling system shall include a recirculation shield designed to act as a light duty skid plate below the radiator to provide additional protection for the engine cooling system from light impacts, stones, and road debris. The skid plate shall be painted to match the frame components.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

ENGINE COOLANT

The cooling package shall include Extended Life Coolant (ELC). The use of ELC provides longer intervals between coolant changes over standard coolants providing improved performance. The coolant shall contain a 50/50 mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34 degrees Fahrenheit.

Proposals offering supplemental coolant additives (SCA) shall not be considered, as this is part of the extended life coolant makeup.

ENGINE COOLANT FILTER

An engine coolant filter with a shut-off valve for the inlet and outlet shall be installed on the chassis. The location of the filter shall allow for easy maintenance.

Proposals offering engines equipped with coolant filters shall be supplied with standard non-chemical type particulate filters.

ELECTRONIC COOLANT LEVEL INDICATOR

The instrument panel shall feature a low engine coolant indicator light which shall be located in the center of the instrument panel. An audible tone alarm shall also be provided to warn of a low coolant incident.

ENGINE PUMP HEAT EXCHANGER

A single bundle type coolant to water heat exchanger shall be installed between the engine and the radiator. The heat exchanger shall be designed to prohibit water from the pump from coming in contact with the engine coolant. This shall allow the use of water from the discharge side of the pump to assist in cooling the engine.

COOLANT HOSES

The cooling systems hose shall be formed silicone hose and formed aluminized steel tubing and include stainless steel constant torque band clamps.

ENGINE COOLANT OVERFLOW BOTTLE

A remote engine coolant overflow expansion bottle shall be provided in the case of over filling the coolant system. The overflow bottle shall capture the expansion fluid or overfill rather than allow the fluid to drain on the ground.





Ypsilanti Twp Fire Department

SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

ENGINE EXHAUST SYSTEM

The exhaust system shall include an end-in end-out horizontally mounted single module after treatment device, and downpipe from the charge air cooled turbo. The single module shall include four temperature sensors, diesel particulate filter (DPF), urea dosing module (UL2), and a selective catalytic reduction (SCR) catalyst to meet current EPA standards. The selective catalytic reduction catalyst utilizes a diesel exhaust fluid solution consisting of urea and purified water to convert NOx into nitrogen, water, and trace amounts of carbon dioxide. The solution shall be mixed and injected into the system through the DPF and SCR.

The system shall utilize 0.07 inch thick stainless steel exhaust tubing between the engine turbo and the DPF. Zero leak clamps seal all system joints between the turbo and DPF.

The single module after treatment through the end of the tailpipe shall be connected with zero leak clamps. The discharge shall terminate horizontally on the right side of the vehicle ahead of the rear tires.

The exhaust system after treatment module shall be mounted below the frame in the outboard position.

DIESEL EXHAUST FLUID TANK

The exhaust system shall include a molded cross linked polyethylene tank for Diesel Exhaust Fluid (DEF). The tank shall have a capacity of six (6) usable gallons and shall be mounted on the left hand side of the chassis frame behind the batteries below the frame.

The DEF tank shall be designed with capacity for expansion in case of fluid freezing. Engine coolant, which shall be thermostatically controlled, shall be run through lines in the tank to help prevent the DEF from freezing and to provide a means of thawing the fluid if it should become frozen.

The tank fill tube shall be routed under the rear of the cab with the fill neck and splash guard accessible in the top rear step.

ENGINE EXHAUST ACCESSORIES

An exhaust temperature mitigation device shall be shipped loose for installation by the body manufacturer on the vehicle. The temperature mitigation device shall lower the temperature of the exhaust by combining ambient air with the exhaust gasses at the exhaust outlet.

The tail pipe shall have a drop in it to allow additional clearance from the body.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

ENGINE EXHAUST WRAP

The exhaust tubing between the engine turbo and the diesel particulate filter (DPF) shall be wrapped with a thermal cover in order to retain the necessary heat for DPF regeneration. The exhaust wrap shall also help protect surrounding components from radiant heat which can be transferred from the exhaust.

The exhaust flex joint shall not include the thermal exhaust wrap.

EMISSIONS SYSTEMS WARRANTY

Purchaser shall receive a Regulated Emissions Systems Five (5) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0140. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

TRANSMISSION

The drive train shall include an Allison model EVS 3000 torque converting, automatic transmission which shall include electronic controls. The transmission shall feature two (2) 10-bolt PTO pads located on the converter housing.

The transmission shall include two (2) internal oil filters and Castrol TranSynd™ synthetic TES 295 transmission fluid which shall be utilized in the lubrication of the EVS transmission. An electronic oil level sensor shall be included with the readout located in the shift selector.

The transmission gear ratios shall be:

- 1st 3.49:1
- 2nd 1.86:1
- 3rd 1.41:1
- 4th 1.00:1
- 5th 0.75:1
- 6th 0.65:1 (if applicable)
- Rev 5.03:1

TRANSMISSION MODE PROGRAMMING

The transmission, upon start-up, will automatically select a four (4) speed operation. The fifth speed over drive shall be available with the activation of the mode button on the shifting pad.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

TRANSMISSION FEATURE PROGRAMMING

The Allison Gen V/VI-E transmission EVS group package number 127 shall contain the 198 vocational package in consideration of the duty of this apparatus as a pumper. This package shall incorporate an automatic neutral with selector override. This feature commands the transmission to neutral when the park brake is applied, regardless of drive range requested on the shift selector. This requires re-selecting drive range to shift out of neutral for the override.

This package shall be coupled with the use of a split shaft PTO and incorporate pumping circuits. These circuits shall be used allowing the vehicle to operate in the fourth range lockup while operating the pump mode due to the 1 to 1 ratio through the transmission, therefore the output speed of the engine is the input speed to the pump. The pump output can be easily calculated by using this input speed and the drive ratio of the pump itself to rate the gallons of water the pump can provide.

A transmission interface connector shall be provided in the cab. This package shall contain the following input/output circuits to the transmission control module. The Gen V/VI-E transmission shall include prognostic diagnostic capabilities. These capabilities shall include the monitoring of the fluid life, filter change indication, and transmission clutch maintenance.

<u>Function ID</u>	<u>Description</u>	<u>Wire assignment</u>
Inputs		
C	PTO Request	142
J	Fire Truck Pump Mode (4th Lockup)	122 / 123
Outputs		
C	Range Indicator	145 (4th)
G	PTO Enable Output	130
	Signal Return	103

TRANSMISSION SHIFT SELECTOR

An Allison pressure sensitive range selector touch pad shall be provided and located to the right of the driver within clear view and easy reach. The shift selector shall have a graphical Vacuum Florescent Display (VFD) capable of displaying two lines of text. The shift selector shall provide mode indication and a prognostic indicator (wrench symbol) on the digital display. The prognostics monitor various operating parameters and shall alert you when a specific maintenance function is required.

ELECTRONIC TRANSMISSION OIL LEVEL INDICATOR

The transmission fluid shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

TRANSMISSION PRE-SELECT WITH AUXILIARY BRAKE

When the auxiliary brake is engaged, the transmission shall automatically shift to second gear to decrease the rate of speed assisting the secondary braking system and slowing the vehicle.

TRANSMISSION COOLING SYSTEM

The transmission shall include a water to oil cooler system located in the cooling loop between the radiator and the engine. The transmission cooling system shall meet all transmission manufacturer requirements. The transmission cooling system shall feature continuous flow of engine bypass water to maintain uninterrupted transmission cooling.

TRANSMISSION DRAIN PLUG

The transmission shall include an original equipment manufacturer installed magnetic transmission fluid drain plug.

TRANSMISSION WARRANTY

The Allison EVS series transmission shall be warranted for a period of five (5) years with unlimited mileage. Parts and labor shall be included in the warranty.

PTO LOCATION

The transmission shall have two (2) power take off (PTO) mounting locations, one (1) in the 8:00 o'clock position and one (1) in the 4:00 o'clock position.

DRIVELINE

All drivelines shall be heavy duty metal tube and equipped with MSI 1710 series universal joints. The shafts shall be dynamically balanced prior to installation to alleviate future vibration. In areas of the driveline where a slip shaft is required, the splined slip joint shall be coated with Glide Coat®. The drivelines shall include Meritor brand u-joints with thrust washers.

FUEL FILTER/WATER SEPARATOR

The fuel system shall have a Fleetguard FS20121 fuel filter/water separator as a primary filter. The fuel filter shall have a drain valve.

A water in fuel sensor shall be provided and wired to an instrument panel lamp and audible alarm to indicate when water is present in the fuel/water separator.

A secondary fuel filter shall be included as approved by the engine manufacturer.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE REV GROUP

Proposal Date: 4-13-2022

FUEL LINES

The fuel system supply and return lines installed from the fuel tank to the engine shall be reinforced nylon tubing rated for diesel fuel. The fuel lines shall be brown in color and connected with brass fittings.

FUEL SHUTOFF VALVE

There shall be two (2) fuel shutoff valves which shall be installed, one (1) in the fuel draw line at the primary fuel filter and one (1) in the fuel outlet line at the primary fuel filter to allow the fuel filters to be changed without loss of fuel to the fuel pump.

A third fuel shutoff valve shall be installed in the fuel draw line, near the fuel tank to allow maintenance to be performed with minimal loss of fuel.

ELECTRIC FUEL PRIMER

Integral to the engine assembly is an electric lift pump that serves the purpose of pre-filter fuel priming.

FUEL TANK

The fuel tank shall have a capacity of fifty (50) gallons and shall measure 35.00 inches in width X 15.00 inches in height X 24.00 inches in length.

The baffled tank shall have a vent port to facilitate venting to the top of the fill neck for rapid filling without "blow-back" and a roll over ball check vent for temperature related fuel expansion and draw.

The tank is designed with dual draw tubes and sender flanges. The tank shall have 2.00 inch NPT fill ports for right or left hand fill. A 0.50 inch NPT drain plug shall be centered in the bottom of the tank.

The fuel tank shall be mounted below the frame, behind the rear axle. Two (2) three-piece strap hanger assemblies with "U" straps bolted midway on the fuel tank front and rear shall be utilized to allow the tank to be easily lowered and removed for service purposes. Rubber isolating pads shall be provided between the tank and the upper tank mounting brackets. Strap mounting studs through the rail, hidden behind the body shall not be acceptable.





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE REV GROUP

Proposal Date: 4-13-2022

FUEL TANK MATERIAL AND FINISH

The fuel tank shall be constructed of 12 gauge aluminized steel. The exterior of the tank shall be powder coated black and then painted to match the frame components.

All powder coatings, primers and paint shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 Method B, results to be 5B minimum. The pencil hardness test per ASTM D3363 shall have a final post-cured pencil hardness of H-2H. The direct impact resistance test per ASTM D2794, results to be 5B minimum.

Any proposals offering painted fuel tanks with variations from the above process shall not be accepted. The film thickness of vendor supplied parts shall also be sufficient to meet the performance standards as stated above.

FUEL TANK STRAP MATERIAL

The fuel tank straps shall be constructed of #304 stainless steel. The fuel tank straps shall be powder coated black and then painted to match the frame components if possible.

FUEL TANK FILL PORT

The fuel tank fill ports shall be offset with the left fill port located in the rearward position and the right fill port located in the middle position on the fuel tank.

A 1.25 inch diameter hole shall be provided in the left and right frame rails for vent hose routing provisions. The holes shall be located adjacent to the fuel tank and 5.13 inches up from the bottom of each rail.

FUEL TANK SERVICEABILITY PROVISIONS

The chassis fuel lines shall have additional length provided so the tank can be easily lowered and removed for service purposes. The additional 8.00 feet of length shall be located above the fuel tank and shall be coiled and secured. The fuel line fittings shall be pointed towards the right side (curbside) of the chassis.

FUEL TANK DRAIN PLUG

A 0.5 inch NPT magnetic drain plug shall be centered in the bottom of the fuel tank.





EMERGENCY RESPONSE REV GROUP

Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

FRONT AXLE

The front axle shall include an independent front suspension (IFS) offering superior ride and improved handling.

The suspension shall utilize fully independent double wishbone arms with carrier and kingpin for optimized scrub radius. Air springs are tuned for ride and help reduce suspension weight. The IFS reduces turn radius with improved wheel cut over beam axles. The hydraulic damper shall feature rebound control to ensure the maximum load stability and superior driver comfort. The IFS system shall improve handling and offer better braking because of improved ground to tire ratio. This design shall allow for independent adjustment of the vehicle's alignment settings. The IFS shall include an auxiliary transverse leaf spring.

Proposals offering independent front axles comprised of torsion bar style suspensions shall not be considered.

FRONT AXLE WARRANTY

The front axle shall be warranted by Tuthill for three (3) years or 150,000 miles, which ever comes first. Details of the Tuthill warranty are provided on the PDF document attached to this option.

FRONT WHEEL BEARING LUBRICATION

The front axle wheel bearings shall be lubricated with oil. The oil level can be visually checked via clear inspection windows in the front axle hubs.

FRONT SHOCK ABSORBERS

Two (2) Koni shock absorbers shall be provided and installed as part of the front suspension system. Each shock shall deliver improved road handling and durability.

FRONT SUSPENSION

The chassis shall include an independent front suspension (IFS) system. The known advantages of IFS systems can be improved handling and better braking due to the increase in tire surface to ground contact area. The suspension travel of the IFS shall be approximately 6.50 inches, providing 3.00 inches bounce and 3.50 inches rebound of the suspension. The IFS front axle shall be rated between 21,000 and 24,000 pounds.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE REV GROUP

Proposal Date: 4-13-2022

STEERING COLUMN/ WHEEL

The cab shall include a Douglas Autotech steering column which shall include a seven (7) position tilt, a 2.25 inch telescopic adjustment, and an 18.00 inch, four (4) spoke steering wheel located at the driver's position. The steering wheel shall be covered with black polyurethane foam padding.

The steering column shall contain a horn button, self-canceling turn signal switch, four-way hazard switch and headlamp dimmer switch.

ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR

The power steering fluid shall be monitored electronically and shall send a signal to activate an audible alarm and visual warning in the instrument panel when fluid level falls below normal.

POWER STEERING PUMP

The hydraulic power steering pump shall be a Vickers V20F and shall be gear driven from the engine. The pump shall be a fixed displacement vane type. The power steering system shall include an oil to air passive cooler.

FRONT AXLE CRAMP ANGLE

The chassis shall have a front axle cramp angle of 48-degrees to the left and right.

POWER STEERING GEAR

The power steering gear shall be a TRW model TAS 85/RCS 85.

CHASSIS ALIGNMENT

The chassis frame rails shall be measured to insure the length is correct and cross checked to make sure they run parallel and are square to each other. The front and rear axles shall be laser aligned. The front tires and wheels shall be aligned and toe-in set on the front tires by the chassis manufacturer.

REAR AXLE

The rear axle shall be a Meritor model RS-30-185 single drive axle. The axle shall include precision forged, single reduction differential gearing, and shall have a fire service rated capacity of 33,000 pounds.

The axle shall be built of superior construction and quality components to provide the rugged dependability needed to stand up to the fire industry's demands. The axle shall include rectangular shaped, hot-formed housing with a standard wall thickness of 0.56 of an inch for extra strength and rigidity and a rigid differential case for high axle strength and reduced maintenance.





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The axle shall have heavy-duty Hypoid gearing for longer life, greater strength and quieter operation. Industry-standard wheel ends for compatibility with both disc and drum brakes, and unitized oil seal technology to keep lubricant in and help prevent contaminant damage will be used.

REAR AXLE DIFFERENTIAL LUBRICATION

The rear axle differential shall be lubricated with oil.

REAR AXLE WARRANTY

The rear axle shall be warranted by Meritor for five (5) years with unlimited miles under the general service application. Details of the Meritor warranty are provided on the PDF document attached to this option.

WHEEL HUB PAINT

Each of the wheel hubs shall be coated with gloss black paint.

REAR WHEEL BEARING LUBRICATION

The rear axle wheel bearings shall be lubricated with oil.

VEHICLE TOP SPEED

The top speed of the vehicle shall be approximately 68 MPH +/-2 MPH at governed engine RPM.

REAR SUSPENSION

The single rear axle shall feature a Reyco 79KB vari-rate, self-leveling captive slipper type conventional multi-leaf spring suspension, with 57.50 inch X 3.00 inch springs. One (1) adjustable and one (1) fixed torque rod shall be provided.

The rear suspension capacity shall be rated from 21,000 to 31,500 pounds.

TIRE INTERMITTENT SERVICE RATING

The chassis shall be rated using Intermittent Service ratings provided to the emergency vehicle market by the tire manufacturers as the basis for determining the maximum vehicle load and speed.





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FRONT TIRE

The front tires shall be Michelin 425/65R-22.5 20PR "L" tubeless radial XZY3 mixed service tread.

The front tire stamped load capacity shall be 22,800 pounds per axle with a nominal speed rating of 65 miles per hour when properly inflated to 120 pounds per square inch.

The Michelin Intermittent Service Rating maximum load capacity shall be 24,396 pounds per axle with a maximum speed of 65 miles per hour when properly inflated to 120 pounds per square inch.

The Michelin Intermittent Service Rating maximum speed capacity shall be 22,800 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch.

The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

REAR TIRE

The rear tires shall be Michelin® 315/80R-22.5 20PR "L" tubeless radial XZUS 2 regional tread.

The rear tire stamped load capacity shall be 33,080 pounds per axle with a nominal speed rating of 65 miles per hour when properly inflated to 130 pounds per square inch.

The Michelin Intermittent Service Rating maximum load capacity shall be 35,396 pounds per axle with a maximum speed of 65 miles per hour when properly inflated to 130 pounds per square inch.

The Michelin Intermittent Service Rating maximum speed capacity shall be 33,080 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 130 pounds per square inch.

The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

REAR AXLE RATIO

The rear axle ratio shall be 5.13:1.





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TIRE PRESSURE INDICATOR

There shall be electronic chrome LED valve caps shipped loose for installation by the OEM which shall illuminate with a red LED when tire pressure drops 8psi provided. The valve caps are self-calibrating and set to the pressure of the tire upon installation.

FRONT WHEEL

The front wheels shall be Alcoa hub piloted, 22.50 inch X 12.25 inch aluminum wheels. The wheels shall feature Alcoa's Dura-Black® finish technology as an integral part of the wheel surface. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.

REAR WHEEL

The outer rear wheels shall be Alcoa hub piloted, 22.50 inch X 9.00 inch aluminum wheels with Alcoa's Dura-Black® finish technology as an integral part of the wheel surface. The inner rear wheels shall be Alcoa hub piloted, 22.50 inch X 9.00 inch aluminum wheels with Alcoa's Dura-Black® finish technology as an integral part of the wheel surface. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.

BALANCE WHEELS AND TIRES

All of the wheels and tires, including any spare wheels and tire assemblies, shall be dynamically balanced.

BRAKE SYSTEM

A rapid build-up air brake system shall be provided. The air brakes shall include, at a minimum, a two (2) air tank, three (3) reservoir system with a total of 4152 cubic inch of air capacity. A floor mounted treadle valve shall be mounted inside the cab for graduated control of applying and releasing the brakes. An inversion valve shall be installed to provide a service brake application in the unlikely event of primary air supply loss. All air reservoirs provided on the chassis shall be labeled for identification.

The rear axle spring brakes shall automatically apply in any situation when the air pressure falls below 25 PSI and shall include a mechanical means for releasing the spring brakes when necessary. An audible alarm shall designate when the system air pressure is below 60 PSI.

A four (4) sensor, four (4) modulator Anti-lock Braking System (ABS) shall be installed on the front and rear axles in order to prevent the brakes from locking or skidding while braking during hard stops or on icy or wet surfaces. This in turn shall allow the driver to maintain steering control under heavy braking and in most instances, shorten the braking distance. The electronic monitoring system shall incorporate diagonal circuitry which shall monitor wheel speed during braking through a sensor and tone ring on each wheel. A dash mounted ABS lamp shall be provided to notify the driver of a system malfunction.





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The ABS system shall automatically disengage the auxiliary braking system device when required. The speedometer screen shall be capable of reporting all active defaults using PID/SID and FMI standards.

Additional safety shall be accommodated through Automatic Traction Control (ATC) which shall be installed on the single rear axle. The ATC system shall apply the ABS when the drive wheels loose traction. The system shall scale the electronic engine throttle back to prevent wheel spin while accelerating on ice or wet surfaces.

A virtual style switch shall be provided and properly labeled “mud/snow”. When the switch is pressed once, the system shall allow a momentary wheel slip to obtain traction under extreme mud and snow conditions. During this condition the ATC light shall blink continuously notifying the driver of activation. Pressing the switch again shall deactivate the mud/snow feature.

The Electronic Stability Control (ESC) unit is a functional extension of the electronic braking system. It is able to detect any skidding of the vehicle about its vertical axis as well as any rollover tendency. The control unit comprises an angular-speed sensor that measures the vehicle’s motion about the vertical axis, caused, for instance, by cornering or by skidding on a slippery road surface. An acceleration sensor measures the vehicle’s lateral acceleration. The Controller Area Network (CAN) bus provides information on the steering angle. On the basis of lateral acceleration and steering angle, an integrated microcontroller calculates a theoretical angular speed for the stable vehicle condition.

FRONT BRAKES

The front brakes shall be Knorr/Bremse SN7 disc brakes with 17.00 inch vented rotors.

REAR BRAKES

The rear brakes shall be Meritor 16.50 inch X 8.63 inch S-cam drum type. The brakes shall feature a cast iron shoe.

PARK BRAKE

Upon application of the push-pull valve in the cab, the rear brakes will engage via mechanical spring force. This is accomplished by dual chamber rear brakes, satisfying the FMVSS parking brake requirements.

PARK BRAKE CONTROL

A Meritor-Wabco manual hand control push-pull style valve shall operate the parking brake.

The parking brake actuation valve shall be mounted to the left side of the engine tunnel integrated into the transmission shift pod console within easy access of the driver.





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REAR BRAKE SLACK ADJUSTERS

Haldex rear brake automatic slack adjusters shall be installed on the axle.

AIR DRYER

The brake system shall include a Wabco System Saver 1200 air dryer with an integral heater with a Metri-Pack sealed connector. The air dryer incorporates an internal turbo cutoff valve that closes the path between the air compressor and air dryer purge valve during the compressor "unload" cycle. The turbo cutoff valve allows purging of moisture and contaminants without the loss of turbo boost pressure. The air dryer shall be mounted behind the battery box on the left hand side.

FRONT BRAKE CHAMBERS

The front brakes shall be provided with type 24 brake chambers as supplied with the independent front suspension axle.

REAR BRAKE CHAMBERS

The rear axle shall include TSE 30/36 brake chambers which shall convert the energy of compressed air into mechanical force and motion. This shall actuate the brake camshaft, which in turn shall operate the foundational brake mechanism forcing the brake shoes against the brake drum. The TSE Type 36 brake chamber has a 36.00 square inch effective area.

AIR COMPRESSOR

The air compressor provided for the engine shall be a Wabco® SS318 single cylinder pass-through drive type compressor which shall be capable of producing 18.7 CFM at 1200 engine RPMs. The air compressor shall feature a higher delivery efficiency translating to more air delivery per horsepower absorbed. The compressor shall include an aluminum cylinder head which shall improve cooling, reduce weight and decrease carbon formation. Superior piston and bore finishing technology shall reduce oil consumption and significantly increasing the system component life.

AIR GOVERNOR

An air governor shall be provided to control the cut-in and cut-out pressures of the engine mounted air compressor. The governor shall be calibrated to meet FMVSS requirements. The air governor shall be located on the air dryer bracket.

MOISTURE EJECTORS

Manual cable actuated drain valves shall be installed on all reservoirs of the air supply system. The actuation pull cables shall be coiled and tied at each drain valve. The supplied cables when extended shall be sufficient in length to allow each drain to be activated from the side of the apparatus.





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AIR SUPPLY LINES

The air system on the chassis shall be plumbed with color coded reinforced nylon tubing air lines. The primary (rear) brake line shall be green, the secondary (front) brake line red, the parking brake line orange and the auxiliary (outlet) will be blue.

Push to connect type fittings shall be used on the nylon tubing. All drop hoses shall include fiber reinforced neoprene covered hoses.

AIR INLET CONNECTION

An air connection for the shoreline air inlet shall be supplied.

AIR INLET LOCATION

The air inlet shall be installed in the left hand side lower front step in the forward position.

AIR OUTLET CONNECTION

A quick release air outlet female connector shall be installed in the left upper cab step towards the front of the cab for the use of auxiliary air tools. The air outlet connector shall be compatible with a Milton 787, Parker Hannifin B13 or Meyers 54-410 connector.

PLUMBING AIR OUTLET CONNECTION

The cab mounted air outlet connection shall be plumbed to the chassis auxiliary air system reservoir.

AIR OUTLET SHUTOFF VALVE

The air outlet shall include a 1/4 turn valve which shall terminate the air supply between the outlet connection and the tank.

AIR INLET/ OUTLET FITTING TYPE

The air connector supplied shall be a 0.25 inch size Tru-Flate Interchange style manual connection which is compatible with Milton 'T' style, Myers 0.25 inch Automotive style and Parker 0.25 inch 10 Series connectors.

AUXILIARY AIR CONNECTION

An auxiliary air line shall be plumbed off the auxiliary air tank and routed inside the cab terminating under the driver dash area. A temporary mounted brass single port tee shall be supplied for the OEM usage, such as pump shift operator valves. If used for a pump shift control it shall be provided and installed by the OEM.





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REAR AIR TANK MOUNTING

If a combination of wheel base, air tank quantity, or other requirements necessitate the location of one or more air tanks to be mounted rear of the fuel tank, these tank(s) will be mounted perpendicular to frame.

FRAME

The frame shall consist of double rails running parallel to each other with cross members forming a ladder style frame. The frame rails shall be formed in the shape of a "C" channel, with the outer rail measuring 10.25 inches high X 3.50 inches deep upper and lower flanges X 0.38 inches thick with an inner channel of 9.44 inches high X 3.13 inches deep and 0.38 inches thick. Each rail shall be constructed of 110,000 psi minimum yield high strength low alloy steel. Each double rail section shall be rated by a Resistance Bending Moment (RBM) minimum of 3,213,100 inch pounds and have a minimum section modulus of 29.21 cubic inches. The frame shall measure 35.00 inches in width.

Proposals calculating the frame strength using the "box method" shall not be considered.

Proposals including heat treated rails shall not be considered. Heat treating frame rails produces rails that are not uniform in their mechanical properties throughout the length of the rail. Rails made of high strength, low alloy steel are already at the required yield strength prior to forming the rail.

A minimum of seven (7) fully gusseted 0.25 inch thick cross members shall be installed. The inclusion of the body mounting, or bumper mounting shall not be considered as a cross member. The cross members shall be attached using zinc coated grade 8 fasteners. The bolt heads shall be flanged type, held in place by distorted thread flanged lock nuts. Each cross member shall be mounted to the frame rails utilizing a minimum of 0.25 inch thick gusset reinforcement plates at all corners balancing the area of force throughout the entire frame.

Any proposals not including additional reinforcement for each cross member shall not be considered.

All relief areas shall be cut in with a minimum 2.00 inch radius at intersection points with the edges ground to a smooth finish to prevent a stress concentration point.

REAR TOW DEVICE

Two (2) heavy duty painted tow eyes shall be installed extending rearward from the frame at the rear of the chassis. The tow eyes shall be fabricated from 0.75 inch thick #1020 ASTM-36 hot rolled steel. The inside diameter of the tow eye shall be 2.00 inches and shall have a chamfered edge. The tow eyes shall be bolted one (1) on each side to the outside of the chassis frame with grade 8 bolts. The tow eyes shall be painted to match the chassis frame.





EMERGENCY RESPONSE

REV GROUP

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FRAME PAINT

The frame rails shall be hot dip galvanized prior to assembly and attachment of any components. The components that shall be galvanized shall include:

- Main frame “C” channel or channels

The frame parts which are not galvanized shall be powder coated prior to any attachment of components. Parts which shall be powder coated shall include but are not limited to:

- Steering gear bracket
- Front splayed rails and fish plates
- Bumper extensions
- Cross members
- Cross member gussets
- Fuel tank mounting brackets
- Fuel tank straps (unless material/finish is specified in 3130 subcat)
- Air tanks (unless color coded tanks are specified in 3205 subcat)
- Air tank mounting brackets
- Exhaust mounting brackets
- Air cleaner skid plate
- Radiator skid plate
- Battery supports, battery trays and battery covers

Other non-galvanized under carriage components which are received from the suppliers with coatings already applied shall include but are not limited to:

- Suspension components
- Front and rear axles

All powder coatings, primers and paint used on the non-galvanized components shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 shall not have a fail of more than ten (10) squares. The pencil hardness test per ASTM D3363 shall have a final post-cured pencil hardness of H-2H. The direct impact resistance test per ASTM D2794 shall have an impact resistance of 120.00 inches per pound at 2 mils.

FRAME PAINT - MISCELLANEOUS

There shall be an RTV type sealant applied to the seams between the frame rail and the frame liner(s) to help prevent water intrusion between the frame rails. The sealant shall be applied to all seams along the length of the frame and at the top, front, and rear ends of the liner(s). The sealant shall be applied after the frame rails have been assembled and painted.





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FRAME ASSEMBLY STRUCTURAL

Purchaser shall receive a Frame Assembly Structural Twenty (20) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0304. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

FRAME RAIL CORROSION

Purchaser shall receive a Frame Rail Corrosion (Zinc Plate and Powder Coat) Twenty Five (25) Years or 150,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0316. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

FRAME COMPONENTS CORROSION

Purchaser shall receive a Frame Components Corrosion (Powder Coat) Three (3) Years or 48,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0313. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

FRONT BUMPER

The chassis shall be equipped with a severe duty front bumper constructed from structural steel channel. The bumper material shall be 0.38 thick ASTM A36 steel which shall measure 12.00 inches high with a 3.05 inch flange and shall be 99.00 inches wide with angled front corners.

The bumper shall be primed and painted as specified.

FRONT BUMPER EXTENSION LENGTH

The front bumper shall be extended approximately 18.00 inches ahead of the cab.

FRONT BUMPER PAINT

The front bumper shall be painted the same as the lower cab color. The front bumper trim shall feature a black spray on bedliner coating.

FRONT BUMPER TRIM

A stainless steel trim angle, painted to the customer's specifications, shall be installed on the top corner of the bumper across the front and on the top corner of the bumper tails. The trim angle shall measure 1.10 inches wide on the horizontal flange and 1.60 inches tall on the vertical flange. The trim shall be affixed to the bumper, below the apron without holes and fasteners.





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE REV GROUP

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FRONT BUMPER APRON

The 18.00 inch extended front bumper shall include an apron constructed of 0.19 inch thick embossed aluminum tread plate.

The apron shall be installed between the bumper and the front face of the cab affixed using stainless steel bolts attaching the apron to the top bumper flange.

FRONT BUMPER DISCHARGE

The bumper apron shall include a 2.00 inch diameter plumbed line intended for use as a discharge trash line. The discharge line shall be routed through the right side bumper apron down the right hand rail to the area rear of the front axle, ahead of the battery box. The discharge shall terminate vertically through the right side apron position with a, 2.00 inch NPT (national pipe thread) x 2.00 inch NST (national standard thread) SST (stainless steel thread), Chicksan swivel to accommodate deployment of hose in different directions. The bumper apron shall feature an aluminum diamond plate Chicksan guard with two (2) rubber bump stops to prevent the Chicksan from contacting the cab. The smooth side of the guard shall feature a DA finish.

The discharge shall pipe shall be a, 2.00 inch stainless steel schedule 10 tube. The discharge shall include a Victaulic groove for connecting to the pump on the end of the tube.

The apparatus manufacturer shall plumb the discharge pipe to the pump and shall provide all valves as required.

FRONT BUMPER COMPARTMENT CENTER

The front bumper shall include a compartment in the bumper apron located in the center between the frame rails which may be used as a hose well. The compartment shall be constructed of 0.13 inch 5052-H32 grade aluminum and shall include drain holes in the bottom corners to allow excess moisture to escape. The compartment shall include a cover constructed of 0.19 inch thick bright embossed aluminum tread plate.

FRONT BUMPER COMPARTMENT COVER HARDWARE

The front bumper compartment cover(s) shall include gas cylinder stays which shall hold the cover open. Each cover shall be held in the closed position via a D-ring style latch.





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EMERGENCY RESPONSE

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MECHANICAL SIREN

The front bumper shall include an electro mechanical Federal Q2B™ siren, which shall be streamlined, chrome-plated and shall produce 123 decibels of sound at 10.00 feet. The Q2B™ siren produces a distinctive warning sound that is recognizable at long distances. A unique clutch design provides a longer coast down sound while reducing the amp draw to 100 amps. The siren shall measure 10.50 inches wide X 10.00 inches high X 14.00 inches deep. The siren shall include mounting hardware designed to recess or flush mount.

MECHANICAL SIREN LOCATION

The siren shall be recess mounted on the left side of the front fascia of the bumper approximately in the center of the flat surface between the bumper radius and the frame rail.

MECHANICAL SIREN ACCESSORIES

The front of the siren shall include (2) stainless steel flat bars approximately 1.00 inch wide by 19.00 inches long. Each bar shall be placed vertically on the right and left side of the siren face wrapping around towards the back of the siren into the bumper extension offering protection to the Q2B siren.

AIR HORN

The chassis shall include two (2) Hadley brand E-Tone air horns which shall measure 24.00 inches long with a 6.00 inch round flare. The air horns shall be trumpet style with a chrome finish on the exterior and a painted finish deep inside the trumpet.

AIR HORN LOCATION

The air horns shall be recess mounted in the front bumper face on the right side of the bumper in the inboard and outboard positions relative to the right hand frame rail.

AIR HORN RESERVOIR

One (1) air reservoir, with a 1200 cubic inch capacity, shall be installed on the chassis to act as a supply tank for operating air horns. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.

ELECTRONIC SIREN SPEAKER

There shall be one (1) Whelen Engineering Inc. model SA314A, 100 watt speakers provided. The speaker shall measure 6.40 inches tall X 6.17 inches wide X 3.14 inches deep. The speaker shall have a natural cast aluminum finish and shall be installed using a polished custom Spartan grille.





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ELECTRONIC SIREN SPEAKER LOCATION

The electronic siren speaker shall be located on the front bumper face in the center position between the frame rails.

FRONT BUMPER TOW HOOKS

Two (2) heavy duty tow hooks, painted to match the frame components, shall be installed in the rearward position out of the approach angle area, bolted directly to the side of each chassis frame rail with grade 8 bolts.

CAB TILT SYSTEM

The entire cab shall be capable of tilting approximately 45-degrees to allow for easy maintenance of the engine and transmission. The cab tilt pump assembly shall be located on the right side of the chassis above the battery box.

The electric-over-hydraulic lift system shall include an ignition interlock and red cab lock down indicator lamp on the tilt control which shall illuminate when holding the "Down" button to indicate safe road operation.

It shall be necessary to activate the master battery switch and set the parking brake in order to tilt the cab. As a third precaution the ignition switch must be turned off to complete the cab tilt interlock safety circuit.

Two (2) spring-loaded hydraulic hold down hooks located outboard of the frame shall be installed to hold the cab securely to the frame. Once the hold-down hooks are set in place, it shall take the application of pressure from the hydraulic cab tilt lift pump to release the hooks.

Two (2) cab tilt cylinders shall be provided with velocity fuses in each cylinder port. The cab tilt pivots shall be 1.90 inch ball and be anchored to frame brackets with 1.25 inch diameter studs.

A steel safety channel assembly, painted safety yellow shall be installed on the right side cab lift cylinder to prevent accidental cab lowering. The safety channel assembly shall fall over the lift cylinder when the cab is in the fully tilted position. A cable release system shall also be provided to retract the safety channel assembly from the lift cylinder to allow the lowering of the cab.

CAB TILT LIMIT SWITCH

A cab tilt limit switch shall be installed. The switch will effectively limit the travel of the cab when being tilted. The limit adjustment of the switch shall be preset by the chassis manufacturer to prevent damage to the cab or any bumper mounted option mounted in the cab tilt arc. Further adjustment to the limit by the apparatus manufacturer shall be available to accommodate additional equipment.





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EMERGENCY RESPONSE

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CAB TILT CONTROL RECEPTACLE

The cab tilt control cable shall include a receptacle which shall be temporarily located on the right hand chassis rail rear of the cab to provide a place to plug in the cab tilt remote control pendant. The tilt pump shall include 8.00 feet of cable with a six (6) pin Deutsch receptacle with a cap.

The remote control pendant shall include 20.00 feet of cable with a mating Deutsch connector. The remote control pendant shall be shipped loose with the chassis.

CAB TILT LOCK DOWN INDICATOR

The cab dash shall include a message located within the dual air pressure gauge which shall alert the driver when the cab is unlocked and ajar. The alert message shall cease to be displayed when the cab is in the fully lowered position and the hold down hooks are secured and locked to the cab mounts.

In addition to the alert message an audible alarm shall sound when the cab is unlocked and ajar with the parking brake released.

CAB WINDSHIELD

The cab windshield shall have a surface area of 2825.00 square inches and be of a two (2) piece wraparound design for maximum visibility.

The glass utilized for the windshield shall include standard automotive tint. The left and right windshield shall be fully interchangeable thereby minimizing stocking and replacement costs.

Each windshield shall be installed using black self locking window rubber.





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EMERGENCY RESPONSE REV GROUP

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GLASS FRONT DOOR

The front cab doors shall include a window which is 27.00 inches in width X 26.00 inches in height. These windows shall have the capability to roll down completely into the door housing. This shall be accomplished using electric actuation. The left and right front door windows shall be controlled using a switch on each respective side inner door panel. The driver's door shall include a switch for each powered door window in the cab.

There shall be an irregular shaped fixed window which shall measure 2.50 inches wide at the top, 8.00 inches wide at the bottom X 26.00 inches in height, more commonly known as "cozy glass" ahead of the front door roll down windows.

The windows shall be mounted within the frame of the front doors trimmed with a black anodized ring on the exterior.

Each front door window shall include patent pending heated glass technology to reduce fogging with a switch on the dash.

GLASS TINT FRONT DOOR

The windows located in the left and right front doors shall have a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.

GLASS REAR DOOR RH

The rear right hand side crew door shall include a window which is 27.00 inches in width X 26.00 inches in height. The window shall be a powered type and shall be controlled by a switch on the door panel ledge and on the driver's control panel.

GLASS TINT REAR DOOR RIGHT HAND

The window located in the right hand side rear window shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

GLASS REAR DOOR LH

The rear left hand side crew door shall include a window which is 27.00 inches in width X 26.00 inches in height. The window shall be a powered type and shall be controlled by a switch on the door panel ledge and on the driver's control panel.





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GLASS TINT REAR DOOR LEFT HAND

The window located in the left hand side rear door shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

GLASS SIDE MID RH

The cab shall include a window on the right side behind the front and ahead of the crew door which shall measure 16.00 inches wide X 26.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a green automotive tint unless otherwise noted.

GLASS TINT SIDE MID RIGHT HAND

The window located on the right hand side of the cab between the front and rear doors shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

GLASS SIDE MID LH

The cab shall include a window on the left side behind the front door and ahead of the crew door and above the wheel well which shall measure 16.00 inches wide X 26.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a green automotive tint unless otherwise noted.

GLASS TINT SIDE MID LEFT HAND

The window located on the left hand side of the cab between the front and rear doors shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.





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EMERGENCY RESPONSE

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CLIMATE CONTROL

A ceiling mounted combination defroster and cabin heating and air conditioning system shall be located above the engine tunnel area. The system covers and plenums shall be of severe duty design made of aluminum which shall be coated with a customer specified interior paint. The design of the system's covers shall provide quick access to washable air intake filters as well as easy access to other serviceable items.

Six (6) adjustable louvers shall provide comfort for the front seat occupants and ten (10) adjustable louvers shall provide comfort for the rear crew occupants. The plenum shall be shortened to terminate in the mid crew area on cabs with 10.00 inch raised roofs and greater. This shortened plenum shall allow for the customer to utilize the upper rear center wall for compartmentation, equipment, or apparatus operations.

Separate front and rear blower motors shall be of brushless design and shall be controlled independently. It shall be capable of reducing the interior cabin air temperature from 122° F (+/- 3° F) to 80° F in thirty minutes with 50% relative humidity and full solar load as described in SAE J2646.

The system shall also provide heater pull up performance which meets or exceeds the performance requirements of SAE J1612 as well as defrost performance that meets or exceeds the performance requirements of SAE J381.

A gravity drain system shall be provided that is capable of evacuating condensate from the vehicle while on a slope of up to a 13% grade in any direction.

The air conditioning system plumbing shall be a mixture of custom bent zinc coated steel fittings and Aeroquip flexible hose with Aeroquip EZ-Clip fittings.

The overhead heater/defroster plumbing shall include an electronic flow control valve that re-directs hot coolant away from the evaporator, via a bypass loop, as the temperature control is moved toward the cold position.

Any component which needs to be accessed to perform system troubleshooting shall be accessible by one person using basic hand tools. Regularly serviced items shall be replaceable by one person using basic hand tools.

*****The chassis manufacturer recommends that the overall climate system performance be based off third-party testing in accordance with the Society of Automotive Engineering standards as a complete system.***

Individual component level BTU ratings is not an accurate indicator of the performance capability of the completed system. System individual component BTU ratings:

- Air conditioning evaporator total BTU/HR: 82,000





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- Air conditioning condenser total BTU/HR: 59,000
- Heater coil total BTU/HR: 98,000

Performance data specified is based on testing performed by an independent third-party test facility using a medium four-door 10” raised roof cab equipped with an ISL engine.

CLIMATE CONTROL DRAIN

The climate control system shall include a gravity drain for water management. The gravity drain shall remove condensation from the air conditioning system without additional mechanical assistance.

CLIMATE CONTROL ACTIVATION

The heating, defrosting and air conditioning controls shall be in the center dash center switch panel, in a position which is easily accessible to the driver. The climate control shall be activated by a rotary switch.

HVAC OVERHEAD COVER PAINT

The overhead HVAC cover shall be painted with a multi-tone silver gray texture finish.

AUXILIARY CLIMATE CONTROL FRONT UNDERSEAT

Two (2) 13,500 BTU heaters shall be provided and installed in the face of the seat riser storage area for the left and right front seats, one (1) each side. The heater fan controls shall be individual switches located in the rocker switch area of the dash.

The auxiliary heater system hoses shall be silicone with stainless steel constant torque clamps approved for use with silicone hose. All defrost/heating systems shall be plumbed with one (1) seasonal shut-off valve at the front corner on the right side of the cab. The cab must be tilted to access the shut-off valve.

A/C CONDENSER LOCATION

A roof mounted A/C condenser shall be installed centered on the cab forward of the raised roof against the slope rise.





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A/C COMPRESSOR

The air-conditioning compressor shall be a belt driven, engine mounted compressor. The compressor shall be compatible with R134-a refrigerant.

***The chassis manufacturer recommends that the overall climate system performance be based off third-party testing in accordance with the Society of Automotive Engineering standards as a complete system.*

Individual component level ratings are not an accurate indicator of the performance capability of the completed system.

Refrigerant Compressor displacement: 19.1 cubic inches per revolution.

CAB CIRCULATION FANS FRONT

The cab shall include two (2) all metal 6.00 inch air circulation fans installed in the outer front cab corners. Each fan shall be controlled by an individual toggle switch on each fan. The fans can be used to help defog the windshield or to increase air circulation for passenger comfort.

UNDER CAB INSULATION

The underside of the cab tunnel surrounding the engine shall be lined with multi-layer insulation, engineered for application inside diesel engine compartments.

The insulation shall act as a noise barrier, absorbing noise thus keeping the decibel level in the cab well within NFPA recommendations. As an additional benefit, the insulation shall assist in sustaining the desired temperature within the cab interior.

The engine tunnel insulation shall measure approximately 0.30 inch thick including a multi-layer foil faced glass cloth and polyester fiber layer. The foil surface acts as protection against heat, moisture and other contaminants. The insulation shall meet or exceed FMVSS 302 flammability test.

The insulation shall be cut precisely to fit each section and sealed for additional heat and sound deflection. The insulation shall be held in place by acrylic pressure sensitive adhesive.

INTERIOR TRIM FLOOR

The floor of the cab shall be covered with a multi-layer mat consisting of 0.25 inch thick sound absorbing closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The covering shall be held in place by a pressure sensitive adhesive and aluminum trim molding. All exposed seams shall be sealed with silicone caulk matching the color of the floor mat to reduce the chance of moisture and debris retention.





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INTERIOR TRIM

The cab interior shall include trim on the front ceiling, rear crew ceiling, and the cab walls. It shall be easily removable to assist in maintenance. The trim shall be constructed of insulated vinyl over a hard board backing.

REAR WALL INTERIOR TRIM

The rear wall of the cab shall be trimmed with aluminum sheet metal coated with a customer specified interior paint or protective coating.

HEADER TRIM

The cab interior shall feature header trim over the driver and officer dash constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum.

TRIM CENTER DASH

The main center dash area shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate. There shall be four (4) holes located on the top of the dash near each outer edge of the electrical access cover for ventilation. The center dash electrical access cover shall include a gas cylinder stay which shall hold the cover open during maintenance.

TRIM LH DASH

The left hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate for a perfect fit around the instrument panel. For increased occupant protection the extreme duty left hand dash utilizes patent pending break away technology to reduce rigidity in the event of a frontal crash. The left hand dash shall offer lower vertical surface area to the left and right of the steering column to accommodate control panels.

TRIM RH DASH

The right hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate and shall include a glove compartment with a hinged door and a Mobile Data Terminal (MDT) provision. The glove compartment size will measure 14.00 inches wide X 6.38 inches high X 5.88 inches deep. The MDT provision shall be provided above the glove compartment.

ENGINE TUNNEL TRIM

The cab engine tunnel shall be covered with a multi-layer mat consisting of 0.25 inch closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The mat shall be held in place by pressure sensitive adhesive. The engine tunnel mat shall be trimmed with anodized aluminum stair nosing trim for an aesthetically pleasing appearance.





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SPARTAN STAR SERIES PUMPER SPECIFICATION

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POWER POINT DASH MOUNT

The cab shall include one (1) 12 volt cigarette lighter type receptacles in the switch panel to provide a power source for 12 volt electrical equipment. The cab shall also include two (2) Blue Sea dual universal serial bus (USB) charging receptacles in the cab dash switch panel to provide a power source for USB chargeable electrical equipment. The USB ports shall be capable of a 5 Volt-2.1 amp total output. The receptacles shall be wired battery direct.

STEP TRIM

Each cab entry door shall include a three step entry. The first step closest to the ground shall be constructed of polished 5032 H32 aluminum Grip Strut® grating with angled outer corners. The step shall feature a splash guard to reduce water and debris from splashing in to the step. The splash guard shall have an opening on the outer edge to allow debris and water to flow through rather than becoming trapped within the stepping surface. The lower step shall be mounted to a frame which is integral with the construction of the cab for rigidity and strength. The middle step shall be integral with the cab construction and shall be trimmed with a Flex-Tred® adhesive grit surface material.

STEP TRIM KICKPLATE

The cab steps shall include a kick plate in the rise of each step. The risers shall be trimmed in 3003-H22 bright aluminum tread-plate which is 0.07 inch thick.

UNDER CAB ACCESS DOOR

The cab shall include an aluminum access door in the left crew step riser painted to match the cab interior paint with a push and turn latch. The under cab access door shall provide access to the diesel exhaust fluid fill.

INTERIOR DOOR TRIM

The interior trim on the doors of the cab shall consist of an aluminum panel constructed of Marine Grade 5052-H32 0.13 of an inch thick aluminum plate. The door panels shall include a painted finish.

DOOR TRIM CUSTOMER NAMEPLATE

The interior door trim on the front doors shall include a customer nameplate which states the vehicle was custom built for their Department.





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EMERGENCY RESPONSE REV GROUP

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CAB DOOR TRIM REFLECTIVE

The interior of each door shall include high visibility reflective tape. A white reflective tape shall be provided vertically along the rear outer edge of the door. The lowest portion of each door skin shall include a reflective tape chevron with red and white stripes and a Spartan logo. The chevron tape shall measure 6.00 inches in height.

INTERIOR GRAB HANDLE "A" PILLAR

There shall be two (2) rubber covered 11.00 inch grab handles installed inside the cab, one on each "A" post at the left and right door openings. The left handle shall be located 7.88 inches above the bottom of the door window opening and the right handle shall be located 2.88 inches above the bottom of the door window opening. The handles shall assist personnel in entering and exiting the cab.

INTERIOR GRAB HANDLE FRONT DOOR

Each front door shall include one (1) ergonomically contoured 9.00 inch cast aluminum handle mounted horizontally on the interior door panels. The handles shall feature a textured black powder coat finish to assist personnel entering and exiting the cab.

INTERIOR GRAB HANDLE REAR DOOR

A black powder coated cast aluminum assist handle shall be provided on the inside of each rear crew door. A 30.00 inch long handle shall extend horizontally the width of the window just above the window sill. The handle shall assist personnel in exiting and entering the cab.

INTERIOR SOFT TRIM COLOR

The cab interior soft trim surfaces shall be gray in color.

INTERIOR TRIM SUNVISOR

The header shall include two (2) sun visors, one each side forward of the driver and officer seating positions above the windshield. Each sun visor shall be constructed of Masonite and covered with padded vinyl trim.

INTERIOR FLOOR MAT COLOR

The cab interior floor mat shall be gray in color.

CAB PAINT INTERIOR DOOR TRIM

The inner door panel surfaces shall be painted with multi-tone silver gray texture finish.





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EMERGENCY RESPONSE

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HEADER TRIM INTERIOR PAINT

The metal surfaces in the header area shall be coated with multi-tone silver gray texture finish.

TRIM CENTER DASH INTERIOR PAINT

The entire center dash shall be coated with multi-tone silver gray texture finish. Any accessory pods attached to the dash shall also be painted this color.

TRIM LH DASH INTERIOR PAINT

The left hand dash shall be painted with a multi-tone silver gray texture finish.

TRIM RIGHT HAND DASH INTERIOR PAINT

The right hand dash shall be painted with multi-tone silver gray texture finish.

REAR WALL INTERIOR PAINT

The rear wall of the cab shall be trimmed with aluminum sheet metal coated with a multi-tone silver gray texture finish.

DASH PANEL GROUP

The main center dash area shall include three (3) removable panels located one (1) to the right of the driver position, one (1) in the center of the dash and one (1) to the left of the officer position. The center panel shall be within comfortable reach of both the driver and officer.

SWITCHES CENTER PANEL

The center dash panel shall include six (6) switch positions in the upper left portion of the panel.

A rocker switch with a blank legend installed directly above shall be provided for any position without a switch and legend designated by a specific option. The non-specified switches shall be two-position, black switches with a green indicator light. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.





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SWITCHES LEFT PANEL

The left dash panel shall include three (3) switches. There shall be two (2) across the top of the panel with one (1) below. One (1) of the top row of switches shall be rocker type and the left one (1) shall be the windshield wiper/washer control switch. The lower switch shall be a rocker type switch.

A rocker switch with a blank legend installed directly above shall be provided for any position not designated by a specific option. The non-designated switches shall be two-position, black switches with a green indicator light. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.

SWITCHES RIGHT PANEL

The right dash panel shall include three (3) rocker switch positions in a single row configuration.

A rocker switch with a blank legend installed directly above shall be provided for any position without a switch and legend designated by a specific option. The non-specified switches shall be two-position, black switches with a green indicator light. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.

SEAT BELT WARNING

A Weldon seat belt warning system, integrated with the Vehicle Data Recorder system, shall be installed for each seat within the cab. The system shall provide a visual warning indicator in the Vista display and control screen(s).

The warning system shall activate when any seat is occupied with a minimum of 60 pounds, the corresponding seat belt remains unfastened, and the park brake is released. The warning system shall also activate when any seat is occupied, the corresponding seat belt was fastened in an incorrect sequence, and the park brake is released. Once activated, the visual indicators and applicable audible alarm shall remain active until all occupied seats have the seat belts fastened.

SEAT MATERIAL

The Bostrom Firefighter seats shall include a covering of extra high strength, wear resistant fabric made of durable low seam Durawear Plus™ ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids. Durawear Plus™ meets or exceeds specification of the common trade name Imperial 1800. The material meets FMVSS 302 flammability requirements.

If applicable, Theatre style seats located in the cab shall be high strength, wear resistant fabric made of durable ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids. Common trade names for this material are Imperial 1200 and Durawear.





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SEAT COLOR

All seats supplied with the chassis shall be gray in color. All seats shall include red seat belts.

SEAT BACK LOGO

The seat back shall include the “Spartan” logo. The logo shall be centered on the standard headrest of the seat back and on the left side of a split headrest.

SEAT DRIVER

The driver's seat shall be an H.O. Bostrom 500 Series Firefighter Sierra model seat with air suspension. The four-way seat shall feature a 3.00 inches vertical travel air suspension and manual fore and aft adjustment with 5.00 inches of travel. The suspension control shall be located on the seat below the left front corner of the bottom cushion. The seat shall also feature integral springs to isolate shock.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.

This model of seat shall have successfully completed the static load tests set forth by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208.

The materials used in construction of the seat shall also have successfully completed testing with regard to the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which dictates the allowable burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK DRIVER

The driver’s seat shall include a standard seat back incorporating the all belts to seat feature (ABTS) as described above. The seat back shall recline up to 19-degrees.

SEAT MOUNTING DRIVER

The driver’s seat shall be installed in an ergonomic position in relation to the cab dash.





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OCCUPANT PROTECTION DRIVER

The driver's position shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

The driver's seating area APS shall include:

- Advanced seat belt system - retractor pre-tensioner tightens the seat belt around the driver, securing the occupant in the seat and the load limiter plays out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.
- Large side curtain airbag - protects the driver's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to the driver in a qualifying event by covering the window and the upper portion of the door.
- Dual knee airbags (patent pending) with energy management mounting (patent pending) - protects the driver's lower body from dangerous surface contact injuries, acceleration injuries, and from intrusion as well as locks the lower body in place so the upper body shall be slowed by the load limiting seat belt.
- Steering wheel airbag - protects the driver's head, neck, and upper torso from contact injuries, acceleration injuries, and contact points with intrusive surfaces as a result of a collision.

SEAT OFFICER

The officer's seat shall be an H.O. Bostrom 500 Series Sierra model seat. The seat shall feature two-way manual adjustment and shall include a tapered and padded seat cushion. The seat shall also feature integral springs to isolate shock.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt, automatic retractor and buckle as an integral part of the seat assembly. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.

The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 35.00.

This model of seat shall have successfully completed the static load tests by FMVSS 207, 209, 210 and 302 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. The model of seats shall also have successfully completed the flammability of materials used in the





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occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK OFFICER

The officer's seat back shall include an IMMI brand SmartDock® Gen 2 hands-free self contained breathing apparatus (SCBA) holder. The hands-free holder shall meet NFPA 1901-03 9G dynamic requirements for cylinder restraint systems for use in crew compartments of emergency response vehicles. The bracket shall accommodate and secure most types of self-contained breathing apparatus cylinders.

The hands-free holder shall consist of a back plate, bottom cradle, non-marring top claws, and claw height adjustment knob. The height adjustment knob shall allow for easy adjustment of the claws to the SCBA. The hands-free holder's claws shall lock from inertial forces to prevent the SCBA from becoming a projectile in the event of a crash to meet the NFPA 1901-03 standard for SCBA retention. The SCBA holder shall offer single-motion insertion into the claws and hands-free release when the SCBA fitted seat occupant rises.

The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.

SEAT MOUNTING OFFICER

The officer's seat shall offer a special mounting position which is 2.00 inches rearward of the standard location offering increased leg room for the occupant.

OCCUPANT PROTECTION OFFICER

The officer's position shall be equipped with the Advanced Protection System™ (APS). The APS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the APS shall also provide ejection mitigation protection.

The officer's seating area APS shall include:

- Advanced seat belt system - retractor pre-tensioner tightens the seat belt around the officer, securing the occupant in the seat and the load limiter plays out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.
- Large side curtain airbag - protects the officer's head, neck, and upper body from dangerous cab side surfaces and contact points with intrusive surfaces as a result of a collision as well as provides ejection mitigation protection to the officer in a qualifying event by covering the window and the upper portion of the door.





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- Knee airbags - protects the officer's lower body from dangerous surface contact injuries, acceleration injuries, and from contact points with intrusive surfaces as a result of a collision as well as locks the lower body in place so the upper body shall be slowed by the load limiting seat belt.

SEAT BELT ORIENTATION CREW

The crew position seat belts shall follow the standard orientation which extends from the outboard shoulder extending to the inboard hip.

SEAT REAR FACING OUTER LOCATION

The crew area shall include two (2) rear facing crew seats, which include one (1) located directly behind the left side front seat and one (1) located directly behind the right side front seat.

SEAT CREW REAR FACING OUTER

The crew area shall include a seat in the rear facing outboard position which shall be a H.O. Bostrom 500 Series Firefighter model seat. The seat shall feature a tapered and padded seat, and cushion. The seat and cushion shall be spring load hinged and compact in design for additional room. The seat shall include a "Fold and Hold" feature so that the cushion shall remain in the seated position and simply touched to flip up.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.

The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall be 35.00 inches.

This model of seat shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.





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SEAT BACK REAR FACING OUTER

The crew area seat backs shall include an IMMI brand SmartDock® Gen 2 hands-free self contained breathing apparatus (SCBA) holder. The hands-free holder shall meet NFPA 1901-03 9G dynamic requirements for cylinder restraint systems for use in crew compartments of emergency response vehicles. The bracket shall accommodate and secure most types of self-contained breathing apparatus cylinders.

The hands-free holder shall consist of a back plate, bottom cradle, non-marring top claws, and claw height adjustment knob. The height adjustment knob shall allow for easy adjustment of the claws to the SCBA. The hands-free holder's claws shall lock from inertial forces to prevent the SCBA from becoming a projectile in the event of a crash to meet the NFPA 1901-03 standard for SCBA retention. The SCBA holder shall offer single-motion insertion into the claws and hands-free release when the SCBA fitted seat occupant rises.

The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.

SEAT MOUNTING REAR FACING OUTER

The rear facing outer seats shall offer special mounting positions which shall be 2.00 inches towards the rear wall offering additional space between the front seats and the outer rear facing seats.

SEAT FRAME FORWARD FACING

The forward facing center seating positions shall include a full width seat frame located and installed at the rear wall. The seat frame shall span the available space on the rear wall. The seat frame shall be 12.38 inches high X 22.00 inches deep. The seat frame shall be constructed of Marine Grade 5052-H32 0.19 inch thick aluminum plate. The seat box shall be painted with the same color as the remaining interior.

SEAT FRAME FORWARD FACING STORAGE ACCESS

There shall be one (1) access point to the storage area centered on the front of the seat frame. This access point shall be covered by a hinged door to allow access for storage in the seat box.

SEAT FRAME EXTERIOR REAR COMPARTMENT ACCESS

The seat frame shall be open to the exterior rear compartment on both the right hand side and the left hand side. This shall allow interior access to the left and right exterior rear compartments.

CAB FRONT UNDERSEAT STORAGE ACCESS

The left and right under seat storage areas shall have a vented aluminum hinged door with non-locking latch.





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SEAT COMPARTMENT DOOR FINISH

All underseat storage compartment access doors shall have a multi-tone silver gray texture finish.

WINDSHIELD WIPER SYSTEM

The cab shall include a triple arm linkage wiper system which shall clear the windshield of water, ice and debris. There shall be two (2) windshield wipers; each shall be affixed to a radial arm. The wiper motor shall be activated by an intermittent wiper control located within easy reach of the driver's position. The windshield wipers shall be interlocked with the park brake allowing activation only when the park brake is released.

ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR

The windshield washer fluid level shall be monitored electronically. When the washer fluid level becomes low the yellow "Check Message Center" indicator light on the instrument panel shall illuminate and the message center in the dual air pressure gauge shall display a "Check Washer Fluid Level" message.

CAB DOOR HARDWARE

The cab entry doors shall be equipped with exterior pull handles, suitable for use while wearing firefighter gloves. The handles shall be made of aluminum with a chrome plated finish.

The interior exit door handles shall be flush paddle type with a black finish, which are incorporated into the upper door panel.

All cab entry doors shall include locks which are keyed alike. The door locks shall be designed to prevent accidental lockout.

The exterior pull handles shall include a scuff plate behind the handle constructed of polished stainless steel to help protect the cab finish.

DOOR LOCKS

Each cab entry door shall include a manually operated door lock. Each door lock may be actuated from the inside of the cab by means of a red knob located on the paddle handle of the respective door or by using a TriMark key from the exterior. The door locks are designed to prevent accidental lock out.

DOOR LOCK LH REAR CAB COMPARTMENT

The left hand side rear compartment shall feature a manual door lock.





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DOOR LOCK RH REAR CAB COMPARTMENT

The right hand side rear compartment shall feature a manual door lock.

GRAB HANDLES

The cab shall include one (1) 18.00 inch knurled, anti-slip, one-piece exterior assist handle behind each cab door. The grab handle shall be made of SAE 304 stainless steel and be 1.25 inch diameter to enable non-slip assistance with a gloved hand.

REARVIEW MIRRORS

Ramco model CRM-310-1350-PCHR bus style mirrors shall be provided. The mirror heads shall be injection molded chrome plated ABS plastic and shall measure 9.75 inches wide X 13.50 inches high. The mirrors shall be mounted one (1) on each the driver and officer doors of the cab with polished die-cast aluminum arms.

The mirrors shall feature an upper heated remote controlled flat glass and a lower heated remote controlled convex glass. The mirror control switches shall be located within easy reach of the driver. The mirrors shall be manufactured using the finest quality non-glare glass and shall feature a rigid mounting thereby reducing vibration. The mirrors shall be corrosion free under all weather conditions.

REARVIEW MIRROR HEAT SWITCH

The heat for the rearview mirrors shall be controlled through a rocker switch on the dash in the switch panel.

EXTERIOR TRIM REAR CORNER

There shall be mirror finish stainless steel scuff plates on the outside corners at the back of the cab. The stainless steel plate shall be affixed to the cab using two sided adhesive tape.

CAB FENDER

Full width wheel well liners shall be installed on the extruded cab to limit road splash and enable easier cleaning. Each two-piece liner shall consist of an inner liner 16.00 inches wide made of vacuum formed ABS composite and an outer fenderette 5.00 inches wide made of SAE 304 polished stainless steel.

MUD FLAPS FRONT

The front wheel wells shall have mud flaps installed on them.





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EMERGENCY RESPONSE

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CAB EXTERIOR FRONT & SIDE EMBLEMS

The cab shall include three (3) Spartan emblems. There shall be one (1) installed on the front air intake grille and one (1) emblem on each of the cab sides. The cab shall also include one (1) Advanced Protection System shield emblem on each front door.

IGNITION

A master battery system with a keyless start ignition system shall be provided. Each system shall be controlled by a one-quarter turn Cole Hersee switch, both of which shall be mounted to the left of the steering wheel on the dash. A chrome push type starter button shall be provided adjacent to the master battery and ignition switches.

Each switch shall illuminate a green LED indicator light on the dash when the respective switch is placed in the "ON" position.

The starter button shall only operate when both the master battery and ignition switches are in the "ON" position.

BATTERY

The single start electrical system shall include six (6) Harris BCI 31 925 CCA batteries with a 210 minute reserve capacity and 4/0 welding type dual path starter cables per SAE J541.

BATTERY TRAY

The batteries shall be installed within two (2) stainless steel battery trays located on the left side and right side of the chassis, securely bolted to the frame rails. The battery trays shall be coated with the same material as the frame.

The battery trays shall include drain holes in the bottom for sufficient drainage of water. A durable, non-conducting, interlocking mat made by Dri-Dek shall be installed in the bottom of the trays to allow for air flow and help prevent moisture build up. The batteries shall be held in place by non-conducting phenolic resin hold down boards.

BATTERY BOX COVER

Each battery box shall include a stainless steel cover which protects the top of the batteries. Each cover shall include flush latches which shall keep the cover secure as well as a black powder coated handle for convenience when opening.





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BATTERY CABLE

The starting system shall include cables which shall be protected by 275 degree F. minimum high temperature flame retardant loom, sealed at the ends with heat shrink and sealant.

BATTERY JUMPER STUD

The starting system shall include battery jumper studs. These studs shall be located in the forward most portion of the driver's side lower step, 8.00 inches apart. The studs shall allow the vehicle to be jump started, charged, or the cab to be raised in an emergency in the event of battery failure.

ALTERNATOR

The charging system shall include a 320 amp Leece-Neville 12 volt alternator. The alternator shall include a self-exciting integral regulator.

STARTER MOTOR

The single start electrical system shall include a Delco brand starter motor.

BATTERY CONDITIONER

A Kussmaul Auto Charge 40 LPC battery conditioner shall be supplied. The battery conditioner shall provide a 40 amp output for the chassis batteries and a 15 amp output circuit for accessory loads. The battery conditioner shall be mounted in the cab in the LH rear facing outer seating position.

BATTERY CONDITIONER DISPLAY

A Kussmaul battery conditioner display shall be supplied. The battery conditioner display shall be mounted in the cab, viewable through the cab mid side window behind the left front door.

AUXILIARY AIR COMPRESSOR

A Kussmaul Auto Pump 120V air compressor shall be supplied. The air compressor shall be installed behind the officer's seat. The air compressor shall be plumbed to the air brake system to maintain air pressure.

ELECTRICAL INLET LOCATION

An electrical inlet shall be installed on the left hand side of cab over the wheel well.





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ELECTRICAL INLET

A Kussmaul 20 amp super auto-eject electrical receptacle shall be supplied. It shall automatically eject the plug when the starter button is depressed.

A single item or an addition of multiple items must not exceed the rating of the electric inlet that it's connected to.

Amp Draw Reference List:

Kussmaul 40 LPC Charger - 5 Amps

Kussmaul 40/20 Charger - 8.5 Amps

Kussmaul 80 LPC Charger - 13 Amps

Kussmaul EV-40 - 6.2 Amps

Blue Sea P12 7532 - 7.5 Amps

Iota DLS-45/IQ4 - 11 Amps

1000W Engine Heater - 8.33 Amps

1500W Engine Heater - 12.5 Amps

120V Air Compressor - 4.2 Amps

120V Dometic HVAC - 15 Amps

ELECTRICAL INLET CONNECTION

The electrical inlet shall be connected to the battery conditioner and the air pump.

ELECTRICAL INLET COLOR

The electrical inlet connection shall include a red cover.

HEADLIGHTS

The cab front shall include four (4) rectangular LED headlamps with separate high and low beams mounted in bright chrome bezels. Each lamp shall include a heating system that de-ices the headlight.

HEADLIGHT LOCATION

The headlights shall be located on the front fascia of the cab directly below the front warning lights.

FRONT TURN SIGNALS

The front fascia shall include two (2) Whelen model 600 4.00 inches X 6.00 inches programmable amber LED turn signals which shall be installed in an outboard position within the front fascia chrome bezel.





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SIDE TURN/MARKER LIGHTS

The sides of the cab shall include two (2) Whelen OS LED side marker lights which shall be provided just behind the front cab radius corners.

MARKER AND ICC LIGHTS

In accordance with FMVSS, there shall be five (5) marker lamps on the front of the vehicle designating identification and clearance. There shall be five (5) face mounted lights integrated into the scene light.

HEADLIGHT AND MARKER LIGHT ACTIVATION

The headlights and marker lights shall be controlled via a virtual button on the Vista display. The headlights and daytime running lights shall turn off when the park brake is engaged. There shall be a virtual dimmer control on the Vista display to adjust the brightness of the dash lights. The headlamps shall be equipped with the "Daytime Running" light feature, which shall illuminate the headlights to 100% brilliance when the ignition switch is in the "On" position and the parking brake is released.

LIGHTBAR SWITCH

The light bar shall be controlled by a virtual button on the Vista display and control screen. This button shall be clearly labeled for identification.

INTERIOR OVERHEAD LIGHTS

The cab shall include a LED dome lamp located over each door. The lights shall include push switches on each lamp to activate both the clear and red portions of the light individually.

INTERIOR OVERHEAD LIGHTS ACTIVATION

The clear portion of each lamp shall be activated by opening the respective door and via the multiplex display.

LIGHTBAR PROVISION

There shall be one (1) light bar installed on the cab roof. The light bar shall be provided and installed by the chassis manufacturer. The light bar installation shall include a lowered mounting that shall place the light bar just above the junction box and wiring to a control switch on the cab dash.





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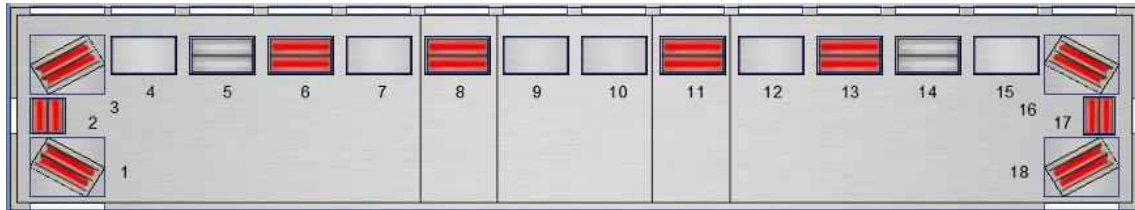
EMERGENCY RESPONSE

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CAB FRONT LIGHTBAR MODEL

The cab shall be provided with one (1) Whelen model F4N72 light bar. The light bar shall be 72.00 inches in length and feature eighteen (18) customizable pods.

See the light bar layout for specific details.



FRONT SCENE LIGHTS

The front of the cab shall include one (1) HiViz model FireTech FT-B-72-ML-W LED scene light installed on the brow of the cab. The light shall feature (5) five integrated marker lights.

The housing shall be powder coated white.

FRONT SCENE LIGHT LOCATION

There shall be one (1) scene light mounted center on the front brow of the cab.

FRONT SCENE LIGHTS ACTIVATION

The front scene lighting shall be activated by a virtual button on the Vista display and control screen.

SIDE SCENE LIGHTS

The side of the cab shall include two (2) Firetech model FT-GESM Guardian Elite LED scene lights, one (1) each side which shall be surface mounted with a chrome bezel.

SIDE SCENE LIGHT LOCATION

The scene lighting located on the left and right sides of the cab shall be mounted rearward of the cab “B” pillar in the 10.00 inch raised roof portion of the cab between the front and rear crew doors.

SIDE SCENE ACTIVATION

The scene lights shall be activated by two (2) virtual buttons on the Vista display and control screen(s), one (1) for each light, and by opening the respective side cab doors.





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GROUND LIGHTS

Each door shall include a Tecniq T44 LED ground light mounted to the underside of the cab step below each door. The lights shall include a polycarbonate lens, a housing which is vibration welded and LEDs which shall be shock mounted for extended life.

GROUND LIGHTS

The ground lighting shall be activated when the parking brake is set, by the opening of the door on the respective cab side, and when the truck is placed into reverse.

UNDER BUMPER LIGHTS

There shall be two (2) 4.00 inch round LED NFPA compliant ground lights mounted under the bumper. The lights shall include a polycarbonate lens, a housing which is vibration welded, and LEDs which shall be shock mounted for extended life. The under bumper ground lighting shall activate with the ground lights.

LOWER CAB STEP LIGHTS

The middle step located at each door shall include a Tecniq T44 LED light which shall activate with the opening of the respective door. The lights shall include a polycarbonate lens, a housing which is vibration welded and LEDs which shall be shock mounted for extended life.

INTERMEDIATE STEP LIGHTS

The intermediate step well area at the front doors shall include a TecNiq D06 LED light within a chrome housing. The front egress step lights shall provide visibility to the step well area for the first step exiting the vehicle. The Egress step lights shall activate with entry step lighting.

ENGINE COMPARTMENT LIGHT

There shall be a LED NFPA compliant light mounted under the engine tunnel for area work lighting on the engine. The light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life. The light shall activate automatically when the cab is tilted.





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DO NOT MOVE APPARATUS LIGHT

The front headliner of the cab shall include a flashing red TecNiq K50 LED light clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound while the light is activated.

The flashing red light shall be located centered left to right for greatest visibility.

The light and alarm shall be interlocked for activation when either a cab door is not firmly closed, or an apparatus compartment door is not closed, and the parking brake is released.

MASTER WARNING SWITCH

A master switch shall be included, as a virtual button on the Vista display and control screen which shall be labeled "E Master" for identification. The button shall feature control over all devices wired through it. Any warning device switches left in the "ON" position when the master switch is activated shall automatically power up.

HEADLIGHT FLASHER

An alternating high beam headlight flashing system shall be installed into the high beam headlight circuit which shall allow the high beams to flash alternately from left to right.

Deliberate operator selection of high beams will override the flashing function until low beams are again selected. Per NFPA, these clear flashing lights will also be disabled "On Scene" when the park brake is applied.

HEADLIGHT FLASHER SWITCH

The flashing headlights shall be activated through a virtual button on the Vista display and control screen.

INBOARD FRONT WARNING LIGHTS

The cab front fascia shall include two (2) Whelen C6 SurfaceMax™ series Super LED front warning lights in the left and right inboard positions. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the front fascia of the cab within a chrome bezel.

INBOARD FRONT WARNING LIGHTS COLOR

The warning lights mounted on the cab front fascia in the inboard positions shall be red with a clear lens.





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FRONT WARNING SWITCH

The front warning lights shall be controlled through a virtual control on the Vista display and control screen. This switch shall be clearly labeled for identification.

INTERSECTION WARNING LIGHTS

The chassis shall include two (2) Whelen C6 SurfaceMax series Super LED intersection warning lights, one (1) each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted within a chrome bezel.

INTERSECTION WARNING LIGHTS COLOR

The intersection lights shall be red with a clear lens.

INTERSECTION WARNING LIGHTS LOCATION

The intersection lights shall be mounted on the side of the bumper in the rearward position.

SIDE WARNING LIGHTS

The cab sides shall include two (2) Whelen C6 SurfaceMax series Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn. The lights shall be mounted to the sides of the cab within a chrome bezel.

SIDE WARNING LIGHTS COLOR

The warning lights located on the side of the cab shall be red.

SIDE WARNING LIGHTS LOCATION

The warning lights on the side of the cab shall be mounted over the front wheel well directly over the center of the front axle.

SIDE AND INTERSECTION WARNING SWITCH

The side warning lights shall be controlled through a virtual button on the Vista display and control screen. This button shall be clearly labeled for identification.





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EMERGENCY RESPONSE

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TANK LEVEL LIGHTS

There shall be two (2) FRC MaxVision surface mount water level light strips.

The light strips shall feature four (4) colors of LED lights to indicate the fluid level of a tank. The colors from top to bottom shall be green, blue, amber, and red.

TANK LEVEL LIGHTS ACTIVATION

The tank level lights shall be pre-wired and coiled at rear of the cab for connection to the apparatus by the body builder.

TANK LEVEL LIGHTS LOCATION

There shall be water level lights mounted on each side behind the rear cab doors at the rear edge of the cab.

ROTO-RAYS WARNING LIGHT

A Roto-Rays® warning light shall be provided on the cab. The Roto-Rays light shall consist of three (3) round chrome heads, each equipped with an LED light. The LED lights shall be two (2) red and one (1) clear in color. The Roto-Rays light shall be installed on the top center of the cab front fascia using a custom bracket.

When activated, the entire light head assembly shall rotate at 200 RPM.

ROTO-RAYS WARNING LIGHT SWITCH

The Roto-Rays® front warning light(s) shall be separately controlled through a virtual button on the Vista display and control screen. When the parking brake is engaged the light shall stop rotating.

INTERIOR DOOR OPEN WARNING LIGHTS

The interior of each door shall include one (1) red Whelen 500 Series TIR6™ Super-LED® warning light located on the door panel. Each light shall activate with a flashing pattern when the door is in the open position to serve as a warning to oncoming traffic.

SIREN CONTROL HEAD

A Federal PA4000 electronic siren control head shall be provided and flush mounted in the switch panel with a location specific to the customer's needs. The siren shall feature 200-watt output, wail, radio broadcast, public address, yelp, priority tones and a noise cancelling microphone.





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STEERING WHEEL HORN BUTTON SELECTOR SWITCH

A rocker switch shall be installed in the switch panel between the driver and officer to allow control of either the electric horn or the air horn from the steering wheel horn button. The electric horn shall sound by default when the selector switch is in either position to meet FMCSA requirements.

AIR HORN AUXILIARY ACTIVATION

The air horn activation shall be accomplished by a momentary rocker switch on the switch panel.

MECHANICAL SIREN BRAKE/AUXILIARY ACTIVATION

The mechanical siren shall be actuated by one (1) momentary rocker switch in the switch panel on the dash. Two (2) red momentary siren brake rocker switches shall be provided in the switch panel on the dash.

MECHANICAL SIREN INTERLOCK

The siren shall only be active when master warning switch is on to prevent accidental engagement.

BACK-UP ALARM

An ECCO model 575 backup alarm shall be installed at the rear of the chassis with an output level of 107 dB. The alarm shall automatically activate when the transmission is placed in reverse.

INSTRUMENTATION

An ergonomically designed instrument panel shall be provided. Each gauge shall be backlit with LED lamps. Stepper motor movements shall drive all gauges. The instrumentation system shall be multiplexed and shall receive ABS, engine, and transmission information over the J1939 data bus to reduce redundant sensors and wiring.

A twenty eight (28) icon lightbar message center with integral LCD odometer/trip odometer shall be included. The odometer shall display up to 999,999.9 miles. The trip odometer shall display 9,999.9 miles. The LCD message center screen shall be capable of custom configuration by the users for displaying certain vehicle status and diagnostic functions.

The instrument panel shall contain the following gauges:

One (1) three-movement gauge displaying vehicle speed, fuel level, and Diesel Exhaust Fluid (DEF) level. The primary scale on the speedometer shall read from 0 to 100 MPH, and the secondary scale on the speedometer shall read from 0 to 160 KM/H. The scale on the fuel and DEF level gauges shall read from empty to full as a fraction of full tank capacity. Red indicator lights in the gauge and an audible alarm shall indicate low fuel or low DEF at 1/8th tank level.





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One (1) three-movement gauge displaying engine RPM, and primary and secondary air system pressures shall be included. The scale on the tachometer shall read from 0 to 3000 RPM. The scale on the air pressure gauges shall read from 0 to 150 pounds per square inch (PSI) with a red line zone indicating critical levels of air pressure. Red indicator lights in the gauge and an audible alarm shall indicate low air pressure.

One (1) four-movement gauge displaying engine oil pressure, coolant temperature, voltmeter, and transmission temperature shall be included. The scale on the engine oil pressure gauge shall read from 0 to 100 pounds PSI with a red line zone indicating critical levels of oil pressure. A red indicator light in the gauge and audible alarm shall indicate low engine oil pressure. The scale on the coolant temperature gauge shall read from 100 to 250 degrees Fahrenheit (°F) with a red line zone indicating critical coolant temperatures. A red indicator light in the gauge and audible alarm shall indicate high coolant temperature. The scale on the voltmeter shall read from 9 to 18 volts with a red line zone indicating critical levels of battery voltage. A red indicator light in the gauge and an audible alarm shall indicate high or low system voltage. The low voltage alarm shall indicate when the system voltage has dropped below 11.8 volts for more than 120 seconds in accordance with the requirements of NFPA 1901. The scale on the transmission temperature gauge shall read from 100 to 300 degrees °F with a red line zone indicating critical temperatures. A red indicator light in the gauge and an audible alarm shall indicate a high transmission temperature.

The light bar portion of the message center shall include twenty-eight (28) LED backlit indicators. The lightbar shall be split with fourteen (14) indicators on each side of the LCD message screen. The lightbar shall contain the following indicators and produce the following audible alarms when supplied in conjunction with applicable configurations:

RED INDICATORS

- Stop Engine - indicates critical engine fault
- Air Filter Restricted - indicates excessive engine air intake restriction
- Park Brake - indicates parking brake is set
- Seat Belt - indicates a seat is occupied and corresponding seat belt remains unfastened
- Low Coolant - indicates critically low engine coolant
- Cab Tilt Lock - indicates the cab tilt system locks are not engaged.

AMBER INDICATORS

- Malfunction Indicator Lamp (MIL) - indicates an engine emission control system fault
- Check Engine - indicates engine fault
- Check Transmission - indicates transmission fault
- Anti-Lock Brake System (ABS) - indicates anti-lock brake system fault
- High exhaust system temperature – indicates elevated exhaust temperatures
- Water in Fuel - indicates presence of water in fuel filter
- Wait to Start - indicates active engine air preheat cycle
- Windshield Washer Fluid – indicates washer fluid is low
- DPF restriction - indicates a restriction of the diesel particulate filter





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Regen Inhibit-indicates regeneration of the DPF has been inhibited by the operator
Range Inhibit - indicates a transmission operation is prevented and requested shift request may not occur.
SRS - indicates a problem in the supplemental restraint system
Check Message - indicates a vehicle status or diagnostic message on the LCD display requiring attention.

GREEN INDICATORS

Left and Right turn signal indicators
ATC - indicates low wheel traction for automatic traction control equipped vehicles, also indicates mud/snow mode is active for ATC system
High Idle - indicates engine high idle is active.
Cruise Control - indicates cruise control is enabled
OK to Pump - indicates the pump is engaged and conditions have been met for pump operations
Pump Engaged - indicates the pump transmission is currently in pump gear
Auxiliary Brake - indicates secondary braking device is active

BLUE INDICATORS

High Beam indicator

AUDIBLE ALARMS

Air Filter Restriction
Cab Tilt Lock
Check Engine
Check Transmission
Open Door/Compartment
High Coolant Temperature
High or Low System Voltage
High Transmission Temperature
Low Air Pressure
Low Coolant Level
Low DEF Level
Low Engine Oil Pressure
Low Fuel
Seatbelt Indicator
Stop Engine
Water in Fuel
Extended Left/Right Turn Signal On
ABS System Fault

BACKLIGHTING COLOR

The instrumentation gauges and the switch panel legends shall be backlit using red LED backlighting.





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RADIO

A Jensen brand radio with weather band, AM/FM stereo receiver, rear RCA input pigtail connector, satellite radio capability, and a covered front auxiliary mini stereo input with iPod ready front and rear USB inputs shall be installed in a customer specified location.

RADIO LOCATION

The radio shall be installed in the left hand overhead position above the driver.

AM/FM ANTENNA

A small antenna shall be located on the left hand side of the cab roof for AM/FM and weather band reception.

RADIO SPEAKERS

There shall be two (2) speakers installed in the front portion of the cab recessed overhead and two (2) speakers installed on the upper rear wall of the cab. The speakers shall be provided for connection to the sound system.

CAMERA REAR

One (1) Audiovox Voyager heavy duty rearview camera with a teardrop shaped chrome plated housing shall be shipped loose for OEM installation in the body to afford the driver a clear view to the rear of the vehicle. The rear camera display shall activate when the vehicle's transmission is placed in reverse.

CAMERA DISPLAY

The camera system shall be wired to a single Weldon Vista display located on the driver's side dash. The camera system display can be activated through the Vista display panel.

CAMERA SPEAKER

The rear camera shall be wired to speaker(s) in the cab and shall audible to the driver and officer. There shall be a virtual button provided on the Vista display and control panel to deactivate the speaker(s).

CAB EXTERIOR PROTECTION

The cab face shall have a removable plastic film installed over the painted surfaces to protect the paint finish during transport to the body manufacturer.





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EMERGENCY RESPONSE

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FIRE EXTINGUISHER

A 2.50 pound D.O.T approved fire extinguisher with BC rating shall be shipped loose with the cab.

ROAD SAFETY KIT

The cab and chassis shall include one (1) emergency road safety triangle kit.

DOOR KEYS

The cab and chassis shall include a total of four (4) door keys for the manual door locks.

DIAGNOSTIC SOFTWARE OCCUPANT PROTECTION

Diagnostic software for the Spartan Advanced Protection System shall be available for free download from the Spartan Chassis website to Spartan authorized OEMs, dealers and service centers, as well as the vehicle owner.

The software has been validated to be compatible with the following RP1210 interface adapters:

- Dearborn Group DPA4 Plus
- Noregon Systems JPRO® DLA+
- Cummins INLINE5
- Cummins INLINE6
- NexIQ™ USB-Link™

The software and adapter utilize the SAE J1939-13 heavy duty nine (9) pin connector which is located below the driver's side dash to the left of the steering column.

WARRANTY

Purchaser shall receive a Custom Chassis Two (2) Years or 36,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0102. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

CHASSIS OPERATION MANUAL

The chassis operation manual shall be contained in an on board USB digital storage device. The chassis operation manual shall be accessible through a USB port provided in the OBD diagnostic panel.





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ENGINE AND TRANSMISSION OPERATION MANUALS

The following manuals specific to the engine and transmission models ordered will be included with the chassis in the ship loose items:

- (1) Hard copy of the Engine Operation and Maintenance manual with digital copy
- (1) Digital copy of the Transmission Operator's manual
- (1) Digital copy of the Engine Owner's manual

CAB/CHASSIS AS BUILT WIRING DIAGRAMS

The cab and chassis wiring schematics and option wiring diagrams shall be contained in an on board USB digital storage device. The cab and chassis wiring schematics and option wiring diagrams shall be accessible through a USB port provided in the OBD diagnostic panel.

AS BUILT AIR PLUMBING DIAGRAM

The cab and chassis shall include one (1) digital copy of the as built air plumbing system and option air plumbing diagrams.

AS BUILT FUEL PLUMBING DIAGRAM

The cab and chassis shall include one (1) digital copy of the as built fuel system plumbing diagram.

CUSTOMER INSPECTION

There shall be a customer inspection of the chassis at Spartan Chassis in Charlotte, Michigan. The customer, the dealer, or the OEM shall be responsible for all travel costs and arrangements.

The date of the chassis inspection shall be determined based on the requested chassis completion date, OEM production schedules, the chassis off-line date, and the chassis completion date.

The inspection must be coordinated between the OEM/Dealer representative and Andy Torrence the Spartan Chassis FT Auditor/Inspection Coordinator. Andy can be contacted by phone at 517-543-6400 extension 3148, on his cell at 517-231-0959, or by email to andy.torrence@spartanchassis.com.





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EXHAUST HEAT SHIELD

There shall be an exhaust heat shield added to the chassis provided exhaust. The shield shall terminate past the front compartment and shall incorporate a heavy duty spray on insulation under R1. With this shield, the temperature of the front compartment shall not exceed the ambient temperature.

The heat shield shall be attached to the underside of the body utilizing a flexible bracket.

CHASSIS REQUIRED LABELING

Signs that state "Occupants must be seated and belted when apparatus is in motion" shall be provided.

They shall be visible from each seating position.

There shall be a lubrication plate mounted inside the cab listing the type and grade of lubrication used in the following areas on the apparatus and chassis:

- Engine oil
- Engine Coolant
- Transmission Fluid
- Pump Transmission Lubrication Fluid
- Drive Axle Lubrication Fluid
- Generator Lubrication Fluid (where applicable)
- Tire Pressures

APPARATUS INFORMATION LABEL

There shall be a high-visibility label installed in a location clearly detectable to the driver while in the seated position.

The label shall indicate the following specified information.

- Overall Height (feet and inches)
- Overall Length (feet and inches)
- Overall GVWR (tons or metric tons)

CAB TILT CONTROL

There shall be a cab tilt pendant control provided and installed on the right side of the apparatus. The pendant shall be located directly behind the upper auxiliary pump access panel.

There shall also be a cab tilt instruction plate located as close as possible to the control pendant for ease of operation.





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EMERGENCY RESPONSE REV GROUP

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AIR TANK DRAIN LINES (extended)

There shall be manual pull air tank drain lines provided with the apparatus. The air drain lines shall be extended to the outer edge of the apparatus to facilitate draining moisture from the chassis air tanks to a single location for all drains and shall be actuated by a key ring. A label shall be affixed indicating "Air Tank Drain".

HEAT EXCHANGER

The supplementary heat exchanger cooling system shall be provided and installed to the discharge side of the fire pump through to the engine compartment without intermixing, for absorption of excess heat.

The heat exchanger shall be adequate in size to maintain safe operating temperature of the coolant in the pump drive engine and not in excess of the engine manufacturer's temperature rating, under all pumping conditions. Appropriate drains shall be provided to allow draining the heat exchanger to prevent damage from freezing.

HELMET RESTRAINTS

All NFPA required helmet restraints will be supplied and installed by the Fire Department prior to the truck being placed into service.

MUD FLAPS

Heavy-duty black rubber mud flaps with manufacturer's logo shall be provided behind the rear wheels. The mud flaps shall be bolted in place.

PUMP COMPARTMENT

The complete apparatus pump compartment shall be constructed of a combination of structural tubing and formed sheet metal. The same materials used in the body shall be utilized in the construction of the pump compartment. The structure shall be welded utilizing the same A.W.S. Certified welding procedure as used on the structural body module. These processes shall ensure the quality of structural stability of the pump compartment module.

The pump compartment module shall be separated from the apparatus body with a gap. This gap is necessary to accommodate the flexing of the chassis frame rails that are encountered while the vehicle is in transit so that harmful torsional forces are not transmitted into the structural framework.





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EMERGENCY RESPONSE

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VIBRA-TORQ™ PUMP MODULE MOUNTING SYSTEM

The entire pump module assembly shall be mounted so that it “floats” above the chassis frame rails exclusively with Vibra-Torq™ torsion isolator assemblies to reduce the vibration and stress providing an extremely durable pump module mounting system.

The pump module substructure shall be mounted above the frame to allow independent flexing to occur between the body and the chassis. Each assembly shall be mounted to the chassis frame rails with steel, gusseted mounting brackets. Each bracket shall be powder coated for corrosion resistance. Each pump compartment mount bracket shall be mounted to the side chassis frame flange with two 5/8”-UNC Grade 5 HHCS.

Each assembly shall have a two-part rubber vibration isolator. The isolator shall be of a specific durometer to carry the necessary loads of the pump module, apparatus body, equipment, tank, water, and hose. The quantity of mounts utilized shall correspond directly to the anticipated weight being supported. Certain assemblies shall also incorporate a torsion spring. Helical coil springs shall be incorporated into specific mounts in tandem with the rubber isolators to minimize the stress absorbed by the body caused from chassis frame rail flexing.

There shall be no welding to the chassis frame rail sides, web or flanges, or drilling of holes in the top or bottom frame flanges between axles. All pump module to chassis connections shall be bolted so that in the event of an accident, the body shall be easily removable from the truck chassis for repair or replacement.

Because of the constant vibration and twisting action that occurs in chassis frame rails and suspension, the torsion mounting system is required to minimize the possibility of premature pump module structural failures. The Vibra-Torq™ mounting system shall have a lifetime warranty.

PUMP COMPARTMENT HEATER

Two (2) 30,000 BTU auxiliary heaters shall be provided and installed inside the pump compartment. The heaters shall be connected to the engine cooling system with gated valves located inside the engine compartment. Black rubber hose shall be installed.

Dual 12 volt electric fans for each heater shall be installed and controlled with single toggle switch and a LED indicator light on the operator’s pump control panel.

The switch shall be of a weather resistant type and be clearly labeled for ease of identification.





EMERGENCY RESPONSE REV GROUP

Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

HEAT PAN

There shall be a heat pan enclosure provided and installed under the apparatus fire pump.

The heat pan assembly shall be fabricated of .188 inch aluminum. The top portion shall be bolted in place. The bottom trays shall be held in the place with mechanical style latch devices. The enclosure may include slide out tray(s) on either side of the apparatus for ease of service and maintenance.

The heat pan shall have one (1) 3.00 inch hole under the relief valve for drainage.

PUMP COMPARTMENT WORK LIGHT

One (1) Weldon LED work light model #2631-0000-30 shall be installed in the pump compartment module to illuminate the piping and plumbing components.

The light shall be activated by a weather resistant toggle switch installed inside the pump compartment.

LEFT SIDE OPERATORS PANEL & PUMP PANEL

The pump operator's panel shall be located on the left side of the apparatus pump compartment. The panel shall be split into an upper and lower section.

The material of the operator's panel shall match that of the overlays and right side panels specified.

The upper panel shall house gauges and controls and be hinged to allow easy access to components. The door shall have a stainless steel hinge, dual point chrome push button latches and a rubber seal provided to prevent excessive moisture from entering or leaving the pump house.

The lower panel on the left side shall be a removable panel attached with mechanical fasteners.

Valve controls shall be immediately adjacent to its respective gauge. The valve controls shall be properly labeled, and color coded for ease of use. All markings shall be permanent in nature.

OPEN DOOR WARNING

If the hinged panel is not properly closed and the parking brake is released, it shall activate the hazard light in the cab to alert the crew.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE Proposal Date: 4-13-2022

VALVE CONTROL - T-HANDLE PULL ASSEMBLY

Unless specified otherwise, the discharge valves shall be controlled from an Innovative Controls side mount valve control assembly. The ergonomically designed handle shall be chrome-plated with recessed areas for name plate and color code. A .75 inch (19.5 mm) diameter hardcoat anodized aluminum control rod and housing shall, together with a stainless spring steel locking mechanism, eliminate valve drift. Teflon impregnated bronze bushings in both ends of the rod housing shall minimize rod deflection, never need lubrication, and ensure consistent long-term operation. The control assembly shall include a decorative chrome-plated panel-mounting bezel. The valve operating mechanism will indicate the position of the valve at all times.

PUMP PANEL LIGHTS

There shall be adequate illumination provided at the side pump panels with the installation of two (2) brushed stainless steel shielded light assemblies, one (1) on the left and one (1) on the right side pump compartment.

Each shield shall contain the maximum number of lights permitted in the space available for 9.00 inch (21cm) LED Tube lights model #RX-15T16-5050-21CM.

There shall also be one directional light Weldon style 9186-23882 Surface Mount series installed to add illumination at the lower pump panel.

PUMP PANEL LIGHT ACTIVATION

One (1) pump panel light at the operator's panel shall be illuminated at the time the pump is ready to pump and it is "OK TO PUMP". The Pump shift has been completed and the chassis automatic transmission is engaged.

The remaining lights shall be controlled by a switch located on the side operator's panel.

PUMP COMPARTMENT SERVICE ACCESS

The front portion of the pump compartment structure (directly behind the chassis cab) shall not be overlaid. The outer edges of the pump compartment shall be overlaid with aluminum diamond plate for a pleasing appearance.

PUMP COMPARTMENT WIDTH

The width of the pump compartment (front to back) shall be 48.00 inches (1.21 m).





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

RIGHT SIDE PUMP PANELS STYLE

There shall be two (2) pump panels on the right side of the pump compartment, one (1) upper and one (1) lower. Each panel shall be accessible by a quick-release mechanical type latch, closing against a door seal. Both panels shall be easily removed for access to the pump for service.

RIGHT & LEFT SIDE BRUSHED STAINLESS STEEL PANELS & OVERLAYS

The panels for the pump compartment on the left and right side shall be made from 14 gauge “Brushed Stainless Steel” capable of withstanding the conditions and effects of extreme weather and temperature changes.

The tubular structure shall be overlaid on each side of the pump compartment underneath the access panels and shall be made of “Brushed Stainless Steel”.

RUNNING BOARDS

The pump compartment running boards shall be made of a structural tubular framework. The tubular frame supports all loads by transmitting the loads through the pump compartment structure directly to the chassis frame rails.

The running boards shall be independent of the apparatus body and shall be integrated to the pump compartment structure only, eliminating any pump compartment to body interference. This is essential in keeping a truly 'modular' configuration. Slip-resistant abrasive adhesive materials shall be applied to the top surface of the running board framework to provide a suitable stepping surface where applicable.

GRIP STRUT-INSERTS

The side running boards shall have extruded stair tread "Diamondback" inserts installed, allowing debris and water to pass through to eliminate build-up. The surface areas shall be as large as possible by extending to the perimeter of the inside of the running board structure.

APPARATUS PLUMBING LABELING

The apparatus shall be descriptively tagged with color coded metal labels from Signature4.

The labels shall be applied near the apparatus features that require a user function description. Wherever necessary, the labels shall be color coded to differentiate controls and their respective functions to simplify and clarify complex configurations.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

PRESSURE GOVERNOR, MONITORING, and MASTER PRESSURE DISPLAY

Fire Research "InControl 400" Series pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 5 1/2" high by 10 1/2" wide by 2" deep. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1 3/4" from the front of the control module. Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring.

The following continuous displays shall be provided:

- Pump discharge; shown with four daylight bright LED digits more than 1/2" high
- Pump Intake; shown with four daylight bright LED digits more than 1/2" high
- Pressure / RPM setting; shown on a dot matrix message display
- Pressure and RPM operating mode LEDs
- Throttle ready LED
- Engine RPM; shown with four daylight bright LED digits more than 1/2" high
- Check engine and stop engine warning LEDs
- Oil pressure; shown on a dual color (green/red) LED bar graph display
- Engine coolant temperature; shown on a dual color (green/red) LED bar graph display
- Transmission Temperature: shown on a dual color (green/red) LED bar graph display
- Battery voltage; shown on a dual color (green/red) LED bar graph display.

The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and nighttime operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

- High Battery Voltage
- Low Battery Voltage (Engine Off)
- Low Battery Voltage (Engine Running)
- High Transmission Temperature
- Low Engine Oil Pressure
- High Engine Coolant Temperature
- Out of Water (visual alarm only)
- No Engine Response (visual alarm only).

The program features shall be accessed via push buttons and a control knob located on the front of the control panel. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.





Ypsilanti Twp Fire Department

SPARATN STAR SERIES PUMPER SPECIFICATION

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The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

INTAKE PRESSURE RELIEF VALVE

A Task Force Tips model #A18XX pressure relief valve shall be provided. The valve shall have an easy to read adjustment range from 90 to 300 PSI with easy to read 90, 125, 150, 200, 250, 300 psi settings and an "OFF" position. Pressure adjustment can be made utilizing a ¼" hex key, 9/16" socket or 14mm socket.

For corrosion resistance the cast aluminum valve shall be a hardcoat anodized with a powder coat interior and exterior finish. The valve shall meet (NFPA) 1901, Standard for Automotive Fire Apparatus, requirements for pump inlet relief valves. The unit shall be covered by a five year warranty. The valve shall be preset at 125 PSI (860 kPa) suction inlet pressure, unless otherwise shop noted. The valve shall be installed inside the pump compartment where it will be easily accessible for future adjustment. The excess water shall be plumbed to the atmosphere and shall dump on the opposite side of the pump operator.

For normal pumping operations, the relief valve shall not be capped and there shall be a placard stating "DO NOT CAP" installed.

MASTER GAUGES

Thuemling 4.50 inch (115 mm) gauges shall be supplied for the master intake and master discharge gauges.

The gauges shall be model FA-LFP-410.

GAUGE SCALE

The master intake gauge shall be marked for a reading from -30 to 400 PSI and the master discharge shall be marked for reading a discharge pressure of 0 to 400 PSI.

GAUGE FACE COLOR

Each gauge shall have black markings on a white face.





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

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TESTING PORTS

Test port connections for pressure and vacuum shall be provided at the pump operator's panel. One (1) shall be connected to the intake side of the pump, and the other to the discharge manifold side of the pump.

Each port shall have 0.25 inch (6.35 mm) standard pipe thread connection and be manufactured of non-corrosive polished stainless steel or brass plugs.

TANK LEVEL GAUGE

A Fire Research TankVision model WLA300-A00 tank indicator kit shall be installed at the pump operator's panel location. The kit shall include an electronic indicator module, a pressure sensor, and a 20.00 foot sensor cable. The indicator shall show the volume of water in the tank on nine (9) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of aluminum, and have a distinctive blue label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a datalink to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall be placed on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

CHASSIS INSTALLED TANK LEVEL GAUGE

The chassis shall include two (2) tank level gauges installed. These tank level gauges shall utilize a driver gauge installed to provide an accurate reading of the water tank level.

ROCKER SWITCH PANEL

All specified lighting fixtures and electrical components activated at the pump operator's panel shall be activated by Carling W-series rocker style switches.

The switches shall be located on a separate matte black Innovative Controls 6-position electrical panel with chrome bezel, complete with backlit name tags describing the function of each individual switch.

PUMP COMPARTMENT TOP OVERLAY

The top cap of the pump compartment shall be overlaid with materials of a non-slip .125 inch (3.18 mm) embossed aluminum diamond plate.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

DUNNAGE AREA

A single wall .125 inch (3.18 mm) aluminum diamond plate dunnage area shall be provided above the pump house compartment for equipment mounting and storage space.

The dunnage area shall be as wide as possible from side to side, and as deep as allowed with the available space.

MIDSHIP PUMP

The pump shall have a capacity of 1500 gallons per minute, measured in U.S. Gallons. The pump shall be a Waterous model CXS single stage midship pump.

PUMP CASING

Two-piece; vertically-split high-tensile close-grained gray iron.

IMPELLER

Bronze impeller specifically designed for the fire service, Double hub bed to eliminate axial thrust, and accurately balanced for vibration-free running.

WEAR RINGS

Replaceable bronze wear rings to increase pump life and keep maintenance costs at a minimum.

IMPELLER SHAFT

Stainless steel, heat treated, precisely ground to size, and polished under shaft seal, supported by oil-lubricated ball bearings.

BEARINGS

All bearings are oil or grease lubricated, ball-type, located outside the pump casting to accurately align and support the impeller shaft assembly. Bearings are deep groove type designed to carry both radial and axial thrust.

CERTIFICATION

The pump will perform and meet the following tests:

- 100% rated capacity @ 150 PSI
- 100% rated capacity @ 165 PSI
- 70% rated capacity @ 200 PSI
- 50% rated capacity @ 250 PSI





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SPARATN STAR SERIES PUMPER SPECIFICATION

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PUMP WARRANTY

Waterous Co shall provide a limited manufacturer's pump warranty to be free from defects, under normal use and service, for a period of seven (7) years from the date placed into service.

PUMP SEALS

The pump shall be equipped with self-adjusting, maintenance free mechanical shaft seals that shall not require manual adjustment. These seals shall be designed in a manner that they will remain functional enough to permit continued use of the pump in the unlikely event of a seal failure.

PUMP SHIFT

The drive unit shall be provided with an air pump shift system. The control valve shall be a spring loaded guard lever that locks in "Road" or "Pump" mode.

To the left of the pump shift control, there shall be two indicator lights to show the position of the pump when the control is moved to "Pump" position. A green light shall be energized when the pump shift has been completed and shall be labeled "PUMP ENGAGED"; a second green light shall be labeled "OK TO PUMP" energized when both the pump shift has been completed and the chassis automatic transmission is engaged.

A third green indicator light shall be installed adjacent to the throttle on the pump operator's panel. This light shall be labeled "Throttle Ready".

In addition to this indicator light, an additional indication shall be provided to the pump operator at the panel when the pump is ready to pump. This additional indication shall be that one (1) of the operator's panel illumination lights will only activate when the "OK TO PUMP" indicator is lit.

AIR PUMP SHIFT LOCATION

The pump shift shall be mounted in the "best fit" location as determined by the apparatus manufacture.





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE REV GROUP

Proposal Date: 4-13-2022

AIR PRIMER SYSTEM

The priming system shall be a Trident Emergency Products compressed air powered high efficiency, multi-stage, venturi based Air Prime System.

All wetted metallic parts of the priming system are to be of brass and stainless steel construction. A single panel mounted control will activate the priming pump and open the priming valve to the pump.

The priming components shall be mounted above the highest priming point on the suction side of the pump to permit air removal and allow for drainage. The primer shall also automatically drain when the panel control actuator is not in operation. The inlet side of the primer shall include a brass 'wye' type strainer with removable stainless steel fine mesh strainer to prevent entry of debris into the primer body.

The system shall employ an 80 PSI (5.5 bar) pressure protection valve, located on the chassis auxiliary air tank.

The primer shall be covered by a five (5) year parts warranty.

PRIMER CONTROL

There shall be one (1) push button control to actuate the primer control valve at the operator's panel.

DISCHARGE AND INLET MANIFOLDS

A pump manifold inlet shall be provided on the pump as required for the layout.

The inlet(s) shall protrude up to 2.00 inches (50 mm) away from the side panels and maintain a low connection height.

A discharge manifold shall also be added to the pressure side of the pump to feed the specified discharge waterways.

MAIN PUMP INLET-LEFT SIDE

A 6.00 inch (150 mm) pump manifold inlet shall be provided on the left side of the pump. The inlet shall protrude up to 2.00 inches (50 mm) away from the side panel and maintain a low connection height.

The main pump inlet shall have National Standard Threads and includes a removable screen designed to provide cathodic protection for reducing deterioration in the pump.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

6" CHROME PLATED BRONZE CAP

There shall be one (1) 6.00 inch (150 mm) long handled chrome plated cap installed on the Steamer Inlet.

The cap shall be National Standard Thread.

MAIN PUMP INLET-RIGHT SIDE

A 6.00 inch (150 mm) pump manifold inlet shall be provided on the right side of the pump. The inlet shall protrude up to 2.00 inches (50 mm) away from the side panel and maintain a low connection height.

The main pump inlet shall have National Standard Threads and includes a removable screen designed to provide cathodic protection for reducing deterioration in the pump.

6" CHROME PLATED BRONZE CAP

There shall be one (1) 6.00 inch (150 mm) long handled chrome plated cap installed on the Steamer Inlet.

The cap shall be National Standard Thread.

MASTER DRAIN VALVE

A Trident manifold type drain valve shall be installed in the pump compartment. All pump drains shall be connected to the master drain valve. The drain valve shall be controlled from the left side lower pump house sill. The control shall be a hand wheel knob marked "open" and "closed".

The drain shall be located such that it shall not interfere with pumping operations or function such as soft suction hoses, etc. nor shall it protrude past the outer edge of the apparatus, to prevent damage to the valve.

In some cases, it is necessary to locate the master drain in a secondary location to ensure proper draining. If no lower or vertical sill exists, the drain shall be located below the bottom outside edge of the hose body near the forward most corner on the driver's side hose body. The drain shall not protrude past the outer edge of the body, thus preventing damage to the valve.

PUMP COOLING LINE

There shall be a .38 inch (9.5 mm) line running from the pump to the water tank to assist in keeping the pump water from overheating. A valve shall be installed on the operator's panel.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

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PUMP ANODES

Two (2) pump anodes shall be installed in the pumping system, one (1) on the discharge side and one (1) on the suction side, to prevent damage from galvanic corrosion within the pump system.

STAINLESS STEEL PLUMBING

All auxiliary suction and discharge plumbing related fittings, and manifolds shall be fabricated with a minimum of 3.00 inch (77 mm), or greater as required by design, schedule 10 stainless steel pipe; brass or high pressure flexible piping with stainless steel couplings. Galvanized components and/or iron pipe shall NOT be accepted to ensure long life of the plumbing system without corrosion or deterioration of the waterway system. Where waterway transitions are critical (elbows, tees, etc.), no threaded fittings shall be allowed to promote the smooth transition of water flow to minimize friction loss and turbulence. All piping components and valves shall be non-painted, unless otherwise specified. All piping welds shall be wire brushed and cleaned for inspection and appearance.

The high pressure flexible piping shall be black SBR synthetic rubber hose with 300 PSI working pressure and 1200 PSI burst pressure for flexible piping sizes 1.50 inches (38 mm) through 4.00 inches (100 mm). Sizes .75 inch (19 mm), 1.00 inch (25 mm) and 5.00 inches (125 mm) are rated at 250 PSI working pressure and 1000 PSI burst pressure. All sizes are rated at 30 in HG vacuum. Reinforcement consists of two plies of high tensile strength tire cord for all sizes and helix wire installed in sizes 1.00 inch (25 mm) through 5.00 inches (125 mm) for maximum performance in tight bend applications. The material has a temperature rating of -40 degrees Fahrenheit to +210 degrees Fahrenheit.

The stainless steel full flow couplings are precision machined from high tensile strength stainless steel. All female couplings are brass. Mechanical grooved and male .75 inch (19 mm) and 1.00 inch (25 mm) couplings are brass. A high tensile strength stainless steel ferrule with serrations on the I.D. is utilized to assure maximum holding power when fastening couplings to hose.

PUMP HOUSE LINE PROTECTION

All drain lines for the discharges, suctions, ABS discharge gauge lines and any other appropriate connections in the pump house area shall have a protective cover provided on the lines in the required areas of the lines to prevent the lines from rubbing on any other components in the pump house area.

All drain lines, ABS lines, high pressure discharge lines and electrical wiring in the pump house area shall be properly and neatly routed, wire tied, and rubber coated "P" clamped, to keep the items secured.

DRAIN VALVES

All manual drains shall be Class One with .75 inch J-style lift handle kit.

Each drain shall have a 90 degree Push Lock fitting supply with a 90 degree poly elbow drain. Reinforced clear vinyl tubing shall be utilized to route the water to atmosphere.





Ypsilanti Twp Fire Department

SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

FOAMPRO 1600

The apparatus shall be equipped with an electronic, fully automatic, variable speed, direct injection, and discharge side foam proportioning system. The system shall be capable of handling Class A foam concentrate. The foam proportioning operation shall be based on direct measurement of water flows and remain consistent within the specified flows and pressures. System must be capable of delivering accuracy to within 5% of calibrated settings over the advertised operation range when installed according to factory standards. The system shall be equipped with a control module suitable for installation on the pump panel. Incorporated within the motor driver shall be a microprocessor that receives input from the system flowmeter, while also monitoring foam concentrate pump output. This compares values to ensure that the operator's preset is proportional to the amount of foam concentrate injected into the discharge side of the fire pump.

A paddlewheel-type flowmeter shall be installed in the discharge system specified to be "foam capable." The flow meter shall be mounted in a manifold providing accurate water flow readings from 20-750 gpm and operate up to 900 gpm. A simulated flow feature shall be incorporated into the motor driver to simulate an approximate flow value of 100 gpm. This feature is to be engaged or disengaged with a momentary switch and will automatically disengage when the main system switch is turned off.

The control module shall enable the pump operator to:

Activate the foam proportioning system

Select proportioning rates from 0.1% to 1.0%

See a "low concentrate" warning light flash when the foam tank runs low. In two minutes, if foam concentrate is not added to the tank, shut the foam concentrate pump down.

A 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity shall be from 0.1 gpm (0.38 L/min) to 1.7 gpm (6.4 L/min) at 200 psi (13.8 BAR) with a maximum operating pressure up to 400 psi (27.6 BAR). The pump shall have the capability to draw 3 feet of lift. The system will draw a maximum of 30 amps @ 12 VDC. The motor shall be controlled by the microprocessor (mounted to the base of the pump). It shall receive signals from the control module and power the 1/3 hp (.25 Kw) electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream. A full flow check valve shall be provided in the discharge piping to prevent foam contamination of fire pump and water tank. A 12 psi (.83 BAR) opening pressure check valve shall be provided in concentrate line.

Components of the complete proportioning system as described above shall include:

Operator control module

Paddlewheel flowmeter

Pump and electric motor/motor driver

Wiring harnesses

Low level tank switch

Foam injection check valve

Main waterway check valve





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

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FOAM SYSTEM TESTING

The apparatus foam system shall be tested, and the Water Flow meter shall be certified by the manufacturer prior to delivery.

FOAM SYSTEM SUPPLY

The system shall be supplied by a single foam tank that shall be monitored by the control display. The display shall flash a "low concentrate" warning for two minutes when the foam tank runs low. In the event that no additional concentrate is added to the tank, the foam concentrate pump shall be deactivated.

FOAM TANK

A 20 gallon foam tank with square hinged lid, equipped with a hold down device shall be installed and plumbed with non-corrosive piping to the foam system. The fill tower shall be approximately 10.00 inch by 10.00 inch.

A label shall be affixed to the foam tank fill indicating: "WARNING" Class A (or B) foam tank fill, do not mix brands or types of foam.

Each foam tank shall be integral with the booster water tank provided.

FOAM TANK DRAIN

There shall be a 1.00 inch (25.4 mm) quarter turn drain valve installed to drain the foam tank. The valve shall be installed in the pump house with a drain line extended to the side running board.

The drain line shall be labeled "FOAM DRAIN".

SHUTOFF VALVE

There shall be a 1/4 turn valve installed at the foam tank to shut off the flow from the supply line.

FOAM SYSTEM ACCESS DOOR

There shall be a small door installed on the right side of the pump house to allow ease of accessibility to the foam system control valves.

The door shall be vertically hinged and secured with a push-button style latch.

A label shall be permanently affixed indicating "FOAM ACCESS".





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE REV GROUP

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FOAM LEVEL GAUGE

An Innovative Controls SL Plus Series Tank Level Monitor System shall be installed. The system shall include an electronic display module, a stainless steel pressure transducer-based sender unit, and an extension cable. The display module shall show the volume of foam in the tank using 16 super bright easy-to-see LEDs. Tank level indication is enhanced by the use of green LEDs at the full level, amber LEDs at the $\frac{3}{4}$, $\frac{1}{2}$ and $\frac{1}{4}$ tank levels, and red LEDs at the empty level. The electronic display module shall be waterproof and shock resistant being encapsulated in a urethane-based potting compound. The potted display module shall be mounted to a chrome plated panel-mount bezel with a durable easy-to-read polycarbonate insert featuring red graphics and a foam icon.

All programming functions shall be accessed and performed from the front of the display module. The programming includes manual or self-calibration and networking capabilities to connect remote slave displays. Low tank level warnings shall include flashing red LEDs starting below the $\frac{1}{4}$ level, down-chasing LEDs when the tank is almost empty, and an output for an audible alarm.

The display module shall receive an input signal from a pressure transducer. This stainless steel sender unit shall be installed on the outside of the foam tank near the bottom. All wiring, cables and connectors shall be waterproof without the need for sealing grease.

LEFT SIDE INLET

There shall be one (1) gated suction inlet with .75 inch (19mm) bleeder installed on the left side of the apparatus with the following specified components.

INTAKE VALVE

A 2.50 inch (65 mm) Akron Brass 8000 series swing-out valve with stainless steel ball.

INTAKE VALVE CONTROL

The intake control valve shall be a 'swing out type' direct operation manual lever actuator at the valve.

INTAKE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

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SUCTION/INTAKE TERMINATION

The termination shall include the following components:

One (1) 2.50 inch (65 mm) NST swivel female straight adapter with screen

One (1) 2.50 inch (65 mm) self-venting plug, secured by a chain

INLET LOCATION

The inlet shall be located on the pump panel in the forward position.

LEFT SIDE DISCHARGE

There shall be one (1) gated discharge installed on the left side of the apparatus with the following specified components.

DISCHARGE VALVE

A 2.50 inch (65 mm) Akron Brass 8000 series swing-out valve with a stainless steel ball.

DISCHARGE VALVE CONTROL

The control valve shall be a 'swing out type' direct operation manual lever actuator at the valve.

DISCHARGE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.

DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.50 inch (65 mm) Male NST adapter

One (1) 2.50 inch (65 mm) NST female swivel by male with 45 degree polished elbow

One (1) 2.50 inch (65 mm) female self-venting cap, secured by a chain

RIGHT SIDE DISCHARGE

There shall be one (1) gated discharge installed on the right side of the apparatus with the following specified components.





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DISCHARGE VALVE

A 2.50 inch (65 mm) Akron Brass 8000 series swing-out valve with a stainless steel ball.

DISCHARGE VALVE CONTROL

The discharge shall be controlled from the pump operator's panel location.

DISCHARGE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.

DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.50 inch (65 mm) Male NST adapter

One (1) 2.50 inch (65 mm) NST female swivel by male with 45 degree polished elbow

One (1) 2.50 inch (65 mm) female self-venting cap, secured by a chain

RIGHT SIDE MASTER DISCHARGE

There shall be one (1) master discharge installed on the right side of the apparatus provided with the following specified components.

DISCHARGE VALVE

A 3.00 inch (77 mm) Akron Brass 8000 series slo-cloz swing-out valve with a stainless steel ball.

DISCHARGE VALVE CONTROL

The discharge shall be controlled from the pump operator's panel location.

DISCHARGE PLUMBING

The plumbing shall consist of 3.00 inch (77 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.





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DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 3.00 inch (77 mm) NST Straight adapter

One (1) 3.00 inch (77 mm) NST female by 4.00 inch (100 mm) Storz with 30 degree elbow

One (1) 4.00 inch (100 mm) Storz cap, secured by a chain

CROSSLAY AREA

The crosslay hose beds shall be located in the upper portion of the pump compartment.

The crosslay area shall span the entire width of the apparatus pump module. Removable flooring shall be provided in the hose bed area for drainage.

SINGLE STACK CROSSLAYS

The crosslay area shall be constructed with a minimum of 25.00-inch (635mm) approximate depth for laying a single stack of each hose size as specified below.

Chiksan swivels shall be installed just below the floor of each crosslay bed just high enough for hose couplings to be accessed and tightened on to chiksans. Chiksan swivels shall swing from left to right to allow attached hose to be deployed from either side.

FIXED CROSSLAY DIVIDERS WITH NO HAND HOLD CUTOUTS

Each crosslay divider acting as a hose bed separator shall be fabricated of .188-inch smooth aluminum and shall have a dual-action sanded finish. Each divider shall NOT have hand hold cutouts provided.

1 3/4" CROSSLAY

A crosslay with the following specified components shall be provided for up to 200 feet (60 m) of 1.75 inch (44.4 mm) hose.

There shall be a total of two (2) provided.

DISCHARGE VALVE

A 2.00 inch (50 mm) Akron Brass 8000 series swing-out valve with a stainless steel ball.





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DISCHARGE VALVE CONTROL

The discharge shall be controlled from the pump operator's panel location.

DISCHARGE PLUMBING

The plumbing shall consist of 2.00 inch (50 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.

DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.00 inch (50 mm) NPT x 1.50 inch (38 mm) NST brass chiksan swivel

DISCHARGE CAPABILITY

Two (2) discharge(s) shall be foam capable.

2 1/2" CROSSLAY

A crosslay with the following specified components shall be provided for up to 200 feet (60 m) of 2.50 inch (63.5 mm) hose.

There shall be a total of one (1) provided.

DISCHARGE VALVE

A 2.50 inch (65 mm) Akron Brass 8000 series swing-out valve with a stainless steel ball.

DISCHARGE VALVE CONTROL

The discharge shall be controlled from the pump operator's panel location.

DISCHARGE PLUMBING

The plumbing shall consist of 2.50 inch (65 mm) piping and shall incorporate a manual drain control installed below the pump area for ease of access.

DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.50 inch (65 mm) NPT x 2.50 inch (65 mm) NST brass chiksan swivel





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DISCHARGE CAPABILITY

One (1) discharge(s) shall be foam capable.

CROSSLAY TRIM

Brushed stainless steel trim shall be installed at the openings on the bottom and on each side of the crosslay hose bed area. The trim shall reduce the chaffing of the hose jacket on the edges of the bay area.

CROSSLAY COVER

The crosslay hose bed area shall have a vinyl cover installed on the top and sides of the crosslay area.

The top cover shall be held in place by an extrusion installed across the front edge of the crosslay hose bed and with Velcro across the rear edge. The sides of the crosslay cover shall be secured by means of elastic shock cord passing thru brass grommets. Hooks shall be installed at the lower corners to secure the cover to the apparatus.

CROSSLAY TOP & SIDES COVER COLOR

The crosslay hose bed covers shall be red in color.

DECK GUN MONITOR WATERWAY

There shall be one (1) deck gun monitor waterway installed on the apparatus with the following components.

DISCHARGE VALVE

A 3.00 inch (77 mm) Akron Brass 8000 series slo-cloz swing-out valve with a stainless steel ball.

DISCHARGE VALVE CONTROL

The discharge shall be controlled from the pump operator's panel location.

DELUGE PLUMBING

The deluge waterway shall consist of 3.00 inch (77 mm) piping and shall be drained with an auto-drain located at the lowest point of the waterway plumbing if required.

DELUGE PIPE LOCATION

The deluge pipe shall be located up through the pump compartment, at the center location.





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PORTABLE MONITOR PACKAGE

A Task Force Tips Crossfire model #XFC-72 portable lightweight monitor package shall be provided with the apparatus.

The package shall be configured as follows:

TELESCOPING MONITOR PIPE

One (1) Task Force Tips model #XG18VL-XL manually telescoping waterway shall be provided with the apparatus.

The waterway shall be capable of being lowered to deck level (or into a monitor well) for storage and transportation and shall be capable of being raised to an extended height of 18.00 inch (457.2 mm) by lifting a quick release latch located at the base of the extension tube. This latching device shall be capable of locking the waterway in either the raised or lowered position while maintaining the ability to horizontally rotate the monitor device 360 degrees.

If the extend-a-gun is not properly stowed and the parking brake is released, it shall activate the hazard light in the cab to alert the crew.

The aluminum riser shall have a 3.00 inch (77 mm) waterway; hardcoat anodized finish and be provided with a 3.00 inch (77 mm) Victaulic inlet and a Task Force Tips Crossfire coupling outlet.

BRACKET SET EXTEND-A-GUN

One (1) Task Force Tips model #XGB-33 bracket set shall be provided with the apparatus.

The set shall include two saddle brackets and is designed to securely mount the Extend-A-Gun telescoping waterway.

MONITOR TOP

One (1) Task Force Tips Crossfire, model #XFT-NJ portable monitor top shall be provided.

This top only portion with quick release swivel joint shall be designed for use on truck mounted risers and TFT Safe-Tak or Stow-A-Way 800 series portable bases. The monitor shall include safety devices that include a locking button which locks the quick release lever when monitor is pressurized, and a 1/4 turn rotational lever lock that secures the horizontal rotation and provides a visual indication that the monitor rotation is locked. For corrosion resistance the monitor shall be constructed from hardcoat anodized aluminum with a red powder coat interior and exterior finish.

The monitor shall have a 3-1/4" waterway for delivery of up to 1250 GPM with low friction loss.





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Vertical elevation shall be controlled through use of a handwheel controlled stainless steel worm gear which allows full travel to the safety stop point of 35 degrees above horizontal with seven rotations of the wheel. When positioned on a truck mounted riser the monitor shall be able to be used below the 35 degree stop point through release of the spring loaded safety pin.

The monitor shall have an automatic drain valve. An automatic drain to remove remaining water and avoid freezing shall be included. Integral stainless steel stream straightener and pressure gauge shall be included.

The monitor shall be configured with a Crossfire inlet and 2.50 inch (65 mm) male NH outlet. The unit shall be covered by a five-year warranty.

MASTER STREAM STACK TIP SET

One (1) Task Force Tips model #MST-4NJ smooth bore stacked tip set shall be provided.

The tip set shall be constructed from hardcoat anodized aluminum alloy. The set shall consist of four (4) tips with the base tip having a 2.50 inch (65 mm) female NH swivel inlet and 2.00 inch (50 mm) outlet. The other tip sizes shall be 1.75 inch (45 mm), 1.50 inch (38 mm) and 1.375 inch (34 mm). Each tip shall be laser engraved with a flow/pressure chart, orifice size and thread size.

STREAM STRAIGHTENER

Task Force Tips model #XF-SS10 stream straightener shall be supplied.

The straightener shall be constructed from extruded aluminum with internal vanes designed to reduce turbulence and increase the reach of smooth bore water streams. The device shall be 10.00 inches (254.00 mm) in length and have 2.50 inch (65 mm) female NH rigid inlet and 2.50 inch (65 mm) male NH rigid outlet.

FRONT BUMPER DISCHARGE OUTLET

One (1) front bumper discharge outlet shall be provided and installed in the location specified.

DISCHARGE VALVE

A 2.00 inch (50 mm) Akron Brass 8000 series swing-out valve with a stainless steel ball.

DISCHARGE VALVE CONTROL

The discharge shall be controlled from the pump operator's panel location.





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DISCHARGE PLUMBING

The plumbing shall consist of 2.00 inch (50 mm) piping and incorporate a manual drain control installed below the pump area for ease of access. Auto-drain(s) shall be installed in the discharge piping at lowest point of the plumbed system.

DISCHARGE TERMINATION

The discharge termination shall include the following components:

One (1) 2.00 inch (50 mm) NPT x 1.50 inch (38 mm) NST, polished stainless steel chiksan swivel

FRONT BUMPER DISCHARGE LOCATION

The front bumper discharge shall be mounted on top of the gravel shield of the front bumper extension. The discharge shall be placed outboard of the frame rail extensions on the right side.

DISCHARGE CAPABILITY

The discharge shall be foam capable.

BOOSTER REEL

There shall be an electric rewind booster reel with automatic brake installed on the apparatus. The booster reel shall have a capacity to handle 1.00-inch diameter (25.4 mm) booster hose.

There shall be a manual rewind device provided. A manual crank shall be mounted adjacent to booster reel.

BOOSTER HOSE

The reel shall come equipped with 175 feet (53 m) of 800 psi (55 BAR) booster hose.

The hose shall be provided in one (1) 175 foot (53 m) length with hardcoat aluminum couplings.

REEL FINISH

The hose reel specified shall be steel and painted the standard silver utilized by Hannay.





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HOSE REEL VALVE

The reel shall be plumbed to the pump with a 1.00 inch (25.40 mm) quarter turn Akron brass 8000 series ball valve and 1.00 inch (25.40 mm) high pressure hose and couplings.

The valve shall be controlled from the operator's panel.

REWIND ACTIVATION

An electric rewind switch shall be located adjacent to the booster reel. The switch shall have a weather resistant rubber cover and a label indicating its function.

The switch shall be labeled "HOSE REEL".

HOSE REEL LOCATION

The hose reel shall be mounted in a dunnage area specified above the pump on the left side.

HOSE REEL ROLLERS

There will be one (1) bell roller assembly installed on the left side upper pump house to allow hose payout to the left side of the apparatus.

HOSE REEL BLOW OUT

There shall be an air "blowout" system provided and installed on the apparatus. The air blow out system shall be connected to the chassis air brake system. A check valve shall be installed between the chassis system and the reel blow out system. A ¼ turn manual control valve shall be installed on the pump operator's panel for the air blow out system.

The valve shall be labeled "REEL BLOW OUT".

BOOSTER REEL GAUGE

There shall be a pressure gauge supplied for the Booster Reel as specified below.

DISCHARGE CAPABILITY

The discharge shall be foam capable.





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DISCHARGE GAUGES

A Thuemling 3.50 inch (90 mm) gauge shall be supplied for reading the pressure of each discharge greater than 1.50 inches (38 mm) in diameter, unless otherwise specified.

The gauge shall be a model FA-LFP-310.

GAUGE SCALE

Each gauge shall be marked for reading a pressure range of 0-400 PSI.

GAUGE FACE COLOR

Each gauge shall have black markings on a white face.

BEZELS FOR 3.5" DISCHARGE GAUGES

There shall be Thuemling color coded bezels supplied around each of the 3.50 inch (90 mm) discharge pressure gauges.

GAUGE HEATER SYSTEM

An Innovative Controls Gauge Heater System with heat cables shall be installed to prevent freezing of the pump house plumbing and pressure gauges. The 12 VDC heat controller shall be thermostat controlled and automatically activate when the ambient temperature drops below 38 degrees F (3.3 degrees C).

The controller shall provide two cable outputs to the necessary amount of daisy-chained self-regulating heating cables. The total linear of feet of heating cable shall not exceed 31 ft. per output and 62 ft. per controller module. The system shall include sealed Deutsch connectors and potted electronics for complete water and dust ingress protection.

TANK TO PUMP LINE

The connection between the tank and the pump shall be capable of the flow recommendations as set forth in (NFPA) 1901, Standard for Automotive Fire Apparatus, latest revision and shall be tested to those standards when the pump is being certified.

One (1) non-collapsible flexible hose and valve shall be incorporated into the tank to pump plumbing to allow movement in the line as the chassis flexes to avoid damage during normal road operation. Four (4) inch stainless steel schedule 10 piping shall be used to complete the connection from the tank to pump valve to the water tank.





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TANK TO PUMP CHECK VALVE

There shall be a tank to pump check valve, conforming to NFPA standard requirements to prevent water from back flowing at an excessive rate if the pump is being supplied from a pressurized source. The check valve shall be mounted as an integral part of the pump suction extension. A hole up to .25 inch (6.00 mm) is allowable in the check valve to release steam or other pressure buildup so that the void between the valve and check valve may drain of water that could be subject to freezing.

TANK TO PUMP VALVE

A 3.00 inch (77 mm) Akron Brass 8000 series swing-out valve with a stainless steel ball.

VALVE CONTROL

The valve shall be controlled from the pump operator's panel location.

TANK FILL LINE

One (1) 2.00 inch (50.80 mm) tank fill/recirculating line shall be installed from the pump directly to the booster tank.

TANK FILL VALVE

A 2.00 inch (50 mm) Akron Brass 8000 series swing-out valve with a stainless steel ball.

VALVE CONTROL

The valve shall be controlled from the pump operator's panel location.





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TRI-MAX™ Space Frame Body- STAINLESS STEEL

The apparatus body shall be a Tri-Max™ **Space Frame** design, which serves as an incredibly durable, structural body framework. This framework acts as a series of beams and columns that support and protect the body and its contents. The space frame design provides maximum torsional resistance and load capabilities. The entire space frame structure shall be welded together utilizing an A.W.S. Certified welding procedure.

The space frame design shall also be required because it provides energy absorbing impact zones in the structure, thus providing increased safety to the rest of the apparatus and personnel on board. Documented proof of this extra safety shall be required upon request.

The Tri-Max™ body structure shall consist entirely of closed section members, except where the body is mounted to the chassis. Closed section members (such as square, rectangular, triangular, or round tubes) are required because they provide maximum strength and torsion rigidity. This solid tubular structural style of design, ultimately adds longevity to the body structure by eliminating flex and twists in material, creating less stress and fatigue. Body designs that use independent sub-frames will not be acceptable.

BODY STRUCTURE MEMBERS

The space frame body shall have triangular shaped structural members in certain areas of the body. This shape is required to prevent loss of useable compartment space. Other body structure members shall be square or rectangular. Each structural member will have a nominal outside dimension of 2.50 inches (63.50 mm) in at least one direction. The body shall be designed for maximum strength to weight ratio, therefore the gauge of sheet metal and structural members varies from 14 gauge to 11 gauge throughout dependent on the design requirement.

BODY MATERIAL TYPE

All body structure and sheet material shall be premium grade Stainless Steel, Type 304L. This alloy is utilized because it provides an excellent balance of material strength, manufacturing properties, and corrosion resistance that is achieved through high levels of both chromium and nickel.

ECK® ANTI-CORROSION PROCESS

Absolutely no dissimilar metals shall be used in the body and its supporting substructure without being separated by Eck®, which prevents corrosion by providing a barrier between dissimilar metals, sealing out moisture and absorbing energy created by a dissimilar metal reaction.

FRONT BODY COMPARTMENT WALLS

The front compartment walls of both forward most compartments shall be sheet finished. No overlay material shall be visible from the interior of the compartments.





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REAR BODY COMPARTMENT WALLS

The rear compartment walls of both rearward most compartments shall be sheet finished. No overlay material shall be visible from the interior of the compartments. Access panels from the rear walls shall be strategically placed to ensure access to the rear taillight clusters for any servicing that may be completed.

COMPARTMENT TOP

The top of the compartments shall be an integral portion of the body. No overlay material shall be visible from the interior of the compartments.

COMPARTMENT FLOORS

The body compartments shall be enclosed with stainless steel sheet metal as specified above. The compartment floors shall have a 1.00 inch (25.40 mm) lip downward at the door opening side of the compartment. This lip shall integrate with a structural member on the bottom edge and form a "sweep-out" compartment. This design shall also allow for a structural flush fitting door frame and a complete door/weather seal.

COMPARTMENT LOAD CAPACITY

Each compartment shall have a minimum of one additional structural compartment floor support centered on the underside of the compartment floor. This additional member shall be integral with the rest of the body structure. Each compartment must be designed, and 3rd party analyzed to carry a working load of:

Full depth side compartment: 1,000 lbs (453.59 kg) per compartment

Half depth side compartment: 750 lbs (340.19 kg) per compartment

Rear center compartment: 1,500 lbs (680.39 kg)

NOTE: These values are for design purposes only for individual compartment construction and are not meant to be used as an actual overall weight rating for equipment load per compartment for the specified apparatus. The apparatus shall be engineered such that the completed unit, when loaded to its estimated in-service weight, shall comply with the gross axle weight ratings {GAWR}, the overall gross vehicle weight rating {GVWR}, and the chassis manufacturer's load balance guidelines per NFPA.

EXTERIOR HOSE BED WALLS

The exterior hose bed walls shall be an integral portion of the body. The wall shall give a smooth exterior look and finish with no vertical supports tubing visible from the exterior of the truck.





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FASTENERS

All bolts and nuts used in the finish construction of the apparatus shall be coated stainless steel which helps prevent dissimilar metal electrolytic reaction and corrosion. Any bolt extending into a compartment or into the hose bed area shall have an acorn nut attached or be protected in such manner where sharp edges are avoided.

FINITE ELEMENT ANALYSIS

The proposed body design must have completed a review and analysis by a legitimate 3rd party engineering firm. At a minimum, the 3rd party must have conducted a computer model finite element analysis of the proposed design. The analysis is to include real world working load scenarios. Analysis to cover both static and dynamic situations must be completed. The purpose of the finite element analysis is to ensure proper design of the apparatus body, and that it is capable of carrying the typical fire apparatus loads and those specified by NFPA for equipment. The analysis process must conclude that the body structure is properly designed and manufactured to provide longevity under normal conditions. The 3rd party must also validate the manufacturing processes are consistent with the design and analysis performed. Proof of having completed this testing must be submitted with the bid.

PAINT SPECIFICATIONS

All bright metal fittings, if unavailable in stainless steel, shall be heavily chrome plated.

Critical body and sub-frame area which cannot be primed after assembly shall be pre-painted.

All welded metal surfaces shall be ground to a smooth surface prior to a degreasing and high pressure, high temperature phosphatizing process. The entire surface shall be sprayed with a non-chromate sealing compound to prevent formulation of stains or flash rust on previously phosphatized parts.

The paint applied to the apparatus shall be Akzo Nobel, Sikkens brand, LVBT650 basecoat, applied throughout a multi-step process including at least two coats of each color and clear coat finish.

The coating shall be an infra-red, baked air dried. The coatings shall provide full gloss finished suitable for application by high-pressure airless or conventional low pressure air atomizing spray.

The coatings shall not contain lead, cadmium or arsenic. The polyisocyanate component shall consist of only aliphatic isocyanates, with no portion being aromatic isocyanates in character. The solvents used in all components and products shall not contain ethylene glycol mono-ethyl ethers or their acetates (commercially recognized as cello solves), nor shall they contain any chlorinated hydrocarbons. The products shall have no adverse effects on the health or nor present any unusual hazard to personnel when used according to manufacturer's recommendations for handling and proper protective safety equipment, and for its intended use.





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The coating system, as supplied and recommended for application, shall meet all applicable federal, state and local laws and regulations now in force or at any time during the courses of the bid.

The manufacturer shall supply (upon request) for each product and component of the system, a properly complete OSHA "Safety Data Sheet".

The following documents of the issue in effect on the date of the invitation to quote form a part of this document to the extent specified herein:

Federal Standards: Number 141A and 141B paint, varnish, lacquer and related material: methods of inspection, sampling, and testing.

Military Standard: MIL-C 83486B Coating, Urethane, Aliphatic Isocyanates, for Aerospace applications.

Industry Methods and Standards: ASTM Method of Analysis (American Society for testing and Materials). BMS 10-72A (Boeing Material Specifications).

The entire exterior body structure (excluding roll-up doors) shall receive the primer coats and the finish coats. The apparatus body will be painted in a down draft type paint booth to reduce dust, dirt or impurities in the finish paint. The painted surfaces shall have a finish with no runs, sags, craters, pinholes or other defects. The coating will meet the following test performance properties as a minimum standard.

BODY PAINT COLOR

The apparatus body shall be painted { "MUST SPECIFY " }.

NATURAL COMPARTMENT FINISH

To prevent scratching of the paint finish and to provide the maximum reflectivity for the compartment lighting, the interior of the compartments shall have a natural finish. Absolutely no coatings will be allowed on the compartment interiors.

STRUCTURAL BODY WARRANTY

A structural Stainless Steel body warranty shall be provided by the apparatus manufacturer for products of its manufacture to be free from defects in material and workmanship under normal use and service for a period of twenty (20) years.

PAINT WARRANTY

A Prorated Paint Warranty shall be provided by the apparatus manufacturer for products of its manufacture to be free from defects in material and workmanship, under normal use and service, for a period of ten (10) years.





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BRUSHED STAINLESS FRONT OVERLAYS

The entire front face of the apparatus body shall have brushed stainless plate overlays installed.

RAW STAINLESS REAR OVERLAYS

The entire rear face of the apparatus body shall have raw stainless steel overlays installed for the installation of chevron striping.

All overlay materials shall be coated with 3M adhesive sealant on the back portion to provide an insulating barrier between dissimilar metals.

FRONT CORNER TRIM 16 GAUGE BRUSHED STAINLESS STEEL

The front of the apparatus body vertical wall overlays shall be installed with a 16 gauge brushed stainless steel 1.00 inch x 1.00 inch corner trim piece, for edge protection. The vertical edge trim piece shall extend from the top to bottom and shall be fastened at a minimum of three locations, top, middle, and bottom.

REAR CORNER TRIM 16 GAUGE BRUSHED STAINLESS STEEL

The rear face of the apparatus body, vertical wall overlays shall be installed with a 16 gauge brushed stainless steel 1.00-inch by 1.00-inch corner trim piece, for edge protection. The vertical edge trim piece shall extend from the top to bottom and shall be fastened at a minimum of three locations, top, middle, and bottom.

The vertical edge trim piece that is protecting the chevron striping surface or that is utilized for the purpose of striping, shall be secured utilizing fasteners only.

CATWALKS

The catwalks shall be constructed with materials of a non-slip .125 inch embossed aluminum diamond plate.

VIBRA-TORQ™ BODY MOUNTING SYSTEM

The entire body module assembly shall be mounted so that it “floats” above the chassis frame rails exclusively with Vibra-Torq™ torsion isolator assemblies to reduce the vibration and stress providing an extremely durable body mounting system.

The body substructure shall be mounted above the frame to allow independent flexing to occur between the body and the chassis. Each assembly shall be mounted to the chassis frame rails with steel, gusseted mounting brackets. Each bracket shall be powder coated for corrosion resistance. Each body mount bracket shall be mounted to the side chassis frame flange with two 5/8”-UNC Grade 5 HHCS.





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Each assembly shall have a two-part rubber vibration isolator. The isolator shall be of a specific durometer to carry the necessary loads of the apparatus body, equipment, tank, water, and hose. The quantity of mounts utilized shall correspond directly to the anticipated weight being supported. Certain assemblies shall also incorporate a torsion spring. Helical coil springs shall be incorporated into specific mounts in tandem with the rubber isolators to minimize the stress absorbed by the body caused from chassis frame rail flexing.

There shall be no welding to the chassis frame rail sides, web or flanges, or drilling of holes in the top or bottom frame flanges between axles. All body to chassis connections shall be bolted so that in the event of an accident, the body shall be easily removable from the truck chassis for repair or replacement.

Because of the constant vibration and twisting action that occurs in chassis frame rails and suspension, the torsion mounting system is required to minimize the possibility of premature body structural failures. The Vibra-Torq™ body mounting system shall have a lifetime warranty.

BODY STRUCTURE WIDTH

The width of the apparatus body from the outside of the left compartments to the outside of the right compartments shall be 99.00 inch (2.51 m) excluding any attached peripherals such as rub rails, fenderettes, grab handles, etc.

COMPARTMENT VENTILATION

To allow for proper air circulation & flow, each compartment shall have a venting route. The venting locations shall be determined by best-fit for each body configuration. Chrome louvered plate vents shall be installed appropriately on the compartment interior walls.

COMPARTMENTATION

The following compartments shall be supplied on the apparatus:

Compartment "L1"

There shall be one (1) full height compartment ahead of the rear wheels on the left side of the apparatus.

The approximate interior dimensions of this compartment shall be 49.00 inches (1244.60 mm) wide by 74.00 inches (1879.60 mm) high with a depth of 25.50 inches (647.70 mm).

The framed opening shall measure 46.50 inches (1181.10 mm) wide by 70.00 inches (1778.00 mm) high.

The compartment will have approximately 53.51 cubic feet (1.52 cu m) of space.





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Compartment "L2"

There shall be one (1) compartment located directly over the rear wheels on the left side of the apparatus.

The approximate interior dimensions of this compartment shall be 62.00 inches (1574.80 mm) wide by 44.50 inches (1130.30 mm) high with a depth of 25.50 inches (647.70 mm).

The framed opening shall measure approximately 62.00 inches (1574.80 mm) wide by 40.50 inches (1028.70 mm) high.

The compartment will have approximately 40.71 cubic feet (1.15 cu m) of space.

Compartment "L3"

There shall be one (1) full height compartment located behind the rear wheels on the left side of the apparatus.

The approximate interior dimensions of this compartment shall be 62.50 inches (1587.80 mm) wide by 74.00 inches (1879.60 mm) high with an upper depth of 25.50 inches (647.70 mm) and the lower portion being transverse into the rear compartment, unless partitions are installed.

The framed opening shall measure approximately 60.00 inches (1524.00 mm) wide by 70.00 inches (1778.00 mm) high.

The compartment will have approximately 68.00 cubic feet (1.93 cu m) of space.

Compartment "R1"

There shall be one (1) full height compartment located ahead of the rear wheels on the right side of the apparatus.

The approximate interior dimensions of this compartment shall be 49.00 inches (1244.60 mm) wide by 74.00 inches (1879.60 mm) high with a lower depth of 25.50 inches (647.70 mm) and an upper depth of 12.50 inches (317.50 mm).

The framed opening shall measure approximately 46.50 inches (1181.10 mm) wide by 70.00 inches (1778.00 mm) high.

The compartment shall have approximately 38.39 cubic feet (1.09 cu m) of space.





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Compartment "R2"

There shall be one (1) compartment located directly over the rear wheels on the right side of the apparatus.

The approximate interior dimensions of this compartment shall be 62.00 inches (1574.80 mm) wide by 44.50 inches (1130.30 mm) high with a depth of 12.50 inches (317.50 mm). The lower 4.50 inches of the compartment shall be a depth of 25.50 inches.

The framed opening shall measure approximately 62.00 inches (1574.80 mm) wide by 40.50 inches (1028.70 mm) high.

The compartment will have approximately 22.06 cubic feet (0.62 cu m) of space.

Compartment "R3"

There shall be one (1) full height compartment located behind the rear wheels on the right side of the apparatus.

The approximate interior dimensions of this compartment shall be 62.50 inches (1587.80 mm) wide by 74.00 inches (1879.60 mm) high with an upper depth of 12.50 inches (317.50 mm) and the lower portion being transverse into the rear compartment, unless partitions are installed.

The framed opening shall measure approximately 60.00 inches (1524.00 mm) wide by 70.00 inches (1778.00 mm) high.

The compartment shall have approximately 48.00 cubic feet (1.36 cu m) of space.

FLUSH FITTING HINGED DOOR CONSTRUCTION

All doors shall be a minimum of 2.00 inch (50.80 mm) thick with a return flange on the interior of the door to provide a mounting surface for the attachment of a door liner. Each door will have a weep hole to prevent interior moisture build up.

All door hinges shall be polished 14 gauge 304 stainless steel with a .25 inch (6.35 mm) diameter stainless steel pin. The hinges shall be mounted to provide easy door adjustment in the future without removing the door liner. The vertically hinged doors shall each have a stainless steel spring loaded door holder. The horizontally top hinged doors shall have a gas charged shock to hold the door in the up position.





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Door handles shall be polished stainless steel D-ring style that are spring loaded and bidirectional. They shall be mounted on the doors of compartments with a single door or on the primary door of a compartment with vertical double doors. The latches shall attach to the door assembly without any fasteners penetrating the door skin material, with a rubber gasket provided between the D-ring handle and the door skin. The door latch assembly must be completely enclosed by the door assembly and inner door pan, to prevent damage from shifting equipment carried in the compartment.

The door latches to open the secondary door of a compartment with vertical double doors shall be "lever" style, located on the backside of the door. Once the primary door is opened, the handle shall be easily visible. Full height secondary doors will have the latch at the bottom of the door with all others door heights having the latch at the top of the door.

All hinged doors shall be a "flush" style to provide a flat appearance of the body side. The body shall form a 2.00 inch (50.80 mm) deep frame on all four sides to receive the door, preventing any door overlap. A clip on rubber gasket shall be mounted on the door frame, providing a tight seal to prevent moisture and debris from entering the compartment. If catwalk(s) are specified for above the side compartment door openings, the design shall incorporate an outward bent flange to deflect moisture away from the door opening. If design does not allow for this, such as flush upper body panels and the top is capped, 'J' trim channel pieces shall be adhered along the top edge of the door openings where hinged doors are specified.

Lap type doors which utilize an outer lip to provide a weather seal, shall not be acceptable.

All horizontal and vertical side compartment doors shall be fabricated of 16 gauge 304 grade stainless steel.

DOOR LINER MATERIAL

The interior door liners shall be fabricated of 16 gauge stainless steel and shall be dual-action sanded finish.

DOOR OPEN INDICATOR

Each flush door body compartment shall be provided with an auto door switch. The switch shall be installed on the primary compartment door and activate the open door indicator when the door is opened.

The switch shall be of a magnetic style reed indicator type. Each switch shall be hermetically sealed rated to 10,000,000 cycles. The contact and magnetic housing shall snap-lock in the body material, one on the body and one in the door.

If the door is not properly closed and the parking brake is released, it shall activate the "hazard light" in the cab to alert the driver.





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REAR CENTER COMPARTMENT

There shall be one (1) compartment, "B1", located at the rear of the apparatus, below the hose bed access area.

The approximate interior dimensions of this compartment shall be 43.00 inches (1092.20 mm) wide and 47.00 inches (1193.80 mm) high or as high as possible determined by the hose bed height and rear configuration. The depth shall be determined by the length of the rear side compartments specified and maximized for the suspension specified for the chassis.

The framed opening shall be approximately 38.00 inches (965.20 mm) wide and 41.00 inches (1041.10 mm) high.

REAR COMPARTMENT DOOR

A non-locking R•O•M Corporation Series IV roll-up shutter door shall be installed. Each shutter slat, track, bottom rail, and drip rail shall be constructed from anodized 6063 T6 aluminum.

Shutter slats shall feature a double wall extrusion 0.315 inches thick with a concave interior surface to minimize loose equipment jamming the shutter door closed. Shutter slats shall feature an interlocking end shoe to prevent side to side binding of the shutter door during operation. Slats must have interlocking joints with an inverted locking flange. Slat inner seal shall be a one piece PVC extrusion; seal design shall be such to prevent metal to metal contact while minimizing dirt and water from entering the compartment.

Shutter door track shall be one piece design with integral overlapping flange to provide a clean finished look without the need of caulk. Door track shall feature an extruded Santoprene rubber double lip low profile side seal with a silicone co-extruded back to reduce friction during shutter operation.

Shutter bottom rail shall be a one piece double wall extrusion with integrated finger pull. Finger pull shall be curved upward with a linear striated surface to improve operator grip while operating the shutter door. Bottom rail shall have a smooth contoured interior surface to prevent loose equipment from jamming the shutter door. Bottom rail seal shall be made from Santoprene; it will be a double "V" seal to prevent water and debris from entering compartment. Bottom rail lift bar shall be a one piece "D" shaped aluminum extrusion with linear striations to improve operator grip during operation. Lift bar shall have a wall thickness of 0.125 inches. Lift bar shall be supported by no less than two pivot blocks; pivot blocks shall be constructed from Type 66 Glass filled reinforced nylon for superior strength. Bottom rail end blocks shall have incorporated drain holes which will allow any moisture that collects inside the extrusion to drain out.

Shutter door shall have an enclosed counterbalance system. Counterbalance system shall be 4.00 inches in diameter and held in place by 2 heavy duty 18 gauge zinc plated plates. Counterbalance system shall have 2 over-molded rubber guide wheels to provide a smooth transition from vertical track to counterbalance system.





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REAR COMPARTMENT DOOR FINISH

The rear center compartment door shall be brushed aluminum finish.

ROLL-UP DOOR PROTECTOR

There shall be a protective cover installed under the rear compartment door roll to protect the door in the rolled up position.

ROLL-UP DOOR PROTECTOR FINISH

The roll-up door protector shall be left Natural finish.

DOOR OPEN INDICATOR

Each roll up door shall have an integral door open indicator magnet in the lift bar.

If the door is not properly closed and the parking brake is released, it shall activate the “hazard light” in the cab to alert the crew.

FUEL TANK ACCESS PANEL

There shall be a removable panel located on the interior back wall of the rear center compartment for maintenance access to the chassis fuel tank.

REAR COMPARTMENT PARTITIONS

The rear center compartment of the apparatus shall have permanent partitions installed on each side to increase utilization of the rear center area and to block access to either of the side compartments. The partitions shall be constructed of the same materials as used in the body structure and shall be welded in place to form permanent compartmentation.

SILL PLATES

Brushed stainless steel sill plates shall be installed at the bottom of each body compartment door opening.





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COMPARTMENT LIGHTING

Two (2) LED Tube lights model #RX-15T16-5050 shall be installed in each body compartment. The tube lights shall be centered vertically along each side of the door framing and at maximum length available to fit the opening.

The lights in each compartment shall be on a separate circuit, turning on only those lights that have open compartment doors.

COMPARTMENT LIGHTING ACTIVATION

Each compartment light shall be activated with the ignition, park brake and the respective compartment door open switch

INSET REAR TAILBOARD

The rear tailboard shall be fabricated of the same structural materials used in manufacturing the apparatus body.

The rearmost body side compartmentation shall be extended rearward and be flush with the rearmost edge of the tailboard. The compartment extension shall provide a larger door opening and increase compartment storage space. The rear inset tailboard (O/A) depth dimension will be provided in the specifications.

The rear right side of the body with right side vertical ladder box shall be flush full height from lower rub rail to compartment tops forming a flat back body on the right side.

The rear inset left side compartmentation w/o compartments thru the tank shall be of a vertically split depth design and shall have split depth lower compartment(s) to allow for the access ladder to be fully recessed in the tailbord inset.

The rear inset side compartmentation with full depth design compartments shall have extensions of full height and full depth.

There shall be a warning sign installed on the rear body surface area indicating: "DO NOT RIDE ON REAR STEP, DEATH OR SERIOUS INJURY MAY RESULT."

The rear tailboard and body shall be constructed as such that the angle of departure shall not be less than 8 degrees at the rear of the apparatus when fully loaded to meet NFPA requirements.





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TAILBOARD LENGTH

The rear tailboard shall be approximately 16.00 inches (406.40 mm) deep and shall incorporate an extruded stair tread "Diamondback" material stepping surface bolted in place which spans the width of the apparatus. The extruded stepping surface shall be completely enclosed by the supporting structural framework to minimize damage.

The ventilated "Diamondback" material shall be capable of being easily replaced if necessary, using only hand tools. The framework shall be covered with an adhesive tape providing an aggressive traction surface. Use of any aluminum diamond plate material on these areas shall not be acceptable.

WHEEL WELLS

Wheel wells shall have semicircular black polymer composite inner liners that are bolted to the wheel well panel and supported inboard by brackets that are connected to the body framework. Each wheel well shall be a continuous piece with no breaks or ledges where road grime or debris may accumulate. This liner shall be removable for access to suspension assembly for repairs. There shall be no exception to the bolted wheel well inner liner requirement.

WHEEL WELL MODULES

The body wheel well area shall be fabricated of same material type as the body and finish painted. There shall be "smart storage" compartmentation features incorporated on each side of the apparatus body wheel well modules to utilize and maximize storage space availability.

WHEEL WELL ROLL-OUT DRAWER

There shall be one (1) roll-out drawer installed above the rear wheel on the left side of the body in the L-2 compartment. The drawer shall be as wide and as deep as the compartment allows and shall have a 220 pound capacity.

The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a lock-in, lock-out (FDR) front drawer release system.

WHEEL WELL ROLL-OUT DRAWER

There shall be one (1) roll-out drawer installed above the rear wheel on the right side of the body in the R-2 compartment. The drawer shall be as wide and as deep as compartment allows and shall have a 220 pound capacity.

The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a lock-in, lock-out (FDR) front drawer release system.





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ADJUSTABLE SHELF

There shall be one (1) full width shelf provided and installed above the internal roll-out drawer assembly. The shelf shall have a vertical height adjustment of 8.00 inches utilizing dull aluminum brackets.

LEFT FRONT WHEEL WELL

There shall be provisions in the wheel well on the left side in front of the axle.

SCBA COMPARTMENT

The compartment shall hold three (3) 6.75 inch (171.45 mm) Diameter x 24.00 inch (609.60 mm) long SCBA bottles with 1.00 inch (25.40 mm) nylon safety loops installed.

LEFT REAR WHEEL WELL

There shall be provisions in the wheel well on the left side behind the axle.

FUEL FILL

The fuel fill shall be located within the smart storage compartment.

SMART STORAGE FUEL FILL ASSEMBLY

There shall be a fuel fill assembly located on the apparatus body accessing the chassis supplied fuel tank. The assembly shall be located in the rear Smart Storage module specified behind the rear axle.

There shall be a drain in the fuel fill assembly to allow overflow to drain on the back side of the apparatus body. The fuel fill cap shall be manufactured of plastic materials, green in color and equipped with a tether.

The fuel fill cap shall be labeled "DIESEL FUEL". The stainless steel fuel fill neck shall have a .375 inch inside diameter vent line installed from the top of the fuel tank to the fill tube.

RIGHT FRONT WHEEL WELL

There shall be provisions in the wheel well on the front side in front of the axle.

SCBA COMPARTMENT

The compartment shall hold three (3) 6.75 inch (171.45 mm) Diameter x 24.00 inch (609.60 mm) long SCBA bottles with 1.00 inch (25.40 mm) nylon safety loops installed.





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RIGHT REAR WHEEL WELL

There shall be provisions in the wheel well on the right side behind the axle.

SCBA COMPARTMENT

The compartment shall hold three (3) 6.75 inch (171.45 mm) Diameter x 24.00 inch (609.60 mm) long SCBA bottles with 1.00 inch (25.40 mm) nylon safety loops installed.

SMART STORAGE DOORS

The smart storage compartment doors shall be smooth and painted stainless steel to match body job color. Where a module storage compartment is specified, a hinged door shall be provided. Each compartment door shall be secured with a push button latch.

DOOR OPEN INDICATOR

There shall be a switch installed for each smart storage compartment door.

If the door is not properly closed and the parking brake is released, it shall activate the "hazard light" in the cab to alert the crew.

FENDERETTES

Two (2) polished stainless steel fenderettes shall be provided and installed on body rear wheel well openings, one (1) each side. Rubber welting shall be provided between the body and the crown to seal the seam and restrict moisture from entering. A dielectric barrier shall be provided between the fender crown fasteners (screws) and the fender sheet metal to resist deterioration.

HOSE STORAGE

A hose bed shall be provided and installed with the minimum capacity as required by (NFPA) 1901, Standard for Automotive Fire Apparatus.

The outer hose bed walls shall be positioned about 6" inside of each body side to offer a wider hose bed yet maintaining a traditional pumper body appearance.

The hose bed shall have a slotted .25 inch (6.35 mm) aluminum flooring installed to allow drainage through the tank cavity to the ground below.

The aluminum flooring shall be manufactured in discrete sections to allow for ease of removal and stability. The area shall be free of sharp edges to protect the hose when loading and unloading.





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HOSE BED AREA

The hose bed area of the apparatus shall be overlaid with brushed stainless steel material.

HOSE BED AREA TRIMMED W/ BRUSHED SST

The vertical corners at the back hose bed shall be trimmed with brushed stainless steel. The trim shall extend from the hose floor level up to the top edge of the body side.

HOSE BED WALL CAP

The top rail on the hose bed side walls shall have a trim cap fabricated of 16 gauge brushed 304L stainless steel. The cap shall run the entire length of the hose bed side wall and shall provide a smooth surface with a highly finished appearance. It shall extend down at least 1.00 inch on each side of the hose bed side wall.

HOSE BED WALL HEIGHT

The walls of the hose bed shall be 90.00 inches (2.29 m) tall, measured from the bottom edge of the compartments to the top flange.

HOSE BED COVER WITH FIXED SUPPORT DIVIDER

There shall be a double door cover for the hose bed provided and installed.

A fixed divider shall be installed in the hose bed to support the covers when they are closed. The construction style of the divider may be similar to adjustable divider(s) if specified.

Each cover shall be reinforced and be capable of supporting 400 pounds (181 kg) while standing on the cover. Each cover shall be capable of being opened independently.

The doors shall be fabricated of .125 inch (3.18 mm) embossed aluminum diamond plate material with full length two-piece stainless steel piano hinges.

The hose bed covers shall be wired to the hazard light in chassis cab. Inductive proximity switches shall be installed at the hose bed cover door hinges. If the door is not properly closed with the parking brake released, it shall activate the "hazard light" in the cab to alert the crew.

The left side hose bed cover shall be supported by the hose bed divider between the second and third hose bed area. This hose bed divider shall be a fixed permanent divider. Hose bed three shall be 12" wide.

The right side hose bed cover shall be supported by the hose bed divider between the third and fourth hose bed area. This hose bed divider shall be a fixed permanent divider





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ELECTRIC ACTUATION

The hose bed covers shall be supplied with two (2) electrically powered linear actuators to aid in lifting and lowering the covers.

There shall be an individual 3-position toggle switch for each cover.

The operating control switches for the covers shall be located at the left rear of the body in a CPI (Cast Products) enclosure with a hinged door.

HANDRAILS

Two (2) 1.25-inch diameter handrails constructed of bright-anodized knurled extruded aluminum with 18.00 inches of grip surface shall be installed on top of the hose bed covers, one (1) each cover, accessible from the rear of the apparatus.

REAR HOSE BED RESTRAINT

The dealer shall provide a means of restraining the hose at the rear of the hose bed to prevent inadvertent deployment of hose during transit.

HOSE BED DUNNAGE AREA

A vertical bulkhead shall be provided and installed at the front of the hose bed area, behind the water tank fill tower, forming a storage area that is separated from the hose bed.

The rear face of the bulkhead shall serve as a mounting surface for the hose bed dividers, resulting in the ability to move any hose bed divider across the entire width of the hose bed.

REINFORCED HOSE BED DIVIDER WITH HAND CUTOUT

There shall be a full height adjustable reinforced hose bed divider provided and installed in the hose bed area of the apparatus body.

The divider shall be fabricated of .25 inch (6.35 mm) thick aluminum plate with a double sided reinforcement and attached to the adjustable slide rails. The rear of the divider shall have a radius to provide a smooth corner and a hand cut out to aid in access to the hose bed area. The top and rear edges shall be reinforced with 1.00 inch (25.40 mm) round aluminum tubing for extra rigidity. Hose payout shall be unobstructed by the divider.

There shall be a total of one (1) provided and installed in the hose bed.





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HOSE LOAD

The hose bed shall accommodate the following hose loads:

BAY 1:

-600 feet of 2.50 inch hose

BAY 2:

-600 feet of 2.50 inch hose

BAY 3:

HOSE BED WALKWAY

The specified bay in the hose bed shall be utilized as an access walkway, unobstructed to the forward bulkhead wall.

The walkway shall be a minimum of 12.00 inches (.31 m) wide.

The surface shall be an approved stepping surface of embossed aluminum diamond plate.

BAY 4:

-1200 feet of 4.00 inch hose

TANK CAPACITY

The tank shall be 1000 gallons (3785 liters) in capacity.

PRO POLY POLYPRENE TANK

The water tank shall be designed to utilize cavities that have commonly been wasted space. The water tank shall extend up and over the rear center compartment to just behind the rear body wall. The water tank shall fill the void between the main hose bed floor and the top of the rear center compartment. This tank design shall provide for a lower overall tank height, resulting in a lower overall main hose bed height. In addition, this design shall create a lower center of gravity of the vehicle, for improved vehicle handling.





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TANK CONSTRUCTION

The booster tank shall be constructed of .50 inch (12.70 mm) thick Polypropylene sheet stock which is a non-corrosive stress relieved thermoplastic. It shall be designed to be completely independent of the body and compartments. All joints and seams are extrusion welded and/or contain the "Bent Edge" and tested for maximum strength and integrity. The top of the booster tank is fitted with lifting eyes designed with a 3 to 1 safety factor to facilitate tank removal.

COVER

The tank cover shall be constructed of .50 inch (12.70 mm) thick Polypropylene and shall be recessed. A minimum of two lifting dowels shall be drilled and tapped .50 inch (12.70 mm) x 2.00 inch (50.00 mm) to accommodate the lifting eyes.

BAFFLES

The swash partitions shall be manufactured from .50 inch (12.70 mm) Polypropylene. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments to provide maximum water flow. All swash partitions interlock and are welded to one another as well as to the walls of the tank.

MOUNTING

The tank shall have a reinforced .75 inch (19.10 mm) floor for added strength and durability. The tank shall be isolated from the body substructure cross members with .50 inch (12.70 mm) x 2.50 inch (65.00 mm) rubber strips that are 60 durometer in hardness. The tank shall sit nested inside the center body substructure and shall be completely removable without disturbing the body side panels. Tank stops on all four sides will keep the tank from shifting front to back or side to side.

TANK WARRANTY

A lifetime tank warranty will be provided by the tank manufacturer, Pro Poly.

Please see the official warranty document in the appendix (attached) for specific details.





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FILL TOWER

The fill tower opening shall be approximately 13.00 inches (330.20 mm) x 12.00 inches (304.80 mm).

The tower will have a .25 inch (6.40 mm) thick removable Polyprene screen and a Polyprene hinged type cover that will open if the tank is filled at an excess rate. There shall be a removable .25 inch (6.40 mm) thick Polyprene screen to prevent debris from falling into the tank.

The fill tower shall have a 4.00 inch (100.00 mm) overflow that will discharge underneath the tank, behind the rear axle(s), avoiding the chassis fuel tank and suspension components where applicable. The overflow shall terminate above the tank water level when filled to the rated capacity.

FILL TOWER LOCATION

The fill tower shall be located to the left side at the front of the hose bed.

SUMP

The sump will be constructed in an 8.00 inch (203.20 mm) x 16.00 inch (406.40 mm) x 3.00 inch (77.00 mm) deep area.

The construction material shall utilize .50 inch (12.70 mm) Polyprene and be located in line with the tank suction valve. There shall be a 4.00 inch (100.00 mm) schedule 40 Polyprene tube installed that will run from the suction outlet to the sump location. The tank will have an anti-swirl plate located approximately 2.00 inch (50.00 mm) above the sump.

SUMP PLUG

The sump shall have a 3.00 inch (77.00 mm) plug for use in draining and cleaning out the tank.

OUTLETS

In addition to the tank suction valve outlet located in the sump, there shall be an outlet provided for the tank fill valve. If there are any additional options selected (such as an extra tank suction or direct tank inlets), there shall be additional outlets provided to accommodate these items.

LADDER COMPARTMENT

The ground ladders shall be stored within a compartment installed beside the booster tank.

All items shall be stored in their own independent section to allow one item to be removed without disturbing another. There shall be polypropylene slide angles installed in each section where applicable, and for the ladders to slide on. There shall be a stop in the front of each section to prevent the items from sliding forward.





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LADDER COMPARTMENT MATERIAL

The ground ladder compartment shall be fabricated of .125-inch smooth aluminum.

LADDER COMPARTMENT LOCATION

The ground ladder compartment shall be mounted vertically on the right side of the water tank.

LADDER COMPARTMENT END CAP

The compartment shall be enclosed through to the pumphouse and incorporate a removable weather resistant end cap, providing access for serviceability, drainage, and cleaning.

LADDER COMPARTMENT DOOR HINGE LOCATION

The door hinge shall be mounted vertically across the inboard edge of the compartment door opening.

LADDER COMPARTMENT DOOR

The door material shall match the rear overlay material. The door shall have two (2) push button type latches installed with a chrome handle centered between the push button latches.

If the door is not properly closed and the parking brake is released, it shall activate the “hazard light” in the cab to alert the crew.

LADDER COMPARTMENT DOOR REFLECTIVE CHEVRON

The ladder compartment door shall be left unfinished and include retro-reflective chevron material matching the rear of the apparatus.

LADDER BOX LAYOUT DECAL

There shall be a vinyl layout decal affixed to the inside of the ladder box door. The decal shall represent the size and orientation of the ladders stored within the compartment.

LADDER COMPLEMENT

The following ladders shall be supplied with the apparatus:

One (1) Duo-Safety 24 foot (7.0 m) two (2) section aluminum extension ladder(s), model 900A.

One (1) Duo-Safety 14 foot (4.0 m) aluminum roof ladder(s) with folding hooks, model 775A.

One (1) Duo-Safety 10 foot (3.0 m) aluminum attic ladder(s), model 585A.





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PIKE POLE STORAGE

There shall be two (2) tubes provided for storage of the pike poles installed with the ground ladder complement.

T-handle detent pin(s), secured by a chain, shall be used to secure the pike pole(s) during transit.

The pike poles shall be supplied and installed by the Fire Department before the apparatus is placed into service.

BACKBOARD STORAGE

There shall be storage provisions provided in the specified ladder compartment for one (1) backboard.

The storage area shall be approximately 2.50 inches by 18.00 inches by 72.00 inches.

SIDE COMPARTMENT UNISTRUT

Vertically mounted Unistrut shall be installed in all full depth areas of the apparatus body compartments, to accommodate the installation of shelves, trays, and or other miscellaneous equipment.

OVER-WHEEL COMPARTMENT PARTITIONS

Compartment partitions fabricated of the same material as the body shall be permanently installed in the left over-wheel compartment, right over-wheel compartment, or both where applicable by design.

The partitions shall be permanently installed in place and flush to the forward and rearward frame openings.

The partitions shall aid in keeping loose equipment from falling into the fore and aft compartments.

FIXED VERTICAL COMPARTMENT DIVIDER(S)

A permanently mounted sheet metal compartment divider shall be installed in each compartment specified. There shall be vertical Unistrut tracks attached to each side of the divider to aid in equipment mounting.

The following shall be provided in each compartment:





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L3 FIXED DIVIDER

There shall be one (1) fixed divider(s) located within the L3 compartment.

The fixed divider shall be located 16.00 inches from the compartments rear wall.

R3 FIXED DIVIDER

There shall be one (1) fixed divider(s) located within the R3 compartment.

The fixed divider shall be located 16.00 inches from the compartments rear wall.

SHELVING

The shelving shall be made out of .190 inch (4.83 mm) smooth aluminum sheet material with a formed 2.00 inch (50.80 mm) lip on the front and back.

The side mounting brackets shall be provided for vertical adjustment.

Standard manufacture shelf construction capacity ratings are as follows, any requested change to the manufacture's standard design may affect/reduce the ratings accordingly:

Shelving shall be rated at a capacity of 200 pounds (90.72 kg) and applicable to the design configuration.

The following shelving shall be provided:

UPPER HALF DEPTH SHELVING

A full width x half depth shelf shall be provided and installed in the upper area of the compartment specified.

There shall be a total quantity of three (3) provided.

- One (1) located in the R1 compartment.
- One (1) located in the R2 compartment.
- One (1) located in the R3 compartment.





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UPPER HALF DEPTH SHELVING

A half depth shelf mounted between the fixed compartment divider and the rear wall shall be provided and installed in the upper area of the compartment specified.

There shall be a total quantity of four (4) provided.

- Four (4) located in the L3 compartment.

LOWER FULL DEPTH SHELVING

A full width x full depth shelf shall be provided and installed in the lower area of the compartment as specified.

There shall be a total quantity of one (1) provided.

- One (1) located in the R1 compartment.

LOWER FULL DEPTH SHELVING

A full depth shelf mounted between the rescue air bag storage system and the forward wall shall be provided and installed in the lower area of the compartment specified.

There shall be a total quantity of one (1) provided.

- One (1) located in the R3 compartment.

ROLL OUT TRAY(S)

Each tray shall be fabricated of .19 inch (4.83 mm) thick 3003 grade or higher aluminum sheet material with four (4) 3.00 inch (76.20 mm) side flanges, corner welded for maximum strength and shall be as wide and as deep as compartment allows.

The following shall be supplied:





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ROLL-OUT ASSEMBLY/AUSTIN

The floor mounted tray shall be full width and shall be secured to an Austin Hardware 22.00 inch (558.80 mm) long ball bearing "heavy duty" slide assembly. The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a lock-in, lock-out front drawer release system (FDR).

The tray shall have a 300# capacity and 100% extension.

There shall be a total quantity of three (3) provided.

- One (1) located in the L1 compartment.
- One (1) located in the R1 compartment.
- One (1) located in the rear center compartment.

ROLL-OUT ASSEMBLY/AUSTIN

A floor mount tray mounted between the fixed compartment divider and the forward wall shall be secured to an Austin Hardware 22.00 inch (558.80 mm) long ball bearing "heavy duty" slide assembly. The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a lock-in, lock-out front drawer release system (FDR).

The tray shall have a 300# capacity and 100% extension.

There shall be a total quantity of two (2) provided.

- One (1) located in the L3 compartment.
- One (1) located in the R3 compartment. (Location is forward of the specified rescue air bag storage assembly)





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

ROLL-OUT ASSEMBLY/AUSTIN

The adjustable tray shall be full width and shall be secured to an Austin Hardware 22.00 inch (558.80 mm) long ball bearing "heavy duty" slide assembly. The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a lock-in, lock-out front drawer release system (FDR).

The tray shall have a 300# capacity and 100% extension and adjustable height utilizing unistrut materials.

There shall be a total quantity of two (2) provided.

- One (1) located in the L1 compartment.
- One (1) located in the rear center compartment.

ROLL-OUT ASSEMBLY/AUSTIN

An adjustable tray mounted between the fixed compartment divider and the forward wall shall be secured to an Austin Hardware 22.00 inch (558.80 mm) long ball bearing "heavy duty" slide assembly. The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a lock-in, lock-out front drawer release system (FDR).

The tray shall have a 300# capacity and 100% extension and adjustable height utilizing unistrut materials.

There shall be a total quantity of one (1) provided.

- One (1) located in the L3 compartment.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

ROLL OUT/TILT DOWN TRAY

The roll out/tilt mounted tray shall be full width and depth and shall be secured to a (Slide Master) roll-out system. The slide unit shall extend down 30-degrees and 90% extension with a 250# slide capacity. The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a latching device to hold the tray in the stored position.

The roll out tilt tray assembly shall be mounted to the unistrut of the compartment specified so that it is vertically adjustable.

There shall be a total quantity of five (5) provided.

Each slide shall be held in the locked position by a lever actuated twist lock.

Each Slide Master slide shall be wet painted {silver} in color.

- Two (2) located in the L1 compartment.
- Two (2) located in the L2 compartment.
- One (1) located in the L3 compartment. Note: The tray shall be partial width, installed high in the L3, forward of the fixed vertical divider.

WALL MOUNTED TOOL BOARD/ALUMINUM

An aluminum tool board with DA finish shall be installed to the back wall of the compartment as specified. The tool board shall be mounted directly to unistrut material attached to the upper back wall.

There shall be a total quantity of three (3).

- One (1) located in the R1 compartment.
- One (1) located in the R2 compartment.
- One (1) located in the R3 compartment.





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

AIR BAG STORAGE COMPARTMENT

Inflatable air bags shall be stored in individual vertical storage slots of a compartment. Each slot shall be wide enough to accommodate the specified bag dimensions with fill valve. The air bags shall be removable without disturbing the storage of another.

The compartment shall have provisions for the following air bags:

- Two (2) 24.00 inch by 24.00 inch by .875 inch bags
- Two (2) 20.00 inch by 20.00 inch by .875 inch bags
- Two (2) 15.00 inch by 15.00 inch by .875 inch bags
- Two (2) 12.00 inch by 12.00 inch by .875 inch bags
- One (1) 6.00 inch by 12.00 inch by .875 inch bags

AIR BAG COMPARTMENT FINISH

The air bag compartment shall have a dual-action sanded finish on the exterior surfaces.

AIR BAG COMPARTMENT LOCATION

The air bag compartment shall be located rearward in the R3 compartment, between the fixed vertical divider and the compartment rear wall.

VELCRO STRAPPING

The air bag compartment shall incorporate heavy duty Velcro strapping to securely retain the equipment during transit.

SIDE RUB RAILS (ALUMINUM CHANNEL)

The lowest edge of the apparatus body side compartments shall be trimmed with brightly anodized aluminum channel rub rail material.

The rub rails shall be approximately 3.00 inches high with flanges turned outwards for increased rigidity, with each end chamfered to a 45 degree angle. The rub rails shall not be constructed as an integral part of the apparatus body structure, allowing each rub rail to be easily removed in the event of damage.

The rub rails shall be secured with stainless steel fasteners and spaced away from the apparatus body with .50 inch nylon spacers to help absorb moderate side impacts and prevent the collection of water and debris for easier cleaning.





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

RUB RAIL REFLECTIVE STRIPING

One inch reflective 3M "Diamond Grade" striping shall be applied to the length of each side rub rail section making the perimeter of the apparatus more readily visible.

The reflective striping shall be "Ruby Red" in color.

REAR RUB RAIL (ALUMINUM CHANNEL)

The rearward edge of the rear step shall be trimmed with brightly anodized aluminum channel rub rail.

The rub rail shall be approximately 3.00" high with flanges turned outwards for increased rigidity, with each end chamfered to a 45 degree angle. The rub rail shall not be constructed as an integral part of the apparatus body structure, allowing the rub rail to be easily removed in the event of damage.

The rub rail shall be secured with stainless steel fasteners and spaced away from the edge of the rear step with .50 inch nylon spacers, to help absorb moderate rear impacts and prevent the collection of water and debris for easier cleaning.

FOLDING STEPS

Cast Products, Inc. model #SP6610-1CH dual LED illuminated folding steps, made of high strength die cast aluminum with a protective chromed coating, pyramid tread platform, conforming to current NFPA requirements, shall be provided and installed on the apparatus as specified.

The steps shall have a minimum of 46 sq. inches of surface area capable of sustaining a 1200 lb. static load. The steps shall be mounted no more than 18" inches between each step.

"SMART" ALUMINUM ACCESS LADDER

A "Smart" aluminum fold down access ladder shall be provided at the rear of the apparatus. The ladder rungs shall be constructed of a slip resistant stepping material.

The upper section shall be permanently secured to the body with a mechanical style hinge and fasteners that allow the ladder to extend down and out to the ground from the apparatus body. When deployed, the fold-down steps shall create a safe and comfortable climbing angle.

Two (2) gas cylinders shall be installed to assist in the deployment of the lower fold-down section. A mechanical locking mechanism shall be provided to retain the ladder in a stowed and secured position when in transit or when not in use. Access ladder rung illumination shall be provided during low light conditions.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

A notch will be provided on all tailboards 'exceeding' 13.50 inches deep when specifying the addition of a Smart Fold Down Ladder. The notch will provide the proper clearance to allow the ladder to 'swing down' freely when being deployed.

If the step is not properly stowed and the parking brake is released, it shall activate the hazard light in the cab to alert the crew.

ACCESS LADDER LOCATION

The ladder shall be installed at the rear of the apparatus on the left side.

STEP LIGHTING

One (1) light shall be installed to illuminate the stepping areas as provided. The light shall be a LED Tube light model #RX-15T16-5050-21CM with an aluminum mounting bezel.

The light shall be directed towards and positioned above the stepping surfaces.

STEP LIGHT ACTIVATION

The step light shall be activated when the park brake is set.

HANDRAILS KNURLED ALUMINUM

All handrails shall be 1.25 inches in diameter, constructed of extruded aluminum with a knurled grip and bright anodized finish.

There shall be a minimum of 2.00 inches of clearance between the bracket and the body in accordance with (NFPA) 1901, Standard for Automotive Fire Apparatus.

The following handrails shall be installed at the approximate lengths noted:

REAR HANDRAIL LOCATION

Three (3) handrails shall be installed on the rear of the apparatus. Each handrail shall be of an adequate length, as available usable space allows, to provide a suitable gripping area for personnel.

Two (2) vertical handrails shall be installed, one (1) on each trailing edge of the upper hose bed risers. The remaining handrail shall be installed horizontally, just below the hose bed area.





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

TOW EYES

There shall be two (2) rear tow eyes installed to the frame rails, one each side, accessible below the rear of the apparatus.

They shall be manufactured of 1.00 inch plate steel and each plate shall be bolted to the chassis frame rail with a minimum quantity of six (6) grade 8 bolts. The two plates shall be anchored together with 1.00 inch steel tubing to prevent swaying of the frame rails during a towing operation. All steel components shall be painted black.

LOW-VOLTAGE ELECTRICAL SYSTEM

The apparatus shall be equipped with a Logic Controlled, Low-Voltage (12v) Electrical System, compliant with the latest revision of the (NFPA) 1901, Standard for Automotive Fire Apparatus.

The system shall be capable of performing total load management, load management sequencing, and load shedding via continuous monitoring of the low-voltage electrical system. In addition, the system shall be capable of switching loads (similar to operating as an emergency warning lamp flasher) eliminating the dependency on many archaic electrical components such as conventional flasher modules. The system shall also incorporate provisions for future expansion or system modification.

The low-voltage electrical system shall be designed to distribute the placement of electrical system hardware throughout the apparatus thereby enabling a smaller, optimized wire harness. The programmable, logic controlled system shall eliminate redundant electrical hardware such as extra harnesses, circuit boards, relays, circuit breakers, and separate electrical or interlock subsystems and associated electronics for controlling various electrical loads and inputs.

As-built electrical system drawings and an apparatus-specific reference of I/O shall be furnished in the final delivery manuals. These drawings shall illustrate the electrical system broken down into separate functions, or small groups of related functions. Drawings shall depict circuit numbers, electrical components and connectors from beginning to end. **A single drawing for all electrical circuits installed by the apparatus manufacturer shall not be accepted.**

MULTI-PLEXED ELECTRICAL WARRANTY

A four (4) year limited (V-MUX) multiplex system warranty, of Weldon Technologies, Inc.; shall be provided by the apparatus manufacture for parts and labor, while under normal use and service; against mechanical, electrical and physical defects from the date of installation.

The warranty shall exclude; sensors, shunt interface modules, serial or USB kits, transceivers, cameras, GPS, and electrical display screens, which shall be limited to a period of one a (1) year repair parts and labor from the date of installation.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

NODE

An electrical distribution node or relay shall be installed in the below locations of the apparatus body.

The pump node shall be mounted as high as practical in the full depth portion of the right front compartment.

The rear body nodes shall be mounted as high and as far inboard as practical on the rear wall in the rearmost compartment.

A protective cover shall be installed to prevent damage to the node or electrical system during equipment installation and or removal. Node covers shall be approximately 16.00 to 22.00 inches in length with an inspection hole positioned for view of the node indicator LED lights. The finish of the cover shall match the compartments interior finish. Node covers will not include any type of shelve mounting structure and shall limit the height of unistrut or shelf height within the compartments.

PERIMETER LIGHTS LOCATION

There shall be four (4) underbody perimeter lights installed on the apparatus positioned to provide illumination to the immediate ground area around the unit.

One (1) under each side of the pumphouse running boards and two (2) under the rear tailboard.

PERIMETER LIGHTS

The underbody perimeter lights provided will be TecNiq model T44 series, 4" round, 8 diode LED lights.

PERIMETER LIGHTS ACTIVATION

The perimeter lights under the body shall illuminate the area with the activation of the chassis ground lights.

UPPER LIGHTING PACKAGE

The following NFPA lighting package, manufactured by Whelen, shall be supplied and installed in the upper areas of the vehicle.

UPPER ZONE B&D-FORWARD:

There shall be two (2) Whelen model C9 SurfaceMax series Super-LED lights with chrome bezels provided and installed with the apparatus.

There shall be one (1) each side of the body in the upper forward corners.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

SIDE WARNING LIGHTS FLASH

The upper side lights shall feature multiple flash patterns including steady burn.

SIDE WARNING LIGHTS COLOR

The upper warning lights mounted on the side positions shall be red with red lenses.

UPPER ZONE B&D-REAR:

There shall be two (2) Whelen model C9 SurfaceMax series Super-LED lights with chrome bezels provided and installed with the apparatus.

There shall be one (1) each side of the body in the upper rear corners.

SIDE WARNING LIGHTS FLASH

The upper side lights shall feature multiple flash patterns including steady burn.

SIDE WARNING LIGHTS COLOR

The upper warning lights mounted on the side positions shall be red with red lenses.

UPPER ZONE C:

There shall be two (2) Whelen model C6 SurfaceMax series Super-LED lights with chrome bezels, one (1) each side, provided and installed with the apparatus.

REAR WARNING LIGHTS FLASH

The rear upper lights shall feature multiple flash patterns including steady burn.

REAR WARNING LIGHTS COLOR

The upper warning lights mounted at the rear shall be red with clear lenses.

UPPER REAR WARNING LIGHT SWITCH E-MASTER/VISTA

The upper rear warning lights shall be controlled through the master warning switch and a secondary rear warning switch located on the Vista display control screen. The switches shall be clearly labeled for ease of identification.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

LOWER LED WARNING LIGHTING

The following NFPA lighting package, manufactured by Whelen, shall be supplied and installed in the lower areas of the vehicle.

LOWER ZONE B&D:

There shall be two (2) Whelen model C6 SurfaceMax series Super-LED lights with chrome bezels, one (1) each side, provided and installed with the apparatus.

SIDE WARNING LIGHTS FLASH

The lower side lights shall feature multiple flash patterns including steady burn.

SIDE WARNING LIGHTS COLOR

The lower side warning lights mounted on the side positions shall be red with clear lenses.

SIDE WARNING LIGHTS LOCATION

The warning lights on the side of the apparatus shall be mounted at the pump compartment.

AUXILIARY WARNING LIGHTS LOWER ZONE B&D

There shall be four (4) auxiliary Whelen 500 series LED lights with black bezels installed two (2) each side.

One (1) shall be installed in front and one (1) behind the rear axle on the lower body sides. These four (4) lights shall be installed in the rear fender (wheel well) area of the body.

SIDE WARNING LIGHTS FLASH

The lower side lights shall feature multiple flash patterns including steady burn.

SIDE WARNING LIGHTS COLOR

The lower side warning lights mounted on the side positions shall be red with clear lenses.

LOWER SIDE WARNING LIGHT SWITCH E-MASTER/VISTA

The lower side warning lights shall be controlled through the master warning switch and a secondary side warning switch located on the Vista display control screen. The switches shall be clearly labeled for ease of identification.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

LOWER ZONE C:

There shall be two (2) Whelen model C6 SurfaceMax series Super-LED lights with chrome bezels, one (1) each side, on provided and installed on the rear of the body.

REAR WARNING LIGHTS FLASH

The lower rear lights shall feature multiple flash patterns including steady burn.

REAR WARNING LIGHTS COLOR

The lower rear warning lights mounted at the rear shall be red with clear lenses.

LOWER REAR WARNING LIGHT SWITCH E-MASTER/VISTA

The lower rear warning lights shall be controlled through the master warning switch and a secondary rear warning switch located on the Vista display control screen. The switches shall be clearly labeled for ease of identification.

LED REAR TAILLIGHT ASSEMBLY

There shall be Whelen model C6 SurfaceMax series Super-LED rear taillight assemblies provided and installed with the apparatus, one (1) each side at the rear

The following shall be installed in the order as specified from top to bottom:

- One (1) #C62BTT LED red brake/taillight
- One (1) #C62T LED amber turn signal light populated in the shape of an arrow
- One (1) #C62BU LED clear back-up light

MOUNTING ASSEMBLY

There shall be Whelen 4-position vertical chrome plated housing provided for each taillight assembly.

The upper most open cavity shall be filled with the specified warning light for the rear of the apparatus.

REAR TAILLIGHTS COLOR

The taillights mounted at the rear shall have clear lenses.

BACKUP LIGHTS

The backup lights shall illuminate when the apparatus is placed in reverse.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE

Proposal Date: 4-13-2022

LED DOT LIGHTING

There shall be seven (7) lights located on the rear of the apparatus. Three (3) of the lights shall be mounted on the rear of the apparatus center location, for use as identification lamps. Two (2) additional lights shall be located on the rear outboard locations, one (1) each side as high as possible. Two (2) lights shall be mounted on the sides facing the side at the rear corners, for use as clearance lamps.

The lights shall be TecNiq S17 series LED red markers with red lens.

DOT ADDITIONAL MARKER LIGHTS

There shall be two (2) amber LED intermediate marker lights/intermediate turn signals installed in the rub rail, forward of the rear wheel well, one (1) each side.

The lights shall be TecNiq S17 series LED amber markers/turn with amber lens.

INTERMEDIATE TURN SIGNALS

The intermediate turn signals will flash with the turn indicators.

REAR DIRECTIONAL LIGHTBAR

There shall be six (6) rear directional lights provided and installed on the rear of the apparatus integrated to the rear face of hose bed cover vertical end cap.

The lights shall be Whelen model TIR 3 LED amber lights with clear lenses and chrome bezels and mounted equally spaced, three (3) lights on each end cap.

The back of the hose bed cap shall be boxed in to provide protection and strength for the lights. The back of the protection panel shall be angled to provide protection when hose is deployed in case of contact. This protection panel shall be constructed of smooth aluminum diamond plate.

The rear directional lights shall be controlled by a Whelen Model TACTL5 control head.

RDL CONTROL HEAD MOUNTING LOCATION

Rear Directional Lightbar control head shall be mounted in the rocker panel cutout provided by that chassis manufacturer.

REAR VIEW CAMERA LOCATION

A camera shipped loose with the chassis shall be recess mounted at the center location on the rear of the apparatus body for maximum viewing capability. A brushed stainless steel trim ring shall be installed around the box opening.





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

SIDE SCENE LIGHT LOCATION

There shall be four (4) scene lights installed on the sides of the apparatus, two (2) on each side.

One (1) located at the front and one (1) located at the rear corner.

The scene lights on the side shall be positioned inboard of the warning lights specified.

SCENE LIGHT MODEL

FireTech Guardian Elite model #FT-GESM series LED scene lighting shall be surface mounted on the apparatus.

Each lamp head shall have one (1) 12v LED panel at 125 watts total. The light head shall draw 10.0 amps and generate 12,290 effective raw lumens. Each LED panel shall be mounted within the chrome housing. Each lamp head shall be no more than 8.50 inches in height by 10.51 inches in width.

BODY SIDE SCENE LIGHT ACTIVATION

The scene lighting shall be activated with the chassis side scene lights.

REAR SCENE LIGHT LOCATION

There shall be two (2) scene lights installed on the rear facing vertical surface of the apparatus, one (1) on each side.

SCENE LIGHT MODEL

FireTech Guardian Junior model #FT-GSMJR series LED scene lighting shall be surface mounted on the apparatus.

Each lamp head shall have one (1) 12v LED panel at 40 watts total. The light head shall draw 3.33 amps and generate 5,000 raw lumens. Each LED panel shall be mounted within the chrome housing. Each lamp head shall be no more than 5.05 inches in height by 7.41 inches in width.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

REAR SCENE LIGHT ACTIVATION

The rear scene lighting shall be activated when the apparatus transmission is shifted into reverse and by a virtual button on the Vista display control screen in the cab and a weather resistant push button switch at the pump operator's panel. The scene shall also be interlocked with the park brake.

The switch shall be labeled as follows:

Rear Scene

FRONT SCENE LIGHT ACTIVATION

The front scene lighting shall be activated by a weather resistant push button switch at the pump operator's panel in addition to the chassis provided switching.

The switch shall be labeled as follows:

Front Scene

TELESCOPING LIGHT LOCATION

The specified telescoping lights shall be mounted at the rear face of the cab, one (1) each side on the vertical panels.

SCENE LIGHT MODEL

FireTech model #FT-SL-30-FT-W series LED side mount, bottom raise telescoping scene light shall be provided on the apparatus.

Each lamp head shall have three (3) 12v LED® panel at 300 total watts. The light head shall draw 25.0 amps and generate 22,176 lumens. The lamp heads shall be powder coated white.

STEADY REST BRACKET

Each scene light pole shall have a steady rest bracket installed to support the inside pole when it is in the retracted position.

INDICATOR LIGHT FOR RAISED POSITION

The scene light pole shall be equipped with an "up" indicator switch. When the parking brake is released, it shall activate the hazard light in the cab to warn the crew if the light is in the raised position.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

EMERGENCY RESPONSE **Proposal Date: 4-13-2022**

REAR CAB SCENE LIGHT ACTIVATION

The rear cab scene lighting shall be activated by a virtual button on the Vista display control screen in the cab and a weather resistant push button switch at the pump operator's panel. The scene shall also be interlocked with the park brake.

The switch shall be labeled as follows:

Rear Cab Tele-Light

SURFACE PROTECTOR PLATE

A mirrored stainless steel protector shall be installed behind each light head to protect the surface behind the light(s) from being scratched.

3M REFLECTIVE STRIPING

There shall be a 6.00 inch (152.40 mm), 3M reflective stripe with a 1.00 inch (25.40 mm) accent stripe applied to the chassis and apparatus body as specified:

The above specified Striping shall consist of one color. The provided stripe shall be:

reflective stripe white in color.

STRIPE PATTERN

The reflective striping shall be applied around the perimeter of the front of the apparatus in a straight line. In addition, when the stripe reaches the front area of the body, the stripe shall jog in a 'Z' shape pattern, then continuing around the rear of the apparatus at a slightly higher level.

REAR RETRO-REFLECTIVE CHEVRON STRIPING

A minimum of 50 percent of the rear-facing vertical surface, visible from the rear of the apparatus, shall be equipped with 3M Diamond Grade, retro-reflective striping in a chevron pattern, sloping downward and away from the centerline of the vehicle at an angle of 45-degrees.

The stripe shall be 6.00 inches (152.40 mm) wide alternating in colors.

CHEVRON COLOR

The retro-reflective chevron striping shall be red and fluorescent yellow-green in color.





Ypsilanti Twp Fire Department SPARTAN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

DEALER SUPPLIED LETTERING

The apparatus lettering shall be provided and installed by the Dealership before final delivery of the completed apparatus.

LICENSE PLATE MOUNTING

A Cast Products, model LP0004-1-B, cast aluminum fully enclosed license plate bracket shall be installed. The bracket shall incorporate a clear LED light (WL0501) to illuminate the license plate and meet DOT requirements.

LICENSE PLATE BRACKET LOCATION

The above specified license plate bracket shall be installed at the back of the apparatus on the right side. The bracket shall be mounted to meet all applicable DOT standards.

MISCELLANEOUS EQUIPMENT

The following equipment list shall be provided with the completed apparatus.

WHEEL CHOCKS

All NFPA required wheel chocks will be supplied and installed by the Fire Department before the truck is placed into service.

will be supplied and installed by the Fire Department before the truck is placed into service.





Ypsilanti Twp Fire Department SPARATN STAR SERIES PUMPER SPECIFICATION

Proposal Date: 4-13-2022

DEALER SUPPLIED ITEMS

The following items shall be provided by CSI.

COMPARTMENT DRAIN TILES

CSI shall provide and install black plastic (Turtle Tiles) on all compartment floors, shelving and trays.

CAB INERIOR EMS COMPARTMENT

There shall be one (1) storage compartment installed on the rear wall of the chassis cab. The compartment size shall be (*discussed at the chassis inspection*). The compartment shall be open to the front. The compartment shall be constructed of .125 inch smooth aluminum with a natural aluminum interior finish. A D&S Custom brand cargo netting, black in color, shall be provided and installed over the compartment opening to retain stored items during travel. The cargo net enclosure shall be positively secured along the lower edge and buckled at the top with seat belt style fasteners allowing the netting to drop to the floor out of the way for cabinet access. The compartment shall include two (2) 27" LED strip lights installed vertically, one at each side of the front opening. The lights shall be wired to come on automatically when the chassis parking brake is set. The exterior of the compartment shall be coated with a finish color matched best as possible to the chassis cab interior color. Vertically mounted Unistrut shall be installed in the rear wall equipment compartment to accommodate the installation of shelves, trays, and or other miscellaneous equipment. Two (2) full width x full depth shelves shall be provided and installed in the compartment.

SPEEDLAY COVERS

CSI shall provide and install D & S speedlay end covers on each speedlay assembly. The covers shall be black in color.

LOOSE EQUIPMENT/EQUIPMENT INSTALLATION

CSI Emergency Apparatus has included \$45,000.00 as discussed, in our proposal for the customer to use for adjustments during productions and additional equipment. Any unused balance will be credited back at the time of final invoice. The customer can request to have CSI hold remaining funds in an account for up to 90 days after delivery for additional items needed as the department prepares the apparatus for service.





CHASSIS: SPARTAN METRO STAR LFD 10RR

ENGINE: CUMMINS ISL 450HP

TRANSMISSION: ALLISON 3000 EVS

AXLES: 21,500# FRONT / 31,500# REAR

MODEL: STAR PUMPER

WATER/FOAM: 1000 / 20 GALLONS

PUMP: WATEROUS CXS 1500GPM

FOAM SYSTEM: FoamPro I600

GENERATOR:

DOOR FRAMED OPENINGS

COMPARTMENT	DOOR FRAMED OPENING
L1	46.5-W x 70.0-H
L2	62.0-W x 36.0-H
L3	60.0-W x 70.0-H
R1	46.5-W x 70.0-H
R2	62.0-W x 36.0-H
R3	60.0-W x 70.0-H
B1	38.0-W x 50.0-H

SPECIAL NOTES:

THE PUMP PANEL LAYOUT IS REFERENCE ONLY. THE LOCATION OF COMPONENTS WILL CHANGE AS REQUIRED FOR DESIGN AND CUSTOMER INPUTS POST THE PRE-CONSTRUCTION MEETING.

CUSTOMER

THIS DRAWING IS A CLOSE APPROXIMATION OF YOUR FIRE APPARATUS. IN ALL CASES WHERE THE DRAWING AND THE WRITTEN SPECIFICATION DIFFER, THE SPECIFICATION SHALL PREVAIL. PLEASE WORK WITH YOUR DEALER TO ASSURE THAT THE WRITTEN SPECIFICATION REPRESENTS WHAT YOU WANT IN YOUR FINISHED PRODUCT. SPARTAN ERV BUILDS TO THE WRITTEN SPECIFICATION, NOT THE DRAWING TO ASSURE THAT YOUR NEEDS ARE MET.

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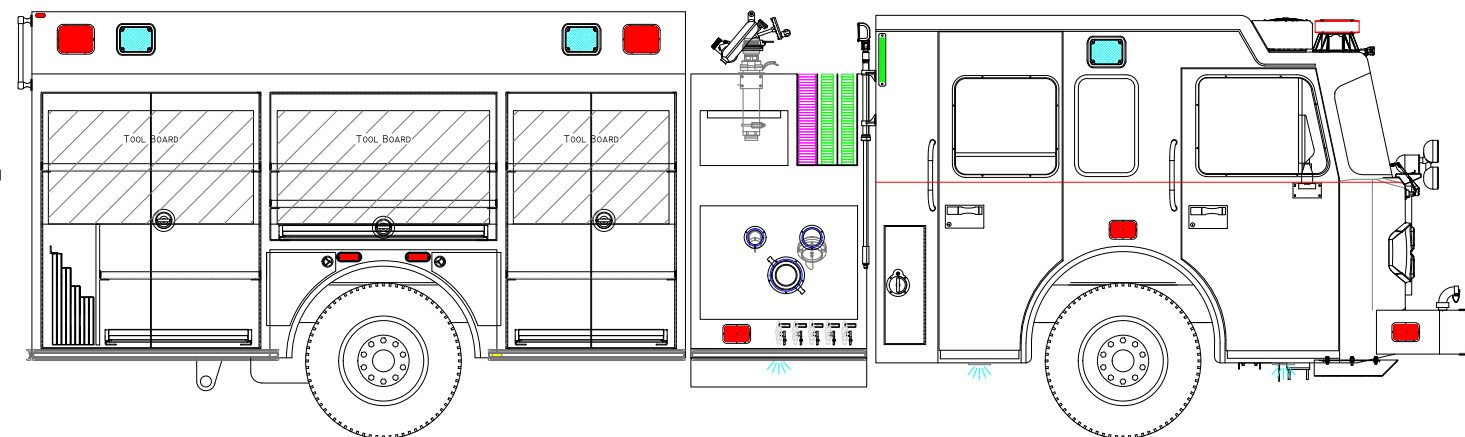
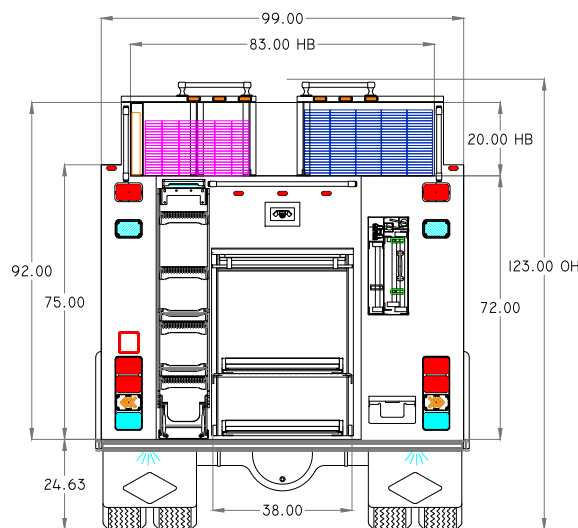
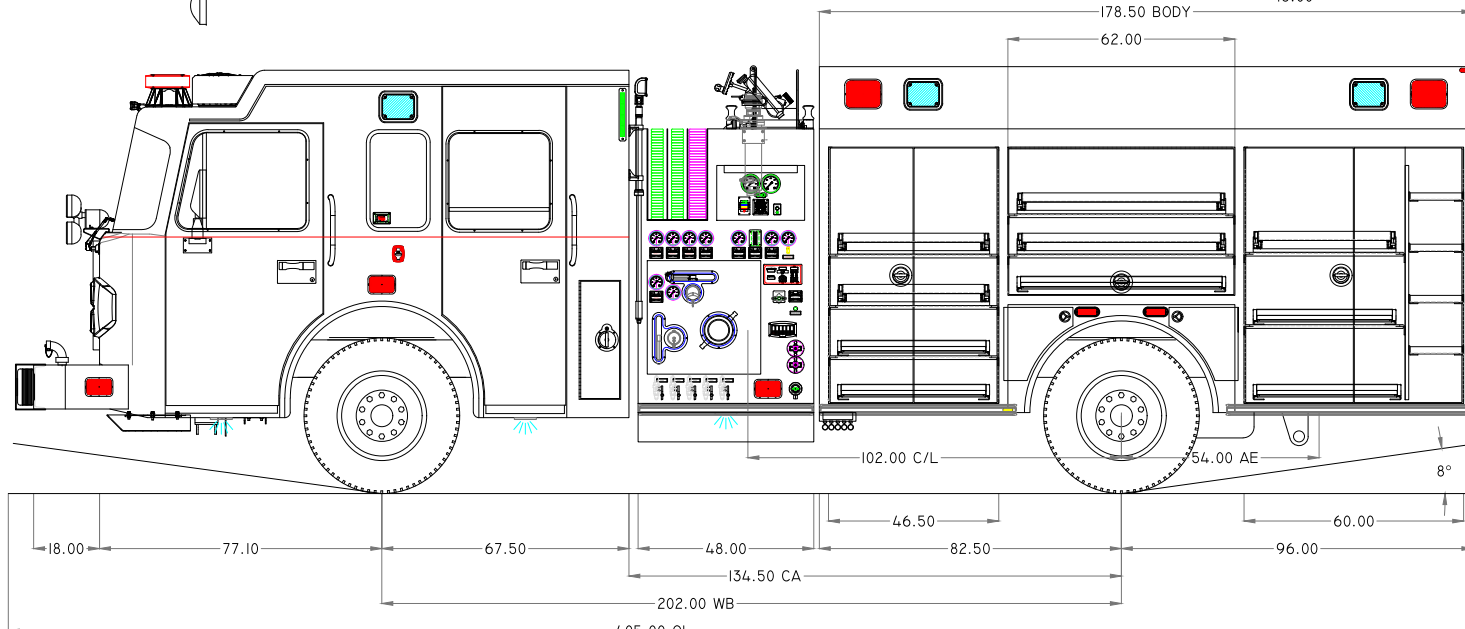
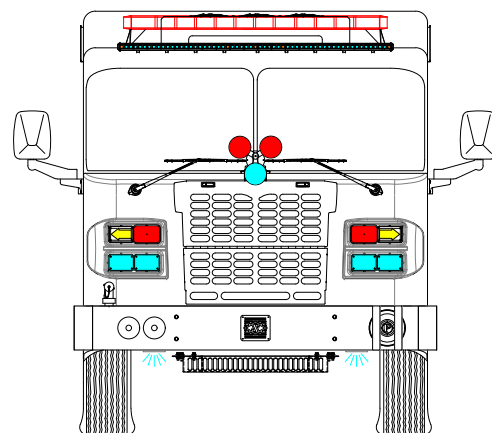
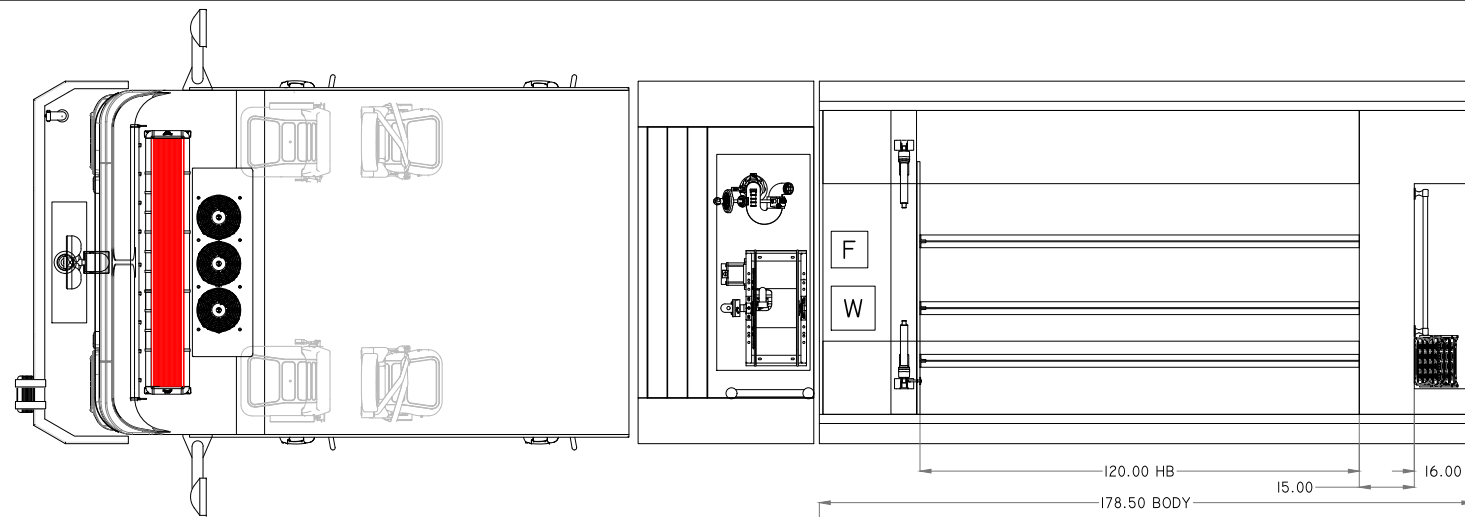
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1	04/06/22	NEW FILES / MARK UP	R.H.
0	03/25/22	INITIAL PROPOSAL	R.H.
REV	DATE	DESCRIPTION	NAME

SCALE: NOT TO SCALE

CUSTOMER: YPSILANTI TWP
FIRE DEPARTMENT

TRUCK NUMBER: 000000
DEALER: CSI
EMERGENCY APPARATUS





CHASSIS: SPARTAN METRO STAR LFD IORR
 ENGINE: CUMMINS L9 450 HP
 TRANSMISSION: ALLISON 3000 EVS
 AXLES: F 21,500 LB / R 31,500 LB
 MODEL: LEGEND PUMPER
 WATER/FOAM: 1000 GALLONS / 20 GALLONS
 PUMP: WATEROUS CXS 1500 GPM
 FOAM SYSTEM: FOAMPRO 1600
 GENERATOR: N/A

DOOR FRAMED OPENINGS	
COMPARTMENT	DOOR FRAMED OPENING
L1	32.25-W x 68.0-H
L2	68.0-W x 43.0-H
L3	44.25-W x 68.0-H
R1	32.25-W x 68.0-H
R2	68.0-W x 43.0-H
R3	44.25-W x 68.0-H
BI	36.0-W x 37.25-H

SPECIAL NOTES: **"3M" BODY**
HOSE CAPACITY
 300 FT. OF 2.5 INCH.
 300 FT. OF 2.5 INCH.
 300 FT. OF 2.5 INCH.
 1250 FT. OF 4 INCH.
LADDER BOX COMPLIMENT / STORAGE
 (1) DUO-SAFETY 24 FT.-2 SEC. 900A
 (1) DUO-SAFETY 14 FT. ROOF, 775A
 (1) DUO-SAFETY 10 FT. ATTIC, 585A
 (2) PIKE POLES - FIRE DEPT SUPPLIED

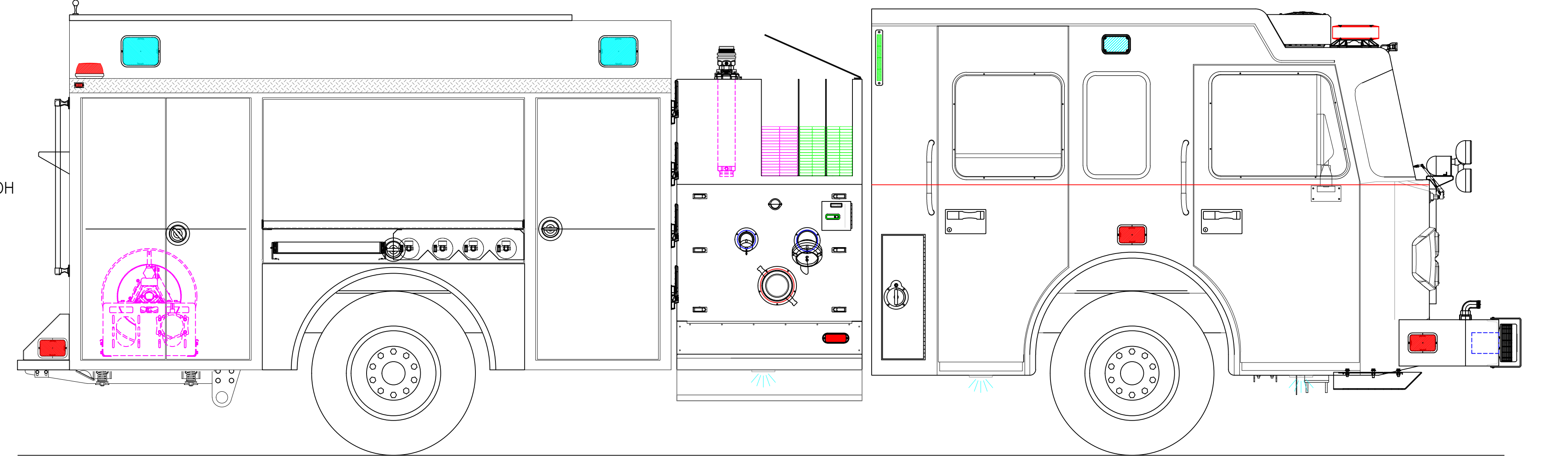
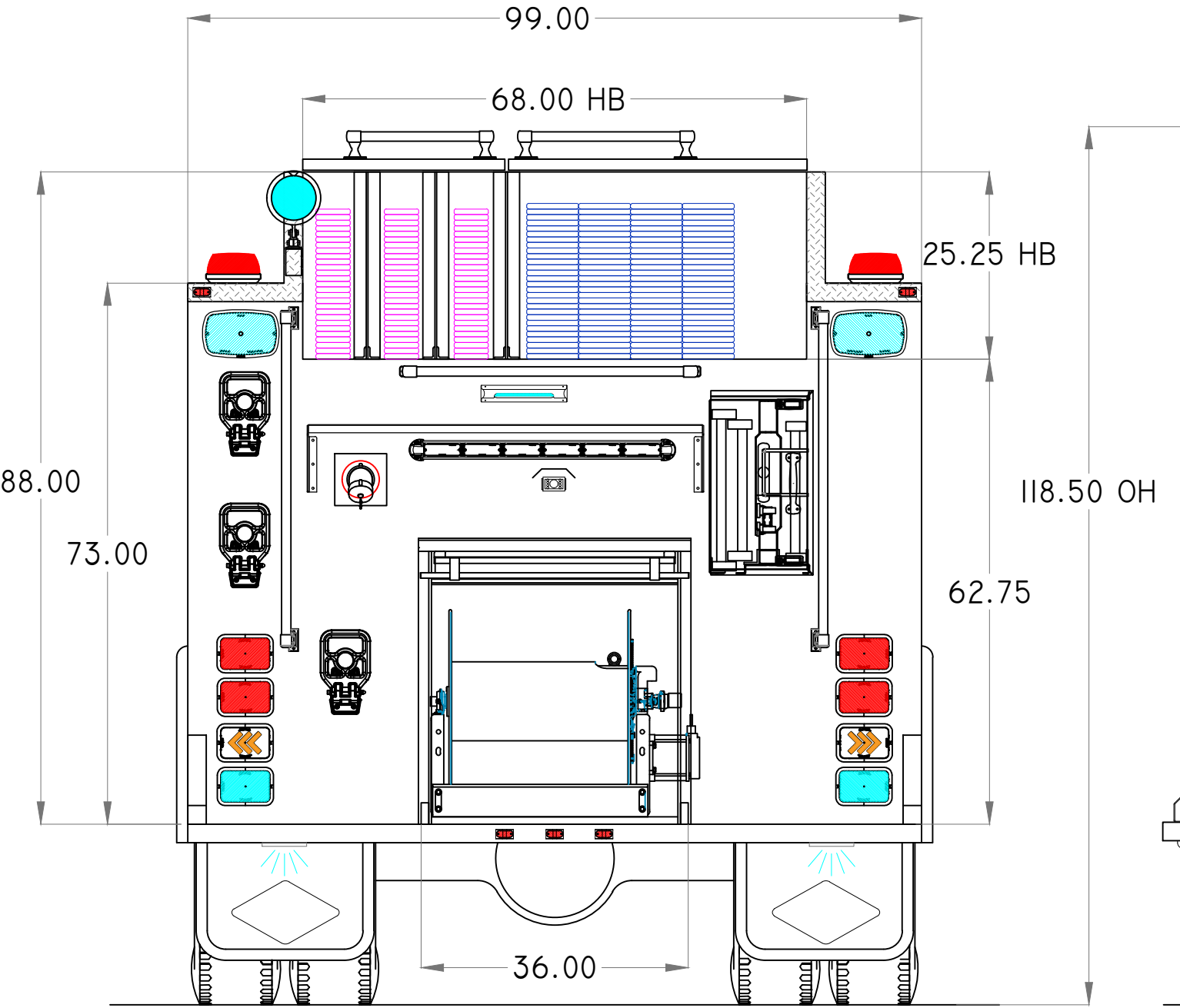
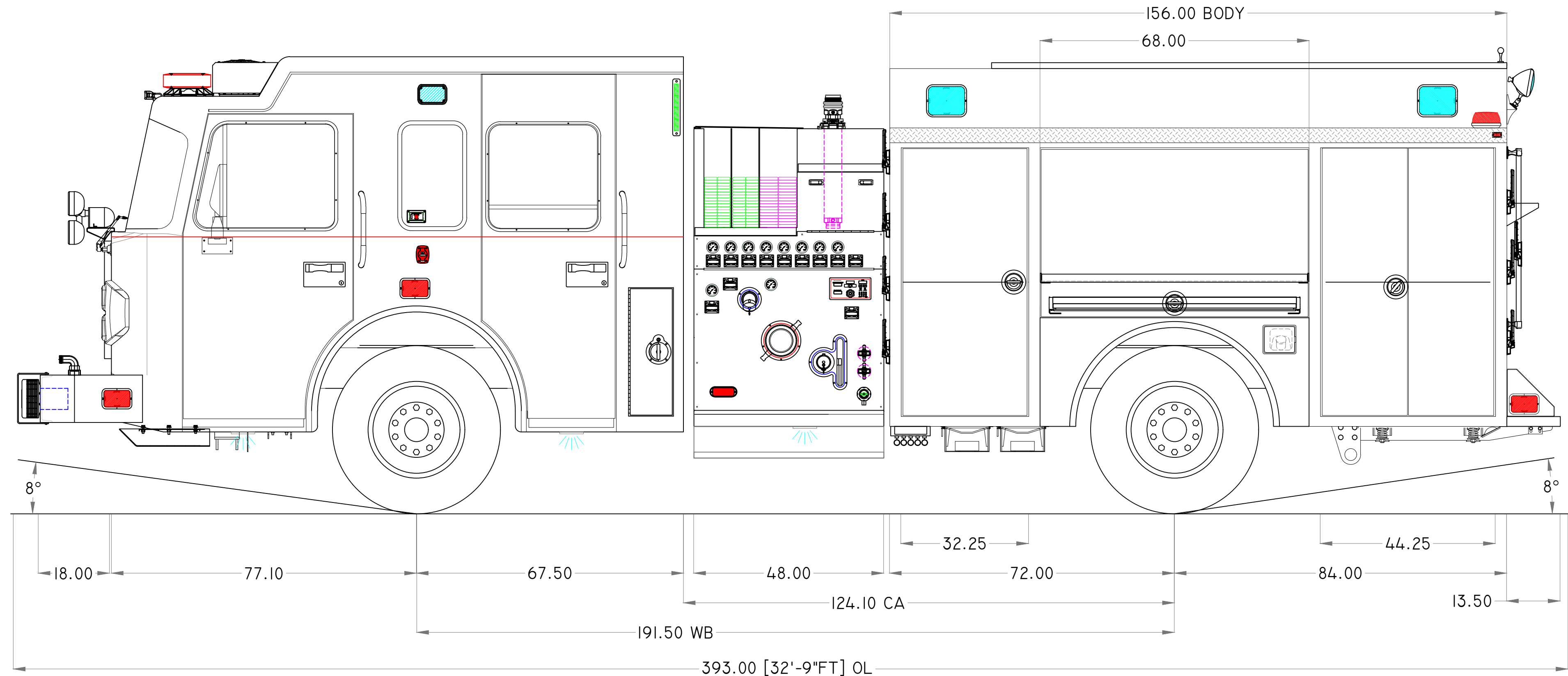
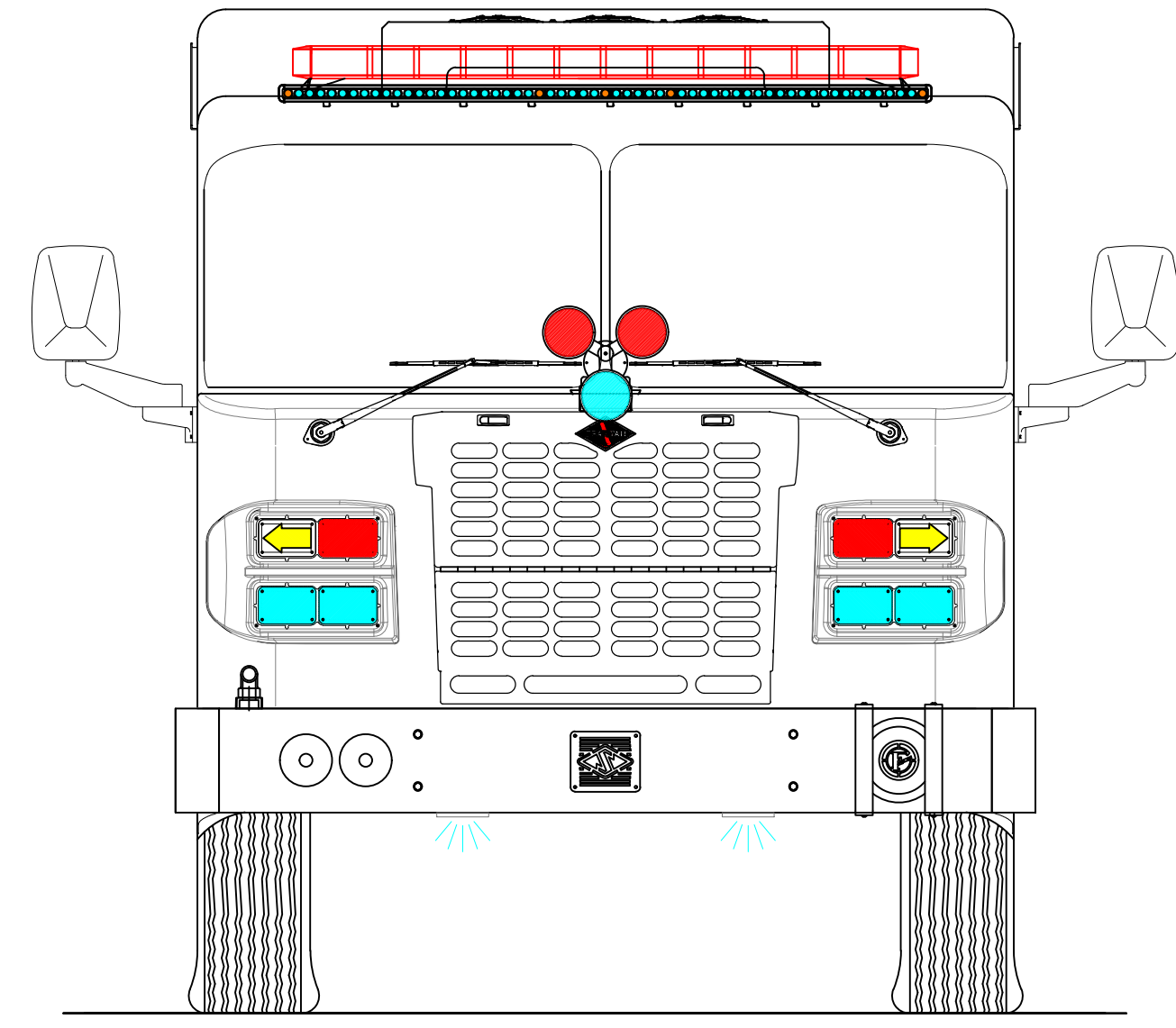
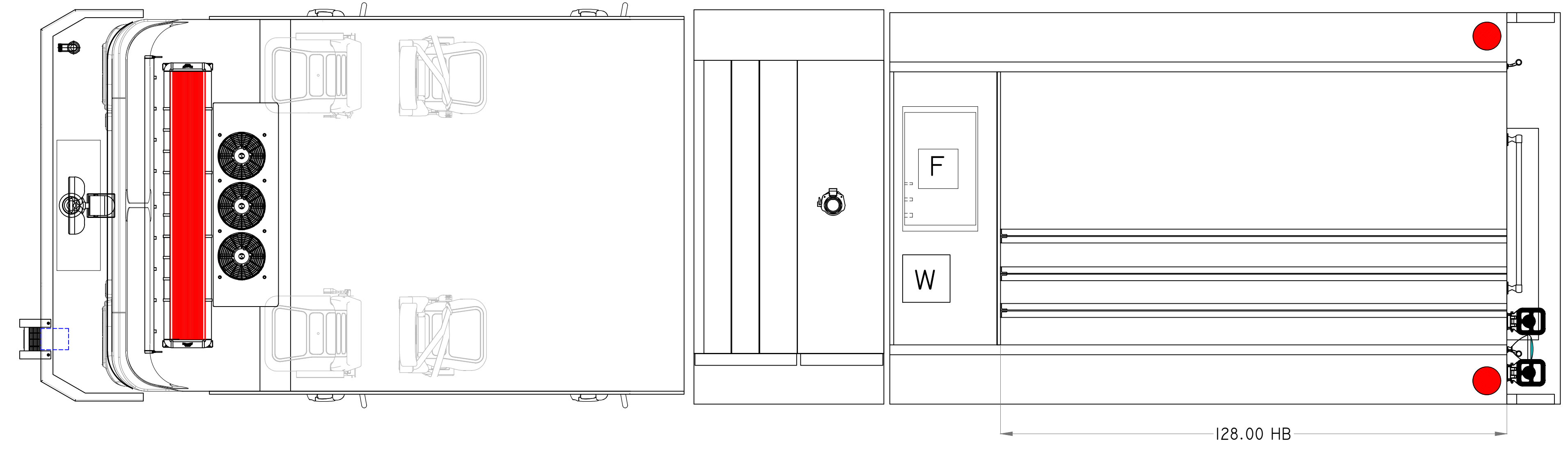
CUSTOMER
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0	03/31/22	INITIAL PROPOSAL	M.G.H.
REV	DATE	DESCRIPTION	NAME

CUSTOMER: **YPSILANTI TWP
 FIRE DEPARTMENT**

TRUCK NUMBER: **000000** DEALER: **CSI
 EMERGENCY APPARATUS**



OTHER BUSINESS

BOARD MEMBER UPDATES
