CITY OF NOVI CITY COUNCIL
JULY 28, 2025

SUBJECT: Consideration of approval to award the interior corrosion protection system installation in the DPW Salt Dome to Havener Tech, LLC, sole-source bidder, in the amount of $184,000.

SUBMITTING DEPARTMENT: Department of Public Works, Engineering Division

KEY HIGHLIGHTS:

- New DPW salt dome was recently constructed to include a loading/unloading pit and a hopper/conveyor system.
- A salt dome is a very corrosive environment.
- Providing a Polyurea corrosion protection system liner to the dome shell and walls.

FINANCIAL IMPACT

	FY 2025/26
EXPENDITURE REQUIRED	**$ 184,000.00**
BUDGET **Drain Fund 211-445.00-976.125**	**$ 449,249.00 (includes estimated FY 2024/25 Budget Rollover)**
APPROPRIATION REQUIRED	**$ 0**
FUND BALANCE IMPACT	**$ 0**

BACKGROUND INFORMATION:

The original salt dome at the Department of Public Works was constructed in the 1980s and had reached the end of its service life. The corrosive conditions had deteriorated the existing concrete base walls and structural elements (metal fasteners, shingles, and wood) of the canopy shell. Given the age and condition of the structure, it was recommended a new 82-foot diameter dome, mounted to a 10-foot-high wall, be installed. Staff also recommend adding a pit and a stainless-steel conveyor system to the salt storage site. City engineering consultant, AECOM-Great Lakes, assisted City staff with the design of the new salt dome facility.

On November 12, 2024, City Council approved the construction award to Brencal Contractors, Inc. in the amount of $1,283,556.55. The contractor recently completed the new dome, pit, and conveyor system (see attached pictures). All that remains is finishing the electrical hook-ups for the exhaust fan, lighting, and conveyor/hopper.

As mentioned earlier, the nature of a salt dome environment and its inherent corrosion issues. To protect this important investment, staff engaged Havener Tech, LLC. to provide a protective coating on the interior shell of the salt dome. Havener Tech already provides services to the City for catch basin sealing and pipe sealing/lining with similar product applications. The program has been very effective in protecting and prolonging the service life of assets.

The contractor would approach this work in two stages. In August of this year, place a Polyurea lining to the interior concrete walls which protects and provides secondary containment of salt run-off. Then, in the spring/summer of 2026, return and install a Polyurethane foam on the interior of the wooden shell/canopy to protect it from the corrosive environment. The delay with the wood protection is to allow sufficient time for the lumber to reach its appropriate moisture percentage (dry-out).

Inspection services for this work will be handled by in-house staff.

RECOMMENDED ACTION: Approval to award the interior corrosion protection system installation in the DPW Salt Dome to Havener Tech, LLC, sole-source bidder, in the amount of $184,000.

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May 29, 2025

6095-7_Salt_Storage_Facility_POLYUREA_CORROSION_PROTECTION_SYSTEM
PROPOSAL # 25036

Jeff Herczeg
Director of Public Works

Mr. Herczeg

We are pleased to present you with this proposal for installing a spray applied, Polyurea liner system to the Salt storage facility located at the public works facility in Novi, MI.

Based upon preliminary discussions and drawings provided, it is recommended the new structure should be protected on the interior using a spray-applied Polyurea liner system. This protection is necessary because the interior is constantly exposed to the corrosive environment created by the storage of salt. The Polyurea lining will provide a durable, high-strength, monolithic liner that is chemical, corrosion, and abrasion-resistant. .

The structure has two assemblies, (1) concrete foundation wall and (2) dome shell, requiring a spray applied polyurea corrosion barrier. The foundation wall will be protected using a epoxy primer base layer and Polyurea topcoat. The dome shell will be protected using a spray applied closed cell foam surfacing layer with a polyurea topcoat. The surfacing layer not only acts as a primer but it will provide a smooth and durable surface to accept the Polyurea topcoat.

The new polyurea lining shall provide a monolithic, multi-layer component lining and cover the entire interior side of the storage facility.

The work will require surface cleaning/profiling, primer application, and Polyurea application to the structure. The Polyurea will be sprayed in a manner which delivers a durable, high strength monolithic liner that is chemical, corrosion and abrasion resistant.

For this proposal, assumptions shall include but is not limited to, the following:

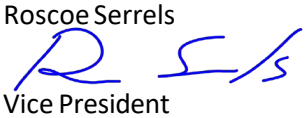
- Planned installation will take place summer/fall 2025.
- Polyurea system will be installed only after all construction involving any wiring, electrical, plumbing and structure assembly are complete.
- Installation will proceed only when environmental conditions and substrate conditions are within acceptable paramaters. (Concrete cure times and moisture levels.)

Upon acceptance of this proposal Havener Tech can be ready to start work within two weeks of notice to proceed.

If there are any questions regarding this proposal, please do not hesitate to contact us.

Respectfully,

Roscoe Serrels



Vice President

6095-7_Salt_Storage_Facility_POLYUREA_CORROSION_PROTECTION_SYSTEM

PROPOSAL # 25036

SECTION 1: SCOPE OF WORK

1.1 POLYUREA SECONDARY CONTAINMENT SYSTEM

The work primarily consists of installing a spray applied polyurea coating onto the following tructure:

1. Salt Storage Facility Foundation Wall 2,425 sq ft
2. Salt Storage Facility Shell (dome) 9,232 sq ft

Work includes but is not limited to, the following:

- Structure cleaning
- Removal of any loose and unsound material
- Performing surface preparation for the Polyurea lining
- Applying patching products
- Applying high density polyurethane foam, surfacing layer
- Polyurea lining

The work primarily consists of furnishing all labor, materials, and equipment required to install a Polyurea corrosion protection system on the above referenced project as shown, and as specified herein, to provide a complete containment secondary control system .

1.2 PROJECT PREPERATION

- Pre-job meeting to determine jobsite logistics and safety requirements.
- Furnish proposed construction schedule, if needed.

1.3 PROFESSIONAL SERVICES

- Jobsite photos
- Daily work records
- Installation certificate

1.4 SITE/SURFACE PREPARATION

- Protect equipment and piping from damage due to operations associated with work of this section.
- Conduct surface preparation program to include monitoring of atmosphere or other gases, approved flow control equipment, and surface preparation equipment.
- Surface preparation methods may include high pressure water jetting, hydro blasting, abrasive blasting, grinding, detergent cleaning.
- Surface preparation method shall produce a cleaned, sound surface with no evidence of laitance, loose concrete, brick or mortar, contaminants, or debris, and shall display a surface profile suitable for application of liner system.

1.5 PRIMER APPLICATION

- FOUNDATION WALL - Spray-apply, P OL Y A R M O R EP OX Y P R I M ER 5-6 mil DFT
- DOME SHELL - Spray apply closed cell polyurethane foam, minimum 1" thick

1.6 POLYUREA COATING

- Spray apply, POLYARMOR SRA 5500 at a rate of 25-30 sqft/gal , (40 - 60 mils)
- COLOR GRAY

1.7 LOCKOUT/TAGOUT COORDINATION

We acknowledge and fully understand the fact that this is a working facility and may need to be operable at any time. Our crews can safely and completely evacuate tools, materials and personnel from the structure within 1-hour of notice and will communicate with designated facility personnel regarding this issue.

1.8 NOT INCLUDED are any work task or material item not individually and specifically named in the above scope of services and supply.

SECTION 2: SCHEDULES & COORDINATION

2.1 DURATION

In order to complete the work described above in SECTION 1:

1. Salt Storage Facility Foundation Wall 2,425 sq ft	ONE (1) - TWO (2) DAYS
2. Salt Storage Facility Shell (dome) 9,232 sq ft	TWO (2) - FOUR (4) DAYS

To accommodate weather and special events in the area, we request a two-week period to complete the work from notice to proceed to substantial completion of all field work.

2.2 KICK-OFF / COORDINATION MEETING

Prior to the commencement of the field work, we will require a kick-off / coordination meeting with the Prime Contractor and particularly with facility personnel to review working hours, how we plan to control traffic and conduct our work, environment monitoring, safety and emergency procedures, and communications between Havener Tech field crew and facility personnel.

2.3 FINAL DOCUMENTATION

Final documentation of the installed system will be available within 2 weeks of completion of the field work.

SECTION 3: APPLICABLE DOCUMENTS

Previous discussions were used as the basis for this proposal. Specifications for the following products attached hereto as ATTACHMENT A:

1. REFERENCE DRAWINGS
2. SWD YETI (SURFACING LAYER)
3. POLYARMOR SRA 5500

SECTION 4: PRICING

For the scope of services detailed in SECTION 1 above we are pleased to quote the following for your consideration and use:

ITEM	DESCRIPTION	QTY (UNIT)	UNIT PRICE	EXTENSION
1.0	**Salt Storage Facility Foundation Wall**	2,425 (SQ FT)	$15.80	$38,319.04
2.0	**Salt Storage Facility Shell (dome)**	9,232 (SQ FT)	$15.78	$145,680.96
		WARRANTY	$0.00	$0.00
			TOTAL	**$ 184,000.00**

SECTION 5: WARRANTY:

Manufacturer and Applicator warrant the liner system against failure for a period of 10 years. Failure" will be deemed to have occurred if the protective lining fails to prevent the internal deterioration or corrosion of the structure or prevent exfiltration, groundwater infiltration and contamination. If any such failure occurs within 10 years of initial completion of work on a structure, the damage will be repaired at no cost to the Owner. "Failure" does not include damage resulting from mechanical or chemical abuse or act of God. Mechanical or chemical abuse means exposing the lined surfaces of the structure to any mechanical force or chemical substance not customarily present.

SECTION 6: NOTES, EXCLUSIONS & CLARIFICATIONS:

NOTES:

EXCLUSIONS & CLARIFICATIONS:

END OF PROPOSAL

QUIK-SHIELD *YETI*

All Seasons HFO Spray Foam

QUIK-SHIELD® YETI is a closed-cell spray foam insulation, using Honeywell's Solstice® liquid blowing agent which has a GWP of 1, 99.9% lower than traditional blowing agents meeting GWP initiatives. It is a high-performance insulation and air barrier, ideal for residential and commercial construction. QUIK-SHIELD® YETI increases jobsite efficiency, decreases labor and overhead costs, and delivers a lower install cost.

TYPICAL PHYSICAL PROPERTIES

Properties achieved in a lab environment at 77°F. Field conditions may cause variation in properties.

	PROCEDURE	VALUES
Air Permeance at 1" (L/s.m^2)	E-2178	<0.02
Closed-Cell, content (%)	E-2178	>90
Compressive Strength (psi)	D-1621	>15
Core Density (nominal, lb/ft^3)	D-1622	2.0
Dimensional Stability (%)	D-2126	<15
Tensile Strength lb/in^2 (psi)	D-1623	>15
Water Vapor Permeability (perm-inch)	E-96	1.72
Fungi Resistance	C-1338	No Growth

THERMAL RESISTANCE (R-Value) (°F.ft2.h/Btu)

R-Value at 1"	7.5
R-Value/inch at ≥ 3.5"	7.5

THERMAL/IGNITION BARRIERS

For information regarding approved thermal and ignition barriers please refer to Intertek's Code Compliance Research Report # 0478 (CCRR-0478)

LIQUID PROPERTIES at 77°F (25°C)

	A-SIDE (ISO)	B-SIDE (RESIN)
Specific Gravity	1.23	1.21
Viscosity (cPs)	250±50	550±100

RECOMMENDED STORAGE AND SHELF LIFE

- Storage temperatures 50-80°F (10-27°C). See back for preconditioning of material.
- 6 month shelf life from date of manufacture (unopened containers)
- Keep container tightly sealed
- Store out of direct sunlight, in a cool dry place, avoid freezing

PRODUCT INFORMATION

LEED	QUIK-SHIELD® YETI has a minimum of 10.5% total renewable/recycle content, 5.5% pre-consumer recycled, 4.2% post-consumer recycled, 2.0% rapidly renewable, and IEQ Credit- Low Emitting.
Product Packaging	275 Gallon Tote and 55 Gallon Drum

APPROVALS / COMPLIANCE

QUIK-SHIELD® YETI has been tested by a third party laboratory (Intertek Testings Services NA, Inc.)

CCRR-0478	GREENGUARD Gold Certified	Honeywell's Solstice® liquid blowing agent

PREPARATION OF SUBSTRATES

Providing the proper substrate is the responsibility of the owner, the owner's appointed representative, the contractor, and/or inspector. The following are manufacturer's recommendations. However, other preparation techniques may be required given unique/specialized application circumstances. Contact **SWD Technical Support at 888-380-2022** for additional questions.

It is recommended to remove dust, dirt, oil, paint, and alternative polymers from all surfaces prior to applying SWD products.

See SWD specifications or SPFA guidelines for further details on substrate prep.

Wood	• Ensure wood is relatively dry and protect surfaces from contamination. For moisture content exceeding 19%, contact SWD Technical Support. • Water or oil present may cause poor adhesion or excessive foaming. • Fill large voids with appropriate backer rods or appropriate fillers. • If additional information is required, contact SWD Technical Support.
Steel & Other Metals	• It is the responsibility of the contractor/end user to determine proper adhesion and suitability through field testing. Blasting and/or priming is not always required. If additional information is required, contact SWD Technical Support.
Concrete	• If applying foam to concrete, the concrete surface should be structurally sound, clean, and curing for 28 days. • Fill large voids with appropriate backer rods or appropriate fillers. • Blasting and/or priming is not always required. It is the responsibility of the contractor/end user to determine proper adhesion and suitability. If additional information is required, contact SWD Technical Support.
Previously Applied Foam or Other Polymers	• As practical, remove previously applied foam and other polymer products. Application of product over existing materials should be performed only after adhesion/compatibility is verified by the contractor and accepted by the building owner or owner's appointed representative.
Wiring and Plumbing	• QUIK-SHIELD® YETI is fully compatible with CPVC piping systems (Paschal Engineering Study for the SPFA). • QUIK-SHIELD® YETI is compatible with typical electrical wiring coverings. (NEMA Bulletin 95)

PROCESSING

Preconditioning	1. If the drum temperature is 80°F (26.6°C) or higher, use caution when opening the drum! The contents will be under pressure. 2. It is recommended to precondition material to 60-80°F (16-27°C) prior to application. Material may thicken at lower temperatures which can cavitate pumps.
Mixing	3. Mixing of B-Side (resin) is not required. 4. Mixing of A-Side (iso) is not required.
Pressure Settings	5. Product should be sprayed with a high pressure plural-component proportioner capable of a minimum of 1100 psi dynamic pressure. 6. Static pressure is typically set between 1200-1600psi.
Temperature Settings	7. Primary heaters and hose heaters are typically set between 105-145°F (41-63°C). Higher temperatures are utilized in winter months, lower temperatures are utilized in summer months.

Proper application temperature setting is the responsibility of the end user. Equipment temperature varies and can be dependent on equipment, hose length, elevation, ambient temperature, substrate temperature, humidity, and other factors. If additional information is required, refer to QUIK-SHIELD YETI Processing Packet found on swdurethane.com and the SWD mobile app, or contact **SWD Technical Support at 888-380-2022.**

APPLICATION

1. Do not spray foam when substrate surface temperatures are less than 5°F above the dew point.
2. Clean surfaces according to "Preparation of Substrates" section.
3. If priming, follow manufacturer recommendations. Ensure primer is adequately cured prior to application.
4. Substrate temperatures should be between 20-120°F (-6-49°C) Flashing is recommended at lower temperatures. Contact SWD Technical Support for more details.
5. Flush an adequate amount of material through the lines/gun prior to spraying desired surface when changing between systems. Flush amount will be dependent on prior system used. If additional information is required, contact SWD Technical Support for more details.
6. Do not recirculate.
7. QUIK-SHIELD® YETI shall not exceed 4" per lift, with a minimum 20-30 minute wait time between lifts.
8. Before application, test material to ensure that material sprays, cures, and hardens properly.
9. Inspect applied material intermittently to ensure no problems exist. If problems are detected, discontinue application and inspect all substrates, equipment, gun, and liquid material for problem source(s).

CLEANING AND MAINTENANCE

1. Spray equipment must be maintained in proper operating condition. Failure to adequately maintain spray equipment may result in poor product performance. Refer to your equipment manufacturer's maintenance procedures for more details.
2. Contact SWD for long-term equipment storage recommendations.

THE HANSON GROUP, LLC
GOOD PEOPLE, GREAT SCIENCE

PolyArmor *SRD 5500*

TECHNICAL DATA SHEET

PolyArmor SRD 5500 is a 100% solids modified polyurea spray applied aromatic coating. It's used as a protective coating with good chemical and abrasion resistance designed for commercial, industrial and manufacturing atmospheres. PolyArmor SRD 5500 is used in vertical and horizontal applications and bonds well to properly prepared concrete, wood, metal and other substrates. Its quick gel and set time is convenient for multiple applications without appreciable sagging.

FEATURES

- Quick cure time
- Great abrasion resistance
- Good chemical resistance
- 100% Solids

RECOMMENDED USES

- Truck bed liners
- General industrial
- OEM applications

TECHNICAL DATA

	Units	Values		Test Method
MIX RATIO BY VOLUME		1A:1B		
GEL TIME @ 150°F (66ºC)	sec	2-4		
TACK FREE	sec	5-7	Sprayed	
VISCOSITY @ 75°F (24ºC)				
PART A	cps	350-800		Brookfield
PART B	cps	550-1200		Brookfield
SHORE HARDNESS	Shore D	55 ± 5	Sprayed	ASTM D-2240
TENSILE	psi	3000 ± 300	Sprayed	ASTM D-412
ELONGATION	%	280 ± 20%	Sprayed	ASTM D-412
TEAR	pli	320 ± 30	Sprayed	ASTM D-624

NOTE: PHYSICAL PROPERTIES MAY VARY BASED ON THE TYPE OF SPRAY EQUIPMENT USED. THE END USER SHOULD CHECK THE SUITABILITY OF THIS PRODUCT PRIOR TO USE.

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SURFACE PREPARATION

Surface preparation is the essential first stage treatment of a substrate before the application of any coating. The performance of a coating is significantly influenced by its ability to adhere properly to the substrate material. It is generally well established that correct surface preparation is the most important factor affecting the total success of surface treatment. The presence of even small amounts of surface contaminants, oil, grease, oxides etc. can physically impair and reduce coating adhesion to the substrate. Be sure that surfaces are clean, dry, and sound and give sufficient profile to obtain adequate product adhesion. Remove all dust, efflorescence, laitance, salts, curing compounds, dirt, oil, form release agents, and other foreign matter. Perform an adhesion test prior to starting any coating project. Metal and composite fiber surfaces should be thoroughly cleaned and primed for optimum adhesion or light abraded by blasting to a 2-3 mil profile. Consult your representative for further information. Concrete should be cured for a minimum of 28 days prior to product application and have at least 3000psi compressive strength.

CONCRETE REPAIR

If the concrete surface is unsuitable for coating, use a suitable primer or suitable primer with sand as a repair agent. Once the repair has cured, prime the entire surface intended for coating. Consult The Hanson Group to select the best primer for your substrate.

COLOR

Black and Neutral – Non-Standard colors and color packs are available upon request. Aromatic polyureas are known to yellow or darken in color when exposed to UV and/or sunlight.

COVERAGE RATE

1 gallon (3.79 liters) of POLYARMOR SRD 5500 will cover approximately 1600 square feet at 1 mil (0.025mm) thick, and can be applied in one or more passes to achieve a desired thickness.

PACKAGING

52 gallons Part-A (Isocyanate) and 52 gallons Part-B (Resin) packaged as a “kit” in 2x55 gallon drums. 275 gallon IBC Totes are available.

MIXING PROCEDURES

Adequately blend POLYARMOR SRD 5500 Part-B (Resin) with air driven power tools until the mixture and color is consistent and uniform with no striations.

STORAGE

POLYARMOR SRD 5500 has a shelf life of 1 year shelf life from the date of manufacture, in factory-sealed containers. Storage temperature for Part-A and Part-B is between 60ºF - 95ºF. (Avoid freezing temperatures). Keep containers sealed tightly to eliminate any condensation, moisture, or water contamination in Part-A or Part-B. Use nitrogen to flush partial containers before re-sealing.

EQUIPMENT CLEAN-UP

Immediately clean equipment with an environmentally safe solvent, as permitted by local regulations. Cured or dried material may be removed by mechanical means. Know your equipment and how to perform routine maintenance.

APPLICATION

Primer is recommended on all substrates, except on properly prepared steel (immersion service requires a primer). Prior to application: Precondition both Part-A and Part-B to 75ºF - 80ºF (24ºC - 27ºC). Ensure that the substrate and outside air temperature is between 40ºF and 104ºF, and at least 6ºF above the dew point and rising. Fit Part-A with a desiccant drying device. Apply POLYARMOR SRD 5500 using plural component, high pressure 1:1 ratio heated spray equipment.

TYPICAL SPRAY MACHINE REQUIREMENTS

- Capacity minimum 20 lbs. per minute
- Static pressure 1800 – 2500psi
- Spraying pressure 2200psi
- Temperature for Part A and B & hose 140ºF-160ºF.
- POLYARMOR SRD 5500 should be sprayed in a smooth pattern, to establish uniform thickness and appearance. Perform a substrate adhesion test (if required) seven days after application of POLYARMOR SRD 5500.


New Salt and Aggregate Bins
New Salt Conveyor & Hopper System
Remove/Replace 82' diameter Salt Dome
Mon Oct 7 2024
Imagery © 2024 Nearmap, HERE
50 ft
Nearmap

New Salt Dome, concrete bin/pit (left), and hopper/conveyor (7-18-25)

New interior dome shell and 10-foot-high concrete walls (7-18-25)

New interior dome shell, 10-foot high concrete walls, and conveyor system (7-18-25)